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Shaping the Future

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September 17, 2015

Ms. Glynis Carrosino
State of Washington Department of Ecology
Voluntary Cleanup Program – Northwest Unit Manager
3190 160th Avenue SE
Bellevue, Washington 98008-5452

Re: Feasibility Study with Disproportionate Cost Analysis
Harbour Point Cleaners at Mukilteo Speedway Center
13619 Mukilteo Speedway
Lynnwood, Washington 98037
Cardno ATC Project No. 282EM00061
State of Washington Department of Ecology Facility ID 41352598
Voluntary Cleanup Program ID NW2902

Dear Ms. Carrosino:

Cardno ATC is pleased to submit this Feasibility Study (FS) with a Disproportionate Cost Analysis (DCA) on behalf of Weingarten Realty Investors (WRI) for the above referenced facility (Site). The objective of this FS is to present a brief screening of remedial alternatives and select a remedial technology that is reasonable, technically feasible, and cost effective through a DCA.

If any additional information is required regarding this report, please contact Simon Payne or Terry McDunner at (206) 781-1449.

Sincerely,

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cc: Mr. Charles Gurney, Weingarten Realty Investors

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FEASIBILITY STUDY WITH DISPROPORTIONATE COST ANALYSIS

Harbour Point Cleaners at Mukilteo Speedway Center
13619 Mukilteo Speedway
Lynnwood, Washington 98037
State of Washington Department of Ecology Facility ID 41352598
Voluntary Cleanup Program ID NW2902

Prepared for:
Charles Gurney
Weingarten Realty Investors
2600 Citadel Plaza Drive, Suite 300
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Submitted by:
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6347 Seaview Avenue NW
Seattle, Washington 98107

Cardno ATC Project No. 282EM00061
September 17, 2015

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1.0 INTRODUCTION

1.1 Purpose

The purpose of this report is to evaluate cleanup action alternatives as a basis for selecting cleanup action in compliance with the Model Toxics Control Act (MTCA) and its implementing regulations, Chapter 70.105D of the Revised Code of Washington (RCW) and Chapter 173-340 of the Washington Administrative Code (WAC) for impacts to soil from historical dry cleaning operations at the Mukilteo Speedway Center (Site), located at 13619 Mukilteo Speedway in Lynnwood, Snohomish County, Washington (**Figure 1**) . This report includes additional remedial investigation activities including an assessment of preferential pathways, additional assessment of soil, soil vapor, and indoor air, and an inventory of hazardous materials. Lastly, a disproportionate cost analysis was performed in order to assess the most feasibly remedial action.

1.2 Site Identification and Surroundings

The Site is registered with the State of Washington Department of Ecology (Ecology) as Facility/Site (F/S) ID 41352598 Harbour Point Cleaners Lynnwood and is also listed as Voluntary Cleanup Program (VCP) ID NW2864. Washington State Cleanup sites are located at 19915 Highway 99 North (F/S ID 31917584) to the north of the Site and at 13515 Lake Road (F/S ID 7565842) to the east of the Site.

1.3 Property Development and History

The Site is located at the Mukilteo Speedway Center, 13619 Mukilteo Speedway in Lynnwood, Snohomish County, Washington, which includes six irregular-shaped parcels encompassing 7.80 acres of land (**Figure 1**). The Mukilteo Speedway Center was constructed in 1992 and is a retail shopping center located approximately 1.5 miles west of Interstate 5 with Mukilteo Speedway along the west property perimeter, Lincoln Way located along the south property line, and State Highway 99 located along the east property line. The shopping center is improved with four generally rectangular-shaped buildings designated Buildings A though D (Buildings A and B are in the north portion of the property and Buildings C and D are in the south portion of the property).

Harbour Point Cleaners is located in building B, in tenant space B 6 (**Figure 2**), and has operated as a dry cleaning facility at the property since approximately 1992. Between 1992 and 2007 the facility utilized the chlorinated volatile organic compound (cVOC), tetrachloroethene (also known as tetrachloroethylene or perchloroethylene [PCE]) in their dry cleaning operations. The presence of PCE in the subsurface is regulated in Washington State by Ecology under the MTCA. In 2007, the operators switched from PCE to a petroleum hydrocarbon based cleaning solvent.

Environmental assessment activities were initiated at the Site in June, 2006 by Buchanan Environmental Associates (BEA). The initial 2006 investigation included the advancement of two soil borings to a maximum depth of 2.75 feet below ground surface (bgs) within the tenant space in the vicinity of the dry cleaning equipment and the installation of one groundwater monitoring well (MW-1) exterior to Building B and to the east of the southeast corner of the building. The assessment activities were initiated to evaluate the potential presence of PCE and any degradation compounds through the de-chlorination of PCE, including the cVOCs: trichloroethene (trichloroethylene [TCE]), cis-1,2-dichloroethene (cis-1,2-dichloroethylene [cis-DCE]), trans-1,2-dichloroethene (trans1,2-dichloroethylene [trans-DCE]), 1,1-dichloroethene (1,1-dichloroethylene [1,1-DCE]), and vinyl chloride. The exact location of the two interior soil borings were not plotted on any site maps included in the 2006 report. The investigation identified the presence of PCE and TCE in shallow soil within the vicinity of the dry cleaning machine. Soil boring B-1 was only able to be advanced to 1 foot bgs, where a single soil sample was collected from the boring; this soil sample contained a concentration of 1.0 milligrams per kilogram (mg/kg) PCE, above the MTCA Method A soil cleanup level for unrestricted land use of 0.05 mg/kg. Soil boring B-2 was advanced to 2.75 feet bgs and three soil samples from three separate depth intervals were collected for analysis. Analytical results of the soil samples indicated that concentrations of PCE and TCE detected were in all three samples, although at concentrations below the MTCA Method A soil cleanup level for unrestricted land use.

Between June and August, 2006, BEA installed a total of five groundwater monitoring wells to total depths between 15 and 25 feet bgs, designated MW-1 through MW-5 exterior to the dry cleaning tenant space. A groundwater sample collected from groundwater monitoring well MW-1 in June, 2006 contained concentrations of several volatile organic compounds (VOCs), including toluene, ethylbenzene, xylene, and naphthalene which are typically associated with petroleum hydrocarbons. All the detected VOCs were at concentrations below MTCA regulatory cleanup or risk-based formula values and BEA suggested that the VOCs may be from an offsite source or were inadvertently introduced during well construction. Laboratory analytical results from groundwater samples collected from groundwater monitoring wells MW-1 through MW-3 in July, 2006 identified the presence of VOCs, including TCE in the groundwater sample collected from groundwater monitoring well MW-2, although in concentrations below MTCA regulatory cleanup or risk-based formula values. Laboratory analytical results from groundwater samples collected from groundwater monitoring wells MW-1 through MW-5 in August, 2006 only identified the presence of the VOC, 1,1-dichloroethane in monitoring well MW-2, although at a concentration below the MTCA Method B non-carcinogenic standard formula value (1,1-dichloroethane does not have a designated MTCA Method A cleanup level).

In August, 2006 BEA also advanced a soil boring, B-6, south of the tenant space, to 9 feet bgs in order to assess soil in the vicinity of the subsurface sanity sewer utilized by the dry cleaning facility. Laboratory analytical results of soil samples collected from within the backfill of a connecting cleanout pipe did not detect any VOCs.

Based on the lack of dissolved PCE and any degradation compounds detected in groundwater samples at concentrations above MTCA regulatory cleanup or risk-based values, BEA did not recommend further investigation, although they did recommend the retro-fitting the dry cleaning machine with secondary containment and the termination of operations with PCE.

EBI Environmental and Engineering (EBI), conducted additional assessment activities in March 2013, where they advanced two soil boring designated B-1 and B-2 south and north of the tenant space, respectively, and three soil borings, designated B-3 through B-5 within the tenant space and in the vicinity of the dry cleaning machine (**Figure 2**). Groundwater was not encountered in any of the soil borings, including soil boring B-1, which was advanced to 25 feet bgs to the south of the tenant space. Laboratory analytical results of selected soil samples indicated the presence of PCE in soil boring B-3 between 3 and 5 feet bgs, although in a concentration below the MTCA Method A soil cleanup level of 0.05 mg/kg.

EBI also collected soil gas samples from 5 feet bgs in soil borings B-3 through B-5. Laboratory analytical results indicated a concentration of 20 micrograms per cubic meter ($\mu g/m^3$) PCE and 7.0 $\mu g/m^3$ TCE detected in the soil gas sample collected from soil boring B-3 and concentrations of 4.8 and 2.4 $\mu g/m^3$ PCE detected in the soil gas samples collected from soil borings B-4 and B-5 respectively. TCE was not detected above analytical detection limits in the soil gas samples collected from soil borings B-4 and B-5. The concentration of PCE and TCE in the soil gas sample collected from soil boring B-3 and the concentration of PCE in the soil gas samples collected from soil borings B-4 and B-5 are below the Draft 2015 MTCA Method B Sub Slab Soil Gas Screening Level for PCE of 320.5 $\mu g/m^3$ and TCE of 12.3 $\mu g/m^3$.

In 2014, Weingarten requested that Cardno ATC collect shallow soil samples in locations throughout the interior of the tenant space to laterally and vertically delineate the cVOC impacts, previously identified in soil. The scope of work included the advancement of seven soil borings, designated B-6 through B-12 by direct push drilling technology (**Figure 2**) to drilling refusal. Free groundwater was not encountered in any of the soil borings, which reached a maximum depth of 10 feet bgs.

Laboratory analytical results indicate that PCE was detected in soil samples collected from shallow soil in borings B-9, B-10, and B-12. Concentrations of PCE above Ecology's MTCA Method A soil cleanup level for unrestricted land uses of 0.05 mg/kg, were detected in the soil samples collected from between ground surface and 1 foot bgs in boring B-9 (0.111 mg/kg), in boring B-10 (0.208 mg/kg), and boring B-12 (0.156 mg/kg).

These results indicate that soil impacted with concentrations of PCE above MTCA Method A soil cleanup levels for unrestricted land uses were not detected below 1 foot bgs, though PCE concentrations below cleanup values extend to a depth of 3 feet bgs. Based on these results Cardno ATC recommended further assessment to laterally delineate the impacted soil, dominantly toward the west and the east.

On the behalf of Weingarten, Cardno ATC submitted the findings from the 2014 assessment work along with the previous assessment reports to Ecology to solicit an opinion from Ecology through the Voluntary Cleanup Program (VCP) on the need for further assessment.

On October 17, 2014, Ecology provided an Opinion Letter which recommended the further characterization of impacts to subsurface at the Site from dry cleaning activities along with an assessment of vapor intrusion pathways at the Site.

On January 29, 2015, Cardno ATC contracted Environmental Services Network Northwest (ESN) of Olympia, Washington to advance 11 soil borings (B-13 through B-23) using direct push technology (DPT) in locations that would assist to laterally delineate areas of cVOC impacted soil identified during previous investigations (**Figure 2**).

In order to perform a Tier I vapor intrusion assessment, as per Ecology's Draft *Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action*, Publication no. 09-09-047, October 2009. Cardno ATC used a hand-held power drill to penetrate the building slab and collect samples of sub-slab soil vapor, in three locations in the vicinity of the operation dry cleaning machine which were designated VE-1, VE-2, and VE-3 (**Figure 4**).

Concentrations of PCE were detected in soil samples collected from soil borings B-13 through B-16. Soil samples collected from below the slab to 1 foot bgs in soil borings B-14 and B-15, (soil samples B-14-1 and B-15-1), contained concentrations of PCE above the MTCA Method A cleanup level for unrestricted land use of 0.05 mg/kg. Soil sample B-14-1 contained a concentration of 0.069 mg/kg and soil sample B-15-1 contained a concentration of 0.315 mg/kg. All other detected concentrations of PCE were below the MTCA Method A cleanup level for unrestricted land uses.

None of the soil samples collected from the 3 to 4 feet bgs interval contained concentrations of PCE or any other cVOC above laboratory method reporting limits.

The cVOCs, PCE, and TCE were detected in soil vapor samples VE-1, VE-2, VE-3 at concentrations above the MTCA Method B Soil Gas Screening Levels, for soil vapor collected immediately below the building concrete slab. The maximum PCE and TCE detections were from soil vapor sample VE-1 at 10,000 $\mu g/m^3$ PCE and 66.1$\mu g/m^3$ TCE. The analytical laboratory denoted that the sub-slab concentration of PCE in soil vapor sample VE-1 was above quantitation range. The Draft 2015 Method B Sub Slab Soil Gas Screening Levels for PCE and TCE as a carcinogen is 320.5 and 12.3 $\mu g/m^3$ respectively.

Although other cVOCs were detected in soil vapor samples VE-1, VE-2, and VE-3, including 1,1,1-trichloroethane and dichloroifluoromethane (CRC-12 or Freon 12), these compounds were below their respective Draft 2015 MTCA Method B Sub Slab Soil Gas Screening Levels for vapor samples collected from immediately below building concrete slab.

The assessment work performed for Weingarten in response to the October 17, 2014, Ecology Opinion Letter shows PCE impacted soil vertically attenuates to concentrations below laboratory method reporting limits by 4 feet bgs and is laterally limited to within the Harbour Point Cleaners tenant space, except to the west where it extends into the adjacent tenant space.

Based on this data, Cardno ATC recommended to Weingarten the development of a feasibility study that would include additional assessment of Site soil, sub-slab vapor, and indoor air, an evaluation of preferential pathways, and an inventory of hazardous materials stored at the Site to assess potential sources of indoor air contaminants.

1.4 Natural Conditions

The Site is located in the Puget Sound Lowland Physiographic Province. The Puget Lowland is composed of Tertiary volcanic and sedimentary bedrock, which has been filled to the present day land surface with Pleistocene glacial (till) and non-glacial sediments. Glacial till is glacial drift material typically consisting of very dense clay, silt, sand, and boulders.

Subsurface soils encountered during the advancement of soil borings B-1 through B-31 and the soil borings for former groundwater monitoring wells MW-1 through MW-5 were generally characterized as fine-grained sediments dominantly consisting of brown to olive-brown silt with gravel and sand of strong induration to 13 feet bgs or shallower. Coarse-grained sediments consisting of sand and gravel underlay the fine-grained sediments. The boring logs for groundwater monitoring wells MW-4 and MW-5 indicate that at approximately 20 feet bgs, the coarse-grained sediments are underlain by dominantly fine-grained glacial till material to 25 feet bgs, the greatest depth explored.

Groundwater monitoring wells previously installed in the vicinity of the Site indicate that free groundwater is located below 10 feet bgs and groundwater flow is toward the east.

1.5 Preferential Pathway Evaluation

In order to assess the potential of cVOCs impacts to use preferential pathways for contaminant migration, Cardno ATC contacted the property management, Snohomish County Department of Planning and Development, and the Alderwood Water District (AWD) for any information regarding the presence of subsurface features in the vicinity of the Site that could facilitate the migration of cVOCs in the subsurface. Furthermore Cardno ATC subcontracted CNI Locates of Bonney Lake, Washington to perform a ground penetrating radar (GPR) survey in the dry cleaning and adjacent tenant spaces to locate any subsurface features.

Although none of the services contacted above was able to supply historical documents that either show or describe the presence of any subsurface features below the Site, maps provided by the AWD show that sewage from the Mukilteo Speedway Center buildings A and B flows south along an 8-inch diameter steel pipe buried approximately 10 feet below grade. The connection from Mukilteo Speedway Center building B to the AWD sewer line is not illustrated, as this

connection is not under the jurisdiction of the AWD, but the closest side sewer terminal point of the sewer line is at the southwest corner of building B, implying that waste water from the building B tenant spaces likely flows westward below the building before flow is forced southwards and into the AWD owned piping.

GPR and conductive surveys performed in the dry cleaning and adjacent tenant space was not able to definitely locate the west trending sewer line. Furthermore these surveys did not indicate the presence of any other significant subsurface feature that could act as a preferential pathway for contaminant migration.

1.6 Hazardous Materials Inventory

In order to better assess the potential presence of building specific VOCs in ambient air, Cardno inventoried hazardous materials stored in the dry cleaning tenant space. The inventory consisted of the following materials:

- Exxon Mobil DF 2000, a synthetic aliphatic hydrocarbon fluid used as dry cleaning solution; one 5-gallon container
- Oxybleach, a bleach alternative, one 5-gallon container
- Pinnacle Dry Cleaning Solution, detergent for hydrocarbon systems, two 5-gallon containers
- Hydroclene, dry cleaning solution, two 5-gallon containers
- StreePRO, protein stain remover, three 1-gallon containers;
- Stamford Paints, Oils, and Grease (POG) remover, five <1-gallon containers;

1.7 Additional Soil Assessment Activities

Additional soil assessment activities were performed on May 12, 2015 in order to further delineate soil at the Site containing cVOC impacts. Previous investigations did not completely delineate cVOCs impacts to the west of the dry cleaning machine location these results were used in conjunction with previous results to develop a contaminant mass volume.

Cardno contracted Environmental Services Network Northwest (ESN) of Olympia, Washington to advance seven soil borings (B-24 through B-31) to four feet bgs using direct push technology (DPT) in locations shown on **Figure 2.**

Oversight of the drilling and sampling activities was performed by a qualified Cardno field geologist. Soil samples obtained during DPT drilling operations were collected by hydraulically pushing a four foot long core barrel sampler (macrocore) containing a disposable acetate liner

through the desired sample interval. After each sample interval was retrieved, the acetate liner was removed from the core barrel and cut to access soil for lithologic evaluation, field screening and sample collection and preservation.

Soil recovery was generally good with a maximum recovery of four feet from the macrocore sampler. The soils were classified in general accordance with the Unified Soil Classification System (USCS). Field VOC monitoring was performed by placing a portion of the sample in a sealable plastic bag and then mixing the contents to encourage volatilization of any organic compounds present. A photoionization detector (PID) was inserted into the bag to measure the organic vapor level, which was recorded on the boring logs (**Appendix A**).

After each soil sampling interval, the macrocore sampler was decontaminated using an alconox detergent and potable water wash followed by a clean potable water rinse and a final rinse with distilled water. In addition, disposable latex sampling gloves were worn between samples to avoid cross contamination between sample depths and locations.

Soil samples were field preserved in accordance with United States Environmental Protection Agency (EPA) Method 5035A using a five-gram soil core sampler inserted into a T-handle plunger. Each core sample was placed into 40 milliliter (ml) glass volatile organic analysis (VOA) vials. The VOA vials consisted of at least two vials containing sodium bisulfate as a preservative. Each VOA vial was then labeled, bagged, placed in an iced cooler and entered onto a chain of custody pending delivery to the analytical laboratory. Additional soil from each sample interval was collected in glass jars provided by the analytical laboratory. After filling the jar with the sample, the jar was capped, labeled, bagged, placed in an iced cooler and entered onto a chain of custody pending delivery to the analytical laboratory.

Samples submitted for analyses included soil from approximately 1 foot bgs and 3 to 4 feet bgs. These soil samples were submitted Fremont Analytical of Seattle, Washington, an Ecology accredited laboratory for laboratory analyses including cVOCs utilizing EPA Method 8260. The laboratory analytical reports are presented in **Appendix B.**

None of the soil samples collected from soil borings B-24 through B-31 feet bgs interval contained concentrations of PCE or any other cVOC above laboratory method reporting limits.

A summary of the laboratory analytical results for the soil samples collected on May 12, 2015 along with previously collected soil samples is presented as **Table 1**.

1.8 Soil Vapor Assessment

In order to better delineate the presence of cVOC vapor in sub-slab soil throughout the Site, Cardno ATC installed five temporary sub-slab vapor probes, designated Slab-1 through Slab-5 in the locations shown on **Figure 4** for the collection of soil vapor samples.

connection is not under the jurisdiction of the AWD, but the closest side sewer terminal point of the sewer line is at the southwest corner of building B, implying that waste water from the building B tenant spaces likely flows westward below the building before flow is forced southwards and into the AWD owned piping.

GPR and conductive surveys performed in the dry cleaning and adjacent tenant space was not able to definitely locate the west trending sewer line. Furthermore these surveys did not indicate the presence of any other significant subsurface feature that could act as a preferential pathway for contaminant migration.

1.6 Hazardous Materials Inventory

In order to better assess the potential presence of building specific VOCs in ambient air, Cardno inventoried hazardous materials stored in the dry cleaning tenant space. The inventory consisted of the following materials:

- Exxon Mobil DF 2000, a synthetic aliphatic hydrocarbon fluid used as dry cleaning solution; one 5-gallon container
- Oxybleach, a bleach alternative, one 5-gallon container
- Pinnacle Dry Cleaning Solution, detergent for hydrocarbon systems, two 5-gallon containers
- Hydroclene, dry cleaning solution, two 5-gallon containers
- StreePRO, protein stain remover, three 1-gallon containers;
- Stamford Paints, Oils, and Grease (POG) remover, five <1-gallon containers;

1.7 Additional Soil Assessment Activities

Additional soil assessment activities were performed on May 12, 2015 in order to further delineate soil at the Site containing cVOC impacts. Previous investigations did not completely delineate cVOCs impacts to the west of the dry cleaning machine location these results were used in conjunction with previous results to develop a contaminant mass volume.

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through the desired sample interval. After each sample interval was retrieved, the acetate liner was removed from the core barrel and cut to access soil for lithologic evaluation, field screening and sample collection and preservation.

Soil recovery was generally good with a maximum recovery of four feet from the macrocore sampler. The soils were classified in general accordance with the Unified Soil Classification System (USCS). Field VOC monitoring was performed by placing a portion of the sample in a sealable plastic bag and then mixing the contents to encourage volatilization of any organic compounds present. A photoionization detector (PID) was inserted into the bag to measure the organic vapor level, which was recorded on the boring logs (**Appendix A**).

After each soil sampling interval, the macrocore sampler was decontaminated using an alconox detergent and potable water wash followed by a clean potable water rinse and a final rinse with distilled water. In addition, disposable latex sampling gloves were worn between samples to avoid cross contamination between sample depths and locations.

Soil samples were field preserved in accordance with United States Environmental Protection Agency (EPA) Method 5035A using a five-gram soil core sampler inserted into a T-handle plunger. Each core sample was placed into 40 milliliter (ml) glass volatile organic analysis (VOA) vials. The VOA vials consisted of at least two vials containing sodium bisulfate as a preservative. Each VOA vial was then labeled, bagged, placed in an iced cooler and entered onto a chain of custody pending delivery to the analytical laboratory. Additional soil from each sample interval was collected in glass jars provided by the analytical laboratory. After filling the jar with the sample, the jar was capped, labeled, bagged, placed in an iced cooler and entered onto a chain of custody pending delivery to the analytical laboratory.

Samples submitted for analyses included soil from approximately 1 foot bgs and 3 to 4 feet bgs. These soil samples were submitted Fremont Analytical of Seattle, Washington, an Ecology accredited laboratory for laboratory analyses including cVOCs utilizing EPA Method 8260. The laboratory analytical reports are presented in **Appendix B**.

None of the soil samples collected from soil borings B-24 through B-31 feet bgs interval contained concentrations of PCE or any other cVOC above laboratory method reporting limits.

A summary of the laboratory analytical results for the soil samples collected on May 12, 2015 along with previously collected soil samples is presented as **Table 1**.

1.8 Soil Vapor Assessment

In order to better delineate the presence of cVOC vapor in sub-slab soil throughout the Site, Cardno ATC installed five temporary sub-slab vapor probes, designated Slab-1 through Slab-5 in the locations shown on **Figure 4** for the collection of soil vapor samples.

In order to assess the potential for and the prevention of short-circuiting the soil vapor samples with ambient air, Cardno ATC performed shut-in and leak testing. Shut-in testing performed on soil vapor samples Slab-1 through Slab-5 indicated that each sample was from below the slab. Laboratory analytical results from soil vapor samples Slab-1 through Slab-5 indicate that helium was not present in any of the soil vapor samples. The leak testing was performed with the introduction of helium gas into a shroud covering each sample location.

Prior to the collection of each sample, each temporary soil vapor probe was purged to remove internal air from the sample train through a low flow pump. Following the purge soil vapor samples were collected in 1-liter (L) batch-certified Summa canisters through a particulate filter. The soil vapor samples were analyzed for the presence of cVOCs by EPA Method TO-15.

Laboratory analysis of soil vapor samples Slab-1 through Slab-5 indicate the presence of PCE in soil vapor in concentrations above the 2015 Method B sub-slab soil gas screening level of 320.5 $\mu g/m^3$ in sample Slab-1 collected from within the former tanning salon located adjacent west of the dry cleaning tenant space and in samples Slab-3 and Slab-4 collected from locations north and east of the dry cleaning machine respectively. Laboratory analytical results, including previous sampling events, are summarized in **Table 2** and laboratory analytical results are included in **Appendix B.**

1.9 Tier II Soil Vapor Assessment: Indoor Air

Sub-slab soil vapor samples collected during a Tier 1 soil vapor assessment within the dry cleaning tenant space in January, 2015 contained PCE and TCE in concentrations above MTCA Method B cleanup levels. The presence of soil vapor at concentrations above MTCA Method B cleanup levels warranted and assessment of indoor air as per Ecology's Draft Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action (Ecology, 2009).

On May 1, 2015 Cardno ATC obtained two Summa Canisters regulated to intake ambient air over an 8-hour period (representative of a typical work shift) from Fremont Analytical. One canister was placed within the dry cleaning tenant space (Vapor-1- Cleaner) and the other within the adjacent west tenant space (Vapor-2-Slaon); locations are shown on **Figure 5.** At the end of the 8-hour sample period, the canisters were returned to Fremont Analytical for analysis of cVOCs by EPA Method TO-15.

Laboratory analytical results indicate the presence of several cVOCs, of those, concentrations of 1,2,4-trichlorobenzene (typically used as a dye carrier), 1,2-dichloroethane (DCE) (solvent), hexachlorobutadiene (typically used as a solvent for chlorine containing products, although can be formed during chlorinolysis), PCE, and TCE were above the Ecology's Draft 2015 Method B Indoor Air cleanup levels (**Table 3**).

In order to confirm these results, Cardno obtained another four Summa Canisters from Fremont Analytical and placed a single canister in the dry cleaning tenant space, the adjacent east tenant space, the west adjacent tenant space, and the west tenant space beyond (**Figure 5**). The canisters were regulated to collect ambient air over an 8-hour period.

Laboratory analytical results indicate the presence of PCE in concentrations above the Draft 2015 Method B Indoor Air cleanup level of 9.62 $\mu g/m^3$ in the indoor air samples collected from the former tanning salon tenant space (adjacent west to the dry cleaning tenant space; air sample IA-02) and the vacant tenant space west adjacent to the former tanning salon (air sample IA-03). Concentrations of TCE above the Draft 2015 Method B Indoor Air cleanup level of 0.37 $\mu g/m^3$ was reported in air samples IA-02 and IA-03 along with the air sample collected from the dry cleaning tenant space (air sample IA-01). However, these concentrations, do not account for correction factors such background contributions from building specific ambient air. Since the greatest concentrations of cVOCs, indoor air samples Vapor-2-Salon and IA-03, are found in samples that were collected in vacant tenant spaces, it strongly suggests that building specific ambient air, especially in locations without recent use of HVAC systems, has affected the sampling. Laboratory analytical results are summarized in **Table 3** and a copy of the certificated laboratory analytical report is presented in **Appendix B.**

1.10 Contaminant Occurrence and Movement

Information gleaned from previous reports indicates that PCE-containing dry cleaning materials have been used at the site between 1992 and 2007 and although dry cleaning operations continued post 2007, the PCE-containing products were replaced with petroleum and VOC containing products. The historic presence of PCE-containing materials and the area of soil with the greatest PCE impacts (**Figure 3**) indicate the presence of cVOCs in site soil and soil vapor is likely from a single or multiple spills or releases during dry cleaning operations between 1992 and 2007. Common methods of release from PCE-containing dry cleaners include: improper disposal of filters, muck, separator water, still bottoms, and solvent, vapor and/or solvent leaks from the dry cleaning machine or waste collection vessels, and introduction of untreated separator water or other waste material into the sanitary system.

Based on analytical laboratory data collected from the investigations performed at the site, the only contaminant detected in concentrations above regulatory cleanup levels is PCE.

The PCE contaminant mass is confined to unsaturated soil between ground surface and four feet bgs as demonstrated by soil samples collected at discrete depth intervals through the site (**Table 1**). Furthermore, vertical delineation indicates that soil conditions have impeded downward migration of PCE into groundwater.

PCE impacted soils with concentrations greater than the MTCA Method A cleanup level of 0.05 mg/kg are only found in soil samples collected from the ground surface to one foot bgs and from soil borings B-9, B-10, B-12, B-14, and B-15, which indicate that the greatest impacts are around

the location of the dry cleaning machine, with some migration of impacts toward the west and south as indicated by the presence of PCE in soil samples from soil borings B-13 and B-14. The lack of PCE in the soil samples collected from soil boring B-31 indicate the impacts to the west and south of the dry cleaning machine attenuate to concentrations below detection limits.

When PCE concentration isocontours are interpolated based on soil boring locations, an approximate area of 3,000 square feet or less of soil impacted with PCE above the MTCA Method A cleanup level can be interpreted. Since soil with PCE impacts above the MTCA Method A cleanup level is confined to soil samples above 1 foot bgs, the volume of soil impacted with PCE is estimated at 3,000 cubic feet in the area depicted on **Figure 3.**

Impacts found in soil boring B-13 and B-14 indicate, although he greatest concentrations of PCE in soil are in the vicinity of the dry cleaning machine, PCE has migrated laterally to the west no further than soil borings B-29 and B-30 and to the south no further than soil boring B-31.

Concentrations of PCE in soil vapor samples collected from below the building slab (**Table 2**) support the interpolated structure of the PCE plume in soil, with the greatest concentrations found in soil vapor samples collected in the vicinity of the dry cleaning machine and to the west of the dry cleaning machine.

2.0 AREAS REQUIRING CLEANUP

2.1 Soil Cleanup

Cleanup actions for soil at the site are intended to be in compliance with MTCA as described in WAC Chapter 173-340 and as implemented in RCW Chapter 70.105D and to take in regard protection of human health and the environment. Multiple investigations performed at the site indicate that shallow soil below building B has limited impacts of PCE in the vicinity of the dry cleaning tenant space and the former tanning salon tenant space adjacent west to the former dry cleaners (**Figure 3**).

Based on previous investigation data, PCE is the sole contaminant of concern in soil at the site, although exposure pathways to PCE impacted soil are negligible since it remains inaccessible below a concentrate slab.

The point of compliance for remedial actions in soil will be the MTCA Method A soil cleanup level for unrestricted land uses of 0.05 mg/kg for PCE (MTCA Cleanup Regulation, Table 740-1). The volume of soil containing concentrations of PCE above 0.05 mg/kg is approximately 3,000 cubic feet and the boundaries of the interpolated plume are shown on **Figure 3**.

2.2 Groundwater Cleanup

Attenuation of PCE in soil to concentrations below detection limits by 4 feet bgs or shallower indicates that vertical migration from the shallow release area is inhibited and therefore groundwater cleanup is not part of remediation associated with the release of PCE to the site. Previous investigations indicate groundwater does not contain any cVOCs above MTCA Method A groundwater cleanup levels.

2.3 Vapor Intrusion

Sub-slab soil vapor samples indicate the presence of PCE impacted soil vapor below the slab. Since concentrations of soil vapor in soil vapor samples VE-1, VE-2, VE-3,Slab-1, Slab-2, and Slab-3 contain concentrations of PCE in excess to the Draft 2015 MTCA Method B Soil Gas Screening Level for PCE of 320.5 $\mu g/m^3$ indoor air quality should be assessed for the potential for vapor intrusion. Although two rounds of indoor air sampling has detected the presence of cVOCs in ambient air, it has not been proven that these concentrations are completely due to vapor intrusion. Any remedial action selected for the cleanup of PCE impacted soil should also contain provisions either for the mitigation of vapor intrusion or further investigation.

3.0 REMEDIAL ACTION OBJECTIVES

The intent of the remedial action is to address identified PCE in soil with regard to the protection of human health and the environment, and to comply with applicable state and federal laws by means of a Restrictive Covenant through Ecology.

The remedial action objectives (RAOs) for the Site are to:

- Remove, treat, or assess potential risks of the identified mass of PCE impacted soil within unsaturated soil beneath the floor slab of Building B.

3.1 SCREENING OF POTENTIAL REMEDIAL ACTION ALTERNATIVES

Remedial action alternatives were screened based on the RAOs and data obtained during previous site assessments. These included: 1) source (soil) treatment technologies; and 2) source removal technologies. Both of these alternatives would reduce the concentration of identified PCE present in Site soil. In addition, the "no action" alternative was evaluated. The "no action" alternative assumes that no remediation activities or monitoring will occur at the site, although this alternative will consider the limits of the lateral and vertical extent of the contaminant mass in relation to risk to human health and potential impacts to groundwater.

The suitable remedial action technologies include:

- Natural attenuation (NA) with institutional controls and Restrictive Covenant.
- Soil vapor extraction (SVE).
- Soil removal (by excavation) and offsite disposal.

3.2 REMEDIAL ACTION ALTERNATIVE ANALYSIS

The remedial action technologies identified above were analyzed against the minimum screening criteria as outlined in Washington Administrative Code (WAC) 173-340-360(3)(f) which includes:

- Protectiveness.
- Permanence.
- Cost.
- Effectiveness over the long term.
- Management of short-term risks.
- Technical and administrative implementability.

- Consideration of public concerns.

In addition to meeting the threshold requirements outlined in WAC 173-340-360(2)(a), the selected remedial action technology must also provide for a reasonable restoration time frame.

A brief description of each remedial action technology, compared with the minimum screening criteria listed above, is discussed below.

Natural Attenuation with Institutional Controls and Restrictive Covenant

Natural attenuation (NA) relies on natural processes (biodegradation, dispersion, sorption, and volatilization) to achieve the RAO. Although this remedial action may require a longer period of time to achieve the RAO, this remedial action remains feasible due to the inaccessibility of impacted soil, limited risk to human health, limited concentrations of the contaminant mass. Furthermore, the results of soil sampling indicate that vertical migration of contamination is limited and groundwater will not be impacted. In order to further comply with MTCA threshold requirements, institutional controls and/or further analysis can be implemented to protect human health from any potential soil vapor intrusion from impacts remaining on property. It is understood that should this remedial action be implemented, WRI would obtain a Restrictive Covenant from Ecology regarding Site impacts that remain above MTCA Method A cleanup levels.

Soil Vapor Extraction

SVE uses an induced vacuum to remove VOCs from the soil. The extracted vapor phase contaminants are then treated at the surface using granulated activated carbon or thermal destruction. Utilizing SVE as a remediation alternative would require the installation of additional SVE wells and equipment to treat recovered vapor. This technology would also require permitting with the Puget Sound Clean Air Agency. The disproportionate carbon footprint and limited accessibility for expansion of the SVE well network make the effectiveness and reliability of SVE unknown over the long term. The time frame to achieve the RAO would likely be several years (estimated to be between two and five years). Furthermore, remediation by SVE has a disproportionate cost-effectiveness (i.e., the costs would not be proportionate to the benefits) as the remaining contaminant mass contains limited concentrations of contaminants of concern and is of limited volume.

Soil Removal (by Excavation) and Offsite Disposal

Soil removal by excavation and offsite disposal involves excavating the PCE impacted soil and transporting it offsite for disposal at a landfill or other suitable disposal facility. Although this remedial technology would be effective in meeting the RAO, remediation by soil removal and offsite disposal has a disproportionate cost-effectiveness as the remaining contaminant mass would require extensive engineering to access due to its location within an area occupied by an active commercial business.

4.0 DISPROPORTIONATE COST ANALYSIS

The MTCA disproportionate cost analysis (DCA) is used to evaluate which of the cleanup action alternatives that meet the threshold requirements are permanent to the maximum extent practicable. This analysis involves comparing the costs and benefits of the alternatives and selecting the most permanent alternative whose incremental costs are not disproportionate to the incremental benefits.

In the DCA, the alternatives are first compared to the most permanent remedial action alternative, and the benefits are then ranked with a score from 0 to 10, with 0 the lowest score and 10 the highest, in the following criteria (see Evaluation Criteria) below: protectiveness, permanence, long-term effectiveness, short-term effectiveness, implementability, and public concern. In order to generate an *Overall Alternative Ranking,* each of the criteria are weighted by importance and the weighted scores are then totaled. Lastly costs are considered and weighed against the benefits in order to find the most beneficial alternative.

Cardno ATC performed a DCA in accordance to the methodology defined by MTCA. Based on the results of the DCA, Alternative 1, "Natural Attenuation with Institutional Controls and Restrictive Covenant" has the greatest overall alternative ranking, and thus is the most "beneficial."

The tables below present the results of the DCA:

Detailed Evaluation of Remedial Alternatives

	Alternative 1: **Natural Attenuation with Institutional Controls and Restrictive Covenant**	**Alternative 2:** **Soil Vapor Extraction**	**Alternative 4:** **Soil Removal (by Excavation) and Offsite Disposal**
Description	Since impacted soil is not in contact with groundwater it is kept capped with institutional controls and concentrations are allowed to degrade by natural processes.	Concentrations of PCE in impacted soil are reduced by extracting vapor phase petroleum hydrocarbons	Soil impacted with PCE is removed and then disposed at a permitted facility.
Area of Contamination (sq ft)	3,000	3,000	3,000
Volume of Soil Removal (cubic yards)	0	0	620
Overall Alternative Ranking (see Evaluation Criteria below)	**7.9**	**7.3**	**7.7**

Compliance with MTCA Threshold Criteria

	Alternative 1: **Natural Attenuation with Institutional Controls and Restrictive Covenant**	**Alternative 2:** **Soil Vapor Extraction**	**Alternative 4:** **Soil Removal (by Excavation) and Offsite Disposal**
Protection of Human Health and the Environment	Yes – Alternative will protect human health and the environment	Yes – Alternative will protect human health and the environment	Yes – Alternative will protect human health and the environment
Compliance with Applicable State and Federal Laws	Yes	Yes	Yes
Provisions for Compliance Monitoring	Yes – collection and analysis of soils from impacted areas can be performed and compared to previous results to ascertain effectiveness of natural attenuation	Yes – system operations and maintenance will provide compliance monitoring	Yes – soil samples collected from excavation will provide compliance monitoring
Restoration Time Frame	Unknown	Restoration time from is 1 year for design and construction and up to 5 years to ensure compliance	Restoration time is 1 year for implementation and compliance

Evaluation Criteria

The alternatives evaluated in the DCA shall be ranked from most to least permanent. Ranking shall be performed using the most practicable permanent solution as the baseline against which other alternatives are compared. The comparison of benefits and costs require the use of best professional judgment although Ecology has the discretion to favor or disfavor qualitative benefits and use that information in selecting a cleanup action.

Based on WAC 173-340-360(3) the following criteria are used in order to evaluate and compare each cleanup action alternative and to determine whether a cleanup action is permanent to the maximum extent practicable. Each criteria is given a rank between 0 and 10, with 0 meaning cleanup action alternative does not fit criteria and 10 meaning cleanup action alternative fits criteria to the maximum extent. Each criteria is weighted by importance and each assigned rank is modified by that weight. The weighted criteria results are then totaled to produce the *overall alternative ranking.*

1. Protectiveness: overall protectiveness of human health and the environment.

2. Permanence: the degree to which the alternative permanently reduces the toxicity, mobility or volume of hazardous substances.

3. Cost: the cost to implement the alternative.

4. Effectiveness over the long term: consideration of the following types of cleanup action components, when assessing the relative degree of long-term effectiveness:

- Reuse or recycling;
- destruction or detoxification;
- immobilization or solidification;
- on-site or offsite disposal in an engineered, lined and monitored facility;
- on-site isolation or containment with attendant engineering controls; and
- institutional controls and monitoring.

5. Management of short-term risks: The risk to human health and the environment associated with the alternative during construction and implementation.

6. Technical and administrative implementability: ability to be implemented including consideration of whether the alternative is technically possible.

7. Consideration of public concerns: whether the community has concerns regarding the alternative and, if so, the extent to which the alternative addresses those concerns.

A more complete definition of each of these criteria is in WAC 173-340-360(3)(f).

	Alternative 1: **Natural Attenuation with Institutional Controls and Restrictive Covenant**	**Alternative 2:** **Soil Vapor Extraction**	**Alternative 4:** **Soil Removal (by Excavation) and Offsite Disposal**
Protectiveness (30% weighted factor)	This alternative will achieve overall protection (9); **Weighted Score = 2.7**	This alternative will achieve overall protection (9) **Weighted Score = 2.7**	This alternative will achieve overall protection (9) **Weighted Score = 2.7**
Permanence (20% weighted factor)	Impacted soils are contained and are not considered a risk to groundwater (8) **Weighted Score = 1.6**	Concentrations are reduced (8) **Weighted Score = 1.6**	Accessible impacted soils are removed and replaced (8) **Weighted Score = 1.6**
Long-Term Effectiveness (20% weighted factor)	Alternative relies on containment and natural attenuation (6) **Weighted Score = 1.2**	Alternative relies on effectiveness of installed system (6) **Weighted Score = 1.2**	Alternative relies on removal of impacted soil provided soil is accessible (7) **Weighted Score = 1.4**
Short-Term Risk Management (10% Weighted Factor)	Minimal disturbance to property (9) **Weighted Score = 0.9**	Disturbance to property (5) **Weighted Score = 0.5**	Disturbance to property; some impacted soil may not be able to be removed (3) **Weighted Score = 0.3**

Implementability (10% weighted factor)	Most implementable (9) **Weighted Score = 0.9**	Implementable – although will create disturbance to property and current business operations (6) **Weighted Score = 0.6**	Implementable – although will create disturbance to property and current business operations (3) **Weighted Score = 0.3**
Public Concerns (10% weighted Factor)	Alternative does not remove impacted soil – restrictive covenant may not be desirable (7) **Weighted Score = 0.7**	Alternative will make use of an operating system, likely for several years (5) **Weighted Score = 0.5**	Alternative will create disturbance to property and current business (5) **Weighted Score = 0.5**
Overall Alternative Ranking	**8.0**	**7.1**	**6.5**
Costs:	**$25,000 (compliance monitoring, institutional controls)**	**$350,000**	**$500,000**
Cost/Benefit Ratio	**3,125**	**49,296**	**76,923**

4.1 CALCULATED COST/BENEFIT RATIO

The ratio of the estimated cost to the overall score is used to assist in evaluating which of the alternatives is permanent to the maximum extent practicable. The most cost-effective alternative is the alternative with the lowest calculated cost/benefit ratio. The cost to benefit ratio is calculated by dividing the estimated costs by the overall score.

As shown in the table above (Section 5.0), the approximate costs for Alternatives 1 through 3 are $25,000, $350,000, and $500,000, respectively. Alternative 1 (Natural Attenuation with Institutional Controls and Restrictive Covenant) is the most beneficial (with a score of 8.0), while Alternative 3 (Soil Removal) is the least beneficial (with a score of 6.5).

Considering the estimated costs for each Alternative, Alternative 1 has the lowest cost/benefit ratio of "3,125." As such, Alternative 1 is found to be more cost effective than Alternatives 2 and 3. Therefore, Alternative 1 is the most beneficial and cost effective Alternative to implement.

The incremental costs for Alternatives 2 and 3 are considered disproportionate to the incremental degree of benefit achieved over that of Alternative 1.

4.2 SELECTION OF PREFERRED REMEDIATION TECHNOLOGY

Based on a comparative evaluation of the ability to attain the RAOs, analysis of the screening criteria, and through a disproportionate cost analysis, Alternative 1 (Natural Attenuation with Institutional Controls and Restrictive Covenant) is selected as the preferred technology. The degree of uncertainty regarding the reliability, combined with anticipated longer time frames to achieve the RAO and disproportionate cost effectiveness make the SVE and soil removal technologies unfavorable.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Based on previous investigations a release of PCE from a now removed source has impacted shallow soil below the building slab of Building B in the locations shown of **Figure 2.**

Natural Attenuation with Institutional Controls and a Restrictive Covenant was selected as the preferred Alternative via the DCA. Should Ecology concur with this Alternative, the following will also be required to be addressed:

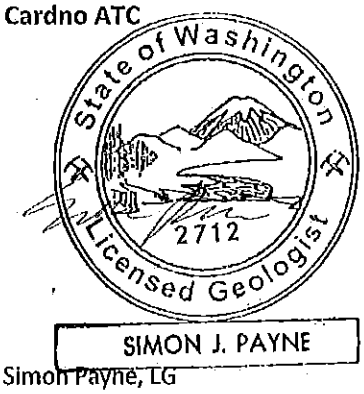
- Source control has been conducted to the maximum extent practicable;
- Leaving contaminants on-site during the restoration time frame does not pose an unacceptable threat to human health or the environment;
- There is evidence that natural biodegradation or chemical degradation is occurring and will continue to occur at a reasonable rate at the site; and
- Appropriate monitoring requirements are conducted to ensure that the natural attenuation process is taking place and that human health and the environment are protected, including a continual assessment of vapor intrusion and installatilon of any institutional controls including vapor barriers and negative pressure air handling equipment.

Since the source has been removed by 2007, the remaining contaminant mass is not expected in increase in contaminant concentration. Furthermore the contaminant mass is currently located below concrete, which will increase protection of human health and is above any water bearing sediments, which will increase protection to the environment.

We appreciate the opportunity to be of service in this matter. If you have questions regarding this Feasibility Study with Disproportionate Cost Analysis, please contact Simon Payne at (206) 781-1449.

Sincerely,

Cardno ATC



Simon Payne, LG
Project Geologist

Terry McDunner
Branch Manager

6.0 LIMITATIONS

This report has been prepared for the exclusive use of Weingarten Real Investors as it pertains to Mukilteo Speedway Center, 13619 Mukilteo Speedway in Lynnwood, Snohomish County, Washington. Our professional services have been performed, our findings obtained, and our recommendations prepared in accordance with customary principles and practices in the fields of environmental science and engineering. This warranty is in lieu of all other warranties either expressed or implied. This company is not responsible for the independent conclusions, opinions, or recommendations made by others based on the records review, site inspection, field exploration, and laboratory test data presented in this report.

It should be noted that all surficial environmental assessments are inherently limited in the sense that conclusions are drawn and recommendations developed from information obtained from limited research and site evaluation. For these types of evaluations, it is often necessary to use information prepared by others and Cardno ATC cannot be responsible for the accuracy of such information. In addition, the passage of time may result in a change in the environmental characteristics at this site and surrounding properties. This report does not warrant against future operations or conditions, nor does it warrant operations or conditions present of a type or at a location not investigated. This report is not a regulatory compliance audit and is not intended to satisfy the requirements of any state, federal, or local real estate transfer laws.

It must be noted that no investigation can absolutely rule out the existence of any hazardous materials at a given site. This assessment has been based upon prior site history, observable conditions, and the subsurface soil sampling described in this report. Existing hazardous materials and contaminants can escape detection using these methods.

8.0 REFERENCES

Schuster, Eric J., 2002 Washington State Division of Geology and Earth Resources *Geologic Map of Washington.*

SECOR, *Site Check, Circle K unit #1546, 10255 SE 240th Street, Kent, Washington,* April 11, 1997.

SECOR, *Dispenser Island Assessment Report, Tosco Unit 1546, 10255 SE 240th Street, Kent, Washington,* February 3, 1998.

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SECOR, *Subsurface Investigation, 10255 Southeast 240th Street, Kent, Washington, ConocoPhillips Facility No. 2701546, July* 26, 2005.

SECOR, *Subsurface Investigation Report, 10255 Southeast 240th Street, Kent, Washington, ConocoPhillips Facility No. 2701546,* September 27, 2011.

Washington State Department of Ecology *Independent Remedial Action, ConocoPhillips Facility No. 2701546, 10255 SE 240th Street, Kent, WA,* September 13, 2004.

TABLES

Table 1
Summary of Soil Analytical Results - Chlorinated Volatile Organic Compounds
Speedway Shopping Center
13632 Highway 99
Lynnwood, Washington
Cardno ATC Project No. 282EM00061

Boring ID	Sample ID	Sample Depth Interval (feet below ground surface)	Sample Date	Select Chlorinated Volatile Organic Compounds (cVOCs)[1] in mg/kg					
				PCE	TCE	cis-DCE	trans-DCE	1,1-DCE	Vinyl Chloride
B-1	B-1(10-12)	10 - 12	3/5/2013	<0.0036	<0.0036	<0.0036	--	--	<0.0036
	B-1(15-16)	15 - 16	3/5/2013	<0.0038	<0.0038	<0.0038	--	--	<0.0038
B-2	B-2(2.5-5)	2.5 - 5	3/5/2013	<0.0036	<0.0036	<0.0036	--	--	<0.0036
	B-2(7.5-10)	7.5 - 10	3/5/2013	<0.0036	<0.0036	<0.0036	--	--	<0.0036
B-3	B-3(3-5)	3 - 5	3/5/2013	0.000063	<0.0037	<0.0037	--	--	<0.0037
	B-3(6 - 6.5)	6 - 6.5	3/5/2013	<0.0040	<0.0040	<0.0040	--	--	<0.0040
B-4	B-4(3-5)	3 - 5	3/5/2013	<0.0038	<0.0038	<0.0038	--	--	<0.0038
	B-4(9-11)	6 - 9	3/5/2013	<0.0038	<0.0038	<0.0038	--	--	<0.0038
B-5	B-5(0-3)	0 - 3	3/5/2013	<0.0036	<0.0036	<0.0036	--	--	<0.0036
	B-5(6-9)	1 - 2	3/5/2013	<0.0037	<0.0037	<0.0037	--	--	<0.0037
B-6	B-6-0-1	0 - 1	3/12/2014	<0.0189	<0.0189	<0.0189	<0.0189	<0.0472	<0.00189
	B-6-1-2	1 - 2	3/12/2014	<0.0199	<0.0199	<0.0199	<0.0199	<0.0497	<0.00199
	B-6-3-4	3 - 4	3/12/2014	<0.0198	<0.198	<0.198	<0.198	<0.0496	<0.00198
B-7	B-7-0-1	0 - 1	3/12/2014	<0.0414	<0.0414	<0.0414	<0.0414	<0.104	<0.00414
B-8	B-8-0-1	0 - 1	3/12/2014	<0.0227	<0.0227	<0.0227	<0.0227	<0.0567	<0.00227
	B-8-1-2	1 - 2	3/12/2014	<0.0177	<0.0177	<0.0177	<0.0177	<0.0442	<0.00177
	B-8-3-4	3 - 4	3/12/2014	<0.0210	<0.0210	<0.0210	<0.0210	<0.0526	<0.00210
B-9	B-9-0-1	0 - 1	3/12/2014	**0.111**	<0.0219	<0.0219	<0.0219	<0.0549	<0.00219
	B-9-1-2	1 - 2	3/12/2014	<0.0240	<0.0240	<0.0240	<0.0240	<0.0601	<0.00240
B-10	B-10-0-1	0 - 1	3/12/2014	**0.208**	<0.0299	<0.0299	<0.0299	<0.0747	<0.00209
	B-10-1-2	1 - 2	3/12/2014	<0.0205	<0.0205	<0.0205	<0.0205	<00512	<0.00205
	B-10-3-4	3 - 4	3/12/2014	<0.0197	<0.0197	<0.0197	<0.0197	<0.0493	<0.00197
B-11	B-11-0-1	0 - 1	3/12/2014	0.0337	<0.0185	<0.0185	<0.0185	<0.0462	<0.00185
	B-11-1-2	1 - 2	3/12/2014	<0.0195	<0.0195	<0.0195	<0.0195	<0.0488	<0.00195
	B-11-3-4	3 - 4	3/12/2014	<0.0199	<0.0199	<0.0199	<0.0199	<0.0497	<0.00199

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Speedway Shopping Center
13632 Highway 99
Lynnwood, Washington
Cardno ATC Project No. 282EM00061

Boring ID	Sample ID	Sample Depth Interval (feet below ground surface)	Sample Date	Select Chlorinated Volatile Organic Compounds (cVOCs)[1] in mg/kg					
				PCE	TCE	cis-DCE	trans-DCE	1,1-DCE	Vinyl Chloride
B-12	B-6-0-1	0 - 1	3/12/2014	**0.156**	<0.0211	<0.0211	<0.0211	<0.0527	<0.00211
	B-6-1-2	1 - 2	3/12/2014	0.0467	<0.0220	<0.0220	<0.0220	<0.0551	<0.00220
	B-6-3-4	3 - 4	3/12/2014	<0.0205	<0.0205	<0.0205	<0.0205	<00513	<0.00205
B-13	B-13-1	0 - 1	1/29/2015	0.0348	<0.0192	<0.0192	<0.0192	<0.0481	<0.00192
	B-13-2	1 - 2	1/29/2015	<0.0216	<0.0216	<0.0216	<0.0216	<0.0539	<0.0216
	B-13-4	3 - 4	1/29/2015	<0.0219	<0.0219	<0.219	<0.0219	<0.0547	<0.0219
B-14	B-14-1	0 - 1	1/29/2015	**0.0696**	<0.0182	<0.0182	<0.0182	<0.0454	<0.0182
	B-14-4	3 - 4	1/29/2015	<0.0215	<0.0215	<0.0215	<0.0215	<0.0539	<0.0215
B-15	B-15-1	0 - 1	1/29/2015	**0.3150**	<0.0193	<0.0193	<0.0193	<0.0482	<0.0193
	B-15-2	1 - 2	1/29/2015	<0.0216	<0.0216	<0.0216	<0.0216	<0.0541	<0.0216
	B-15-4	3 - 4	1/29/2015	<0.0199	<0.0199	<0.0199	<0.0199	<0.0497	<0.0199
B-16	B-16-1	0 - 1	1/29/2015	0.0243	<0.0194	<0.0194	<0.0194	<0.0567	<0.0194
	B-16-2	1 - 2	1/29/2015	<0.0205	<0.0205	<0.0205	<0.0205	<0.0513	<0.0205
	B-16-4	3 - 4	1/29/2015	<0.0220	<0.0220	<0.0220	<0.0220	<0.0549	<0.0220
B-17	B-17-1	0 - 1	1/29/2015	<0.0191	<0.0191	<0.0191	<0.0191	<0.0477	<0.0191
	B-17-2	1 - 2	1/29/2015	<0.0209	<0.0209	<0.0209	<0.0209	<0.0522	<0.0209
	B-17-4	3 - 4	1/29/2015	<0.0142	<0.0142	<0.0142	<0.0142	<0.0355	<0.0142
B-18	B-18-1	0 - 1	1/29/2015	<0.0203	<0.0203	<0.0203	<0.0203	<0.0508	<0.0203
	B-18-4	3 - 4	1/29/2015	<0.0214	<0.0214	<0.0214	<0.0214	<0.0534	<0.0214
B-19	B-19-1	0 - 1	1/29/2015	<0.0231	<0.0231	<0.0231	<0.0231	<0.0578	<0.0231
	B-19-4	3 - 4	1/29/2015	<0.0218	<0.0218	<0.0218	<0.0218	<0.0545	<0.0218
B-20	B-20-1	0 - 1	1/29/2015	<0.0198	<0.0198	<0.0198	<0.0198	<0.0494	<0.0198
	B-20-2	1 - 2	1/29/2015	<0.0213	<0.0213	<0.0213	<0.0213	<0.0532	<0.0213
	B-20-4	3 - 4	1/29/2015	<0.0200	<0.0200	<0.0200	<0.0200	<0.0499	<0.0200

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Cardno ATC Project No. 282EM00061

Boring ID	Sample ID	Sample Depth Interval (feet below ground surface)	Sample Date	Select Chlorinated Volatile Organic Compounds (cVOCs)[1] in mg/kg					
				PCE	TCE	cis-DCE	trans-DCE	1,1-DCE	Vinyl Chloride
B-21	B-21-1	0 - 1	1/29/2015	<0.0218	<0.0218	<0.0218	<0.0218	<0.0545	<0.0218
	B-21-2	1 - 2	1/29/2015	<0.0210	<0.0210	<0.0210	<0.0210	<0.0524	<0.0210
	B-21-4	3 - 4	1/29/2015	<0.0203	<0.0203	<0.0203	<0.0203	<0.0507	<0.0203
B-22	B-22-1	0 - 1	1/29/2015	<0.0283	<0.0283	<0.0283	<0.0283	<0.0708	<0.0283
	B-22-2	1 - 2	1/29/2015	<0.0210	<0.0210	<0.0210	<0.0210	<0.0525	<0.0210
	B-22-4	3 - 4	1/29/2015	<0.0215	<0.0215	<0.0215	<0.0215	<0.0538	<0.0215
B-23	B-23-1	0 - 1	1/29/2015	<0.0237	<0.0237	<0.0237	<0.0237	<0.0592	<0.0237
	B-23-2	1 - 2	1/29/2015	<0.0196	<0.0196	<0.0196	<0.0196	<0.0490	<0.0196
	B-23-4	3 - 4	1/29/2015	<0.0216	<0.0216	<0.0216	<0.0216	<0.0539	<0.0216
B-24	B-24-1	0 - 1	5/12/2015	<0.0218	<0.0218	<0.0218	<0.0218	<0.546	<0.00218
	B-24-4	3 - 4	5/12/2015	<0.0211	<0.0211	<0.0211	<0.0211	<0.527	<0.00211
B-25	B-25-1	0 - 1	5/12/2015	<0.0218	<0.0218	<0.0218	<0.0218	<0.546	<0.00218
	B-25-4	3 - 4	5/12/2015	<0.0218	<0.0218	<0.0218	<0.0218	<0.546	<0.00218
B-26	B-26-1	0 - 1	5/12/2015	<0.0218	<0.0218	<0.0218	<0.0218	<0.546	<0.00218
	B-26-4	3 - 4	5/12/2015	<0.0218	<0.0218	<0.0218	<0.0218	<0.546	<0.00218
B-27	B-27-1	0 - 1	5/12/2015	<0.0218	<0.0218	<0.0218	<0.0218	<0.546	<0.00218
	B-27-4	3 - 4	5/12/2015	<0.0218	<0.0218	<0.0218	<0.0218	<0.546	<0.00218
B-28	B-28-1	0 - 1	5/12/2015	<0.0218	<0.0218	<0.0218	<0.0218	<0.546	<0.00218
	B-28-4	3 - 4	5/12/2015	<0.0218	<0.0218	<0.0218	<0.0218	<0.546	<0.00218
B-29	B-29-1	0 - 1	5/12/2015	<0.0218	<0.0218	<0.0218	<0.0218	<0.546	<0.00218
	B-29-4	3 - 4	5/12/2015	<0.0218	<0.0218	<0.0218	<0.0218	<0.546	<0.00218
B-30	B-30-1	0 - 1	5/12/2015	<0.0218	<0.0218	<0.0218	<0.0218	<0.546	<0.00218
	B-30-4	3 - 4	5/12/2015	<0.0218	<0.0218	<0.0218	<0.0218	<0.546	<0.00218

Table 1
Summary of Soil Analytical Results - Chlorinated Volatile Organic Compounds
Speedway Shopping Center
13632 Highway 99
Lynnwood, Washington
Cardno ATC Project No. 282EM00061

Boring ID	Sample ID	Sample Depth Interval (feet below ground surface)	Sample Date	Select Chlorinated Volatile Organic Compounds (cVOCs)[1] in mg/kg					
				PCE	TCE	cis-DCE	trans-DCE	1,1-DCE	Vinyl Chloride
B-31	B-30-1	0 - 1	5/12/2015	<0.0218	<0.0218	<0.0218	<0.0218	<0.546	<0.00218
	B-30-4	3 - 4	5/12/2015	<0.0218	<0.0218	<0.0218	<0.0218	<0.546	<0.00218
MTCA-Method A Cleanup Levels for Unrestricted Land Uses				**0.05**	**0.03**	**No Data**	**No Data**	**No Data**	**No Data**
MTCA Method B non-carcinogen Standard Formula Value				**480**	**40**	**160**	**1,600**	**4,000**	**240**

Notes:
mg/kg = millgram per kilogram
PCE = Tetrachloroethene (Tetrachloroethylene, perchloroethylene)
TCE = Trichloroethene (Trichloroethylene)
cis-DCE = cis-1,2-Dichloroethene (cis-1,2-Dichloroethylene)
trans-DCE = trans-1,2-Dichloroethene (trans-1,2-Dichloroethylene)
1,1-DCE = 1,1-Dichloroethene (1,1-Dichloroethylene)
MTCA - Washington State Department of Ecology Model Toxics Control Act
Bold denotes concentration at or above regulatory cleanup level
1 = Analytical results by gas chromatography and mass spectrometry by EPA
All analytical results reported in milligrams per kilogram (mg/kg) equivalent to parts per million (ppm)
A complete list of VOC data is provided in Appendix B.

Table 2
Summary of Soil Vapor Sample Analytical Results - Chlorinated Volatile Organic Compounds
Speedway Shopping Center
13632 Highway 99
Lynnwood, Washington
Cardno ATC Project No. 282EM00061

Sample ID	Sample Depth Interval (feet below ground surface)	Sample Date	Select Chlorinated Volatile Organic Compounds (cVOCs)[1] in ug/m^3						Leak Detection Compounds	
			PCE	TCE	cis-DCE	trans-DCE	1,1-DCE	Vinyl Chloride	Helium in ppmv[2]	% Oxygen[3]
VE-1	0.5 (sub-slab)	1/29/2015	**10,000**	**66.10**	<0.793	<0.793	<0.793	<0.511	<254	7.41
VE-2	0.5 (sub-slab)	1/29/2015	**4,740**	8.42	<0.793	<0.793	<0.793	<0.511	57,600	8.00
VE-3	0.5 (sub-slab)	1/29/2015	**3,230**	5.12	<0.793	<0.793	<0.793	<0.511	<246	7.68
Slab-1	0.5 (sub-slab)	7/3/2015	**1,950**	7.73	<0.0793	<0.0238	<0.0357	<0.217	ND	--
Slab-2	0.5 (sub-slab)	7/3/2015	**632**	1.21	<0.0793	<0.0238	<0.0357	<0.217	ND	--
Slab-3	0.5 (sub-slab)	7/3/2015	**523**	0.907	<0.0793	<0.0238	<0.0357	<0.217	ND	--
Slab-4	0.5 (sub-slab)	7/3/2015	60.2	0.288	<0.0793	<0.0238	<0.0357	<0.217	ND	--
Slab-5	0.5 (sub-slab)	7/3/2015	48.1	<0.0914	<0.0793	<0.0238	<0.0357	<0.217	ND	--
2015 MTCA Method B Soil Gas Screening Level			**320.5**	**12.3**	**160**	**320**	**3,047**	**9.3**	**NA**	**NA**

Notes:

ug/m^3=micrograms per cubic meter

ppmv = parts per million by volume

PCE = Tetrachloroethene (Tetrachloroethylene, perchloroethylene)

TCE = Trichloroethene (Trichloroethylene)

cis-DCE = cis-1,2-Dichloroethene (cis-1,2-Dichloroethylene)

trans-DCE = trans-1,2-Dichloroethene (trans-1,2-Dichloroethylene)

1,1-DCE = 1,1-Dichloroethene (1,1-Dichloroethylene)

MTCA - Washington State Department of Ecology Model Toxics Control Act

Bold denotes concentration at or above regulatory cleanup level

1 = Analytical results by EPA Method TO-15

2 = Analytical results by EPA Method 3C

3= Analytical resutls by gas chromatography/thermal conductivity detector

All analytical results reported in micrograms per cubic meter (µg/m^3)

A complete list of VOC data is provided in Appendix B.

NA= No applicable data

Table 3

Summary of Indoor Air Analytical Results - Chlorinated Volatile Organic Compounds

Speedway Shopping Center

13632 Highway 99

Lynnwood, Washington

Cardno ATC Project No. 282EM00061

Sample ID	Sample Date	Select Chlorinated Volatile Organic Compounds (cVOCs)[1] in ug/m^3					
		PCE	TCE	cis-DCE	trans-DCE	1,1-DCE	Vinyl Chloride
Vapor-1-Cleaner	5/1/2015	2.42	**4.60**	<0.0793	<0.0238	<0.0357	<0.217
Vapor-2-Salon	5/1/2015	**12.5**	**6.76**	<0.0793	<0.0238	<0.0357	<0.217
IA-01	7/2/2015	5.46	**7.60**	<0.0793	<0.0238	<0.0357	<0.217
IA-02	7/2/2015	**10.9**	**4.67**	<0.0793	<0.0238	<0.0357	<0.217
IA-03	7/2/2015	**14.9**	**7.42**	<0.0793	<0.0238	<0.0357	<0.217
IA-04	7/2/2015	0.544	0.317	<0.0793	<0.0238	<0.0357	<0.217
2015 MTCA Method B Indoor Air Screening Level		**9.62**	**0.37**	**16**	**32**	**91.43**	**0.28**

Notes:

ug/m^3=micrograms per cubic meter

ppmv = parts per million by volume

PCE = Tetrachloroethene (Tetrachloroethylene, perchloroethylene)

TCE = Trichloroethene (Trichloroethylene)

cis-DCE = cis-1,2-Dichloroethene (cis-1,2-Dichloroethylene)

trans-DCE = trans-1,2-Dichloroethene (trans-1,2-Dichloroethylene)

1,1-DCE = 1,1-Dichloroethene (1,1-Dichloroethylene)

MTCA - Washington State Department of Ecology Model Toxics Control Act

Bold denotes concentration at or above regulatory cleanup level

1 = Analytical results by EPA Method TO-15

2 = Analytical results by EPA Method 3C

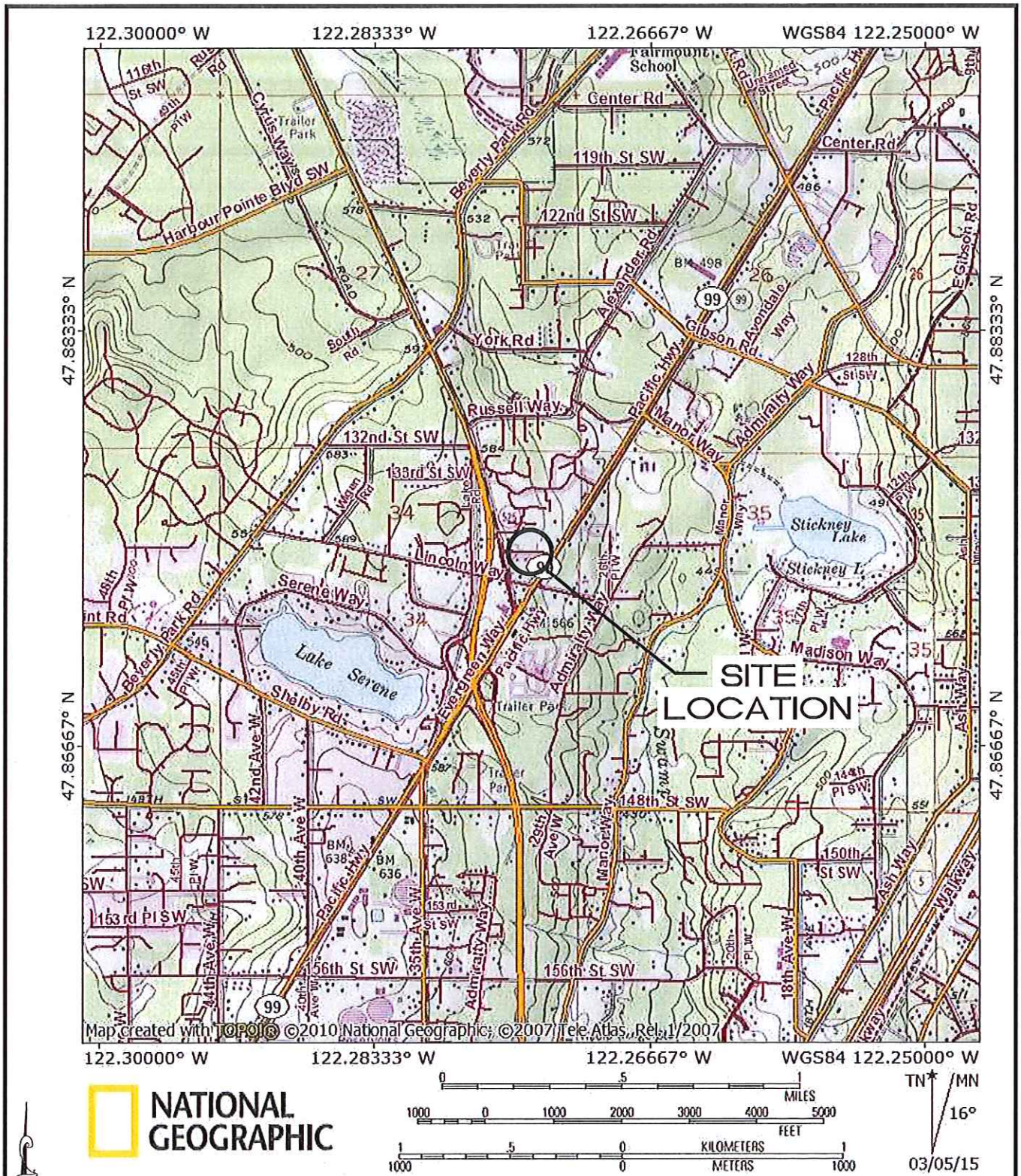
3= Analytical resutls by gas chromatography/thermal conductivity detector

All analytical results reported in micrograms per cubic meter (µg/m^3)

A complete list of VOC data is provided in Appendix B.

NA= No applicable data

FIGURES



SOURCE: USGS TOPO MAP, EDMONDS EAST, WA, 1981

SITE LOCATION MAP

SPEEDWAY SHOPPING CENTER
13632 HIGHWAY 99
LYNWOOD, WA

PROJECT NUMBER: 282EM00018		DATE: 9/17/15	FIGURE 1
APPROVED BY: SP		DRAWN BY: BK	

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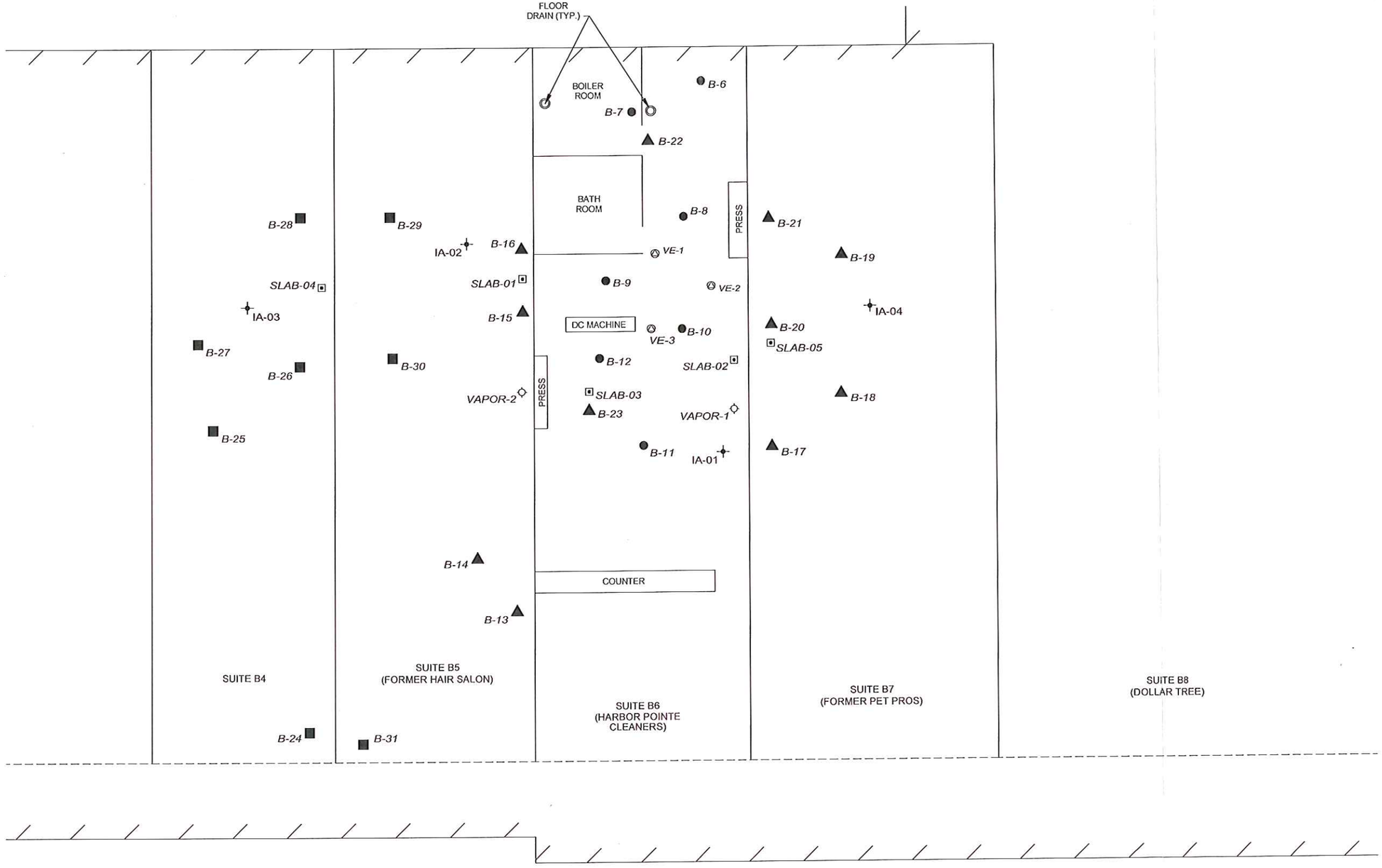

SAMPLE LOCATIONS

SPEEDWAY SHOPPING CENTER
13632 HIGHWAY 99
LYNWOOD, WA

PROJECT NUMBER: 282EM00078 | DATE: 9/17/15 | FIGURE 2
APPROVED BY: SP | DRAWN BY: BK

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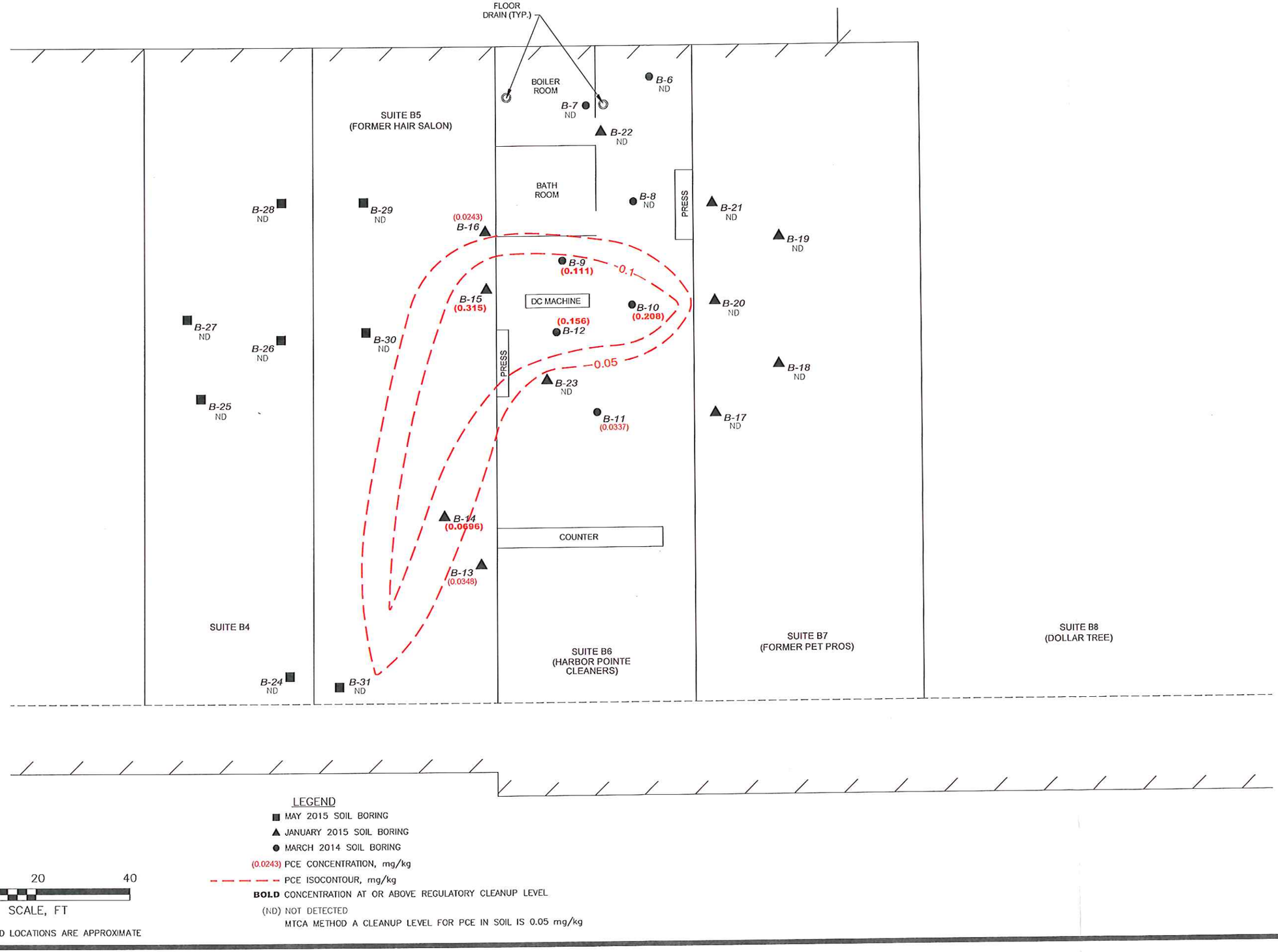

LEGEND

- ■ MAY 2015 SOIL BORING
- ▲ JANUARY 2015 SOIL BORING
- ● MARCH 2014 SOIL BORING
- (0.0243) PCE CONCENTRATION, mg/kg
- – – – – PCE ISOCONTOUR, mg/kg
- **BOLD** CONCENTRATION AT OR ABOVE REGULATORY CLEANUP LEVEL
- (ND) NOT DETECTED
- MTCA METHOD A CLEANUP LEVEL FOR PCE IN SOIL IS 0.05 mg/kg

0 20 40
SCALE, FT

NOTE: SCALE AND LOCATIONS ARE APPROXIMATE

PCE CONCENTRATIONS IN SOIL AT 1 FOOT BELOW GROUND LEVEL ISOCONTOURS

SPEEDWAY SHOPPING CENTER
13632 HIGHWAY 99
LYNWOOD, WA

FIGURE 3

PROJECT NUMBER: 282EM00078
APPROVED BY: SP
DATE: 9/17/15
DRAWN BY: BK

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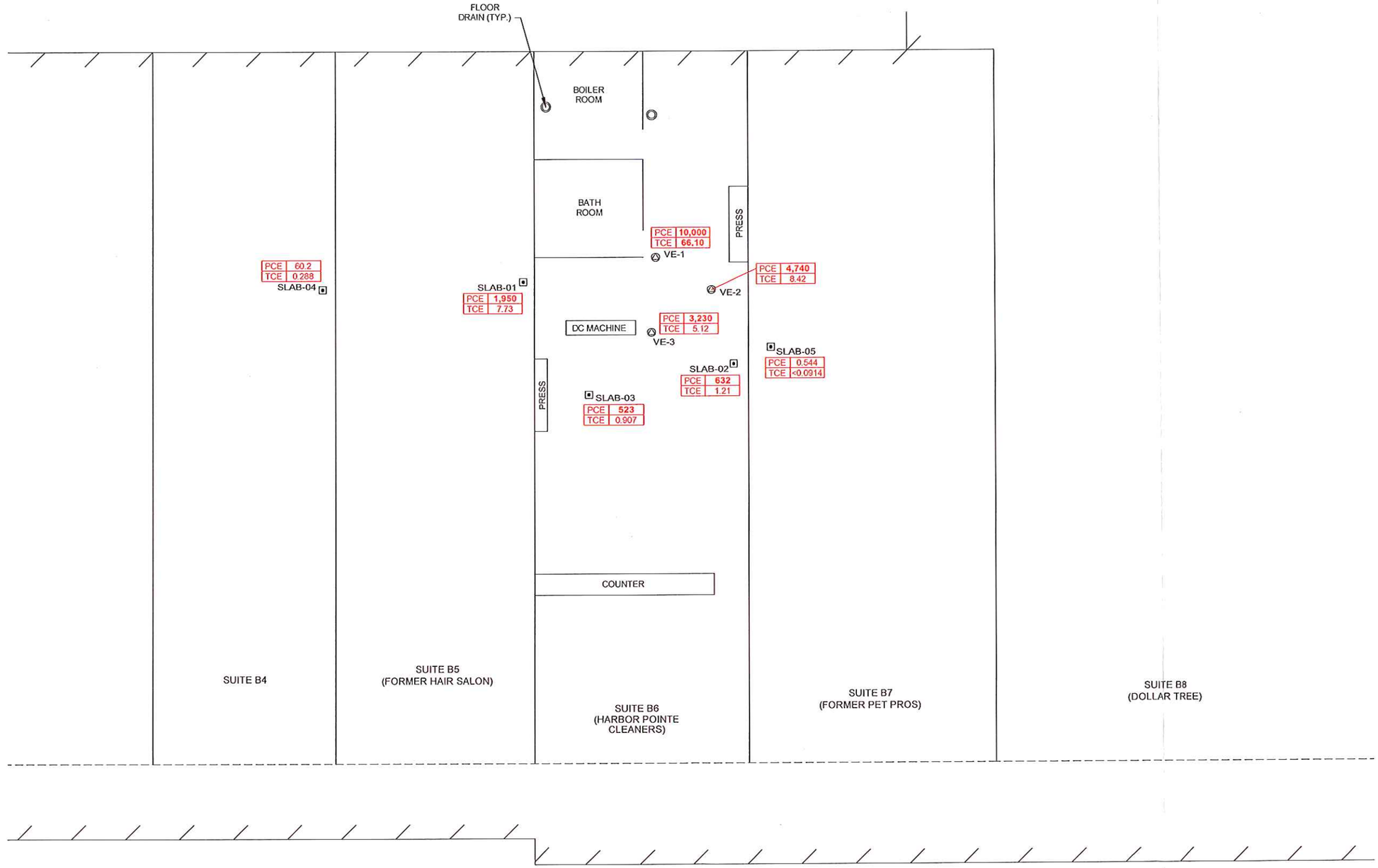

LEGEND

⊗ JANUARY 2015 SUB-SLAB SOIL VAPOR SAMPLE

⊡ JULY 2015 SUB-SLAB SOIL VAPOR SAMPLE

PCE 0.544 PCE CONCENTRATION, µg/m³

TCE <0.0914 TCE CONCENTRATION, µg/m³

BOLD CONCENTRATION AT OR ABOVE REGULATORY CLEANUP LEVEL

MTCA METHOD B SUB-SLAB SOIL VAPOR CLEANUP LEVEL FOR PCE = 320.5 µg/m³, TCE = 12.3 µg/m³

0 20 40

SCALE, FT

NOTE: SCALE AND LOCATIONS ARE APPROXIMATE

SUB-SLAB SOIL VAPOR SAMPLE LOCATIONS

SPEEDWAY SHOPPING CENTER
13632 HIGHWAY 99
LYNWOOD, WA

PROJECT NUMBER: 282EM00018 | DATE: 9/17/15 | FIGURE
APPROVED BY: SP | DRAWN BY: BK | 4

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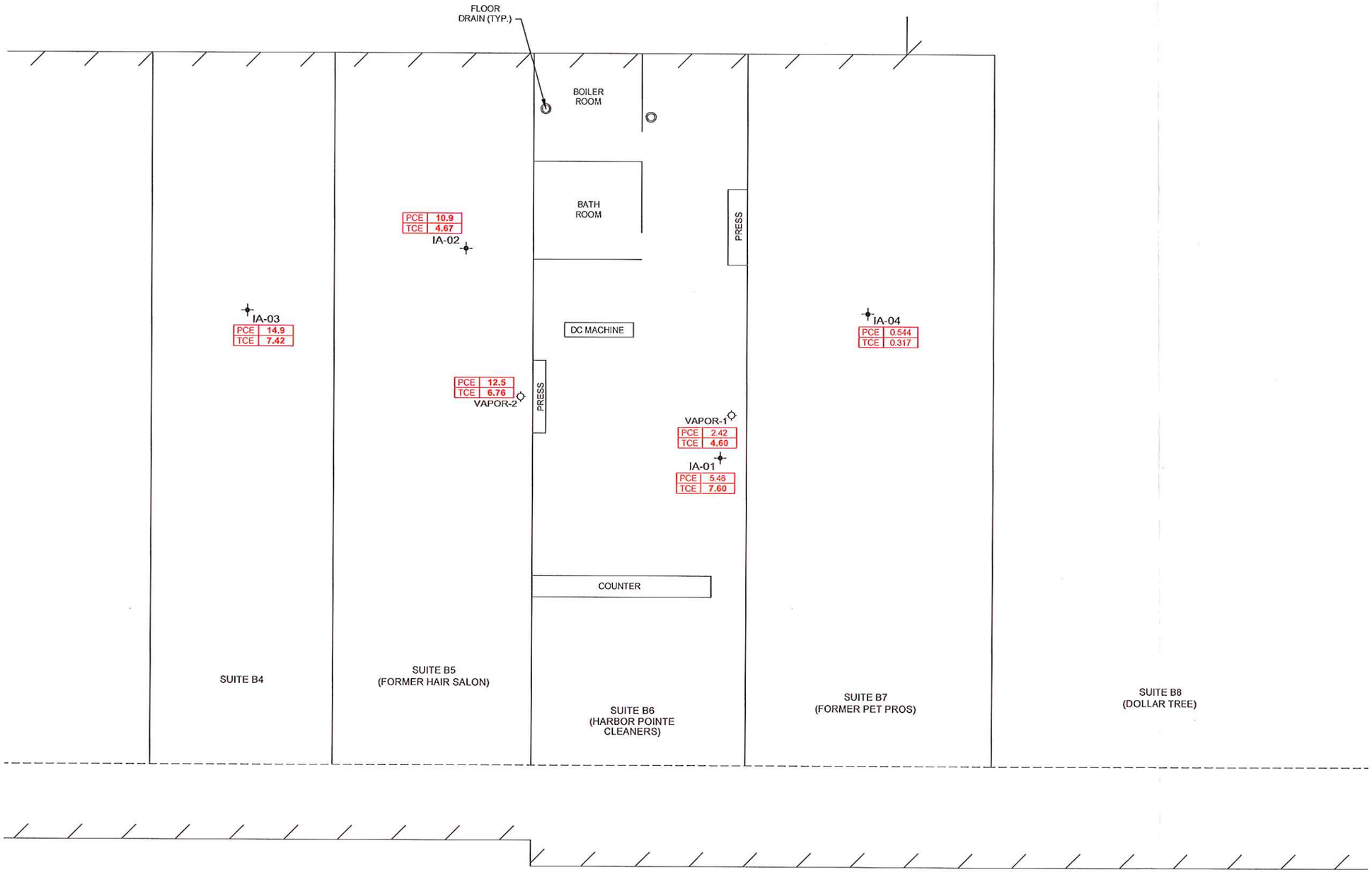

LEGEND

- JULY 2015 INDOOR AIR QUALITY SAMPLE
- MAY 2015 INDOOR AIR QUALITY SAMPLE
- PCE 0.544 / TCE 0.317 — PCE CONCENTRATION, µg/m³ / TCE CONCENTRATION, µg/m³

BOLD CONCENTRATION AT OR ABOVE REGULATORY CLEANUP LEVEL

MTCA METHOD B INDOOR AIR QUALITY CLEANUP LEVEL FOR PCE = 9.62 µg/m³, TCE = 0.37 µg/m³

0 20 40

SCALE, FT

NOTE: SCALE AND LOCATIONS ARE APPROXIMATE

INDOOR AIR QUALITY SAMPLE LOCATIONS

SPEEDWAY SHOPPING CENTER
13632 HIGHWAY 99
LYNWOOD, WA

PROJECT NUMBER: 282EM00018 | DATE: 9/17/15 | FIGURE 5
APPROVED BY: SP | DRAWN BY: BK

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APPENDIX A: SOIL BORING LOGS

Cardno ATC
Shaping the Future

BORING LOG #: B-24; Page 1 of 1

Cardno ATC Project Name:	HP Cleaners	**Drilling Information**	
Cardno ATC Project #:	282EM00061	Drilling Contractor:	ESN
		Drilling Method:	Direct Push
		Borehole Diameter:	2-inch
Location:	13619 Mukilteo Spdwy	Sampler Type:	Macrocore
	Lynnwood, WA		

Event Information

Logged by:	MN	Well/Boring Designation:	B-24
Boring Depth:		Surface Elevation:	
GW Encountered	No	Start Date:	5/12/2015
Static GW Level:		End Date:	
Notes:			

Depth (ft)	Recovery	Sample Interval	Blow Counts	PID/FID Readings	USCS Classification	Soil Classification/ Description	Well Construction
						Surface: 4" Concrete	
1				0.0	SP	FINE SAND; brown; 60% fine sand; 15% coarse sand; 10% silt; 5% fine gravel; dry; slight induration; NPO.	Backfilled with Bentonite
2							
3							
4				0.0		As above.	
						Boring terminated at 4 feet bgs.	
5							
6							
7							
8							
9							

Cardno ATC
Shaping the Future

BORING LOG #: B-25 ; Page 1 of 1

Cardno ATC Project Name:	HP Cleaners	**Drilling Information**	
		Drilling Contractor:	ESN
Cardno ATC Project #:	282EM00061	Drilling Method:	Direct Push
		Borehole Diameter:	2-inch
Location:	13619 Mukilteo Spdwy	Sampler Type:	Macrocore
	Lynnwood, WA		

Event Information

Logged by:	MN	Well/Boring Designation:	B-25
Boring Depth:		Surface Elevation:	
GW Encountered	No	Start Date:	5/12/2015
Static GW Level:		End Date:	
Notes:			

Depth (ft)	Recovery	Sample Interval	Blow Counts	PID/FID Readings	USCS Classification	Soil Classification/ Description	Well Construction
						Surface: 4" Concrete	
1				0.0	SP	FINE SAND; brown; 60% fine sand; 15% coarse sand; 10% silt; 5% fine gravel; dry; slight induration; NPO.	Backfilled with Bentonite
2							
3							
4				0.0		As above.	
						Boring terminated at 4 feet bgs.	
5							
6							
7							
8							
9							

Cardno ATC
Shaping the Future

BORING LOG #: B-26 ; Page 1 of 1

Cardno ATC Project Name:	HP Cleaners	**Drilling Information**	
		Drilling Contractor:	ESN
Cardno ATC Project #:	282EM00061	Drilling Method:	Direct Push
		Borehole Diameter:	2-inch
Location:	13619 Mukilteo Spdwy	Sampler Type:	Macrocore
	Lynnwood, WA		

Event Information

Logged by:	MN	Well/Boring Designation:	B-26
Boring Depth:		Surface Elevation:	
GW Encountered	No	Start Date:	5/12/2015
Static GW Level:		End Date:	
Notes:			

Depth (ft)	Recovery	Sample Interval	Blow Counts	PID/FID Readings	USCS Classification	Soil Classification/ Description	Well Construction
						Surface: 4" Concrete	
1				0.2	SP	FINE SAND with GRAVEL; light brown; 60% fine sand; 15% coarse sand; 10% silt; 10% fine gravel; dry; slight induration;	Backfilled with Bentonite
2							
3							
4				1.8		As above.	
						Boring terminated at 4 feet bgs.	
5							
6							
7							
8							
9							

Cardno ATC
Shaping the Future

BORING LOG #: B-27 ; Page 1 of 1

Cardno ATC Project Name:	HP Cleaners	**Drilling Information**	
		Drilling Contractor:	ESN
Cardno ATC Project #:	282EM00061	Drilling Method:	Direct Push
		Borehole Diameter:	2-inch
Location:	13619 Mukilteo Spdwy	Sampler Type:	Macrocore
	Lynnwood, WA		

Event Information

Logged by:	MN	Well/Boring Designation:	B-27
Boring Depth:		Surface Elevation:	
GW Encountered	No	Start Date:	5/12/2015
Static GW Level:		End Date:	
Notes:			

Depth (ft)	Recovery	Sample Interval	Blow Counts	PID/FID Readings	USCS Classification	Soil Classification/ Description	Well Construction
						Surface: 4" Concrete	
1				0.0	SP	FINE SAND with GRAVEL; light brown; 60% fine sand; 15% coarse sand; 10% silt; 10% fine gravel; dry; slight induration; NPO.	Backfilled with Bentonite
2							
3							
4				0.0		As above.	
						Boring terminated at 4 feet bgs.	
5							
6							
7							
8							
9							

Cardno ATC
Shaping the Future

BORING LOG #: B-28 ; Page 1 of 1

Cardno ATC Project Name:	HP Cleaners	**Drilling Information**	
		Drilling Contractor:	ESN
Cardno ATC Project #:	282EM00061	Drilling Method:	Direct Push
		Borehole Diameter:	2-inch
Location:	13619 Mukilteo Spdwy	Sampler Type:	Macrocore
	Lynnwood, WA		

Event Information

Logged by:	MN	Well/Boring Designation:	B-28
Boring Depth:		Surface Elevation:	
GW Encountered	No	Start Date:	5/12/2015
Static GW Level:		End Date:	
Notes:			

Depth (ft)	Recovery	Sample Interval	Blow Counts	PID/FID Readings	USCS Classification	Soil Classification/ Description	Well Construction
						Surface: 4" Concrete	
1				0.0	SP	FINE SAND with GRAVEL; light brown; 60% fine sand; 15% coarse sand; 10% silt; 10% fine gravel; dry; slight induration; NPO.	Backfilled with Bentonite
2							
3						SILTY SAND; light brown; 60% fine sand; 20% coarse sand;	
4				0.0	SM	20% silt; moderate induration; dry' NPO.	
						Boring terminated at 4 feet bgs.	
5							
6							
7							
8							
9							

Cardno ATC
Shaping the Future

BORING LOG #: B-29 ; Page 1 of 1

Cardno ATC Project Name:	HP Cleaners	**Drilling Information**	
		Drilling Contractor:	ESN
Cardno ATC Project #:	282EM00061	Drilling Method:	Direct Push
		Borehole Diameter:	2-inch
Location:	13619 Mukilteo Spdwy	Sampler Type:	Macrocore
	Lynnwood, WA		

Event Information

Logged by:	MN	Well/Boring Designation:	B-29
Boring Depth:		Surface Elevation:	
GW Encountered	No	Start Date:	5/12/2015
Static GW Level:		End Date:	
Notes:			

Depth (ft)	Recovery	Sample Interval	Blow Counts	PID/FID Readings	USCS Classification	Soil Classification/ Description	Well Construction
						Surface: 6" Concrete	
1				0.0	SP	FINE SAND with GRAVEL; light brown; 60% fine sand; 15% coarse sand; 10% silt; 10% fine gravel; dry; slight induration; NPO.	Backfilled with Bentonite
2							
3						SILTY SAND; light brown; 60% fine sand; 20% coarse sand;	
4				0.0	SM	20% silt; moderate induration; dry' NPO.	
						Boring terminated at 4 feet bgs.	
5							
6							
7							
8							
9							

Cardno ATC
Shaping the Future

BORING LOG #: B-30 ; Page 1 of 1

Cardno ATC Project Name:	HP Cleaners	**Drilling Information**	
		Drilling Contractor:	ESN
Cardno ATC Project #:	282EM00061	Drilling Method:	Direct Push
		Borehole Diameter:	2-inch
Location:	13619 Mukilteo Spdwy	Sampler Type:	Macrocore
	Lynnwood, WA		

Event Information

Logged by:	MN	Well/Boring Designation:	B-30
Boring Depth:		Surface Elevation:	
GW Encountered	No	Start Date:	5/12/2015
Static GW Level:		End Date:	
Notes:			

Depth (ft)	Recovery	Sample Interval	Blow Counts	PID/FID Readings	USCS Classification	Soil Classification/ Description	Well Construction
						Surface: 6" Concrete	
1				0.0	SP	FINE SAND with GRAVEL; light brown; 60% fine sand; 15% coarse sand; 10% silt; 10% fine gravel; dry; slight induration; NPO.	Backfilled with Bentonite
2							
3							
4				0.0		Boring terminated at 4 feet bgs.	
5							
6							
7							
8							
9							

Cardno ATC
Shaping the Future

BORING LOG #: B-31 ; Page 1 of 1

Cardno ATC Project Name:	HP Cleaners	**Drilling Information**	
		Drilling Contractor:	ESN
Cardno ATC Project #:	282EM00061	Drilling Method:	Direct Push
		Borehole Diameter:	2-inch
Location:	13619 Mukilteo Spdwy	Sampler Type:	Macrocore
	Lynnwood, WA		

Event Information

Logged by:	MN	Well/Boring Designation:	B-31
Boring Depth:		Surface Elevation:	
GW Encountered	No	Start Date:	5/12/2015
Static GW Level:		End Date:	
Notes:			

Depth (ft)	Recovery	Sample Interval	Blow Counts	PID/FID Readings	USCS Classification	Soil Classification/ Description	Well Construction
						Surface: 6" Concrete	
1				0.1	SP	FINE SAND with GRAVEL; light brown; 60% fine sand; 15% coarse sand; 10% silt; 10% fine gravel; dry; slight induration; NPO.	Backfilled with Bentonite
2							
3						SILTY SAND; light brown; 60% fine sand; 20% coarse sand;	
4				0.6		20% silt; moderate induration; dry' NPO.	
						Boring terminated at 4 feet bgs.	
5							
6							
7							
8							
9							

APPENDIX B: LABORATORY ANALYTICAL REPORTS

3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Cardno ATC
Simon Payne
6347 Seaview Ave NW
Seattle, WA 98107

RE: HP Cleaners
Lab ID: 1505090

May 18, 2015

Attention Simon Payne:

Fremont Analytical, Inc. received 17 sample(s) on 5/12/2015 for the analyses presented in the following report.

Sample Moisture (Percent Moisture)
Volatile Organic Compounds by EPA Method 8260

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Chelsea Ward
Project Manager

Fremont Analytical

Date: *05/18/2015*

CLIENT: Cardno ATC
Project: HP Cleaners
Lab Order: 1505090

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1505090-001	B-24-1'	05/12/2015 9:15 AM	05/12/2015 1:16 PM
1505090-002	B-24-4'	05/12/2015 9:20 AM	05/12/2015 1:16 PM
1505090-003	B-25-1'	05/12/2015 9:35 AM	05/12/2015 1:16 PM
1505090-004	B-25-4'	05/12/2015 9:40 AM	05/12/2015 1:16 PM
1505090-005	B-26-1'	05/12/2015 9:55 AM	05/12/2015 1:16 PM
1505090-006	B-26-4'	05/12/2015 10:00 AM	05/12/2015 1:16 PM
1505090-007	B-27-1'	05/12/2015 10:15 AM	05/12/2015 1:16 PM
1505090-008	B-27-4'	05/12/2015 10:20 AM	05/12/2015 1:16 PM
1505090-009	B-28-1'	05/12/2015 10:45 AM	05/12/2015 1:16 PM
1505090-010	B-28-4'	05/12/2015 10:50 AM	05/12/2015 1:16 PM
1505090-011	B-29-1'	05/12/2015 11:10 AM	05/12/2015 1:16 PM
1505090-012	B-29-4'	05/12/2015 11:15 AM	05/12/2015 1:16 PM
1505090-013	B-30-1'	05/12/2015 11:30 AM	05/12/2015 1:16 PM
1505090-014	B-30-4'	05/12/2015 11:35 AM	05/12/2015 1:16 PM
1505090-015	B-31-1'	05/12/2015 11:55 AM	05/12/2015 1:16 PM
1505090-016	B-31-4'	05/12/2015 12:00 PM	05/12/2015 1:16 PM
1505090-017	Trip Blank	04/24/2015 10:21 AM	05/12/2015 1:16 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Fremont Analytical

Case Narrative

WO#: **1505090**
Date: **5/18/2015**

CLIENT: Cardno ATC
Project: HP Cleaners

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Qualifiers:

* - Flagged value is not within established control limits
B - Analyte detected in the associated Method Blank
D - Dilution was required
E - Value above quantitation range
H - Holding times for preparation or analysis exceeded
I - Analyte with an internal standard that does not meet established acceptance criteria
J - Analyte detected below LOQ
N - Tentatively Identified Compound (TIC)
Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
S - Spike recovery outside accepted recovery limits
ND - Not detected at the Reporting Limit

Acronyms:

%Rec - Percent Recovery
CCB - Continued Calibration Blank
CCV - Continued Calibration Verification
DF - Dilution Factor
HEM - Hexane Extractable Material
ICV - Initial Calibration Verification
LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
MB or MBLANK - Method Blank
MDL - Method Detection Limit
MS/MSD - Matrix Spike / Matrix Spike Duplicate
PDS - Post Digestion Spike
Ref Val - Reference Value
RL - Reporting Limit
RPD - Relative Percent Difference
SD - Serial Dilution
SGT - Silica Gel Treatment
SPK - Spike
Surr - Surrogate

Analytical Report

WO#: **1505090**
Date Reported: **5/18/2015**

Client: Cardno ATC
Project: HP Cleaners
Lab ID: 1505090-001
Client Sample ID: B-24-1'

Collection Date: 5/12/2015 9:15:00 AM
Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 10758		Analyst: BC
Dichlorodifluoromethane (CFC-12)	ND	0.0655		mg/Kg-dry	1	5/13/2015 6:20:00 PM
Chloromethane	ND	0.0655		mg/Kg-dry	1	5/13/2015 6:20:00 PM
Vinyl chloride	ND	0.00218		mg/Kg-dry	1	5/13/2015 6:20:00 PM
Trichlorofluoromethane (CFC-11)	ND	0.0546		mg/Kg-dry	1	5/13/2015 6:20:00 PM
Chloroethane	ND	0.0655		mg/Kg-dry	1	5/13/2015 6:20:00 PM
1,1-Dichloroethene	ND	0.0546		mg/Kg-dry	1	5/13/2015 6:20:00 PM
Methylene chloride	ND	0.0218		mg/Kg-dry	1	5/13/2015 6:20:00 PM
trans-1,2-Dichloroethene	ND	0.0218		mg/Kg-dry	1	5/13/2015 6:20:00 PM
1,1-Dichloroethane	ND	0.0218		mg/Kg-dry	1	5/13/2015 6:20:00 PM
2,2-Dichloropropane	ND	0.0546		mg/Kg-dry	1	5/13/2015 6:20:00 PM
cis-1,2-Dichloroethene	ND	0.0218		mg/Kg-dry	1	5/13/2015 6:20:00 PM
Chloroform	ND	0.0218		mg/Kg-dry	1	5/13/2015 6:20:00 PM
1,1,1-Trichloroethane (TCA)	ND	0.0218		mg/Kg-dry	1	5/13/2015 6:20:00 PM
1,1-Dichloropropene	ND	0.0218		mg/Kg-dry	1	5/13/2015 6:20:00 PM
Carbon tetrachloride	ND	0.0218		mg/Kg-dry	1	5/13/2015 6:20:00 PM
1,2-Dichloroethane (EDC)	ND	0.0327		mg/Kg-dry	1	5/13/2015 6:20:00 PM
Trichloroethene (TCE)	ND	0.0218		mg/Kg-dry	1	5/13/2015 6:20:00 PM
1,2-Dichloropropane	ND	0.0218		mg/Kg-dry	1	5/13/2015 6:20:00 PM
Bromodichloromethane	ND	0.0218		mg/Kg-dry	1	5/13/2015 6:20:00 PM
cis-1,3-Dichloropropene	ND	0.0218		mg/Kg-dry	1	5/13/2015 6:20:00 PM
trans-1,3-Dichloropropene	ND	0.0327		mg/Kg-dry	1	5/13/2015 6:20:00 PM
1,1,2-Trichloroethane	ND	0.0327		mg/Kg-dry	1	5/13/2015 6:20:00 PM
1,3-Dichloropropane	ND	0.0546		mg/Kg-dry	1	5/13/2015 6:20:00 PM
Tetrachloroethene (PCE)	ND	0.0218		mg/Kg-dry	1	5/13/2015 6:20:00 PM
Dibromochloromethane	ND	0.0327		mg/Kg-dry	1	5/13/2015 6:20:00 PM
Chlorobenzene	ND	0.0218		mg/Kg-dry	1	5/13/2015 6:20:00 PM
1,1,1,2-Tetrachloroethane	ND	0.0327		mg/Kg-dry	1	5/13/2015 6:20:00 PM
1,1,2,2-Tetrachloroethane	ND	0.0218		mg/Kg-dry	1	5/13/2015 6:20:00 PM
2-Chlorotoluene	ND	0.0218		mg/Kg-dry	1	5/13/2015 6:20:00 PM
4-Chlorotoluene	ND	0.0218		mg/Kg-dry	1	5/13/2015 6:20:00 PM
1,2,3-Trichloropropane	ND	0.0218		mg/Kg-dry	1	5/13/2015 6:20:00 PM
1,2,4-Trichlorobenzene	ND	0.0546		mg/Kg-dry	1	5/13/2015 6:20:00 PM
1,3-Dichlorobenzene	ND	0.0218		mg/Kg-dry	1	5/13/2015 6:20:00 PM
1,4-Dichlorobenzene	ND	0.0218		mg/Kg-dry	1	5/13/2015 6:20:00 PM
1,2-Dichlorobenzene	ND	0.0218		mg/Kg-dry	1	5/13/2015 6:20:00 PM
1,2-Dibromo-3-chloropropane	ND	0.546		mg/Kg-dry	1	5/13/2015 6:20:00 PM
Hexachloro-1,3-butadiene	ND	0.109		mg/Kg-dry	1	5/13/2015 6:20:00 PM
1,2,3-Trichlorobenzene	ND	0.0218		mg/Kg-dry	1	5/13/2015 6:20:00 PM
Surr: Dibromofluoromethane	104	63.7-129		%REC	1	5/13/2015 6:20:00 PM

Analytical Report

WO#: **1505090**
Date Reported: **5/18/2015**

Client: Cardno ATC
Project: HP Cleaners
Lab ID: 1505090-001
Client Sample ID: B-24-1'

Collection Date: 5/12/2015 9:15:00 AM
Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 10758		Analyst: BC
Surr: Toluene-d8	109	64.3-131		%REC	1	5/13/2015 6:20:00 PM
Surr: 1-Bromo-4-fluorobenzene	96.3	63.1-141		%REC	1	5/13/2015 6:20:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R22300		Analyst: SB
Percent Moisture	5.94			wt%	1	5/12/2015 3:56:53 PM

Client: Cardno ATC
Project: HP Cleaners
Lab ID: 1505090-002
Client Sample ID: B-24-4'

Collection Date: 5/12/2015 9:20:00 AM
Matrix: Soil

Volatile Organic Compounds by EPA Method 8260

Batch ID: 10758 Analyst: BC

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	0.0632		mg/Kg-dry	1	5/13/2015 5:50:00 PM
Chloromethane	ND	0.0632		mg/Kg-dry	1	5/13/2015 5:50:00 PM
Vinyl chloride	ND	0.00211		mg/Kg-dry	1	5/13/2015 5:50:00 PM
Trichlorofluoromethane (CFC-11)	ND	0.0527		mg/Kg-dry	1	5/13/2015 5:50:00 PM
Chloroethane	ND	0.0632		mg/Kg-dry	1	5/13/2015 5:50:00 PM
1,1-Dichloroethene	ND	0.0527		mg/Kg-dry	1	5/13/2015 5:50:00 PM
Methylene chloride	ND	0.0211		mg/Kg-dry	1	5/13/2015 5:50:00 PM
trans-1,2-Dichloroethene	ND	0.0211		mg/Kg-dry	1	5/13/2015 5:50:00 PM
1,1-Dichloroethane	ND	0.0211		mg/Kg-dry	1	5/13/2015 5:50:00 PM
2,2-Dichloropropane	ND	0.0527		mg/Kg-dry	1	5/13/2015 5:50:00 PM
cis-1,2-Dichloroethene	ND	0.0211		mg/Kg-dry	1	5/13/2015 5:50:00 PM
Chloroform	ND	0.0211		mg/Kg-dry	1	5/13/2015 5:50:00 PM
1,1,1-Trichloroethane (TCA)	ND	0.0211		mg/Kg-dry	1	5/13/2015 5:50:00 PM
1,1-Dichloropropene	ND	0.0211		mg/Kg-dry	1	5/13/2015 5:50:00 PM
Carbon tetrachloride	ND	0.0211		mg/Kg-dry	1	5/13/2015 5:50:00 PM
1,2-Dichloroethane (EDC)	ND	0.0316		mg/Kg-dry	1	5/13/2015 5:50:00 PM
Trichloroethene (TCE)	ND	0.0211		mg/Kg-dry	1	5/13/2015 5:50:00 PM
1,2-Dichloropropane	ND	0.0211		mg/Kg-dry	1	5/13/2015 5:50:00 PM
Bromodichloromethane	ND	0.0211		mg/Kg-dry	1	5/13/2015 5:50:00 PM
cis-1,3-Dichloropropene	ND	0.0211		mg/Kg-dry	1	5/13/2015 5:50:00 PM
trans-1,3-Dichloropropene	ND	0.0316		mg/Kg-dry	1	5/13/2015 5:50:00 PM
1,1,2-Trichloroethane	ND	0.0316		mg/Kg-dry	1	5/13/2015 5:50:00 PM
1,3-Dichloropropane	ND	0.0527		mg/Kg-dry	1	5/13/2015 5:50:00 PM
Tetrachloroethene (PCE)	ND	0.0211		mg/Kg-dry	1	5/13/2015 5:50:00 PM
Dibromochloromethane	ND	0.0316		mg/Kg-dry	1	5/13/2015 5:50:00 PM
Chlorobenzene	ND	0.0211		mg/Kg-dry	1	5/13/2015 5:50:00 PM
1,1,1,2-Tetrachloroethane	ND	0.0316		mg/Kg-dry	1	5/13/2015 5:50:00 PM
1,1,2,2-Tetrachloroethane	ND	0.0211		mg/Kg-dry	1	5/13/2015 5:50:00 PM
2-Chlorotoluene	ND	0.0211		mg/Kg-dry	1	5/13/2015 5:50:00 PM
4-Chlorotoluene	ND	0.0211		mg/Kg-dry	1	5/13/2015 5:50:00 PM
1,2,3-Trichloropropane	ND	0.0211		mg/Kg-dry	1	5/13/2015 5:50:00 PM
1,2,4-Trichlorobenzene	ND	0.0527		mg/Kg-dry	1	5/13/2015 5:50:00 PM
1,3-Dichlorobenzene	ND	0.0211		mg/Kg-dry	1	5/13/2015 5:50:00 PM
1,4-Dichlorobenzene	ND	0.0211		mg/Kg-dry	1	5/13/2015 5:50:00 PM
1,2-Dichlorobenzene	ND	0.0211		mg/Kg-dry	1	5/13/2015 5:50:00 PM
1,2-Dibromo-3-chloropropane	ND	0.527		mg/Kg-dry	1	5/13/2015 5:50:00 PM
Hexachloro-1,3-butadiene	ND	0.105		mg/Kg-dry	1	5/13/2015 5:50:00 PM
1,2,3-Trichlorobenzene	ND	0.0211		mg/Kg-dry	1	5/13/2015 5:50:00 PM
Surr: Dibromofluoromethane	105	63.7-129		%REC	1	5/13/2015 5:50:00 PM

Fremont Analytical

Analytical Report

WO#: **1505090**
Date Reported: **5/18/2015**

Client: Cardno ATC
Project: HP Cleaners
Lab ID: 1505090-002
Client Sample ID: B-24-4'

Collection Date: 5/12/2015 9:20:00 AM
Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 10758		Analyst: BC
Surr: Toluene-d8	109	64.3-131		%REC	1	5/13/2015 5:50:00 PM
Surr: 1-Bromo-4-fluorobenzene	96.1	63.1-141		%REC	1	5/13/2015 5:50:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R22300		Analyst: SB
Percent Moisture	8.69			wt%	1	5/12/2015 3:56:53 PM

Client: Cardno ATC
Project: HP Cleaners
Lab ID: 1505090-003
Client Sample ID: B-25-1'

Collection Date: 5/12/2015 9:35:00 AM
Matrix: Soil

Volatile Organic Compounds by EPA Method 8260

Batch ID: 10758 Analyst: BC

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	0.0638		mg/Kg-dry	1	5/13/2015 8:46:00 PM
Chloromethane	ND	0.0638		mg/Kg-dry	1	5/13/2015 8:46:00 PM
Vinyl chloride	ND	0.00213		mg/Kg-dry	1	5/13/2015 8:46:00 PM
Trichlorofluoromethane (CFC-11)	ND	0.0532		mg/Kg-dry	1	5/13/2015 8:46:00 PM
Chloroethane	ND	0.0638		mg/Kg-dry	1	5/13/2015 8:46:00 PM
1,1-Dichloroethene	ND	0.0532		mg/Kg-dry	1	5/13/2015 8:46:00 PM
Methylene chloride	ND	0.0213		mg/Kg-dry	1	5/13/2015 8:46:00 PM
trans-1,2-Dichloroethene	ND	0.0213		mg/Kg-dry	1	5/13/2015 8:46:00 PM
1,1-Dichloroethane	ND	0.0213		mg/Kg-dry	1	5/13/2015 8:46:00 PM
2,2-Dichloropropane	ND	0.0532		mg/Kg-dry	1	5/13/2015 8:46:00 PM
cis-1,2-Dichloroethene	ND	0.0213		mg/Kg-dry	1	5/13/2015 8:46:00 PM
Chloroform	ND	0.0213		mg/Kg-dry	1	5/13/2015 8:46:00 PM
1,1,1-Trichloroethane (TCA)	ND	0.0213		mg/Kg-dry	1	5/13/2015 8:46:00 PM
1,1-Dichloropropene	ND	0.0213		mg/Kg-dry	1	5/13/2015 8:46:00 PM
Carbon tetrachloride	ND	0.0213		mg/Kg-dry	1	5/13/2015 8:46:00 PM
1,2-Dichloroethane (EDC)	ND	0.0319		mg/Kg-dry	1	5/13/2015 8:46:00 PM
Trichloroethene (TCE)	ND	0.0213		mg/Kg-dry	1	5/13/2015 8:46:00 PM
1,2-Dichloropropane	ND	0.0213		mg/Kg-dry	1	5/13/2015 8:46:00 PM
Bromodichloromethane	ND	0.0213		mg/Kg-dry	1	5/13/2015 8:46:00 PM
cis-1,3-Dichloropropene	ND	0.0213		mg/Kg-dry	1	5/13/2015 8:46:00 PM
trans-1,3-Dichloropropene	ND	0.0319		mg/Kg-dry	1	5/13/2015 8:46:00 PM
1,1,2-Trichloroethane	ND	0.0319		mg/Kg-dry	1	5/13/2015 8:46:00 PM
1,3-Dichloropropane	ND	0.0532		mg/Kg-dry	1	5/13/2015 8:46:00 PM
Tetrachloroethene (PCE)	ND	0.0213		mg/Kg-dry	1	5/13/2015 8:46:00 PM
Dibromochloromethane	ND	0.0319		mg/Kg-dry	1	5/13/2015 8:46:00 PM
Chlorobenzene	ND	0.0213		mg/Kg-dry	1	5/13/2015 8:46:00 PM
1,1,1,2-Tetrachloroethane	ND	0.0319		mg/Kg-dry	1	5/13/2015 8:46:00 PM
1,1,2,2-Tetrachloroethane	ND	0.0213		mg/Kg-dry	1	5/13/2015 8:46:00 PM
2-Chlorotoluene	ND	0.0213		mg/Kg-dry	1	5/13/2015 8:46:00 PM
4-Chlorotoluene	ND	0.0213		mg/Kg-dry	1	5/13/2015 8:46:00 PM
1,2,3-Trichloropropane	ND	0.0213		mg/Kg-dry	1	5/13/2015 8:46:00 PM
1,2,4-Trichlorobenzene	ND	0.0532		mg/Kg-dry	1	5/13/2015 8:46:00 PM
1,3-Dichlorobenzene	ND	0.0213		mg/Kg-dry	1	5/13/2015 8:46:00 PM
1,4-Dichlorobenzene	ND	0.0213		mg/Kg-dry	1	5/13/2015 8:46:00 PM
1,2-Dichlorobenzene	ND	0.0213		mg/Kg-dry	1	5/13/2015 8:46:00 PM
1,2-Dibromo-3-chloropropane	ND	0.532		mg/Kg-dry	1	5/13/2015 8:46:00 PM
Hexachloro-1,3-butadiene	ND	0.106		mg/Kg-dry	1	5/13/2015 8:46:00 PM
1,2,3-Trichlorobenzene	ND	0.0213		mg/Kg-dry	1	5/13/2015 8:46:00 PM
Surr: Dibromofluoromethane	106	63.7-129		%REC	1	5/13/2015 8:46:00 PM

Analytical Report

WO#: **1505090**
Date Reported: **5/18/2015**

Client: Cardno ATC
Project: HP Cleaners
Lab ID: 1505090-003
Client Sample ID: B-25-1'

Collection Date: 5/12/2015 9:35:00 AM
Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 10758		Analyst: BC
Surr: Toluene-d8	109	64.3-131		%REC	1	5/13/2015 8:46:00 PM
Surr: 1-Bromo-4-fluorobenzene	96.5	63.1-141		%REC	1	5/13/2015 8:46:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R22300		Analyst: SB
Percent Moisture	4.83			wt%	1	5/12/2015 3:56:53 PM

Client: Cardno ATC
Project: HP Cleaners
Lab ID: 1505090-004
Client Sample ID: B-25-4'

Collection Date: 5/12/2015 9:40:00 AM
Matrix: Soil

Volatile Organic Compounds by EPA Method 8260 — Batch ID: 10758 — Analyst: BC

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	0.0659		mg/Kg-dry	1	5/13/2015 9:16:00 PM
Chloromethane	ND	0.0659		mg/Kg-dry	1	5/13/2015 9:16:00 PM
Vinyl chloride	ND	0.00220		mg/Kg-dry	1	5/13/2015 9:16:00 PM
Trichlorofluoromethane (CFC-11)	ND	0.0549		mg/Kg-dry	1	5/13/2015 9:16:00 PM
Chloroethane	ND	0.0659		mg/Kg-dry	1	5/13/2015 9:16:00 PM
1,1-Dichloroethene	ND	0.0549		mg/Kg-dry	1	5/13/2015 9:16:00 PM
Methylene chloride	ND	0.0220		mg/Kg-dry	1	5/13/2015 9:16:00 PM
trans-1,2-Dichloroethene	ND	0.0220		mg/Kg-dry	1	5/13/2015 9:16:00 PM
1,1-Dichloroethane	ND	0.0220		mg/Kg-dry	1	5/13/2015 9:16:00 PM
2,2-Dichloropropane	ND	0.0549		mg/Kg-dry	1	5/13/2015 9:16:00 PM
cis-1,2-Dichloroethene	ND	0.0220		mg/Kg-dry	1	5/13/2015 9:16:00 PM
Chloroform	ND	0.0220		mg/Kg-dry	1	5/13/2015 9:16:00 PM
1,1,1-Trichloroethane (TCA)	ND	0.0220		mg/Kg-dry	1	5/13/2015 9:16:00 PM
1,1-Dichloropropene	ND	0.0220		mg/Kg-dry	1	5/13/2015 9:16:00 PM
Carbon tetrachloride	ND	0.0220		mg/Kg-dry	1	5/13/2015 9:16:00 PM
1,2-Dichloroethane (EDC)	ND	0.0330		mg/Kg-dry	1	5/13/2015 9:16:00 PM
Trichloroethene (TCE)	ND	0.0220		mg/Kg-dry	1	5/13/2015 9:16:00 PM
1,2-Dichloropropane	ND	0.0220		mg/Kg-dry	1	5/13/2015 9:16:00 PM
Bromodichloromethane	ND	0.0220		mg/Kg-dry	1	5/13/2015 9:16:00 PM
cis-1,3-Dichloropropene	ND	0.0220		mg/Kg-dry	1	5/13/2015 9:16:00 PM
trans-1,3-Dichloropropene	ND	0.0330		mg/Kg-dry	1	5/13/2015 9:16:00 PM
1,1,2-Trichloroethane	ND	0.0330		mg/Kg-dry	1	5/13/2015 9:16:00 PM
1,3-Dichloropropane	ND	0.0549		mg/Kg-dry	1	5/13/2015 9:16:00 PM
Tetrachloroethene (PCE)	ND	0.0220		mg/Kg-dry	1	5/13/2015 9:16:00 PM
Dibromochloromethane	ND	0.0330		mg/Kg-dry	1	5/13/2015 9:16:00 PM
Chlorobenzene	ND	0.0220		mg/Kg-dry	1	5/13/2015 9:16:00 PM
1,1,1,2-Tetrachloroethane	ND	0.0330		mg/Kg-dry	1	5/13/2015 9:16:00 PM
1,1,2,2-Tetrachloroethane	ND	0.0220		mg/Kg-dry	1	5/13/2015 9:16:00 PM
2-Chlorotoluene	ND	0.0220		mg/Kg-dry	1	5/13/2015 9:16:00 PM
4-Chlorotoluene	ND	0.0220		mg/Kg-dry	1	5/13/2015 9:16:00 PM
1,2,3-Trichloropropane	ND	0.0220		mg/Kg-dry	1	5/13/2015 9:16:00 PM
1,2,4-Trichlorobenzene	ND	0.0549		mg/Kg-dry	1	5/13/2015 9:16:00 PM
1,3-Dichlorobenzene	ND	0.0220		mg/Kg-dry	1	5/13/2015 9:16:00 PM
1,4-Dichlorobenzene	ND	0.0220		mg/Kg-dry	1	5/13/2015 9:16:00 PM
1,2-Dichlorobenzene	ND	0.0220		mg/Kg-dry	1	5/13/2015 9:16:00 PM
1,2-Dibromo-3-chloropropane	ND	0.549		mg/Kg-dry	1	5/13/2015 9:16:00 PM
Hexachloro-1,3-butadiene	ND	0.110		mg/Kg-dry	1	5/13/2015 9:16:00 PM
1,2,3-Trichlorobenzene	ND	0.0220		mg/Kg-dry	1	5/13/2015 9:16:00 PM
Surr: Dibromofluoromethane	104	63.7-129		%REC	1	5/13/2015 9:16:00 PM

Analytical Report

WO#: **1505090**
Date Reported: **5/18/2015**

Client: Cardno ATC
Project: HP Cleaners
Lab ID: 1505090-004
Client Sample ID: B-25-4'

Collection Date: 5/12/2015 9:40:00 AM
Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 10758		Analyst: BC
Surr: Toluene-d8	107	64.3-131		%REC	1	5/13/2015 9:16:00 PM
Surr: 1-Bromo-4-fluorobenzene	95.4	63.1-141		%REC	1	5/13/2015 9:16:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R22300		Analyst: SB
Percent Moisture	10.4			wt%	1	5/12/2015 3:56:53 PM

Client: Cardno ATC
Project: HP Cleaners
Lab ID: 1505090-005
Client Sample ID: B-26-1'

Collection Date: 5/12/2015 9:55:00 AM
Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 10758		Analyst: BC
Dichlorodifluoromethane (CFC-12)	ND	0.0605		mg/Kg-dry	1	5/13/2015 9:45:00 PM
Chloromethane	ND	0.0605		mg/Kg-dry	1	5/13/2015 9:45:00 PM
Vinyl chloride	ND	0.00202		mg/Kg-dry	1	5/13/2015 9:45:00 PM
Trichlorofluoromethane (CFC-11)	ND	0.0504		mg/Kg-dry	1	5/13/2015 9:45:00 PM
Chloroethane	ND	0.0605		mg/Kg-dry	1	5/13/2015 9:45:00 PM
1,1-Dichloroethene	ND	0.0504		mg/Kg-dry	1	5/13/2015 9:45:00 PM
Methylene chloride	ND	0.0202		mg/Kg-dry	1	5/13/2015 9:45:00 PM
trans-1,2-Dichloroethene	ND	0.0202		mg/Kg-dry	1	5/13/2015 9:45:00 PM
1,1-Dichloroethane	ND	0.0202		mg/Kg-dry	1	5/13/2015 9:45:00 PM
2,2-Dichloropropane	ND	0.0504		mg/Kg-dry	1	5/13/2015 9:45:00 PM
cis-1,2-Dichloroethene	ND	0.0202		mg/Kg-dry	1	5/13/2015 9:45:00 PM
Chloroform	ND	0.0202		mg/Kg-dry	1	5/13/2015 9:45:00 PM
1,1,1-Trichloroethane (TCA)	ND	0.0202		mg/Kg-dry	1	5/13/2015 9:45:00 PM
1,1-Dichloropropene	ND	0.0202		mg/Kg-dry	1	5/13/2015 9:45:00 PM
Carbon tetrachloride	ND	0.0202		mg/Kg-dry	1	5/13/2015 9:45:00 PM
1,2-Dichloroethane (EDC)	ND	0.0303		mg/Kg-dry	1	5/13/2015 9:45:00 PM
Trichloroethene (TCE)	ND	0.0202		mg/Kg-dry	1	5/13/2015 9:45:00 PM
1,2-Dichloropropane	ND	0.0202		mg/Kg-dry	1	5/13/2015 9:45:00 PM
Bromodichloromethane	ND	0.0202		mg/Kg-dry	1	5/13/2015 9:45:00 PM
cis-1,3-Dichloropropene	ND	0.0202		mg/Kg-dry	1	5/13/2015 9:45:00 PM
trans-1,3-Dichloropropene	ND	0.0303		mg/Kg-dry	1	5/13/2015 9:45:00 PM
1,1,2-Trichloroethane	ND	0.0303		mg/Kg-dry	1	5/13/2015 9:45:00 PM
1,3-Dichloropropane	ND	0.0504		mg/Kg-dry	1	5/13/2015 9:45:00 PM
Tetrachloroethene (PCE)	ND	0.0202		mg/Kg-dry	1	5/13/2015 9:45:00 PM
Dibromochloromethane	ND	0.0303		mg/Kg-dry	1	5/13/2015 9:45:00 PM
Chlorobenzene	ND	0.0202		mg/Kg-dry	1	5/13/2015 9:45:00 PM
1,1,1,2-Tetrachloroethane	ND	0.0303		mg/Kg-dry	1	5/13/2015 9:45:00 PM
1,1,2,2-Tetrachloroethane	ND	0.0202		mg/Kg-dry	1	5/13/2015 9:45:00 PM
2-Chlorotoluene	ND	0.0202		mg/Kg-dry	1	5/13/2015 9:45:00 PM
4-Chlorotoluene	ND	0.0202		mg/Kg-dry	1	5/13/2015 9:45:00 PM
1,2,3-Trichloropropane	ND	0.0202		mg/Kg-dry	1	5/13/2015 9:45:00 PM
1,2,4-Trichlorobenzene	ND	0.0504		mg/Kg-dry	1	5/13/2015 9:45:00 PM
1,3-Dichlorobenzene	ND	0.0202		mg/Kg-dry	1	5/13/2015 9:45:00 PM
1,4-Dichlorobenzene	ND	0.0202		mg/Kg-dry	1	5/13/2015 9:45:00 PM
1,2-Dichlorobenzene	ND	0.0202		mg/Kg-dry	1	5/13/2015 9:45:00 PM
1,2-Dibromo-3-chloropropane	ND	0.504		mg/Kg-dry	1	5/13/2015 9:45:00 PM
Hexachloro-1,3-butadiene	ND	0.101		mg/Kg-dry	1	5/13/2015 9:45:00 PM
1,2,3-Trichlorobenzene	ND	0.0202		mg/Kg-dry	1	5/13/2015 9:45:00 PM
Surr: Dibromofluoromethane	99.3	63.7-129		%REC	1	5/13/2015 9:45:00 PM

Analytical Report

WO#: **1505090**
Date Reported: **5/18/2015**

Client: Cardno ATC
Project: HP Cleaners
Lab ID: 1505090-005
Client Sample ID: B-26-1'

Collection Date: 5/12/2015 9:55:00 AM
Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 10758		Analyst: BC
Surr: Toluene-d8	104	64.3-131		%REC	1	5/13/2015 9:45:00 PM
Surr: 1-Bromo-4-fluorobenzene	91.4	63.1-141		%REC	1	5/13/2015 9:45:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R22300		Analyst: SB
Percent Moisture	4.55			wt%	1	5/12/2015 3:56:53 PM

Client: Cardno ATC
Project: HP Cleaners
Lab ID: 1505090-006
Client Sample ID: B-26-4'

Collection Date: 5/12/2015 10:00:00 AM
Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 10758		Analyst: BC
Dichlorodifluoromethane (CFC-12)	ND	0.0582		mg/Kg-dry	1	5/13/2015 10:14:00 PM
Chloromethane	ND	0.0582		mg/Kg-dry	1	5/13/2015 10:14:00 PM
Vinyl chloride	ND	0.00194		mg/Kg-dry	1	5/13/2015 10:14:00 PM
Trichlorofluoromethane (CFC-11)	ND	0.0485		mg/Kg-dry	1	5/13/2015 10:14:00 PM
Chloroethane	ND	0.0582		mg/Kg-dry	1	5/13/2015 10:14:00 PM
1,1-Dichloroethene	ND	0.0485		mg/Kg-dry	1	5/13/2015 10:14:00 PM
Methylene chloride	ND	0.0194		mg/Kg-dry	1	5/13/2015 10:14:00 PM
trans-1,2-Dichloroethene	ND	0.0194		mg/Kg-dry	1	5/13/2015 10:14:00 PM
1,1-Dichloroethane	ND	0.0194		mg/Kg-dry	1	5/13/2015 10:14:00 PM
2,2-Dichloropropane	ND	0.0485		mg/Kg-dry	1	5/13/2015 10:14:00 PM
cis-1,2-Dichloroethene	ND	0.0194		mg/Kg-dry	1	5/13/2015 10:14:00 PM
Chloroform	ND	0.0194		mg/Kg-dry	1	5/13/2015 10:14:00 PM
1,1,1-Trichloroethane (TCA)	ND	0.0194		mg/Kg-dry	1	5/13/2015 10:14:00 PM
1,1-Dichloropropene	ND	0.0194		mg/Kg-dry	1	5/13/2015 10:14:00 PM
Carbon tetrachloride	ND	0.0194		mg/Kg-dry	1	5/13/2015 10:14:00 PM
1,2-Dichloroethane (EDC)	ND	0.0291		mg/Kg-dry	1	5/13/2015 10:14:00 PM
Trichloroethene (TCE)	ND	0.0194		mg/Kg-dry	1	5/13/2015 10:14:00 PM
1,2-Dichloropropane	ND	0.0194		mg/Kg-dry	1	5/13/2015 10:14:00 PM
Bromodichloromethane	ND	0.0194		mg/Kg-dry	1	5/13/2015 10:14:00 PM
cis-1,3-Dichloropropene	ND	0.0194		mg/Kg-dry	1	5/13/2015 10:14:00 PM
trans-1,3-Dichloropropene	ND	0.0291		mg/Kg-dry	1	5/13/2015 10:14:00 PM
1,1,2-Trichloroethane	ND	0.0291		mg/Kg-dry	1	5/13/2015 10:14:00 PM
1,3-Dichloropropane	ND	0.0485		mg/Kg-dry	1	5/13/2015 10:14:00 PM
Tetrachloroethene (PCE)	ND	0.0194		mg/Kg-dry	1	5/13/2015 10:14:00 PM
Dibromochloromethane	ND	0.0291		mg/Kg-dry	1	5/13/2015 10:14:00 PM
Chlorobenzene	ND	0.0194		mg/Kg-dry	1	5/13/2015 10:14:00 PM
1,1,1,2-Tetrachloroethane	ND	0.0291		mg/Kg-dry	1	5/13/2015 10:14:00 PM
1,1,2,2-Tetrachloroethane	ND	0.0194		mg/Kg-dry	1	5/13/2015 10:14:00 PM
2-Chlorotoluene	ND	0.0194		mg/Kg-dry	1	5/13/2015 10:14:00 PM
4-Chlorotoluene	ND	0.0194		mg/Kg-dry	1	5/13/2015 10:14:00 PM
1,2,3-Trichloropropane	ND	0.0194		mg/Kg-dry	1	5/13/2015 10:14:00 PM
1,2,4-Trichlorobenzene	ND	0.0485		mg/Kg-dry	1	5/13/2015 10:14:00 PM
1,3-Dichlorobenzene	ND	0.0194		mg/Kg-dry	1	5/13/2015 10:14:00 PM
1,4-Dichlorobenzene	ND	0.0194		mg/Kg-dry	1	5/13/2015 10:14:00 PM
1,2-Dichlorobenzene	ND	0.0194		mg/Kg-dry	1	5/13/2015 10:14:00 PM
1,2-Dibromo-3-chloropropane	ND	0.485		mg/Kg-dry	1	5/13/2015 10:14:00 PM
Hexachloro-1,3-butadiene	ND	0.0971		mg/Kg-dry	1	5/13/2015 10:14:00 PM
1,2,3-Trichlorobenzene	ND	0.0194		mg/Kg-dry	1	5/13/2015 10:14:00 PM
Surr: Dibromofluoromethane	96.4	63.7-129		%REC	1	5/13/2015 10:14:00 PM

Analytical Report

WO#: **1505090**
Date Reported: **5/18/2015**

Client: Cardno ATC
Project: HP Cleaners
Lab ID: 1505090-006
Client Sample ID: B-26-4'

Collection Date: 5/12/2015 10:00:00 AM
Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 10758		Analyst: BC
Surr: Toluene-d8	99.8	64.3-131		%REC	1	5/13/2015 10:14:00 PM
Surr: 1-Bromo-4-fluorobenzene	89.3	63.1-141		%REC	1	5/13/2015 10:14:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R22300		Analyst: SB
Percent Moisture	10.1			wt%	1	5/12/2015 3:56:53 PM

Fremont Analytical

Analytical Report

WO#: **1505090**
Date Reported: **5/18/2015**

Client: Cardno ATC
Project: HP Cleaners
Lab ID: 1505090-007
Client Sample ID: B-27-1'

Collection Date: 5/12/2015 10:15:00 AM
Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 10758		Analyst: BC
Dichlorodifluoromethane (CFC-12)	ND	0.0888		mg/Kg-dry	1	5/13/2015 10:44:00 PM
Chloromethane	ND	0.0888		mg/Kg-dry	1	5/13/2015 10:44:00 PM
Vinyl chloride	ND	0.00296		mg/Kg-dry	1	5/13/2015 10:44:00 PM
Trichlorofluoromethane (CFC-11)	ND	0.0740		mg/Kg-dry	1	5/13/2015 10:44:00 PM
Chloroethane	ND	0.0888		mg/Kg-dry	1	5/13/2015 10:44:00 PM
1,1-Dichloroethene	ND	0.0740		mg/Kg-dry	1	5/13/2015 10:44:00 PM
Methylene chloride	ND	0.0296		mg/Kg-dry	1	5/13/2015 10:44:00 PM
trans-1,2-Dichloroethene	ND	0.0296		mg/Kg-dry	1	5/13/2015 10:44:00 PM
1,1-Dichloroethane	ND	0.0296		mg/Kg-dry	1	5/13/2015 10:44:00 PM
2,2-Dichloropropane	ND	0.0740		mg/Kg-dry	1	5/13/2015 10:44:00 PM
cis-1,2-Dichloroethene	ND	0.0296		mg/Kg-dry	1	5/13/2015 10:44:00 PM
Chloroform	ND	0.0296		mg/Kg-dry	1	5/13/2015 10:44:00 PM
1,1,1-Trichloroethane (TCA)	ND	0.0296		mg/Kg-dry	1	5/13/2015 10:44:00 PM
1,1-Dichloropropene	ND	0.0296		mg/Kg-dry	1	5/13/2015 10:44:00 PM
Carbon tetrachloride	ND	0.0296		mg/Kg-dry	1	5/13/2015 10:44:00 PM
1,2-Dichloroethane (EDC)	ND	0.0444		mg/Kg-dry	1	5/13/2015 10:44:00 PM
Trichloroethene (TCE)	ND	0.0296		mg/Kg-dry	1	5/13/2015 10:44:00 PM
1,2-Dichloropropane	ND	0.0296		mg/Kg-dry	1	5/13/2015 10:44:00 PM
Bromodichloromethane	ND	0.0296		mg/Kg-dry	1	5/13/2015 10:44:00 PM
cis-1,3-Dichloropropene	ND	0.0296		mg/Kg-dry	1	5/13/2015 10:44:00 PM
trans-1,3-Dichloropropene	ND	0.0444		mg/Kg-dry	1	5/13/2015 10:44:00 PM
1,1,2-Trichloroethane	ND	0.0444		mg/Kg-dry	1	5/13/2015 10:44:00 PM
1,3-Dichloropropane	ND	0.0740		mg/Kg-dry	1	5/13/2015 10:44:00 PM
Tetrachloroethene (PCE)	ND	0.0296		mg/Kg-dry	1	5/13/2015 10:44:00 PM
Dibromochloromethane	ND	0.0444		mg/Kg-dry	1	5/13/2015 10:44:00 PM
Chlorobenzene	ND	0.0296		mg/Kg-dry	1	5/13/2015 10:44:00 PM
1,1,1,2-Tetrachloroethane	ND	0.0444		mg/Kg-dry	1	5/13/2015 10:44:00 PM
1,1,2,2-Tetrachloroethane	ND	0.0296		mg/Kg-dry	1	5/13/2015 10:44:00 PM
2-Chlorotoluene	ND	0.0296		mg/Kg-dry	1	5/13/2015 10:44:00 PM
4-Chlorotoluene	ND	0.0296		mg/Kg-dry	1	5/13/2015 10:44:00 PM
1,2,3-Trichloropropane	ND	0.0296		mg/Kg-dry	1	5/13/2015 10:44:00 PM
1,2,4-Trichlorobenzene	ND	0.0740		mg/Kg-dry	1	5/13/2015 10:44:00 PM
1,3-Dichlorobenzene	ND	0.0296		mg/Kg-dry	1	5/13/2015 10:44:00 PM
1,4-Dichlorobenzene	ND	0.0296		mg/Kg-dry	1	5/13/2015 10:44:00 PM
1,2-Dichlorobenzene	ND	0.0296		mg/Kg-dry	1	5/13/2015 10:44:00 PM
1,2-Dibromo-3-chloropropane	ND	0.740		mg/Kg-dry	1	5/13/2015 10:44:00 PM
Hexachloro-1,3-butadiene	ND	0.148		mg/Kg-dry	1	5/13/2015 10:44:00 PM
1,2,3-Trichlorobenzene	ND	0.0296		mg/Kg-dry	1	5/13/2015 10:44:00 PM
Surr: Dibromofluoromethane	90.7	63.7-129		%REC	1	5/13/2015 10:44:00 PM

Fremont Analytical

Analytical Report

WO#: **1505090**
Date Reported: **5/18/2015**

Client: Cardno ATC
Project: HP Cleaners
Lab ID: 1505090-006
Client Sample ID: B-26-4'

Collection Date: 5/12/2015 10:00:00 AM
Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 10758		Analyst: BC
Surr: Toluene-d8	99.8	64.3-131		%REC	1	5/13/2015 10:14:00 PM
Surr: 1-Bromo-4-fluorobenzene	89.3	63.1-141		%REC	1	5/13/2015 10:14:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R22300		Analyst: SB
Percent Moisture	10.1			wt%	1	5/12/2015 3:56:53 PM

Analytical Report

WO#: **1505090**
Date Reported: **5/18/2015**

Client: Cardno ATC
Project: HP Cleaners
Lab ID: 1505090-008
Client Sample ID: B-27-4'

Collection Date: 5/12/2015 10:20:00 AM
Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 10758		Analyst: BC
Dichlorodifluoromethane (CFC-12)	ND	0.0648		mg/Kg-dry	1	5/13/2015 11:13:00 PM
Chloromethane	ND	0.0648		mg/Kg-dry	1	5/13/2015 11:13:00 PM
Vinyl chloride	ND	0.00216		mg/Kg-dry	1	5/13/2015 11:13:00 PM
Trichlorofluoromethane (CFC-11)	ND	0.0540		mg/Kg-dry	1	5/13/2015 11:13:00 PM
Chloroethane	ND	0.0648		mg/Kg-dry	1	5/13/2015 11:13:00 PM
1,1-Dichloroethene	ND	0.0540		mg/Kg-dry	1	5/13/2015 11:13:00 PM
Methylene chloride	ND	0.0216		mg/Kg-dry	1	5/13/2015 11:13:00 PM
trans-1,2-Dichloroethene	ND	0.0216		mg/Kg-dry	1	5/13/2015 11:13:00 PM
1,1-Dichloroethane	ND	0.0216		mg/Kg-dry	1	5/13/2015 11:13:00 PM
2,2-Dichloropropane	ND	0.0540		mg/Kg-dry	1	5/13/2015 11:13:00 PM
cis-1,2-Dichloroethene	ND	0.0216		mg/Kg-dry	1	5/13/2015 11:13:00 PM
Chloroform	ND	0.0216		mg/Kg-dry	1	5/13/2015 11:13:00 PM
1,1,1-Trichloroethane (TCA)	ND	0.0216		mg/Kg-dry	1	5/13/2015 11:13:00 PM
1,1-Dichloropropene	ND	0.0216		mg/Kg-dry	1	5/13/2015 11:13:00 PM
Carbon tetrachloride	ND	0.0216		mg/Kg-dry	1	5/13/2015 11:13:00 PM
1,2-Dichloroethane (EDC)	ND	0.0324		mg/Kg-dry	1	5/13/2015 11:13:00 PM
Trichloroethene (TCE)	ND	0.0216		mg/Kg-dry	1	5/13/2015 11:13:00 PM
1,2-Dichloropropane	ND	0.0216		mg/Kg-dry	1	5/13/2015 11:13:00 PM
Bromodichloromethane	ND	0.0216		mg/Kg-dry	1	5/13/2015 11:13:00 PM
cis-1,3-Dichloropropene	ND	0.0216		mg/Kg-dry	1	5/13/2015 11:13:00 PM
trans-1,3-Dichloropropene	ND	0.0324		mg/Kg-dry	1	5/13/2015 11:13:00 PM
1,1,2-Trichloroethane	ND	0.0324		mg/Kg-dry	1	5/13/2015 11:13:00 PM
1,3-Dichloropropane	ND	0.0540		mg/Kg-dry	1	5/13/2015 11:13:00 PM
Tetrachloroethene (PCE)	ND	0.0216		mg/Kg-dry	1	5/13/2015 11:13:00 PM
Dibromochloromethane	ND	0.0324		mg/Kg-dry	1	5/13/2015 11:13:00 PM
Chlorobenzene	ND	0.0216		mg/Kg-dry	1	5/13/2015 11:13:00 PM
1,1,1,2-Tetrachloroethane	ND	0.0324		mg/Kg-dry	1	5/13/2015 11:13:00 PM
1,1,2,2-Tetrachloroethane	ND	0.0216		mg/Kg-dry	1	5/13/2015 11:13:00 PM
2-Chlorotoluene	ND	0.0216		mg/Kg-dry	1	5/13/2015 11:13:00 PM
4-Chlorotoluene	ND	0.0216		mg/Kg-dry	1	5/13/2015 11:13:00 PM
1,2,3-Trichloropropane	ND	0.0216		mg/Kg-dry	1	5/13/2015 11:13:00 PM
1,2,4-Trichlorobenzene	ND	0.0540		mg/Kg-dry	1	5/13/2015 11:13:00 PM
1,3-Dichlorobenzene	ND	0.0216		mg/Kg-dry	1	5/13/2015 11:13:00 PM
1,4-Dichlorobenzene	ND	0.0216		mg/Kg-dry	1	5/13/2015 11:13:00 PM
1,2-Dichlorobenzene	ND	0.0216		mg/Kg-dry	1	5/13/2015 11:13:00 PM
1,2-Dibromo-3-chloropropane	ND	0.540		mg/Kg-dry	1	5/13/2015 11:13:00 PM
Hexachloro-1,3-butadiene	ND	0.108		mg/Kg-dry	1	5/13/2015 11:13:00 PM
1,2,3-Trichlorobenzene	ND	0.0216		mg/Kg-dry	1	5/13/2015 11:13:00 PM
Surr: Dibromofluoromethane	90.0	63.7-129		%REC	1	5/13/2015 11:13:00 PM

Fremont Analytical

Analytical Report

WO#: **1505090**
Date Reported: **5/18/2015**

Client: Cardno ATC
Project: HP Cleaners
Lab ID: 1505090-008
Client Sample ID: B-27-4'

Collection Date: 5/12/2015 10:20:00 AM
Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 10758		Analyst: BC
Surr: Toluene-d8	92.4	64.3-131		%REC	1	5/13/2015 11:13:00 PM
Surr: 1-Bromo-4-fluorobenzene	83.1	63.1-141		%REC	1	5/13/2015 11:13:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R22300		Analyst: SB
Percent Moisture	10.8			wt%	1	5/12/2015 3:56:53 PM

Client: Cardno ATC
Project: HP Cleaners
Lab ID: 1505090-009
Client Sample ID: B-28-1'

Collection Date: 5/12/2015 10:45:00 AM
Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 10758		Analyst: BC
Dichlorodifluoromethane (CFC-12)	ND	0.0594		mg/Kg-dry	1	5/13/2015 11:42:00 PM
Chloromethane	ND	0.0594		mg/Kg-dry	1	5/13/2015 11:42:00 PM
Vinyl chloride	ND	0.00198		mg/Kg-dry	1	5/13/2015 11:42:00 PM
Trichlorofluoromethane (CFC-11)	ND	0.0495		mg/Kg-dry	1	5/13/2015 11:42:00 PM
Chloroethane	ND	0.0594		mg/Kg-dry	1	5/13/2015 11:42:00 PM
1,1-Dichloroethene	ND	0.0495		mg/Kg-dry	1	5/13/2015 11:42:00 PM
Methylene chloride	ND	0.0198		mg/Kg-dry	1	5/13/2015 11:42:00 PM
trans-1,2-Dichloroethene	ND	0.0198		mg/Kg-dry	1	5/13/2015 11:42:00 PM
1,1-Dichloroethane	ND	0.0198		mg/Kg-dry	1	5/13/2015 11:42:00 PM
2,2-Dichloropropane	ND	0.0495		mg/Kg-dry	1	5/13/2015 11:42:00 PM
cis-1,2-Dichloroethene	ND	0.0198		mg/Kg-dry	1	5/13/2015 11:42:00 PM
Chloroform	ND	0.0198		mg/Kg-dry	1	5/13/2015 11:42:00 PM
1,1,1-Trichloroethane (TCA)	ND	0.0198		mg/Kg-dry	1	5/13/2015 11:42:00 PM
1,1-Dichloropropene	ND	0.0198		mg/Kg-dry	1	5/13/2015 11:42:00 PM
Carbon tetrachloride	ND	0.0198		mg/Kg-dry	1	5/13/2015 11:42:00 PM
1,2-Dichloroethane (EDC)	ND	0.0297		mg/Kg-dry	1	5/13/2015 11:42:00 PM
Trichloroethene (TCE)	ND	0.0198		mg/Kg-dry	1	5/13/2015 11:42:00 PM
1,2-Dichloropropane	ND	0.0198		mg/Kg-dry	1	5/13/2015 11:42:00 PM
Bromodichloromethane	ND	0.0198		mg/Kg-dry	1	5/13/2015 11:42:00 PM
cis-1,3-Dichloropropene	ND	0.0198		mg/Kg-dry	1	5/13/2015 11:42:00 PM
trans-1,3-Dichloropropene	ND	0.0297		mg/Kg-dry	1	5/13/2015 11:42:00 PM
1,1,2-Trichloroethane	ND	0.0297		mg/Kg-dry	1	5/13/2015 11:42:00 PM
1,3-Dichloropropane	ND	0.0495		mg/Kg-dry	1	5/13/2015 11:42:00 PM
Tetrachloroethene (PCE)	ND	0.0198		mg/Kg-dry	1	5/13/2015 11:42:00 PM
Dibromochloromethane	ND	0.0297		mg/Kg-dry	1	5/13/2015 11:42:00 PM
Chlorobenzene	ND	0.0198		mg/Kg-dry	1	5/13/2015 11:42:00 PM
1,1,1,2-Tetrachloroethane	ND	0.0297		mg/Kg-dry	1	5/13/2015 11:42:00 PM
1,1,2,2-Tetrachloroethane	ND	0.0198		mg/Kg-dry	1	5/13/2015 11:42:00 PM
2-Chlorotoluene	ND	0.0198		mg/Kg-dry	1	5/13/2015 11:42:00 PM
4-Chlorotoluene	ND	0.0198		mg/Kg-dry	1	5/13/2015 11:42:00 PM
1,2,3-Trichloropropane	ND	0.0198		mg/Kg-dry	1	5/13/2015 11:42:00 PM
1,2,4-Trichlorobenzene	ND	0.0495		mg/Kg-dry	1	5/13/2015 11:42:00 PM
1,3-Dichlorobenzene	ND	0.0198		mg/Kg-dry	1	5/13/2015 11:42:00 PM
1,4-Dichlorobenzene	ND	0.0198		mg/Kg-dry	1	5/13/2015 11:42:00 PM
1,2-Dichlorobenzene	ND	0.0198		mg/Kg-dry	1	5/13/2015 11:42:00 PM
1,2-Dibromo-3-chloropropane	ND	0.495		mg/Kg-dry	1	5/13/2015 11:42:00 PM
Hexachloro-1,3-butadiene	ND	0.0990		mg/Kg-dry	1	5/13/2015 11:42:00 PM
1,2,3-Trichlorobenzene	ND	0.0198		mg/Kg-dry	1	5/13/2015 11:42:00 PM
Surr: Dibromofluoromethane	84.2	63.7-129		%REC	1	5/13/2015 11:42:00 PM

Fremont Analytical

Analytical Report

WO#: **1505090**
Date Reported: **5/18/2015**

Client: Cardno ATC
Project: HP Cleaners
Lab ID: 1505090-009
Client Sample ID: B-28-1'

Collection Date: 5/12/2015 10:45:00 AM
Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 10758		Analyst: BC
Surr: Toluene-d8	88.2	64.3-131		%REC	1	5/13/2015 11:42:00 PM
Surr: 1-Bromo-4-fluorobenzene	78.9	63.1-141		%REC	1	5/13/2015 11:42:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R22300		Analyst: SB
Percent Moisture	6.08			wt%	1	5/12/2015 3:56:53 PM

Fremont Analytical

Analytical Report

WO#: **1505090**
Date Reported: **5/18/2015**

Client: Cardno ATC
Project: HP Cleaners
Lab ID: 1505090-010
Client Sample ID: B-28-4'

Collection Date: 5/12/2015 10:50:00 AM
Matrix: Soil

Volatile Organic Compounds by EPA Method 8260

Batch ID: 10758 Analyst: BC

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	0.0647		mg/Kg-dry	1	5/14/2015 12:12:00 AM
Chloromethane	ND	0.0647		mg/Kg-dry	1	5/14/2015 12:12:00 AM
Vinyl chloride	ND	0.00216		mg/Kg-dry	1	5/14/2015 12:12:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0540		mg/Kg-dry	1	5/14/2015 12:12:00 AM
Chloroethane	ND	0.0647		mg/Kg-dry	1	5/14/2015 12:12:00 AM
1,1-Dichloroethene	ND	0.0540		mg/Kg-dry	1	5/14/2015 12:12:00 AM
Methylene chloride	ND	0.0216		mg/Kg-dry	1	5/14/2015 12:12:00 AM
trans-1,2-Dichloroethene	ND	0.0216		mg/Kg-dry	1	5/14/2015 12:12:00 AM
1,1-Dichloroethane	ND	0.0216		mg/Kg-dry	1	5/14/2015 12:12:00 AM
2,2-Dichloropropane	ND	0.0540		mg/Kg-dry	1	5/14/2015 12:12:00 AM
cis-1,2-Dichloroethene	ND	0.0216		mg/Kg-dry	1	5/14/2015 12:12:00 AM
Chloroform	ND	0.0216		mg/Kg-dry	1	5/14/2015 12:12:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0216		mg/Kg-dry	1	5/14/2015 12:12:00 AM
1,1-Dichloropropene	ND	0.0216		mg/Kg-dry	1	5/14/2015 12:12:00 AM
Carbon tetrachloride	ND	0.0216		mg/Kg-dry	1	5/14/2015 12:12:00 AM
1,2-Dichloroethane (EDC)	ND	0.0324		mg/Kg-dry	1	5/14/2015 12:12:00 AM
Trichloroethene (TCE)	ND	0.0216		mg/Kg-dry	1	5/14/2015 12:12:00 AM
1,2-Dichloropropane	ND	0.0216		mg/Kg-dry	1	5/14/2015 12:12:00 AM
Bromodichloromethane	ND	0.0216		mg/Kg-dry	1	5/14/2015 12:12:00 AM
cis-1,3-Dichloropropene	ND	0.0216		mg/Kg-dry	1	5/14/2015 12:12:00 AM
trans-1,3-Dichloropropene	ND	0.0324		mg/Kg-dry	1	5/14/2015 12:12:00 AM
1,1,2-Trichloroethane	ND	0.0324		mg/Kg-dry	1	5/14/2015 12:12:00 AM
1,3-Dichloropropane	ND	0.0540		mg/Kg-dry	1	5/14/2015 12:12:00 AM
Tetrachloroethene (PCE)	ND	0.0216		mg/Kg-dry	1	5/14/2015 12:12:00 AM
Dibromochloromethane	ND	0.0324		mg/Kg-dry	1	5/14/2015 12:12:00 AM
Chlorobenzene	ND	0.0216		mg/Kg-dry	1	5/14/2015 12:12:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0324		mg/Kg-dry	1	5/14/2015 12:12:00 AM
1,1,2,2-Tetrachloroethane	ND	0.0216		mg/Kg-dry	1	5/14/2015 12:12:00 AM
2-Chlorotoluene	ND	0.0216		mg/Kg-dry	1	5/14/2015 12:12:00 AM
4-Chlorotoluene	ND	0.0216		mg/Kg-dry	1	5/14/2015 12:12:00 AM
1,2,3-Trichloropropane	ND	0.0216		mg/Kg-dry	1	5/14/2015 12:12:00 AM
1,2,4-Trichlorobenzene	ND	0.0540		mg/Kg-dry	1	5/14/2015 12:12:00 AM
1,3-Dichlorobenzene	ND	0.0216		mg/Kg-dry	1	5/14/2015 12:12:00 AM
1,4-Dichlorobenzene	ND	0.0216		mg/Kg-dry	1	5/14/2015 12:12:00 AM
1,2-Dichlorobenzene	ND	0.0216		mg/Kg-dry	1	5/14/2015 12:12:00 AM
1,2-Dibromo-3-chloropropane	ND	0.540		mg/Kg-dry	1	5/14/2015 12:12:00 AM
Hexachloro-1,3-butadiene	ND	0.108		mg/Kg-dry	1	5/14/2015 12:12:00 AM
1,2,3-Trichlorobenzene	ND	0.0216		mg/Kg-dry	1	5/14/2015 12:12:00 AM
Surr: Dibromofluoromethane	81.8	63.7-129		%REC	1	5/14/2015 12:12:00 AM

Fremont Analytical

Analytical Report

WO#: **1505090**
Date Reported: **5/18/2015**

Client: Cardno ATC
Project: HP Cleaners
Lab ID: 1505090-010
Client Sample ID: B-28-4'

Collection Date: 5/12/2015 10:50:00 AM
Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 10758		Analyst: BC
Surr: Toluene-d8	85.6	64.3-131		%REC	1	5/14/2015 12:12:00 AM
Surr: 1-Bromo-4-fluorobenzene	76.1	63.1-141		%REC	1	5/14/2015 12:12:00 AM
Sample Moisture (Percent Moisture)				Batch ID: R22300		Analyst: SB
Percent Moisture	9.87			wt%	1	5/12/2015 3:56:53 PM

Client: Cardno ATC
Project: HP Cleaners
Lab ID: 1505090-011
Client Sample ID: B-29-1'

Collection Date: 5/12/2015 11:10:00 AM
Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 10758		Analyst: BC
Dichlorodifluoromethane (CFC-12)	ND	0.0638		mg/Kg-dry	1	5/14/2015 12:41:00 AM
Chloromethane	ND	0.0638		mg/Kg-dry	1	5/14/2015 12:41:00 AM
Vinyl chloride	ND	0.00213		mg/Kg-dry	1	5/14/2015 12:41:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0532		mg/Kg-dry	1	5/14/2015 12:41:00 AM
Chloroethane	ND	0.0638		mg/Kg-dry	1	5/14/2015 12:41:00 AM
1,1-Dichloroethene	ND	0.0532		mg/Kg-dry	1	5/14/2015 12:41:00 AM
Methylene chloride	ND	0.0213		mg/Kg-dry	1	5/14/2015 12:41:00 AM
trans-1,2-Dichloroethene	ND	0.0213		mg/Kg-dry	1	5/14/2015 12:41:00 AM
1,1-Dichloroethane	ND	0.0213		mg/Kg-dry	1	5/14/2015 12:41:00 AM
2,2-Dichloropropane	ND	0.0532		mg/Kg-dry	1	5/14/2015 12:41:00 AM
cis-1,2-Dichloroethene	ND	0.0213		mg/Kg-dry	1	5/14/2015 12:41:00 AM
Chloroform	ND	0.0213		mg/Kg-dry	1	5/14/2015 12:41:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0213		mg/Kg-dry	1	5/14/2015 12:41:00 AM
1,1-Dichloropropene	ND	0.0213		mg/Kg-dry	1	5/14/2015 12:41:00 AM
Carbon tetrachloride	ND	0.0213		mg/Kg-dry	1	5/14/2015 12:41:00 AM
1,2-Dichloroethane (EDC)	ND	0.0319		mg/Kg-dry	1	5/14/2015 12:41:00 AM
Trichloroethene (TCE)	ND	0.0213		mg/Kg-dry	1	5/14/2015 12:41:00 AM
1,2-Dichloropropane	ND	0.0213		mg/Kg-dry	1	5/14/2015 12:41:00 AM
Bromodichloromethane	ND	0.0213		mg/Kg-dry	1	5/14/2015 12:41:00 AM
cis-1,3-Dichloropropene	ND	0.0213		mg/Kg-dry	1	5/14/2015 12:41:00 AM
trans-1,3-Dichloropropene	ND	0.0319		mg/Kg-dry	1	5/14/2015 12:41:00 AM
1,1,2-Trichloroethane	ND	0.0319		mg/Kg-dry	1	5/14/2015 12:41:00 AM
1,3-Dichloropropane	ND	0.0532		mg/Kg-dry	1	5/14/2015 12:41:00 AM
Tetrachloroethene (PCE)	ND	0.0213		mg/Kg-dry	1	5/14/2015 12:41:00 AM
Dibromochloromethane	ND	0.0319		mg/Kg-dry	1	5/14/2015 12:41:00 AM
Chlorobenzene	ND	0.0213		mg/Kg-dry	1	5/14/2015 12:41:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0319		mg/Kg-dry	1	5/14/2015 12:41:00 AM
1,1,2,2-Tetrachloroethane	ND	0.0213		mg/Kg-dry	1	5/14/2015 12:41:00 AM
2-Chlorotoluene	ND	0.0213		mg/Kg-dry	1	5/14/2015 12:41:00 AM
4-Chlorotoluene	ND	0.0213		mg/Kg-dry	1	5/14/2015 12:41:00 AM
1,2,3-Trichloropropane	ND	0.0213		mg/Kg-dry	1	5/14/2015 12:41:00 AM
1,2,4-Trichlorobenzene	ND	0.0532		mg/Kg-dry	1	5/14/2015 12:41:00 AM
1,3-Dichlorobenzene	ND	0.0213		mg/Kg-dry	1	5/14/2015 12:41:00 AM
1,4-Dichlorobenzene	ND	0.0213		mg/Kg-dry	1	5/14/2015 12:41:00 AM
1,2-Dichlorobenzene	ND	0.0213		mg/Kg-dry	1	5/14/2015 12:41:00 AM
1,2-Dibromo-3-chloropropane	ND	0.532		mg/Kg-dry	1	5/14/2015 12:41:00 AM
Hexachloro-1,3-butadiene	ND	0.106		mg/Kg-dry	1	5/14/2015 12:41:00 AM
1,2,3-Trichlorobenzene	ND	0.0213		mg/Kg-dry	1	5/14/2015 12:41:00 AM
Surr: Dibromofluoromethane	80.0	63.7-129		%REC	1	5/14/2015 12:41:00 AM

Fremont Analytical

Analytical Report

WO#: **1505090**
Date Reported: **5/18/2015**

Client: Cardno ATC
Project: HP Cleaners
Lab ID: 1505090-011
Client Sample ID: B-29-1'

Collection Date: 5/12/2015 11:10:00 AM
Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 10758		Analyst: BC
Surr: Toluene-d8	82.8	64.3-131		%REC	1	5/14/2015 12:41:00 AM
Surr: 1-Bromo-4-fluorobenzene	73.6	63.1-141		%REC	1	5/14/2015 12:41:00 AM
Sample Moisture (Percent Moisture)				Batch ID: R22300		Analyst: SB
Percent Moisture	4.98			wt%	1	5/12/2015 3:56:53 PM

Client: Cardno ATC
Project: HP Cleaners
Lab ID: 1505090-012
Client Sample ID: B-29-4'

Collection Date: 5/12/2015 11:15:00 AM
Matrix: Soil

Volatile Organic Compounds by EPA Method 8260

Batch ID: 10758 Analyst: BC

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	0.0604		mg/Kg-dry	1	5/14/2015 1:10:00 AM
Chloromethane	ND	0.0604		mg/Kg-dry	1	5/14/2015 1:10:00 AM
Vinyl chloride	ND	0.00201		mg/Kg-dry	1	5/14/2015 1:10:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0504		mg/Kg-dry	1	5/14/2015 1:10:00 AM
Chloroethane	ND	0.0604		mg/Kg-dry	1	5/14/2015 1:10:00 AM
1,1-Dichloroethene	ND	0.0504		mg/Kg-dry	1	5/14/2015 1:10:00 AM
Methylene chloride	ND	0.0201		mg/Kg-dry	1	5/14/2015 1:10:00 AM
trans-1,2-Dichloroethene	ND	0.0201		mg/Kg-dry	1	5/14/2015 1:10:00 AM
1,1-Dichloroethane	ND	0.0201		mg/Kg-dry	1	5/14/2015 1:10:00 AM
2,2-Dichloropropane	ND	0.0504		mg/Kg-dry	1	5/14/2015 1:10:00 AM
cis-1,2-Dichloroethene	ND	0.0201		mg/Kg-dry	1	5/14/2015 1:10:00 AM
Chloroform	ND	0.0201		mg/Kg-dry	1	5/14/2015 1:10:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0201		mg/Kg-dry	1	5/14/2015 1:10:00 AM
1,1-Dichloropropene	ND	0.0201		mg/Kg-dry	1	5/14/2015 1:10:00 AM
Carbon tetrachloride	ND	0.0201		mg/Kg-dry	1	5/14/2015 1:10:00 AM
1,2-Dichloroethane (EDC)	ND	0.0302		mg/Kg-dry	1	5/14/2015 1:10:00 AM
Trichloroethene (TCE)	ND	0.0201		mg/Kg-dry	1	5/14/2015 1:10:00 AM
1,2-Dichloropropane	ND	0.0201		mg/Kg-dry	1	5/14/2015 1:10:00 AM
Bromodichloromethane	ND	0.0201		mg/Kg-dry	1	5/14/2015 1:10:00 AM
cis-1,3-Dichloropropene	ND	0.0201		mg/Kg-dry	1	5/14/2015 1:10:00 AM
trans-1,3-Dichloropropene	ND	0.0302		mg/Kg-dry	1	5/14/2015 1:10:00 AM
1,1,2-Trichloroethane	ND	0.0302		mg/Kg-dry	1	5/14/2015 1:10:00 AM
1,3-Dichloropropane	ND	0.0504		mg/Kg-dry	1	5/14/2015 1:10:00 AM
Tetrachloroethene (PCE)	ND	0.0201		mg/Kg-dry	1	5/14/2015 1:10:00 AM
Dibromochloromethane	ND	0.0302		mg/Kg-dry	1	5/14/2015 1:10:00 AM
Chlorobenzene	ND	0.0201		mg/Kg-dry	1	5/14/2015 1:10:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0302		mg/Kg-dry	1	5/14/2015 1:10:00 AM
1,1,2,2-Tetrachloroethane	ND	0.0201		mg/Kg-dry	1	5/14/2015 1:10:00 AM
2-Chlorotoluene	ND	0.0201		mg/Kg-dry	1	5/14/2015 1:10:00 AM
4-Chlorotoluene	ND	0.0201		mg/Kg-dry	1	5/14/2015 1:10:00 AM
1,2,3-Trichloropropane	ND	0.0201		mg/Kg-dry	1	5/14/2015 1:10:00 AM
1,2,4-Trichlorobenzene	ND	0.0504		mg/Kg-dry	1	5/14/2015 1:10:00 AM
1,3-Dichlorobenzene	ND	0.0201		mg/Kg-dry	1	5/14/2015 1:10:00 AM
1,4-Dichlorobenzene	ND	0.0201		mg/Kg-dry	1	5/14/2015 1:10:00 AM
1,2-Dichlorobenzene	ND	0.0201		mg/Kg-dry	1	5/14/2015 1:10:00 AM
1,2-Dibromo-3-chloropropane	ND	0.504		mg/Kg-dry	1	5/14/2015 1:10:00 AM
Hexachloro-1,3-butadiene	ND	0.101		mg/Kg-dry	1	5/14/2015 1:10:00 AM
1,2,3-Trichlorobenzene	ND	0.0201		mg/Kg-dry	1	5/14/2015 1:10:00 AM
Surr: Dibromofluoromethane	75.1	63.7-129		%REC	1	5/14/2015 1:10:00 AM

Fremont Analytical

Analytical Report

WO#: **1505090**
Date Reported: **5/18/2015**

Client: Cardno ATC
Project: HP Cleaners
Lab ID: 1505090-012
Client Sample ID: B-29-4'

Collection Date: 5/12/2015 11:15:00 AM
Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 10758		Analyst: BC
Surr: Toluene-d8	75.3	64.3-131		%REC	1	5/14/2015 1:10:00 AM
Surr: 1-Bromo-4-fluorobenzene	67.8	63.1-141		%REC	1	5/14/2015 1:10:00 AM
Sample Moisture (Percent Moisture)				Batch ID: R22300		Analyst: SB
Percent Moisture	7.89			wt%	1	5/12/2015 3:56:53 PM

Analytical Report

WO#: **1505090**
Date Reported: **5/18/2015**

Client: Cardno ATC
Project: HP Cleaners
Lab ID: 1505090-013
Client Sample ID: B-30-1'

Collection Date: 5/12/2015 11:30:00 AM
Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 10758		Analyst: BC
Dichlorodifluoromethane (CFC-12)	ND	0.0639		mg/Kg-dry	1	5/14/2015 6:05:00 PM
Chloromethane	ND	0.0639		mg/Kg-dry	1	5/14/2015 6:05:00 PM
Vinyl chloride	ND	0.00213		mg/Kg-dry	1	5/14/2015 6:05:00 PM
Trichlorofluoromethane (CFC-11)	ND	0.0532		mg/Kg-dry	1	5/14/2015 6:05:00 PM
Chloroethane	ND	0.0639		mg/Kg-dry	1	5/14/2015 6:05:00 PM
1,1-Dichloroethene	ND	0.0532		mg/Kg-dry	1	5/14/2015 6:05:00 PM
Methylene chloride	ND	0.0213		mg/Kg-dry	1	5/14/2015 6:05:00 PM
trans-1,2-Dichloroethene	ND	0.0213		mg/Kg-dry	1	5/14/2015 6:05:00 PM
1,1-Dichloroethane	ND	0.0213		mg/Kg-dry	1	5/14/2015 6:05:00 PM
2,2-Dichloropropane	ND	0.0532		mg/Kg-dry	1	5/14/2015 6:05:00 PM
cis-1,2-Dichloroethene	ND	0.0213		mg/Kg-dry	1	5/14/2015 6:05:00 PM
Chloroform	ND	0.0213		mg/Kg-dry	1	5/14/2015 6:05:00 PM
1,1,1-Trichloroethane (TCA)	ND	0.0213		mg/Kg-dry	1	5/14/2015 6:05:00 PM
1,1-Dichloropropene	ND	0.0213		mg/Kg-dry	1	5/14/2015 6:05:00 PM
Carbon tetrachloride	ND	0.0213		mg/Kg-dry	1	5/14/2015 6:05:00 PM
1,2-Dichloroethane (EDC)	ND	0.0319		mg/Kg-dry	1	5/14/2015 6:05:00 PM
Trichloroethene (TCE)	ND	0.0213		mg/Kg-dry	1	5/14/2015 6:05:00 PM
1,2-Dichloropropane	ND	0.0213		mg/Kg-dry	1	5/14/2015 6:05:00 PM
Bromodichloromethane	ND	0.0213		mg/Kg-dry	1	5/14/2015 6:05:00 PM
cis-1,3-Dichloropropene	ND	0.0213		mg/Kg-dry	1	5/14/2015 6:05:00 PM
trans-1,3-Dichloropropene	ND	0.0319		mg/Kg-dry	1	5/14/2015 6:05:00 PM
1,1,2-Trichloroethane	ND	0.0319		mg/Kg-dry	1	5/14/2015 6:05:00 PM
1,3-Dichloropropane	ND	0.0532		mg/Kg-dry	1	5/14/2015 6:05:00 PM
Tetrachloroethene (PCE)	ND	0.0213		mg/Kg-dry	1	5/14/2015 6:05:00 PM
Dibromochloromethane	ND	0.0319		mg/Kg-dry	1	5/14/2015 6:05:00 PM
Chlorobenzene	ND	0.0213		mg/Kg-dry	1	5/14/2015 6:05:00 PM
1,1,1,2-Tetrachloroethane	ND	0.0319		mg/Kg-dry	1	5/14/2015 6:05:00 PM
1,1,2,2-Tetrachloroethane	ND	0.0213		mg/Kg-dry	1	5/14/2015 6:05:00 PM
2-Chlorotoluene	ND	0.0213		mg/Kg-dry	1	5/14/2015 6:05:00 PM
4-Chlorotoluene	ND	0.0213		mg/Kg-dry	1	5/14/2015 6:05:00 PM
1,2,3-Trichloropropane	ND	0.0213		mg/Kg-dry	1	5/14/2015 6:05:00 PM
1,2,4-Trichlorobenzene	ND	0.0532		mg/Kg-dry	1	5/14/2015 6:05:00 PM
1,3-Dichlorobenzene	ND	0.0213		mg/Kg-dry	1	5/14/2015 6:05:00 PM
1,4-Dichlorobenzene	ND	0.0213		mg/Kg-dry	1	5/14/2015 6:05:00 PM
1,2-Dichlorobenzene	ND	0.0213		mg/Kg-dry	1	5/14/2015 6:05:00 PM
1,2-Dibromo-3-chloropropane	ND	0.532		mg/Kg-dry	1	5/14/2015 6:05:00 PM
Hexachloro-1,3-butadiene	ND	0.106		mg/Kg-dry	1	5/14/2015 6:05:00 PM
1,2,3-Trichlorobenzene	ND	0.0213		mg/Kg-dry	1	5/14/2015 6:05:00 PM
Surr: Dibromofluoromethane	96.2	63.7-129		%REC	1	5/14/2015 6:05:00 PM

Fremont Analytical

Analytical Report

WO#: **1505090**
Date Reported: **5/18/2015**

Client: Cardno ATC
Project: HP Cleaners
Lab ID: 1505090-013
Client Sample ID: B-30-1'

Collection Date: 5/12/2015 11:30:00 AM
Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 10758		Analyst: BC
Surr: Toluene-d8	96.8	64.3-131		%REC	1	5/14/2015 6:05:00 PM
Surr: 1-Bromo-4-fluorobenzene	103	63.1-141		%REC	1	5/14/2015 6:05:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R22300		Analyst: SB
Percent Moisture	4.87			wt%	1	5/12/2015 3:56:53 PM

Client: Cardno ATC
Project: HP Cleaners
Lab ID: 1505090-014
Client Sample ID: B-30-4'

Collection Date: 5/12/2015 11:35:00 AM
Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 10758		Analyst: BC
Dichlorodifluoromethane (CFC-12)	ND	0.0574		mg/Kg-dry	1	5/14/2015 6:34:00 PM
Chloromethane	ND	0.0574		mg/Kg-dry	1	5/14/2015 6:34:00 PM
Vinyl chloride	ND	0.00191		mg/Kg-dry	1	5/14/2015 6:34:00 PM
Trichlorofluoromethane (CFC-11)	ND	0.0479		mg/Kg-dry	1	5/14/2015 6:34:00 PM
Chloroethane	ND	0.0574		mg/Kg-dry	1	5/14/2015 6:34:00 PM
1,1-Dichloroethene	ND	0.0479		mg/Kg-dry	1	5/14/2015 6:34:00 PM
Methylene chloride	ND	0.0191		mg/Kg-dry	1	5/14/2015 6:34:00 PM
trans-1,2-Dichloroethene	ND	0.0191		mg/Kg-dry	1	5/14/2015 6:34:00 PM
1,1-Dichloroethane	ND	0.0191		mg/Kg-dry	1	5/14/2015 6:34:00 PM
2,2-Dichloropropane	ND	0.0479		mg/Kg-dry	1	5/14/2015 6:34:00 PM
cis-1,2-Dichloroethene	ND	0.0191		mg/Kg-dry	1	5/14/2015 6:34:00 PM
Chloroform	ND	0.0191		mg/Kg-dry	1	5/14/2015 6:34:00 PM
1,1,1-Trichloroethane (TCA)	ND	0.0191		mg/Kg-dry	1	5/14/2015 6:34:00 PM
1,1-Dichloropropene	ND	0.0191		mg/Kg-dry	1	5/14/2015 6:34:00 PM
Carbon tetrachloride	ND	0.0191		mg/Kg-dry	1	5/14/2015 6:34:00 PM
1,2-Dichloroethane (EDC)	ND	0.0287		mg/Kg-dry	1	5/14/2015 6:34:00 PM
Trichloroethene (TCE)	ND	0.0191		mg/Kg-dry	1	5/14/2015 6:34:00 PM
1,2-Dichloropropane	ND	0.0191		mg/Kg-dry	1	5/14/2015 6:34:00 PM
Bromodichloromethane	ND	0.0191		mg/Kg-dry	1	5/14/2015 6:34:00 PM
cis-1,3-Dichloropropene	ND	0.0191		mg/Kg-dry	1	5/14/2015 6:34:00 PM
trans-1,3-Dichloropropene	ND	0.0287		mg/Kg-dry	1	5/14/2015 6:34:00 PM
1,1,2-Trichloroethane	ND	0.0287		mg/Kg-dry	1	5/14/2015 6:34:00 PM
1,3-Dichloropropane	ND	0.0479		mg/Kg-dry	1	5/14/2015 6:34:00 PM
Tetrachloroethene (PCE)	ND	0.0191		mg/Kg-dry	1	5/14/2015 6:34:00 PM
Dibromochloromethane	ND	0.0287		mg/Kg-dry	1	5/14/2015 6:34:00 PM
Chlorobenzene	ND	0.0191		mg/Kg-dry	1	5/14/2015 6:34:00 PM
1,1,1,2-Tetrachloroethane	ND	0.0287		mg/Kg-dry	1	5/14/2015 6:34:00 PM
1,1,2,2-Tetrachloroethane	ND	0.0191		mg/Kg-dry	1	5/14/2015 6:34:00 PM
2-Chlorotoluene	ND	0.0191		mg/Kg-dry	1	5/14/2015 6:34:00 PM
4-Chlorotoluene	ND	0.0191		mg/Kg-dry	1	5/14/2015 6:34:00 PM
1,2,3-Trichloropropane	ND	0.0191		mg/Kg-dry	1	5/14/2015 6:34:00 PM
1,2,4-Trichlorobenzene	ND	0.0479		mg/Kg-dry	1	5/14/2015 6:34:00 PM
1,3-Dichlorobenzene	ND	0.0191		mg/Kg-dry	1	5/14/2015 6:34:00 PM
1,4-Dichlorobenzene	ND	0.0191		mg/Kg-dry	1	5/14/2015 6:34:00 PM
1,2-Dichlorobenzene	ND	0.0191		mg/Kg-dry	1	5/14/2015 6:34:00 PM
1,2-Dibromo-3-chloropropane	ND	0.479		mg/Kg-dry	1	5/14/2015 6:34:00 PM
Hexachloro-1,3-butadiene	ND	0.0957		mg/Kg-dry	1	5/14/2015 6:34:00 PM
1,2,3-Trichlorobenzene	ND	0.0191		mg/Kg-dry	1	5/14/2015 6:34:00 PM
Surr: Dibromofluoromethane	98.4	63.7-129		%REC	1	5/14/2015 6:34:00 PM

Fremont Analytical

Analytical Report

WO#: **1505090**
Date Reported: **5/18/2015**

Client: Cardno ATC
Project: HP Cleaners
Lab ID: 1505090-014
Client Sample ID: B-30-4'

Collection Date: 5/12/2015 11:35:00 AM
Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 10758		Analyst: BC
Surr: Toluene-d8	98.6	64.3-131		%REC	1	5/14/2015 6:34:00 PM
Surr: 1-Bromo-4-fluorobenzene	102	63.1-141		%REC	1	5/14/2015 6:34:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R22300		Analyst: SB
Percent Moisture	8.12			wt%	1	5/12/2015 3:56:53 PM

Client: Cardno ATC
Project: HP Cleaners
Lab ID: 1505090-015
Client Sample ID: B-31-1'

Collection Date: 5/12/2015 11:55:00 AM
Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 10758		Analyst: BC
Dichlorodifluoromethane (CFC-12)	ND	0.0684		mg/Kg-dry	1	5/14/2015 7:02:00 PM
Chloromethane	ND	0.0684		mg/Kg-dry	1	5/14/2015 7:02:00 PM
Vinyl chloride	ND	0.00228		mg/Kg-dry	1	5/14/2015 7:02:00 PM
Trichlorofluoromethane (CFC-11)	ND	0.0570		mg/Kg-dry	1	5/14/2015 7:02:00 PM
Chloroethane	ND	0.0684		mg/Kg-dry	1	5/14/2015 7:02:00 PM
1,1-Dichloroethene	ND	0.0570		mg/Kg-dry	1	5/14/2015 7:02:00 PM
Methylene chloride	ND	0.0228		mg/Kg-dry	1	5/14/2015 7:02:00 PM
trans-1,2-Dichloroethene	ND	0.0228		mg/Kg-dry	1	5/14/2015 7:02:00 PM
1,1-Dichloroethane	ND	0.0228		mg/Kg-dry	1	5/14/2015 7:02:00 PM
2,2-Dichloropropane	ND	0.0570		mg/Kg-dry	1	5/14/2015 7:02:00 PM
cis-1,2-Dichloroethene	ND	0.0228		mg/Kg-dry	1	5/14/2015 7:02:00 PM
Chloroform	ND	0.0228		mg/Kg-dry	1	5/14/2015 7:02:00 PM
1,1,1-Trichloroethane (TCA)	ND	0.0228		mg/Kg-dry	1	5/14/2015 7:02:00 PM
1,1-Dichloropropene	ND	0.0228		mg/Kg-dry	1	5/14/2015 7:02:00 PM
Carbon tetrachloride	ND	0.0228		mg/Kg-dry	1	5/14/2015 7:02:00 PM
1,2-Dichloroethane (EDC)	ND	0.0342		mg/Kg-dry	1	5/14/2015 7:02:00 PM
Trichloroethene (TCE)	ND	0.0228		mg/Kg-dry	1	5/14/2015 7:02:00 PM
1,2-Dichloropropane	ND	0.0228		mg/Kg-dry	1	5/14/2015 7:02:00 PM
Bromodichloromethane	ND	0.0228		mg/Kg-dry	1	5/14/2015 7:02:00 PM
cis-1,3-Dichloropropene	ND	0.0228		mg/Kg-dry	1	5/14/2015 7:02:00 PM
trans-1,3-Dichloropropene	ND	0.0342		mg/Kg-dry	1	5/14/2015 7:02:00 PM
1,1,2-Trichloroethane	ND	0.0342		mg/Kg-dry	1	5/14/2015 7:02:00 PM
1,3-Dichloropropane	ND	0.0570		mg/Kg-dry	1	5/14/2015 7:02:00 PM
Tetrachloroethene (PCE)	ND	0.0228		mg/Kg-dry	1	5/14/2015 7:02:00 PM
Dibromochloromethane	ND	0.0342		mg/Kg-dry	1	5/14/2015 7:02:00 PM
Chlorobenzene	ND	0.0228		mg/Kg-dry	1	5/14/2015 7:02:00 PM
1,1,1,2-Tetrachloroethane	ND	0.0342		mg/Kg-dry	1	5/14/2015 7:02:00 PM
1,1,2,2-Tetrachloroethane	ND	0.0228		mg/Kg-dry	1	5/14/2015 7:02:00 PM
2-Chlorotoluene	ND	0.0228		mg/Kg-dry	1	5/14/2015 7:02:00 PM
4-Chlorotoluene	ND	0.0228		mg/Kg-dry	1	5/14/2015 7:02:00 PM
1,2,3-Trichloropropane	ND	0.0228		mg/Kg-dry	1	5/14/2015 7:02:00 PM
1,2,4-Trichlorobenzene	ND	0.0570		mg/Kg-dry	1	5/14/2015 7:02:00 PM
1,3-Dichlorobenzene	ND	0.0228		mg/Kg-dry	1	5/14/2015 7:02:00 PM
1,4-Dichlorobenzene	ND	0.0228		mg/Kg-dry	1	5/14/2015 7:02:00 PM
1,2-Dichlorobenzene	ND	0.0228		mg/Kg-dry	1	5/14/2015 7:02:00 PM
1,2-Dibromo-3-chloropropane	ND	0.570		mg/Kg-dry	1	5/14/2015 7:02:00 PM
Hexachloro-1,3-butadiene	ND	0.114		mg/Kg-dry	1	5/14/2015 7:02:00 PM
1,2,3-Trichlorobenzene	ND	0.0228		mg/Kg-dry	1	5/14/2015 7:02:00 PM
Surr: Dibromofluoromethane	97.4	63.7-129		%REC	1	5/14/2015 7:02:00 PM

Fremont Analytical

Analytical Report

WO#: **1505090**
Date Reported: **5/18/2015**

Client: Cardno ATC
Project: HP Cleaners
Lab ID: 1505090-015
Client Sample ID: B-31-1'

Collection Date: 5/12/2015 11:55:00 AM
Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 10758		Analyst: BC
Surr: Toluene-d8	94.9	64.3-131		%REC	1	5/14/2015 7:02:00 PM
Surr: 1-Bromo-4-fluorobenzene	97.8	63.1-141		%REC	1	5/14/2015 7:02:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R22300		Analyst: SB
Percent Moisture	5.15			wt%	1	5/12/2015 3:56:53 PM

Client: Cardno ATC
Project: HP Cleaners
Lab ID: 1505090-016
Client Sample ID: B-31-4'

Collection Date: 5/12/2015 12:00:00 PM
Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 10758		Analyst: BC
Dichlorodifluoromethane (CFC-12)	ND	0.0588		mg/Kg-dry	1	5/14/2015 7:30:00 PM
Chloromethane	ND	0.0588		mg/Kg-dry	1	5/14/2015 7:30:00 PM
Vinyl chloride	ND	0.00196		mg/Kg-dry	1	5/14/2015 7:30:00 PM
Trichlorofluoromethane (CFC-11)	ND	0.0490		mg/Kg-dry	1	5/14/2015 7:30:00 PM
Chloroethane	ND	0.0588		mg/Kg-dry	1	5/14/2015 7:30:00 PM
1,1-Dichloroethene	ND	0.0490		mg/Kg-dry	1	5/14/2015 7:30:00 PM
Methylene chloride	ND	0.0196		mg/Kg-dry	1	5/14/2015 7:30:00 PM
trans-1,2-Dichloroethene	ND	0.0196		mg/Kg-dry	1	5/14/2015 7:30:00 PM
1,1-Dichloroethane	ND	0.0196		mg/Kg-dry	1	5/14/2015 7:30:00 PM
2,2-Dichloropropane	ND	0.0490		mg/Kg-dry	1	5/14/2015 7:30:00 PM
cis-1,2-Dichloroethene	ND	0.0196		mg/Kg-dry	1	5/14/2015 7:30:00 PM
Chloroform	ND	0.0196		mg/Kg-dry	1	5/14/2015 7:30:00 PM
1,1,1-Trichloroethane (TCA)	ND	0.0196		mg/Kg-dry	1	5/14/2015 7:30:00 PM
1,1-Dichloropropene	ND	0.0196		mg/Kg-dry	1	5/14/2015 7:30:00 PM
Carbon tetrachloride	ND	0.0196		mg/Kg-dry	1	5/14/2015 7:30:00 PM
1,2-Dichloroethane (EDC)	ND	0.0294		mg/Kg-dry	1	5/14/2015 7:30:00 PM
Trichloroethene (TCE)	ND	0.0196		mg/Kg-dry	1	5/14/2015 7:30:00 PM
1,2-Dichloropropane	ND	0.0196		mg/Kg-dry	1	5/14/2015 7:30:00 PM
Bromodichloromethane	ND	0.0196		mg/Kg-dry	1	5/14/2015 7:30:00 PM
cis-1,3-Dichloropropene	ND	0.0196		mg/Kg-dry	1	5/14/2015 7:30:00 PM
trans-1,3-Dichloropropene	ND	0.0294		mg/Kg-dry	1	5/14/2015 7:30:00 PM
1,1,2-Trichloroethane	ND	0.0294		mg/Kg-dry	1	5/14/2015 7:30:00 PM
1,3-Dichloropropane	ND	0.0490		mg/Kg-dry	1	5/14/2015 7:30:00 PM
Tetrachloroethene (PCE)	ND	0.0196		mg/Kg-dry	1	5/14/2015 7:30:00 PM
Dibromochloromethane	ND	0.0294		mg/Kg-dry	1	5/14/2015 7:30:00 PM
Chlorobenzene	ND	0.0196		mg/Kg-dry	1	5/14/2015 7:30:00 PM
1,1,1,2-Tetrachloroethane	ND	0.0294		mg/Kg-dry	1	5/14/2015 7:30:00 PM
1,1,2,2-Tetrachloroethane	ND	0.0196		mg/Kg-dry	1	5/14/2015 7:30:00 PM
2-Chlorotoluene	ND	0.0196		mg/Kg-dry	1	5/14/2015 7:30:00 PM
4-Chlorotoluene	ND	0.0196		mg/Kg-dry	1	5/14/2015 7:30:00 PM
1,2,3-Trichloropropane	ND	0.0196		mg/Kg-dry	1	5/14/2015 7:30:00 PM
1,2,4-Trichlorobenzene	ND	0.0490		mg/Kg-dry	1	5/14/2015 7:30:00 PM
1,3-Dichlorobenzene	ND	0.0196		mg/Kg-dry	1	5/14/2015 7:30:00 PM
1,4-Dichlorobenzene	ND	0.0196		mg/Kg-dry	1	5/14/2015 7:30:00 PM
1,2-Dichlorobenzene	ND	0.0196		mg/Kg-dry	1	5/14/2015 7:30:00 PM
1,2-Dibromo-3-chloropropane	ND	0.490		mg/Kg-dry	1	5/14/2015 7:30:00 PM
Hexachloro-1,3-butadiene	ND	0.0981		mg/Kg-dry	1	5/14/2015 7:30:00 PM
1,2,3-Trichlorobenzene	ND	0.0196		mg/Kg-dry	1	5/14/2015 7:30:00 PM
Surr: Dibromofluoromethane	94.6	63.7-129		%REC	1	5/14/2015 7:30:00 PM

Fremont Analytical

Analytical Report

WO#: **1505090**
Date Reported: **5/18/2015**

Client: Cardno ATC
Project: HP Cleaners
Lab ID: 1505090-016
Client Sample ID: B-31-4'

Collection Date: 5/12/2015 12:00:00 PM
Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 10758		Analyst: BC
Surr: Toluene-d8	96.2	64.3-131		%REC	1	5/14/2015 7:30:00 PM
Surr: 1-Bromo-4-fluorobenzene	101	63.1-141		%REC	1	5/14/2015 7:30:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R22300		Analyst: SB
Percent Moisture	9.85			wt%	1	5/12/2015 3:56:53 PM

Fremont Analytical

Date: *5/18/2015*

Work Order: 1505090
CLIENT: Cardno ATC
Project: HP Cleaners

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID **1505090-001BMS**	SampType: **MS**			Units: **mg/Kg-dry**		Prep Date: **5/13/2015**		RunNo: **22330**		
Client ID: **B-24-1'**	Batch ID: **10758**					Analysis Date: **5/13/2015**		SeqNo: **423701**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	1.84	0.0655	1.092	0	169	43.5	121				S
Chloromethane	1.38	0.0655	1.092	0	126	45	130				
Vinyl chloride	1.38	0.00218	1.092	0	127	51.2	146				
Trichlorofluoromethane (CFC-11)	1.43	0.0546	1.092	0	131	35	131				S
Chloroethane	1.39	0.0655	1.092	0	128	43.8	117				S
1,1-Dichloroethene	1.40	0.0546	1.092	0	129	61.9	141				
Methylene chloride	1.09	0.0218	1.092	0	100	54.7	142				
trans-1,2-Dichloroethene	1.38	0.0218	1.092	0	126	52	136				
1,1-Dichloroethane	1.30	0.0218	1.092	0	119	51.8	141				
2,2-Dichloropropane	1.54	0.0546	1.092	0	141	36	123				S
cis-1,2-Dichloroethene	1.29	0.0218	1.092	0	118	58.6	136				
Chloroform	1.28	0.0218	1.092	0	117	53.2	129				
1,1,1-Trichloroethane (TCA)	1.56	0.0218	1.092	0	143	58.3	145				
1,1-Dichloropropene	1.31	0.0218	1.092	0	120	55.1	138				
Carbon tetrachloride	1.56	0.0218	1.092	0	143	53.3	144				
1,2-Dichloroethane (EDC)	1.17	0.0327	1.092	0	107	51.3	139				
Trichloroethene (TCE)	1.51	0.0218	1.092	0	139	68.6	132				S
1,2-Dichloropropane	1.18	0.0218	1.092	0	108	59	136				
Bromodichloromethane	1.24	0.0218	1.092	0	113	50.7	141				
cis-1,3-Dichloropropene	1.25	0.0218	1.092	0	115	50.4	138				
trans-1,3-Dichloropropene	1.26	0.0327	1.092	0	115	44.1	147				
1,1,2-Trichloroethane	1.21	0.0327	1.092	0	111	51.6	137				
1,3-Dichloropropane	1.15	0.0546	1.092	0	106	53.1	134				
Tetrachloroethene (PCE)	1.32	0.0218	1.092	0	121	35.6	158				
Dibromochloromethane	1.22	0.0327	1.092	0	112	55.3	140				
Chlorobenzene	1.15	0.0218	1.092	0	105	60	133				
1,1,1,2-Tetrachloroethane	1.16	0.0327	1.092	0	106	53.1	142				
1,1,2,2-Tetrachloroethane	1.03	0.0218	1.092	0	94.4	51.9	131				
2-Chlorotoluene	1.19	0.0218	1.092	0	109	51.6	136				
4-Chlorotoluene	1.20	0.0218	1.092	0	110	50.1	139				
1,2,3-Trichloropropane	1.16	0.0218	1.092	0	106	50.5	131				

Fremont Analytical

Date: 5/18/2015

Work Order: 1505090
CLIENT: Cardno ATC
Project: HP Cleaners

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID **1505090-001BMS**	SampType: **MS**			Units: **mg/Kg-dry**		Prep Date: **5/13/2015**		RunNo: **22330**		
Client ID: **B-24-1'**	Batch ID: **10758**					Analysis Date: **5/13/2015**		SeqNo: **423701**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	1.16	0.0546	1.092	0	106	50.8	130				
1,3-Dichlorobenzene	1.12	0.0218	1.092	0	103	52.6	131				
1,4-Dichlorobenzene	1.14	0.0218	1.092	0	104	52.9	129				
1,2-Dichlorobenzene	1.15	0.0218	1.092	0	105	55.8	129				
1,2-Dibromo-3-chloropropane	1.22	0.546	1.092	0	112	40.5	131				
Hexachloro-1,3-butadiene	1.32	0.109	1.092	0	121	40.6	158				
1,2,3-Trichlorobenzene	1.17	0.0218	1.092	0	108	54.4	124				
Surr: Dibromofluoromethane	1.59		1.364		117	63.7	129				
Surr: Toluene-d8	1.48		1.364		109	64.3	131				
Surr: 1-Bromo-4-fluorobenzene	1.35		1.364		98.6	63.1	141				

NOTES:
S - Outlying QC recoveries were observed. The method is in control as indicated by the LCS.

Sample ID **LCS-10758**	SampType: **LCS**			Units: **mg/Kg**		Prep Date: **5/13/2015**		RunNo: **22330**		
Client ID: **LCSS**	Batch ID: **10758**					Analysis Date: **5/13/2015**		SeqNo: **423722**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	1.27	0.0600	1.000	0	127	37.2	139				
Chloromethane	1.06	0.0600	1.000	0	106	38.8	132				
Vinyl chloride	0.998	0.00200	1.000	0	99.8	56.1	130				
Trichlorofluoromethane (CFC-11)	1.04	0.0500	1.000	0	104	42.9	147				
Chloroethane	1.02	0.0600	1.000	0	102	37.1	144				
1,1-Dichloroethene	1.01	0.0500	1.000	0	101	49.7	142				
Methylene chloride	0.857	0.0200	1.000	0	85.7	46.3	140				
trans-1,2-Dichloroethene	1.04	0.0200	1.000	0	104	68	130				
1,1-Dichloroethane	1.04	0.0200	1.000	0	104	65.5	132				
2,2-Dichloropropane	1.32	0.0500	1.000	0	132	28.1	149				
cis-1,2-Dichloroethene	1.02	0.0200	1.000	0	102	71.3	135				
Chloroform	1.01	0.0200	1.000	0	101	67.5	129				
1,1,1-Trichloroethane (TCA)	1.15	0.0200	1.000	0	115	69	132				
1,1-Dichloropropene	0.973	0.0200	1.000	0	97.3	72.7	131				
Carbon tetrachloride	1.14	0.0200	1.000	0	114	63.4	137				

Fremont Analytical

Date: *5/18/2015*

Work Order: 1505090
CLIENT: Cardno ATC
Project: HP Cleaners

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID **LCS-10758** SampType: **LCS** Units: **mg/Kg** Prep Date: **5/13/2015** RunNo: **22330**
Client ID: **LCSS** Batch ID: **10758** Analysis Date: **5/13/2015** SeqNo: **423722**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichloroethane (EDC)	0.956	0.0300	1.000	0	95.6	61.9	136				
Trichloroethene (TCE)	0.999	0.0200	1.000	0	99.9	65.5	137				
1,2-Dichloropropane	1.01	0.0200	1.000	0	101	63.2	142				
Bromodichloromethane	1.02	0.0200	1.000	0	102	73.2	131				
cis-1,3-Dichloropropene	1.04	0.0200	1.000	0	104	59.1	143				
trans-1,3-Dichloropropene	1.06	0.0300	1.000	0	106	49.2	149				
1,1,2-Trichloroethane	0.976	0.0300	1.000	0	97.6	74.5	129				
1,3-Dichloropropane	0.953	0.0500	1.000	0	95.3	70	130				
Tetrachloroethene (PCE)	0.995	0.0200	1.000	0	99.5	52.7	150				
Dibromochloromethane	0.986	0.0300	1.000	0	98.6	70.6	144				
Chlorobenzene	0.919	0.0200	1.000	0	91.9	76.1	123				
1,1,1,2-Tetrachloroethane	0.947	0.0300	1.000	0	94.7	74.8	131				
1,1,2,2-Tetrachloroethane	1.05	0.0200	1.000	0	105	60	130				
2-Chlorotoluene	0.942	0.0200	1.000	0	94.2	76.7	129				
4-Chlorotoluene	0.947	0.0200	1.000	0	94.7	77.5	125				
1,2,3-Trichloropropane	0.972	0.0200	1.000	0	97.2	67.9	136				
1,2,4-Trichlorobenzene	0.940	0.0500	1.000	0	94.0	65.6	137				
1,3-Dichlorobenzene	0.906	0.0200	1.000	0	90.6	72.8	128				
1,4-Dichlorobenzene	0.935	0.0200	1.000	0	93.5	72.6	126				
1,2-Dichlorobenzene	0.942	0.0200	1.000	0	94.2	72.8	126				
1,2-Dibromo-3-chloropropane	1.01	0.500	1.000	0	101	61.2	139				
Hexachloro-1,3-butadiene	0.970	0.100	1.000	0	97.0	42	151				
1,2,3-Trichlorobenzene	0.962	0.0200	1.000	0	96.2	62.1	140				
Surr: Dibromofluoromethane	1.45		1.250		116	63.7	129				
Surr: Toluene-d8	1.36		1.250		109	64.3	131				
Surr: 1-Bromo-4-fluorobenzene	1.23		1.250		98.2	63.1	141				

Fremont Analytical

Date: 5/18/2015

Work Order: 1505090
CLIENT: Cardno ATC
Project: HP Cleaners

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID	MB-10758	SampType:	MBLK		Units:	mg/Kg	Prep Date:	5/13/2015		RunNo:	22330	
Client ID:	MBLKS	Batch ID:	10758				Analysis Date:	5/13/2015		SeqNo:	423723	

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	0.0600									
Chloromethane	ND	0.0600									
Vinyl chloride	ND	0.00200									
Trichlorofluoromethane (CFC-11)	ND	0.0500									
Chloroethane	ND	0.0600									
1,1-Dichloroethene	ND	0.0500									
Methylene chloride	ND	0.0200									
trans-1,2-Dichloroethene	ND	0.0200									
1,1-Dichloroethane	ND	0.0200									
2,2-Dichloropropane	ND	0.0500									
cis-1,2-Dichloroethene	ND	0.0200									
Chloroform	ND	0.0200									
1,1,1-Trichloroethane (TCA)	ND	0.0200									
1,1-Dichloropropene	ND	0.0200									
Carbon tetrachloride	ND	0.0200									
1,2-Dichloroethane (EDC)	ND	0.0300									
Trichloroethene (TCE)	ND	0.0200									
1,2-Dichloropropane	ND	0.0200									
Bromodichloromethane	ND	0.0200									
cis-1,3-Dichloropropene	ND	0.0200									
trans-1,3-Dichloropropene	ND	0.0300									
1,1,2-Trichloroethane	ND	0.0300									
1,3-Dichloropropane	ND	0.0500									
Tetrachloroethene (PCE)	ND	0.0200									
Dibromochloromethane	ND	0.0300									
Chlorobenzene	ND	0.0200									
1,1,1,2-Tetrachloroethane	ND	0.0300									
1,1,2,2-Tetrachloroethane	ND	0.0200									
2-Chlorotoluene	ND	0.0200									
4-Chlorotoluene	ND	0.0200									
1,2,3-Trichloropropane	ND	0.0200									

Fremont Analytical

Date: 5/18/2015

Work Order: 1505090
CLIENT: Cardno ATC
Project: HP Cleaners

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID **MB-10758**	SampType: **MBLK**			Units: **mg/Kg**		Prep Date: **5/13/2015**		RunNo: **22330**			
Client ID: **MBLKS**	Batch ID: **10758**					Analysis Date: **5/13/2015**		SeqNo: **423723**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	ND	0.0500									
1,3-Dichlorobenzene	ND	0.0200									
1,4-Dichlorobenzene	ND	0.0200									
1,2-Dichlorobenzene	ND	0.0200									
1,2-Dibromo-3-chloropropane	ND	0.500									
Hexachloro-1,3-butadiene	ND	0.100									
1,2,3-Trichlorobenzene	ND	0.0200									
Surr: Dibromofluoromethane	1.31		1.250		105	63.7	129				
Surr: Toluene-d8	1.35		1.250		108	64.3	131				
Surr: 1-Bromo-4-fluorobenzene	1.21		1.250		97.1	63.1	141				

Sample ID **1505100-002BDUP**	SampType: **DUP**			Units: **mg/Kg-dry**		Prep Date: **5/13/2015**		RunNo: **22330**			
Client ID: **BATCH**	Batch ID: **10758**					Analysis Date: **5/14/2015**		SeqNo: **423963**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	0.0606						0		30	
Chloromethane	ND	0.0606						0		30	
Vinyl chloride	ND	0.00202						0		30	
Trichlorofluoromethane (CFC-11)	ND	0.0505						0		30	
Chloroethane	ND	0.0606						0		30	
1,1-Dichloroethene	ND	0.0505						0		30	
Methylene chloride	ND	0.0202						0		30	
trans-1,2-Dichloroethene	ND	0.0202						0		30	
1,1-Dichloroethane	ND	0.0202						0		30	
2,2-Dichloropropane	ND	0.0505						0		30	
cis-1,2-Dichloroethene	ND	0.0202						0		30	
Chloroform	ND	0.0202						0		30	
1,1,1-Trichloroethane (TCA)	ND	0.0202						0		30	
1,1-Dichloropropene	ND	0.0202						0		30	
Carbon tetrachloride	ND	0.0202						0		30	
1,2-Dichloroethane (EDC)	ND	0.0303						0		30	

Fremont Analytical

Date: 5/18/2015

Work Order: 1505090
CLIENT: Cardno ATC
Project: HP Cleaners

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID **1505100-002BDUP**	SampType: **DUP**	Units: **mg/Kg-dry**	Prep Date: **5/13/2015**	RunNo: **22330**
Client ID: **BATCH**	Batch ID: **10758**		Analysis Date: **5/14/2015**	SeqNo: **423963**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichloroethene (TCE)	ND	0.0202						0		30	
1,2-Dichloropropane	ND	0.0202						0		30	
Bromodichloromethane	ND	0.0202						0		30	
cis-1,3-Dichloropropene	ND	0.0202						0		30	
trans-1,3-Dichloropropene	ND	0.0303						0		30	
1,1,2-Trichloroethane	ND	0.0303						0		30	
1,3-Dichloropropane	ND	0.0505						0		30	
Tetrachloroethene (PCE)	ND	0.0202						0		30	
Dibromochloromethane	ND	0.0303						0		30	
Chlorobenzene	ND	0.0202						0		30	
1,1,1,2-Tetrachloroethane	ND	0.0303						0		30	
1,1,2,2-Tetrachloroethane	ND	0.0202						0		30	
2-Chlorotoluene	ND	0.0202						0		30	
4-Chlorotoluene	ND	0.0202						0		30	
1,2,3-Trichloropropane	ND	0.0202						0		30	
1,2,4-Trichlorobenzene	ND	0.0505						0		30	
1,3-Dichlorobenzene	ND	0.0202						0		30	
1,4-Dichlorobenzene	ND	0.0202						0		30	
1,2-Dichlorobenzene	ND	0.0202						0		30	
1,2-Dibromo-3-chloropropane	ND	0.505						0		30	
Hexachloro-1,3-butadiene	ND	0.101						0		30	
1,2,3-Trichlorobenzene	ND	0.0202						0		30	
Surr: Dibromofluoromethane	1.23		1.262		97.2	63.7	129		0		
Surr: Toluene-d8	1.28		1.262		102	64.3	131		0		
Surr: 1-Bromo-4-fluorobenzene	1.41		1.262		112	63.1	141		0		

Fremont Analytical

Sample Log-In Check List

Client Name:	**ATC**	Work Order Number:	**1505090**
Logged by:	**Clare Griggs**	Date Received:	**5/12/2015 1:16:00 PM**

Chain of Custody

1.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2.	How was the sample delivered?	Client		

Log In

3.	Coolers are present?	Yes ☑	No ☐	NA ☐
4.	Shipping container/cooler in good condition?	Yes ☑	No ☐	
5.	Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Required ☑
6.	Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
7.	Were all coolers received at a temperature of >0°C to 10.0°C	Yes ☑	No ☐	NA ☐
8.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
9.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
10.	Are samples properly preserved?	Yes ☑	No ☐	
11.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
12.	Is the headspace in the VOA vials?	Yes ☐	No ☐	NA ☑
13.	Did all samples containers arrive in good condition(unbroken)?	Yes ☑	No ☐	
14.	Does paperwork match bottle labels?	Yes ☑	No ☐	
15.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
16.	Is it clear what analyses were requested?	Yes ☑	No ☐	
17.	Were all holding times able to be met?	Yes ☑	No ☐	

Special Handling (if applicable)

18. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified:		Date	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

19. Additional remarks:

Item Information

Item #	Temp °C	Condition
Cooler	3.4	Good
Sample	1.1	Good
Temp Blank	6.3	Good

Fremont Analytical

Chain of Custody Record

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (internal): 1505090

Date: 5/12/15 Page: 1 of: 2

Client: Cardno ATC
Address: 6347 Seaview Ave
City, State, Zip:
Tel: Fax:

Project Name: HP-Cleaners
Project No:
Location:
Reports To (PM): Simon Payne
Collected by: M. Meenan
Email:

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, WW = Waste Water, SW = Storm Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOC (EPA 8260)	CX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SEMI VOL (EPA 8270 - SIM)	PAH (EPA 8270)	PCBs (EPA 8082)	Metals** (6020 / 200.8)	Total (T) / Dissolved (D)	Arsenic (AS)**	EDB (8011)	CVOCs				Comments/Depth
1	B-24-1'	5/12/15	9:15	Soil													X					
2	B-24-4'		9:20																			
3	B-25-1'		9:35																			
4	B-25-4'		9:40																			
5	B-26-1'		9:55																			
6	B-26-4'		10:00																			
7	B-27-1'		10:15																			
8	B-27-4'		10:20																			
9	B-28-1'		10:45																			
10	B-28-4'		10:50																			

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate-Nitrite

Sample Disposal: ☐ Return to Client ☒ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Turn-around times for samples received after 4:00pm will begin on the following business day.

Special Remarks:

	Relinquished	Date/Time	Received	Date/Time
1		5/12/15 13:16		
2				
3				

TAT -> SameDay^ NextDay^ 2 Day 3 Day STD

^Please coordinate with the lab in advance

Distribution: White - Lab, Yellow - File, Pink - Originator

Fremont Analytical

Chain of Custody Record

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (Internal): _____

Date: 5/12/15 Page: 2 of: 2

Client: Cardno ATC
Address:
City, State, Zip
Tel: Fax:

Project Name: HP-Cleaners
Project No: Collected by: AN
Location:
Reports To (PM): Simon Payne
Email:

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, WW = Waste Water, SW = Storm Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOC (EPA 8260)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SVOC VOs (EPA 8270 - SIM)	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Metals** (6020 / 200.8)	Total (T)	Dissolved (D)	Anions (IC)***	EPH (8041)	CVOCs					Comments/Depth
1	B-29-1'	5/12/15	11:10	Soil																				
2	B-29-4'		11:15																					
3	B-30-1'		11:30																					
4	B-30-4'		11:35																					
5	B-31-1'		11:55																					
6	B-31-4'		12:00																					
7																								
8																								
9																								
10																								

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Turn-around times for samples received after 4:00pm will begin on the following business day.

Special Remarks:

Relinquished	Date/Time	Received	Date/Time
x	5/12/15 13:16	x	05/13/15 13:16
Relinquished	Date/Time	Received	Date/Time
x		x	

TAT -> SameDay^ NextDay^ 2 Day 3 Day STD
^Please coordinate with the lab in advance

Distribution: White - Lab, Yellow - File, Pink - Originator

www.fremontanalytical.com

3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Cardno ATC
Simon Payne
6347 Seaview Ave NW
Seattle, WA 98107

RE: HP Cleaners
Lab ID: 1505010

May 08, 2015

Attention Simon Payne:

Fremont Analytical, Inc. received 2 sample(s) on 5/1/2015 for the analyses presented in the following report.

Volatile Organic Compounds-EPA Method TO-15 (SIM)

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Chelsea Ward
Project Manager

Fremont Analytical

Date: *05/08/2015*

CLIENT: Cardno ATC
Project: HP Cleaners
Lab Order: 1505010

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1505010-001	Vapor-1-Cleaner	05/01/2015 8:20 AM	05/01/2015 4:00 PM
1505010-002	Vapor-2-Salon	05/01/2015 7:50 AM	05/01/2015 4:00 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Fremont Analytical

Case Narrative

WO#: **1505010**
Date: **5/8/2015**

CLIENT: Cardno ATC
Project: HP Cleaners

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Air samples are reported in ppbv and ug/m3.

The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Standard temperature and pressure assumes 24.45 = (25C and 1 atm).

Qualifiers:

* - Flagged value is not within established control limits
B - Analyte detected in the associated Method Blank
D - Dilution was required
E - Value above quantitation range
H - Holding times for preparation or analysis exceeded
I - Analyte with an internal standard that does not meet established acceptance criteria
J - Analyte detected below LOQ
N - Tentatively Identified Compound (TIC)
Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
S - Spike recovery outside accepted recovery limits
ND - Not detected at the Reporting Limit

Acronyms:

%Rec - Percent Recovery
CCB - Continued Calibration Blank
CCV - Continued Calibration Verification
DF - Dilution Factor
HEM - Hexane Extractable Material
ICV - Initial Calibration Verification
LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
MB or MBLANK - Method Blank
MDL - Method Detection Limit
MS/MSD - Matrix Spike / Matrix Spike Duplicate
PDS - Post Digestion Spike
Ref Val - Reference Value
RL - Reporting Limit
RPD - Relative Percent Difference
SD - Serial Dilution
SGT - Silica Gel Treatment
SPK - Spike
Surr - Surrogate

Fremont Analytical

Client: Cardno ATC
WorkOrder: 1505010
Project: HP Cleaners

Client Sample ID: Vapor-1-Cleaner
Lab ID: 1505010-001A
Sample Type: Summa Canister

Date Sampled: 5/1/2015
Date Received: 5/1/2015

Volatile Organic Compounds-EPA Method TO-15 (SIM)

Analyte	Concentration (ppbv)	Concentration (ug/m³)	Reporting Limit (ppbv)	Reporting Limit (ug/m³)	Qual	Method	Date/Analyst
1,1,1-Trichloroethane	<0.00500	<0.0273	0.00500	0.0273		TO-15	05/07/2015 JY
1,1,2,2-Tetrachloroethane	<0.00620	<0.0426	0.00620	0.0426		TO-15	05/07/2015 JY
1,1,2-Trichloroethane (TCA)	<0.0200	<0.109	0.0200	0.109		TO-15	05/07/2015 JY
1,1-Dichloroethane	<0.00800	<0.0324	0.00800	0.0324		TO-15	05/07/2015 JY
1,1-Dichloroethene (DCE)	<0.00900	<0.0357	0.00900	0.0357		TO-15	05/07/2015 JY
1,2,4-Trichlorobenzene	1.72	12.8	0.0500	0.371	B	TO-15	05/07/2015 JY
1,2-Dichloroethane	<0.0200	<0.0809	0.0200	0.0809		TO-15	05/07/2015 JY
Carbon tetrachloride	0.0800	0.503	0.0200	0.126		TO-15	05/07/2015 JY
Chlorobenzene	<0.0700	<0.322	0.0700	0.322		TO-15	05/07/2015 JY
Chloroethane	<0.0980	<0.259	0.0980	0.259		TO-15	05/07/2015 JY
Chloroform	0.106	0.518	0.0200	0.0977		TO-15	05/07/2015 JY
Chloromethane	0.989	2.04	0.400	0.826		TO-15	05/07/2015 JY
cis-1,2-Dichloroethene	<0.0200	<0.0793	0.0200	0.0793		TO-15	05/07/2015 JY
Hexachlorobutadiene	0.244	2.60	0.0166	0.177	B	TO-15	05/07/2015 JY
Methylene chloride	0.356	1.24	0.0600	0.208		TO-15	05/07/2015 JY
Tetrachloroethene (PCE)	0.357	2.42	0.0500	0.339		TO-15	05/07/2015 JY
trans-1,2-Dichloroethene	<0.00600	<0.0238	0.00600	0.0238		TO-15	05/07/2015 JY
Trichloroethene (TCE)	0.855	4.60	0.0170	0.0914		TO-15	05/07/2015 JY
Vinyl chloride	<0.0850	<0.217	0.0850	0.217		TO-15	05/07/2015 JY
Surr: 4-Bromofluorobenzene	108 %Rec	--	70-130	--		TO-15	05/07/2015 JY

Client: Cardno ATC
WorkOrder: 1505010
Project: HP Cleaners

Client Sample ID: Vapor-2-Salon
Lab ID: 1505010-002A
Sample Type: Summa Canister

Date Sampled: 5/1/2015
Date Received: 5/1/2015

Analyte	Concentration		Reporting Limit		Qual	Method	Date/Analyst	
Volatile Organic Compounds-EPA Method TO-15 (SIM)								
	(ppbv)	(ug/m³)	(ppbv)	(ug/m³)				
1,1,1-Trichloroethane	<0.00500	<0.0273	0.00500	0.0273		TO-15	05/06/2015	JY
1,1,2,2-Tetrachloroethane	<0.00620	<0.0426	0.00620	0.0426		TO-15	05/06/2015	JY
1,1,2-Trichloroethane (TCA)	<0.0200	<0.109	0.0200	0.109		TO-15	05/06/2015	JY
1,1-Dichloroethane	<0.00800	<0.0324	0.00800	0.0324		TO-15	05/06/2015	JY
1,1-Dichloroethene (DCE)	<0.00900	<0.0357	0.00900	0.0357		TO-15	05/06/2015	JY
1,2,4-Trichlorobenzene	1.43	10.6	0.0500	0.371	B	TO-15	05/06/2015	JY
1,2-Dichloroethane	0.0511	0.207	0.0200	0.0809		TO-15	05/06/2015	JY
Carbon tetrachloride	0.0789	0.496	0.0200	0.126		TO-15	05/06/2015	JY
Chlorobenzene	<0.0700	<0.322	0.0700	0.322		TO-15	05/06/2015	JY
Chloroethane	<0.0980	<0.259	0.0980	0.259		TO-15	05/06/2015	JY
Chloroform	0.113	0.553	0.0200	0.0977		TO-15	05/06/2015	JY
Chloromethane	0.926	1.91	0.400	0.826		TO-15	05/06/2015	JY
cis-1,2-Dichloroethene	<0.0200	<0.0793	0.0200	0.0793		TO-15	05/06/2015	JY
Hexachlorobutadiene	0.234	2.49	0.0166	0.177	B	TO-15	05/06/2015	JY
Methylene chloride	0.564	1.96	0.0600	0.208		TO-15	05/06/2015	JY
Tetrachloroethene (PCE)	1.84	12.5	0.0500	0.339		TO-15	05/06/2015	JY
trans-1,2-Dichloroethene	<0.00600	<0.0238	0.00600	0.0238		TO-15	05/06/2015	JY
Trichloroethene (TCE)	1.26	6.76	0.0170	0.0914		TO-15	05/06/2015	JY
Vinyl chloride	<0.0850	<0.217	0.0850	0.217		TO-15	05/06/2015	JY
Surr: 4-Bromofluorobenzene	112 %Rec	--	70-130	--		TO-15	05/06/2015	JY

Fremont Analytical

Date: 5/8/2015

Work Order: 1505010
CLIENT: Cardno ATC
Project: HP Cleaners

QC SUMMARY REPORT

Volatile Organic Compounds-EPA Method TO-15 (SIM)

Sample ID **1504260-001AREP**	SampType: **REP**			Units: **ppbv**		Prep Date: **5/6/2015**		RunNo: **22219**			
Client ID: **BATCH**	Batch ID: **R22219**					Analysis Date: **5/6/2015**		SeqNo: **421736**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane	0.622	0.400						0.5934	4.74	30	
Vinyl chloride	ND	0.0850						0		30	
Chloroethane	ND	0.0980						0		30	
1,1-Dichloroethene (DCE)	ND	0.00900						0		30	
Methylene chloride	1.06	0.0600						1.091	2.75	30	
trans-1,2-Dichloroethene	ND	0.00600						0		30	
1,1-Dichloroethane	ND	0.00800						0		30	
cis-1,2-Dichloroethene	ND	0.0200						0		30	
Chloroform	ND	0.0200						0		30	
1,1,1-Trichloroethane	ND	0.00500						0		30	
Carbon tetrachloride	0.0875	0.0200						0.08660	1.03	30	
1,2-Dichloroethane	ND	0.0200						0		30	
Trichloroethene (TCE)	ND	0.0170						0		30	
1,1,2-Trichloroethane (TCA)	ND	0.0200						0		30	
Tetrachloroethene (PCE)	ND	0.0500						0		30	
Chlorobenzene	ND	0.0700						0		30	
1,1,2,2-Tetrachloroethane	ND	0.00620						0		30	
1,2,4-Trichlorobenzene	0.938	0.0500						0.9726	3.63	30	B
Hexachlorobutadiene	0.174	0.0166						0.1700	2.33	30	B
Surr: 4-Bromofluorobenzene	11.4		10.00		114	70	130		0		

Sample ID **LCS-R22219**	SampType: **LCS**			Units: **ppbv**		Prep Date: **5/6/2015**		RunNo: **22219**			
Client ID: **LCSW**	Batch ID: **R22219**					Analysis Date: **5/6/2015**		SeqNo: **421751**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane	2.48	0.400	2.500	0	99.3	70	130				
Vinyl chloride	2.57	0.0850	2.500	0	103	70	130				
Chloroethane	2.57	0.0980	2.500	0	103	70	130				
1,1-Dichloroethene (DCE)	2.78	0.00900	2.500	0	111	70	130				
Methylene chloride	2.60	0.0600	2.500	0	104	70	130				
trans-1,2-Dichloroethene	2.69	0.00600	2.500	0	108	70	130				

Fremont Analytical

Date: *5/8/2015*

Work Order: 1505010
CLIENT: Cardno ATC
Project: HP Cleaners

QC SUMMARY REPORT

Volatile Organic Compounds-EPA Method TO-15 (SIM)

Sample ID **LCS-R22219**	SampType: **LCS**			Units: **ppbv**		Prep Date: **5/6/2015**		RunNo: **22219**		
Client ID: **LCSW**	Batch ID: **R22219**					Analysis Date: **5/6/2015**		SeqNo: **421751**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethane	2.63	0.00800	2.500	0	105	70	130				
cis-1,2-Dichloroethene	2.79	0.0200	2.500	0	111	70	130				
Chloroform	2.57	0.0200	2.500	0	103	70	130				
1,1,1-Trichloroethane	2.62	0.00500	2.500	0	105	70	130				
Carbon tetrachloride	2.56	0.0200	2.500	0	102	70	130				
1,2-Dichloroethane	2.68	0.0200	2.500	0	107	70	130				
Trichloroethene (TCE)	2.58	0.0170	2.500	0	103	70	130				
1,1,2-Trichloroethane (TCA)	2.54	0.0200	2.500	0	102	70	130				
Tetrachloroethene (PCE)	2.62	0.0500	2.500	0	105	70	130				
Chlorobenzene	2.50	0.0700	2.500	0	99.8	70	130				
1,1,2,2-Tetrachloroethane	2.54	0.00620	2.500	0	101	70	130				
1,2,4-Trichlorobenzene	2.43	0.0500	2.500	0	97.3	70	130				
Hexachlorobutadiene	2.46	0.0166	2.500	0	98.4	70	130				
Surr: 4-Bromofluorobenzene	11.4		10.00		114	70	130				

Sample ID **MB-R22219**	SampType: **MBLK**			Units: **ppbv**		Prep Date: **5/6/2015**		RunNo: **22219**		
Client ID: **MBLKW**	Batch ID: **R22219**					Analysis Date: **5/6/2015**		SeqNo: **421752**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane	ND	0.400									
Vinyl chloride	ND	0.0850									
Chloroethane	ND	0.0980									
1,1-Dichloroethene (DCE)	ND	0.00900									
Methylene chloride	ND	0.0600									
trans-1,2-Dichloroethene	ND	0.00600									
1,1-Dichloroethane	ND	0.00800									
cis-1,2-Dichloroethene	ND	0.0200									
Chloroform	ND	0.0200									
1,1,1-Trichloroethane	ND	0.00500									
Carbon tetrachloride	ND	0.0200									
1,2-Dichloroethane	ND	0.0200									

Fremont Analytical

Date: *5/8/2015*

Work Order: 1505010
CLIENT: Cardno ATC
Project: HP Cleaners

QC SUMMARY REPORT

Volatile Organic Compounds-EPA Method TO-15 (SIM)

Sample ID **MB-R22219**	SampType: **MBLK**	Units: **ppbv**	Prep Date: **5/6/2015**	RunNo: **22219**
Client ID: **MBLKW**	Batch ID: **R22219**		Analysis Date: **5/6/2015**	SeqNo: **421752**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichloroethene (TCE)	ND	0.0170									
1,1,2-Trichloroethane (TCA)	ND	0.0200									
Tetrachloroethene (PCE)	ND	0.0500									
Chlorobenzene	ND	0.0700									
1,1,2,2-Tetrachloroethane	ND	0.00620									
1,2,4-Trichlorobenzene	0.177	0.0500									
Hexachlorobutadiene	0.166	0.0166									
Surr: 4-Bromofluorobenzene	11.0		10.00		110	70	130				

Fremont Analytical

Sample Log-In Check List

Client Name:	**ATC**	Work Order Number:	**1505010**
Logged by:	**Clare Griggs**	Date Received:	**5/1/2015 4:00:00 PM**

Chain of Custody

1.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2.	How was the sample delivered?	Client		

Log In

3.	Coolers are present?	Yes ☐	No ☑	NA ☐
		Air Samples		
4.	Shipping container/cooler in good condition?	Yes ☑	No ☐	
5.	Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Required ☑
6.	Was an attempt made to cool the samples?	Yes ☐	No ☐	NA ☑
7.	Were all coolers received at a temperature of >0°C to 10.0°C	Yes ☐	No ☐	NA ☑
8.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
9.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
10.	Are samples properly preserved?	Yes ☑	No ☐	
11.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
12.	Is the headspace in the VOA vials?	Yes ☐	No ☐	NA ☑
13.	Did all samples containers arrive in good condition(unbroken)?	Yes ☑	No ☐	
14.	Does paperwork match bottle labels?	Yes ☑	No ☐	
15.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
16.	Is it clear what analyses were requested?	Yes ☑	No ☐	
17.	Were all holding times able to be met?	Yes ☑	No ☐	

Special Handling (if applicable)

18.	Was client notified of all discrepancies with this order?	Yes ☑	No ☐	NA ☐

Person Notified:	Simon Payne	Date	5/1/2015
By Whom:	Clare Griggs	Via:	☑ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:	Confirming method.		
Client Instructions:	TO15-SIM		

19. Additional remarks:

Item Information

Fremont Analytical

Air Chain of Custody Record - Whole Air Sample

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Date: 5/1/15

Laboratory Project No (Internal): 1505010

Page: 1 of: 1

Client: Cardno ATC
Address: 6347 Seaview Ave
City, State, Zip: Seattle, WA
Tel:
Reports To (PM): Simon.Payne@Cardno.com
Email:

Project Name: HP Cleaners
Location: 13629 Aurora Speedway, Lynnwood, WA
Collected by: Mark Norman
Project No: 282EM00061

* Gas Matrix Codes: I = Indoor SS = Subslab L = Landfill SG = Soil Gas M = Plume Mapping G = Fuel Gas Quality L = LEED (Consult Client Services)

** Container Codes: 6L = Six Liter Canister (Summa) TB = Tedlar Bag 1V = 1 Liter Bottle Vac MC = 1 Liter MiniCan HP = High Pressure Cylinder HJ = Glass Headspace Jar

	Sample Name	Canister / Flow Reg Serial #	Sample Date & Time	Gas Matrix Code *	Anticipated Fill Time	Sample Volume	Container Type **	Internal: Evacuation Pressure (mtorr)	Internal: Pressure at Time of Pick-up (" Hg)	Internal: Equipment Certification Code	Field Initial Sample Pressure (" Hg)	Field Final Sample Pressure (" Hg)	Analysis Requested	Internal: Receipt Date	Internal: Final (psi)
1	Vapor-1-Cleaner	17636	5/1/15	I	8hr	6L	Summa	10mtorr			29.5	2.5	CVOCs by TO-15	5/5/15	-4
		FR8-12	8:20					4/2/15 13:00			8:20	15:20			
2	Vapor-2-Salon	15422	5/1/15	I	8hr	6L	Summa	10mtorr			29.5	3.0	↓	5/5/15	-4
		FR8-21	7:50					4/2/15 13:00			7:50	15:30			
3															
4															
5															

Rental Equipment (Circle all that apply): Manifold Mini-Pump Fittings Tedlar Bags Canisters Flow Controllers Helium Cylinder Flourinated Tubing Wrench

Condition:

Seals Intact: Y N N/A

Client Consult: Y ( ) N ( )

Special Remarks:

Relinquished: [signature] Date/Time: 5/1/15 16:00

Relinquished: [signature] Date/Time: 5/1/15 1600

Relinquished: Date/Time:

Relinquished: Date/Time:

TAT → STD Rush (specify)

3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Cardno ATC
Simon Payne
6347 Seaview Ave NW
Seattle, WA 98107

RE: HP Cleaners
Lab ID: 1507007

July 09, 2015

Attention Simon Payne:

Fremont Analytical, Inc. received 5 sample(s) on 7/1/2015 for the analyses presented in the following report.

Helium by GC/TCD
Volatile Organic Compounds-EPA Method TO-15 (SIM)

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Chelsea Ward
Project Manager

Qualifiers:

* - Flagged value is not within established control limits
B - Analyte detected in the associated Method Blank
D - Dilution was required
E - Value above quantitation range
H - Holding times for preparation or analysis exceeded
I - Analyte with an internal standard that does not meet established acceptance criteria
J - Analyte detected below LOQ
N - Tentatively Identified Compound (TIC)
Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
S - Spike recovery outside accepted recovery limits
ND - Not detected at the Reporting Limit

Acronyms:

%Rec - Percent Recovery
CCB - Continued Calibration Blank
CCV - Continued Calibration Verification
DF - Dilution Factor
HEM - Hexane Extractable Material
ICV - Initial Calibration Verification
LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
MB or MBLANK - Method Blank
MDL - Method Detection Limit
MS/MSD - Matrix Spike / Matrix Spike Duplicate
PDS - Post Digestion Spike
Ref Val - Reference Value
RL - Reporting Limit
RPD - Relative Percent Difference
SD - Serial Dilution
SGT - Silica Gel Treatment
SPK - Spike
Surr - Surrogate

Client: Cardno ATC
WorkOrder: 1507007
Project: HP Cleaners

Client Sample ID: Slab-1
Lab ID: 1507007-001A
Sample Type: Summa Canister

Date Sampled: 7/1/2015
Date Received: 7/1/2015

Analyte	Concentration		Reporting Limit		Qual	Method	Date/Analyst	
Helium by GC/TCD								
	(ppmv)	(ug/m³)	(ppmv)	(ug/m³)				
Helium	<193	<	193		D	RSK 175	07/09/2015	JY
Volatile Organic Compounds-EPA Method TO-15 (SIM)								
	(ppbv)	(ug/m³)	(ppbv)	(ug/m³)				
1,1,1-Trichloroethane	0.0570	0.311	0.00500	0.0273		TO-15	07/07/2015	JY
1,1,2,2-Tetrachloroethane	<0.00620	<0.0426	0.00620	0.0426		TO-15	07/07/2015	JY
1,1,2-Trichloroethane (TCA)	<0.0200	<0.109	0.0200	0.109		TO-15	07/07/2015	JY
1,1-Dichloroethane	<0.00800	<0.0324	0.00800	0.0324		TO-15	07/07/2015	JY
1,1-Dichloroethene (DCE)	<0.00900	<0.0357	0.00900	0.0357		TO-15	07/07/2015	JY
1,2,4-Trichlorobenzene	<0.0500	<0.371	0.0500	0.371		TO-15	07/07/2015	JY
1,2-Dichloroethane	<0.0200	<0.0809	0.0200	0.0809		TO-15	07/07/2015	JY
Carbon tetrachloride	0.0526	0.331	0.0200	0.126		TO-15	07/07/2015	JY
Chlorobenzene	<0.0700	<0.322	0.0700	0.322		TO-15	07/07/2015	JY
Chloroethane	<0.0980	<0.259	0.0980	0.259		TO-15	07/07/2015	JY
Chloroform	<0.0200	<0.0977	0.0200	0.0977		TO-15	07/07/2015	JY
Chloromethane	<0.400	<0.826	0.400	0.826		TO-15	07/07/2015	JY
cis-1,2-Dichloroethene	<0.0200	<0.0793	0.0200	0.0793		TO-15	07/07/2015	JY
Hexachlorobutadiene	<0.0166	<0.177	0.0166	0.177		TO-15	07/07/2015	JY
Methylene chloride	<0.0600	<0.208	0.0600	0.208		TO-15	07/07/2015	JY
Tetrachloroethene (PCE)	287	1,950	0.400	2.71	E	TO-15	07/06/2015	JY
trans-1,2-Dichloroethene	<0.00600	<0.0238	0.00600	0.0238		TO-15	07/07/2015	JY
Trichloroethene (TCE)	1.44	7.73	0.0170	0.0914		TO-15	07/07/2015	JY
Vinyl chloride	<0.0850	<0.217	0.0850	0.217		TO-15	07/07/2015	JY
Surr: 4-Bromofluorobenzene	91.1 %Rec	--	70-130	--		TO-15	07/07/2015	JY

Fremont Analytical

Client: Cardno ATC
WorkOrder: 1507007
Project: HP Cleaners

Client Sample ID: Slab-5
Lab ID: 1507007-002A
Sample Type: Summa Canister

Date Sampled: 7/1/2015
Date Received: 7/1/2015

Analyte	Concentration		Reporting Limit		Qual	Method	Date/Analyst	
Helium by GC/TCD								
	(ppmv)	(ug/m³)	(ppmv)	(ug/m³)				
Helium	<294	<	294		D	RSK 175	07/09/2015	JY
Volatile Organic Compounds-EPA Method TO-15 (SIM)								
	(ppbv)	(ug/m³)	(ppbv)	(ug/m³)				
1,1,1-Trichloroethane	1.39	7.59	0.00500	0.0273		TO-15	07/07/2015	JY
1,1,2,2-Tetrachloroethane	<0.00620	<0.0426	0.00620	0.0426		TO-15	07/07/2015	JY
1,1,2-Trichloroethane (TCA)	<0.0200	<0.109	0.0200	0.109		TO-15	07/07/2015	JY
1,1-Dichloroethane	<0.00800	<0.0324	0.00800	0.0324		TO-15	07/07/2015	JY
1,1-Dichloroethene (DCE)	<0.00900	<0.0357	0.00900	0.0357		TO-15	07/07/2015	JY
1,2,4-Trichlorobenzene	<0.0500	<0.371	0.0500	0.371		TO-15	07/07/2015	JY
1,2-Dichloroethane	<0.0200	<0.0809	0.0200	0.0809		TO-15	07/07/2015	JY
Carbon tetrachloride	<0.0200	<0.126	0.0200	0.126		TO-15	07/07/2015	JY
Chlorobenzene	<0.0700	<0.322	0.0700	0.322		TO-15	07/07/2015	JY
Chloroethane	<0.0980	<0.259	0.0980	0.259		TO-15	07/07/2015	JY
Chloroform	<0.0200	<0.0977	0.0200	0.0977		TO-15	07/07/2015	JY
Chloromethane	<0.400	<0.826	0.400	0.826		TO-15	07/07/2015	JY
cis-1,2-Dichloroethene	<0.0200	<0.0793	0.0200	0.0793		TO-15	07/07/2015	JY
Hexachlorobutadiene	<0.0166	<0.177	0.0166	0.177		TO-15	07/07/2015	JY
Methylene chloride	<0.0600	<0.208	0.0600	0.208		TO-15	07/07/2015	JY
Tetrachloroethene (PCE)	7.08	48.1	0.400	2.71		TO-15	07/06/2015	JY
trans-1,2-Dichloroethene	<0.00600	<0.0238	0.00600	0.0238		TO-15	07/07/2015	JY
Trichloroethene (TCE)	<0.0170	<0.0914	0.0170	0.0914		TO-15	07/07/2015	JY
Vinyl chloride	<0.0850	<0.217	0.0850	0.217		TO-15	07/07/2015	JY
Surr: 4-Bromofluorobenzene	87.9 %Rec	--	70-130	--		TO-15	07/07/2015	JY

Fremont Analytical

Client: Cardno ATC
WorkOrder: 1507007
Project: HP Cleaners

Client Sample ID: Slab-4
Lab ID: 1507007-003A
Sample Type: Summa Canister

Date Sampled: 7/1/2015
Date Received: 7/1/2015

Analyte	Concentration		Reporting Limit		Qual	Method	Date/Analyst	
Helium by GC/TCD								
	(ppmv)	(ug/m³)	(ppmv)	(ug/m³)				
Helium	<176	<	176		D	RSK 175	07/09/2015	JY
Volatile Organic Compounds-EPA Method TO-15 (SIM)								
	(ppbv)	(ug/m³)	(ppbv)	(ug/m³)				
1,1,1-Trichloroethane	<0.00500	<0.0273	0.00500	0.0273		TO-15	07/07/2015	JY
1,1,2,2-Tetrachloroethane	<0.00620	<0.0426	0.00620	0.0426		TO-15	07/07/2015	JY
1,1,2-Trichloroethane (TCA)	<0.0200	<0.109	0.0200	0.109		TO-15	07/07/2015	JY
1,1-Dichloroethane	<0.00800	<0.0324	0.00800	0.0324		TO-15	07/07/2015	JY
1,1-Dichloroethene (DCE)	<0.00900	<0.0357	0.00900	0.0357		TO-15	07/07/2015	JY
1,2,4-Trichlorobenzene	<0.0500	<0.371	0.0500	0.371		TO-15	07/07/2015	JY
1,2-Dichloroethane	<0.0200	<0.0809	0.0200	0.0809		TO-15	07/07/2015	JY
Carbon tetrachloride	<0.0200	<0.126	0.0200	0.126		TO-15	07/07/2015	JY
Chlorobenzene	<0.0700	<0.322	0.0700	0.322		TO-15	07/07/2015	JY
Chloroethane	<0.0980	<0.259	0.0980	0.259		TO-15	07/07/2015	JY
Chloroform	<0.0200	<0.0977	0.0200	0.0977		TO-15	07/07/2015	JY
Chloromethane	<0.400	<0.826	0.400	0.826		TO-15	07/07/2015	JY
cis-1,2-Dichloroethene	<0.0200	<0.0793	0.0200	0.0793		TO-15	07/07/2015	JY
Hexachlorobutadiene	<0.0166	<0.177	0.0166	0.177		TO-15	07/07/2015	JY
Methylene chloride	<0.0600	<0.208	0.0600	0.208		TO-15	07/07/2015	JY
Tetrachloroethene (PCE)	8.87	60.2	0.400	2.71		TO-15	07/06/2015	JY
trans-1,2-Dichloroethene	<0.00600	<0.0238	0.00600	0.0238		TO-15	07/07/2015	JY
Trichloroethene (TCE)	0.0536	0.288	0.0170	0.0914		TO-15	07/07/2015	JY
Vinyl chloride	<0.0850	<0.217	0.0850	0.217		TO-15	07/07/2015	JY
Surr: 4-Bromofluorobenzene	93.6 %Rec	--	70-130	--		TO-15	07/07/2015	JY

Fremont Analytical

Client: Cardno ATC
WorkOrder: 1507007
Project: HP Cleaners

Client Sample ID: Slab-2
Lab ID: 1507007-004A
Sample Type: Summa Canister

Date Sampled: 7/1/2015
Date Received: 7/1/2015

Analyte	Concentration		Reporting Limit		Qual	Method	Date/Analyst	
Helium by GC/TCD								
	(ppmv)	(ug/m³)	(ppmv)	(ug/m³)				
Helium	<144	<	144		D	RSK 175	07/09/2015	JY
Volatile Organic Compounds-EPA Method TO-15 (SIM)								
	(ppbv)	(ug/m³)	(ppbv)	(ug/m³)				
1,1,1-Trichloroethane	1.15	6.25	0.00500	0.0273		TO-15	07/07/2015	JY
1,1,2,2-Tetrachloroethane	<0.00620	<0.0426	0.00620	0.0426		TO-15	07/07/2015	JY
1,1,2-Trichloroethane (TCA)	<0.0200	<0.109	0.0200	0.109		TO-15	07/07/2015	JY
1,1-Dichloroethane	<0.00800	<0.0324	0.00800	0.0324		TO-15	07/07/2015	JY
1,1-Dichloroethene (DCE)	<0.00900	<0.0357	0.00900	0.0357		TO-15	07/07/2015	JY
1,2,4-Trichlorobenzene	<0.0500	<0.371	0.0500	0.371		TO-15	07/07/2015	JY
1,2-Dichloroethane	<0.0200	<0.0809	0.0200	0.0809		TO-15	07/07/2015	JY
Carbon tetrachloride	<0.0200	<0.126	0.0200	0.126		TO-15	07/07/2015	JY
Chlorobenzene	<0.0700	<0.322	0.0700	0.322		TO-15	07/07/2015	JY
Chloroethane	<0.0980	<0.259	0.0980	0.259		TO-15	07/07/2015	JY
Chloroform	<0.0200	<0.0977	0.0200	0.0977		TO-15	07/07/2015	JY
Chloromethane	<0.400	<0.826	0.400	0.826		TO-15	07/07/2015	JY
cis-1,2-Dichloroethene	<0.0200	<0.0793	0.0200	0.0793		TO-15	07/07/2015	JY
Hexachlorobutadiene	<0.0166	<0.177	0.0166	0.177		TO-15	07/07/2015	JY
Methylene chloride	0.927	3.22	0.0600	0.208		TO-15	07/07/2015	JY
Tetrachloroethene (PCE)	93.2	632	0.400	2.71	E	TO-15	07/07/2015	JY
trans-1,2-Dichloroethene	<0.00600	<0.0238	0.00600	0.0238		TO-15	07/07/2015	JY
Trichloroethene (TCE)	0.225	1.21	0.0170	0.0914		TO-15	07/07/2015	JY
Vinyl chloride	<0.0850	<0.217	0.0850	0.217		TO-15	07/07/2015	JY
Surr: 4-Bromofluorobenzene	89.1 %Rec	--	70-130	--		TO-15	07/07/2015	JY

Fremont Analytical

Client: Cardno ATC
WorkOrder: 1507007
Project: HP Cleaners

Client Sample ID: Slab-3
Lab ID: 1507007-005A
Sample Type: Summa Canister

Date Sampled: 7/1/2015
Date Received: 7/1/2015

Analyte	Concentration		Reporting Limit		Qual	Method	Date/Analyst	
Helium by GC/TCD								
	(ppmv)	(ug/m³)	(ppmv)	(ug/m³)				
Helium	<168	<	168		D	RSK 175	07/09/2015	JY
Volatile Organic Compounds-EPA Method TO-15 (SIM)								
	(ppbv)	(ug/m³)	(ppbv)	(ug/m³)				
1,1,1-Trichloroethane	0.731	3.99	0.00500	0.0273		TO-15	07/07/2015	JY
1,1,2,2-Tetrachloroethane	<0.00620	<0.0426	0.00620	0.0426		TO-15	07/07/2015	JY
1,1,2-Trichloroethane (TCA)	<0.0200	<0.109	0.0200	0.109		TO-15	07/07/2015	JY
1,1-Dichloroethane	<0.00800	<0.0324	0.00800	0.0324		TO-15	07/07/2015	JY
1,1-Dichloroethene (DCE)	<0.00900	<0.0357	0.00900	0.0357		TO-15	07/07/2015	JY
1,2,4-Trichlorobenzene	<0.0500	<0.371	0.0500	0.371		TO-15	07/07/2015	JY
1,2-Dichloroethane	<0.0200	<0.0809	0.0200	0.0809		TO-15	07/07/2015	JY
Carbon tetrachloride	<0.0200	<0.126	0.0200	0.126		TO-15	07/07/2015	JY
Chlorobenzene	<0.0700	<0.322	0.0700	0.322		TO-15	07/07/2015	JY
Chloroethane	<0.0980	<0.259	0.0980	0.259		TO-15	07/07/2015	JY
Chloroform	<0.0200	<0.0977	0.0200	0.0977		TO-15	07/07/2015	JY
Chloromethane	<0.400	<0.826	0.400	0.826		TO-15	07/07/2015	JY
cis-1,2-Dichloroethene	<0.0200	<0.0793	0.0200	0.0793		TO-15	07/07/2015	JY
Hexachlorobutadiene	<0.0166	<0.177	0.0166	0.177		TO-15	07/07/2015	JY
Methylene chloride	<0.0600	<0.208	0.0600	0.208		TO-15	07/07/2015	JY
Tetrachloroethene (PCE)	77.1	523	0.400	2.71	E	TO-15	07/06/2015	JY
trans-1,2-Dichloroethene	<0.00600	<0.0238	0.00600	0.0238		TO-15	07/07/2015	JY
Trichloroethene (TCE)	0.169	0.907	0.0170	0.0914		TO-15	07/07/2015	JY
Vinyl chloride	<0.0850	<0.217	0.0850	0.217		TO-15	07/07/2015	JY
Surr: 4-Bromofluorobenzene	84.3 %Rec	--	70-130	--		TO-15	07/07/2015	JY

Fremont Analytical

Date: 7/9/2015

Work Order: 1507007
CLIENT: Cardno ATC
Project: HP Cleaners

QC SUMMARY REPORT

Volatile Organic Compounds-EPA Method TO-15 (SIM)

Sample ID **LCS-R23411**	SampType: **LCS**			Units: **ppbv**		Prep Date: **7/6/2015**		RunNo: **23411**		
Client ID: **LCSW**	Batch ID: **R23411**					Analysis Date: **7/6/2015**		SeqNo: **443502**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethane	2.30	0.00800	2.500	0	91.9	70	130				
cis-1,2-Dichloroethene	1.97	0.0200	2.500	0	78.7	70	130				
Chloroform	2.25	0.0200	2.500	0	90.0	70	130				
1,1,1-Trichloroethane	2.15	0.00500	2.500	0	86.1	70	130				
Carbon tetrachloride	2.21	0.0200	2.500	0	88.4	70	130				
1,2-Dichloroethane	2.14	0.0200	2.500	0	85.4	70	130				
Trichloroethene (TCE)	2.42	0.0170	2.500	0	96.8	70	130				
1,1,2-Trichloroethane (TCA)	2.49	0.0200	2.500	0	99.4	70	130				
Tetrachloroethene (PCE)	2.28	0.0500	2.500	0	91.0	70	130				
Chlorobenzene	2.52	0.0700	2.500	0	101	70	130				
1,1,2,2-Tetrachloroethane	2.52	0.00620	2.500	0	101	70	130				
1,2,4-Trichlorobenzene	3.03	0.0500	2.500	0	121	70	130				
Hexachlorobutadiene	2.25	0.0166	2.500	0	90.2	70	130				
Surr: 4-Bromofluorobenzene	9.50		10.00		95.0	70	130				

Sample ID **MB-R23411**	SampType: **MBLK**			Units: **ppbv**		Prep Date: **7/6/2015**		RunNo: **23411**		
Client ID: **MBLKW**	Batch ID: **R23411**					Analysis Date: **7/6/2015**		SeqNo: **443503**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane	ND	0.400									
Vinyl chloride	ND	0.0850									
Chloroethane	ND	0.0980									
1,1-Dichloroethene (DCE)	ND	0.00900									
Methylene chloride	ND	0.0600									
trans-1,2-Dichloroethene	ND	0.00600									
1,1-Dichloroethane	ND	0.00800									
cis-1,2-Dichloroethene	ND	0.0200									
Chloroform	ND	0.0200									
1,1,1-Trichloroethane	ND	0.00500									
Carbon tetrachloride	ND	0.0200									
1,2-Dichloroethane	ND	0.0200									

Fremont Analytical

Date: 7/9/2015

Work Order: 1507007
CLIENT: Cardno ATC
Project: HP Cleaners

QC SUMMARY REPORT

Volatile Organic Compounds-EPA Method TO-15 (SIM)

Sample ID **MB-R23411**	SampType: **MBLK**	Units: **ppbv**	Prep Date: **7/6/2015**	RunNo: **23411**
Client ID: **MBLKW**	Batch ID: **R23411**		Analysis Date: **7/6/2015**	SeqNo: **443503**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichloroethene (TCE)	ND	0.0170									
1,1,2-Trichloroethane (TCA)	ND	0.0200									
Tetrachloroethene (PCE)	ND	0.0500									
Chlorobenzene	ND	0.0700									
1,1,2,2-Tetrachloroethane	ND	0.00620									
1,2,4-Trichlorobenzene	ND	0.0500									
Hexachlorobutadiene	ND	0.0166									
Surr: 4-Bromofluorobenzene	9.00		10.00		90.0	70	130				

Fremont Analytical

Sample Log-In Check List

Client Name:	**ATC**	Work Order Number:	**1507007**
Logged by:	**Clare Griggs**	Date Received:	**7/1/2015 3:00:00 PM**

Chain of Custody

1.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2.	How was the sample delivered?	Client		

Log In

3.	Coolers are present?	Yes ☐	No ☑	NA ☐
		Air Samples		
4.	Shipping container/cooler in good condition?	Yes ☑	No ☐	
5.	Custody Seals present on shipping container/cooler? (Refer to comments for Custody Seals not intact)	Yes ☐	No ☐	Not Required ☑
6.	Was an attempt made to cool the samples?	Yes ☐	No ☐	NA ☑
7.	Were all items received at a temperature of >0°C to 10.0°C *	Yes ☐	No ☐	NA ☑
8.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
9.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
10.	Are samples properly preserved?	Yes ☑	No ☐	
11.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
12.	Is there headspace in the VOA vials?	Yes ☐	No ☐	NA ☑
13.	Did all samples containers arrive in good condition(unbroken)?	Yes ☑	No ☐	
14.	Does paperwork match bottle labels?	Yes ☑	No ☐	
15.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
16.	Is it clear what analyses were requested?	Yes ☑	No ☐	
17.	Were all holding times able to be met?	Yes ☑	No ☐	

Special Handling (if applicable)

18.	Was client notified of all discrepancies with this order?	Yes ☐	No ☐	NA ☑

Person Notified:		Date	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

19. Additional remarks:

Item Information

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

Fremont Analytical

Air Chain of Custody Record - Whole Air Sample

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Date: 7/1/15

Laboratory Project No (internal): 1507007

Page: 1 of: 1

Client: Cardno ATC
Address: 6395 Seaview Ave
City, State, Zip:
Telephone: 206-781-1164 Fax:

Project Name: HP-Cleaners
Project No:
Collected by: Mark Maurer
Location:
Reports To (PM): Simon Payne
Email (PM):

* Gas Matrix Codes: I = Indoor SS = Subslab L = Landfill SG = Soil Gas M = Plume Mapping G = Fuel Gas Quality L = BLEED (Consult Client Services)

** Container Codes: 6L = Six Liter Canister (Summa) TB = Tedlar Bag 1L = 1 Liter Bottle Vac 1C = 1 Liter MiniCan HP = High Pressure Cylinder HS = Glass Head space Jar

	Sample Name	Canister / Flow Reg Serial #	Sample Date & Time	Gas Matrix Code*	Anticipated Fill Time	Sample Volume	Container Type**	Internal: Evacuation Pressure (mtorr)	Internal: Pressure at Time of Pick-up (" Hg)	Internal: Equipment Certification Code	Field Initial Sample Pressure (" Hg)	Field Final Sample Pressure (" Hg)	Analysis Requested	Internal: Receipt Date	Internal: Final Pressure (" Hg)
1	Slab - 1	15900	7/1/15 1010	SS	2 min	6L	Summa	10 mtorr 6/30/15 8:30			28 1010	12 1011	VOCs TO15 He	7/6/15	-2
2	Slab - 5	12668	7/1/15 12:45	SS	2 min	6L	Summa	10 mtorr 6/30/15 8:30			28 12:45	3 12:47		7/6/15	-5
3	Slab - 4	15424	12:15 7/1/15	SS	2 min	6L	Summa	10 mtorr 6/30/15 8:30			26 12:15	4 12:17		7/6/15	-4
4	Slab - 2	17241	7/1/15 11:00	SS	2 min	6L	Summa	10 mtorr 6/30/15 8:30			28 11:00	4 11:02		7/6/15	-4
5	Slab - 3	12668	7/1/15 11:30	SS	2 min	6L	Summa	10 mtorr 6/30/15 8:30			30 11:30	4 11:32		7/6/15	-3

Rental Equipment (Circle all that apply): Manifold Mini-Pump Fittings Tedlar Bags Canisters Flow Controllers Helium Cylinder Flouridated Tubing Wrench

Condition:

Seals Intact: Y N N/A

Turn-around times for samples received after 4:00pm will begin on the following business day.

Special Remarks:

Relinquished: x — Date/Time: 7/6/15 15:00

Relinquished: x — Date/Time: 07/04/15 15:00

Relinquished: x — Date/Time:

Relinquished: x — Date/Time:

TAT → STD Rush (specify)