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March 26, 2015

Mr. Charles Gurney
Weingarten Realty Investors
2600 Citadel Plaza Drive, Suite 300
Houston, Texas 77008

Cardno ATC

6347 Seaview Ave, NW
Seattle, WA 98107

**RE: Additional Soil Assessment and Tier I Vapor Intrusion Assessment
Mukilteo Speedway Center - Harbour Pointe Cleaners
13619 Mukilteo Speedway
Lynnwood, Washington
Cardno ATC Project No. 282EM00018**

Phone +1 206 781 1449
Fax +1 206 781 1543
www.cardno.com

www.cardnoatc.com

Dear Mr. Gurney:

At the request of Weingarten Realty Investors (Weingarten), Cardno ATC has prepared this letter report describing additional assessment of subsurface soil conditions and the performance of a Tier I Vapor Intrusion Assessment, as per the Washington State Department of Ecology (Ecology) Draft *Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action*, Publication no. 09-09-047, October 2009, at the tenant space occupied by Harbour Pointe Cleaners, located at 13619 Mukilteo Speedway in Lynnwood, Washington (**Figure 1**). This additional investigation was performed in response to an October 17, 2014, Ecology Opinion Letter which recommended the further characterization of impacts to subsurface and to characterize vapor intrusion pathways at the subject property (Site) from dry cleaning operations performed within the tenant space.

SITE DESCRIPTION AND BACKGROUND

The Site is located at the Mukilteo Speedway Center located 13619 Mukilteo Speedway in Lynnwood, Snohomish County, Washington, which includes six irregular-shaped parcels which encompass 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 through 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 Pointe 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 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). 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) to the east of the southeast corner of Building B. 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 (trans-1,2-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 which was advanced to 2.75 feet bgs and three soil sample depth intervals were collected for analysis. Analytical results of the soil samples indicated detections of was of PCE and TCE 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 (Figure 2). 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 sanitary sewer utilized by the dry cleaning facility. Laboratory analytical results of soil samples collected from within the subsurface elevation of a connecting cleanup 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 ($\mu\text{g}/\text{m}^3$) PCE and $7.0 \mu\text{g}/\text{m}^3$ TCE detected in the soil gas sample collected from soil boring B-3 and concentrations of 4.8 and $2.4 \mu\text{g}/\text{m}^3$ 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 concentrations of PCE and TCE in the soil gas samples collected from soil borings B-3 and the concentration of PCE in the soil gas samples collected from soil borings B-4 and B-5 are above the MTCA Method B sub-slab carcinogenic soil gas screening level of $4.2 \mu\text{g}/\text{m}^3$ for PCE and $1.0 \mu\text{g}/\text{m}^3$ for TCE of per Ecology's draft Publication 09-09-047, *Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action*, October 2009.

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 any cVOC impacts, previously identified to 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 along with an assessment of vapor intrusion pathways at the Site. Based on the recommendations from Ecology, Cardno ATC conducted additional assessment to delineate the vertical/horizontal impacts to the subsurface and to determine soil vapor levels in the area beneath the tenant space.

OBEJECTIVE AND SCOPE OF WORK

Cardno ATC's scope of work was intended to further assess the presence of cVOC in within the subsurface of the Site and to provide a Tier I Assessment of vapor intrusion. In order to complete the assessment activities, on January 29, 2015, Cardno ATC oversaw the advancement of 11 soil borings, designated B-13 through B-23, in the locations shown on **Figure 2**. Each boring was advanced to drilling refusal, which was no greater than 4 feet bgs.

Free groundwater was not encountered in any of the soil borings advanced during the January 29, 2015 assessment activities.

On January 29, 2015, Cardno ATC also collected three soil vapor samples from below the tenant space slab at locations VE-1, VE-2, VE-3 (**Figure 2**).

METHODS OF INVESTIGATION

Subsurface Utility Clearance and Site Health and Safety

Prior to initiating investigation activities, Cardno ATC evaluated the investigation areas for the presence of subsurface structures and utilities by contacting a service that notifies public and private utilities of the proposed subsurface investigation and requests their participation in identifying subsurface utilities. In addition, Cardno ATC subcontracted CNI Locates of Bonney Lake, Washington to provide additional utility location services beyond the limitations of the standard notification.

A site specific health and safety plan was developed for this project in accordance with Occupational Safety and Health Administration (OSHA) and state regulations and implemented during the field investigation.

Subsurface Assessment

On January 29, 2015, Cardno 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**). Due to the access and spatial constraints of working within an occupied interior space, the DPT drill rig was limited and boreholes were advanced to drilling refusal at approximately 4 feet bgs.

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 collected for VOC analysis 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 below the slab, approximately 1 foot bgs, 1 to 2 feet 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**.

Lithology

Subsurface soils encountered during the advancement of the soil borings B-13 through B-23 were dominantly described as coarse-grained sediments with a component of silt to four feet bgs, the greatest depth explored during the January 29, 2015 assessment. Previous investigations report silt and clay-rich fine grained sediments at the Site.

Logs of soil borings B-13 through B-23 are presented in **Appendix A**.

Hydrogeology

Free groundwater was not encountered during the January 29, 2015 assessment activities. Vertical advancement of the soil borings was limited to no greater than 4 feet bgs due to strongly inundated soils and equipment constraints.

Tier I Vapor Intrusion Assessment

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 extend to approximately 6-inches below the slab, in three locations in the vicinity of the operation dry cleaning machine which were designated VE-1, VE-2, and VE-3.

Quarter-inch diameter polyethylene tubing with a six-inch long steel slotted end point was inserted in the drilled hole at each location and lowered to a depth that would access any soil vapor immediately below the slab. In order to prevent short-circuiting with ambient air above the slab, the annular space between the tubing and the slab was sealed with hydrated bentonite.

Each sample was collected in a 6-Liter Summa canister equipped with a flow regulator set at approximately 0.01 liter per minute (L/min). In order to assess for leaks and or short circuiting in the sampling train, prior to collecting each of the vapor sample, a shut-in test was performed in which leakage is assessed by closing all of the equipment valves and applying a vacuum of at least 50-inches of water. If the applied vacuum was maintained for one minute, the equipment was deemed to pass the shut-in test. None of the equipment failed the initial shut-in test.

While collecting the vapor samples, a leak test was also conducted using helium gas to check the competency of the surface seal. A sampling enclosure (shroud) was installed over each of the vapor probes and above ground equipment during collection of the vapor samples. The enclosure was filled with at least 10% helium. A helium detector was used to measure the percentage of helium inside the enclosure, the presence of which would indicate a leak in the surface seal. None of the samples had significant detections of helium from the helium detector.

The soil vapor samples, one from each sample point, were collected after evacuating three purge volumes from each length of tubing.

Soil vapor samples VE-1, VE-2, and VE-3 were submitted to Fremont Analytical for analysis for cVOCs utilizing EAP Method TO-15, oxygen by EPA Method 3C, and helium by gas chromatography/thermal conductivity detector. The laboratory analytical reports are presented in **Appendix B**.

RESULTS

Subsurface Assessment

Selected soil samples collected during the January 29, 2015 field activities were analyzed for cVOCs.

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.

A summary of the laboratory analytical results for the soil samples is presented as **Table 1** and a copy of the laboratory analytical results are presented in **Appendix B**.

Figure 3 depicts PCE isoconcentrations using the laboratory data collected during the January 29, 2015 assessment and Cardno ATC's March 12, 2014 assessment, summarized in **Table 2**. The map indicates that PCE in soil is dominantly below the dry cleaning machine and elongated east to west. North of the dry cleaning machine, PCE concentrations attenuate to concentrations below laboratory detection limits in soil borings B-8, B-21, and B-22 and to concentrations below the MTCA Method A cleanup level of 0.05 mg/kg in soil boring B-16. East of the drycleaning machine PCE concentrations attenuate to below laboratory detection limits in soil boring B-17, B-20, and B-21. South of the dry cleaning machine, PCE concentrations attenuate to concentrations below laboratory detection limits in soil borings B-17 and B-23 and below the MTCA Method A cleanup level of 0.05 mg/kg in soil boring B-11 and B-13. PCE concentrations are not fully delineated toward the west.

Groundwater was not encountered during the January 29, 2015 field activities and therefore groundwater samples were not collected.

Tier I Vapor Intrusion Assessment

Soil vapor samples VE-1, VE-2, VE-3 collected during the January 29, 2015 field activities were analyzed for cVOCs, along with leak detection compounds oxygen and helium.

Oxygen concentrations in soil vapor samples VE-1, VE-2, VE-3 ranged from 7.41 to 8.00 percent, indicating that the sample was not taken in atmospheric oxygen, which typically contains approximately 21 percent oxygen.

Helium is not present above laboratory method reporting limits in soil vapor samples VE-1 and VE-3. Helium was detected at a concentration of 57,600 parts per million by volume (ppmv) in the soil vapor sample VE-2. The presence of helium in soil vapor sample VE-2 indicates that short circuiting of atmosphere from within the helium shroud may have occurred and compromised the results of soil vapor sample VE-2.

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 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) PCE and 66.1 $\mu\text{g}/\text{m}^3$ TCE. The analytical laboratory denoted that the subslab concentration of PCE in soil vapor sample VE-1 was above quantization range. The MTCA Method B Soil Gas Screening Levels, for PCE and TCE as a carcinogens is 4.2 and 1 $\mu\text{g}/\text{m}^3$ 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 MTCA Method B Soil Gas Screening Levels for vapor samples collected from immediately below building concrete slab.

A summary of the laboratory analytical results for the soil vapor samples is presented as **Table 2** and a copy of the laboratory analytical results are presented in **Appendix B**.

CONCLUSIONS

Based on an October 17, 2014 Opinion Letter from Ecology, Weingarten requested additional assessment of Site subsurface and a Tier 1 Soil Vapor Assessment relating to a release of PCE from operations at the Harbor Pointe Cleaners at the Mukilteo Speedway Center. Based on laboratory analytical results from Cardno ATC's 2014 subsurface assessment and assessment performed on January 29, 2015, PCE in concentrations above MTCA Method A cleanup levels remain in soil between ground surface and 1 foot bgs. PCE at concentrations below the MTCA Method A cleanup level though above the laboratory method reporting limit extended from 1 foot bgs to 3 bgs PCE is not detected above laboratory method reporting limits below 3 feet bgs at the Site.

Figure 3 depicts isoconcentrations of PCE in soil between surface and 1 foot bgs detected in previously advanced soil borings B-6 through B-12 and in soil borings B-13 through B-23. The isoconcentration contours show that the greatest concentrations of PCE are below the dry cleaning machine and toward the west, with lateral delineation to the north, south, and east. Historical soil analytical data is presented in **Table 3**.

Equipment capabilities, due to accessibility and spatial needs, limited the ability to advance to first encountered groundwater, although laboratory analytical results from this and the previous 2014 soil assessment indicates PCE is not present in soil below 4 feet bgs, and therefore there is no evidence of vertical migration beyond 4 feet bgs and within vadose zone soils.

The laboratory analytical results from the soil vapor samples collected from sub slab soil vapor samples VE-1, VE-2, and VE-3 indicate the presence of PCE and TCE vapors below the slab in the vicinity of the dry cleaning machine.

RECOMMENDATIONS

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 Pointe Cleaners tenant space, except to the west where it extends into the adjacent tenant space. Based on this data, it is Cardno ATC's recommendation that a feasibility study is developed to ascertain remedial actions that would provide protection of human health and the environment that would be in compliance with MTCA, the feasibility study should also include further assessment work to the west of the dry cleaning machine and investigation of building design to assess preferential pathways such as drain lines or other subsurface utilities.

Furthermore in accordance to Ecology's Draft *Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action*, Publication no. 09-09-047, October 2009, the results of the Tier I Soil Vapor Assessment indicates the presence of soil vapor in locations below the building slab and therefore an assessment of indoor air is required.

March 26, 2015
9
Additional Soil Assessment and Tier I Vapor Intrusion Assessment
Mukilteo Speedway Center
13619 Mukilteo Speedway, Lynnwood, Washington



We appreciate the opportunity to be of service in this matter. If you have questions regarding this report, please contact us at (206) 781-1449.

Cardno ATC

A handwritten signature in blue ink, appearing to read 'Simon Payne', written over a horizontal line.

Simon Payne, LG
Project Manager

A handwritten signature in blue ink, appearing to read 'Terry McDunner', written over a horizontal line.

Terry McDunner
Senior Project Manager

- Enc:
- Table 1 - Summary of Soil Analytical Results
 - Table 2 - Summary of Historical Soil Analytical Results
 - Table 3 – Summary of Soil Vapor Analytical Results
 - Figure 1 – Site Location Map
 - Figure 2 – Site Plan
 - Figure 3 – PCE Isoconcentrations Map: 0 to 1 foot below Slab
 - Appendix A - Soil Boring Logs
 - Appendix B – Laboratory Analytical Results

TABLES

Table 1
 Summary of Soil Analytical Results - Chlorinated Volatile Organic Compounds
 Speedway Shopping Center
 13632 Highway 99
 Lynnwood, Washington
 Cardno ATC Project No. 282EM00018

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-13	B-13-1	0 - 1	1/29/2015	0.0348	<0.0192	<0.0192	<0.0192	<0.0481	<0.0192
	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	0.0260	<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
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-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
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 = milligram 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 Method 8260
 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. 282EM00018

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
MTCA Method B Soil Gas Screening Level			4.2	1	160	320	910	2.8	NA	NA

Notes:

ug/m³=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 results by gas chromatography/thermal conductivity detector

All analytical results reported in micrograms per cubic meter (ug/m³)

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

NA= No applicable data

Table 3

Summary of Historical Soil Analytical Results - Chlorinated Volatile Organic Compounds
 Speedway Shopping Center
 13632 Highway 99
 Lynnwood, Washington
 Cardno ATC Project No. 76.75354.0008

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-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	<0.0512	<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
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	<0.0513	<0.00205
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 = milligram 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

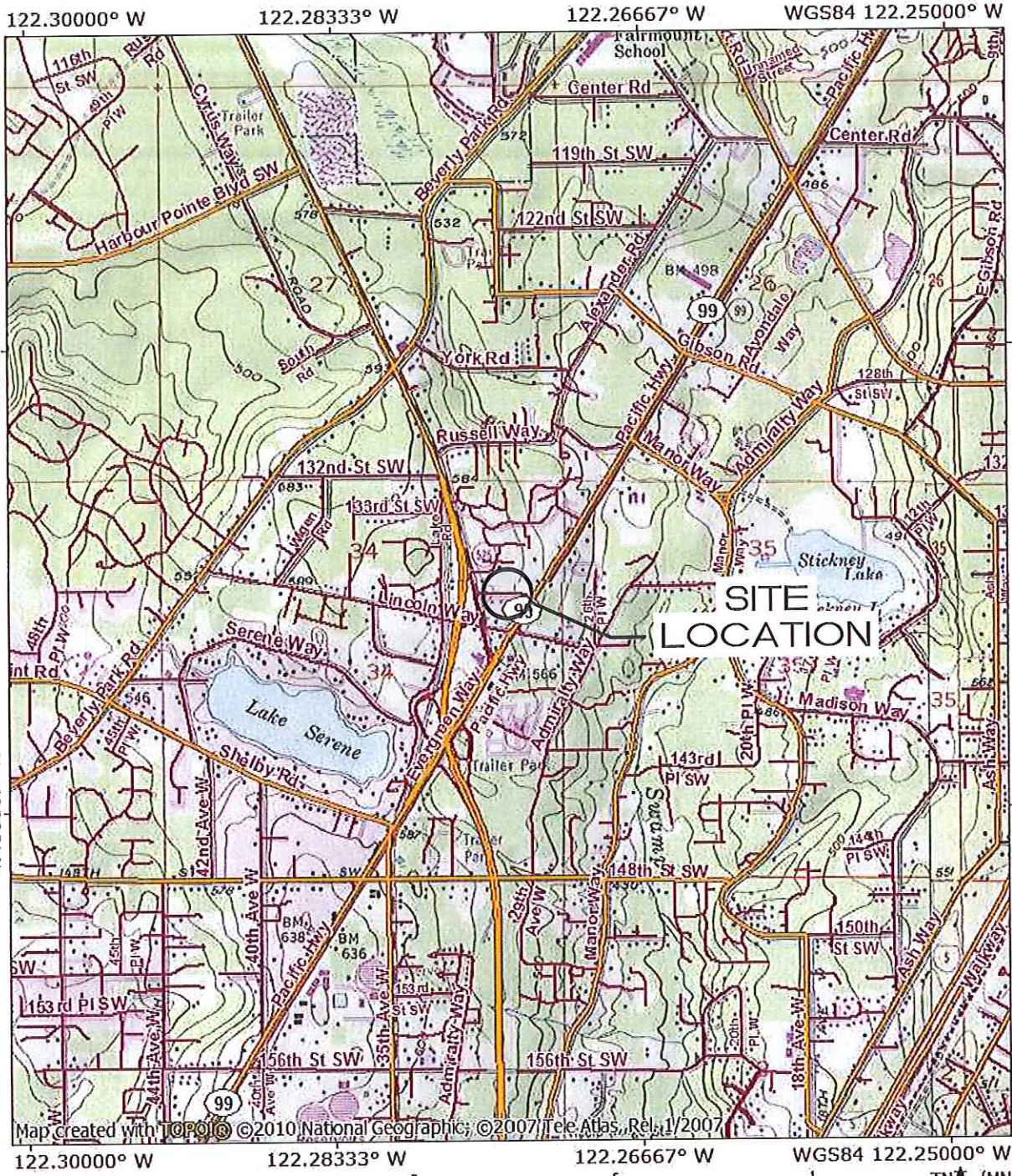
Bold denotes concentration at or above regulatory cleanup level

¹ = Analytical results by gas chromatography and mass spectrometry by EPA Method

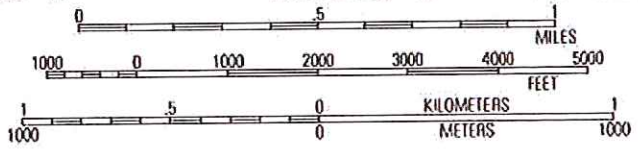
All analytical results reported in milligrams per kilogram (mg/kg) equivalent to parts per million (ppm)

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

FIGURES



Map created with TOPO! © 2010 National Geographic; © 2007 Tele Atlas, Rel. 1/2007



TN* / MN
16°
03/05/15

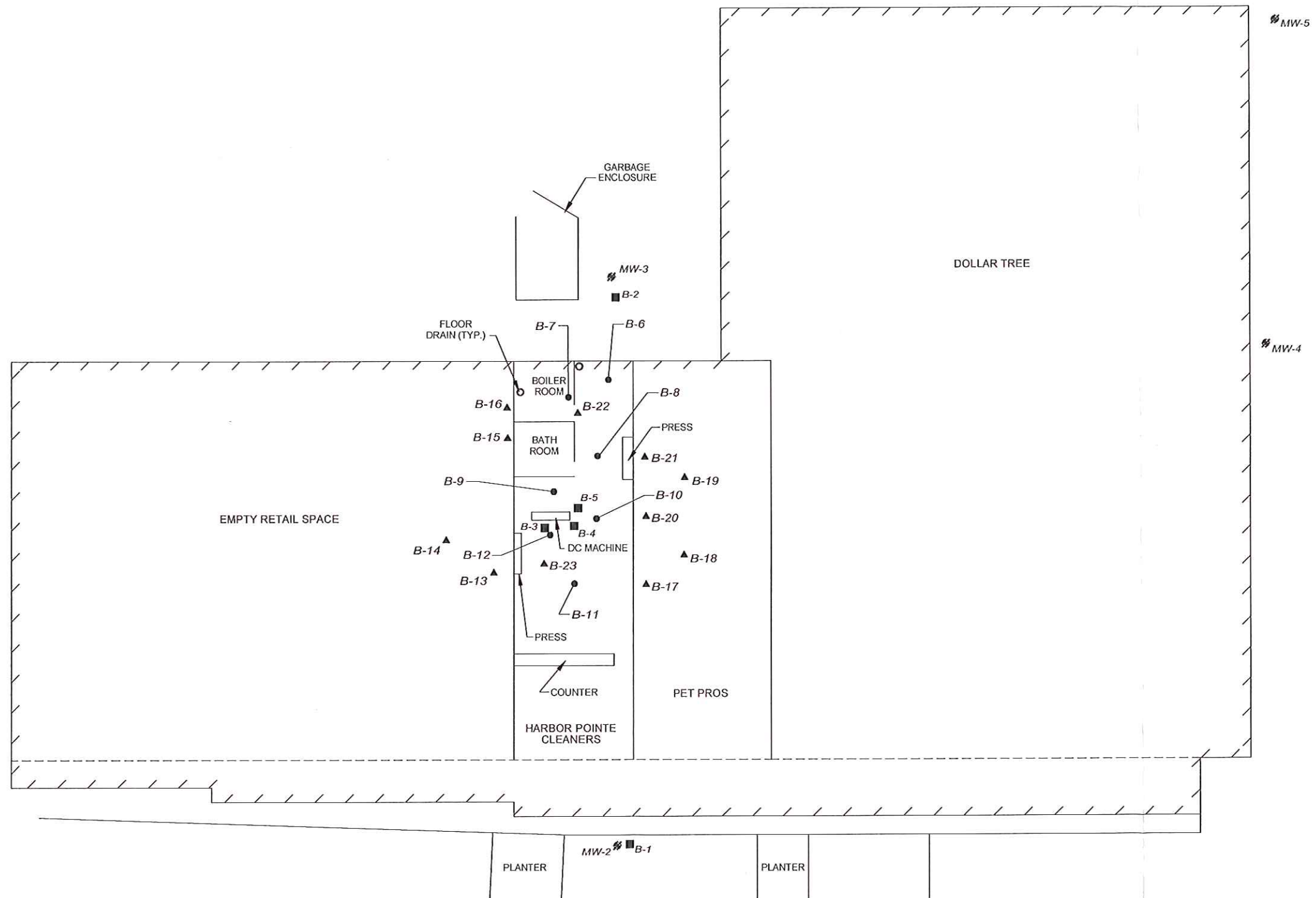
SOURCE: USGS TOPO MAP, EDMONDS EAST, WA, 1981

SITE LOCATION MAP
SPEEDWAY SHOPPING CENTER
13632 HIGHWAY 99
LYNWOOD, WA

PROJECT NUMBER: 282EM00018	DATE: 3/5/15	FIGURE
APPROVED BY: SP	DRAWN BY: BK	1
6347 Seaview Avenue NW Seattle, Washington 98107 Ph: (206) 781-1449 *** Fax: (206) 781-1543		


S:\Project\BOSTWING\GARTENHARBOR POINT CLEANERS\282EM000181_SITE LOCATION.dwg

S:\Project\ESTWING\HARBOR POINT CLEANERS 282EM00016\SITEPLAN.dwg



NOTE: SCALE AND LOCATIONS ARE APPROXIMATE

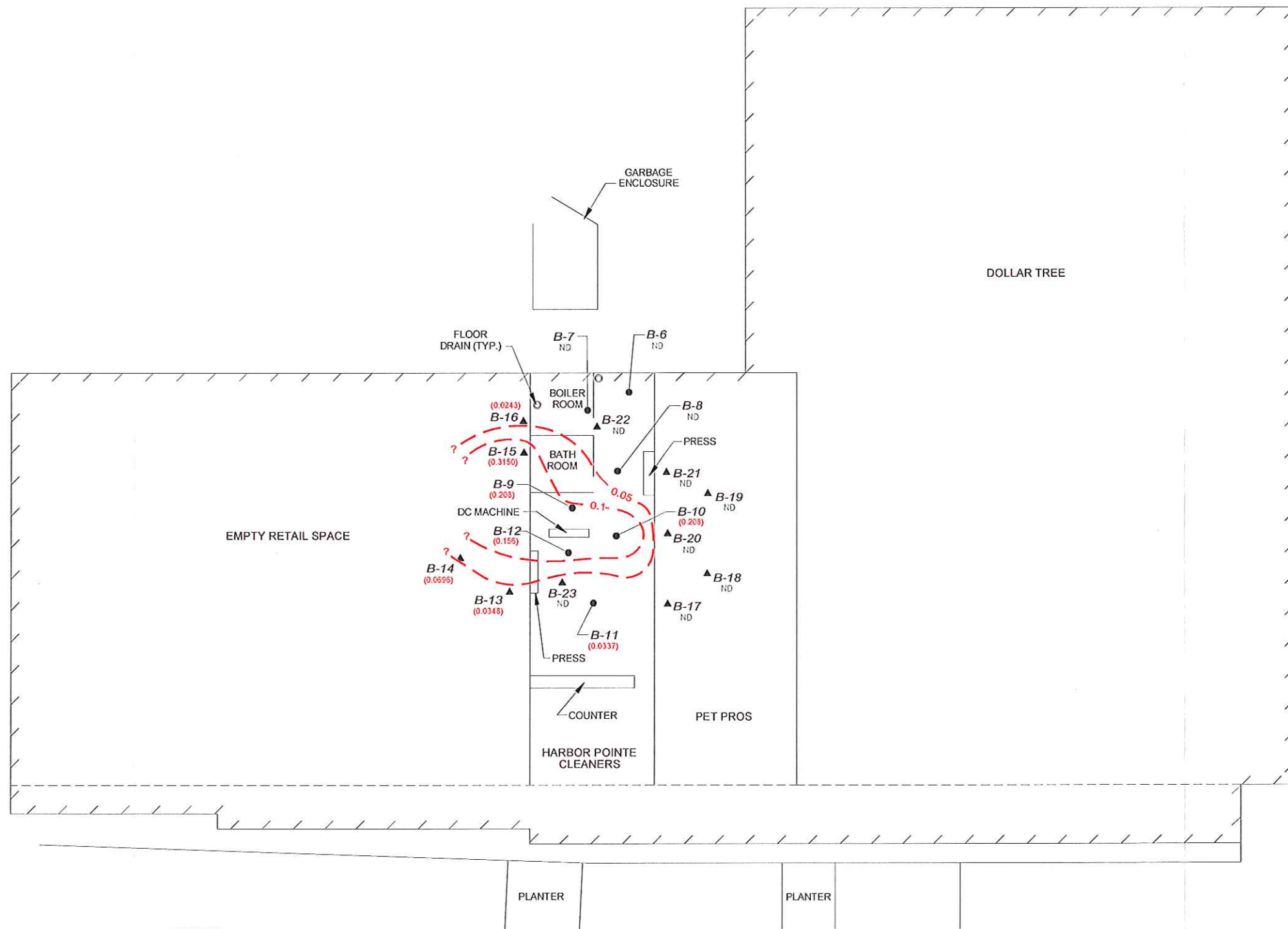
- LEGEND**
- ▲ 2015 SOIL BORING
 - 2014 SOIL BORING
 - 2013 SOIL BORING
 - ⊘ ABANDONED GROUNDWATER MONITORING WELL

PROJECT NUMBER: 282EM00018	DATE: 3/24/15	FIGURE
APPROVED BY: SP	DRAWN BY: BK	2
 Cardno 6347 Seaview Avenue NW Seattle, Washington 98107 Ph: (206) 781-1449 *** Fax: (206) 781-1543		

SITE PLAN
 SPEEDWAY SHOPPING CENTER
 13632 HIGHWAY 99
 LYNNWOOD, WA

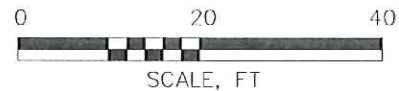
MW-1

S:\Project\BOSTON\GARDEN\HARBOR POINT CLEANERS 282EM00018\3_PCEMAP.dwg



LEGEND


- ▲ 2015 SOIL BORING
- 2014 SOIL BORING
- (0.203) PCE CONCENTRATION, mg/kg
- - - PCE ISOCONTOUR, mg/kg
- CONCENTRATIONS IN mg/kg (0.05 mg/kg IS METHOD A CLEANUP LEVEL)
- (ND) NOT DETECTED



NOTE: SCALE AND LOCATIONS ARE APPROXIMATE

PCE ISOCONCENTRATION MAP - 0 TO 1 FOOT BELOW SLAB

SPEEDWAY SHOPPING CENTER
13632 HIGHWAY 99
LYNWOOD, WA

PROJECT NUMBER: 282EM00018	DATE: 3/5/15	FIGURE
APPROVED BY: SP	DRAWN BY: BK	3
 Cardno 6347 Seaview Avenue NW Seattle, Washington 98107 Ph: (206) 781-1449 *** Fax: (206) 781-1543		

**APPENDIX A:
SOIL BORING LOGS**



Cardno ATC Project Name:	HP Cleaners	Drilling Information	
Cardno ATC Project #:	282EM00018	Drilling Contractor:	ESN
		Drilling Method:	Direct Push
		Borehole Diameter:	2-inch
Location:	13619 Mukilleo Spdwy	Sampler Type:	Macrocore
	Lynnwood, WA		

Event Information

Logged by:	MN	Well/Boring Designation:	B-13
Boring Depth:	4 feet	Surface Elevation:	
GW Encountered:	No	Start Date:	01/29/15
Static GW Level:		End Date:	01/29/15
Notes:			

Depth (ft)	Recovery	Sample Interval	Blow Counts	PID/FID Readings	USCS Classification	Soil Classification/ Description	Well Construction
1				0.9	SM	Surface: 8-inches concrete w/ gravelly fill.	
2				0.8		SILTY SAND; brown, 60% fine sand, 25% silt, 5 to 10% small and medium gravel; 5 to 10% coarse sand; dry, slightly cohesive; weak induration; No petroleum-like odor	
3				0.8			
4				1.4		As above; moderate induration; dry; NPO.	
5						Boring terminated at 4 feet below surface due to drilling refusal; boring backfilled with bentonite	
6							
7							
8							
9							



Cardno ATC Project Name:	HP Cleaners	Drilling Information	
Cardno ATC Project #:	282EM00018	Drilling Contractor:	ESN
		Drilling Method:	Direct Push
		Borehole Diameter:	2-inch
Location:	13619 Mukilleo Spdwy	Sampler Type:	Macrocore
	Lynnwood, WA		

Event Information

Logged by:	MN	Well/Boring Designation:	B-14
Boring Depth:	4 feet	Surface Elevation:	
GW Encountered:	No	Start Date:	01/29/15
Static GW Level:		End Date:	01/29/15
Notes:			

Depth (ft)	Recovery	Sample Interval	Blow Counts	PID/FID Readings	USCS Classification	Soil Classification/ Description	Well Construction
1				1.0	SP	Surface: 8-inches concrete w/ gravelly fill. MEDIUM SAND; brown, 50% medium sand; 20% fine sand; 20% silt; 10% small gravel; dry; loose; NPO.	
2				0.6			
3				1.1		SILTY SAND; brown, 60% fine sand, 25% silt, 5 to 10% small and medium gravel; 5 to 10% coarse sand; dry; slightly cohesive; weak induration; NPO.	
4				1.7		Boring terminated at 4 feet below surface due to drilling refusal; boring backfilled with bentonite	
5							
6							
7							
8							
9							



Cardno ATC Project Name:	HP Cleaners	Drilling Information	
Cardno ATC Project #:	282EM00018	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-15
Boring Depth:	4 feet	Surface Elevation:	
GW Encountered:	No	Start Date:	01/29/15
Static GW Level:		End Date:	01/29/15
Notes:			

Depth (ft)	Recovery	Sample Interval	Blow Counts	PID/FID Readings	USCS Classification	Soil Classification/Description	Well Construction
1				1.1	SM	Surface: 8-inches concrete w/ gravelly fill. SILTY SAND; brown, 60% fine sand, 25% silt, 5 to 10% small and medium gravel; 5 to 10% coarse sand; dry; slightly cohesive; weak induration; No petroleum-like odor	
2				0.9			
3				1.0			
4				0.8		As above; moderate induration; dry; NPO.	
5						Boring terminated at 4 feet below surface due to drilling refusal; boring backfilled with bentonite	
6							
7							
8							
9							



Cardno ATC Project Name:	HP Cleaners	Drilling Information	
Cardno ATC Project #:	282EM00018	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-16
Boring Depth:	4 feet	Surface Elevation:	
GW Encountered:	No	Start Date:	01/29/15
Static GW Level:		End Date:	01/29/15
Notes:			

Depth (ft)	Recovery	Sample Interval	Blow Counts	PID/FID Readings	USCS Classification	Soil Classification/Description	Well Construction
1				1.2	SM	Surface: 8-inches concrete w/ gravelly fill. SILTY SAND; brown, 60% fine sand, 25% silt, 5 to 10% small and medium gravel; 5 to 10% coarse sand; dry; slightly cohesive; weak induration; No petroleum-like odor	
2				1.3			
3				1.1			
4				1.2		As above; moderate induration; dry; NPO. Boring terminated at 4 feet below surface due to drilling refusal; boring backfilled with bentonite	
5							
6							
7							
8							
9							



Cardno ATC Project Name: HP Cleaners Drilling Information
 Cardno ATC Project #: 282EM00018 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-18
 Boring Depth: 4 feet Surface Elevation:
 GW Encountered: No Start Date: 01/29/15
 Static GW Level: End Date: 01/29/15
 Notes:

Depth (ft)	Recovery	Sample Interval	Blow Counts	PID/FID Readings	USCS Classification	Soil Classification/Description	Well Construction
1				1.5	SM	Surface: 8-inches concrete w/ gravelly fill.	
2				1.3		SILTY SAND; brown, 60% fine sand, 25% silt, 5 to 10% small and medium gravel; 5 to 10% coarse sand; dry; slightly cohesive; weak induration; No petroleum-like odor	
3				1.5			
4				1.0		As above; moderate induration; dry; NPO.	
5						Boring terminated at 4 feet below surface due to drilling refusal; boring backfilled with bentonite	
6							
7							
8							
9							



Cardno ATC Project Name:	HP Cleaners	Drilling Information	
Cardno ATC Project #:	282EM00018	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-19
Boring Depth:	4 feet	Surface Elevation:	
GW Encountered:	No	Start Date:	01/29/15
Static GW Level:		End Date:	01/29/15
Notes:			

Depth (ft)	Recovery	Sample Interval	Blow Counts	PID/FID Readings	USCS Classification	Soil Classification/ Description	Well Construction
1				1.1	SM	Surface: 8-inches concrete w/ gravelly fill. SILTY SAND; brown, 60% fine sand, 25% silt, 5 to10% small and medium gravel; 5 to 10% coarse sand; dry; slightly cohesive; weak induration; No petroleum-like odor	
2				2.0			
3				1.5			
4				2.0		As above; moderate induration; dry; NPO.	
5						Boring terminated at 4 feet below surface due to drilling refusal; boring backfilled with bentonite	
6							
7							
8							
9							



Cardno ATC Project Name:	HP Cleaners	Drilling Information	
Cardno ATC Project #:	282EM00018	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-20
Boring Depth:	4 feet	Surface Elevation:	
GW Encountered:	No	Start Date:	01/29/15
Static GW Level:		End Date:	01/29/15
Notes:			

Depth (ft)	Recovery	Sample Interval	Blow Counts	PID/FID Readings	USCS Classification	Soil Classification/ Description	Well Construction
1				1.1	SM	Surface: 8-inches concrete w/ gravelly fill.	
2				1.0		SILTY SAND; brown, 60% fine sand, 25% silt, 5 to 10% small and medium gravel; 5 to 10% coarse sand; dry; slightly cohesive; weak induration; No petroleum-like odor	
3				1.3			
4				0.8		As above; moderate induration; dry; NPO.	
5						Boring terminated at 4 feet below surface due to drilling refusal; boring backfilled with bentonite	
6							
7							
8							
9							



Cardno ATC Project Name:	HP Cleaners	Drilling Information	
Cardno ATC Project #:	282EM00018	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-21
Boring Depth:	4 feet	Surface Elevation:	
GW Encountered:		Start Date:	01/29/15
Static GW Level:		End Date:	01/29/15
Notes:			

Depth (ft)	Recovery	Sample Interval	Blow Counts	PID/FID Readings	USCS Classification	Soil Classification/Description	Well Construction
1				3.0	SM	Surface: 8-inches concrete w/ gravelly fill.	
2				1.5		SILTY SAND; brown, 60% fine sand, 25% silt, 5 to 10% small and medium gravel; 5 to 10% coarse sand; dry, slightly cohesive; weak induration; No petroleum-like odor	
3				0.7			
4				1.1		As above; moderate induration; dry; NPO.	
5						Boring terminated at 4 feet below surface due to drilling refusal; boring backfilled with bentonite	
6							
7							
8							
9							



Cardno ATC Project Name:	HP Cleaners	Drilling Information	
Cardno ATC Project #:	282EM00018	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-22
Boring Depth:	4 feet	Surface Elevation:	
GW Encountered:	No	Start Date:	01/29/15
Static GW Level:		End Date:	01/29/15
Notes:			

Depth (ft)	Recovery	Sample Interval	Blow Counts	PID/FID Readings	USCS Classification	Soil Classification/ Description	Well Construction
1				0.4	SM	Surface: 8-inches concrete w/ gravelly fill. SILTY SAND; brown, 60% fine sand, 25% silt, 5 to 10% small and medium gravel; 5 to 10% coarse sand; dry, slightly cohesive; weak induration; No petroleum-like odor	
2				0.3			
3				1.0			
4				0.8		As above; moderate induration; dry; NPO.	
5						Boring terminated at 4 feet below surface due to drilling refusal; boring backfilled with bentonite	
6							
7							
8							
9							



Cardno ATC Project Name: HP Cleaners Drilling Information
 Cardno ATC Project #: 282EM00018 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-23
 Boring Depth: 4 feet Surface Elevation: _____
 GW Encountered: No Start Date: 01/29/15
 Static GW Level: _____ End Date: 01/29/15
 Notes: _____

Depth (ft)	Recovery	Sample Interval	Blow Counts	PID/FID Readings	USCS Classification	Soil Classification/ Description	Well Construction
1				0.8	SM	Surface: 8-inches concrete w/ gravelly fill. SILTY SAND; brown, 60% fine sand, 25% silt, 5 to 10% small and medium gravel; 5 to 10% coarse sand; dry; slightly cohesive; weak induration; No petroleum-like odor	
2				1.2			
3				1.5			
4				0.7		As above; moderate induration; dry; NPO.	
5						Boring terminated at 4 feet below surface due to drilling refusal; boring backfilled with bentonite	
6							
7							
8							
9							

APPENDIX B:
LABORATORY ANALYTICAL RESULTS



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: 1501250

February 06, 2015

Attention Simon Payne:

Fremont Analytical, Inc. received 3 sample(s) on 1/30/2015 for the analyses presented in the following report.

Helium by GC/TCD

Major Gases by EPA Method 3C

Volatile Organic Compounds by EPA Method TO-15

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,

A handwritten signature in black ink, appearing to read "Chelsea", written in a cursive style.

Chelsea Ward
Project Manager



CLIENT: Cardno ATC
Project: HP Cleaners
Lab Order: 1501250

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1501250-001	VE-1	01/29/2015 2:45 PM	01/30/2015 10:17 AM
1501250-002	VE-2	01/29/2015 1:15 PM	01/30/2015 10:17 AM
1501250-003	VE-3	01/29/2015 11:35 AM	01/30/2015 10:17 AM

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



Case Narrative

WO#: 1501250

Date: 2/6/2015

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.



Analytical Report

WO#: 1501250

Date Reported: 2/6/2015

CLIENT: Cardno ATC

Project: HP Cleaners

Lab ID: 1501250-001

Collection Date: 1/29/2015 2:45:00 PM

Client Sample ID: VE-1

Matrix: Air

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Helium by GC/TCD				Batch ID: R20488		Analyst: JY
Helium	ND	254	D	ppmv	2.54	2/5/2015 11:21:00 AM
Major Gases by EPA Method 3C				Batch ID: R20487		Analyst: JY
Oxygen	7.41	0.0500		%	1	2/4/2015 12:36:00 PM

Lab ID: 1501250-002

Collection Date: 1/29/2015 1:15:00 PM

Client Sample ID: VE-2

Matrix: Air

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Helium by GC/TCD				Batch ID: R20488		Analyst: JY
Helium	57,600	236	D	ppmv	2.36	2/5/2015 11:28:00 AM
Major Gases by EPA Method 3C				Batch ID: R20487		Analyst: JY
Oxygen	8.00	0.0500		%	1	2/4/2015 12:52:00 PM

Qualifiers: B Analyte detected in the associated Method Blank
 E Value above quantitation range
 J Analyte detected below quantitation limits
 RL Reporting Limit
 D Dilution was required
 H Holding times for preparation or analysis exceeded
 ND Not detected at the Reporting Limit
 S Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501250

Date Reported: 2/6/2015

CLIENT: Cardno ATC

Project: HP Cleaners

Lab ID: 1501250-003

Collection Date: 1/29/2015 11:35:00 AM

Client Sample ID: VE-3

Matrix: Air

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Helium by GC/TCD				Batch ID: R20488		Analyst: JY
Helium	ND	246	D	ppmv	2.46	2/5/2015 11:36:00 AM
Major Gases by EPA Method 3C				Batch ID: R20487		Analyst: JY
Oxygen	7.68	0.0500		%	1	2/4/2015 1:09:00 PM

Qualifiers: B Analyte detected in the associated Method Blank
 E Value above quantitation range
 J Analyte detected below quantitation limits
 RL Reporting Limit
 D Dilution was required
 H Holding times for preparation or analysis exceeded
 ND Not detected at the Reporting Limit
 S Spike recovery outside accepted recovery limits



Client: Cardno ATC
 WorkOrder: 1501250
 Project: HP Cleaners

Client Sample ID: VE-1
 Lab ID: 1501250-001A
 Sample Type: Summa Canister

Date Sampled: 1/29/2015
 Date Received: 1/30/2015

Analyte	Concentration	Reporting Limit	Qual	Method	Date/Analyst
Volatile Organic Compounds by EPA Method TO-15					
	(ppbv)	(ug/m ³)	(ppbv)	(ug/m ³)	
1,1,1-Trichloroethane	0.401	2.19	0.200	1.09	TO-15 02/03/2015 JY
1,1,2,2-Tetrachloroethane	<0.300	<2.06	0.300	2.06	TO-15 02/03/2015 JY
CFC-113	<0.500	<3.83	0.500	3.83	TO-15 02/03/2015 JY
1,1,2-Trichloroethane (TCA)	<0.500	<2.73	0.500	2.73	TO-15 02/03/2015 JY
1,1-Dichloroethane	<0.200	<0.810	0.200	0.810	TO-15 02/03/2015 JY
1,1-Dichloroethene (DCE)	<0.200	<0.793	0.200	0.793	TO-15 02/03/2015 JY
1,2,4-Trichlorobenzene	0.851	6.31	0.300	2.23	TO-15 02/03/2015 JY
1,2-Dichlorobenzene	<0.300	<1.80	0.300	1.80	TO-15 02/03/2015 JY
1,2-Dichloroethane	<0.200	<0.809	0.200	0.809	TO-15 02/03/2015 JY
1,2-Dichloropropane	<0.500	<2.31	0.500	2.31	TO-15 02/03/2015 JY
1,3-Dichlorobenzene	<0.300	<1.80	0.300	1.80	TO-15 02/03/2015 JY
1,4-Dichlorobenzene	<0.300	<1.80	0.300	1.80	TO-15 02/03/2015 JY
Benzyl chloride	<0.500	<2.59	0.500	2.59	TO-15 02/03/2015 JY
Dichlorobromomethane	<0.300	<2.01	0.300	2.01	TO-15 02/03/2015 JY
Carbon tetrachloride	<0.200	<1.26	0.200	1.26	TO-15 02/03/2015 JY
Chlorobenzene	<0.200	<0.921	0.200	0.921	TO-15 02/03/2015 JY
Dibromochloromethane	<0.500	<4.26	0.500	4.26	TO-15 02/03/2015 JY
Chloroethane	<0.500	<1.32	0.500	1.32	TO-15 02/03/2015 JY
Chloroform	<0.200	<0.977	0.200	0.977	TO-15 02/03/2015 JY
Chloromethane	<0.500	<1.03	0.500	1.03	TO-15 02/03/2015 JY
cis-1,2-Dichloroethene	<0.200	<0.793	0.200	0.793	TO-15 02/03/2015 JY
cis-1,3-dichloropropene	<0.500	<2.27	0.500	2.27	TO-15 02/03/2015 JY
Dichlorodifluoromethane (CFC-12)	4.16	20.6	0.300	1.48	TO-15 02/03/2015 JY
Dichlorotetrafluoroethane (CFC-114)	<0.500	<3.50	0.500	3.50	TO-15 02/03/2015 JY
Hexachlorobutadiene	<1.00	<10.7	1.00	10.7	TO-15 02/03/2015 JY
Methylene chloride	<1.50	<5.21	1.50	5.21	TO-15 02/03/2015 JY
Tetrachloroethene (PCE)	1,480	10,000	2.40	16.3	E TO-15 02/03/2015 JY
trans-1,2-Dichloroethene	<0.200	<0.793	0.200	0.793	TO-15 02/03/2015 JY

Qualifiers: 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
 J Analyte detected below quantitation limits ND Not detected at the Reporting Limit



Client: Cardno ATC

WorkOrder: 1501250

Project: HP Cleaners

Client Sample ID: VE-1

Date Sampled: 1/29/2015

Lab ID: 1501250-001A

Date Received: 1/30/2015

Sample Type: Summa Canister

Analyte	Concentration		Reporting Limit		Qual	Method	Date/Analyst
<u>Volatile Organic Compounds by EPA Method TO-15</u>							
	(ppbv)	(ug/m ³)	(ppbv)	(ug/m ³)			
trans-1,3-dichloropropene	<0.500	<2.27	0.500	2.27		TO-15	02/03/2015 JY
Trichloroethene (TCE)	12.3	66.1	0.200	1.07		TO-15	02/03/2015 JY
Trichlorofluoromethane (CFC-11)	0.537	3.01	0.300	1.69		TO-15	02/03/2015 JY
Vinyl chloride	<0.200	<0.511	0.200	0.511		TO-15	02/03/2015 JY
Surr: 4-Bromofluorobenzene	100 %Rec	--	70-130	--		TO-15	02/03/2015 JY

Qualifiers: 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
 J Analyte detected below quantitation limits ND Not detected at the Reporting Limit



Client: Cardno ATC
 WorkOrder: 1501250
 Project: HP Cleaners

Client Sample ID: VE-2
 Lab ID: 1501250-002A
 Sample Type: Summa Canister

Date Sampled: 1/29/2015
 Date Received: 1/30/2015

Analyte	Concentration		Reporting Limit		Qual	Method	Date/Analyst
Volatile Organic Compounds by EPA Method TO-15							
	(ppbv)	(ug/m ³)	(ppbv)	(ug/m ³)			
1,1,1-Trichloroethane	0.775	4.23	0.200	1.09		TO-15	02/03/2015 JY
1,1,2,2-Tetrachloroethane	<0.300	<2.06	0.300	2.06		TO-15	02/03/2015 JY
CFC-113	<0.500	<3.83	0.500	3.83		TO-15	02/03/2015 JY
1,1,2-Trichloroethane (TCA)	<0.500	<2.73	0.500	2.73		TO-15	02/03/2015 JY
1,1-Dichloroethane	<0.200	<0.810	0.200	0.810		TO-15	02/03/2015 JY
1,1-Dichloroethene (DCE)	<0.200	<0.793	0.200	0.793		TO-15	02/03/2015 JY
1,2,4-Trichlorobenzene	0.849	6.30	0.300	2.23		TO-15	02/03/2015 JY
1,2-Dichlorobenzene	<0.300	<1.80	0.300	1.80		TO-15	02/03/2015 JY
1,2-Dichloroethane	<0.200	<0.809	0.200	0.809		TO-15	02/03/2015 JY
1,2-Dichloropropane	<0.500	<2.31	0.500	2.31		TO-15	02/03/2015 JY
1,3-Dichlorobenzene	<0.300	<1.80	0.300	1.80		TO-15	02/03/2015 JY
1,4-Dichlorobenzene	<0.300	<1.80	0.300	1.80		TO-15	02/03/2015 JY
Benzyl chloride	<0.500	<2.59	0.500	2.59		TO-15	02/03/2015 JY
Dichlorobromomethane	<0.300	<2.01	0.300	2.01		TO-15	02/03/2015 JY
Carbon tetrachloride	<0.200	<1.26	0.200	1.26		TO-15	02/03/2015 JY
Chlorobenzene	<0.200	<0.921	0.200	0.921		TO-15	02/03/2015 JY
Dibromochloromethane	<0.500	<4.26	0.500	4.26		TO-15	02/03/2015 JY
Chloroethane	<0.500	<1.32	0.500	1.32		TO-15	02/03/2015 JY
Chloroform	<0.200	<0.977	0.200	0.977		TO-15	02/03/2015 JY
Chloromethane	<0.500	<1.03	0.500	1.03		TO-15	02/03/2015 JY
cis-1,2-Dichloroethene	<0.200	<0.793	0.200	0.793		TO-15	02/03/2015 JY
cis-1,3-dichloropropene	<0.500	<2.27	0.500	2.27		TO-15	02/03/2015 JY
Dichlorodifluoromethane (CFC-12)	6.64	32.8	0.300	1.48		TO-15	02/03/2015 JY
Dichlorotetrafluoroethane (CFC-114)	<0.500	<3.50	0.500	3.50		TO-15	02/03/2015 JY
Hexachlorobutadiene	<1.00	<10.7	1.00	10.7		TO-15	02/03/2015 JY
Methylene chloride	<1.50	<5.21	1.50	5.21		TO-15	02/03/2015 JY
Tetrachloroethene (PCE)	698	4,740	2.40	16.3	E	TO-15	02/03/2015 JY
trans-1,2-Dichloroethene	<0.200	<0.793	0.200	0.793		TO-15	02/03/2015 JY

Qualifiers: B Analyte detected in the associated Method Blank
 E Value above quantitation range
 J Analyte detected below quantitation limits
 D Dilution was required
 H Holding times for preparation or analysis exceeded
 ND Not detected at the Reporting Limit



Client: Cardno ATC

WorkOrder: 1501250

Project: HP Cleaners

Client Sample ID: VE-2

Date Sampled: 1/29/2015

Lab ID: 1501250-002A

Date Received: 1/30/2015

Sample Type: Summa Canister

Analyte	Concentration	Reporting Limit	Qual	Method	Date/Analyst
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Volatile Organic Compounds by EPA Method TO-15

	(ppbv)	(ug/m ³)	(ppbv)	(ug/m ³)			
trans-1,3-dichloropropene	<0.500	<2.27	0.500	2.27	TO-15	02/03/2015	JY
Trichloroethene (TCE)	1.57	8.42	0.200	1.07	TO-15	02/03/2015	JY
Trichlorofluoromethane (CFC-11)	0.567	3.19	0.300	1.69	TO-15	02/03/2015	JY
Vinyl chloride	<0.200	<0.511	0.200	0.511	TO-15	02/03/2015	JY
Surr: 4-Bromofluorobenzene	101 %Rec	--	70-130	--	TO-15	02/03/2015	JY

Qualifiers:	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
	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit



Client: Cardno ATC
 WorkOrder: 1501250
 Project: HP Cleaners

Client Sample ID: VE-3
 Lab ID: 1501250-003A
 Sample Type: Summa Canister

Date Sampled: 1/29/2015
 Date Received: 1/30/2015

Analyte	Concentration	Reporting Limit	Qual	Method	Date/Analyst
Volatile Organic Compounds by EPA Method TO-15					
	(ppbv)	(ug/m ³)	(ppbv)	(ug/m ³)	
1,1,1-Trichloroethane	0.652	3.56	0.200	1.09	TO-15 02/03/2015 JY
1,1,1,2-Tetrachloroethane	<0.300	<2.06	0.300	2.06	TO-15 02/03/2015 JY
CFC-113	<0.500	<3.83	0.500	3.83	TO-15 02/03/2015 JY
1,1,2-Trichloroethane (TCA)	<0.500	<2.73	0.500	2.73	TO-15 02/03/2015 JY
1,1-Dichloroethane	<0.200	<0.810	0.200	0.810	TO-15 02/03/2015 JY
1,1-Dichloroethene (DCE)	<0.200	<0.793	0.200	0.793	TO-15 02/03/2015 JY
1,2,4-Trichlorobenzene	0.916	6.80	0.300	2.23	TO-15 02/03/2015 JY
1,2-Dichlorobenzene	<0.300	<1.80	0.300	1.80	TO-15 02/03/2015 JY
1,2-Dichloroethane	<0.200	<0.809	0.200	0.809	TO-15 02/03/2015 JY
1,2-Dichloropropane	<0.500	<2.31	0.500	2.31	TO-15 02/03/2015 JY
1,3-Dichlorobenzene	<0.300	<1.80	0.300	1.80	TO-15 02/03/2015 JY
1,4-Dichlorobenzene	<0.300	<1.80	0.300	1.80	TO-15 02/03/2015 JY
Benzyl chloride	<0.500	<2.59	0.500	2.59	TO-15 02/03/2015 JY
Dichlorobromomethane	<0.300	<2.01	0.300	2.01	TO-15 02/03/2015 JY
Carbon tetrachloride	<0.200	<1.26	0.200	1.26	TO-15 02/03/2015 JY
Chlorobenzene	<0.200	<0.921	0.200	0.921	TO-15 02/03/2015 JY
Dibromochloromethane	<0.500	<4.26	0.500	4.26	TO-15 02/03/2015 JY
Chloroethane	<0.500	<1.32	0.500	1.32	TO-15 02/03/2015 JY
Chloroform	<0.200	<0.977	0.200	0.977	TO-15 02/03/2015 JY
Chloromethane	<0.500	<1.03	0.500	1.03	TO-15 02/03/2015 JY
cis-1,2-Dichloroethene	<0.200	<0.793	0.200	0.793	TO-15 02/03/2015 JY
cis-1,3-dichloropropene	<0.500	<2.27	0.500	2.27	TO-15 02/03/2015 JY
Dichlorodifluoromethane (CFC-12)	41.3	204	2.40	11.9	TO-15 02/03/2015 JY
Dichlorotetrafluoroethane (CFC-114)	<0.500	<3.50	0.500	3.50	TO-15 02/03/2015 JY
Hexachlorobutadiene	<1.00	<10.7	1.00	10.7	TO-15 02/03/2015 JY
Methylene chloride	<1.50	<5.21	1.50	5.21	TO-15 02/03/2015 JY
Tetrachloroethene (PCE)	476	3,230	2.40	16.3	E TO-15 02/03/2015 JY
trans-1,2-Dichloroethene	<0.200	<0.793	0.200	0.793	TO-15 02/03/2015 JY

Qualifiers: 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
 J Analyte detected below quantitation limits ND Not detected at the Reporting Limit



Client: Cardno ATC

WorkOrder: 1501250

Project: HP Cleaners

Client Sample ID: VE-3

Date Sampled: 1/29/2015

Lab ID: 1501250-003A

Date Received: 1/30/2015

Sample Type: Summa Canister

Analyte	Concentration		Reporting Limit		Qual	Method	Date/Analyst
Volatile Organic Compounds by EPA Method TO-15							
	(ppbv)	(ug/m ³)	(ppbv)	(ug/m ³)			
trans-1,3-dichloropropene	<0.500	<2.27	0.500	2.27		TO-15	02/03/2015 JY
Trichloroethene (TCE)	0.952	5.12	0.200	1.07		TO-15	02/03/2015 JY
Trichlorofluoromethane (CFC-11)	0.598	3.36	0.300	1.69		TO-15	02/03/2015 JY
Vinyl chloride	<0.200	<0.511	0.200	0.511		TO-15	02/03/2015 JY
Surr: 4-Bromofluorobenzene	100 %Rec	--	70-130	--		TO-15	02/03/2015 JY

Qualifiers:

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
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit



Date: 2/6/2015

Work Order: 1501250
 CLIENT: Cardno ATC
 Project: HP Cleaners

QC SUMMARY REPORT
 Helium by GC/TCD

Sample ID: 1501250-001AREP	SampType: REP	Units: ppmv	Prep Date: 2/5/2015	RunNo: 20488							
Client ID: VE-1	Batch ID: R20488		Analysis Date: 2/5/2015	SeqNo: 390297							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Helium	ND	254						0		30	D
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Sample ID: LCS-R20488	SampType: LCS	Units: ppmv	Prep Date: 2/5/2015	RunNo: 20488							
Client ID: LCSW	Batch ID: R20488		Analysis Date: 2/5/2015	SeqNo: 390300							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Helium	809,000	100	1,000,000	0	80.9	80	120				
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Sample ID: MB-R20488	SampType: MBLK	Units: ppmv	Prep Date: 2/5/2015	RunNo: 20488							
Client ID: MBLKW	Batch ID: R20488		Analysis Date: 2/5/2015	SeqNo: 390301							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Helium	ND	100									
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Qualifiers:

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	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits



Date: 2/6/2015

Work Order: 1501250
 CLIENT: Cardno ATC
 Project: HP Cleaners

QC SUMMARY REPORT
Major Gases by EPA Method 3C

Sample ID: 1501250-001AREP	SampType: REP	Units: %	Prep Date: 2/4/2015	RunNo: 20487							
Client ID: VE-1	Batch ID: R20487		Analysis Date: 2/4/2015	SeqNo: 390291							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oxygen	7.16	0.0500						7.411	3.51	30	

Sample ID: LCS-R20487	SampType: LCS	Units: %	Prep Date: 2/4/2015	RunNo: 20487							
Client ID: LCSW	Batch ID: R20487		Analysis Date: 2/4/2015	SeqNo: 390295							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oxygen	97.7	0.0500	100.0	0	97.7	70	130				

Qualifiers:

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	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits



Date: 2/6/2015

Work Order: 1501250
 CLIENT: Cardno ATC
 Project: HP Cleaners

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method TO-15

Sample ID: 1501230-001AREP	SampType: REP	Units: ppbv	Prep Date: 2/3/2015	RunNo: 20454
Client ID: BATCH	Batch ID: R20454		Analysis Date: 2/3/2015	SeqNo: 389685

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	0.502	0.300						0.4999	0.439	30	
Chloromethane	ND	0.500						0		30	
Dichlorotetrafluoroethane (CFC-114)	ND	0.500						0		30	
Vinyl chloride	ND	0.200						0		30	
Trichlorofluoromethane (CFC-11)	ND	0.300						0		30	
Chloroethane	ND	0.500						0		30	
1,1-Dichloroethene (DCE)	ND	0.200						0		30	
Methylene chloride	ND	1.50						0		30	
trans-1,2-Dichloroethene	ND	0.200						0		30	
1,1-Dichloroethane	ND	0.200						0		30	
cis-1,2-Dichloroethene	ND	0.200						0		30	
Chloroform	ND	0.200						0		30	
1,1,1-Trichloroethane	ND	0.200						0		30	
Carbon tetrachloride	ND	0.200						0		30	
1,2-Dichloroethane	ND	0.200						0		30	
Trichloroethene (TCE)	ND	0.200						0		30	
1,2-Dichloropropane	ND	0.500						0		30	
Dichlorobromomethane	ND	0.300						0		30	
cis-1,3-dichloropropene	ND	0.500						0		30	
trans-1,3-dichloropropene	ND	0.500						0		30	
1,1,2-Trichloroethane (TCA)	ND	0.500						0		30	
Tetrachloroethene (PCE)	31.6	0.300						32.25	2.09	30	E
Dibromochloromethane	ND	0.500						0		30	
Chlorobenzene	ND	0.200						0		30	
1,1,2,2-Tetrachloroethane	ND	0.300						0		30	
Benzyl chloride	0.593	0.500						0	200	30	
1,3-Dichlorobenzene	ND	0.300						0		30	
1,4-Dichlorobenzene	ND	0.300						0		30	
1,2-Dichlorobenzene	ND	0.300						0		30	

Qualifiers: 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
 J Analyte detected below quantitation limits
 ND Not detected at the Reporting Limit
 R RPD outside accepted recovery limits
 RL Reporting Limit
 S Spike recovery outside accepted recovery limits



Date: 2/6/2015

Work Order: 1501250
 CLIENT: Cardno ATC
 Project: HP Cleaners

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method TO-15

Sample ID: 1501230-001AREP	SampType: REP	Units: ppbv	Prep Date: 2/3/2015	RunNo: 20454
Client ID: BATCH	Batch ID: R20454		Analysis Date: 2/3/2015	SeqNo: 389685

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	1.10	0.300						0	200	30	
Hexachlorobutadiene	ND	1.00						0		30	
CFC-113	ND	0.500						0		30	
Surr: 4-Bromofluorobenzene	10.2		10.00		102	70	130		0		

Sample ID: LCS-R20454	SampType: LCS	Units: ppbv	Prep Date: 2/3/2015	RunNo: 20454
Client ID: LCSW	Batch ID: R20454		Analysis Date: 2/3/2015	SeqNo: 389685

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	9.38	0.300	10.00	0	93.8	70	130				
Chloromethane	8.78	0.500	10.00	0	87.8	70	130				
Dichlorotetrafluoroethane (CFC-114)	9.36	0.500	10.00	0	93.6	70	130				
Vinyl chloride	9.17	0.200	10.00	0	91.7	70	130				
Trichlorofluoromethane (CFC-11)	9.40	0.300	10.00	0	94.0	70	130				
Chloroethane	9.42	0.500	10.00	0	94.2	70	130				
1,1-Dichloroethene (DCE)	10.3	0.200	10.00	0	103	70	130				
Methylene chloride	9.11	1.50	10.00	0	91.1	70	130				
trans-1,2-Dichloroethene	10.3	0.200	10.00	0	103	70	130				
1,1-Dichloroethane	9.56	0.200	10.00	0	95.6	70	130				
cis-1,2-Dichloroethene	10.6	0.200	10.00	0	106	70	130				
Chloroform	9.47	0.200	10.00	0	94.7	70	130				
1,1,1-Trichloroethane	9.66	0.200	10.00	0	96.6	70	130				
Carbon tetrachloride	9.52	0.200	10.00	0	95.2	70	130				
1,2-Dichloroethane	9.72	0.200	10.00	0	97.2	70	130				
Trichloroethene (TCE)	10.2	0.200	10.00	0	102	70	130				
1,2-Dichloropropane	10.1	0.500	10.00	0	101	70	130				
Dichlorobromomethane	9.88	0.300	10.00	0	98.8	70	130				
cis-1,3-dichloropropene	11.0	0.500	10.00	0	110	70	130				

Qualifiers: B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 R RPD outside accepted recovery limits
 D Dilution was required
 J Analyte detected below quantitation limits
 RL Reporting Limit
 E Value above quantitation range
 ND Not detected at the Reporting Limit
 S Spike recovery outside accepted recovery limits



Date: 2/6/2015

Work Order: 1501250
 CLIENT: Cardno ATC
 Project: HP Cleaners

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method TO-15

Sample ID: LCS-R20454	SampType: LCS	Units: ppbv	Prep Date: 2/3/2015	RunNo: 20454
Client ID: LCSW	Batch ID: R20454		Analysis Date: 2/3/2015	SeqNo: 389689

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
trans-1,3-dichloropropene	9.96	0.500	10.00	0	99.6	70	130				
1,1,2-Trichloroethane (TCA)	10.3	0.500	10.00	0	103	70	130				
Tetrachloroethene (PCE)	10.9	0.300	10.00	0	109	70	130				
Dibromochloromethane	10.5	0.500	10.00	0	105	70	130				
Chlorobenzene	10.6	0.200	10.00	0	106	70	130				
1,1,2,2-Tetrachloroethane	10.6	0.300	10.00	0	106	70	130				
Benzyl chloride	10.1	0.500	10.00	0	101	70	130				
1,3-Dichlorobenzene	11.2	0.300	10.00	0	112	70	130				
1,4-Dichlorobenzene	11.4	0.300	10.00	0	114	70	130				
1,2-Dichlorobenzene	11.4	0.300	10.00	0	114	70	130				
1,2,4-Trichlorobenzene	10.8	0.300	10.00	0	108	70	130				
Hexachlorobutadiene	9.04	1.00	10.00	0	90.4	70	130				
CFC-113	9.41	0.500	10.00	0	94.1	70	130				
Surr: 4-Bromofluorobenzene	20.0		20.00		99.8	70	130				

Sample ID: MB-R20454	SampType: MBLK	Units: ppbv	Prep Date: 2/3/2015	RunNo: 20454
Client ID: MBLKW	Batch ID: R20454		Analysis Date: 2/3/2015	SeqNo: 389690

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	0.300									
Chloromethane	ND	0.500									
Dichlorotetrafluoroethane (CFC-114)	ND	0.500									
Vinyl chloride	ND	0.200									
Trichlorofluoromethane (CFC-11)	ND	0.300									
Chloroethane	ND	0.500									
1,1-Dichloroethene (DCE)	ND	0.200									
Methylene chloride	ND	1.50									
trans-1,2-Dichloroethene	ND	0.200									

Qualifiers: B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 R RPD outside accepted recovery limits
 D Dilution was required
 J Analyte detected below quantitation limits
 RL Reporting Limit
 E Value above quantitation range
 ND Not detected at the Reporting Limit
 S Spike recovery outside accepted recovery limits



Date: 2/6/2015

Work Order: 1501250
 CLIENT: Cardno ATC
 Project: HP Cleaners

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method TO-15

Sample ID: MB-R20454	SampType: MBLK	Units: ppbv	Prep Date: 2/3/2015	RunNo: 20454
Client ID: MBLKW	Batch ID: R20454		Analysis Date: 2/3/2015	SeqNo: 389690

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethane	ND	0.200									
cis-1,2-Dichloroethene	ND	0.200									
Chloroform	ND	0.200									
1,1,1-Trichloroethane	ND	0.200									
Carbon tetrachloride	ND	0.200									
1,2-Dichloroethane	ND	0.200									
Trichloroethene (TCE)	ND	0.200									
1,2-Dichloropropane	ND	0.500									
Dichlorobromomethane	ND	0.300									
cis-1,3-dichloropropene	ND	0.500									
trans-1,3-dichloropropene	ND	0.500									
1,1,2-Trichloroethane (TCA)	ND	0.500									
Tetrachloroethene (PCE)	ND	0.300									
Dibromochloromethane	ND	0.500									
Chlorobenzene	ND	0.200									
1,1,2,2-Tetrachloroethane	ND	0.300									
Benzyl chloride	ND	0.500									
1,3-Dichlorobenzene	ND	0.300									
1,4-Dichlorobenzene	ND	0.300									
1,2-Dichlorobenzene	ND	0.300									
1,2,4-Trichlorobenzene	ND	0.300									
Hexachlorobutadiene	ND	1.00									
CFC-113	ND	0.500									
Surr: 4-Bromofluorobenzene	9.70		10.00		97.0	70	130				

Qualifiers:

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	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spiko recovery outside accepted recovery limits



Sample Log-In Check List

Client Name: ATC	Work Order Number: 1501250
Logged by: Clare Griggs	Date Received: 1/30/2015 10:17:00 AM

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:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

19. Additional remarks:

Item Information



Air Chain of Custody Record - Whole Air Sample

3600 Fremont Ave N.
Seattle, WA 98103

Tel: 206-352-3790
Fax: 206-352-7178

Date: 01/29/2015

Laboratory Project No (Internal): 1501250
282EM00018

Page 1 of 1

Client: Cardno ATC

Project Name: HP CLEANERS

Address: 6347 Spania Ave

Location: _____

City, State, Zip: _____

Tel: 305-987-8490 MN cell

Collected by: Mark Newman

Reports To (PM): Simon Payne

Email: _____

Project No: _____

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

** Container Codes: 6L = Six Liter Canister (Summa) TB = Tedlar Bag DV = 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				Analysis Requested	Interval		
							Evacuation Pressure (torr)	Pressure at Time of Pick-up (" Hg)	Equipment Certification Code	Field Initial Sample Pressure (" Hg)		Field Final Sample Pressure (" Hg)	Receipt Date	Final (psl)
VE-1	15900	01/29/15	1				10mtorr			-29.5"	-5"	T0-15 O ₂ , He Cl VOCs		
	FR70-12	1445					10/15 10:00			1445	1550			
VE-2	15893	01/29/15	1				10mtorr			-29.5"	-5"	↓		
	FR70-13	1315					10/15 10:00			1315	1440			
VE-3	17242	01/29/15	1				10mtorr			-30"	-5"	↓		
	FR70-14	1135					10/15 10:00			1135	1245			

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

Condition: _____
 Seals Intact: Y N N/A
 Client Consult: Y () N ()
 Relinquished Date/Time: 01/30/15 10:17
 Relinquished Date/Time: 01/30/15 10:17

Special Remarks:
We only need chlorinated VOCs.

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: 1501251

February 09, 2015

Attention Simon Payne:

Fremont Analytical, Inc. received 45 sample(s) on 1/30/2015 for the analyses presented in the following report.

Hydrocarbon Identification by NWTPH-HCID
Sample Moisture (Percent Moisture)
Total Metals by EPA Method 6020
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,

A handwritten signature in black ink, appearing to read "Chelsea Ward", written in a cursive style.

Chelsea Ward
Project Manager



Date: 02/09/2015

CLIENT: Cardno ATC
 Project: HP Cleaners
 Lab Order: 1501251

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1501251-001	B-13-1'	01/29/2015 10:00 AM	01/30/2015 10:12 AM
1501251-002	B-13-2'	01/29/2015 10:05 AM	01/30/2015 10:12 AM
1501251-003	B-13-3'	01/29/2015 10:10 AM	01/30/2015 10:12 AM
1501251-004	B-13-4'	01/29/2015 10:15 AM	01/30/2015 10:12 AM
1501251-005	B-14-1'	01/29/2015 10:30 AM	01/30/2015 10:12 AM
1501251-006	B-14-2'	01/29/2015 10:35 AM	01/30/2015 10:12 AM
1501251-007	B-14-3'	01/29/2015 10:40 AM	01/30/2015 10:12 AM
1501251-008	B-14-4'	01/29/2015 10:45 AM	01/30/2015 10:12 AM
1501251-009	B-15-1'	01/29/2015 11:30 AM	01/30/2015 10:12 AM
1501251-010	B-15-2'	01/29/2015 11:35 AM	01/30/2015 10:12 AM
1501251-011	B-15-3'	01/29/2015 11:40 AM	01/30/2015 10:12 AM
1501251-012	B-15-4'	01/29/2015 11:45 AM	01/30/2015 10:12 AM
1501251-013	B-16-1'	01/29/2015 12:00 PM	01/30/2015 10:12 AM
1501251-014	B-16-2'	01/29/2015 12:05 PM	01/30/2015 10:12 AM
1501251-015	B-16-3'	01/29/2015 12:10 PM	01/30/2015 10:12 AM
1501251-016	B-16-4'	01/29/2015 12:15 PM	01/30/2015 10:12 AM
1501251-017	B-17-1'	01/29/2015 12:30 PM	01/30/2015 10:12 AM
1501251-018	B-17-2'	01/29/2015 12:35 PM	01/30/2015 10:12 AM
1501251-019	B-17-3'	01/29/2015 12:40 PM	01/30/2015 10:12 AM
1501251-020	B-17-4'	01/29/2015 12:45 PM	01/30/2015 10:12 AM
1501251-021	B-18-1'	01/29/2015 1:00 PM	01/30/2015 10:12 AM
1501251-022	B-18-2'	01/29/2015 1:05 PM	01/30/2015 10:12 AM
1501251-023	B-18-3'	01/29/2015 1:10 PM	01/30/2015 10:12 AM
1501251-024	B-18-4'	01/29/2015 1:15 PM	01/30/2015 10:12 AM
1501251-025	B-19-1'	01/29/2015 1:30 PM	01/30/2015 10:12 AM
1501251-026	B-19-2'	01/29/2015 1:35 PM	01/30/2015 10:12 AM
1501251-027	B-19-3'	01/29/2015 1:40 PM	01/30/2015 10:12 AM
1501251-028	B-19-4'	01/29/2015 1:45 PM	01/30/2015 10:12 AM
1501251-029	B-20-1'	01/29/2015 2:00 PM	01/30/2015 10:12 AM
1501251-030	B-20-2'	01/29/2015 2:05 PM	01/30/2015 10:12 AM
1501251-031	B-20-3'	01/29/2015 2:10 PM	01/30/2015 10:12 AM
1501251-032	B-20-4'	01/29/2015 2:15 PM	01/30/2015 10:12 AM
1501251-033	B-21-1'	01/29/2015 2:30 PM	01/30/2015 10:12 AM
1501251-034	B-21-2'	01/29/2015 2:35 PM	01/30/2015 10:12 AM
1501251-035	B-21-3'	01/29/2015 2:40 PM	01/30/2015 10:12 AM
1501251-036	B-21-4'	01/29/2015 2:45 PM	01/30/2015 10:12 AM

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

CLIENT: Cardno ATC
Project: HP Cleaners
Lab Order: 1501251

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1501251-037	B-22-1'	01/29/2015 3:00 PM	01/30/2015 10:12 AM
1501251-038	B-22-2'	01/29/2015 3:05 PM	01/30/2015 10:12 AM
1501251-039	B-22-3'	01/29/2015 3:10 PM	01/30/2015 10:12 AM
1501251-040	B-22-4'	01/29/2015 3:15 PM	01/30/2015 10:12 AM
1501251-041	B-23-1'	01/29/2015 3:30 PM	01/30/2015 10:12 AM
1501251-042	B-23-2'	01/29/2015 3:35 PM	01/30/2015 10:12 AM
1501251-043	B-23-3'	01/29/2015 3:40 PM	01/30/2015 10:12 AM
1501251-044	B-23-4'	01/29/2015 3:45 PM	01/30/2015 10:12 AM
1501251-045	Trip Blank	01/22/2015 3:36 PM	01/30/2015 10:12 AM

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



Case Narrative

WO#: 1501251

Date: 2/9/2015

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.



Analytical Report

WO#: 1501251

Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 10:00:00 AM

Project: HP Cleaners

Lab ID: 1501251-001

Matrix: Soil

Client Sample ID: B-13-1'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260					Batch ID: 9970	Analyst: BC
Dichlorodifluoromethane (CFC-12)	ND	0.0577		mg/Kg-dry	1	2/4/2015 10:04:00 PM
Chloromethane	ND	0.0577		mg/Kg-dry	1	2/4/2015 10:04:00 PM
Vinyl chloride	ND	0.00192		mg/Kg-dry	1	2/4/2015 10:04:00 PM
Trichlorofluoromethane (CFC-11)	ND	0.0481		mg/Kg-dry	1	2/4/2015 10:04:00 PM
Chloroethane	ND	0.0577		mg/Kg-dry	1	2/4/2015 10:04:00 PM
1,1-Dichloroethene	ND	0.0481		mg/Kg-dry	1	2/4/2015 10:04:00 PM
Methylene chloride	ND	0.0192		mg/Kg-dry	1	2/4/2015 10:04:00 PM
trans-1,2-Dichloroethene	ND	0.0192		mg/Kg-dry	1	2/4/2015 10:04:00 PM
1,1-Dichloroethane	ND	0.0192		mg/Kg-dry	1	2/4/2015 10:04:00 PM
2,2-Dichloropropane	ND	0.0481		mg/Kg-dry	1	2/4/2015 10:04:00 PM
cis-1,2-Dichloroethene	ND	0.0192		mg/Kg-dry	1	2/4/2015 10:04:00 PM
Chloroform	ND	0.0192		mg/Kg-dry	1	2/4/2015 10:04:00 PM
1,1,1-Trichloroethane (TCA)	ND	0.0192		mg/Kg-dry	1	2/4/2015 10:04:00 PM
1,1-Dichloropropene	ND	0.0192		mg/Kg-dry	1	2/4/2015 10:04:00 PM
Carbon tetrachloride	ND	0.0192		mg/Kg-dry	1	2/4/2015 10:04:00 PM
1,2-Dichloroethane (EDC)	ND	0.0289		mg/Kg-dry	1	2/4/2015 10:04:00 PM
Trichloroethene (TCE)	ND	0.0192		mg/Kg-dry	1	2/4/2015 10:04:00 PM
1,2-Dichloropropane	ND	0.0192		mg/Kg-dry	1	2/4/2015 10:04:00 PM
Bromodichloromethane	ND	0.0192		mg/Kg-dry	1	2/4/2015 10:04:00 PM
cis-1,3-Dichloropropene	ND	0.0192		mg/Kg-dry	1	2/4/2015 10:04:00 PM
trans-1,3-Dichloropropene	ND	0.0289		mg/Kg-dry	1	2/4/2015 10:04:00 PM
1,1,2-Trichloroethane	ND	0.0289		mg/Kg-dry	1	2/4/2015 10:04:00 PM
1,3-Dichloropropane	ND	0.0481		mg/Kg-dry	1	2/4/2015 10:04:00 PM
Tetrachloroethene (PCE)	0.0348	0.0192		mg/Kg-dry	1	2/4/2015 10:04:00 PM
Dibromochloromethane	ND	0.0289		mg/Kg-dry	1	2/4/2015 10:04:00 PM
Chlorobenzene	ND	0.0192		mg/Kg-dry	1	2/4/2015 10:04:00 PM
1,1,1,2-Tetrachloroethane	ND	0.0289		mg/Kg-dry	1	2/4/2015 10:04:00 PM
1,1,2,2-Tetrachloroethane	ND	0.0192		mg/Kg-dry	1	2/4/2015 10:04:00 PM
2-Chlorotoluene	ND	0.0192		mg/Kg-dry	1	2/4/2015 10:04:00 PM
4-Chlorotoluene	ND	0.0192		mg/Kg-dry	1	2/4/2015 10:04:00 PM
1,2,3-Trichloropropane	ND	0.0192		mg/Kg-dry	1	2/4/2015 10:04:00 PM
1,2,4-Trichlorobenzene	ND	0.0481		mg/Kg-dry	1	2/4/2015 10:04:00 PM
1,3-Dichlorobenzene	ND	0.0192		mg/Kg-dry	1	2/4/2015 10:04:00 PM
1,4-Dichlorobenzene	ND	0.0192		mg/Kg-dry	1	2/4/2015 10:04:00 PM
1,2-Dichlorobenzene	ND	0.0192		mg/Kg-dry	1	2/4/2015 10:04:00 PM

Qualifiers: B Analyte detected in the associated Method Blank
 E Value above quantitation range
 J Analyte detected below quantitation limits
 RL Reporting Limit

D Dilution was required
 H Holding times for preparation or analysis exceeded
 ND Not detected at the Reporting Limit
 S Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251
Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 10:00:00 AM

Project: HP Cleaners

Lab ID: 1501251-001

Matrix: Soil

Client Sample ID: B-13-1'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Volatile Organic Compounds by EPA Method 8260

Batch ID: 9970

Analyst: BC

1,2-Dibromo-3-chloropropane	ND	0.481		mg/Kg-dry	1	2/4/2015 10:04:00 PM
Hexachloro-1,3-butadiene	ND	0.0962		mg/Kg-dry	1	2/4/2015 10:04:00 PM
1,2,3-Trichlorobenzene	ND	0.0192		mg/Kg-dry	1	2/4/2015 10:04:00 PM
Surr: Dibromofluoromethane	97.3	63.7-129		%REC	1	2/4/2015 10:04:00 PM
Surr: Toluene-d8	99.7	64.3-131		%REC	1	2/4/2015 10:04:00 PM
Surr: 1-Bromo-4-fluorobenzene	97.0	63.1-141		%REC	1	2/4/2015 10:04:00 PM

Sample Moisture (Percent Moisture)

Batch ID: R20535

Analyst: CG

Percent Moisture	4.46			wt%	1	2/9/2015 12:06:39 PM
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Qualifiers: B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
RL Reporting Limit

D Dilution was required
H Holding times for preparation or analysis exceeded
ND Not detected at the Reporting Limit
S Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251

Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 10:05:00 AM

Project: HP Cleaners

Lab ID: 1501251-002

Matrix: Soil

Client Sample ID: B-13-2'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260					Batch ID: 9970	Analyst: BC
Dichlorodifluoromethane (CFC-12)	ND	0.0647		mg/Kg-dry	1	2/5/2015 8:01:00 AM
Chloromethane	ND	0.0647		mg/Kg-dry	1	2/5/2015 8:01:00 AM
Vinyl chloride	ND	0.00216		mg/Kg-dry	1	2/5/2015 8:01:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0539		mg/Kg-dry	1	2/5/2015 8:01:00 AM
Chloroethane	ND	0.0647		mg/Kg-dry	1	2/5/2015 8:01:00 AM
1,1-Dichloroethene	ND	0.0539		mg/Kg-dry	1	2/5/2015 8:01:00 AM
Methylene chloride	ND	0.0216		mg/Kg-dry	1	2/5/2015 8:01:00 AM
trans-1,2-Dichloroethene	ND	0.0216		mg/Kg-dry	1	2/5/2015 8:01:00 AM
1,1-Dichloroethane	ND	0.0216		mg/Kg-dry	1	2/5/2015 8:01:00 AM
2,2-Dichloropropane	ND	0.0539		mg/Kg-dry	1	2/5/2015 8:01:00 AM
cis-1,2-Dichloroethene	ND	0.0216		mg/Kg-dry	1	2/5/2015 8:01:00 AM
Chloroform	ND	0.0216		mg/Kg-dry	1	2/5/2015 8:01:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0216		mg/Kg-dry	1	2/5/2015 8:01:00 AM
1,1-Dichloropropene	ND	0.0216		mg/Kg-dry	1	2/5/2015 8:01:00 AM
Carbon tetrachloride	ND	0.0216		mg/Kg-dry	1	2/5/2015 8:01:00 AM
1,2-Dichloroethane (EDC)	ND	0.0324		mg/Kg-dry	1	2/5/2015 8:01:00 AM
Trichloroethene (TCE)	ND	0.0216		mg/Kg-dry	1	2/5/2015 8:01:00 AM
1,2-Dichloropropane	ND	0.0216		mg/Kg-dry	1	2/5/2015 8:01:00 AM
Bromodichloromethane	ND	0.0216		mg/Kg-dry	1	2/5/2015 8:01:00 AM
cis-1,3-Dichloropropene	ND	0.0216		mg/Kg-dry	1	2/5/2015 8:01:00 AM
trans-1,3-Dichloropropene	ND	0.0324		mg/Kg-dry	1	2/5/2015 8:01:00 AM
1,1,2-Trichloroethane	ND	0.0324		mg/Kg-dry	1	2/5/2015 8:01:00 AM
1,3-Dichloropropane	ND	0.0539		mg/Kg-dry	1	2/5/2015 8:01:00 AM
Tetrachloroethene (PCE)	ND	0.0216		mg/Kg-dry	1	2/5/2015 8:01:00 AM
Dibromochloromethane	ND	0.0324		mg/Kg-dry	1	2/5/2015 8:01:00 AM
Chlorobenzene	ND	0.0216		mg/Kg-dry	1	2/5/2015 8:01:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0324		mg/Kg-dry	1	2/5/2015 8:01:00 AM
1,1,2,2-Tetrachloroethane	ND	0.0216		mg/Kg-dry	1	2/5/2015 8:01:00 AM
2-Chlorotoluene	ND	0.0216		mg/Kg-dry	1	2/5/2015 8:01:00 AM
4-Chlorotoluene	ND	0.0216		mg/Kg-dry	1	2/5/2015 8:01:00 AM
1,2,3-Trichloropropane	ND	0.0216		mg/Kg-dry	1	2/5/2015 8:01:00 AM
1,2,4-Trichlorobenzene	ND	0.0539		mg/Kg-dry	1	2/5/2015 8:01:00 AM
1,3-Dichlorobenzene	ND	0.0216		mg/Kg-dry	1	2/5/2015 8:01:00 AM
1,4-Dichlorobenzene	ND	0.0216		mg/Kg-dry	1	2/5/2015 8:01:00 AM
1,2-Dichlorobenzene	ND	0.0216		mg/Kg-dry	1	2/5/2015 8:01:00 AM

Qualifiers: B Analyte detected in the associated Method Blank
 E Value above quantitation range
 J Analyte detected below quantitation limits
 RL Reporting Limit

D Dilution was required
 H Holding times for preparation or analysis exceeded
 ND Not detected at the Reporting Limit
 S Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251
Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 10:05:00 AM

Project: HP Cleaners

Lab ID: 1501251-002

Matrix: Soil

Client Sample ID: B-13-2'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Volatile Organic Compounds by EPA Method 8260

Batch ID: 9970 Analyst: BC

1,2-Dibromo-3-chloropropane	ND	0.539		mg/Kg-dry	1	2/5/2015 8:01:00 AM
Hexachloro-1,3-butadiene	ND	0.108		mg/Kg-dry	1	2/5/2015 8:01:00 AM
1,2,3-Trichlorobenzene	ND	0.0216		mg/Kg-dry	1	2/5/2015 8:01:00 AM
Surr: Dibromofluoromethane	95.6	63.7-129		%REC	1	2/5/2015 8:01:00 AM
Surr: Toluene-d8	112	64.3-131		%REC	1	2/5/2015 8:01:00 AM
Surr: 1-Bromo-4-fluorobenzene	96.4	63.1-141		%REC	1	2/5/2015 8:01:00 AM

Sample Moisture (Percent Moisture)

Batch ID: R20535 Analyst: CG

Percent Moisture	10.2			wt%	1	2/9/2015 12:06:39 PM
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Qualifiers:	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
	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251

Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 10:15:00 AM

Project: HP Cleaners

Lab ID: 1501251-004

Matrix: Soil

Client Sample ID: B-13-4'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260					Batch ID: 9970	Analyst: BC
Dichlorodifluoromethane (CFC-12)	ND	0.0657		mg/Kg-dry	1	2/5/2015 8:29:00 AM
Chloromethane	ND	0.0657		mg/Kg-dry	1	2/5/2015 8:29:00 AM
Vinyl chloride	ND	0.00219		mg/Kg-dry	1	2/5/2015 8:29:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0547		mg/Kg-dry	1	2/5/2015 8:29:00 AM
Chloroethane	ND	0.0657		mg/Kg-dry	1	2/5/2015 8:29:00 AM
1,1-Dichloroethene	ND	0.0547		mg/Kg-dry	1	2/5/2015 8:29:00 AM
Methylene chloride	ND	0.0219		mg/Kg-dry	1	2/5/2015 8:29:00 AM
trans-1,2-Dichloroethene	ND	0.0219		mg/Kg-dry	1	2/5/2015 8:29:00 AM
1,1-Dichloroethane	ND	0.0219		mg/Kg-dry	1	2/5/2015 8:29:00 AM
2,2-Dichloropropane	ND	0.0547		mg/Kg-dry	1	2/5/2015 8:29:00 AM
cis-1,2-Dichloroethene	ND	0.0219		mg/Kg-dry	1	2/5/2015 8:29:00 AM
Chloroform	ND	0.0219		mg/Kg-dry	1	2/5/2015 8:29:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0219		mg/Kg-dry	1	2/5/2015 8:29:00 AM
1,1-Dichloropropene	ND	0.0219		mg/Kg-dry	1	2/5/2015 8:29:00 AM
Carbon tetrachloride	ND	0.0219		mg/Kg-dry	1	2/5/2015 8:29:00 AM
1,2-Dichloroethane (EDC)	ND	0.0328		mg/Kg-dry	1	2/5/2015 8:29:00 AM
Trichloroethene (TCE)	ND	0.0219		mg/Kg-dry	1	2/5/2015 8:29:00 AM
1,2-Dichloropropane	ND	0.0219		mg/Kg-dry	1	2/5/2015 8:29:00 AM
Bromodichloromethane	ND	0.0219		mg/Kg-dry	1	2/5/2015 8:29:00 AM
cis-1,3-Dichloropropene	ND	0.0219		mg/Kg-dry	1	2/5/2015 8:29:00 AM
trans-1,3-Dichloropropene	ND	0.0328		mg/Kg-dry	1	2/5/2015 8:29:00 AM
1,1,2-Trichloroethane	ND	0.0328		mg/Kg-dry	1	2/5/2015 8:29:00 AM
1,3-Dichloropropane	ND	0.0547		mg/Kg-dry	1	2/5/2015 8:29:00 AM
Tetrachloroethene (PCE)	ND	0.0219		mg/Kg-dry	1	2/5/2015 8:29:00 AM
Dibromochloromethane	ND	0.0328		mg/Kg-dry	1	2/5/2015 8:29:00 AM
Chlorobenzene	ND	0.0219		mg/Kg-dry	1	2/5/2015 8:29:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0328		mg/Kg-dry	1	2/5/2015 8:29:00 AM
1,1,2,2-Tetrachloroethane	ND	0.0219		mg/Kg-dry	1	2/5/2015 8:29:00 AM
2-Chlorotoluene	ND	0.0219		mg/Kg-dry	1	2/5/2015 8:29:00 AM
4-Chlorotoluene	ND	0.0219		mg/Kg-dry	1	2/5/2015 8:29:00 AM
1,2,3-Trichloropropane	ND	0.0219		mg/Kg-dry	1	2/5/2015 8:29:00 AM
1,2,4-Trichlorobenzene	ND	0.0547		mg/Kg-dry	1	2/5/2015 8:29:00 AM
1,3-Dichlorobenzene	ND	0.0219		mg/Kg-dry	1	2/5/2015 8:29:00 AM
1,4-Dichlorobenzene	ND	0.0219		mg/Kg-dry	1	2/5/2015 8:29:00 AM
1,2-Dichlorobenzene	ND	0.0219		mg/Kg-dry	1	2/5/2015 8:29:00 AM

Qualifiers: B Analyte detected in the associated Method Blank
 E Value above quantitation range
 J Analyte detected below quantitation limits
 RL Reporting Limit
 D Dilution was required
 H Holding times for preparation or analysis exceeded
 ND Not detected at the Reporting Limit
 S Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251
Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 10:15:00 AM

Project: HP Cleaners

Lab ID: 1501251-004

Matrix: Soil

Client Sample ID: B-13-4'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Volatile Organic Compounds by EPA Method 8260

Batch ID: 9970 Analyst: BC

1,2-Dibromo-3-chloropropane	ND	0.547		mg/Kg-dry	1	2/5/2015 8:29:00 AM
Hexachloro-1,3-butadiene	ND	0.109		mg/Kg-dry	1	2/5/2015 8:29:00 AM
1,2,3-Trichlorobenzene	ND	0.0219		mg/Kg-dry	1	2/5/2015 8:29:00 AM
Surr: Dibromofluoromethane	94.4	63.7-129		%REC	1	2/5/2015 8:29:00 AM
Surr: Toluene-d8	105	64.3-131		%REC	1	2/5/2015 8:29:00 AM
Surr: 1-Bromo-4-fluorobenzene	94.5	63.1-141		%REC	1	2/5/2015 8:29:00 AM

Sample Moisture (Percent Moisture)

Batch ID: R20535 Analyst: CG

Percent Moisture	9.19			wt%	1	2/9/2015 12:06:39 PM
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Qualifiers:	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
	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251

Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 10:30:00 AM

Project: HP Cleaners

Lab ID: 1501251-005

Matrix: Soil

Client Sample ID: B-14-1'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260					Batch ID: 9970	Analyst: BC
Dichlorodifluoromethane (CFC-12)	ND	0.0545		mg/Kg-dry	1	2/5/2015 8:58:00 AM
Chloromethane	ND	0.0545		mg/Kg-dry	1	2/5/2015 8:58:00 AM
Vinyl chloride	ND	0.00182		mg/Kg-dry	1	2/5/2015 8:58:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0454		mg/Kg-dry	1	2/5/2015 8:58:00 AM
Chloroethane	ND	0.0545		mg/Kg-dry	1	2/5/2015 8:58:00 AM
1,1-Dichloroethene	ND	0.0454		mg/Kg-dry	1	2/5/2015 8:58:00 AM
Methylene chloride	ND	0.0182		mg/Kg-dry	1	2/5/2015 8:58:00 AM
trans-1,2-Dichloroethene	ND	0.0182		mg/Kg-dry	1	2/5/2015 8:58:00 AM
1,1-Dichloroethane	ND	0.0182		mg/Kg-dry	1	2/5/2015 8:58:00 AM
2,2-Dichloropropane	ND	0.0454		mg/Kg-dry	1	2/5/2015 8:58:00 AM
cis-1,2-Dichloroethene	ND	0.0182		mg/Kg-dry	1	2/5/2015 8:58:00 AM
Chloroform	ND	0.0182		mg/Kg-dry	1	2/5/2015 8:58:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0182		mg/Kg-dry	1	2/5/2015 8:58:00 AM
1,1-Dichloropropene	ND	0.0182		mg/Kg-dry	1	2/5/2015 8:58:00 AM
Carbon tetrachloride	ND	0.0182		mg/Kg-dry	1	2/5/2015 8:58:00 AM
1,2-Dichloroethane (EDC)	ND	0.0272		mg/Kg-dry	1	2/5/2015 8:58:00 AM
Trichloroethene (TCE)	ND	0.0182		mg/Kg-dry	1	2/5/2015 8:58:00 AM
1,2-Dichloropropane	ND	0.0182		mg/Kg-dry	1	2/5/2015 8:58:00 AM
Bromodichloromethane	ND	0.0182		mg/Kg-dry	1	2/5/2015 8:58:00 AM
cis-1,3-Dichloropropene	ND	0.0182		mg/Kg-dry	1	2/5/2015 8:58:00 AM
trans-1,3-Dichloropropene	ND	0.0272		mg/Kg-dry	1	2/5/2015 8:58:00 AM
1,1,2-Trichloroethane	ND	0.0272		mg/Kg-dry	1	2/5/2015 8:58:00 AM
1,3-Dichloropropane	ND	0.0454		mg/Kg-dry	1	2/5/2015 8:58:00 AM
Tetrachloroethene (PCE)	0.0696	0.0182		mg/Kg-dry	1	2/5/2015 8:58:00 AM
Dibromochloromethane	ND	0.0272		mg/Kg-dry	1	2/5/2015 8:58:00 AM
Chlorobenzene	ND	0.0182		mg/Kg-dry	1	2/5/2015 8:58:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0272		mg/Kg-dry	1	2/5/2015 8:58:00 AM
1,1,1,2,2-Tetrachloroethane	ND	0.0182		mg/Kg-dry	1	2/5/2015 8:58:00 AM
2-Chlorotoluene	ND	0.0182		mg/Kg-dry	1	2/5/2015 8:58:00 AM
4-Chlorotoluene	ND	0.0182		mg/Kg-dry	1	2/5/2015 8:58:00 AM
1,2,3-Trichloropropane	ND	0.0182		mg/Kg-dry	1	2/5/2015 8:58:00 AM
1,2,4-Trichlorobenzene	ND	0.0454		mg/Kg-dry	1	2/5/2015 8:58:00 AM
1,3-Dichlorobenzene	ND	0.0182		mg/Kg-dry	1	2/5/2015 8:58:00 AM
1,4-Dichlorobenzene	ND	0.0182		mg/Kg-dry	1	2/5/2015 8:58:00 AM
1,2-Dichlorobenzene	ND	0.0182		mg/Kg-dry	1	2/5/2015 8:58:00 AM

Qualifiers: B Analyte detected in the associated Method Blank
 E Value above quantitation range
 J Analyte detected below quantitation limits
 RL Reporting Limit

D Dilution was required
 H Holding times for preparation or analysis exceeded
 ND Not detected at the Reporting Limit
 S Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251

Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 10:30:00 AM

Project: HP Cleaners

Lab ID: 1501251-005

Matrix: Soil

Client Sample ID: B-14-1'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Volatile Organic Compounds by EPA Method 8260

Batch ID: 9970

Analyst: BC

1,2-Dibromo-3-chloropropane	ND	0.454		mg/Kg-dry	1	2/5/2015 8:58:00 AM
Hexachloro-1,3-butadiene	ND	0.0908		mg/Kg-dry	1	2/5/2015 8:58:00 AM
1,2,3-Trichlorobenzene	ND	0.0182		mg/Kg-dry	1	2/5/2015 8:58:00 AM
Surr: Dibromofluoromethane	94.5	63.7-129		%REC	1	2/5/2015 8:58:00 AM
Surr: Toluene-d8	99.4	64.3-131		%REC	1	2/5/2015 8:58:00 AM
Surr: 1-Bromo-4-fluorobenzene	95.6	63.1-141		%REC	1	2/5/2015 8:58:00 AM

Sample Moisture (Percent Moisture)

Batch ID: R20535

Analyst: CG

Percent Moisture	3.72			wt%	1	2/9/2015 12:06:39 PM
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Qualifiers: B Analyte detected in the associated Method Blank
 E Value above quantitation range
 J Analyte detected below quantitation limits
 RL Reporting Limit

D Dilution was required
 H Holding times for preparation or analysis exceeded
 ND Not detected at the Reporting Limit
 S Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251

Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 10:45:00 AM

Project: HP Cleaners

Lab ID: 1501251-008

Matrix: Soil

Client Sample ID: B-14-4'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260					Batch ID: 9970	Analyst: BC
Dichlorodifluoromethane (CFC-12)	ND	0.0646		mg/Kg-dry	1	2/5/2015 9:26:00 AM
Chloromethane	ND	0.0646		mg/Kg-dry	1	2/5/2015 9:26:00 AM
Vinyl chloride	ND	0.00215		mg/Kg-dry	1	2/5/2015 9:26:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0538		mg/Kg-dry	1	2/5/2015 9:26:00 AM
Chloroethane	ND	0.0646		mg/Kg-dry	1	2/5/2015 9:26:00 AM
1,1-Dichloroethene	ND	0.0538		mg/Kg-dry	1	2/5/2015 9:26:00 AM
Methylene chloride	ND	0.0215		mg/Kg-dry	1	2/5/2015 9:26:00 AM
trans-1,2-Dichloroethene	ND	0.0215		mg/Kg-dry	1	2/5/2015 9:26:00 AM
1,1-Dichloroethane	ND	0.0215		mg/Kg-dry	1	2/5/2015 9:26:00 AM
2,2-Dichloropropane	ND	0.0538		mg/Kg-dry	1	2/5/2015 9:26:00 AM
cis-1,2-Dichloroethene	ND	0.0215		mg/Kg-dry	1	2/5/2015 9:26:00 AM
Chloroform	ND	0.0215		mg/Kg-dry	1	2/5/2015 9:26:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0215		mg/Kg-dry	1	2/5/2015 9:26:00 AM
1,1-Dichloropropene	ND	0.0215		mg/Kg-dry	1	2/5/2015 9:26:00 AM
Carbon tetrachloride	ND	0.0215		mg/Kg-dry	1	2/5/2015 9:26:00 AM
1,2-Dichloroethane (EDC)	ND	0.0323		mg/Kg-dry	1	2/5/2015 9:26:00 AM
Trichloroethene (TCE)	ND	0.0215		mg/Kg-dry	1	2/5/2015 9:26:00 AM
1,2-Dichloropropane	ND	0.0215		mg/Kg-dry	1	2/5/2015 9:26:00 AM
Bromodichloromethane	ND	0.0215		mg/Kg-dry	1	2/5/2015 9:26:00 AM
cis-1,3-Dichloropropene	ND	0.0215		mg/Kg-dry	1	2/5/2015 9:26:00 AM
trans-1,3-Dichloropropene	ND	0.0323		mg/Kg-dry	1	2/5/2015 9:26:00 AM
1,1,2-Trichloroethane	ND	0.0323		mg/Kg-dry	1	2/5/2015 9:26:00 AM
1,3-Dichloropropane	ND	0.0538		mg/Kg-dry	1	2/5/2015 9:26:00 AM
Tetrachloroethene (PCE)	ND	0.0215		mg/Kg-dry	1	2/5/2015 9:26:00 AM
Dibromochloromethane	ND	0.0323		mg/Kg-dry	1	2/5/2015 9:26:00 AM
Chlorobenzene	ND	0.0215		mg/Kg-dry	1	2/5/2015 9:26:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0323		mg/Kg-dry	1	2/5/2015 9:26:00 AM
1,1,2,2-Tetrachloroethane	ND	0.0215		mg/Kg-dry	1	2/5/2015 9:26:00 AM
2-Chlorotoluene	ND	0.0215		mg/Kg-dry	1	2/5/2015 9:26:00 AM
4-Chlorotoluene	ND	0.0215		mg/Kg-dry	1	2/5/2015 9:26:00 AM
1,2,3-Trichloropropane	ND	0.0215		mg/Kg-dry	1	2/5/2015 9:26:00 AM
1,2,4-Trichlorobenzene	ND	0.0538		mg/Kg-dry	1	2/5/2015 9:26:00 AM
1,3-Dichlorobenzene	ND	0.0215		mg/Kg-dry	1	2/5/2015 9:26:00 AM
1,4-Dichlorobenzene	ND	0.0215		mg/Kg-dry	1	2/5/2015 9:26:00 AM
1,2-Dichlorobenzene	ND	0.0215		mg/Kg-dry	1	2/5/2015 9:26:00 AM

Qualifiers: B Analyte detected in the associated Method Blank
 E Value above quantitation range
 J Analyte detected below quantitation limits
 RL Reporting Limit
 D Dilution was required
 H Holding times for preparation or analysis exceeded
 ND Not detected at the Reporting Limit
 S Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251
Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 10:45:00 AM

Project: HP Cleaners

Lab ID: 1501251-008

Matrix: Soil

Client Sample ID: B-14-4'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Volatile Organic Compounds by EPA Method 8260

Batch ID: 9970

Analyst: BC

1,2-Dibromo-3-chloropropane	ND	0.538		mg/Kg-dry	1	2/5/2015 9:26:00 AM
Hexachloro-1,3-butadiene	ND	0.108		mg/Kg-dry	1	2/5/2015 9:26:00 AM
1,2,3-Trichlorobenzene	ND	0.0215		mg/Kg-dry	1	2/5/2015 9:26:00 AM
Surr: Dibromofluoromethane	93.0	63.7-129		%REC	1	2/5/2015 9:26:00 AM
Surr: Toluene-d8	107	64.3-131		%REC	1	2/5/2015 9:26:00 AM
Surr: 1-Bromo-4-fluorobenzene	93.6	63.1-141		%REC	1	2/5/2015 9:26:00 AM

Sample Moisture (Percent Moisture)

Batch ID: R20535

Analyst: CG

Percent Moisture	9.14			wt%	1	2/9/2015 12:06:39 PM
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Qualifiers: B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
RL Reporting Limit

D Dilution was required
H Holding times for preparation or analysis exceeded
ND Not detected at the Reporting Limit
S Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251

Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 11:30:00 AM

Project: HP Cleaners

Lab ID: 1501251-009

Matrix: Soil

Client Sample ID: B-15-1'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260					Batch ID: 9970	Analyst: BC
Dichlorodifluoromethane (CFC-12)	ND	0.0578		mg/Kg-dry	1	2/5/2015 9:54:00 AM
Chloromethane	ND	0.0578		mg/Kg-dry	1	2/5/2015 9:54:00 AM
Vinyl chloride	ND	0.00193		mg/Kg-dry	1	2/5/2015 9:54:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0482		mg/Kg-dry	1	2/5/2015 9:54:00 AM
Chloroethane	ND	0.0578		mg/Kg-dry	1	2/5/2015 9:54:00 AM
1,1-Dichloroethene	ND	0.0482		mg/Kg-dry	1	2/5/2015 9:54:00 AM
Methylene chloride	ND	0.0193		mg/Kg-dry	1	2/5/2015 9:54:00 AM
trans-1,2-Dichloroethene	ND	0.0193		mg/Kg-dry	1	2/5/2015 9:54:00 AM
1,1-Dichloroethane	ND	0.0193		mg/Kg-dry	1	2/5/2015 9:54:00 AM
2,2-Dichloropropane	ND	0.0482		mg/Kg-dry	1	2/5/2015 9:54:00 AM
cis-1,2-Dichloroethene	ND	0.0193		mg/Kg-dry	1	2/5/2015 9:54:00 AM
Chloroform	ND	0.0193		mg/Kg-dry	1	2/5/2015 9:54:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0193		mg/Kg-dry	1	2/5/2015 9:54:00 AM
1,1-Dichloropropene	ND	0.0193		mg/Kg-dry	1	2/5/2015 9:54:00 AM
Carbon tetrachloride	ND	0.0193		mg/Kg-dry	1	2/5/2015 9:54:00 AM
1,2-Dichloroethane (EDC)	ND	0.0289		mg/Kg-dry	1	2/5/2015 9:54:00 AM
Trichloroethene (TCE)	ND	0.0193		mg/Kg-dry	1	2/5/2015 9:54:00 AM
1,2-Dichloropropane	ND	0.0193		mg/Kg-dry	1	2/5/2015 9:54:00 AM
Bromodichloromethane	ND	0.0193		mg/Kg-dry	1	2/5/2015 9:54:00 AM
cis-1,3-Dichloropropene	ND	0.0193		mg/Kg-dry	1	2/5/2015 9:54:00 AM
trans-1,3-Dichloropropene	ND	0.0289		mg/Kg-dry	1	2/5/2015 9:54:00 AM
1,1,2-Trichloroethane	ND	0.0289		mg/Kg-dry	1	2/5/2015 9:54:00 AM
1,3-Dichloropropane	ND	0.0482		mg/Kg-dry	1	2/5/2015 9:54:00 AM
Tetrachloroethene (PCE)	0.315	0.0193		mg/Kg-dry	1	2/5/2015 9:54:00 AM
Dibromochloromethane	ND	0.0289		mg/Kg-dry	1	2/5/2015 9:54:00 AM
Chlorobenzene	ND	0.0193		mg/Kg-dry	1	2/5/2015 9:54:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0289		mg/Kg-dry	1	2/5/2015 9:54:00 AM
1,1,1,2,2-Tetrachloroethane	ND	0.0193		mg/Kg-dry	1	2/5/2015 9:54:00 AM
2-Chlorotoluene	ND	0.0193		mg/Kg-dry	1	2/5/2015 9:54:00 AM
4-Chlorotoluene	ND	0.0193		mg/Kg-dry	1	2/5/2015 9:54:00 AM
1,2,3-Trichloropropane	ND	0.0193		mg/Kg-dry	1	2/5/2015 9:54:00 AM
1,2,4-Trichlorobenzene	ND	0.0482		mg/Kg-dry	1	2/5/2015 9:54:00 AM
1,3-Dichlorobenzene	ND	0.0193		mg/Kg-dry	1	2/5/2015 9:54:00 AM
1,4-Dichlorobenzene	ND	0.0193		mg/Kg-dry	1	2/5/2015 9:54:00 AM
1,2-Dichlorobenzene	ND	0.0193		mg/Kg-dry	1	2/5/2015 9:54:00 AM

Qualifiers: B Analyte detected in the associated Method Blank
 E Value above quantitation range
 J Analyte detected below quantitation limits
 RL Reporting Limit

D Dilution was required
 H Holding times for preparation or analysis exceeded
 ND Not detected at the Reporting Limit
 S Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251
Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 11:30:00 AM

Project: HP Cleaners

Matrix: Soil

Lab ID: 1501251-009

Client Sample ID: B-15-1'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Volatile Organic Compounds by EPA Method 8260

Batch ID: 9970

Analyst: BC

1,2-Dibromo-3-chloropropane	ND	0.482		mg/Kg-dry	1	2/5/2015 9:54:00 AM
Hexachloro-1,3-butadiene	ND	0.0963		mg/Kg-dry	1	2/5/2015 9:54:00 AM
1,2,3-Trichlorobenzene	ND	0.0193		mg/Kg-dry	1	2/5/2015 9:54:00 AM
Surr: Dibromofluoromethane	95.7	63.7-129		%REC	1	2/5/2015 9:54:00 AM
Surr: Toluene-d8	112	64.3-131		%REC	1	2/5/2015 9:54:00 AM
Surr: 1-Bromo-4-fluorobenzene	96.2	63.1-141		%REC	1	2/5/2015 9:54:00 AM

Sample Moisture (Percent Moisture)

Batch ID: R20535

Analyst: CG

Percent Moisture	3.70			wt%	1	2/9/2015 12:06:39 PM
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Qualifiers: B Analyte detected in the associated Method Blank
 E Value above quantitation range
 J Analyte detected below quantitation limits
 RL Reporting Limit

D Dilution was required
 H Holding times for preparation or analysis exceeded
 ND Not detected at the Reporting Limit
 S Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251
Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 11:35:00 AM

Project: HP Cleaners

Lab ID: 1501251-010

Matrix: Soil

Client Sample ID: B-15-2'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260						
					Batch ID: 9970	Analyst: BC
Dichlorodifluoromethane (CFC-12)	ND	0.0649		mg/Kg-dry	1	2/5/2015 12:17:00 PM
Chloromethane	ND	0.0649		mg/Kg-dry	1	2/5/2015 12:17:00 PM
Vinyl chloride	ND	0.00216		mg/Kg-dry	1	2/5/2015 12:17:00 PM
Trichlorofluoromethane (CFC-11)	ND	0.0541		mg/Kg-dry	1	2/5/2015 12:17:00 PM
Chloroethane	ND	0.0649		mg/Kg-dry	1	2/5/2015 12:17:00 PM
1,1-Dichloroethene	ND	0.0541		mg/Kg-dry	1	2/5/2015 12:17:00 PM
Methylene chloride	ND	0.0216		mg/Kg-dry	1	2/5/2015 12:17:00 PM
trans-1,2-Dichloroethene	ND	0.0216		mg/Kg-dry	1	2/5/2015 12:17:00 PM
1,1-Dichloroethane	ND	0.0216		mg/Kg-dry	1	2/5/2015 12:17:00 PM
2,2-Dichloropropane	ND	0.0541		mg/Kg-dry	1	2/5/2015 12:17:00 PM
cis-1,2-Dichloroethene	ND	0.0216		mg/Kg-dry	1	2/5/2015 12:17:00 PM
Chloroform	ND	0.0216		mg/Kg-dry	1	2/5/2015 12:17:00 PM
1,1,1-Trichloroethane (TCA)	ND	0.0216		mg/Kg-dry	1	2/5/2015 12:17:00 PM
1,1-Dichloropropene	ND	0.0216		mg/Kg-dry	1	2/5/2015 12:17:00 PM
Carbon tetrachloride	ND	0.0216		mg/Kg-dry	1	2/5/2015 12:17:00 PM
1,2-Dichloroethane (EDC)	ND	0.0325		mg/Kg-dry	1	2/5/2015 12:17:00 PM
Trichloroethene (TCE)	ND	0.0216		mg/Kg-dry	1	2/5/2015 12:17:00 PM
1,2-Dichloropropane	ND	0.0216		mg/Kg-dry	1	2/5/2015 12:17:00 PM
Bromodichloromethane	ND	0.0216		mg/Kg-dry	1	2/5/2015 12:17:00 PM
cis-1,3-Dichloropropene	ND	0.0216		mg/Kg-dry	1	2/5/2015 12:17:00 PM
trans-1,3-Dichloropropene	ND	0.0325		mg/Kg-dry	1	2/5/2015 12:17:00 PM
1,1,2-Trichloroethane	ND	0.0325		mg/Kg-dry	1	2/5/2015 12:17:00 PM
1,3-Dichloropropane	ND	0.0541		mg/Kg-dry	1	2/5/2015 12:17:00 PM
Tetrachloroethene (PCE)	0.0260	0.0216		mg/Kg-dry	1	2/5/2015 12:17:00 PM
Dibromochloromethane	ND	0.0325		mg/Kg-dry	1	2/5/2015 12:17:00 PM
Chlorobenzene	ND	0.0216		mg/Kg-dry	1	2/5/2015 12:17:00 PM
1,1,1,2-Tetrachloroethane	ND	0.0325		mg/Kg-dry	1	2/5/2015 12:17:00 PM
1,1,2,2-Tetrachloroethane	ND	0.0216		mg/Kg-dry	1	2/5/2015 12:17:00 PM
2-Chlorotoluene	ND	0.0216		mg/Kg-dry	1	2/5/2015 12:17:00 PM
4-Chlorotoluene	ND	0.0216		mg/Kg-dry	1	2/5/2015 12:17:00 PM
1,2,3-Trichloropropane	ND	0.0216		mg/Kg-dry	1	2/5/2015 12:17:00 PM
1,2,4-Trichlorobenzene	ND	0.0541		mg/Kg-dry	1	2/5/2015 12:17:00 PM
1,3-Dichlorobenzene	ND	0.0216		mg/Kg-dry	1	2/5/2015 12:17:00 PM
1,4-Dichlorobenzene	ND	0.0216		mg/Kg-dry	1	2/5/2015 12:17:00 PM
1,2-Dichlorobenzene	ND	0.0216		mg/Kg-dry	1	2/5/2015 12:17:00 PM

Qualifiers: B Analyte detected in the associated Method Blank
 E Value above quantitation range
 J Analyte detected below quantitation limits
 RL Reporting Limit
 D Dilution was required
 H Holding times for preparation or analysis exceeded
 ND Not detected at the Reporting Limit
 S Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251
Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 11:35:00 AM

Project: HP Cleaners

Lab ID: 1501251-010

Matrix: Soil

Client Sample ID: B-15-2'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Volatile Organic Compounds by EPA Method 8260

Batch ID: 9970 Analyst: BC

1,2-Dibromo-3-chloropropane	ND	0.541		mg/Kg-dry	1	2/5/2015 12:17:00 PM
Hexachloro-1,3-butadiene	ND	0.108		mg/Kg-dry	1	2/5/2015 12:17:00 PM
1,2,3-Trichlorobenzene	ND	0.0216		mg/Kg-dry	1	2/5/2015 12:17:00 PM
Surr: Dibromofluoromethane	94.6	63.7-129		%REC	1	2/5/2015 12:17:00 PM
Surr: Toluene-d8	99.1	64.3-131		%REC	1	2/5/2015 12:17:00 PM
Surr: 1-Bromo-4-fluorobenzene	94.9	63.1-141		%REC	1	2/5/2015 12:17:00 PM

Sample Moisture (Percent Moisture)

Batch ID: R20535 Analyst: CG

Percent Moisture	8.89			wt%	1	2/9/2015 12:06:39 PM
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Qualifiers: B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
RL Reporting Limit

D Dilution was required
H Holding times for preparation or analysis exceeded
ND Not detected at the Reporting Limit
S Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251

Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 11:45:00 AM

Project: HP Cleaners

Lab ID: 1501251-012

Matrix: Soil

Client Sample ID: B-15-4'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260						
					Batch ID: 9970	Analyst: BC
Dichlorodifluoromethane (CFC-12)	ND	0.0596		mg/Kg-dry	1	2/5/2015 12:46:00 PM
Chloromethane	ND	0.0596		mg/Kg-dry	1	2/5/2015 12:46:00 PM
Vinyl chloride	ND	0.00199		mg/Kg-dry	1	2/5/2015 12:46:00 PM
Trichlorofluoromethane (CFC-11)	ND	0.0497		mg/Kg-dry	1	2/5/2015 12:46:00 PM
Chloroethane	ND	0.0596		mg/Kg-dry	1	2/5/2015 12:46:00 PM
1,1-Dichloroethene	ND	0.0497		mg/Kg-dry	1	2/5/2015 12:46:00 PM
Methylene chloride	ND	0.0199		mg/Kg-dry	1	2/5/2015 12:46:00 PM
trans-1,2-Dichloroethene	ND	0.0199		mg/Kg-dry	1	2/5/2015 12:46:00 PM
1,1-Dichloroethane	ND	0.0199		mg/Kg-dry	1	2/5/2015 12:46:00 PM
2,2-Dichloropropane	ND	0.0497		mg/Kg-dry	1	2/5/2015 12:46:00 PM
cis-1,2-Dichloroethene	ND	0.0199		mg/Kg-dry	1	2/5/2015 12:46:00 PM
Chloroform	ND	0.0199		mg/Kg-dry	1	2/5/2015 12:46:00 PM
1,1,1-Trichloroethane (TCA)	ND	0.0199		mg/Kg-dry	1	2/5/2015 12:46:00 PM
1,1-Dichloropropene	ND	0.0199		mg/Kg-dry	1	2/5/2015 12:46:00 PM
Carbon tetrachloride	ND	0.0199		mg/Kg-dry	1	2/5/2015 12:46:00 PM
1,2-Dichloroethane (EDC)	ND	0.0298		mg/Kg-dry	1	2/5/2015 12:46:00 PM
Trichloroethene (TCE)	ND	0.0199		mg/Kg-dry	1	2/5/2015 12:46:00 PM
1,2-Dichloropropane	ND	0.0199		mg/Kg-dry	1	2/5/2015 12:46:00 PM
Bromodichloromethane	ND	0.0199		mg/Kg-dry	1	2/5/2015 12:46:00 PM
cis-1,3-Dichloropropene	ND	0.0199		mg/Kg-dry	1	2/5/2015 12:46:00 PM
trans-1,3-Dichloropropene	ND	0.0298		mg/Kg-dry	1	2/5/2015 12:46:00 PM
1,1,2-Trichloroethane	ND	0.0298		mg/Kg-dry	1	2/5/2015 12:46:00 PM
1,3-Dichloropropane	ND	0.0497		mg/Kg-dry	1	2/5/2015 12:46:00 PM
Tetrachloroethene (PCE)	ND	0.0199		mg/Kg-dry	1	2/5/2015 12:46:00 PM
Dibromochloromethane	ND	0.0298		mg/Kg-dry	1	2/5/2015 12:46:00 PM
Chlorobenzene	ND	0.0199		mg/Kg-dry	1	2/5/2015 12:46:00 PM
1,1,1,2-Tetrachloroethane	ND	0.0298		mg/Kg-dry	1	2/5/2015 12:46:00 PM
1,1,2,2-Tetrachloroethane	ND	0.0199		mg/Kg-dry	1	2/5/2015 12:46:00 PM
2-Chlorotoluene	ND	0.0199		mg/Kg-dry	1	2/5/2015 12:46:00 PM
4-Chlorotoluene	ND	0.0199		mg/Kg-dry	1	2/5/2015 12:46:00 PM
1,2,3-Trichloropropane	ND	0.0199		mg/Kg-dry	1	2/5/2015 12:46:00 PM
1,2,4-Trichlorobenzene	ND	0.0497		mg/Kg-dry	1	2/5/2015 12:46:00 PM
1,3-Dichlorobenzene	ND	0.0199		mg/Kg-dry	1	2/5/2015 12:46:00 PM
1,4-Dichlorobenzene	ND	0.0199		mg/Kg-dry	1	2/5/2015 12:46:00 PM
1,2-Dichlorobenzene	ND	0.0199		mg/Kg-dry	1	2/5/2015 12:46:00 PM

Qualifiers: B Analyte detected in the associated Method Blank
 E Value above quantitation range
 J Analyte detected below quantitation limits
 RL Reporting Limit

D Dilution was required
 H Holding times for preparation or analysis exceeded
 ND Not detected at the Reporting Limit
 S Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251

Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 11:45:00 AM

Project: HP Cleaners

Lab ID: 1501251-012

Matrix: Soil

Client Sample ID: B-15-4'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<u>Volatile Organic Compounds by EPA Method 8260</u>				Batch ID: 9970		Analyst: BC
1,2-Dibromo-3-chloropropane	ND	0.497		mg/Kg-dry	1	2/5/2015 12:46:00 PM
Hexachloro-1,3-butadiene	ND	0.0994		mg/Kg-dry	1	2/5/2015 12:46:00 PM
1,2,3-Trichlorobenzene	ND	0.0199		mg/Kg-dry	1	2/5/2015 12:46:00 PM
Surr: Dibromofluoromethane	92.2	63.7-129		%REC	1	2/5/2015 12:46:00 PM
Surr: Toluene-d8	103	64.3-131		%REC	1	2/5/2015 12:46:00 PM
Surr: 1-Bromo-4-fluorobenzene	95.3	63.1-141		%REC	1	2/5/2015 12:46:00 PM
<u>Sample Moisture (Percent Moisture)</u>				Batch ID: R20535		Analyst: CG
Percent Moisture	9.17			wt%	1	2/9/2015 12:06:39 PM

Qualifiers: B Analyte detected in the associated Method Blank
 E Value above quantitation range
 J Analyte detected below quantitation limits
 RL Reporting Limit

D Dilution was required
 H Holding times for preparation or analysis exceeded
 ND Not detected at the Reporting Limit
 S Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251

Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 12:00:00 PM

Project: HP Cleaners

Lab ID: 1501251-013

Matrix: Soil

Client Sample ID: B-16-1'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260						
					Batch ID: 9970	Analyst: BC
Dichlorodifluoromethane (CFC-12)	ND	0.0581		mg/Kg-dry	1	2/5/2015 1:15:00 PM
Chloromethane	ND	0.0581		mg/Kg-dry	1	2/5/2015 1:15:00 PM
Vinyl chloride	ND	0.00194		mg/Kg-dry	1	2/5/2015 1:15:00 PM
Trichlorofluoromethane (CFC-11)	ND	0.0485		mg/Kg-dry	1	2/5/2015 1:15:00 PM
Chloroethane	ND	0.0581		mg/Kg-dry	1	2/5/2015 1:15:00 PM
1,1-Dichloroethene	ND	0.0485		mg/Kg-dry	1	2/5/2015 1:15:00 PM
Methylene chloride	ND	0.0194		mg/Kg-dry	1	2/5/2015 1:15:00 PM
trans-1,2-Dichloroethene	ND	0.0194		mg/Kg-dry	1	2/5/2015 1:15:00 PM
1,1-Dichloroethane	ND	0.0194		mg/Kg-dry	1	2/5/2015 1:15:00 PM
2,2-Dichloropropane	ND	0.0485		mg/Kg-dry	1	2/5/2015 1:15:00 PM
cis-1,2-Dichloroethene	ND	0.0194		mg/Kg-dry	1	2/5/2015 1:15:00 PM
Chloroform	ND	0.0194		mg/Kg-dry	1	2/5/2015 1:15:00 PM
1,1,1-Trichloroethane (TCA)	ND	0.0194		mg/Kg-dry	1	2/5/2015 1:15:00 PM
1,1-Dichloropropene	ND	0.0194		mg/Kg-dry	1	2/5/2015 1:15:00 PM
Carbon tetrachloride	ND	0.0194		mg/Kg-dry	1	2/5/2015 1:15:00 PM
1,2-Dichloroethane (EDC)	ND	0.0291		mg/Kg-dry	1	2/5/2015 1:15:00 PM
Trichloroethene (TCE)	ND	0.0194		mg/Kg-dry	1	2/5/2015 1:15:00 PM
1,2-Dichloropropane	ND	0.0194		mg/Kg-dry	1	2/5/2015 1:15:00 PM
Bromodichloromethane	ND	0.0194		mg/Kg-dry	1	2/5/2015 1:15:00 PM
cis-1,3-Dichloropropene	ND	0.0194		mg/Kg-dry	1	2/5/2015 1:15:00 PM
trans-1,3-Dichloropropene	ND	0.0291		mg/Kg-dry	1	2/5/2015 1:15:00 PM
1,1,2-Trichloroethane	ND	0.0291		mg/Kg-dry	1	2/5/2015 1:15:00 PM
1,3-Dichloropropane	ND	0.0485		mg/Kg-dry	1	2/5/2015 1:15:00 PM
Tetrachloroethene (PCE)	0.0243	0.0194		mg/Kg-dry	1	2/5/2015 1:15:00 PM
Dibromochloromethane	ND	0.0291		mg/Kg-dry	1	2/5/2015 1:15:00 PM
Chlorobenzene	ND	0.0194		mg/Kg-dry	1	2/5/2015 1:15:00 PM
1,1,1,2-Tetrachloroethane	ND	0.0291		mg/Kg-dry	1	2/5/2015 1:15:00 PM
1,1,2,2-Tetrachloroethane	ND	0.0194		mg/Kg-dry	1	2/5/2015 1:15:00 PM
2-Chlorotoluene	ND	0.0194		mg/Kg-dry	1	2/5/2015 1:15:00 PM
4-Chlorotoluene	ND	0.0194		mg/Kg-dry	1	2/5/2015 1:15:00 PM
1,2,3-Trichloropropane	ND	0.0194		mg/Kg-dry	1	2/5/2015 1:15:00 PM
1,2,4-Trichlorobenzene	ND	0.0485		mg/Kg-dry	1	2/5/2015 1:15:00 PM
1,3-Dichlorobenzene	ND	0.0194		mg/Kg-dry	1	2/5/2015 1:15:00 PM
1,4-Dichlorobenzene	ND	0.0194		mg/Kg-dry	1	2/5/2015 1:15:00 PM
1,2-Dichlorobenzene	ND	0.0194		mg/Kg-dry	1	2/5/2015 1:15:00 PM

Qualifiers: B Analyte detected in the associated Method Blank
 E Value above quantitation range
 J Analyte detected below quantitation limits
 RL Reporting Limit

D Dilution was required
 H Holding times for preparation or analysis exceeded
 ND Not detected at the Reporting Limit
 S Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251
Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 12:00:00 PM

Project: HP Cleaners

Lab ID: 1501251-013

Matrix: Soil

Client Sample ID: B-16-1'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Volatile Organic Compounds by EPA Method 8260

Batch ID: 9970

Analyst: BC

1,2-Dibromo-3-chloropropane	ND	0.485		mg/Kg-dry	1	2/5/2015 1:15:00 PM
Hexachloro-1,3-butadiene	ND	0.0969		mg/Kg-dry	1	2/5/2015 1:15:00 PM
1,2,3-Trichlorobenzene	ND	0.0194		mg/Kg-dry	1	2/5/2015 1:15:00 PM
Surr: Dibromofluoromethane	91.9	63.7-129		%REC	1	2/5/2015 1:15:00 PM
Surr: Toluene-d8	98.9	64.3-131		%REC	1	2/5/2015 1:15:00 PM
Surr: 1-Bromo-4-fluorobenzene	93.7	63.1-141		%REC	1	2/5/2015 1:15:00 PM

Sample Moisture (Percent Moisture)

Batch ID: R20535

Analyst: CG

Percent Moisture	7.61			wt%	1	2/9/2015 12:06:39 PM
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Qualifiers: B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
RL Reporting Limit

D Dilution was required
H Holding times for preparation or analysis exceeded
ND Not detected at the Reporting Limit
S Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251

Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 12:05:00 PM

Project: HP Cleaners

Lab ID: 1501251-014

Matrix: Soil

Client Sample ID: B-16-2'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Volatile Organic Compounds by EPA Method 8260

Batch ID: 9970

Analyst: BC

Dichlorodifluoromethane (CFC-12)	ND	0.0615		mg/Kg-dry	1	2/5/2015 1:43:00 PM
Chloromethane	ND	0.0615		mg/Kg-dry	1	2/5/2015 1:43:00 PM
Vinyl chloride	ND	0.00205		mg/Kg-dry	1	2/5/2015 1:43:00 PM
Trichlorofluoromethane (CFC-11)	ND	0.0513		mg/Kg-dry	1	2/5/2015 1:43:00 PM
Chloroethane	ND	0.0615		mg/Kg-dry	1	2/5/2015 1:43:00 PM
1,1-Dichloroethene	ND	0.0513		mg/Kg-dry	1	2/5/2015 1:43:00 PM
Methylene chloride	ND	0.0205		mg/Kg-dry	1	2/5/2015 1:43:00 PM
trans-1,2-Dichloroethene	ND	0.0205		mg/Kg-dry	1	2/5/2015 1:43:00 PM
1,1-Dichloroethane	ND	0.0205		mg/Kg-dry	1	2/5/2015 1:43:00 PM
2,2-Dichloropropane	ND	0.0513		mg/Kg-dry	1	2/5/2015 1:43:00 PM
cis-1,2-Dichloroethene	ND	0.0205		mg/Kg-dry	1	2/5/2015 1:43:00 PM
Chloroform	ND	0.0205		mg/Kg-dry	1	2/5/2015 1:43:00 PM
1,1,1-Trichloroethane (TCA)	ND	0.0205		mg/Kg-dry	1	2/5/2015 1:43:00 PM
1,1-Dichloropropene	ND	0.0205		mg/Kg-dry	1	2/5/2015 1:43:00 PM
Carbon tetrachloride	ND	0.0205		mg/Kg-dry	1	2/5/2015 1:43:00 PM
1,2-Dichloroethane (EDC)	ND	0.0308		mg/Kg-dry	1	2/5/2015 1:43:00 PM
Trichloroethene (TCE)	ND	0.0205		mg/Kg-dry	1	2/5/2015 1:43:00 PM
1,2-Dichloropropane	ND	0.0205		mg/Kg-dry	1	2/5/2015 1:43:00 PM
Bromodichloromethane	ND	0.0205		mg/Kg-dry	1	2/5/2015 1:43:00 PM
cis-1,3-Dichloropropene	ND	0.0205		mg/Kg-dry	1	2/5/2015 1:43:00 PM
trans-1,3-Dichloropropene	ND	0.0308		mg/Kg-dry	1	2/5/2015 1:43:00 PM
1,1,2-Trichloroethane	ND	0.0308		mg/Kg-dry	1	2/5/2015 1:43:00 PM
1,3-Dichloropropane	ND	0.0513		mg/Kg-dry	1	2/5/2015 1:43:00 PM
Tetrachloroethene (PCE)	ND	0.0205		mg/Kg-dry	1	2/5/2015 1:43:00 PM
Dibromochloromethane	ND	0.0308		mg/Kg-dry	1	2/5/2015 1:43:00 PM
Chlorobenzene	ND	0.0205		mg/Kg-dry	1	2/5/2015 1:43:00 PM
1,1,1,2-Tetrachloroethane	ND	0.0308		mg/Kg-dry	1	2/5/2015 1:43:00 PM
1,1,2,2-Tetrachloroethane	ND	0.0205		mg/Kg-dry	1	2/5/2015 1:43:00 PM
2-Chlorotoluene	ND	0.0205		mg/Kg-dry	1	2/5/2015 1:43:00 PM
4-Chlorotoluene	ND	0.0205		mg/Kg-dry	1	2/5/2015 1:43:00 PM
1,2,3-Trichloropropane	ND	0.0205		mg/Kg-dry	1	2/5/2015 1:43:00 PM
1,2,4-Trichlorobenzene	ND	0.0513		mg/Kg-dry	1	2/5/2015 1:43:00 PM
1,3-Dichlorobenzene	ND	0.0205		mg/Kg-dry	1	2/5/2015 1:43:00 PM
1,4-Dichlorobenzene	ND	0.0205		mg/Kg-dry	1	2/5/2015 1:43:00 PM
1,2-Dichlorobenzene	ND	0.0205		mg/Kg-dry	1	2/5/2015 1:43:00 PM

Qualifiers:

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
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251
Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 12:05:00 PM

Project: HP Cleaners

Lab ID: 1501251-014

Matrix: Soil

Client Sample ID: B-16-2'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Volatile Organic Compounds by EPA Method 8260

Batch ID: 9970

Analyst: BC

1,2-Dibromo-3-chloropropane	ND	0.513		mg/Kg-dry	1	2/5/2015 1:43:00 PM
Hexachloro-1,3-butadiene	ND	0.103		mg/Kg-dry	1	2/5/2015 1:43:00 PM
1,2,3-Trichlorobenzene	ND	0.0205		mg/Kg-dry	1	2/5/2015 1:43:00 PM
Surr: Dibromofluoromethane	93.1	63.7-129		%REC	1	2/5/2015 1:43:00 PM
Surr: Toluene-d8	101	64.3-131		%REC	1	2/5/2015 1:43:00 PM
Surr: 1-Bromo-4-fluorobenzene	95.0	63.1-141		%REC	1	2/5/2015 1:43:00 PM

Sample Moisture (Percent Moisture)

Batch ID: R20535

Analyst: CG

Percent Moisture	8.70			wt%	1	2/9/2015 12:06:39 PM
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Qualifiers: B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
RL Reporting Limit

D Dilution was required
H Holding times for preparation or analysis exceeded
ND Not detected at the Reporting Limit
S Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251

Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 12:15:00 PM

Project: HP Cleaners

Lab ID: 1501251-016

Matrix: Soil

Client Sample ID: B-16-4'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260						
					Batch ID: 9970	Analyst: BC
Dichlorodifluoromethane (CFC-12)	ND	0.0659		mg/Kg-dry	1	2/5/2015 2:12:00 PM
Chloromethane	ND	0.0659		mg/Kg-dry	1	2/5/2015 2:12:00 PM
Vinyl chloride	ND	0.00220		mg/Kg-dry	1	2/5/2015 2:12:00 PM
Trichlorofluoromethane (CFC-11)	ND	0.0549		mg/Kg-dry	1	2/5/2015 2:12:00 PM
Chloroethane	ND	0.0659		mg/Kg-dry	1	2/5/2015 2:12:00 PM
1,1-Dichloroethene	ND	0.0549		mg/Kg-dry	1	2/5/2015 2:12:00 PM
Methylene chloride	ND	0.0220		mg/Kg-dry	1	2/5/2015 2:12:00 PM
trans-1,2-Dichloroethene	ND	0.0220		mg/Kg-dry	1	2/5/2015 2:12:00 PM
1,1-Dichloroethane	ND	0.0220		mg/Kg-dry	1	2/5/2015 2:12:00 PM
2,2-Dichloropropane	ND	0.0549		mg/Kg-dry	1	2/5/2015 2:12:00 PM
cis-1,2-Dichloroethene	ND	0.0220		mg/Kg-dry	1	2/5/2015 2:12:00 PM
Chloroform	ND	0.0220		mg/Kg-dry	1	2/5/2015 2:12:00 PM
1,1,1-Trichloroethane (TCA)	ND	0.0220		mg/Kg-dry	1	2/5/2015 2:12:00 PM
1,1-Dichloropropene	ND	0.0220		mg/Kg-dry	1	2/5/2015 2:12:00 PM
Carbon tetrachloride	ND	0.0220		mg/Kg-dry	1	2/5/2015 2:12:00 PM
1,2-Dichloroethane (EDC)	ND	0.0329		mg/Kg-dry	1	2/5/2015 2:12:00 PM
Trichloroethene (TCE)	ND	0.0220		mg/Kg-dry	1	2/5/2015 2:12:00 PM
1,2-Dichloropropane	ND	0.0220		mg/Kg-dry	1	2/5/2015 2:12:00 PM
Bromodichloromethane	ND	0.0220		mg/Kg-dry	1	2/5/2015 2:12:00 PM
cis-1,3-Dichloropropene	ND	0.0220		mg/Kg-dry	1	2/5/2015 2:12:00 PM
trans-1,3-Dichloropropene	ND	0.0329		mg/Kg-dry	1	2/5/2015 2:12:00 PM
1,1,2-Trichloroethane	ND	0.0329		mg/Kg-dry	1	2/5/2015 2:12:00 PM
1,3-Dichloropropane	ND	0.0549		mg/Kg-dry	1	2/5/2015 2:12:00 PM
Tetrachloroethene (PCE)	ND	0.0220		mg/Kg-dry	1	2/5/2015 2:12:00 PM
Dibromochloromethane	ND	0.0329		mg/Kg-dry	1	2/5/2015 2:12:00 PM
Chlorobenzene	ND	0.0220		mg/Kg-dry	1	2/5/2015 2:12:00 PM
1,1,1,2-Tetrachloroethane	ND	0.0329		mg/Kg-dry	1	2/5/2015 2:12:00 PM
1,1,2,2-Tetrachloroethane	ND	0.0220		mg/Kg-dry	1	2/5/2015 2:12:00 PM
2-Chlorotoluene	ND	0.0220		mg/Kg-dry	1	2/5/2015 2:12:00 PM
4-Chlorotoluene	ND	0.0220		mg/Kg-dry	1	2/5/2015 2:12:00 PM
1,2,3-Trichloropropane	ND	0.0220		mg/Kg-dry	1	2/5/2015 2:12:00 PM
1,2,4-Trichlorobenzene	ND	0.0549		mg/Kg-dry	1	2/5/2015 2:12:00 PM
1,3-Dichlorobenzene	ND	0.0220		mg/Kg-dry	1	2/5/2015 2:12:00 PM
1,4-Dichlorobenzene	ND	0.0220		mg/Kg-dry	1	2/5/2015 2:12:00 PM
1,2-Dichlorobenzene	ND	0.0220		mg/Kg-dry	1	2/5/2015 2:12:00 PM

Qualifiers: B Analyte detected in the associated Method Blank
 E Value above quantitation range
 J Analyte detected below quantitation limits
 RL Reporting Limit
 D Dilution was required
 H Holding times for preparation or analysis exceeded
 ND Not detected at the Reporting Limit
 S Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251

Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 12:15:00 PM

Project: HP Cleaners

Lab ID: 1501251-016

Matrix: Soil

Client Sample ID: B-16-4'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Volatile Organic Compounds by EPA Method 8260

Batch ID: 9970

Analyst: BC

1,2-Dibromo-3-chloropropane	ND	0.549		mg/Kg-dry	1	2/5/2015 2:12:00 PM
Hexachloro-1,3-butadiene	ND	0.110		mg/Kg-dry	1	2/5/2015 2:12:00 PM
1,2,3-Trichlorobenzene	ND	0.0220		mg/Kg-dry	1	2/5/2015 2:12:00 PM
Surr: Dibromofluoromethane	90.3	63.7-129		%REC	1	2/5/2015 2:12:00 PM
Surr: Toluene-d8	100	64.3-131		%REC	1	2/5/2015 2:12:00 PM
Surr: 1-Bromo-4-fluorobenzene	92.8	63.1-141		%REC	1	2/5/2015 2:12:00 PM

Sample Moisture (Percent Moisture)

Batch ID: R20535

Analyst: CG

Percent Moisture	9.84			wt%	1	2/9/2015 12:06:39 PM
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Qualifiers: B Analyte detected in the associated Method Blank
 E Value above quantitation range
 J Analyte detected below quantitation limits
 RL Reporting Limit

D Dilution was required
 H Holding times for preparation or analysis exceeded
 ND Not detected at the Reporting Limit
 S Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251

Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 12:30:00 PM

Project: HP Cleaners

Lab ID: 1501251-017

Matrix: Soil

Client Sample ID: B-17-1'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260						
					Batch ID: 9970	Analyst: BC
Dichlorodifluoromethane (CFC-12)	ND	0.0573		mg/Kg-dry	1	2/5/2015 2:41:00 PM
Chloromethane	ND	0.0573		mg/Kg-dry	1	2/5/2015 2:41:00 PM
Vinyl chloride	ND	0.00191		mg/Kg-dry	1	2/5/2015 2:41:00 PM
Trichlorofluoromethane (CFC-11)	ND	0.0477		mg/Kg-dry	1	2/5/2015 2:41:00 PM
Chloroethane	ND	0.0573		mg/Kg-dry	1	2/5/2015 2:41:00 PM
1,1-Dichloroethene	ND	0.0477		mg/Kg-dry	1	2/5/2015 2:41:00 PM
Methylene chloride	ND	0.0191		mg/Kg-dry	1	2/5/2015 2:41:00 PM
trans-1,2-Dichloroethene	ND	0.0191		mg/Kg-dry	1	2/5/2015 2:41:00 PM
1,1-Dichloroethane	ND	0.0191		mg/Kg-dry	1	2/5/2015 2:41:00 PM
2,2-Dichloropropane	ND	0.0477		mg/Kg-dry	1	2/5/2015 2:41:00 PM
cis-1,2-Dichloroethene	ND	0.0191		mg/Kg-dry	1	2/5/2015 2:41:00 PM
Chloroform	ND	0.0191		mg/Kg-dry	1	2/5/2015 2:41:00 PM
1,1,1-Trichloroethane (TCA)	ND	0.0191		mg/Kg-dry	1	2/5/2015 2:41:00 PM
1,1-Dichloropropene	ND	0.0191		mg/Kg-dry	1	2/5/2015 2:41:00 PM
Carbon tetrachloride	ND	0.0191		mg/Kg-dry	1	2/5/2015 2:41:00 PM
1,2-Dichloroethane (EDC)	ND	0.0286		mg/Kg-dry	1	2/5/2015 2:41:00 PM
Trichloroethene (TCE)	ND	0.0191		mg/Kg-dry	1	2/5/2015 2:41:00 PM
1,2-Dichloropropane	ND	0.0191		mg/Kg-dry	1	2/5/2015 2:41:00 PM
Bromodichloromethane	ND	0.0191		mg/Kg-dry	1	2/5/2015 2:41:00 PM
cis-1,3-Dichloropropene	ND	0.0191		mg/Kg-dry	1	2/5/2015 2:41:00 PM
trans-1,3-Dichloropropene	ND	0.0286		mg/Kg-dry	1	2/5/2015 2:41:00 PM
1,1,2-Trichloroethane	ND	0.0286		mg/Kg-dry	1	2/5/2015 2:41:00 PM
1,3-Dichloropropane	ND	0.0477		mg/Kg-dry	1	2/5/2015 2:41:00 PM
Tetrachloroethene (PCE)	ND	0.0191		mg/Kg-dry	1	2/5/2015 2:41:00 PM
Dibromochloromethane	ND	0.0286		mg/Kg-dry	1	2/5/2015 2:41:00 PM
Chlorobenzene	ND	0.0191		mg/Kg-dry	1	2/5/2015 2:41:00 PM
1,1,1,2-Tetrachloroethane	ND	0.0286		mg/Kg-dry	1	2/5/2015 2:41:00 PM
1,1,2,2-Tetrachloroethane	ND	0.0191		mg/Kg-dry	1	2/5/2015 2:41:00 PM
2-Chlorotoluene	ND	0.0191		mg/Kg-dry	1	2/5/2015 2:41:00 PM
4-Chlorotoluene	ND	0.0191		mg/Kg-dry	1	2/5/2015 2:41:00 PM
1,2,3-Trichloropropane	ND	0.0191		mg/Kg-dry	1	2/5/2015 2:41:00 PM
1,2,4-Trichlorobenzene	ND	0.0477		mg/Kg-dry	1	2/5/2015 2:41:00 PM
1,3-Dichlorobenzene	ND	0.0191		mg/Kg-dry	1	2/5/2015 2:41:00 PM
1,4-Dichlorobenzene	ND	0.0191		mg/Kg-dry	1	2/5/2015 2:41:00 PM
1,2-Dichlorobenzene	ND	0.0191		mg/Kg-dry	1	2/5/2015 2:41:00 PM

Qualifiers: B Analyte detected in the associated Method Blank
 E Value above quantitation range
 J Analyte detected below quantitation limits
 RL Reporting Limit

D Dilution was required
 H Holding times for preparation or analysis exceeded
 ND Not detected at the Reporting Limit
 S Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251
Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 12:30:00 PM

Project: HP Cleaners

Lab ID: 1501251-017

Matrix: Soil

Client Sample ID: B-17-1'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Volatile Organic Compounds by EPA Method 8260

Batch ID: 9970

Analyst: BC

1,2-Dibromo-3-chloropropane	ND	0.477		mg/Kg-dry	1	2/5/2015 2:41:00 PM
Hexachloro-1,3-butadiene	ND	0.0955		mg/Kg-dry	1	2/5/2015 2:41:00 PM
1,2,3-Trichlorobenzene	ND	0.0191		mg/Kg-dry	1	2/5/2015 2:41:00 PM
Surr: Dibromofluoromethane	86.8	63.7-129		%REC	1	2/5/2015 2:41:00 PM
Surr: Toluene-d8	106	64.3-131		%REC	1	2/5/2015 2:41:00 PM
Surr: 1-Bromo-4-fluorobenzene	95.3	63.1-141		%REC	1	2/5/2015 2:41:00 PM

Sample Moisture (Percent Moisture)

Batch ID: R20535

Analyst: CG

Percent Moisture	4.43			wt%	1	2/9/2015 12:06:39 PM
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Qualifiers: B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
RL Reporting Limit

D Dilution was required
H Holding times for preparation or analysis exceeded
ND Not detected at the Reporting Limit
S Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251

Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 12:35:00 PM

Project: HP Cleaners

Lab ID: 1501251-018

Matrix: Soil

Client Sample ID: B-17-2'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260						
					Batch ID: 9956	Analyst: AK
Dichlorodifluoromethane (CFC-12)	ND	0.0626		mg/Kg-dry	1	2/6/2015 4:02:00 AM
Chloromethane	ND	0.0626		mg/Kg-dry	1	2/6/2015 4:02:00 AM
Vinyl chloride	ND	0.00209		mg/Kg-dry	1	2/6/2015 4:02:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0522		mg/Kg-dry	1	2/6/2015 4:02:00 AM
Chloroethane	ND	0.0626		mg/Kg-dry	1	2/6/2015 4:02:00 AM
1,1-Dichloroethene	ND	0.0522		mg/Kg-dry	1	2/6/2015 4:02:00 AM
Methylene chloride	ND	0.0209		mg/Kg-dry	1	2/6/2015 4:02:00 AM
trans-1,2-Dichloroethene	ND	0.0209		mg/Kg-dry	1	2/6/2015 4:02:00 AM
1,1-Dichloroethane	ND	0.0209		mg/Kg-dry	1	2/6/2015 4:02:00 AM
2,2-Dichloropropane	ND	0.0522		mg/Kg-dry	1	2/6/2015 4:02:00 AM
cis-1,2-Dichloroethene	ND	0.0209		mg/Kg-dry	1	2/6/2015 4:02:00 AM
Chloroform	ND	0.0209		mg/Kg-dry	1	2/6/2015 4:02:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0209		mg/Kg-dry	1	2/6/2015 4:02:00 AM
1,1-Dichloropropene	ND	0.0209		mg/Kg-dry	1	2/6/2015 4:02:00 AM
Carbon tetrachloride	ND	0.0209		mg/Kg-dry	1	2/6/2015 4:02:00 AM
1,2-Dichloroethane (EDC)	ND	0.0313		mg/Kg-dry	1	2/6/2015 4:02:00 AM
Trichloroethene (TCE)	ND	0.0209		mg/Kg-dry	1	2/6/2015 4:02:00 AM
1,2-Dichloropropane	ND	0.0209		mg/Kg-dry	1	2/6/2015 4:02:00 AM
Bromodichloromethane	ND	0.0209		mg/Kg-dry	1	2/6/2015 4:02:00 AM
cis-1,3-Dichloropropene	ND	0.0209		mg/Kg-dry	1	2/6/2015 4:02:00 AM
trans-1,3-Dichloropropene	ND	0.0313		mg/Kg-dry	1	2/6/2015 4:02:00 AM
1,1,2-Trichloroethane	ND	0.0313		mg/Kg-dry	1	2/6/2015 4:02:00 AM
1,3-Dichloropropane	ND	0.0522		mg/Kg-dry	1	2/6/2015 4:02:00 AM
Tetrachloroethene (PCE)	ND	0.0209		mg/Kg-dry	1	2/6/2015 4:02:00 AM
Dibromochloromethane	ND	0.0313		mg/Kg-dry	1	2/6/2015 4:02:00 AM
Chlorobenzene	ND	0.0209		mg/Kg-dry	1	2/6/2015 4:02:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0313		mg/Kg-dry	1	2/6/2015 4:02:00 AM
1,1,2,2-Tetrachloroethane	ND	0.0209		mg/Kg-dry	1	2/6/2015 4:02:00 AM
2-Chlorotoluene	ND	0.0209		mg/Kg-dry	1	2/6/2015 4:02:00 AM
4-Chlorotoluene	ND	0.0209		mg/Kg-dry	1	2/6/2015 4:02:00 AM
1,2,3-Trichloropropane	ND	0.0209		mg/Kg-dry	1	2/6/2015 4:02:00 AM
1,2,4-Trichlorobenzene	ND	0.0522		mg/Kg-dry	1	2/6/2015 4:02:00 AM
1,3-Dichlorobenzene	ND	0.0209		mg/Kg-dry	1	2/6/2015 4:02:00 AM
1,4-Dichlorobenzene	ND	0.0209		mg/Kg-dry	1	2/6/2015 4:02:00 AM
1,2-Dichlorobenzene	ND	0.0209		mg/Kg-dry	1	2/6/2015 4:02:00 AM

Qualifiers: B Analyte detected in the associated Method Blank
 E Value above quantitation range
 J Analyte detected below quantitation limits
 RL Reporting Limit
 D Dilution was required
 H Holding times for preparation or analysis exceeded
 ND Not detected at the Reporting Limit
 S Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251
Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 12:35:00 PM

Project: HP Cleaners

Lab ID: 1501251-018

Matrix: Soil

Client Sample ID: B-17-2'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Volatile Organic Compounds by EPA Method 8260

Batch ID: 9956

Analyst: AK

1,2-Dibromo-3-chloropropane	ND	0.522		mg/Kg-dry	1	2/6/2015 4:02:00 AM
Hexachloro-1,3-butadiene	ND	0.104		mg/Kg-dry	1	2/6/2015 4:02:00 AM
1,2,3-Trichlorobenzene	ND	0.0209		mg/Kg-dry	1	2/6/2015 4:02:00 AM
Surr: Dibromofluoromethane	99.2	63.7-129		%REC	1	2/6/2015 4:02:00 AM
Surr: Toluene-d8	99.7	64.3-131		%REC	1	2/6/2015 4:02:00 AM
Surr: 1-Bromo-4-fluorobenzene	99.0	63.1-141		%REC	1	2/6/2015 4:02:00 AM

Sample Moisture (Percent Moisture)

Batch ID: R20535

Analyst: CG

Percent Moisture	8.92			wt%	1	2/9/2015 12:06:39 PM
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Qualifiers: B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
RL Reporting Limit

D Dilution was required
H Holding times for preparation or analysis exceeded
ND Not detected at the Reporting Limit
S Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251

Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 12:45:00 PM

Project: HP Cleaners

Lab ID: 1501251-020

Matrix: Soil

Client Sample ID: B-17-4'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260						
					Batch ID: 9956	Analyst: AK
Dichlorodifluoromethane (CFC-12)	ND	0.0426		mg/Kg-dry	1	2/6/2015 4:30:00 AM
Chloromethane	ND	0.0426		mg/Kg-dry	1	2/6/2015 4:30:00 AM
Vinyl chloride	ND	0.00142		mg/Kg-dry	1	2/6/2015 4:30:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0355		mg/Kg-dry	1	2/6/2015 4:30:00 AM
Chloroethane	ND	0.0426		mg/Kg-dry	1	2/6/2015 4:30:00 AM
1,1-Dichloroethene	ND	0.0355		mg/Kg-dry	1	2/6/2015 4:30:00 AM
Methylene chloride	ND	0.0142		mg/Kg-dry	1	2/6/2015 4:30:00 AM
trans-1,2-Dichloroethene	ND	0.0142		mg/Kg-dry	1	2/6/2015 4:30:00 AM
1,1-Dichloroethane	ND	0.0142		mg/Kg-dry	1	2/6/2015 4:30:00 AM
2,2-Dichloropropane	ND	0.0355		mg/Kg-dry	1	2/6/2015 4:30:00 AM
cis-1,2-Dichloroethene	ND	0.0142		mg/Kg-dry	1	2/6/2015 4:30:00 AM
Chloroform	ND	0.0142		mg/Kg-dry	1	2/6/2015 4:30:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0142		mg/Kg-dry	1	2/6/2015 4:30:00 AM
1,1-Dichloropropene	ND	0.0142		mg/Kg-dry	1	2/6/2015 4:30:00 AM
Carbon tetrachloride	ND	0.0142		mg/Kg-dry	1	2/6/2015 4:30:00 AM
1,2-Dichloroethane (EDC)	ND	0.0213		mg/Kg-dry	1	2/6/2015 4:30:00 AM
Trichloroethene (TCE)	ND	0.0142		mg/Kg-dry	1	2/6/2015 4:30:00 AM
1,2-Dichloropropane	ND	0.0142		mg/Kg-dry	1	2/6/2015 4:30:00 AM
Bromodichloromethane	ND	0.0142		mg/Kg-dry	1	2/6/2015 4:30:00 AM
cis-1,3-Dichloropropene	ND	0.0142		mg/Kg-dry	1	2/6/2015 4:30:00 AM
trans-1,3-Dichloropropene	ND	0.0213		mg/Kg-dry	1	2/6/2015 4:30:00 AM
1,1,2-Trichloroethane	ND	0.0213		mg/Kg-dry	1	2/6/2015 4:30:00 AM
1,3-Dichloropropane	ND	0.0355		mg/Kg-dry	1	2/6/2015 4:30:00 AM
Tetrachloroethene (PCE)	ND	0.0142		mg/Kg-dry	1	2/6/2015 4:30:00 AM
Dibromochloromethane	ND	0.0213		mg/Kg-dry	1	2/6/2015 4:30:00 AM
Chlorobenzene	ND	0.0142		mg/Kg-dry	1	2/6/2015 4:30:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0213		mg/Kg-dry	1	2/6/2015 4:30:00 AM
1,1,2,2-Tetrachloroethane	ND	0.0142		mg/Kg-dry	1	2/6/2015 4:30:00 AM
2-Chlorotoluene	ND	0.0142		mg/Kg-dry	1	2/6/2015 4:30:00 AM
4-Chlorotoluene	ND	0.0142		mg/Kg-dry	1	2/6/2015 4:30:00 AM
1,2,3-Trichloropropane	ND	0.0142		mg/Kg-dry	1	2/6/2015 4:30:00 AM
1,2,4-Trichlorobenzene	ND	0.0355		mg/Kg-dry	1	2/6/2015 4:30:00 AM
1,3-Dichlorobenzene	ND	0.0142		mg/Kg-dry	1	2/6/2015 4:30:00 AM
1,4-Dichlorobenzene	ND	0.0142		mg/Kg-dry	1	2/6/2015 4:30:00 AM
1,2-Dichlorobenzene	ND	0.0142		mg/Kg-dry	1	2/6/2015 4:30:00 AM

Qualifiers: B Analyte detected in the associated Method Blank
 E Value above quantitation range
 J Analyte detected below quantitation limits
 RL Reporting Limit

D Dilution was required
 H Holding times for preparation or analysis exceeded
 ND Not detected at the Reporting Limit
 S Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251
Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 12:45:00 PM

Project: HP Cleaners

Lab ID: 1501251-020

Matrix: Soil

Client Sample ID: B-17-4'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<u>Volatile Organic Compounds by EPA Method 8260</u>				Batch ID: 9956		Analyst: AK
1,2-Dibromo-3-chloropropane	ND	0.355		mg/Kg-dry	1	2/6/2015 4:30:00 AM
Hexachloro-1,3-butadiene	ND	0.0710		mg/Kg-dry	1	2/6/2015 4:30:00 AM
1,2,3-Trichlorobenzene	ND	0.0142		mg/Kg-dry	1	2/6/2015 4:30:00 AM
Surr: Dibromofluoromethane	99.3	63.7-129		%REC	1	2/6/2015 4:30:00 AM
Surr: Toluene-d8	99.2	64.3-131		%REC	1	2/6/2015 4:30:00 AM
Surr: 1-Bromo-4-fluorobenzene	97.5	63.1-141		%REC	1	2/6/2015 4:30:00 AM
<u>Sample Moisture (Percent Moisture)</u>				Batch ID: R20535		Analyst: CG
Percent Moisture	9.01			wt%	1	2/9/2015 12:06:39 PM

Qualifiers: B Analyte detected in the associated Method Blank
 E Value above quantitation range
 J Analyte detected below quantitation limits
 RL Reporting Limit
 D Dilution was required
 H Holding times for preparation or analysis exceeded
 ND Not detected at the Reporting Limit
 S Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251

Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 1:00:00 PM

Project: HP Cleaners

Lab ID: 1501251-021

Matrix: Soil

Client Sample ID: B-18-1'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 9956		Analyst: AK
Dichlorodifluoromethane (CFC-12)	ND	0.0609		mg/Kg-dry	1	2/6/2015 4:59:00 AM
Chloromethane	ND	0.0609		mg/Kg-dry	1	2/6/2015 4:59:00 AM
Vinyl chloride	ND	0.00203		mg/Kg-dry	1	2/6/2015 4:59:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0508		mg/Kg-dry	1	2/6/2015 4:59:00 AM
Chloroethane	ND	0.0609		mg/Kg-dry	1	2/6/2015 4:59:00 AM
1,1-Dichloroethene	ND	0.0508		mg/Kg-dry	1	2/6/2015 4:59:00 AM
Methylene chloride	ND	0.0203		mg/Kg-dry	1	2/6/2015 4:59:00 AM
trans-1,2-Dichloroethene	ND	0.0203		mg/Kg-dry	1	2/6/2015 4:59:00 AM
1,1-Dichloroethane	ND	0.0203		mg/Kg-dry	1	2/6/2015 4:59:00 AM
2,2-Dichloropropane	ND	0.0508		mg/Kg-dry	1	2/6/2015 4:59:00 AM
cis-1,2-Dichloroethene	ND	0.0203		mg/Kg-dry	1	2/6/2015 4:59:00 AM
Chloroform	ND	0.0203		mg/Kg-dry	1	2/6/2015 4:59:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0203		mg/Kg-dry	1	2/6/2015 4:59:00 AM
1,1-Dichloropropene	ND	0.0203		mg/Kg-dry	1	2/6/2015 4:59:00 AM
Carbon tetrachloride	ND	0.0203		mg/Kg-dry	1	2/6/2015 4:59:00 AM
1,2-Dichloroethane (EDC)	ND	0.0305		mg/Kg-dry	1	2/6/2015 4:59:00 AM
Trichloroethene (TCE)	ND	0.0203		mg/Kg-dry	1	2/6/2015 4:59:00 AM
1,2-Dichloropropane	ND	0.0203		mg/Kg-dry	1	2/6/2015 4:59:00 AM
Bromodichloromethane	ND	0.0203		mg/Kg-dry	1	2/6/2015 4:59:00 AM
cis-1,3-Dichloropropene	ND	0.0203		mg/Kg-dry	1	2/6/2015 4:59:00 AM
trans-1,3-Dichloropropene	ND	0.0305		mg/Kg-dry	1	2/6/2015 4:59:00 AM
1,1,2-Trichloroethane	ND	0.0305		mg/Kg-dry	1	2/6/2015 4:59:00 AM
1,3-Dichloropropane	ND	0.0508		mg/Kg-dry	1	2/6/2015 4:59:00 AM
Tetrachloroethene (PCE)	ND	0.0203		mg/Kg-dry	1	2/6/2015 4:59:00 AM
Dibromochloromethane	ND	0.0305		mg/Kg-dry	1	2/6/2015 4:59:00 AM
Chlorobenzene	ND	0.0203		mg/Kg-dry	1	2/6/2015 4:59:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0305		mg/Kg-dry	1	2/6/2015 4:59:00 AM
1,1,2,2-Tetrachloroethane	ND	0.0203		mg/Kg-dry	1	2/6/2015 4:59:00 AM
2-Chlorotoluene	ND	0.0203		mg/Kg-dry	1	2/6/2015 4:59:00 AM
4-Chlorotoluene	ND	0.0203		mg/Kg-dry	1	2/6/2015 4:59:00 AM
1,2,3-Trichloropropane	ND	0.0203		mg/Kg-dry	1	2/6/2015 4:59:00 AM
1,2,4-Trichlorobenzene	ND	0.0508		mg/Kg-dry	1	2/6/2015 4:59:00 AM
1,3-Dichlorobenzene	ND	0.0203		mg/Kg-dry	1	2/6/2015 4:59:00 AM
1,4-Dichlorobenzene	ND	0.0203		mg/Kg-dry	1	2/6/2015 4:59:00 AM
1,2-Dichlorobenzene	ND	0.0203		mg/Kg-dry	1	2/6/2015 4:59:00 AM

Qualifiers: B Analyte detected in the associated Method Blank
 E Value above quantitation range
 J Analyte detected below quantitation limits
 RL Reporting Limit
 D Dilution was required
 H Holding times for preparation or analysis exceeded
 ND Not detected at the Reporting Limit
 S Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251

Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 1:00:00 PM

Project: HP Cleaners

Lab ID: 1501251-021

Matrix: Soil

Client Sample ID: B-18-1'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<u>Volatile Organic Compounds by EPA Method 8260</u>				Batch ID: 9956		Analyst: AK
1,2-Dibromo-3-chloropropane	ND	0.508		mg/Kg-dry	1	2/6/2015 4:59:00 AM
Hexachloro-1,3-butadiene	ND	0.102		mg/Kg-dry	1	2/6/2015 4:59:00 AM
1,2,3-Trichlorobenzene	ND	0.0203		mg/Kg-dry	1	2/6/2015 4:59:00 AM
Surr: Dibromofluoromethane	97.5	63.7-129		%REC	1	2/6/2015 4:59:00 AM
Surr: Toluene-d8	98.2	64.3-131		%REC	1	2/6/2015 4:59:00 AM
Surr: 1-Bromo-4-fluorobenzene	97.7	63.1-141		%REC	1	2/6/2015 4:59:00 AM
<u>Sample Moisture (Percent Moisture)</u>				Batch ID: R20535		Analyst: CG
Percent Moisture	6.97			wt%	1	2/9/2015 12:06:39 PM

Qualifiers: B Analyte detected in the associated Method Blank
 E Value above quantitation range
 J Analyte detected below quantitation limits
 RL Reporting Limit

D Dilution was required
 H Holding times for preparation or analysis exceeded
 ND Not detected at the Reporting Limit
 S Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251

Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 1:15:00 PM

Project: HP Cleaners

Lab ID: 1501251-024

Matrix: Soil

Client Sample ID: B-18-4'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 9956		Analyst: AK
Dichlorodifluoromethane (CFC-12)	ND	0.0641		mg/Kg-dry	1	2/6/2015 6:25:00 AM
Chloromethane	ND	0.0641		mg/Kg-dry	1	2/6/2015 6:25:00 AM
Vinyl chloride	ND	0.00214		mg/Kg-dry	1	2/6/2015 6:25:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0534		mg/Kg-dry	1	2/6/2015 6:25:00 AM
Chloroethane	ND	0.0641		mg/Kg-dry	1	2/6/2015 6:25:00 AM
1,1-Dichloroethene	ND	0.0534		mg/Kg-dry	1	2/6/2015 6:25:00 AM
Methylene chloride	ND	0.0214		mg/Kg-dry	1	2/6/2015 6:25:00 AM
trans-1,2-Dichloroethene	ND	0.0214		mg/Kg-dry	1	2/6/2015 6:25:00 AM
1,1-Dichloroethane	ND	0.0214		mg/Kg-dry	1	2/6/2015 6:25:00 AM
2,2-Dichloropropane	ND	0.0534		mg/Kg-dry	1	2/6/2015 6:25:00 AM
cis-1,2-Dichloroethene	ND	0.0214		mg/Kg-dry	1	2/6/2015 6:25:00 AM
Chloroform	ND	0.0214		mg/Kg-dry	1	2/6/2015 6:25:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0214		mg/Kg-dry	1	2/6/2015 6:25:00 AM
1,1-Dichloropropene	ND	0.0214		mg/Kg-dry	1	2/6/2015 6:25:00 AM
Carbon tetrachloride	ND	0.0214		mg/Kg-dry	1	2/6/2015 6:25:00 AM
1,2-Dichloroethane (EDC)	ND	0.0321		mg/Kg-dry	1	2/6/2015 6:25:00 AM
Trichloroethene (TCE)	ND	0.0214		mg/Kg-dry	1	2/6/2015 6:25:00 AM
1,2-Dichloropropane	ND	0.0214		mg/Kg-dry	1	2/6/2015 6:25:00 AM
Bromodichloromethane	ND	0.0214		mg/Kg-dry	1	2/6/2015 6:25:00 AM
cis-1,3-Dichloropropene	ND	0.0214		mg/Kg-dry	1	2/6/2015 6:25:00 AM
trans-1,3-Dichloropropene	ND	0.0321		mg/Kg-dry	1	2/6/2015 6:25:00 AM
1,1,2-Trichloroethane	ND	0.0321		mg/Kg-dry	1	2/6/2015 6:25:00 AM
1,3-Dichloropropane	ND	0.0534		mg/Kg-dry	1	2/6/2015 6:25:00 AM
Tetrachloroethene (PCE)	ND	0.0214		mg/Kg-dry	1	2/6/2015 6:25:00 AM
Dibromochloromethane	ND	0.0321		mg/Kg-dry	1	2/6/2015 6:25:00 AM
Chlorobenzene	ND	0.0214		mg/Kg-dry	1	2/6/2015 6:25:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0321		mg/Kg-dry	1	2/6/2015 6:25:00 AM
1,1,2,2-Tetrachloroethane	ND	0.0214		mg/Kg-dry	1	2/6/2015 6:25:00 AM
2-Chlorotoluene	ND	0.0214		mg/Kg-dry	1	2/6/2015 6:25:00 AM
4-Chlorotoluene	ND	0.0214		mg/Kg-dry	1	2/6/2015 6:25:00 AM
1,2,3-Trichloropropane	ND	0.0214		mg/Kg-dry	1	2/6/2015 6:25:00 AM
1,2,4-Trichlorobenzene	ND	0.0534		mg/Kg-dry	1	2/6/2015 6:25:00 AM
1,3-Dichlorobenzene	ND	0.0214		mg/Kg-dry	1	2/6/2015 6:25:00 AM
1,4-Dichlorobenzene	ND	0.0214		mg/Kg-dry	1	2/6/2015 6:25:00 AM
1,2-Dichlorobenzene	ND	0.0214		mg/Kg-dry	1	2/6/2015 6:25:00 AM

Qualifiers: B Analyte detected in the associated Method Blank
 E Value above quantitation range
 J Analyte detected below quantitation limits
 RL Reporting Limit

D Dilution was required
 H Holding times for preparation or analysis exceeded
 ND Not detected at the Reporting Limit
 S Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251

Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 1:15:00 PM

Project: HP Cleaners

Lab ID: 1501251-024

Matrix: Soil

Client Sample ID: B-18-4'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Volatile Organic Compounds by EPA Method 8260

Batch ID: 9956

Analyst: AK

1,2-Dibromo-3-chloropropane	ND	0.534		mg/Kg-dry	1	2/6/2015 6:25:00 AM
Hexachloro-1,3-butadiene	ND	0.107		mg/Kg-dry	1	2/6/2015 6:25:00 AM
1,2,3-Trichlorobenzene	ND	0.0214		mg/Kg-dry	1	2/6/2015 6:25:00 AM
Surr: Dibromofluoromethane	97.1	63.7-129		%REC	1	2/6/2015 6:25:00 AM
Surr: Toluene-d8	98.2	64.3-131		%REC	1	2/6/2015 6:25:00 AM
Surr: 1-Bromo-4-fluorobenzene	97.4	63.1-141		%REC	1	2/6/2015 6:25:00 AM

Sample Moisture (Percent Moisture)

Batch ID: R20535

Analyst: CG

Percent Moisture	9.82			wt%	1	2/9/2015 12:06:39 PM
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Qualifiers: B Analyte detected in the associated Method Blank
 E Value above quantitation range
 J Analyte detected below quantitation limits
 RL Reporting Limit

D Dilution was required
 H Holding times for preparation or analysis exceeded
 ND Not detected at the Reporting Limit
 S Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251

Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 1:30:00 PM

Project: HP Cleaners

Lab ID: 1501251-025

Matrix: Soil

Client Sample ID: B-19-1'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Volatile Organic Compounds by EPA Method 8260

Batch ID: 9956

Analyst: AK

Dichlorodifluoromethane (CFC-12)	ND	0.0694		mg/Kg-dry	1	2/6/2015 6:53:00 AM
Chloromethane	ND	0.0694		mg/Kg-dry	1	2/6/2015 6:53:00 AM
Vinyl chloride	ND	0.00231		mg/Kg-dry	1	2/6/2015 6:53:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0578		mg/Kg-dry	1	2/6/2015 6:53:00 AM
Chloroethane	ND	0.0694		mg/Kg-dry	1	2/6/2015 6:53:00 AM
1,1-Dichloroethene	ND	0.0578		mg/Kg-dry	1	2/6/2015 6:53:00 AM
Methylene chloride	ND	0.0231		mg/Kg-dry	1	2/6/2015 6:53:00 AM
trans-1,2-Dichloroethene	ND	0.0231		mg/Kg-dry	1	2/6/2015 6:53:00 AM
1,1-Dichloroethane	ND	0.0231		mg/Kg-dry	1	2/6/2015 6:53:00 AM
2,2-Dichloropropane	ND	0.0578		mg/Kg-dry	1	2/6/2015 6:53:00 AM
cis-1,2-Dichloroethene	ND	0.0231		mg/Kg-dry	1	2/6/2015 6:53:00 AM
Chloroform	ND	0.0231		mg/Kg-dry	1	2/6/2015 6:53:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0231		mg/Kg-dry	1	2/6/2015 6:53:00 AM
1,1-Dichloropropene	ND	0.0231		mg/Kg-dry	1	2/6/2015 6:53:00 AM
Carbon tetrachloride	ND	0.0231		mg/Kg-dry	1	2/6/2015 6:53:00 AM
1,2-Dichloroethane (EDC)	ND	0.0347		mg/Kg-dry	1	2/6/2015 6:53:00 AM
Trichloroethene (TCE)	ND	0.0231		mg/Kg-dry	1	2/6/2015 6:53:00 AM
1,2-Dichloropropane	ND	0.0231		mg/Kg-dry	1	2/6/2015 6:53:00 AM
Bromodichloromethane	ND	0.0231		mg/Kg-dry	1	2/6/2015 6:53:00 AM
cis-1,3-Dichloropropene	ND	0.0231		mg/Kg-dry	1	2/6/2015 6:53:00 AM
trans-1,3-Dichloropropene	ND	0.0347		mg/Kg-dry	1	2/6/2015 6:53:00 AM
1,1,2-Trichloroethane	ND	0.0347		mg/Kg-dry	1	2/6/2015 6:53:00 AM
1,3-Dichloropropane	ND	0.0578		mg/Kg-dry	1	2/6/2015 6:53:00 AM
Tetrachloroethene (PCE)	ND	0.0231		mg/Kg-dry	1	2/6/2015 6:53:00 AM
Dibromochloromethane	ND	0.0347		mg/Kg-dry	1	2/6/2015 6:53:00 AM
Chlorobenzene	ND	0.0231		mg/Kg-dry	1	2/6/2015 6:53:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0347		mg/Kg-dry	1	2/6/2015 6:53:00 AM
1,1,2,2-Tetrachloroethane	ND	0.0231		mg/Kg-dry	1	2/6/2015 6:53:00 AM
2-Chlorotoluene	ND	0.0231		mg/Kg-dry	1	2/6/2015 6:53:00 AM
4-Chlorotoluene	ND	0.0231		mg/Kg-dry	1	2/6/2015 6:53:00 AM
1,2,3-Trichloropropane	ND	0.0231		mg/Kg-dry	1	2/6/2015 6:53:00 AM
1,2,4-Trichlorobenzene	ND	0.0578		mg/Kg-dry	1	2/6/2015 6:53:00 AM
1,3-Dichlorobenzene	ND	0.0231		mg/Kg-dry	1	2/6/2015 6:53:00 AM
1,4-Dichlorobenzene	ND	0.0231		mg/Kg-dry	1	2/6/2015 6:53:00 AM
1,2-Dichlorobenzene	ND	0.0231		mg/Kg-dry	1	2/6/2015 6:53:00 AM

Qualifiers: B Analyte detected in the associated Method Blank
 E Value above quantitation range
 J Analyte detected below quantitation limits
 RL Reporting Limit

D Dilution was required
 H Holding times for preparation or analysis exceeded
 ND Not detected at the Reporting Limit
 S Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251
Date Reported: 2/9/2015

Client: Cardno ATC
Project: HP Cleaners
Lab ID: 1501251-025
Client Sample ID: B-19-1'

Collection Date: 1/29/2015 1:30:00 PM
Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Volatile Organic Compounds by EPA Method 8260

Batch ID: 9956 Analyst: AK

1,2-Dibromo-3-chloropropane	ND	0.578		mg/Kg-dry	1	2/6/2015 6:53:00 AM
Hexachloro-1,3-butadiene	ND	0.116		mg/Kg-dry	1	2/6/2015 6:53:00 AM
1,2,3-Trichlorobenzene	ND	0.0231		mg/Kg-dry	1	2/6/2015 6:53:00 AM
Surr: Dibromofluoromethane	99.5	63.7-129		%REC	1	2/6/2015 6:53:00 AM
Surr: Toluene-d8	100	64.3-131		%REC	1	2/6/2015 6:53:00 AM
Surr: 1-Bromo-4-fluorobenzene	97.2	63.1-141		%REC	1	2/6/2015 6:53:00 AM

Sample Moisture (Percent Moisture)

Batch ID: R20535 Analyst: CG

Percent Moisture	4.13			wt%	1	2/9/2015 12:06:39 PM
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Qualifiers:

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
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251

Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 1:45:00 PM

Project: HP Cleaners

Lab ID: 1501251-028

Matrix: Soil

Client Sample ID: B-19-4'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260					Batch ID: 9956	Analyst: AK
Dichlorodifluoromethane (CFC-12)	ND	0.0654		mg/Kg-dry	1	2/6/2015 7:22:00 AM
Chloromethane	ND	0.0654		mg/Kg-dry	1	2/6/2015 7:22:00 AM
Vinyl chloride	ND	0.00218		mg/Kg-dry	1	2/6/2015 7:22:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0545		mg/Kg-dry	1	2/6/2015 7:22:00 AM
Chloroethane	ND	0.0654		mg/Kg-dry	1	2/6/2015 7:22:00 AM
1,1-Dichloroethene	ND	0.0545		mg/Kg-dry	1	2/6/2015 7:22:00 AM
Methylene chloride	ND	0.0218		mg/Kg-dry	1	2/6/2015 7:22:00 AM
trans-1,2-Dichloroethene	ND	0.0218		mg/Kg-dry	1	2/6/2015 7:22:00 AM
1,1-Dichloroethane	ND	0.0218		mg/Kg-dry	1	2/6/2015 7:22:00 AM
2,2-Dichloropropane	ND	0.0545		mg/Kg-dry	1	2/6/2015 7:22:00 AM
cis-1,2-Dichloroethene	ND	0.0218		mg/Kg-dry	1	2/6/2015 7:22:00 AM
Chloroform	ND	0.0218		mg/Kg-dry	1	2/6/2015 7:22:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0218		mg/Kg-dry	1	2/6/2015 7:22:00 AM
1,1-Dichloropropene	ND	0.0218		mg/Kg-dry	1	2/6/2015 7:22:00 AM
Carbon tetrachloride	ND	0.0218		mg/Kg-dry	1	2/6/2015 7:22:00 AM
1,2-Dichloroethane (EDC)	ND	0.0327		mg/Kg-dry	1	2/6/2015 7:22:00 AM
Trichloroethene (TCE)	ND	0.0218		mg/Kg-dry	1	2/6/2015 7:22:00 AM
1,2-Dichloropropane	ND	0.0218		mg/Kg-dry	1	2/6/2015 7:22:00 AM
Bromodichloromethane	ND	0.0218		mg/Kg-dry	1	2/6/2015 7:22:00 AM
cis-1,3-Dichloropropene	ND	0.0218		mg/Kg-dry	1	2/6/2015 7:22:00 AM
trans-1,3-Dichloropropene	ND	0.0327		mg/Kg-dry	1	2/6/2015 7:22:00 AM
1,1,2-Trichloroethane	ND	0.0327		mg/Kg-dry	1	2/6/2015 7:22:00 AM
1,3-Dichloropropane	ND	0.0545		mg/Kg-dry	1	2/6/2015 7:22:00 AM
Tetrachloroethene (PCE)	ND	0.0218		mg/Kg-dry	1	2/6/2015 7:22:00 AM
Dibromochloromethane	ND	0.0327		mg/Kg-dry	1	2/6/2015 7:22:00 AM
Chlorobenzene	ND	0.0218		mg/Kg-dry	1	2/6/2015 7:22:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0327		mg/Kg-dry	1	2/6/2015 7:22:00 AM
1,1,2,2-Tetrachloroethane	ND	0.0218		mg/Kg-dry	1	2/6/2015 7:22:00 AM
2-Chlorotoluene	ND	0.0218		mg/Kg-dry	1	2/6/2015 7:22:00 AM
4-Chlorotoluene	ND	0.0218		mg/Kg-dry	1	2/6/2015 7:22:00 AM
1,2,3-Trichloropropane	ND	0.0218		mg/Kg-dry	1	2/6/2015 7:22:00 AM
1,2,4-Trichlorobenzene	ND	0.0545		mg/Kg-dry	1	2/6/2015 7:22:00 AM
1,3-Dichlorobenzene	ND	0.0218		mg/Kg-dry	1	2/6/2015 7:22:00 AM
1,4-Dichlorobenzene	ND	0.0218		mg/Kg-dry	1	2/6/2015 7:22:00 AM
1,2-Dichlorobenzene	ND	0.0218		mg/Kg-dry	1	2/6/2015 7:22:00 AM

Qualifiers:	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
	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251
Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 1:45:00 PM

Project: HP Cleaners

Lab ID: 1501251-028

Matrix: Soil

Client Sample ID: B-19-4'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Volatile Organic Compounds by EPA Method 8260

Batch ID: 9956

Analyst: AK

1,2-Dibromo-3-chloropropane	ND	0.545		mg/Kg-dry	1	2/6/2015 7:22:00 AM
Hexachloro-1,3-butadiene	ND	0.109		mg/Kg-dry	1	2/6/2015 7:22:00 AM
1,2,3-Trichlorobenzene	ND	0.0218		mg/Kg-dry	1	2/6/2015 7:22:00 AM
Surr: Dibromofluoromethane	99.0	63.7-129		%REC	1	2/6/2015 7:22:00 AM
Surr: Toluene-d8	100	64.3-131		%REC	1	2/6/2015 7:22:00 AM
Surr: 1-Bromo-4-fluorobenzene	97.2	63.1-141		%REC	1	2/6/2015 7:22:00 AM

Sample Moisture (Percent Moisture)

Batch ID: R20413

Analyst: CG

Percent Moisture	8.85			wt%	1	2/2/2015 9:05:49 AM
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Qualifiers:	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
	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251

Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 2:00:00 PM

Project: HP Cleaners

Lab ID: 1501251-029

Matrix: Soil

Client Sample ID: B-20-1'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260					Batch ID: 9956	Analyst: AK
Dichlorodifluoromethane (CFC-12)	ND	0.0593		mg/Kg-dry	1	2/6/2015 9:45:00 AM
Chloromethane	ND	0.0593		mg/Kg-dry	1	2/6/2015 9:45:00 AM
Vinyl chloride	ND	0.00198		mg/Kg-dry	1	2/6/2015 9:45:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0494		mg/Kg-dry	1	2/6/2015 9:45:00 AM
Chloroethane	ND	0.0593		mg/Kg-dry	1	2/6/2015 9:45:00 AM
1,1-Dichloroethene	ND	0.0494		mg/Kg-dry	1	2/6/2015 9:45:00 AM
Methylene chloride	ND	0.0198		mg/Kg-dry	1	2/6/2015 9:45:00 AM
trans-1,2-Dichloroethene	ND	0.0198		mg/Kg-dry	1	2/6/2015 9:45:00 AM
1,1-Dichloroethane	ND	0.0198		mg/Kg-dry	1	2/6/2015 9:45:00 AM
2,2-Dichloropropane	ND	0.0494		mg/Kg-dry	1	2/6/2015 9:45:00 AM
cis-1,2-Dichloroethene	ND	0.0198		mg/Kg-dry	1	2/6/2015 9:45:00 AM
Chloroform	ND	0.0198		mg/Kg-dry	1	2/6/2015 9:45:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0198		mg/Kg-dry	1	2/6/2015 9:45:00 AM
1,1-Dichloropropene	ND	0.0198		mg/Kg-dry	1	2/6/2015 9:45:00 AM
Carbon tetrachloride	ND	0.0198		mg/Kg-dry	1	2/6/2015 9:45:00 AM
1,2-Dichloroethane (EDC)	ND	0.0296		mg/Kg-dry	1	2/6/2015 9:45:00 AM
Trichloroethene (TCE)	ND	0.0198		mg/Kg-dry	1	2/6/2015 9:45:00 AM
1,2-Dichloropropane	ND	0.0198		mg/Kg-dry	1	2/6/2015 9:45:00 AM
Bromodichloromethane	ND	0.0198		mg/Kg-dry	1	2/6/2015 9:45:00 AM
cis-1,3-Dichloropropene	ND	0.0198		mg/Kg-dry	1	2/6/2015 9:45:00 AM
trans-1,3-Dichloropropene	ND	0.0296		mg/Kg-dry	1	2/6/2015 9:45:00 AM
1,1,2-Trichloroethane	ND	0.0296		mg/Kg-dry	1	2/6/2015 9:45:00 AM
1,3-Dichloropropane	ND	0.0494		mg/Kg-dry	1	2/6/2015 9:45:00 AM
Tetrachloroethene (PCE)	ND	0.0198		mg/Kg-dry	1	2/6/2015 9:45:00 AM
Dibromochloromethane	ND	0.0296		mg/Kg-dry	1	2/6/2015 9:45:00 AM
Chlorobenzene	ND	0.0198		mg/Kg-dry	1	2/6/2015 9:45:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0296		mg/Kg-dry	1	2/6/2015 9:45:00 AM
1,1,2,2-Tetrachloroethane	ND	0.0198		mg/Kg-dry	1	2/6/2015 9:45:00 AM
2-Chlorotoluene	ND	0.0198		mg/Kg-dry	1	2/6/2015 9:45:00 AM
4-Chlorotoluene	ND	0.0198		mg/Kg-dry	1	2/6/2015 9:45:00 AM
1,2,3-Trichloropropane	ND	0.0198		mg/Kg-dry	1	2/6/2015 9:45:00 AM
1,2,4-Trichlorobenzene	ND	0.0494		mg/Kg-dry	1	2/6/2015 9:45:00 AM
1,3-Dichlorobenzene	ND	0.0198		mg/Kg-dry	1	2/6/2015 9:45:00 AM
1,4-Dichlorobenzene	ND	0.0198		mg/Kg-dry	1	2/6/2015 9:45:00 AM
1,2-Dichlorobenzene	ND	0.0198		mg/Kg-dry	1	2/6/2015 9:45:00 AM

Qualifiers:	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
	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251

Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 2:00:00 PM

Project: HP Cleaners

Lab ID: 1501251-029

Matrix: Soil

Client Sample ID: B-20-1'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Volatile Organic Compounds by EPA Method 8260

Batch ID: 9956

Analyst: AK

1,2-Dibromo-3-chloropropane	ND	0.494		mg/Kg-dry	1	2/6/2015 9:45:00 AM
Hexachloro-1,3-butadiene	ND	0.0988		mg/Kg-dry	1	2/6/2015 9:45:00 AM
1,2,3-Trichlorobenzene	ND	0.0198		mg/Kg-dry	1	2/6/2015 9:45:00 AM
Surr: Dibromofluoromethane	97.6	63.7-129		%REC	1	2/6/2015 9:45:00 AM
Surr: Toluene-d8	110	64.3-131		%REC	1	2/6/2015 9:45:00 AM
Surr: 1-Bromo-4-fluorobenzene	99.3	63.1-141		%REC	1	2/6/2015 9:45:00 AM

Sample Moisture (Percent Moisture)

Batch ID: R20413

Analyst: CG

Percent Moisture	4.57			wt%	1	2/2/2015 9:05:49 AM
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Qualifiers: B Analyte detected in the associated Method Blank
 E Value above quantitation range
 J Analyte detected below quantitation limits
 RL Reporting Limit

D Dilution was required
 H Holding times for preparation or analysis exceeded
 ND Not detected at the Reporting Limit
 S Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251
Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 2:05:00 PM

Project: HP Cleaners

Lab ID: 1501251-030

Matrix: Soil

Client Sample ID: B-20-2'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Volatile Organic Compounds by EPA Method 8260

Batch ID: 9956

Analyst: AK

Dichlorodifluoromethane (CFC-12)	ND	0.0638		mg/Kg-dry	1	2/6/2015 10:14:00 AM
Chloromethane	ND	0.0638		mg/Kg-dry	1	2/6/2015 10:14:00 AM
Vinyl chloride	ND	0.00213		mg/Kg-dry	1	2/6/2015 10:14:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0532		mg/Kg-dry	1	2/6/2015 10:14:00 AM
Chloroethane	ND	0.0638		mg/Kg-dry	1	2/6/2015 10:14:00 AM
1,1-Dichloroethene	ND	0.0532		mg/Kg-dry	1	2/6/2015 10:14:00 AM
Methylene chloride	ND	0.0213		mg/Kg-dry	1	2/6/2015 10:14:00 AM
trans-1,2-Dichloroethene	ND	0.0213		mg/Kg-dry	1	2/6/2015 10:14:00 AM
1,1-Dichloroethane	ND	0.0213		mg/Kg-dry	1	2/6/2015 10:14:00 AM
2,2-Dichloropropane	ND	0.0532		mg/Kg-dry	1	2/6/2015 10:14:00 AM
cis-1,2-Dichloroethene	ND	0.0213		mg/Kg-dry	1	2/6/2015 10:14:00 AM
Chloroform	ND	0.0213		mg/Kg-dry	1	2/6/2015 10:14:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0213		mg/Kg-dry	1	2/6/2015 10:14:00 AM
1,1-Dichloropropene	ND	0.0213		mg/Kg-dry	1	2/6/2015 10:14:00 AM
Carbon tetrachloride	ND	0.0213		mg/Kg-dry	1	2/6/2015 10:14:00 AM
1,2-Dichloroethane (EDC)	ND	0.0319		mg/Kg-dry	1	2/6/2015 10:14:00 AM
Trichloroethene (TCE)	ND	0.0213		mg/Kg-dry	1	2/6/2015 10:14:00 AM
1,2-Dichloropropane	ND	0.0213		mg/Kg-dry	1	2/6/2015 10:14:00 AM
Bromodichloromethane	ND	0.0213		mg/Kg-dry	1	2/6/2015 10:14:00 AM
cis-1,3-Dichloropropene	ND	0.0213		mg/Kg-dry	1	2/6/2015 10:14:00 AM
trans-1,3-Dichloropropene	ND	0.0319		mg/Kg-dry	1	2/6/2015 10:14:00 AM
1,1,2-Trichloroethane	ND	0.0319		mg/Kg-dry	1	2/6/2015 10:14:00 AM
1,3-Dichloropropane	ND	0.0532		mg/Kg-dry	1	2/6/2015 10:14:00 AM
Tetrachloroethene (PCE)	ND	0.0213		mg/Kg-dry	1	2/6/2015 10:14:00 AM
Dibromochloromethane	ND	0.0319		mg/Kg-dry	1	2/6/2015 10:14:00 AM
Chlorobenzene	ND	0.0213		mg/Kg-dry	1	2/6/2015 10:14:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0319		mg/Kg-dry	1	2/6/2015 10:14:00 AM
1,1,2,2-Tetrachloroethane	ND	0.0213		mg/Kg-dry	1	2/6/2015 10:14:00 AM
2-Chlorotoluene	ND	0.0213		mg/Kg-dry	1	2/6/2015 10:14:00 AM
4-Chlorotoluene	ND	0.0213		mg/Kg-dry	1	2/6/2015 10:14:00 AM
1,2,3-Trichloropropane	ND	0.0213		mg/Kg-dry	1	2/6/2015 10:14:00 AM
1,2,4-Trichlorobenzene	ND	0.0532		mg/Kg-dry	1	2/6/2015 10:14:00 AM
1,3-Dichlorobenzene	ND	0.0213		mg/Kg-dry	1	2/6/2015 10:14:00 AM
1,4-Dichlorobenzene	ND	0.0213		mg/Kg-dry	1	2/6/2015 10:14:00 AM
1,2-Dichlorobenzene	ND	0.0213		mg/Kg-dry	1	2/6/2015 10:14:00 AM

Qualifiers:

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
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251

Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 2:05:00 PM

Project: HP Cleaners

Lab ID: 1501251-030

Matrix: Soil

Client Sample ID: B-20-2'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Volatile Organic Compounds by EPA Method 8260

Batch ID: 9956

Analyst: AK

1,2-Dibromo-3-chloropropane	ND	0.532		mg/Kg-dry	1	2/6/2015 10:14:00 AM
Hexachloro-1,3-butadiene	ND	0.106		mg/Kg-dry	1	2/6/2015 10:14:00 AM
1,2,3-Trichlorobenzene	ND	0.0213		mg/Kg-dry	1	2/6/2015 10:14:00 AM
Surr: Dibromofluoromethane	95.9	63.7-129		%REC	1	2/6/2015 10:14:00 AM
Surr: Toluene-d8	100	64.3-131		%REC	1	2/6/2015 10:14:00 AM
Surr: 1-Bromo-4-fluorobenzene	97.9	63.1-141		%REC	1	2/6/2015 10:14:00 AM

Sample Moisture (Percent Moisture)

Batch ID: R20413

Analyst: CG

Percent Moisture	7.80			wt%	1	2/2/2015 9:05:49 AM
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Qualifiers: B Analyte detected in the associated Method Blank
 E Value above quantitation range
 J Analyte detected below quantitation limits
 RL Reporting Limit

D Dilution was required
 H Holding times for preparation or analysis exceeded
 ND Not detected at the Reporting Limit
 S Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251
Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 2:15:00 PM

Project: HP Cleaners

Lab ID: 1501251-032

Matrix: Soil

Client Sample ID: B-20-4'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Volatile Organic Compounds by EPA Method 8260

Batch ID: 9956

Analyst: AK

Dichlorodifluoromethane (CFC-12)	ND	0.0599		mg/Kg-dry	1	2/6/2015 10:42:00 AM
Chloromethane	ND	0.0599		mg/Kg-dry	1	2/6/2015 10:42:00 AM
Vinyl chloride	ND	0.00200		mg/Kg-dry	1	2/6/2015 10:42:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0499		mg/Kg-dry	1	2/6/2015 10:42:00 AM
Chloroethane	ND	0.0599		mg/Kg-dry	1	2/6/2015 10:42:00 AM
1,1-Dichloroethene	ND	0.0499		mg/Kg-dry	1	2/6/2015 10:42:00 AM
Methylene chloride	ND	0.0200		mg/Kg-dry	1	2/6/2015 10:42:00 AM
trans-1,2-Dichloroethene	ND	0.0200		mg/Kg-dry	1	2/6/2015 10:42:00 AM
1,1-Dichloroethane	ND	0.0200		mg/Kg-dry	1	2/6/2015 10:42:00 AM
2,2-Dichloropropane	ND	0.0499		mg/Kg-dry	1	2/6/2015 10:42:00 AM
cis-1,2-Dichloroethene	ND	0.0200		mg/Kg-dry	1	2/6/2015 10:42:00 AM
Chloroform	ND	0.0200		mg/Kg-dry	1	2/6/2015 10:42:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0200		mg/Kg-dry	1	2/6/2015 10:42:00 AM
1,1-Dichloropropene	ND	0.0200		mg/Kg-dry	1	2/6/2015 10:42:00 AM
Carbon tetrachloride	ND	0.0200		mg/Kg-dry	1	2/6/2015 10:42:00 AM
1,2-Dichloroethane (EDC)	ND	0.0300		mg/Kg-dry	1	2/6/2015 10:42:00 AM
Trichloroethene (TCE)	ND	0.0200		mg/Kg-dry	1	2/6/2015 10:42:00 AM
1,2-Dichloropropane	ND	0.0200		mg/Kg-dry	1	2/6/2015 10:42:00 AM
Bromodichloromethane	ND	0.0200		mg/Kg-dry	1	2/6/2015 10:42:00 AM
cis-1,3-Dichloropropene	ND	0.0200		mg/Kg-dry	1	2/6/2015 10:42:00 AM
trans-1,3-Dichloropropene	ND	0.0300		mg/Kg-dry	1	2/6/2015 10:42:00 AM
1,1,2-Trichloroethane	ND	0.0300		mg/Kg-dry	1	2/6/2015 10:42:00 AM
1,3-Dichloropropane	ND	0.0499		mg/Kg-dry	1	2/6/2015 10:42:00 AM
Tetrachloroethene (PCE)	ND	0.0200		mg/Kg-dry	1	2/6/2015 10:42:00 AM
Dibromochloromethane	ND	0.0300		mg/Kg-dry	1	2/6/2015 10:42:00 AM
Chlorobenzene	ND	0.0200		mg/Kg-dry	1	2/6/2015 10:42:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0300		mg/Kg-dry	1	2/6/2015 10:42:00 AM
1,1,2,2-Tetrachloroethane	ND	0.0200		mg/Kg-dry	1	2/6/2015 10:42:00 AM
2-Chlorotoluene	ND	0.0200		mg/Kg-dry	1	2/6/2015 10:42:00 AM
4-Chlorotoluene	ND	0.0200		mg/Kg-dry	1	2/6/2015 10:42:00 AM
1,2,3-Trichloropropane	ND	0.0200		mg/Kg-dry	1	2/6/2015 10:42:00 AM
1,2,4-Trichlorobenzene	ND	0.0499		mg/Kg-dry	1	2/6/2015 10:42:00 AM
1,3-Dichlorobenzene	ND	0.0200		mg/Kg-dry	1	2/6/2015 10:42:00 AM
1,4-Dichlorobenzene	ND	0.0200		mg/Kg-dry	1	2/6/2015 10:42:00 AM
1,2-Dichlorobenzene	ND	0.0200		mg/Kg-dry	1	2/6/2015 10:42:00 AM

Qualifiers:	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
	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251
Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 2:15:00 PM

Project: HP Cleaners

Lab ID: 1501251-032

Matrix: Soil

Client Sample ID: B-20-4'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Volatile Organic Compounds by EPA Method 8260

Batch ID: 9956

Analyst: AK

1,2-Dibromo-3-chloropropane	ND	0.499		mg/Kg-dry	1	2/6/2015 10:42:00 AM
Hexachloro-1,3-butadiene	ND	0.0998		mg/Kg-dry	1	2/6/2015 10:42:00 AM
1,2,3-Trichlorobenzene	ND	0.0200		mg/Kg-dry	1	2/6/2015 10:42:00 AM
Surr: Dibromofluoromethane	97.1	63.7-129		%REC	1	2/6/2015 10:42:00 AM
Surr: Toluene-d8	108	64.3-131		%REC	1	2/6/2015 10:42:00 AM
Surr: 1-Bromo-4-fluorobenzene	99.6	63.1-141		%REC	1	2/6/2015 10:42:00 AM

Sample Moisture (Percent Moisture)

Batch ID: R20413

Analyst: CG

Percent Moisture	8.95			wt%	1	2/2/2015 9:05:49 AM
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Qualifiers:	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
	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251

Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 2:30:00 PM

Project: HP Cleaners

Lab ID: 1501251-033

Matrix: Soil

Client Sample ID: B-21-1'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260					Batch ID: 9956	Analyst: AK
Dichlorodifluoromethane (CFC-12)	ND	0.0654		mg/Kg-dry	1	2/6/2015 11:11:00 AM
Chloromethane	ND	0.0654		mg/Kg-dry	1	2/6/2015 11:11:00 AM
Vinyl chloride	ND	0.00218		mg/Kg-dry	1	2/6/2015 11:11:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0545		mg/Kg-dry	1	2/6/2015 11:11:00 AM
Chloroethane	ND	0.0654		mg/Kg-dry	1	2/6/2015 11:11:00 AM
1,1-Dichloroethene	ND	0.0545		mg/Kg-dry	1	2/6/2015 11:11:00 AM
Methylene chloride	ND	0.0218		mg/Kg-dry	1	2/6/2015 11:11:00 AM
trans-1,2-Dichloroethene	ND	0.0218		mg/Kg-dry	1	2/6/2015 11:11:00 AM
1,1-Dichloroethane	ND	0.0218		mg/Kg-dry	1	2/6/2015 11:11:00 AM
2,2-Dichloropropane	ND	0.0545		mg/Kg-dry	1	2/6/2015 11:11:00 AM
cis-1,2-Dichloroethene	ND	0.0218		mg/Kg-dry	1	2/6/2015 11:11:00 AM
Chloroform	ND	0.0218		mg/Kg-dry	1	2/6/2015 11:11:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0218		mg/Kg-dry	1	2/6/2015 11:11:00 AM
1,1-Dichloropropene	ND	0.0218		mg/Kg-dry	1	2/6/2015 11:11:00 AM
Carbon tetrachloride	ND	0.0218		mg/Kg-dry	1	2/6/2015 11:11:00 AM
1,2-Dichloroethane (EDC)	ND	0.0327		mg/Kg-dry	1	2/6/2015 11:11:00 AM
Trichloroethene (TCE)	ND	0.0218		mg/Kg-dry	1	2/6/2015 11:11:00 AM
1,2-Dichloropropane	ND	0.0218		mg/Kg-dry	1	2/6/2015 11:11:00 AM
Bromodichloromethane	ND	0.0218		mg/Kg-dry	1	2/6/2015 11:11:00 AM
cis-1,3-Dichloropropene	ND	0.0218		mg/Kg-dry	1	2/6/2015 11:11:00 AM
trans-1,3-Dichloropropene	ND	0.0327		mg/Kg-dry	1	2/6/2015 11:11:00 AM
1,1,2-Trichloroethane	ND	0.0327		mg/Kg-dry	1	2/6/2015 11:11:00 AM
1,3-Dichloropropane	ND	0.0545		mg/Kg-dry	1	2/6/2015 11:11:00 AM
Tetrachloroethene (PCE)	ND	0.0218		mg/Kg-dry	1	2/6/2015 11:11:00 AM
Dibromochloromethane	ND	0.0327		mg/Kg-dry	1	2/6/2015 11:11:00 AM
Chlorobenzene	ND	0.0218		mg/Kg-dry	1	2/6/2015 11:11:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0327		mg/Kg-dry	1	2/6/2015 11:11:00 AM
1,1,1,2,2-Tetrachloroethane	ND	0.0218		mg/Kg-dry	1	2/6/2015 11:11:00 AM
2-Chlorotoluene	ND	0.0218		mg/Kg-dry	1	2/6/2015 11:11:00 AM
4-Chlorotoluene	ND	0.0218		mg/Kg-dry	1	2/6/2015 11:11:00 AM
1,2,3-Trichloropropane	ND	0.0218		mg/Kg-dry	1	2/6/2015 11:11:00 AM
1,2,4-Trichlorobenzene	ND	0.0545		mg/Kg-dry	1	2/6/2015 11:11:00 AM
1,3-Dichlorobenzene	ND	0.0218		mg/Kg-dry	1	2/6/2015 11:11:00 AM
1,4-Dichlorobenzene	ND	0.0218		mg/Kg-dry	1	2/6/2015 11:11:00 AM
1,2-Dichlorobenzene	ND	0.0218		mg/Kg-dry	1	2/6/2015 11:11:00 AM

Qualifiers:	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
	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251

Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 2:30:00 PM

Project: HP Cleaners

Lab ID: 1501251-033

Matrix: Soil

Client Sample ID: B-21-1'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Volatile Organic Compounds by EPA Method 8260

Batch ID: 9956

Analyst: AK

1,2-Dibromo-3-chloropropane	ND	0.545		mg/Kg-dry	1	2/6/2015 11:11:00 AM
Hexachloro-1,3-butadiene	ND	0.109		mg/Kg-dry	1	2/6/2015 11:11:00 AM
1,2,3-Trichlorobenzene	ND	0.0218		mg/Kg-dry	1	2/6/2015 11:11:00 AM
Surr: Dibromofluoromethane	94.9	63.7-129		%REC	1	2/6/2015 11:11:00 AM
Surr: Toluene-d8	112	64.3-131		%REC	1	2/6/2015 11:11:00 AM
Surr: 1-Bromo-4-fluorobenzene	98.5	63.1-141		%REC	1	2/6/2015 11:11:00 AM

Sample Moisture (Percent Moisture)

Batch ID: R20413

Analyst: CG

Percent Moisture	4.30			wt%	1	2/2/2015 9:05:49 AM
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Qualifiers: B Analyte detected in the associated Method Blank
 E Value above quantitation range
 J Analyte detected below quantitation limits
 RL Reporting Limit

D Dilution was required
 H Holding times for preparation or analysis exceeded
 ND Not detected at the Reporting Limit
 S Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251

Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 2:35:00 PM

Project: HP Cleaners

Lab ID: 1501251-034

Matrix: Soil

Client Sample ID: B-21-2'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260					Batch ID: 9956	Analyst: AK
Dichlorodifluoromethane (CFC-12)	ND	0.0629		mg/Kg-dry	1	2/6/2015 11:40:00 AM
Chloromethane	ND	0.0629		mg/Kg-dry	1	2/6/2015 11:40:00 AM
Vinyl chloride	ND	0.00210		mg/Kg-dry	1	2/6/2015 11:40:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0524		mg/Kg-dry	1	2/6/2015 11:40:00 AM
Chloroethane	ND	0.0629		mg/Kg-dry	1	2/6/2015 11:40:00 AM
1,1-Dichloroethene	ND	0.0524		mg/Kg-dry	1	2/6/2015 11:40:00 AM
Methylene chloride	ND	0.0210		mg/Kg-dry	1	2/6/2015 11:40:00 AM
trans-1,2-Dichloroethene	ND	0.0210		mg/Kg-dry	1	2/6/2015 11:40:00 AM
1,1-Dichloroethane	ND	0.0210		mg/Kg-dry	1	2/6/2015 11:40:00 AM
2,2-Dichloropropane	ND	0.0524		mg/Kg-dry	1	2/6/2015 11:40:00 AM
cis-1,2-Dichloroethene	ND	0.0210		mg/Kg-dry	1	2/6/2015 11:40:00 AM
Chloroform	ND	0.0210		mg/Kg-dry	1	2/6/2015 11:40:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0210		mg/Kg-dry	1	2/6/2015 11:40:00 AM
1,1-Dichloropropene	ND	0.0210		mg/Kg-dry	1	2/6/2015 11:40:00 AM
Carbon tetrachloride	ND	0.0210		mg/Kg-dry	1	2/6/2015 11:40:00 AM
1,2-Dichloroethane (EDC)	ND	0.0314		mg/Kg-dry	1	2/6/2015 11:40:00 AM
Trichloroethene (TCE)	ND	0.0210		mg/Kg-dry	1	2/6/2015 11:40:00 AM
1,2-Dichloropropane	ND	0.0210		mg/Kg-dry	1	2/6/2015 11:40:00 AM
Bromodichloromethane	ND	0.0210		mg/Kg-dry	1	2/6/2015 11:40:00 AM
cis-1,3-Dichloropropene	ND	0.0210		mg/Kg-dry	1	2/6/2015 11:40:00 AM
trans-1,3-Dichloropropene	ND	0.0314		mg/Kg-dry	1	2/6/2015 11:40:00 AM
1,1,2-Trichloroethane	ND	0.0314		mg/Kg-dry	1	2/6/2015 11:40:00 AM
1,3-Dichloropropane	ND	0.0524		mg/Kg-dry	1	2/6/2015 11:40:00 AM
Tetrachloroethene (PCE)	ND	0.0210		mg/Kg-dry	1	2/6/2015 11:40:00 AM
Dibromochloromethane	ND	0.0314		mg/Kg-dry	1	2/6/2015 11:40:00 AM
Chlorobenzene	ND	0.0210		mg/Kg-dry	1	2/6/2015 11:40:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0314		mg/Kg-dry	1	2/6/2015 11:40:00 AM
1,1,2,2-Tetrachloroethane	ND	0.0210		mg/Kg-dry	1	2/6/2015 11:40:00 AM
2-Chlorotoluene	ND	0.0210		mg/Kg-dry	1	2/6/2015 11:40:00 AM
4-Chlorotoluene	ND	0.0210		mg/Kg-dry	1	2/6/2015 11:40:00 AM
1,2,3-Trichloropropane	ND	0.0210		mg/Kg-dry	1	2/6/2015 11:40:00 AM
1,2,4-Trichlorobenzene	ND	0.0524		mg/Kg-dry	1	2/6/2015 11:40:00 AM
1,3-Dichlorobenzene	ND	0.0210		mg/Kg-dry	1	2/6/2015 11:40:00 AM
1,4-Dichlorobenzene	ND	0.0210		mg/Kg-dry	1	2/6/2015 11:40:00 AM
1,2-Dichlorobenzene	ND	0.0210		mg/Kg-dry	1	2/6/2015 11:40:00 AM

Qualifiers:	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
	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251

Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 2:35:00 PM

Project: HP Cleaners

Lab ID: 1501251-034

Matrix: Soil

Client Sample ID: B-21-2'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Volatile Organic Compounds by EPA Method 8260

Batch ID: 9956

Analyst: AK

1,2-Dibromo-3-chloropropane	ND	0.524		mg/Kg-dry	1	2/6/2015 11:40:00 AM
Hexachloro-1,3-butadiene	ND	0.105		mg/Kg-dry	1	2/6/2015 11:40:00 AM
1,2,3-Trichlorobenzene	ND	0.0210		mg/Kg-dry	1	2/6/2015 11:40:00 AM
Surr: Dibromofluoromethane	94.6	63.7-129		%REC	1	2/6/2015 11:40:00 AM
Surr: Toluene-d8	100	64.3-131		%REC	1	2/6/2015 11:40:00 AM
Surr: 1-Bromo-4-fluorobenzene	97.5	63.1-141		%REC	1	2/6/2015 11:40:00 AM

Sample Moisture (Percent Moisture)

Batch ID: R20413

Analyst: CG

Percent Moisture	9.09			wt%	1	2/2/2015 9:05:49 AM
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Qualifiers: B Analyte detected in the associated Method Blank
 E Value above quantitation range
 J Analyte detected below quantitation limits
 RL Reporting Limit

D Dilution was required
 H Holding times for preparation or analysis exceeded
 ND Not detected at the Reporting Limit
 S Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251

Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 2:45:00 PM

Project: HP Cleaners

Lab ID: 1501251-036

Matrix: Soil

Client Sample ID: B-21-4'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Volatile Organic Compounds by EPA Method 8260

Batch ID: 9956

Analyst: AK

Dichlorodifluoromethane (CFC-12)	ND	0.0608		mg/Kg-dry	1	2/6/2015 12:09:00 PM
Chloromethane	ND	0.0608		mg/Kg-dry	1	2/6/2015 12:09:00 PM
Vinyl chloride	ND	0.00203		mg/Kg-dry	1	2/6/2015 12:09:00 PM
Trichlorofluoromethane (CFC-11)	ND	0.0507		mg/Kg-dry	1	2/6/2015 12:09:00 PM
Chloroethane	ND	0.0608		mg/Kg-dry	1	2/6/2015 12:09:00 PM
1,1-Dichloroethene	ND	0.0507		mg/Kg-dry	1	2/6/2015 12:09:00 PM
Methylene chloride	ND	0.0203		mg/Kg-dry	1	2/6/2015 12:09:00 PM
trans-1,2-Dichloroethene	ND	0.0203		mg/Kg-dry	1	2/6/2015 12:09:00 PM
1,1-Dichloroethane	ND	0.0203		mg/Kg-dry	1	2/6/2015 12:09:00 PM
2,2-Dichloropropane	ND	0.0507		mg/Kg-dry	1	2/6/2015 12:09:00 PM
cis-1,2-Dichloroethene	ND	0.0203		mg/Kg-dry	1	2/6/2015 12:09:00 PM
Chloroform	ND	0.0203		mg/Kg-dry	1	2/6/2015 12:09:00 PM
1,1,1-Trichloroethane (TCA)	ND	0.0203		mg/Kg-dry	1	2/6/2015 12:09:00 PM
1,1-Dichloropropene	ND	0.0203		mg/Kg-dry	1	2/6/2015 12:09:00 PM
Carbon tetrachloride	ND	0.0203		mg/Kg-dry	1	2/6/2015 12:09:00 PM
1,2-Dichloroethane (EDC)	ND	0.0304		mg/Kg-dry	1	2/6/2015 12:09:00 PM
Trichloroethene (TCE)	ND	0.0203		mg/Kg-dry	1	2/6/2015 12:09:00 PM
1,2-Dichloropropane	ND	0.0203		mg/Kg-dry	1	2/6/2015 12:09:00 PM
Bromodichloromethane	ND	0.0203		mg/Kg-dry	1	2/6/2015 12:09:00 PM
cis-1,3-Dichloropropene	ND	0.0203		mg/Kg-dry	1	2/6/2015 12:09:00 PM
trans-1,3-Dichloropropene	ND	0.0304		mg/Kg-dry	1	2/6/2015 12:09:00 PM
1,1,2-Trichloroethane	ND	0.0304		mg/Kg-dry	1	2/6/2015 12:09:00 PM
1,3-Dichloropropane	ND	0.0507		mg/Kg-dry	1	2/6/2015 12:09:00 PM
Tetrachloroethene (PCE)	ND	0.0203		mg/Kg-dry	1	2/6/2015 12:09:00 PM
Dibromochloromethane	ND	0.0304		mg/Kg-dry	1	2/6/2015 12:09:00 PM
Chlorobenzene	ND	0.0203		mg/Kg-dry	1	2/6/2015 12:09:00 PM
1,1,1,2-Tetrachloroethane	ND	0.0304		mg/Kg-dry	1	2/6/2015 12:09:00 PM
1,1,2,2-Tetrachloroethane	ND	0.0203		mg/Kg-dry	1	2/6/2015 12:09:00 PM
2-Chlorotoluene	ND	0.0203		mg/Kg-dry	1	2/6/2015 12:09:00 PM
4-Chlorotoluene	ND	0.0203		mg/Kg-dry	1	2/6/2015 12:09:00 PM
1,2,3-Trichloropropane	ND	0.0203		mg/Kg-dry	1	2/6/2015 12:09:00 PM
1,2,4-Trichlorobenzene	ND	0.0507		mg/Kg-dry	1	2/6/2015 12:09:00 PM
1,3-Dichlorobenzene	ND	0.0203		mg/Kg-dry	1	2/6/2015 12:09:00 PM
1,4-Dichlorobenzene	ND	0.0203		mg/Kg-dry	1	2/6/2015 12:09:00 PM
1,2-Dichlorobenzene	ND	0.0203		mg/Kg-dry	1	2/6/2015 12:09:00 PM

Qualifiers: B Analyte detected in the associated Method Blank
 E Value above quantitation range
 J Analyte detected below quantitation limits
 RL Reporting Limit
 D Dilution was required
 H Holding times for preparation or analysis exceeded
 ND Not detected at the Reporting Limit
 S Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251

Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 2:45:00 PM

Project: HP Cleaners

Lab ID: 1501251-036

Matrix: Soil

Client Sample ID: B-21-4'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Volatile Organic Compounds by EPA Method 8260

Batch ID: 9956

Analyst: AK

1,2-Dibromo-3-chloropropane	ND	0.507		mg/Kg-dry	1	2/6/2015 12:09:00 PM
Hexachloro-1,3-butadiene	ND	0.101		mg/Kg-dry	1	2/6/2015 12:09:00 PM
1,2,3-Trichlorobenzene	ND	0.0203		mg/Kg-dry	1	2/6/2015 12:09:00 PM
Surr: Dibromofluoromethane	95.8	63.7-129		%REC	1	2/6/2015 12:09:00 PM
Surr: Toluene-d8	100	64.3-131		%REC	1	2/6/2015 12:09:00 PM
Surr: 1-Bromo-4-fluorobenzene	97.8	63.1-141		%REC	1	2/6/2015 12:09:00 PM

Sample Moisture (Percent Moisture)

Batch ID: R20413

Analyst: CG

Percent Moisture	8.50			wt%	1	2/2/2015 9:05:49 AM
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Qualifiers: B Analyte detected in the associated Method Blank
 E Value above quantitation range
 J Analyte detected below quantitation limits
 RL Reporting Limit

D Dilution was required
 H Holding times for preparation or analysis exceeded
 ND Not detected at the Reporting Limit
 S Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251
Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 3:00:00 PM

Project: HP Cleaners

Lab ID: 1501251-037

Matrix: Soil

Client Sample ID: B-22-1'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Hydrocarbon Identification by NWTPH-HCID

Batch ID: 9942

Analyst: EC

Gasoline	ND	20.3		mg/Kg-dry	1	1/31/2015 5:37:00 AM
Mineral Spirits	ND	30.4		mg/Kg-dry	1	1/31/2015 5:37:00 AM
Kerosene	ND	50.7		mg/Kg-dry	1	1/31/2015 5:37:00 AM
Diesel (Fuel Oil)	ND	50.7		mg/Kg-dry	1	1/31/2015 5:37:00 AM
Heavy Oil	ND	101		mg/Kg-dry	1	1/31/2015 5:37:00 AM
Mineral Oil	ND	101		mg/Kg-dry	1	1/31/2015 5:37:00 AM
Surr: 2-Fluorobiphenyl	107	50-150		%REC	1	1/31/2015 5:37:00 AM
Surr: o-Terphenyl	112	50-150		%REC	1	1/31/2015 5:37:00 AM

Volatile Organic Compounds by EPA Method 8260

Batch ID: 9956

Analyst: AK

Dichlorodifluoromethane (CFC-12)	ND	0.0849		mg/Kg-dry	1	2/6/2015 12:37:00 PM
Chloromethane	ND	0.0849		mg/Kg-dry	1	2/6/2015 12:37:00 PM
Vinyl chloride	ND	0.00283		mg/Kg-dry	1	2/6/2015 12:37:00 PM
Trichlorofluoromethane (CFC-11)	ND	0.0708		mg/Kg-dry	1	2/6/2015 12:37:00 PM
Chloroethane	ND	0.0849		mg/Kg-dry	1	2/6/2015 12:37:00 PM
1,1-Dichloroethene	ND	0.0708		mg/Kg-dry	1	2/6/2015 12:37:00 PM
Methylene chloride	ND	0.0283		mg/Kg-dry	1	2/6/2015 12:37:00 PM
trans-1,2-Dichloroethene	ND	0.0283		mg/Kg-dry	1	2/6/2015 12:37:00 PM
1,1-Dichloroethane	ND	0.0283		mg/Kg-dry	1	2/6/2015 12:37:00 PM
2,2-Dichloropropane	ND	0.0708		mg/Kg-dry	1	2/6/2015 12:37:00 PM
cis-1,2-Dichloroethene	ND	0.0283		mg/Kg-dry	1	2/6/2015 12:37:00 PM
Chloroform	ND	0.0283		mg/Kg-dry	1	2/6/2015 12:37:00 PM
1,1,1-Trichloroethane (TCA)	ND	0.0283		mg/Kg-dry	1	2/6/2015 12:37:00 PM
1,1-Dichloropropene	ND	0.0283		mg/Kg-dry	1	2/6/2015 12:37:00 PM
Carbon tetrachloride	ND	0.0283		mg/Kg-dry	1	2/6/2015 12:37:00 PM
1,2-Dichloroethane (EDC)	ND	0.0425		mg/Kg-dry	1	2/6/2015 12:37:00 PM
Trichloroethene (TCE)	ND	0.0283		mg/Kg-dry	1	2/6/2015 12:37:00 PM
1,2-Dichloropropane	ND	0.0283		mg/Kg-dry	1	2/6/2015 12:37:00 PM
Bromodichloromethane	ND	0.0283		mg/Kg-dry	1	2/6/2015 12:37:00 PM
cis-1,3-Dichloropropene	ND	0.0283		mg/Kg-dry	1	2/6/2015 12:37:00 PM
trans-1,3-Dichloropropene	ND	0.0425		mg/Kg-dry	1	2/6/2015 12:37:00 PM
1,1,2-Trichloroethane	ND	0.0425		mg/Kg-dry	1	2/6/2015 12:37:00 PM
1,3-Dichloropropane	ND	0.0708		mg/Kg-dry	1	2/6/2015 12:37:00 PM
Tetrachloroethene (PCE)	ND	0.0283		mg/Kg-dry	1	2/6/2015 12:37:00 PM

Qualifiers:	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
	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251

Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 3:00:00 PM

Project: HP Cleaners

Lab ID: 1501251-037

Matrix: Soil

Client Sample ID: B-22-1'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Volatile Organic Compounds by EPA Method 8260

Batch ID: 9956

Analyst: AK

Dibromochloromethane	ND	0.0425		mg/Kg-dry	1	2/6/2015 12:37:00 PM
Chlorobenzene	ND	0.0283		mg/Kg-dry	1	2/6/2015 12:37:00 PM
1,1,1,2-Tetrachloroethane	ND	0.0425		mg/Kg-dry	1	2/6/2015 12:37:00 PM
1,1,2,2-Tetrachloroethane	ND	0.0283		mg/Kg-dry	1	2/6/2015 12:37:00 PM
2-Chlorotoluene	ND	0.0283		mg/Kg-dry	1	2/6/2015 12:37:00 PM
4-Chlorotoluene	ND	0.0283		mg/Kg-dry	1	2/6/2015 12:37:00 PM
1,2,3-Trichloropropane	ND	0.0283		mg/Kg-dry	1	2/6/2015 12:37:00 PM
1,2,4-Trichlorobenzene	ND	0.0708		mg/Kg-dry	1	2/6/2015 12:37:00 PM
1,3-Dichlorobenzene	ND	0.0283		mg/Kg-dry	1	2/6/2015 12:37:00 PM
1,4-Dichlorobenzene	ND	0.0283		mg/Kg-dry	1	2/6/2015 12:37:00 PM
1,2-Dichlorobenzene	ND	0.0283		mg/Kg-dry	1	2/6/2015 12:37:00 PM
1,2-Dibromo-3-chloropropane	ND	0.708		mg/Kg-dry	1	2/6/2015 12:37:00 PM
Hexachloro-1,3-butadiene	ND	0.142		mg/Kg-dry	1	2/6/2015 12:37:00 PM
1,2,3-Trichlorobenzene	ND	0.0283		mg/Kg-dry	1	2/6/2015 12:37:00 PM
Surr: Dibromofluoromethane	92.4	63.7-129		%REC	1	2/6/2015 12:37:00 PM
Surr: Toluene-d8	109	64.3-131		%REC	1	2/6/2015 12:37:00 PM
Surr: 1-Bromo-4-fluorobenzene	98.7	63.1-141		%REC	1	2/6/2015 12:37:00 PM

Total Metals by EPA Method 6020

Batch ID: 9945

Analyst: TN

Lead	2.50	0.158		mg/Kg-dry	1	1/30/2015 6:21:29 PM
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Sample Moisture (Percent Moisture)

Batch ID: R20413

Analyst: CG

Percent Moisture	7.82			wt%	1	2/2/2015 9:05:49 AM
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Qualifiers: B Analyte detected in the associated Method Blank
 E Value above quantitation range
 J Analyte detected below quantitation limits
 RL Reporting Limit

D Dilution was required
 H Holding times for preparation or analysis exceeded
 ND Not detected at the Reporting Limit
 S Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251
Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 3:05:00 PM

Project: HP Cleaners

Lab ID: 1501251-038

Matrix: Soil

Client Sample ID: B-22-2'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Volatile Organic Compounds by EPA Method 8260

Batch ID: 9956

Analyst: AK

Dichlorodifluoromethane (CFC-12)	ND	0.0630		mg/Kg-dry	1	2/6/2015 1:06:00 PM
Chloromethane	ND	0.0630		mg/Kg-dry	1	2/6/2015 1:06:00 PM
Vinyl chloride	ND	0.00210		mg/Kg-dry	1	2/6/2015 1:06:00 PM
Trichlorofluoromethane (CFC-11)	ND	0.0525		mg/Kg-dry	1	2/6/2015 1:06:00 PM
Chloroethane	ND	0.0630		mg/Kg-dry	1	2/6/2015 1:06:00 PM
1,1-Dichloroethene	ND	0.0525		mg/Kg-dry	1	2/6/2015 1:06:00 PM
Methylene chloride	ND	0.0210		mg/Kg-dry	1	2/6/2015 1:06:00 PM
trans-1,2-Dichloroethene	ND	0.0210		mg/Kg-dry	1	2/6/2015 1:06:00 PM
1,1-Dichloroethane	ND	0.0210		mg/Kg-dry	1	2/6/2015 1:06:00 PM
2,2-Dichloropropane	ND	0.0525		mg/Kg-dry	1	2/6/2015 1:06:00 PM
cis-1,2-Dichloroethene	ND	0.0210		mg/Kg-dry	1	2/6/2015 1:06:00 PM
Chloroform	ND	0.0210		mg/Kg-dry	1	2/6/2015 1:06:00 PM
1,1,1-Trichloroethane (TCA)	ND	0.0210		mg/Kg-dry	1	2/6/2015 1:06:00 PM
1,1-Dichloropropene	ND	0.0210		mg/Kg-dry	1	2/6/2015 1:06:00 PM
Carbon tetrachloride	ND	0.0210		mg/Kg-dry	1	2/6/2015 1:06:00 PM
1,2-Dichloroethane (EDC)	ND	0.0315		mg/Kg-dry	1	2/6/2015 1:06:00 PM
Trichloroethene (TCE)	ND	0.0210		mg/Kg-dry	1	2/6/2015 1:06:00 PM
1,2-Dichloropropane	ND	0.0210		mg/Kg-dry	1	2/6/2015 1:06:00 PM
Bromodichloromethane	ND	0.0210		mg/Kg-dry	1	2/6/2015 1:06:00 PM
cis-1,3-Dichloropropene	ND	0.0210		mg/Kg-dry	1	2/6/2015 1:06:00 PM
trans-1,3-Dichloropropene	ND	0.0315		mg/Kg-dry	1	2/6/2015 1:06:00 PM
1,1,2-Trichloroethane	ND	0.0315		mg/Kg-dry	1	2/6/2015 1:06:00 PM
1,3-Dichloropropane	ND	0.0525		mg/Kg-dry	1	2/6/2015 1:06:00 PM
Tetrachloroethene (PCE)	ND	0.0210		mg/Kg-dry	1	2/6/2015 1:06:00 PM
Dibromochloromethane	ND	0.0315		mg/Kg-dry	1	2/6/2015 1:06:00 PM
Chlorobenzene	ND	0.0210		mg/Kg-dry	1	2/6/2015 1:06:00 PM
1,1,1,2-Tetrachloroethane	ND	0.0315		mg/Kg-dry	1	2/6/2015 1:06:00 PM
1,1,2,2-Tetrachloroethane	ND	0.0210		mg/Kg-dry	1	2/6/2015 1:06:00 PM
2-Chlorotoluene	ND	0.0210		mg/Kg-dry	1	2/6/2015 1:06:00 PM
4-Chlorotoluene	ND	0.0210		mg/Kg-dry	1	2/6/2015 1:06:00 PM
1,2,3-Trichloropropane	ND	0.0210		mg/Kg-dry	1	2/6/2015 1:06:00 PM
1,2,4-Trichlorobenzene	ND	0.0525		mg/Kg-dry	1	2/6/2015 1:06:00 PM
1,3-Dichlorobenzene	ND	0.0210		mg/Kg-dry	1	2/6/2015 1:06:00 PM
1,4-Dichlorobenzene	ND	0.0210		mg/Kg-dry	1	2/6/2015 1:06:00 PM
1,2-Dichlorobenzene	ND	0.0210		mg/Kg-dry	1	2/6/2015 1:06:00 PM

Qualifiers:	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
	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251

Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 3:05:00 PM

Project: HP Cleaners

Lab ID: 1501251-038

Matrix: Soil

Client Sample ID: B-22-2'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Volatile Organic Compounds by EPA Method 8260

Batch ID: 9956

Analyst: AK

1,2-Dibromo-3-chloropropane	ND	0.525		mg/Kg-dry	1	2/6/2015 1:06:00 PM
Hexachloro-1,3-butadiene	ND	0.105		mg/Kg-dry	1	2/6/2015 1:06:00 PM
1,2,3-Trichlorobenzene	ND	0.0210		mg/Kg-dry	1	2/6/2015 1:06:00 PM
Surr: Dibromofluoromethane	92.6	63.7-129		%REC	1	2/6/2015 1:06:00 PM
Surr: Toluene-d8	110	64.3-131		%REC	1	2/6/2015 1:06:00 PM
Surr: 1-Bromo-4-fluorobenzene	98.7	63.1-141		%REC	1	2/6/2015 1:06:00 PM

Sample Moisture (Percent Moisture)

Batch ID: R20413

Analyst: CG

Percent Moisture	8.49			wt%	1	2/2/2015 9:05:49 AM
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Qualifiers: B Analyte detected in the associated Method Blank
 E Value above quantitation range
 J Analyte detected below quantitation limits
 RL Reporting Limit

D Dilution was required
 H Holding times for preparation or analysis exceeded
 ND Not detected at the Reporting Limit
 S Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251
Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 3:15:00 PM

Project: HP Cleaners

Lab ID: 1501251-040

Matrix: Soil

Client Sample ID: B-22-4'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 9956		Analyst: AK
Dichlorodifluoromethane (CFC-12)	ND	0.0645		mg/Kg-dry	1	2/6/2015 1:35:00 PM
Chloromethane	ND	0.0645		mg/Kg-dry	1	2/6/2015 1:35:00 PM
Vinyl chloride	ND	0.00215		mg/Kg-dry	1	2/6/2015 1:35:00 PM
Trichlorofluoromethane (CFC-11)	ND	0.0538		mg/Kg-dry	1	2/6/2015 1:35:00 PM
Chloroethane	ND	0.0645		mg/Kg-dry	1	2/6/2015 1:35:00 PM
1,1-Dichloroethene	ND	0.0538		mg/Kg-dry	1	2/6/2015 1:35:00 PM
Methylene chloride	ND	0.0215		mg/Kg-dry	1	2/6/2015 1:35:00 PM
trans-1,2-Dichloroethene	ND	0.0215		mg/Kg-dry	1	2/6/2015 1:35:00 PM
1,1-Dichloroethane	ND	0.0215		mg/Kg-dry	1	2/6/2015 1:35:00 PM
2,2-Dichloropropane	ND	0.0538		mg/Kg-dry	1	2/6/2015 1:35:00 PM
cis-1,2-Dichloroethene	ND	0.0215		mg/Kg-dry	1	2/6/2015 1:35:00 PM
Chloroform	ND	0.0215		mg/Kg-dry	1	2/6/2015 1:35:00 PM
1,1,1-Trichloroethane (TCA)	ND	0.0215		mg/Kg-dry	1	2/6/2015 1:35:00 PM
1,1-Dichloropropene	ND	0.0215		mg/Kg-dry	1	2/6/2015 1:35:00 PM
Carbon tetrachloride	ND	0.0215		mg/Kg-dry	1	2/6/2015 1:35:00 PM
1,2-Dichloroethane (EDC)	ND	0.0323		mg/Kg-dry	1	2/6/2015 1:35:00 PM
Trichloroethene (TCE)	ND	0.0215		mg/Kg-dry	1	2/6/2015 1:35:00 PM
1,2-Dichloropropane	ND	0.0215		mg/Kg-dry	1	2/6/2015 1:35:00 PM
Bromodichloromethane	ND	0.0215		mg/Kg-dry	1	2/6/2015 1:35:00 PM
cis-1,3-Dichloropropene	ND	0.0215		mg/Kg-dry	1	2/6/2015 1:35:00 PM
trans-1,3-Dichloropropene	ND	0.0323		mg/Kg-dry	1	2/6/2015 1:35:00 PM
1,1,2-Trichloroethane	ND	0.0323		mg/Kg-dry	1	2/6/2015 1:35:00 PM
1,3-Dichloropropane	ND	0.0538		mg/Kg-dry	1	2/6/2015 1:35:00 PM
Tetrachloroethene (PCE)	ND	0.0215		mg/Kg-dry	1	2/6/2015 1:35:00 PM
Dibromochloromethane	ND	0.0323		mg/Kg-dry	1	2/6/2015 1:35:00 PM
Chlorobenzene	ND	0.0215		mg/Kg-dry	1	2/6/2015 1:35:00 PM
1,1,1,2-Tetrachloroethane	ND	0.0323		mg/Kg-dry	1	2/6/2015 1:35:00 PM
1,1,2,2-Tetrachloroethane	ND	0.0215		mg/Kg-dry	1	2/6/2015 1:35:00 PM
2-Chlorotoluene	ND	0.0215		mg/Kg-dry	1	2/6/2015 1:35:00 PM
4-Chlorotoluene	ND	0.0215		mg/Kg-dry	1	2/6/2015 1:35:00 PM
1,2,3-Trichloropropane	ND	0.0215		mg/Kg-dry	1	2/6/2015 1:35:00 PM
1,2,4-Trichlorobenzene	ND	0.0538		mg/Kg-dry	1	2/6/2015 1:35:00 PM
1,3-Dichlorobenzene	ND	0.0215		mg/Kg-dry	1	2/6/2015 1:35:00 PM
1,4-Dichlorobenzene	ND	0.0215		mg/Kg-dry	1	2/6/2015 1:35:00 PM
1,2-Dichlorobenzene	ND	0.0215		mg/Kg-dry	1	2/6/2015 1:35:00 PM

Qualifiers:	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
	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251

Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 3:15:00 PM

Project: HP Cleaners

Lab ID: 1501251-040

Matrix: Soil

Client Sample ID: B-22-4'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Volatile Organic Compounds by EPA Method 8260

Batch ID: 9956

Analyst: AK

1,2-Dibromo-3-chloropropane	ND	0.538		mg/Kg-dry	1	2/6/2015 1:35:00 PM
Hexachloro-1,3-butadiene	ND	0.108		mg/Kg-dry	1	2/6/2015 1:35:00 PM
1,2,3-Trichlorobenzene	ND	0.0215		mg/Kg-dry	1	2/6/2015 1:35:00 PM
Surr: Dibromofluoromethane	95.7	63.7-129		%REC	1	2/6/2015 1:35:00 PM
Surr: Toluene-d8	110	64.3-131		%REC	1	2/6/2015 1:35:00 PM
Surr: 1-Bromo-4-fluorobenzene	97.6	63.1-141		%REC	1	2/6/2015 1:35:00 PM

Sample Moisture (Percent Moisture)

Batch ID: R20413

Analyst: CG

Percent Moisture	9.02			wt%	1	2/2/2015 9:05:49 AM
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Qualifiers: B Analyte detected in the associated Method Blank
 E Value above quantitation range
 J Analyte detected below quantitation limits
 RL Reporting Limit

D Dilution was required
 H Holding times for preparation or analysis exceeded
 ND Not detected at the Reporting Limit
 S Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251

Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 3:30:00 PM

Project: HP Cleaners

Lab ID: 1501251-041

Matrix: Soil

Client Sample ID: B-23-1'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Volatile Organic Compounds by EPA Method 8260

Batch ID: 9956

Analyst: AK

Dichlorodifluoromethane (CFC-12)	ND	0.0710		mg/Kg-dry	1	2/6/2015 2:04:00 PM
Chloromethane	ND	0.0710		mg/Kg-dry	1	2/6/2015 2:04:00 PM
Vinyl chloride	ND	0.00237		mg/Kg-dry	1	2/6/2015 2:04:00 PM
Trichlorofluoromethane (CFC-11)	ND	0.0592		mg/Kg-dry	1	2/6/2015 2:04:00 PM
Chloroethane	ND	0.0710		mg/Kg-dry	1	2/6/2015 2:04:00 PM
1,1-Dichloroethene	ND	0.0592		mg/Kg-dry	1	2/6/2015 2:04:00 PM
Methylene chloride	ND	0.0237		mg/Kg-dry	1	2/6/2015 2:04:00 PM
trans-1,2-Dichloroethene	ND	0.0237		mg/Kg-dry	1	2/6/2015 2:04:00 PM
1,1-Dichloroethane	ND	0.0237		mg/Kg-dry	1	2/6/2015 2:04:00 PM
2,2-Dichloropropane	ND	0.0592		mg/Kg-dry	1	2/6/2015 2:04:00 PM
cis-1,2-Dichloroethene	ND	0.0237		mg/Kg-dry	1	2/6/2015 2:04:00 PM
Chloroform	ND	0.0237		mg/Kg-dry	1	2/6/2015 2:04:00 PM
1,1,1-Trichloroethane (TCA)	ND	0.0237		mg/Kg-dry	1	2/6/2015 2:04:00 PM
1,1-Dichloropropene	ND	0.0237		mg/Kg-dry	1	2/6/2015 2:04:00 PM
Carbon tetrachloride	ND	0.0237		mg/Kg-dry	1	2/6/2015 2:04:00 PM
1,2-Dichloroethane (EDC)	ND	0.0355		mg/Kg-dry	1	2/6/2015 2:04:00 PM
Trichloroethene (TCE)	ND	0.0237		mg/Kg-dry	1	2/6/2015 2:04:00 PM
1,2-Dichloropropane	ND	0.0237		mg/Kg-dry	1	2/6/2015 2:04:00 PM
Bromodichloromethane	ND	0.0237		mg/Kg-dry	1	2/6/2015 2:04:00 PM
cis-1,3-Dichloropropene	ND	0.0237		mg/Kg-dry	1	2/6/2015 2:04:00 PM
trans-1,3-Dichloropropene	ND	0.0355		mg/Kg-dry	1	2/6/2015 2:04:00 PM
1,1,2-Trichloroethane	ND	0.0355		mg/Kg-dry	1	2/6/2015 2:04:00 PM
1,3-Dichloropropane	ND	0.0592		mg/Kg-dry	1	2/6/2015 2:04:00 PM
Tetrachloroethene (PCE)	ND	0.0237		mg/Kg-dry	1	2/6/2015 2:04:00 PM
Dibromochloromethane	ND	0.0355		mg/Kg-dry	1	2/6/2015 2:04:00 PM
Chlorobenzene	ND	0.0237		mg/Kg-dry	1	2/6/2015 2:04:00 PM
1,1,1,2-Tetrachloroethane	ND	0.0355		mg/Kg-dry	1	2/6/2015 2:04:00 PM
1,1,2,2-Tetrachloroethane	ND	0.0237		mg/Kg-dry	1	2/6/2015 2:04:00 PM
2-Chlorotoluene	ND	0.0237		mg/Kg-dry	1	2/6/2015 2:04:00 PM
4-Chlorotoluene	ND	0.0237		mg/Kg-dry	1	2/6/2015 2:04:00 PM
1,2,3-Trichloropropane	ND	0.0237		mg/Kg-dry	1	2/6/2015 2:04:00 PM
1,2,4-Trichlorobenzene	ND	0.0592		mg/Kg-dry	1	2/6/2015 2:04:00 PM
1,3-Dichlorobenzene	ND	0.0237		mg/Kg-dry	1	2/6/2015 2:04:00 PM
1,4-Dichlorobenzene	ND	0.0237		mg/Kg-dry	1	2/6/2015 2:04:00 PM
1,2-Dichlorobenzene	ND	0.0237		mg/Kg-dry	1	2/6/2015 2:04:00 PM

Qualifiers:	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
	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251

Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 3:30:00 PM

Project: HP Cleaners

Lab ID: 1501251-041

Matrix: Soil

Client Sample ID: B-23-1'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Volatile Organic Compounds by EPA Method 8260

Batch ID: 9956

Analyst: AK

1,2-Dibromo-3-chloropropane	ND	0.592		mg/Kg-dry	1	2/6/2015 2:04:00 PM
Hexachloro-1,3-butadiene	ND	0.118		mg/Kg-dry	1	2/6/2015 2:04:00 PM
1,2,3-Trichlorobenzene	ND	0.0237		mg/Kg-dry	1	2/6/2015 2:04:00 PM
Surr: Dibromofluoromethane	97.4	63.7-129		%REC	1	2/6/2015 2:04:00 PM
Surr: Toluene-d8	108	64.3-131		%REC	1	2/6/2015 2:04:00 PM
Surr: 1-Bromo-4-fluorobenzene	99.0	63.1-141		%REC	1	2/6/2015 2:04:00 PM

Sample Moisture (Percent Moisture)

Batch ID: R20413

Analyst: CG

Percent Moisture	4.98			wt%	1	2/2/2015 9:05:49 AM
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Qualifiers: B Analyte detected in the associated Method Blank
 E Value above quantitation range
 J Analyte detected below quantitation limits
 RL Reporting Limit

D Dilution was required
 H Holding times for preparation or analysis exceeded
 ND Not detected at the Reporting Limit
 S Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251

Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 3:35:00 PM

Project: HP Cleaners

Lab ID: 1501251-042

Matrix: Soil

Client Sample ID: B-23-2'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260					Batch ID: 9956	Analyst: AK
Dichlorodifluoromethane (CFC-12)	ND	0.0588		mg/Kg-dry	1	2/6/2015 2:32:00 PM
Chloromethane	ND	0.0588		mg/Kg-dry	1	2/6/2015 2:32:00 PM
Vinyl chloride	ND	0.00196		mg/Kg-dry	1	2/6/2015 2:32:00 PM
Trichlorofluoromethane (CFC-11)	ND	0.0490		mg/Kg-dry	1	2/6/2015 2:32:00 PM
Chloroethane	ND	0.0588		mg/Kg-dry	1	2/6/2015 2:32:00 PM
1,1-Dichloroethene	ND	0.0490		mg/Kg-dry	1	2/6/2015 2:32:00 PM
Methylene chloride	ND	0.0196		mg/Kg-dry	1	2/6/2015 2:32:00 PM
trans-1,2-Dichloroethene	ND	0.0196		mg/Kg-dry	1	2/6/2015 2:32:00 PM
1,1-Dichloroethane	ND	0.0196		mg/Kg-dry	1	2/6/2015 2:32:00 PM
2,2-Dichloropropane	ND	0.0490		mg/Kg-dry	1	2/6/2015 2:32:00 PM
cis-1,2-Dichloroethene	ND	0.0196		mg/Kg-dry	1	2/6/2015 2:32:00 PM
Chloroform	ND	0.0196		mg/Kg-dry	1	2/6/2015 2:32:00 PM
1,1,1-Trichloroethane (TCA)	ND	0.0196		mg/Kg-dry	1	2/6/2015 2:32:00 PM
1,1-Dichloropropene	ND	0.0196		mg/Kg-dry	1	2/6/2015 2:32:00 PM
Carbon tetrachloride	ND	0.0196		mg/Kg-dry	1	2/6/2015 2:32:00 PM
1,2-Dichloroethane (EDC)	ND	0.0294		mg/Kg-dry	1	2/6/2015 2:32:00 PM
Trichloroethene (TCE)	ND	0.0196		mg/Kg-dry	1	2/6/2015 2:32:00 PM
1,2-Dichloropropane	ND	0.0196		mg/Kg-dry	1	2/6/2015 2:32:00 PM
Bromodichloromethane	ND	0.0196		mg/Kg-dry	1	2/6/2015 2:32:00 PM
cis-1,3-Dichloropropene	ND	0.0196		mg/Kg-dry	1	2/6/2015 2:32:00 PM
trans-1,3-Dichloropropene	ND	0.0294		mg/Kg-dry	1	2/6/2015 2:32:00 PM
1,1,2-Trichloroethane	ND	0.0294		mg/Kg-dry	1	2/6/2015 2:32:00 PM
1,3-Dichloropropane	ND	0.0490		mg/Kg-dry	1	2/6/2015 2:32:00 PM
Tetrachloroethene (PCE)	ND	0.0196		mg/Kg-dry	1	2/6/2015 2:32:00 PM
Dibromochloromethane	ND	0.0294		mg/Kg-dry	1	2/6/2015 2:32:00 PM
Chlorobenzene	ND	0.0196		mg/Kg-dry	1	2/6/2015 2:32:00 PM
1,1,1,2-Tetrachloroethane	ND	0.0294		mg/Kg-dry	1	2/6/2015 2:32:00 PM
1,1,2,2-Tetrachloroethane	ND	0.0196		mg/Kg-dry	1	2/6/2015 2:32:00 PM
2-Chlorotoluene	ND	0.0196		mg/Kg-dry	1	2/6/2015 2:32:00 PM
4-Chlorotoluene	ND	0.0196		mg/Kg-dry	1	2/6/2015 2:32:00 PM
1,2,3-Trichloropropane	ND	0.0196		mg/Kg-dry	1	2/6/2015 2:32:00 PM
1,2,4-Trichlorobenzene	ND	0.0490		mg/Kg-dry	1	2/6/2015 2:32:00 PM
1,3-Dichlorobenzene	ND	0.0196		mg/Kg-dry	1	2/6/2015 2:32:00 PM
1,4-Dichlorobenzene	ND	0.0196		mg/Kg-dry	1	2/6/2015 2:32:00 PM
1,2-Dichlorobenzene	ND	0.0196		mg/Kg-dry	1	2/6/2015 2:32:00 PM

Qualifiers: B Analyte detected in the associated Method Blank
 E Value above quantitation range
 J Analyte detected below quantitation limits
 RL Reporting Limit

D Dilution was required
 H Holding times for preparation or analysis exceeded
 ND Not detected at the Reporting Limit
 S Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251

Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 3:35:00 PM

Project: HP Cleaners

Lab ID: 1501251-042

Matrix: Soil

Client Sample ID: B-23-2'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Volatile Organic Compounds by EPA Method 8260

Batch ID: 9956

Analyst: AK

1,2-Dibromo-3-chloropropane	ND	0.490		mg/Kg-dry	1	2/6/2015 2:32:00 PM
Hexachloro-1,3-butadiene	ND	0.0980		mg/Kg-dry	1	2/6/2015 2:32:00 PM
1,2,3-Trichlorobenzene	ND	0.0196		mg/Kg-dry	1	2/6/2015 2:32:00 PM
Surr: Dibromofluoromethane	93.3	63.7-129		%REC	1	2/6/2015 2:32:00 PM
Surr: Toluene-d8	101	64.3-131		%REC	1	2/6/2015 2:32:00 PM
Surr: 1-Bromo-4-fluorobenzene	94.9	63.1-141		%REC	1	2/6/2015 2:32:00 PM

Sample Moisture (Percent Moisture)

Batch ID: R20413

Analyst: CG

Percent Moisture	10.6			wt%	1	2/2/2015 9:05:49 AM
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Qualifiers: B Analyte detected in the associated Method Blank
 E Value above quantitation range
 J Analyte detected below quantitation limits
 RL Reporting Limit

D Dilution was required
 H Holding times for preparation or analysis exceeded
 ND Not detected at the Reporting Limit
 S Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251

Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 3:45:00 PM

Project: HP Cleaners

Lab ID: 1501251-044

Matrix: Soil

Client Sample ID: B-23-4'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Volatile Organic Compounds by EPA Method 8260

Batch ID: 9956

Analyst: AK

Dichlorodifluoromethane (CFC-12)	ND	0.0647		mg/Kg-dry	1	2/6/2015 3:01:00 PM
Chloromethane	ND	0.0647		mg/Kg-dry	1	2/6/2015 3:01:00 PM
Vinyl chloride	ND	0.00216		mg/Kg-dry	1	2/6/2015 3:01:00 PM
Trichlorofluoromethane (CFC-11)	ND	0.0539		mg/Kg-dry	1	2/6/2015 3:01:00 PM
Chloroethane	ND	0.0647		mg/Kg-dry	1	2/6/2015 3:01:00 PM
1,1-Dichloroethene	ND	0.0539		mg/Kg-dry	1	2/6/2015 3:01:00 PM
Methylene chloride	ND	0.0216		mg/Kg-dry	1	2/6/2015 3:01:00 PM
trans-1,2-Dichloroethene	ND	0.0216		mg/Kg-dry	1	2/6/2015 3:01:00 PM
1,1-Dichloroethane	ND	0.0216		mg/Kg-dry	1	2/6/2015 3:01:00 PM
2,2-Dichloropropane	ND	0.0539		mg/Kg-dry	1	2/6/2015 3:01:00 PM
cis-1,2-Dichloroethene	ND	0.0216		mg/Kg-dry	1	2/6/2015 3:01:00 PM
Chloroform	ND	0.0216		mg/Kg-dry	1	2/6/2015 3:01:00 PM
1,1,1-Trichloroethane (TCA)	ND	0.0216		mg/Kg-dry	1	2/6/2015 3:01:00 PM
1,1-Dichloropropene	ND	0.0216		mg/Kg-dry	1	2/6/2015 3:01:00 PM
Carbon tetrachloride	ND	0.0216		mg/Kg-dry	1	2/6/2015 3:01:00 PM
1,2-Dichloroethane (EDC)	ND	0.0323		mg/Kg-dry	1	2/6/2015 3:01:00 PM
Trichloroethene (TCE)	ND	0.0216		mg/Kg-dry	1	2/6/2015 3:01:00 PM
1,2-Dichloropropane	ND	0.0216		mg/Kg-dry	1	2/6/2015 3:01:00 PM
Bromodichloromethane	ND	0.0216		mg/Kg-dry	1	2/6/2015 3:01:00 PM
cis-1,3-Dichloropropene	ND	0.0216		mg/Kg-dry	1	2/6/2015 3:01:00 PM
trans-1,3-Dichloropropene	ND	0.0323		mg/Kg-dry	1	2/6/2015 3:01:00 PM
1,1,2-Trichloroethane	ND	0.0323		mg/Kg-dry	1	2/6/2015 3:01:00 PM
1,3-Dichloropropane	ND	0.0539		mg/Kg-dry	1	2/6/2015 3:01:00 PM
Tetrachloroethene (PCE)	ND	0.0216		mg/Kg-dry	1	2/6/2015 3:01:00 PM
Dibromochloromethane	ND	0.0323		mg/Kg-dry	1	2/6/2015 3:01:00 PM
Chlorobenzene	ND	0.0216		mg/Kg-dry	1	2/6/2015 3:01:00 PM
1,1,1,2-Tetrachloroethane	ND	0.0323		mg/Kg-dry	1	2/6/2015 3:01:00 PM
1,1,2,2-Tetrachloroethane	ND	0.0216		mg/Kg-dry	1	2/6/2015 3:01:00 PM
2-Chlorotoluene	ND	0.0216		mg/Kg-dry	1	2/6/2015 3:01:00 PM
4-Chlorotoluene	ND	0.0216		mg/Kg-dry	1	2/6/2015 3:01:00 PM
1,2,3-Trichloropropane	ND	0.0216		mg/Kg-dry	1	2/6/2015 3:01:00 PM
1,2,4-Trichlorobenzene	ND	0.0539		mg/Kg-dry	1	2/6/2015 3:01:00 PM
1,3-Dichlorobenzene	ND	0.0216		mg/Kg-dry	1	2/6/2015 3:01:00 PM
1,4-Dichlorobenzene	ND	0.0216		mg/Kg-dry	1	2/6/2015 3:01:00 PM
1,2-Dichlorobenzene	ND	0.0216		mg/Kg-dry	1	2/6/2015 3:01:00 PM

Qualifiers:	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
	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1501251

Date Reported: 2/9/2015

Client: Cardno ATC

Collection Date: 1/29/2015 3:45:00 PM

Project: HP Cleaners

Lab ID: 1501251-044

Matrix: Soil

Client Sample ID: B-23-4'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Volatile Organic Compounds by EPA Method 8260

Batch ID: 9956

Analyst: AK

1,2-Dibromo-3-chloropropane	ND	0.539		mg/Kg-dry	1	2/6/2015 3:01:00 PM
Hexachloro-1,3-butadiene	ND	0.108		mg/Kg-dry	1	2/6/2015 3:01:00 PM
1,2,3-Trichlorobenzene	ND	0.0216		mg/Kg-dry	1	2/6/2015 3:01:00 PM
Surr: Dibromofluoromethane	96.6	63.7-129		%REC	1	2/6/2015 3:01:00 PM
Surr: Toluene-d8	106	64.3-131		%REC	1	2/6/2015 3:01:00 PM
Surr: 1-Bromo-4-fluorobenzene	96.8	63.1-141		%REC	1	2/6/2015 3:01:00 PM

Sample Moisture (Percent Moisture)

Batch ID: R20413

Analyst: CG

Percent Moisture	9.79			wt%	1	2/2/2015 9:05:49 AM
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Qualifiers: B Analyte detected in the associated Method Blank
 E Value above quantitation range
 J Analyte detected below quantitation limits
 RL Reporting Limit

D Dilution was required
 H Holding times for preparation or analysis exceeded
 ND Not detected at the Reporting Limit
 S Spike recovery outside accepted recovery limits



Date: 2/9/2015

Work Order: 1501251
 CLIENT: Cardno ATC
 Project: HP Cleaners

QC SUMMARY REPORT
 Total Metals by EPA Method 6020

Sample ID: MB-9945	SampType: MBLK	Units: mg/Kg	Prep Date: 1/30/2015	RunNo: 20411							
Client ID: MBLKS	Batch ID: 9945		Analysis Date: 1/30/2015	SeqNo: 388433							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.200

Sample ID: LCS-9945	SampType: LCS	Units: mg/Kg	Prep Date: 1/30/2015	RunNo: 20411							
Client ID: LCSS	Batch ID: 9945		Analysis Date: 1/30/2015	SeqNo: 388434							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 142 0.200 138.0 0 103 73.2 127.5

Sample ID: 1501252-001ADUP	SampType: DUP	Units: mg/Kg-dry	Prep Date: 1/30/2015	RunNo: 20411							
Client ID: BATCH	Batch ID: 9945		Analysis Date: 1/30/2015	SeqNo: 388436							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 5.51 0.214 5.061 8.58 20

Sample ID: 1501252-001AMS	SampType: MS	Units: mg/Kg-dry	Prep Date: 1/30/2015	RunNo: 20411							
Client ID: BATCH	Batch ID: 9945		Analysis Date: 1/30/2015	SeqNo: 388440							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 31.6 0.211 26.35 5.061 101 75 125

Sample ID: 1501252-001AMSD	SampType: MSD	Units: mg/Kg-dry	Prep Date: 1/30/2015	RunNo: 20411							
Client ID: BATCH	Batch ID: 9945		Analysis Date: 1/30/2015	SeqNo: 388441							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 31.1 0.214 26.76 5.061 97.3 75 125 31.57 1.45 20

Qualifiers: 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 J Analyte detected below quantitation limits ND Not detected at the Reporting Limit
 R RPD outside accepted recovery limits RL Reporting Limit S Spike recovery outside accepted recovery limits



Date: 2/9/2015

Work Order: 1501251
 CLIENT: Cardno ATC
 Project: HP Cleaners

QC SUMMARY REPORT
Hydrocarbon Identification by NWTPH-HCID

Sample ID: LCS-9942	SampType: LCS	Units: mg/Kg			Prep Date: 1/30/2015	RunNo: 20417					
Client ID: LCSS	Batch ID: 9942				Analysis Date: 1/30/2015	SeqNo: 388609					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	479	50.0	500.0	0	95.9	65	135				
Surr: 2-Fluorobiphenyl	20.4		20.00		102	50	150				
Surr: o-Terphenyl	25.5		20.00		127	50	150				

Sample ID: MB-9942	SampType: MBLK	Units: mg/Kg			Prep Date: 1/30/2015	RunNo: 20417					
Client ID: MBLKS	Batch ID: 9942				Analysis Date: 1/30/2015	SeqNo: 388610					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	20.0									
Mineral Spirits	ND	30.0									
Kerosene	ND	50.0									
Diesel (Fuel Oil)	ND	50.0									
Heavy Oil	ND	100									
Mineral Oil	ND	100									
Surr: 2-Fluorobiphenyl	20.5		20.00		102	50	150				
Surr: o-Terphenyl	21.3		20.00		106	50	150				

Qualifiers: 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
 J Analyte detected below quantitation limits
 ND Not detected at the Reporting Limit
 R RPD outside accepted recovery limits
 RL Reporting Limit
 S Spike recovery outside accepted recovery limits



Date: 2/9/2015

Work Order: 1501251
 CLIENT: Cardno ATC
 Project: HP Cleaners

QC SUMMARY REPORT
 Volatile Organic Compounds by EPA Method 8260

Sample ID: 1502021-002BDUP	SampType: DUP	Units: mg/Kg-dry	Prep Date: 2/4/2015	RunNo: 20483							
Client ID: BATCH	Batch ID: 9970		Analysis Date: 2/4/2015	SeqNo: 390178							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Dichlorodifluoromethane (CFC-12)	ND	0.0439						0		30	
Chloromethane	ND	0.0439						0		30	
Vinyl chloride	ND	0.00146						0		30	
Trichlorofluoromethane (CFC-11)	ND	0.0366						0		30	
Chloroethane	ND	0.0439						0		30	
1,1-Dichloroethene	ND	0.0366						0		30	
Methylene chloride	ND	0.0146						0		30	
trans-1,2-Dichloroethene	ND	0.0146						0		30	
1,1-Dichloroethane	ND	0.0146						0		30	
2,2-Dichloropropane	ND	0.0366						0		30	
cis-1,2-Dichloroethene	ND	0.0146						0		30	
Chloroform	ND	0.0146						0		30	
1,1,1-Trichloroethane (TCA)	ND	0.0146						0		30	
1,1-Dichloropropene	ND	0.0146						0		30	
Carbon tetrachloride	ND	0.0146						0		30	
1,2-Dichloroethane (EDC)	ND	0.0220						0		30	
Trichloroethene (TCE)	ND	0.0146						0		30	
1,2-Dichloropropane	ND	0.0146						0		30	
Bromodichloromethane	ND	0.0146						0		30	
cis-1,3-Dichloropropene	ND	0.0146						0		30	
trans-1,3-Dichloropropene	ND	0.0220						0		30	
1,1,2-Trichloroethane	ND	0.0220						0		30	
1,3-Dichloropropane	ND	0.0366						0		30	
Tetrachloroethene (PCE)	ND	0.0146						0		30	
Dibromochloromethane	ND	0.0220						0		30	
Chlorobenzene	ND	0.0146						0		30	
1,1,1,2-Tetrachloroethane	ND	0.0220						0		30	
1,1,1,2,2-Tetrachloroethane	ND	0.0146						0		30	
2-Chlorotoluene	ND	0.0146						0		30	

Qualifiers: 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
 J Analyte detected below quantitation limits
 ND Not detected at the Reporting Limit
 R RPD outside accepted recovery limits
 RL Reporting Limit
 S Spike recovery outside accepted recovery limits



Date: 2/9/2015

Work Order: 1501251
 CLIENT: Cardno ATC
 Project: HP Cleaners

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260

Sample ID: 1502021-002BDUP	SampType: DUP	Units: mg/Kg-dry				Prep Date: 2/4/2015	RunNo: 20483				
Client ID: BATCH	Batch ID: 9970					Analysis Date: 2/4/2015	SeqNo: 390178				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	0.0146						0		30	
1,2,3-Trichloropropane	ND	0.0146						0		30	
1,2,4-Trichlorobenzene	ND	0.0366						0		30	
1,3-Dichlorobenzene	ND	0.0146						0		30	
1,4-Dichlorobenzene	ND	0.0146						0		30	
1,2-Dichlorobenzene	ND	0.0146						0		30	
1,2-Dibromo-3-chloropropane	ND	0.366						0		30	
Hexachloro-1,3-butadiene	ND	0.0732						0		30	
1,2,3-Trichlorobenzene	ND	0.0146						0		30	
Surr: Dibromofluoromethane	0.886		0.9151		96.8	63.7	129		0		
Surr: Toluene-d8	0.927		0.9151		101	64.3	131		0		
Surr: 1-Bromo-4-fluorobenzene	0.875		0.9151		95.6	63.1	141		0		

Sample ID: 1501251-001AMS	SampType: MS	Units: mg/Kg-dry				Prep Date: 2/4/2015	RunNo: 20483				
Client ID: B-13-1'	Batch ID: 9970					Analysis Date: 2/4/2015	SeqNo: 390185				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	0.561	0.0577	0.9620	0	58.3	43.5	121				
Chloromethane	0.758	0.0577	0.9620	0	78.8	45	130				
Vinyl chloride	0.883	0.00192	0.9620	0	91.8	51.2	146				
Trichlorofluoromethane (CFC-11)	1.19	0.0481	0.9620	0	123	35	131				
Chloroethane	0.860	0.0577	0.9620	0	89.4	43.8	117				
1,1-Dichloroethene	1.17	0.0481	0.9620	0	122	61.9	141				
Methylene chloride	1.04	0.0192	0.9620	0	108	54.7	142				
trans-1,2-Dichloroethene	1.16	0.0192	0.9620	0	120	52	136				
1,1-Dichloroethane	1.12	0.0192	0.9620	0	116	51.8	141				
2,2-Dichloropropane	0.862	0.0481	0.9620	0	89.6	36	123				
cis-1,2-Dichloroethene	1.15	0.0192	0.9620	0	120	58.6	136				

Qualifiers:

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	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits



Date: 2/9/2015

Work Order: 1501251
 CLIENT: Cardno ATC
 Project: HP Cleaners

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260

Sample ID: 1501251-001AMS	SampType: MS	Units: mg/Kg-dry				Prep Date: 2/4/2015	RunNo: 20483				
Client ID: B-13-1'	Batch ID: 9970					Analysis Date: 2/4/2015	SeqNo: 390185				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloroform	1.09	0.0192	0.9620	0	114	53.2	129				
1,1,1-Trichloroethane (TCA)	1.20	0.0192	0.9620	0	125	58.3	145				
1,1-Dichloropropene	1.21	0.0192	0.9620	0	126	55.1	138				
Carbon tetrachloride	1.17	0.0192	0.9620	0	122	53.3	144				
1,2-Dichloroethane (EDC)	1.05	0.0289	0.9620	0	109	51.3	139				
Trichloroethene (TCE)	1.31	0.0192	0.9620	0	136	68.6	132				S
1,2-Dichloropropane	1.16	0.0192	0.9620	0	121	59	136				
Bromodichloromethane	1.15	0.0192	0.9620	0	120	50.7	141				
cis-1,3-Dichloropropene	0.973	0.0192	0.9620	0	101	50.4	138				
trans-1,3-Dichloropropene	0.951	0.0289	0.9620	0	98.9	44.1	147				
1,1,2-Trichloroethane	1.09	0.0289	0.9620	0	114	51.6	137				
1,3-Dichloropropane	1.07	0.0481	0.9620	0	112	53.1	134				
Tetrachloroethene (PCE)	1.09	0.0192	0.9620	0.03479	110	35.6	158				
Dibromochloromethane	1.02	0.0289	0.9620	0	106	55.3	140				
Chlorobenzene	1.03	0.0192	0.9620	0	107	60	133				
1,1,1,2-Tetrachloroethane	1.05	0.0289	0.9620	0	109	53.1	142				
1,1,2,2-Tetrachloroethane	0.770	0.0192	0.9620	0	80.0	51.9	131				
2-Chlorotoluene	1.09	0.0192	0.9620	0	113	51.6	136				
4-Chlorotoluene	1.09	0.0192	0.9620	0	114	50.1	139				
1,2,3-Trichloropropane	1.14	0.0192	0.9620	0	119	50.5	131				
1,2,4-Trichlorobenzene	1.05	0.0481	0.9620	0	110	50.8	130				
1,3-Dichlorobenzene	1.08	0.0192	0.9620	0	113	52.6	131				
1,4-Dichlorobenzene	1.09	0.0192	0.9620	0	114	52.9	129				
1,2-Dichlorobenzene	1.08	0.0192	0.9620	0	113	55.8	129				
1,2-Dibromo-3-chloropropane	1.06	0.481	0.9620	0	110	40.5	131				
Hexachloro-1,3-butadiene	1.08	0.0962	0.9620	0	112	40.6	158				
1,2,3-Trichlorobenzene	1.07	0.0192	0.9620	0	111	54.4	124				
Surr: Dibromofluoromethane	1.32		1.203		110	63.7	129				
Surr: Toluene-d8	1.20		1.203		99.8	64.3	131				

Qualifiers: 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 J Analyte detected below quantitation limits ND Not detected at the Reporting Limit
 R RPD outside accepted recovery limits RL Reporting Limit S Spike recovery outside accepted recovery limits



Date: 2/9/2015

Work Order: 1501251
 CLIENT: Cardno ATC
 Project: HP Cleaners

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260

Sample ID: 1501251-001AMS	SampType: MS	Units: mg/Kg-dry	Prep Date: 2/4/2015	RunNo: 20483							
Client ID: B-13-1'	Batch ID: 9970		Analysis Date: 2/4/2015	SeqNo: 390185							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Surr: 1-Bromo-4-fluorobenzene 1.22 1.203 102 63.1 141

NOTES:

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

Sample ID: LCS-9970	SampType: LCS	Units: mg/Kg	Prep Date: 2/4/2015	RunNo: 20483							
Client ID: LCSS	Batch ID: 9970		Analysis Date: 2/4/2015	SeqNo: 390187							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Dichlorodifluoromethane (CFC-12)	0.659	0.0600	1.000	0	65.9	37.2	139				
Chloromethane	0.823	0.0600	1.000	0	82.3	38.8	132				
Vinyl chloride	0.894	0.00200	1.000	0	89.4	56.1	130				
Trichlorofluoromethane (CFC-11)	1.16	0.0500	1.000	0	116	42.9	147				
Chloroethane	0.807	0.0600	1.000	0	80.7	37.1	144				
1,1-Dichloroethene	1.04	0.0500	1.000	0	104	49.7	142				
Methylene chloride	0.960	0.0200	1.000	0	96.0	46.3	140				
trans-1,2-Dichloroethene	1.07	0.0200	1.000	0	107	68	130				
1,1-Dichloroethane	1.03	0.0200	1.000	0	103	65.5	132				
2,2-Dichloropropane	1.06	0.0500	1.000	0	106	28.1	149				
cis-1,2-Dichloroethene	1.09	0.0200	1.000	0	109	71.3	135				
Chloroform	1.02	0.0200	1.000	0	102	67.5	129				
1,1,1-Trichloroethane (TCA)	1.11	0.0200	1.000	0	111	69	132				
1,1-Dichloropropene	1.11	0.0200	1.000	0	111	72.7	131				
Carbon tetrachloride	1.08	0.0200	1.000	0	108	63.4	137				
1,2-Dichloroethane (EDC)	1.02	0.0300	1.000	0	102	61.9	136				
Trichloroethene (TCE)	1.09	0.0200	1.000	0	109	65.5	137				
1,2-Dichloropropane	1.13	0.0200	1.000	0	113	63.2	142				
Bromodichloromethane	1.12	0.0200	1.000	0	112	73.2	131				
cis-1,3-Dichloropropene	1.04	0.0200	1.000	0	104	59.1	143				
trans-1,3-Dichloropropene	1.02	0.0300	1.000	0	102	49.2	149				

Qualifiers:	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	J Analyte detected below quantitation limits	ND Not detected at the Reporting Limit
	R RPD outside accepted recovery limits	RL Reporting Limit	S Spike recovery outside accepted recovery limits



Date: 2/9/2015

Work Order: 1501251
 CLIENT: Cardno ATC
 Project: HP Cleaners

QC SUMMARY REPORT
 Volatile Organic Compounds by EPA Method 8260

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2-Trichloroethane	1.13	0.0300	1.000	0	113	74.5	129				
1,3-Dichloropropane	1.08	0.0500	1.000	0	108	70	130				
Tetrachloroethene (PCE)	0.995	0.0200	1.000	0	99.5	52.7	150				
Dibromochloromethane	1.01	0.0300	1.000	0	101	70.6	144				
Chlorobenzene	1.02	0.0200	1.000	0	102	76.1	123				
1,1,1,2-Tetrachloroethane	1.09	0.0300	1.000	0	109	74.8	131				
1,1,2,2-Tetrachloroethane	1.02	0.0200	1.000	0	102	60	130				
2-Chlorotoluene	1.06	0.0200	1.000	0	106	76.7	129				
4-Chlorotoluene	1.07	0.0200	1.000	0	107	77.5	125				
1,2,3-Trichloropropane	1.15	0.0200	1.000	0	115	67.9	136				
1,2,4-Trichlorobenzene	1.05	0.0500	1.000	0	105	65.6	137				
1,3-Dichlorobenzene	1.06	0.0200	1.000	0	106	72.8	128				
1,4-Dichlorobenzene	1.08	0.0200	1.000	0	108	72.6	126				
1,2-Dichlorobenzene	1.06	0.0200	1.000	0	106	72.8	126				
1,2-Dibromo-3-chloropropane	1.13	0.500	1.000	0	113	61.2	139				
Hexachloro-1,3-butadiene	1.06	0.100	1.000	0	106	42	151				
1,2,3-Trichlorobenzene	1.07	0.0200	1.000	0	107	62.1	140				
Surr: Dibromofluoromethane	1.27		1.250		101	63.7	129				
Surr: Toluene-d8	1.23		1.250		98.1	64.3	131				
Surr: 1-Bromo-4-fluorobenzene	1.28		1.250		103	63.1	141				

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									

Qualifiers:

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	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits



Date: 2/9/2015

Work Order: 1501251
 CLIENT: Cardno ATC
 Project: HP Cleaners

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260

Sample ID: MB-9970	SampType: MBLK	Units: mg/Kg	Prep Date: 2/4/2015	RunNo: 20483							
Client ID: MBLKS	Batch ID: 9970		Analysis Date: 2/4/2015	SeqNo: 390188							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

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									
1,2,4-Trichlorobenzene	ND	0.0500									

Qualifiers:	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	J Analyte detected below quantitation limits	ND Not detected at the Reporting Limit
	R RPD outside accepted recovery limits	RL Reporting Limit	S Spike recovery outside accepted recovery limits



Date: 2/9/2015

Work Order: 1501251
 CLIENT: Cardno ATC
 Project: HP Cleaners

QC SUMMARY REPORT
 Volatile Organic Compounds by EPA Method 8260

Sample ID: MB-9970	SampType: MBLK	Units: mg/Kg	Prep Date: 2/4/2015	RunNo: 20483							
Client ID: MBLKS	Batch ID: 9970		Analysis Date: 2/4/2015	SeqNo: 390188							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
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	1.19		1.250		95.3	63.7	129				
Surr: Toluene-d8	1.22		1.250		97.3	64.3	131				
Surr: 1-Bromo-4-fluorobenzene	1.21		1.250		96.6	63.1	141				

Sample ID: 1502007-001BDUP	SampType: DUP	Units: mg/Kg-dry	Prep Date: 2/2/2015	RunNo: 20505							
Client ID: BATCH	Batch ID: 9956		Analysis Date: 2/6/2015	SeqNo: 390653							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	0.0548						0		30	
Chloromethane	ND	0.0548						0		30	
Vinyl chloride	ND	0.00183						0		30	
Trichlorofluoromethane (CFC-11)	ND	0.0457						0		30	
Chloroethane	ND	0.0548						0		30	
1,1-Dichloroethene	ND	0.0457						0		30	
Methylene chloride	ND	0.0183						0		30	
trans-1,2-Dichloroethene	ND	0.0183						0		30	
1,1-Dichloroethane	ND	0.0183						0		30	
2,2-Dichloropropane	ND	0.0457						0		30	
cis-1,2-Dichloroethene	ND	0.0183						0		30	
Chloroform	ND	0.0183						0		30	
1,1,1-Trichloroethane (TCA)	ND	0.0183						0		30	
1,1-Dichloropropene	ND	0.0183						0		30	

Qualifiers: 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 J Analyte detected below quantitation limits ND Not detected at the Reporting Limit
 R RPD outside accepted recovery limits RL Reporting Limit S Spike recovery outside accepted recovery limits



Date: 2/9/2015

Work Order: 1501251
 CLIENT: Cardno ATC
 Project: HP Cleaners

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Carbon tetrachloride	ND	0.0183						0		30	
1,2-Dichloroethane (EDC)	ND	0.0274						0		30	
Trichloroethene (TCE)	ND	0.0183						0		30	
1,2-Dichloropropane	ND	0.0183						0		30	
Bromodichloromethane	ND	0.0183						0		30	
cis-1,3-Dichloropropene	ND	0.0183						0		30	
trans-1,3-Dichloropropene	ND	0.0274						0		30	
1,1,2-Trichloroethane	ND	0.0274						0		30	
1,3-Dichloropropane	ND	0.0457						0		30	
Tetrachloroethene (PCE)	ND	0.0183						0		30	
Dibromochloromethane	ND	0.0274						0		30	
Chlorobenzene	ND	0.0183						0		30	
1,1,1,2-Tetrachloroethane	ND	0.0274						0		30	
1,1,2,2-Tetrachloroethane	ND	0.0183						0		30	
2-Chlorotoluene	ND	0.0183						0		30	
4-Chlorotoluene	ND	0.0183						0		30	
1,2,3-Trichloropropane	ND	0.0183						0		30	
1,2,4-Trichlorobenzene	ND	0.0457						0		30	
1,3-Dichlorobenzene	ND	0.0183						0		30	
1,4-Dichlorobenzene	ND	0.0183						0		30	
1,2-Dichlorobenzene	ND	0.0183						0		30	
1,2-Dibromo-3-chloropropane	ND	0.457						0		30	
Hexachloro-1,3-butadiene	ND	0.0914						0		30	
1,2,3-Trichlorobenzene	ND	0.0183						0		30	
Surr: Dibromofluoromethane	1.15		1.142		101	63.7	129		0		
Surr: Toluene-d8	1.13		1.142		99.2	64.3	131		0		
Surr: 1-Bromo-4-fluorobenzene	1.13		1.142		98.9	63.1	141		0		

Qualifiers: B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 R RPD outside accepted recovery limits
 D Dilution was required
 J Analyte detected below quantitation limits
 RL Reporting Limit
 E Value above quantitation range
 ND Not detected at the Reporting Limit
 S Spike recovery outside accepted recovery limits



Date: 2/9/2015

Work Order: 1501251
 CLIENT: Cardno ATC
 Project: HP Cleaners

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	0.940	0.0593	0.9877	0	95.2	43.5	121				
Chloromethane	0.922	0.0593	0.9877	0	93.3	45	130				
Vinyl chloride	1.00	0.00198	0.9877	0	101	51.2	146				
Trichlorofluoromethane (CFC-11)	1.39	0.0494	0.9877	0	140	35	131				S
Chloroethane	1.16	0.0593	0.9877	0	117	43.8	117				S
1,1-Dichloroethene	1.12	0.0494	0.9877	0	113	61.9	141				
Methylene chloride	0.902	0.0198	0.9877	0	91.3	54.7	142				
trans-1,2-Dichloroethene	1.04	0.0198	0.9877	0	105	52	136				
1,1-Dichloroethane	1.00	0.0198	0.9877	0	102	51.8	141				
2,2-Dichloropropane	0.239	0.0494	0.9877	0	24.2	36	123				S
cis-1,2-Dichloroethene	1.03	0.0198	0.9877	0	105	58.6	136				
Chloroform	1.01	0.0198	0.9877	0	102	53.2	129				
1,1,1-Trichloroethane (TCA)	1.10	0.0198	0.9877	0	112	58.3	145				
1,1-Dichloropropene	1.10	0.0198	0.9877	0	112	55.1	138				
Carbon tetrachloride	1.11	0.0198	0.9877	0	113	53.3	144				
1,2-Dichloroethane (EDC)	0.990	0.0296	0.9877	0	100	51.3	139				
Trichloroethene (TCE)	1.85	0.0198	0.9877	0	187	68.6	132				S
1,2-Dichloropropane	1.10	0.0198	0.9877	0	112	59	136				
Bromodichloromethane	1.17	0.0198	0.9877	0	118	50.7	141				
cis-1,3-Dichloropropene	0.829	0.0198	0.9877	0	83.9	50.4	138				
trans-1,3-Dichloropropene	0.828	0.0296	0.9877	0	83.9	44.1	147				
1,1,2-Trichloroethane	1.08	0.0296	0.9877	0	109	51.6	137				
1,3-Dichloropropane	1.04	0.0494	0.9877	0	105	53.1	134				
Tetrachloroethene (PCE)	0.955	0.0198	0.9877	0	96.7	35.6	158				
Dibromochloromethane	1.11	0.0296	0.9877	0	112	55.3	140				
Chlorobenzene	0.932	0.0198	0.9877	0	94.4	60	133				
1,1,1,2-Tetrachloroethane	1.08	0.0296	0.9877	0	110	53.1	142				
1,1,2,2-Tetrachloroethane	ND	0.0198	0.9877	0	0	51.9	131				S
2-Chlorotoluene	0.991	0.0198	0.9877	0	100	51.6	136				

Qualifiers: 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 J Analyte detected below quantitation limits ND Not detected at the Reporting Limit
 R RPD outside accepted recovery limits RL Reporting Limit S Spike recovery outside accepted recovery limits



Date: 2/9/2015

Work Order: 1501251
 CLIENT: Cardno ATC
 Project: HP Cleaners

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260

Sample ID: 1501251-029AMS	SampType: MS	Units: mg/Kg-dry				Prep Date: 2/2/2015	RunNo: 20505				
Client ID: B-20-1'	Batch ID: 9956					Analysis Date: 2/6/2015	SeqNo: 390661				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
4-Chlorotoluene	0.995	0.0198	0.9877	0	101	50.1	139				
1,2,3-Trichloropropane	1.07	0.0198	0.9877	0	108	50.5	131				
1,2,4-Trichlorobenzene	0.974	0.0494	0.9877	0	98.6	50.8	130				
1,3-Dichlorobenzene	0.969	0.0198	0.9877	0	98.1	52.6	131				
1,4-Dichlorobenzene	0.986	0.0198	0.9877	0	99.8	52.9	129				
1,2-Dichlorobenzene	0.968	0.0198	0.9877	0	98.0	55.8	129				
1,2-Dibromo-3-chloropropane	1.16	0.494	0.9877	0	118	40.5	131				
Hexachloro-1,3-butadiene	0.964	0.0988	0.9877	0	97.6	40.6	158				
1,2,3-Trichlorobenzene	1.02	0.0198	0.9877	0	103	54.4	124				
Surr: Dibromofluoromethane	1.35		1.235		109	63.7	129				
Surr: Toluene-d8	1.39		1.235		112	64.3	131				
Surr: 1-Bromo-4-fluorobenzene	1.25		1.235		102	63.1	141				

NOTES:

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

Sample ID: LCS-9956	SampType: LCS	Units: mg/Kg				Prep Date: 2/2/2015	RunNo: 20505				
Client ID: LCSS	Batch ID: 9956					Analysis Date: 2/6/2015	SeqNo: 390668				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	0.692	0.0600	1.000	0	69.2	37.2	139				
Chloromethane	0.748	0.0600	1.000	0	74.8	38.8	132				
Vinyl chloride	0.675	0.00200	1.000	0	67.5	56.1	130				
Trichlorofluoromethane (CFC-11)	1.21	0.0500	1.000	0	121	42.9	147				
Chloroethane	1.08	0.0600	1.000	0	108	37.1	144				
1,1-Dichloroethene	1.08	0.0500	1.000	0	108	49.7	142				
Methylene chloride	0.970	0.0200	1.000	0	97.0	46.3	140				
trans-1,2-Dichloroethene	1.08	0.0200	1.000	0	108	68	130				
1,1-Dichloroethane	1.03	0.0200	1.000	0	103	65.5	132				
2,2-Dichloropropane	0.381	0.0500	1.000	0	38.1	28.1	149				

Qualifiers:

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	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits



Date: 2/9/2015

Work Order: 1501251
 CLIENT: Cardno ATC
 Project: HP Cleaners

QC SUMMARY REPORT
 Volatile Organic Compounds by EPA Method 8260

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sample ID: LCS-9956 SampType: LCS Units: mg/Kg Prep Date: 2/2/2015 RunNo: 20505 Client ID: LCSS Batch ID: 9956 Analysis Date: 2/6/2015 SeqNo: 390668											
cis-1,2-Dichloroethene	1.08	0.0200	1.000	0	108	71.3	135				
Chloroform	1.04	0.0200	1.000	0	104	67.5	129				
1,1,1-Trichloroethane (TCA)	1.17	0.0200	1.000	0	117	69	132				
1,1-Dichloropropene	1.12	0.0200	1.000	0	112	72.7	131				
Carbon tetrachloride	1.17	0.0200	1.000	0	117	63.4	137				
1,2-Dichloroethane (EDC)	1.02	0.0300	1.000	0	102	61.9	136				
Trichloroethene (TCE)	1.02	0.0200	1.000	0	102	65.5	137				
1,2-Dichloropropane	1.14	0.0200	1.000	0	114	63.2	142				
Bromodichloromethane	1.27	0.0200	1.000	0	127	73.2	131				
cis-1,3-Dichloropropene	0.981	0.0200	1.000	0	98.1	59.1	143				
trans-1,3-Dichloropropene	0.987	0.0300	1.000	0	98.7	49.2	149				
1,1,2-Trichloroethane	1.10	0.0300	1.000	0	110	74.5	129				
1,3-Dichloropropane	1.02	0.0500	1.000	0	102	70	130				
Tetrachloroethene (PCE)	0.927	0.0200	1.000	0	92.7	52.7	150				
Dibromochloromethane	1.18	0.0300	1.000	0	118	70.6	144				
Chlorobenzene	1.01	0.0200	1.000	0	101	76.1	123				
1,1,1,2-Tetrachloroethane	1.12	0.0300	1.000	0	112	74.8	131				
1,1,2,2-Tetrachloroethane	1.16	0.0200	1.000	0	116	60	130				
2-Chlorotoluene	1.07	0.0200	1.000	0	107	76.7	129				
4-Chlorotoluene	1.08	0.0200	1.000	0	108	77.5	125				
1,2,3-Trichloropropane	1.19	0.0200	1.000	0	119	67.9	136				
1,2,4-Trichlorobenzene	1.05	0.0500	1.000	0	105	65.6	137				
1,3-Dichlorobenzene	1.04	0.0200	1.000	0	104	72.8	128				
1,4-Dichlorobenzene	1.04	0.0200	1.000	0	104	72.6	126				
1,2-Dichlorobenzene	1.04	0.0200	1.000	0	104	72.8	126				
1,2-Dibromo-3-chloropropane	1.34	0.500	1.000	0	134	61.2	139				
Hexachloro-1,3-butadiene	1.06	0.100	1.000	0	106	42	151				
1,2,3-Trichlorobenzene	1.05	0.0200	1.000	0	105	62.1	140				
Surr: Dibromofluoromethane	1.37		1.250		110	63.7	129				

Qualifiers: 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 J Analyte detected below quantitation limits ND Not detected at the Reporting Limit
 R RPD outside accepted recovery limits RL Reporting Limit S Spike recovery outside accepted recovery limits



Date: 2/9/2015

Work Order: 1501251
 CLIENT: Cardno ATC
 Project: HP Cleaners

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260

Sample ID: LCS-9956	SampType: LCS	Units: mg/Kg	Prep Date: 2/2/2015	RunNo: 20505							
Client ID: LCSS	Batch ID: 9956		Analysis Date: 2/6/2015	SeqNo: 390668							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Toluene-d8	1.25		1.250		100	64.3	131				
Surr: 1-Bromo-4-fluorobenzene	1.32		1.250		106	63.1	141				

Sample ID: MB-9956	SampType: MBLK	Units: mg/Kg	Prep Date: 2/2/2015	RunNo: 20505							
Client ID: MBLKS	Batch ID: 9956		Analysis Date: 2/6/2015	SeqNo: 390669							
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									

Qualifiers:

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	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits



Date: 2/9/2015

Work Order: 1501251
 CLIENT: Cardno ATC
 Project: HP Cleaners

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260

Sample ID: MB-9956	SampType: MBLK	Units: mg/Kg	Prep Date: 2/2/2015	RunNo: 20505							
Client ID: MBLKS	Batch ID: 9956		Analysis Date: 2/6/2015	SeqNo: 390669							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
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									
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	1.26		1.250		101	63.7	129				
Surr: Toluene-d8	1.32		1.250		105	64.3	131				
Surr: 1-Bromo-4-fluorobenzene	1.29		1.250		103	63.1	141				

Qualifiers: B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 R RPD outside accepted recovery limits
 D Dilution was required
 J Analyte detected below quantitation limits
 RL Reporting Limit
 E Value above quantitation range
 ND Not detected at the Reporting Limit
 S Spike recovery outside accepted recovery limits



Sample Log-In Check List

Client Name: ATC	Work Order Number: 1501251
Logged by: Kerra Ziegler	Date Received: 1/30/2015 10:12:00 AM

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 MeOH 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:	Mark Newman	Date:	1/30/2015
By Whom:	Kerra Ziegler	Via:	<input checked="" type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	Sample labels inconsistent with chain		
Client Instructions:	Refer to sample times for clarification		

19. Additional remarks:

Item Information

Item #	Temp °C	Condition
Cooler	3.0	Good
Sample	4.0	Good
Temp Blank	4.4	Good



Fremont
Analytical

Chain of Custody Record

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

Date: 1/29/2015

Laboratory Project No (Internal): 1501251
Page: 5 of 5

Client: Cardno ATC
Address: 6347 Seaview Avenue NW
City, State, Zip: Seattle, WA, 98107

Project Name: HP Cleaners
Location: 13619 Mukilteo Speedway, Lynnwood, WA
Collected by: Mark Newman

Reports To (PM): Simon Payne Fax: _____ Email: simon.payne@cardno.com Project No: 282EMC0018

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)	Analytical Methods																		Comments/Death																			
				VOCs (EPA 8260)	GWBTX by EPA 8011b	BTEX by S260	Gasoline Range Organics	Hydrocarbon Identification (HID)	Diesel/Reway CH Range Organics	SEMI VOL (EPA 8270)	PAH (EPA 8170 - SIM)	PCBS (EPA 8082)	Cl Peatrolides (EPA 1091)	Cl Herbicides (EPA 5151A)	Total (T) 1 Disolved (D)	Anions (Cl)*	Cl VOCs (EPA 8260)																								
1 B-23-1'	1/29/15	15:30	Soil																																						
2 B-23-2'	1/29/15	15:35	Soil																																						
3 B-23-3'	1/29/15	15:40	Soil																																						Hold
4 B-23-4'	1/29/15	15:45	Soil																																						
5	1/29/15		Soil																																						
6	1/29/15		Soil																																						
7	1/29/15		Soil																																						
8	1/29/15		Soil																																						
9	1/29/15		Soil																																						
10	1/29/15		Soil																																						

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

Relinquished: MR Date/Time: 1/30/15 10:12 Received: [Signature] Date/Time: 1/30/15 10:12
Relinquished: _____ Date/Time: _____ Received: _____ Date/Time: _____

TAT -> Next Day 2 Day 3 Day STD