April 29, 2014

Mr. Richard Klinke
Klinke Cleaners
4518 Monona Drive
Madison, Wisconsin 53716

Re: Further Site Investigation Progress Report (FSI 3)
Klinke Cleaners
1295 N. Sherman Avenue
Madison, Wisconsin
BRRTS#: 02-13-551965

Dear Mr. Klinke:

Environmental Forensic Investigations, Inc. (EnviroForensics) is pleased to provide this progress report regarding recent site investigation activities performed at the Klinke Cleaners (Klinke) facility located at 1295 N. Sherman Avenue in Madison, Wisconsin (Site). The site investigation activities were performed in accordance with Wisconsin Department of Natural Resources (WDNR) regulations and guidance regarding such investigations, and in accordance the detailed work scope presented in the *Further Site Investigation Progress Report (FSI 2)*, dated October 3, 2013.

1.0 SITE DESCRIPTION

The Site is located at 1295 N. Sherman Avenue within an area of mixed residential and commercial land use in the City of Madison, Wisconsin. The features of the Site and surrounding area are depicted on **Figure 1**. The Site consists of a slab-on-grade, one-story, commercial building and asphalt paved parking area with drive thru service. The Site is bound by Aberg Avenue to the north, a multi-tenant commercial building (Northgate) to the east, a large asphalt commercial parking lot to the south, and Sherman Avenue to the west. The nearest surface water body is Lake Mendota located approximately 2,300 feet to the west of the site.

According to reports of previous consultants, the property was operated as a gasoline service station from the 1950's to the late 1970's or early 1980's. The property has been utilized for dry cleaning services since the early 1990's and tetrachloroethene (PCE) was the main dry cleaning solvent used in the cleaning process until its use was discontinued in 2003.

Environmental Forensic Investigations, Inc.
N16 W23390 Stone Ridge Dr, Suite G, Waukesha, WI 53188
Phone: 414-982-3988 • Fax 317-972-7875

2.0 SUMMARY OF PAST INVESTIGATIONS

2.1 Preliminary Site Assessment

A preliminary site assessment (PSA) was performed by Northern Environmental in June of 2008. This limited assessment basically consisted of three soil borings located around the outside perimeter of the building (see **Figure 1** for the locations of these borings). Continuous cores of soil were collected for the purpose of describing the assemblage of geologic materials and for field screening for volatile organic compounds (VOC) using a photoionization detector (PID). Soil samples were collected from two of the borings (B1600 and B1800) to be sent for laboratory analysis of VOC. No samples were sent for laboratory analysis from B1700. The soil samples were collected from various depth intervals to a maximum boring depth of 15 feet below ground surface (bgs) based on the results of PID screening. During this investigation, groundwater was not encountered in any of the borings.

Upon review of the geologic information contained in the PSA soil boring logs, it appears that the subsurface geological environment is highly variable with discrete areas of sand, gravel, and clay encountered in borings B1600, B1700, and B1800, respectively. The gravel encountered at B1700 was described in the PSA as backfill from a previous petroleum underground storage tank (UST).

PCE was detected in the sand soil at boring B1600. Concentrations of PCE ranged from 315 ug/kg to 550 micrograms per kilogram (ug/kg) and increased with depth. These concentrations of PCE exceed the WDNR residual contaminant level (RCL) of 4.5 ug/kg established for the protection of groundwater.

2.2 Further Site Investigation (FSI 1)

EnviroForensics staff conducted further Site investigations (FSI 1) on September 19, 2012, including:

- Soil sample collection from four (4) direct-push soil borings (GP-1 through GP-4) located outside the building;
- Grab groundwater sample collection from soil boring GP-2 (located near previous boring B1600); and
- The collection of three (3) sub-slab vapor samples (SSV-1 through SSV-3).

PCE was detected in soil samples collected from borings GP-1, GP-2, and GP-3 at concentrations that exceed the WDNR RCL for protection of groundwater. The groundwater grab sample collected from GP-2 was found to contain PCE at a concentration exceeding the enforcement standard (ES).

PCE, trichloroethylene (TCE), BTEX compounds (benzene, toluene, ethylbenzene, xylenes), and two compounds associated with refrigerants were detected in the vapor phase beneath the building slab. None of the compounds were detected in concentrations exceeding vapor risk screening levels (VRSLs). Since the current dry cleaning operation does not use gasoline or other fuels that may contain BTEX, the source of these compounds are likely associated with the past operation of this property as a gasoline service station.

2.3 Further Site Investigation (FSI 2)

EnviroForensics staff conducted further Site investigation activities (FSI 2) during April through June 2013. Data collection methods included soil boring and sampling, monitoring well installation and groundwater sampling, slug testing, and surveying. Specifically, the following activities were performed:

- Four (4) direct-push borings (PZ-1 through PZ-4) were advanced outside the Site building at the planned locations of groundwater piezometers to further define the extent of soil impacts;
- Two (2) direct-push borings (GP-5 and GP-6) were advanced through the building slab and soil and groundwater grab samples were collected to assess potential sources area(s) under the Site building;
- Four (4) well nests were installed to facilitate groundwater monitoring at on- and off-Site locations. Each well nest consists of one (1) water table observation well designed to intersect the water table (designated MW-1 through MW-4), and one (1) deeper piezometer (designated PZ-1 through PZ-4) that is screened below the water table;
- Slug testing was performed in two (2) monitoring wells and two (2) piezometers to obtain hydraulic conductivity data;
- The monitoring wells, piezometers, and soil borings were surveyed to acquire location and elevation data; and
- Two (2) groundwater grab samples, eight (8) monitoring well groundwater samples, 16 soil samples, and appropriate QA/QC samples were collected for laboratory analysis.

In addition, EnviroForensics obtained and evaluated relevant information regarding vapor intrusion investigations completed by others at the commercial buildings located to the east and southeast of the Site.

PCE was detected in soil samples collected from borings GP-5, GP-6, and PZ-3 at concentrations exceeding the WDNR RCL for protection of groundwater. No other VOCs were detected in soil samples.

Grab groundwater samples collected from temporary wells in borings GP-5 and GP-6 contained PCE at concentrations of 57 micrograms per liter (ug/L) and 87 ug/L, respectively, which exceed the ES of 5 ug/L. TCE was also detected in both grab groundwater samples at concentrations near the preventive action limit (PAL) of 0.5 ug/L.

Chlorinated volatile organic compound (CVOC) impacts were identified in groundwater samples collected from each of the four water table monitoring wells and each of the four piezometers. With the exception of MW-2, located in the northeast corner of the Site, PCE was detected in all monitoring wells and piezometers at concentrations exceeding the ES of 5 ug/L. The highest concentrations of PCE (580 and 750 ug/L) were detected in duplicate samples collected from MW-3, which is located just west of the Site building. Monitoring well MW-3 and piezometers PZ-2, PZ-3, and PZ-4 also contained TCE at concentrations exceeding the PAL of 0.5 ug/L. The highest concentrations of PCE detected in shallow groundwater corresponded to the highest soil concentrations in the vicinity of boring GP-2.

The results of the VI assessment conducted by others at the neighboring commercial building to the east indicated that vapor intrusion is not complete. The concentrations of CVOCs in the sub-slab spaces and indoor air were below the applicable screening/action levels.

3.0 CURRENT FURTHER SITE INVESTIGATION (FSI 3)

3.1 Deviations from Work Scope

EnviroForensics personnel performed data collection activities as described in the *Further Site Investigation Progress Report (FSI 2)*, with the following exceptions:

- Due to the density of utilities in the right-of-way along the west side of Sherman Avenue, the proposed data collection point northwest of the intersection of Sherman Avenue and Aberg Avenue (identified as GP-9 in the Work Scope) was not advanced; and

- The two (2) proposed data collection points on the north side of Aberg Avenue were moved slightly to avoid conflicts with private property features and/or utilities.

3.2 Soil and Soil Gas Sampling

Soil borings GP-7 through GP-10 were advanced at the locations depicted on **Figure 1** to facilitate the collection of soil and soil gas samples as follows:

- One (1) direct-push soil boring designated GP-7 was advanced immediately adjacent to the sanitary sewer line near the western Site boundary to a depth just

above the sewer line. One (1) soil sample was collected from the bottom of the boring, followed by the collection of one (1) soil gas sample; and

- Three (3) direct-push soil borings designated GP-8 through GP-10 were advanced within the right-of-way areas along Aberg Avenue and Sherman Avenue to a depth of approximately 25 feet bgs. One (1) soil gas sample was collected from each boring.

The soil sample at GP-7 was collected from a depth of 5 feet bgs. The sample was submitted to Synergy Environmental Lab, Inc of Appleton, Wisconsin (Synergy) for analysis of total VOCs according to EPA Method 8260.

Soil gas samples were collected using the post-run tubing (PRT) method. Leak detection was performed prior to sample collection by measuring helium inside of a shroud that covered the probe rods and sample train. Three times the calculated volume of air in the tubing was purged prior to collecting the soil gas samples in batch-certified 1-liter vacuum canisters.

Off-site soil gas samples GP-8-SG through GP-10-SG were collected from approximately 12 feet bgs, which is two to three feet below the anticipated basement foundation depth of nearby structures. Soil gas sample GP-7-SG was collected from a depth of 5 feet bgs, which was just above the depth of the sanitary sewer line. A total of four (4) soil gas samples were submitted to EnvisionAir of Indianapolis, Indiana for analysis of the dry cleaning list of CVOCs according to EPA Test Method TO-15.

3.3 Grab Groundwater Sampling

After soil gas sampling was completed, borings GP-8 through GP-10 were further advanced to 5 feet below the water table (approximately 25 feet bgs). Grab groundwater samples GP-8, GP-9, and GP-10 were collected through temporary 1-inch diameter PVC wells placed in each borehole. Groundwater was withdrawn from the temporary wells using a peristaltic pump and placed directly into laboratory-supplied sample vials. A total of three (3) grab groundwater samples were submitted to Synergy for analysis of total VOCs according to EPA Test Method 8260. All soil borings were abandoned in accordance with WDNR requirements immediately after sample collection was completed.

3.4 Investigation-Derived Media Management

Investigation-derived media (IDM) generated during FSI activities was placed in DOT 17H-rated 55 gallon drums for subsequent characterization and management. The drums will be stored on Site until ongoing FSI activities are complete. All IDM will be removed from the Site and transported to a disposal facility by a licensed subcontractor under existing non-hazardous waste profiles.

4.0 FURTHER SITE INVESTIGATION RESULTS

4.1 Geology and Hydrogeology

Soil samples for lithological classification were collected during previous phases of the Site investigation. At the Site building, one to two feet of sand and gravel fill is encountered beneath the building slab, followed primarily by brown silt and clay to a depth of approximately 15 feet bgs. Poorly sorted very fine-grained sand and fine to medium gravel was encountered below the clay interval. Similarly, the observed lithology in soil borings PZ-1, PZ-2, and PZ-4 was sand and gravel fill near the ground surface, followed by clay to approximately 12 feet bgs. Layers of very fine-grained sand, sandy gravel, and gravel are encountered from 12 to 50 feet bgs, the maximum depths of the borings. At boring PZ-3, the near surface (1 to 12 feet bgs) interval was very fine-grained sand, and the remainder was sand and gravel as observed in the other piezometer soil borings.

The water table resides at a depth of between 18-20 feet bgs across the Site. The direction of groundwater flow at the Site has been inconsistent during 2013. As described in the *Groundwater Monitoring Summary Report* submitted separately, the flow direction has varied from northeast to southwest during the three monitoring events conducted to date. The groundwater flow velocity across the Site has ranged from approximately 1.1 to 2.8 feet/day. The vertical hydraulic gradients measured at well nests MW-1/PZ-1, MW-2/PZ-2, and MW-3/PZ-3 were in general downward, ranging from zero to -0.015, indicating recharging conditions at the Site. Well nest MW-4/PZ-4, which is located in the parking lot south of the Site, exhibited a slight upward gradient, suggesting that recharge in this area is limited by the paved surfaces.

4.2 Soil Analytical Results

The soil analytical results are summarized in **Table 1** and illustrated on **Figure 2**. The soil analytical data are compared to RCLs calculated according to the procedures described in WDNR Publication RR-890. The laboratory analytical report containing the soil results is provided in **Attachment 1**.

Soil sample GP-7 (5'), which was collected along the sanitary sewer corridor near the western Site boundary, contained an estimated PCE concentration of 75 ug/kg, which exceeds the soil to groundwater RCL of 4.5 ug/kg. No other compounds were detected.

4.3 Soil Gas Analytical Results

The soil gas analytical results are summarized in **Table 2** and illustrated on **Figure 3**. The soil gas results are compared to VRSLs calculated in accordance with the procedures described in WDNR Publication RR-800. The soil gas laboratory analytical report is provided in **Attachment 2**.

Soil gas sample GP-7-SG, which was collected along the sanitary sewer corridor near the western Site boundary, contained PCE and TCE at concentrations of 1,259 and 6.3 parts per billion by volume (ppbv), respectively. The PCE concentration exceeds the residential VRSL of 42 ppbv and the non-residential VRSL of 270 ppbv. The concentration of TCE exceeds the residential VRSL of 2.1 ppbv.

Off-site soil gas samples GP-8-SG through GP-10-SG contained PCE at concentrations ranging from 21 ppbv to 180 ppbv. The concentration of PCE in sample GP-8-SG (180 ppbv) exceeds the residential VRSL of 42 ppbv. No other compounds were detected in the soil gas samples.

4.4 Grab Groundwater Analytical Results

The analytical results of grab groundwater samples collected from GP-8, GP-9, and GP-10 are summarized in **Table 3** and illustrated on **Figure 4**. The groundwater analytical data are compared to the public health standards listed in WAC Chapter NR 140. The laboratory report containing the groundwater grab sample results is provided in **Attachment 1**.

The grab groundwater sample collected from the temporary well in boring GP-8 contained PCE at a concentration of 7.5 ug/L, which exceeds the ES of 5 ug/L. A minor concentration of toluene was also detected in sample GP-8, which is consistent with groundwater grab samples collected at other locations on the Site. PCE was detected in sample GP-9 at an estimated concentration of 0.81 ug/L. No compounds were detected in sample GP-10 at concentrations above detection limits.

5.0 CONCLUSIONS

PCE concentrations in soil samples collected both inside and outside of the Site building appear to increase as they are collected closer to the utility corridors containing the water and sanitary sewer laterals. The concentrations of PCE also appear to increase with depth at these locations. The concentrations of PCE exceed the soil RCL for protection of groundwater, but do not exceed the soil RCLs for direct contact exposure in either an industrial or non-industrial setting.

Based on the distributions of PCE seen, it is likely that historic releases of PCE have occurred to the sanitary sewer lateral, possibly through floor drains inside the building (floor drain connections, as well as joints in the sanitary sewer lateral, are prone to leakage). The source area of contamination appears to be located along the sanitary sewer line and concentrated at some point along that lateral within 20-30 feet of the Site building near boring GP-2 as can be seen on **Figure 2**. Some migration has occurred along this utility corridor to the western property boundary, but concentrations decrease dramatically with distance from the presumed source area. Migration of PCE in soil appears to be more prevalent in the vertical direction as concentrations increase with depth near the source area.

The vertical migration of PCE in soil from presumed leakage out of the sanitary sewer has reached the water table and localized groundwater impacts have occurred. The highest concentrations of PCE in groundwater are again associated with the presumed source area near GP-2. Consistent with the distribution of soil impacts, the concentrations of PCE in groundwater decrease with distance from the source area. The observed groundwater gradient across the Site has been very low and the directions of groundwater flow have varied. This may explain why higher concentrations of PCE remain relatively close to the source area and have not spread over a larger lateral area. The lateral extent of groundwater impacts above the ES appear to be limited to the north of the Site as observed in groundwater grab samples collected from borings GP-9 and GP-10. However, the lateral extent of groundwater impacts has not been determined to the west or east of the Site. A known source of chlorinated solvents exists south of the Site (i.e., Laundryland) and may be contributing to the concentrations detected in groundwater at the Klinke Cleaners property. The nearest Laundryland monitoring well is located approximately 70 feet east of well nest MW-4/PZ-4. The PCE concentration in that well has been reported at 140 ug/L, which is similar to the PCE concentrations detected in MW-4/PZ-4.

The soil gas sample collected along the sanitary sewer lateral near the western Site boundary contained a concentration of PCE which exceeds both residential and non-residential VRSLs and a concentration of TCE exceeding the residential VRSL indicating that PCE vapor has migrated along the sanitary sewer corridor toward Sherman Avenue. Soil gas impacts that exceed the residential VRSL were also detected on the west side of Sherman Avenue, adjacent to a condominium complex. At this time, it is not known whether PCE vapors have migrated from the Site to reach the west side of Sherman Avenue, or whether these vapors have migrated from known soil and groundwater impacts associated with the Laundryland site. A better understanding of the layout of the sanitary and storm sewer mains and lateral connections within Sherman Avenue will need to be gained, and additional soil and soil gas sampling along these utility lines and connections would be necessary to determine this.

Concentrations of PCE in soil gas samples collected in borings GP-9 and GP-10 located north of the Site were less than the residential VRSLs.

6.0 RECOMMENDATIONS

Based on the results of Site investigations performed to date, there are localized impacts of PCE in Site soil and these impacts have reached the groundwater table. Impacts to groundwater and soil vapor have been detected off-site to the west in concentrations exceeding groundwater Enforcement Standards and Vapor Risk Screening Levels, respectively. Additional investigations are needed to determine if these off-site impacts are related to historic releases of PCE from Site dry cleaning operations, or have migrated from the off-site source to the south.

EnviroForensics recommends the following course of action to continue the investigation and move the Site toward case closure:

- Obtain City of Madison utility maps to identify potential migration routes between the Site and the residential properties to the west and northwest; and
- Develop a Work Scope that provides the detailed steps necessary to further define the off-site extent and source of groundwater and soil gas impacts and determine the risk of vapor intrusion to nearby residential properties to the west of the Site.

We appreciate the opportunity to work with you on this project. If you have any questions regarding the results of this investigation, please do not hesitate to call us at (414) 982-3988.

Sincerely,
Environmental Forensic Investigations, Inc.

Wayne Fassbender, PG, PMP
Senior Project Manager

Brian Kappen, PG
Project Manager

cc: Jim Walden, Wisconsin Department of Natural Resources

Attachments

TABLES

Table 1
Summary of Detected Compounds in Soil Samples
Klinke Cleaners -Sherman Ave
Madison, Wisconsin

Boring Identification	Sample Date	Sample Depth (feet)	Tetrachloroethylene
GP-1	9/19/2012	**4-6**	**29**
		18-20	**59**
GP-2	9/19/2012	**2-4**	**980**
		16-18	**3,700**
GP-3	9/19/2012	**6-8**	**180**
		16-18	<17
GP-4	9/19/2012	**0-1**	<15
		5-6	<16
GP-5	4/18/2013	**5-7.5**	**52 J**
		12.5-15	**60 J**
GP-6	4/18/2013	**5-7.5**	**550**
		12.5-15	**570**
GP-7	11/4/2013	**5**	**75 J**
PZ-1	4/16/2013	**2.5-5**	<12
		10-12.5	<18
		15-17.5	<14
PZ-2	4/16/2013	**2.5-5**	<14
		10-12.5	<13
		15-17.5	<9.3
PZ-3	4/24/2013	**2.5-5**	**34 J**
		7.5-10	**52 J**
		12.5-15	**120**
PZ-4	4/17/2013	**5-7.5**	<13
		10-12.5	<13
		12.5-15	<9.6
Industrial RCL [1]			**153,000**
Non-Industrial RCL [1]			**30,700**
Soil to Goundwater RCL [1]			**4.5**

Table 1

Summary of Detected Compounds in Soil Samples

Klinke Cleaners -Sherman Ave

Madison, Wisconsin

Notes:

[1] Residual Contaminant Levels are determined using the EPA Residual Screening Levels (RSL) calculator according to the procedures described in WDNR Publication RR-890

All concentrations reported in micrograms per kilogram (µg/kg)

Samples analyzed using EPA SW-846 Method 8260

Bolded values exceed method detection limits

Bolded and blue shaded values exceed the Soil to Groundwater Residual Contaminant Level

J = Analyte concentration detected between the laboratory Method Detection Limit and Reporting Limit

RCL = Residual Contaminant Level

Table 2
Summary of Detected Compounds in Soil-Gas Samples
Klinke Cleaners - Sherman Ave.
Madison, Wisconsin

Sample Identification	Sample Date	Tetrachloroethylene	Trichloroethylene
6274-GP-7-SG	11/4/2013	**1,259**	**6.3**
6274-GP-8-SG	11/4/2013	**180**	<0.4
6274-GP-9-SG	11/4/2013	**21**	<0.4
6274-GP-10-SG	11/4/2013	**33**	<0.4
Residential Vapor Risk Screening Level [1]		**62**	**3.9**
Non-Residential Vapor Risk Screening Level [1]		**270**	**16**

Notes:

[1] The Vapor Risk Screeing Levels are based on U.S. E.P.A.'s Regional Screening Levels (RSL's) for non-residential indoor air with an attenuation factor of 0.1 for soil gas samples and a 0.1 adjustment for 1 x 10-5 lifetime cancer risk for carcinogens
All concentrations reported in units in parts per billion by volume (ppbv)

Bolded values are above detection limits

Bolded and blue shaded values exceed the Residential Vapor Risk Screening Level

Bolded and orange shaded values exceed the Non-Residential Vapor Risk Screening Level

NE = Not Established

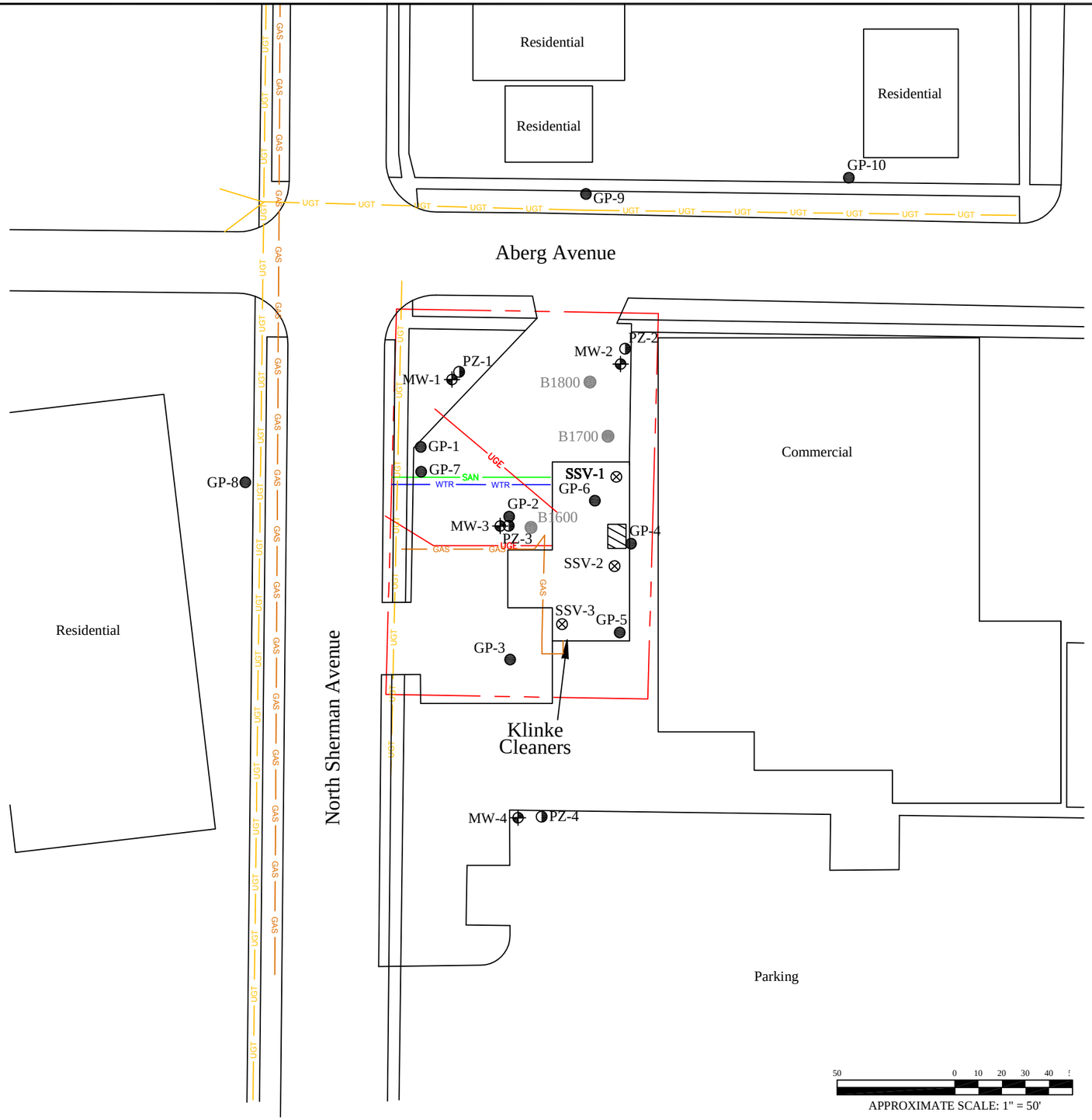
ND = Compound not detected

Table 3
Summary of Detected Compounds in Groundwater Grab Samples
Klinke Cleaners - Sherman Ave.
Madison, Wisconsin

Boring Identification	Sample Depth (feet)	Sample Date	Tetrachloroethylene	Trichloroethylene	Toluene	Trichlorofluoromethane
GP-2	**22**	**9/19/2012**	**360**	**0.74**	**0.41**	**3.0**
GP-5	**18**	**4/18/2013**	**57**	**0.42 J**	**0.59**	<0.19
GP-6	**18**	**4/18/2013**	**87**	**0.57**	**0.48 J**	**1.9**
GP-8	**20**	**11/4/2013**	**7.5**	<0.33	**0.90 J**	<0.71
GP-9	**20**	**11/4/2013**	**0.81 J**	<0.33	<0.69	<0.71
GP-10	**20**	**11/4/2013**	<0.33	<0.33	<0.69	<0.71
Enforcement Standard			**5**	**5**	**800**	**NE**
Preventive Action Limit			**0.5**	**0.5**	**160**	**NE**

Notes:
All concentrations reported in micrograms per liter (µg/l)
Samples analyzed using EPA SW-846 Method 8260
Public Health standards are listed in Wisconsin Administrative Code (WAC) Chapter NR 140
Bolded values are above Method Detection Limits
Bolded and orange shaded values exceed the Public Health Enforcement Standard
Bolded and blue shaded values exceed the Public Health Preventive Action Limit
J = Analyte concentration between the laboratory Method Detection Limit and Reporting Limit
NE = Not Established

FIGURES



N

Legend

- GAS — Underground gas utility line
- WTR — Underground water utility line
- SAN — Underground sanitary utility line
- UGE — Underground electrical utility line
- UGT — Underground fiber optic line
- Property boundary
- Approximate location of dry cleaning machine
- SSV-1 — Sub-slab vapor sample location
- GP-1 — Soil boring location
- B1600 — Previous site assessment boring
- MW-1 — Water table monitoring well
- PZ-1 — Soil boring/ Groundwater piezometer

50 0 10 20 30 40

APPROXIMATE SCALE: 1" = 50'

SITE LAYOUT MAP

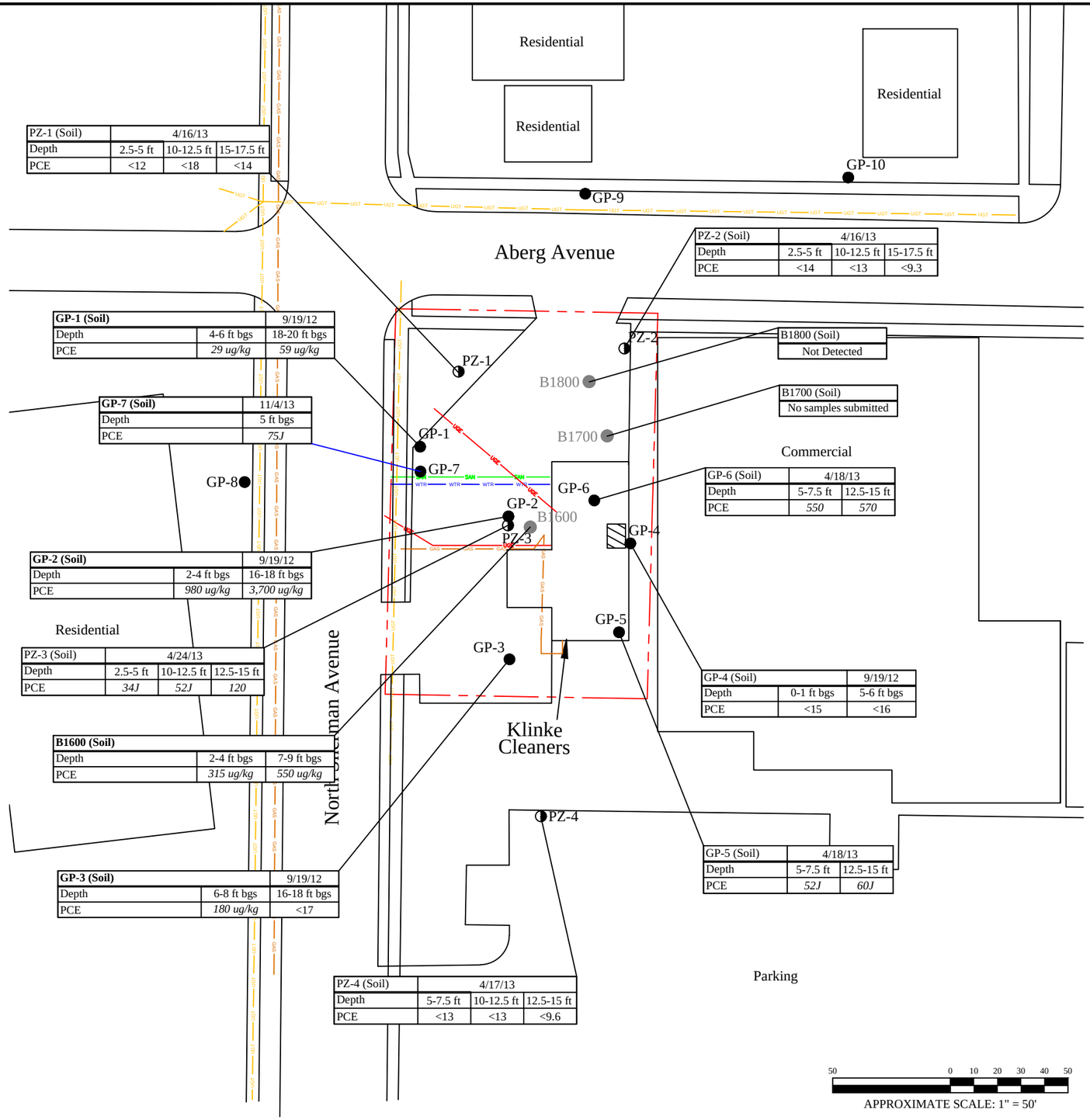
Klinke Cleaners
1295 North Sherman Avenue
Madison, Wisconsin

Date:	11/22/13
Designed:	BK
Drawn:	EB
Checked:	WF
DWG file:	6274-0086

ENVIRO forensics
ENVIRONMENTAL FORENSIC INVESTIGATIONS, INC.
602 N. Capitol Ave., Ste. 210 • Indianapolis, IN 46204
EnviroForensics.com

Figure 1

Project 6274



Detected Compounds in Soil Samples			
Analytes (ug/kg)	Industrial RCL [1]	Non-Industrial RCL [1]	Soil to Groundwater RCL [1]
PCE	**153,000**	**30,700**	*4.5*

1. Italicized values exceed Soil to groundwater Residual Contaminant Level
2. All soil sample results in units if ug/kg = Micrograms per kilogram
3. 1 = Residual Contaminant Levels are determined using the EPA Residual Screening Levels (RSL) calculator according to procedures described in WDNR Publication RR-890
4. J = Concentration above the method detection limit and below the reporting limit

N

Legend

- Underground gas utility line
- Underground water utility line
- Underground sanitary utility line
- Underground electrical utility line
- Underground fiber optic line
- Property boundary
- Approximate location of dry cleaning machine
- GP-1 Soil boring location
- B1600 Previous site assessment boring
- PZ-1 Soil boring/groundwater piezometer

SOIL ANALYTICAL RESULTS SUMMARY

Klinke Cleaners
1295 North Sherman Avenue
Madison, Wisconsin

Date:	11/22/13
Designed:	EB
Drawn:	EB
Checked:	WF
DWG file:	6274-0087

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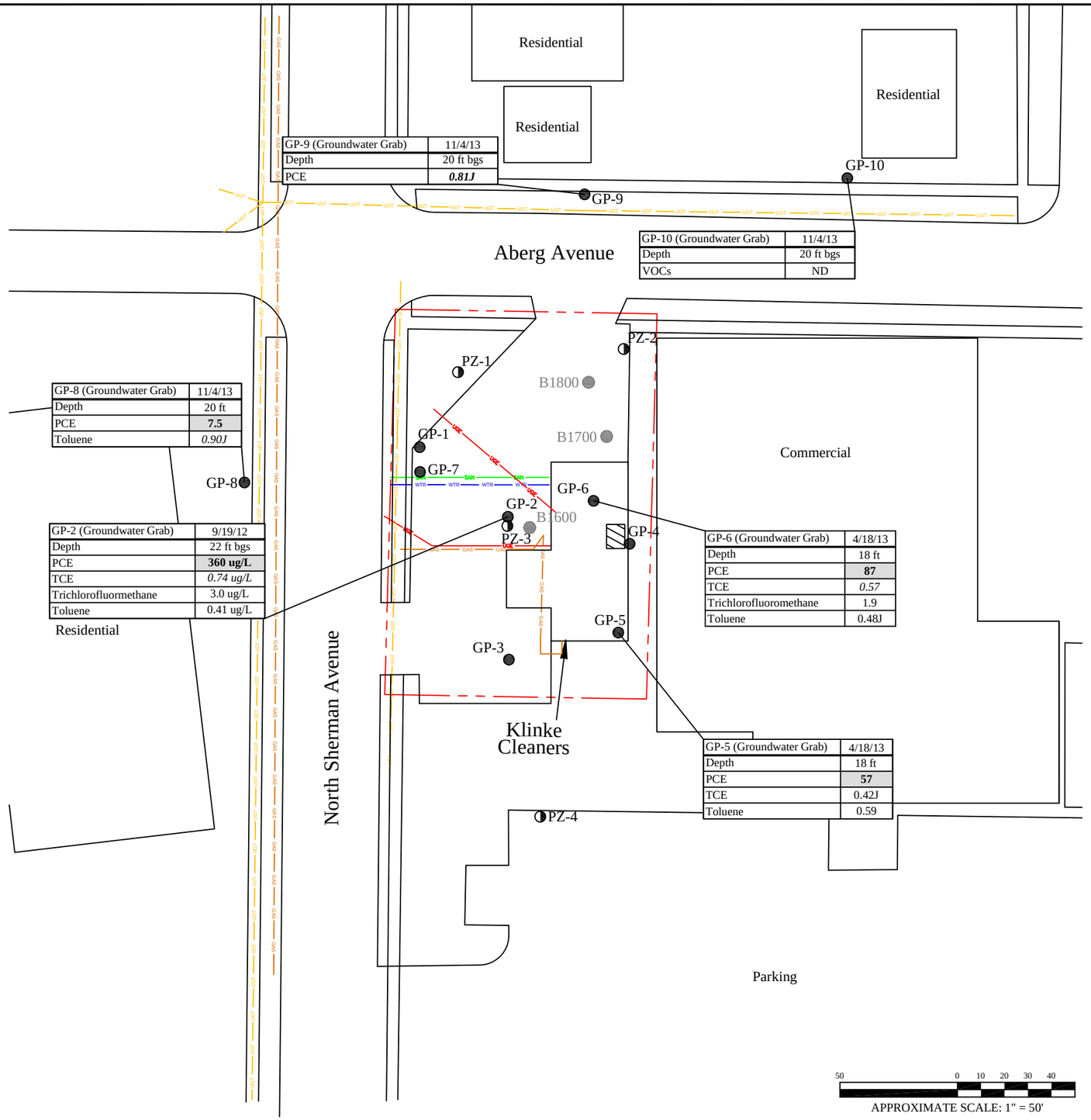
Figure 2

Project 6274



GP-9 (Groundwater Grab)	11/4/13
Depth	20 ft bgs
PCE	***0.81J***

GP-10 (Groundwater Grab)	11/4/13
Depth	20 ft bgs
VOCs	ND

GP-8 (Groundwater Grab)	11/4/13
Depth	20 ft
PCE	**7.5**
Toluene	*0.90J*

GP-2 (Groundwater Grab)	9/19/12
Depth	22 ft bgs
PCE	**360 ug/L**
TCE	*0.74 ug/L*
Trichlorofluormethane	3.0 ug/L
Toluene	0.41 ug/L

GP-6 (Groundwater Grab)	4/18/13
Depth	18 ft
PCE	**87**
TCE	*0.57*
Trichlorofluoromethane	1.9
Toluene	0.48J

GP-5 (Groundwater Grab)	4/18/13
Depth	18 ft
PCE	**57**
TCE	0.42J
Toluene	0.59

Detected Compounds in Groundwater Grab

Analytes (ug/L)	Public Health Enforcement Standards	Public Health Preventive Action Limit
PCE	**5**	*0.5*
TCE	**5**	*0.5*
Trichlorofluoromethane	**3,490**	*698*
Toluene	**800**	*160*

1. Shaded and Bolded values indicates an exceedance of the Public Health Enforcement Standard
2. Bolded values indicates an exceedance of the Public Health Preventive Action Limit
3. PCE = Tetrachloroethylene
4. TCE = Trichloroethylene
5. All grab groundwater sample results in units of ug/L = Micrograms per liter
6. J = Concentration above the methond detection limit and below the reporting limit
7. VOCs = Volatile Organics Compounds
8. ND = Not detected

N

Legend

- Underground gas utility line
- Underground water utility line
- Underground sanitary utility line
- Underground electrical utility line
- Underground fiber optic line
- Property boundary
- Approximate location of dry cleaning machine
- GP-1 — Soil boring location
- B1600 — Previous site assessment boring
- PZ-1 — Soil boring/groundwater piezometer

50 0 10 20 30 40

APPROXIMATE SCALE: 1" = 50'

0 50 100

Approximate scale in feet

GRAB GROUNDWATER ANALYTICAL RESULTS SUMMARY

Klinke Cleaners
1295 North Sherman Avenue
Madison, Wisconsin

Date:	11/22/13
Designed:	EB
Drawn:	EB
Checked:	BK
DWG file:	6274-0088

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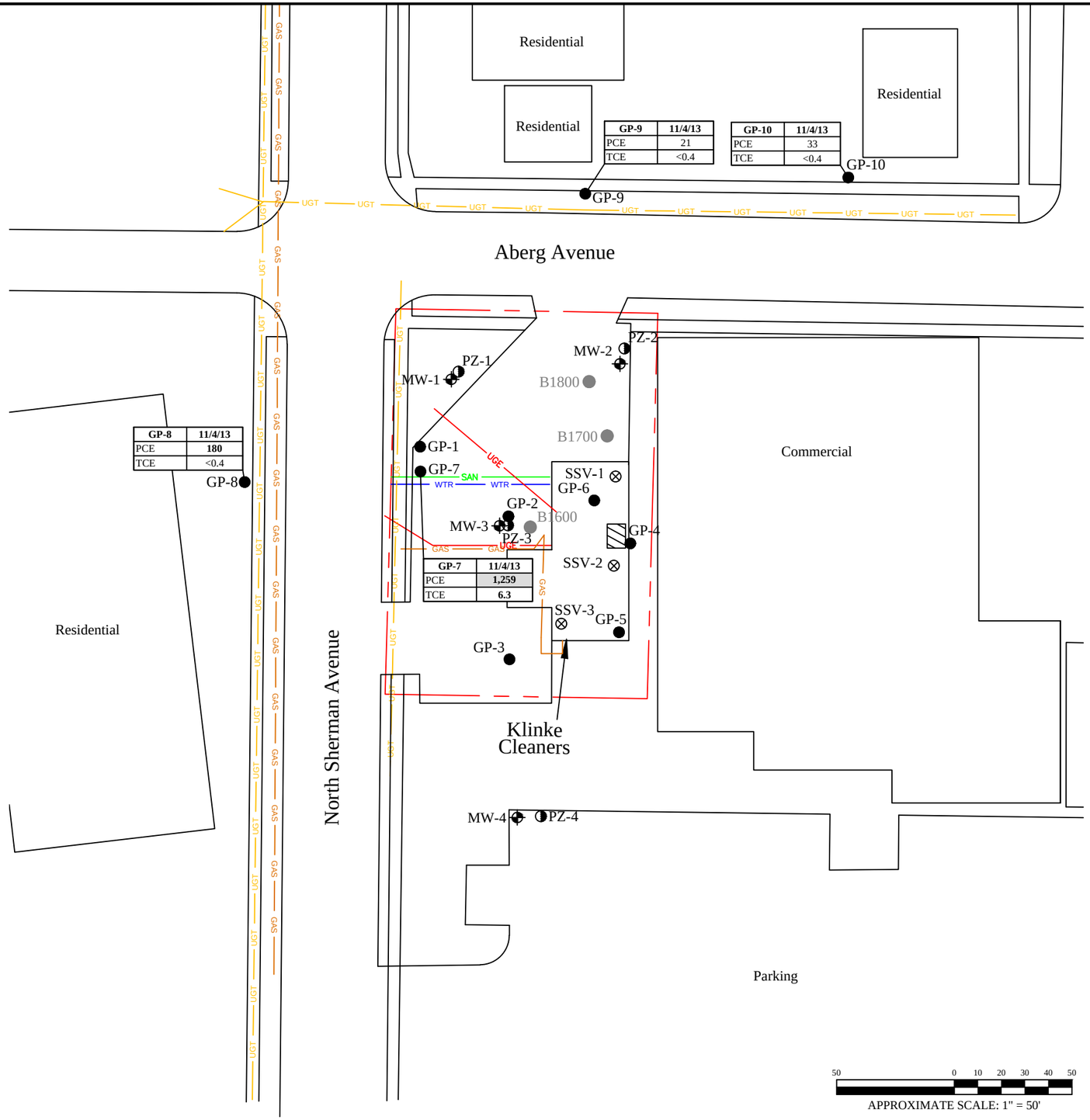
Figure
3
Project
6274



Legend

Detected Compounds in Soil gas Samples		
Analytes (ppbv)	**Non-Residential Vapor Risk Screening Level**	**Residential Vapor Risk Screening Level**
PCE	**270**	**42**
TCE	**16**	**2.1**

1. PCE = Tetrachloroethene
2. TCE = Trichloroethene
3. All concentrations reported in units of parts per billion by volume (ppbv)
4. Bolded and shaded values exceed the non-residential VRSL
5. Bolded values exceed the residential VRSL

- GAS — Underground gas utility line
- WTR — Underground water utility line
- SAN — Underground sanitary utility line
- UGE — Underground electrical utility line
- UGT — Underground fiber optic line
- Property boundary
- Approximate location of dry cleaning machine
- SSV-1 — Sub-slab vapor sample location
- GP-1 — Soil boring location
- B1600 — Previous site assessment boring
- MW-1 — Water table monitoring well
- PZ-1 — Soil boring/ Groundwater piezometer

N

SUMMARY OF SOIL GAS ANALYTICAL RESULTS

Klinke Cleaners
1295 North Sherman Avenue
Madison, Wisconsin

Date:	11/22/13
Designed:	BK
Drawn:	EB
Checked:	WF
DWG file:	6274-0089

ENVIRO forensics
ENVIRONMENTAL FORENSIC INVESTIGATIONS, INC.
602 N. Capitol Ave., Ste. 210 • Indianapolis, IN 46204
EnviroForensics.com

Figure 4

Project 6274

ATTACHMENT 1

GRAB GROUNDWATER AND SOIL ANALYTICAL REPORT

Synergy Environmental Lab, INC.

1990 Prospect Ct., Appleton, WI 54914 *P 920-830-2455 * F 920-733-0631

B. KAPPEN
ENVIROFORENSICS
N16 W23390 STONE RIDGE DRIVE
WAUKESHA, WI 53188

Report Date *18-Nov-13*

Project Name KLINKE CLEANERS
Project # 6274
Invoice # E26053

Lab Code 5026053A
Sample ID 6274-GP-8 (15-25')
Sample Matrix water
Sample Date 11/4/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
Benzene	0.27 "J"	ug/l	0.24	0.77	1	8260B		11/8/2013	CJR	1
Bromobenzene	< 0.32	ug/l	0.32	1	1	8260B		11/8/2013	CJR	1
Bromodichloromethane	< 0.37	ug/l	0.37	1.2	1	8260B		11/8/2013	CJR	1
Bromoform	< 0.35	ug/l	0.35	1.1	1	8260B		11/8/2013	CJR	1
tert-Butylbenzene	< 0.36	ug/l	0.36	1.2	1	8260B		11/8/2013	CJR	1
sec-Butylbenzene	< 0.33	ug/l	0.33	1	1	8260B		11/8/2013	CJR	1
n-Butylbenzene	< 0.35	ug/l	0.35	1.1	1	8260B		11/8/2013	CJR	1
Carbon Tetrachloride	< 0.33	ug/l	0.33	1.1	1	8260B		11/8/2013	CJR	1
Chlorobenzene	< 0.24	ug/l	0.24	0.77	1	8260B		11/8/2013	CJR	1
Chloroethane	< 0.63	ug/l	0.63	2	1	8260B		11/8/2013	CJR	1
Chloroform	< 0.28	ug/l	0.28	0.88	1	8260B		11/8/2013	CJR	1
Chloromethane	< 0.81	ug/l	0.81	2.6	1	8260B		11/8/2013	CJR	1
2-Chlorotoluene	< 0.21	ug/l	0.21	0.66	1	8260B		11/8/2013	CJR	1
4-Chlorotoluene	< 0.21	ug/l	0.21	0.68	1	8260B		11/8/2013	CJR	1
1,2-Dibromo-3-chloropropane	< 0.88	ug/l	0.88	2.8	1	8260B		11/8/2013	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.7	1	8260B		11/8/2013	CJR	1
1,4-Dichlorobenzene	< 0.3	ug/l	0.3	0.96	1	8260B		11/8/2013	CJR	1
1,3-Dichlorobenzene	< 0.28	ug/l	0.28	0.89	1	8260B		11/8/2013	CJR	1
1,2-Dichlorobenzene	< 0.36	ug/l	0.36	1.2	1	8260B		11/8/2013	CJR	1
Dichlorodifluoromethane	< 0.44	ug/l	0.44	1.4	1	8260B		11/8/2013	CJR	1
1,2-Dichloroethane	< 0.41	ug/l	0.41	1.3	1	8260B		11/8/2013	CJR	1
1,1-Dichloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		11/8/2013	CJR	1
1,1-Dichloroethene	< 0.4	ug/l	0.4	1.3	1	8260B		11/8/2013	CJR	1
cis-1,2-Dichloroethene	< 0.38	ug/l	0.38	1.2	1	8260B		11/8/2013	CJR	1
trans-1,2-Dichloroethene	< 0.35	ug/l	0.35	1.1	1	8260B		11/8/2013	CJR	1
1,2-Dichloropropane	< 0.32	ug/l	0.32	1	1	8260B		11/8/2013	CJR	1
2,2-Dichloropropane	< 0.36	ug/l	0.36	1.2	1	8260B		11/8/2013	CJR	1
1,3-Dichloropropane	< 0.33	ug/l	0.33	1	1	8260B		11/8/2013	CJR	1
Di-isopropyl ether	< 0.23	ug/l	0.23	0.73	1	8260B		11/8/2013	CJR	1
EDB (1,2-Dibromoethane)	< 0.44	ug/l	0.44	1.4	1	8260B		11/8/2013	CJR	1
Ethylbenzene	< 0.55	ug/l	0.55	1.7	1	8260B		11/8/2013	CJR	1
Hexachlorobutadiene	< 1.5	ug/l	1.5	4.8	1	8260B		11/8/2013	CJR	1
Isopropylbenzene	< 0.3	ug/l	0.3	0.96	1	8260B		11/8/2013	CJR	1

Project Name KLINKE CLEANERS **Invoice #** E26053
Project # 6274

Lab Code 5026053A
Sample ID 6274-GP-8 (15-25')
Sample Matrix water
Sample Date 11/4/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
p-Isopropyltoluene	< 0.31	ug/l	0.31	0.98	1	8260B		11/8/2013	CJR	1
Methylene chloride	< 0.5	ug/l	0.5	1.6	1	8260B		11/8/2013	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.23	ug/l	0.23	0.74	1	8260B		11/8/2013	CJR	1
Naphthalene	< 1.7	ug/l	1.7	5.5	1	8260B		11/8/2013	CJR	1
n-Propylbenzene	< 0.25	ug/l	0.25	0.81	1	8260B		11/8/2013	CJR	1
1,1,2,2-Tetrachloroethane	< 0.45	ug/l	0.45	1.4	1	8260B		11/8/2013	CJR	1
1,1,1,2-Tetrachloroethane	< 0.33	ug/l	0.33	1.1	1	8260B		11/8/2013	CJR	1
Tetrachloroethene	7.5	ug/l	0.33	1.1	1	8260B		11/8/2013	CJR	1
Toluene	0.90 "J"	ug/l	0.69	2.2	1	8260B		11/8/2013	CJR	1
1,2,4-Trichlorobenzene	< 0.98	ug/l	0.98	3.1	1	8260B		11/8/2013	CJR	1
1,2,3-Trichlorobenzene	< 1.8	ug/l	1.8	5.8	1	8260B		11/8/2013	CJR	1
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1	1	8260B		11/8/2013	CJR	1
1,1,2-Trichloroethane	< 0.34	ug/l	0.34	1.1	1	8260B		11/8/2013	CJR	1
Trichloroethene (TCE)	< 0.33	ug/l	0.33	1	1	8260B		11/8/2013	CJR	1
Trichlorofluoromethane	< 0.71	ug/l	0.71	2.3	1	8260B		11/8/2013	CJR	1
1,2,4-Trimethylbenzene	< 2.2	ug/l	2.2	6.9	1	8260B		11/8/2013	CJR	1
1,3,5-Trimethylbenzene	< 1.4	ug/l	1.4	4.5	1	8260B		11/8/2013	CJR	1
Vinyl Chloride	< 0.18	ug/l	0.18	0.57	1	8260B		11/8/2013	CJR	1
m&p-Xylene	< 0.69	ug/l	0.69	2.2	1	8260B		11/8/2013	CJR	1
o-Xylene	< 0.63	ug/l	0.63	2	1	8260B		11/8/2013	CJR	1
SUR - Toluene-d8	100	REC %			1	8260B		11/8/2013	CJR	1
SUR - 1,2-Dichloroethane-d4	100	REC %			1	8260B		11/8/2013	CJR	1
SUR - 4-Bromofluorobenzene	102	REC %			1	8260B		11/8/2013	CJR	1
SUR - Dibromofluoromethane	96	REC %			1	8260B		11/8/2013	CJR	1

Project Name KLINKE CLEANERS **Invoice #** E26053
Project # 6274

Lab Code 5026053B
Sample ID 6274-GP-9 (15-25')
Sample Matrix water
Sample Date 11/4/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
Benzene	< 0.24	ug/l	0.24	0.77	1	8260B		11/8/2013	CJR	1
Bromobenzene	< 0.32	ug/l	0.32	1	1	8260B		11/8/2013	CJR	1
Bromodichloromethane	< 0.37	ug/l	0.37	1.2	1	8260B		11/8/2013	CJR	1
Bromoform	< 0.35	ug/l	0.35	1.1	1	8260B		11/8/2013	CJR	1
tert-Butylbenzene	< 0.36	ug/l	0.36	1.2	1	8260B		11/8/2013	CJR	1
sec-Butylbenzene	< 0.33	ug/l	0.33	1	1	8260B		11/8/2013	CJR	1
n-Butylbenzene	< 0.35	ug/l	0.35	1.1	1	8260B		11/8/2013	CJR	1
Carbon Tetrachloride	< 0.33	ug/l	0.33	1.1	1	8260B		11/8/2013	CJR	1
Chlorobenzene	< 0.24	ug/l	0.24	0.77	1	8260B		11/8/2013	CJR	1
Chloroethane	< 0.63	ug/l	0.63	2	1	8260B		11/8/2013	CJR	1
Chloroform	< 0.28	ug/l	0.28	0.88	1	8260B		11/8/2013	CJR	1
Chloromethane	< 0.81	ug/l	0.81	2.6	1	8260B		11/8/2013	CJR	1
2-Chlorotoluene	< 0.21	ug/l	0.21	0.66	1	8260B		11/8/2013	CJR	1
4-Chlorotoluene	< 0.21	ug/l	0.21	0.68	1	8260B		11/8/2013	CJR	1
1,2-Dibromo-3-chloropropane	< 0.88	ug/l	0.88	2.8	1	8260B		11/8/2013	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.7	1	8260B		11/8/2013	CJR	1
1,4-Dichlorobenzene	< 0.3	ug/l	0.3	0.96	1	8260B		11/8/2013	CJR	1
1,3-Dichlorobenzene	< 0.28	ug/l	0.28	0.89	1	8260B		11/8/2013	CJR	1
1,2-Dichlorobenzene	< 0.36	ug/l	0.36	1.2	1	8260B		11/8/2013	CJR	1
Dichlorodifluoromethane	< 0.44	ug/l	0.44	1.4	1	8260B		11/8/2013	CJR	1
1,2-Dichloroethane	< 0.41	ug/l	0.41	1.3	1	8260B		11/8/2013	CJR	1
1,1-Dichloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		11/8/2013	CJR	1
1,1-Dichloroethene	< 0.4	ug/l	0.4	1.3	1	8260B		11/8/2013	CJR	1
cis-1,2-Dichloroethene	< 0.38	ug/l	0.38	1.2	1	8260B		11/8/2013	CJR	1
trans-1,2-Dichloroethene	< 0.35	ug/l	0.35	1.1	1	8260B		11/8/2013	CJR	1
1,2-Dichloropropane	< 0.32	ug/l	0.32	1	1	8260B		11/8/2013	CJR	1
2,2-Dichloropropane	< 0.36	ug/l	0.36	1.2	1	8260B		11/8/2013	CJR	1
1,3-Dichloropropane	< 0.33	ug/l	0.33	1	1	8260B		11/8/2013	CJR	1
Di-isopropyl ether	< 0.23	ug/l	0.23	0.73	1	8260B		11/8/2013	CJR	1
EDB (1,2-Dibromoethane)	< 0.44	ug/l	0.44	1.4	1	8260B		11/8/2013	CJR	1
Ethylbenzene	< 0.55	ug/l	0.55	1.7	1	8260B		11/8/2013	CJR	1
Hexachlorobutadiene	< 1.5	ug/l	1.5	4.8	1	8260B		11/8/2013	CJR	1
Isopropylbenzene	< 0.3	ug/l	0.3	0.96	1	8260B		11/8/2013	CJR	1
p-Isopropyltoluene	< 0.31	ug/l	0.31	0.98	1	8260B		11/8/2013	CJR	1
Methylene chloride	< 0.5	ug/l	0.5	1.6	1	8260B		11/8/2013	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.23	ug/l	0.23	0.74	1	8260B		11/8/2013	CJR	1
Naphthalene	< 1.7	ug/l	1.7	5.5	1	8260B		11/8/2013	CJR	1
n-Propylbenzene	< 0.25	ug/l	0.25	0.81	1	8260B		11/8/2013	CJR	1
1,1,2,2-Tetrachloroethane	< 0.45	ug/l	0.45	1.4	1	8260B		11/8/2013	CJR	1
1,1,1,2-Tetrachloroethane	< 0.33	ug/l	0.33	1.1	1	8260B		11/8/2013	CJR	1
Tetrachloroethene	0.81 "J"	ug/l	0.33	1.1	1	8260B		11/8/2013	CJR	1
Toluene	< 0.69	ug/l	0.69	2.2	1	8260B		11/8/2013	CJR	1
1,2,4-Trichlorobenzene	< 0.98	ug/l	0.98	3.1	1	8260B		11/8/2013	CJR	1
1,2,3-Trichlorobenzene	< 1.8	ug/l	1.8	5.8	1	8260B		11/8/2013	CJR	1
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1	1	8260B		11/8/2013	CJR	1
1,1,2-Trichloroethane	< 0.34	ug/l	0.34	1.1	1	8260B		11/8/2013	CJR	1
Trichloroethene (TCE)	< 0.33	ug/l	0.33	1	1	8260B		11/8/2013	CJR	1
Trichlorofluoromethane	< 0.71	ug/l	0.71	2.3	1	8260B		11/8/2013	CJR	1
1,2,4-Trimethylbenzene	< 2.2	ug/l	2.2	6.9	1	8260B		11/8/2013	CJR	1
1,3,5-Trimethylbenzene	< 1.4	ug/l	1.4	4.5	1	8260B		11/8/2013	CJR	1
Vinyl Chloride	< 0.18	ug/l	0.18	0.57	1	8260B		11/8/2013	CJR	1
m&p-Xylene	< 0.69	ug/l	0.69	2.2	1	8260B		11/8/2013	CJR	1
o-Xylene	< 0.63	ug/l	0.63	2	1	8260B		11/8/2013	CJR	1
SUR - Toluene-d8	100	REC %			1	8260B		11/8/2013	CJR	1
SUR - 1,2-Dichloroethane-d4	93	REC %			1	8260B		11/8/2013	CJR	1
SUR - 4-Bromofluorobenzene	100	REC %			1	8260B		11/8/2013	CJR	1
SUR - Dibromofluoromethane	94	REC %			1	8260B		11/8/2013	CJR	1

Project Name KLINKE CLEANERS **Invoice #** E26053
Project # 6274

Lab Code 5026053C
Sample ID 6274-GP-10 (15-25')
Sample Matrix water
Sample Date 11/4/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
Benzene	< 0.24	ug/l	0.24	0.77	1	8260B		11/8/2013	CJR	1
Bromobenzene	< 0.32	ug/l	0.32	1	1	8260B		11/8/2013	CJR	1
Bromodichloromethane	< 0.37	ug/l	0.37	1.2	1	8260B		11/8/2013	CJR	1
Bromoform	< 0.35	ug/l	0.35	1.1	1	8260B		11/8/2013	CJR	1
tert-Butylbenzene	< 0.36	ug/l	0.36	1.2	1	8260B		11/8/2013	CJR	1
sec-Butylbenzene	< 0.33	ug/l	0.33	1	1	8260B		11/8/2013	CJR	1
n-Butylbenzene	< 0.35	ug/l	0.35	1.1	1	8260B		11/8/2013	CJR	1
Carbon Tetrachloride	< 0.33	ug/l	0.33	1.1	1	8260B		11/8/2013	CJR	1
Chlorobenzene	< 0.24	ug/l	0.24	0.77	1	8260B		11/8/2013	CJR	1
Chloroethane	< 0.63	ug/l	0.63	2	1	8260B		11/8/2013	CJR	1
Chloroform	< 0.28	ug/l	0.28	0.88	1	8260B		11/8/2013	CJR	1
Chloromethane	< 0.81	ug/l	0.81	2.6	1	8260B		11/8/2013	CJR	1
2-Chlorotoluene	< 0.21	ug/l	0.21	0.66	1	8260B		11/8/2013	CJR	1
4-Chlorotoluene	< 0.21	ug/l	0.21	0.68	1	8260B		11/8/2013	CJR	1
1,2-Dibromo-3-chloropropane	< 0.88	ug/l	0.88	2.8	1	8260B		11/8/2013	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.7	1	8260B		11/8/2013	CJR	1
1,4-Dichlorobenzene	< 0.3	ug/l	0.3	0.96	1	8260B		11/8/2013	CJR	1
1,3-Dichlorobenzene	< 0.28	ug/l	0.28	0.89	1	8260B		11/8/2013	CJR	1
1,2-Dichlorobenzene	< 0.36	ug/l	0.36	1.2	1	8260B		11/8/2013	CJR	1
Dichlorodifluoromethane	< 0.44	ug/l	0.44	1.4	1	8260B		11/8/2013	CJR	1
1,2-Dichloroethane	< 0.41	ug/l	0.41	1.3	1	8260B		11/8/2013	CJR	1
1,1-Dichloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		11/8/2013	CJR	1
1,1-Dichloroethene	< 0.4	ug/l	0.4	1.3	1	8260B		11/8/2013	CJR	1
cis-1,2-Dichloroethene	< 0.38	ug/l	0.38	1.2	1	8260B		11/8/2013	CJR	1
trans-1,2-Dichloroethene	< 0.35	ug/l	0.35	1.1	1	8260B		11/8/2013	CJR	1
1,2-Dichloropropane	< 0.32	ug/l	0.32	1	1	8260B		11/8/2013	CJR	1
2,2-Dichloropropane	< 0.36	ug/l	0.36	1.2	1	8260B		11/8/2013	CJR	1
1,3-Dichloropropane	< 0.33	ug/l	0.33	1	1	8260B		11/8/2013	CJR	1
Di-isopropyl ether	< 0.23	ug/l	0.23	0.73	1	8260B		11/8/2013	CJR	1
EDB (1,2-Dibromoethane)	< 0.44	ug/l	0.44	1.4	1	8260B		11/8/2013	CJR	1
Ethylbenzene	< 0.55	ug/l	0.55	1.7	1	8260B		11/8/2013	CJR	1
Hexachlorobutadiene	< 1.5	ug/l	1.5	4.8	1	8260B		11/8/2013	CJR	1
Isopropylbenzene	< 0.3	ug/l	0.3	0.96	1	8260B		11/8/2013	CJR	1
p-Isopropyltoluene	< 0.31	ug/l	0.31	0.98	1	8260B		11/8/2013	CJR	1
Methylene chloride	< 0.5	ug/l	0.5	1.6	1	8260B		11/8/2013	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.23	ug/l	0.23	0.74	1	8260B		11/8/2013	CJR	1
Naphthalene	< 1.7	ug/l	1.7	5.5	1	8260B		11/8/2013	CJR	1
n-Propylbenzene	< 0.25	ug/l	0.25	0.81	1	8260B		11/8/2013	CJR	1
1,1,2,2-Tetrachloroethane	< 0.45	ug/l	0.45	1.4	1	8260B		11/8/2013	CJR	1
1,1,1,2-Tetrachloroethane	< 0.33	ug/l	0.33	1.1	1	8260B		11/8/2013	CJR	1
Tetrachloroethene	< 0.33	ug/l	0.33	1.1	1	8260B		11/8/2013	CJR	1
Toluene	< 0.69	ug/l	0.69	2.2	1	8260B		11/8/2013	CJR	1
1,2,4-Trichlorobenzene	< 0.98	ug/l	0.98	3.1	1	8260B		11/8/2013	CJR	1
1,2,3-Trichlorobenzene	< 1.8	ug/l	1.8	5.8	1	8260B		11/8/2013	CJR	1
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1	1	8260B		11/8/2013	CJR	1
1,1,2-Trichloroethane	< 0.34	ug/l	0.34	1.1	1	8260B		11/8/2013	CJR	1
Trichloroethene (TCE)	< 0.33	ug/l	0.33	1	1	8260B		11/8/2013	CJR	1
Trichlorofluoromethane	< 0.71	ug/l	0.71	2.3	1	8260B		11/8/2013	CJR	1
1,2,4-Trimethylbenzene	< 2.2	ug/l	2.2	6.9	1	8260B		11/8/2013	CJR	1
1,3,5-Trimethylbenzene	< 1.4	ug/l	1.4	4.5	1	8260B		11/8/2013	CJR	1
Vinyl Chloride	< 0.18	ug/l	0.18	0.57	1	8260B		11/8/2013	CJR	1
m&p-Xylene	< 0.69	ug/l	0.69	2.2	1	8260B		11/8/2013	CJR	1
o-Xylene	< 0.63	ug/l	0.63	2	1	8260B		11/8/2013	CJR	1
SUR - Toluene-d8	97	REC %			1	8260B		11/8/2013	CJR	1
SUR - 1,2-Dichloroethane-d4	93	REC %			1	8260B		11/8/2013	CJR	1
SUR - 4-Bromofluorobenzene	99	REC %			1	8260B		11/8/2013	CJR	1
SUR - Dibromofluoromethane	92	REC %			1	8260B		11/8/2013	CJR	1

Project Name KLINKE CLEANERS **Invoice #** E26053
Project # 6274

Lab Code 5026053D
Sample ID 6274-GP-7 (5')
Sample Matrix Soil
Sample Date 11/4/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	93.0	%			1	5021		11/7/2013	MDK	1
Organic										
VOC's										
Benzene	< 9.2	ug/kg	9.2	29	1	8260B		11/14/2013	CJR	1
Bromobenzene	< 13	ug/kg	13	40	1	8260B		11/14/2013	CJR	1
Bromodichloromethane	< 27	ug/kg	27	85	1	8260B		11/14/2013	CJR	1
Bromoform	< 30	ug/kg	30	95	1	8260B		11/14/2013	CJR	1
tert-Butylbenzene	< 20	ug/kg	20	64	1	8260B		11/14/2013	CJR	1
sec-Butylbenzene	< 41	ug/kg	41	132	1	8260B		11/14/2013	CJR	1
n-Butylbenzene	< 26	ug/kg	26	82	1	8260B		11/14/2013	CJR	1
Carbon Tetrachloride	< 25	ug/kg	25	79	1	8260B		11/14/2013	CJR	1
Chlorobenzene	< 16	ug/kg	16	52	1	8260B		11/14/2013	CJR	1
Chloroethane	< 42	ug/kg	42	133	1	8260B		11/14/2013	CJR	1
Chloroform	< 49	ug/kg	49	157	1	8260B		11/14/2013	CJR	1
Chloromethane	< 181	ug/kg	181	577	1	8260B		11/14/2013	CJR	1
2-Chlorotoluene	< 16	ug/kg	16	52	1	8260B		11/14/2013	CJR	1
4-Chlorotoluene	< 14	ug/kg	14	43	1	8260B		11/14/2013	CJR	1
1,2-Dibromo-3-chloropropane	< 48	ug/kg	48	154	1	8260B		11/14/2013	CJR	1
Dibromochloromethane	< 14	ug/kg	14	45	1	8260B		11/14/2013	CJR	1
1,4-Dichlorobenzene	< 33	ug/kg	33	103	1	8260B		11/14/2013	CJR	1
1,3-Dichlorobenzene	< 30	ug/kg	30	95	1	8260B		11/14/2013	CJR	1
1,2-Dichlorobenzene	< 38	ug/kg	38	122	1	8260B		11/14/2013	CJR	1
Dichlorodifluoromethane	< 57	ug/kg	57	182	1	8260B		11/14/2013	CJR	1
1,2-Dichloroethane	< 36	ug/kg	36	114	1	8260B		11/14/2013	CJR	1
1,1-Dichloroethane	< 19	ug/kg	19	60	1	8260B		11/14/2013	CJR	1
1,1-Dichloroethene	< 21	ug/kg	21	66	1	8260B		11/14/2013	CJR	1
cis-1,2-Dichloroethene	< 24	ug/kg	24	77	1	8260B		11/14/2013	CJR	1
trans-1,2-Dichloroethene	< 29	ug/kg	29	93	1	8260B		11/14/2013	CJR	1
1,2-Dichloropropane	< 9.5	ug/kg	9.5	30	1	8260B		11/14/2013	CJR	1
2,2-Dichloropropane	< 46	ug/kg	46	148	1	8260B		11/14/2013	CJR	1
1,3-Dichloropropane	< 21	ug/kg	21	68	1	8260B		11/14/2013	CJR	1
Di-isopropyl ether	< 11	ug/kg	11	34	1	8260B		11/14/2013	CJR	1
EDB (1,2-Dibromoethane)	< 20	ug/kg	20	64	1	8260B		11/14/2013	CJR	1
Ethylbenzene	< 10	ug/kg	10	33	1	8260B		11/14/2013	CJR	1
Hexachlorobutadiene	< 95	ug/kg	95	304	1	8260B		11/14/2013	CJR	1
Isopropylbenzene	< 25	ug/kg	25	80	1	8260B		11/14/2013	CJR	1
p-Isopropyltoluene	< 31	ug/kg	31	98	1	8260B		11/14/2013	CJR	1
Methylene chloride	< 57	ug/kg	57	182	1	8260B		11/14/2013	CJR	1
Methyl tert-butyl ether (MTBE)	< 30	ug/kg	30	96	1	8260B		11/14/2013	CJR	1
Naphthalene	< 114	ug/kg	114	363	1	8260B		11/14/2013	CJR	1
n-Propylbenzene	< 24	ug/kg	24	75	1	8260B		11/14/2013	CJR	1
1,1,2,2-Tetrachloroethane	< 12	ug/kg	12	38	1	8260B		11/14/2013	CJR	1
1,1,1,2-Tetrachloroethane	< 23	ug/kg	23	74	1	8260B		11/14/2013	CJR	1
Tetrachloroethene	75 "J"	ug/kg	49	157	1	8260B		11/14/2013	CJR	1
Toluene	< 20	ug/kg	20	65	1	8260B		11/14/2013	CJR	1
1,2,4-Trichlorobenzene	< 79	ug/kg	79	251	1	8260B		11/14/2013	CJR	1
1,2,3-Trichlorobenzene	< 129	ug/kg	129	411	1	8260B		11/14/2013	CJR	1
1,1,1-Trichloroethane	< 38	ug/kg	38	120	1	8260B		11/14/2013	CJR	1
1,1,2-Trichloroethane	< 23	ug/kg	23	74	1	8260B		11/14/2013	CJR	1
Trichloroethene (TCE)	< 28	ug/kg	28	88	1	8260B		11/14/2013	CJR	1
Trichlorofluoromethane	< 86	ug/kg	86	273	1	8260B		11/14/2013	CJR	1
1,2,4-Trimethylbenzene	< 26	ug/kg	26	81	1	8260B		11/14/2013	CJR	1
1,3,5-Trimethylbenzene	< 26	ug/kg	26	84	1	8260B		11/14/2013	CJR	1
Vinyl Chloride	< 21	ug/kg	21	66	1	8260B		11/14/2013	CJR	1
m&p-Xylene	< 68	ug/kg	68	216	1	8260B		11/14/2013	CJR	1
o-Xylene	< 31	ug/kg	31	98	1	8260B		11/14/2013	CJR	1

Project Name KLINKE CLEANERS **Invoice #** E26053
Project # 6274

Lab Code 5026053D
Sample ID 6274-GP-7 (5')
Sample Matrix Soil
Sample Date 11/4/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
SUR - Toluene-d8	100	Rec %			1	8260B		11/14/2013	CJR	1
SUR - 1,2-Dichloroethane-d4	101	REC %			1	8260B		11/14/2013	CJR	1
SUR - 4-Bromofluorobenzene	108	Rec %			1	8260B		11/14/2013	CJR	1
SUR - Dibromofluoromethane	94	Rec %			1	8260B		11/14/2013	CJR	1

"J" Flag: Analyte detected between LOD and LOQ LOD Limit of Detection LOQ Limit of Quantitation

Code	*Comment*
1	Laboratory QC within limits.

All solid sample results reported on a dry weight basis unless otherwise indicated. All LOD's and LOQ's are adjusted for dilutions but not dry weight. Subcontracted results are denoted by SUB in the analyst field.

Authorized Signature

CHAIN OF CUSTODY RECORD

Synergy
Environmental Lab, Inc.

1990 Prospect Ct. • Appleton, WI 54914
920-830-2455 • FAX 920-733-0631

Chain # Nº 264

Page 1 of 1

Sample Handling Request
_____ Rush Analysis Date Required _____
(Rushes accepted only with prior authorization)
_____ Normal Turn Around

Lab I.D. #

Account No. : **Quote No.:**

Project #: 6274

Sampler: (signature)

Project (Name / Location): Klinke Cleaners

Reports To: B. Kappers	Invoice To:
Company EnviroForensics	Company
Address N16 W23390 Stone Ridge Dr. Suite GA	Address
City State Zip Waukesha WI 53188	City State Zip
Phone 317-972-787C	Phone
FAX	FAX

Lab I.D.	Sample I.D.	Collection Date	Collection Time	Comp	Grab	Filtered Y/N	No. of Containers	Sample Type (Matrix)*	Preservation
5026053A	6274-GP-8-(15-25')	11/4	1355		x	N	3	GW	
B	6274-GP-9-(15-25')	11/4	1220		x	N	3	GW	
C	6274-GP-10(15-25'	11/4	1315		x	N	3	GW	
D	6274-GP-7-(5')	11/4	915		x	N	2	S	

Analysis Requested | **Other Analysis**

DRO (Mod DRO Sep 95)	GRO (Mod GRO Sep 95)	LEAD	NITRATE/NITRITE	OIL & GREASE	PAH (EPA 8270)	PVOC (EPA 8021)	PVOC + NAPHTHALENE	SULFATE	TOTAL SUSPENDED SOLIDS	VOC DW (EPA 542.2)	VOC (EPA 8260)	8-RCRA METALS	PID/FID
											x		
											x		
											x		
										x	x		

Comments/Special Instructions (*Specify groundwater "GW", Drinking Water "DW", Waste Water "WW", Soil "S", Air "A", Oil, Sludge etc.)

Sample Integrity - To be completed by receiving lab.

Method of Shipment: Dunham

Temp. of Temp. Blank ____ °C On Ice: X

Cooler seal intact upon receipt: X Yes ____ No

Relinquished By: (sign)	Time	Date	Received By: (sign)	Time	Date
	11:35	11/5/13		11:36	11/5/13

Received in Laboratory By: Time: 8:00 Date: 11/6/13

ATTACHMENT 2

SOIL GAS ANALYTICAL REPORT

EnvisionAir
1437 Sadlier Circle West Drive
Indianapolis, IN 46239
Ph: 317-351-0885
Fax: 317-351-0882
www.envision-air.com

Mr. B. Kappen
Enviroforensics
N16 W. 23390 Stone Ridge Dr
Suite G
Waukesha, WI 53188

November 12, 2013

ENVision Project Number: 2013-378
Client Project Name: 6274 – Klinke Sherman Ave.

Dear Mr. Kappen,

Please find the attached analytical report for the samples received November 6, 2013. All test methods performed were fully compliant with local, state, and federal EPA methods unless otherwise noted. The project was analyzed as requested on the enclosed chain of custody record. Please review the comments section for additional information about your results or Quality Control data.

Feel free to contact me if you have any questions or comments regarding your analytical report or service.

Thank you for your business. EnvisionAir looks forward to working with you on your next project.

Yours Sincerely,

David Norris

Client Services Manager
EnvisionAir

EnvisionAir
1437 Sadlier Circle West Drive
Indianapolis, IN 46239
Ph: 317-351-0885
Fax: 317-351-0882
www.envision-air.com

Client Name: ENVIROFORENSICS

Project ID: 6274 - KLINKE SHERMAN AVE.

Client Project Manager: B. KAPPEN

EnvisionAir Project Number: 2013-378

Sample Summary

Canister Pressure / Vacuum

Laboratory Sample Number:	Sample Description:	Matrix:	START Date Collected:	START Time Collected:	End Date Collected:	End Time Collected:	Date Received:	Time Received	Initial Field (in. Hg)	Final Field (in. Hg)	Lab Received (in. Hg)
13-1317	6274-GP-7-SG	A	11/4/13	9:55	11/4/13	10:02	11/6/13	9:30	-28	-4	-4
13-1318	6274-GP-8-SG	A	11/4/13	10:29	11/4/13	10:35	11/6/13	9:30	-28	-4	-4
13-1319	6274-GP-8-SG	A	11/4/13	11:52	11/4/13	12:00	11/6/13	9:30	-28	-3	-3
13-1320	6274-GP-10-SG	A	11/4/13	12:45	11/4/13	12:50	11/6/13	9:30	-28	-3	-3

EnvisionAir
1437 Sadlier Circle West Drive
Indianapolis, IN 46239
Ph: 317-351-0885
Fax: 317-351-0882
www.envision-air.com

Client Name: ENVIROFORENSICS

Project ID: 6274 - KLINKE SHERMAN AVE.

Client Project Manager: B. KAPPEN

EnvisionAir Project Number: 2013-378

Analytical Method: TO-15
Analytical Batch: 110513CAIR

Client Sample ID: 6274-GP-7-SG
Envision Sample Number: 13-1317
Sample Matrix: AIR

Sample Collection START Date/Time: 11/4/13
Sample Collection END Date/Time: 11/4/13
Sample Received Date/Time: 11/6/13

Compounds	Sample Results ppbv	Reporting Limit ppbv	Flag
cis-1,2-Dichloroethene	< 50	50	1
Tetrachloroethene	**8,680**	188	2
trans-1,2-Dichloroethene	< 100	100	1
Trichlorethene	**34.3**	2	1
Vinyl Chloride	< 5	5	1
4-bromofluorobenzene (surrogate)	97%		
Analysis Date/Time:	11-6-13/04:07		
Analyst Initials	tjg		

EnvisionAir
1437 Sadlier Circle West Drive
Indianapolis, IN 46239
Ph: 317-351-0885
Fax: 317-351-0882
www.envision-air.com

Client Name: ENVIROFORENSICS

Project ID: 6274 - KLINKE SHERMAN AVE.

Client Project Manager: B. KAPPEN

EnvisionAir Project Number: 2013-378

Analytical Method: TO-15
Analytical Batch: 110513CAIR

Client Sample ID: 6274-GP-8-SG
Envision Sample Number: 13-1318
Sample Matrix: AIR

Sample Collection START Date/Time: 11/4/13
Sample Collection END Date/Time: 11/4/13
Sample Received Date/Time: 11/6/13

Compounds	Sample Results ppbv	Reporting Limit ppbv	Flag
cis-1,2-Dichloroethene	< 50	50	1
Tetrachloroethene	**1,240**	188	2
trans-1,2-Dichloroethene	< 100	100	1
Trichlorethene	< 2	2	1
Vinyl Chloride	< 5	5	1
4-bromofluorobenzene (surrogate)	95%		
Analysis Date/Time:	11-6-13/04:39		
Analyst Initials	tjg		

EnvisionAir
1437 Sadlier Circle West Drive
Indianapolis, IN 46239
Ph: 317-351-0885
Fax: 317-351-0882
www.envision-air.com

Client Name: ENVIROFORENSICS

Project ID: 6274 - KLINKE SHERMAN AVE.

Client Project Manager: B. KAPPEN

EnvisionAir Project Number: 2013-378

Analytical Method: TO-15
Analytical Batch: 110513CAIR

Client Sample ID: 6274-GP-9-SG
Envision Sample Number: 13-1319
Sample Matrix: AIR

Sample Collection START Date/Time: 11/4/13
Sample Collection END Date/Time: 11/4/13
Sample Received Date/Time: 11/6/13

Compounds	Sample Results ppbv	Reporting Limit ppbv	Flag
cis-1,2-Dichloroethene	< 50	50	1
Tetrachloroethene	**148**	4.7	1
trans-1,2-Dichloroethene	< 100	100	1
Trichlorethene	< 2	2	1
Vinyl Chloride	< 5	5	1
4-bromofluorobenzene (surrogate)	95%		
Analysis Date/Time:	11-6-13/05:12		
Analyst Initials	tjg		

EnvisionAir
1437 Sadlier Circle West Drive
Indianapolis, IN 46239
Ph: 317-351-0885
Fax: 317-351-0882
www.envision-air.com

Client Name: ENVIROFORENSICS

Project ID: 6274 - KLINKE SHERMAN AVE.

Client Project Manager: B. KAPPEN

EnvisionAir Project Number: 2013-378

Analytical Method: TO-15
Analytical Batch: 110513CAIR

Client Sample ID: 6274-GP-10-SG
Sample Collection START Date/Time: 11/4/13
Sample Collection END Date/Time: 11/4/13
Envision Sample Number: 13-1320
Sample Received Date/Time: 11/6/13
Sample Matrix: AIR

Compounds	Sample Results ppbv	Reporting Limit ppbv	Flag
cis-1,2-Dichloroethene	< 50	50	1
Tetrachloroethene	**225**	4.7	1
trans-1,2-Dichloroethene	< 100	100	1
Trichlorethene	< 2	2	1
Vinyl Chloride	< 5	5	1
4-bromofluorobenzene (surrogate)	104%		
Analysis Date/Time:	11-6-13/05:44		
Analyst Initials	tjg		

EnvisionAir
1437 Sadlier Circle West Drive
Indianapolis, IN 46239
Ph: 317-351-0885
Fax: 317-351-0882
www.envision-air.com

Analytical Report

TO-15 Quality Control Data

EnvisionAir Batch Number: 110513CAIR

Method Blank (MB):	MB Results (ppbv)	Reporting Limit (ppbv)	Flags
cis-1,2-Dichloroethene	< 5	5	
Tetrachloroethene	< 0.47	0.47	
trans-1,2-Dichloroethene	< 10	10	
Trichlorethene	< 0.2	0.2	
Vinyl Chloride	< 0.5	0.5	
4-bromofluorobenzene (surrogate)	100%		
Analysis Date/Time:	11-5-13/22:12		
Analyst Initials	tjg		

LCS/LCSD	LCS Results (ppbv)	LCSD Results (ppbv)	LCS/D Conc(ppbv)	LCS Rec.	LCSD Rec.	RPD	Flag
Vinyl Chloride	9.07	9.11	10	91%	91%	0.4%	
trans-1,2-Dichloroethene	9.39	9.21	10	94%	92%	1.9%	
cis-1,2-Dichloroethene	9.25	9.1	10	93%	91%	1.6%	
Trichlorethene	9.5	9.26	10	95%	93%	2.6%	
Tetrachloroethene	9.7	10.6	10	97%	106%	8.9%	
4-bromofluorobenzene (surrogate)	101%	103%					
Analysis Date/Time:	11-5-13/20:15	11-5-13/21:38					
Analyst Initials	tjg	tjg					

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1437 Sadlier Circle West Drive
Indianapolis, IN 46239
Ph: 317-351-0885
Fax: 317-351-0882
www.envision-air.com

Analytical Report

TO-15 Quality Control Data - Batch CSI Report

Canister Number: 83837

Compounds	Canister Results ppbv	Reporting Limit ppbv	Flag
cis-1,2-Dichloroethene	< 5	5	
Tetrachloroethene	< 0.47	0.47	
trans-1,2-Dichloroethene	< 10	10	
Trichlorethene	< 0.2	0.2	
Vinyl Chloride	< 0.5	0.5	
4-bromofluorobenzene (surrogate)	119%		
Analysis Date/Time:	10-29-13/04:19		
Analyst Initials	tjg		

EnvisionAir
1437 Sadlier Circle West Drive
Indianapolis, IN 46239
Ph: 317-351-0885
Fax: 317-351-0882
www.envision-air.com

Flag Number	Comments
1	Reported value is from a 10x dilution. TJG 11-11-13
2	Reported value is from a 400x dilution. TJG 11-11-13

EnvisionAir Proj#: 2013-318 Page 1 of 1

CHAIN OF CUSTODY RECORD

EnvisionAir | 1437 Sadlier Circle West Drive | Indianapolis, IN 46239 | Phone: (317) 351-0885 | Fax: (317) 351-0882

Client: EnviroForensics	P.O. Number:
Report Address: N16 W23340 Stone Ridge Dr. Waukesha WI 53188	Project Name or Number: 6274 - Klinke Sherman Ave
Report To: B. Kuppen	Sampled by: M. Hemstead
Phone: 317-972-7870	QA/QC Required: (circle if applicable) Level III Level IV
Invoice Address:	Reporting Units needed: (circle) ug/m³ mg/m³ (PPBV) PPMV
Desired TAT: (Please Circle One) 1 day 2 days 3 days Std (5 bus. days)	Media type: 1LC = 1 Liter Canister, 6LC = 6 Liter Canister, TB = Tedlar Bag, TD = Thermal Desorption Tube

REQUESTED PARAMETERS

TO-15 Full List | TO-15 Short List | TO-15 see comments

Sampling Type:
Soil-Gas: ☒
Sub-Slab: ☐
Indoor-Air: ☐

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Canister Pressure / Vacuum

Air Sample ID	Media Type (see code above)	Coll. Date (Grab/Comp Start)	Coll. Time (Grab/Comp Start)	Coll. Date (Comp. End)	Coll. Time (Comp. End)					Canister Serial #	Flow Controller Serial #	Initial Field (in. Hg)	Final Field (in. Hg)	Lab Received (in. Hg)	EnvisionAir Sample Number
6274-GP 7-SG	1LC	11/4	955	11/4	1002			+		33840	–	-25	-4	-4	13-1317
6274-GP 8-SG	1LC	11/4	1029	11/4	1035			+		33818	–	-28	-4	-4	13-1318
6274-GP 9-SG	1LC	11/4	1152	11/4	1200			+		33732	–	-28	-3	-3	13-1319
6274-GP 10-SG	1LC	11/4	1245	11/4	1252			+		33557	–	-28	-3	-3	13-1320
	~~1LC~~														

Comments: Only Analyze for PCE, TCE, Cis-1,2 Dichloroethene, Trans-1,2 Dichloroethene, Vinyl Chloride

Relinquished by:	Date	Time	Received by:	Date	Time
	11/5/13			11/6/13	09:30