GeoDesign Inc

ENVIRONMENTAL SERVICES REPORT

Proposed 5020 N. Interstate Avenue Development
Portland, Oregon

For
Gerding Edlen
January 29, 2016

GeoDesign Project: Gerding-193-02

GeoDesign Inc

January 29, 2016

Gerding Edlen
1477 NW Everett Street
Portland, OR 97209

Attention: Ms. Sarah Zahn

Environmental Services Report
Proposed 5020 N. Interstate Avenue Development
Portland, Oregon
GeoDesign Project: Gerding-193-02

GeoDesign, Inc. is pleased to submit our Environmental Services Report of the property located at 5020 N. Interstate Avenue in Portland, Oregon. Contractual terms for our services are contained in our proposal dated December 11, 2015.

We appreciate the opportunity to be of service to Gerding Edlen. Please contact us if you have questions regarding this report.

Sincerely,

GeoDesign, Inc.

Robert E. Belding, R.G.
Principal Geologist

cc: Ms. Jill Sherman, Gerding Edlen (via email only)

KMC:ASB:REB:kt
Attachments
One copy submitted (via email only)
Document ID: Gerding-193-02-012916-envr.docx

TABLE OF CONTENTS **PAGE NO.**

1.0 INTRODUCTION

This report summarizes the results of our environmental services conducted at 5020 N. Interstate Avenue in Portland, Oregon (project site). The 0.46-acre project site includes a single-story, wood-framed building on the northern and northeastern project site boundary occupied by J's Market, which extends beneath an upper story of apartments; a single-story, wood-framed building in the central-eastern part of the project site occupied by Sunny's Cleaners; and a single-story, wood-framed building in the southeast portion of the project site occupied by an art gallery and workshop. The remainder of the project site is paved with asphalt and concrete and used for parking. The project site is shown relative to surrounding physical features on Figure 1. The project site layout is shown on Figure 2. Acronyms used herein are defined at the end of this document.

2.0 BACKGROUND

GeoDesign reviewed a report titled *Phase I Environmental Site Assessment and Limited Phase II Subsurface Investigation; 5020 N. Interstate Avenue; Portland, Oregon 97217*, prepared by Terraphase Engineering, Inc (Terraphase), dated November 3, 2015. The Phase I ESA identified that the project site has been historically occupied by two gasoline service stations and is currently occupied by a dry cleaning business since 1989. The project site has two listings on DEQ's LUST database (file nos. 26-98-0793 and 26-02-0002) and is listed on DEQ's ECSI database (Facility I.D. No. 5733) and VCP (file no. 2848). Both of the service station LUST sites have achieved an NFA status through DEQ, but pockets of residual petroleum-impacted soil likely exist beneath the project site that will require special handling and disposal during site development. In addition, the Sunny's Cleaners site is an active DEQ Cleanup site (ECSI No. 2848).

On October 15, 2015, Terraphase collected soil samples from eight completed soil borings at the project site in locations identified during the Phase I ESA. The soil samples were analyzed for hydrocarbon identification by Method NWTPH-HCID, diesel-range hydrocarbons (one soil sample) by Method NWTPH-DX, and VOCs by EPA Method 8260. Chemical analytical results showed low concentrations of oil-range hydrocarbons in the soil in the western portion of the project site and low concentrations of PCE in a soil sample collected in the workshop. Soil-gas or sub-slab vapor samples were not collected and groundwater was not encountered in their explorations.

3.0 PURPOSE

3.1 SUPPLEMENTAL VAPOR EVALUATION

The primary purpose of this supplemental vapor evaluation is to evaluate whether former service station and former and current dry cleaner operations have created an adverse vapor intrusion condition on the project site.

3.2 LIMITED HAZARDOUS BUILDING MATERIALS SURVEY

The purpose of a limited hazardous building materials survey is to assess the project site structures for materials that are regulated and/or require abatement and/or special handling prior to building renovation or demolition.

4.0 SCOPE OF SERVICES

4.1 SUPPLEMENTAL VAPOR EVALUATION

The completed scope of services generally consisted of the collection of soil-gas and sub-slab vapor samples and is described as follows:

- Coordinated and managed the field investigation, including utility checks, project site access authorizations, access preparations, and scheduling of GeoDesign field staff.
- Contacted the Oregon One-Call Utility Notification Center to mark the location of public utilities beneath the rights-of-way surrounding the project site.
- Completed ten borings to collect soil-gas or sub-slab vapor samples (SV-1 through SV-10) at the project site. Four of the ten borings were advanced to collect sub-slab vapor samples SV-1 through SV-4 beneath interior areas of the project site. The interior borings were completed using equipment owned and operated by GeoDesign. Six of the ten borings were advanced to collect soil-gas samples SV-5 through SV-10 in exterior areas of the project site. The exterior borings were completed using equipment owned and operated by Pacific Soil & Water of Tigard, Oregon.
- Collected the soil-gas samples by installing a temporary soil-gas sampling probe with a Geoprobe® PRT™ soil-gas sampling system. The sampling system utilizes disposable tubing that connects to the soil-gas sampling probe.
- Collected the soil-gas samples by drilling a hole through the concrete slab in the interior of the project site structures and inserting a decontaminated stainless steel sampling probe and disposable tubing and sealed with hydrated bentonite.
- Installed a leak-check system at the sample locations following DEQ-established protocol described herein.
- Shipped the soil-gas samples to ESC Lab Sciences of Mt. Juliet, Tennessee, under general chain-of-custody protocols for analysis of VOCs by EPA Method TO-15.
- Summarized the results of our supplemental vapor evaluation in this report.

4.2 LIMITED HAZARDOUS BUILDING MATERIALS SURVEY

The limited hazardous building materials survey included a limited ACM screen, an LBP survey, and an inventory of potential PCB- and/or mercury-containing materials. These surveys are discussed further in the following sections.

4.2.1 Limited ACM Screen

The scope of services for the limited ACM screen was completed in general accordance with ASTM E 2308-05. The limited ACM screen was not intended to serve as a comprehensive asbestos building survey, comprehensive inspection, or comprehensive assessment for the presence of ACM in all or most of the building systems throughout the project site structures. The limited ACM screen included a non-destructive building material sampling program and did not include sampling and analysis of building materials that are concealed, such as in hidden spaces, behind walls, in doors, and/or beneath floors. Therefore, the limited ACM screen was not intended to adequately assess the presence of ACM in the project site structures for pre-demolition or pre-renovation purposes. This limited ACM screen was conducted by personnel certified under EPA's AHERA program and included the following:

- Conducted an initial building reconnaissance to verify construction and layout of the project site structures. This initial building reconnaissance included measuring internal and external building dimensions, identifying building mechanical components, and gathering additional information related to determining the sampling approach.
- Developed a sampling plan based on the initial building reconnaissance and review of readily available building plans and documents.
- Collected 35 material samples (AS-1 through AS-35) from homogenous suspect building materials taking into account material quantities and locations.
- Collected photographic documentation of each representative homogenous suspect building material.
- Submitted the samples to a certified analytical laboratory for analysis of asbestos content using polarized light microscopy.
- Documented quantities and locations of building materials determined to contain ACM.
- Summarized the results and findings of the limited ACM screen in this report.

4.2.2 LBP Survey

The scope of services for the LBP survey evaluated painted surfaces in accessible areas of the project site structures that may contain lead at concentrations exceeding applicable regulatory levels. The LBP survey was performed by an Oregon Health Division-certified inspector and included the following:

- Measured for the presence of LBP at 28 locations in the project site structures using a Niton Model XLP-309 XRF detector to identify the potential presence of lead in paint.
- Summarized the results and findings of the LBP survey in this report.

4.2.3 Inventory of Potential PCB- and/or Mercury-Containing Materials

GeoDesign completed an inventory of potential PCB- and/or mercury-containing materials that were readily accessible at the project site, including fluorescent tubes and light bulbs, light ballasts, and thermostats.

The scope of services was limited to only those items listed above. This project did not include completion of an environmental compliance audit; an evaluation for the presence of radon gas, toxic mold, biological pollutants, or urea-formaldehyde insulation; or a wetlands determination or delineation.

4.3 REGULATORY LIAISON SERVICES

To date, initial DEQ liaison services have included the preparation of a VCP application for submittal to DEQ.

5.0 SUPPLEMENTAL VAPOR EVALUATION

Our supplemental vapor evaluation included the collection and analysis of ten vapor (six exterior soil-gas and four interior sub-slab) samples at the project site. The approximate sample locations are shown on Figure 2.

5.1 FIELD ACTIVITIES

On December 29, 2015, GeoDesign advanced ten borings at the project site to collect soil-gas or sub-slab vapor samples (SV-1 through SV-10). Four of the ten borings were advanced to collect sub-slab vapor samples SV-1 through SV-4 beneath interior areas of the project site. The sub-slab vapor samples were collected by drilling a hole through the concrete slab in the interior of the project site structures and inserting a decontaminated stainless steel sampling probe and disposable tubing and sealed with hydrated bentonite

Six of the ten borings were advanced to collect soil-gas samples SV-5 through SV-10 in exterior areas of the project site. The exterior borings were completed using Geoprobe® PRT™ system that was driven to a depth of 6 feet BGS and then retracted 6 to 12 inches by Pacific Soil & Water of Tigard, Oregon. All sampling equipment used in the collection of samples was decontaminated prior to use. Each probe was decontaminated prior to use with a trisodium phosphate solution. The annular space between the probe and the ground surface was sealed with hydrated bentonite.

Dedicated polytetrafluoroethylene tubing was attached to each vapor probe and connected to the sampling manifold with Swagelok™ fittings and hose barb connections to create a reasonably closed system for all three samples. The sampling train was purged of 2 to 3 casing volumes using a PID and allowed to sit for at least 30 minutes prior to sample collection. The sample was collected using a 1-liter summa sample canister with an in-line filter (0.7 micron) and flow controller (less than 200 milliliters per minute). Rags coated with 2-propanol were placed at the ground surface seal and on the sampling train to detect potential leaks in the system. 2-propanol was present in the laboratory samples at a concentration of less than 0.01 percent, indicating each sampling train was airtight.

5.2 CHEMICAL ANALYTICAL PROGRAM

The sub-slab vapor and soil-gas samples were shipped to ESC Lab Sciences of Mt. Juliet, Tennessee, under general chain-of-custody protocols for analysis of VOCs by EPA Method TO-15. A discussion of our chemical analytical program is presented in Appendix A.

5.3 REGULATORY SCREENING LEVELS

A conceptual site model was not prepared for the project site during this assessment. It is our understanding that the proposed development could be used for urban residential and commercial purposes. Accordingly, it is our professional opinion that the DEQ RBCs for soil-gas (Vapor Intrusion into Buildings: urban residential and occupational receptor scenarios) are applicable for comparison of the chemical analytical results from this investigation. A comparison of the chemical analytical results to applicable regulatory criteria is shown in Table 1 and discussed below.

5.4 CHEMICAL ANALYTICAL RESULTS

Vapor samples SV-1 through SV-10 were analyzed for VOCs by EPA Method TO-15. The VOC TCE was detected in SV-3, SV-5, SV-7, SV-8, and SV-10 at concentrations greater than the applicable RBC for urban residential receptors (200 µg/m^3), but less than the applicable RBC for occupational receptors (2,900 µg/m^3). VOCs were otherwise either not detected at concentrations greater than the analytical laboratory RDLs or were detected at concentrations

less than applicable RBCs. The chemical analytical results are summarized in Table 1. The chemical analytical laboratory report is presented in Appendix A.

6.0 LIMITED HAZARDOUS BUILDING MATERIALS SURVEY

Our survey included a limited ACM screen, an LBP survey, and an inventory of potential PCB- and/or mercury-containing materials. These surveys are discussed further in the following sections.

6.1 LIMITED ACM SCREEN

On December 29, 2015, GeoDesign personnel, certified under EPA's AHERA program, performed a limited ACM screen of the project site structures to evaluate the possible presence of ACM. EPA's AHERA program, DEQ, and OR-OSHA define ACM as materials containing asbestos at concentrations greater than 1 percent.

Thirty-five samples of suspect ACM (AS-1 through AS-35) were collected from the project site structures and submitted to EMC Laboratories of Phoenix, Arizona, for analysis. EMC Laboratories is accredited by the National Institute of Standards and Technology under the procedures of the National Voluntary Laboratory Accreditation Program for bulk sample analysis. The samples were analyzed for asbestos content by EPA Method 600/R-93/116. Materials sampled at the project site structures included leveling compound, ceiling tile, cove base, flooring, drywall, plaster, other wall and ceiling coverings, mastics, and roofing materials. Our sampling protocol did not include sampling concealed materials or electrical components, which could interfere with building operations and or/create an electrical hazard. The suspect ACM sampling locations are shown on Figures 3 through 6.

Five of the 35 samples collected contained greater than 1 percent asbestos. Asbestos was not identified in the remaining 30 samples collected during this survey. The following ACMs were identified during this survey:

- Approximately 1,000 square feet of asbestos-containing floor tile and black mastic was observed in J's Market. This material appeared to be in good condition.
- Approximately 240 square feet of linoleum was observed in the kitchen of the second floor apartment. This material appeared to be in good condition.
- Approximately 36 square feet of asbestos-containing 9-inch by 18-inch floor tile was observed in the bathroom of Sunny's Cleaners. This material appeared to be in good condition.
- Approximately 480 square feet of asbestos-containing black mastic was observed in the Bridging Boro building. This material was underneath existing floor tile, so its condition could not be assessed.

Photographs of the materials that contain ACM are shown on Figures 7 through 9. The results of the limited ACM screen are summarized in Table 2. Laboratory results and chain-of-custody documentation are presented in Appendix B.

6.2 LBP SURVEY

On December 29, 2015, an accredited lead inspector conducted an LBP survey of the project site structures. The LBP survey did not include sampling and analysis of possible building materials that were concealed (such as in walls and doors and beneath floors). The LBP survey was conducted using an XRF manufactured by Niton (model XL-309 Spectrum Analyzer Lead Detector) and licensed by the State of Oregon Health Division. The Niton XL is most accurate in the range from 0.1 to 2.0 mg/cm^2 of lead per of painted surface, with 5 mg/cm^2 being the upper limit of detection.

White LBP was identified in the kitchen ceiling of J's Market and light brown LBP was observed at the exterior of the Bridging Boro building. LBP was not otherwise identified during our survey. The suspect LBP sampling locations are shown on Figures 3 through 6. The LBP survey results are summarized in Table 3.

6.3 INVENTORY OF POTENTIAL PCB- AND/OR MERCURY-CONTAINING MATERIALS

On December 29, 2016, an inventory of potential PCB- and/or mercury-containing materials was conducted at the project site. The results of our inventory are provided in the following sections.

6.3.1 Suspect PCB-Containing Materials

Approximately 61 light fixtures were observed during our inventory. The ballasts were not observed to determine the PCB content. These items should be removed and properly disposed of prior to demolition or renovation. These items must not be broken to qualify as Universal Waste. The items should be packaged to avoid breakage during transport. If a ballast is not specifically labelled as containing "No PCBs," it should be assumed to contain PCBs and disposed of at an EPA-approved facility in accordance with applicable regulations.

6.3.2 Suspect Mercury-Containing Materials

Approximately 122 fluorescent light bulbs were observed during our inventory. These items should be removed and properly disposed of prior to demolition or renovation. These items must not be broken to qualify as Universal Waste. The items should be packaged to avoid breakage during transport.

7.0 CONCLUSIONS AND RECOMMENDATIONS

GeoDesign performed environmental services in conformance with the scope and limitations of the proposal to Gerding Edlen dated December 11, 2015 for the project site located at 5020 N. Interstate Avenue in Portland, Oregon. This assessment has revealed the following:

- On December 29, 2015, GeoDesign collected ten vapor samples (sub-slab vapor and soil-gas) and performed a limited hazardous building materials survey at the project site. Based on subsequent chemical analytical results, TCE exists in soil vapor beneath the northeastern and southwestern portions of the project site at a concentration greater than DEQ generic vapor intrusion RBCs for urban residential receptors, but less than occupational receptors. As a remedial action, it is our opinion that DEQ will likely accept a vapor barrier and a ventilation system to ensure protectiveness of occupied building spaces to be constructed at the project site. The selected action would be completed in accordance with a DEQ-approved remedial

action plan and would ultimately be reported to DEQ in a construction completion report. Based on our experience with similar sites, it may be prudent to allow a contingency to complete vapor extraction system performance monitoring on a semi-annual basis for the first two years following building construction activities. DEQ often requires performance monitoring to characterize the response of sub-slab vapor conditions following site redevelopment activities.

- Based the information contained herein, the current and historical uses of the project site (drycleaners, shop, and gasoline service stations), and the work completed by Terraphase, it is our professional opinion that excavation spoils generated during redevelopment will not likely meet DEQ guidelines for disposal as clean fill and will likely require disposal at a RCRA Subtitle D (non-hazardous) landfill. For planning purposes, we recommend assuming that all excavation spoils will require landfill disposal. It is possible that pockets of clean fill could exist at the project site. However, additional soil sampling would be needed to evaluate whether some of the excavation spoils can be handled as clean fill.
- A Contaminated Media Management Plan should be prepared and implemented to identify, segregate, and properly dispose of impacted media that would be encountered during development.
- ACM is present in flooring and mastic located at the project site. Prior to building renovation or demolition, the ACM should be removed by a licensed contractor according to state and federal regulations. Prior to building demolition, additional destructive ACM sampling should be conducted to evaluate possible ACM not accessible during the limited ACM screen completed at the project site.
- LBP is present at the project site. The paint was observed to be intact at the time of the survey. Contractors performing demolition work should be notified of the presence of LBP and require works to wear appropriate personal protection equipment. In most cases, demolition debris containing LBP can be disposed of as construction debris.
- Mercury-containing fluorescent light tubes and associated ballasts are present throughout the project site structures. These materials should be properly disposed of during building renovation or prior to demolition.

8.0 DECLARATIONS

We declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in 40 CFR Part 312.10. We have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the project site. We developed and performed all the appropriate inquiries in accordance with the standards and practices set forth in 40 CFR Part 312.

9.0 LIMITATIONS

This Environmental Services Report has been prepared for use by Gerding Edlen. GeoDesign makes no warranties or guarantees regarding the accuracy or completeness of information provided or compiled by others. The information presented in this report is based on the above-described research and one recent site visit. Information provided by others was relied on in our description of historical conditions and review of regulatory databases and files. The available data do not provide definitive information with regard to all past uses, operations, or incidents at

the project site or adjacent properties. Performance of this practice is intended to reduce, but not eliminate, uncertainty regarding the potential for recognized environmental conditions in connection with a property. There is always a potential that areas with contamination that were not identified during the environmental services exist at the project site or in the study areas. Further evaluation of such potential would require additional research, subsurface exploration, sampling, and/or testing.

Some substances may be present in the project site vicinity in quantities or under conditions that may have led or may lead to contamination of the project site but are not included in current local, state, or federal regulatory definitions of hazardous substances or do not otherwise present current potential liability. GeoDesign cannot be responsible if the standards of all appropriate inquiry or regulatory definitions of hazardous substance change or if you are required to meet more stringent standards in the future.

This report is not intended for use by others, and the information contained herein is not applicable to other sites. Reliance on this report by other parties is strictly at the risk of those parties, and GeoDesign will grant no third party reliance unless specifically requested in writing by our client for whom this report was prepared.

Within the limitations of scope, schedule, and budget, our services have been executed in accordance with the generally accepted environmental science practices at the time this report was prepared. No warranty or other conditions, express or implied, should be understood.

♦ ♦ ♦

We appreciate the opportunity to be of service to Gerding Edlen. Please call if you have questions regarding this report.

Sincerely,

GeoDesign, Inc.

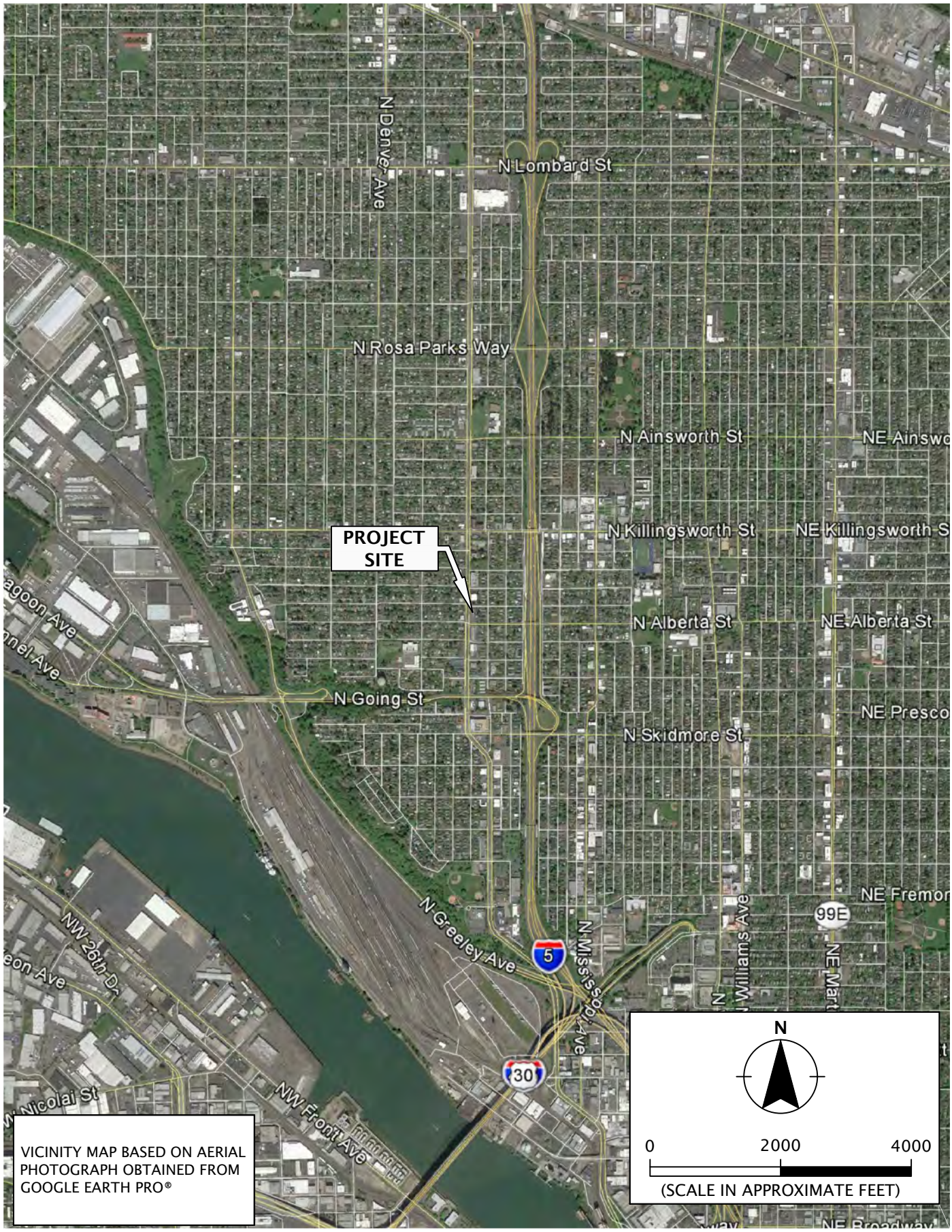
Kevin M. Cline
Environmental Staff
AHERA #IR-15-3265B

Andrew S. Blake, R.G.
Senior Project Geologist

Expires 06/30/2016

Robert E. Belding, R.G.
Principal Geologist

FIGURES



GEODESIGN INC
15575 SW Sequoia Parkway - Suite 100
Portland OR 97224
Off 503.968.8787 Fax 503.968.3068

GERDING-193-02	**VICINITY MAP**	
JANUARY 2016	5020 N. INTERSTATE AVENUE DEVELOPMENT PORTLAND, OR	**FIGURE 1**

Printed By: aday | Print Date: 1/29/2016 11:46:21 AM
File Name: J:\E-L\Gerding\Gerding-193\Gerding-193-02\Figures\CAD\Gerding-193-02-VM01.dwg | Layout: FIGURE 1

LEGEND:

SV-1 SOIL-GAS VAPOR SAMPLE

PROJECT SITE BOUNDARY

DETAIL AREAS

N

0 30 60

(SCALE IN FEET)

SITE PLAN BASED ON AERIAL PHOTOGRAPH OBTAINED FROM GOOGLE EARTH PRO®, JANUARY 24, 2016

SITE PLAN

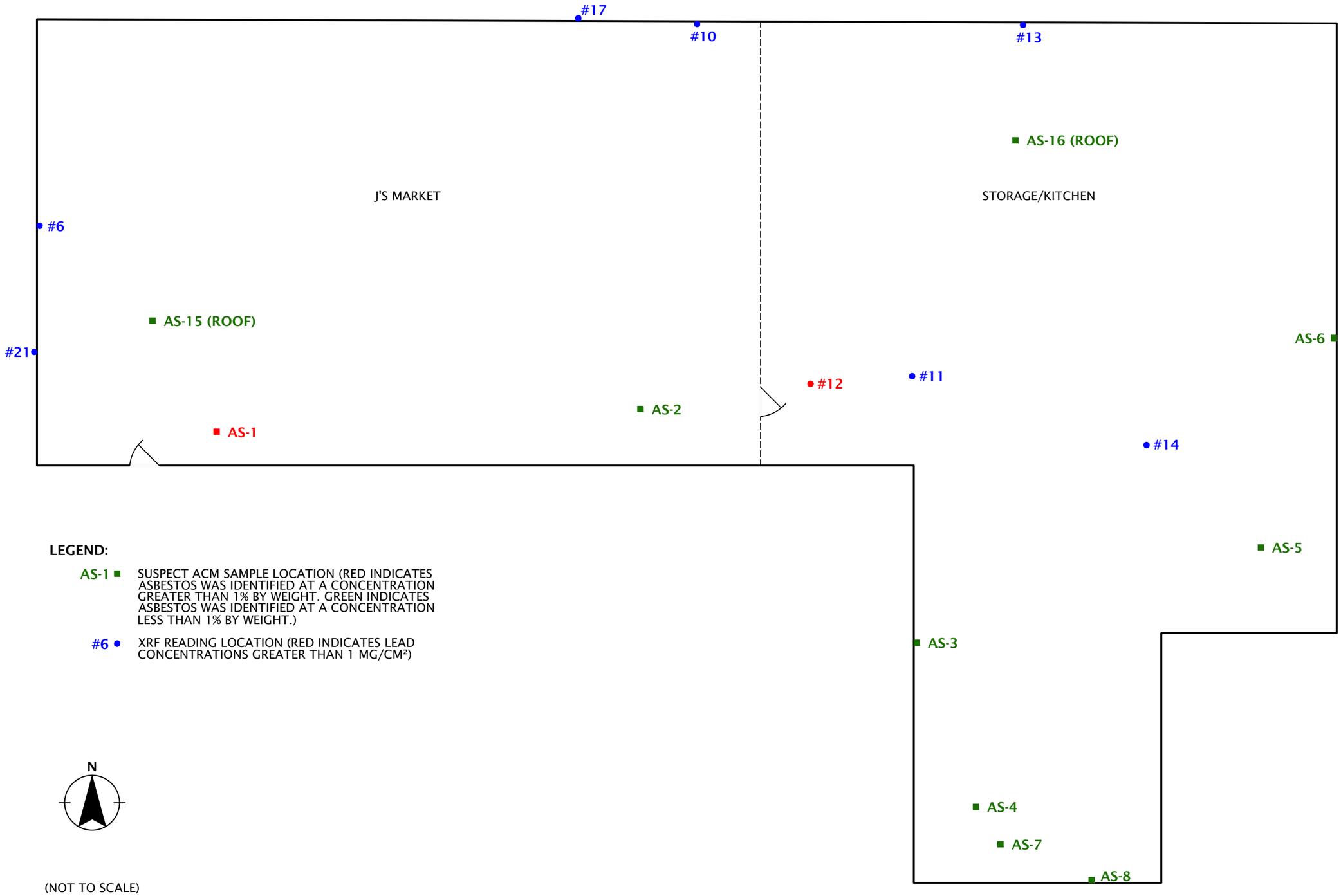
5020 N. INTERSTATE AVENUE DEVELOPMENT
PORTLAND, OR

FIGURE 2

GERDING-193-02

JANUARY 2016

GeoDesign NW
15575 SW Sequoia Parkway - Suite 100
Portland OR 97224
Off 503.968.8787 Fax 503.968.3068



LEGEND:

AS-1 ■ SUSPECT ACM SAMPLE LOCATION (RED INDICATES ASBESTOS WAS IDENTIFIED AT A CONCENTRATION GREATER THAN 1% BY WEIGHT. GREEN INDICATES ASBESTOS WAS IDENTIFIED AT A CONCENTRATION LESS THAN 1% BY WEIGHT.)

#6 ● XRF READING LOCATION (RED INDICATES LEAD CONCENTRATIONS GREATER THAN 1 MG/CM²)

N

(NOT TO SCALE)

SITE PLAN - J'S MARKET (FIRST FLOOR)

FIGURE 3

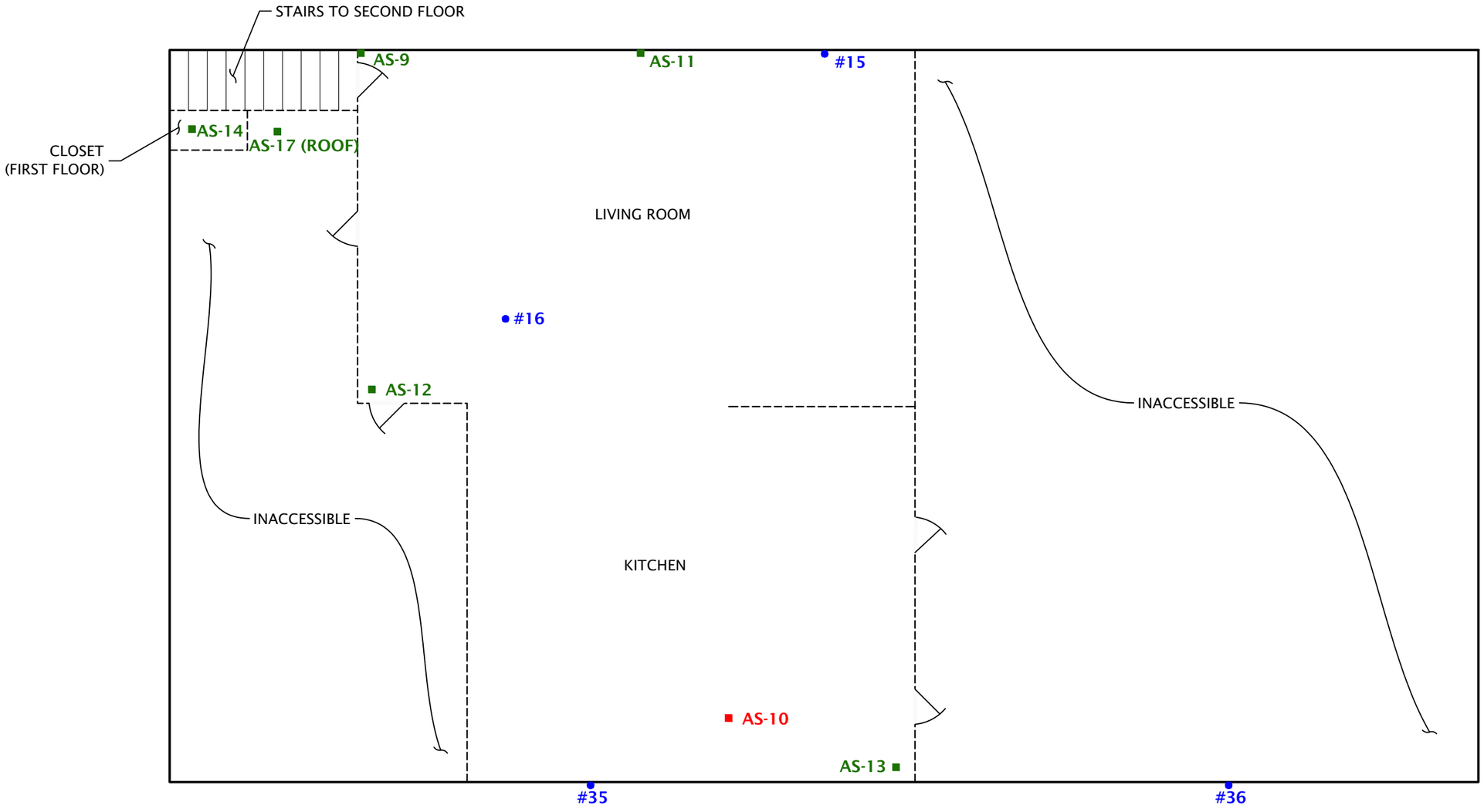
5020 N. INTERSTATE AVENUE DEVELOPMENT
PORTLAND, OR

GERDING-193-02

JANUARY 2016

GEODESIGN INC
15575 SW Sequoia Parkway - Suite 100
Portland OR 97224
Off 503.968.8787 Fax 503.968.3068

Printed By: aday | Print Date: 1/29/2016 11:46:22 AM
File Name: J:\E-L\Gerding\Gerding-193\Gerding-193-02\Figures\CAD\Gerding-193-02-SP01.dwg | Layout: FIGURE 3



LEGEND:

AS-9 ■ SUSPECT ACM SAMPLE LOCATION (RED INDICATES ASBESTOS WAS IDENTIFIED AT A CONCENTRATION GREATER THAN 1% BY WEIGHT. GREEN INDICATES ASBESTOS WAS IDENTIFIED AT A CONCENTRATION LESS THAN 1% BY WEIGHT.)

#15 ● XRF READING LOCATION (RED INDICATES LEAD CONCENTRATIONS GREATER THAN 1 MG/CM²)

N

(NOT TO SCALE)

SITE PLAN - SECOND FLOOR APARTMENTS

5020 N. INTERSTATE AVENUE DEVELOPMENT
PORTLAND, OR

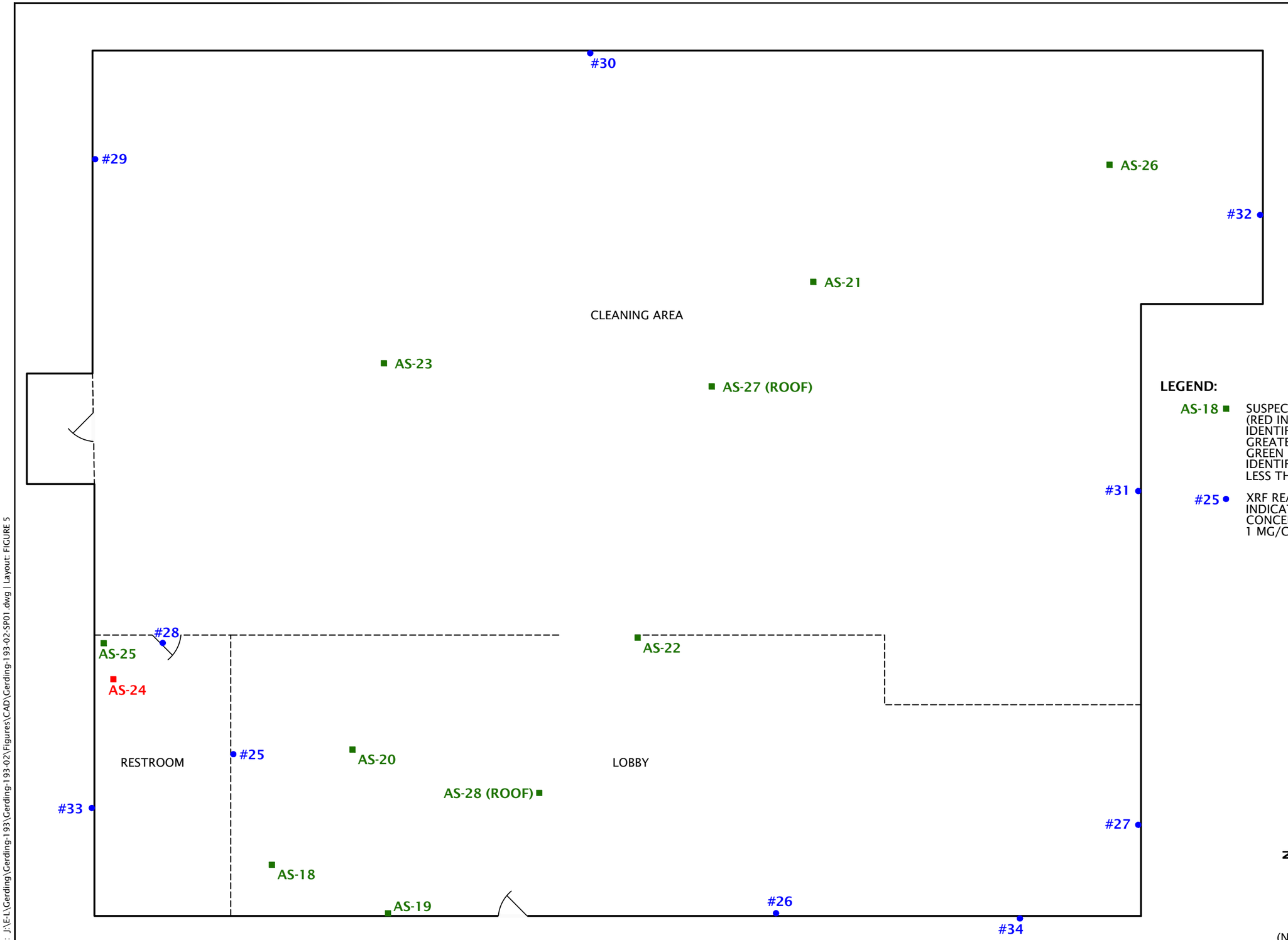
FIGURE 4

GERDING-193-02

JANUARY 2016

GeoDesign Inc
15575 SW Sequoia Parkway - Suite 100
Portland OR 97224
Off 503.968.8787 Fax 503.968.3068

Printed By: aday | Print Date: 1/29/2016 11:46:23 AM
File Name: J:\E-L\Gerding\Gerding-193\Gerding-193-02\Figures\CAD\Gerding-193-02-SP01.dwg | Layout: FIGURE 4



LEGEND:

AS-18 ■ SUSPECT ACM SAMPLE LOCATION (RED INDICATES ASBESTOS WAS IDENTIFIED AT A CONCENTRATION GREATER THAN 1% BY WEIGHT. GREEN INDICATES ASBESTOS WAS IDENTIFIED AT A CONCENTRATION LESS THAN 1% BY WEIGHT.)

#25 ● XRF READING LOCATION (RED INDICATES LEAD CONCENTRATIONS GREATER THAN 1 MG/CM²)

(NOT TO SCALE)

SITE PLAN - SUNNY'S CLEANERS

5020 N. INTERSTATE AVENUE DEVELOPMENT
PORTLAND, OR

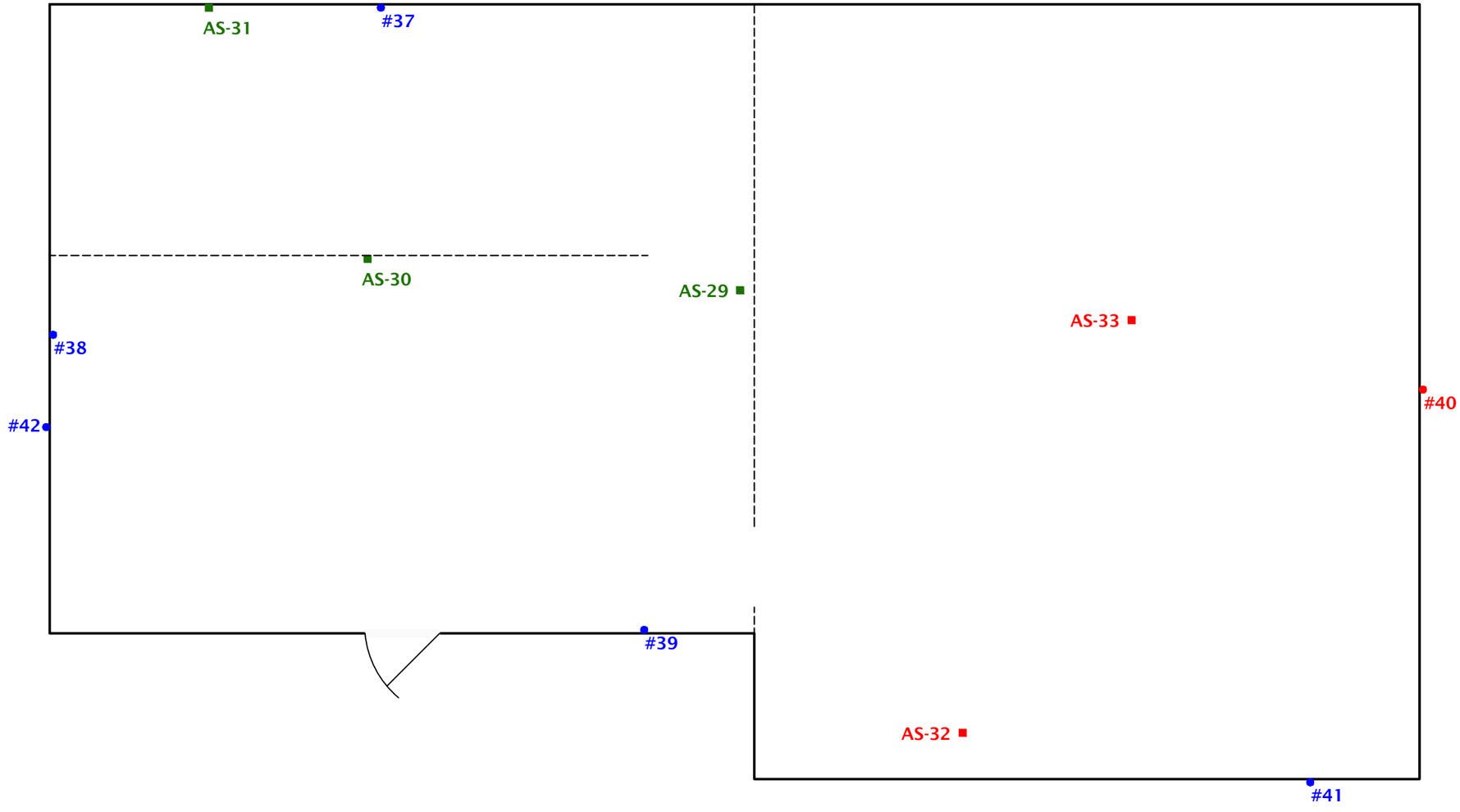
FIGURE 5

GERDING-193-02

JANUARY 2016

GeoDesign
15575 SW Sequoia Parkway - Suite 100
Portland OR 97224
Off 503.968.8787 Fax 503.968.3068

Printed By: aday | Print Date: 1/29/2016 12:08:17 PM
File Name: J:\E-L\Gerding\Gerding-193\Gerding-193-02\Figures\CAD\Gerding-193-02-SP01.dwg | Layout: FIGURE 5



LEGEND:

AS-29 ■ SUSPECT ACM SAMPLE LOCATION (RED INDICATES ASBESTOS WAS IDENTIFIED AT A CONCENTRATION GREATER THAN 1% BY WEIGHT. GREEN INDICATES ASBESTOS WAS IDENTIFIED AT A CONCENTRATION LESS THAN 1% BY WEIGHT.)

#37 ● XRF READING LOCATION (RED INDICATES LEAD CONCENTRATIONS GREATER THAN 1 MG/CM²)

N

(NOT TO SCALE)

SITE PLAN - FLOOR PLAN

FIGURE 6

5020 N. INTERSTATE AVENUE DEVELOPMENT
PORTLAND, OR

GERDING-193-02

JANUARY 2016

GeoDesign
15575 SW Sequoia Parkway - Suite 100
Portland OR 97224
Off 503.968.8787 Fax 503.968.3068

Printed By: aday | Print Date: 1/29/2016 11:46:23 AM
File Name: J:\E-L\Gerding\Gerding-193\Gerding-193-02\Figures\CAD\Gerding-193-02-SP01.dwg | Layout: FIGURE 6

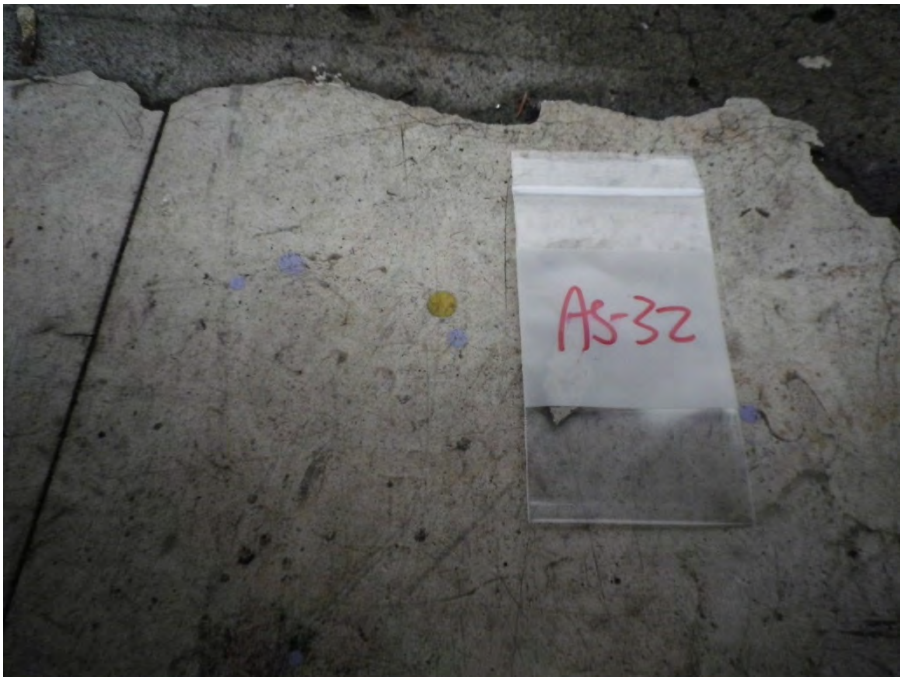
ACM SAMPLE AS-1.

ACM SAMPLE AS-10.

GEODESIGN INC
15575 SW Sequoia Parkway - Suite 100
Portland OR 97224
Off 503.968.8787 Fax 503.968.3068

GERDING-193-02	ACM SAMPLING PHOTOGRAPHS	
JANUARY 2016	5020 N. INTERSTATE AVENUE DEVELOPMENT PORTLAND, OR	FIGURE 7

ACM SAMPLE AS-24.



ACM SAMPLE AS-32.

GEODESIGN INC
15575 SW Sequoia Parkway - Suite 100
Portland OR 97224
Off 503.968.8787 Fax 503.968.3068

GERDING-193-02	ACM SAMPLING PHOTOGRAPHS	
JANUARY 2016	5020 N. INTERSTATE AVENUE DEVELOPMENT PORTLAND, OR	FIGURE 8

ACM SAMPLE AS-33.

GEODESIGN INC
15575 SW Sequoia Parkway - Suite 100
Portland OR 97224
Off 503.968.8787 Fax 503.968.3068

GERDING-193-02	ACM SAMPLING PHOTOGRAPHS	
JANUARY 2016	5020 N. INTERSTATE AVENUE DEVELOPMENT PORTLAND, OR	FIGURE 9

TABLES

TABLE 1
Summary of Vapor Sample Chemical Analytical Results[1]
TPH and VOCs
Proposed 5020 N. Interstate Avenue Development
Portland, Oregon

Sample I.D.	Sample Date	Sample Depth (feet BGS)	TPH and VOCs[2] by EPA Method TO-15 (µg/m³)																										
			TPH (GC/MS) Low Fraction	Acetone	Benzene	1,3-Butadiene	2-Butanone (MEK)	Carbon Disulfide	Chloroform	Chloromethane	Cyclohexane	Dichlorodifluoromethane	Ethanol	Ethylbenzene	4-Ethyltoluene	Heptane	n-Hexane	iso-Propylbenzene	4-Methyl-2-pentanone (MIBK)	Naphthalene	2-Propanol	Propene	Styrene	PCE	Toluene	TCE	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Vinyl chloride	Total Xylenes
SV-1	12/29/15	0.5	**2,280**	**1030**	**3.05**	8.85 U	**22.8**	**1.24** U	1.95 U	0.826 U	1.38 U	**3.15**	**295**	1.73 U	1.96 U	**1.64**	**3.25**	**2.04**	**15.2**	**14.2**	**92.9**	**16.5**	1.70 U	**1,350**	**15.8**	**4.63**	**8.24**	**3.11**	1.02 U	**1.81**
SV-2	12/29/15	0.5	**3,290**	**116**	**60.7**	**26.2**	**34.4**	**1.24** U	**2.22**	0.826 U	**2.03**	**2.64**	**29.1**	**16.0**	**5.76**	**12.7**	**13.3**	**2.42**	10.2 U	6.60 U	**44.2**	**97.7**	**16.7**	**4,700**	**79.4**	**27.8**	**36.4**	**11.9**	1.02 U	**44.2**
SV-3	12/29/15	0.5	413 U	**90.9**	**8.90**	8.85 U	**14.9**	**8.01**	1.95 U	0.826 U	1.38 U	**3.33**	**44.2**	1.73 U	1.96 U	**4.36**	**5.33**	1.97 U	10.2 U	6.60 U	**581**	**64.7**	1.70 U	**264**	**12.1**	**264**	1.96 U	1.96 U	1.02 U	1.73 U
SV-4	12/29/15	0.5	413 U	**145**	**6.26**	**9.97**	**29.5**	**1.24** U	1.95 U	0.826 U	1.38 U	**8.65**	**26.9**	**2.03**	1.96 U	**4.03**	**1.94**	**3.56**	10.2 U	6.60 U	**399**	**19.2**	**7.15**	**178**	**15.5**	**178**	1.96 U	1.96 U	1.02 U	1.73 U
SV-5	12/29/15	5.0	**1,680**	**36.1**	**19.6**	**11.1**	**10.2**	**23.5**	**2.37**	0.826 U	**2.20**	**2.45**	**35.1**	**13.0**	**9.17**	**9.40**	**12.9**	1.97 U	10.2 U	6.60 U	**34.2**	**71.8**	**3.13**	**1,840**	**51.4**	**1,840**	**37.7**	**11.3**	1.02 U	**92.7**
SV-6	12/29/15	5.0	**761**	**32.8**	**17.4**	**18.3**	**8.34**	**9.84**	1.95 U	0.826 U	1.38 U	**2.43**	**10.7**	**8.25**	**4.06**	**5.29**	**8.54**	1.97 U	10.2 U	6.60 U	**35.5**	**126**	**2.05**	**138**	**30.5**	**138**	**15.0**	**4.89**	**1.51**	**45.9**
SV-7	12/29/15	5.0	**735**	**48.0**	**4.97**	8.85 U	**15.8**	**3.65**	1.95 U	0.826 U	1.38 U	**3.22**	**21.6**	**1.84**	1.96 U	1.64 U	**2.31**	1.97 U	10.2 U	6.60 U	**82.7**	**28.3**	1.70 U	**258**	**7.85**	**258**	**5.41**	1.96 U	1.02 U	**9.83**
SV-8	12/29/15	5.0	**1,700**	**30.6**	**8.79**	**20.6**	**8.14**	**9.17**	**3.98**	0.826 U	1.38 U	**3.46**	**25.2**	**6.20**	**2.86**	**7.11**	**10.3**	1.97 U	10.2 U	6.60 U	**135**	**242**	**1.88**	**1,790**	**28.9**	**1,790**	**11.2**	**3.04**	1.02 U	**34.3**
SV-9	12/29/15	5.0	**2,020**	**77.0**	**57**	**52**	**27.9**	**22.9**	**2.50**	**2.50**	**3.65**	**2.57**	**18**	**17.3**	**7.06**	**31.0**	**37.4**	1.97 U	**12.7**	6.60 U	**42.5**	**1,010**	**7.02**	**119**	**74.8**	**119**	**24.6**	**6.56**	**2.05**	**85.6**
SV-10	12/29/15	5.0	**1,230**	**63.7**	**15.7**	**43.4**	**16.8**	**17.3**	1.95 U	0.826 U	**1.73**	**3.84**	**9.23**	**4.24**	**2.23**	**9.16**	**20.1**	1.97 U	10.2 U	6.60 U	**72.7**	**575**	1.70 U	**952**	**22.6**	**952**	**7.81**	**2.05**	1.02 U	**24.4**
DEQ Generic RBCs[3]																														
Vapor Intrusion into Buildings																														
Urban Residential			79,000	NE	170	NE	NE	NE	58	19,000	NE	NE	NE	530	NE	NE	NE	83,000	NE	39	NE	NE	210,000	5,100	1.00E+06	200	1,500	>Pv	41	21,000
Occupational			1,700,000	NE	1,600	NE	NE	NE	530	390,000	NE	NE	NE	4,900	NE	NE	NE	1.80E+06	NE	360	NE	NE	4.40E+06	47,000	2.19E+07	2,900	31,000	>Pv	2,800	440,000

Notes:
1. Chemical analysis completed by ESC Lab Sciences of Mt. Juliet, Tennessee.
2. Only VOCs detected during this investigation are listed. For a complete listing of VOCs, refer to the laboratory report .
3. DEQ Generic RBCs dated November 1, 2015
>Pv: The air concentration reported for the RBC exceeds the vapor pressure of the pure chemical. It can be assumed that this constituent cannot create an unnacceptable risk by this pathway.
U: not detected at concentrations greater than the laboratory RDL (shown)
Bolding indicates analyte detection.
Shading Indicates an exceedance of the DEQ Generic RBC Urban Residential limit

TABLE 2
Summary of Suspect ACM Analytical Results[1]
Proposed 5020 N. Interstate Avenue Development
Portland, Oregon
December 29, 2015

Sample I.D.	Layer	Location	Homogenous Material Description	Material Category (S/T/M)	Friable (Y/N)	Asbestos	Type	Aproximate Quantity of ACM (square feet)
AS-1	1	J's Market	12"x12" Floor Tile, Orange/White	M	N	3%	Chrysotile	1,000
	2		Mastic, Black	M	N	5%	Chrysotile	
	3		Leveling Compound, White	M	N	ND	ND	
	4		Leveling Compound, Black	M	N	ND	ND	
AS-2	1		2x4 Drop-in Ceiling Tile, White/Grey	M	N	ND	ND	
AS-3	1	J's Market Storage	Heat Resistant Board, Silver	M	N	ND	ND	NA
	2		Mastic, Silver	M	N	ND	ND	
AS-4	1	J's Market Storage Restroom	12"x12" Floor Tile, White w/Gray	M	N	ND	ND	NA
	2		Mastic, Yellow	M	N	ND	ND	
AS-5	1	J's Market Kitchen	12"x12" Floor Tile, Gray Specks	M	N	ND	ND	NA
	2		Mastic, Yellow	M	N	ND	ND	
AS-6	1		Cove Base, Black	M	N	ND	ND	NA
	2		Mastic, Clear	M	N	ND	ND	
AS-7	1	J's Market Storage Restroom	2x4 Drop-in Ceiling Tile, White/Grey	M	N	ND	ND	NA
AS-8	1		Cove Base, Gray	M	N	ND	ND	NA
	2		Mastic, Clear	M	N	ND	ND	
AS-9	1	Apartment - Living Room	Linoleum, Off White	M	N	ND	ND	NA
	2		Mastic, Yellow	M	N	ND	ND	
AS-10	1	Apartment - Kitchen	Linoleum, Off White	M	N	ND	ND	240
	2		Mastic, Yellow	M	N	ND	ND	
	3		Linoleum, Beige/Lt. Blue/Off White	M	N	15%	Chrysotile	

TABLE 2
Summary of Suspect ACM Analytical Results[1]
Proposed 5020 N. Interstate Avenue Development
Portland, Oregon
December 29, 2015

Sample I.D.	Layer	Location	Homogenous Material Description	Material Category (S/T/M)	Friable (Y/N)	Asbestos	Type	Aproximate Quantity of ACM (square feet)
AS-11	1	Apartment - Living Room	Textured Drywall, White	M	N	ND	ND	NA
	2		Joint Compound, White	M	N	ND	ND	
AS-12	1		Textured Ceiling, White	M	N	ND	ND	
	2		Joint Compound, White	M	N	ND	ND	
AS-13	1	Apartment - Kitchen	Popcorn Ceiling, White	M	N	ND	ND	NA
AS-14	1	Apartment - First Floor Landing Closet	12"x12" Floor Tile, Gray Specks	M	N	ND	ND	NA
	2		Mastic, Yellow	M	N	ND	ND	
AS-15	1	Lower West Roof	Built-up Roofing, Black	M	N	ND	ND	NA
AS-16	1	Upper East Roof	Built-up Roofing, Black	M	N	ND	ND	NA
AS-17	1	Apartment Roof	Built-up Roofing, Black	M	N	ND	ND	NA
AS-18	1	Sunny's Cleaners Lobby	Linoleum, Gray/Beige	M	N	ND	ND	NA
	2		Mastic, Yellow	M	N	ND	ND	
AS-19	1		Drywall, Beige/Brown	M	N	ND	ND	
	2		Texture, Gray	M	N	ND	ND	
AS-20	1		2x4 Drop-in Ceiling Tile, White/Grey	M	N	ND	ND	
AS-21	1	Sunny's Cleaners Cleaning Area	12"x12" Floor Tile, White w/ Gray	M	N	ND	ND	NA
	2		Mastic, Yellow	M	N	ND	ND	
AS-22	1		Cove Base, Gray	M	N	ND	ND	
	2		Mastic, Yellow	M	N	ND	ND	
AS-23	1		Popcorn Ceiling, White	M	N	ND	ND	

TABLE 2
Summary of Suspect ACM Analytical Results[1]
Proposed 5020 N. Interstate Avenue Development
Portland, Oregon
December 29, 2015

Sample I.D.	Layer	Location	Homogenous Material Description	Material Category (S/T/M)	Friable (Y/N)	Asbestos	Type	Aproximate Quantity of ACM (square feet)
AS-24	1	Sunny's Cleaners Restroom	9"x18" Floor Tile, Red Orange	M	N	2%	Chrysotile	36
	2		Mastic/Debris, Brown	M	N	ND	ND	
	3		Debris/Top, Black/Gray	M	N	ND	ND	
AS-25	1		Cove Base, Beige	M	N	ND	ND	NA
	2		Adhesive, Off White/Yellow	M	N	ND	ND	
AS-26	1	Sunny's Cleaners Cleaning Area	3" Pipe Insulation, Yellow	T	N	ND	ND	NA
	2		Pipe Insulation Wrap, Off White/Silver	T	N	ND	ND	
AS-27	1	Sunnys Cleaners Upper East Roof	Sheet Roofing, Gray/Black	M	N	ND	ND	NA
	2		Sheet Roofing, Black	M	N	ND	ND	
AS-28	1	Sunny's Cleaners Lower West Roof	Built-up Roof Material, Black	M	N	ND	ND	NA
	2		Built-up Roof Material, Black	M	N	ND	ND	
AS-29	1	Bridging Boro	12"x12" Floor Tile, White/Gray	M	N	ND	ND	NA
	2		Mastic, Yellow	M	N	ND	ND	
AS-30	1		Drywall Texture, White/Gray	M	N	ND	ND	NA
AS-31	1		Drywall Ceiling, Lt. Pink/Brown	M	N	ND	ND	NA
	2		Fiber Mesh, White	M	N	ND	ND	
	3		Textured Ceiling, Off White/White	M	N	ND	ND	
AS-32	1		12"x12" Floor Tile, White	M	N	ND	ND	480
	2		Mastic, Black	M	N	2%	Chrysotile	
AS-33	1		12"x12" Floor Tile, Gray	M	N	ND	ND	
	2		Mastic, Black	M	N	3%	Chrysotile	
AS-34	1	Bridging Boro Lower North Roof	Built-up Roofing, Black	M	N	ND	ND	NA
	2		Built-up Roofing, Black	M	N	ND	ND	

TABLE 2
Summary of Suspect ACM Analytical Results[1]
Proposed 5020 N. Interstate Avenue Development
Portland, Oregon
December 29, 2015

Sample I.D.	Layer	Location	Homogenous Material Description	Material Category (S/T/M)	Friable (Y/N)	Asbestos	Type	Aproximate Quantity of ACM (square feet)
AS-35	1	Bridging Boro Upper South Roof	Built-up Roofing, Black	M	N	ND	ND	NA
	2		Built-up Roofing, Black	M	N	ND	ND	

Notes:
1. Polarized light microscopy performed by EMC Laboratories of Phoenix, Arizona.
M: miscellaneous materials
ND: Asbestos was not detected above 1 percent.
S: surfacing material
T: thermal system insulation

TABLE 3
Summary of LBP Survey Results
Proposed 5020 N. Interstate Development
Portland, Oregon
December 29, 2015

Reading Number	Component	Substrate	Side	Condition	Color	Area/Room I.D.	Result	Lead Concentration (mg/cm^2)
6	Wall	Wood	D	Intact	White	NA	Negative	< LOD
10	Wall	Drywall	A	Intact	White	NA	Negative	< LOD
11	Wall	Wood	B	Intact	Gray	J's Market-Kitchen	Negative	< LOD
12	Ceiling	Wood	Upper	Intact	White	J's Market-Kitchen	Positive	1.2
13	Wall	Wood	A	Cracked	White	J's Market-Kitchen	Negative	< LOD
14	Beam	Wood	D	Intact	White	J's Market-Kitchen	Negative	< LOD
15	Wall	Drywall	B	Intact	White	Apartment	Negative	< LOD
16	Ceiling	Plaster	Upper	Intact	White	Apartment	Negative	< LOD
17	Wall	Wood	A	Intact	Light Brown	J's Market - Exterior	Negative	< LOD
21	Wall	Brick	D	Intact	Light Brown	J's Market - Exterior	Negative	< LOD
25	Wall	Concrete	A	Intact	White	Sunnys Cleaner's	Negative	< LOD
26	Wall	Drywall	D	Intact	White	Sunnys Cleaner's	Negative	< LOD
27	Wall	Drywall	C	Intact	White	Sunnys Cleaner's	Negative	< LOD
28	Door	Wood	B	Intact	Blue	Sunnys Cleaner's	Negative	< LOD
29	Wall	Drywall	A	Intact	White	Sunnys Cleaner's	Negative	< LOD
30	Wall	Drywall	B	Intact	White	Sunnys Cleaner's	Negative	< LOD
31	Wall	Drywall	C	Intact	White	Sunnys Cleaner's	Negative	< LOD
32	Door	Wood	C	Intact	White	Sunnys Cleaner's	Negative	< LOD
33	Wall	Concrete	A	Intact	White	Sunnys Cleaner's	Negative	< LOD
34	Wall	Wood	D	Intact	White	Sunnys Cleaner's	Negative	< LOD
35	Wall	Wood	D	Intact	Light Brown	Apartment	Negative	< LOD

TABLE 3
Summary of LBP Survey Results
Proposed 5020 N. Interstate Development
Portland, Oregon
December 29, 2015

Reading Number	Component	Substrate	Side	Condition	Color	Area/Room I.D.	Result	Lead Concentration (mg/cm^2)
36	Wall	Concrete	D	Intact	Light Brown	Apartment	Negative	< LOD
37	Wall	Drywall	B	Intact	Gray	Bridging Boro North	Negative	< LOD
38	Wall	Drywall	A	Intact	White	Bridging Boro North	Negative	< LOD
39	Wall	Drywall	D	Intact	White	Bridging Boro North	Negative	< LOD
40	Wall	Wood	C	Intact	Light Brown	Bridging Boro Exterior	Positive	1.7
41	Wall	Brick	D	Intact	Light Brown	Bridging Boro Exterior	Negative	0.08
42	Wall	Wood	A	Intact	Light Brown	Bridging Boro Exterior	Negative	< LOD

Note:
< LOD: less than limit of detection
Shading indicates the presence of lead-based paint (lead concentrations exceeding 1 mg/cm^2).

APPENDIX A

APPENDIX A

CHEMICAL ANALYTICAL PROGRAM

GENERAL

Chain-of-custody procedures were followed during handling and transport of the soil vapor and sub-slab vapor samples to the analytical laboratory. The analytical results, analytical methods reference, and laboratory quality control records are presented in this appendix.

REVIEW OF ANALYTICAL DATA

The analytical laboratory maintains an internal quality assurance program consisting of a combination of the following:

Surrogate Recoveries: Surrogates are compounds that are similar in nature to the analytes of interest but are not normally found in nature, or expected to be found in the project samples. The surrogates are added to quality control and project samples prior to analysis. The percent recovery of the surrogate is calculated to demonstrate acceptable method performance.

Duplicates: Duplicates are obtained by splitting a sample into two parts. The two separate parts are carried through the analyses. The analytical results are then compared by calculating the RPD between the samples.

MS/MSD Recoveries: MS/MSD samples are representative but randomly chosen project samples that have known concentrations of analytes of interest added to the samples prior to sample preparation and analysis. They are processed along with the same unspiked project sample. The purpose of the MS/MSD is to document the accuracy and precision of the method for that specific sample. The analytical results for both samples are then compared for RPD and percent recovery to demonstrate acceptable method performance.

BS/BSD (Laboratory Control Spike/Laboratory Control Spike Duplicate) Recoveries: BS and BSD samples are obtained and analyzed in the same procedure as the MS/MSD samples; however, the laboratory blank sample is used to obtain the BS/BSD samples. The percent recovery and RPD of the known concentration of analyte of interest added to the BS/BSD sample is calculated after chemical analyses to demonstrate acceptable method performance.

CCVs: CCVs are completed to confirm acceptable calibration of the instruments during analysis of the project samples. In general, failure of the CCV indicates that the initial calibration is no longer valid and recalibration of the instrument and reanalysis of the project samples is necessary.

SUMMARY OF ANALYTICAL DATA REVIEW

GeoDesign reviewed the attached analytical data report for data quality exceptions and deviations from acceptable method performance criteria. Based on our review of the analytical reports, the analytical data appear acceptable for their intended use.

ANALYTICAL REPORT

January 06, 2016

GeoDesign Inc.

Sample Delivery Group:	L809399
Samples Received:	12/30/2015
Project Number:	GERDING-193-02
Description:	Gerding - 193-02

Report To:

Andrew Blake
15575 SW Sequoia Pkwy. Suite 100
Portland, OR 97224

Entire Report Reviewed By:

Jarred Willis
Technical Service Representative

SV-9 L809399-01 Air

Collected by	Collected date/time	Received date/time
	12/29/15 09:39	12/30/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG839652	2	01/03/16 05:42	01/03/16 05:42	MBF
Volatile Organic Compounds (MS) by Method TO-15	WG839733	25	01/04/16 15:29	01/04/16 15:29	MBF

SV-6 L809399-02 Air

Collected by	Collected date/time	Received date/time
	12/29/15 10:00	12/30/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG839652	2	01/03/16 06:29	01/03/16 06:29	MBF

SV-5 L809399-03 Air

Collected by	Collected date/time	Received date/time
	12/29/15 10:15	12/30/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG839652	2	01/03/16 07:16	01/03/16 07:16	MBF
Volatile Organic Compounds (MS) by Method TO-15	WG839733	25	01/04/16 16:19	01/04/16 16:19	MBF

SV-8 L809399-04 Air

Collected by	Collected date/time	Received date/time
	12/29/15 10:45	12/30/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG839733	2	01/04/16 17:11	01/04/16 17:11	MBF
Volatile Organic Compounds (MS) by Method TO-15	WG839942	20	01/05/16 14:48	01/05/16 14:48	MBF

SV-10 L809399-05 Air

Collected by	Collected date/time	Received date/time
	12/29/15 11:13	12/30/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG839733	2	01/04/16 18:02	01/04/16 18:02	MBF
Volatile Organic Compounds (MS) by Method TO-15	WG839942	20	01/05/16 15:38	01/05/16 15:38	MBF

SV-7 L809399-06 Air

Collected by	Collected date/time	Received date/time
	12/29/15 11:25	12/30/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG839733	2	01/04/16 18:54	01/04/16 18:54	MBF

SV-4 L809399-07 Air

Collected by	Collected date/time	Received date/time
	12/29/15 12:28	12/30/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG839733	2	01/04/16 19:46	01/04/16 19:46	MBF

SV-3 L809399-08 Air

Collected by	Collected date/time	Received date/time
	12/29/15 12:52	12/30/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG839733	2	01/04/16 20:38	01/04/16 20:38	MBF

SV-2 L809399-09 Air

Collected by	Collected date/time	Received date/time
	12/29/15 13:33	12/30/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG839733	2	01/04/16 21:29	01/04/16 21:29	MBF
Volatile Organic Compounds (MS) by Method TO-15	WG839942	25	01/05/16 16:27	01/05/16 16:27	MBF

SV-1 L809399-10 Air

Collected by	Collected date/time	Received date/time
	12/29/15 14:10	12/30/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG839733	2	01/04/16 22:20	01/04/16 22:20	MBF
Volatile Organic Compounds (MS) by Method TO-15	WG839942	25	01/05/16 17:17	01/05/16 17:17	MBF

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Jarred Willis
Technical Service Representative

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppb	RDL2 ug/m3	Result ppb	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	2.50	5.94	32.4	77.0		2	WG839652
Allyl chloride	107-05-1	76.53	0.400	1.25	ND	ND		2	WG839652
Benzene	71-43-2	78.10	0.400	1.28	17.8	56.7		2	WG839652
Benzyl Chloride	100-44-7	127	0.400	2.08	ND	ND		2	WG839652
Bromodichloromethane	75-27-4	164	0.400	2.68	ND	ND		2	WG839652
Bromoform	75-25-2	253	1.20	12.4	ND	ND		2	WG839652
Bromomethane	74-83-9	94.90	0.400	1.55	ND	ND		2	WG839652
1,3-Butadiene	106-99-0	54.10	4.00	8.85	23.6	52.3		2	WG839652
Carbon disulfide	75-15-0	76.10	0.400	1.24	7.35	22.9		2	WG839652
Carbon tetrachloride	56-23-5	154	0.400	2.52	ND	ND		2	WG839652
Chlorobenzene	108-90-7	113	0.400	1.85	ND	ND		2	WG839652
Chloroethane	75-00-3	64.50	0.400	1.06	ND	ND		2	WG839652
Chloroform	67-66-3	119	0.400	1.95	ND	ND		2	WG839652
Chloromethane	74-87-3	50.50	0.400	0.826	1.21	2.50		2	WG839652
2-Chlorotoluene	95-49-8	126	0.400	2.06	ND	ND		2	WG839652
Cyclohexane	110-82-7	84.20	0.400	1.38	1.06	3.65		2	WG839652
Dibromochloromethane	124-48-1	208	0.400	3.40	ND	ND		2	WG839652
1,2-Dibromoethane	106-93-4	188	0.400	3.08	ND	ND		2	WG839652
1,2-Dichlorobenzene	95-50-1	147	0.400	2.40	ND	ND	J4	2	WG839652
1,3-Dichlorobenzene	541-73-1	147	0.400	2.40	ND	ND	J4	2	WG839652
1,4-Dichlorobenzene	106-46-7	147	0.400	2.40	ND	ND	J4	2	WG839652
1,2-Dichloroethane	107-06-2	99	0.400	1.62	ND	ND		2	WG839652
1,1-Dichloroethane	75-34-3	98	0.400	1.60	ND	ND		2	WG839652
1,1-Dichloroethene	75-35-4	96.90	0.400	1.59	ND	ND		2	WG839652
cis-1,2-Dichloroethene	156-59-2	96.90	0.400	1.59	ND	ND		2	WG839652
trans-1,2-Dichloroethene	156-60-5	96.90	0.400	1.59	ND	ND		2	WG839652
1,2-Dichloropropane	78-87-5	113	0.400	1.85	ND	ND		2	WG839652
cis-1,3-Dichloropropene	10061-01-5	111	0.400	1.82	ND	ND		2	WG839652
trans-1,3-Dichloropropene	10061-02-6	111	0.400	1.82	ND	ND		2	WG839652
1,4-Dioxane	123-91-1	88.10	0.400	1.44	ND	ND		2	WG839652
Ethanol	64-17-5	46.10	1.26	2.38	9.48	17.9		2	WG839652
Ethylbenzene	100-41-4	106	0.400	1.73	3.98	17.3		2	WG839652
4-Ethyltoluene	622-96-8	120	0.400	1.96	1.44	7.06		2	WG839652
Trichlorofluoromethane	75-69-4	137.40	0.400	2.25	ND	ND		2	WG839652
Dichlorodifluoromethane	75-71-8	120.92	0.400	1.98	0.520	2.57		2	WG839652
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.400	3.07	ND	ND		2	WG839652
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.400	2.80	ND	ND		2	WG839652
Heptane	142-82-5	100	0.400	1.64	7.57	31.0		2	WG839652
Hexachloro-1,3-butadiene	87-68-3	261	1.26	13.5	ND	ND		2	WG839652
n-Hexane	110-54-3	86.20	0.400	1.41	10.6	37.4		2	WG839652
Isopropylbenzene	98-82-8	120.20	0.400	1.97	ND	ND		2	WG839652
Methylene Chloride	75-09-2	84.90	0.400	1.39	ND	ND		2	WG839652
Methyl Butyl Ketone	591-78-6	100	2.50	10.2	ND	ND		2	WG839652
2-Butanone (MEK)	78-93-3	72.10	2.50	7.37	9.46	27.9		2	WG839652
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	2.50	10.2	3.10	12.7		2	WG839652
Methyl methacrylate	80-62-6	100.12	0.400	1.64	ND	ND		2	WG839652
MTBE	1634-04-4	88.10	0.400	1.44	ND	ND		2	WG839652
Naphthalene	91-20-3	128	1.26	6.60	ND	ND		2	WG839652
2-Propanol	67-63-0	60.10	2.50	6.15	17.3	42.5		2	WG839652
Propene	115-07-1	42.10	10.0	17.2	589	1010		25	WG839733
Styrene	100-42-5	104	0.400	1.70	1.65	7.02		2	WG839652
1,1,2,2-Tetrachloroethane	79-34-5	168	0.400	2.75	ND	ND		2	WG839652
Tetrachloroethylene	127-18-4	166	0.400	2.72	17.5	119		2	WG839652
Tetrahydrofuran	109-99-9	72.10	0.400	1.18	ND	ND		2	WG839652
Toluene	108-88-3	92.10	0.400	1.51	19.9	74.8		2	WG839652
1,2,4-Trichlorobenzene	120-82-1	181	1.26	9.33	ND	ND		2	WG839652

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppb	RDL2 ug/m3	Result ppb	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.400	2.18	ND	ND		2	WG839652
1,1,2-Trichloroethane	79-00-5	133	0.400	2.18	ND	ND		2	WG839652
Trichloroethylene	79-01-6	131	0.400	2.14	ND	ND		2	WG839652
1,2,4-Trimethylbenzene	95-63-6	120	0.400	1.96	5.02	24.6		2	WG839652
1,3,5-Trimethylbenzene	108-67-8	120	0.400	1.96	1.34	6.56		2	WG839652
2,2,4-Trimethylpentane	540-84-1	114.22	0.400	1.87	ND	ND		2	WG839652
Vinyl chloride	75-01-4	62.50	0.400	1.02	0.800	2.05		2	WG839652
Vinyl Bromide	593-60-2	106.95	0.400	1.75	ND	ND		2	WG839652
Vinyl acetate	108-05-4	86.10	0.400	1.41	ND	ND		2	WG839652
m&p-Xylene	1330-20-7	106	0.800	3.47	14.7	63.9		2	WG839652
o-Xylene	95-47-6	106	0.400	1.73	5.01	21.7		2	WG839652
TPH (GC/MS) Low Fraction	8006-61-9	101	100	413	489	2020		2	WG839652
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*93.5*				WG839652

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppb	RDL2 ug/m3	Result ppb	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	2.50	5.94	13.8	32.8		2	WG839652
Allyl chloride	107-05-1	76.53	0.400	1.25	ND	ND		2	WG839652
Benzene	71-43-2	78.10	0.400	1.28	5.44	17.4		2	WG839652
Benzyl Chloride	100-44-7	127	0.400	2.08	ND	ND		2	WG839652
Bromodichloromethane	75-27-4	164	0.400	2.68	ND	ND		2	WG839652
Bromoform	75-25-2	253	1.20	12.4	ND	ND		2	WG839652
Bromomethane	74-83-9	94.90	0.400	1.55	ND	ND		2	WG839652
1,3-Butadiene	106-99-0	54.10	4.00	8.85	8.26	18.3		2	WG839652
Carbon disulfide	75-15-0	76.10	0.400	1.24	3.16	9.84		2	WG839652
Carbon tetrachloride	56-23-5	154	0.400	2.52	ND	ND		2	WG839652
Chlorobenzene	108-90-7	113	0.400	1.85	ND	ND		2	WG839652
Chloroethane	75-00-3	64.50	0.400	1.06	ND	ND		2	WG839652
Chloroform	67-66-3	119	0.400	1.95	ND	ND		2	WG839652
Chloromethane	74-87-3	50.50	0.400	0.826	ND	ND		2	WG839652
2-Chlorotoluene	95-49-8	126	0.400	2.06	ND	ND		2	WG839652
Cyclohexane	110-82-7	84.20	0.400	1.38	ND	ND		2	WG839652
Dibromochloromethane	124-48-1	208	0.400	3.40	ND	ND		2	WG839652
1,2-Dibromoethane	106-93-4	188	0.400	3.08	ND	ND		2	WG839652
1,2-Dichlorobenzene	95-50-1	147	0.400	2.40	ND	ND	J4	2	WG839652
1,3-Dichlorobenzene	541-73-1	147	0.400	2.40	ND	ND	J4	2	WG839652
1,4-Dichlorobenzene	106-46-7	147	0.400	2.40	ND	ND	J4	2	WG839652
1,2-Dichloroethane	107-06-2	99	0.400	1.62	ND	ND		2	WG839652
1,1-Dichloroethane	75-34-3	98	0.400	1.60	ND	ND		2	WG839652
1,1-Dichloroethene	75-35-4	96.90	0.400	1.59	ND	ND		2	WG839652
cis-1,2-Dichloroethene	156-59-2	96.90	0.400	1.59	ND	ND		2	WG839652
trans-1,2-Dichloroethene	156-60-5	96.90	0.400	1.59	ND	ND		2	WG839652
1,2-Dichloropropane	78-87-5	113	0.400	1.85	ND	ND		2	WG839652
cis-1,3-Dichloropropene	10061-01-5	111	0.400	1.82	ND	ND		2	WG839652
trans-1,3-Dichloropropene	10061-02-6	111	0.400	1.82	ND	ND		2	WG839652
1,4-Dioxane	123-91-1	88.10	0.400	1.44	ND	ND		2	WG839652
Ethanol	64-17-5	46.10	1.26	2.38	5.69	10.7		2	WG839652
Ethylbenzene	100-41-4	106	0.400	1.73	1.90	8.25		2	WG839652
4-Ethyltoluene	622-96-8	120	0.400	1.96	0.828	4.06		2	WG839652
Trichlorofluoromethane	75-69-4	137.40	0.400	2.25	ND	ND		2	WG839652
Dichlorodifluoromethane	75-71-8	120.92	0.400	1.98	0.491	2.43		2	WG839652
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.400	3.07	ND	ND		2	WG839652
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.400	2.80	ND	ND		2	WG839652
Heptane	142-82-5	100	0.400	1.64	1.29	5.29		2	WG839652
Hexachloro-1,3-butadiene	87-68-3	261	1.26	13.5	ND	ND		2	WG839652
n-Hexane	110-54-3	86.20	0.400	1.41	2.42	8.54		2	WG839652
Isopropylbenzene	98-82-8	120.20	0.400	1.97	ND	ND		2	WG839652
Methylene Chloride	75-09-2	84.90	0.400	1.39	ND	ND		2	WG839652
Methyl Butyl Ketone	591-78-6	100	2.50	10.2	ND	ND		2	WG839652
2-Butanone (MEK)	78-93-3	72.10	2.50	7.37	2.83	8.34		2	WG839652
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	2.50	10.2	ND	ND		2	WG839652
Methyl methacrylate	80-62-6	100.12	0.400	1.64	ND	ND		2	WG839652
MTBE	1634-04-4	88.10	0.400	1.44	ND	ND		2	WG839652
Naphthalene	91-20-3	128	1.26	6.60	ND	ND		2	WG839652
2-Propanol	67-63-0	60.10	2.50	6.15	14.4	35.5		2	WG839652
Propene	115-07-1	42.10	0.800	1.38	72.9	126		2	WG839652
Styrene	100-42-5	104	0.400	1.70	0.481	2.05		2	WG839652
1,1,2,2-Tetrachloroethane	79-34-5	168	0.400	2.75	ND	ND		2	WG839652
Tetrachloroethylene	127-18-4	166	0.400	2.72	20.3	138		2	WG839652
Tetrahydrofuran	109-99-9	72.10	0.400	1.18	ND	ND		2	WG839652
Toluene	108-88-3	92.10	0.400	1.51	8.10	30.5		2	WG839652
1,2,4-Trichlorobenzene	120-82-1	181	1.26	9.33	ND	ND		2	WG839652

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppb	RDL2 ug/m3	Result ppb	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.400	2.18	ND	ND		2	WG839652
1,1,2-Trichloroethane	79-00-5	133	0.400	2.18	ND	ND		2	WG839652
Trichloroethylene	79-01-6	131	0.400	2.14	ND	ND		2	WG839652
1,2,4-Trimethylbenzene	95-63-6	120	0.400	1.96	3.05	15.0		2	WG839652
1,3,5-Trimethylbenzene	108-67-8	120	0.400	1.96	0.997	4.89		2	WG839652
2,2,4-Trimethylpentane	540-84-1	114.22	0.400	1.87	ND	ND		2	WG839652
Vinyl chloride	75-01-4	62.50	0.400	1.02	0.592	1.51		2	WG839652
Vinyl Bromide	593-60-2	106.95	0.400	1.75	ND	ND		2	WG839652
Vinyl acetate	108-05-4	86.10	0.400	1.41	ND	ND		2	WG839652
m&p-Xylene	1330-20-7	106	0.800	3.47	7.84	34.0		2	WG839652
o-Xylene	95-47-6	106	0.400	1.73	2.75	11.9		2	WG839652
TPH (GC/MS) Low Fraction	8006-61-9	101	100	413	184	761		2	WG839652
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*93.6*				WG839652

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppb	RDL2 ug/m3	Result ppb	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	2.50	5.94	15.2	36.1		2	WG839652
Allyl chloride	107-05-1	76.53	0.400	1.25	ND	ND		2	WG839652
Benzene	71-43-2	78.10	0.400	1.28	6.13	19.6		2	WG839652
Benzyl Chloride	100-44-7	127	0.400	2.08	ND	ND		2	WG839652
Bromodichloromethane	75-27-4	164	0.400	2.68	ND	ND		2	WG839652
Bromoform	75-25-2	253	1.20	12.4	ND	ND		2	WG839652
Bromomethane	74-83-9	94.90	0.400	1.55	ND	ND		2	WG839652
1,3-Butadiene	106-99-0	54.10	4.00	8.85	5.03	11.1		2	WG839652
Carbon disulfide	75-15-0	76.10	0.400	1.24	7.55	23.5		2	WG839652
Carbon tetrachloride	56-23-5	154	0.400	2.52	ND	ND		2	WG839652
Chlorobenzene	108-90-7	113	0.400	1.85	ND	ND		2	WG839652
Chloroethane	75-00-3	64.50	0.400	1.06	ND	ND		2	WG839652
Chloroform	67-66-3	119	0.400	1.95	0.487	2.37		2	WG839652
Chloromethane	74-87-3	50.50	0.400	0.826	ND	ND		2	WG839652
2-Chlorotoluene	95-49-8	126	0.400	2.06	ND	ND		2	WG839652
Cyclohexane	110-82-7	84.20	0.400	1.38	0.640	2.20		2	WG839652
Dibromochloromethane	124-48-1	208	0.400	3.40	ND	ND		2	WG839652
1,2-Dibromoethane	106-93-4	188	0.400	3.08	ND	ND		2	WG839652
1,2-Dichlorobenzene	95-50-1	147	0.400	2.40	ND	ND	J4	2	WG839652
1,3-Dichlorobenzene	541-73-1	147	0.400	2.40	ND	ND	J4	2	WG839652
1,4-Dichlorobenzene	106-46-7	147	0.400	2.40	ND	ND	J4	2	WG839652
1,2-Dichloroethane	107-06-2	99	0.400	1.62	ND	ND		2	WG839652
1,1-Dichloroethane	75-34-3	98	0.400	1.60	ND	ND		2	WG839652
1,1-Dichloroethene	75-35-4	96.90	0.400	1.59	ND	ND		2	WG839652
cis-1,2-Dichloroethene	156-59-2	96.90	0.400	1.59	ND	ND		2	WG839652
trans-1,2-Dichloroethene	156-60-5	96.90	0.400	1.59	ND	ND		2	WG839652
1,2-Dichloropropane	78-87-5	113	0.400	1.85	ND	ND		2	WG839652
cis-1,3-Dichloropropene	10061-01-5	111	0.400	1.82	ND	ND		2	WG839652
trans-1,3-Dichloropropene	10061-02-6	111	0.400	1.82	ND	ND		2	WG839652
1,4-Dioxane	123-91-1	88.10	0.400	1.44	ND	ND		2	WG839652
Ethanol	64-17-5	46.10	1.26	2.38	18.6	35.1		2	WG839652
Ethylbenzene	100-41-4	106	0.400	1.73	3.00	13.0		2	WG839652
4-Ethyltoluene	622-96-8	120	0.400	1.96	1.87	9.17		2	WG839652
Trichlorofluoromethane	75-69-4	137.40	0.400	2.25	ND	ND		2	WG839652
Dichlorodifluoromethane	75-71-8	120.92	0.400	1.98	0.496	2.45		2	WG839652
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.400	3.07	ND	ND		2	WG839652
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.400	2.80	ND	ND		2	WG839652
Heptane	142-82-5	100	0.400	1.64	2.30	9.40		2	WG839652
Hexachloro-1,3-butadiene	87-68-3	261	1.26	13.5	ND	ND		2	WG839652
n-Hexane	110-54-3	86.20	0.400	1.41	3.65	12.9		2	WG839652
Isopropylbenzene	98-82-8	120.20	0.400	1.97	ND	ND		2	WG839652
Methylene Chloride	75-09-2	84.90	0.400	1.39	ND	ND		2	WG839652
Methyl Butyl Ketone	591-78-6	100	2.50	10.2	ND	ND		2	WG839652
2-Butanone (MEK)	78-93-3	72.10	2.50	7.37	3.47	10.2		2	WG839652
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	2.50	10.2	ND	ND		2	WG839652
Methyl methacrylate	80-62-6	100.12	0.400	1.64	ND	ND		2	WG839652
MTBE	1634-04-4	88.10	0.400	1.44	ND	ND		2	WG839652
Naphthalene	91-20-3	128	1.26	6.60	ND	ND		2	WG839652
2-Propanol	67-63-0	60.10	2.50	6.15	13.9	34.2		2	WG839652
Propene	115-07-1	42.10	0.800	1.38	41.7	71.8		2	WG839652
Styrene	100-42-5	104	0.400	1.70	0.736	3.13		2	WG839652
1,1,2,2-Tetrachloroethane	79-34-5	168	0.400	2.75	ND	ND		2	WG839652
Tetrachloroethylene	127-18-4	166	5.00	33.9	271	1840		25	WG839733
Tetrahydrofuran	109-99-9	72.10	0.400	1.18	ND	ND		2	WG839652
Toluene	108-88-3	92.10	0.400	1.51	13.6	51.4		2	WG839652
1,2,4-Trichlorobenzene	120-82-1	181	1.26	9.33	ND	ND		2	WG839652

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppb	RDL2 ug/m3	Result ppb	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.400	2.18	ND	ND		2	WG839652
1,1,2-Trichloroethane	79-00-5	133	0.400	2.18	ND	ND		2	WG839652
Trichloroethylene	79-01-6	131	0.400	2.14	ND	ND		2	WG839652
1,2,4-Trimethylbenzene	95-63-6	120	0.400	1.96	7.67	37.7		2	WG839652
1,3,5-Trimethylbenzene	108-67-8	120	0.400	1.96	2.31	11.3		2	WG839652
2,2,4-Trimethylpentane	540-84-1	114.22	0.400	1.87	ND	ND		2	WG839652
Vinyl chloride	75-01-4	62.50	0.400	1.02	ND	ND		2	WG839652
Vinyl Bromide	593-60-2	106.95	0.400	1.75	ND	ND		2	WG839652
Vinyl acetate	108-05-4	86.10	0.400	1.41	ND	ND		2	WG839652
m&p-Xylene	1330-20-7	106	0.800	3.47	15.3	66.3		2	WG839652
o-Xylene	95-47-6	106	0.400	1.73	6.09	26.4		2	WG839652
TPH (GC/MS) Low Fraction	8006-61-9	101	100	413	406	1680		2	WG839652
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*92.5*				WG839652

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppb	RDL2 ug/m3	Result ppb	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	2.50	5.94	12.9	30.6		2	WG839733
Allyl chloride	107-05-1	76.53	0.400	1.25	ND	ND		2	WG839733
Benzene	71-43-2	78.10	0.400	1.28	2.75	8.79		2	WG839733
Benzyl Chloride	100-44-7	127	0.400	2.08	ND	ND		2	WG839733
Bromodichloromethane	75-27-4	164	0.400	2.68	ND	ND		2	WG839733
Bromoform	75-25-2	253	1.20	12.4	ND	ND		2	WG839733
Bromomethane	74-83-9	94.90	0.400	1.55	ND	ND		2	WG839733
1,3-Butadiene	106-99-0	54.10	4.00	8.85	9.29	20.6		2	WG839733
Carbon disulfide	75-15-0	76.10	0.400	1.24	2.95	9.17		2	WG839733
Carbon tetrachloride	56-23-5	154	0.400	2.52	ND	ND		2	WG839733
Chlorobenzene	108-90-7	113	0.400	1.85	ND	ND		2	WG839733
Chloroethane	75-00-3	64.50	0.400	1.06	ND	ND		2	WG839733
Chloroform	67-66-3	119	0.400	1.95	0.818	3.98		2	WG839733
Chloromethane	74-87-3	50.50	0.400	0.826	ND	ND		2	WG839733
2-Chlorotoluene	95-49-8	126	0.400	2.06	ND	ND		2	WG839733
Cyclohexane	110-82-7	84.20	0.400	1.38	ND	ND		2	WG839733
Dibromochloromethane	124-48-1	208	0.400	3.40	ND	ND		2	WG839733
1,2-Dibromoethane	106-93-4	188	0.400	3.08	ND	ND		2	WG839733
1,2-Dichlorobenzene	95-50-1	147	0.400	2.40	ND	ND		2	WG839733
1,3-Dichlorobenzene	541-73-1	147	0.400	2.40	ND	ND		2	WG839733
1,4-Dichlorobenzene	106-46-7	147	0.400	2.40	ND	ND		2	WG839733
1,2-Dichloroethane	107-06-2	99	0.400	1.62	ND	ND		2	WG839733
1,1-Dichloroethane	75-34-3	98	0.400	1.60	ND	ND		2	WG839733
1,1-Dichloroethene	75-35-4	96.90	0.400	1.59	ND	ND		2	WG839733
cis-1,2-Dichloroethene	156-59-2	96.90	0.400	1.59	ND	ND		2	WG839733
trans-1,2-Dichloroethene	156-60-5	96.90	0.400	1.59	ND	ND		2	WG839733
1,2-Dichloropropane	78-87-5	113	0.400	1.85	ND	ND		2	WG839733
cis-1,3-Dichloropropene	10061-01-5	111	0.400	1.82	ND	ND		2	WG839733
trans-1,3-Dichloropropene	10061-02-6	111	0.400	1.82	ND	ND		2	WG839733
1,4-Dioxane	123-91-1	88.10	0.400	1.44	ND	ND		2	WG839733
Ethanol	64-17-5	46.10	1.26	2.38	13.3	25.2		2	WG839733
Ethylbenzene	100-41-4	106	0.400	1.73	1.43	6.20		2	WG839733
4-Ethyltoluene	622-96-8	120	0.400	1.96	0.584	2.86		2	WG839733
Trichlorofluoromethane	75-69-4	137.40	0.400	2.25	ND	ND		2	WG839733
Dichlorodifluoromethane	75-71-8	120.92	0.400	1.98	0.699	3.46		2	WG839733
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.400	3.07	ND	ND		2	WG839733
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.400	2.80	ND	ND		2	WG839733
Heptane	142-82-5	100	0.400	1.64	1.74	7.11		2	WG839733
Hexachloro-1,3-butadiene	87-68-3	261	1.26	13.5	ND	ND		2	WG839733
n-Hexane	110-54-3	86.20	0.400	1.41	2.93	10.3		2	WG839733
Isopropylbenzene	98-82-8	120.20	0.400	1.97	ND	ND		2	WG839733
Methylene Chloride	75-09-2	84.90	0.400	1.39	ND	ND		2	WG839733
Methyl Butyl Ketone	591-78-6	100	2.50	10.2	ND	ND		2	WG839733
2-Butanone (MEK)	78-93-3	72.10	2.50	7.37	2.76	8.14		2	WG839733
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	2.50	10.2	ND	ND		2	WG839733
Methyl methacrylate	80-62-6	100.12	0.400	1.64	ND	ND		2	WG839733
MTBE	1634-04-4	88.10	0.400	1.44	ND	ND		2	WG839733
Naphthalene	91-20-3	128	1.26	6.60	ND	ND		2	WG839733
2-Propanol	67-63-0	60.10	2.50	6.15	55.1	135		2	WG839733
Propene	115-07-1	42.10	8.00	13.8	141	242		20	WG839942
Styrene	100-42-5	104	0.400	1.70	0.441	1.88		2	WG839733
1,1,2,2-Tetrachloroethane	79-34-5	168	0.400	2.75	ND	ND		2	WG839733
Tetrachloroethylene	127-18-4	166	4.00	27.2	263	1790		20	WG839942
Tetrahydrofuran	109-99-9	72.10	0.400	1.18	ND	ND		2	WG839733
Toluene	108-88-3	92.10	0.400	1.51	7.66	28.9		2	WG839733
1,2,4-Trichlorobenzene	120-82-1	181	1.26	9.33	ND	ND		2	WG839733

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppb	RDL2 ug/m3	Result ppb	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.400	2.18	ND	ND		2	WG839733
1,1,2-Trichloroethane	79-00-5	133	0.400	2.18	ND	ND		2	WG839733
Trichloroethylene	79-01-6	131	0.400	2.14	ND	ND		2	WG839733
1,2,4-Trimethylbenzene	95-63-6	120	0.400	1.96	2.29	11.2		2	WG839733
1,3,5-Trimethylbenzene	108-67-8	120	0.400	1.96	0.619	3.04		2	WG839733
2,2,4-Trimethylpentane	540-84-1	114.22	0.400	1.87	ND	ND		2	WG839733
Vinyl chloride	75-01-4	62.50	0.400	1.02	ND	ND		2	WG839733
Vinyl Bromide	593-60-2	106.95	0.400	1.75	ND	ND		2	WG839733
Vinyl acetate	108-05-4	86.10	0.400	1.41	ND	ND		2	WG839733
m&p-Xylene	1330-20-7	106	0.800	3.47	5.82	25.2		2	WG839733
o-Xylene	95-47-6	106	0.400	1.73	2.10	9.12		2	WG839733
TPH (GC/MS) Low Fraction	8006-61-9	101	100	413	411	1700		2	WG839733
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*102*				WG839733

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppb	RDL2 ug/m3	Result ppb	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	2.50	5.94	26.8	63.7		2	WG839733
Allyl chloride	107-05-1	76.53	0.400	1.25	ND	ND		2	WG839733
Benzene	71-43-2	78.10	0.400	1.28	4.92	15.7		2	WG839733
Benzyl Chloride	100-44-7	127	0.400	2.08	ND	ND		2	WG839733
Bromodichloromethane	75-27-4	164	0.400	2.68	ND	ND		2	WG839733
Bromoform	75-25-2	253	1.20	12.4	ND	ND		2	WG839733
Bromomethane	74-83-9	94.90	0.400	1.55	ND	ND		2	WG839733
1,3-Butadiene	106-99-0	54.10	4.00	8.85	19.6	43.4		2	WG839733
Carbon disulfide	75-15-0	76.10	0.400	1.24	5.55	17.3		2	WG839733
Carbon tetrachloride	56-23-5	154	0.400	2.52	ND	ND		2	WG839733
Chlorobenzene	108-90-7	113	0.400	1.85	ND	ND		2	WG839733
Chloroethane	75-00-3	64.50	0.400	1.06	ND	ND		2	WG839733
Chloroform	67-66-3	119	0.400	1.95	ND	ND		2	WG839733
Chloromethane	74-87-3	50.50	0.400	0.826	ND	ND		2	WG839733
2-Chlorotoluene	95-49-8	126	0.400	2.06	ND	ND		2	WG839733
Cyclohexane	110-82-7	84.20	0.400	1.38	0.504	1.73		2	WG839733
Dibromochloromethane	124-48-1	208	0.400	3.40	ND	ND		2	WG839733
1,2-Dibromoethane	106-93-4	188	0.400	3.08	ND	ND		2	WG839733
1,2-Dichlorobenzene	95-50-1	147	0.400	2.40	ND	ND		2	WG839733
1,3-Dichlorobenzene	541-73-1	147	0.400	2.40	ND	ND		2	WG839733
1,4-Dichlorobenzene	106-46-7	147	0.400	2.40	ND	ND		2	WG839733
1,2-Dichloroethane	107-06-2	99	0.400	1.62	ND	ND		2	WG839733
1,1-Dichloroethane	75-34-3	98	0.400	1.60	ND	ND		2	WG839733
1,1-Dichloroethene	75-35-4	96.90	0.400	1.59	ND	ND		2	WG839733
cis-1,2-Dichloroethene	156-59-2	96.90	0.400	1.59	ND	ND		2	WG839733
trans-1,2-Dichloroethene	156-60-5	96.90	0.400	1.59	ND	ND		2	WG839733
1,2-Dichloropropane	78-87-5	113	0.400	1.85	ND	ND		2	WG839733
cis-1,3-Dichloropropene	10061-01-5	111	0.400	1.82	ND	ND		2	WG839733
trans-1,3-Dichloropropene	10061-02-6	111	0.400	1.82	ND	ND		2	WG839733
1,4-Dioxane	123-91-1	88.10	0.400	1.44	ND	ND		2	WG839733
Ethanol	64-17-5	46.10	1.26	2.38	4.90	9.23		2	WG839733
Ethylbenzene	100-41-4	106	0.400	1.73	0.979	4.24		2	WG839733
4-Ethyltoluene	622-96-8	120	0.400	1.96	0.454	2.23		2	WG839733
Trichlorofluoromethane	75-69-4	137.40	0.400	2.25	ND	ND		2	WG839733
Dichlorodifluoromethane	75-71-8	120.92	0.400	1.98	0.777	3.84		2	WG839733
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.400	3.07	ND	ND		2	WG839733
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.400	2.80	ND	ND		2	WG839733
Heptane	142-82-5	100	0.400	1.64	2.24	9.16		2	WG839733
Hexachloro-1,3-butadiene	87-68-3	261	1.26	13.5	ND	ND		2	WG839733
n-Hexane	110-54-3	86.20	0.400	1.41	5.72	20.1		2	WG839733
Isopropylbenzene	98-82-8	120.20	0.400	1.97	ND	ND		2	WG839733
Methylene Chloride	75-09-2	84.90	0.400	1.39	ND	ND		2	WG839733
Methyl Butyl Ketone	591-78-6	100	2.50	10.2	ND	ND		2	WG839733
2-Butanone (MEK)	78-93-3	72.10	2.50	7.37	5.68	16.8		2	WG839733
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	2.50	10.2	ND	ND		2	WG839733
Methyl methacrylate	80-62-6	100.12	0.400	1.64	ND	ND		2	WG839733
MTBE	1634-04-4	88.10	0.400	1.44	ND	ND		2	WG839733
Naphthalene	91-20-3	128	1.26	6.60	ND	ND		2	WG839733
2-Propanol	67-63-0	60.10	2.50	6.15	29.6	72.7		2	WG839733
Propene	115-07-1	42.10	8.00	13.8	334	575		20	WG839942
Styrene	100-42-5	104	0.400	1.70	ND	ND		2	WG839733
1,1,2,2-Tetrachloroethane	79-34-5	168	0.400	2.75	ND	ND		2	WG839733
Tetrachloroethylene	127-18-4	166	4.00	27.2	140	952		20	WG839942
Tetrahydrofuran	109-99-9	72.10	0.400	1.18	ND	ND		2	WG839733
Toluene	108-88-3	92.10	0.400	1.51	6.01	22.6		2	WG839733
1,2,4-Trichlorobenzene	120-82-1	181	1.26	9.33	ND	ND		2	WG839733

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppb	RDL2 ug/m3	Result ppb	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.400	2.18	ND	ND		2	WG839733
1,1,2-Trichloroethane	79-00-5	133	0.400	2.18	ND	ND		2	WG839733
Trichloroethylene	79-01-6	131	0.400	2.14	ND	ND		2	WG839733
1,2,4-Trimethylbenzene	95-63-6	120	0.400	1.96	1.59	7.81		2	WG839733
1,3,5-Trimethylbenzene	108-67-8	120	0.400	1.96	0.418	2.05		2	WG839733
2,2,4-Trimethylpentane	540-84-1	114.22	0.400	1.87	ND	ND		2	WG839733
Vinyl chloride	75-01-4	62.50	0.400	1.02	ND	ND		2	WG839733
Vinyl Bromide	593-60-2	106.95	0.400	1.75	ND	ND		2	WG839733
Vinyl acetate	108-05-4	86.10	0.400	1.41	ND	ND		2	WG839733
m&p-Xylene	1330-20-7	106	0.800	3.47	4.10	17.8		2	WG839733
o-Xylene	95-47-6	106	0.400	1.73	1.53	6.63		2	WG839733
TPH (GC/MS) Low Fraction	8006-61-9	101	100	413	297	1230		2	WG839733
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*103*				WG839733

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppb	RDL2 ug/m3	Result ppb	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	2.50	5.94	20.2	48.0		2	WG839733
Allyl chloride	107-05-1	76.53	0.400	1.25	ND	ND		2	WG839733
Benzene	71-43-2	78.10	0.400	1.28	1.56	4.97		2	WG839733
Benzyl Chloride	100-44-7	127	0.400	2.08	ND	ND		2	WG839733
Bromodichloromethane	75-27-4	164	0.400	2.68	ND	ND		2	WG839733
Bromoform	75-25-2	253	1.20	12.4	ND	ND		2	WG839733
Bromomethane	74-83-9	94.90	0.400	1.55	ND	ND		2	WG839733
1,3-Butadiene	106-99-0	54.10	4.00	8.85	ND	ND		2	WG839733
Carbon disulfide	75-15-0	76.10	0.400	1.24	1.17	3.65		2	WG839733
Carbon tetrachloride	56-23-5	154	0.400	2.52	ND	ND		2	WG839733
Chlorobenzene	108-90-7	113	0.400	1.85	ND	ND		2	WG839733
Chloroethane	75-00-3	64.50	0.400	1.06	ND	ND		2	WG839733
Chloroform	67-66-3	119	0.400	1.95	ND	ND		2	WG839733
Chloromethane	74-87-3	50.50	0.400	0.826	ND	ND		2	WG839733
2-Chlorotoluene	95-49-8	126	0.400	2.06	ND	ND		2	WG839733
Cyclohexane	110-82-7	84.20	0.400	1.38	ND	ND		2	WG839733
Dibromochloromethane	124-48-1	208	0.400	3.40	ND	ND		2	WG839733
1,2-Dibromoethane	106-93-4	188	0.400	3.08	ND	ND		2	WG839733
1,2-Dichlorobenzene	95-50-1	147	0.400	2.40	ND	ND		2	WG839733
1,3-Dichlorobenzene	541-73-1	147	0.400	2.40	ND	ND		2	WG839733
1,4-Dichlorobenzene	106-46-7	147	0.400	2.40	ND	ND		2	WG839733
1,2-Dichloroethane	107-06-2	99	0.400	1.62	ND	ND		2	WG839733
1,1-Dichloroethane	75-34-3	98	0.400	1.60	ND	ND		2	WG839733
1,1-Dichloroethene	75-35-4	96.90	0.400	1.59	ND	ND		2	WG839733
cis-1,2-Dichloroethene	156-59-2	96.90	0.400	1.59	ND	ND		2	WG839733
trans-1,2-Dichloroethene	156-60-5	96.90	0.400	1.59	ND	ND		2	WG839733
1,2-Dichloropropane	78-87-5	113	0.400	1.85	ND	ND		2	WG839733
cis-1,3-Dichloropropene	10061-01-5	111	0.400	1.82	ND	ND		2	WG839733
trans-1,3-Dichloropropene	10061-02-6	111	0.400	1.82	ND	ND		2	WG839733
1,4-Dioxane	123-91-1	88.10	0.400	1.44	ND	ND		2	WG839733
Ethanol	64-17-5	46.10	1.26	2.38	11.4	21.6		2	WG839733
Ethylbenzene	100-41-4	106	0.400	1.73	0.425	1.84		2	WG839733
4-Ethyltoluene	622-96-8	120	0.400	1.96	ND	ND		2	WG839733
Trichlorofluoromethane	75-69-4	137.40	0.400	2.25	ND	ND		2	WG839733
Dichlorodifluoromethane	75-71-8	120.92	0.400	1.98	0.652	3.22		2	WG839733
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.400	3.07	ND	ND		2	WG839733
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.400	2.80	ND	ND		2	WG839733
Heptane	142-82-5	100	0.400	1.64	ND	ND		2	WG839733
Hexachloro-1,3-butadiene	87-68-3	261	1.26	13.5	ND	ND		2	WG839733
n-Hexane	110-54-3	86.20	0.400	1.41	0.656	2.31		2	WG839733
Isopropylbenzene	98-82-8	120.20	0.400	1.97	ND	ND		2	WG839733
Methylene Chloride	75-09-2	84.90	0.400	1.39	ND	ND		2	WG839733
Methyl Butyl Ketone	591-78-6	100	2.50	10.2	ND	ND		2	WG839733
2-Butanone (MEK)	78-93-3	72.10	2.50	7.37	5.35	15.8		2	WG839733
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	2.50	10.2	ND	ND		2	WG839733
Methyl methacrylate	80-62-6	100.12	0.400	1.64	ND	ND		2	WG839733
MTBE	1634-04-4	88.10	0.400	1.44	ND	ND		2	WG839733
Naphthalene	91-20-3	128	1.26	6.60	ND	ND		2	WG839733
2-Propanol	67-63-0	60.10	2.50	6.15	33.7	82.7		2	WG839733
Propene	115-07-1	42.10	0.800	1.38	16.5	28.3		2	WG839733
Styrene	100-42-5	104	0.400	1.70	ND	ND		2	WG839733
1,1,2,2-Tetrachloroethane	79-34-5	168	0.400	2.75	ND	ND		2	WG839733
Tetrachloroethylene	127-18-4	166	0.400	2.72	37.9	258		2	WG839733
Tetrahydrofuran	109-99-9	72.10	0.400	1.18	ND	ND		2	WG839733
Toluene	108-88-3	92.10	0.400	1.51	2.08	7.85		2	WG839733
1,2,4-Trichlorobenzene	120-82-1	181	1.26	9.33	ND	ND		2	WG839733

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppb	RDL2 ug/m3	Result ppb	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.400	2.18	ND	ND		2	WG839733
1,1,2-Trichloroethane	79-00-5	133	0.400	2.18	ND	ND		2	WG839733
Trichloroethylene	79-01-6	131	0.400	2.14	ND	ND		2	WG839733
1,2,4-Trimethylbenzene	95-63-6	120	0.400	1.96	1.10	5.41		2	WG839733
1,3,5-Trimethylbenzene	108-67-8	120	0.400	1.96	ND	ND		2	WG839733
2,2,4-Trimethylpentane	540-84-1	114.22	0.400	1.87	ND	ND		2	WG839733
Vinyl chloride	75-01-4	62.50	0.400	1.02	ND	ND		2	WG839733
Vinyl Bromide	593-60-2	106.95	0.400	1.75	ND	ND		2	WG839733
Vinyl acetate	108-05-4	86.10	0.400	1.41	ND	ND		2	WG839733
m&p-Xylene	1330-20-7	106	0.800	3.47	1.60	6.92		2	WG839733
o-Xylene	95-47-6	106	0.400	1.73	0.671	2.91		2	WG839733
TPH (GC/MS) Low Fraction	8006-61-9	101	100	413	178	735		2	WG839733
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*102*				WG839733

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppb	RDL2 ug/m3	Result ppb	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	2.50	5.94	60.9	145		2	WG839733
Allyl chloride	107-05-1	76.53	0.400	1.25	ND	ND		2	WG839733
Benzene	71-43-2	78.10	0.400	1.28	1.96	6.26		2	WG839733
Benzyl Chloride	100-44-7	127	0.400	2.08	ND	ND		2	WG839733
Bromodichloromethane	75-27-4	164	0.400	2.68	ND	ND		2	WG839733
Bromoform	75-25-2	253	1.20	12.4	ND	ND		2	WG839733
Bromomethane	74-83-9	94.90	0.400	1.55	ND	ND		2	WG839733
1,3-Butadiene	106-99-0	54.10	4.00	8.85	4.50	9.97		2	WG839733
Carbon disulfide	75-15-0	76.10	0.400	1.24	ND	ND		2	WG839733
Carbon tetrachloride	56-23-5	154	0.400	2.52	ND	ND		2	WG839733
Chlorobenzene	108-90-7	113	0.400	1.85	ND	ND		2	WG839733
Chloroethane	75-00-3	64.50	0.400	1.06	ND	ND		2	WG839733
Chloroform	67-66-3	119	0.400	1.95	ND	ND		2	WG839733
Chloromethane	74-87-3	50.50	0.400	0.826	ND	ND		2	WG839733
2-Chlorotoluene	95-49-8	126	0.400	2.06	ND	ND		2	WG839733
Cyclohexane	110-82-7	84.20	0.400	1.38	ND	ND		2	WG839733
Dibromochloromethane	124-48-1	208	0.400	3.40	ND	ND		2	WG839733
1,2-Dibromoethane	106-93-4	188	0.400	3.08	ND	ND		2	WG839733
1,2-Dichlorobenzene	95-50-1	147	0.400	2.40	ND	ND		2	WG839733
1,3-Dichlorobenzene	541-73-1	147	0.400	2.40	ND	ND		2	WG839733
1,4-Dichlorobenzene	106-46-7	147	0.400	2.40	ND	ND		2	WG839733
1,2-Dichloroethane	107-06-2	99	0.400	1.62	ND	ND		2	WG839733
1,1-Dichloroethane	75-34-3	98	0.400	1.60	ND	ND		2	WG839733
1,1-Dichloroethene	75-35-4	96.90	0.400	1.59	ND	ND		2	WG839733
cis-1,2-Dichloroethene	156-59-2	96.90	0.400	1.59	ND	ND		2	WG839733
trans-1,2-Dichloroethene	156-60-5	96.90	0.400	1.59	ND	ND		2	WG839733
1,2-Dichloropropane	78-87-5	113	0.400	1.85	ND	ND		2	WG839733
cis-1,3-Dichloropropene	10061-01-5	111	0.400	1.82	ND	ND		2	WG839733
trans-1,3-Dichloropropene	10061-02-6	111	0.400	1.82	ND	ND		2	WG839733
1,4-Dioxane	123-91-1	88.10	0.400	1.44	ND	ND		2	WG839733
Ethanol	64-17-5	46.10	1.26	2.38	14.2	26.9		2	WG839733
Ethylbenzene	100-41-4	106	0.400	1.73	0.469	2.03		2	WG839733
4-Ethyltoluene	622-96-8	120	0.400	1.96	ND	ND		2	WG839733
Trichlorofluoromethane	75-69-4	137.40	0.400	2.25	ND	ND		2	WG839733
Dichlorodifluoromethane	75-71-8	120.92	0.400	1.98	1.75	8.65		2	WG839733
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.400	3.07	ND	ND		2	WG839733
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.400	2.80	ND	ND		2	WG839733
Heptane	142-82-5	100	0.400	1.64	0.985	4.03		2	WG839733
Hexachloro-1,3-butadiene	87-68-3	261	1.26	13.5	ND	ND		2	WG839733
n-Hexane	110-54-3	86.20	0.400	1.41	0.551	1.94		2	WG839733
Isopropylbenzene	98-82-8	120.20	0.400	1.97	0.724	3.56		2	WG839733
Methylene Chloride	75-09-2	84.90	0.400	1.39	ND	ND		2	WG839733
Methyl Butyl Ketone	591-78-6	100	2.50	10.2	ND	ND		2	WG839733
2-Butanone (MEK)	78-93-3	72.10	2.50	7.37	10.0	29.5		2	WG839733
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	2.50	10.2	ND	ND		2	WG839733
Methyl methacrylate	80-62-6	100.12	0.400	1.64	ND	ND		2	WG839733
MTBE	1634-04-4	88.10	0.400	1.44	ND	ND		2	WG839733
Naphthalene	91-20-3	128	1.26	6.60	ND	ND		2	WG839733
2-Propanol	67-63-0	60.10	2.50	6.15	162	399	E	2	WG839733
Propene	115-07-1	42.10	0.800	1.38	11.2	19.2		2	WG839733
Styrene	100-42-5	104	0.400	1.70	1.68	7.15		2	WG839733
1,1,2,2-Tetrachloroethane	79-34-5	168	0.400	2.75	ND	ND		2	WG839733
Tetrachloroethylene	127-18-4	166	0.400	2.72	26.2	178		2	WG839733
Tetrahydrofuran	109-99-9	72.10	0.400	1.18	ND	ND		2	WG839733
Toluene	108-88-3	92.10	0.400	1.51	4.10	15.5		2	WG839733
1,2,4-Trichlorobenzene	120-82-1	181	1.26	9.33	ND	ND		2	WG839733

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppb	RDL2 ug/m3	Result ppb	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.400	2.18	ND	ND		2	WG839733
1,1,2-Trichloroethane	79-00-5	133	0.400	2.18	ND	ND		2	WG839733
Trichloroethylene	79-01-6	131	0.400	2.14	ND	ND		2	WG839733
1,2,4-Trimethylbenzene	95-63-6	120	0.400	1.96	ND	ND		2	WG839733
1,3,5-Trimethylbenzene	108-67-8	120	0.400	1.96	ND	ND		2	WG839733
2,2,4-Trimethylpentane	540-84-1	114.22	0.400	1.87	ND	ND		2	WG839733
Vinyl chloride	75-01-4	62.50	0.400	1.02	ND	ND		2	WG839733
Vinyl Bromide	593-60-2	106.95	0.400	1.75	ND	ND		2	WG839733
Vinyl acetate	108-05-4	86.10	0.400	1.41	ND	ND		2	WG839733
m&p-Xylene	1330-20-7	106	0.800	3.47	ND	ND		2	WG839733
o-Xylene	95-47-6	106	0.400	1.73	ND	ND		2	WG839733
TPH (GC/MS) Low Fraction	8006-61-9	101	100	413	ND	ND		2	WG839733
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*98.8*				WG839733

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppb	RDL2 ug/m3	Result ppb	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	2.50	5.94	38.3	90.9		2	WG839733
Allyl chloride	107-05-1	76.53	0.400	1.25	ND	ND		2	WG839733
Benzene	71-43-2	78.10	0.400	1.28	2.79	8.90		2	WG839733
Benzyl Chloride	100-44-7	127	0.400	2.08	ND	ND		2	WG839733
Bromodichloromethane	75-27-4	164	0.400	2.68	ND	ND		2	WG839733
Bromoform	75-25-2	253	1.20	12.4	ND	ND		2	WG839733
Bromomethane	74-83-9	94.90	0.400	1.55	ND	ND		2	WG839733
1,3-Butadiene	106-99-0	54.10	4.00	8.85	ND	ND		2	WG839733
Carbon disulfide	75-15-0	76.10	0.400	1.24	2.57	8.01		2	WG839733
Carbon tetrachloride	56-23-5	154	0.400	2.52	ND	ND		2	WG839733
Chlorobenzene	108-90-7	113	0.400	1.85	ND	ND		2	WG839733
Chloroethane	75-00-3	64.50	0.400	1.06	ND	ND		2	WG839733
Chloroform	67-66-3	119	0.400	1.95	ND	ND		2	WG839733
Chloromethane	74-87-3	50.50	0.400	0.826	ND	ND		2	WG839733
2-Chlorotoluene	95-49-8	126	0.400	2.06	ND	ND		2	WG839733
Cyclohexane	110-82-7	84.20	0.400	1.38	ND	ND		2	WG839733
Dibromochloromethane	124-48-1	208	0.400	3.40	ND	ND		2	WG839733
1,2-Dibromoethane	106-93-4	188	0.400	3.08	ND	ND		2	WG839733
1,2-Dichlorobenzene	95-50-1	147	0.400	2.40	ND	ND		2	WG839733
1,3-Dichlorobenzene	541-73-1	147	0.400	2.40	ND	ND		2	WG839733
1,4-Dichlorobenzene	106-46-7	147	0.400	2.40	ND	ND		2	WG839733
1,2-Dichloroethane	107-06-2	99	0.400	1.62	ND	ND		2	WG839733
1,1-Dichloroethane	75-34-3	98	0.400	1.60	ND	ND		2	WG839733
1,1-Dichloroethene	75-35-4	96.90	0.400	1.59	ND	ND		2	WG839733
cis-1,2-Dichloroethene	156-59-2	96.90	0.400	1.59	ND	ND		2	WG839733
trans-1,2-Dichloroethene	156-60-5	96.90	0.400	1.59	ND	ND		2	WG839733
1,2-Dichloropropane	78-87-5	113	0.400	1.85	ND	ND		2	WG839733
cis-1,3-Dichloropropene	10061-01-5	111	0.400	1.82	ND	ND		2	WG839733
trans-1,3-Dichloropropene	10061-02-6	111	0.400	1.82	ND	ND		2	WG839733
1,4-Dioxane	123-91-1	88.10	0.400	1.44	ND	ND		2	WG839733
Ethanol	64-17-5	46.10	1.26	2.38	23.5	44.2		2	WG839733
Ethylbenzene	100-41-4	106	0.400	1.73	ND	ND		2	WG839733
4-Ethyltoluene	622-96-8	120	0.400	1.96	ND	ND		2	WG839733
Trichlorofluoromethane	75-69-4	137.40	0.400	2.25	ND	ND		2	WG839733
Dichlorodifluoromethane	75-71-8	120.92	0.400	1.98	0.673	3.33		2	WG839733
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.400	3.07	ND	ND		2	WG839733
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.400	2.80	ND	ND		2	WG839733
Heptane	142-82-5	100	0.400	1.64	1.07	4.36		2	WG839733
Hexachloro-1,3-butadiene	87-68-3	261	1.26	13.5	ND	ND		2	WG839733
n-Hexane	110-54-3	86.20	0.400	1.41	1.51	5.33		2	WG839733
Isopropylbenzene	98-82-8	120.20	0.400	1.97	ND	ND		2	WG839733
Methylene Chloride	75-09-2	84.90	0.400	1.39	ND	ND		2	WG839733
Methyl Butyl Ketone	591-78-6	100	2.50	10.2	ND	ND		2	WG839733
2-Butanone (MEK)	78-93-3	72.10	2.50	7.37	5.04	14.9		2	WG839733
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	2.50	10.2	ND	ND		2	WG839733
Methyl methacrylate	80-62-6	100.12	0.400	1.64	ND	ND		2	WG839733
MTBE	1634-04-4	88.10	0.400	1.44	ND	ND		2	WG839733
Naphthalene	91-20-3	128	1.26	6.60	ND	ND		2	WG839733
2-Propanol	67-63-0	60.10	2.50	6.15	236	581	E	2	WG839733
Propene	115-07-1	42.10	0.800	1.38	37.6	64.7		2	WG839733
Styrene	100-42-5	104	0.400	1.70	ND	ND		2	WG839733
1,1,2,2-Tetrachloroethane	79-34-5	168	0.400	2.75	ND	ND		2	WG839733
Tetrachloroethylene	127-18-4	166	0.400	2.72	38.8	264		2	WG839733
Tetrahydrofuran	109-99-9	72.10	0.400	1.18	ND	ND		2	WG839733
Toluene	108-88-3	92.10	0.400	1.51	3.21	12.1		2	WG839733
1,2,4-Trichlorobenzene	120-82-1	181	1.26	9.33	ND	ND		2	WG839733

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppb	RDL2 ug/m3	Result ppb	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.400	2.18	ND	ND		2	WG839733
1,1,2-Trichloroethane	79-00-5	133	0.400	2.18	ND	ND		2	WG839733
Trichloroethylene	79-01-6	131	0.400	2.14	0.424	2.27		2	WG839733
1,2,4-Trimethylbenzene	95-63-6	120	0.400	1.96	ND	ND		2	WG839733
1,3,5-Trimethylbenzene	108-67-8	120	0.400	1.96	ND	ND		2	WG839733
2,2,4-Trimethylpentane	540-84-1	114.22	0.400	1.87	ND	ND		2	WG839733
Vinyl chloride	75-01-4	62.50	0.400	1.02	ND	ND		2	WG839733
Vinyl Bromide	593-60-2	106.95	0.400	1.75	ND	ND		2	WG839733
Vinyl acetate	108-05-4	86.10	0.400	1.41	ND	ND		2	WG839733
m&p-Xylene	1330-20-7	106	0.800	3.47	ND	ND		2	WG839733
o-Xylene	95-47-6	106	0.400	1.73	ND	ND		2	WG839733
TPH (GC/MS) Low Fraction	8006-61-9	101	100	413	ND	ND		2	WG839733
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*100*				WG839733

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppb	RDL2 ug/m3	Result ppb	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	2.50	5.94	48.7	116		2	WG839733
Allyl chloride	107-05-1	76.53	0.400	1.25	ND	ND		2	WG839733
Benzene	71-43-2	78.10	0.400	1.28	19.0	60.7		2	WG839733
Benzyl Chloride	100-44-7	127	0.400	2.08	ND	ND		2	WG839733
Bromodichloromethane	75-27-4	164	0.400	2.68	ND	ND		2	WG839733
Bromoform	75-25-2	253	1.20	12.4	ND	ND		2	WG839733
Bromomethane	74-83-9	94.90	0.400	1.55	ND	ND		2	WG839733
1,3-Butadiene	106-99-0	54.10	4.00	8.85	11.8	26.2		2	WG839733
Carbon disulfide	75-15-0	76.10	0.400	1.24	ND	ND		2	WG839733
Carbon tetrachloride	56-23-5	154	0.400	2.52	ND	ND		2	WG839733
Chlorobenzene	108-90-7	113	0.400	1.85	ND	ND		2	WG839733
Chloroethane	75-00-3	64.50	0.400	1.06	ND	ND		2	WG839733
Chloroform	67-66-3	119	0.400	1.95	0.457	2.22		2	WG839733
Chloromethane	74-87-3	50.50	0.400	0.826	ND	ND		2	WG839733
2-Chlorotoluene	95-49-8	126	0.400	2.06	ND	ND		2	WG839733
Cyclohexane	110-82-7	84.20	0.400	1.38	0.590	2.03		2	WG839733
Dibromochloromethane	124-48-1	208	0.400	3.40	ND	ND		2	WG839733
1,2-Dibromoethane	106-93-4	188	0.400	3.08	ND	ND		2	WG839733
1,2-Dichlorobenzene	95-50-1	147	0.400	2.40	ND	ND		2	WG839733
1,3-Dichlorobenzene	541-73-1	147	0.400	2.40	ND	ND		2	WG839733
1,4-Dichlorobenzene	106-46-7	147	0.400	2.40	ND	ND		2	WG839733
1,2-Dichloroethane	107-06-2	99	0.400	1.62	ND	ND		2	WG839733
1,1-Dichloroethane	75-34-3	98	0.400	1.60	ND	ND		2	WG839733
1,1-Dichloroethene	75-35-4	96.90	0.400	1.59	ND	ND		2	WG839733
cis-1,2-Dichloroethene	156-59-2	96.90	0.400	1.59	ND	ND		2	WG839733
trans-1,2-Dichloroethene	156-60-5	96.90	0.400	1.59	ND	ND		2	WG839733
1,2-Dichloropropane	78-87-5	113	0.400	1.85	ND	ND		2	WG839733
cis-1,3-Dichloropropene	10061-01-5	111	0.400	1.82	ND	ND		2	WG839733
trans-1,3-Dichloropropene	10061-02-6	111	0.400	1.82	ND	ND		2	WG839733
1,4-Dioxane	123-91-1	88.10	0.400	1.44	ND	ND		2	WG839733
Ethanol	64-17-5	46.10	1.26	2.38	15.4	29.1		2	WG839733
Ethylbenzene	100-41-4	106	0.400	1.73	3.68	16.0		2	WG839733
4-Ethyltoluene	622-96-8	120	0.400	1.96	1.17	5.76		2	WG839733
Trichlorofluoromethane	75-69-4	137.40	0.400	2.25	ND	ND		2	WG839733
Dichlorodifluoromethane	75-71-8	120.92	0.400	1.98	0.535	2.64		2	WG839733
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.400	3.07	ND	ND		2	WG839733
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.400	2.80	ND	ND		2	WG839733
Heptane	142-82-5	100	0.400	1.64	3.11	12.7		2	WG839733
Hexachloro-1,3-butadiene	87-68-3	261	1.26	13.5	ND	ND		2	WG839733
n-Hexane	110-54-3	86.20	0.400	1.41	3.78	13.3		2	WG839733
Isopropylbenzene	98-82-8	120.20	0.400	1.97	0.492	2.42		2	WG839733
Methylene Chloride	75-09-2	84.90	0.400	1.39	ND	ND		2	WG839733
Methyl Butyl Ketone	591-78-6	100	2.50	10.2	ND	ND		2	WG839733
2-Butanone (MEK)	78-93-3	72.10	2.50	7.37	11.7	34.4		2	WG839733
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	2.50	10.2	ND	ND		2	WG839733
Methyl methacrylate	80-62-6	100.12	0.400	1.64	ND	ND		2	WG839733
MTBE	1634-04-4	88.10	0.400	1.44	ND	ND		2	WG839733
Naphthalene	91-20-3	128	1.26	6.60	2.72	14.2		2	WG839733
2-Propanol	67-63-0	60.10	2.50	6.15	18.0	44.2		2	WG839733
Propene	115-07-1	42.10	0.800	1.38	56.7	97.7		2	WG839733
Styrene	100-42-5	104	0.400	1.70	3.93	16.7		2	WG839733
1,1,2,2-Tetrachloroethane	79-34-5	168	0.400	2.75	ND	ND		2	WG839733
Tetrachloroethylene	127-18-4	166	5.00	33.9	692	4700		25	WG839942
Tetrahydrofuran	109-99-9	72.10	0.400	1.18	ND	ND		2	WG839733
Toluene	108-88-3	92.10	0.400	1.51	21.1	79.4		2	WG839733
1,2,4-Trichlorobenzene	120-82-1	181	1.26	9.33	ND	ND		2	WG839733

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppb	RDL2 ug/m3	Result ppb	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.400	2.18	ND	ND		2	WG839733
1,1,2-Trichloroethane	79-00-5	133	0.400	2.18	ND	ND		2	WG839733
Trichloroethylene	79-01-6	131	0.400	2.14	5.19	27.8		2	WG839733
1,2,4-Trimethylbenzene	95-63-6	120	0.400	1.96	7.41	36.4		2	WG839733
1,3,5-Trimethylbenzene	108-67-8	120	0.400	1.96	2.43	11.9		2	WG839733
2,2,4-Trimethylpentane	540-84-1	114.22	0.400	1.87	ND	ND		2	WG839733
Vinyl chloride	75-01-4	62.50	0.400	1.02	ND	ND		2	WG839733
Vinyl Bromide	593-60-2	106.95	0.400	1.75	ND	ND		2	WG839733
Vinyl acetate	108-05-4	86.10	0.400	1.41	ND	ND		2	WG839733
m&p-Xylene	1330-20-7	106	0.800	3.47	6.78	29.4		2	WG839733
o-Xylene	95-47-6	106	0.400	1.73	3.41	14.8		2	WG839733
TPH (GC/MS) Low Fraction	8006-61-9	101	100	413	796	3290		2	WG839733
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*106*				WG839733

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppb	RDL2 ug/m3	Result ppb	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	31.2	74.1	432	1030		25	WG839942
Allyl chloride	107-05-1	76.53	0.400	1.25	ND	ND		2	WG839733
Benzene	71-43-2	78.10	0.400	1.28	0.956	3.05		2	WG839733
Benzyl Chloride	100-44-7	127	0.400	2.08	ND	ND		2	WG839733
Bromodichloromethane	75-27-4	164	0.400	2.68	ND	ND		2	WG839733
Bromoform	75-25-2	253	1.20	12.4	ND	ND		2	WG839733
Bromomethane	74-83-9	94.90	0.400	1.55	ND	ND		2	WG839733
1,3-Butadiene	106-99-0	54.10	4.00	8.85	ND	ND		2	WG839733
Carbon disulfide	75-15-0	76.10	0.400	1.24	ND	ND		2	WG839733
Carbon tetrachloride	56-23-5	154	0.400	2.52	ND	ND		2	WG839733
Chlorobenzene	108-90-7	113	0.400	1.85	ND	ND		2	WG839733
Chloroethane	75-00-3	64.50	0.400	1.06	ND	ND		2	WG839733
Chloroform	67-66-3	119	0.400	1.95	ND	ND		2	WG839733
Chloromethane	74-87-3	50.50	0.400	0.826	ND	ND		2	WG839733
2-Chlorotoluene	95-49-8	126	0.400	2.06	ND	ND		2	WG839733
Cyclohexane	110-82-7	84.20	0.400	1.38	ND	ND		2	WG839733
Dibromochloromethane	124-48-1	208	0.400	3.40	ND	ND		2	WG839733
1,2-Dibromoethane	106-93-4	188	0.400	3.08	ND	ND		2	WG839733
1,2-Dichlorobenzene	95-50-1	147	0.400	2.40	ND	ND		2	WG839733
1,3-Dichlorobenzene	541-73-1	147	0.400	2.40	ND	ND		2	WG839733
1,4-Dichlorobenzene	106-46-7	147	0.400	2.40	ND	ND		2	WG839733
1,2-Dichloroethane	107-06-2	99	0.400	1.62	ND	ND		2	WG839733
1,1-Dichloroethane	75-34-3	98	0.400	1.60	ND	ND		2	WG839733
1,1-Dichloroethene	75-35-4	96.90	0.400	1.59	ND	ND		2	WG839733
cis-1,2-Dichloroethene	156-59-2	96.90	0.400	1.59	ND	ND		2	WG839733
trans-1,2-Dichloroethene	156-60-5	96.90	0.400	1.59	ND	ND		2	WG839733
1,2-Dichloropropane	78-87-5	113	0.400	1.85	ND	ND		2	WG839733
cis-1,3-Dichloropropene	10061-01-5	111	0.400	1.82	ND	ND		2	WG839733
trans-1,3-Dichloropropene	10061-02-6	111	0.400	1.82	ND	ND		2	WG839733
1,4-Dioxane	123-91-1	88.10	0.400	1.44	ND	ND		2	WG839733
Ethanol	64-17-5	46.10	15.8	29.8	157	295		25	WG839942
Ethylbenzene	100-41-4	106	0.400	1.73	ND	ND		2	WG839733
4-Ethyltoluene	622-96-8	120	0.400	1.96	ND	ND		2	WG839733
Trichlorofluoromethane	75-69-4	137.40	0.400	2.25	ND	ND		2	WG839733
Dichlorodifluoromethane	75-71-8	120.92	0.400	1.98	0.636	3.15		2	WG839733
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.400	3.07	ND	ND		2	WG839733
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.400	2.80	ND	ND		2	WG839733
Heptane	142-82-5	100	0.400	1.64	0.400	1.64		2	WG839733
Hexachloro-1,3-butadiene	87-68-3	261	1.26	13.5	ND	ND		2	WG839733
n-Hexane	110-54-3	86.20	0.400	1.41	0.921	3.25		2	WG839733
Isopropylbenzene	98-82-8	120.20	0.400	1.97	0.415	2.04		2	WG839733
Methylene Chloride	75-09-2	84.90	0.400	1.39	ND	ND		2	WG839733
Methyl Butyl Ketone	591-78-6	100	2.50	10.2	ND	ND		2	WG839733
2-Butanone (MEK)	78-93-3	72.10	2.50	7.37	7.73	22.8		2	WG839733
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	2.50	10.2	3.72	15.2		2	WG839733
Methyl methacrylate	80-62-6	100.12	0.400	1.64	ND	ND		2	WG839733
MTBE	1634-04-4	88.10	0.400	1.44	ND	ND		2	WG839733
Naphthalene	91-20-3	128	1.26	6.60	ND	ND		2	WG839733
2-Propanol	67-63-0	60.10	2.50	6.15	37.8	92.9		2	WG839733
Propene	115-07-1	42.10	0.800	1.38	9.61	16.5		2	WG839733
Styrene	100-42-5	104	0.400	1.70	ND	ND		2	WG839733
1,1,2,2-Tetrachloroethane	79-34-5	168	0.400	2.75	ND	ND		2	WG839733
Tetrachloroethylene	127-18-4	166	5.00	33.9	199	1350		25	WG839942
Tetrahydrofuran	109-99-9	72.10	0.400	1.18	ND	ND		2	WG839733
Toluene	108-88-3	92.10	0.400	1.51	4.19	15.8		2	WG839733
1,2,4-Trichlorobenzene	120-82-1	181	1.26	9.33	ND	ND		2	WG839733

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppb	RDL2 ug/m3	Result ppb	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.400	2.18	ND	ND		2	WG839733
1,1,2-Trichloroethane	79-00-5	133	0.400	2.18	ND	ND		2	WG839733
Trichloroethylene	79-01-6	131	0.400	2.14	0.863	4.63		2	WG839733
1,2,4-Trimethylbenzene	95-63-6	120	0.400	1.96	1.68	8.24		2	WG839733
1,3,5-Trimethylbenzene	108-67-8	120	0.400	1.96	0.634	3.11		2	WG839733
2,2,4-Trimethylpentane	540-84-1	114.22	0.400	1.87	ND	ND		2	WG839733
Vinyl chloride	75-01-4	62.50	0.400	1.02	ND	ND		2	WG839733
Vinyl Bromide	593-60-2	106.95	0.400	1.75	ND	ND		2	WG839733
Vinyl acetate	108-05-4	86.10	0.400	1.41	ND	ND		2	WG839733
m&p-Xylene	1330-20-7	106	0.800	3.47	ND	ND		2	WG839733
o-Xylene	95-47-6	106	0.400	1.73	0.417	1.81		2	WG839733
TPH (GC/MS) Low Fraction	8006-61-9	101	100	413	552	2280		2	WG839733
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*98.3*				WG839733

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Method Blank (MB)

(MB) 01/02/16 15:20

Analyte	MB Result ppb	MB Qualifier	MB RDL ppb
Acetone	ND		1.25
Allyl Chloride	ND		0.200
Benzene	ND		0.200
Benzyl Chloride	ND		0.200
Bromodichloromethane	ND		0.200
Bromoform	ND		0.600
Bromomethane	ND		0.200
1,3-Butadiene	ND		2.00
Carbon disulfide	ND		0.200
Carbon tetrachloride	ND		0.200
Chlorobenzene	ND		0.200
Chloroethane	ND		0.200
Chloroform	ND		0.200
Chloromethane	ND		0.200
2-Chlorotoluene	ND		0.200
Cyclohexane	ND		0.200
Dibromochloromethane	ND		0.200
1,2-Dibromoethane	ND		0.200
1,2-Dichlorobenzene	ND		0.200
1,3-Dichlorobenzene	ND		0.200
1,4-Dichlorobenzene	ND		0.200
1,2-Dichloroethane	ND		0.200
1,1-Dichloroethane	ND		0.200
1,1-Dichloroethene	ND		0.200
cis-1,2-Dichloroethene	ND		0.200
trans-1,2-Dichloroethene	ND		0.200
1,2-Dichloropropane	ND		0.200
cis-1,3-Dichloropropene	ND		0.200
trans-1,3-Dichloropropene	ND		0.200
1,4-Dioxane	ND		0.200
Ethylbenzene	ND		0.200
4-Ethyltoluene	ND		0.200
Trichlorofluoromethane	ND		0.200
Dichlorodifluoromethane	ND		0.200
1,1,2-Trichlorotrifluoroethane	ND		0.200
1,2-Dichlorotetrafluoroethane	ND		0.200

Method Blank (MB)

(MB) 01/02/16 15:20

Analyte	MB Result	MB Qualifier	MB RDL
	ppb		ppb
Heptane	ND		0.200
Hexachloro-1,3-butadiene	ND		0.630
n-Hexane	ND		0.200
Isopropylbenzene	ND		0.200
Methylene Chloride	ND		0.200
Methyl Butyl Ketone	ND		1.25
2-Butanone (MEK)	ND		1.25
4-Methyl-2-pentanone (MIBK)	ND		1.25
Methyl Methacrylate	ND		0.200
MTBE	ND		0.200
Naphthalene	ND		0.630
2-Propanol	ND		1.25
Propene	ND		0.400
Styrene	ND		0.200
1,1,2,2-Tetrachloroethane	ND		0.200
Tetrachloroethylene	ND		0.200
Tetrahydrofuran	ND		0.200
Toluene	ND		0.200
1,2,4-Trichlorobenzene	ND		0.630
1,1,1-Trichloroethane	ND		0.200
1,1,2-Trichloroethane	ND		0.200
Trichloroethylene	ND		0.200
1,2,4-Trimethylbenzene	ND		0.200
1,3,5-Trimethylbenzene	ND		0.200
2,2,4-Trimethylpentane	ND		0.200
Vinyl chloride	ND		0.200
Vinyl Bromide	ND		0.200
Vinyl acetate	ND		0.200
m&p-Xylene	ND		0.400
o-Xylene	ND		0.200
Ethanol	ND		0.630
TPH (GC/MS) Low Fraction	ND		50.0
(S) 1,4-Bromofluorobenzene	*92.6*		*60.0-140*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 01/02/16 13:48 • (LCSD) 01/02/16 14:34

Analyte	Spike Amount ppb	LCS Result ppb	LCSD Result ppb	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Ethanol	3.75	3.71	3.45	99.0	92.0	34.3-167			7.34	25
Propene	3.75	3.58	3.30	95.3	88.1	53.9-143			7.87	25
Dichlorodifluoromethane	3.75	4.40	4.13	117	110	56.7-140			6.29	25
1,2-Dichlorotetrafluoroethane	3.75	4.24	4.09	113	109	70.0-130			3.55	25
Chloromethane	3.75	3.72	3.57	99.3	95.1	70.0-130			4.33	25
Vinyl chloride	3.75	3.97	3.74	106	99.6	70.0-130			6.11	25
1,3-Butadiene	3.75	3.61	3.42	96.2	91.1	70.0-130			5.50	25
Bromomethane	3.75	4.27	4.13	114	110	70.0-130			3.28	25
Chloroethane	3.75	3.96	3.79	105	101	70.0-130			4.39	25
Trichlorofluoromethane	3.75	4.34	4.16	116	111	70.0-130			4.40	25
1,1,2-Trichlorotrifluoroethane	3.75	4.48	4.29	119	114	70.0-130			4.37	25
1,1-Dichloroethene	3.75	4.09	3.91	109	104	70.0-130			4.60	25
1,1-Dichloroethane	3.75	3.99	3.86	106	103	70.0-130			3.37	25
Acetone	3.75	3.80	3.66	101	97.5	70.0-130			3.80	25
2-Propanol	3.75	3.88	3.73	103	99.4	50.4-152			3.92	25
Carbon disulfide	3.75	4.27	4.06	114	108	70.0-130			4.93	25
Methylene Chloride	3.75	3.51	3.31	93.6	88.3	70.0-130			5.86	25
MTBE	3.75	4.19	4.09	112	109	70.0-130			2.48	25
trans-1,2-Dichloroethene	3.75	4.15	3.97	111	106	70.0-130			4.47	25
n-Hexane	3.75	4.03	3.84	108	102	70.0-130			4.86	25
Vinyl acetate	3.75	3.84	3.77	103	101	70.0-130			1.98	25
Methyl Ethyl Ketone	3.75	4.07	4.00	108	107	70.0-130			1.57	25
cis-1,2-Dichloroethene	3.75	4.04	3.86	108	103	70.0-130			4.44	25
Chloroform	3.75	4.21	4.10	112	109	70.0-130			2.56	25
Cyclohexane	3.75	4.30	4.15	115	111	70.0-130			3.43	25
1,1,1-Trichloroethane	3.75	4.32	4.19	115	112	70.0-130			3.09	25
Carbon tetrachloride	3.75	4.38	4.21	117	112	70.0-130			3.99	25
Benzene	3.75	4.32	4.25	115	113	70.0-130			1.57	25
1,2-Dichloroethane	3.75	4.03	3.96	107	106	70.0-130			1.61	25
Heptane	3.75	3.74	3.66	99.7	97.6	70.0-130			2.16	25
Trichloroethylene	3.75	4.45	4.31	119	115	70.0-130			3.07	25
1,2-Dichloropropane	3.75	4.13	4.02	110	107	70.0-130			2.74	25
1,4-Dioxane	3.75	4.37	4.17	117	111	48.0-156			4.59	25
Bromodichloromethane	3.75	4.30	4.19	115	112	70.0-130			2.61	25
cis-1,3-Dichloropropene	3.75	4.34	4.33	116	115	70.0-130			0.320	25
4-Methyl-2-pentanone (MIBK)	3.75	3.62	3.45	96.5	92.1	55.3-154			4.73	25

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 01/02/16 13:48 • (LCSD) 01/02/16 14:34

Analyte	Spike Amount ppb	LCS Result ppb	LCSD Result ppb	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Toluene	3.75	4.56	4.45	122	119	70.0-130			2.51	25
trans-1,3-Dichloropropene	3.75	4.42	4.30	118	115	70.0-130			2.67	25
1,1,2-Trichloroethane	3.75	4.53	4.40	121	117	70.0-130			3.05	25
Tetrachloroethylene	3.75	4.86	4.77	130	127	70.0-130			1.98	25
Methyl Butyl Ketone	3.75	3.74	3.63	99.7	96.9	47.9-165			2.89	25
Dibromochloromethane	3.75	4.67	4.53	124	121	70.0-130			2.90	25
1,2-Dibromoethane	3.75	4.61	4.51	123	120	70.0-130			2.37	25
Chlorobenzene	3.75	4.70	4.59	125	122	70.0-130			2.36	25
Ethylbenzene	3.75	4.45	4.26	119	114	70.0-130			4.32	25
m&p-Xylene	7.50	8.98	8.56	120	114	70.0-130			4.78	25
o-Xylene	3.75	4.43	4.22	118	113	70.0-130			4.75	25
Styrene	3.75	4.63	4.46	124	119	70.0-130			3.90	25
Bromoform	3.75	4.78	4.59	127	122	70.0-130			3.96	25
1,1,2,2-Tetrachloroethane	3.75	4.21	4.06	112	108	70.0-130			3.65	25
4-Ethyltoluene	3.75	4.52	4.40	121	117	70.0-130			2.82	25
1,3,5-Trimethylbenzene	3.75	4.55	4.35	121	116	70.0-130			4.49	25
1,2,4-Trimethylbenzene	3.75	4.59	4.48	122	119	70.0-130			2.36	25
1,3-Dichlorobenzene	3.75	5.02	4.93	134	131	70.0-130	J4	J4	1.78	25
1,4-Dichlorobenzene	3.75	5.15	5.00	137	133	70.0-130	J4	J4	2.95	25
Benzyl Chloride	3.75	4.95	4.80	132	128	55.6-160			3.08	25
1,2-Dichlorobenzene	3.75	4.95	4.83	132	129	70.0-130	J4		2.51	25
1,2,4-Trichlorobenzene	3.75	5.39	5.35	144	143	53.6-154			0.730	25
Hexachloro-1,3-butadiene	3.75	4.84	4.91	129	131	62.1-143			1.31	25
Naphthalene	3.75	5.30	5.32	141	142	52.0-158			0.370	25
TPH (GC/MS) Low Fraction	150	163	156	109	104	70.0-130			4.45	25
Allyl Chloride	3.75	3.75	3.61	100	96.4	70.0-130			3.77	25
2-Chlorotoluene	3.75	4.60	4.52	123	120	70.0-130			1.89	25
Methyl Methacrylate	3.75	3.55	3.44	94.7	91.7	70.0-130			3.15	25
Tetrahydrofuran	3.75	3.66	3.47	97.6	92.6	65.0-140			5.28	25
2,2,4-Trimethylpentane	3.75	3.97	3.90	106	104	70.0-130			1.57	25
Vinyl Bromide	3.75	4.52	4.34	121	116	70.0-130			4.07	25
Isopropylbenzene	3.75	4.49	4.33	120	115	70.0-130			3.65	25
(S) 1,4-Bromofluorobenzene				*96.0*	*95.9*	*60.0-140*				

Method Blank (MB)

(MB) 01/04/16 09:57

Analyte	MB Result	MB Qualifier	MB RDL
	ppb		ppb
Propene	ND		0.400
Tetrachloroethylene	ND		0.200
(S) 1,4-Bromofluorobenzene	*91.5*		*60.0-140*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 01/04/16 08:15 • (LCSD) 01/04/16 09:05

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ppb	ppb	ppb	%	%	%			%	%
Ethanol	3.75	4.06	4.30	108	115	34.3-167			5.55	25
Propene	3.75	4.41	4.33	118	116	53.9-143			1.83	25
Dichlorodifluoromethane	3.75	4.50	4.58	120	122	56.7-140			1.74	25
1,2-Dichlorotetrafluoroethane	3.75	4.36	4.43	116	118	70.0-130			1.66	25
Chloromethane	3.75	4.39	4.43	117	118	70.0-130			0.900	25
Vinyl chloride	3.75	4.43	4.45	118	119	70.0-130			0.440	25
1,3-Butadiene	3.75	4.55	4.50	121	120	70.0-130			1.11	25
Bromomethane	3.75	4.25	4.44	113	118	70.0-130			4.37	25
Chloroethane	3.75	4.41	4.50	118	120	70.0-130			1.98	25
Trichlorofluoromethane	3.75	4.36	4.49	116	120	70.0-130			3.07	25
1,1,2-Trichlorotrifluoroethane	3.75	4.52	4.49	121	120	70.0-130			0.670	25
1,1-Dichloroethene	3.75	4.48	4.48	120	120	70.0-130			0.0600	25
1,1-Dichloroethane	3.75	4.45	4.49	119	120	70.0-130			1.06	25
Acetone	3.75	4.30	4.35	115	116	70.0-130			0.990	25
2-Propanol	3.75	4.32	4.39	115	117	50.4-152			1.58	25
Carbon disulfide	3.75	4.46	4.53	119	121	70.0-130			1.62	25
Methylene Chloride	3.75	4.29	4.28	114	114	70.0-130			0.140	25
MTBE	3.75	4.26	4.33	114	116	70.0-130			1.80	25
trans-1,2-Dichloroethene	3.75	4.37	4.38	116	117	70.0-130			0.300	25
n-Hexane	3.75	4.51	4.51	120	120	70.0-130			0.0400	25
Vinyl acetate	3.75	4.50	4.56	120	122	70.0-130			1.23	25
Methyl Ethyl Ketone	3.75	4.53	4.50	121	120	70.0-130			0.630	25
cis-1,2-Dichloroethene	3.75	4.48	4.46	119	119	70.0-130			0.280	25
Chloroform	3.75	4.38	4.41	117	118	70.0-130			0.600	25
Cyclohexane	3.75	4.40	4.45	117	119	70.0-130			1.28	25
1,1,1-Trichloroethane	3.75	4.43	4.49	118	120	70.0-130			1.37	25
Carbon tetrachloride	3.75	4.42	4.51	118	120	70.0-130			2.02	25

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 01/04/16 08:15 • (LCSD) 01/04/16 09:05

Analyte	Spike Amount ppb	LCS Result ppb	LCSD Result ppb	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	3.75	4.53	4.54	121	121	70.0-130			0.340	25
1,2-Dichloroethane	3.75	4.36	4.46	116	119	70.0-130			2.25	25
Heptane	3.75	4.57	4.61	122	123	70.0-130			0.860	25
Trichloroethylene	3.75	4.45	4.47	119	119	70.0-130			0.560	25
1,2-Dichloropropane	3.75	4.45	4.58	119	122	70.0-130			2.98	25
1,4-Dioxane	3.75	4.33	4.54	115	121	48.0-156			4.84	25
Bromodichloromethane	3.75	4.50	4.57	120	122	70.0-130			1.54	25
cis-1,3-Dichloropropene	3.75	4.45	4.51	119	120	70.0-130			1.39	25
4-Methyl-2-pentanone (MIBK)	3.75	4.31	4.45	115	119	55.3-154			3.26	25
Toluene	3.75	4.46	4.55	119	121	70.0-130			1.91	25
trans-1,3-Dichloropropene	3.75	4.47	4.52	119	120	70.0-130			1.03	25
1,1,2-Trichloroethane	3.75	4.36	4.44	116	118	70.0-130			1.87	25
Tetrachloroethylene	3.75	4.33	4.44	115	119	70.0-130			2.65	25
Methyl Butyl Ketone	3.75	4.49	4.64	120	124	47.9-165			3.19	25
Dibromochloromethane	3.75	4.46	4.52	119	121	70.0-130			1.34	25
1,2-Dibromoethane	3.75	4.42	4.43	118	118	70.0-130			0.0900	25
Chlorobenzene	3.75	4.24	4.35	113	116	70.0-130			2.55	25
Ethylbenzene	3.75	4.38	4.49	117	120	70.0-130			2.33	25
m&p-Xylene	7.50	8.55	8.73	114	116	70.0-130			2.05	25
o-Xylene	3.75	4.33	4.45	115	119	70.0-130			2.76	25
Styrene	3.75	4.44	4.58	119	122	70.0-130			2.93	25
Bromoform	3.75	4.53	4.59	121	122	70.0-130			1.39	25
1,1,2,2-Tetrachloroethane	3.75	4.27	4.46	114	119	70.0-130			4.39	25
4-Ethyltoluene	3.75	4.29	4.48	114	119	70.0-130			4.40	25
1,3,5-Trimethylbenzene	3.75	4.23	4.39	113	117	70.0-130			3.79	25
1,2,4-Trimethylbenzene	3.75	4.14	4.37	110	117	70.0-130			5.40	25
1,3-Dichlorobenzene	3.75	4.38	4.49	117	120	70.0-130			2.66	25
1,4-Dichlorobenzene	3.75	4.50	4.59	120	122	70.0-130			2.11	25
Benzyl Chloride	3.75	4.50	4.71	120	126	55.6-160			4.50	25
1,2-Dichlorobenzene	3.75	4.19	4.33	112	115	70.0-130			3.22	25
1,2,4-Trichlorobenzene	3.75	4.61	4.76	123	127	53.6-154			3.26	25
Hexachloro-1,3-butadiene	3.75	4.25	4.30	113	115	62.1-143			1.08	25
Naphthalene	3.75	4.73	4.82	126	128	52.0-158			1.79	25
TPH (GC/MS) Low Fraction	150	169	175	113	116	70.0-130			3.19	25
Allyl Chloride	3.75	4.53	4.51	121	120	70.0-130			0.330	25
2-Chlorotoluene	3.75	4.24	4.41	113	118	70.0-130			3.89	25

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 01/04/16 08:15 • (LCSD) 01/04/16 09:05

Analyte	Spike Amount ppb	LCS Result ppb	LCSD Result ppb	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Methyl Methacrylate	3.75	4.36	4.31	116	115	70.0-130			1.16	25
Tetrahydrofuran	3.75	4.33	4.35	115	116	65.0-140			0.430	25
2,2,4-Trimethylpentane	3.75	4.45	4.56	119	122	70.0-130			2.34	25
Vinyl Bromide	3.75	4.32	4.51	115	120	70.0-130			4.36	25
Isopropylbenzene	3.75	4.22	4.39	112	117	70.0-130			3.92	25
(S) 1,4-Bromofluorobenzene				*100*	*101*	*60.0-140*				

Method Blank (MB)

(MB) 01/05/16 11:10

Analyte	MB Result	MB Qualifier	MB RDL
	ppb		ppb
Acetone	ND		1.25
Propene	ND		0.400
Tetrachloroethylene	ND		0.200
Ethanol	ND		0.630

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 01/05/16 09:28 • (LCSD) 01/05/16 10:18

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ppb	ppb	ppb	%	%	%			%	%
Ethanol	3.75	4.44	4.36	118	116	34.3-167			1.88	25
Propene	3.75	4.45	4.58	119	122	53.9-143			2.86	25
Acetone	3.75	4.30	4.37	115	117	70.0-130			1.78	25
Tetrachloroethylene	3.75	4.43	4.46	118	119	70.0-130			0.570	25

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND,U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Rec.	Recovery.
SDL	Sample Detection Limit.
MQL	Method Quantitation Limit.
Unadj. MQL	Unadjusted Method Quantitation Limit.

Qualifier	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J4	The associated batch QC was outside the established quality control range for accuracy.

ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our "one location" design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be **YOUR LAB OF CHOICE.**
***** Not all certifications held by the laboratory are applicable to the results reported in the attached report.

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Conneticut	PH-0197	North Carolina [1]	DW21704
Florida	E87487	North Carolina [2]	41
Georgia	NELAP	North Dakota	R-140
Georgia [1]	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky [1]	90010	South Dakota	n/a
Kentucky [2]	16	Tennessee [1 4]	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

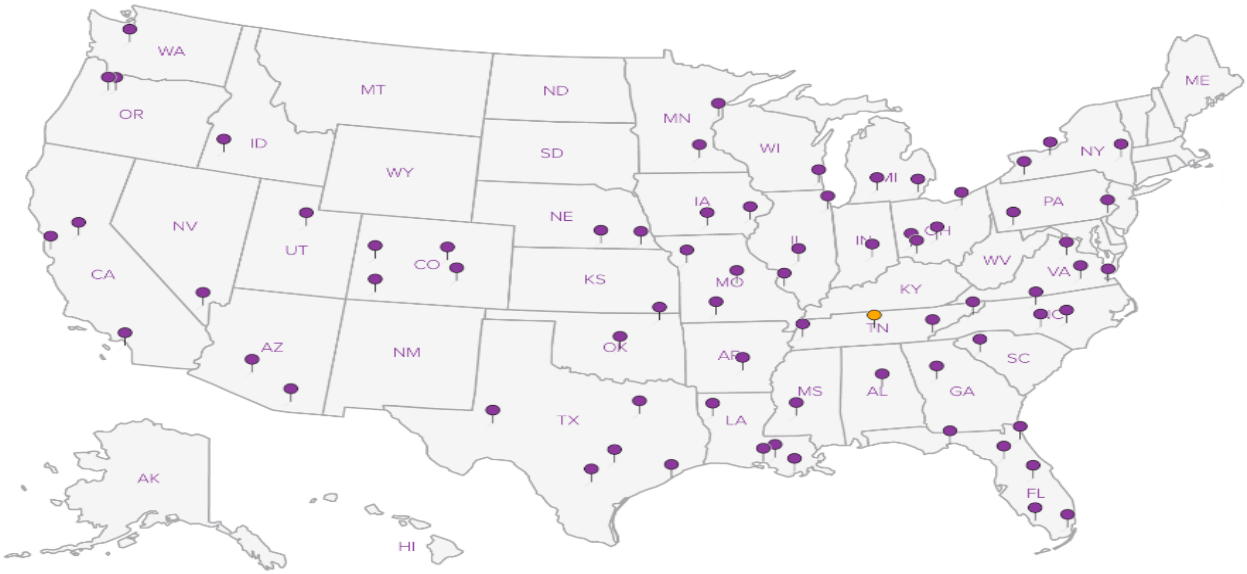
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [n/a] Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. **ESC Lab Sciences performs all testing at our central laboratory.**



GeoDesign Inc.

15575 SW Sequoia Pkwy. Suite 100
Portland, OR 97224

Billing Information:

Accounts Payable
15575 SW Sequoia Pkwy. Ste 100
Portland, OR 97224

Report to: **Andrew Blake**

Email To: ablake@geodesigninc.com; jzimber@geodesigninc.com;

Project Description: **Gerding - 193 -02**

City/State Collected: POX OR

Phone: **503-968-8787**
Fax:

Client Project # **Gerding-193 -02**

Lab Project # **GEODESPOR-GERDING193**

Collected by (print):

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N____ Y____

Rush? (Lab MUST Be Notified)
____ Same Day 200%
____ Next Day 100%
____ Two Day 50%
____ Three Day 25%

Date Results Needed

Email? ___No X__Yes
FAX? ___No ___Yes

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	TO-15 Summa										Rem./Contaminant	Sample # (lab only)
SV-9		Air	5	12.29.15	0939	1	X											-01
SV-6		Air			1000	1	X											02
SV-5		Air			1015	1	X											03
SV-8		Air			1045	1	X											04
SV-10		Air			1113	1	X											05
SV-7		Air			1125	1	X											06
SV-4		Air	0.5		1228	1	X											07
SV-3		Air			1252	1	X											08
SV-2		Air			1333	1	X											09
SV-1		Air			1410	1	X											10

* Matrix: **SS** - Soil **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other_____

Remarks:(11) 1L summa cans and (11) sampling manifolds with tubing/fittings

pH _____ Temp _____

Flow _____ Other _____

Chain of Custody Page ___ of ___

ESC LABS
YOUR LAB OF CHOICE
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# L809399

L113

Acctnum: **GEODESPOR**
Template: **T108329**
Prelogin: **P535468**
TSR: **358 - Jarred Willis**
PB: **SAK 12-17-15**
Shipped Via: **FedEx Ground**

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	12.29.15	1530	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐ _____

Temp: Amb. °C Bottles Received: 10 + 1 empty

Date: 12-30-15 Time: 0900

Hold #

Condition: FC x 11 (lab use only) (OK) TD

COC Seal Intact: ____Y ____N ____NA

pH Checked: NCF:

APPENDIX B

EMC LABS, INC.

9830 S. 51st Street, Suite B109, Phoenix, AZ 85044
Phone: 800-362-3373 or 480-940-5294 - Fax: (480) 893-1726

Laboratory Report
0164728

Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client:	GEO DESIGN, INC.	Job# / P.O. #:	GERDING-193-02
Address:	15575 SW SEQUOIA PKWY, STE 100	Date Received:	01/05/2016
	PORTLAND, OR 97224	Date Analyzed:	01/07/2016
Collected:	12/29/2015	Date Reported:	01/07/2016
Project Name:	PROPOSED 5020 N. INTERSTATE AVE DEVELOPMENT	EPA Method:	EPA 600/R-93/116
		Submitted By:	JEREMY ZIMBER
Address:		Collected By:	

Lab ID / Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type	(%)	Non-Asbestos Constituents	
0164728-001 AS-1		LAYER 1 12"x12" Floor Tile, Orange/ White Flecks	Yes	Chrysotile	3%		
						Carbonates	
						Gypsum	
						Mica	
						Binder/Filler	97%
		LAYER 2 Mastic, Black	Yes	Chrysotile	5%		
						Gypsum	
						Carbonates	
						Binder/Filler	95%
		LAYER 3 Leveling Compound, White	No	None Detected		Cellulose Fiber	3%
						Gypsum	
						Mica	
						Binder/Filler	97%
		LAYER 4 Leveling Compound, Black/	No	None Detected		Cellulose Fiber	3%
						Gypsum	
						Mica	
						Quartz	
						Carbonates	
						Binder/Filler	97%
0164728-002 AS-2		2x4 Drop-in Ceilng Tile, White/ Gray	No	None Detected		Cellulose Fiber	50%
						Mineral Wool	30%
						Carbonates	
						Gypsum	
						Perlite	
						Binder/Filler	20%
0164728-003 AS-3		LAYER 1 Heat Resistant Board, Silver	No	None Detected			
						Aluminum	
						Binder/Filler	100%
		LAYER 2 Mastic, Orange	No	None Detected		Cellulose Fiber	5%
						Gypsum	
						Binder/Filler	95%

EMC LABS, INC.

9830 S. 51st Street, Suite B109, Phoenix, AZ 85044
Phone: 800-362-3373 or 480-940-5294 - Fax: (480) 893-1726

Laboratory Report
0164728

Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client:	GEO DESIGN, INC.	Job# / P.O. #:	GERDING-193-02
Address:	15575 SW SEQUOIA PKWY, STE 100	Date Received:	01/05/2016
	PORTLAND, OR 97224	Date Analyzed:	01/07/2016
Collected:	12/29/2015	Date Reported:	01/07/2016
Project Name:	PROPOSED 5020 N. INTERSTATE AVE DEVELOPMENT	EPA Method:	EPA 600/R-93/116
		Submitted By:	JEREMY ZIMBER
Address:		Collected By:	

Lab ID / Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type	Non-Asbestos Constituents	(%)
0164728-004 AS-4		LAYER 1 12"x12" Floor Tile, White w/ Gray Flecks	No	None Detected	Carbonates Gypsum Quartz Binder/Filler	100%
		LAYER 2 Mastic, Yellow	No	None Detected	Cellulose Fiber Gypsum Quartz Mica Carbonates Binder/Filler	2% 98%
0164728-005 AS-5		LAYER 1 12"x12" Floor Tile, Gray Specks	No	None Detected	Cellulose Fiber Carbonates Gypsum Quartz Binder/Filler	<1% 99%
		LAYER 2 Mastic, Yellow	No	None Detected	Cellulose Fiber Gypsum Quartz Carbonates Binder/Filler	2% 98%
0164728-006 AS-6		LAYER 1 Cove Base, Black	No	None Detected	Gypsum Carbonates Quartz Binder/Filler	100%
		LAYER 2 Mastic, Clear	No	None Detected	Cellulose Fiber Gypsum Carbonates Quartz Binder/Filler	2% 98%
0164728-007 AS-7		2x4 Drop-in Ceilng Tile, White/ Gray	No	None Detected	Mineral Wool Cellulose Fiber Perlite Gypsum Binder/Filler	50% 30% 20%

EMC LABS, INC.

9830 S. 51st Street, Suite B109, Phoenix, AZ 85044
Phone: 800-362-3373 or 480-940-5294 - Fax: (480) 893-1726

Laboratory Report
0164728

Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client:	GEO DESIGN, INC.	Job# / P.O. #:	GERDING-193-02
Address:	15575 SW SEQUOIA PKWY, STE 100	Date Received:	01/05/2016
	PORTLAND, OR 97224	Date Analyzed:	01/07/2016
Collected:	12/29/2015	Date Reported:	01/07/2016
Project Name:	PROPOSED 5020 N. INTERSTATE AVE DEVELOPMENT	EPA Method:	EPA 600/R-93/116
		Submitted By:	JEREMY ZIMBER
Address:		Collected By:	

Lab ID / Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type	(%)	Non-Asbestos Constituents	
0164728-008 AS-8		LAYER 1 Cove Base, Gray	No	None Detected		Gypsum Carbonates Quartz Binder/Filler	100%
		LAYER 2 Mastic, Clear	No	None Detected		Cellulose Fiber Gypsum Quartz Binder/Filler	1% 99%
0164728-009 AS-9		LAYER 1 Linoleum, Off White	No	None Detected		Cellulose Fiber Fibrous Glass Wollastonite Gypsum Mica Binder/Filler	15% 5% 3% 77%
		LAYER 2 Mastic, Yellow	No	None Detected		Cellulose Fiber Gypsum Mica Binder/Filler	3% 97%
0164728-010 AS-10		LAYER 1 Linoleum, Off White	No	None Detected		Cellulose Fiber Synthetic Fiber Fibrous Glass Carbonates Gypsum Diatoms Binder/Filler	15% 3% 2% 80%
		LAYER 2 Mastic, Yellow	No	None Detected		Cellulose Fiber Fibrous Glass Carbonates Diatoms Gypsum Binder/Filler	4% 2% 94%
		LAYER 3 Linoleum, Beige/ Lt. Blue/ Off White Note: Insufficient Mastic/Adhesive for Analysis	Yes	Chrysotile	15%	Cellulose Fiber Gypsum Carbonates Diatoms Binder/Filler	5% 80%

EMC LABS, INC.

9830 S. 51st Street, Suite B109, Phoenix, AZ 85044
Phone: 800-362-3373 or 480-940-5294 - Fax: (480) 893-1726

Laboratory Report
0164728

Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client:	GEO DESIGN, INC.	Job# / P.O. #:	GERDING-193-02
Address:	15575 SW SEQUOIA PKWY, STE 100	Date Received:	01/05/2016
	PORTLAND, OR 97224	Date Analyzed:	01/07/2016
Collected:	12/29/2015	Date Reported:	01/07/2016
Project Name:	PROPOSED 5020 N. INTERSTATE AVE DEVELOPMENT	EPA Method:	EPA 600/R-93/116
		Submitted By:	JEREMY ZIMBER
Address:		Collected By:	

Lab ID / Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents	
0164728-011 AS-11		LAYER 1 Textured Drywall, White	No	None Detected	Cellulose Fiber Carbonates Gypsum Mica Quartz Binder/Filler	2% 98%
		LAYER 2 Joint Compound, White	No	None Detected	Cellulose Fiber Carbonates Mica Quartz Binder/Filler	<1% 99%
0164728-012 AS-12		LAYER 1 Textured Ceiling, White	No	None Detected	Cellulose Fiber Gypsum Mica Quartz Binder/Filler	<1% 99%
		LAYER 2 Joint Compound, White	No	None Detected	Cellulose Fiber Carbonates Mica Quartz Binder/Filler	<1% 99%
0164728-013 AS-13		Popcorn Ceiling, White	No	None Detected	Cellulose Fiber Gypsum Carbonates Quartz Binder/Filler	5% 95%

EMC LABS, INC.

9830 S. 51st Street, Suite B109, Phoenix, AZ 85044
Phone: 800-362-3373 or 480-940-5294 - Fax: (480) 893-1726

Laboratory Report
0164728

Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client:	GEO DESIGN, INC.	Job# / P.O. #:	GERDING-193-02
Address:	15575 SW SEQUOIA PKWY, STE 100	Date Received:	01/05/2016
	PORTLAND, OR 97224	Date Analyzed:	01/07/2016
Collected:	12/29/2015	Date Reported:	01/07/2016
Project Name:	PROPOSED 5020 N. INTERSTATE AVE DEVELOPMENT	EPA Method:	EPA 600/R-93/116
		Submitted By:	JEREMY ZIMBER
Address:		Collected By:	

Lab ID / Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type	(%)	Non-Asbestos Constituents	(%)
0164728-014 AS-14		LAYER 1 12"x12" Floor Tile, Gray Specks	No	None Detected		Carbonates Gypsum Quartz Binder/Filler	100%
		LAYER 2 Mastic, Yellow	No	None Detected		Cellulose Fiber Fibrous Glass Gypsum Carbonates Quartz Binder/Filler	3% <1% 96%
0164728-015 AS-15		Built-up Roofing, Black	No	None Detected		Fibrous Glass Gypsum Quartz Binder/Filler	15% 85%
0164728-016 AS-16		Built-up Roofing, Black	No	None Detected		Fibrous Glass Gypsum Quartz Binder/Filler	15% 85%
0164728-017 AS-17		Built-up Roofing, Black	No	None Detected		Synthetic Fiber Gypsum Carbonates Quartz Binder/Filler	20% 80%
0164728-018 AS-18		LAYER 1 Linoleum, Gray/ Beige	No	None Detected		Cellulose Fiber Carbonates Mica Gypsum Binder/Filler	15% 85%
		LAYER 2 Mastic, Yellow	No	None Detected		Cellulose Fiber Fibrous Glass Wollastonite Gypsum Quartz Binder/Filler	5% 2% 1% 92%

EMC LABS, INC.

9830 S. 51st Street, Suite B109, Phoenix, AZ 85044
Phone: 800-362-3373 or 480-940-5294 - Fax: (480) 893-1726

Laboratory Report
0164728

Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client:	GEO DESIGN, INC.	Job# / P.O. #:	GERDING-193-02
Address:	15575 SW SEQUOIA PKWY, STE 100	Date Received:	01/05/2016
	PORTLAND, OR 97224	Date Analyzed:	01/07/2016
Collected:	12/29/2015	Date Reported:	01/07/2016
Project Name:	PROPOSED 5020 N. INTERSTATE AVE DEVELOPMENT	EPA Method:	EPA 600/R-93/116
		Submitted By:	JEREMY ZIMBER
Address:		Collected By:	

Lab ID / Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents	
0164728-019 AS-19		LAYER 1 Drywall, Beige/ Brown	No	None Detected	Cellulose Fiber Gypsum Mica Carbonates Binder/Filler	10% 90%
		LAYER 2 Texture, Gray	No	None Detected	Cellulose Fiber Gypsum Carbonates Binder/Filler	3% 97%
0164728-020 AS-20		2x4 Drop-in Ceilng Tile, White/ Gray	No	None Detected	Mineral Wool Cellulose Fiber Perlite Gypsum Binder/Filler	60% 20% 20%
0164728-021 AS-21		LAYER 1 12"x12" Floor Tile, White w/ Gray Flecks	No	None Detected	Carbonates Gypsum Quartz Binder/Filler	 100%
		LAYER 2 Mastic, Yellow	No	None Detected	Cellulose Fiber Gypsum Carbonates Quartz Binder/Filler	2% 98%
0164728-022 AS-22		LAYER 1 Cove Base, Gray	No	None Detected	Carbonates Gypsum Quartz Binder/Filler	 100%
		LAYER 2 Mastic, Yellow	No	None Detected	Cellulose Fiber Carbonates Quartz Binder/Filler	<1% 99%

EMC LABS, INC.

9830 S. 51st Street, Suite B109, Phoenix, AZ 85044
Phone: 800-362-3373 or 480-940-5294 - Fax: (480) 893-1726

Laboratory Report
0164728

Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client:	GEO DESIGN, INC.	Job# / P.O. #:	GERDING-193-02
Address:	15575 SW SEQUOIA PKWY, STE 100	Date Received:	01/05/2016
	PORTLAND, OR 97224	Date Analyzed:	01/07/2016
Collected:	12/29/2015	Date Reported:	01/07/2016
Project Name:	PROPOSED 5020 N. INTERSTATE AVE DEVELOPMENT	EPA Method:	EPA 600/R-93/116
		Submitted By:	JEREMY ZIMBER
Address:		Collected By:	

Lab ID / Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents	
0164728-023 AS-23		Popcorn Ceiling, White	No	None Detected	Cellulose Fiber Carbonates Mica Perlite Binder/Filler	<1% 99%
0164728-024 AS-24		LAYER 1 9"x18" Floor Tile, Red Orange	Yes	Chrysotile 2%	Carbonates Gypsum Quartz Binder/Filler	 98%
		LAYER 2 Mastic/ Debris, Brown	No	None Detected	Cellulose Fiber Gypsum Carbonates Quartz Organic Matrix Binder/Filler	2% 98%
		LAYER 3 Debris / Top, Black/ Gray	No	None Detected	Cellulose Fiber Hair Carbonates Gypsum Quartz Binder/Filler	4% 2% 94%
0164728-025 AS-25		LAYER 1 Cove Base, Beige	No	None Detected	Gypsum Carbonates Quartz Binder/Filler	 100%
		LAYER 2 Adhesive, Off White/Yellow Note: Difficult to separate adjacent layers	No	None Detected	Cellulose Fiber Carbonates Quartz Binder/Filler	1% 99%

EMC LABS, INC.

9830 S. 51st Street, Suite B109, Phoenix, AZ 85044
Phone: 800-362-3373 or 480-940-5294 - Fax: (480) 893-1726

Laboratory Report
0164728

Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client:	GEO DESIGN, INC.	Job# / P.O. #:	GERDING-193-02
Address:	15575 SW SEQUOIA PKWY, STE 100	Date Received:	01/05/2016
	PORTLAND, OR 97224	Date Analyzed:	01/07/2016
Collected:	12/29/2015	Date Reported:	01/07/2016
Project Name:	PROPOSED 5020 N. INTERSTATE AVE DEVELOPMENT	EPA Method:	EPA 600/R-93/116
		Submitted By:	JEREMY ZIMBER
Address:		Collected By:	

Lab ID / Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents	
0164728-026		LAYER 1	No	None Detected	Fibrous Glass	95%
AS-26		3" Pipe Insulation, Yellow			Binder/Filler	5%
		LAYER 2	No	None Detected	Cellulose Fiber	35%
		Pipe Insulation Wrap, Off White/ Silver			Fibrous Glass	5%
					Aluminum	
					Gypsum	
					Binder/Filler	60%
0164728-027		LAYER 1	No	None Detected	Synthetic Fiber	20%
AS-27		Sheet Roofing, Gray/ Black			Gypsum	
					Carbonates	
					Quartz	
					Binder/Filler	80%
		LAYER 2	No	None Detected	Fibrous Glass	45%
		Sheet Roofing, Black			Gypsum	
					Quartz	
					Binder/Filler	55%
0164728-028		LAYER 1	No	None Detected	Fibrous Glass	20%
AS-28		Built Up Roof Material, Black			Gypsum	
					Quartz	
					Binder/Filler	80%
		LAYER 2	No	None Detected	Cellulose Fiber	45%
		Built Up Roof Material, Black			Gypsum	
					Quartz	
					Binder/Filler	55%
0164728-029		LAYER 1	No	None Detected		
AS-29		12"x12" Floor Tile, White/ Gray Flecks			Carbonates	
					Gypsum	
					Quartz	
					Binder/Filler	100%
		LAYER 2	No	None Detected	Cellulose Fiber	2%
		Mastic, Yellow			Gypsum	
					Carbonates	
					Mica	
					Binder/Filler	2%

EMC LABS, INC.

9830 S. 51st Street, Suite B109, Phoenix, AZ 85044
Phone: 800-362-3373 or 480-940-5294 - Fax: (480) 893-1726

Laboratory Report
0164728

Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client:	GEO DESIGN, INC.	Job# / P.O. #:	GERDING-193-02
Address:	15575 SW SEQUOIA PKWY, STE 100	Date Received:	01/05/2016
	PORTLAND, OR 97224	Date Analyzed:	01/07/2016
Collected:	12/29/2015	Date Reported:	01/07/2016
Project Name:	PROPOSED 5020 N. INTERSTATE AVE DEVELOPMENT	EPA Method:	EPA 600/R-93/116
		Submitted By:	JEREMY ZIMBER
Address:		Collected By:	

Lab ID / Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type	(%)	Non-Asbestos Constituents	
0164728-030 AS-30		Drywall Texture, White/ Gray	No	None Detected		Cellulose Fiber	<1%
						Carbonates	
						Mica	
						Perlite	
						Binder/Filler	99%
0164728-031 AS-31		LAYER 1 Drywall Ceiling, Lt. Pink / Brown	No	None Detected		Cellulose Fiber	13%
						Fibrous Glass	2%
						Gypsum	
						Mica	
						Carbonates	
						Binder/Filler	85%
		LAYER 2 Fiber Mesh, White	No	None Detected		Fibrous Glass	90%
						Carbonates	
						Binder/Filler	10%
		LAYER 3 Textured Ceiling, Off White/ White	No	None Detected			
						Carbonates	
						Mica	
						Perlite	
						Binder/Filler	100%
0164728-032 AS-32		LAYER 1 12"x12" Floor Tile, White	No	None Detected			
						Carbonates	
						Gypsum	
						Quartz	
						Binder/Filler	100%
		LAYER 2 Mastic, Black/ Brown Note: Difficult to separate adjacent layers	Yes	Chrysotile	2%	Cellulose Fiber	2%
						Fibrous Glass	<1%
						Carbonates	
						Gypsum	
						Quartz	
						Binder/Filler	95%

EMC LABS, INC.

9830 S. 51st Street, Suite B109, Phoenix, AZ 85044
Phone: 800-362-3373 or 480-940-5294 - Fax: (480) 893-1726

Laboratory Report
0164728

Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client:	GEO DESIGN, INC.	Job# / P.O. #:	GERDING-193-02
Address:	15575 SW SEQUOIA PKWY, STE 100	Date Received:	01/05/2016
	PORTLAND, OR 97224	Date Analyzed:	01/07/2016
Collected:	12/29/2015	Date Reported:	01/07/2016
Project Name:	PROPOSED 5020 N. INTERSTATE AVE DEVELOPMENT	EPA Method:	EPA 600/R-93/116
		Submitted By:	JEREMY ZIMBER
Address:		Collected By:	

Lab ID / Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type	(%)	Non-Asbestos Constituents	
0164728-033 AS-33		LAYER 1 12"x12" Floor Tile, Gray	No	None Detected		Carbonates Gypsum Quartz Binder/Filler	100%
		LAYER 2 Mastic, Black	Yes	Chrysotile	3%	Cellulose Fiber Gypsum Carbonates Quartz Binder/Filler	2% 95%
0164728-034 AS-34		LAYER 1 Built-up Roofing, Black	No	None Detected		Synthetic Fiber Gypsum Carbonates Quartz Binder/Filler	25% 75%
		LAYER 2 Built-up Roofing, Black	No	None Detected		Fibrous Glass Gypsum Quartz Binder/Filler	30% 70%
0164728-035 AS-35		LAYER 1 Built-up Roofing, Black	No	None Detected		Synthetic Fiber Gypsum Carbonates Quartz Binder/Filler	25% 75%
		LAYER 2 Built-up Roofing, Black	No	None Detected		Fibrous Glass Gypsum Carbonates Binder/Filler	30% 70%

EMC LABS, INC.

9830 S. 51st Street, Suite B109, Phoenix, AZ 85044
Phone: 800-362-3373 or 480-940-5294 - Fax: (480) 893-1726

Laboratory Report
0164728

Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client:	GEO DESIGN, INC.	Job# / P.O. #:	GERDING-193-02
Address:	15575 SW SEQUOIA PKWY, STE 100	Date Received:	01/05/2016
	PORTLAND, OR 97224	Date Analyzed:	01/07/2016
Collected:	12/29/2015	Date Reported:	01/07/2016
Project Name:	PROPOSED 5020 N. INTERSTATE AVE DEVELOPMENT	EPA Method:	EPA 600/R-93/116
		Submitted By:	JEREMY ZIMBER
Address:		Collected By:	

Lab ID / Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents

Analyst - Paul Hofer

Signatory - Lab Director - Kurt Kettler

Page 1 of 3

CHAIN OF CUSTODY

EMC Laboratories
9830 S. 51st St., Ste B-109
Phoenix, AZ 85044
(800) 362-3373 Fax (480) 893-1726

LAB#: 164728
TAT: 2 days
Rec'd: EMC USE ONLY AM 05 P.M.

COMPANY NAME: GEO DESIGN, INC.
15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224
CONTACT: Jeremy Zimber
Phone/Fax: (503) 968-8787 / (503) 968-3068
Email: jzimber@geodesigninc.com

BILL TO: (If Different Location)

Now Accepting: VISA – MASTERCARD
Price Quoted: $7 / Sample $____ / Layers

COMPLETE ITEMS 1-4: (Failure to complete any items may cause a delay in processing or analyzing your samples)

1. **TURNAROUND TIME:** [4hr rush] [8hr rush] [1-Day] [2-Day] [3-Day] [5-Day] [6-10 Day]
   - ***Prior confirmation of turnaround time is required
   - ***Additional charges for rush analysis (please call marketing department for pricing details)
   - ***Laboratory analysis may be subject to delay if credit terms are not met
2. **TYPE OF ANALYSIS:** [Bulk-PLM] [Air-PCM] [Lead] [Point Count] [Fungi: AOC, W-C, Bulk, Swab, Tape]
3. **DISPOSAL INSTRUCTIONS:** [Dispose of samples at EMC] / [Return samples to me at my expense]
   (If you do not indicate preference, EMC will dispose of samples 60 days from analysis.)

(35)

4. Project Name: Proposed 5020 N. Interstate Avenue Development
   P.O. Number: ____ Project Number: Gerdry-193-02

EMC SAMPLE #	CLIENT SAMPLE #	DATE & TIME SAMPLED	LOCATION/MATERIAL TYPE	Samples Accepted Yes / No	AIR SAMPLE INFO / COMMENT ON	OFF	FLOW RATE
1	AS-1	12/29/15	Orange w/ white flecks 12x12 F.T.	Y N			
2	AS-2		White 2'x4' drop-in ceiling tile	Y N			
3	AS-3		Silver heat-resistant board	Y N			
4	AS-4		White w/ gray flecks 12x12 F.T.	Y N			
5	AS-5		Gray speckled 12x12 F.T.	Y N			
6	AS-6		Black Cove Base	Y N			
7	AS-7		White 2'x4' drop-in ceiling tile	Y N			
8	AS-8		Gray Cove Base	Y N			
9	AS-9		Off-white faux rock linoleum	Y N			
10	AS-10		Off-white "square" linoleum	Y N			
11	AS-11		White textured drywall	Y N			
12	AS-12		White textured ceiling	Y N			
13	AS-13		White pop corn ceiling	Y N			
14	AS-14		Gray speckled 12x12 F.T.	Y N			
15	AS-15		Black-Silver built-up roofing	Y N			

SPECIAL INSTRUCTIONS: ____

Sample Collector: (Print) Jeremy Zimber (Signature) ____

Relinquished by: Jeremy Zimber Date/Time: 12/30/15 1430 Received by: UPS Date/Time: 12/30/15 1430

Relinquished by: ____ Date/Time: ____ Received by: Diana Federico Date/Time: 1/5/16 1330

Relinquished by: Diana Federico Date/Time 1/5/16 1330 Received by: ____ Date/Time: 1-5-16 13:30

In the event of any dispute between the above parties for these services or otherwise, parties agree that jurisdiction and venue will be in Ph[illegible]na and prevailing party will be entitled to attorney's fees and court costs.

CHAIN OF CUSTODY

EMC Laboratories
9830 S. 51ST St., Ste B-109
Phoenix, AZ 85044
(800) 362-3373 Fax (480) 893-1726

LAB#:
TAT: 164728
Rec'd:
EMC USE ONLY

COMPANY NAME: GEO DESIGN, INC.
15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224
CONTACT: Jeremy Zimber
Phone/Fax: (503) 968-8787 / (503) 968-3068
Email: jzimber@geodesigninc.com

BILL TO: (If Different Location)

Now Accepting: VISA – MASTERCARD
Price Quoted: $ 7 / Sample $ ____ / Layers

COMPLETE ITEMS 1-4: (Failure to complete any items may cause a delay in processing or analyzing your samples)

1. **TURNAROUND TIME:** [4hr rush] [8hr rush] [1-Day] [2-Day] [3-Day] [5-Day] [6-10 Day]
   - Prior confirmation of turnaround time is required
   - Additional charges for rush analysis (please call marketing department for pricing details)
   - Laboratory analysis may be subject to delay if credit terms are not met
2. **TYPE OF ANALYSIS:** [Bulk-PLM] [Air-PCM] [Lead] [Point Count] [Fungi: AOC, W-C, Bulk, Swab, Tape]
3. **DISPOSAL INSTRUCTIONS:** [Dispose of samples at EMC] / [Return samples to me at my expense]
   (If you do not indicate preference, EMC will dispose of samples 60 days from analysis.)

4. Project Name: Proposed 5020 N. Interstate Avenue Development
P.O. Number: — Project Number: Gerding-193-02

EMC SAMPLE #	CLIENT SAMPLE #	DATE & TIME SAMPLED	LOCATION/MATERIAL TYPE	Samples Accepted Yes / No	AIR SAMPLE INFO / COMMENTS ON	OFF	FLOW RATE
16	AS-16	12/29/15	Black-silver built-up roofing	Y N			
17	AS-17		Black built-up roofing	Y N			
18	AS-18		Gray checked linoleum	Y N			
19	AS-19		Gray textured drywall	Y N			
20	AS-20		White 2'x4' drop-in ceiling tiles	Y N			
21	AS-21		White w/ gray flecks 12x12 F.T.	Y N			
22	AS-22		Gray Cove Base	Y N			
23	AS-23		White popcorn ceiling	Y N			
24	AS-24		Red-orange 9"x18" F.T.	Y N			
25	AS-25		Black Cove Base	Y N			
26	AS-26		White 3" Pipe Insulation	Y N			
27	AS-27		Gray sheet roofing	Y N			
28	AS-28		Black built-up roofing	Y N			
29	AS-29		White w/ gray flecks 12x12 F.T.	Y N			
30	AS-30		White textured drywall	Y N			

SPECIAL INSTRUCTIONS:

Sample Collector: (Print) Jeremy Zimber (Signature)

Relinquished by: Jeremy Zimber Date/Time: 12/30/15 1430 Received by: UPS Date/Time: 12/30/15 1430

Relinquished by: ____ Date/Time: ____ Received by: Diana Federico Date/Time: 1/5/16 1330

Relinquished by: Diana Federico Date/Time 1/5/16 1330 Received by: ____ Date/Time: 1-5-16 13:30

In the event of any dispute between the above parties for these services or otherwise, parties agree that jurisdiction and venue will be in Phoe[illegible]na and prevailing party will be entitled to attorney's fees and court costs.

Page 2 of 3

CHAIN OF CUSTODY

EMC Laboratories
9830 S. 51st St., Ste B-109
Phoenix, AZ 85044
(800) 362-3373 Fax (480) 893-1726

LAB#:
TAT: 164728
Rec'd:
EMC USE ONLY

COMPANY NAME: GEO DESIGN, INC.
15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224
CONTACT: Jeremy Zimber
Phone/Fax: (503) 968-8787 / (503) 968-3068
Email: jzimber@geodesigninc.com

BILL TO: (If Different Location)

Now Accepting: VISA – MASTERCARD
Price Quoted: $ 7 / Sample $ ___ / Layers

COMPLETE ITEMS 1-4: (Failure to complete any items may cause a delay in processing or analyzing your samples)

1. **TURNAROUND TIME:** [4hr rush] [8hr rush] [1-Day] [2-Day] [3-Day] [5-Day] [6-10 Day]
   - ***Prior confirmation of turnaround time is required
   - ***Additional charges for rush analysis (please call marketing department for pricing details)
   - ***Laboratory analysis may be subject to delay if credit terms are not met
2. **TYPE OF ANALYSIS:** [Bulk-PLM] [Air-PCM] [Lead] [Point Count] [Fungi: AOC, W-C, Bulk, Swab, Tape]
3. **DISPOSAL INSTRUCTIONS:** [Dispose of samples at EMC] [Return samples to me at my expense]
   (If you do not indicate preference, EMC will dispose of samples 60 days from analysis.)

4. Project Name: Proposed 5020 N. Interstate Avenue Development
   P.O. Number: ___ Project Number: Gerding-193-02

EMC SAMPLE #	CLIENT SAMPLE #	DATE & TIME SAMPLED	LOCATION/MATERIAL TYPE	Samples Accepted Yes / No	AIR SAMPLE INFO / COMMENTS ON	OFF	FLOW RATE
31	AS-31	12/29/15	White textured ceiling	Y N			
32	AS-32		White 12x12 F.T.	Y N			
33	AS-33		Gray 12x12 F.T.	Y N			
34	AS-34		Black built-up roofing	Y N			
35	AS-35		Black built-up roofing	Y N			
				Y N			
				Y N			
				Y N			
				Y N			
				Y N			
				Y N			
				Y N			
				Y N			
				Y N			

SPECIAL INSTRUCTIONS: ___

Sample Collector: (Print) Jeremy Zimber (Signature) [signature]

Relinquished by: Jeremy Zimber Date/Time: 12/30/15 1430 Received by: UPS Date/Time: 12/30/15 1430

Relinquished by: ___ Date/Time: ___ Received by: Diana Federico Date/Time: 1/5/16 1330

Relinquished by: Diana Federico Date/Time 1/5/16 1330 Received by: [signature] Date/Time: 1-5-16 13:30

In the event of any dispute between the above parties for these services or otherwise, parties agree that jurisdiction and venue will be in Phoenix, Arizona and prevailing party will be entitled to attorney's fees and court costs.

ACRONYMS

ACRONYMS

ACM	asbestos-containing material(s)
AHERA	Asbestos Hazard Emergency Response Act
ASTM	American Society for Testing and Materials
BGS	below ground surface
BS	blank spike
BSD	blank spike duplicate
CCV	continuing calibration verification
CFR	Code of Federal Regulations
DEQ	Oregon Department of Environmental Quality
ECSI	Environmental Cleanup Site Information
EPA	U.S. Environmental Protection Agency
ESA	Environmental Site Assessment
GC/MS	gas chromatography/mass spectrometer
I.D.	identification
LBP	lead-based paint
LUST	Leaking Underground Storage Tank
mg/cm^2	milligrams per square centimeter
MRL	method reporting limit
MS	matrix spike
MSD	matrix spike duplicate
NA	not applicable
NE	not established
NFA	No Further Action
OR-OSHA	Oregon Occupational Safety & Heath Division
PCB	polychlorinated biphenyl
PCE	tetrachloroethylene
PID	photoionization detector
PRT™	Post-Run-Tubing™
RBC	risk-based concentration
RCRA	Resource Conservation and Recovery Act
RDL	reported detection limit
RPD	relative percent difference
TCE	trichloroethylene
TPH	total petroleum hydrocarbon
$\mu g/m^3$	micrograms per cubic meter
VCP	Voluntary Cleanup Program
VOC	volatile organic compound
XRF	x-ray fluorescence