



ENVIRONMENTAL SERVICES REPORT

River Terrace Area 10
15515, 15685, 15745, and 15915 SW 150th Avenue
Tigard, Oregon

For
Polygon Northwest Company
November 2, 2016

GeoDesign Project: Polygon-145-02



November 2, 2016

Polygon Northwest Company
109 East 13th Street
Vancouver, WA 98660

Attention: Fred Gast

Environmental Services Report
River Terrace Area 10
15515, 15685, 15745, and 15915 SW 150th Avenue
Tigard, Oregon
GeoDesign Project: Polygon-145-02

GeoDesign, Inc. is pleased to submit the results of the environmental services completed at the River Terrace Area 10 site located at 15515, 15685, 15745, and 15915 SW 150th Avenue in Tigard, Oregon. The Phase I ESA was completed in conformance with the standards and practices for all appropriate inquiries specified in Title 40, Chapter I of CFR Part 312 and ASTM Practice E 1527-13.

We appreciate the opportunity to be of service to Polygon Northwest Company. Please contact us if you have questions regarding this report.

Sincerely,

GeoDesign, Inc.

A handwritten signature in blue ink, reading "Robert E. Belding".

Robert E. Belding, R.G.
Principal Geologist

cc: Chris Walther, Polygon Northwest Company (via email only)

KMC:JMZ:REB:kt

Attachments

One copy submitted

Document ID: Polygon-145-02-110216-envr.docx

© 2016 GeoDesign, Inc. All rights reserved.

TABLE OF CONTENTS**PAGE NO.**

1.0	INTRODUCTION	1
2.0	PURPOSE	1
2.1	Phase I ESA	1
2.2	Surface Soil Evaluation	2
2.3	Limited Subsurface Exploration	2
3.0	SCOPE OF SERVICES	2
3.1	Phase I ESA	2
3.2	Surface Soil Evaluation	2
3.3	Limited Subsurface Exploration	3
4.0	PROJECT SITE AND VICINITY DESCRIPTION	4
5.0	USER-PROVIDED INFORMATION	5
6.0	ENVIRONMENTAL RECORDS REVIEW	5
6.1	Project Site	5
6.2	Surrounding Sites	5
6.3	Orphan Sites	6
7.0	PROJECT SITE HISTORY AND BACKGROUND	6
7.1	Project Site	7
7.2	Adjoining Sites	7
8.0	SITE RECONNAISSANCE	8
8.1	General Project Site Use	8
8.2	Surrounding Property Use	12
9.0	INTERVIEWS	12
9.1	Current Owners and Occupants	12
9.2	Local Government Official	13
10.0	DATA GAPS	13
11.0	SURFACE SOIL EVALUATION	13
11.1	Field Activities	13
11.2	Chemical Analytical Results	14
12.0	LIMITED SUBSURFACE EXPLORATION	15
12.1	Field Activities	15
12.2	Chemical Analytical Results	16
13.0	REGULATORY CRITERIA	21
13.1	Surface Soil Evaluation	21
13.2	Limited Subsurface Exploration	22
14.0	CONCLUSIONS AND RECOMMENDATIONS	23
15.0	DECLARATIONS	26
16.0	LIMITATIONS	26

TABLE OF CONTENTS**PAGE NO.****FIGURES**

Vicinity Map	Figure 1
Site Plan	Figure 2
Site Plan - Detail	Figure 3
Project Site Photographs	Figures 4 - 5
Pesticide Screen	Figure 6
Subsurface Exploration – Southeastern Area	Figure 7
Subsurface Exploration – Southwestern Area	Figure 8
Subsurface Exploration – Northern Area	Figure 9

TABLES

Summary of Sediment and Soil Sample Chemical Analytical Results – Organochlorine Pesticides	Table 1
Summary of Sediment and Soil Sample Chemical Analytical Results – Total Metals and TCLP Lead	Table 2
Summary of Soil Sample Chemical Analytical Results – Petroleum Hydrocarbons	Table 3
Summary of Soil Sample Chemical Analytical Results – PAHs	Table 4
Summary of Soil Sample Chemical Analytical Results – VOCs	Table 5
Summary of Soil Sample Chemical Analytical Results – PCBs	Table 6

APPENDICES

Appendix A	
Firm Profile	
Resumes of Project Personnel	
Appendix B	
Regulatory Database Information	
Appendix C	
Historical Information	
Appendix D	
Field Explorations	D-1
Exploration Key	Table D-1
Soil Classification System	Table D-2
Direct-Push Boring Logs	Figures D-1- D-9
Test Pit Logs	Figures D-10 – D-16
Hand-Augered Boring Logs	Figures D-17 – D-18
Geophysical Survey Map	
Appendix E	
Chemical Analytical Program	E-1
Chemical Analytical Laboratory Reports	

ACRONYMS AND ABBREVIATIONS

1.0 INTRODUCTION

This report summarizes the results of the environmental services completed at the River Terrace Area 10 site located at 15515, 15685, 15745, and 15915 SW 150th Avenue in Tigard, Oregon (project site). The project site includes Tax Lots 1400, 1401, 1402, 1403, and 1404 of Washington County Tax Map 2S108 and consists of 35.22 acres currently occupied by four single-family residences, numerous associated outbuildings, vacant agricultural land, and vacant wooded land. The project site is shown relative to surrounding physical features on Figure 1. The project site layout and surrounding properties are shown on Figures 2 and 3. GeoDesign's firm profile and resumes of project personnel are presented in Appendix A. Acronyms and abbreviations used herein are defined at the end of this document.

2.0 PURPOSE

2.1 PHASE I ESA

2.1.1 Protection from CERCLA Liability

One purpose for conducting a Phase I ESA is to undertake all appropriate inquiries into prior ownership and uses of a property so that a prospective purchaser may potentially claim protection from CERCLA and/or state liability as an innocent landowner, a bona fide prospective purchaser, or a contiguous property owner. The standards and practices for all appropriate inquiries are specified in Title 40, Chapter I of CFR Part 312 and ORS 465. The inquiry must be conducted by an environmental professional to identify conditions indicative of releases and threatened releases of hazardous substances as defined in CERCLA Section 101(22). If the prospective purchaser is the recipient of an EPA Brownfields Grant, the inquiry must also identify conditions indicative of releases and threatened releases of petroleum and petroleum products and controlled substances as defined in 21 U.S. Code 802. These standards and practices do not require the identification of quantities of hazardous substances, petroleum and petroleum products, and controlled substances that, because of said quantity, generally would not pose a threat to human health or the environment.

2.1.2 Identification of Recognized Environmental Conditions

Another purpose for conducting a Phase I ESA is to identify recognized environmental conditions in connection with a property as they pertain to ASTM Practice E 1527-13. This practice is intended for use by parties who wish to assess the environmental condition of a property by taking into account commonly known and reasonably ascertainable information. Although use of ASTM Practice E 1527-13 constitutes all appropriate inquiry as described in Section 2.1.1, the standard is intended primarily as an approach to identify recognized environmental conditions in connection with a property. A recognized environmental condition is defined by the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment, (2) under conditions indicative of a release to the environment, or (3) under conditions that pose a material threat of a future release to the environment. Recognized environmental conditions do not include de minimis conditions that do not generally present a risk to public health or to the environment and would not be the subject of legal enforcement if brought to the attention of appropriate governmental agencies.

2.2 SURFACE SOIL EVALUATION

The purpose of the surface soil evaluation was to evaluate possible residual pesticide and metals concentrations in surface soil from pesticide applications associated with historical agricultural activities identified during the Phase I ESA.

2.3 LIMITED SUBSURFACE EXPLORATION

The purpose of our limited subsurface exploration was to evaluate if historical uses at the project site have led to releases of hazardous substances to the subsurface. Soil from approximately 12 suspect areas at the project site (described in Section 3.3) was evaluated for the presence of potential contamination.

3.0 SCOPE OF SERVICES

3.1 PHASE I ESA

The scope of services for the Phase I ESA completed for this project was conducted in conformance with the standards and practices for all appropriate inquiries specified in 40 CFR Part 312 and the scope and limitations of ASTM Practice E 1527-13. The specific completed scope of services included the following:

- Reviewed a current USGS topographic map to identify the physical setting of the project site.
- Reviewed federal, tribal, state, and local environmental records for listings of known or suspected environmental conditions at the project site or nearby properties as specified in 40 CFR Part 312 and ASTM Practice E 1527-13.
- Reviewed reasonably ascertainable standard historical sources, including aerial photographs, USGS topographic maps, reverse city directories, online property information (including available building department records, property tax information, and zoning/land use records), and other historical sources, as appropriate to identify development history on and adjacent to the project site relative to the possible use, generation, storage, release, or disposal of hazardous substances.
- Interviewed the current owners/occupants of the project site and a local government official regarding their knowledge of the project site.
- Conducted a visual reconnaissance of the project site and adjacent properties to obtain information indicating the likelihood of identifying recognized environmental conditions concerning the properties.
- Prepared this report that presents our findings and provides conclusions and recommendations.

3.2 SURFACE SOIL EVALUATION

The purpose of the surface soil evaluation was to evaluate possible residual pesticide and metals concentrations in surface soil from pesticide applications associated with historical agricultural activities identified during the Phase I ESA. The scope of services for the limited surface soil evaluation was developed in general accordance with DEQ's *Guidance for Evaluating Residual Pesticides on Lands Formerly Used for Agricultural Purposes* dated January 2006. The completed scope of services included the following:

- Collected one composite sediment sample [SED-1(0.0-0.5)] from the stream channel in the central portion of the project site.
- Collected nine 4-point composite shallow surface soil samples [Comp-1(0.0-0.5 through Comp-9(0.0-0.5)] from agricultural areas throughout the project site.
- Submitted the composite sediment sample and the nine composite shallow surface soil samples to Apex Laboratories, LLC of Tigard, Oregon, for analysis of organochlorine pesticides by EPA Method 8081B and 17 agricultural-use metals (total metals) by EPA Method 6020A.
- Collected an additional nine 4-point composite shallow surface soil samples (0.25 to 0.5 foot BGS) and an additional nine 4-point composite deeper surface soil samples (1.5 to 2.0 feet BGS) from the identified composite sampling areas.
- Submitted the nine additional composite surface soil samples and the nine additional composite deep surface soil samples to Apex Laboratories, LLC of Tigard, Oregon, for analysis of organochlorine pesticides by EPA Method 8081B.
- Summarized the results of the surface soil evaluation in this report.

3.3 LIMITED SUBSURFACE EXPLORATION

The purpose of the limited subsurface exploration was to evaluate potential recognized environmental conditions identified during the Phase I ESA, including (1) an HOT associated with the residence on Tax Lot 1400, (2) a reported 1,000-gallon gasoline UST located on Tax Lot 1400, (3) an HOT associated with the residence on Tax Lot 1401, (4) two AST fueling areas located on Tax Lots 1400 and 1402, (5) four heating oil ASTs associated with the residences on Tax Lots 1400 and 1402, (6) numerous 55-gallon drums located throughout Tax Lots 1400 and 1402, and (7) three tractor and maintenance sheds with gravel floors located on Tax Lot 1400. The specific scope of services completed for the limited subsurface exploration included the following:

- Coordinated and manage the field exploration, including scheduling of public and private utility locates and subcontractors.
- Prepared a site-specific Health and Safety Plan checklist for proposed field activities.
- Subcontracted a local private utility locating service to clear proposed exploration locations of potential private utility conflicts.
- Contacted the Oregon One-Call Utility Notification Center to clear the location of public utilities beneath the areas to be explored.
- Subcontracted Pacific Geophysics of Portland, Oregon, to complete geophysical surveys in the vicinities of the UST and HOT on Tax Lot 1400 and the HOT on Tax Lot 1401.
- Subcontracted ESN Northwest of Olympia, Washington, to advance nine direct-push borings (DP-1 through DP-9) on Tax Lots 1400 and 1402 to depths up to 12.5 feet BGS.
- Subcontracted Northwest Earthmovers, Inc. of Sherwood, Oregon, to excavate four test pits (TP-1 through TP-4) and three test pit composite areas (TPComp-1 through TPComp-3) to depths up to 3 feet BGS on Tax Lots 1400 and 1402.
- Advanced two hand-augered borings (HA-1 and HA-2) adjacent to the HOT located on Tax Lot 1401 to depths up to 8.75 feet BGS using equipment owned and operated by GeoDesign.
- Collected soil samples from the explorations. Field screened soil samples collected from the explorations using visual indications, water sheen testing, and headspace vapor screening using a hand-held PID.

- Submitted select soil samples to Apex Laboratories, LLC of Tigard, Oregon, for chemical analysis of one or more of the following:
 - Gasoline-range hydrocarbons by Method NWTPH-Gx
 - Diesel- and oil-range hydrocarbons by Method NWTPH-Dx
 - Organochlorine pesticides by EPA Method 8081B
 - Total metals by EPA Method 6020A
 - TCLP lead by EPA Methods 1311/6020A
 - PAHs by EPA Method 8270D-SIM
 - VOCs by EPA Method 8260B
 - PCBs by EPA Method 8082A
- Following sampling, abandoned the boreholes by backfilling the boreholes with hydrated bentonite, abandoned the test pits by backfilling with soil, and repaired the ground surface as appropriate.

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 PCBs in light ballasts; a survey for asbestos, lead-based paint, radon gas, toxic mold, biological pollutants, or urea-formaldehyde insulation; or a wetlands determination or delineation.

4.0 PROJECT SITE AND VICINITY DESCRIPTION

Information concerning the physical setting of the project site and vicinity is based on a review of the USGS 7.5-minute Beaverton, Oregon, topographic quadrangle map; information provided by EDR of Shelton, Connecticut; and observations made during a site reconnaissance conducted on September 30, 2016.

The project site encompasses 35.22 acres at 15515, 15685, 15745, and 15915 SW 150th Avenue in Tigard, Oregon. The project site is currently occupied by four single-family residences, numerous associated outbuildings, vacant agricultural land, and vacant wooded land. The project site includes the following tax lots in the southwest quarter of the southeast quarter of Section 8, Township 2 South, Range 1 West of the Willamette Meridian:

Tax Lot (Tax Map)	Address	Owner
1400 (2S108)	15685 SW 150 th Avenue	HASUIKE, ALAN & SUSAN REV LIVING TRUST
1401 (2S108)	15515 SW 150 th Avenue	NEIDERS, REGINE I & GUNARS K
1402 (2S108)	15745 SW 150 th Avenue	JAW PROPERTIES LLC
1403 (2S108)	No Address	JACOBSON, STEVEN K & BARBARA
1404 (2S108)	15915 SW 150 th Avenue	JACOBSON, STEVEN K & BARBARA

The project site is situated at elevations between approximately 300 and 430 feet above MSL. The topography of the project site slopes moderately downward to the south and east. Based on a review of topographic maps for the area, shallow groundwater beneath the project site is expected to flow toward an unnamed tributary of the Tualatin River that flows south at the central portion of the project site.

Land use in the vicinity of the project site is primarily residential and agricultural. According to the City of Tigard Community Development Department, the project site is zoned Medium-Density Residential (R-7). Properties north and west of the project site within the City of Tigard are zoned Low-Density Residential (R-4.5) and Medium-Density Residential (R-7). According to the Washington County Land Use & Transportation Department, properties south and east of the project site within Washington County are zoned Residential 6 Units Per Acre (R-6) and Exclusive Farm Use (EFU).

5.0 USER-PROVIDED INFORMATION

The purpose of this section is to describe information provided by the user of this report (Polygon Northwest Company) that was considered in the evaluation of potential recognized environmental conditions in connection with the project site. The user was not provided with previously completed environmental reports, title and judicial records for environmental liens or activity and land use restrictions, specialized or actual knowledge or experience, valuation reduction for environmental issues, or commonly known or reasonably ascertainable information. Therefore, these materials were not reviewed as part of this assessment.

6.0 ENVIRONMENTAL RECORDS REVIEW

Federal, tribal, state, and local environmental records and databases were compiled according to 40 CFR Part 312 and ASTM Practice E 1527-13 for the project site and those facilities that currently or previously have occupied properties within the specified search distance from the project site. Information contained in the records and databases was reviewed by GeoDesign to evaluate the potential for environmental impacts to the project site. The EDR report is presented in Appendix B.

6.1 PROJECT SITE

The project site was not listed on any of the government records or databases searched by EDR.

6.2 SURROUNDING SITES

The EDR report identified 17 surrounding sites listed on one or more regulatory databases within the ASTM search distances. Based on local topography, the inferred direction of shallow groundwater flow, the regulatory status of the listed sites, the media impacted at the listed sites, and information contained in the regulatory databases, it is our professional opinion that none of the 17 sites should pose a risk of a recognized environmental condition at the project site. However, due to its close proximity to the project site, one of the listed sites is discussed in the following section.

6.2.1 Dickson Property

The Dickson Property site is located at 15225 SW 150th Avenue in Tigard, Oregon. The Dickson Property site is located approximately 660 feet north of the project site and up gradient of the project site in the inferred groundwater flow direction. The Dickson Property site was listed on the DEQ ECSI database (File No. 5929), the DEQ VCP database, and the OSFM HSIS List. The DEQ ECSI database contains information regarding sites that are, were, or may be contaminated and may require cleanup. The DEQ VCP database contains listings of sites that have entered into a

cleanup agreement with DEQ. Sampling completed at the Dickson Property site in May and June 2014 identified the pesticides dieldrin, DDE, and DDT in surface soil at concentrations that exceeded DEQ CFSLS. The detected concentrations of dieldrin also exceeded the *Soil Ingestion, Dermal Contact, and Inhalation* RBCs for residential receptors. During redevelopment of the Dickson Property site, contaminated soil was excavated within 2 feet of the ground surface and placed in two interment cells beneath a planned public park at the Dickson Property and covered with an engineered protective cap. Soil that exceeded DEQ CFSLS was retained on site. In August 2016 DEQ determined that the remediation activities at the Dickson Property site were sufficient. However, to maintain the integrity of the engineered cap, DEQ recommended recording an EES with the property deed of the park. The EES required the cap be appropriately monitored and maintained to prevent erosion from future development, which could result in exposing the dieldrin-contaminated soil. DEQ issued a conditional NFA for the Dickson Property site in August 2016.

The Dickson Property site was also identified on the OSFM HSIS List. This list is an inventory or reference list and does not imply a release or recognized environmental condition at the project site.

Based on the regulatory status of the Dickson Property site, the media impacted at the Dickson Property site, and information contained in the regulatory database, it is our professional opinion that the risk of a recognized environmental condition at the project site from the Dickson Property site is low.

6.3 ORPHAN SITES

Due to poor or inadequate address information, EDR was unable to successfully map one facility identified on two environmental databases. However, enough information was available to ascertain the general location of this orphan facility relative to the project site. Based on the location of the orphan site, it is our professional opinion that this orphan site will not pose a risk of a recognized environmental condition at the project site.

7.0 PROJECT SITE HISTORY AND BACKGROUND

Reasonably ascertainable information concerning the history and background of the project site begins in 1916 and includes aerial photographs, USGS topographic maps, reverse city directories, online property information (including available building department records, property tax information, and zoning/land use records), and personal knowledge of individuals familiar with the project site. Fire insurance maps for the project site were not available as reported by EDR. The “No Coverage” report provided by EDR is presented in Appendix C.

Historical aerial photographs for the project site were obtained from EDR and were reviewed by GeoDesign. The scale of the photographs reviewed allowed for the interpretation of general site development/configuration but did not allow for the identification of specific project site features. Aerial photographs were reviewed for the following years: 1934, 1947, 1952, 1960, 1970, 1981, 1994, 2005, and 2012. The historical aerial photographs are presented in Appendix C.

Historical topographic maps of the project site were obtained from EDR to evaluate past uses of the project site. Topographic maps were reviewed for the following years: 1916, 1939, 1954, 1961, 1970, 1984, and 2014. The historical topographic maps are presented in Appendix C.

Reverse city directories for the project site and adjacent properties were obtained from EDR. The city directories were reviewed (if available) at approximately five-year intervals for the years spanning 1972 through 2013. The EDR City Directory Abstract is presented in Appendix C.

Online property information for the project site and select adjacent properties was reviewed by GeoDesign. The online property information is presented in Appendix C.

7.1 PROJECT SITE

Based on the review of historical sources cited in Section 7.0, we have identified the following developmental history of the project site:

Year	Observations	Source
1916 through 1970	By at least 1916 the eastern portion of the project site was used for agricultural purposes and the eastern portion of Tax Lot 1400 was developed with a residence and an associated outbuilding. The remaining western portion of the project site appeared as vacant wooded land. The current residential structure, additional outbuildings, and an orchard were developed on Tax Lot 1400 between approximately 1947 and 1970. The vacant wooded area in the western portion of the project site was logged by 1970.	• Aerial Photographs • Topographic Maps • Online Property Information
1981 through 2016	By 1981 the residential structure was constructed on Tax Lot 1402. By 1987 the residential structures and associated outbuildings were constructed on Tax Lots 1401 and 1404 (including the access road on Tax Lot 1403). The project site has appeared in its current configuration since at least 2005.	• Aerial Photographs • Topographic Maps • City Directories • Online Property Information • Site Reconnaissance

Our review of historical sources from 1916 through 2016 indicated that the eastern portion of the project site has been used for agricultural purposes and associated residential use since at least 1916. Tax Lots 1401, 1402, and 1404 were developed for residential use between at least 1981 and 1987. The western portion of the project site has been vacant wooded land between approximately 1916 and 2016 and was logged sometime prior to 1970.

7.2 ADJOINING SITES

Based on the review of historical sources cited in Section 7.0, we have identified the following developmental history of properties adjoining the project site:

Year	Observations	Source
1916 through 1970	By 1916 SW 150 th Avenue was present in its current configuration east of the project site. Properties surrounding the project site were primarily used for agricultural purposes, including row crops and orchards, with associated residential use. However, the adjacent property to the east appeared as vacant wooded land.	• Aerial Photographs • Topographic Maps
1984 through 2016	By 1984 increased residential development began adjacent to the east of the project site and continues through the present.	• Aerial Photographs • Topographic Maps • City Directories • Site Reconnaissance

Our review of historical sources from 1916 through 2016 indicated that properties adjoining the project site were used for agricultural purposes and associated residential use since at least 1916. Properties east of the project site were primarily vacant wooded land between approximately 1916 and 1970. By 1984 increased residential development began adjacent to the east of the project site and continues through the present.

8.0 SITE RECONNAISSANCE

GeoDesign conducted a reconnaissance of the project site on September 30, 2016. The observations noted in this section apply to the project site as it appeared on that day. The site reconnaissance was performed to observe the current condition of the project site and to obtain information indicating the likelihood of identifying recognized environmental conditions in connection with the project site. Access to the project site and its structures was limited. The adjoining properties were also observed from the boundaries of the project site as part of the site reconnaissance. Site plans are presented on Figures 2 and 3. Photographs of the project site were taken to document observations made during the reconnaissance and are presented on Figures 4 and 5.

8.1 GENERAL PROJECT SITE USE

The project site consists of four single-family residences; associated outbuildings that include garages, an automotive storage/service shop, a horse barn and covered corral, three sheds for farm equipment storage, and other storage buildings; vacant agricultural land; and vacant wooded land. An unnamed tributary of the Tualatin River flows southward at the central portion of the project site.

8.1.1 Site Drainage

Surface water at the project site is expected to either infiltrate the ground surface or flow toward the unnamed tributary of the Tualatin River that flows south at the central portion of the project site. Some surface water was observed in the creek located in the central portion of the project site. Petroleum-like sheens or odors were not observed.

8.1.2 Project Site Structures

The residential structure on Tax Lot 1400 is a single-story, wood-frame building with a slab-on-grade foundation that encompasses 4,638 square feet. Outbuildings on Tax Lot 1400 include a

wood-frame automotive storage/service shop with a slab-on-grade foundation that encompasses approximately 3,000 square feet, two metal-frame tractor sheds with graveled floors that encompass approximately 1,300 square feet each, and one wood-frame tractor shed with a graveled floor that encompasses 1,600 square feet.

The residential structure on Tax Lot 1401 is a single-story, wood-frame building with a slab-on-grade foundation that encompasses 3,242 square feet.

The residential structure on Tax Lot 1402 is a single-story, wood-frame building with a slab-on-grade foundation that encompasses 4,638 square feet. The outbuilding on Tax Lot 1402 is a wood-frame shop building with a slab-on-grade foundation that encompasses approximately 650 square feet.

The residential structure on Tax Lot 1404 is a single-story, wood-frame building with a slab-on-grade foundation that encompasses 968 square feet. Outbuildings on Tax Lot 1404 include a wood-frame horse barn with a slab-on-grade foundation that encompasses approximately 3,500 square feet and a covered horse corral that encompasses 6,500 square feet.

8.1.3 Potable Water Supply

Potable water is supplied to Tax Lot 1401 by the City of Tigard. Potable water is supplied to Tax Lots 1400, 1402, and 1404 by on-site domestic water wells, which are further described in Section 8.1.17.

8.1.4 Sewage Disposal System

Sewage generated on Tax Lots 1400, 1401, 1402, and 1404 at the project site is reportedly discharged to individual septic systems. GeoDesign observed the surface of the septic system at Tax Lot 1401. It appeared to be in good condition with no evidence of unusual odors or stressed vegetation. GeoDesign personnel did not observe the other septic systems at the time of the site reconnaissance. In addition, evidence of a sewage disposal system was not observed on Tax Lot 1403.

8.1.5 Hazardous Substances and Petroleum Products

Consumer quantities of fuels, oils, paints, cleaners, herbicides, pesticides, and adhesives were observed in the structures throughout the project site. In general, evidence of leaks or spills was not observed in the vicinities of these containers.

Numerous 55-gallon drums, some unlabeled and some labeled as containing automotive fuels and oils, were observed throughout Tax Lots 1400 and 1402. Leakage was observed near some of the drums located west of the automotive storage/service shop on Tax Lot 1402.

Three USTs and approximately 11 ASTs were observed at the project site and are further described in Section 8.1.6.

8.1.6 Storage Tanks

Two AST fueling areas were observed on Tax Lots 1400 and 1402. Reportedly, the ASTs are no longer in use and their contents were not determined during this assessment. Evidence of petroleum product leakage was observed on the surface of the ASTs at each fueling area.

Two ASTs used for the storage of heating oil were observed at each of the residential structures on Tax Lots 1400 and 1402. Leakage was observed near one of the heating oil ASTs on Tax Lot 1400.

A 1,000-gallon gasoline UST was reportedly located in the northern portion of the automotive storage/service shop on Tax Lot 1400. The location of the 1,000-gallon gasoline UST was confirmed in this area by a geophysical survey completed at the project site.

One HOT is reportedly located adjacent to each of the residential structures on Tax Lots 1400 and 1401. A geophysical survey completed at the project site indicated that an approximately 675-gallon HOT is located at each residence.

8.1.7 Drums

Numerous 55-gallon drums were observed on Tax Lots 1400 and 1402. Most of the drums were unlabeled; however, some were labeled as containing automotive fuels and lubricants. The contents of each drum were not determined during this assessment; however, some oil leakage was observed on the surface of the drums located west of the automotive storage/service shop structure on Tax Lot 1400.

8.1.8 Unidentified Substance Containers

With the exception of the unlabeled drums described in Section 8.1.7, unidentified substance containers suspected of containing hazardous substances or petroleum products were not observed on the project site. However, due to the large volume of materials stored in the automotive storage/service shop structure located on Tax Lot 1400, unidentified substance containers may be present in this structure.

8.1.9 Odors

Strong, pungent, or noxious odors were not observed on the project site.

8.1.10 Pools of Liquid

Pools of liquid were not observed on the project site.

8.1.11 PCB-Containing Equipment

One pad-mounted transformer was observed at each of the tax lots at the project site. Each transformer was labeled as containing "Less than one PPM" PCBs. All four transformers appeared to be in good condition, with no evidence of spills or leakage.

8.1.12 Pits, Ponds, and Lagoons

Pits, ponds, or lagoons were not observed on the project site.

8.1.13 Stained Soil or Stained Pavement

Stained soil was not directly observed at the project site; however, evidence of leaking ASTs and 55-gallon drums indicates that stained soil is likely present at the project site.

8.1.14 Stressed Vegetation

Stressed vegetation was not observed on the project site.

8.1.15 Solid Waste

Solid waste was observed throughout Tax Lots 1400 and 1402. In general the waste appeared in the form of derelict vehicles, farm equipment, and automotive parts, although various other materials were observed. Solid waste generated at the project site residences is primarily stored in household waste receptacles located near the driveways prior to pick and disposal.

8.1.16 Waste Water

With the exception of sewage that is disposed of in the septic systems, waste water was not observed on the project site.

8.1.17 Wells

One water well was observed associated with each residence at the project site. GeoDesign personnel was able to obtain well logs for some of these wells via an Oregon Water Resources Department well log search, as summarized below. The well logs obtained from the well log search are presented in Appendix C.

A domestic water well was installed on Tax Lot 1400 in June 1966. The well was installed to a depth of 335 feet BGS and the static water level was measured at 248 feet BGS.

A domestic water well was installed on Tax Lot 1400 in July 1986 (although this well may be associated with Tax Lot 1402 due to the date of construction of the residence). The well was installed to a depth of 380 feet BGS and the static water level was measured at 244 feet BGS.

An irrigation well was installed on Tax Lot 1401 in October 2010. The well was installed to a depth of 400 feet BGS. First water was reported at 164 feet BGS and the static water level was measured at 250 feet BGS.

8.1.18 Septic Systems

Each residence at the project site is served by a septic system. Unusual odors or staining was not observed in the vicinity of the septic systems or leach fields at the project site.

8.1.19 Fill

Gravel fill was observed throughout Tax Lot 1400. The origin of the fill was not determined during this assessment.

8.1.20 Heating and Cooling Systems

The residential structures on Tax Lots 1400, 1401, and 1402 are heated with heating oil as described in previous sections. The residential structure on Tax Lot 1404 is heated by a wood-burning system.

8.1.21 Interior Stains or Corrosion

Interior stains or corrosion was not observed in the project site structures.

8.1.22 Interior Drains or Sumps

Interior drains or sumps were not observed in the project site structures.

8.2 SURROUNDING PROPERTY USE

The project site is directly bound to the north by agricultural land and associated residences; to the east by SW 150th Avenue, across which are residential properties; to the south by agricultural land and associated residences; and to the west by agricultural land and associated residences. Evidence of adverse environmental conditions was not observed on adjacent properties.

9.0 INTERVIEWS

The project site is currently owned and occupied by Alan Hasuike/Law Family Trust (Tax Lots 1400 and 1402), Regine Neiders (Tax Lot 1401), and Steve Jacobsen (Tax Lots 1403 and 1404). GeoDesign interviewed the owner/occupants and a local government official during the course of this study. Information obtained from these interviews is presented in the following sections.

9.1 CURRENT OWNERS AND OCCUPANTS

9.1.1 Tax Lots 1400 and 1402

Alan Hasuike (owner and occupant of Tax Lots 1400 and 1402) was interviewed on September 30, 2016 regarding his knowledge of the project site. Mr. Hasuike has been familiar with the project site for approximately 50 years. According to Mr. Hasuike, his family has been using the project site for agricultural purposes since at least 1900 and likely prior. Mr. Hasuike accompanied GeoDesign personnel during the site reconnaissance and pointed out many of the features described in Section 8.1. Mr. Hasuike stated that much of Tax Lot 1400 was maintained by his father until the early 2010s and that he did not know many details regarding the use, storage, and disposal of hazardous substances. He noted that the gasoline UST has not been used since the 1970s and that the AST fueling areas were moved from another property, but he did not know any other details. Mr. Hasuike stated that derelict farming equipment and vehicles, which have been overgrown in recent years, are present between the structures and vacant wooded land on Tax Lot 1400. Mr. Hasuike also noted that he has encountered debris when excavating surface soil.

9.1.2 Tax Lot 1401

Regine Neiders (owner of Tax Lot 1401) completed a Phase I ESA property owner questionnaire regarding the project site on October 8, 2016. Ms. Neiders has been familiar with the project site for approximately 35 years. According to Ms. Neiders, her parents built the residential structure on Tax Lot 1401 in 1980 and prior to that the property was a part of the Hasuike farm. Ms. Neiders stated that the residence utilizes heating oil stored in an underground HOT to heat the home and is served by a septic system. Ms. Neiders stated that a well was dug for agricultural purposes within the last few years. Ms. Neiders also identified that pesticides were used on the orchard area in the 1980s and 1990s.

9.1.3 Tax Lots 1403 and 1404

Steve Jacobsen (owner and occupant of Tax Lots 1403 and 1404) was interviewed October 5, 2016 regarding his knowledge of the project site. Mr. Jacobsen has been familiar with the project site for approximately 26 years. Mr. Jacobsen stated that there are no USTs located on Tax Lots 1403 and 1404 and identified the location of the septic tank and leach field on Tax Lot 1404. Mr. Jacobsen stated that to his knowledge there has been no use, storage, manufacture, transport, or spills of hazardous materials at Tax Lots 1403 and 1404.

9.2 LOCAL GOVERNMENT OFFICIAL

Lina Smith (assistant planner with City of Tigard) was interviewed on October 26, 2016 regarding her knowledge of the project site. According to Ms. Smith, the addresses associated with the project site do not have any open or past code violations.

10.0 DATA GAPS

Surface features of the western portion of the project site were not observed due to dense vegetation. GeoDesign personnel were unable to gain access to the interiors of the residential structures and some of the associated outbuildings during our site reconnaissance. It is our professional opinion that these data gaps are of low significance relative to our ability to identify recognized environmental conditions at the project site.

11.0 SURFACE SOIL EVALUATION

The results of the Phase I ESA indicated that the project site has been used for agricultural purposes since at least 1916 through the present. In order to evaluate the project site for residual pesticide and/or heavy metal concentrations associated with the agricultural use, GeoDesign completed a surface soil evaluation of the project site in general accordance with DEQ's *Guidance for Evaluating Residual Pesticides on Lands Formerly Used for Agricultural Production* dated January 2006.

11.1 FIELD ACTIVITIES

Initial field activities were completed between September 30 and October 12, 2016 and included collecting one three-point composite sediment sample [SED-1(0.0-0.5)] from the bank of the unnamed stream in the central portion of the project site and nine 4-point composite shallow surface soil samples [Comp-1(0.0-0.5) through Comp-9(0.0-0.5)] from throughout the project site. Subsequent field activities were completed between October 20 and 21, 2016 and included collecting an additional nine 4-point composite shallow surface soil samples [Comp-1(0.25-0.5) through Comp-9(0.25-0.5)] and nine 4-point composite deeper surface soil samples [Comp-1(1.5-2.0) through Comp-9(1.5-2.0)] from throughout the project site. The composite surface soil and sediment sample locations are shown on Figure 6. A description of our field exploration program is presented in Appendix D. The surface soil and sediment sample analytical results are shown in Tables 1 and 2. The laboratory analytical reports are presented in Appendix E.

11.2 CHEMICAL ANALYTICAL RESULTS

11.2.1 Sediment

Composite sediment sample SED-1(0.0-0.5) was submitted to Apex Laboratories, LLC of Tigard, Oregon, for analysis of organochlorine pesticides by EPA Method 8081B and 17 total agricultural metals by EPA Method 6020A. The pesticides 4,4'-DDE, 4,4'-DDT, and dieldrin were detected at concentrations of 0.00448 mg/kg, 0.00526 mg/kg, and 0.0615 mg/kg, respectively. Other pesticides were not detected at concentrations greater than the analytical laboratory MRLs in the sediment sample. Ten metals were detected in sediment sample SED-1(0.0-0.5) and the detected concentrations ranged from 0.779 to 238 mg/kg.

11.2.2 Shallow Surface Soil

Composite shallow surface soil samples Comp-1(0.0-0.5) through Comp-9(0.0-0.5) were submitted for analysis of organochlorine pesticides by EPA Method 8081B. The pesticide 4,4'-DDE was detected in the nine composite shallow surface soil samples at concentrations ranging from 0.00429 to 0.117 mg/kg. The pesticide 4,4'-DDT was detected in the nine composite shallow surface soil samples at concentrations ranging from 0.00224 to 0.105 mg/kg. Dieldrin was detected in all the composite shallow surface soil samples, except Comp-8(0.0-0.5), at concentrations ranging from 0.0437 to 0.189 mg/kg. The pesticide 4,4'-DDD was detected in composite shallow surface soil sample Comp-7(0.0-0.5) at a concentration of 0.00343 mg/kg. Lindane was detected in composite shallow surface soil samples Comp-1(0.0-0.5), Comp-2(0.0-0.5), and Comp-6(0.0-0.5) at concentrations of 0.00553 mg/kg, 0.00561 mg/kg, and 0.00212 mg/kg, respectively. Other pesticides were not detected at concentrations greater than the analytical laboratory MRLs in the composite shallow surface soil samples submitted for chemical analysis.

Composite shallow surface soil samples Comp-1(0.0-0.5) through Comp-9(0.0-0.5) were submitted for analysis of 17 total agricultural metals by EPA Method 6020A. Up to 12 total metals were detected in the shallow surface soil samples. The detected concentrations ranged from 0.13 mg/kg (mercury) to 264 mg/kg (barium).

11.2.3 Additional Shallow Surface Soil

Composite shallow surface soil samples Comp-1(0.25-0.5) through Comp-9(0.25-0.5) were submitted for analysis of organochlorine pesticides by EPA Method 8081B. The pesticide 4,4'-DDE was detected in all of the composite shallow surface soil samples, except Comp-8(0.25-0.5), at concentrations ranging from 0.00883 to 0.0788 mg/kg. The pesticide 4,4'-DDT was detected in all of the composite shallow surface soil samples, except Comp-8(0.25-0.5), at concentrations ranging from 0.00931 to 0.0561 mg/kg. Dieldrin was detected in all of the composite shallow surface soil samples, except Comp-8(0.25-0.5), at concentrations ranging from 0.0183 to 0.208 mg/kg. The pesticide cis-chlordane was detected in composite shallow surface soil samples Comp-4(0.25-0.5) and Comp-6(0.25-0.5) at concentrations of 0.00369 mg/kg and 0.0117 mg/kg, respectively. Eldrin Ketone was detected in composite shallow surface soil sample Comp-3(0.25-0.5) at a concentration of 0.00315 mg/kg. Lindane was detected in composite shallow surface soil samples Comp-1(0.25-0.5), Comp-2(0.25-0.5), Comp-3(0.25-0.5), Comp-6(0.25-0.5), and Comp-9(0.25-0.5) at concentrations of 0.0116 mg/kg, 0.00360 mg/kg, 0.00731 mg/kg, 0.00273 mg/kg, and 0.00473 mg/kg, respectively. The pesticide trans-chlordane was detected in composite shallow surface soil sample Comp-6(0.25-

0.5) at a concentration of 0.00364 mg/kg. Other pesticides were not detected at concentrations greater than the analytical laboratory MRLs in the composite shallow surface soil samples submitted for chemical analysis.

11.2.4 Deeper Surface Soil

Composite deeper surface soil samples Comp-1(1.5-2.0) through Comp-9(1.5-2.0) were submitted for analysis of organochlorine pesticides by EPA Method 8081B. The deeper surface soil samples represent soil at the base of the tilled zone. The pesticide 4,4'-DDD was detected in composite deeper surface soil sample Comp-6(1.5-2.0) at a concentration of 0.00206 mg/kg. The pesticide 4,4'-DDE was detected in all of the composite deeper surface soil samples, except Comp-1(1.5-2.0) and Comp-2(1.5-2.0), at concentrations ranging from 0.00179 to 0.0336 mg/kg. The pesticide 4,4'-DDT was detected in all of the composite deeper surface soil samples, except Comp-1(1.5-2.0) and Comp-2(1.5-2.0), at concentrations ranging from 0.00118 to 0.0200 mg/kg. Dieldrin was detected in all of the composite deeper surface soil samples, except Comp-1(1.5-2.0), at concentrations ranging from 0.00182 to 0.0380 mg/kg. The pesticide cis-chlordane was detected in composite deeper surface soil samples Comp-4(1.5-2.0) and Comp-6(1.5-2.0) at concentrations of 0.0170 mg/kg and 0.00107 mg/kg, respectively. The pesticides trans-chlordane and heptachlor epoxide were detected in composite deeper surface soil sample Comp-4(1.5-2.0) at concentrations of 0.00962 mg/kg and 0.00347 mg/kg, respectively. Other pesticides were not detected at concentrations greater than analytical laboratory MRLs in the composite deeper surface soil samples submitted for chemical analysis.

12.0 LIMITED SUBSURFACE EXPLORATION

In addition to the historical pesticide use on the project site, the results of the Phase I ESA indicated the presence of the following potential recognized environmental conditions at the project site: (1) an HOT associated with the residence on Tax Lot 1400, (2) a reported 1,000-gallon gasoline UST located on Tax Lot 1400, (3) an HOT associated with the residence on Tax Lot 1401, (4) two AST fueling areas located on Tax Lots 1400 and 1402, (5) four heating oil ASTs associated with the residences on Tax Lots 1400 and 1402, (6) numerous 55-gallon drums located throughout Tax Lots 1400 and 1402, and (7) three tractor and maintenance sheds with gravel floors located on Tax Lot 1400. GeoDesign completed a limited subsurface exploration, including completing a geophysical survey and collecting soil samples from nine direct-push borings, four test pits, three test pit composite areas, and two hand-augered borings completed at the project site. The results of these activities are summarized in Sections 12.1 and 12.2.

12.1 FIELD ACTIVITIES

Field activities were completed between October 12 and 21, 2016 and included completing a geophysical survey in the vicinity of the gasoline UST and HOT located on Tax Lot 1400 and the HOT located on Tax Lot 1401 and collecting soil samples from the following areas:

- Six direct-push borings located adjacent to the HOT (DP-1, DP-2, and DP-8) and gasoline UST (DP-3, DP-4, and DP-9) on Tax Lot 1400
- Four test pits located adjacent to the AST fueling areas (TP-2 and TP-3) and heating oil ASTs (TP-1 and TP-4)

- Three test pit composite areas located adjacent to a reported burned structure and drum storage area (TPComp-1) and other drum storage areas (TPComp-2 and TPComp-3) on Tax Lots 1400 and 1402
- Three direct-push borings located in the tractor sheds on Tax Lot 1400 (DP-5 through DP-7)
- Two hand-augered borings (HA-1 and HA-2) located adjacent to the HOT on Tax Lot 1401

The results of the geophysical survey indicated that an approximately 1,000-gallon UST is located at the auto storage/service shop on Tax Lot 1400, an approximately 675-gallon HOT is located northwest of the residence on Tax Lot 1400, and an approximately 675-gallon HOT is located east of the residence located on Tax Lot 1401. A map prepared by Pacific Geophysics showing the 1,000-gallon gasoline USE and the HOT on Tax lot 1400 is presented in Appendix D.

In general, subsurface soil conditions encountered in the explorations consist of brown silt with varying amounts of sand and gravel and gravel with silt and sand to depths up to 11.0 feet BGS. The silt is underlain by gravel with silt and, interpreted to be weathered bedrock, to the maximum explored depth of 12.5 feet BGS. The approximate locations of the direct-push borings (DP-1 through DP-9), test pits (TP-1 through TP-4), test pit composite areas (TPComp-1 through TPComp-3), and hand-augered borings (HA-1 and HA-2) are shown on Figure 2 and Figures 7 through 9. A description of our field exploration program is presented in Appendix D.

12.2 CHEMICAL ANALYTICAL RESULTS

Soil samples collected during the limited subsurface exploration were delivered to Apex Laboratories, under chain-of-custody protocol, for chemical analysis of one or more of the following:

- Gasoline-range hydrocarbons by Method NWTPH-Gx
- Diesel- and oil-range hydrocarbons by Method NWTPH-Dx
- Organochlorine pesticides by EPA Method 8081B
- Total metals by EPA Method 6020A
- TCLP lead by EPA Methods 1311/6020A
- PAHs by EPA Method 8270D-SIM
- VOCs by EPA Method 8260B
- PCBs by EPA Method 8082A

The chemical analytical results for each area are summarized in the following sections. The soil sample analytical results are shown in Tables 1 through 6. The laboratory analytical reports are presented in Appendix E.

12.2.1 HOT on Tax Lot 1400

Four soil samples [DP-1(10.0-11.0), DP-1(11.0-12.0), DP-2(1.0-2.0), and DP-2(11.5-12.5)] collected from the direct-push borings completed adjacent to the HOT on Tax Lot 1400 were analyzed for diesel- and oil-range hydrocarbons by Method NWTPH-Dx and PAHs by EPA Method 8270D-SIM. Diesel-range hydrocarbons were detected in the four soil sample at a concentrations ranging from 1,660 to 6,440 mg/kg. Oil-range hydrocarbons were not detected at concentrations greater than the analytical laboratory MRLs in the four soil samples collected adjacent to the HOT on Tax Lot 1400 and submitted for chemical analysis.

PAHs benz(a)anthracene, dibenzofuran, fluoranthene, fluorene, 1-methylnaphthalene, 2-methylnaphthalene, naphthalene, phenanthrene, and pyrene were detected at concentrations ranging from 0.0127 to 1.59 mg/kg in one or more of the soil samples collected adjacent to the HOT on Tax Lot 1400. Other PAHs were not detected at concentrations greater than the analytical laboratory MRLs in the four soil samples collected adjacent to the HOT on Tax Lot 1400 and submitted for chemical analysis.

Soil samples DP-8(0.5-2.0) and DP-8(8.5-10.5) were collected from a direct-push boring located in the inferred down-gradient direction from the HOT on Tax Lot 1400. The soil samples were analyzed for diesel- and oil-range hydrocarbons by Method NWTPH-Dx and PAHs by EPA Method 8270D-SIM. Diesel-range hydrocarbons, oil-range hydrocarbons, and PAHs were not detected at concentrations above the analytical laboratory MRLs in either soil sample collected from direct-push boring DP-8.

12.2.2 Gasoline UST on Tax Lot 1400

Two soil samples [DP-3(10.5-12.5) and DP-4(9.0-11.0)] collected from direct-push borings completed adjacent to the gasoline UST on Tax Lot 1400 were analyzed for gasoline-range hydrocarbons by Method NWTPH-Gx, total lead by EPA Method 6020A, and VOCs by EPA Method 8260B. Gasoline-range hydrocarbons were detected in soil sample DP-3(10.5-12.5) at a concentration of 519 mg/kg. Gasoline-range hydrocarbons were not detected at concentrations greater than the analytical laboratory MRLs in soil sample DP-4(9.0-11.0). Lead was detected in soil samples DP-3(10.5-12.5) and DP-4(9.0-11.0) at concentrations of 11.4 mg/kg and 7.83 mg/kg, respectively. VOCs ethylbenzene, n-propylbenzene, 1,2,4-TMB, and 1,3,5-TMB, and m,p-xylene were detected in soil sample DP-3(10.5-12.5) at concentrations ranging from 1.31 to 14.2 mg/kg. Other VOCs were not detected at concentrations greater than the analytical laboratory MRLs in soil sample DP-3(10.5-12.5). VOCs were not detected above analytical laboratory MRLs in soil sample DP-4(9.0-11.0).

Soil samples DP-9(5.0-6.5) and DP-9(9.5-11.0) were collected from a direct-push boring located in the inferred down-gradient direction from the gasoline UST. The soil samples were analyzed for gasoline-range hydrocarbons by NWTPH-Gx, total lead by EPA Method 6020A, and VOCs by EPA Method 8260B. Total lead was detected in soil samples DP-9(5.0-6.5) and DP-9(9.5-11.0) at concentrations of 9.36 mg/kg and 7.31 mg/kg, respectively. Gasoline-range hydrocarbons and VOCs were not detected at concentrations above the analytical laboratory MRLs in either soil sample collected from direct push boring DP-9.

12.2.3 HOT on Tax Lot 1401

Five soil samples [HA-1(0.0-1.0), HA-1(6.5-8.0), HA-1(8.0-8.5), HA-2(7.0-8.0), and HA-2(8.25-8.75)] collected from the hand-augered borings completed adjacent to the HOT on Tax Lot 1401 were analyzed for diesel- and oil-range hydrocarbons by Method NWTPH-Dx and PAHs by EPA Method 8270D-SIM. Diesel-range hydrocarbons were detected in the five soil samples at concentrations ranging from 119 to 51,900 mg/kg.

PAHs dibenzofuran, 1-methylnaphthalene, 2-methylnaphthalene, naphthalene, phenanthrene, and pyrene were detected in one or more of the soil samples at concentrations ranging from 0.0180 to 43.3 mg/kg.

12.2.4 ASTs

Eight soil samples [TP-2N(0.0-0.5), TP-2N(2.0-2.5), TP-2S(0.0-0.5), TP-2S(2.5-3.0), TP-3E(0.0-0.5), TP-3E(1.5-2.0), TP-3W(0.0-0.5), TP-3W(1.5-2.0)] collected from test pits completed near the AST fueling areas on Tax Lots 1400 and 1402 were analyzed for organochlorine pesticides by EPA Method 8081B. The pesticides 4,4'-DDT, dieldrin, 4,4'-DDD, 4,4'-DDE, and cis-chlordane were detected in one or more of the soil samples at concentrations ranging from 0.00137 to 0.454 mg/kg. Other organochlorine pesticides were not detected at concentrations greater than the analytical laboratory MRLs in the soil samples collected from the AST fueling areas and submitted for chemical analysis.

Six soil samples [TP-2N(0.0-0.5), TP-2S(0.0-0.5), TP-3E(0.0-0.5), TP-3E(1.5-2.0), TP-3W(0.0-0.5), and TP-3W(1.5-2.0)] collected from test pits completed near the AST fueling areas were analyzed for 17 total agricultural metals by EPA Methods 6020A. Total metals (arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, nickel, vanadium, and zinc) were detected at concentrations ranging from 0.252 to 241 mg/kg. Other metals were not detected at concentrations greater than the analytical laboratory MRLs in the soil samples collected from the AST fueling areas and submitted for chemical analysis.

Ten soil samples [TP-1N(0.0-0.5), TP-1S(0.0-0.5), TP-2N(0.0-0.5), TP-2N(2.0-2.5), TP-2S(0.0-0.5), TP-2S(2.5-3.0), TP-3E(0.0-0.5), TP-3W(0.0-0.5), TP-4N(0.0-0.5), and TP-4S(0.0-0.5)] collected from test pits completed near the AST fueling areas and heating oil ASTs on Tax Lots 1400 and 1402 were analyzed for diesel- and oil-range hydrocarbons by Method NWTPH-Dx. Diesel-range hydrocarbons were detected in soil samples TP-2N(0.0-0.5), TP-2S(0.0-0.5), and TP-2S(2.5-3.0) at concentrations of 7,950 mg/kg, 7,560 mg/kg, and 31.1 mg/kg, respectively. Oil-range hydrocarbons were detected in soil sample TP-4S(0.0-0.5) at a concentration of 62.3 mg/kg. Diesel- and oil-range hydrocarbons were not detected at concentrations greater than the analytical laboratory MRLs in the other soil samples collected near the AST fueling areas and heating oil ASTs and submitted for chemical analysis.

Four soil samples [TP-2N(0.0-0.5), TP-2S(0.0-0.5), TP-3E(0.0-0.5), and TP-3W(0.0-0.5)] collected from test pits completed near the AST fueling areas on Tax Lots 1400 and 1402 were analyzed for gasoline-range hydrocarbons by Method NWTPH-Gx, VOCs by EPA Method 8260B, and PCBs by EPA Method 8082A. Gasoline-range hydrocarbons, VOCs, and PCBs were not detected at concentrations greater than the analytical laboratory MRLs in the soil samples collected near the AST fueling areas and submitted for chemical analysis.

Eight soil samples [TP-1N(0.0-0.5), TP-1S(0.0-0.5), TP-2N(0.0-0.5), TP-2S(0.0-0.5), TP-3E(0.0-0.5), TP-3W(0.0-0.5), TP-4N(0.0-0.5), and TP-4S(0.0-0.5)] collected from test pits completed near the AST fueling areas and heating oil ASTs on Tax Lots 1400 and 1402 were analyzed for PAHs by EPA Method 8270D-SIM. Phenanthrene was detected in soil samples TP-2N(0.0-0.5) and TP-2S(0.0-0.5) at concentrations of 0.177 mg/kg and 0.234 mg/kg, respectively. Other PAHs were not detected at concentrations greater than the analytical laboratory MRLs in the other soil samples collected near the AST fueling areas and heating oil ASTs and submitted for chemical analysis.

12.2.5 Drum Storage Areas

Four composite soil samples [TPComp-2(0.0-0.5), TPComp-2(1.5-2.0), TPComp-3(0.0-0.5), and TPComp-3(1.5-2.0)] collected from test pits completed near the drum storage areas on Tax Lots 1400 and 1402 were analyzed for organochlorine pesticides by EPA Method 8081B. The pesticides 4,4'-DDT, 4,4'-DDE, Aldrin, dieldrin, and lindane were detected in one or more of the four composite soil samples at concentrations ranging from 0.00116 to 5.93 mg/kg. Other organochlorine pesticides were not detected at concentrations greater than the analytical laboratory MRLs in the composite soil samples collected near the drum storage areas and submitted for chemical analysis.

Composite soil sample TPComp-1(0.0-1.0) collected from test pits completed near the reported burned shed structure/drum storage area on Tax Lot 1402 was analyzed for total metals by EPA Method 6020A. Arsenic, barium, cadmium, chromium, and lead were detected at concentrations ranging from 0.724 to 174 mg/kg. Other metals were not detected at concentrations greater than the analytical laboratory MRLs in the composite soil sample collected near the burned shed structure/drum storage area and submitted for chemical analysis.

Four composite soil samples [TPComp-2(0.0-0.5), TPComp-2(1.5-2.0), TPComp-3(0.0-0.5), and TPComp-3(1.5-2.0)] collected from test pits completed near the drum storage areas on Tax Lots 1400 and 1402 were analyzed for 17 total agricultural metals by EPA Method 6020A. Eleven total metals (arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, nickel, vanadium, and zinc) were detected in one or more of the composite soil samples at concentrations ranging from 0.277 to 282 mg/kg. Other metals were not detected at concentrations greater than the analytical laboratory MRLs in the four composite soil samples collected near the drum storage areas and submitted for chemical analysis.

Based on the presence of total lead at a concentration greater than 100 mg/kg (threshold for disposal of soil at a RCRA Subtitle D landfill), composite soil sample TPComp-3(0.0-0.5) was analyzed for TCLP lead by EPA Methods 1311/6020A. TCLP lead was detected in soil sample TPComp-3(0.0-0.5) at a concentration of 0.914 mg/L. This concentration indicates suitability for disposal as non-hazardous waste.

Three composite soil samples [TPComp-1(0.0-1.0), TPComp-2(0.0-0.5), and TPComp-3(0.0-0.5)] collected from test pits completed near the reported burned shed structure/drum storage area and other drum storage areas on Tax Lots 1400 and 1402 were analyzed for gasoline-range hydrocarbons by Method NWTPH-Gx and diesel- and oil-range hydrocarbons by Method NWTPH-Dx. Gasoline-range hydrocarbons were detected in composite soil sample TPComp-3(0.0-0.5) at a concentration of 12.8 mg/kg. Gasoline-range hydrocarbons were not detected at concentrations greater than the analytical laboratory MRLs in the other composite soil samples collected from the drum storage areas and submitted for chemical analysis. Diesel-range hydrocarbons were detected in composite soil sample TPComp-2(0.0-0.5) at a concentration of 61.3 mg/kg. Diesel-range hydrocarbons were not detected at concentrations greater than analytical laboratory MRLs in the other composite soil samples collected from the drum storage areas and submitted for chemical analysis. Oil-range hydrocarbons were detected in composite soil samples TPComp-1(0.0-1.0) and TPComp-3(0.0-0.5) at concentrations of 763 mg/kg and

17,100 mg/kg, respectively. Oil-range hydrocarbons were not detected in composite soil sample TPComp-2(0.0-0.5) at a concentration greater than the analytical laboratory MRLs.

Three composite soil samples [TPComp-1(0.0-1.0), TPComp-2(0.0-0.5), and TPComp-3(0.0-0.5)] collected from test pits completed near the reported burned shed structure/drum storage area and other drum storage areas on Tax Lots 1400 and 1402 were analyzed for PAHs by EPA Method 8270D-SIM. PAHs 1-methylnaphthalene, 2-methylnaphthalene, naphthalene, phenanthrene, and pyrene were detected in composite soil sample TPComp-1(0.0-1.0) at concentrations ranging from 0.0909 to 0.171 mg/kg. Benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(g,h,i)perylene, chrysene, fluoranthene, fluorene, indeno(1,2,3-cd)pyrene, 1-methylnaphthalene, 2-methylnaphthalene, phenanthrene, and pyrene were detected in composite soil sample TPComp-3(0.0-0.5) at concentrations ranging from 0.124 to 1.66 mg/kg. Other PAHs were not detected at concentrations greater than the analytical laboratory MRLs in the three composite soil samples collected from near the burned shed structure/drum storage area and other drum storage areas located on Tax Lots 1400 and 1402 and submitted for chemical analysis.

Three composite soil samples [TPComp-1(0.0-1.0), TPComp-2(0.0-0.5), and TPComp-3(0.0-0.5)] collected from test pits completed near the reported burned shed structure/drum storage area and other drum storage areas on Tax Lots 1400 and 1402 were also analyzed for VOCs by EPA Method 8260B and PCBs by EPA Method 8082A. Naphthalene was detected in composite soil sample TPComp-3(0.0-0.5) at a concentration of 0.235 mg/kg. Other VOCs and PCBs were not detected at concentrations greater than the analytical laboratory MRLs in the three composite soil samples collected from the reported burned shed structure/drum storage area and other drum storage areas and submitted for chemical analysis.

12.2.6 Tractor Sheds

Three soil samples [DP-5(0.5-1.5), DP-6(0.5-2.0), and DP-7(4.0-5.5)] collected from direct-push borings completed within the three tractor sheds located on Tax Lot 1400 were analyzed for gasoline-range hydrocarbons by Method NWTPH-Gx, diesel- and oil-range hydrocarbons by Method NWTPH-Dx, total metals by EPA Method 6020A, VOCs by EPA Method 8260B, PAHs by EPA Method 8270D-SIM, and PCBs by EPA Method 8082A. Gasoline-range hydrocarbons, diesel-range hydrocarbons, PAHs, VOCs, and PCBs were not detected at concentrations greater than the analytical laboratory MRLs in the soil samples collected from within the tractor sheds and submitted for chemical analysis.

Oil-range hydrocarbons were detected in soil sample DP-6(0.5-2.0) at a concentration of 57.6 mg/kg. Oil-range hydrocarbons were not detected at concentrations greater than the analytical laboratory MRLs in the other soil samples collected from within the tractor sheds on Tax Lot 1400 and submitted for chemical analysis.

Total metals (arsenic, barium, cadmium, chromium, and lead) were detected in two or more of the soil samples at concentrations ranging from 0.320 to 267 mg/kg. Other metals were not detected at concentrations greater than the analytical laboratory MRLs in the soil samples collected from within the tractor sheds on Tax Lot 1400 and submitted for chemical analysis.

13.0 REGULATORY CRITERIA

While a formal conceptual site model has not been completed for the project site, it is our understanding that the project site will be redeveloped in the future for residential use. While future site redevelopment will likely include decommissioning the existing water supply wells and installation of a municipal water supply system, active water supply wells are present in the project site vicinity. In addition, excess soil that may require special handling or disposal will likely be generated during site redevelopment activities. Therefore, the soil and sediment sample chemical analytical results were compared to the following regulatory screening levels:

- DEQ CFSL
- DEQ *Soil Ingestion, Dermal Contact, and Inhalation* RBCs for residential, construction worker, and excavation worker receptors
- DEQ *Volatilization to Outdoor Air* RBCs for residential receptors
- DEQ *Vapor Intrusion into Buildings* RBCs for residential receptors
- DEQ *Leaching to Groundwater* RBCs for residential receptors; this pathway may be considered incomplete by DEQ because of planned future development activities and the use of a municipal water source

13.1 SURFACE SOIL EVALUATION

13.1.1 Sediment

The concentration of dieldrin detected in composite sediment sample SED-1(0.0-0.5) exceeds the DEQ CFSL of 0.0049 mg/kg.

13.1.2 Shallow Surface Soil

The detected concentrations of dieldrin in composite shallow surface soil samples Comp-1(0.0-0.5) through Comp-7(0.0-0.5) and Comp-9(0.0-0.5) exceed the *Soil Ingestion, Dermal Contact, and Inhalation* RBC for residential receptors, the *Leaching to Groundwater* RBC for residential receptors, and the DEQ CFSL. The detected concentrations of 4,4'-DDT in composite shallow surface soil samples Comp-3(0.0-0.5) through Comp-7(0.0-0.5) and Comp-9(0.0-0.5) exceed the DEQ CFSL.

The concentrations of copper and lead detected in composite shallow surface soil sample Comp-3(0.0-0.5) exceed the corresponding DEQ CFSLs.

13.1.3 Additional Shallow Surface Soil

The detected concentrations of dieldrin in composite shallow surface soil samples Comp-1(0.25-0.5) through Comp-3(0.25-0.5), Comp-5(0.25-0.5), Comp-6(0.25-0.5), and Comp-9(0.25-0.5) exceed the *Soil Ingestion, Dermal Contact, and Inhalation* RBC for residential receptors, the *Leaching to Groundwater* RBCs for residential receptors, and the DEQ CFSL. The detected concentrations of dieldrin in composite shallow surface soil samples Comp-4(0.25-0.5) and Comp-7(0.25-0.5) exceed the *Leaching to Groundwater* RBC for residential receptors and the DEQ CFSL. The detected concentrations of 4,4'-DDT in composite shallow surface soil samples Comp-3(0.25-0.5) through Comp-6(0.25-0.5) and Comp-9(0.25-0.5) exceed the DEQ CFSL concentration of 0.021 mg/kg.

13.1.4 Deeper Surface Soil

The detected concentration of dieldrin in composite deeper surface soil sample Comp-6(1.5-2.0) slightly exceeds the *Soil Ingestion, Dermal Contact, and Inhalation* RBC for residential receptors, the *Leaching to Groundwater* RBCs for residential receptors, and the DEQ CFSL. The detected concentrations of dieldrin in composite deeper surface soil samples Comp-3(1.5-2.0) and Comp-4(1.5-2.0) also exceeds the *Leaching to Groundwater* RBC for residential receptors and the DEQ CFSL. The remaining seven composite deeper surface soil samples did not exceed the *Soil Ingestion, Dermal Contact, and Inhalation* RBC for residential receptors.

13.2 LIMITED SUBSURFACE EXPLORATION

13.2.1 HOT on Tax Lot 1400

The concentrations of diesel-range hydrocarbons detected in soil samples DP-1(10.0-11.0), DP-1(11.0-12.0), DP-2(1.0-2.0), and DP-2(11.5-12.5) exceed the *Soil Ingestion, Dermal Contact, and Inhalation* RBC for residential receptors. The concentrations of naphthalene detected in soil samples DP-1(10.0-11.0) and DP-2(11.5-12.5) exceed the *Leaching to Groundwater* RBC for residential receptors and the DEQ CFSL. The concentrations of the PAH dibenzofuran in soil samples DP-1(10.0-11.0), DP-1(11.0-12.0), and DP-2(1.0-2.0) exceed the DEQ CFSL. The concentrations of the PAH 1-methylnaphthalene detected in soil samples DP-2(1.0-2.0) and DP-2(11.5-12.5) exceed the DEQ CFSL.

13.2.2 Gasoline UST on Tax Lot 1400

The concentration of gasoline-range hydrocarbons detected in soil sample DP-3(10.5-12.5) exceeds the *Vapor Intrusion into Buildings* RBC for residential receptors and the *Leaching to Groundwater* RBC for residential receptors. The concentration of ethylbenzene detected in soil sample DP-3(10.5-12.5) exceeds the *Vapor Intrusion into Buildings* RBC for residential receptors, the *Leaching to Groundwater* RBC for residential receptors, and the DEQ CFSL.

13.2.3 HOT on Tax Lot 1401

The concentrations of diesel-range hydrocarbons detected in soil samples HA-1(6.5-8.0), HA-1(8.0-8.5), and HA-2(7.0-8.0) exceed the *Soil Ingestion, Dermal Contact, and Inhalation* RBCs for residential and construction worker receptors and the *Leaching to Groundwater* RBC for residential receptors. The concentrations of the PAHs dibenzofuran and 1-methylnaphthalene detected in soil samples HA-1(6.5-8.0), HA-1(8.0-8.5), and HA-2(7.0-8.0) exceed the corresponding DEQ CFSLs. The concentrations of naphthalene detected in soil samples HA-1(6.5-8.0), HA-1(8.0-8.5), HA-2(7.0-8.0), and HA-2(8.25-8.75) exceed the *Leaching to Groundwater* RBC for residential receptors and the DEQ CFSL. The concentrations of naphthalene detected in soil samples HA-1(8.0-8.5) and HA-2(7.0-8.0) also exceed the *Soil Ingestion, Dermal Contact, and Inhalation* RBC for residential receptors, the *Volatilization to Outdoor Air* RBC for residential receptors, and the *Vapor Intrusion into Buildings* RBC for residential receptors.

13.2.4 ASTs

The concentrations of dieldrin detected in soil samples TP-2N(0.0-0.5), TP-2S(0.0-0.5), TP-3E(0.0-0.5), and TP-3W(0.0-0.5) exceed the *Soil Ingestion, Dermal Contact, and Inhalation* RBC for residential receptors, the *Leaching to Groundwater* RBC for residential receptors, and the DEQ CFSL.

The concentrations of 4,4'-DDT detected in soil samples TP-2S(0.0-0.5), TP-3E(0.0-0.5), and TP-3W(0.0-0.5) exceed the DEQ CFSL. The concentration of lead detected in soil sample TP-3E(0.0-0.5) exceeds the DEQ CFSL. The concentrations of diesel-range hydrocarbons detected in soil samples TP-2N(0.0-0.5) and TP-2S(0.0-0.5) exceed the *Soil Ingestion, Dermal Contact, and Inhalation* RBC for residential receptors.

13.2.5 Drum Storage Areas

The concentrations of dieldrin detected in composite soil samples TP-Comp-2(0.0-0.05) and TP-Comp-3(0.0-0.5) exceed the *Soil Ingestion, Dermal Contact, and Inhalation* RBC for residential receptors, the *Leaching to Groundwater* RBC for residential receptors, and the DEQ CFSL.

The concentration of dieldrin detected in composite soil sample TPComp-3(1.5-2.0) exceeds the *Leaching to Groundwater* RBC for residential receptors and the DEQ CFSL. The concentrations of 4,4'-DDT detected in composite soil samples TPComp-2(0.0-0.5) and TPComp-3(0.0-0.5) exceed the DEQ CFSL. The concentration of aldrin detected in composite soil sample TPComp-3(0.0-0.5) exceeds the *Soil Ingestion, Dermal Contact, and Inhalation* RBCs for residential and construction worker receptors, the *Leaching to Groundwater* RBC for residential receptors, and the DEQ CFSL. The concentration of aldrin detected in composite soil sample TPComp-3(1.5-2.0) exceeds the *Soil Ingestion, Dermal Contact, and Inhalation* RBC for residential receptors, the *Leaching to Groundwater* RBC for residential receptors, and the DEQ CFSL. The concentrations of lead detected in composite soil samples TPComp-1(0.0-1.0) and TPComp-3(0.0-0.5) exceed the DEQ CFSL.

The concentration of benz(a)anthracene detected in composite soil sample TPComp-3(0.0-0.5) exceeds the *Soil Ingestion, Dermal Contact, and Inhalation* RBC for residential receptors, the *Leaching to Groundwater* RBC for residential receptors, and the DEQ CFSL. The concentration of benzo(a)pyrene detected in composite soil sample TPComp-3(0.0-0.5) exceeds the *Soil Ingestion, Dermal Contact, and Inhalation* RBC for residential receptors and the DEQ CFSL. The concentration of benzo(b)fluoranthene detected in composite soil sample TPComp-3(0.0-0.5) exceeds the *Soil Ingestion, Dermal Contact, and Inhalation* RBC for residential receptors and the DEQ CFSL. The concentration of indeno(1,2,3-cd)pyrene detected in composite soil sample TPComp-3(0.0-0.5) exceeds the *Soil Ingestion, Dermal Contact, and Inhalation* RBC for residential receptors and the DEQ CFSL. The concentration of naphthalene detected in composite soil sample TPComp-1(0.0-1.0) exceeds the *Leaching to Groundwater* RBC for residential receptors and the DEQ CFSL. In addition, the concentration of naphthalene detected in composite soil sample TPComp-3(0.0-0.5) during VOC analysis exceeds the *Leaching to Groundwater* RBC for residential receptors and the DEQ CFSL.

13.2.6 Tractor Sheds

The concentration of lead detected in soil sample DP-6(0.5-2.0) exceeds the DEQ CFSL.

14.0 CONCLUSIONS AND RECOMMENDATIONS

GeoDesign performed a Phase I ESA, a surface soil evaluation, and a limited subsurface exploration for the project site located at 15515, 15685, 15745, and 15915 SW 150th Avenue in Tigard, Oregon. The Phase I ESA was completed in conformance with the scope and limitations

of ASTM Practice E 1527-13 and all appropriate inquiries specified in 40 CFR Part 312. The surface soil evaluation was completed in general accordance with DEQ's *Guidance for Evaluating Residual Pesticides on Lands Formerly Used for Agricultural Production* dated January 2006. Any exceptions to or deletions from this practice are described in Sections 3.0 and 16.0. This assessment has not revealed evidence of recognized environmental conditions on the project site except for the following:

- The eastern portion of the project site has been used for agricultural purposes, including orchards, from at least 1916 through 2016. Residual pesticides and associated metals can accumulate in the surface soil and sediments in drainage features on agricultural-use land. The agricultural use of the project site represents a recognized environmental condition.
- One gasoline UST, three residential HOTs, two drum storage areas, and two AST fueling areas represent recognized environmental conditions on the project site.
- Based on the results of the Phase I ESA, GeoDesign completed a surface soil evaluation of the project site to evaluate possible concentrations of pesticides and metals related to historical agricultural use. The results of the surface soil evaluation disclosed that shallow soil in the 0.0- to 0.5-foot depth range contains concentrations of persistent pesticides, including dieldrin, at concentrations that exceed DEQ residential *Soil Ingestion, Dermal Contact, and Inhalation* RBCs as well as DEQ RBCs for *Leaching to Groundwater* under a residential scenario and CFSLs.

Deeper surface soil at depths generally between 0.5 foot and 2.0 feet BGS contains significantly lower concentrations of pesticides. Only one of the eight deeper composite soil samples contained pesticides at concentrations exceeding the *Soil Ingestion, Dermal Contact, and Inhalation* RBCs and three of the eight soil samples exceeded the *Leaching to Groundwater* under a residential scenario RBCs and CFSLs. It is likely that the leaching to groundwater pathway will be considered incomplete by DEQ because of the planned development and the future use of municipal water. In addition, factoring in the 90% Upper Confidence Level (calculated to be 0.033 mg/kg for dieldrin) brings the one exceedance of the *Soil Ingestion, Dermal Contact, and Inhalation* RBC for dieldrin into compliance.

The upper 0.5 foot of soil in the eastern portion of the project site will require removal and either off-site disposal at an approved landfill or possible on-site mitigation, such as placing the soil at depth to mitigate potential future risk to residential users. Planning and implementation should be conducted in conjunction with a Soil Management Plan to identify, segregate, and properly dispose of pesticide-impacted soil. In addition, future development activities should be conducted under DEQ oversight such that regulatory closure can be obtained upon completion of the project.

On-site soil mitigation by Polygon has been used effectively on two nearby agricultural-use developments, including the Dickson Property as discussed in Section 6.2.1 and the Roshak Ridge development site. Both of these Polygon development sites were given approval by DEQ to create on-site internment cells beneath park land and rights-of-way to facilitate on-site soil mitigation.

- Evidence of releases to subsurface soil has occurred in the vicinity of the heating oil UST associated with the residence on Tax Lot 1400, from the gasoline UST located in the auto service/storage shop on Tax Lot 1400, from the heating oil UST associated with the residence on Tax Lot 1401, near an AST fueling area located on Tax Lot 1402, and near the drum storage areas.

The two heating oil USTs and one gasoline UST should be decommissioned, including the removal and proper disposal of contaminated soil, according to state and national standards of practice under DEQ oversight such that regulatory closure can be obtained upon completion of the project. The work should be performed by a licensed UST and HOT service provider. The remaining areas of petroleum-related impact are shallow in nature and will be effectively mitigated during removal of the upper 0.5 foot of soil related to the pesticide soil removal action. Confirmatory soil sampling will be required to illustrate that the removal action was effective.

Removal of the USTs and affected petroleum-impacted soil with DEQ oversight in the appropriate DEQ LUST and/or Voluntary Cleanup Programs will lead to the issuance of NFA findings for the UST and soil removal actions. Farm and rural residential UST removals are common practices on rural properties that are being redeveloped. Polygon has achieved regulatory closure through DEQ on many redevelopment sites in rural Washington County.

In addition to the recognized environmental conditions described above, the following non-recognized environmental conditions were observed on the project site.

If future use is not anticipated, the existing septic systems and water supply wells associated with the project site residences should be properly abandoned in accordance with state and local regulations. If chemical or hazardous material disposal is evident in the septic systems, soil samples should be collected from beneath the septic systems for chemical analysis.

Evidence of deleterious material was not observed among the solid waste observed at the project site. This solid waste should be collected and properly disposed of prior to site development. If hazardous materials are encountered, they should be segregated, characterized, and disposed of in accordance with state and federal regulations.

While the presence of the chemicals and petroleum products stored in small-quantity containers at the project site do not appear to represent a recognized environmental condition at the project site, given the large volume of materials present it is possible that some surface-stained soil may be present beneath some of these containers. Therefore, it may be prudent to utilize a Soil Management Plan prepared prior to site development to assist the earthwork contractor on the proper identification, handling, stockpiling, and disposal of petroleum-contaminated soil.

Some areas of the project site were not observed due to dense vegetation. If solid waste or hazardous or deleterious material is found in the heavily vegetated areas during site re-development, they should be separated, characterized, and properly disposed of.

This scope of work did not include the completion of surveys for lead-based paint, asbestos-containing materials, or other hazardous building materials in the on-site structures. Prior to site demolition, the on-site structures should be surveyed for hazardous building materials. If hazardous building materials are present in the on-site structures, they should be removed and disposed of in accordance with federal, state, and local regulations prior to site demolition.

15.0 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.

16.0 LIMITATIONS

This Phase I ESA, surface soil evaluation, and limited subsurface exploration have been prepared for use by Polygon Northwest Company. 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 multiple recent site visits. 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 this assessment 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 for Phase I ESAs in this area at the time this report was prepared. No warranty or other conditions, express or implied, should be understood.

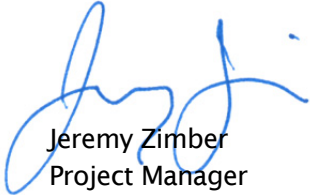
We appreciate the opportunity to be of service to Polygon Northwest Company. Please call if you have questions regarding this report.

Sincerely,

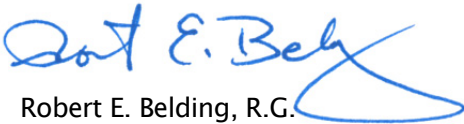
GeoDesign, Inc.



Kevin M. Cline
Environmental Staff



Jeremy Zimmer
Project Manager



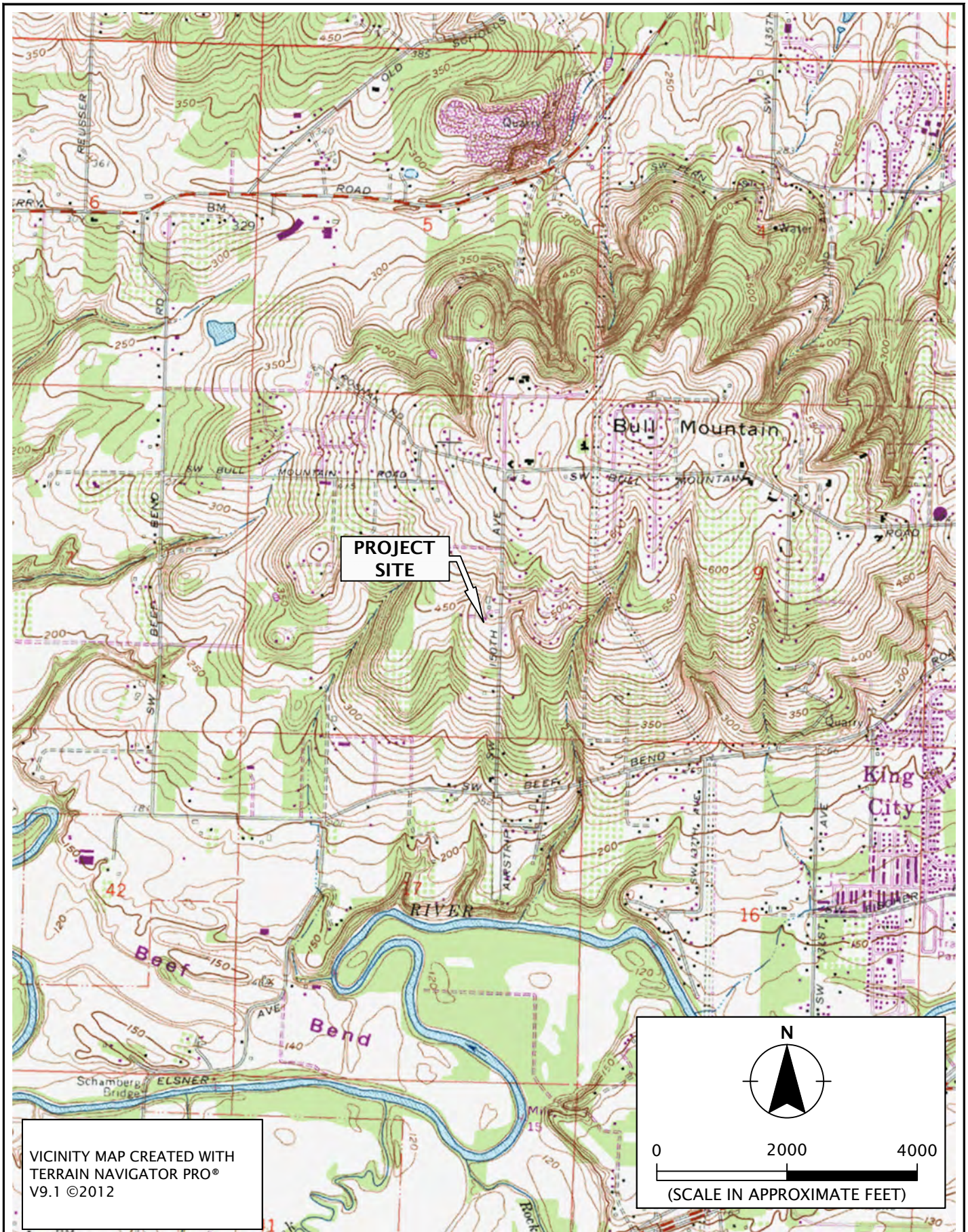
Robert E. Belding, R.G.
Principal Geologist



Expires 12/01/2016

FIGURES

Printed By: aday | Print Date: 11/1/2016 3:56:23 PM
File Name: J:\M-R\Polygon\145-02\Figures\CAD\Polygon-145-02-VM01.dwg | Layout: FIGURE 1



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

POLYGON-145-02

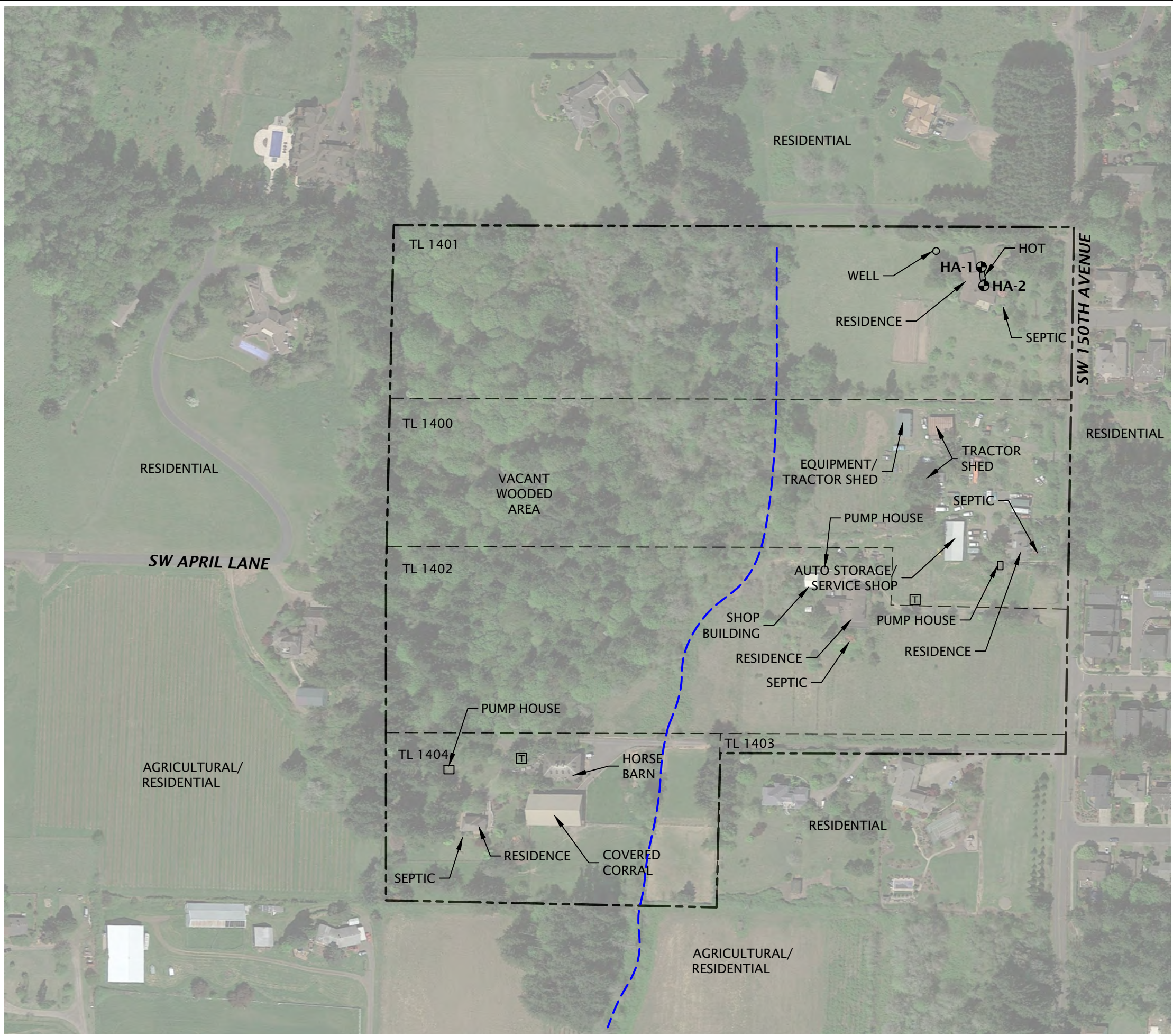
NOVEMBER 2016

VICINITY MAP

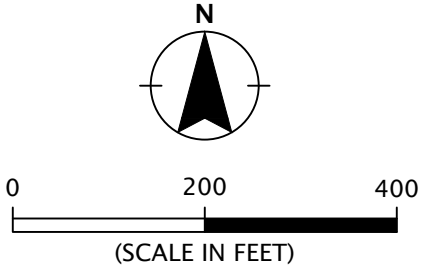
RIVER TERRACE AREA 10
TIGARD, OR

FIGURE 1

Printed By: aday | Print Date: 11/1/2016 3:56:26 PM
File Name: j:\M-R\Polygon\Polygon-145\Polygon-145-02\Figures\CAD\Polygon-145-02-SP01.dwg | Layout: FIGURE 2



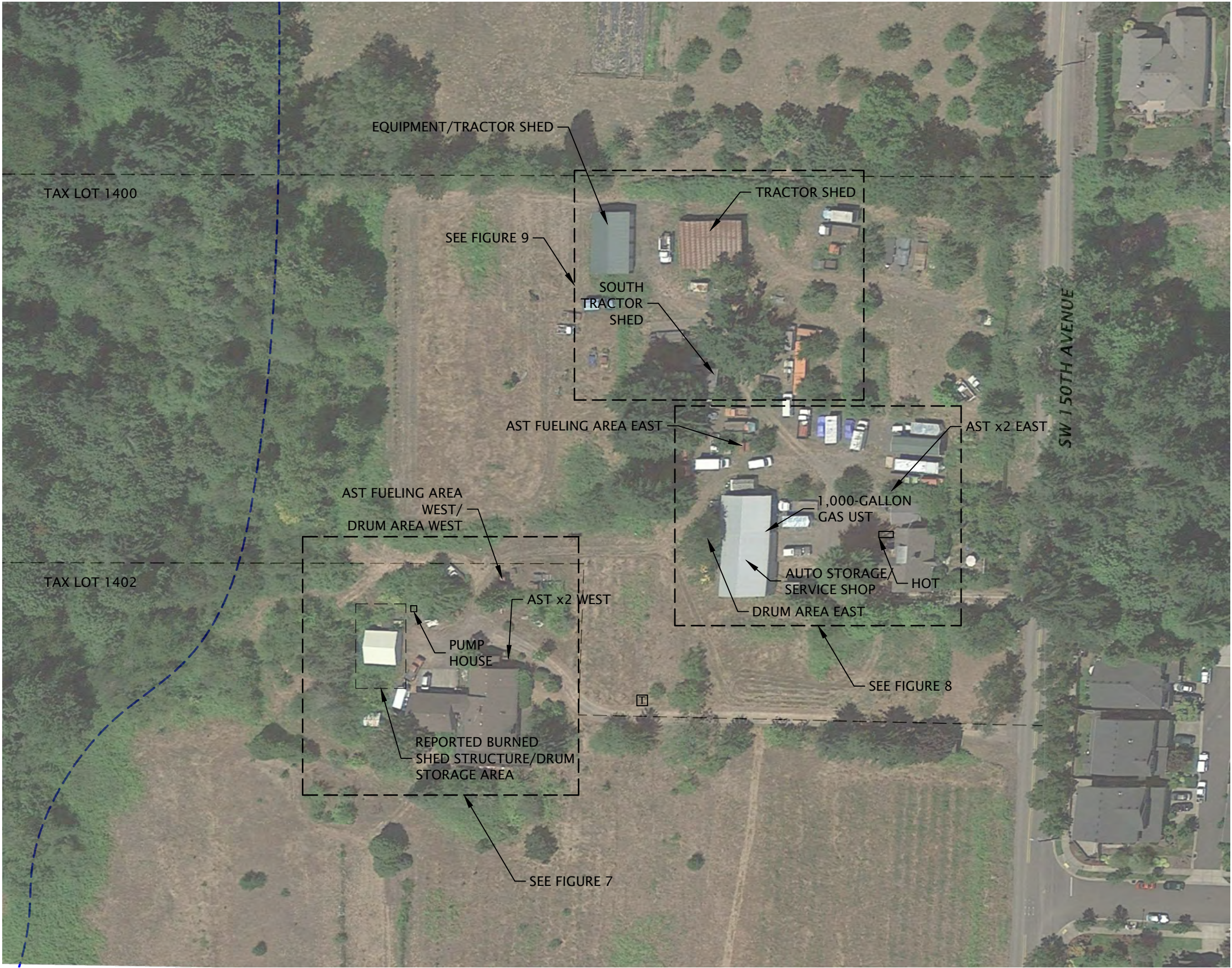
- LEGEND:**
- PROJECT SITE BOUNDARY
 - - - STREAM
 - PAD-MOUNTED TRANSFORMER
 - HA-1 ● HAND-AUGERED BORING
 - TAX LOT



SITE PLAN BASED ON AERIAL PHOTOGRAPH
OBTAINED FROM GOOGLE EARTH PRO®,
JULY 21, 2016

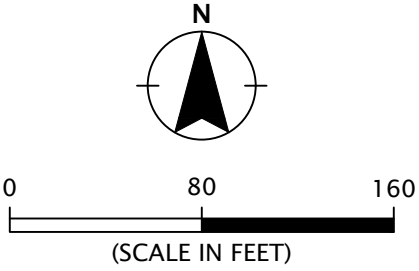
 15575 SW Sequoia Parkway - Suite 100 Portland OR 97224 OFF 503.968.8787 Fax 503.968.3068	SITE PLAN	
	POLYGON-145-02	RIVER TERRACE AREA 10 TIGARD, OR
NOVEMBER 2016		FIGURE 2

Printed By: aday | Print Date: 11/1/2016 3:56:27 PM
File Name: j:\M-R\Polygon\Polygon-145-02\Figures\CAD\Polygon-145-02-SP01.dwg | Layout: FIGURE 3



LEGEND:

- STREAM
- ▣ PAD-MOUNTED TRANSFORMER
- TAX LOT



SITE PLAN BASED ON AERIAL PHOTOGRAPH
OBTAINED FROM GOOGLE EARTH PRO®,
JULY 21, 2016

GEODESIGN 15575 SW Sequoia Parkway - Suite 100 Portland OR 97224 OFF 503.968.8787 Fax 503.968.3068	SITE PLAN - DETAIL	
	POLYGON-145-02	FIGURE 3
RIVER TERRACE AREA 10 TIGARD, OR		NOVEMBER 2016



REPORTED LOCATION OF 1,000-GALLON GASOLINE UST. THE PUMP IS VISIBLE IN THE UPPER PORTION OF THE PHOTOGRAPH. PHOTOGRAPH TAKEN FACING SOUTH.



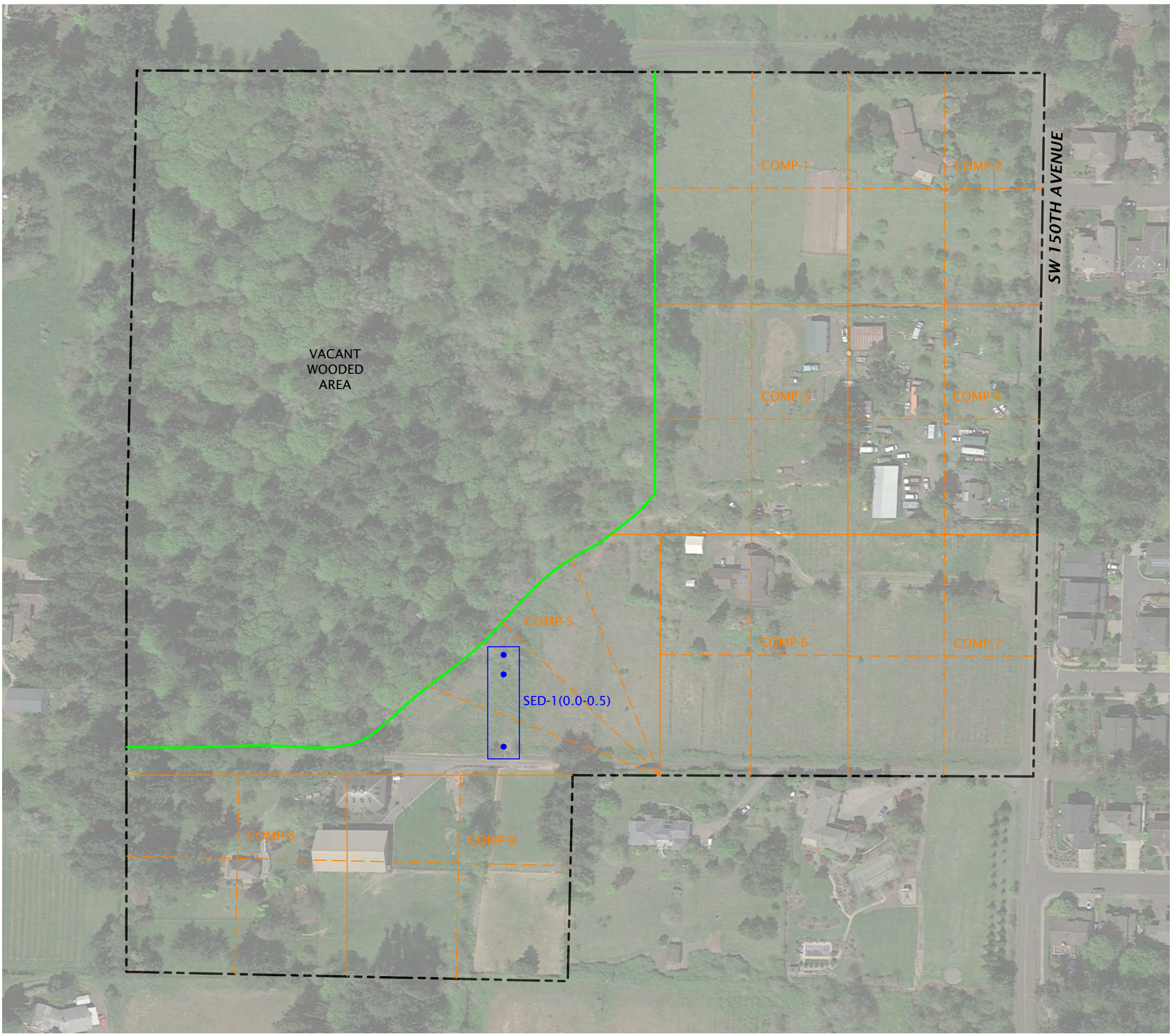
ONE OF THE TWO AST FUELING AREAS AT THE PROJECT SITE, WITH SIMILAR DRUMS LOCATED THROUGHOUT THE SITE. PHOTOGRAPH TAKEN FACING NORTHWEST.



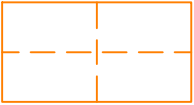
LEAKING HEATING OIL AST LOCATED ADJACENT TO THE RESIDENCE LOCATED AT 15685 SW 150TH AVENUE. PHOTOGRAPH TAKEN FACING EAST.



LEAKING 55-GALLON DRUM AT THE PROJECT SITE. PHOTOGRAPH TAKEN FACING EAST.



LEGEND:



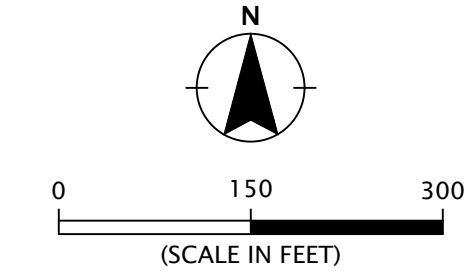
COMPOSITE SAMPLING AREA



COMPOSITE SEDIMENT
SAMPLE LOCATION



SED-1(0.0-0.5)



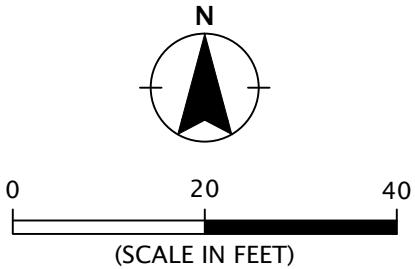
SITE PLAN BASED ON AERIAL PHOTOGRAPH
OBTAINED FROM GOOGLE EARTH PRO®,
JULY 21, 2016

 15575 SW Sequoia Parkway - Suite 100 Portland OR 97224 Off 503.968.8787 Fax 503.968.3068	PESTICIDE SCREEN	
	POLYGON-145-02	RIVER TERRACE AREA 10 TIGARD, OR
NOVEMBER 2016		FIGURE 6



LEGEND:

- APPROXIMATE SOIL SAMPLE LOCATION

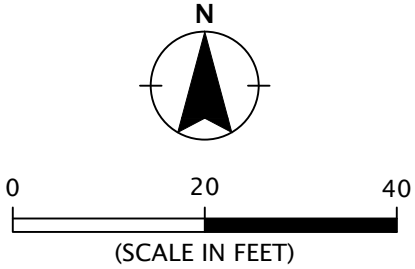


SITE PLAN BASED ON AERIAL PHOTOGRAPH
OBTAINED FROM GOOGLE EARTH PRO®,
JULY 21, 2016

GEODESIGN 15575 SW Sequoia Parkway - Suite 100 Portland OR 97224 Off 503.968.8787 Fax 503.968.3068	POLYGON-145-02	SUBSURFACE EXPLORATION - SOUTHEASTERN AREA	
	NOVEMBER 2016	RIVER TERRACE AREA 10 TIGARD, OR	
		FIGURE 7	



LEGEND:
● APPROXIMATE SOIL SAMPLE LOCATION
DP-1 ● DIRECT-PUSH BORING

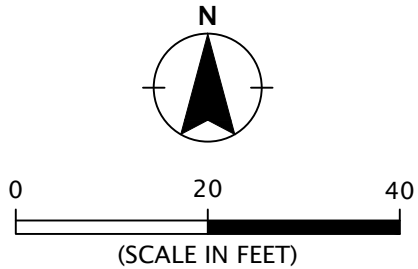


SITE PLAN BASED ON AERIAL PHOTOGRAPH
OBTAINED FROM GOOGLE EARTH PRO®,
JULY 21, 2016

GEO DESIGN 15575 SW Sequoia Parkway - Suite 100 Portland OR 97224 OFF 503.968.8787 Fax 503.968.3068	SUBSURFACE EXPLORATION - SOUTHWESTERN AREA	
	POLYGON-145-02	FIGURE 8
RIVER TERRACE AREA 10 TIGARD, OR		NOVEMBER 2016



LEGEND:
DP-1  DIRECT-PUSH BORING



SITE PLAN BASED ON AERIAL PHOTOGRAPH
OBTAINED FROM GOOGLE EARTH PRO®,
JULY 21, 2016

 15575 SW Sequoia Parkway - Suite 100 Portland OR 97224 Off 503.968.8787 Fax 503.968.3068	POLYGON-145-02	SUBSURFACE EXPLORATION - NORTHERN AREA	
	NOVEMBER 2016	RIVER TERRACE AREA 10 TIGARD, OR	
		FIGURE 9	

TABLES

TABLE 1 Summary of Sediment and Soil Sample Chemical Analytical Results ¹ Organochlorine Pesticides River Terrace Area 10 15515, 15685, 15745, and 15915 SW 150th Avenue Tigard, Oregon																							
Sample I.D. (depth in feet BGS)	Sample Date	Organochlorine Pesticides by EPA Method 8081B (mg/kg)																					
		4,4' -DDD	4,4' -DDE	4,4'-DDT	Aldrin	alpha-BHC	cis-Chlordane	beta-BHC	Chlordane	delta-BHC	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan Sulfate	Endrin	Endrin Aldehyde	Endrin Ketone	gamma-BHC (Lindane)	trans-Chlordane	Heptachlor	Heptachlor Epoxide	Methoxychlor	Toxaphene
SED-1(0.0-0.5)	10/12/16	0.00295 U	0.00448	0.00526	0.00295 U	0.00295 U	0.00295 U	0.00295 U	0.0886 U	0.00295 U	0.00615	0.00295 U	0.00295 U	0.00295 U	0.00295 U	0.00295 U	0.00295 U	0.00295 U	0.00295 U	0.00295 U	0.00295 U	0.00886 U	0.0886 U
Comp-1(0.0-0.5)	09/30/16	0.00193 U	0.0110	0.0100	0.00193 U	0.00193 U	0.00193 U	0.00193 U	0.0578 U	0.00193 U	0.168	0.00193 U	0.00193 U	0.00193 U	0.00193 U	0.00193 U	0.00193 U	0.00553	0.00193 U	0.00193 U	0.00193 U	0.00578 U	0.0578 U
Comp-2(0.0-0.5)	09/30/16	0.00200 U	0.0224	0.0169	0.00200 U	0.00200 U	0.00200 U	0.00200 U	0.0599 U	0.00200 U	0.119	0.00200 U	0.00200 U	0.00200 U	0.00200 U	0.00200 U	0.00200 U	0.00561	0.00200 U	0.00200 U	0.00200 U	0.00599 U	0.0599 U
Comp-3(0.0-0.5)	09/30/16	0.00194 U	0.0568	0.0422	0.00194 U	0.00194 U	0.00194 U	0.00194 U	0.0581 U	0.00194 U	0.189	0.00194 U	0.00194 U	0.00194 U	0.00194 U	0.00194 U	0.00194 U	0.00194 U	0.00194 U	0.00194 U	0.00194 U	0.00581 U	0.0581 U
Comp-4(0.0-0.5)	09/30/16	0.00190 U	0.0971	0.0426	0.00190 U	0.00190 U	0.00237 U	0.00190 U	0.0569 U	0.00190 U	0.0437	0.00190 U	0.00190 U	0.00190 U	0.00190 U	0.00190 U	0.00190 U	0.00190 U	0.00190 U	0.00190 U	0.00190 U	0.00569 U	0.0569 U
Comp-5(0.0-0.5)	09/30/16	0.00196 U	0.0484	0.0395	0.00196 U	0.00196 U	0.00196 U	0.00196 U	0.0587 U	0.00196 U	0.134	0.00196 U	0.00196 U	0.00196 U	0.00196 U	0.00196 U	0.00196 U	0.00196 U	0.00196 U	0.00196 U	0.00196 U	0.00587 U	0.0587 U
Comp-6(0.0-0.5)	09/30/16	0.00319 U	0.117	0.105	0.00187 U	0.00187 U	0.00347 U	0.00187 U	0.0562 U	0.00187 U	0.0771	0.00187 U	0.00187 U	0.00225 U	0.00187 U	0.00187 U	0.00187 U	0.00212	0.00187 U	0.00187 U	0.00187 U	0.00562 U	0.0562 U
Comp-7(0.0-0.5)	09/30/16	0.00343	0.108	0.0700	0.00190 U	0.00190 U	0.00190 U	0.00190 U	0.0570 U	0.00190 U	0.0776	0.00190 U	0.00190 U	0.00190 U	0.00190 U	0.00190 U	0.00190 U	0.00190 U	0.00190 U	0.00190 U	0.00190 U	0.00570 U	0.0570 U
Comp-8(0.0-0.5)	09/30/16	0.00202 U	0.00429	0.00224	0.00202 U	0.00202 U	0.00202 U	0.00202 U	0.0607 U	0.00202 U	0.00202 U	0.00202 U	0.00202 U	0.00202 U	0.00202 U	0.00202 U	0.00239 U	0.00202 U	0.00202 U	0.00202 U	0.00202 U	0.00607 U	0.0607 U
Comp-9(0.0-0.5)	09/30/16	0.00188 U	0.0450	0.0270	0.00188 U	0.00188 U	0.00188 U	0.00188 U	0.0565 U	0.00188 U	0.0471	0.00188 U	0.00188 U	0.00188 U	0.00188 U	0.00188 U	0.00188 U	0.00188 U	0.00188 U	0.00188 U	0.00188 U	0.00565 U	0.0565 U
Comp-1(0.25-0.5)	10/20/16	0.00221 U	0.00883	0.00931	0.00221 U	0.00221 U	0.00221 U	0.00221 U	0.0662 U	0.00221 U	0.145	0.00221 U	0.00221 U	0.00221 U	0.00221 U	0.00221 U	0.00221 U	0.0116	0.00221 U	0.00221 U	0.00221 U	0.00662 U	0.0662 U
Comp-2(0.25-0.5)	10/20/16	0.00225 U	0.0157	0.00976	0.00225 U	0.00225 U	0.00225 U	0.00225 U	0.0675 U	0.00225 U	0.0418	0.00225 U	0.00225 U	0.00225 U	0.00225 U	0.00225 U	0.00225 U	0.00360	0.00225 U	0.00225 U	0.00225 U	0.00675 U	0.0675 U
Comp-3(0.25-0.5)	10/20/16	0.00226 U	0.0192	0.0225	0.00226 U	0.00226 U	0.00226 U	0.00226 U	0.0677 U	0.00226 U	0.208	0.00226 U	0.00226 U	0.00226 U	0.00226 U	0.00226 U	0.00315	0.00731	0.00226 U	0.00226 U	0.00226 U	0.00677 U	0.0677 U
Comp-4(0.25-0.5)	10/20/16	0.00229 U	0.0374	0.0283	0.00229 U	0.00229 U	0.00369	0.00229 U	0.0686 U	0.00229 U	0.0300	0.00229 U	0.00229 U	0.00229 U	0.00229 U	0.00229 U	0.00229 U	0.00229 U	0.00229 U	0.00229 U	0.00229 U	0.00686 U	0.0686 U
Comp-5(0.25-0.5)	10/20/16	0.00217 U	0.0392	0.0325	0.00217 U	0.00217 U	0.00217 U	0.00217 U	0.0650 U	0.00217 U	0.0933	0.00217 U	0.00217 U	0.00217 U	0.00217 U	0.00217 U	0.00217 U	0.00217 U	0.00217 U	0.00217 U	0.00217 U	0.00650 U	0.0650 U
Comp-6(0.25-0.5)	10/20/16	0.00258 U	0.0501	0.0561	0.00215 U	0.00215 U	0.0117	0.00215 U	0.0644 U	0.00215 U	0.0538	0.00215 U	0.00215 U	0.00215 U	0.00462 U	0.00215 U	0.00215 U	0.00273	0.00364	0.00215 U	0.00215 U	0.00644 U	0.0644 U
Comp-7(0.25-0.5)	10/20/16	0.00212 U	0.0153	0.0191	0.00212 U	0.00212 U	0.00212 U	0.00212 U	0.0637 U	0.00212 U	0.0183	0.00212 U	0.00212 U	0.00212 U	0.00212 U	0.00212 U	0.00212 U	0.00212 U	0.00212 U	0.00212 U	0.00212 U	0.00637 U	0.0637 U
Comp-8 (0.25-0.5)	10/21/16	0.00223 U	0.00223 U	0.00223 U	0.00223 U	0.00223 U	0.00223 U	0.00223 U	0.0669 U	0.00223 U	0.00223 U	0.00223 U	0.00223 U	0.00223 U	0.00223 U	0.00223 U	0.00223 U	0.00223 U	0.00223 U	0.00223 U	0.00223 U	0.00669 U	0.0669 U
Comp-9(0.25-0.5)	10/21/16	0.00218 U	0.0788	0.0591	0.00218 U	0.00218 U	0.00218 U	0.00218 U	0.0655 U	0.00218 U	0.0751	0.00218 U	0.00218 U	0.00218 U	0.00218 U	0.00218 U	0.00218 U	0.00473	0.00218 U	0.00218 U	0.00218 U	0.00655 U	0.0655 U
Comp-1(1.5-2.0)	10/20/16	0.00114 U	0.00114 U	0.00114 U	0.00114 U	0.00114 U	0.00114 U	0.00114 U	0.0343 U	0.00114 U	0.00361	0.00114 U	0.00114 U	0.00114 U	0.00114 U	0.00114 U	0.00114 U	0.00114 U	0.00114 U	0.00114 U	0.00114 U	0.00343 U	0.0343 U
Comp-2(1.5-2.0)	10/20/16	0.00117 U	0.00117 U	0.00117 U	0.00117 U	0.00117 U	0.00117 U	0.00117 U	0.0351 U	0.00117 U	0.00117 U	0.00117 U	0.00117 U	0.00117 U	0.00117 U	0.00117 U	0.00117 U	0.00117 U	0.00117 U	0.00117 U	0.00117 U	0.00351 U	0.0351 U
Comp-3(1.5-2.0)	10/20/16	0.00111 U	0.00379	0.00274	0.00111 U	0.00111 U	0.00111 U	0.00111 U	0.0333 U	0.00111 U	0.0229	0.00111 U	0.00111 U	0.00111 U	0.00111 U	0.00111 U	0.00111 U	0.00111 U	0.00111 U	0.00111 U	0.00111 U	0.00333 U	0.0333 U
Comp-4(1.5-2.0)	10/20/16	0.00483 U	0.0336	0.0200	0.00109 U	0.00109 U	0.0170	0.00109 U	--	0.00109 U	0.0220	0.00109 U	0.00109 U	0.00109 U	0.00304 U	0.00109 U	0.00109 U	0.00109 U	0.00962	0.00109 U	0.00347	0.00326 U	0.0326 U
Comp-5(1.5-2.0)	10/20/16	0.00107 U	0.00179	0.00118	0.00107 U	0.00107 U	0.00107 U	0.00107 U	0.0322 U	0.00107 U	0.00378	0.00107 U	0.00107 U	0.00107 U	0.00107 U	0.00107 U	0.00107 U	0.00107 U	0.00107 U	0.00107 U	0.00107 U	0.00322 U	0.0322 U
Comp-6(1.5-2.0)	10/20/16	0.00206	0.0232	0.0147	0.00106 U	0.00106 U	0.00107	0.00106 U	0.0318 U	0.00106 U	0.0380	0.00106 U	0.00106 U	0.									

TABLE 1 Summary of Sediment and Soil Sample Chemical Analytical Results ¹ Organochlorine Pesticides River Terrace Area 10 15515, 15685, 15745, and 15915 SW 150th Avenue Tigard, Oregon																							
Sample I.D. (depth in feet BGS)	Sample Date	Organochlorine Pesticides by EPA Method 8081B (mg/kg)																					
		4,4' -DDD	4,4' -DDE	4,4'-DDT	Aldrin	alpha-BHC	cis-Chlordane	beta-BHC	Chlordane	delta-BHC	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan Sulfate	Endrin	Endrin Aldehyde	Endrin Ketone	gamma-BHC (Lindane)	trans-Chlordane	Heptachlor	Heptachlor Epoxide	Methoxychlor	Toxaphene
Volatilization to Outdoor Air																							
Residential		NV	>Csat	NV	>Csat	NV	NE	NE	>Csat	NE	NV	>Max	>Max	NE	NV	NE	NE	NV	NE	18	28	NE	NV
Vapor Intrusion into Buildings																							
Residential		NV	>Csat	NV	>Csat	NV	NE	NE	>Csat	NE	NV	>Max	>Max	NE	NV	NE	NE	NV	NE	18	28	NE	NV
Leaching to Groundwater																							
Residential		1.1	1.6	12	0.023	0.0063	NE	NE	0.45	NE	0.01	>Csat	>Csat	NE	>Csat	NE	NE	0.036	NE	0.017	0.0042	NE	0.36
DEQ CFSLS ³		0.021	0.021	0.021	0.011	0.07	NE	0.27	1.3	NE	0.0049	20	20	NE	0.04	NE	NE	0.38	NE	0.1	0.053	310	0.44
Notes: 1. Chemical analyses performed by Apex Laboratories, LLC of Tigard, Oregon. 2. DEQ Generic RBCs dated November 2015 3. DEQ CFSLS updated July 23, 2014 >Csat: Concentrations in excess of Csat indicate free product may be present. >Max: The constituent RBC for this pathway is calculated as greater than 1,000,000 mg/kg or 1,000,000 mg/L. Therefore, this substance is deemed not to pose risks in this scenario. NV: chemical is considered non-volatile U: not detected at concentrations greater than the laboratory MRL (shown) Bolding indicates analyte detected at or above the laboratory MRL. Blue shading indicates analyte detection at a concentration greater than one or more DEQ RBCs and CFSLS. Gray shading indicates analyte detection at a concentration greater than DEQ CFSLS. --: not analyzed																							

TABLE 2 Summary of Sediment and Soil Sample Chemical Analytical Results ¹ Total Metals and TCLP Lead River Terrace Area 10 15515, 15685, 15745, and 15915 SW 150th Avenue Tigard, Oregon																			
Sample I.D. (depth in feet BGS)	Sample Date	Total Metals by EPA Method 6020A (mg/kg)																	TCLP Lead by EPA Methods 1311/6020 (mg/L)
		Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	
SED-1(0.0-0.5)	10/12/16	0.764	3.24	238	0.779	0.764 U	28.3	13.8	13.8	11.4	0.0611 U	1.53 U	14.3	1.53 U	0.764 U	0.764 U	78.1	78.1	--
Comp-1(0.0-0.5)	09/30/16	1.09 U	3.14	263	0.557	0.219 U	16.9	12.9	10.1	9.65	0.0874 U	1.09 U	11.6	1.09 U	0.219 U	0.219 U	54.5	55.5	--
Comp-2(0.0-0.5)	09/30/16	1.14 U	2.44	229	0.398	0.227 U	15.5	10.1	12.9	8.79	0.0909 U	1.14 U	11.0	1.14 U	0.227 U	0.227 U	45.6	55.7	--
Comp-3(0.0-0.5)	09/30/16	1.23 U	2.86	264	0.481	0.444	17.0	13.3	42.4	40.0	0.0986 U	1.23 U	10.9	1.23 U	0.247 U	0.247 U	49.2	88.8	--
Comp-4(0.0-0.5)	09/30/16	1.12 U	3.37	181	0.438	0.36	16.2	10.3	11.6	19.3	0.138	1.12 U	9.67	1.12 U	0.225 U	0.225 U	50.1	62.9	--
Comp-5(0.0-0.5)	09/30/16	1.16 U	3.48	200	0.557	0.232	18.4	15.8	12.4	11.6	0.0929 U	1.16 U	11.7	1.16 U	0.232 U	0.232 U	60.6	58.0	--
Comp-6(0.0-0.5)	09/30/16	1.13 U	3.45	136	0.465	0.340	19.6	12.2	13.0	10.5	0.0908 U	1.13 U	11.0	1.13 U	0.227 U	0.227 U	65.0	53.5	--
Comp-7(0.0-0.5)	09/30/16	1.17 U	3.24	153	0.468	0.374	19.6	12.9	12.4	17.9	0.0936 U	1.17 U	9.28	1.17 U	0.234 U	0.234 U	57.1	53.1	--
Comp-8(0.0-0.5)	09/30/16	1.13 U	2.26	197	0.418	0.226 U	15.2	11.7	9.38	10.6	0.0903 U	1.13 U	9.31	1.13 U	0.226 U	0.226 U	57.7	58.6	--
Comp-9(0.0-0.5)	09/30/16	1.21 U	3.20	133	0.471	0.241 U	16.5	12.0	12.8	9.90	0.0966 U	1.21 U	9.95	1.21 U	0.241 U	0.241 U	59.1	56.0	--
DP-3(10.5-12.5)	10/14/16	--	--	--	--	--	--	--	--	11.4	--	--	--	--	--	--	--	--	--
DP-4(9.0-11.0)	10/14/16	--	--	--	--	--	--	--	--	7.83	--	--	--	--	--	--	--	--	--
DP-5(0.5-1.5)	10/14/16	--	3.86	225	--	0.320	23.9	--	--	20.8	0.095 U	--	--	2.37 U	0.237 U	--	--	--	--
DP-6(0.5-2.0)	10/14/16	--	2.70	267	--	0.388	19.1	--	--	44.3	0.097 U	--	--	2.43 U	0.243 U	--	--	--	--
DP-7(4.0-5.5)	10/14/16	--	4.15	130	--	0.264 U	25.5	--	--	9.80	0.106 U	--	--	2.64 U	0.264 U	--	--	--	--
DP-9(5.0-6.5)	10/14/16	--	--	--	--	--	--	--	--	9.36	--	--	--	--	--	--	--	--	--
DP-9(9.5-11.0)	10/14/16	--	--	--	--	--	--	--	--	7.31	--	--	--	--	--	--	--	--	--
TP-2N(0.0-0.5)	10/12/16	1.26 U	2.88	153	0.478	0.314	15.8	14.3	12.3	13.1	0.101 U	1.26 U	10.5	1.26 U	0.251 U	0.251 U	58.4	61.5	--
TP-2S(0.0-0.5)	10/12/16	1.24 U	2.46	208	0.458	0.247 U	17.7	10.3	15.0	14.4	0.099 U	1.24 U	11.3	1.24 U	0.247 U	0.247 U	50.3	85.7	--
TP-3E(0.0-0.5)	10/12/16	1.35 U	5.83	241	0.541	0.325	19.7	13.9	15.8	32.6	0.108 U	1.35 U	12.5	1.35 U	0.270 U	0.27 U	60.7	93.2	--
TP-3E(1.5-2.0)	10/12/16	1.2 U	5.27	140	0.758	0.289	29.3	12.9	20.2	10.3	0.0963 U	1.2 U	16.7	1.2 U	0.241 U	0.241 U	103	62.4	--
TP-3W(0.0-0.5)	10/12/16	1.26 U	3.15	205	0.403	0.252	20.6	11.8	14.4	21.7	0.101 U	1.26 U	11.6	1.26 U	0.252 U	0.252 U	55.7	77.4	--
TP-3W(1.5-2.0)	10/12/16	1.32 U	6.77	140	0.871	0.317	34.1	17.5	25.0	11.8	0.106 U	1.32 U	19.5	1.32 U	0.264 U	0.264 U	114	67.4	--
TPComp-1(0.0-1.0)	10/12/16	--	11.9	174	--	0.724	25.1	--	--	78.7	0.102 U	--	--	1.27 U	0.254 U	--	--	--	--
TPComp-2(0.0-0.5)	10/12/16	1.22 U	3.00	167	0.462	0.243 U	16.5	14.2	11.9	14.7	0.0972 U	1.22 U	10.4	1.22 U	0.243 U	0.243 U	57.1	54.7	--
TPComp-2(1.5-2.0)	10/12/16	1.34 U	5.53	137	0.873	0.269 U	28.4	18.8	21.2	10.6	0.107 U	1.34 U	16.1	1.34 U	0.269 U	0.269 U	92.8	55.4	--
TPComp-3(0.0-0.5)	10/12/16	1.3 U	2.9	282	0.518	0.441	16.9	15.4	19.0	343	0.104 U	1.3 U	12.9	1.3 U	0.259 U	0.259 U	59.4	141	0.914
TPComp-3(1.5-2.0)	10/12/16	1.16 U	4.46	146	0.647	0.277	24.2	15.6	17.5	13.9	0.0925 U	1.16 U	14.3	1.16 U	0.231 U	0.231 U	88	55.8	--
Limit for Disposal at RCRA Subtitle D Landfill																			5
DEQ Generic RBCs ²																			
Soil Ingestion, Dermal Contact, and Inhalation																			
Residential	NE	0.43 ³	15,000	160	78	120,000	NE	3,100	400	23	NE	1,500	NE	390	NE	NE	NE	NE	NE
Construction Worker	NE	15	69,000	700	350	530,000	NE	14,000	800	110	NE	7,000	NE	1,800	NE	NE	NE	NE	NE
Excavation Worker	NE	420	>Max	19,000	9,700	>Max	NE	390,000	800	2,900	NE	190,000	NE	49,000	NE	NE	NE	NE	NE
DEQ CFSLS ⁴	0.56	8.8	790	21	0.63	76	43	34	28	0.23	2.1	47	0.71	4.2	5.2	180	180	NE	NE
Notes: 1. Chemical analyses performed by Apex Laboratories, LLC of Tigard, Oregon. 2. DEQ Generic RBCs, dated November 1, 2015 3. While the detected concentrations of arsenic are greater than this RBC, they are within the range of naturally occurring arsenic concentrations in Oregon soil. 4. DEQ Internal Mangement Directive, Clean Fill Determinations, dated July 23, 2014 >Max: The constituent RBC for this pathway is calculated as greater than 1,000,000 mg/kg or 1,000,000 mg/L. Therefore, this substance is deemed not to pose risks in this scenario. NV: chemical is considered non-volatile U: not detected at concentrations greater than the laboratory MRL (shown) Bolding indicates analyte detected at a concentration greater than the analytical laboratory MRL. Gray shading indicates analyte detection at a concentration greater than DEQ CFSLS. --: not analyzed																			

TABLE 3
Summary of Soil Sample Chemical Analytical Results ¹
Petroleum Hydrocarbons
River Terrace Area 10
15515, 15685, 15745, and 15915 SW 150th Avenue
Tigard, Oregon

Sample I.D. (depth in feet BGS)	Sample Date	Gasoline-Range Hydrocarbons by Method NWTPH-Gx (mg/kg)	Diesel- and Oil-Range Hydrocarbons by Method NWTPH-Dx (mg/kg)	
			Diesel	Oil
DP-1(10.0-11.0)	10/13/16	--	2,710	51.2 U
DP-1(11.0-12.0)	10/13/16	--	1,660	51.3 U
DP-2(1.0-2.0)	10/14/16	--	6,640	445 U
DP-2(11.5-12.5)	10/14/16	--	1,690	50.0 U
DP-3(10.5-12.5)	10/14/16	519	--	--
DP-4(9.0-11.0)	10/14/16	8.23 U	--	--
DP-5(0.5-1.5)	10/14/16	5.96 U	25.0 U	50.0 U
DP-6(0.5-2.0)	10/14/16	6.12 U	25.0 U	57.6
DP-7(4.0-5.5)	10/14/16	6.87 U	25.0 U	50.0 U
DP-8(0.5-2.0)	10/14/16	--	25.0 U	50.0 U
DP-8(8.5-10.5)	10/14/16	--	27.1 U	54.2 U
DP-9(5.0-6.5)	10/14/16	6.10 U	--	--
DP-9(9.5-11.0)	10/14/16	8.44 U	--	--
HA-1(0.0-1.0)	10/20/16	--	119	54.7 U
HA-1(6.5-8.0)	10/20/16	--	24,700	462 U
HA-1(8.0-8.5)	10/20/16	--	37,800	2,450 U
HA-2(7.0-8.0)	10/20/16	--	51,900	2,470 U
HA-2(8.25-8.75)	10/20/16	--	512	50.2 U
TP-1N(0.0-0.5)	10/12/16	--	25.0 U	50.0 U
TP-1S(0.0-0.5)	10/12/16	--	25.0 U	50.0 U
TP-2N(0.0-0.5)	10/12/16	6.99 U	7,950	929 U
TP-2N(2.0-2.5)	10/12/16	--	25.0 U	50.0 U
TP-2S(0.0-0.5)	10/12/16	6.89 U	7,560	220 U
TP-2S(2.5-3.0)	10/12/16	--	31.1	50.0 U
TP-3E(0.0-0.5)	10/12/16	6.54 U	25.0 U	50.0 U
TP-3W(0.0-0.5)	10/12/16	6.83 U	25.0 U	50.0 U
TP-4N(0.0-0.5)	10/12/16	--	25.0 U	50.0 U
TP-4S(0.0-0.5)	10/12/16	--	25.0 U	62.3
TPComp-1(0.0-1.0)	10/12/16	6.85 U	25.0 U	763
TPComp-2(0.0-0.5)	10/12/16	6.61 U	61.3	50.0 U
TPComp-3(0.0-0.5)	10/12/16	12.8	466 U	17,100
DEQ Generic RBCs²				
Soil Ingestion, Dermal Contact, and Inhalation				
Residential		1,200	1,100	NE
Construction Worker		9,700	4,600	NE
Excavation Worker		>Max	>Max	NE

TABLE 3
Summary of Soil Sample Chemical Analytical Results ¹
Petroleum Hydrocarbons
River Terrace Area 10
15515, 15685, 15745, and 15915 SW 150th Avenue
Tigard, Oregon

Sample I.D. (depth in feet BGS)	Sample Date	Gasoline-Range Hydrocarbons by Method NWTPH-Gx (mg/kg)	Diesel- and Oil-Range Hydrocarbons by Method NWTPH-Dx (mg/kg)	
			Diesel	Oil
Volatilization to Outdoor Air				
Residential		5,900	>Max	NE
Vapor Intrusion into Buildings				
Residential		94	>Max	NE
Leaching to Groundwater				
Residential		31	9,500	NE

Notes:

1. Chemical analyses performed by Apex Laboratories, LLC of Tigard, Oregon.

2. DEQ Generic RBCs dated November 2015

>Max: The constituent RBC for this pathway is calculated as greater than 1,000,000 mg/kg or 1,000,000 mg/L. Therefore, this substance is deemed not to pose risks in this scenario.

U: not detected at concentrations greater than the laboratory MRL (shown)

Bolding indicates analyte detected at or above the laboratory MRL.

Blue shading indicates analyte detection at a concentration greater than one or more DEQ RBCs.

--: not analyzed

TABLE 4
Summary of Soil Sample Chemical Analytical Results¹
PAHs
River Terrace Area 10
15515, 15685, 15745, and 15915 SW 150th Avenue
Tigard, Oregon

Sample I.D. (depth in feet BGS)	Sample Date	PAHs by EPA Method 8270D-SIM (mg/kg)																		
		Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(g,h,i)perylene	Chrysene	Dibenz(a,h)anthracene	Dibenzofuran	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	1-Methylnaphthalene	2-Methylnaphthalene	Naphthalene	Phenanthrene	Pyrene
DP-1(10.0-11.0)	10/13/16	0.151 U	0.0505 U	0.1060 U	0.0189 U	0.0126 U	0.0126 U	0.0126 U	0.0126 U	0.0202 U	0.0126 U	0.247	0.0348	0.501	0.0126 U	0.660	0.607	0.208	0.793	0.082
DP-1(11.0-12.0)	10/13/16	0.181 U	0.0735 U	0.1550 U	0.0284 U	0.0129 U	0.0129 U	0.0129 U	0.0129 U	0.0284 U	0.0129 U	0.443	0.0528	0.791	0.0129 U	0.500	0.394	0.142 U	0.794	0.113
DP-2(1.0-2.0)	10/14/16	0.145 U	0.0644 U	0.0488 U	0.0114 U	0.0104 U	0.0104 U	0.0104 U	0.0104 U	0.0135 U	0.0104 U	0.329	0.0104 U	0.302 U	0.0104 U	1.59	2.68	1.350 U	0.383	0.151
DP-2(11.5-12.5)	10/14/16	0.153 U	0.0508 U	0.0394 U	0.0127	0.0127 U	0.0127 U	0.0127 U	0.0127 U	0.0153 U	0.0127 U	0.216 U	0.0231	0.404	0.0127 U	1.49	1.16	0.391	0.840	0.0427
DP-5(0.5-1.5)	10/14/16	0.00973 U	0.00973 U	0.00973 U	0.00973 U	0.00973 U	0.00973 U	0.00973 U	0.00973 U	0.00973 U	0.00973 U	0.00973 U	0.00973 U	0.00973 U	0.00973 U	0.00973 U	0.00973 U	0.00973 U	0.00973 U	0.00973 U
DP-6(0.5-2.0)	10/14/16	0.0114 U	0.0114 U	0.0114 U	0.0114 U	0.0114 U	0.0114 U	0.0114 U	0.0114 U	0.0126 U	0.0114 U	0.0114 U	0.0114 U	0.0114 U	0.0114 U	0.0114 U	0.0114 U	0.0114 U	0.0114 U	0.0114 U
DP-7(4.0-5.5)	10/14/16	0.0121 U	0.0121 U	0.0121 U	0.0121 U	0.0121 U	0.0121 U	0.0121 U	0.0121 U	0.0121 U	0.0121 U	0.0121 U	0.0121 U	0.0121 U	0.0121 U	0.0121 U	0.0121 U	0.0121 U	0.0121 U	0.0121 U
DP-8(0.5-2.0)	10/14/16	0.0110 U	0.0110 U	0.0110 U	0.0110 U	0.0110 U	0.0110 U	0.0110 U	0.0110 U	0.0110 U	0.0110 U	0.0110 U	0.0110 U	0.0110 U	0.0110 U	0.0110 U	0.0110 U	0.0110 U	0.0110 U	0.0110 U
DP-8(8.5-10.5)	10/14/16	0.0132 U	0.0132 U	0.0132 U	0.0132 U	0.0132 U	0.0132 U	0.0132 U	0.0132 U	0.0132 U	0.0132 U	0.0132 U	0.0132 U	0.0132 U	0.0132 U	0.0132 U	0.0132 U	0.0132 U	0.0132 U	0.0132 U
HA-1(0.0-1.0)	10/20/16	0.0131 U	0.0131 U	0.0131 U	0.0131 U	0.0131 U	0.0131 U	0.0131 U	0.0131 U	0.0131 U	0.0131 U	0.0131 U	0.0131 U	0.0131 U	0.0131 U	0.0131 U	0.0131 U	0.0131 U	0.0131 U	0.0131 U
HA-1(6.5-8.0)	10/20/16	1.51 U	0.497 U	0.639 U	0.237 U	0.237 U	0.237 U	0.237 U	0.237 U	0.237 U	0.237 U	1.73	0.237 U	2.71	0.237 U	9.66	14.7	4.71	3.71	0.914
HA-1(8.0-8.5)	10/20/16	1.34 U	0.732 U	0.610 U	0.610 U	0.610 U	0.610 U	0.610 U	0.610 U	0.610 U	0.610 U	2.31	0.610 U	2.68 U	0.610 U	11.4	18.4	6.65	3.03	0.891
HA-2(7.0-8.0)	10/20/16	3.86 U	1.49 U	1.68 U	0.622 U	0.622 U	0.622 U	0.622 U	0.622 U	0.622 U	0.622 U	4.88	0.622 U	8.03	0.622 U	26.6	43.3	14.1	11.7	1.88
HA-2(8.25-8.75)	10/20/16	0.0419	0.0190 U	0.0127 U	0.0127 U	0.0127 U	0.0127 U	0.0127 U	0.0127 U	0.0127 U	0.0127 U	0.0584 U	0.0127 U	0.0937	0.0127 U	0.272	0.486	0.145	0.150	0.0180
TP-1N(0.0-0.5)	10/12/16	0.0115 U	0.0115 U	0.0115 U	0.0115 U	0.0115 U	0.0115 U	0.0115 U	0.0115 U	0.0115 U	0.0115 U	0.0115 U	0.0115 U	0.0115 U	0.0115 U	0.0115 U	0.0115 U	0.0115 U	0.0115 U	0.0115 U
TP-1S(0.0-0.5)	10/12/16	0.0116 U	0.0116 U	0.0116 U	0.0116 U	0.0116 U	0.0116 U	0.0116 U	0.0116 U	0.0116 U	0.0116 U	0.0116 U	0.0116 U	0.0116 U	0.0116 U	0.0116 U	0.0116 U	0.0116 U	0.0116 U	0.0116 U
TP-2N(0.0-0.5)	10/12/16	0.0562 U	0.0562 U	0.0562 U	0.1120 U	0.0562 U	0.0562 U	0.0562 U	0.0562 U	0.1240 U	0.0562 U	0.0562 U	0.0562 U	0.0562 U	0.0562 U	0.0562 U	0.0562 U	0.0562 U	0.177	0.0562 U
TP-2S(0.0-0.5)	10/12/16	0.0556 U	0.0556 U	0.0556 U	0.1560 U	0.0556 U	0.0556 U	0.0556 U	0.0556 U	0.1670 U	0.0556 U	0.0556 U	0.0556 U	0.0556 U	0.0556 U	0.0556 U	0.0556 U	0.0556 U	0.234	0.0556 U
TP-3E(0.0-0.5)	10/12/16	0.0123 U	0.0123 U	0.0123 U	0.0123 U	0.0123 U	0.0123 U	0.0123 U	0.0123 U	0.0123 U	0.0123 U	0.0123 U	0.0123 U	0.0123 U	0.0123 U	0.0123 U	0.0123 U	0.0123 U	0.0123 U	0.0123 U
TP-3W(0.0-0.5)	10/12/16	0.0117 U	0.0117 U	0.0117 U	0.0117 U	0.0117 U	0.0117 U	0.0117 U	0.0117 U	0.0117 U	0.0117 U	0.0117 U	0.0117 U	0.0117 U	0.0117 U	0.0117 U	0.0117 U	0.0117 U	0.0117 U	0.0117 U
TP-4N(0.0-0.5)	10/12/16	0.0109 U	0.0109 U	0.0109 U	0.0109 U	0.0109 U	0.0109 U	0.0109 U	0.0109 U	0.0109 U	0.0109 U	0.0109 U	0.0109 U	0.0109 U	0.0109 U	0.0109 U	0.0109 U	0.0109 U	0.0109 U	0.0109 U
TP-4S(0.0-0.5)	10/12/16	0.0112 U	0.0112 U	0.0112 U	0.0112 U	0.0112 U	0.0112 U	0.0112 U	0.0112 U	0.0112 U	0.0112 U	0.0112 U	0.0112 U	0.0112 U	0.0112 U	0.0112 U	0.0112 U	0.0112 U	0.0112 U	0.0112 U
TPComp-1(0.0-1.0)	10/12/16	0.0578 U	0.0578 U	0.0578 U	0.0578 U	0.0578 U	0.0578 U	0.0578 U	0.0578 U	0.0578 U	0.0578 U	0.0578 U	0.0578 U	0.0578 U	0.0578 U	0.105	0.142	0.171	0.139	0.0909
TPComp-2(0.0-0.5)	10/12/16	0.0120 U	0.0120 U	0.0120 U	0.0120 U	0.0120 U	0.0120 U	0.0120 U	0.0120 U	0.0120 U	0.0120 U	0.0120 U	0.0120 U	0.0120 U	0.0120 U	0.0120 U	0.0120 U	0.0120 U	0.0120 U	0.0120 U
TPComp-3(0.0-0.5)	10/12/16	0.114 U	0.114 U	0.136 U	0.709	0.468	0.566	0.219	0.719	0.574	0.114 U	0.114 U	0.848	0.124	0.265	0.665	0.654	0.114 U	0.670	1.66
DEQ Generic RBCs ²																				
Soil Ingestion, Dermal Contact, and Inhalation																				
Residential		4,700	NE	23,000	0.15	0.015	0.15	1.5	NE	15	0.015	NE	2,400	3,100	0.15	NE	NE	5.3	NE	1,800
Construction Worker		21,000	NE	110,000	24	2.4	24	240	NE	2,400	2.4	NE	10,000	14,000	24	NE	NE	580	NE	7,500
Excavation Worker		590,000	NE	>Max	660	67	670	6,700	NE	67,000	67	NE	280,000	390,000	670	NE	NE	16,000	NE	210,000

TABLE 4 Summary of Soil Sample Chemical Analytical Results ¹ PAHs River Terrace Area 10 15515, 15685, 15745, and 15915 SW 150th Avenue Tigard, Oregon																				
Sample I.D. (depth in feet BGS)	Sample Date	PAHs by EPA Method 8270D-SIM (mg/kg)																		
		Acenapththene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(g,h,i)perylene	Chrysene	Dibenz(a,h)anthracene	Dibenzofuran	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	1-Methylnaphthalene	2-Methylnaphthalene	Naphthalene	Phenanthrene	Pyrene
Volatilization to Outdoor Air																				
Residential		>Max	NE	>Max	>Csat	NV	NV	NV	NE	NV	NV	NE	NV	>Max	NV	NE	NE	6.4	NE	>Csat
Vapor Intrusion into Buildings																				
Residential		>Max	NE	>Max	>Csat	NV	NV	NV	NE	NV	NV	NE	NV	>Max	NV	NE	NE	6.4	NE	>Csat
Leaching to Groundwater																				
Residential		>Csat	NE	>Csat	0.64	0.6	6.2	>Csat	NE	>Csat	2	NE	>Csat	>Csat	>Csat	NE	NE	0.077	NE	>Csat
DEQ CFSLS ³		29	NE	29	0.15	0.015	0.15	1.1	NE	14	0.015	0.002	29	29	0.15	0.738	310	0.087	NE	1,700
Notes: 1. Chemical analyses performed by Apex Laboratories, LLC of Tigard, Oregon. 2. DEQ Generic RBCs dated November 2015 3. DEQ CFSLS updated July 23, 2014 >Csat: Concentrations in excess of Csat indicate free product may be present. >Max: The constituent RBC for this pathway is calculated as greater than 1,000,000 mg/kg or 1,000,000 mg/L. Therefore, this substance is deemed not to pose risks in this scenario. NV: chemical is considered non-volatile U: not detected at concentrations greater than the laboratory MRL (shown) Bolding indicates analyte detected at or above the laboratory MRL. Blue shading indicates analyte detection at a concentration greater than one or more DEQ RBCs and CFSLS. Gray shading indicates analyte detection at a concentration greater than DEQ CFSLS.																				

TABLE 5 Summary of Soil Sample Chemical Analytical Results ¹ VOCs River Terrace Area 10 15515, 15685, 15745, and 15915 SW 150th Avenue Tigard, Oregon							
Sample I.D. (depth in feet BGS)	Sample Date	VOCs ² by EPA Method 8260B (mg/kg)					
		Ethylbenzene	Naphthalene	n-Propylbenzene	1,2,4-TMB	1,3,5-TMB	m,p-Xylene
DP-3(10.5-12.5)	10/14/16	1.31	2.81 U	2.43	14.2	5.71	4.75
DP-4(9.0-11.0)	10/14/16	0.0411 U	0.165 U	0.0411 U	0.0823 U	0.0823 U	0.0823 U
DP-5(0.5-1.5)	10/14/16	0.0298 U	0.119 U	0.0298 U	0.0596 U	0.0596 U	0.0596 U
DP-6(0.5-2.0)	10/14/16	0.0306 U	0.122 U	0.0306 U	0.0612 U	0.0612 U	0.0612 U
DP-7(4.0-5.5)	10/14/16	0.0344 U	0.137 U	0.0344 U	0.0687 U	0.0687 U	0.0687 U
DP-9(5.0-6.5)	10/14/16	0.0305 U	0.122 U	0.0305 U	0.061 U	0.061 U	0.061 U
DP-9(9.5-11.0)	10/14/16	0.0422 U	0.169 U	0.0422 U	0.0844 U	0.0844 U	0.0844 U
TP-2N(0.0-0.5)	10/12/16	0.0350 U	0.1400 U	0.0350 U	0.0699 U	0.0699 U	0.0699 U
TP-2S(0.0-0.5)	10/12/16	0.0345 U	0.1380 U	0.0345 U	0.0689 U	0.0689 U	0.0689 U
TP-3E(0.0-0.5)	10/12/16	0.0327 U	0.131 U	0.0327 U	0.0654 U	0.0654 U	0.0654 U
TP-3W(0.0-0.5)	10/12/16	0.0341 U	0.137 U	0.0341 U	0.0683 U	0.0683 U	0.0683 U
TPComp-1(0.0-1.0)	10/12/16	0.0342 U	0.137 U	0.0342 U	0.0685 U	0.0685 U	0.0685 U
TPComp-2(0.0-0.5)	10/12/16	0.033 U	0.132 U	0.033 U	0.0661 U	0.0661 U	0.0661 U
TPComp-3(0.0-0.5)	10/12/16	0.0321 U	0.235	0.0321 U	0.0642 U	0.0642 U	0.0642 U
DEQ Generic RBCs ³							
Soil Ingestion, Dermal Contact, and Inhalation							
Residential		34	5.3	NE	110	780	1,400
Construction Worker		1,700	580	NE	2,000	3,500	20,000
Excavation Worker		49,000	16,000	NE	54,000	98,000	560,000
Volatilization to Outdoor Air							
Residential		36	6.4	NE	230	>Max	>Csat
Vapor Intrusion into Buildings							
Residential		1.3	6.4	NE	16	>Max	160
Leaching to Groundwater							
Residential		0.22	0.077	NE	2.8	50	24
DEQ CFSLS ⁴		0.16	0.087	NE	16	92	25
Notes: 1. Chemical analyses performed by Apex Laboratories, LLC of Tigard, Oregon. 2. Only VOCs detected during this investigation or VOCs of interest from previous investigations are listed. For a complete listing of VOCs, refer to the laboratory report in Appendix F. 3. DEQ Generic RBCs dated November 2015 4. DEQ CFSLS updated July 23, 2014 >Csat: Concentrations in excess of Csat indicate free product may be present. >Max: The constituent RBC for this pathway is calculated as greater than 1,000,000 mg/kg or 1,000,000 mg/L. Therefore, this substance is deemed not to pose risks in this scenario. NV: chemical is considered non-volatile U: not detected at concentrations greater than the laboratory MRL (shown) Bolding indicates analyte detected at or above the laboratory MRL. Blue shading indicates analyte detection at a concentration greater than one or more DEQ RBCs and CFSLS.							

TABLE 6 Summary of Soil Sample Analytical Results ¹ PCBs River Terrace Area 10 15515, 15685, 15745, and 15915 SW 150th Avenue Tigard, Oregon								
Sample I.D. (depth in feet BGS)	Sample Date	PCBs by EPA Method 8082A (mg/kg)						
		Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260
DP-5(0.5-1.5)	10/14/16	0.0103 U	0.0103 U	0.0103 U	0.0103 U	0.0103 U	0.0103 U	0.0103 U
DP-6(0.5-2.0)	10/14/16	0.0113 U	0.0113 U	0.0113 U	0.0113 U	0.0113 U	0.0113 U	0.0113 U
DP-7(4.0-5.5)	10/14/16	0.0110 U	0.0110 U	0.0110 U	0.0110 U	0.0110 U	0.0110 U	0.0110 U
TP-2N(0.0-0.5)	10/12/16	0.0113 U	0.0113 U	0.0113 U	0.0113 U	0.0124 U	0.0113 U	0.0113 U
TP-2S(0.0-0.5)	10/12/16	0.0111 U	0.0111 U	0.0111 U	0.0111 U	0.0234 U	0.0223 U	0.0111 U
TP-3E(0.0-0.5)	10/12/16	0.0117 U	0.0117 U	0.0117 U	0.0117 U	0.0117 U	0.0117 U	0.0117 U
TP-3W(0.0-0.5)	10/12/16	0.0117 U	0.0117 U	0.0117 U	0.0117 U	0.0117 U	0.0117 U	0.0117 U
TPComp-1(0.0-1.0)	10/12/16	0.0117 U	0.0117 U	0.0117 U	0.0117 U	0.0117 U	0.0117 U	0.0117 U
TPComp-2(0.0-0.5)	10/12/16	0.0112 U	0.0112 U	0.0112 U	0.0112 U	0.0270 U	0.0157 U	0.0112 U
TPComp-3(0.0-0.5)	10/12/16	0.0522 U	0.0113 U	0.1570 U	0.0715 U	0.0828 U	0.379 U	0.139 U
DEQ Generic RBCs ²								
Soil Ingestion, Dermal Contact, and Inhalation								
Residential	0.23							
Construction Worker	4.9							
Excavation Worker	140							
Volatilization to Outdoor Air								
Residential	>Csat							
Vapor Intrusion into Buildings								
Residential	>Csat							
Leaching to Groundwater								
Residential	0.24							
DEQ CFSLs ³	0.2							
Notes: 1. Chemical analyses performed by Apex Laboratories, LLC of Tigard, Oregon. 2. DEQ Generic RBCs dated November 2015 3. DEQ CFSLs updated July 23, 2014 >Csat: Concentrations in excess of Csat indicate free product may be present. U: not detected at concentrations greater than the laboratory MRL (shown)								

APPENDIX A



FIRM PROFILE

Employee-owned and founded in 1997, GeoDesign provides geotechnical engineering, environmental, geological, mining, and pavement design consulting services from offices in Portland and Salem, Oregon; Vancouver, Seattle, Longview, and Tacoma, Washington; and Anaheim, California. Our team consists of more than 75 engineers, geologists, engineering geologists, environmental scientists, technical personnel, and administrative staff.

From planning and design through construction, we offer consulting services in support of commercial and residential developments, industrial facilities, property transactions, regulatory compliance, and transportation and water infrastructure systems. GeoDesign works on all phases of project development, including preliminary studies for due diligence, master planning studies, siting of new structures and utility and road alignments, regulatory studies (such as NEPA documents), comprehensive investigations for final geotechnical design, oversight of environmental clean-up activities, and construction observation and testing.

We value our client relationships and are dedicated to offering exemplary service. Our focus on communication and collaboration enables us to develop a targeted approach for our clients' project needs and objectives. In providing recommendations, we clearly present the issues, alternatives, and risks in order to assist our clients in making informed decisions. As a result, much of our business comes from repeat clients and referrals.



ROBERT E. BELDING, RG, LG

Principal Geologist

Bob Belding is an environmental and geological expert with more than 31 years of experience managing a diverse range of projects throughout the Pacific Northwest. His experience includes Phase I and II ESAs, site characterizations, remedial investigation/feasibility studies, design and implementation of remedial actions, and close coordination with regulatory agencies. In addition, Bob serves as an expert witness and provides senior technical review of peer and other consultants' work.

Key Projects

- South Waterfront Development – Various Projects; Portland, OR
- Proposed LaVelle Landfill Development; Portland, OR
- Dorena Dam Hydroelectric Project; Lane County, OR
- City of Portland Bureau of Environmental Services, Phase II Sewer Rehabilitation Program – Rose City Park; Portland, OR
- USDA Forest Service, On-Call Hazardous Materials Services; OR and WA
- Washington County Facilities Management; On-Call Environmental Services Contract; OR
- 333 High Street NE (Sunset Center Site); Portland, OR
- Sexton Mountain Development (former Cobbs Quarry); Beaverton, OR
- City of Salem, Minto Island Pedestrian/Bicycle Bridge; Salem, OR
- Bridgeport Village Development (former Durham Quarry); Tigard/Tualatin, OR
- Ross Island Sand & Gravel Reclamation; Portland, OR
- Former Koch's Cleaners; Beaverton, OR
- The Civic Redevelopment; Portland, OR
- David Douglas School District, David Douglas High School Pool; Portland, OR
- Confederated Tribes of the Umatilla Indian Reservation, Former Landfill Area; Pendleton, OR
- Washington County, SW Greenburg Road/SW Main Street and Highway 99W Intersection Alignment; Tigard, OR
- Oregon Military Department, Field Maintenance Shop; Salem, OR
- Bellevue Towers; Bellevue, WA
- Bellevue School District, Ardmore Elementary School; Bellevue, WA
- Bellevue School District, Bellevue High School Modernization Project; Bellevue, WA
- Proposed 316 Alaskan Way Development; Seattle, WA
- 412 Broadway Apartments (Barclay Broadway); Seattle, WA
- 1800 West Fourth Plain Boulevard Site; Vancouver, WA
- Proposed Totem Lake Mall Development; Kirkland, WA
- West 11th Street and Grand Avenue Condominiums; Los Angeles, CA
- 616 Esplanade Apartments; Redondo Beach, CA
- Wilshire Center; Los Angeles, CA
- 512 Rose Avenue Mixed-Use Development (former Pioneer Bakery Site); Venice, CA
- The Beach Club; Santa Monica, CA
- 1710 Webster Street Site; Oakland, CA

Credentials/Certifications

BS, Geology, California State University, Humboldt, 1979

Registered Geologist, OR

Licensed Geologist, WA

Oregon Association of Environmental Professionals

JEREMY M. ZIMBER*Project Manager*

Jeremy Zimmer has more than 12 years of consulting experience focused primarily on environmental due diligence and remediation, environmental compliance, environmental laboratory analysis, asbestos and lead identification, and abatement. Jeremy has conducted hazardous building materials assessments and overseen abatement efforts. He has also conducted pre-demolition surveys of buildings for both asbestos-containing materials and lead-based paint. In addition, Jeremy has conducted hundreds of Phase I ESAs nationwide for the real estate and financial industries, ranging from residential to manufacturing facilities.

Key Projects

- Clackamas County, Otty Street Realignment Project; Clackamas County, OR
- Washington County, SW Roy Rogers Road and SW Scholls Ferry Road Traffic Signals; and SW Tile Flat Road and SW Scholls Ferry Road Intersection; Washington County, OR
- New Westside Christian High School; Tigard, OR
- Pacific Northwest College of Art, Proposed GSA Building Renovation; Portland, OR
- City of Lake Oswego, Foothills District Framework Plan; Lake Oswego, OR
- The Oregonian Building; Portland, OR
- Block 296 Site (NW 22nd Avenue and NW Raleigh Street); Portland, OR
- Proposed Lowes - Comprehensive Design-Level Hazardous Material Survey; Albany, OR
- Manufacturing/Distribution Facility; Salem, OR
- SE 172nd and Sunnyside Commercial Development; Happy Valley, OR
- City of Portland Bureau of Environmental Services, Former Campbell Dry Cleaners; Portland, OR
- Coos Head Abatement and Demolition Project; Coos Bay, OR
- Washington County Facilities Management, Bridgeport Village Development (former Durham Quarry); Tigard/Tualatin, OR
- Broadway Retail Building - ACM Survey; Portland; OR
- Proposed Development - 1951 SW 6th Avenue; Portland, OR
- West Bearing Housing Project; Portland, OR
- South Waterfront - Blocks 37 and 43; Portland, OR
- Colwood Industrial Park; Portland, OR
- South Cooper Mountain Site; Beaverton, OR
- ODOT/City of Tigard, SW Main Street - Highway 99 to Railroad Corridor; Tigard, OR
- Lake-Oswego-Tigard Water Partnership, Water Supply System Expansion; Clackamas/Washington County, OR
- Capitol Mall Road Site ; Olympia, WA
- 316 Alaskan Way Site; Seattle, WA
- Proposed Corona Medical Center Expansion; Corona, CA
- 1200 Ashby Avenue Site; Berkeley, CA

Credentials/Affiliations

BS, Environmental Management, Rochester Institute of Technology, 1999

AHERA Building Inspector and Project Designer

HAZWOPER Training and Annual Updates

CCB Lead-Based Paint Inspector

Respirator Fit Test



KEVIN CLINE

Environmental Staff

Having joined GeoDesign in December 2014, Kevin Cline has more than four years of experience in the environmental consulting field, with experience in assisting with Phase I and II ESAs, UST investigations and decommissioning, stormwater management, risk assessments, and risk-based closures. Kevin has overseen and directed the work of field project subcontractors to comply with EPA and DEQ standards. He has installed, developed, and utilized monitoring wells, injection wells, and soil vapor extraction systems in support of site characterization or contamination remediation projects.

Kevin has collected soil samples, as well as surface and groundwater samples, using a wide variety of sampling methods and equipment. Under the direction of a licensed inspector, he has collected samples of potential asbestos-containing materials and lead-based paint. And, he has collected ambient air, sub slab vapor, and soil gas samples either by air pump or pressurized canister. Kevin has also helped to bring commercial properties into DEQ UIC compliance through document review, line tracing, sampling, and dry well decommissioning. He has ensured SWPCP compliance through routine site visits and sampling during storm events.

Key Projects

- Lloyd District/Lloyd Superblock Development – Phase II; Portland, OR
- The Abigail; Portland, OR
- Proposed Totem Lake Malls; Kirkland, WA
- 110 SW Arthur Street Site; Portland, OR
- The Oregonian Building; Portland, OR
- Duck Delivery Facility; Sumner, WA
- Totem Lake Mall; Tacoma, WA
- Washington County Facilities Management, Bridgeport Village Development (Durham Quarry); Tigard/Tualatin, OR
- Washington County Facilities Management, North Durham Landfill – Phase III; Tigard, OR

Credentials/Certifications

Engineering Coursework (2009 – 2011), Portland Community College

BS, Environmental Science (emphasis in Geology and Watershed Management), Humboldt State University, 2005

ODEQ HOT Supervisor #26892

AHERA Inspector #IN-14-3265B

OSHA Hazardous Materials Training (40-Hour, Refresher)

TWIC Card

Nielson Field School Field Sampling Course (completed 2013)

Common Ground University ASTM's E1527 Phase I ESA Online Course (completed 2012)

APPENDIX B

River Terrace Area 10

15515 - 15915 SW 150th Avenue
Portland, OR 97224

Inquiry Number: 4735568.2s
September 25, 2016

The EDR Radius Map™ Report with GeoCheck®



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
Executive Summary	ES1
Overview Map	2
Detail Map	3
Map Findings Summary	4
Map Findings	8
Orphan Summary	42
Government Records Searched/Data Currency Tracking	GR-1
 <u>GEOCHECK ADDENDUM</u>	
Physical Setting Source Addendum	A-1
Physical Setting Source Summary	A-2
Physical Setting SSURGO Soil Map	A-5
Physical Setting Source Map	A-17
Physical Setting Source Map Findings	A-19
Physical Setting Source Records Searched	PSGR-1

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.** Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2016 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

15515 - 15915 SW 150TH AVENUE
PORTLAND, OR 97224

COORDINATES

Latitude (North):	45.4063180 - 45° 24' 22.74"
Longitude (West):	122.8337760 - 122° 50' 1.59"
Universal Transverse Mercator:	Zone 10
UTM X (Meters):	513008.5
UTM Y (Meters):	5027884.5
Elevation:	371 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	6067248 BEAVERTON, OR
Version Date:	2014

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20140630
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
15515 - 15915 SW 150TH AVENUE
PORTLAND, OR 97224

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
1	DICKSON PROPERTY	15225 SW 150TH AVE.	ECSI, VCP, HSIS	Higher	660, 0.125, NNE
2	HEATING OIL TANK	14645 SW BEEF BEND R	LUST, NPDES	Lower	1450, 0.275, SE
3	HEATING OIL TANK	15279 SW CABERNET DR	LUST	Higher	1500, 0.284, North
4	HEATING OIL TANK	14900 SW 150TH	LUST	Higher	1527, 0.289, NNE
5	HEATING OIL TANK	15800 SW BEEF BEND R	LUST	Lower	1629, 0.309, SW
6	HEATING OIL TANK	14845 SW 150TH AVENU	LUST	Higher	1705, 0.323, NNE
7	HEATING OIL TANK	16075 SW BEEF BEND R	LUST	Lower	2107, 0.399, SW
8	HEATING OIL TANK	15780 SW BULL MOUNTA	LUST	Higher	2314, 0.438, NNW
9	STANLEY TRUST PROPER	15025 SW 161ST AVE	LUST	Lower	2360, 0.447, WNW
10	HEATING OIL TANK	14555 SW 150TH AVENU	LUST	Higher	2491, 0.472, North
A11	HEATING OIL TANK	14060 SW BEEF BOND R	LUST	Lower	2612, 0.495, ESE
A12	HEATING OIL TANK	14060 SW BEEF BEND R	LUST	Lower	2612, 0.495, ESE
13	FRANK'S DISPOSAL SIT	17360 SW LASICH LN.	ECSI	Lower	4140, 0.784, WSW
14	ROSHAK RIDGE	NE OF ROY ROGERS RD.	ECSI, VCP	Lower	4646, 0.880, NW

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL..... National Priority List
Proposed NPL..... Proposed National Priority List Sites
NPL LIENS..... Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL..... National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY..... Federal Facility Site Information listing
SEMS..... Superfund Enterprise Management System

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE..... Superfund Enterprise Management System Archive

Federal RCRA CORRACTS facilities list

CORRACTS..... Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF..... RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG..... RCRA - Large Quantity Generators
RCRA-SQG..... RCRA - Small Quantity Generators
RCRA-CESQG..... RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

LUCIS..... Land Use Control Information System
US ENG CONTROLS..... Engineering Controls Sites List

EXECUTIVE SUMMARY

US INST CONTROL..... Sites with Institutional Controls

Federal ERNS list

ERNS..... Emergency Response Notification System

State- and tribal - equivalent CERCLIS

CRL..... Confirmed Release List and Inventory

State and tribal landfill and/or solid waste disposal site lists

SWF/LF..... Solid Waste Facilities List

State and tribal leaking storage tank lists

INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

FEMA UST..... Underground Storage Tank Listing

UST..... Underground Storage Tank Database

AST..... Aboveground Storage Tanks

INDIAN UST..... Underground Storage Tanks on Indian Land

State and tribal institutional control / engineering control registries

ENG CONTROLS..... Engineering Controls Recorded at ESCI Sites

INST CONTROL..... Institutional Controls Recorded at ESCI Sites

State and tribal voluntary cleanup sites

INDIAN VCP..... Voluntary Cleanup Priority Listing

State and tribal Brownfields sites

BROWNFIELDS..... Brownfields Projects

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

SWRCY..... Recycling Facility Location Listing

HIST LF..... Old Closed SW Disposal Sites

INDIAN ODI..... Report on the Status of Open Dumps on Indian Lands

DEBRIS REGION 9..... Torres Martinez Reservation Illegal Dump Site Locations

ODI..... Open Dump Inventory

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL..... Delisted National Clandestine Laboratory Register

EXECUTIVE SUMMARY

AOCONCERN..... Columbia Slough
CDL..... Uninhabitable Drug Lab Properties
US CDL..... National Clandestine Laboratory Register

Local Land Records

LIENS 2..... CERCLA Lien Information

Records of Emergency Release Reports

HMIRS..... Hazardous Materials Information Reporting System
SPILLS..... Spill Database
OR HAZMAT..... Hazmat/Incidents
SPILLS 90..... SPILLS 90 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR..... RCRA - Non Generators / No Longer Regulated
FUDS..... Formerly Used Defense Sites
DOD..... Department of Defense Sites
SCRD DRYCLEANERS..... State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR..... Financial Assurance Information
EPA WATCH LIST..... EPA WATCH LIST
2020 COR ACTION..... 2020 Corrective Action Program List
TSCA..... Toxic Substances Control Act
TRIS..... Toxic Chemical Release Inventory System
SSTS..... Section 7 Tracking Systems
ROD..... Records Of Decision
RMP..... Risk Management Plans
RAATS..... RCRA Administrative Action Tracking System
PRP..... Potentially Responsible Parties
PADS..... PCB Activity Database System
ICIS..... Integrated Compliance Information System
FTTS..... FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS..... Material Licensing Tracking System
COAL ASH DOE..... Steam-Electric Plant Operation Data
COAL ASH EPA..... Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER..... PCB Transformer Registration Database
RADINFO..... Radiation Information Database
HIST FTTS..... FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS..... Incident and Accident Data
CONSENT..... Superfund (CERCLA) Consent Decrees
INDIAN RESERV..... Indian Reservations
FUSRAP..... Formerly Utilized Sites Remedial Action Program
UMTRA..... Uranium Mill Tailings Sites
LEAD SMELTERS..... Lead Smelter Sites
US AIRS..... Aerometric Information Retrieval System Facility Subsystem
US MINES..... Mines Master Index File
FINDS..... Facility Index System/Facility Registry System
DOCKET HWC..... Hazardous Waste Compliance Docket Listing
UXO..... Unexploded Ordnance Sites
AIRS..... Oregon Title V Facility Listing
COAL ASH..... Coal Ash Disposal Sites Listing
DRYCLEANERS..... Drycleaning Facilities

EXECUTIVE SUMMARY

Financial Assurance.....	Financial Assurance Information Listing
HSIS.....	Hazardous Substance Information Survey
MANIFEST.....	Manifest Information
NPDES.....	Wastewater Permits Database
UIC.....	Underground Injection Control Program Database
FUELS PROGRAM.....	EPA Fuels Program Registered Listing
ECHO.....	Enforcement & Compliance History Information

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP.....	EDR Proprietary Manufactured Gas Plants
EDR Hist Auto.....	EDR Exclusive Historic Gas Stations
EDR Hist Cleaner.....	EDR Exclusive Historic Dry Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA HWS.....	Recovered Government Archive State Hazardous Waste Facilities List
RGA LF.....	Recovered Government Archive Solid Waste Facilities List
RGA LUST.....	Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.

Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

State- and tribal - equivalent CERCLIS

ECSI: The Environmental Cleanup Site Information System records information about sites in Oregon that may be of environmental interest. The data come from the Department of Environmental Quality.

A review of the ECSI list, as provided by EDR, and dated 07/01/2016 has revealed that there are 3 ECSI sites within approximately 1 mile of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<i>DICKSON PROPERTY</i> Investigation: Suspect	<i>15225 SW 150TH AVE.</i>	<i>NNE 0 - 1/8 (0.125 mi.)</i>	<i>1</i>	<i>8</i>

EXECUTIVE SUMMARY

State ID Number: 5929

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
FRANK'S DISPOSAL SIT Investigation: Suspect State ID Number: 954	17360 SW LASICH LN.	WSW 1/2 - 1 (0.784 mi.)	13	16
ROSHAK RIDGE Investigation: Suspect State ID Number: 5781	NE OF ROY ROGERS RD.	NW 1/2 - 1 (0.880 mi.)	14	37

State and tribal leaking storage tank lists

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the Department of Environmental Quality's LUST Database List.

A review of the LUST list, as provided by EDR, and dated 04/05/2016 has revealed that there are 11 LUST sites within approximately 0.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
HEATING OIL TANK Facility ID: 34-00-5276 Cleanup Complete: 11/22/2000	15279 SW CABERNET DR	N 1/4 - 1/2 (0.284 mi.)	3	14
HEATING OIL TANK Facility ID: 34-97-0758	14900 SW 150TH	NNE 1/4 - 1/2 (0.289 mi.)	4	14
HEATING OIL TANK Facility ID: 34-96-0717	14845 SW 150TH AVENU	NNE 1/4 - 1/2 (0.323 mi.)	6	14
HEATING OIL TANK Facility ID: 34-11-0209 Cleanup Complete: 06/29/2011	15780 SW BULL MOUNTA	NNW 1/4 - 1/2 (0.438 mi.)	8	15
HEATING OIL TANK Facility ID: 34-03-1475	14555 SW 150TH AVENU	N 1/4 - 1/2 (0.472 mi.)	10	15
<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
HEATING OIL TANK Facility ID: 34-03-2299 Cleanup Complete: 11/17/2004	14645 SW BEEF BEND R	SE 1/4 - 1/2 (0.275 mi.)	2	13
HEATING OIL TANK Facility ID: 34-96-0086	15800 SW BEEF BEND R	SW 1/4 - 1/2 (0.309 mi.)	5	14
HEATING OIL TANK Facility ID: 34-09-1136 Cleanup Complete: 02/08/2010	16075 SW BEEF BEND R	SW 1/4 - 1/2 (0.399 mi.)	7	15
STANLEY TRUST PROPER Facility ID: 34-08-0405 Cleanup Complete: 06/23/2008	15025 SW 161ST AVE	WNW 1/4 - 1/2 (0.447 mi.)	9	15
HEATING OIL TANK	14060 SW BEEF BOND R	ESE 1/4 - 1/2 (0.495 mi.)	A11	16

EXECUTIVE SUMMARY

Facility ID: 34-04-0217
Cleanup Complete: 07/13/2004

HEATING OIL TANK	14060 SW BEEF BEND R	ESE 1/4 - 1/2 (0.495 mi.)	A12	16
Facility ID: 34-05-2175				
Cleanup Complete: 01/13/2006				

State and tribal voluntary cleanup sites

VCP: Responsible parties have entered into an agreement with DEQ to voluntarily address contamination associated with their property.

A review of the VCP list, as provided by EDR, and dated 07/05/2016 has revealed that there is 1 VCP site within approximately 0.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
DICKSON PROPERTY ECS Site ID: 5929	15225 SW 150TH AVE.	NNE 0 - 1/8 (0.125 mi.)	1	8

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 1 records.

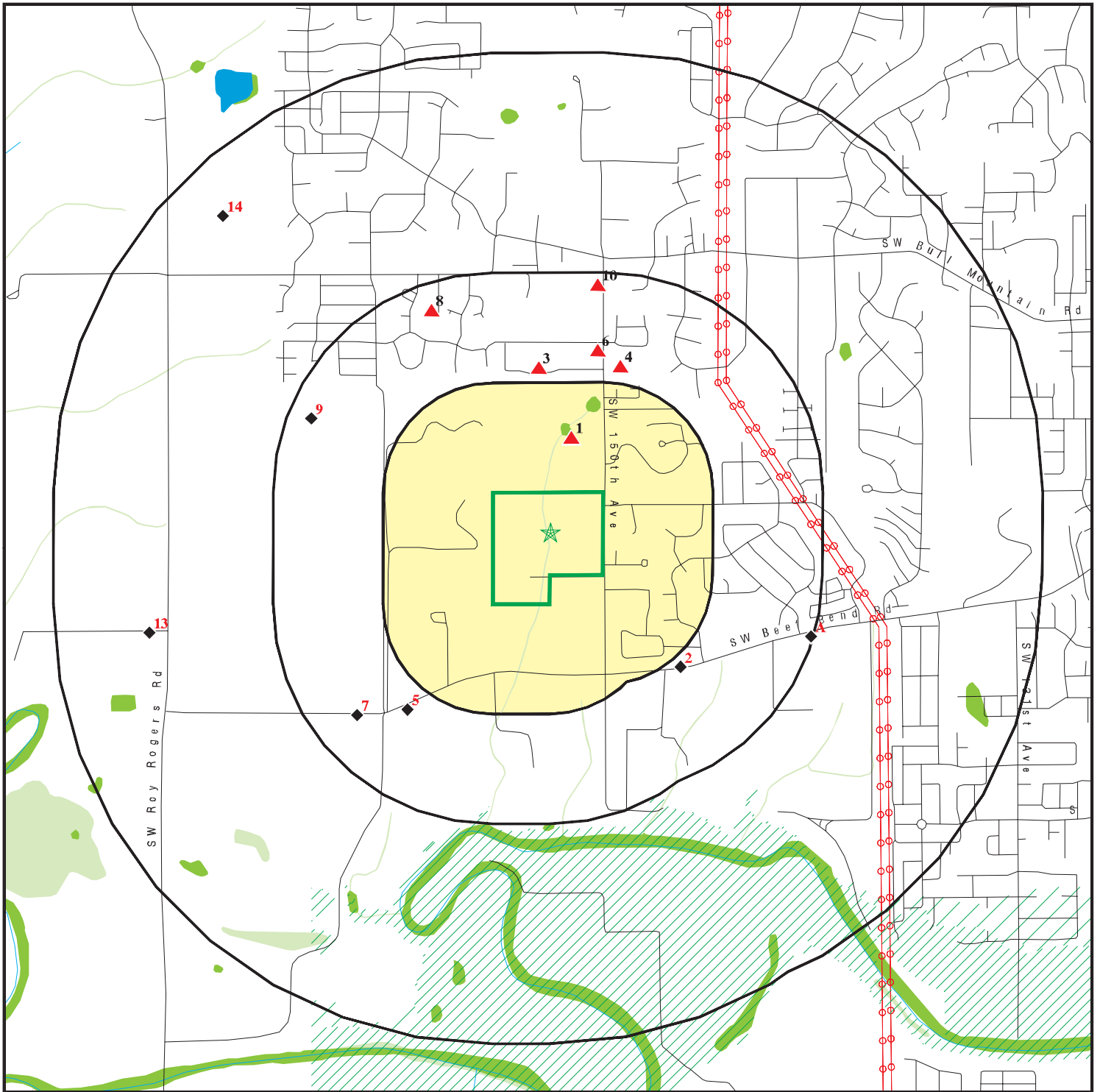
Site Name

EAST SIDE CSO

Database(s)

ECSI, VCP

OVERVIEW MAP - 4735568.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

Indian Reservations BIA

Power transmission lines

100-year flood zone

500-year flood zone

National Wetland Inventory

State Wetlands

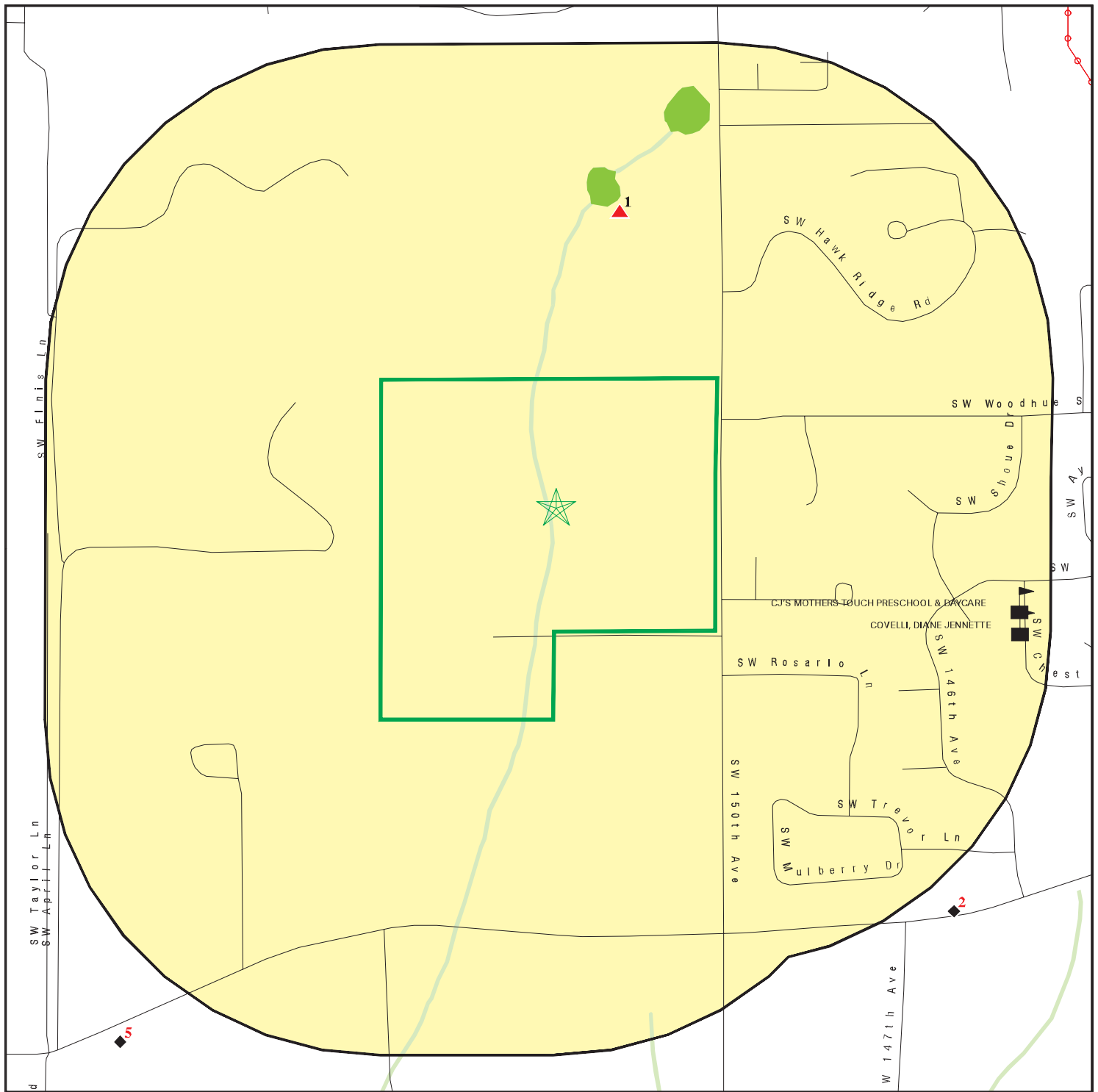
Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: River Terrace Area 10
ADDRESS: 15515 - 15915 SW 150th Avenue
Portland OR 97224
LAT/LONG: 45.406318 / 122.833776

CLIENT: GeoDesign Inc.
CONTACT: Kevin Cline
INQUIRY #: 4735568.2s
DATE: September 25, 2016 10:48 am

DETAIL MAP - 4735568.2S



 Target Property

 Sites at elevations higher than or equal to the target property

 Sites at elevations lower than the target property

 Manufactured Gas Plants

 Sensitive Receptors

 National Priority List Sites

 Dept. Defense Sites

 Indian Reservations BIA

 Power transmission lines

 100-year flood zone

 500-year flood zone

 National Wetland Inventory

 State Wetlands

 Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: River Terrace Area 10
ADDRESS: 15515 - 15915 SW 150th Avenue
Portland OR 97224
LAT/LONG: 45.406318 / 122.833776

CLIENT: GeoDesign Inc.
CONTACT: Kevin Cline
INQUIRY #: 4735568.2s
DATE: September 25, 2016 10:49 am

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
<i>Federal NPL site list</i>								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	0.001		0	NR	NR	NR	NR	0
<i>Federal Delisted NPL site list</i>								
Delisted NPL	1.000		0	0	0	0	NR	0
<i>Federal CERCLIS list</i>								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
<i>Federal CERCLIS NFRAP site list</i>								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
<i>Federal RCRA CORRACTS facilities list</i>								
CORRACTS	1.000		0	0	0	0	NR	0
<i>Federal RCRA non-CORRACTS TSD facilities list</i>								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
<i>Federal RCRA generators list</i>								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
<i>Federal institutional controls / engineering controls registries</i>								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
<i>Federal ERNS list</i>								
ERNS	0.001		0	NR	NR	NR	NR	0
<i>State- and tribal - equivalent CERCLIS</i>								
ECSI	1.000		1	0	0	2	NR	3
CRL	1.000		0	0	0	0	NR	0
<i>State and tribal landfill and/or solid waste disposal site lists</i>								
SWF/LF	0.500		0	0	0	NR	NR	0
<i>State and tribal leaking storage tank lists</i>								
LUST	0.500		0	0	11	NR	NR	11
INDIAN LUST	0.500		0	0	0	NR	NR	0
<i>State and tribal registered storage tank lists</i>								
FEMA UST	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal institutional control / engineering control registries								
ENG CONTROLS	0.500		0	0	0	NR	NR	0
INST CONTROL	0.500		0	0	0	NR	NR	0
State and tribal voluntary cleanup sites								
VCP	0.500		1	0	0	NR	NR	1
INDIAN VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
SWRCY	0.500		0	0	0	NR	NR	0
HIST LF	0.500		0	0	0	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	0.001		0	NR	NR	NR	NR	0
AOCONCERN	1.000		0	0	0	0	NR	0
CDL	0.001		0	NR	NR	NR	NR	0
US CDL	0.001		0	NR	NR	NR	NR	0
Local Land Records								
LIENS 2	0.001		0	NR	NR	NR	NR	0
Records of Emergency Release Reports								
HMIRS	0.001		0	NR	NR	NR	NR	0
SPILLS	0.001		0	NR	NR	NR	NR	0
OR HAZMAT	0.001		0	NR	NR	NR	NR	0
SPILLS 90	0.001		0	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
US FIN ASSUR	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.001		0	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	0.001		0	NR	NR	NR	NR	0
TRIS	0.001		0	NR	NR	NR	NR	0
SSTS	0.001		0	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	0.001		0	NR	NR	NR	NR	0
RAATS	0.001		0	NR	NR	NR	NR	0
PRP	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001		0	NR	NR	NR	NR	0
FTTS	0.001		0	NR	NR	NR	NR	0
MLTS	0.001		0	NR	NR	NR	NR	0
COAL ASH DOE	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
HIST FTTS	0.001		0	NR	NR	NR	NR	0
DOT OPS	0.001		0	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	0.001		0	NR	NR	NR	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
US AIRS	0.001		0	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
FINDS	0.001		0	NR	NR	NR	NR	0
DOCKET HWC	0.001		0	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
AIRS	0.001		0	NR	NR	NR	NR	0
COAL ASH	0.500		0	0	0	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
Financial Assurance	0.001		0	NR	NR	NR	NR	0
HSIS	0.001		0	NR	NR	NR	NR	0
MANIFEST	0.250		0	0	NR	NR	NR	0
NPDES	0.001		0	NR	NR	NR	NR	0
UIC	0.001		0	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
ECHO	0.001		0	NR	NR	NR	NR	0

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA HWS	0.001		0	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
RGA LF	0.001		0	NR	NR	NR	NR	0
RGA LUST	0.001		0	NR	NR	NR	NR	0
- Totals --		0	2	0	11	2	0	15

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

1
NNE
< 1/8
0.125 mi.
660 ft.

DICKSON PROPERTY
15225 SW 150TH AVE.
TIGARD, OR 97224

ECSI S111249818
VCP N/A
HSIS

Relative:
Higher

ECSI:

Actual:
461 ft.

State ID Number: 5929
Brown ID: 0
Study Area: False
Region ID: 2
Legislative ID: 831
Investigation: Suspect
FACA ID: 134249
Further Action: 0
Lat/Long (dms): 45 24 33.80 / -122 49 53.80
County Code: 34.00
Score Value: Not reported
Cercis ID: Not reported
Township Coord.: 2.00
Township Zone: S
Range Coord: 1.00
Range Zone: W
Section Coord: 8
Qtr Section: Not reported
Tax Lots: 1500, 1501, 1504-1506
Size: 29.77 acres
NPL: False
Orphan: False
Updated By: KDANA
Update Date: 01/29/2015
Created Date: 11/04/2014
Decode For RegionID: Northwest Region
Decode For BrownID: Not reported
Decode For Furtheract: Not reported
Decode For Investstat: Suspect
Decode For Legislative: Owner, operator or other party under agreement, order or consent
decree under ORS 465.200 or 465.420

Alias Name: Polygon WLH LLC Property

Hazardous Release:

Substance ID.: 121516
Haz Release ID: 388230
Qty Released: unknown
Date Released: unknown
Update Date: 01/29/2015
Update By: KDANA
Substance Code: 60-57-1
Substance Name: DIELDRIN
Substance Abbrev.: Not reported
Substance Alias ID: 318927
Sub Alias Name: HEOD
Substance Alias ID: 318928
Sub Alias Name: OCTALOX
Comment ID: 305664
Release Code: Data Sources
Release Comments: Phase II Investigation Summary by Farallon Consulting
Decode for Relcomcd: Data Sources
Sampling Result ID: 350736
Feature Id: 0

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

DICKSON PROPERTY (Continued)

S111249818

Hazard Release Id: 388230
Medium: 703
Substance Abbrev.: 0
Unit Code: 7
Observation: False
Owner Operator: False
Lab Data: True
Sample Depth: 0.0-0.5 ft bgs
Start Date: 06/18/2014
End Date: 06/18/2014
Min Concentration: Not reported
Max Concentration: .46
Sample Comment: up to 0.462 ppm
Last Update By: KDANA
Update Date: 01/29/2015
Decode for MediumID: Soil

Narrative:

NARR ID: 5755395
NARR Code: Contamination
Created By: KDANA
Created Date: 11/04/2014
Updated By: KDANA
Updated Date: 06/24/2015
Decode for NardID: Contamination
NARR Comments: (06/24/2015 KPD/ICP) The Dickson Property is a 30-acre family farm in Tigard. The property is being acquired by Polygon Northwest Company for redevelopment into a residential subdivision, with 79 single-family homes and a 2.5-acre park. Sampling in May & June 2014 identified three pesticides in surface soils at concentrations exceeding DEQ's Clean Fill standards: DDE (up to 0.339 ppm), DDT (up to 0.0898 ppm), and dieldrin (up to 0.462 ppm). The highest dieldrin concentrations also exceed DEQ's risk-based concentrations for direct contact in a residential setting.

NARR ID: 5755537
NARR Code: Data Sources
Created By: KDANA
Created Date: 01/20/2015
Updated By: KDANA
Updated Date: 06/24/2015
Decode for NardID: Data Sources
NARR Comments: 1) Farallon Consulting ***Phase I Environmental Site Assessment Report*** [November 18, 2014].2) Farallon Consulting ***Phase II Investigation Summary*** [November 18, 2014].3) Farallon Consulting ***Supplemental Soil Sampling Summary*** [November 24, 2014].4) Farallon Consulting ***Soil Management Plan*** [June 12, 2015].

NARR ID: 5755543
NARR Code: Hazardous Substance/Waste Types
Created By: KDANA
Created Date: 01/29/2015
Updated By: KDANA
Updated Date: 01/29/2015
Decode for NardID: Hazardous Substance/Waste Types
NARR Comments: DDx and dieldrin

NARR ID: 5755394

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

DICKSON PROPERTY (Continued)

S111249818

NARR Code: Site Location
Created By: KDANA
Created Date: 11/04/2014
Updated By: KDANA
Updated Date: 11/04/2014
Decode for NarcdID: Site Location
NARR Comments: The site is located on the west side of SW 150th Avenue south of Cabernet Drive.

NARR ID: 5755542
NARR Code: Manner of Release
Created By: KDANA
Created Date: 01/29/2015
Updated By: KDANA
Updated Date: 01/29/2015
Decode for NarcdID: Manner of Release
NARR Comments: Past application of pesticides on rural farmland

NARR ID: 5755544
NARR Code: Media Contamination
Created By: KDANA
Created Date: 01/29/2015
Updated By: KDANA
Updated Date: 01/29/2015
Decode for NarcdID: Media Contamination
NARR Comments: surface soils

NARR ID: 5755545
NARR Code: Site Ownership
Created By: KDANA
Created Date: 01/29/2015
Updated By: KDANA
Updated Date: 06/24/2015
Decode for NarcdID: Site Ownership
NARR Comments: Polygon Northwest Company LLC purchased the site from Dickson Family Properties LLC in 2015.

NARR ID: 5755703
NARR Code: Remedial Action
Created By: KDANA
Created Date: 06/24/2015
Updated By: KDANA
Updated Date: 06/24/2015
Decode for NarcdID: Remedial Action
NARR Comments: (06/24/2015 KPD/ICP) A Soil Management Plan for the site was completed in June 2015. Up to 7,000 cubic yards of pesticide-contaminated surface soils will be scraped off the site and placed in a disposal cell beneath the future park. The soil will be piled two feet thick, covered with a fabric marker, and topped with 2-7 feet of uncontaminated soil. Any excess contaminated soils will be hauled off-site to an approved landfill.

Administrative Action:

Action ID: 9424
Region: Not reported
Complete Date: 11/04/2014
Rank Value: Not reported
Cleanup Flag: False

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

DICKSON PROPERTY (Continued)

S111249818

Created Date: 11/04/2014
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Not reported
Category: Administrative Action
Action Code Flag: False
Action: Site added to database
Further Action: Not reported
Comments: Not reported

Action ID: 9519
Region: Northwestern Region
Complete Date: 01/13/2015
Rank Value: Not reported
Cleanup Flag: False
Created Date: 11/04/2014
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Northwest Region
Category: Remedial Action
Action Code Flag: False
Action: VCS Waiting List
Further Action: 0
Comments: Not reported

Action ID: 9425
Region: Northwestern Region
Complete Date: Not reported
Rank Value: Not reported
Cleanup Flag: False
Created Date: 01/13/2015
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Northwest Region
Category: Remedial Action
Action Code Flag: False
Action: SITE EVALUATION
Further Action: 0
Comments: Not reported

VCS:

ECS Site ID: 5929
Facility Size: 29.77 acres
Action: SITE EVALUATION
Start Date: 01/13/2015
End Date: Not reported
Facility Status: Active
Program: ICP
Latitude: 45.4094
Longitude: -122.8316

HSIS:

Facility Id: 071933
Chemical Is Extremely Hazardous Substance (EHS): No
Department Or Division Of Company: HAWKS RIDGE CEV 5460Z02
Facility Has Written Emergency Plan: Yes
Contains 112R: No
NAICS Code 1: 517110
NAICS Desc 1: WIRED TELECOMMUNICATIONS CARRIERS

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

DICKSON PROPERTY (Continued)

S111249818

NAICS Code 2: 000000
NAICS Desc 2: Not reported
Manager Name: WALDEN RIGGS
Business Phone: 9166863499
Mailing Address: 9260 E STOCKTON BLVD
Mailing City,St,Zip: ELK GROVE, CA 95624
No. of Employees: 0
Day Phone: 8005906605
Placard: Yes
Fire Dept Code: 0485
Sprinkler System: Yes
Emergency Contact: SECURITY COMMAND CENTER
Emergency Procedure: POSTED BY DOOR ENTRY
Business Type: TELEPHONE SWITCHING OPERATIONS

Facility:

Facility Id: 071933
Physical State Of The Substance: 1
Physical State: SOLID
Average Amount Possessed During The Year Code: 20
Maximum Amount Possessed During The Year Code: 20
Applicable Unit Of Measure Code: 1
Description Of The Unit Of Measure: POUNDS
Type Code: R
Description: OTHER
Type Code: Not reported
Temperature Description: Not reported
Pressure of Code: 1
Pressure Description: NORMAL PRESSURE
Pressure of Code: Not reported
Pressure Description: Not reported
Temperature Description: NORMAL TEMPERATURE
Temperature of The Hazardous Substance Code: 4
Temperature Description: Not reported
Temperature of The Hazardous Substance Code: Not reported
Days Hazardous Substance On Site During Year: 365
Is The Substance Protected A Trade Secret: False
Description Of The Max Qnty Code: 1,000-4,999
Description Of The Avg Qnty Code: 1,000-4,999
Most Hazardous Ingridient: SULFURIC ACID
United Nations/north America 4 Digit Class Number: 2794
Hazard Rank: 4
EHS Ingredient: SULFURIC ACID
Substance Pure: False
Substance Mix: True
First Hazardous Class Code For Chemical: Acute Health Hazard
Second Hazardous Class Code For Chemical: Corrosive Material
Third Hazardous Class Code For Chemical: Chronic Health Hazard
Hazard Class 1 Of The Chemical: 6.3
Hazard Class 2 Of The Chemical: 8.0
Hazard Class 3 Of The Chemical: 6.4

Chemical:

United Nations/north America 4 Digit Class Number: 2794
Chemical Abstract Service Identifier Number: 7664939
Chemical Is Extremely Hazardous Substance (EHS): No
First Hazardous Class Code For Chemical: Acute Health Hazard
Second Hazardous Class Code For Chemical: Corrosive Material

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

DICKSON PROPERTY (Continued)

S111249818

Third Hazardous Class Code For Chemical: Chronic Health Hazard
Hazard Class 1 Of The Chemical: 6.3
Hazard Class 2 Of The Chemical: 8.0
Hazard Class 3 Of The Chemical: 6.4
Chemical Is A Toxic 313 Chemical: No
EPA Pesticide Registration Number: Not reported
Contains 112R: No
Contains EHS: Yes
Fertilizer: No
Pesticide: No
Contains 313: Yes

2
SE
1/4-1/2
0.275 mi.
1450 ft.

HEATING OIL TANK
14645 SW BEEF BEND ROAD
TIGARD, OR 97224

LUST **S106117152**
NPDES **N/A**

Relative:
Lower

LUST:
Region: North Western Region
Facility ID: 34-03-2299
Cleanup Received Date: 10/31/2003
Cleanup Start Date: 10/31/2003
Cleanup Complete Date: 11/17/2004
Decode for Region: North West Region

Actual:
265 ft.

NPDES:
WQ File Nbr: 113909
Legal Name: Taurus Keystone, LLC
Region: Not reported
Pri SIC: 1521
Facility Type: Not reported
Latitude: Not reported
Longitude: Not reported
Category: Not reported
Permit Type: GEN12C
Permit Active: Not reported
Is Active?: FALSE
Permit Description: Not reported
Expiration Date: Not reported
EPA Number: Not reported
UIC Facility: Not reported
Admin Agent: Not reported
Last Action Date: Not reported
Permit Writer: Not reported
Compliance Inspector: Not reported
DMR Reviewer: Not reported
Application Number: Not reported
Class: Not reported
Start Date: Not reported
Region Decode: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

3
North
1/4-1/2
0.284 mi.
1500 ft.

HEATING OIL TANK
15279 SW CABERNET DRIVE
TIGARD, OR 97224

LUST **S104658921**
N/A

Relative:
Higher

LUST:
Region: North Western Region
Facility ID: 34-00-5276
Cleanup Received Date: 07/07/2000
Cleanup Start Date: 07/07/2000
Cleanup Complete Date: 11/22/2000
Decode for Region: North West Region

Actual:
522 ft.

4
NNE
1/4-1/2
0.289 mi.
1527 ft.

HEATING OIL TANK
14900 SW 150TH
TIGARD, OR 97224

LUST **S102778567**
N/A

Relative:
Higher

LUST:
Region: North Western Region
Facility ID: 34-97-0758
Cleanup Received Date: 10/09/1997
Cleanup Start Date: Not reported
Cleanup Complete Date: Not reported
Decode for Region: North West Region

Actual:
566 ft.

5
SW
1/4-1/2
0.309 mi.
1629 ft.

HEATING OIL TANK
15800 SW BEEF BEND ROAD
TIGARD, OR 97224

LUST **S102778564**
N/A

Relative:
Lower

LUST:
Region: North Western Region
Facility ID: 34-96-0086
Cleanup Received Date: 02/15/1996
Cleanup Start Date: 02/15/1996
Cleanup Complete Date: Not reported
Decode for Region: North West Region

Actual:
230 ft.

6
NNE
1/4-1/2
0.323 mi.
1705 ft.

HEATING OIL TANK
14845 SW 150TH AVENUE
TIGARD, OR 97224

LUST **S102417706**
N/A

Relative:
Higher

LUST:
Region: North Western Region
Facility ID: 34-96-0717
Cleanup Received Date: 12/13/1996
Cleanup Start Date: 12/12/1996
Cleanup Complete Date: Not reported
Decode for Region: North West Region

Actual:
564 ft.

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

7
SW
1/4-1/2
0.399 mi.
2107 ft.

HEATING OIL TANK
16075 SW BEEF BEND RD
SHERWOOD, OR 97140

LUST S110141453
N/A

Relative:
Lower

LUST:
Region: North Western Region
Facility ID: 34-09-1136
Cleanup Received Date: 11/04/2009
Cleanup Start Date: Not reported
Cleanup Complete Date: 02/08/2010
Decode for Region: North West Region

Actual:
205 ft.

8
NNW
1/4-1/2
0.438 mi.
2314 ft.

HEATING OIL TANK
15780 SW BULL MOUNTAIN RD
TIGARD, OR 97224

LUST S111005393
N/A

Relative:
Higher

LUST:
Region: North Western Region
Facility ID: 34-11-0209
Cleanup Received Date: 03/15/2011
Cleanup Start Date: Not reported
Cleanup Complete Date: 06/29/2011
Decode for Region: North West Region

Actual:
467 ft.

9
WNW
1/4-1/2
0.447 mi.
2360 ft.

STANLEY TRUST PROPERTY
15025 SW 161ST AVE
TIGARD, OR 97224

LUST S109204690
N/A

Relative:
Lower

LUST:
Region: North Western Region
Facility ID: 34-08-0405
Cleanup Received Date: 04/15/2008
Cleanup Start Date: 04/14/2008
Cleanup Complete Date: 06/23/2008
Decode for Region: North West Region

Actual:
343 ft.

10
North
1/4-1/2
0.472 mi.
2491 ft.

HEATING OIL TANK
14555 SW 150TH AVENUE
TIGARD, OR 97224

LUST S105981789
N/A

Relative:
Higher

LUST:
Region: North Western Region
Facility ID: 34-03-1475
Cleanup Received Date: 07/22/2003
Cleanup Start Date: 07/22/2003
Cleanup Complete Date: Not reported
Decode for Region: North West Region

Actual:
606 ft.

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

A11
ESE
1/4-1/2
0.495 mi.
2612 ft.
HEATING OIL TANK
14060 SW BEEF BOND RD
TIGARD, OR 97224
Site 1 of 2 in cluster A

LUST **S106476179**
N/A

Relative: **LUST:**
Lower Region: North Western Region
 Facility ID: 34-04-0217
Actual: Cleanup Received Date: 02/20/2004
253 ft. Cleanup Start Date: 02/19/2004
 Cleanup Complete Date: 07/13/2004
 Decode for Region: North West Region

A12
ESE
1/4-1/2
0.495 mi.
2612 ft.
HEATING OIL TANK
14060 SW BEEF BEND RD
TIGARD, OR 97223
Site 2 of 2 in cluster A

LUST **S107466196**
N/A

Relative: **LUST:**
Lower Region: North Western Region
 Facility ID: 34-05-2175
Actual: Cleanup Received Date: 10/07/2005
253 ft. Cleanup Start Date: 10/10/2005
 Cleanup Complete Date: 01/13/2006
 Decode for Region: North West Region

13
WSW
1/2-1
0.784 mi.
4140 ft.
FRANK'S DISPOSAL SITE
17360 SW LASICH LN.
SHERWOOD, OR 97140

ECSI **S105613802**
N/A

Relative: **ECSI:**
Lower State ID Number: 954
 Brown ID: 0
Actual: Study Area: False
219 ft. Region ID: 2
 Legislative ID: 0
 Investigation: Suspect
 FACA ID: 8861
 Further Action: 257
 Lat/Long (dms): 45 24 5.00 / -122 51 36.00
 County Code: 34.00
 Score Value: 110
 Cerclis ID: 030791164
 Township Coord.: 2.00
 Township Zone: S
 Range Coord: 1.00
 Range Zone: W
 Section Coord: 18
 Qtr Section: Ba
 Tax Lots: 602, 690, 600, 603 (2S/1W-18)
 Size: 51.3 acres total
 NPL: False
 Orphan: False
 Updated By: GWISTAR

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRANK'S DISPOSAL SITE (Continued)

S105613802

Update Date: 12/31/2013
Created Date: 10/30/1989
Decode For RegionID: Northwest Region
Decode For BrownID: Not reported
Decode For Furtheract: High-Medium
Decode For Investstat: Suspect
Decode For Legislative: Not reported
Alias Name: Frank's Sanitary Landfill
Alias Name: FDS, Inc.
Alias Name: Frank's Disposal Service, Inc.
Alias Name: Lasich Landfill

Hazardous Release:

Substance ID.: 121637
Haz Release ID: 387121
Qty Released: Unknown
Date Released: Unknown
Update Date: 08/29/2007
Update By: SFORTUN
Substance Code: 7439-89-6
Substance Name: IRON
Substance Abbrev.: Not reported
Substance Alias ID: 319254
Sub Alias Name: FE
Sampling Result ID: 349292
Feature Id: 0
Hazard Release Id: 387121
Medium: 699
Substance Abbrev.: 0
Unit Code: 8
Observation: False
Owner Operator: False
Lab Data: True
Sample Depth: Not reported
Start Date: 03/06/1974
End Date: Not reported
Min Concentration: Not reported
Max Concentration: 7500.00
Sample Comment: 7,500 ppb total iron in leachate, 3/6/74.
Last Update By: SFORTUN
Update Date: 08/29/2007
Decode for MediumID: Leachate
Sampling Result ID: 349293
Feature Id: 0
Hazard Release Id: 387121
Medium: 704
Substance Abbrev.: 0
Unit Code: 8
Observation: False
Owner Operator: False
Lab Data: True
Sample Depth: Not reported
Start Date: 06/14/1974
End Date: Not reported
Min Concentration: Not reported
Max Concentration: 1100.00
Sample Comment: 7,100 ppb total iron in surface water ditch next to fill, 6/14/74.300 ppm in Tualatin River mixing zone, 5/14/75.

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRANK'S DISPOSAL SITE (Continued)

S105613802

Last Update By: SFORTUN
Update Date: 08/29/2007
Decode for MediumID: Surface Water

Substance ID.: 121642
Haz Release ID: 387122
Qty Released: Unknown
Date Released: Unknown
Update Date: 08/29/2007
Update By: SFORTUN

Substance Code: 7439-96-5
Substance Name: MANGANESE
Substance Abbrev.: Not reported
Substance Category ID: 8468
Substance Category: Inorganics
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Substance Category ID: 8468
Substance Category: Inorganics
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Substance Alias ID: 319259
Sub Alias Name: MN

Sampling Result ID: 349294
Feature Id: 0
Hazard Release Id: 387122
Medium: 699
Substance Abbrev.: 0
Unit Code: 8
Observation: False
Owner Operator: False
Lab Data: True
Sample Depth: Not reported
Start Date: 03/06/1974
End Date: Not reported
Min Concentration: Not reported
Max Concentration: 2200.00
Sample Comment: 2,200 ppb total manganese in bank seep at site, 9/19/74.1,900 ppb in leachate, 5/14/75.1,400 ppb in leachate, 3/6/74.

Last Update By: SFORTUN
Update Date: 08/29/2007
Decode for MediumID: Leachate
Sampling Result ID: 349295
Feature Id: 0
Hazard Release Id: 387122
Medium: 704
Substance Abbrev.: 0
Unit Code: 8
Observation: False
Owner Operator: False
Lab Data: True
Sample Depth: Not reported
Start Date: 06/14/1974
End Date: Not reported
Min Concentration: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRANK'S DISPOSAL SITE (Continued)

S105613802

Max Concentration: 7200.00
Sample Comment: 7,200 ppb total manganese in surface water from culvert below fill,
6/14/74.4,800 ppb in drainage ditch, 6/14/74.
Last Update By: SFORTUN
Update Date: 08/29/2007
Decode for MediumID: Surface Water

Substance ID.: 121679
Haz Release ID: 387123
Qty Released: Unknown
Date Released: unknown
Update Date: 08/29/2007
Update By: SFORTUN
Substance Code: 7440-66-6
Substance Name: ZINC
Substance Abbrev.: Not reported
Substance Alias ID: 319302
Sub Alias Name: ZN
Sampling Result ID: 349300
Feature Id: 0
Hazard Release Id: 387123
Medium: 699
Substance Abbrev.: 0
Unit Code: 8
Observation: False
Owner Operator: False
Lab Data: True
Sample Depth: Not reported
Start Date: 03/06/1974
End Date: Not reported
Min Concentration: Not reported
Max Concentration: 1350.00
Sample Comment: 1,350 ppb zinc in leachate, 3/6/74.
Last Update By: SFORTUN
Update Date: 08/29/2007
Decode for MediumID: Leachate

Substance ID.: 122004
Haz Release ID: 387124
Qty Released: Unknown
Date Released: Unknown
Update Date: 08/29/2007
Update By: SFORTUN
Substance Code: ECD250
Substance Name: AMMONIA NITROGEN
Substance Abbrev.: Not reported
Sampling Result ID: 349290
Feature Id: 0
Hazard Release Id: 387124
Medium: 699
Substance Abbrev.: 0
Unit Code: 7
Observation: False
Owner Operator: False
Lab Data: True
Sample Depth: Not reported
Start Date: 03/06/1974

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRANK'S DISPOSAL SITE (Continued)

S105613802

End Date: Not reported
Min Concentration: Not reported
Max Concentration: 114.00
Sample Comment: 114 ppm Ammonia Nitrogen in leachate on 3/6/74.20 ppm in leachate on 5/14/74.
Last Update By: SFORTUN
Update Date: 08/29/2007
Decode for MediumID: Leachate
Sampling Result ID: 349291
Feature Id: 0
Hazard Release Id: 387124
Medium: 704
Substance Abbrev.: 0
Unit Code: 7
Observation: False
Owner Operator: False
Lab Data: True
Sample Depth: Not reported
Start Date: 06/14/1974
End Date: Not reported
Min Concentration: Not reported
Max Concentration: 6.10
Sample Comment: 6.1 ppm Ammonia Nitrogen in surface water from culvert below fill on 6/14/74.4.9 ppm in drainage ditch surface water, 6/14/74.0.3 ppm in Tualatin River mixing zone, 5/14/75.
Last Update By: SFORTUN
Update Date: 08/29/2007
Decode for MediumID: Surface Water

Substance ID.: 121745
Haz Release ID: 387125
Qty Released: Unknown
Date Released: Unknown
Update Date: 08/29/2007
Update By: SFORTUN
Substance Code: 7723-14-0
Substance Name: PHOSPHORUS
Substance Abbrev.: Not reported
Sampling Result ID: 349296
Feature Id: 0
Hazard Release Id: 387125
Medium: 699
Substance Abbrev.: 0
Unit Code: 7
Observation: False
Owner Operator: False
Lab Data: True
Sample Depth: Not reported
Start Date: 03/06/1974
End Date: Not reported
Min Concentration: Not reported
Max Concentration: 1.43
Sample Comment: 1.43 ppm ortho-phosphates in leachate, 3/6/74.
Last Update By: SFORTUN
Update Date: 08/29/2007
Decode for MediumID: Leachate
Sampling Result ID: 349297

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRANK'S DISPOSAL SITE (Continued)

S105613802

Feature Id: 0
Hazard Release Id: 387125
Medium: 704
Substance Abbrev.: 0
Unit Code: 7
Observation: False
Owner Operator: False
Lab Data: True
Sample Depth: Not reported
Start Date: 08/19/1974
End Date: Not reported
Min Concentration: Not reported
Max Concentration: 1.09
Sample Comment: 1.09 ppm ortho-phosphates in river 500 feet downstream from site, 8/19/74.
Last Update By: SFORTUN
Update Date: 08/29/2007
Decode for MediumID: Surface Water

Substance ID.: 121655
Haz Release ID: 387126
Qty Released: Unknown
Date Released: Unknown
Update Date: 08/29/2007
Update By: SFORTUN
Substance Code: 7440-23-5
Substance Name: SODIUM
Substance Abbrev.: Not reported
Substance Alias ID: 319275
Sub Alias Name: NATRIUM
Substance Alias ID: 319276
Sub Alias Name: NA
Sampling Result ID: 349299
Feature Id: 0
Hazard Release Id: 387126
Medium: 699
Substance Abbrev.: 0
Unit Code: 7
Observation: False
Owner Operator: False
Lab Data: True
Sample Depth: Not reported
Start Date: 03/06/1974
End Date: Not reported
Min Concentration: Not reported
Max Concentration: 706.00
Sample Comment: 706 ppm sodium in leachate, 3/6/74.
Last Update By: SFORTUN
Update Date: 08/29/2007
Decode for MediumID: Leachate

Substance ID.: 121648
Haz Release ID: 387127
Qty Released: Unknown
Date Released: Unknown
Update Date: 08/29/2007
Update By: SFORTUN

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRANK'S DISPOSAL SITE (Continued)

S105613802

Substance Code: 7440-09-7
Substance Name: POTASSIUM
Substance Abbrev.: Not reported
Substance Alias ID: 319268
Sub Alias Name: K
Sampling Result ID: 349298
Feature Id: 0
Hazard Release Id: 387127
Medium: 699
Substance Abbrev.: 0
Unit Code: 7
Observation: False
Owner Operator: False
Lab Data: True
Sample Depth: Not reported
Start Date: 03/06/1974
End Date: Not reported
Min Concentration: Not reported
Max Concentration: 345.00
Sample Comment: 345 ppm potassium in leachate, 3/6/74.
Last Update By: SFORTUN
Update Date: 08/29/2007
Decode for MediumID: Leachate

Narrative:

NARR ID: 5749697
NARR Code: Site Contacts
Created By: SFORTUN
Created Date: 09/04/2007
Updated By: SFORTUN
Updated Date: 09/04/2007
Decode for NardID: Site Contacts
NARR Comments: Owned by Herbert and Florence Frank, P.O. Box 23293 Tigard, OR 97223.

NARR ID: 5726553
NARR Code: Contamination
Created By: Not reported
Created Date: 12/17/2002
Updated By: SFORTUN
Updated Date: 09/04/2007
Decode for NardID: Contamination
NARR Comments: A site inspection was performed under EPA Superfund in 1988. No evidence of hazardous substance dumping was uncovered, and EPA made a no-further-action determination. However, based on leachate discharge into the Tualatin River, EPA recommended further monitoring by the state.(9/4/07 smf) The potential site contaminants of greatest concern are toxic metals and PAHs that may have accumulated and been concentrated in older portions of the landfill during historic open burning of wastes that occurred during the initial 10- to 15 years of site operations. There are no records to indicate that the landfills incoming wastes were closely monitored, so additional testing is needed to define the full character of potential hazardous substances within the landfilled wastes.

NARR ID: 5749698
NARR Code: Disposals
Created By: SFORTUN
Created Date: 09/04/2007

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRANK'S DISPOSAL SITE (Continued)

S105613802

Updated By: SFORTUN
Updated Date: 09/04/2007
Decode for NarcdID: Disposals
NARR Comments: (9/4/07 smf) The site received domestic, commercial, and municipal

wastes, including wet garbage and demolition debris, from the King City/Tigard/Sherwood/ Tualatin/Beaverton area, serving a population of 8,000 to 15,000. There is no record to indicate that industrial wastes or other hazardous substances were ever sent to the site for disposal. John Lasich operated an unlined, open burning dump on a portion of the site from about 1955 until about 1967, when Washington County Health Department ordered Mr. Lasich to stop burning wastes, and placed additional restrictions on his waste disposal operations. Early burning and disposal operations were conducted in a ravine that drained a hillside north of the site. This disposal ravine is believed to have been located near the southeast corner of the property. There are no records or other evidence to indicate that substantial volumes of hazardous substances were sent to Franks Disposal Site for disposal, although the open burning of wastes that occurred during the initial 10- to 15 years of site operations likely resulted in a significant accumulation and concentrating of toxic metals and polynuclear aromatic hydrocarbons in older portions of the fill.

NARR ID: 5726554
NARR Code: Data Sources
Created By: Not reported
Created Date: 12/17/2002
Updated By: SFORTUN
Updated Date: 09/04/2007
Decode for NarcdID: Data Sources
NARR Comments: CERCLIS File, including Site Investigation; Inactive Disposal Permit Files; correspondence from owner and/or operator; lab results.(9/4/07 smf) 1.DEQ Northwest Region Solid Waste Permit file (#117) for Franks Landfill. 2. Site Inspection Report for Franks Sanitary Landfill, Sherwood, Oregon, TDD F10-8807-21, PAN FOR0036SA, prepared for USEPA Region X, by Ecology and Environment, Inc., November 1988. 3. USEPA Storet Database - Tualatin River surface water quality data (DEQ ambient monitoring) <http://www.epa.gov/storet/dbtop.html> .

NARR ID: 5749699
NARR Code: General Site Description
Created By: SFORTUN
Created Date: 09/04/2007
Updated By: SFORTUN
Updated Date: 09/04/2007
Decode for NarcdID: General Site Description
NARR Comments: (9/4/07 smf) The site is located on the gently rolling western foothills of Bull Mountain. Site elevations range from about 175 feet MSL on the northeastern end of the site, to about 110 feet MSL along the Tualatin River. The site consists of a small, eastern upper bench (160-175 feet MSL), overlooking a much larger, western-to-southern lower bench (110-130 feet MSL) which borders the Tualatin River. The eastern upper bench slopes to the lower bench at a 50% downward grade. The lower western bench slopes gently toward the river (to the northwest, west, southwest, south, and southeast) at about 1.5- to 3.5% grade, except for a 75- to 100-foot wide fringe along the southwestern river bank, where the downward grade ranges from 15- to

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRANK'S DISPOSAL SITE (Continued)

S105613802

40%. The 51 acre parcel is largely unoccupied and zoned for exclusive farm use. The site is comprised of four separate Tax Lots: Tax Lot 600 is 17.8 acres in size, and comprises the western 1/3 of the site. It is predominantly undeveloped agricultural land, although solid waste fill may be present at its southeast corner; Tax Lot 602 is 29.1 acres in size, and comprises the eastern majority of the site. It is the location where most of the sites historic landfilling activities occurred. A 5,500 square-foot maintenance building is located somewhat east of the center of Tax Lot 602; Tax Lot 603, which is 1.0 acre in size, is an inclusion within, and just north of the center of, Tax Lot 602. It is the location of an 87-year-old, 2,300 square-foot rural residence that was historically used as an office for the former Franks Disposal Service. A newer, 2,900 square-foot building is located partially within the northeast corner of Tax Lot 603, apparently straddling the Tax lot 603 property line. Tax Lot 690, which is 3.4 acres in size, is a vacant parcel located at the southern extent of the site, between the toe of the western part of the fill and the Tualatin River. The site is generally surrounded by agricultural lands, commercial greenhouses and nurseries, and rural residences. The nearest residences are located just beyond the sites northern property line. A small farm with rural residences and greenhouse operations (Oregon Azaleas, Inc.) is located along the sites eastern boundary. A container nursery with additional greenhouses (Fisher Farms, LLC) is located farther east, just beyond SW Roy Rogers Road. The headquarters for the Tualatin River National Wildlife Refuge [TRNWR] is located along the sites southeastern property line. A potato processing plant (Amstad Farms), agricultural land, and rural residences are located west and southwest of the site, directly across the Tualatin River.

NARR ID: 5749700
NARR Code: Hazardous Substance/Waste Types
Created By: SFORTUN
Created Date: 09/04/2007
Updated By: SFORTUN
Updated Date: 09/04/2007
Decode for NardID: Hazardous Substance/Waste Types
NARR Comments: (9/4/07 smf) There are no records or other evidence to indicate that substantial volumes of hazardous substances were sent to Franks Disposal Site for disposal, although the open burning of wastes that occurred during the initial 10- to 15 years of site operations likely resulted in a significant accumulation and concentrating of toxic metals and polynuclear aromatic hydrocarbons in older portions of the fill.

NARR ID: 5749702
NARR Code: Project Issues Summary
Created By: SFORTUN
Created Date: 09/04/2007
Updated By: SFORTUN
Updated Date: 09/14/2007
Decode for NardID: Project Issues Summary
NARR Comments: (9/4/07 smf) Historic open waste burning at the site from at least 1955 (possibly as early as 1941) to at least 1967 likely contaminated the river and surrounding lands with fallout ash, and may have produced a significant accumulation of residues within the fill that containing high concentrations of PAHs and metals. Historic test data

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRANK'S DISPOSAL SITE (Continued)

S105613802

indicate that the landfill leachate contained concentration of iron, manganese, zinc, ammonia, sodium, and potassium that exceeded DEQs current Level II Ecological Risk Assessment Screening Values for freshwater aquatic life, although DEQs ecological risk assessment screening criteria were not developed until almost 25 years after the landfill closed. DEQ has no records to indicate that site leachate was ever analyzed for other likely contaminants of concern, such as toxic metals, PAHs, other semi-volatile organic contaminants [SVOCs], or volatile organic contaminants [VOCs]. Since the landfill is located within an agricultural area (particularly during its earlier operating years), it should be conservatively assumed that the site may also have received waste pesticide containers, so pesticides (insecticides and herbicides) might also be potential contaminants of concern at the site. Site leachate is known to have contained contaminants at concentrations that exceeded those in the sites spring water and in the rivers surface water, so it is clear that hazardous substances were released. Since the concentrations of some of the leachates contaminants also exceeded DEQs current Level II Ecological Risk Assessment Screening Values for freshwater aquatic life, and there is no clear indication that the contamination has completely dissipated, the site should be added to DEQs Confirmed Release and Inventory of sites requiring further investigation and cleanup. The sites leachate seeps were more prominent during the wetter months of the year, but shallow groundwater surrounding the fill is likely to have been characteristically similar to the leachate. Because of sites topography, contaminated groundwater has probably continuously discharged to the river. Past data indicates substantial differences in dissolved oxygen and organic carbon content between the rivers surface water and the sites leachate, which could have caused in a significant accumulation of metals in river sediments along the site. Severe algal growth that was reported in the Tualatin River during the summer of 1974 may have been attributable, in part, to low stream flow rates. The U.S. Army Corps of Engineers [USACE] completed construction of the Scoggins Dam, and the creation of Henry Hagg Lake, near the Tualatin River headwaters during 1975. Since then, water releases at Scoggins Dam have been used to augment the rivers summertime flows so that minimum flows are now maintained at about twice those observed during the summer of 1974. E&E stated, in their 1988 Site Inspection report, that water from an on-site spring had been analyzed for toxic metals in 1985, and that no metals were detected above the Drinking Water Maximum Contaminant Levels [MCLs]. E&E did not specify the location of the spring, and DEQ does not have a copy of the analytical results. It is not known which metals were analyzed, or whether any metals contamination was actually detected. There is also no indication of whether the spring water was analyzed for other potential contaminants of concern, such as VOCs or SVOCs. It is further unclear whether water quality at this spring may have remained the same since then. Both EPA and DEQ have developed newer human health risk-based concentrations for metals in drinking water since 1988. Many of the more-recent human health risk-based standards for drinking water, and ecological risk assessment screening values for freshwater aquatic life, and some of the more-recently-revised Drinking Water MCLs are much lower than the former Drinking Water MCLs that were in effect at the time, so the significance of the the 1988 spring water test results are unclear. The sites shallow groundwater and deeper well water should be analyzed to determine is significant contamination is

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRANK'S DISPOSAL SITE (Continued)

S105613802

present. Sediment and surface water quality data collected near the Elsner Road Bridge, 3.0 miles downstream from the landfill, by USGS and DEQ, indicate that significant contamination sources may be present in the 10.7 mile reach of river along the site. Agricultural runoff and potato processing operations could be contributing some of the contamination, although landfill leachate are more likely sources for the concentrations of PAHs and phenolics detected in sediments, and transient elevated concentrations of metals detected in surface water. It is unclear whether Franks Disposal Site, Lakeside Reclamation Landfill, or both may be contributing to the observed contamination. Ponded water observed on the sites lower bench in recent air photos may enhance leachate generation at the site. Annual flooding of the sites lower bench could exacerbate such problems. Remedial measures may be needed to minimize surface water infiltration into the sites buried wastes. The sites Solid Waste Permit file information indicates that Area D was considered as a potential disposal location for construction and demolition debris, although there is no clear indication of whether such disposals occurred. Area D is located near the sites two on-site wells and a nearby off-site domestic well. Disposals in this area could adversely affect nearby drinking water wells. Old vehicles and other materials stored on the eastern portions of the site could be releasing petroleum constituents, antifreeze, metals, and other contaminants to the sites surface soils. Surface runoff from this area likely either infiltrates into the subsurface or discharges to the river. Soils in the vehicle storage area should be examined for potential hazardous substance contamination.

NARR ID: 5749703
NARR Code: Land Use (Current/Reasonably Likely)
Created By: SFORTUN
Created Date: 09/04/2007
Updated By: SFORTUN
Updated Date: 09/04/2007
Decode for NarcdID: Land Use (Current/Reasonably Likely)
NARR Comments: (9/4/07 smf) Properties surrounding the site are generally used for rural residences, for commercial greenhouses and nurseries, and for agricultural crops. Local agricultural crops include food crops such as potatoes, corn, peas, and other row crops. Site contaminants could represent a potential threat to local residents and nearby food crops used for human consumption. Metro, the Portland metropolitan areas regional governing body responsible for land-use planning, has designated Tualatin River bottom lands in the vicinity of the site as wildlife Habitat of Concern. More than half of the site lies within an area designated as wildlife Habitat of Concern. The site also lies along the current boundary of the Tualatin River National Wildlife Refuge, and within an area that USF&W has proposed for future annexation to the refuge. Site contaminants could represent a significant threat to important wildlife habitat along the Tualatin River.

NARR ID: 5726555
NARR Code: Site Location
Created By: Not reported
Created Date: 12/17/2002
Updated By: SFORTUN
Updated Date: 09/04/2007

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRANK'S DISPOSAL SITE (Continued)

S105613802

Decode for NarcdID: Site Location

NARR Comments: (9/4/07 smf) Franks Disposal Site is located in Washington County, along the Tualatin River, at the upstream end of a locale known as Beef Bend. It lies along the eastern and northern banks of the Tualatin River, between River Miles 19.2 and 19.5, at the western terminus of SW Lasich Lane, about 0.4 mile west-southwest of King City, and about 1.2 miles north of Sherwood (see Figures 1 through 2). The western terminus of SW Beef Bend Road lies about 1,250 feet east of the site. North-south-oriented SW Roy Rogers Road is located about 1,150 feet east of the site. The peak of Bull Mountain (710 feet elevation above Mean Sea Level [MSL]) lies 2.0 miles east-northeast of the site.

NARR ID: 5726556

NARR Code: Manner of Release

Created By: Not reported

Created Date: 12/17/2002

Updated By: SFORTUN

Updated Date: 09/14/2007

Decode for NarcdID: Manner of Release

NARR Comments: Open burning occurred from 1955 to 1962. Site took in about 50,000 cubic yards per year, and was removed from DEQ active SW Site Inspection checklist in 1984. Site serviced Tigard-Beaverton area.(9/4/07 smf) Historic open burning may have contaminated surrounding soils and nearby surface water with contaminated fallout ash. Documented historic leachate discharges to the Tualatin River. Wet surface conditions (springs; seasonal flooding) and very shallow groundwater suggest that groundwater is very likely contaminated. Groundwater likely discharges to the Tualatin River.

NARR ID: 5749704

NARR Code: Media Contamination

Created By: SFORTUN

Created Date: 09/04/2007

Updated By: SFORTUN

Updated Date: 09/14/2007

Decode for NarcdID: Media Contamination

NARR Comments: (9/4/07 smf) Wastes are buried at the site. Soils in direct contact with wastes are likely contaminated. Surface soils and surface water may have been contaminated with contaminated ash during historic open burning of wastes. Leachate outbreaks have probably contaminated surface soils, and have been documented discharging to the Tualatin River. Releases to the river have probably contaminated both surface water and sediments. Very shallow groundwater beneath buried wastes is probably contaminated as it is the likely source of leachate outbreaks. Surface soils may also be contaminated with petroleum and other vehicle-associated hazardous substances in areas where old cars, trucks, and other materials have been stored.

NARR ID: 5726557

NARR Code: Site Ownership

Created By: Not reported

Created Date: 12/17/2002

Updated By: SFORTUN

Updated Date: 09/04/2007

Decode for NarcdID: Site Ownership

NARR Comments: Previous owner: John Lasich, before 1955 to 1968.Current owners

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRANK'S DISPOSAL SITE (Continued)

S105613802

(since 1968): Herbert and Florence Frank P.O. Box 23293, Tigard, OR 97281

NARR ID: 5749705
NARR Code: Project Activity Status
Created By: SFORTUN
Created Date: 09/04/2007
Updated By: MKIRK
Updated Date: 03/17/2010
Decode for NarcdID: Project Activity Status
NARR Comments: EPA completed a Screening Site Inspection for the site in 1988 and issued a No Further Remedial Action Planned [NFRAP] decision for the site in November 1988. DEQ issued a No Further Action [NFA] decision for the site in August 1992. (9/4/07 smf) An August 2007 DEQ Strategy Recommendation recommended that the 1992 NFA decision be rescinded, and a high priority be assigned for further site investigation. (3/17/10 MWK) An Environmental Site Investigation Report by Alpha Environmental Services, Inc. was submitted February 2, 2010.

NARR ID: 5726558
NARR Code: Pathways Other Hazards
Created By: Not reported
Created Date: 12/17/2002
Updated By: SFORTUN
Updated Date: 09/04/2007
Decode for NarcdID: Pathways & Other Hazards
NARR Comments: No records of surface water diversion for drinking water purposes for 3 miles downstream. Groundwater is generally 100 feet below ground surface. Site is within area classified by DEQ as Cooper Mtn-Bull Mtn. Critical Groundwater Area. (9/4/07 smf) Wastes are buried within a few feet of the area's shallow groundwater table. Leachate outbreaks were a common problem during active landfilling operations, so shallow groundwater is likely also contaminated. There is no access to a Community Water Supply within at least 1.75 miles of the site, so most local residences probably have domestic drinking water wells. Contaminated groundwater could affect local drinking water wells. Sport fisherment have been observed fishing from the river bank along the south side of the fill where leachate seeps were known to have been present in the past. Sport fishermen and on-site workers could be exposed to landfill leachate by direct contact if seeps are still present. Any contaminated soils in the vicinity of the site's old, stored vehicles could also represent a potential direct contact threat for on-site workers. Surface contaminants could also represent a threat to sensitive and protected wildlife species in the river's riparian zone. Surface leachate is known to have discharged to the Tualatin River in the past. The site's shallow groundwater is probably contaminated and also likely to discharge to the river. Contamination in the Tualatin River's surface water and sediments could represent a threat to Threatened and Endangered coho and chinook salmon, and steelhead trout, as well as resident warmwater gamefish, crayfish, and their food supplies (macroinvertebrates). Since Tualatin River surface water is used for irrigation food crops within 2 miles downstrweam from the site, contamination in the Tualatin River's surface water could also represent a threat to food crops used for human consumption. If present in fish or crayfish tissue, contaminants could represent a threat to individuals

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRANK'S DISPOSAL SITE (Continued)

S105613802

consuming fish or crayfish caught from the river.

NARR ID: 5726559
NARR Code: Remedial Action
Created By: Not reported
Created Date: 12/17/2002
Updated By: MKIRK
Updated Date: 03/17/2010
Decode for NarcdID: Remedial Action
NARR Comments: (8/31/92 AGG) No known hazardous waste at site (see 3/26/84 memo in file). No further state action recommended.(9/4/07 smf) Although DEQ concluded in 1984 and 1992 that no hazardous WASTE was present at the site, there have been documented releases of hazardous SUBSTANCES at the site. Site file information was re-examined in 2007 following a June 2007 pollution complaint about the site. An August 2007 DEQ Strategy Recommendation [SR] recommended that the site's previous (1992) NFA be rescinded, and a high priority be assigned to further site investigation. Based on historic information within DEQ files, the 2007 SR also recommended that the site be proposed for addition to DEQ's Confirmed Release List [CRL] and Inventory of sites requiring further investigation and cleanup.(3/17/10 MWK) An Environmental Site Investigation Report by Alpha Environmental Services,Inc. was submitted February 2, 2010.

NARR ID: 5749706
NARR Code: Water Use (Current/Reasonably Likely)
Created By: SFORTUN
Created Date: 09/04/2007
Updated By: SFORTUN
Updated Date: 09/04/2007
Decode for NarcdID: Water Use (Current/Reasonably Likely)
NARR Comments: (9/4/07 smf) The site is located within an area having a high density of domestic wells. There is no accessible Community Drinking Water Supply within at least 1.75 miles of the site. Surrounding rural residences are all presumed to have domestic drinking water wells. Most local wells obtain water from the Columbia River Basalt [CRB] formation, although local basalt is highly fractured, and groundwater within the [CRB] is generally unconfined. The site has two on-site wells; one provides the site's only drinking water source. The nearest off-site domestic wells with records at OWRD are located about 700 feet north, 1,050 feet east-northeast, and 1,775 feet east of the site's buried wastes. In addition to supporting populations of Threatened and Endangered salmon and steelhead trout, as well as non-migratory warmwater gamefish, Tualatin River surface water downstream from the site is predominantly used for crop irrigation, greenhouse and nursery stock watering, and other agricultural purposes. Minor uses include fire protection, livestock watering, wildlife support, recreation, and domestic use. Water Rights have been issued for eight surface water diversions along the Tualatin River within 2.0 miles downstream from the site. The two nearest diversions are located at the southeast corner of the site. One is used for greenhouse and container nursery plant watering at Oregon Azalias, Inc., immediately east of the site. The other is owned by the U.S. Bureau of Reclamation and is used for dry land irrigation. The next nearest downstream surface water diversion is located less than 0.2 mile downstream, and is used to irrigate pasture land and food crops (corn). At least four additional surface water diversions,

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRANK'S DISPOSAL SITE (Continued)

S105613802

located within 2 miles downstream from the site, are also used for irrigating food crops (corn, peas, and row crops). The Tualatin Valley Irrigation District owns Water Rights at two of these downstream diversions. The City of Tualatin has Water Rights for Municipal Use of Tualatin River surface water from four diversion points located 6.7- to 11.8-miles downstream from the site (at RM 12.48, 10.76, 9.00, and 7.43). These allow the distribution of river water throughout the City of Tualatin. The river is also used for recreational fishing, canoeing, and swimming.

NARR ID: 5749701
NARR Code: Site History
Created By: SFORTUN
Created Date: 09/04/2007
Updated By: SFORTUN
Updated Date: 09/04/2007
Decode for NardID: Site History

NARR Comments: (9/4/07 smf) The site is historic farmland. A rural residence was constructed on the site in 1920. John Lasich operated an unlined, open burning dump on a portion of the site from about 1955 (possibly as early as 1943) until about 1967, when Washington County Health Department ordered Mr. Lasich to stop burning wastes, and placed additional restrictions on his waste disposal operations. Early burning and disposal operations were conducted in a ravine that drained a hillside north of the site. This disposal ravine is believed to have been located near the southeast corner of the property. Herbert Frank, who was previously the sole hauler of wastes to the site, purchased the property from the Lasich estate in 1968, and continued operating the landfill. After Shadybrook Landfill (ECSI #795) closed in 1971, Franks Disposal Site operated as Washington Countys only franchised landfill. Prior to 1972, site landfilling activities were overseen by the Washington County Health Department. DEQ first issued the site a temporary Solid Waste Disposal Permit (Permit #117) in June 1972. A General Information form submitted with Mr. Franks May 1972 permit application stated that the existing landfill occupied 3 acres, and had already been filled to an average depth of 20 feet. Solid waste disposal options in Washington County were quite limited at the time, so the landfill was allowed to continue to operate under annual temporary permits until more suitable means of waste disposal could be evaluated or other disposal locations could be sited. As site landfilling activities expanded, wastes were landfilled in two areas: at an upper bench fill area, and a lower bench fill area. Landfilling activities on the lower bench were limited to the drier months of the year because of saturated soil conditions during the rainy season, and annual flooding from the Tualatin River. Even during the drier months of the year, trenching activities on the lower bench could extend no deeper than 6 feet below ground surface [bgs] without intercepting the shallow groundwater table. A number of natural springs, located along the downward slope of the sites upper bench, probably enhanced site leachate generation. Nuisance leachate seeps persisted around the toe of the fill throughout landfilling operations. The Washington County Department of Health notified Mr. Frank on June 2, 1975 that his Solid Waste Disposal Permit was being terminated, effective September 30, 1975. However, on June 16, 1975, DEQ granted Mr. Frank an extension to continue receiving wastes without a franchise until July 1, 1976 because Mr. Frank had not achieve the specified contours

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRANK'S DISPOSAL SITE (Continued)

S105613802

necessary for adequate landfill stability. A new temporary permit was needed to assure that the lower landfilling area would be graded to eliminate ponding water. To expedite landfill closure, twelve additional waste haulers that had previously been disposing of wastes at the St. Johns Landfill were allowed to deliver their waste loads to the site. DEQ renewed the sites temporary permit annually until 1977. Disposals stopped in May 1977, and a final soil cover of no less than 2 foot thickness was applied by September 1977.

Administrative Action:

Action ID: 9437
Region: Northwestern Region
Complete Date: 08/30/1992
Rank Value: 0
Cleanup Flag: False
Created Date: 12/17/2002
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Northwest Region
Category: Listing Action
Action Code Flag: False
Action: Listing Review completed
Further Action: 0
Comments: Not reported

Action ID: 9427
Region: Not reported
Complete Date: 08/31/1992
Rank Value: 0
Cleanup Flag: False
Created Date: 12/17/2002
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Not reported
Category: Listing Action
Action Code Flag: False
Action: Excluded from confirmed release definition
Further Action: Not reported
Comments: Not reported

Action ID: 9443
Region: Northwestern Region
Complete Date: 08/31/1992
Rank Value: 0
Cleanup Flag: False
Created Date: 12/17/2002
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Northwest Region
Category: Remedial Action
Action Code Flag: False
Action: NO FURTHER STATE ACTION REQUIRED
Further Action: 0
Comments: Not reported

Action ID: 9508
Region: Northwestern Region
Complete Date: 06/10/2007
Rank Value: Not reported
Cleanup Flag: False
Created Date: 08/29/2007

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRANK'S DISPOSAL SITE (Continued)

S105613802

Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Northwest Region
Category: Remedial Action
Action Code Flag: False
Action: Site Screening recommended (EV)
Further Action: 0
Comments: Not reported

Action ID: 9459
Region: Northwestern Region
Complete Date: 08/29/2007
Rank Value: Not reported
Cleanup Flag: False
Created Date: 08/29/2007
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Northwest Region
Category: Remedial Action
Action Code Flag: False
Action: PRELIMINARY ASSESSMENT EQUIVALENT
Further Action: 0
Comments: Not reported

Action ID: 9506
Region: Northwestern Region
Complete Date: 08/29/2007
Rank Value: 110
Cleanup Flag: False
Created Date: 08/29/2007
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Northwest Region
Category: Remedial Action
Action Code Flag: False
Action: Site Investigation recommended (SI)
Further Action: High
Comments: Not reported

Action ID: 9498
Region: Northwestern Region
Complete Date: 09/20/2007
Rank Value: Not reported
Cleanup Flag: False
Created Date: 08/29/2007
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Northwest Region
Category: Listing Action
Action Code Flag: False
Action: Proposal for Confirmed Release List recommended
Further Action: 0
Comments: Not reported

Action ID: 9499
Region: Northwestern Region
Complete Date: 09/20/2007
Rank Value: Not reported
Cleanup Flag: False
Created Date: 08/29/2007
Decode for AgencyID: Department of Environmental Quality

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRANK'S DISPOSAL SITE (Continued)

S105613802

Decode for RegionID: Northwest Region
Category: Listing Action
Action Code Flag: False
Action: Proposal for Inventory recommended
Further Action: 0
Comments: Not reported

Action ID: 9451
Region: Northwestern Region
Complete Date: 12/14/2007
Rank Value: Not reported
Cleanup Flag: False
Created Date: 12/14/2007
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Northwest Region
Category: Listing Action
Action Code Flag: False
Action: Owner/operator comments received on listing notification
Further Action: 0
Comments: 45-day extension requested from Russell R. Kilkenny, Scarborough, McNeese, O'Brien & Kilkenny PC

Action ID: 9430
Region: Northwestern Region
Complete Date: 12/14/2007
Rank Value: Not reported
Cleanup Flag: False
Created Date: 12/14/2007
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Northwest Region
Category: Listing Action
Action Code Flag: False
Action: Petition or request granted
Further Action: 0
Comments: Not reported

Action ID: 9451
Region: Northwestern Region
Complete Date: 02/05/2008
Rank Value: Not reported
Cleanup Flag: False
Created Date: 02/15/2008
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Northwest Region
Category: Listing Action
Action Code Flag: False
Action: Owner/operator comments received on listing notification
Further Action: 0
Comments: Extension requested from Russell R. Kilkenny, Scarborough, McNeese, O'Brien & Kilkenny PC

Action ID: 9416
Region: Northwestern Region
Complete Date: 02/15/2008
Rank Value: Not reported
Cleanup Flag: False
Created Date: 02/15/2008

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRANK'S DISPOSAL SITE (Continued)

S105613802

Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Northwest Region
Category: Listing Action
Action Code Flag: False
Action: Petition or request denied
Further Action: 0
Comments: Not reported

Action ID: 9451
Region: Northwestern Region
Complete Date: 02/29/2008
Rank Value: Not reported
Cleanup Flag: False
Created Date: 03/04/2008
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Northwest Region
Category: Listing Action
Action Code Flag: False
Action: Owner/operator comments received on listing notification
Further Action: 0
Comments: Comments received from Russell Kilkenny, Scarborough McNeese O'Brien & Kilkenny PC.

Action ID: 9451
Region: Northwestern Region
Complete Date: 04/14/2008
Rank Value: Not reported
Cleanup Flag: False
Created Date: 04/14/2008
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Northwest Region
Category: Listing Action
Action Code Flag: False
Action: Owner/operator comments received on listing notification
Further Action: 0
Comments: Supplement letter for previous letter dated February 29, 2008 from Russell R. Kilkenny of Scarborough, McNeese, O'Brien & Kilkenny.

Action ID: 9511
Region: Northwestern Region
Complete Date: 04/24/2013
Rank Value: Not reported
Cleanup Flag: False
Created Date: 01/14/2010
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Northwest Region
Category: Remedial Action
Action Code Flag: False
Action: SITE INVESTIGATION
Further Action: 0
Comments: Not reported

Action ID: 9495
Region: Northwestern Region
Complete Date: 04/24/2013
Rank Value: Not reported
Cleanup Flag: False

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRANK'S DISPOSAL SITE (Continued)

S105613802

Created Date: 12/31/2013
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Northwest Region
Category: Remedial Action
Action Code Flag: False
Action: Other recommendation
Further Action: High-Medium
Comments: Continue site investigation oversight.

Action ID: 9512
Region: Not reported
Complete Date: 11/28/1988
Rank Value: 0
Cleanup Flag: False
Created Date: 12/17/2002
Decode for AgencyID: Environmental Protection Agency
Decode for RegionID: Not reported
Category: EPA Led Action
Action Code Flag: False
Action: EPA Screening Site Inspection 1
Further Action: Not reported
Comments: Not reported

Action ID: 9421
Region: Not reported
Complete Date: Not reported
Rank Value: 0
Cleanup Flag: False
Created Date: 12/17/2002
Decode for AgencyID: Environmental Protection Agency
Decode for RegionID: Not reported
Category: EPA Led Action
Action Code Flag: False
Action: Site added to CERCLIS
Further Action: Not reported
Comments: Not reported

Action ID: 9424
Region: Not reported
Complete Date: Not reported
Rank Value: 0
Cleanup Flag: False
Created Date: 12/17/2002
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Not reported
Category: Administrative Action
Action Code Flag: False
Action: Site added to database
Further Action: Not reported
Comments: Not reported

Action ID: 9457
Region: Not reported
Complete Date: 08/22/1984
Rank Value: 0
Cleanup Flag: False
Created Date: 12/17/2002

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRANK'S DISPOSAL SITE (Continued)

S105613802

Decode for AgencyID: Environmental Protection Agency
Decode for RegionID: Not reported
Category: EPA Led Action
Action Code Flag: False
Action: EPA Basic Preliminary Assessment
Further Action: Not reported
Comments: Not reported

Action ID: 9444
Region: Not reported
Complete Date: 11/28/1988
Rank Value: 0
Cleanup Flag: False
Created Date: 12/17/2002
Decode for AgencyID: Environmental Protection Agency
Decode for RegionID: Not reported
Category: EPA Led Action
Action Code Flag: False
Action: No Further Remedial Action Planned under Federal program
Further Action: Not reported
Comments: Not reported

Action ID: 9425
Region: Northwestern Region
Complete Date: 08/29/1992
Rank Value: 0
Cleanup Flag: False
Created Date: 12/17/2002
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Northwest Region
Category: Remedial Action
Action Code Flag: False
Action: SITE EVALUATION
Further Action: 0
Comments: Not reported

Operations:
Operation Id: 132253
Operation Status: Inactive
Common Name: Frank's Disposal Site
Yrs of Operation: 1955 (possibly as early as 1943) to 1977
Comments: Open burning dump and landfill
Updated Date: 09/04/2007
Updated By: SFORTUN
Decode for OpstatID: Inactive
Operations SIC Id: 194982
SIC Code: 4953
Created By: Not reported
Created Date: 12/17/2002

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

14
NW
1/2-1
0.880 mi.
4646 ft.

ROSHAK RIDGE
NE OF ROY ROGERS RD. & BULL MOUNTAIN RD.
TIGARD, OR 97224

ECSI S112504475
VCP N/A

Relative:
Lower

ECSI:

Actual:
313 ft.

State ID Number: 5781
Brown ID: 0
Study Area: False
Region ID: 2
Legislative ID: 831
Investigation: Suspect
FACA ID: 126396
Further Action: 0
Lat/Long (dms): 45 25 .50 / -122 50 56.80
County Code: 34.00
Score Value: Not reported
Cercles ID: Not reported
Township Coord.: 2.00
Township Zone: S
Range Coord: 1.00
Range Zone: W
Section Coord: 7
Qtr Section: Not reported
Tax Lots: 100 - 106
Size: 36.38 acres
NPL: False
Orphan: False
Updated By: KDANA
Update Date: 12/15/2014
Created Date: 01/16/2013
Decode For RegionID: Northwest Region
Decode For BrownID: Not reported
Decode For Furtheract: Not reported
Decode For Investstat: Suspect
Decode For Legislative: Owner, operator or other party under agreement, order or consent
decree under ORS 465.200 or 465.420

Alias Name: Polygon Homes

Hazardous Release:

Substance ID.: 121516
Haz Release ID: 388225
Qty Released: unknown
Date Released: unknown
Update Date: 12/15/2014
Update By: KDANA
Substance Code: 60-57-1
Substance Name: DIELDRIN
Substance Abbrev.: Not reported
Substance Alias ID: 318927
Sub Alias Name: HEOD
Substance Alias ID: 318928
Sub Alias Name: OCTALOX
Comment ID: 305660
Release Code: Data Sources
Release Comments: GeoDesign Limited Surface Soil Evaluation
Decode for Relcomcd: Data Sources
Comment ID: 305662
Release Code: General Comments

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ROSHAK RIDGE (Continued)

S112504475

Release Comments: Highest concentration encountered in composite sample 9 (Comp-9).
Decode for Relcomcd: General Comments
Sampling Result ID: 350729
Feature Id: 0
Hazard Release Id: 388225
Medium: 703
Substance Abbrev.: 0
Unit Code: 7
Observation: False
Owner Operator: False
Lab Data: True
Sample Depth: 0-0.5 ft bgs
Start Date: 11/07/2012
End Date: 11/07/2012
Min Concentration: Not reported
Max Concentration: .08
Sample Comment: up to 0.0787 ppm
Last Update By: KDANA
Update Date: 12/15/2014
Decode for MediumID: Soil

Narrative:

NARR ID: 5755630
NARR Code: Contamination
Created By: KDANA
Created Date: 03/31/2015
Updated By: KDANA
Updated Date: 04/02/2015
Decode for NarcdID: Contamination
NARR Comments: (04/02/2015 KPD/ICP) Ten composite soil samples from the top six inches of soil were collected from across the site in November 2012 and analyzed for pesticides and metals. The pesticides DDE, DDT and dieldrin were detected in all 10 samples, while endosulfan sulfate was detected in seven of the 10 samples. In December 2012, eight composite soil samples were collected from deeper intervals (down to three feet below ground surface), again finding DDE, DDT, and dieldrin. However, only dieldrin was present at concentrations exceeding DEQ's risk-based concentrations for residential exposures.

NARR ID: 5755249
NARR Code: Data Sources
Created By: DHAFLEY
Created Date: 08/15/2014
Updated By: KDANA
Updated Date: 04/02/2015
Decode for NarcdID: Data Sources
NARR Comments: 1) GeoDesign ***Phase I Environmental Site Assessment and Limited Surface Soil Evaluation*** [January 10, 2013].2) GeoDesign ***Request for DEQ Determination*** [January 24, 2013].3) GeoDesign ***Report of Additional Surface Soil Sampling and Ecological Risk Screening*** [November 20, 2013].4) GeoDesign ***Contaminated Media Management Plan*** [March 17, 2015].

NARR ID: 5755629
NARR Code: General Site Description
Created By: KDANA
Created Date: 03/31/2015
Updated By: KDANA

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ROSHAK RIDGE (Continued)

S112504475

Updated Date: 03/31/2015
Decode for NarcdID: General Site Description
NARR Comments: Polygon Northwest Company is planning on constructing 166 single-family homes and 78 condominiums at the site, along with a 2.46-acre public park. An existing intermittent stream will be re-routed into an open space at the north end of the development.

NARR ID: 5755490
NARR Code: Hazardous Substance/Waste Types
Created By: KDANA
Created Date: 12/15/2014
Updated By: KDANA
Updated Date: 12/15/2014
Decode for NarcdID: Hazardous Substance/Waste Types
NARR Comments: Pesticides (dieldrin and DDx)

NARR ID: 5755627
NARR Code: Manner of Release
Created By: KDANA
Created Date: 03/31/2015
Updated By: KDANA
Updated Date: 03/31/2015
Decode for NarcdID: Manner of Release
NARR Comments: Application of pesticides on farmland

NARR ID: 5755626
NARR Code: Site Ownership
Created By: KDANA
Created Date: 03/31/2015
Updated By: KDANA
Updated Date: 03/31/2015
Decode for NarcdID: Site Ownership
NARR Comments: The site was owned by members of the Roshak family since the early 1920s.

NARR ID: 5755631
NARR Code: Remedial Action
Created By: KDANA
Created Date: 04/02/2015
Updated By: KDANA
Updated Date: 04/02/2015
Decode for NarcdID: Remedial Action
NARR Comments: (04/02/2015 KPD/ICP) DEQ has approved a plan by the site developers to excavate pesticide-impacted surface soils from across the site and place the soils into a disposal cell beneath a 2.5-acre park in the center of the development. The disposal cell will be capped with three feet of clean fill to prevent future direct contact with the soils by local residents. Redevelopment of the site is expected to begin in the summer of 2015.

NARR ID: 5755628
NARR Code: Site History
Created By: KDANA
Created Date: 03/31/2015
Updated By: KDANA
Updated Date: 03/31/2015
Decode for NarcdID: Site History

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ROSHAK RIDGE (Continued)

S112504475

NARR Comments: Based on aerial photographs the site was a cleared woodland in the late 1930s. The Roshak family reportedly converted the land to farming in the 1950s, and by 1963 the site was growing potatoes and grains. A residential development was constructed to the east of the site in the early 1970s, and denser residential developments were constructed to the northeast and southeast in the 1990s. The site was brought inside the Urban Growth Boundary in 2002 and annexed by the City of Tigard in 2011.

NARR ID: 5755250
NARR Code: 1922
Created By: DHAFLEY
Created Date: 08/15/2014
Updated By: KDANA
Updated Date: 04/02/2015
Decode for NarcdID: Current Site Summary Statement

NARR Comments: Roshak Ridge is the name given to a former farm owned by the Roshak family. The farm has been purchased by Polygon Northwest for redevelopment as a residential neighborhood. Soil samples collected at the site in 2012 showed generally low levels of pesticides, but the pesticide dieldrin was present at concentrations exceeding DEQ's risk-based standards for direct contact in a residential setting. DEQ has approved a plan to excavate surface soils (generally the top 1 foot of soils) from across the site and place the soils into a disposal cell beneath a park in the center of the site. The disposal cell will be capped with three feet of clean fill to prevent future residents of the site from coming into direct contact with the dieldrin-impacted soil.

Administrative Action:

Action ID: 9424
Region: Not reported
Complete Date: 01/16/2013
Rank Value: Not reported
Cleanup Flag: False
Created Date: 01/16/2013
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Not reported
Category: Administrative Action
Action Code Flag: False
Action: Site added to database
Further Action: Not reported
Comments: Not reported

Action ID: 9519
Region: Northwestern Region
Complete Date: 07/18/2013
Rank Value: Not reported
Cleanup Flag: False
Created Date: 01/16/2013
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Northwest Region
Category: Remedial Action
Action Code Flag: False
Action: VCS Waiting List
Further Action: 0
Comments: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ROSHAK RIDGE (Continued)

S112504475

Action ID: 9425
Region: Northwestern Region
Complete Date: Not reported
Rank Value: Not reported
Cleanup Flag: False
Created Date: 07/24/2013
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Northwest Region
Category: Remedial Action
Action Code Flag: False
Action: SITE EVALUATION
Further Action: 0
Comments: Not reported

Action ID: 9440
Region: Northwestern Region
Complete Date: 03/07/2013
Rank Value: Not reported
Cleanup Flag: False
Created Date: 08/13/2013
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Northwest Region
Category: Remedial Action
Action Code Flag: False
Action: Letter Agreement
Further Action: 0
Comments: Independent Cleanup Agreement

Action ID: 9435
Region: Northwestern Region
Complete Date: Not reported
Rank Value: Not reported
Cleanup Flag: False
Created Date: 03/31/2015
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Northwest Region
Category: Remedial Action
Action Code Flag: False
Action: Independent Cleanup Program
Further Action: 0
Comments: Not reported

VCS:

ECS Site ID: 5781
Facility Size: 36.38 acres
Action: Independent Cleanup Program
Start Date: 07/18/2013
End Date: Not reported
Facility Status: Active
Program: ICP
Latitude: 45.4168
Longitude: -122.8491

Count: 1 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
PORTLAND	S107421141	EAST SIDE CSO	NEAR SE 18TH & MCLOUGHLIN TO N		ECSI, VCP

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 03/07/2016	Source: EPA
Date Data Arrived at EDR: 04/05/2016	Telephone: N/A
Date Made Active in Reports: 04/15/2016	Last EDR Contact: 07/07/2016
Number of Days to Update: 10	Next Scheduled EDR Contact: 10/17/2016
	Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 03/07/2016	Source: EPA
Date Data Arrived at EDR: 04/05/2016	Telephone: N/A
Date Made Active in Reports: 04/15/2016	Last EDR Contact: 07/07/2016
Number of Days to Update: 10	Next Scheduled EDR Contact: 10/17/2016
	Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991	Source: EPA
Date Data Arrived at EDR: 02/02/1994	Telephone: 202-564-4267
Date Made Active in Reports: 03/30/1994	Last EDR Contact: 08/15/2011
Number of Days to Update: 56	Next Scheduled EDR Contact: 11/28/2011
	Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 03/07/2016	Source: EPA
Date Data Arrived at EDR: 04/05/2016	Telephone: N/A
Date Made Active in Reports: 04/15/2016	Last EDR Contact: 07/07/2016
Number of Days to Update: 10	Next Scheduled EDR Contact: 10/17/2016
	Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 11/13/2015	Source: Environmental Protection Agency
Date Data Arrived at EDR: 01/06/2016	Telephone: 703-603-8704
Date Made Active in Reports: 05/20/2016	Last EDR Contact: 07/06/2016
Number of Days to Update: 135	Next Scheduled EDR Contact: 10/17/2016
	Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly known as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 03/07/2016	Source: EPA
Date Data Arrived at EDR: 04/05/2016	Telephone: 800-424-9346
Date Made Active in Reports: 04/15/2016	Last EDR Contact: 07/22/2016
Number of Days to Update: 10	Next Scheduled EDR Contact: 10/31/2016
	Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 03/07/2016	Source: EPA
Date Data Arrived at EDR: 04/05/2016	Telephone: 800-424-9346
Date Made Active in Reports: 04/15/2016	Last EDR Contact: 07/22/2016
Number of Days to Update: 10	Next Scheduled EDR Contact: 10/31/2016
	Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 06/27/2016	Source: EPA
Date Data Arrived at EDR: 06/30/2016	Telephone: 800-424-9346
Date Made Active in Reports: 09/02/2016	Last EDR Contact: 06/30/2016
Number of Days to Update: 64	Next Scheduled EDR Contact: 10/10/2016
	Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 06/21/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/30/2016	Telephone: (206) 553-1200
Date Made Active in Reports: 09/02/2016	Last EDR Contact: 06/30/2016
Number of Days to Update: 64	Next Scheduled EDR Contact: 10/17/2016
	Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 06/21/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/30/2016	Telephone: (206) 553-1200
Date Made Active in Reports: 09/02/2016	Last EDR Contact: 06/30/2016
Number of Days to Update: 64	Next Scheduled EDR Contact: 10/17/2016
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 06/21/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/30/2016	Telephone: (206) 553-1200
Date Made Active in Reports: 09/02/2016	Last EDR Contact: 06/30/2016
Number of Days to Update: 64	Next Scheduled EDR Contact: 10/17/2016
	Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 06/21/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/30/2016	Telephone: (206) 553-1200
Date Made Active in Reports: 09/02/2016	Last EDR Contact: 06/30/2016
Number of Days to Update: 64	Next Scheduled EDR Contact: 10/17/2016
	Data Release Frequency: Varies

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 05/28/2015	Source: Department of the Navy
Date Data Arrived at EDR: 05/29/2015	Telephone: 843-820-7326
Date Made Active in Reports: 06/11/2015	Last EDR Contact: 08/12/2016
Number of Days to Update: 13	Next Scheduled EDR Contact: 11/28/2016
	Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 05/09/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/01/2016	Telephone: 703-603-0695
Date Made Active in Reports: 09/02/2016	Last EDR Contact: 08/31/2016
Number of Days to Update: 93	Next Scheduled EDR Contact: 12/12/2016
	Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 05/09/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/01/2016	Telephone: 703-603-0695
Date Made Active in Reports: 09/02/2016	Last EDR Contact: 08/31/2016
Number of Days to Update: 93	Next Scheduled EDR Contact: 12/12/2016
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 03/28/2016
Date Data Arrived at EDR: 03/30/2016
Date Made Active in Reports: 05/20/2016
Number of Days to Update: 51

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 06/28/2016
Next Scheduled EDR Contact: 10/10/2016
Data Release Frequency: Annually

State- and tribal - equivalent CERCLIS

ECSI: Environmental Cleanup Site Information System

Sites that are or may be contaminated and may require cleanup.

Date of Government Version: 07/01/2016
Date Data Arrived at EDR: 07/07/2016
Date Made Active in Reports: 08/10/2016
Number of Days to Update: 34

Source: Department of Environmental Quality
Telephone: 503-229-6629
Last EDR Contact: 07/07/2016
Next Scheduled EDR Contact: 10/17/2016
Data Release Frequency: Quarterly

CRL: Confirmed Release List and Inventory

All facilities with a confirmed release.

Date of Government Version: 05/01/2016
Date Data Arrived at EDR: 05/19/2016
Date Made Active in Reports: 08/10/2016
Number of Days to Update: 83

Source: Department of Environmental Quality
Telephone: 503-229-6170
Last EDR Contact: 08/19/2016
Next Scheduled EDR Contact: 11/28/2016
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF: Solid Waste Facilities List

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 04/18/2016
Date Data Arrived at EDR: 04/22/2016
Date Made Active in Reports: 06/13/2016
Number of Days to Update: 52

Source: Department of Environmental Quality
Telephone: 503-229-6299
Last EDR Contact: 07/18/2016
Next Scheduled EDR Contact: 10/31/2016
Data Release Frequency: Semi-Annually

State and tribal leaking storage tank lists

LUST: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 04/05/2016
Date Data Arrived at EDR: 05/20/2016
Date Made Active in Reports: 08/10/2016
Number of Days to Update: 82

Source: Department of Environmental Quality
Telephone: 503-229-5790
Last EDR Contact: 08/19/2016
Next Scheduled EDR Contact: 11/28/2016
Data Release Frequency: Quarterly

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 10/13/2015
Date Data Arrived at EDR: 10/23/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 118

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 07/27/2016
Next Scheduled EDR Contact: 11/07/2016
Data Release Frequency: Quarterly

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 02/25/2016
Date Data Arrived at EDR: 04/27/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 37

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 07/27/2016
Next Scheduled EDR Contact: 11/07/2016
Data Release Frequency: Quarterly

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 10/09/2015
Date Data Arrived at EDR: 02/12/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 112

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 07/27/2016
Next Scheduled EDR Contact: 11/07/2016
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 01/07/2016
Date Data Arrived at EDR: 01/08/2016
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 41

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 07/27/2016
Next Scheduled EDR Contact: 11/07/2016
Data Release Frequency: Quarterly

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 02/17/2016
Date Data Arrived at EDR: 04/27/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 37

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 07/27/2016
Next Scheduled EDR Contact: 11/07/2016
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 10/27/2015
Date Data Arrived at EDR: 10/29/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 67

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 07/29/2016
Next Scheduled EDR Contact: 11/07/2016
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 02/05/2016
Date Data Arrived at EDR: 04/29/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 35

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 07/26/2016
Next Scheduled EDR Contact: 11/07/2016
Data Release Frequency: Semi-Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 12/11/2015	Source: EPA Region 6
Date Data Arrived at EDR: 02/19/2016	Telephone: 214-665-6597
Date Made Active in Reports: 06/03/2016	Last EDR Contact: 07/27/2016
Number of Days to Update: 105	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Varies

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010	Source: FEMA
Date Data Arrived at EDR: 02/16/2010	Telephone: 202-646-5797
Date Made Active in Reports: 04/12/2010	Last EDR Contact: 07/07/2016
Number of Days to Update: 55	Next Scheduled EDR Contact: 10/24/2016
	Data Release Frequency: Varies

UST: Underground Storage Tank Database

Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 04/05/2016	Source: Department of Environmental Quality
Date Data Arrived at EDR: 05/20/2016	Telephone: 503-229-5815
Date Made Active in Reports: 08/10/2016	Last EDR Contact: 08/19/2016
Number of Days to Update: 82	Next Scheduled EDR Contact: 11/28/2016
	Data Release Frequency: Quarterly

AST: Aboveground Storage Tanks

Aboveground storage tank locations reported to the Office of State Fire Marshal.

Date of Government Version: 04/28/2016	Source: Office of State Fire Marshal
Date Data Arrived at EDR: 06/01/2016	Telephone: 503-378-3473
Date Made Active in Reports: 08/10/2016	Last EDR Contact: 09/20/2016
Number of Days to Update: 70	Next Scheduled EDR Contact: 01/02/2017
	Data Release Frequency: Semi-Annually

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 10/20/2015	Source: EPA, Region 1
Date Data Arrived at EDR: 10/29/2015	Telephone: 617-918-1313
Date Made Active in Reports: 01/04/2016	Last EDR Contact: 07/29/2016
Number of Days to Update: 67	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 02/05/2016	Source: EPA Region 4
Date Data Arrived at EDR: 04/29/2016	Telephone: 404-562-9424
Date Made Active in Reports: 06/03/2016	Last EDR Contact: 07/26/2016
Number of Days to Update: 35	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Semi-Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 11/05/2015	Source: EPA Region 5
Date Data Arrived at EDR: 11/13/2015	Telephone: 312-886-6136
Date Made Active in Reports: 01/04/2016	Last EDR Contact: 07/27/2016
Number of Days to Update: 52	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 12/03/2015	Source: EPA Region 6
Date Data Arrived at EDR: 02/04/2016	Telephone: 214-665-7591
Date Made Active in Reports: 06/03/2016	Last EDR Contact: 07/27/2016
Number of Days to Update: 120	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Semi-Annually

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 09/23/2014	Source: EPA Region 7
Date Data Arrived at EDR: 11/25/2014	Telephone: 913-551-7003
Date Made Active in Reports: 01/29/2015	Last EDR Contact: 07/27/2016
Number of Days to Update: 65	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 01/26/2016	Source: EPA Region 8
Date Data Arrived at EDR: 02/05/2016	Telephone: 303-312-6137
Date Made Active in Reports: 06/03/2016	Last EDR Contact: 07/27/2016
Number of Days to Update: 119	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Quarterly

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 02/25/2016	Source: EPA Region 9
Date Data Arrived at EDR: 04/27/2016	Telephone: 415-972-3368
Date Made Active in Reports: 06/03/2016	Last EDR Contact: 07/27/2016
Number of Days to Update: 37	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Quarterly

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 01/07/2016	Source: EPA Region 10
Date Data Arrived at EDR: 01/08/2016	Telephone: 206-553-2857
Date Made Active in Reports: 02/18/2016	Last EDR Contact: 07/27/2016
Number of Days to Update: 41	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Quarterly

State and tribal institutional control / engineering control registries

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

ENG CONTROLS: Engineering Controls Recorded at ESCI Sites

Engineering controls are physical measures selected or approved by the Director for the purpose of preventing or minimizing exposure to hazardous substances. Engineering controls may include, but are not limited to, fencing, capping, horizontal or vertical barriers, hydraulic controls, and alternative water supplies.

Date of Government Version: 07/01/2016
Date Data Arrived at EDR: 07/07/2016
Date Made Active in Reports: 08/10/2016
Number of Days to Update: 34

Source: Department of Environmental Quality
Telephone: 503-229-5193
Last EDR Contact: 07/07/2016
Next Scheduled EDR Contact: 10/17/2016
Data Release Frequency: Quarterly

INST CONTROL: Institutional Controls Recorded at ESCI Sites

An institutional control is a legal or administrative tool or action taken to reduce the potential for exposure to hazardous substances. Institutional controls may include, but are not limited to, use restrictions, environmental monitoring requirements, and site access and security measures.

Date of Government Version: 07/01/2016
Date Data Arrived at EDR: 07/07/2016
Date Made Active in Reports: 08/10/2016
Number of Days to Update: 34

Source: Department of Environmental Quality
Telephone: 503-229-5193
Last EDR Contact: 07/07/2016
Next Scheduled EDR Contact: 10/17/2016
Data Release Frequency: Quarterly

State and tribal voluntary cleanup sites

VCS: Voluntary Cleanup Program Sites

Responsible parties have entered into an agreement with DEQ to voluntarily address contamination associated with their property.

Date of Government Version: 07/05/2016
Date Data Arrived at EDR: 07/08/2016
Date Made Active in Reports: 08/10/2016
Number of Days to Update: 33

Source: DEQ
Telephone: 503-229-5256
Last EDR Contact: 07/01/2016
Next Scheduled EDR Contact: 10/17/2016
Data Release Frequency: Quarterly

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 07/01/2016
Next Scheduled EDR Contact: 10/10/2016
Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

State and tribal Brownfields sites

BROWNFIELDS: Brownfields Projects

Brownfields investigations and/or cleanups that have been conducted in Oregon.

Date of Government Version: 05/01/2016
Date Data Arrived at EDR: 05/19/2016
Date Made Active in Reports: 08/10/2016
Number of Days to Update: 83

Source: Department of Environmental Quality
Telephone: 503-229-6801
Last EDR Contact: 08/19/2016
Next Scheduled EDR Contact: 11/28/2016
Data Release Frequency: Semi-Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 06/21/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/22/2016	Telephone: 202-566-2777
Date Made Active in Reports: 09/02/2016	Last EDR Contact: 09/21/2016
Number of Days to Update: 72	Next Scheduled EDR Contact: 01/02/2017
	Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

HIST LF: Old Closed SW Disposal Sites

A list of solid waste disposal sites that have been closed for a long while.

Date of Government Version: 04/01/2000	Source: Department of Environmental Quality
Date Data Arrived at EDR: 07/08/2003	Telephone: 503-229-5409
Date Made Active in Reports: 07/18/2003	Last EDR Contact: 07/08/2003
Number of Days to Update: 10	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

SWRCY: Recycling Facility Location Listing

A listing of recycling facility locations.

Date of Government Version: 05/01/2016	Source: Department of Environmental Quality
Date Data Arrived at EDR: 06/02/2016	Telephone: 503-229-5353
Date Made Active in Reports: 08/10/2016	Last EDR Contact: 09/01/2016
Number of Days to Update: 69	Next Scheduled EDR Contact: 12/12/2016
	Data Release Frequency: Quarterly

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/03/2007	Telephone: 703-308-8245
Date Made Active in Reports: 01/24/2008	Last EDR Contact: 08/05/2016
Number of Days to Update: 52	Next Scheduled EDR Contact: 11/14/2016
	Data Release Frequency: Varies

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985	Source: Environmental Protection Agency
Date Data Arrived at EDR: 08/09/2004	Telephone: 800-424-9346
Date Made Active in Reports: 09/17/2004	Last EDR Contact: 06/09/2004
Number of Days to Update: 39	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 07/20/2016
Next Scheduled EDR Contact: 10/07/2016
Data Release Frequency: No Update Planned

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 08/31/2016
Date Data Arrived at EDR: 09/06/2016
Date Made Active in Reports: 09/23/2016
Number of Days to Update: 17

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 08/31/2016
Next Scheduled EDR Contact: 10/10/2016
Data Release Frequency: No Update Planned

AOC MU: East Multnomah County Area

Approximate extent of TSA VOC plume February , 2002

Date of Government Version: N/A
Date Data Arrived at EDR: 10/07/2002
Date Made Active in Reports: 10/22/2002
Number of Days to Update: 15

Source: City of Portland Environmental Services
Telephone: 503-823-5310
Last EDR Contact: 03/13/2007
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

AOC COL: Columbia Slough

Columbia Slough waterway boundaries.

Date of Government Version: 08/10/2005
Date Data Arrived at EDR: 05/17/2006
Date Made Active in Reports: 06/16/2006
Number of Days to Update: 30

Source: City of Portland Environmental Services
Telephone: 503-823-5310
Last EDR Contact: 03/13/2007
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CDL 2: Clandestine Drug Lab Site Listing

A listing of clandestine drug lab site locations included in the Incident database.

Date of Government Version: 03/23/2016
Date Data Arrived at EDR: 05/06/2016
Date Made Active in Reports: 06/13/2016
Number of Days to Update: 38

Source: Oregon State Police
Telephone: 503-373-1540
Last EDR Contact: 08/03/2016
Next Scheduled EDR Contact: 11/14/2016
Data Release Frequency: Varies

CDL: Uninhabitable Drug Lab Properties

The properties listed on these county pages have been declared by a law enforcement agency to be unfit for use due to meth lab and/or storage activities. The properties are considered uninhabitable until cleaned up by a state certified decontamination contractor and a certificate of fitness is issued by the Oregon Health Division.

Date of Government Version: 04/19/2016
Date Data Arrived at EDR: 05/13/2016
Date Made Active in Reports: 06/13/2016
Number of Days to Update: 31

Source: Department of Consumer & Business Services
Telephone: 503-378-4133
Last EDR Contact: 08/08/2016
Next Scheduled EDR Contact: 11/21/2016
Data Release Frequency: Varies

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 08/30/2016
Date Data Arrived at EDR: 09/06/2016
Date Made Active in Reports: 09/23/2016
Number of Days to Update: 17

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 08/31/2016
Next Scheduled EDR Contact: 12/12/2016
Data Release Frequency: Quarterly

Local Land Records

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 02/18/2014
Date Data Arrived at EDR: 03/18/2014
Date Made Active in Reports: 04/24/2014
Number of Days to Update: 37

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 07/29/2016
Next Scheduled EDR Contact: 11/07/2016
Data Release Frequency: Varies

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 06/27/2016
Date Data Arrived at EDR: 06/28/2016
Date Made Active in Reports: 09/23/2016
Number of Days to Update: 87

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 06/28/2016
Next Scheduled EDR Contact: 10/10/2016
Data Release Frequency: Annually

SPILLS: Spill Data

Oil and hazardous material spills reported to the Environmental Response Program.

Date of Government Version: 07/01/2016
Date Data Arrived at EDR: 07/12/2016
Date Made Active in Reports: 08/10/2016
Number of Days to Update: 29

Source: Department of Environmental Quality
Telephone: 503-229-5815
Last EDR Contact: 07/01/2016
Next Scheduled EDR Contact: 10/17/2016
Data Release Frequency: Semi-Annually

HAZMAT: Hazmat/Incidents

Hazardous material incidents reported to the State Fire Marshal by emergency responders. The hazardous material may or may not have been released.

Date of Government Version: 03/23/2016
Date Data Arrived at EDR: 05/06/2016
Date Made Active in Reports: 06/13/2016
Number of Days to Update: 38

Source: State Fire Marshal's Office
Telephone: 503-373-1540
Last EDR Contact: 08/03/2016
Next Scheduled EDR Contact: 11/14/2016
Data Release Frequency: Semi-Annually

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 05/01/2006
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 06/21/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/30/2016	Telephone: (206) 553-1200
Date Made Active in Reports: 09/02/2016	Last EDR Contact: 06/30/2016
Number of Days to Update: 64	Next Scheduled EDR Contact: 10/17/2016
	Data Release Frequency: Varies

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 01/31/2015	Source: U.S. Army Corps of Engineers
Date Data Arrived at EDR: 07/08/2015	Telephone: 202-528-4285
Date Made Active in Reports: 10/13/2015	Last EDR Contact: 09/09/2016
Number of Days to Update: 97	Next Scheduled EDR Contact: 12/19/2016
	Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005	Source: USGS
Date Data Arrived at EDR: 11/10/2006	Telephone: 888-275-8747
Date Made Active in Reports: 01/11/2007	Last EDR Contact: 07/15/2016
Number of Days to Update: 62	Next Scheduled EDR Contact: 10/24/2016
	Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005	Source: U.S. Geological Survey
Date Data Arrived at EDR: 02/06/2006	Telephone: 888-275-8747
Date Made Active in Reports: 01/11/2007	Last EDR Contact: 07/15/2016
Number of Days to Update: 339	Next Scheduled EDR Contact: 10/24/2016
	Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 03/07/2011	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/09/2011	Telephone: 615-532-8599
Date Made Active in Reports: 05/02/2011	Last EDR Contact: 08/15/2016
Number of Days to Update: 54	Next Scheduled EDR Contact: 11/28/2016
	Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 05/08/2016
Date Data Arrived at EDR: 05/18/2016
Date Made Active in Reports: 09/02/2016
Number of Days to Update: 107

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 08/17/2016
Next Scheduled EDR Contact: 11/28/2016
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 08/08/2016
Next Scheduled EDR Contact: 11/21/2016
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 04/22/2013
Date Data Arrived at EDR: 03/03/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 09/06/2016
Next Scheduled EDR Contact: 11/21/2016
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 01/15/2015
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 14

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 09/23/2016
Next Scheduled EDR Contact: 01/02/2017
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 11/24/2015
Date Made Active in Reports: 04/05/2016
Number of Days to Update: 133

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 08/26/2016
Next Scheduled EDR Contact: 12/05/2016
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 07/25/2016
Next Scheduled EDR Contact: 11/07/2016
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 11/25/2013
Date Data Arrived at EDR: 12/12/2013
Date Made Active in Reports: 02/24/2014
Number of Days to Update: 74

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 09/09/2016
Next Scheduled EDR Contact: 12/19/2016
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 05/01/2016
Date Data Arrived at EDR: 05/26/2016
Date Made Active in Reports: 09/02/2016
Number of Days to Update: 99

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 07/25/2016
Next Scheduled EDR Contact: 11/07/2016
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 10/17/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 3

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 08/12/2016
Next Scheduled EDR Contact: 11/21/2016
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 01/20/2016
Date Data Arrived at EDR: 04/28/2016
Date Made Active in Reports: 09/02/2016
Number of Days to Update: 127

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 07/15/2016
Next Scheduled EDR Contact: 10/24/2016
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 01/23/2015
Date Data Arrived at EDR: 02/06/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 07/07/2016
Next Scheduled EDR Contact: 10/24/2016
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/17/2016
Next Scheduled EDR Contact: 12/05/2016
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/17/2016
Next Scheduled EDR Contact: 12/05/2016
Data Release Frequency: Quarterly

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 03/07/2016
Date Data Arrived at EDR: 03/18/2016
Date Made Active in Reports: 04/15/2016
Number of Days to Update: 28

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 09/05/2016
Next Scheduled EDR Contact: 11/21/2016
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 09/09/2016
Next Scheduled EDR Contact: 12/19/2016
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 07/01/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 09/06/2016
Next Scheduled EDR Contact: 12/19/2016
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database

The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 02/01/2011
Date Data Arrived at EDR: 10/19/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 83

Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 07/29/2016
Next Scheduled EDR Contact: 11/07/2016
Data Release Frequency: Varies

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/07/2015
Date Data Arrived at EDR: 07/09/2015
Date Made Active in Reports: 09/16/2015
Number of Days to Update: 69

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 07/07/2016
Next Scheduled EDR Contact: 10/17/2016
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transportation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012
Date Data Arrived at EDR: 08/07/2012
Date Made Active in Reports: 09/18/2012
Number of Days to Update: 42

Source: Department of Transportation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 08/02/2016
Next Scheduled EDR Contact: 11/14/2016
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 03/31/2016	Source: Department of Justice, Consent Decree Library
Date Data Arrived at EDR: 08/01/2016	Telephone: Varies
Date Made Active in Reports: 09/23/2016	Last EDR Contact: 07/15/2016
Number of Days to Update: 53	Next Scheduled EDR Contact: 10/10/2016
	Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2013	Source: EPA/NTIS
Date Data Arrived at EDR: 02/24/2015	Telephone: 800-424-9346
Date Made Active in Reports: 09/30/2015	Last EDR Contact: 08/26/2016
Number of Days to Update: 218	Next Scheduled EDR Contact: 12/05/2016
	Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005	Source: USGS
Date Data Arrived at EDR: 12/08/2006	Telephone: 202-208-3710
Date Made Active in Reports: 01/11/2007	Last EDR Contact: 07/15/2016
Number of Days to Update: 34	Next Scheduled EDR Contact: 10/24/2016
	Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 07/21/2016	Source: Department of Energy
Date Data Arrived at EDR: 07/26/2016	Telephone: 202-586-3559
Date Made Active in Reports: 09/23/2016	Last EDR Contact: 07/26/2016
Number of Days to Update: 59	Next Scheduled EDR Contact: 11/21/2016
	Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 09/14/2010	Source: Department of Energy
Date Data Arrived at EDR: 10/07/2011	Telephone: 505-845-0011
Date Made Active in Reports: 03/01/2012	Last EDR Contact: 09/09/2016
Number of Days to Update: 146	Next Scheduled EDR Contact: 12/05/2016
	Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 03/07/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 04/07/2016	Telephone: 703-603-8787
Date Made Active in Reports: 09/02/2016	Last EDR Contact: 07/08/2016
Number of Days to Update: 148	Next Scheduled EDR Contact: 10/17/2016
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931 and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/20/2015
Date Data Arrived at EDR: 10/27/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 69

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 06/22/2016
Next Scheduled EDR Contact: 10/10/2016
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/20/2015
Date Data Arrived at EDR: 10/27/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 69

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 06/22/2016
Next Scheduled EDR Contact: 10/10/2016
Data Release Frequency: Annually

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/05/2016
Date Data Arrived at EDR: 09/01/2016
Date Made Active in Reports: 09/23/2016
Number of Days to Update: 22

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 09/01/2016
Next Scheduled EDR Contact: 12/12/2016
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 12/05/2005
Date Data Arrived at EDR: 02/29/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 49

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 09/02/2016
Next Scheduled EDR Contact: 12/12/2016
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 09/02/2016
Next Scheduled EDR Contact: 12/12/2016
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 07/20/2015	Source: EPA
Date Data Arrived at EDR: 09/09/2015	Telephone: (206) 553-1200
Date Made Active in Reports: 11/03/2015	Last EDR Contact: 09/07/2016
Number of Days to Update: 55	Next Scheduled EDR Contact: 12/19/2016
	Data Release Frequency: Quarterly

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 06/02/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/03/2016	Telephone: 202-564-0527
Date Made Active in Reports: 09/02/2016	Last EDR Contact: 08/24/2016
Number of Days to Update: 91	Next Scheduled EDR Contact: 12/12/2016
	Data Release Frequency: Varies

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 10/25/2015	Source: Department of Defense
Date Data Arrived at EDR: 01/29/2016	Telephone: 571-373-0407
Date Made Active in Reports: 04/05/2016	Last EDR Contact: 09/19/2016
Number of Days to Update: 67	Next Scheduled EDR Contact: 01/02/2017
	Data Release Frequency: Varies

AIRS: Oregon Title V Facility Listing

A listing of Title V facility source and emissions information.

Date of Government Version: 12/31/2014	Source: Department of Environmental Quality
Date Data Arrived at EDR: 02/19/2016	Telephone: 503-229-6459
Date Made Active in Reports: 03/15/2016	Last EDR Contact: 07/01/2016
Number of Days to Update: 25	Next Scheduled EDR Contact: 10/17/2016
	Data Release Frequency: Varies

COAL ASH: Coal Ash Disposal Sites Listing

A listing of coal ash disposal sites.

Date of Government Version: 12/31/2014	Source: Department of Environmental Quality
Date Data Arrived at EDR: 09/10/2015	Telephone: 541-298-7255
Date Made Active in Reports: 11/10/2015	Last EDR Contact: 09/06/2016
Number of Days to Update: 61	Next Scheduled EDR Contact: 12/19/2016
	Data Release Frequency: Varies

DRYCLEANERS: Drycleaning Facilities

A listing of registered drycleaning facilities in Oregon.

Date of Government Version: 05/02/2016	Source: Department of Environmental Quality
Date Data Arrived at EDR: 05/03/2016	Telephone: 503-229-6783
Date Made Active in Reports: 06/13/2016	Last EDR Contact: 07/29/2016
Number of Days to Update: 41	Next Scheduled EDR Contact: 11/14/2016
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Financial Assurance 1: Financial Assurance Information Listing

Financial assurance information for hazardous waste facilities.

Date of Government Version: 03/14/2016
Date Data Arrived at EDR: 04/08/2016
Date Made Active in Reports: 05/04/2016
Number of Days to Update: 26

Source: Department of Environmental Quality
Telephone: 541-633-2011
Last EDR Contact: 08/22/2016
Next Scheduled EDR Contact: 12/05/2016
Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing

Financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 05/26/2016
Date Data Arrived at EDR: 06/03/2016
Date Made Active in Reports: 08/10/2016
Number of Days to Update: 68

Source: Department of Environmental Quality
Telephone: 503-229-5521
Last EDR Contact: 08/22/2016
Next Scheduled EDR Contact: 12/05/2016
Data Release Frequency: Varies

HSIS: Hazardous Substance Information Survey

Companies in Oregon submitting the Hazardous Substance Information Survey and either reporting or not reporting hazardous substances.

Date of Government Version: 04/28/2016
Date Data Arrived at EDR: 06/01/2016
Date Made Active in Reports: 08/10/2016
Number of Days to Update: 70

Source: State Fire Marshal's Office
Telephone: 503-373-1540
Last EDR Contact: 09/20/2016
Next Scheduled EDR Contact: 01/02/2017
Data Release Frequency: Semi-Annually

OR MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 05/24/2016
Date Made Active in Reports: 08/10/2016
Number of Days to Update: 78

Source: Department of Environmental Quality
Telephone: N/A
Last EDR Contact: 08/08/2016
Next Scheduled EDR Contact: 11/21/2016
Data Release Frequency: Annually

NPDES: Wastewater Permits Database

A listing of permitted wastewater facilities.

Date of Government Version: 05/13/2016
Date Data Arrived at EDR: 05/17/2016
Date Made Active in Reports: 08/10/2016
Number of Days to Update: 85

Source: Department of Environmental Quality
Telephone: 503-229-5657
Last EDR Contact: 08/08/2016
Next Scheduled EDR Contact: 11/21/2016
Data Release Frequency: Quarterly

UIC: Underground Injection Control Program Database

DEQ's Underground Injection Control Program is authorized by the Environmental Protection Agency (EPA) to regulate all underground injection in Oregon to protect groundwater resources.

Date of Government Version: 06/27/2016
Date Data Arrived at EDR: 06/30/2016
Date Made Active in Reports: 08/10/2016
Number of Days to Update: 41

Source: Department of Environmental Quality
Telephone: 503-229-5945
Last EDR Contact: 06/27/2016
Next Scheduled EDR Contact: 10/10/2016
Data Release Frequency: Varies

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 05/24/2016
Date Data Arrived at EDR: 05/25/2016
Date Made Active in Reports: 07/13/2016
Number of Days to Update: 49

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 08/23/2016
Next Scheduled EDR Contact: 12/05/2016
Data Release Frequency: Quarterly

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 09/20/2015
Date Data Arrived at EDR: 09/23/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 103

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 09/20/2016
Next Scheduled EDR Contact: 01/02/2017
Data Release Frequency: Quarterly

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historic Gas Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historic Dry Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA HWS: Recovered Government Archive State Hazardous Waste Facilities List

The EDR Recovered Government Archive State Hazardous Waste database provides a list of SHWS incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Quality in Oregon.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/03/2014
Number of Days to Update: 186

Source: Department of Environmental Quality
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Quality in Oregon.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Environmental Quality
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Quality in Oregon.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/27/2013
Number of Days to Update: 179

Source: Department of Environmental Quality
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 08/01/2016
Date Data Arrived at EDR: 08/03/2016
Date Made Active in Reports: 09/09/2016
Number of Days to Update: 37

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 08/03/2016
Next Scheduled EDR Contact: 11/14/2016
Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2015

Date Data Arrived at EDR: 04/14/2016

Date Made Active in Reports: 06/03/2016

Number of Days to Update: 50

Source: Department of Natural Resources

Telephone: N/A

Last EDR Contact: 09/12/2016

Next Scheduled EDR Contact: 12/26/2016

Data Release Frequency: Annually

Oil/Gas Pipelines

Source: PennWell Corporation

Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Electric Power Transmission Line Data

Source: PennWell Corporation

This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.

Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services

Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes

Source: National Institutes of Health

Telephone: 301-594-6248

Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Child Care Listings

Source: Employment Department

Telephone: 503-947-1420

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA

Telephone: 877-336-2627

Date of Government Version: 2003, 2015

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetlands Inventory Data
Source: Oregon Geospatial Enterprise Office
Telephone: 503-378-2166

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

© 2015 TomTom North America, Inc. All rights reserved. This material is proprietary and the subject of copyright protection and other intellectual property rights owned by or licensed to Tele Atlas North America, Inc. The use of this material is subject to the terms of a license agreement. You will be held liable for any unauthorized copying or disclosure of this material.

GEOCHECK[®] - PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

RIVER TERRACE AREA 10
15515 - 15915 SW 150TH AVENUE
PORTLAND, OR 97224

TARGET PROPERTY COORDINATES

Latitude (North):	45.406318 - 45° 24' 22.74"
Longitude (West):	122.833776 - 122° 50' 1.59"
Universal Transverse Mercator:	Zone 10
UTM X (Meters):	513008.5
UTM Y (Meters):	5027884.5
Elevation:	371 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	6067248 BEAVERTON, OR
Version Date:	2014

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principal investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

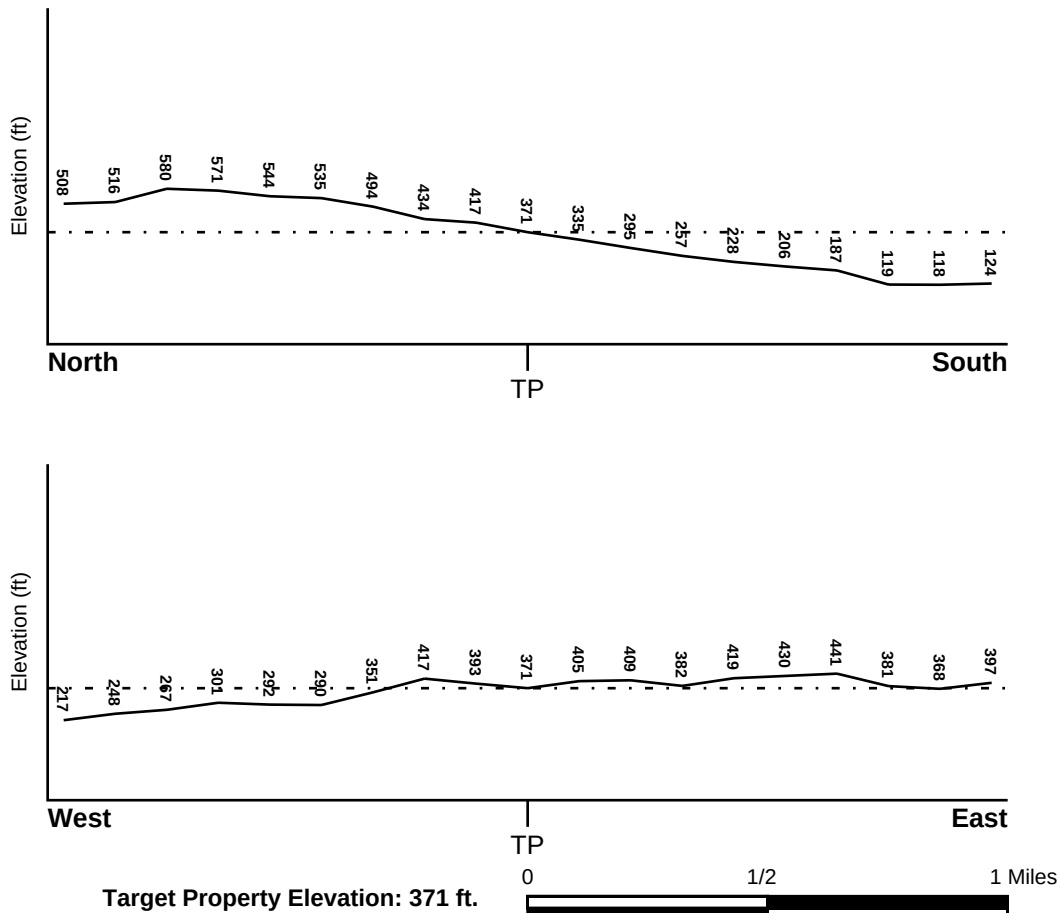
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General SSE

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

<u>Flood Plain Panel at Target Property</u>	<u>FEMA Source Type</u>
4102380512B	FEMA Q3 Flood data
<u>Additional Panels in search area:</u>	<u>FEMA Source Type</u>
4102760516C	FEMA FIRM Flood data
4102380511C	FEMA FIRM Flood data
4102380516B	FEMA Q3 Flood data
4102690514A	FEMA FIRM Flood data
4102760518C	FEMA FIRM Flood data
4102380513B	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

<u>NWI Quad at Target Property</u>	<u>NWI Electronic Data Coverage</u>
BEAVERTON	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

<u>MAP ID</u>	<u>LOCATION FROM TP</u>	<u>GENERAL DIRECTION GROUNDWATER FLOW</u>
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

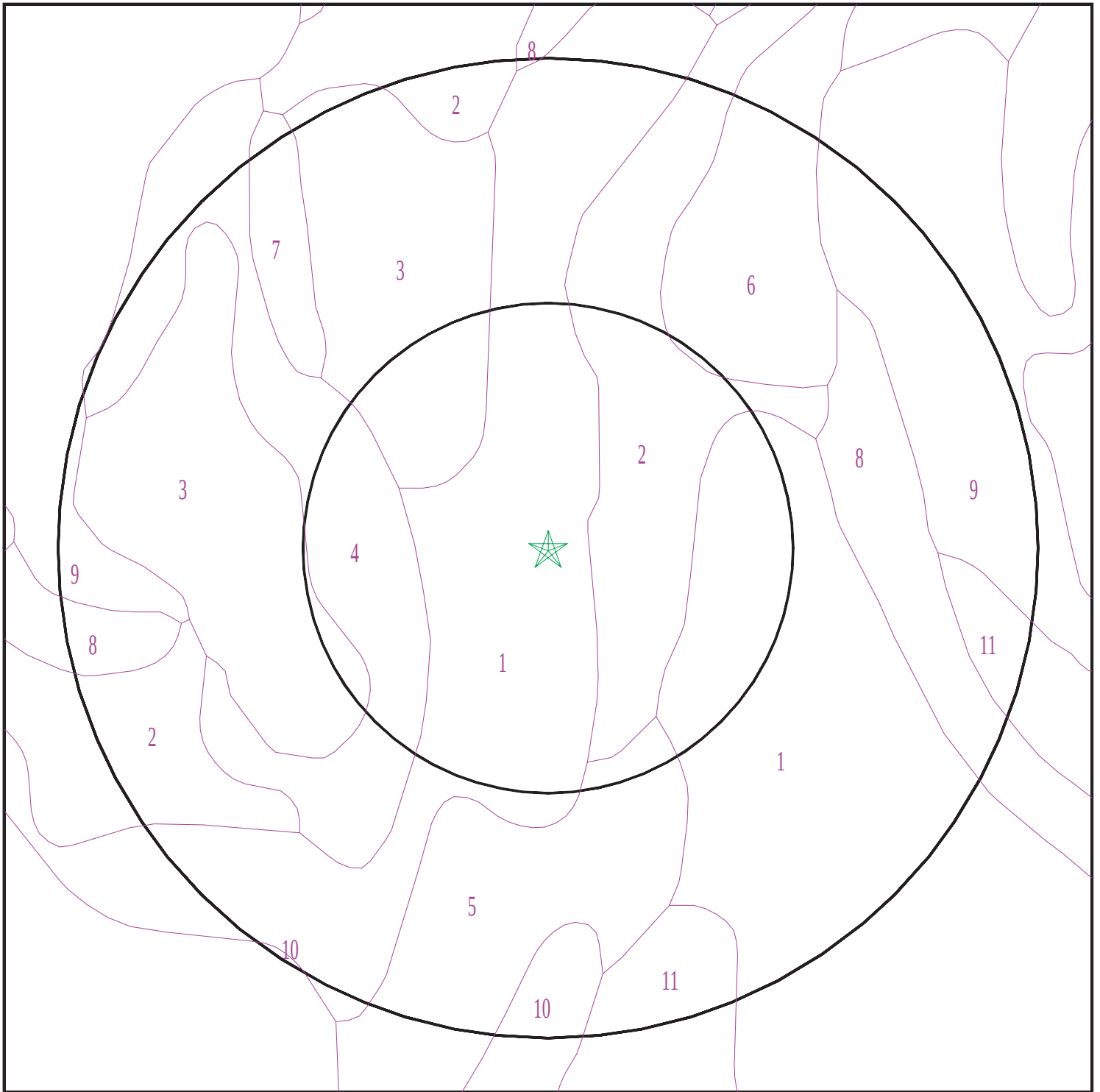
Era:	Cenozoic
System:	Tertiary
Series:	Miocene volcanic rocks
Code:	Tmv (<i>decoded above as Era, System & Series</i>)

GEOLOGIC AGE IDENTIFICATION

Category: Volcanic Rocks

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 4735568.2s



- ★ Target Property
- SSURGO Soil
- Water

0 1/16 1/8 1/4 Miles



SITE NAME: River Terrace Area 10
ADDRESS: 15515 - 15915 SW 150th Avenue
Portland OR 97224
LAT/LONG: 45.406318 / 122.833776

CLIENT: GeoDesign Inc.
CONTACT: Kevin Cline
INQUIRY #: 4735568.2s
DATE: September 25, 2016 10:49 am

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Cascade

Soil Surface Texture: silt loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Somewhat poorly drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 61 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	11 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6 Min: 5.1
2	11 inches	26 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6 Min: 5.1
3	26 inches	59 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 1.4 Min: 0.42	Max: 6 Min: 5.1

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Map ID: 2

Soil Component Name: Cornelius

Soil Surface Texture: silt loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Moderately well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 99 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	16 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6 Min: 5.6
2	16 inches	37 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6 Min: 5.6
3	37 inches	59 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 1.4 Min: 0.42	Max: 5.5 Min: 5.1

Soil Map ID: 3

Soil Component Name: Helvetia

Soil Surface Texture: silt loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Moderately well drained

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 137 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	5 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6.5 Min: 5.6
2	5 inches	9 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6.5 Min: 6.1
3	9 inches	48 inches	silty clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 4 Min: 1.4	Max: 6.5 Min: 5.1
4	48 inches	59 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 4 Min: 1.4	Max: 6 Min: 5.1

Soil Map ID: 4

Soil Component Name: Helvetia

Soil Surface Texture: silt loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Moderately well drained

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 137 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	5 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6.5 Min: 5.6
2	5 inches	9 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6.5 Min: 6.1
3	9 inches	48 inches	silty clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 4 Min: 1.4	Max: 6.5 Min: 5.1
4	48 inches	59 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 4 Min: 1.4	Max: 6 Min: 5.1

Soil Map ID: 5

Soil Component Name: Quatama

Soil Surface Texture: loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Moderately well drained

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 76 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	14 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6 Min: 5.6
2	14 inches	29 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 4 Min: 1.4	Max: 6 Min: 5.6
3	29 inches	61 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 4 Min: 1.4	Max: 6 Min: 5.6

Soil Map ID: 6

Soil Component Name: Cornelius

Soil Surface Texture: silt loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Moderately well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 99 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	16 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6 Min: 5.6
2	16 inches	37 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6 Min: 5.6
3	37 inches	59 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 1.4 Min: 0.42	Max: 5.5 Min: 5.1

Soil Map ID: 7

Soil Component Name: Helvetia

Soil Surface Texture: silt loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Moderately well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 137 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	5 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6.5 Min: 5.6
2	5 inches	9 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6.5 Min: 6.1
3	9 inches	48 inches	silty clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 4 Min: 1.4	Max: 6.5 Min: 5.1
4	48 inches	59 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 4 Min: 1.4	Max: 6 Min: 5.1

Soil Map ID: 8

Soil Component Name: Cornelius

Soil Surface Texture: silt loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Moderately well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 99 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	16 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6 Min: 5.6
2	16 inches	37 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6 Min: 5.6
3	37 inches	59 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 1.4 Min: 0.42	Max: 5.5 Min: 5.1

Soil Map ID: 9

Soil Component Name: Cornelius

Soil Surface Texture: silt loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Moderately well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 99 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	16 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6 Min: 5.6
2	16 inches	37 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6 Min: 5.6
3	37 inches	59 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 1.4 Min: 0.42	Max: 5.5 Min: 5.1

Soil Map ID: 10

Soil Component Name: Quatama

Soil Surface Texture: loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Moderately well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 76 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	14 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6 Min: 5.6
2	14 inches	29 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 4 Min: 1.4	Max: 6 Min: 5.6
3	29 inches	61 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 4 Min: 1.4	Max: 6 Min: 5.6

Soil Map ID: 11

Soil Component Name: Cascade

Soil Surface Texture: silt loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Somewhat poorly drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 61 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	11 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6 Min: 5.1
2	11 inches	26 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6 Min: 5.1
3	26 inches	59 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 1.4 Min: 0.42	Max: 6 Min: 5.1

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

<u>DATABASE</u>	<u>SEARCH DISTANCE (miles)</u>
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 0.001 miles
State Database	1.000

FEDERAL USGS WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
2	USGS40000993013	1/8 - 1/4 Mile ESE
A4	USGS40000993058	1/2 - 1 Mile North
B8	USGS40000992962	1/2 - 1 Mile SSW
C12	USGS40000992976	1/2 - 1 Mile SW
D15	USGS40000993006	1/2 - 1 Mile East

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
E17	USGS40000992950	1/2 - 1 Mile SSW
F19	USGS40000993040	1/2 - 1 Mile WNW

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

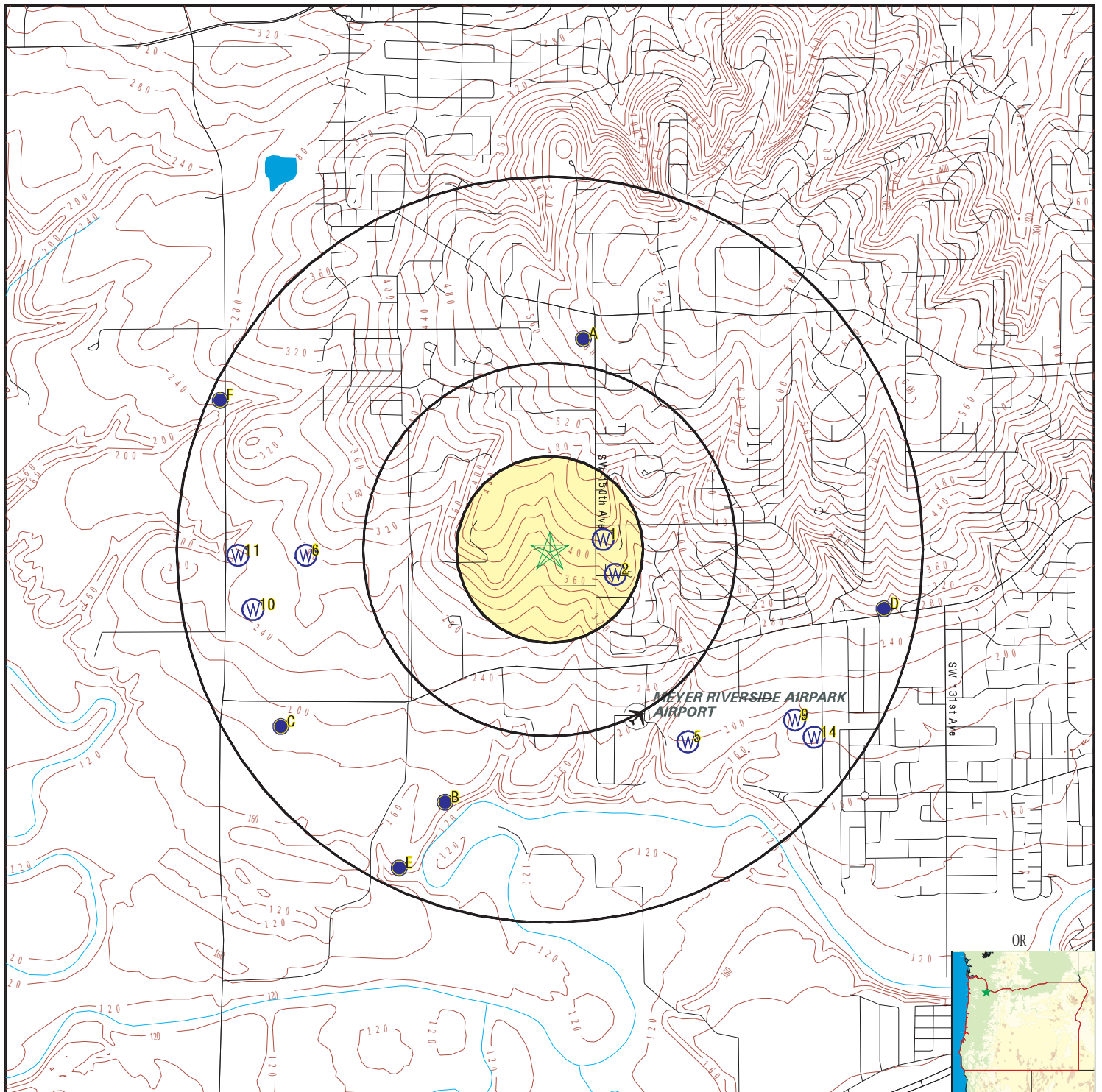
MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	ORW500000016296	1/8 - 1/4 Mile East
A3	ORW500000002319	1/2 - 1 Mile North
5	ORI500000048186	1/2 - 1 Mile SE
6	ORW500000004272	1/2 - 1 Mile West
B7	ORW500000003805	1/2 - 1 Mile SSW
9	ORI500000031231	1/2 - 1 Mile SE
10	ORW500000004274	1/2 - 1 Mile WSW
11	ORW500000004273	1/2 - 1 Mile West
C13	ORW500000016293	1/2 - 1 Mile WSW
14	ORW500000002432	1/2 - 1 Mile SE
D16	ORW500000004279	1/2 - 1 Mile East
E18	ORW500000003346	1/2 - 1 Mile SSW
F20	ORW500000016294	1/2 - 1 Mile WNW
F21	ORW500000004271	1/2 - 1 Mile WNW

PHYSICAL SETTING SOURCE MAP - 4735568.2s



- County Boundary
- Major Roads
- Contour Lines
- Airports
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons

- Groundwater Flow Direction
- Indeterminate Groundwater Flow at Location
- Groundwater Flow Varies at Location

SITE NAME: River Terrace Area 10
 ADDRESS: 15515 - 15915 SW 150th Avenue
 Portland OR 97224
 LAT/LONG: 45.406318 / 122.833776

CLIENT: GeoDesign Inc.
 CONTACT: Kevin Cline
 INQUIRY #: 4735568.2s
 DATE: September 25, 2016 10:49 am

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

1
East
1/8 - 1/4 Mile
Higher

OR WELLS ORW500000016296

Fid:	16295	Objectid:	16723
Logid:	WASH 61621	Lstupdate:	03/24/2014
Establby:	Jen Woody	Xysource:	GPS
Horizerr:	10	Sourceorg:	OWRD
Sourceowrd:	GWATER	Waypoint:	Not Reported
Welltag:	67858		
Sownum:	0	Obswell:	C
Recwell:	9	Obsflagall:	OC
Lsdelev:	392		
Latitude:	45.4067100004		
Longitude:	-122.83083		
Site id:	ORW500000016296		

2
ESE
1/8 - 1/4 Mile
Higher

FED USGS USGS40000993013

Org. Identifier:	USGS-OR		
Formal name:	USGS Oregon Water Science Center		
Monloc Identifier:	USGS-452420122494401		
Monloc name:	02.00S/01.00W-08DDC01		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17090010	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	45.405357
Longitude:	-122.8301596	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refs:	NAD83	Vert measure val:	392
Vert measure units:	feet	Vertacc measure val:	2.5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refs:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	20040525	Welldepth:	1022
Welldepth units:	ft	Wellholeddepth:	1022
Wellholeddepth units:	ft		

Ground-water levels, Number of Measurements: 0

A3
North
1/2 - 1 Mile
Higher

OR WELLS ORW500000002319

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Fid:	2318	Objectid:	2323
Logid:	WASH 11542	Lstupdate:	01/01/1990
Establbby:	KARL WOZNIAK	Xysource:	UNKNOWN
Horizerr:	1000	Sourceorg:	OWRD
Sourceowrd:	USGS WILLGW	Waypoint:	Not Reported
Welltag:	0		
Sownum:	0	Obswell:	9
Recwell:	9	Obsflagall:	Not Reported
Lsdelev:	600		
Latitude:	45.4144471047		
Longitude:	-122.832086509		
Site id:	ORW500000002319		

A4
North
1/2 - 1 Mile
Higher

FED USGS USGS40000993058

Org. Identifier:	USGS-OR		
Formal name:	USGS Oregon Water Science Center		
Monloc Identifier:	USGS-452453122495001		
Monloc name:	02S/01W-08ACA		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17090010	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	45.4145625
Longitude:	-122.8317653	Sourcemap scale:	24000
Horiz Acc measure:	Unknown	Horiz Acc measure units:	Unknown
Horiz Collection method:	Interpolated from map		
Horiz coord refs:	NAD83	Vert measure val:	600.00
Vert measure units:	feet	Vertacc measure val:	5.0
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refs:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19460000	Welldepth:	500
Welldepth units:	ft	Wellholedepth:	500
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1946	397.00	

5
SE
1/2 - 1 Mile
Lower

OR WELLS ORI500000048186

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Fid:	48185	Well inspe:	0
Physical I:	Not Reported	Inspection:	2009-06-03 00:00:00.000
Startcard :	201327	WI county :	WASH
WI nbr:	67944	Startcar00:	Not Reported
Well tag n:	98565	No log:	0
Property o:	Not Reported	Inspecti00:	CMP
Special st:	0	Title:	WIN
Inspecti01:	NEW	Witnesses:	Not Reported
Name owner:	MICHAEL, MEYER		
Street:	16950	City:	Not Reported
State:	OR	Zip:	97224
Phone home:	Not Reported	Phone comp:	Not Reported
Gps on wel:	1	Distance t:	Not Reported
Bearing to:	Not Reported	Drilling m:	Not Reported
Use of wel:	Not Reported	Drilling00:	0
Rough log :	0	Well tag r:	Not Reported
Monitoring:	Not Reported	Monitori00:	0
Protective:	0	Well locke:	0
Consultant:	0	Water in v:	0
Seal test :	PP	Samples ta:	0
Casing dia:	6.00	Csg above :	Not Reported
Csg gauge:	Not Reported	Borehole d:	10.00
Dedicated :	0	Access por:	0
Access p00:	APT	Measuring :	Not Reported
Measurin00:	Not Reported	Depth belo:	Not Reported
Depth be00:	Not Reported	Tape hold:	0.00
Tape missi:	0.00	Tape cut:	Not Reported
Water leve:	Not Reported	Water le00:	Not Reported
Cascading :	0	Pump type:	Not Reported
Pump make:	Not Reported	Pump hp:	Not Reported
Flowmeter :	Not Reported	Flowmete00:	Not Reported
Flowmete01:	Not Reported	Flowmete02:	Not Reported
Associated:	Not Reported	Nbr of hou:	Not Reported
Deficiency:	Not Reported		
Inspecti02:	Not Reported		
Work new:	1	Work deepe:	0
Work conve:	0	Work alter:	0
Work aband:	0	Work exist:	0
Work other:	Not Reported	Drill rota:	1
Drill ro00:	0	Drill cabl:	0
Drill ca00:	0	Drill reve:	0
Drill re00:	0	Drill auge:	0
Drill push:	0	Drill hand:	0
Drill holl:	0	Drill soni:	0
Drill othe:	Not Reported	Use domest:	1
Use irriga:	0	Use commun:	0
Use indust:	0	Use livest:	0
Use dewate:	0	Use monito:	0
Use therma:	0	Use inject:	0
Use piezom:	0	Use observ:	0
Use recove:	0	Use other:	Not Reported
Bentonite :	0	Conductivi:	Not Reported
Conducti00:	Not Reported	Measuremen:	Not Reported
Well tag00:	98565	Bonded lic:	1266
Unbonded I:	Not Reported	Bonded dri:	ROY N
Unbonded d:	Not Reported	County cod:	WASH
Tax lot:	1500	Township:	2
Township c:	S	Range:	1
Range char:	W	Sctn:	17
Qtr40:	NE	Qtr160:	SE

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Latitude d:	45.39885000	Longitude :	-122.82616000
Gps horizo:	12.00000000	Year const:	Not Reported
Date const:	2009-	Date con00:	2009-
Deficienci:	U	Previous i:	0
Inspected :	J J	Inspecte00:	113341
Wm region:	NW		
Well tag a:	BANDED TO CASING		
Well tag01:	DRL	Depth:	Not Reported
Static wat:	Not Reported	Status of :	CMP
Location r:	Not Reported	Site visit:	Not Reported
Type of lo:	W	Casing cap:	SNT
Pictures t:	0	Street of :	SW 147TH AVE
Street o00:	Not Reported		
Last updt :	2009-07-09 11:01:47.530		
Last upd00:	jefferjw	Rec creati:	2009-07-09 11:00:14.890
Rec crea00:	jefferjw		
Latitude:	45.39885		
Loongitude:	-122.82616		
Site id:	ORI500000048186		

6 West 1/2 - 1 Mile Lower

OR WELLS ORW500000004272

Fid:	4271	Objectid:	4289
Logid:	WASH 698	Lstupdate:	01/01/1990
Establby:	KARL WOZNIAK	Xysource:	UNKNOWN
Horizerr:	1000	Sourceorg:	OWRD
Sourceowrd:	USGS WILLGW	Waypoint:	Not Reported
Welltag:	0		
Sownum:	1228	Obswell:	N
Recwell:	9	Obsflagall:	SN
Lsdelev:	260		
Latitude:	45.4060972135		
Longitude:	-122.847210292		
Site id:	ORW500000004272		

B7 SSW 1/2 - 1 Mile Lower

OR WELLS ORW500000003805

Fid:	3804	Objectid:	3820
Logid:	WASH 11848	Lstupdate:	01/01/1990
Establby:	KARL WOZNIAK	Xysource:	UNKNOWN
Horizerr:	1000	Sourceorg:	OWRD
Sourceowrd:	USGS WILLGW	Waypoint:	Not Reported
Welltag:	0		
Sownum:	0	Obswell:	9
Recwell:	9	Obsflagall:	Not Reported
Lsdelev:	168		
Latitude:	45.3965093116		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Longitude: -122.839542826
Site id: ORW500000003805

B8
SSW
1/2 - 1 Mile
Lower

FED USGS USGS40000992962

Org. Identifier:	USGS-OR		
Formal name:	USGS Oregon Water Science Center		
Monloc Identifier:	USGS-452348122501801		
Monloc name:	02S/01W-17CAB01		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17090010	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	45.396507
Longitude:	-122.839543	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refs:	NAD83	Vert measure val:	168
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refs:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19770623	Welldepth:	190
Welldepth units:	ft	Wellholedepth:	190
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 3

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1993-10-01	51.70				
Note: The site had been pumped recently.					
1993-10-01	51.70				
Note: The site had been pumped recently.					
1977-06-23	48				

9
SE
1/2 - 1 Mile
Lower

OR WELLS ORI500000031231

Fid:	31230	Well inspe:	0
Physical I:	Not Reported	Inspection:	2003-08-19 00:00:00.000
Startcard :	147072	WI county :	Not Reported
WI nbr:	Not Reported	Startcar00:	Not Reported
Well tag n:	Not Reported	No log:	Not Reported
Property o:	Not Reported	Inspecti00:	Not Reported
Special st:	0	Title:	Not Reported
Inspecti01:	Not Reported	Witnesses:	Not Reported
Name owner:	MILLER, JAMES A; 16595 SW 137TH AVE, TIGARD		
Street:	Not Reported	City:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

State:	Not Reported	Zip:	Not Reported
Phone home:	Not Reported	Phone comp:	Not Reported
Gps on wel:	Not Reported	Distance t:	Not Reported
Bearing to:	Not Reported	Drilling m:	Not Reported
Use of wel:	Not Reported	Drilling00:	Not Reported
Rough log :	Not Reported	Well tag r:	Not Reported
Monitoring:	Not Reported	Monitori00:	Not Reported
Protective:	Not Reported	Well locke:	Not Reported
Consultant:	Not Reported	Water in v:	Not Reported
Seal test :	Not Reported	Samples ta:	Not Reported
Casing dia:	Not Reported	Csg above :	Not Reported
Csg gauge:	Not Reported	Borehole d:	Not Reported
Dedicated :	Not Reported	Access por:	Not Reported
Access p00:	Not Reported	Measuring :	Not Reported
Measurin00:	Not Reported	Depth belo:	Not Reported
Depth be00:	Not Reported	Tape hold:	Not Reported
Tape missi:	Not Reported	Tape cut:	Not Reported
Water leve:	Not Reported	Water le00:	Not Reported
Cascading :	Not Reported	Pump type:	Not Reported
Pump make:	Not Reported	Pump hp:	Not Reported
Flowmeter :	Not Reported	Flowmete00:	Not Reported
Flowmete01:	Not Reported	Flowmete02:	Not Reported
Associated:	Not Reported	Nbr of hou:	Not Reported
Deficiency:	Not Reported		
Inspecti02:	Not Reported		
Work new:	1	Work deepe:	0
Work conve:	0	Work alter:	0
Work aband:	0	Work exist:	0
Work other:	Not Reported	Drill rota:	Not Reported
Drill ro00:	Not Reported	Drill cabl:	Not Reported
Drill ca00:	Not Reported	Drill reve:	Not Reported
Drill re00:	Not Reported	Drill auge:	Not Reported
Drill push:	Not Reported	Drill hand:	Not Reported
Drill holl:	Not Reported	Drill soni:	Not Reported
Drill othe:	Not Reported	Use domest:	Not Reported
Use irriga:	Not Reported	Use commun:	Not Reported
Use indust:	Not Reported	Use livest:	Not Reported
Use dewate:	Not Reported	Use monito:	Not Reported
Use therma:	Not Reported	Use inject:	Not Reported
Use piezom:	Not Reported	Use observ:	Not Reported
Use recove:	Not Reported	Use other:	Not Reported
Bentonite :	Not Reported	Conductivi:	Not Reported
Conducti00:	Not Reported	Measuremen:	Not Reported
Well tag00:	52383	Bonded lic:	1266
Unbonded l:	Not Reported	Bonded dri:	Not Reported
Unbonded d:	Not Reported	County cod:	WASH
Tax lot:	1900	Township:	2
Township c:	S	Range:	1
Range char:	W	Sctn:	16
Qtr40:	NE	Qtr160:	NW
Latitude d:	45.39970000	Longitude :	-122.82027000
Gps horizo:	22.00000000	Year const:	2002
Date const:	Not Reported	Date con00:	Not Reported
Deficienci:	N	Previous i:	0
Inspected :	KRB	Inspecte00:	107906
Wm region:	NW		
Well tag a:	BANDED		
Well tag01:	Not Reported	Depth:	Not Reported
Static wat:	Not Reported	Status of :	Not Reported
Location r:	Not Reported	Site visit:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Type of lo:	W	Casing cap:	Not Reported
Pictures t:	0	Street of :	Not Reported
Street o00:	Not Reported		
Last updt :	2010-04-01 00:00:00.000		
Last updt00:	WRD\migrate	Rec creati:	2009-06-01 06:51:00.000
Rec crea00:	OWRD\migrate		
Latitude:	45.3997		
Longitude:	-122.82027		
Site id:	ORI500000031231		

10 WSW 1/2 - 1 Mile Lower

OR WELLS ORW500000004274

Fid:	4273	Objectid:	4291
Logid:	WASH 50813	Lstupdate:	01/01/1990
Establby:	KARL WOZNIAK	Xysource:	UNKNOWN
Horizerr:	1000	Sourceorg:	OWRD
Sourceowrd:	USGS WILLGW	Waypoint:	Not Reported
Welltag:	3226		
Sownum:	0	Obswell:	9
Recwell:	9	Obsflagall:	Not Reported
Lsdelev:	240		
Latitude:	45.40398579		
Longitude:	-122.850128187		
Site id:	ORW500000004274		

11 West 1/2 - 1 Mile Lower

OR WELLS ORW500000004273

Fid:	4272	Objectid:	4290
Logid:	WASH 11515	Lstupdate:	01/01/1990
Establby:	KARL WOZNIAK	Xysource:	UNKNOWN
Horizerr:	1000	Sourceorg:	OWRD
Sourceowrd:	USGS WILLGW	Waypoint:	Not Reported
Welltag:	0		
Sownum:	0	Obswell:	9
Recwell:	9	Obsflagall:	Not Reported
Lsdelev:	230		
Latitude:	45.4060931793		
Longitude:	-122.850959596		
Site id:	ORW500000004273		

C12 SW 1/2 - 1 Mile Lower

FED USGS USGS40000992976

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Org. Identifier:	USGS-OR		
Formal name:	USGS Oregon Water Science Center		
Monloc Identifier:	USGS-452358122505001		
Monloc name:	02S/01W-18ADA		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17090010	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	45.3992847
Longitude:	-122.8484322	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	190.00
Vert measure units:	feet	Vertacc measure val:	5.0
Vert accmeasure units:	feet		
Vertcollection method:	Altimeter		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19690612	Welldepth:	397
Welldepth units:	ft	Wellholedepth:	397
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 53

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1998-04-24	60.5		1997-09-16	66.5	
1997-02-04	59.8		1995-02-08	83.8	
1994-10-05	87.7		1993-07-12	64.8	
1992-10-26	67.9		1992-04-08	62.3	
1991-12-30	64.0		1991-05-13	62.2	
1990-08-14	75.1		1990-04-26	56.8	
1990-01-24	64.2		1989-09-11	67.1	
1989-05-26	64.2		1988-09-07	70.8	
1988-07-29	70.1				
1988-04-25	81.3				
Note: The site was being pumped.					
1987-11-16	61.5				
Note: The site had been pumped recently.					
1987-09-10	93.8				
Note: The site was being pumped.					
1987-04-22	91.2				
Note: The site was being pumped.					
1986-10-23	70.2				
1986-05-07	90.5				
Note: The site was being pumped.					
1985-12-05	67.0				
1985-05-12	83.1				
Note: The site was being pumped.					
1984-11-09	65				
1984-05-26	85.3				
Note: The site was being pumped.					
1983-11-03	66		1983-03-18	58.4	
1982-10-19	68.7				
Note: The site was being pumped.					
1982-04-19	60.4		1981-04-21	63.0	
1980-10-21	66		1980-04-11	62.0	

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Ground-water levels, continued.

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1978-10-10	65		1978-08-02	67	
1978-04-12	61.9		1978-01-26	63.1	
1977-10-11	67.3		1977-04-19	65	
1977-01-19	64.8		1976-10-12	65	
1976-04-21	60.6				
1976-03-24	60.09				
Note: A nearby site that taps the same aquifer had been pumped recently.					
1976-01-20	61.0		1975-10-22	65	
1975-04-15	66.8		1975-01-20	61	
1974-10-11	66.0		1974-04-29	61.6	
1973-11-26	63.8		1973-03-20	61.7	
1969-06-18	60.00				

C13
WSW
1/2 - 1 Mile
Lower

OR WELLS ORW500000016293

Fid:	16292	Objectid:	16720
Logid:	WASH 11873	Lstupdate:	03/24/2014
Establby:	Marc Norton	Xysource:	GPS
Horizerr:	15	Sourceorg:	OWRD
Sourceowrd:	GWATER	Waypoint:	Not Reported
Welltag:	0		
Sownum:	955	Obswell:	C
Recwell:	9	Obsflagall:	SC
Lsdelev:	190		
Latitude:	45.3996100004		
Longitude:	-122.84876		
Site id:	ORW500000016293		

14
SE
1/2 - 1 Mile
Lower

OR WELLS ORW500000002432

Fid:	2431	Objectid:	2436
Logid:	WASH 11833	Lstupdate:	01/01/1990
Establby:	KARL WOZNIAC	Xysource:	UNKNOWN
Horizerr:	1000	Sourceorg:	OWRD
Sourceowrd:	USGS WILLGW	Waypoint:	Not Reported
Welltag:	0		
Sownum:	0	Obswell:	9
Recwell:	9	Obsflagall:	Not Reported
Lsdelev:	175		
Latitude:	45.3990307233		
Longitude:	-122.819203616		
Site id:	ORW500000002432		

D15
East
1/2 - 1 Mile
Lower

FED USGS USGS40000993006

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Org. Identifier:	USGS-OR		
Formal name:	USGS Oregon Water Science Center		
Monloc Identifier:	USGS-452415122485101		
Monloc name:	02S/01W-16ABB		
Monloc type:	Well		
Monloc desc:	'OWRD STATE OBS WELL 953'		
Huc code:	17090010	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	45.404021
Longitude:	-122.8153536	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	268
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Columbia Plateau basaltic-rock aquifers		
Formation type:	Columbia River Basalt Group		
Aquifer type:	Not Reported		
Construction date:	19600913	Welldepth:	163
Welldepth units:	ft	Wellholedepth:	163
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 54

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1998-04-24	127.1		1997-09-16	130.3	
1997-02-04	129.7		1996-10-30	132.1	
1996-07-10	128.9				
Note: The site was being pumped.					
1995-10-30	127.6		1995-07-25	126.6	
1995-02-08	127.7		1994-10-06	129.3	
1993-07-15	126.5		1992-10-26	128.6	
1992-04-08	124.9		1991-05-13	124.4	
1990-08-14	127.5		1990-04-26	126.3	
1990-01-24	127.6		1989-09-12	130.1	
1989-05-26	120.6		1988-09-07	128.4	
1988-07-29	127.3		1988-04-25	127.0	
1987-11-16	128.6		1987-09-10	127.9	
1987-04-22	124.0		1986-10-23	125.3	
1986-05-07	122.5		1985-12-05	123	
1985-05-12	119		1984-11-09	121.2	
1984-06-06	129		1983-11-08	124	
1983-03-21	124.6		1982-10-19	128.8	
1981-04-22	132.3		1980-04-10	133.3	
1978-10-10	136.7		1978-08-02	135.9	
1978-04-12	137		1978-01-26	137.3	
1977-10-11	139.0		1977-07-20	138.3	
1977-04-19	137.5		1977-01-19	138	
1976-10-12	138		1976-07-27	138	
1976-04-21	137		1976-01-20	137.7	
1975-10-22	139.1		1975-07-15	137.0	
1975-04-15	136.0		1975-01-20	138.1	
1974-10-14	138		1974-05-08	135	
1960-10-15	118				

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

D16
East
1/2 - 1 Mile
Lower

OR WELLS ORW50000004279

Fid:	4278	Objectid:	4296
Logid:	WASH 11552	Lstupdate:	01/01/1990
Establby:	KARL WOZNIAK	Xysource:	UNKNOWN
Horizerr:	1000	Sourceorg:	OWRD
Sourceowrd:	USGS WILLGW	Waypoint:	Not Reported
Welltag:	0		
Sownum:	953	Obswell:	N
Recwell:	9	Obsflagall:	SN
Lsdelev:	265		
Latitude:	45.4040202589		
Longitude:	-122.815352669		
Site id:	ORW50000004279		

E17
SSW
1/2 - 1 Mile
Lower

FED USGS USGS40000992950

Org. Identifier:	USGS-OR		
Formal name:	USGS Oregon Water Science Center		
Monloc Identifier:	USGS-452339122502701		
Monloc name:	02S/01W-17CBD		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17090010	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	45.394007
Longitude:	-122.842043	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refs:	NAD83	Vert measure val:	135.00
Vert measure units:	feet	Vertacc measure val:	5.0
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refs:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19460000	Welldepth:	208
Welldepth units:	ft	Wellholedepth:	208
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel

1946	34.00	

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

E18
SSW
1/2 - 1 Mile
Lower

OR WELLS ORW50000003346

Fid:	3345	Objectid:	3356
Logid:	WASH 11854	Lstupdate:	01/01/1990
Establby:	KARL WOZNIAK	Xysource:	UNKNOWN
Horizerr:	1000	Sourceorg:	OWRD
Sourceowrd:	USGS WILLGW	Waypoint:	Not Reported
Welltag:	0		
Sownum:	0	Obswell:	9
Recwell:	9	Obsflagall:	Not Reported
Lsdelev:	135		
Latitude:	45.3938980158		
Longitude:	-122.842104183		
Site id:	ORW50000003346		

F19
WNW
1/2 - 1 Mile
Lower

FED USGS USGS40000993040

Org. Identifier:	USGS-OR		
Formal name:	USGS Oregon Water Science Center		
Monloc Identifier:	USGS-452443122510301		
Monloc name:	02S/01W-07ACD1		
Monloc type:	Well		
Monloc desc:	'OWRD STATE OBS WELL 949'		
Huc code:	17090010	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	45.4118374
Longitude:	-122.8519409	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refs:	NAD83	Vert measure val:	232
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refs:	NGVD29	Countrycode:	US
Aquifername:	Columbia Plateau basaltic-rock aquifers		
Formation type:	Columbia River Basalt Group		
Aquifer type:	Not Reported		
Construction date:	196404	Welldepth:	200
Welldepth units:	ft	Wellholedepth:	206
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 76

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1998-04-24	95.8		1997-09-16	100.0	
1997-02-04	98.8		1996-10-30	100.0	
1996-07-10	97.2		1995-10-30	99.9	
1995-07-25	99.2		1995-02-07	101.2	
1994-10-05	104.0		1994-04-26	98.5	

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Ground-water levels, continued.

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1993-07-12	98.6		1992-10-26	101.0	
1992-04-08	98.0		1991-12-30	98.8	
1991-05-13	98.0		1990-08-14	99.2	
1990-04-26	99.5		1990-01-24	101.9	
1989-09-12	99.9		1989-05-26	98.0	
1988-10-04	100.8		1988-09-07	101.0	
1988-07-28	100.2		1988-04-25	98.8	
1987-11-16	100.2		1987-09-10	99.5	
1987-04-22	97.2		1986-10-23	99.3	
1986-05-27	96.5		1985-12-05	97	
1985-05-12	93.3		1984-11-09	95.5	
1984-05-26	93		1983-11-03	97	
1983-03-21	98		1982-10-19	101.1	
1982-04-19	100		1981-04-22	103	
1980-10-21	105.0				
Note: The site had been pumped recently.					
1980-04-11	103.8		1978-10-10	105	
1978-08-02	105.0		1978-04-12	105	
1978-01-26	107		1977-10-11	106	
1977-10-10	105.9		1977-07-20	105.5	
1977-04-19	104		1977-03-02	105.0	
1977-01-19	104.1		1976-10-12	104	
1976-07-27	103		1976-04-21	102.4	
1976-01-20	104		1975-10-22	104	
1975-07-15	102.0		1975-04-15	101.5	
1975-01-22	103.4		1974-10-11	104	
1974-07-16	101		1974-04-18	100	
1973-11-26	104.1		1973-06-04	101	
1973-03-20	100		1973-01-25	101	
1972-05-05	96.5		1972-02-08	99	
1971-10-15	97.6		1971-07-22	95	
1971-04-20	97.2		1971-01-25	99.4	
1970-10-23	96.9		1970-07-28	97	
1970-04-14	92.6		1970-03-19	93	
1964-05-01	85				

**F20
WNW
1/2 - 1 Mile
Lower**

OR WELLS ORW500000016294

Fid: 16293
 Logid: WASH 11516
 Estabby: Marc Norton
 Horizerr: 18
 Sourceowrd: GWATER
 Welltag: 0
 Sownum: 949
 Recwell: 9
 Lsdelev: 230
 Latitude: 45.4120100004

Objectid: 16721
 Lstupdate: 03/24/2014
 Xysource: GPS
 Sourceorg: OWRD
 Waypoint: Not Reported
 Obswell: N
 Obsflagall: SN

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Longitude: -122.85194
Site id: ORW500000016294

F21
WNW
1/2 - 1 Mile
Lower

OR WELLS **ORW500000004271**

Fid: 4270
Logid: WASH 51759
Establby: KARL WOZNIAK
Horizerr: 1000
Sourceowrd: USGS WILLGW
Welltag: 9499
Sownum: 0
Recwell: 9
Lsdelev: 248
Latitude: 45.4125078562
Longitude: -122.851936332
Site id: ORW500000004271

Objectid: 4288
Lstupdate: 01/01/1990
Xysource: UNKNOWN
Sourceorg: OWRD
Waypoint: Not Reported

Obswell: 9
Obsflagall: Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS RADON

AREA RADON INFORMATION

State Database: OR Radon

Radon Test Results

Zipcode	Num Tests	Maximum	Minimum	Average	# > 4 pCi/L
97224	26	3.8	0.1	1.4	0

Federal EPA Radon Zone for WASHINGTON County: 2

Note: Zone 1 indoor average level > 4 pCi/L.

: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.

: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for WASHINGTON COUNTY, OR

Number of sites tested: 22

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area	1.190 pCi/L	95%	5%	0%
Basement	1.260 pCi/L	100%	0%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)

Source: United States Geologic Survey

EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map

Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA

Telephone: 877-336-2627

Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetlands Inventory Data

Source: Oregon Geospatial Enterprise Office

Telephone: 503-378-2166

HYDROGEOLOGIC INFORMATION

AQUIFLOW^R Information System

Source: EDR proprietary database of groundwater flow information

EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit

Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)

The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)

Telephone: 800-672-5559

SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)

This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Well Data

Source: Department of Water Resources

Telephone: 503-986-0843

OTHER STATE DATABASE INFORMATION

Oil and Gas Well Locations

Source: Department of Geology and Mineral Industries

Telephone: 971-673-1540

A listing of oil and gas well locations in the state.

RADON

State Database: OR Radon

Source: Oregon Health Services

Telephone: 503-731-4272

Radon Levels in Oregon

Area Radon Information

Source: USGS

Telephone: 703-356-4020

The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones

Source: EPA

Telephone: 703-356-4020

Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities

Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater

Source: Department of Commerce, National Oceanic and Atmospheric Administration

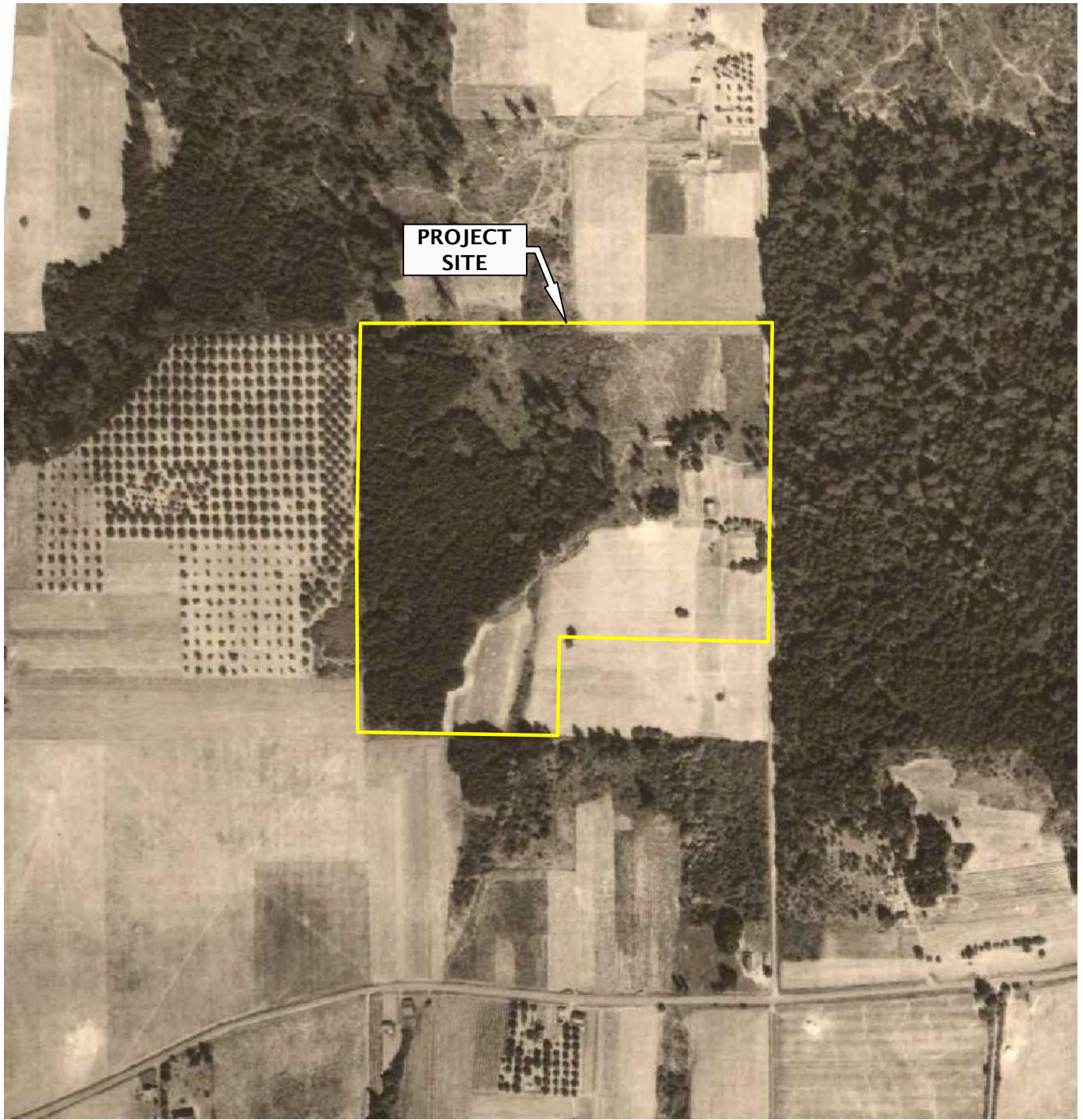
Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary faultlines, prepared in 1975 by the United State Geological Survey

PHYSICAL SETTING SOURCE RECORDS SEARCHED

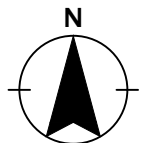
STREET AND ADDRESS INFORMATION

© 2015 TomTom North America, Inc. All rights reserved. This material is proprietary and the subject of copyright protection and other intellectual property rights owned by or licensed to Tele Atlas North America, Inc. The use of this material is subject to the terms of a license agreement. You will be held liable for any unauthorized copying or disclosure of this material.

APPENDIX C

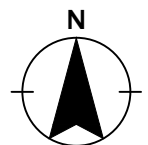


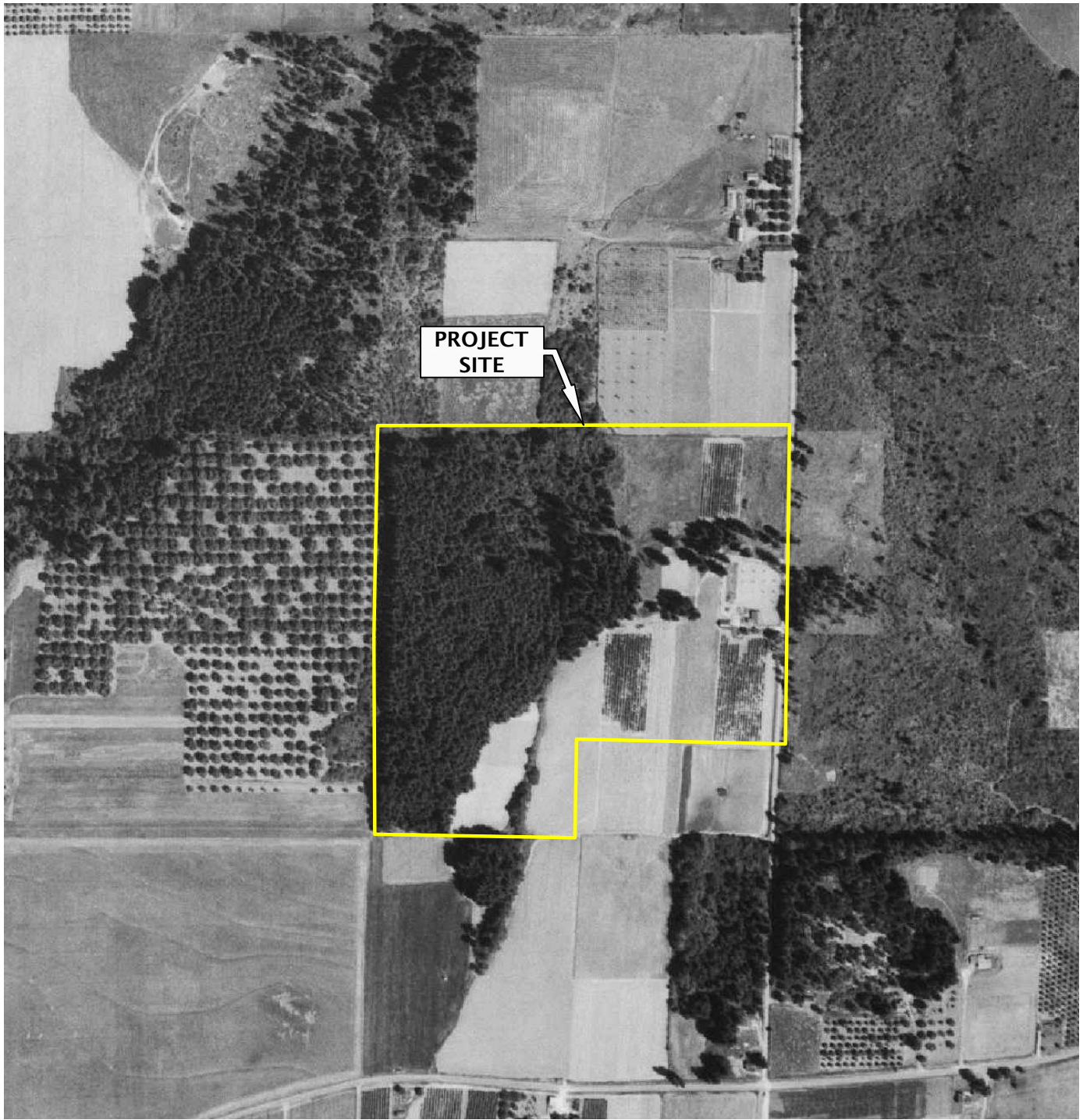
PROJECT SITE BOUNDARIES ARE APPROXIMATE.



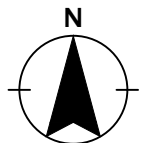


PROJECT SITE BOUNDARIES ARE APPROXIMATE.





PROJECT SITE BOUNDARIES ARE APPROXIMATE.



Printed By: aday | Print Date: 11/1/2016 3:57:33 PM
 File Name: J:\M-R\Polygon\Polygon-145-02\Figures\CAD\Polygon-145-02-HA01.dwg | Layout: 1952

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

POLYGON-145-02

NOVEMBER 2016

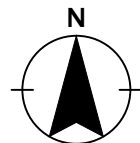
**HISTORICAL AERIAL PHOTOGRAPH
 1952**

RIVER TERRACE AREA 10
 TIGARD, OR

Printed By: aday | Print Date: 11/1/2016 3:57:33 PM
File Name: J:\M-R\Polygon\Polygon-145-02\Figures\CAD\Polygon-145-02-HA01.dwg | Layout: 1960



PROJECT SITE BOUNDARIES ARE APPROXIMATE.



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

POLYGON-145-02

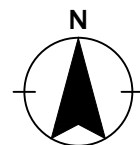
NOVEMBER 2016

HISTORICAL AERIAL PHOTOGRAPH
1960

RIVER TERRACE AREA 10
TIGARD, OR



PROJECT SITE BOUNDARIES ARE APPROXIMATE.



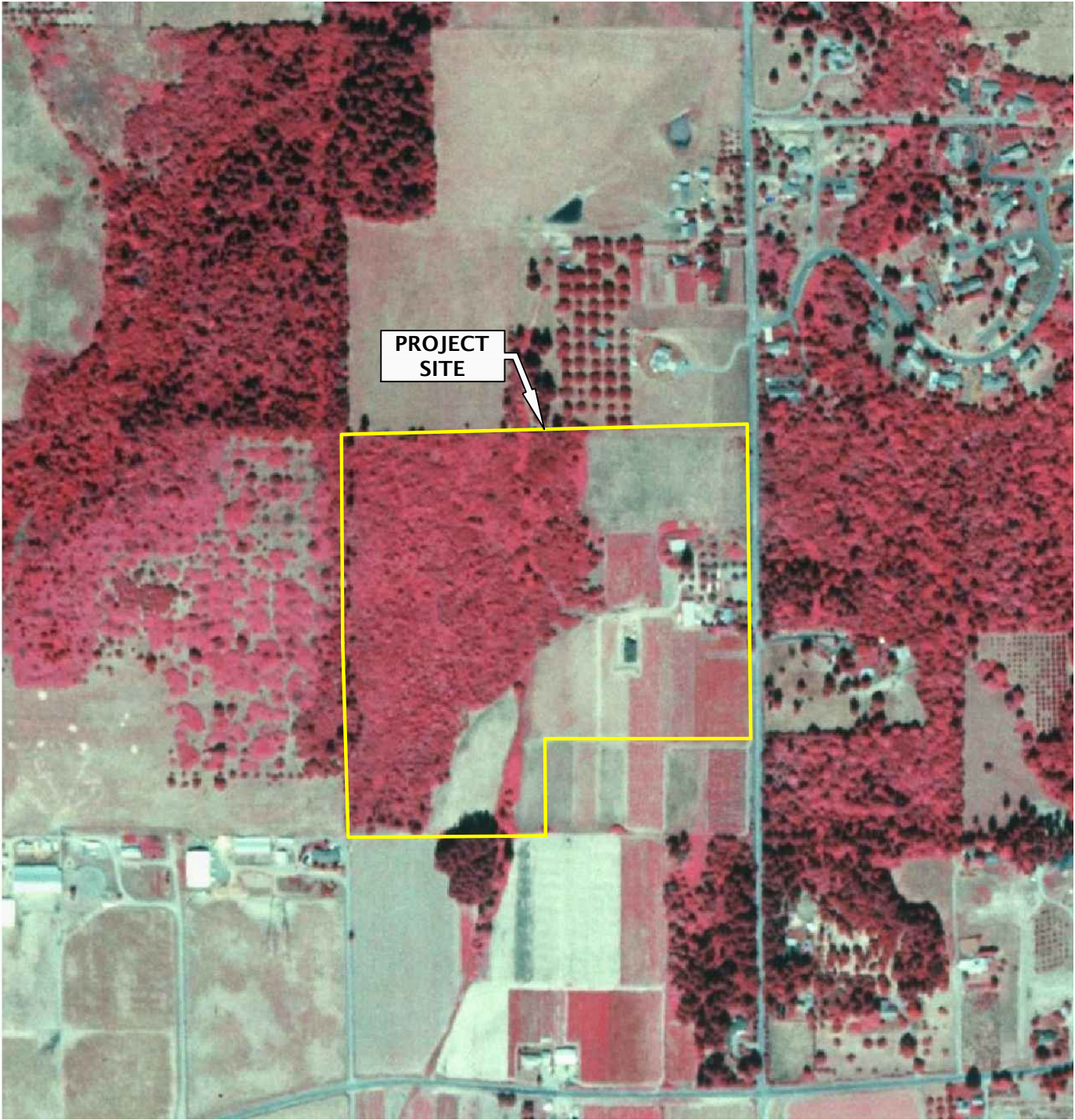
GEODESIGN
15575 SW Sequoia Parkway - Suite 100
Portland OR 97224
Off 503.968.8787 Fax 503.968.3068

POLYGON-145-02

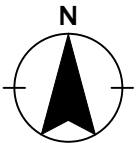
NOVEMBER 2016

**HISTORICAL AERIAL PHOTOGRAPH
1970**

RIVER TERRACE AREA 10
TIGARD, OR



PROJECT SITE BOUNDARIES ARE APPROXIMATE.



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

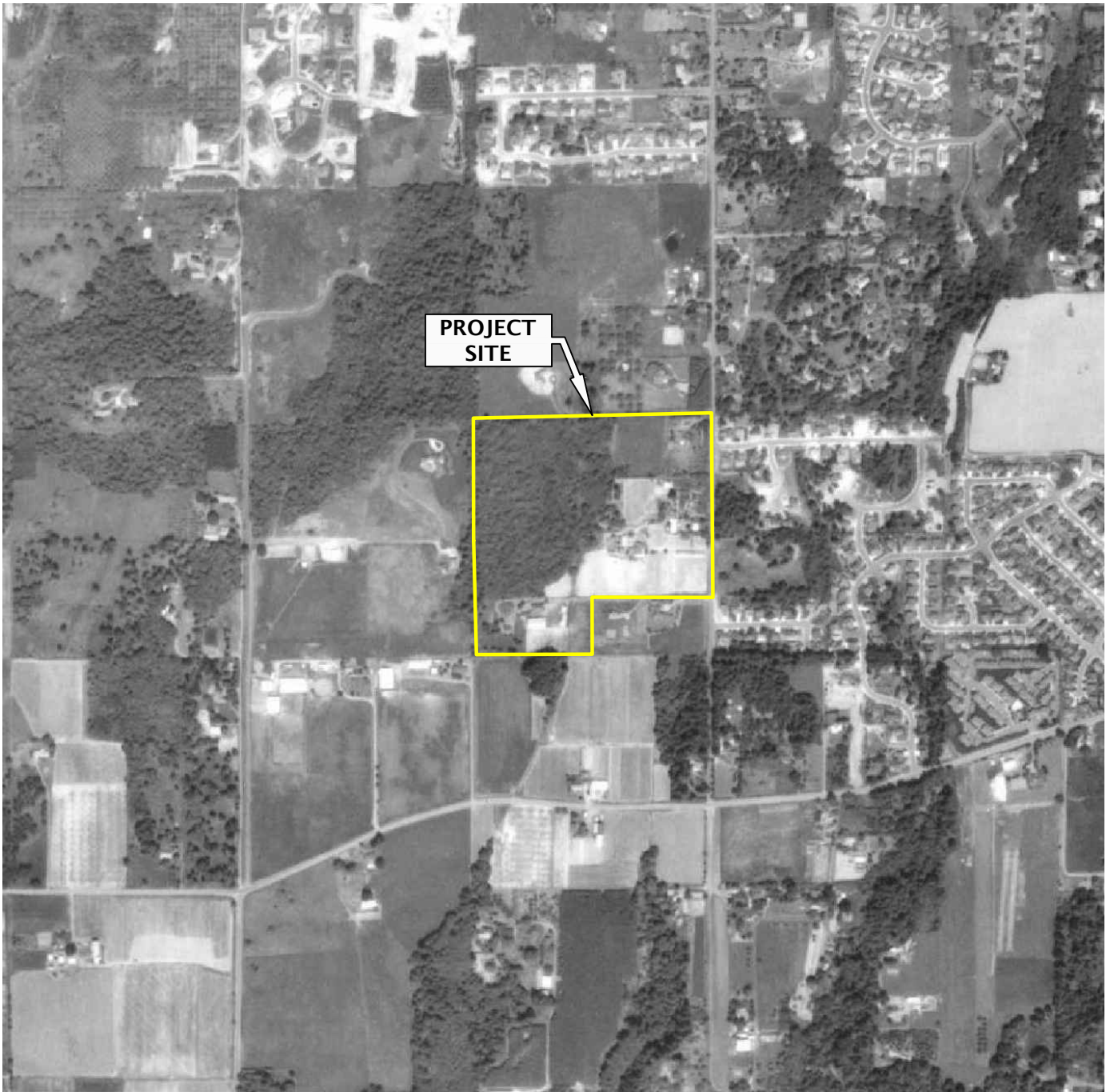
POLYGON-145-02

NOVEMBER 2016

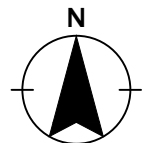
**HISTORICAL AERIAL PHOTOGRAPH
1981**

RIVER TERRACE AREA 10
TIGARD, OR

Printed By: aday | Print Date: 11/1/2016 3:57:34 PM
File Name: J:\M-R\Polygon\Polygon-145\Polygon-145-02\Figures\CAD\Polygon-145-02-HA01.dwg | Layout: 1994



PROJECT SITE BOUNDARIES ARE APPROXIMATE.



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

POLYGON-145-02

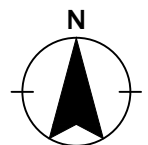
NOVEMBER 2016

HISTORICAL AERIAL PHOTOGRAPH
1994

RIVER TERRACE AREA 10
TIGARD, OR



PROJECT SITE BOUNDARIES ARE APPROXIMATE.



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

POLYGON-145-02

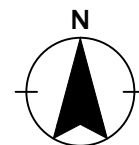
NOVEMBER 2016

**HISTORICAL AERIAL PHOTOGRAPH
2005**

RIVER TERRACE AREA 10
TIGARD, OR



PROJECT SITE BOUNDARIES ARE APPROXIMATE.



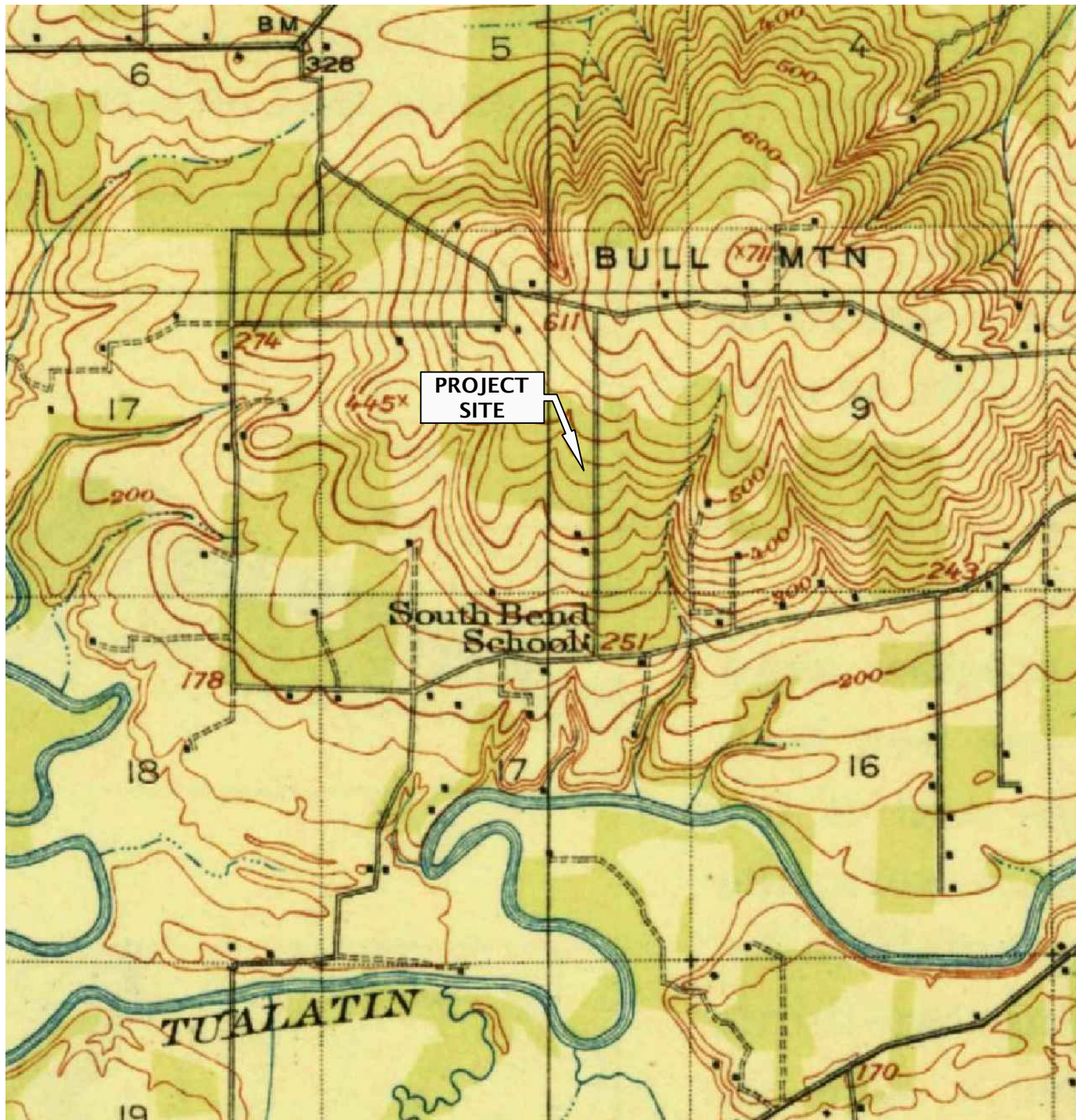
GEODESIGN inc
15575 SW Sequoia Parkway - Suite 100
Portland OR 97224
Off 503.968.8787 Fax 503.968.3068

POLYGON-145-02

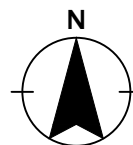
NOVEMBER 2016

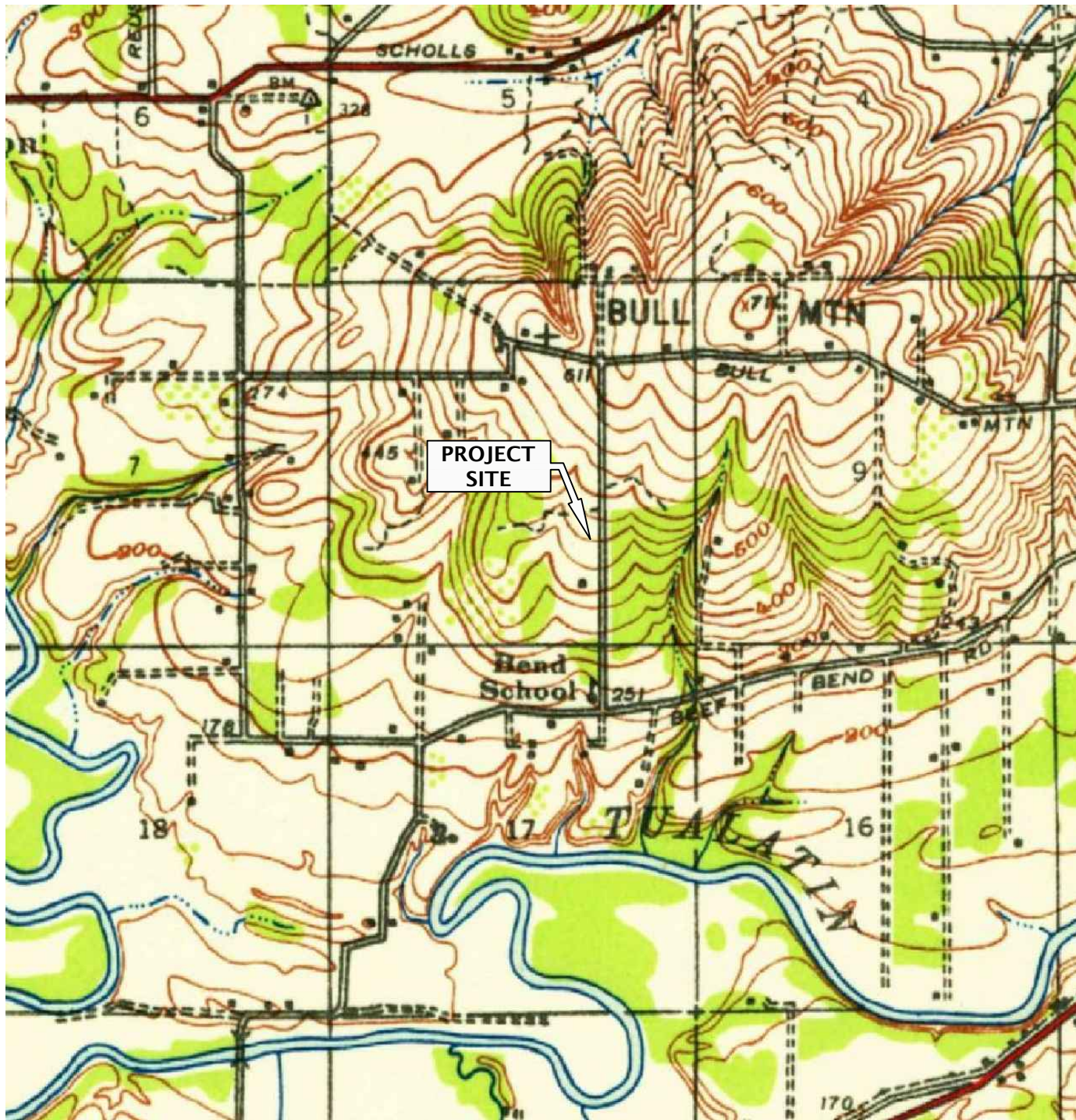
**HISTORICAL AERIAL PHOTOGRAPH
2012**

RIVER TERRACE AREA 10
TIGARD, OR

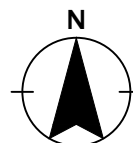


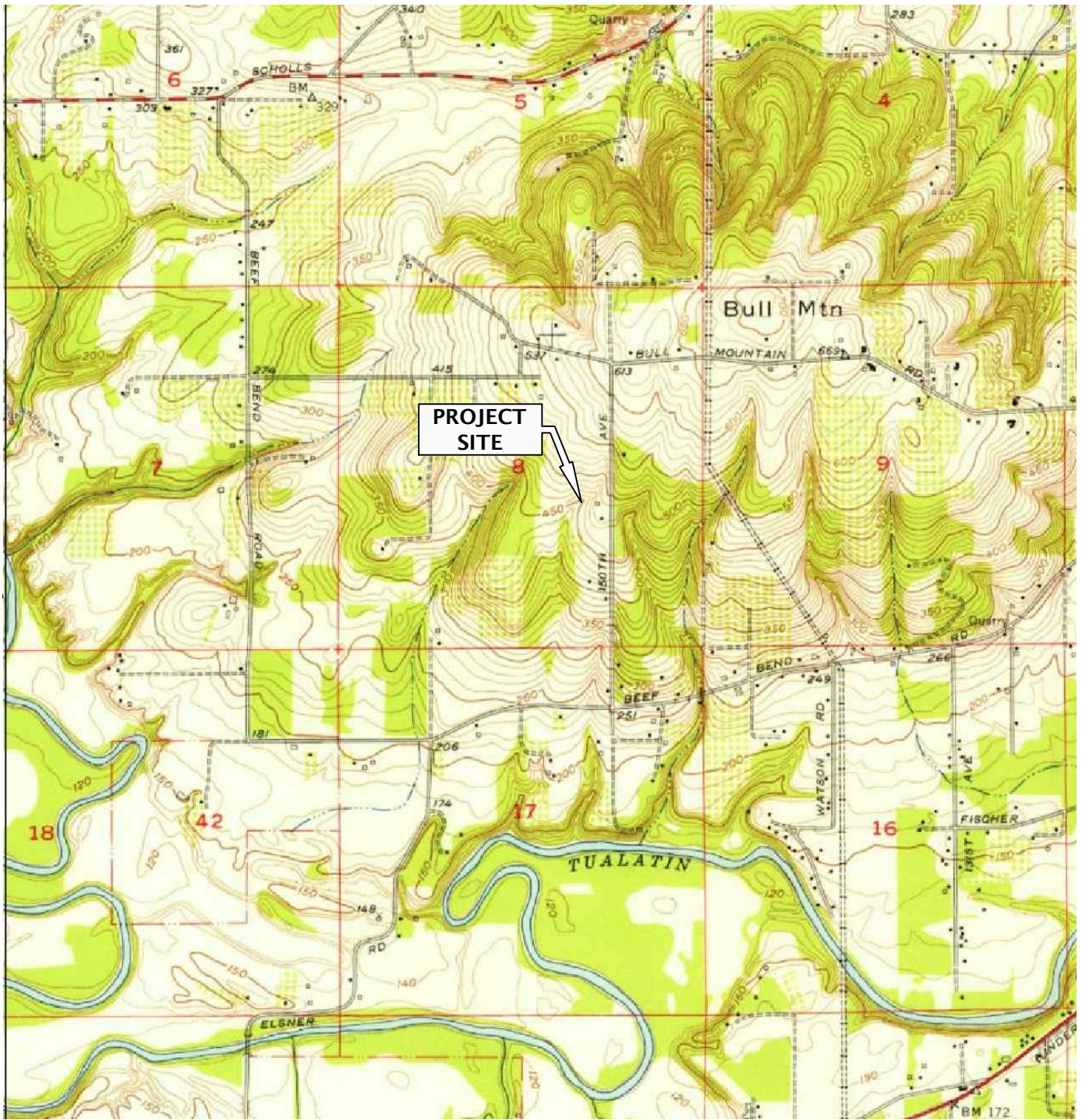
PROJECT SITE LOCATION IS APPROXIMATE.



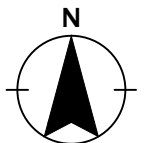


PROJECT SITE LOCATION IS APPROXIMATE.





PROJECT SITE LOCATION IS APPROXIMATE.



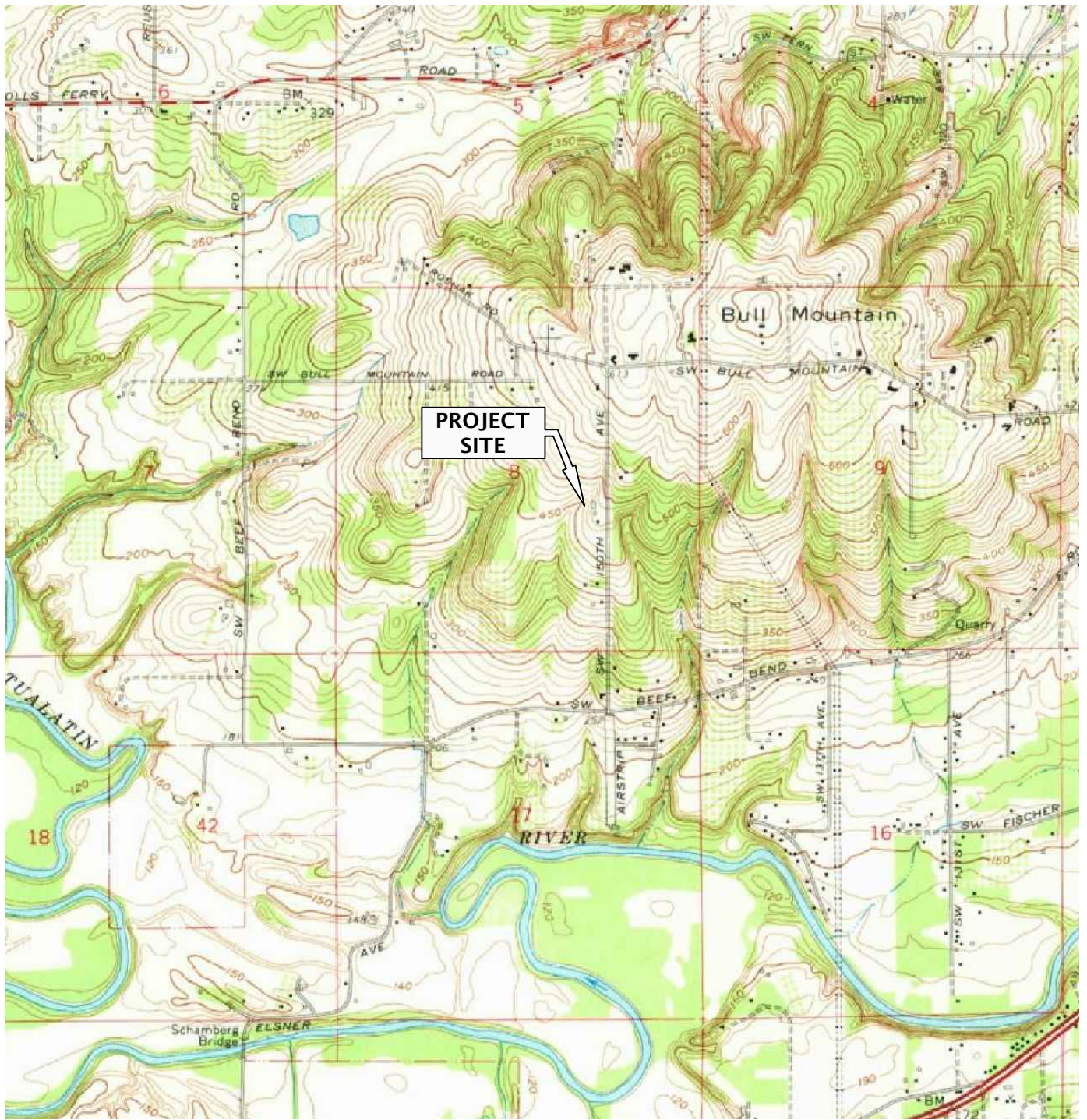
GEODESIGN inc
 15575 SW Sequoia Parkway - Suite 100
 Portland OR 97224
 Off 503.968.8787 Fax 503.968.3068

POLYGON-145-02

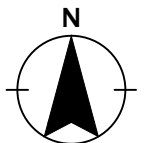
NOVEMBER 2016

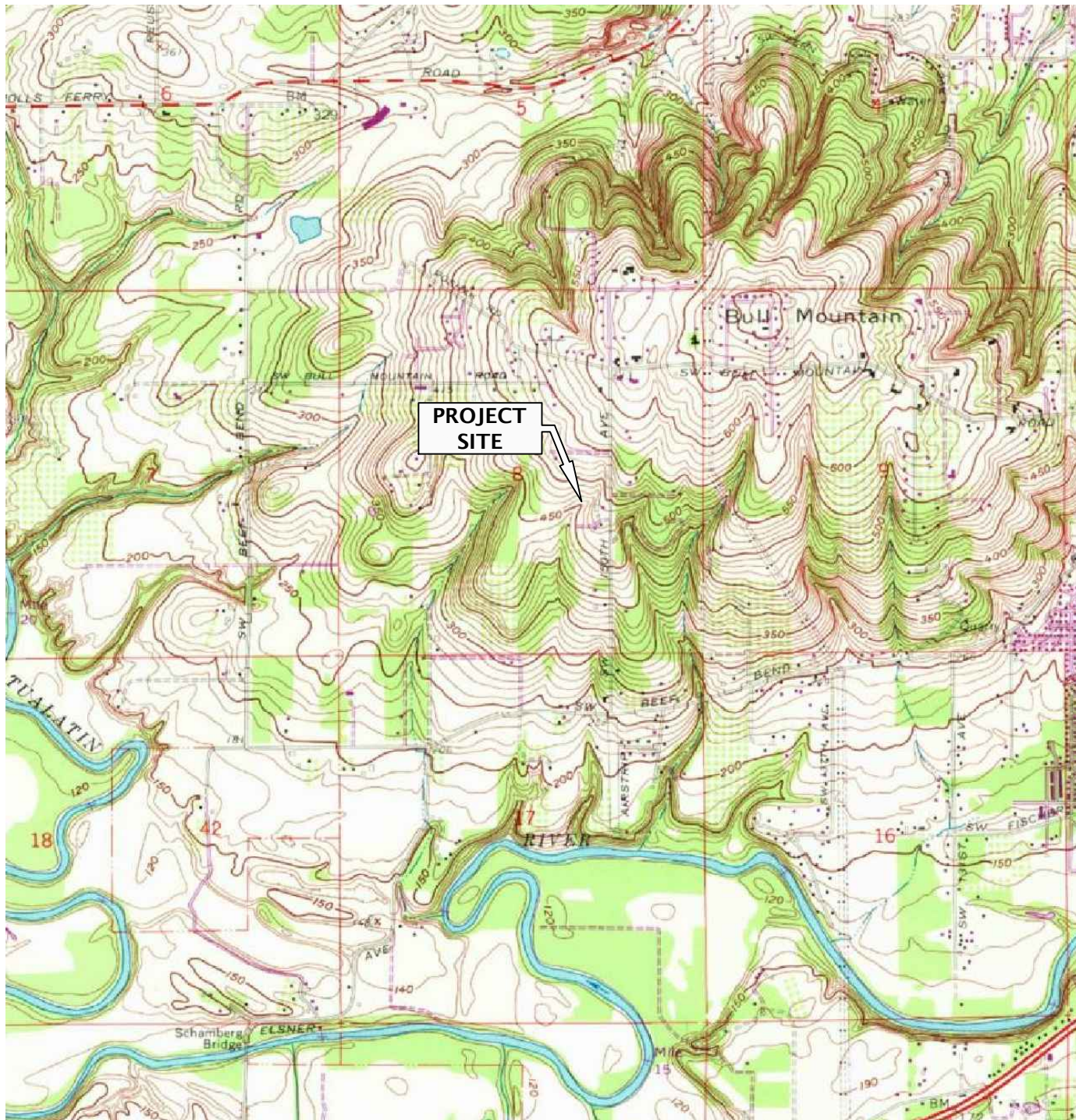
**HISTORICAL TOPOGRAPHIC MAP
 1954**

RIVER TERRACE AREA 10
 TIGARD, OR

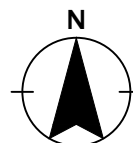


PROJECT SITE LOCATION IS APPROXIMATE.





PROJECT SITE LOCATION IS APPROXIMATE.



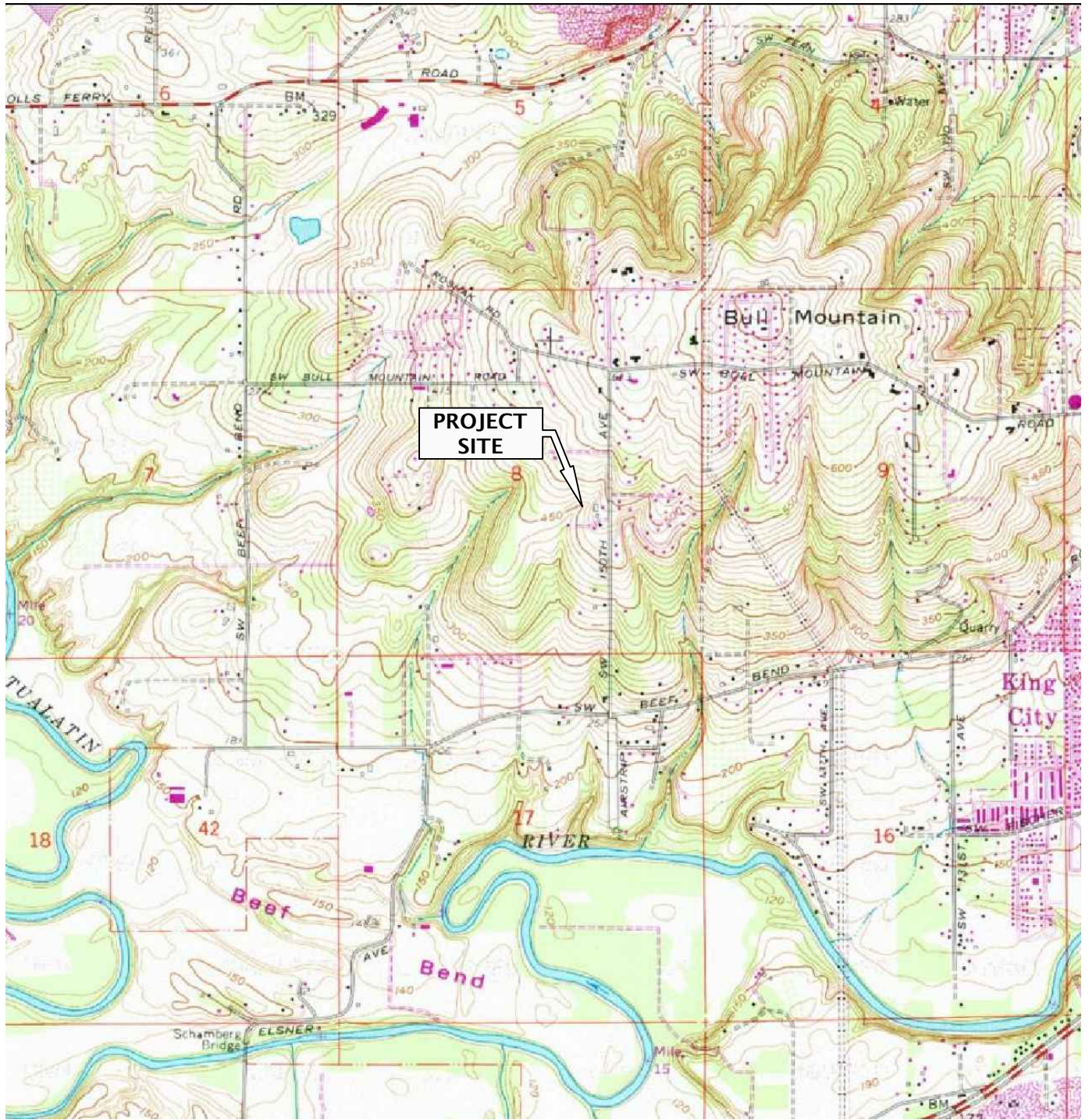
GEODESIGN
15575 SW Sequoia Parkway - Suite 100
Portland OR 97224
Off 503.968.8787 Fax 503.968.3068

POLYGON-145-02

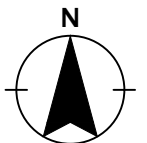
NOVEMBER 2016

**HISTORICAL TOPOGRAPHIC MAP
1970**

RIVER TERRACE AREA 10
TIGARD, OR



PROJECT SITE LOCATION IS APPROXIMATE.



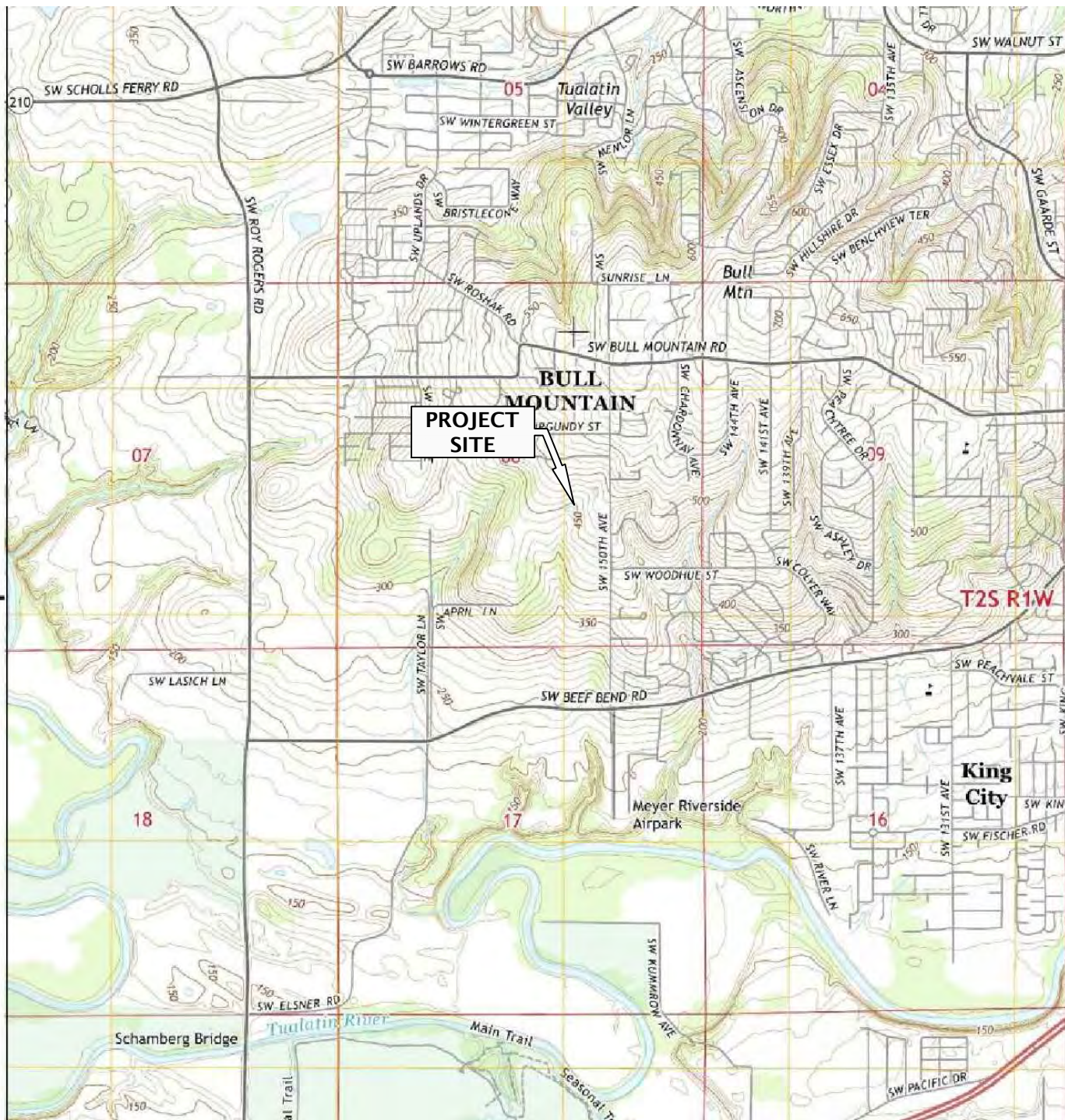
GEODESIGN INC
15575 SW Sequoia Parkway - Suite 100
Portland OR 97224
Off 503.968.8787 Fax 503.968.3068

POLYGON-145-02

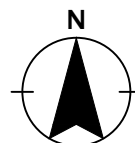
NOVEMBER 2016

**HISTORICAL TOPOGRAPHIC MAP
1984**

RIVER TERRACE AREA 10
TIGARD, OR



PROJECT SITE LOCATION IS APPROXIMATE.



River Terrace Area 10

15515 - 15915 SW 150th Avenue
Portland, OR 97224

Inquiry Number: 4735568.5
September 27, 2016

The EDR-City Directory Image Report



Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION

Executive Summary

Findings

City Directory Images

Thank you for your business.

Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OR DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.** Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2016 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc. or its affiliates is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Report includes a search of available city directory data at 5 year intervals.

RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. A check mark indicates where information was identified in the source and provided in this report.

<u>Year</u>	<u>Target Street</u>	<u>Cross Street</u>	<u>Source</u>
2013	☒	☐	Cole Information Services
2008	☒	☐	Cole Information Services
2003	☒	☐	Cole Information Services
1999	☒	☐	Cole Information Services
1995	☐	☐	Cole Information Services
1992	☐	☐	Cole Information Services
1987	☒	☐	Cole Criss-Cross Directory
1982	☒	☐	Cole Criss-Cross Directory
1977	☒	☐	Cole Criss-Cross Directory
1972	☒	☐	Cole Criss-Cross Directory

RECORD SOURCES

EDR is licensed to reproduce certain City Directory works by the copyright holders of those works. The purchaser of this EDR City Directory Report may include it in report(s) delivered to a customer. Reproduction of City Directories without permission of the publisher or licensed vendor may be a violation of copyright.

FINDINGS

TARGET PROPERTY STREET

15515 - 15915 SW 150th Avenue
Portland, OR 97224

Year

CD Image

Source

SW 150TH AVE

2013	pg A1	Cole Information Services	
2008	pg A2	Cole Information Services	
2003	pg A3	Cole Information Services	
1999	pg A4	Cole Information Services	
1995	-	Cole Information Services	Street not listed in Source
1992	-	Cole Information Services	Street not listed in Source
1987	pg A5	Cole Criss-Cross Directory	
1982	pg A6	Cole Criss-Cross Directory	
1977	pg A7	Cole Criss-Cross Directory	
1972	pg A8	Cole Criss-Cross Directory	
1972	pg A9	Cole Criss-Cross Directory	

FINDINGS

CROSS STREETS

No Cross Streets Identified

City Directory Images

SW 150TH AVE**2013**

14700	OCCUPANT UNKNOWN
14705	OCCUPANT UNKNOWN
14785	LEE OHANESIAN
14845	OCCUPANT UNKNOWN
14850	ANDREW DALBEY
14880	OCCUPANT UNKNOWN
14900	DAVID MORAN
14970	OCCUPANT UNKNOWN
15100	CHARLES CHIMENTO
15120	DERRYCK DITTMAN
15130	JUSTIN WHITNEY
15225	CALLIE BISHOP
15445	MATT ALBERTSON
15475	ROGER KADEL
15685	ALLAN HASUIKE
15745	WENDY HASUIKE
15915	STEVEN JACOBSON
15955	DANIEL KNOX
15975	BRANDT HULSE
16150	KATY MAYNARD
16200	LARRY HENRY
16255	GREGORY SCOTT
16500	DAVID GRANT

SW 150TH AVE

2008

14700	DOUGLAS ROTH
14705	DAVE HOPKINS
14720	CHRIS GILLET
14785	LEE OHANESIAN
14845	MARK HIGHLAND
14850	ANDREW DALBEY
14880	ROBERT GASPER
14900	PROWASHPLUS LLC
	SIDNEY SOK
14970	OCCUPANT UNKNOWN
15100	CHARLES CHIMENTO
	MICHAEL MARK LTD
15120	DERRYCK DITTMAN
	OPTIMIST INTERNATIONAL
15130	LEON LEFEBVRE
15225	CALLIE BISHOP
15445	BARRY ALBERTSON
15475	ROGER KADEL
15685	ALLAN HASUIKE
15745	YOSHIO HASUIKE
15915	STEVEN JACOBSON
15955	DANIEL KNOX
15975	OCCUPANT UNKNOWN
16150	SCHULZKIS MASONRY
	TERY RODGER
16200	MICHAEL SCHULZKI
	SCHULZKI MASONRY INC
16255	GREGORY SCOTT
16500	MEYER MEDICAL INSURANCE BILLING & CO
16535	OCCUPANT UNKNOWN
16770	OCCUPANT UNKNOWN
16800	MARY MEYER
16900	OCCUPANT UNKNOWN
16950	MICHAEL MEYER

SW 150TH AVE

2003

14700	DOUGLAS ROTH
14705	DAVID HOPKINS
14720	OCCUPANT UNKNOWN
14750	MICHAEL NARVER
14785	LEE OHANESIAN
14800	TERRI NADELHOFFER
14845	MARK HIGHLAND
14850	DENNIS ONEILL
14880	ROBERT GASPER
14900	CHRIS RALSTON
14970	MARY BELL
15100	CHARLES CHIMENTO
15120	DERRYCK DITTMAN
15130	LEON LEFEBVRE
15225	OCCUPANT UNKNOWN
15445	BARRY ALBERTSON
15515	ALFRED BALODIS
15685	OCCUPANT UNKNOWN
15740	LELAND HALL
15745	YOSHIO HASUIKE
15915	STEVEN JACOBSON
15955	OCCUPANT UNKNOWN
15975	DANIEL TERRY
16150	FRITZ SCHULZKI
16200	KAREN SCHULZKI
	SCHULZKIS MASONRY INC
16255	ALLAN CHINO
16500	MARK MEYER
16535	ELTON HARRIS
16770	MARY MEYER
16900	JOHN THOMPSON
16950	MICHAEL MEYER

SW 150TH AVE

1999

14700	DOUGLAS ROTH
14705	DAVID HOPKINS
14720	EMMY SULLIVAN
14750	MIKE NARVER
14785	LEE OHANESIAN
14800	OCCUPANT UNKNOWN
14845	MARK HIGHLAND
14850	DENNIS ONEILL
14880	OCCUPANT UNKNOWN
14900	CHRIS RALSTON
	S RALSON
14970	OCCUPANT UNKNOWN
15100	ROBERT THOMAS
15120	DERRYCK DITTMAN
15130	LEON LEFEBVRE
15225	OCCUPANT UNKNOWN
15445	BARRY ALBERTSON
	ROBIN LESLIE
15475	ROGER KADEL
15515	ALFRED BALODIS
15685	ALAN HASUIKE
15740	C BATES
15745	YOSHIO HASUIKE
15915	STEVEN JACOBSON
15955	OCCUPANT UNKNOWN
15975	DANIEL TERRY
16150	RONALD THIBODEAU
16200	FRITZ SCHULZKI
16255	DAVID HARRIS
16500	OCCUPANT UNKNOWN
16535	ELTON HARRIS
16770	RAYMOND MEYER
	SCOTT MESKEL
16800	OCCUPANT UNKNOWN
16950	MICHAEL MEYER

SW 150TH AVE 1987

14660	C Vincent Murphy	. . . 80	639-1328
14685	Norman Webinger	. . . 81	639-7928
14700	Douglas Roth	. . . 76	620-2320
14705	James E Selder	. . . 78	639-7304
14720	Richard A Nelson	. . . 80	620-7921
14785	Lee Ohanesian	. . . 80	620-7655
14800		NP	
14825★	J L Light Constr C	. . . 78	639-8560
14850		NP	
14880	Harry D Proudfoot	. . . 86	684-5408
	Matt Proudfoot	. . . 86	684-6225
14900	Charles J Cutz	. . . 74	639-4813
14905	Walter R Groce	. . . 68	639-5354
14970	Robert P Bell	. . . 74	639-3684
15100	Jo Lynn Thomas	. . . 79	620-1102
	Robert Thomas	. . . 79	620-1102
15120	Derryck H Dittman	. . . 73	639-5440
15130	15180 15200	NP	
15225	Merit H Bishop	. . . 68	639-1933
15445	Joseph F Stiley	. . . 86	639-0215
15515	Alfred Balodis	. . . 85	639-7351
15685	Yoshio Hasuike	. . . 68	639-1938
15915	Garr H Nielsen	. . . -	684-9176
16200	Fritz Schulzki	. . . 86	684-2943
	★ Schulzkis Masonry	. . . 86	684-2943
16255	Franklyn N Brown	. . . 76	639-0955
16500	Jim Meyer	. . . 86	620-9563
16535	Elton Harris	. . . 68	639-2997
16770	R V Meyer	. . . 68	639-2035
16900	Derrick Arruda	. . . -	620-9620
	43 RESIDENCE	2 BUSINESS	

SW 150TH AVE 1982

14655	Phil Kellener	.78	639-5506
14660	C Vincent Murphy	.80	639-1328
14685	Norman Webinger	.81	639-7928
14700	Douglas Roth	.76	620-2320
14705	James E Selder	.78	639-7304
14720	Richard A Nelson	.80	620-7921
14785	Lee Ohanesian	.80	620-7655
14800		NP	
14825	★J L Light Constr C		639-8560
14850		NP	
14880	George Wall	.80	620-0163
14900	Charles J Cutz	.74	639-4813
	Charles J Cutz	.74	620-0504
14905	Walter R Groce	.68	639-5354
	Walter Groce	.68	639-6918
14970	Robert P Bell	.74	639-3684
15100	Robert Thomas	.79	620-1102
15120	Derryck H Dittman	.73	639-5440
15130	15180 15200	NP	
15225	Merit H Bishop	.68	639-1933
15445	Kyle Gray	.81	620-3641
15685	Yoshio Hasuike	.68	639-1938
15740	L Thomson	.a	639-5812
16200	A S Haselton	.68	639-2268
16255	Franklyn N Brown	.76	639-0955
16500		NP	
16535	Elton Harris	.68	639-2997
16770	Jim Meyer	.81	620-9563
	R V Meyer	.68	639-2035
18500	P E Downey	.78	620-4724
	44 Residence		1 Business

SW 150TH AVE

1977

14905	Walter R Groce	8	639-5354
14970	Robert P Bell	4	639-3684
15100	C C Chadwick	8	639-1922
15120	Derryck H Dittman	3	639-5440
15130	Ronald J Bohlman	3	639-2445
15180		NP	
15200	Robert A Gray	2	639-4069
15225	Merit H Bishop	8	639-1933
15685	Yoshio Hasuika	8	639-1938
15740	Frank W Dillow	4	639-5812
16150	Arnold Ryland	3	639-2370
16200	A S Haselton	8	639-2268
16255	Franklyn N Brown	6	639-0955
16500	Dennis L Pugh	-	639-6369
16535	Elton Harris	8	639-2997
16770	Scott Beck	-	620-5669
	R V Meyer	8	639-2035
	29 Residence		

SW 150TH AVE 1972

14225	LESLIE R HEDRICK	9	6396705
14265	ROGER W COWELL	8	6392571
14270	GUENTER SCHOCKELT	9	6393233
14300	DWIGHT W AVERILL	1	6397246
14555		NP	
14800		NP	
14905	WALTER R GROCE	8	6395354
15100	C C CHADWICK	8	6391922
15120	EUGENE TIENKEN	#	6390770
15130	CARL W WEIDNER	9	6391777
15180	KENNETH L BLODGETT	#	6202061
15200	ROBERT A GRAY	-	6394669
15225	MERIT H BISHOP	8	6391933
15685	YOSHIO HASUIKE	8	6391938

SW 150TH AVE

1972

15740	JEFFREY S PINTO	9	6395268
16150		NP	
16200	A S HASELTON	8	6392268
16255	R B ELDRIDGE	8	6395650
16535	ELTON HARRIS	8	6392997
16770	R V MEYER	8	6392035
17000	DENNIS L PUGH	8	6396369
	22 RESIDENCE		



River Terrace Area 10
15515 - 15915 SW 150th Avenue
Portland, OR 97224

Inquiry Number: 4735568.3

September 25, 2016

Certified Sanborn® Map Report



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

09/25/16

Site Name:

River Terrace Area 10
15515 - 15915 SW 150th Ave
Portland, OR 97224
EDR Inquiry # 4735568.3

Client Name:

GeoDesign Inc.
15575 SW Sequoia Parkway
Portland, OR 97224
Contact: Kevin Cline



The Sanborn Library has been searched by EDR and maps covering the target property location as provided by GeoDesign Inc. were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # 9EDB-4D08-8C3A

PO # NA

Project Polygon-145-02

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.



Sanborn® Library search results

Certification #: 9EDB-4D08-8C3A

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ☒ Library of Congress
- ☒ University Publications of America
- ☒ EDR Private Collection

The Sanborn Library LLC Since 1866™

Limited Permission To Make Copies

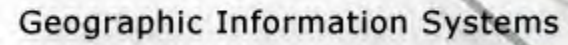
GeoDesign Inc. (the client) is permitted to make up to FIVE photocopies of this Sanborn Map transmittal and each fire insurance map accompanying this report solely for the limited use of its customer. No one other than the client is authorized to make copies. Upon request made directly to an EDR Account Executive, the client may be permitted to make a limited number of additional photocopies. This permission is conditioned upon compliance by the client, its customer and their agents with EDR's copyright policy; a copy of which is available upon request.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT. Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2016 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.



–General Information

frequently asked questions

tax maps

+ Building Services

Map & Taxlot ID #:	2S1080001401
Real Property Account #:	R483239
Site Address:	15515 SW 150TH AVE. TIGARD OR, 97224
City/State/Zip:	
Legal:	

	Sub Reports:	District Overlay Information Assessment & Taxation Information Scanned Tax Maps Permits & Projects
	Ownership Information:	Information Withheld - why?
	Interactive Mapping:	InterMap
	Other Resources:	Link to External Sites: Virtual Earth Viewer Google Maps Street Viewer

© 2000 - 2016 Washington County. All rights reserved. Links to external sites do not constitute endorsements by Washington County. By visiting this and other Washington County web pages, you expressly agree to be bound by the terms and conditions of the site. For questions regarding information privacy, liability, accessibility, and public records policies, please review the [statements document](#).

This page maintained by Washington County Technology Services. Need assistance with this page? [email us](#)



Geographic Information Systems

Navigation: [Washington County](#) » [GIS](#) » Reports: [A&T Report 2S1080001401](#) |

- General Information

- [interactive maps](#)
- [map gallery](#)
- [data catalog](#)
- [contacts](#)
- [other gis links](#)
- [gis introduction](#)
- [frequently asked questions](#)

- Property Search

- [property / taxlot](#)
- [tax maps](#)

+ Survey Search

+ Land Services

+ Building Services

Assessment & Taxation Report

General Property Information

Site Address:	15515 SW 150TH AVE. TIGARD OR, 97224
Tax Lot ID:	2S1080001401
Property Account ID:	R483239,
Property Classification:	6411 - DESIGNATED FORESTLAND - IMPROVED - RESIDENTIAL - See full list of Codes
Neighborhood Code:	4TL9
Latitude / Longitude:	45.4071933 / 122.833888
2009-2010 Tax Statement:	R483239.pdf
2010-2011 Tax Statement:	R483239.pdf
2011-2012 Tax Statement:	R483239.pdf
2012-2013 Tax Statement:	R483239.pdf
2013-2014 Tax Statement:	R483239.pdf
2014-2015 Tax Statement:	R483239.pdf
2015-2016 Tax Statement:	R483239.pdf

Sales / Deed Information

Sale Date	Sale Instrument	Deed Type	Sale Price
05/09/2007	2007052335	DEED PERSONAL REPRESENTATIVE	\$284,000
02/22/2007	2007022589	DEED PERSONAL REPRESENTATIVE	\$426,000
/ /			\$0

Assessed Values for Account R483239

Roll Date:	09/21/2015
Taxcode:	023.08
Market Land Value:	\$444,420
Market Bldg Value:	\$215,810
Special Market Value:	\$871,000
Market Total Value:	\$1,531,230
Taxable Assessed Value:	\$539,060
Legal:	Lot:
Lot Size:	A&T Acres: 9.93

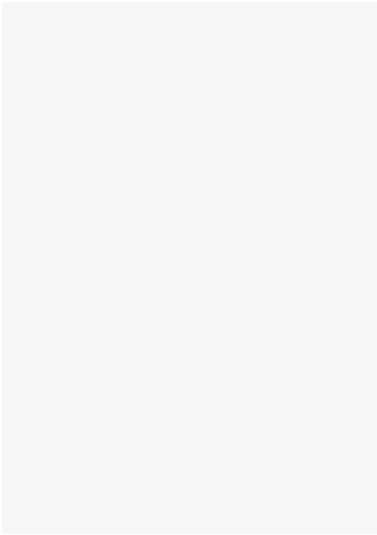
Bldg Sq Ft:	3242	
Year Built:	1983	
Improvement Information		
Total Improvement Value:	\$215,810	
Plumbing	BATH=3	
Bedrooms		
Improvement Details		
Description	Value	Square Feet
BASEMENT UNFINISHED	\$13,850	944
DISHWASHER	\$460	1
ELECTRIC GARAGE DOOR OPENER	\$630	3
STACKED	\$4,940	1
GARBAGE DISPOSAL	\$140	1
GREENHOUSE GLASS	\$6,070	248
GARAGE UNFINISHED	\$21,730	960
HOOD & FAN	\$260	1
MAIN AREA	\$163,750	2298
WOOD DECK FIR W/RAIL	\$3,980	494

2016 **Information Advisory**

All property assessment information presented about the 2016 tax year is unedited and uncertified. This information is subject to change, furnished as reference data only and should not be used to calculate or prorate taxes.

****Disclaimer****

Every effort has been made to offer the most current and correct information possible on these pages. The information included on these pages has been compiled by County staff from a variety of sources, and is subject to change without notice. Washington County makes no warranties or representations whatsoever regarding the quality, content, completeness, accuracy or adequacy of such information and data. Washington County reserves the right to make changes at any time without notice. Original records may differ from the information on these pages. Verification of information on source



documents is recommended. By using this application, you assume all risks arising out of or associated with access to these pages, including but not limited to risks of damage to your computer, peripherals, software and data from any virus, software, file or other cause associated with access to this application. Washington County shall not be liable for any damages whatsoever arising out of any cause relating to use of this application, including but not limited to mistakes, omissions, deletions, errors, or defects in any information contained in these pages, or any failure to receive or delay in receiving information.

© 2000 - 2016 Washington County. All rights reserved. Links to external sites do not constitute endorsements by Washington County. By visiting this and other Washington County web pages, you expressly agree to be bound by the terms and conditions of the site. For questions regarding information privacy, liability, accessibility, and public records policies, please review the [statements document](#).

This page maintained by Washington County Technology Services. Need assistance with this page? [email us](#)



Geographic Information Systems

Navigation: [Washington County](#) » [GIS](#) » Reports: [Building Permits Report 05157366](#) | [Building Project Report P0106864](#) | [Permit Project & Activity 2S1080001404](#) | [Parcel P](#)

- General Information

- [interactive maps](#)
- [map gallery](#)
- [data catalog](#)
- [contacts](#)
- [other gis links](#)
- [gis introduction](#)
- [frequently asked questions](#)

- Property Search

- [property / taxlot](#)
- [tax maps](#)

+ Survey Search

+ Land Services

+ Building Services

Overlay Information 2S1080001401

Jurisdiction:	Tigard
City Zoning (updated 9/2016):	R-7 (confirm with Tigard City Planning department)
Within Urban Growth Boundary:	Yes
In Urban Road Maintenance District (*Updated June 30th each calendar year):	No
In Urban Road Maintenance District (*Updated June 30th each calendar year):	No
In ESPD (*Updated June 30th each calendar year):	No
Ground Water Resouce Area:	COOPER MTN-BULL MTN
SDL Assement Area/zone:	Not in an Assesment Area.
Fire District (*Updated June 30th each calendar year):	TVFR
Fire Management Zone:	6186
Park District:	Not In Park District
North Bethany Plan Area:	Not in North Bethany Sub Area
School District (*Updated 06/30/2012):	TIGARD-TUALATIN
Election Precinct:	410
Commissioner District:	3- Roy Rogers
Assessor Area:	2
Citizen Participation Org:	CPO4B
Community Plan Map:	BULL MOUNTAIN
Historic & Cultural Resource Inventory:	Not located within a Historic and Cultural Resource Inventory Area
POD Date Zoned:	POD:3-4/19/61
ODOT District:	2B
Plat:	Property is not part of a subdivision
Census Tract:	031908
Census Block:	1023
Census Blockgroup:	1
Census Geoid:	410670319081023
Zipcode:	97224

Garbage Hauler:	Pride Disposal (503) 625-6177
Garbage Dropbox:	Pride Disposal (503) 625-6177
Thomas Brothers Guide:	Page: 654 - Grid: H7
* The data layers used to derive items in the report are assembled from multiple sources. Report items flagged with an asterisk (*) are derived from the taxcode layer maintained by Washington County's Department of Assessment and Taxation Cartography Division. The taxcode layer is updated once a year on June 30th and may not reflect final/proposed annexations or boundary adjustments. All information should be verified with individual service districts.	

© 2000 - 2016 Washington County. All rights reserved. Links to external sites do not constitute endorsements by Washington County. By visiting this and other Washington County web pages, you expressly agree to be bound by the terms and conditions of the site. For questions regarding information privacy, liability, accessibility, and public records policies, please review the [statements document](#).

This page maintained by Washington County Technology Services. Need assistance with this page? [email us](#)



Geographic Information Systems

Navigation: [Washington County](#) » [GIS](#) » Reports: [Parcel Report 2S1080001400](#) |

- General Information

- [interactive maps](#)
- [map gallery](#)
- [data catalog](#)
- [contacts](#)
- [other gis links](#)
- [gis introduction](#)
- [frequently asked questions](#)

- Property Search

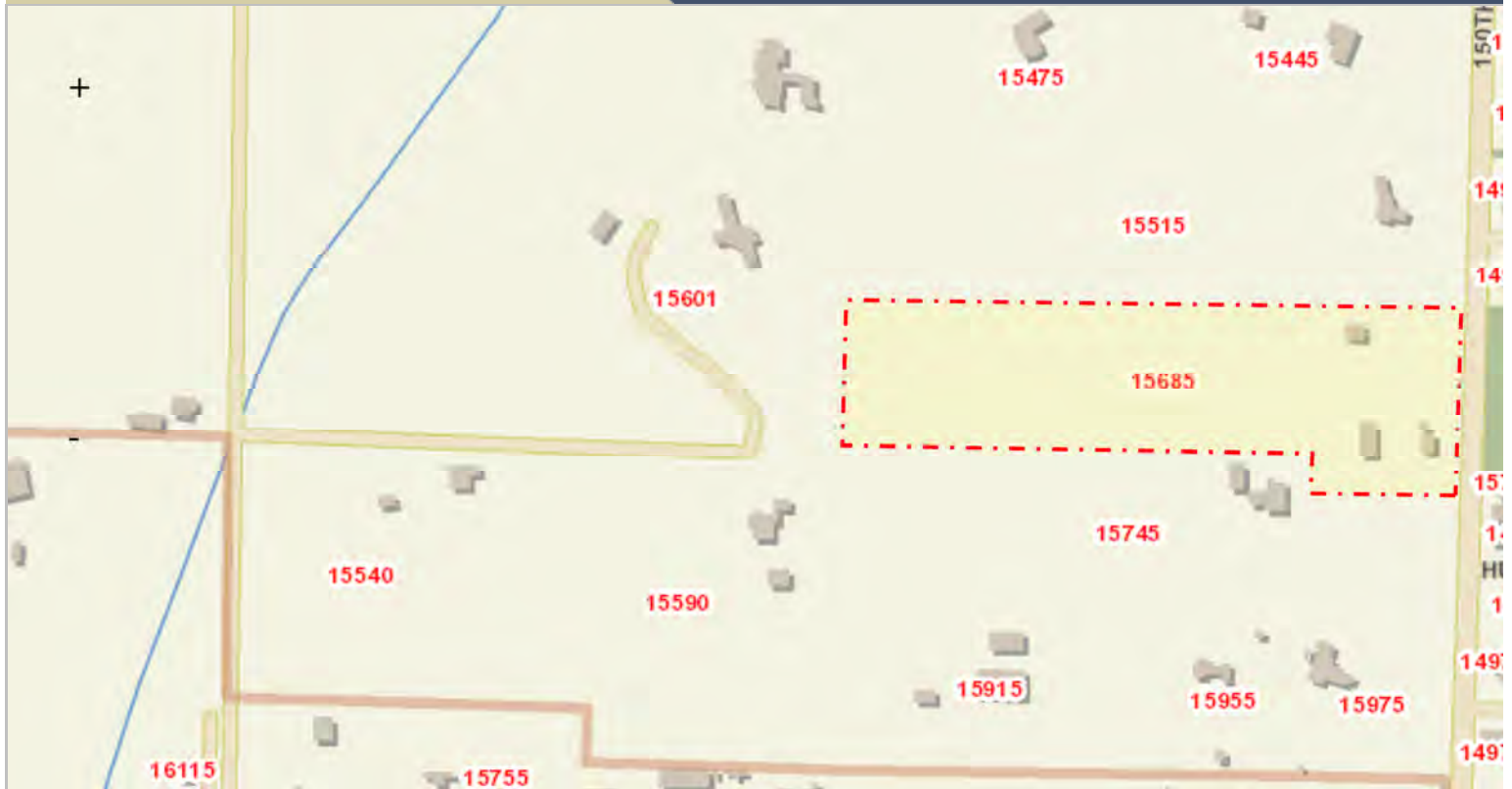
- [property / taxlot](#)
- [tax maps](#)

+ Survey Search

+ Land Services

+ Building Services

Parcel Report for Taxlot: 2S1080001400



General Property Information

Map & Taxlot ID #:	2S1080001400
Real Property Account #:	R483220
Site Address:	15685 SW 150TH AVE. TIGARD OR, 97224
City/State/Zip:	
Legal:	

	Sub Reports:	District Overlay Information Assessment & Taxation Information Scanned Tax Maps Permits & Projects
	Ownership Information:	Information Withheld - why?
	Interactive Mapping:	InterMap
	Other Resources:	Link to External Sites: Virtual Earth Viewer Google Maps Street Viewer

© 2000 - 2016 Washington County. All rights reserved. Links to external sites do not constitute endorsements by Washington County. By visiting this and other Washington County web pages, you expressly agree to be bound by the terms and conditions of the site. For questions regarding information privacy, liability, accessibility, and public records policies, please review the [statements document](#).

This page maintained by Washington County Technology Services. Need assistance with this page? [email us](#)



Geographic Information Systems



Navigation: [Washington County](#) » [GIS](#) » Reports: [GeoSearch District Overlay 2S1080001400](#) |

- General Information

- [interactive maps](#)
- [map gallery](#)
- [data catalog](#)
- [contacts](#)
- [other gis links](#)
- [gis introduction](#)
- [frequently asked questions](#)

- Property Search

- [property / taxlot](#)
- [tax maps](#)

+ Survey Search

+ Land Services

+ Building Services

Overlay Information 2S1080001400

Jurisdiction:	Tigard
City Zoning (updated 9/2016):	R-7 (confirm with Tigard City Planning department)
Within Urban Growth Boundary:	Yes
In Urban Road Maintenance District (*Updated June 30th each calendar year):	No
In Urban Road Maintenance District (*Updated June 30th each calendar year):	No
In ESPD (*Updated June 30th each calendar year):	No
Ground Water Resouce Area:	COOPER MTN-BULL MTN
SDL Assement Area/zone:	Not in an Assesment Area.
Fire District (*Updated June 30th each calendar year):	TVFR
Fire Management Zone:	6186
Park District:	Not In Park District
North Bethany Plan Area:	Not in North Bethany Sub Area
School District (*Updated 06/30/2012):	TIGARD-TUALATIN
Election Precinct:	410
Commissioner District:	3- Roy Rogers
Assessor Area:	2
Citizen Participation Org:	CPO4B
Community Plan Map:	BULL MOUNTAIN
Historic & Cultural Resource Inventory:	Not located within a Historic and Cultural Resource Inventory Area
POD Date Zoned:	POD:3-4/19/61
ODOT District:	2B
Plat:	Property is not part of a subdivision
Census Tract:	031908
Census Block:	1023
Census Blockgroup:	1
Census Geoid:	410670319081023
Zipcode:	97224

Garbage Hauler:	Pride Disposal (503) 625-6177
Garbage Dropbox:	Pride Disposal (503) 625-6177
Thomas Brothers Guide:	Page: 654 - Grid: H7
* The data layers used to derive items in the report are assembled from multiple sources. Report items flagged with an asterisk (*) are derived from the taxcode layer maintained by Washington County's Department of Assessment and Taxation Cartography Division. The taxcode layer is updated once a year on June 30th and may not reflect final/proposed annexations or boundary adjustments. All information should be verified with individual service districts.	

© 2000 - 2016 Washington County. All rights reserved. Links to external sites do not constitute endorsements by Washington County. By visiting this and other Washington County web pages, you expressly agree to be bound by the terms and conditions of the site. For questions regarding information privacy, liability, accessibility, and public records policies, please review the [statements document](#).

This page maintained by Washington County Technology Services. Need assistance with this page? [email us](#)



Geographic Information Systems

Navigation: [Washington County](#) » [GIS](#) » Reports: [GeoSearch District Overlay 2S1080001400](#) | [Parcel Report 2S1080001400](#) | [A&T Report 2S1080001400](#) |

- General Information

- [interactive maps](#)
- [map gallery](#)
- [data catalog](#)
- [contacts](#)
- [other gis links](#)
- [gis introduction](#)
- [frequently asked questions](#)

- Property Search

- [property / taxlot](#)
- [tax maps](#)

+ Survey Search

+ Land Services

+ Building Services

Assessment & Taxation Report

General Property Information

Site Address:	15685 SW 150TH AVE. TIGARD OR, 97224
Tax Lot ID:	2S1080001400
Property Account ID:	R483220,
Property Classification:	1910 - URBAN DEVELOPABLE TRACT IMPROVED - See full list of Codes
Neighborhood Code:	4TL9
Latitude / Longitude:	45.4062924 / 122.833739
2009-2010 Tax Statement:	R483220.pdf
2010-2011 Tax Statement:	R483220.pdf
2011-2012 Tax Statement:	R483220.pdf
2012-2013 Tax Statement:	R483220.pdf
2013-2014 Tax Statement:	R483220.pdf
2014-2015 Tax Statement:	R483220.pdf
2015-2016 Tax Statement:	R483220.pdf

Sales / Deed Information

Sale Date	Sale Instrument	Deed Type	Sale Price
			\$
			\$
			\$

Assessed Values for Account R483220

Roll Date:	09/21/2015
Taxcode:	023.08
Market Land Value:	\$265,860
Market Bldg Value:	\$53,290
Special Market Value:	\$854,160
Market Total Value:	\$1,173,310
Taxable Assessed Value:	\$215,360
Legal:	Lot:
Lot Size:	A&T Acres: 9.95

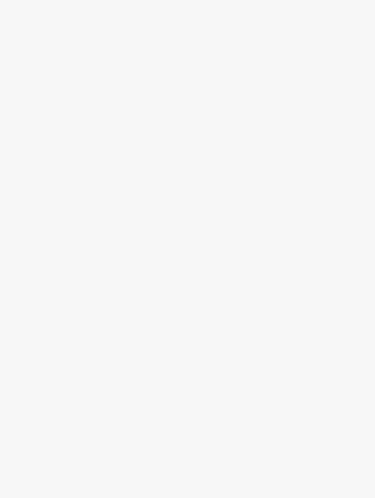
Bldg Sq Ft:	3216	
Year Built:	1947	
Improvement Information		
Total Improvement Value:	\$53,290	
Plumbing	BATH= 1	
Bedrooms		
Improvement Details		
Description	Value	Square Feet
ATTIC UNFINISHED	\$3,070	864
BASEMENT UNFINISHED	\$9,160	1608
DISHWASHER	\$150	1
FP1/SGL	\$1,090	1
GENERAL PURPOSE BUILDING	\$2,860	1224
HOOD & FAN	\$50	1
MAIN AREA	\$29,250	1608
MACHINE SHED	\$2,190	918
MACHINE SHED	\$5,470	1632

2016 **Information Advisory**

All property assessment information presented about the 2016 tax year is unedited and uncertified. This information is subject to change, furnished as reference data only and should not be used to calculate or prorate taxes.

****Disclaimer****

Every effort has been made to offer the most current and correct information possible on these pages. The information included on these pages has been compiled by County staff from a variety of sources, and is subject to change without notice. Washington County makes no warranties or representations whatsoever regarding the quality, content, completeness, accuracy or adequacy of such information and data. Washington County reserves the right to make changes at any time without notice. Original records may differ from the information on these pages. Verification of information on source documents is recommended. By using this



application, you assume all risks arising out of or associated with access to these pages, including but not limited to risks of damage to your computer, peripherals, software and data from any virus, software, file or other cause associated with access to this application. Washington County shall not be liable for any damages whatsoever arising out of any cause relating to use of this application, including but not limited to mistakes, omissions, deletions, errors, or defects in any information contained in these pages, or any failure to receive or delay in receiving information.

© 2000 - 2016 Washington County. All rights reserved. Links to external sites do not constitute endorsements by Washington County. By visiting this and other Washington County web pages, you expressly agree to be bound by the terms and conditions of the site. For questions regarding information privacy, liability, accessibility, and public records policies, please review the [statements document](#).

This page maintained by Washington County Technology Services. Need assistance with this page? [email us](#)



Geographic Information Systems

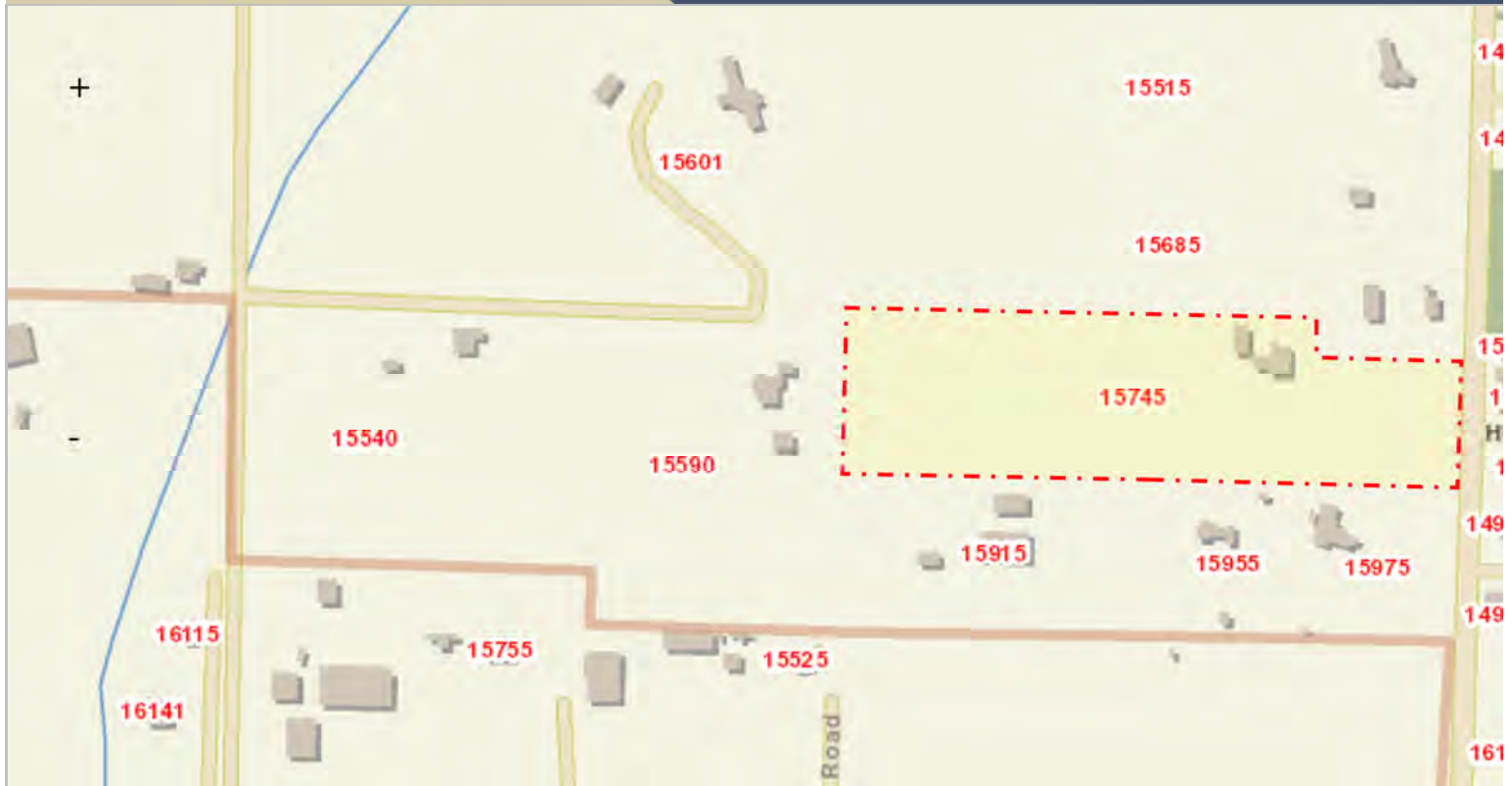
Navigation: [Washington County](#) » [GIS](#) » Reports: [Permit Project & Activity 2S1080001400](#) | [Parcel Report 2S1080001400](#) | [Parcel Report 2S1080001402](#) |

-General Information

- [interactive maps](#)
- [map gallery](#)
- [data catalog](#)
- [contacts](#)
- [other gis links](#)
- [gis introduction](#)
- [frequently asked questions](#)

-Property Search

- [property / taxlot](#)
- [tax maps](#)

+Survey Search**+Land Services****+Building Services****Parcel Report for Taxlot: 2S1080001402****General Property Information**

Map & Taxlot ID #:	2S1080001402
Real Property Account #:	R1022379
Site Address:	15745 SW 150TH AVE. TIGARD OR, 97224
City/State/Zip:	
Legal:	

	Sub Reports:	District Overlay Information Assessment & Taxation Information Scanned Tax Maps Permits & Projects
	Ownership Information:	Information Withheld - why?
	Interactive Mapping:	InterMap
	Other Resources:	Link to External Sites: Virtual Earth Viewer Google Maps Street Viewer

© 2000 - 2016 Washington County. All rights reserved. Links to external sites do not constitute endorsements by Washington County. By visiting this and other Washington County web pages, you expressly agree to be bound by the terms and conditions of the site. For questions regarding information privacy, liability, accessibility, and public records policies, please review the [statements document](#).

This page maintained by Washington County Technology Services. Need assistance with this page? [email us](#)



Geographic Information Systems



Navigation: [Washington County](#) » [GIS](#) » Reports: [Permit Project & Activity 2S1080001400](#) | [Parcel Report 2S1080001400](#) | [Parcel Report 2S1080001402](#) | [GeoSearch District](#)

- General Information

- [interactive maps](#)
- [map gallery](#)
- [data catalog](#)
- [contacts](#)
- [other gis links](#)
- [gis introduction](#)
- [frequently asked questions](#)

- Property Search

- [property / taxlot](#)
- [tax maps](#)

+ Survey Search

+ Land Services

+ Building Services

Overlay Information 2S1080001402

Jurisdiction:	Tigard
City Zoning (updated 9/2016):	R-7 (confirm with Tigard City Planning department)
Within Urban Growth Boundary:	Yes
In Urban Road Maintenance District (*Updated June 30th each calendar year):	No
In Urban Road Maintenance District (*Updated June 30th each calendar year):	No
In ESPD (*Updated June 30th each calendar year):	No
Ground Water Resource Area:	COOPER MTN-BULL MTN
SDL Assesment Area/zone:	Not in an Assesment Area.
Fire District (*Updated June 30th each calendar year):	TVFR
Fire Management Zone:	6186
Park District:	Not In Park District
North Bethany Plan Area:	Not in North Bethany Sub Area
School District (*Updated 06/30/2012):	TIGARD-TUALATIN
Election Precinct:	410
Commissioner District:	3- Roy Rogers
Assessor Area:	2
Citizen Participation Org:	CPO4B
Community Plan Map:	BULL MOUNTAIN
Historic & Cultural Resource Inventory:	Not located within a Historic and Cultural Resource Inventory Area
POD Date Zoned:	POD:3-4/19/61
ODOT District:	2B
Plat:	Property is not part of a subdivision
Census Tract:	031908
Census Block:	1023
Census Blockgroup:	1
Census Geoid:	410670319081023
Zipcode:	97224

Garbage Hauler:	Pride Disposal (503) 625-6177
Garbage Dropbox:	Pride Disposal (503) 625-6177
Thomas Brothers Guide:	Page: 654 - Grid: H7
* The data layers used to derive items in the report are assembled from multiple sources. Report items flagged with an asterisk (*) are derived from the taxcode layer maintained by Washington County's Department of Assessment and Taxation Cartography Division. The taxcode layer is updated once a year on June 30th and may not reflect final/proposed annexations or boundary adjustments. All information should be verified with individual service districts.	

© 2000 - 2016 Washington County. All rights reserved. Links to external sites do not constitute endorsements by Washington County. By visiting this and other Washington County web pages, you expressly agree to be bound by the terms and conditions of the site. For questions regarding information privacy, liability, accessibility, and public records policies, please review the [statements document](#).

This page maintained by Washington County Technology Services. Need assistance with this page? [email us](#)



Geographic Information Systems

Navigation: [Washington County](#) » [GIS](#) » Reports: [Parcel Report 2S1080001402](#) | [Building Permits Report 05013540](#) | [Building Permits Report 05015459](#) | [Building Project R](#)

-General Information

- [interactive maps](#)
- [map gallery](#)
- [data catalog](#)
- [contacts](#)
- [other gis links](#)
- [gis introduction](#)
- [frequently asked questions](#)

-Property Search

- [property / taxlot](#)
- [tax maps](#)

+Survey Search

+Land Services

+Building Services

Permits Project & Activity Report for 2S1080001402

Project Number		Type	Class	Status	Development Title
P0010461		AUTOPROJ / OTH	328	EXPIRED	ACCESSORY BLDG FARM
Info. Links	Project Number	Activity Number	Status	Type	Description
    	P0010461	05013540	FINAL	AGRI Agricultural Permit	ACCESSORY BLDG FARM
    	P0010461	05015459	EXPIRED	RESBLDG Residential Building Per	SINGLE FAMILY RES - ADDITION GARAGE & BREEZEWAY
    	P0010461	05015461	EXPIRED	RESELEC Residential Electrical P	SINGLE FAMILY RES - ELEC
* This is a report of permits and projects associated with the selected parcel. It only includes information for permits and projects issued by Washington County. It does not include data for permits and projects issued by other cities and agencies within the County. Please be aware that data is only valid for permits and projects initiated since 1996. Also be advised that in some cases data is incomplete because of data errors.					

© 2000 - 2016 Washington County. All rights reserved. Links to external sites do not constitute endorsements by Washington County. By visiting this and other Washington County web pages, you expressly agree to be bound by the terms and conditions of the site. For questions regarding information privacy, liability, accessibility, and public records policies, please review the [statements document](#).

This page maintained by Washington County Technology Services. Need assistance with this page? [email us](#)



Geographic Information Systems

Navigation: [Washington County](#) » [GIS](#) » Reports: [Permit Project & Activity 2S1080001400](#) | [Parcel Report 2S1080001400](#) | [GeoSearch District Overlay 2S1080001402](#) | [Par](#)

- General Information

- [interactive maps](#)
- [map gallery](#)
- [data catalog](#)
- [contacts](#)
- [other gis links](#)
- [gis introduction](#)
- [frequently asked questions](#)

- Property Search

- [property / taxlot](#)
- [tax maps](#)

+ Survey Search

+ Land Services

+ Building Services

Assessment & Taxation Report

General Property Information

Site Address:	15745 SW 150TH AVE. TIGARD OR, 97224
Tax Lot ID:	2S1080001402
Property Account ID:	R1022379,
Property Classification:	1910 - URBAN DEVELOPABLE TRACT IMPROVED - See full list of Codes
Neighborhood Code:	4TL9
Latitude / Longitude:	45.4053878 / 122.833972
2009-2010 Tax Statement:	R1022379.pdf
2010-2011 Tax Statement:	R1022379.pdf
2011-2012 Tax Statement:	R1022379.pdf
2012-2013 Tax Statement:	R1022379.pdf
2013-2014 Tax Statement:	R1022379.pdf
2014-2015 Tax Statement:	R1022379.pdf
2015-2016 Tax Statement:	R1022379.pdf

Sales / Deed Information

Sale Date	Sale Instrument	Deed Type	Sale Price
11/17/2003	2003193826	WARRANTY DEED	\$470,000
/ /			\$0
/ /			\$0

Assessed Values for Account R1022379

Roll Date:	09/21/2015
Taxcode:	023.08
Market Land Value:	\$265,860
Market Bldg Value:	\$187,120
Special Market Value:	\$627,460
Market Total Value:	\$1,080,440
Taxable Assessed Value:	\$389,950
Legal:	Lot:
Lot Size:	A&T Acres: 10.05

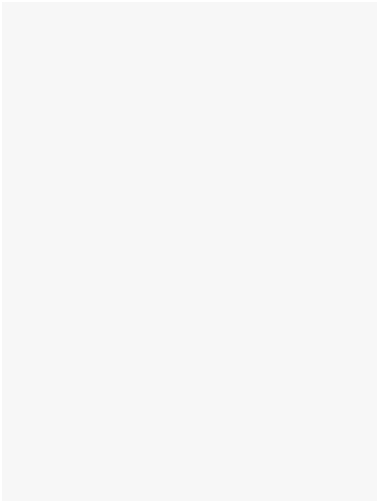
Bldg Sq Ft:	4638	
Year Built:	1981	
Improvement Information		
Total Improvement Value:	\$187,120	
Plumbing	BATH=3	
Bedrooms		
Improvement Details		
Description	Value	Square Feet
BASEMENT UNFINISHED	\$28,760	2319
BREEZEWAY	\$570	100
DRIVEWAY CONCRETE	\$1,310	640
STACKED	\$4,790	1
FLUE	\$1,360	1
GARAGE BASEMENT UNFINISHED	\$11,310	832
GARAGE UNFINISHED	\$19,890	832
MAIN AREA	\$103,770	2319
MULTIPURPOSE BUILDING	\$15,360	1800

2016 **Information Advisory**

All property assessment information presented about the 2016 tax year is unedited and uncertified. This information is subject to change, furnished as reference data only and should not be used to calculate or prorate taxes.

****Disclaimer****

Every effort has been made to offer the most current and correct information possible on these pages. The information included on these pages has been compiled by County staff from a variety of sources, and is subject to change without notice. Washington County makes no warranties or representations whatsoever regarding the quality, content, completeness, accuracy or adequacy of such information and data. Washington County reserves the right to make changes at any time without notice. Original records may differ from the information on these pages. Verification of information on source documents is recommended. By using this



application, you assume all risks arising out of or associated with access to these pages, including but not limited to risks of damage to your computer, peripherals, software and data from any virus, software, file or other cause associated with access to this application. Washington County shall not be liable for any damages whatsoever arising out of any cause relating to use of this application, including but not limited to mistakes, omissions, deletions, errors, or defects in any information contained in these pages, or any failure to receive or delay in receiving information.

© 2000 - 2016 Washington County. All rights reserved. Links to external sites do not constitute endorsements by Washington County. By visiting this and other Washington County web pages, you expressly agree to be bound by the terms and conditions of the site. For questions regarding information privacy, liability, accessibility, and public records policies, please review the [statements document](#).

This page maintained by Washington County Technology Services. Need assistance with this page? [email us](#)



Geographic Information Systems

Navigation: [Washington County](#) » [GIS](#) » Reports: [Building Permits Report 05013540](#) | [Building Permits Report 05015459](#) | [Building Project Report P0010461](#) | [Permit Project](#)

- General Information

- [interactive maps](#)
- [map gallery](#)
- [data catalog](#)
- [contacts](#)
- [other gis links](#)
- [gis introduction](#)
- [frequently asked questions](#)

- Property Search

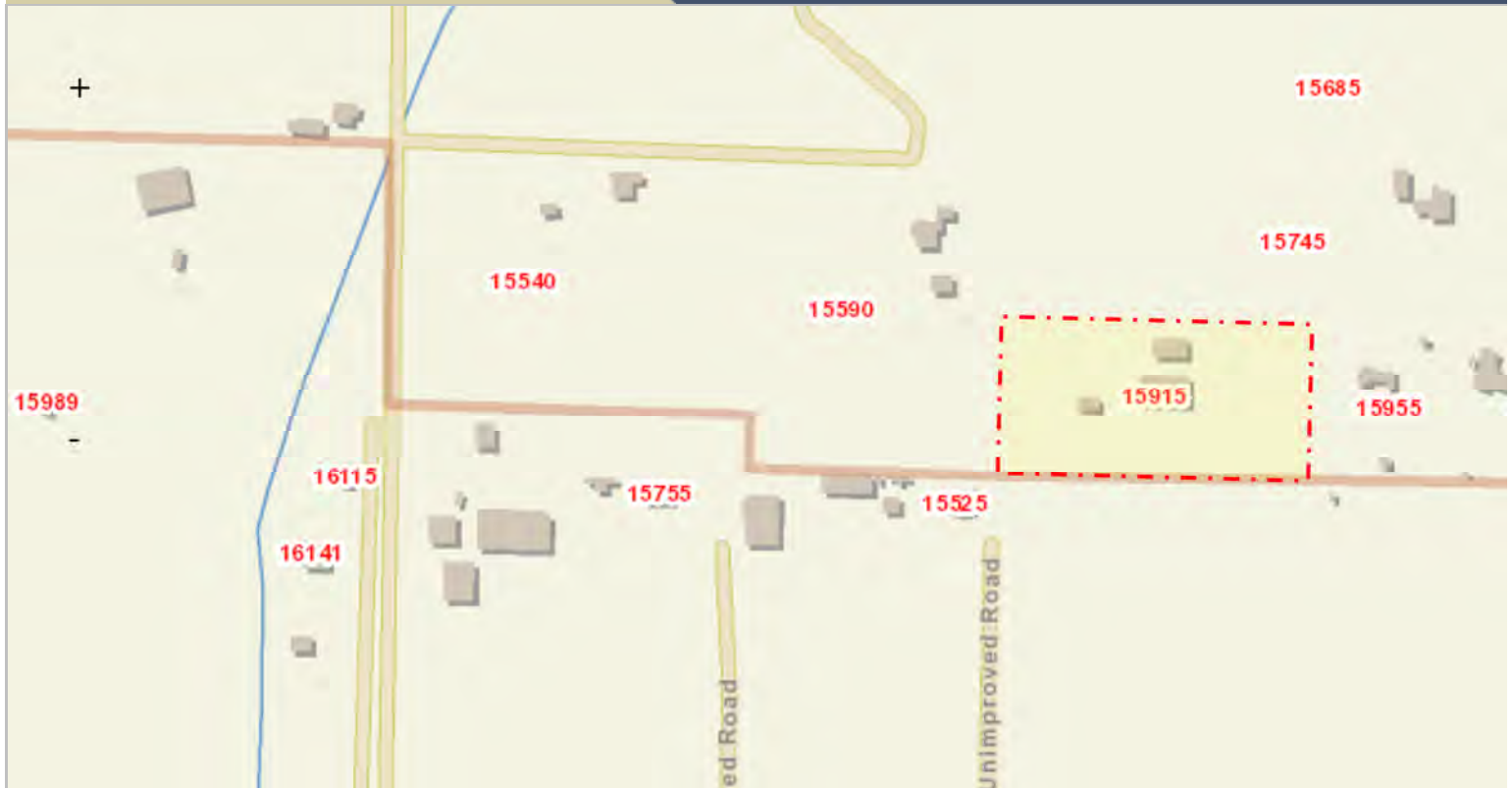
- [property / taxlot](#)
- [tax maps](#)

+ Survey Search

+ Land Services

+ Building Services

Parcel Report for Taxlot: 2S1080001404



General Property Information

Map & Taxlot ID #:	2S1080001404
Real Property Account #:	R1400567
Site Address:	15915 SW 150TH AVE. TIGARD OR, 97224
City/State/Zip:	
Legal:	

	Sub Reports:	District Overlay Information Assessment & Taxation Information Scanned Tax Maps Permits & Projects
	Ownership Information:	Information Withheld - why?
	Interactive Mapping:	InterMap
	Other Resources:	Link to External Sites: Virtual Earth Viewer Google Maps Street Viewer

© 2000 - 2016 Washington County. All rights reserved. Links to external sites do not constitute endorsements by Washington County. By visiting this and other Washington County web pages, you expressly agree to be bound by the terms and conditions of the site. For questions regarding information privacy, liability, accessibility, and public records policies, please review the [statements document](#).

This page maintained by Washington County Technology Services. Need assistance with this page? [email us](#)



Geographic Information Systems



Navigation: [Washington County](#) » [GIS](#) » Reports: [A&T Report 2S1080001404](#) | [Parcel Report 2S1080001404](#) | [GeoSearch District Overlay 2S1080001404](#) |

- General Information

- [interactive maps](#)
- [map gallery](#)
- [data catalog](#)
- [contacts](#)
- [other gis links](#)
- [gis introduction](#)
- [frequently asked questions](#)

- Property Search

- [property / taxlot](#)
- [tax maps](#)

+ Survey Search

+ Land Services

+ Building Services

Overlay Information 2S1080001404

Jurisdiction:	Tigard
City Zoning (updated 9/2016):	R-7 (confirm with Tigard City Planning department)
Within Urban Growth Boundary:	Yes
In Urban Road Maintenance District (*Updated June 30th each calendar year):	No
In Urban Road Maintenance District (*Updated June 30th each calendar year):	No
In ESPD (*Updated June 30th each calendar year):	No
Ground Water Resouce Area:	COOPER MTN-BULL MTN
SDL Assement Area/zone:	Not in an Assesment Area.
Fire District (*Updated June 30th each calendar year):	TVFR
Fire Management Zone:	6186
Park District:	Not In Park District
North Bethany Plan Area:	Not in North Bethany Sub Area
School District (*Updated 06/30/2012):	TIGARD-TUALATIN
Election Precinct:	410
Commissioner District:	3- Roy Rogers
Assessor Area:	2
Citizen Participation Org:	CPO4B
Community Plan Map:	BULL MOUNTAIN
Historic & Cultural Resource Inventory:	Not located within a Historic and Cultural Resource Inventory Area
POD Date Zoned:	POD:3-4/19/61
ODOT District:	2B
Plat:	Property is not part of a subdivision
Census Tract:	031908
Census Block:	1023
Census Blockgroup:	1
Census Geoid:	410670319081023
Zipcode:	97224

	Garbage Hauler:	Pride Disposal (503) 625-6177
	Garbage Dropbox:	Pride Disposal (503) 625-6177
	Thomas Brothers Guide:	Page: 654 - Grid: H7
	* The data layers used to derive items in the report are assembled from multiple sources. Report items flagged with an asterisk (*) are derived from the taxcode layer maintained by Washington County's Department of Assessment and Taxation Cartography Division. The taxcode layer is updated once a year on June 30th and may not reflect final/proposed annexations or boundary adjustments. All information should be verified with individual service districts.	

© 2000 - 2016 Washington County. All rights reserved. Links to external sites do not constitute endorsements by Washington County. By visiting this and other Washington County web pages, you expressly agree to be bound by the terms and conditions of the site. For questions regarding information privacy, liability, accessibility, and public records policies, please review the [statements document](#).

This page maintained by Washington County Technology Services. Need assistance with this page? [email us](#)



Geographic Information Systems

Navigation: [Washington County](#) » [GIS](#) » Reports: [Parcel Report 2S1080001404](#) | [Building Permits Report 05157366](#) | [Building Project Report P0106864](#) | [Permit Project & Activity Report](#)

-General Information

[interactive maps](#)[map gallery](#)[data catalog](#)[contacts](#)[other gis links](#)[gis introduction](#)[frequently asked questions](#)

-Property Search

[property / taxlot](#)[tax maps](#)

+Survey Search

+Land Services

+Building Services

Permits Project & Activity Report for 2S1080001404

Project Number		Type	Class	Status	Development Title
P0106864		RESPROJ /		FINAL	
Info. Links	Project Number	Activity Number	Status	Type	Description
    	P0106864	05157366	FINAL	RESMECH Residential Mechanical	SFR - REPLACE FURNACE/RUN GAS LINE

* This is a report of permits and projects associated with the selected parcel. It only includes information for permits and projects issued by Washington County. It does not include data for permits and projects issued by other cities and agencies within the County. Please be aware that data is only valid for permits and projects initiated since 1996. Also be advised that in some cases data is incomplete because of data errors.

© 2000 - 2016 Washington County. All rights reserved. Links to external sites do not constitute endorsements by Washington County. By visiting this and other Washington County web pages, you expressly agree to be bound by the terms and conditions of the site. For questions regarding information privacy, liability, accessibility, and public records policies, please review the [statements document](#).

This page maintained by Washington County Technology Services. Need assistance with this page? [email us](#)



Geographic Information Systems

Navigation: [Washington County](#) » [GIS](#) » Reports: [A&T Report 2S1080001404](#) |

- General Information

- [interactive maps](#)
- [map gallery](#)
- [data catalog](#)
- [contacts](#)
- [other gis links](#)
- [gis introduction](#)
- [frequently asked questions](#)

- Property Search

- [property / taxlot](#)
- [tax maps](#)

+ Survey Search

+ Land Services

+ Building Services

Assessment & Taxation Report

General Property Information

Site Address:	15915 SW 150TH AVE. TIGARD OR, 97224
Tax Lot ID:	2S1080001404
Property Account ID:	R1400567,
Property Classification:	5411 - SPECIALLY ASSESSED - UNZONED FARMLAND - IMPROVED - RESIDENTIAL - See full list of Codes
Neighborhood Code:	SWBM
Latitude / Longitude:	45.4044647 / 122.835127
2009-2010 Tax Statement:	R1400567.pdf
2010-2011 Tax Statement:	R1400567.pdf
2011-2012 Tax Statement:	R1400567.pdf
2012-2013 Tax Statement:	R1400567.pdf
2013-2014 Tax Statement:	R1400567.pdf
2014-2015 Tax Statement:	R1400567.pdf
2015-2016 Tax Statement:	R1400567.pdf

Sales / Deed Information

Sale Date	Sale Instrument	Deed Type	Sale Price
			\$
			\$
			\$

Assessed Values for Account R1400567

Roll Date:	09/21/2015
Taxcode:	023.08
Market Land Value:	\$226,690
Market Bldg Value:	\$169,990
Special Market Value:	\$72,000
Market Total Value:	\$468,680
Taxable Assessed Value:	\$306,390
Legal:	Lot:

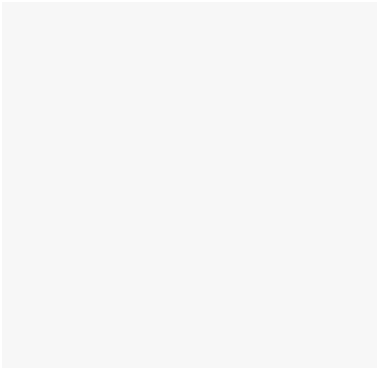
Lot Size:	A&T Acres: 5.00	
Bldg Sq Ft:	968	
Year Built:	1946	
Improvement Information		
Total Improvement Value:	\$169,990	
Plumbing	BATH=1	
Bedrooms		
Improvement Details		
Description	Value	Square Feet
HAY COVER	\$29,220	6600
HOBBY STABLE	\$75,360	3375
MAIN AREA	\$55,410	968
WOOD DECK FIR W/RAIL	\$10,000	720

2016 **Information Advisory**

All property assessment information presented about the 2016 tax year is unedited and uncertified. This information is subject to change, furnished as reference data only and should not be used to calculate or prorate taxes.

****Disclaimer****

Every effort has been made to offer the most current and correct information possible on these pages. The information included on these pages has been compiled by County staff from a variety of sources, and is subject to change without notice. Washington County makes no warranties or representations whatsoever regarding the quality, content, completeness, accuracy or adequacy of such information and data. Washington County reserves the right to make changes at any time without notice. Original records may differ from the information on these pages. Verification of information on source documents is recommended. By using this application, you assume all risks arising out of or associated with access to these pages, including but not limited to risks of damage to your computer, peripherals, software and data from any virus,



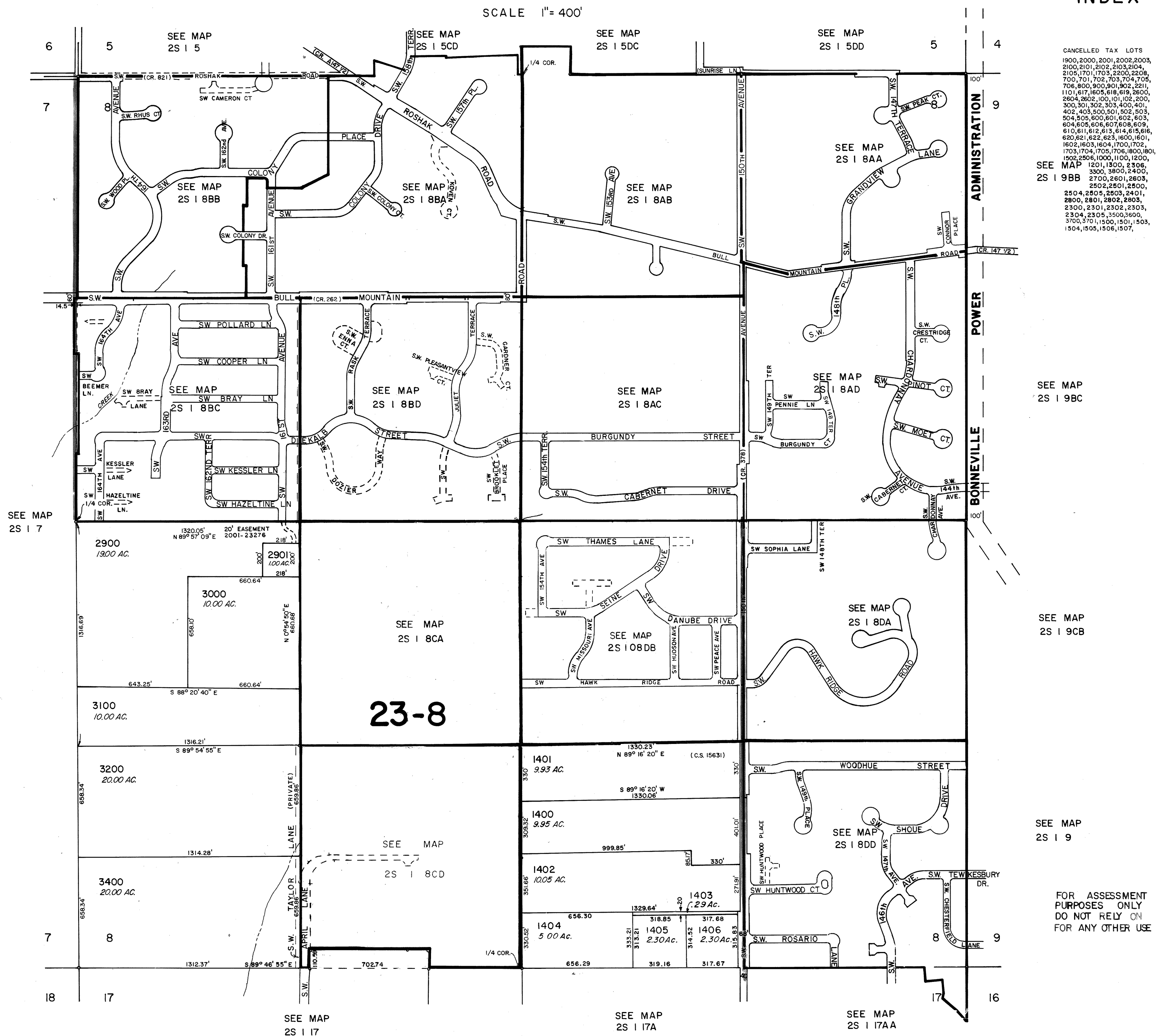
software, file or other cause associated with access to this application. Washington County shall not be liable for any damages whatsoever arising out of any cause relating to use of this application, including but not limited to mistakes, omissions, deletions, errors, or defects in any information contained in these pages, or any failure to receive or delay in receiving information.

© 2000 - 2016 Washington County. All rights reserved. Links to external sites do not constitute endorsements by Washington County. By visiting this and other Washington County web pages, you expressly agree to be bound by the terms and conditions of the site. For questions regarding information privacy, liability, accessibility, and public records policies, please review the [statements document](#).

This page maintained by Washington County Technology Services. Need assistance with this page? [email us](#)

SCALE 1" = 400'

INDEX



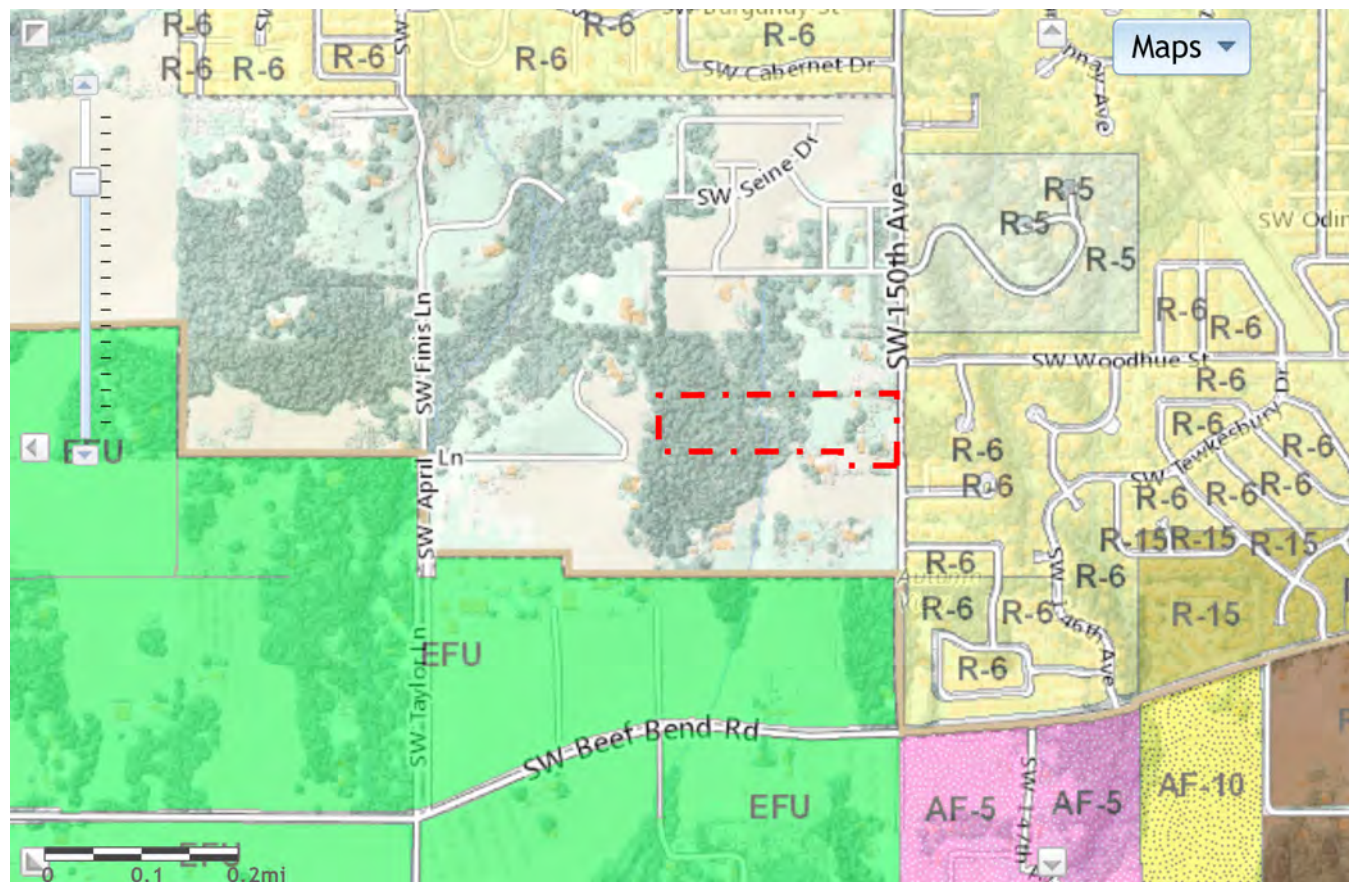
FOR ASSESSMENT
PURPOSES ONLY
DO NOT RELY ON
FOR ANY OTHER USE

25 | 8

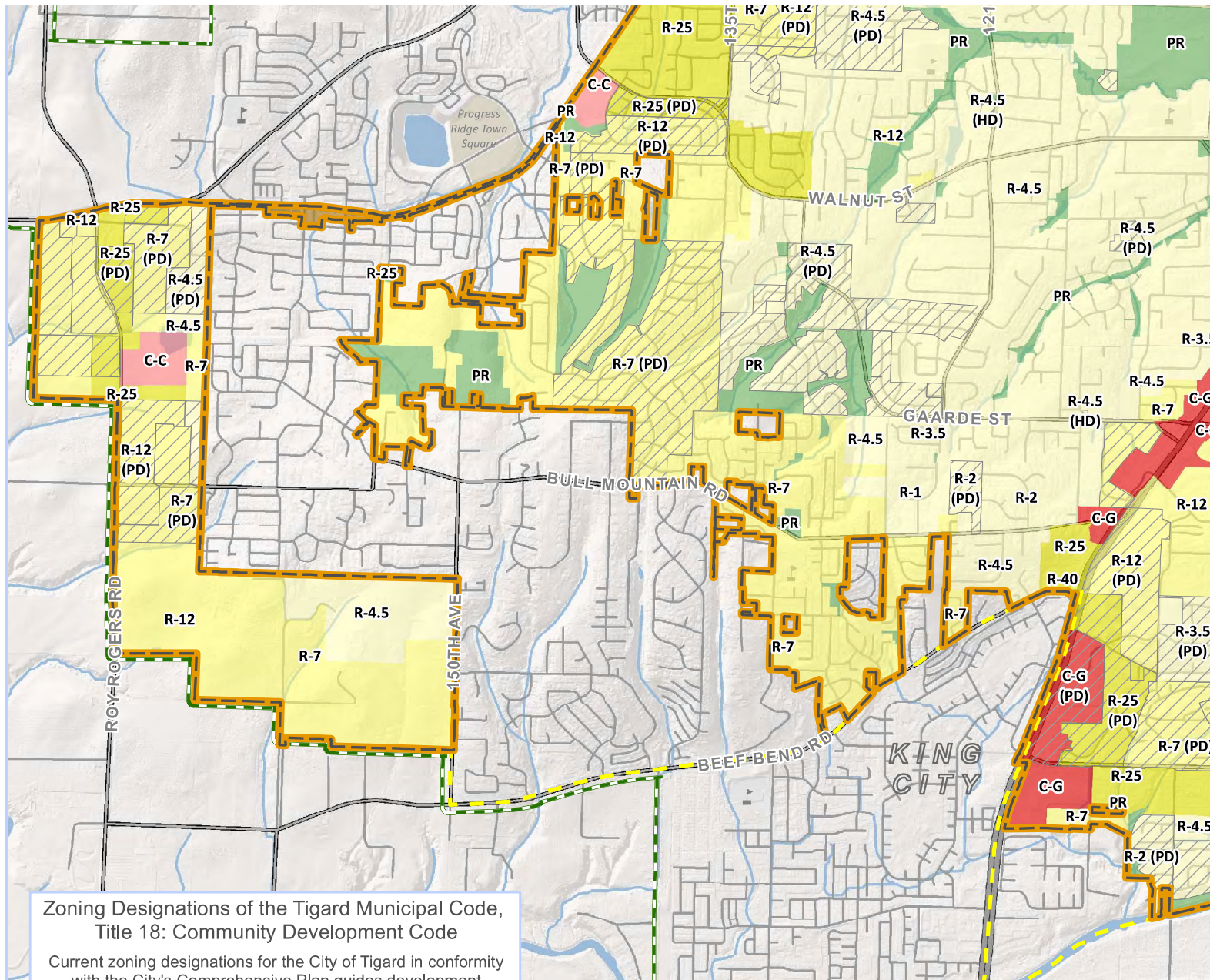
T. Kaufman



Geographic Information Systems



Base maps and air photo service are provided by [Metro](#)



STATE OF OREGON
WATER SUPPLY WELL REPORT
(as required by ORS 537.765)

Instructions for completing this report are on the last page of this form

WASH 60250
SKYLES DRILLING, INC.
503-656-2683

WELL ID # L **102674**

START CARD # **W204823**

(1) OWNER: Well Number: **1**
Name **Regine Neiders**
Address **14517 SE 178th Place**
City **Renton** State **WA** Zip **98058**

(2) TYPE OF WORK:
☒ New Well ☐ Deepening ☐ Alteration (repair/recondition) ☐ Abandonment

(3) DRILL METHOD:
☒ Rotary Air ☐ Rotary Mud ☐ Cable ☐ Auger
☐ Other

(4) PROPOSED USE:
☒ Domestic ☐ Community ☐ Industrial ☐ Irrigation
☐ Thermal ☐ Injection ☐ Livestock ☐ Other

(5) BORE HOLE CONSTRUCTION:
Special Construction approval ☐ Yes ☒ No Depth of Completed Well **400** ft.
Explosives used ☐ Yes ☒ No Type Amount

HOLE			SEAL			Amount	
Diameter	From	To	Material	From	To	sacks or pounds	
10	0	263	Cement w/ 5%	263			
6	263	400	Bentonite	7	0	66 Sacks	
			Bentonite	7	0	5 Sacks	

How was seal placed: Method ☐ A ☐ B ☒ C ☐ D ☐ E
☒ Other **Poured Bentonite**
Backfill placed from _____ ft. to _____ ft. Material _____
Gravel placed from _____ ft. to _____ ft. Size of gravel _____

(6) CASING/LINER:

Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing: 6	+2	263	.250	☒	☐	☒	☐
Liner: 4	240	400	sch40	☐	☒	☐	☒

Drive Shoe used ☐ Inside ☐ Outside ☒ None
Final location of shoe(s) _____

(7) PERFORATIONS/SCREENS:
☒ Perforations Method **Saw**
☐ Screens Type Material

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
379	399	1/8x3	76			☐	☒

(8) WELL TESTS: Minimum testing time is 1 hour
☐ Pump ☐ Bailer ☒ Air ☐ Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
20		398	1 hr.

Temperature of Water **60** Depth Artesian Flow found _____
Was a water analysis done? ☐ Yes By whom _____
Did any strata contain water not suitable for intended use? ☐ Too little
☐ Salty ☐ Muddy ☐ Odor ☐ Colored ☐ Other _____
Depth of strata: _____

(9) LOCATION OF WELL by legal description:
County **Washington** Latitude Longitude
Township **2SOUTH** N or S. Range **1WEST** E or W. of WM.
Section **08** **SW** 1/4 **SE** 1/4
Tax lot **01401** Lot Block Subdivision
Street Address of Well (or nearest address) **15515 SW 150th Avenue,**
Tigard, OR

(10) STATIC WATER LEVEL:
250 ft. below land surface. Date **10/22/2010**
Artesian pressure _____ lb. per square inch. Date _____

(11) WATER BEARING ZONES:
Depth at which water was first found **164**

From	To	Estimated Flow Rate	SWL
164	180	2	NA
213	258	3	NA
364	400	20	250

(12) WELL LOG:
Ground elevation _____

Material	From	To	SWL
Clay, Brown	0	7	
Basalt, Gray & Brown Broken	7	13	
Basalt, Weathered	13	22	
Basalt, Gray & Brown Fractured	22	51	
Basalt, Multicolored Fract & Porous	51	56	
Basalt, Gray & Brown, Fractured	56	69	
Basalt, MC Fract & Porous	69	86	
Basalt, Brown Fract & Porous	86	92	
Basalt, Gray & Brown Fract	92	105	
Basalt, Gray	105	112	
Basalt, Gray & Brown Fract	112	131	
Basalt, MC Fract & Porous	131	138	
Basalt, Gray & Brown	138	164	
Basalt, MC Fract & Porous	164	180	
Basalt, Gray & Brown Fract	180	187	
Basalt, MC Porous	187	192	
Basalt, Gray & Brown	192	204	
Basalt, Gray	204	207	
Basalt, Gray & Brown Fract	207	213	
Basalt, Gray & Brown Fract & Porous	213	227	
Basalt, MC Fract & Porous	227	242	

Continued on next page
Date started **10/18/2010** Completed **10/22/2010**

(unbonded) Water Well Constructor Certification:
I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.
Signed _____ WWC Number **1884**
Date **10/25/2010**
Skyles Drilling, Inc.

(bonded) Water Well Constructor Certification:
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.
Signed _____ WWC Number **1592**
Date **10/25/2010**
Skyles Drilling, Inc.

Well Number: 1

City **Renton** State **WA** Zip **98058**

☐ New Well ☐ Deepening ☐ Alteration (repair/recondition) ☐ Abandonment

☐ Rotary Air ☐ Rotary Mud ☐ Cable ☐ Auger
☐ Other

☐ Domestic ☐ Community ☐ Industrial ☐ Irrigation
☐ Thermal ☐ Injection ☐ Livestock ☐ Other

Special Construction approval ☐ Yes ☐ No Depth of Completed Well _____ ft.
Explosives used ☐ Yes ☐ No Type _____ Amount _____

HOLE			SEAL			Amount
Diameter	From	To	Material	From	To	sacks or pounds

How was seal placed: Method ☐ A ☐ B ☐ C ☐ D ☐ E
☐ Other

Backfill placed from _____	ft. to _____	ft.	Material _____
Gravel placed from _____	ft. to _____	ft.	Size of gravel _____

10) CASING				Steel	Plastic	Welded	Threaded
Diameter	From	To	Gauge				
Casing:				☐	☐	☐	☐
				☐	☐	☐	☐
				☐	☐	☐	☐
				☐	☐	☐	☐
Liner:				☐	☐	☐	☐
				☐	☐	☐	☐

Drive Shoe used ☐ Inside ☐ Outside ☐ None

Final location of shoe(s)

☐ Perforations	Method	
☐ Screens	Type	Material

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
						☐	☐
						☐	☐
						☐	☐
						☐	☐
						☐	☐

☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time

Temperature of Water _____ Depth Artesian Flow found _____

Was a water analysis done? ☐ Yes By whom _____
Did any strata contain water not suitable for intended use? ☐ Too little

☐ Salty ☐ Muddy ☐ Odor ☐ Colored ☐ Other

Depth of strata:

County **Washington** Latitude _____ Longitude _____
Township **2SOUTH** N or S. Range **1WEST** E or W. of WM
Section **08** **SW** 1/4 **SE** 1/4
Tax lot **01401** Lot _____ Block _____ Subdivision _____
Street Address of Well (or nearest address) **15515 SW 150th Avenue**
Tigard, OR

_____ ft. below land surface. Date _____

Artesian pressure _____ lb. per square inch. Date _____

Depth at which water was first found _____			
From	To	Estimated Flow Rate	SWL

Ground elevation

[illegible]Date started **10/18/2010** Completed **10/22/2010**

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.

Signed

Skyles Drilling, Inc.

WWC Number **1884**Date **10/25/2010**

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.

Signed

Skyles Drilling, Inc.

WWC Number **1592**

Date **10/25/2010**

WASH 69250

Neiders
15515 SW 150th Ave

Tax Lot 1401

well 100 feet from corner of house



RECEIVED

JAN 08 2011

WATER RESOURCES DEPT
SALEM, OREGON

LAND OWNER SUBMITTED MAP

well

100 ft

© 2010
Google

Eye at 984 ft

© 2010 Europa Technology
© 2010 Google
65-2428.57° N 122-4958.42° W elev 422 ft

Imagery Date 8-14-2010

NOTICE TO WATER WELL CONTRACTOR

The original and first copy of this report are to be filed with the

STATE ENGINEER, SALEM, OREGON 97310 within 30 days from the date of well completion.

WASH

011533

WATER WELL REPORT

STATE OF OREGON
(Please type or print)

RECEIVED
JUN 27 1966

STATE ENGINEER

State Well No.

State Permit No.

2/1w-8

(1) OWNER:

Name Yoshio & Sachiko Hasuike
Address 15685 S.W. 150th. Avenue
Tigard, Oregon 97223

(2) LOCATION OF WELL:

County Washington Driller's well number
1/4 1/4 Section 8 T. 2S R. 1W W.M.
Bearing and distance from section or subdivision corner

(3) TYPE OF WORK (check):

New Well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐
If abandonment, describe material and procedure in Item 12.

(4) PROPOSED USE (check):

Domestic ☒ Industrial ☐ Municipal ☐ Rotary ☐ Driven ☐
Irrigation ☐ Test Well ☐ Other ☒ Cable ☒ Jetted ☐
Dug ☐ Bored ☐

(5) TYPE OF WELL:

(6) CASING INSTALLED: Threaded ☐ Welded ☒
1/2 6" Diam. from 0 ft. to 22 ft. Gage 250
" Diam. from _____ ft. to _____ ft. Gage _____
" Diam. from _____ ft. to _____ ft. Gage _____

(7) PERFORATIONS:

Perforated? ☐ Yes ☒ No

Type of perforator used

Size of perforations in. by in.
perforations from _____ ft. to _____ ft.
perforations from _____ ft. to _____ ft.
perforations from _____ ft. to _____ ft.
perforations from _____ ft. to _____ ft.
perforations from _____ ft. to _____ ft.

(8) SCREENS:

Well screen installed? ☐ Yes ☒ No

Manufacturer's Name _____ Model No. _____
Diam. _____ Slot size _____ Set from _____ ft. to _____ ft.
Diam. _____ Slot size _____ Set from _____ ft. to _____ ft.

(9) CONSTRUCTION:

Well seal—Material used in seal Cement, sand & gravel
Depth of seal 22 ft. Was a packer used? No
Diameter of well bore to bottom of seal 8" in.
Were any loose strata cemented off? ☐ Yes ☒ No Depth _____
Was a drive shoe used? ☐ Yes ☒ No
Was well gravel packed? ☐ Yes ☒ No Size of gravel: _____
Gravel placed from _____ ft. to _____ ft.
Did any strata contain unusable water? ☐ Yes ☒ No
Type of water? _____ depth of strata _____
Method of sealing strata off _____

(10) WATER LEVELS:

Static level 248 ft. below land surface Date 6/10/66
Artesian pressure _____ lbs. per square inch Date _____

(11) WELL TESTS:

Drawdown is amount water level is lowered below static level

Was a pump test made? ☐ Yes ☒ No If yes, by whom?

Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.

" " " "

" " " "

Bailer test 22 gal./min. with 6 ft. drawdown after 4 hrs.

Artesian flow _____ g.p.m. Date _____

Temperature of water _____ Was a chemical analysis made? ☐ Yes ☒ No

(12) WELL LOG:

Diameter of well below casing 1/2 6" (6") *

Depth drilled 335 ft. Depth of completed well 335 ft.

Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.

MATERIAL	FROM	TO
Soil, top	0	4
Clay, yellow, soft	4	15
Rock, brown, broken	15	30
Rock, grey dark, hard	30	43
Rock, " " " mdm.	43	90
Rock, grey, hard	90	128
Rock, brown broken	128	140
Rock, grey, real hard	140	175
Rock, basalt, firm to hard	175	257
Rock, basalt, soft water of	257	263
Rock, grey, hard	263	320
Rock, grey, broken,	320	335
water bearing		

* The bottom of the 6 inch casing belled out to 8 inch, cemented into bed rock at 22 ft.

Well drilled 8" to 169 ft. 169' to 335' with 6 inch.

Work started April 18 19 66 Completed June 10 19 66

Date well drilling machine moved off of well June 12 19 66

(13) PUMP:

Manufacturer's Name Berkeley Cat. No. 4BM 31-5
Type Submersible H.P. 5 H.P.

Water Well Contractor's Certification:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME HAAKON BOTTNER DRILLING COMPANY
(Person, firm or corporation) (Type or print)

Address 3424 S.E. 174th. AVENUE
PORTLAND OREGON 97236

Drilling Machine Operator's License No. 463

[Signed] Hakon Bottner
(Water Well Contractor)

Contractor's License No. 109 Date _____, 19 _____

STATE OF OREGON
WATER WELL REPORT
(as required by ORS 537.765)

WASH RECEIVED
011528 OCT 17 1986
DEC 30 1986

25/1W-82

WATER RESOURCES DEPT.

(1) OWNER: Wendy HASLICK
Name: Wendy HASLICK
Address: 15685 SW 150th
City: Tigard State: ORE Zip: 97222

(2) TYPE OF WORK:
☒ New Well ☐ Deepen ☐ Recondition ☐ Abandon

(3) DRILL METHOD:
☒ Rotary Air ☐ Rotary Mud ☐ Cable ☐ Other

(4) PROPOSED USE:
☒ Domestic ☐ Community ☐ Industrial ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other

(5) BORE HOLE CONSTRUCTION:
Depth of Completed Well 380 ft.
Special Standards date of approval

HOLE	SEAL	Amount
Diameter From To	Material From To	sacks or pounds
6 38 380	CEMENT 0 38	12

How was seal placed? Method ☐ A ☐ B ☒ C ☐ D ☐ E
☐ Other

Backfill placed from ft. to ft. Material
Gravel placed from ft. to ft. Size of gravel

(6) CASING/LINER:
Diameter From To Gauge Steel Plastic Welded Threaded
Gasing: 6" 38 38 280 X
Liner: 4" PVC -1 380 200 X

Final location of shoe(s)

(7) PERFORATIONS/SCREENS:
☒ Perforations Method SAW
☐ Screens Type Material
From To Slot Number Diameter Tele/pipe Casing Liner
0 380 size 500 1/8-6" size size

(8) WELL TESTS: Minimum testing time is 1 hour
☐ Pump ☒ Bailer ☒ Air ☐ Flowing ☐ Artesian
Yield gal/min Pumping level Drill stem at Time
15 380 1/2 hr
15 380 1 hr
10 304 1 HR
15 350 2 HR

Temperature of water Depth Artesian Flow Found
Was a water analysis done? ☐ Yes By whom
Did any strata contain water not suitable for intended use? ☐ Too little
☐ Salty ☐ Muddy ☐ Odor ☐ Colored ☐ Other
Depth of strata:

LOCATION OF WELL by legal description:

County: Washington Township: 25 Range: 1W E or W, WM.
Section: 8 Block: 8E Subdivision:
Tax Lot: Lot: Block: Subdivision:
Street Address of Well (or nearest address): 15685 SW 150th
Tigard ORE

(10) STATIC WATER LEVEL:
294 ft. below land surface. Date 7-1-86
Artesian pressure lb. per square inch. Date

(11) WELL LOG: Ground elevation

Material	From	To	WB?	SWL
TOP SOIL	0	2		
ROCK	2	12		
Red CLAY	12	19		
ROCK	19	23		
Red CLAY	23	26		
ROCK	26	160		
Red Shell	160	200		
ROCK	200	295	X	
Red Shell	295	304	X	
ROCK	304	380	X	
5 GPM	280 FT			
5 GPM	340 FT			
5 GPM	370 FT			
Recommend Pump Setting 350 TO 370 at not more Than 15 GPM				

Date started 6-26-84 Completed 7-1-86

(unbonded) Water Well Constructor Certification:

I constructed this well in compliance with Oregon well construction standards. Materials used and information reported above are true to my best knowledge and belief.

Signed Date

(bonded) Water Well Constructor Certification:

I accept responsibility for construction of this well and its compliance with all Oregon water well standards. This report is true to the best of my knowledge and belief.

Signed Ted Pulliam Date 7-1-86

Company Ted Pulliam Well Drilling Co. Job No.

APPENDIX D

APPENDIX D

FIELD EXPLORATIONS

GENERAL

Shallow soil explorations were completed at the project site between September 30 and October 21, 2016. Hand-augered borings were completed using a hand auger owned and operated by GeoDesign. The approximate shallow soil composite sampling areas are shown on Figure 6.

Subsurface exploration activities were completed between October 12 and 21, 2016. The exploration activities included the collection of selected soil samples from nine direct-push explorations (DP-1 through DP-9), four test pits (TP-1 through TP-4), three test pit composite areas (TPComp-1 through TPComp-3), and two hand-augered borings (HA-1 and HA-2). The direct-push explorations were advanced to depths ranging between 10.0 and 12.5 feet BGS using direct-push drilling equipment owned and operated by ESN Northwest of Olympia, Washington. The test pits were excavated using equipment owned and operated by Northwest Earthmovers, Inc. of Sherwood, Oregon. The hand-augered borings were advanced using equipment owned and operated by GeoDesign, Inc.

A GeoDesign field representative collected soil samples from the exploration locations. The soil encountered in the explorations was visually classified in general accordance with guidance provided in ASTM D 2488.

SOIL SAMPLING

Continuous soil samples were collected from the direct-push explorations at 0.5- to 5.0-foot-depth intervals using samplers equipped with acrylic sleeves. Grab soil samples were collected from the test pit explorations at 0.5-foot-depth intervals. Soil samples were collected from the hand-augered borings using a 0.5-foot stainless steel sampler. Soil sampling equipment was cleaned with a Liquinox wash, tap water rinse, and a distilled water rinse between each sampling attempt. Select soil intervals were homogenized in a stainless steel bowl with a stainless steel trowel to create composite samples. Soil samples were placed in laboratory-prepared sample jars with Teflon-lined lids and immediately placed in an ice chest and kept cool until delivery to the laboratory. The jars were packed full to minimize headspace in the containers. Standard chain-of-custody procedures were observed during transport of the samples to the laboratory.

DECONTAMINATION

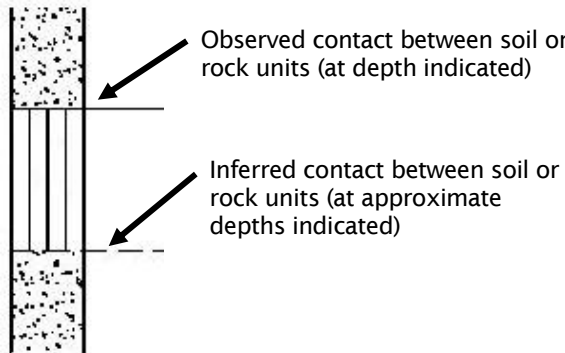
All sampling equipment used in the collection of samples was decontaminated prior to use. Decontamination was performed on all sample re-usable processing equipment that came into contact with sampling media, including tools, stainless steel implements, trowels, etc. Decontamination was performed prior to sampling each location using the following procedures:

1. Rinsed with tap water and scrubbed with a scrub brush until free of large particles (e.g., soil)
2. Washed with phosphate-free (Alconox™) detergent solution

3. Rinsed with tap water
4. Rinsed with distilled water

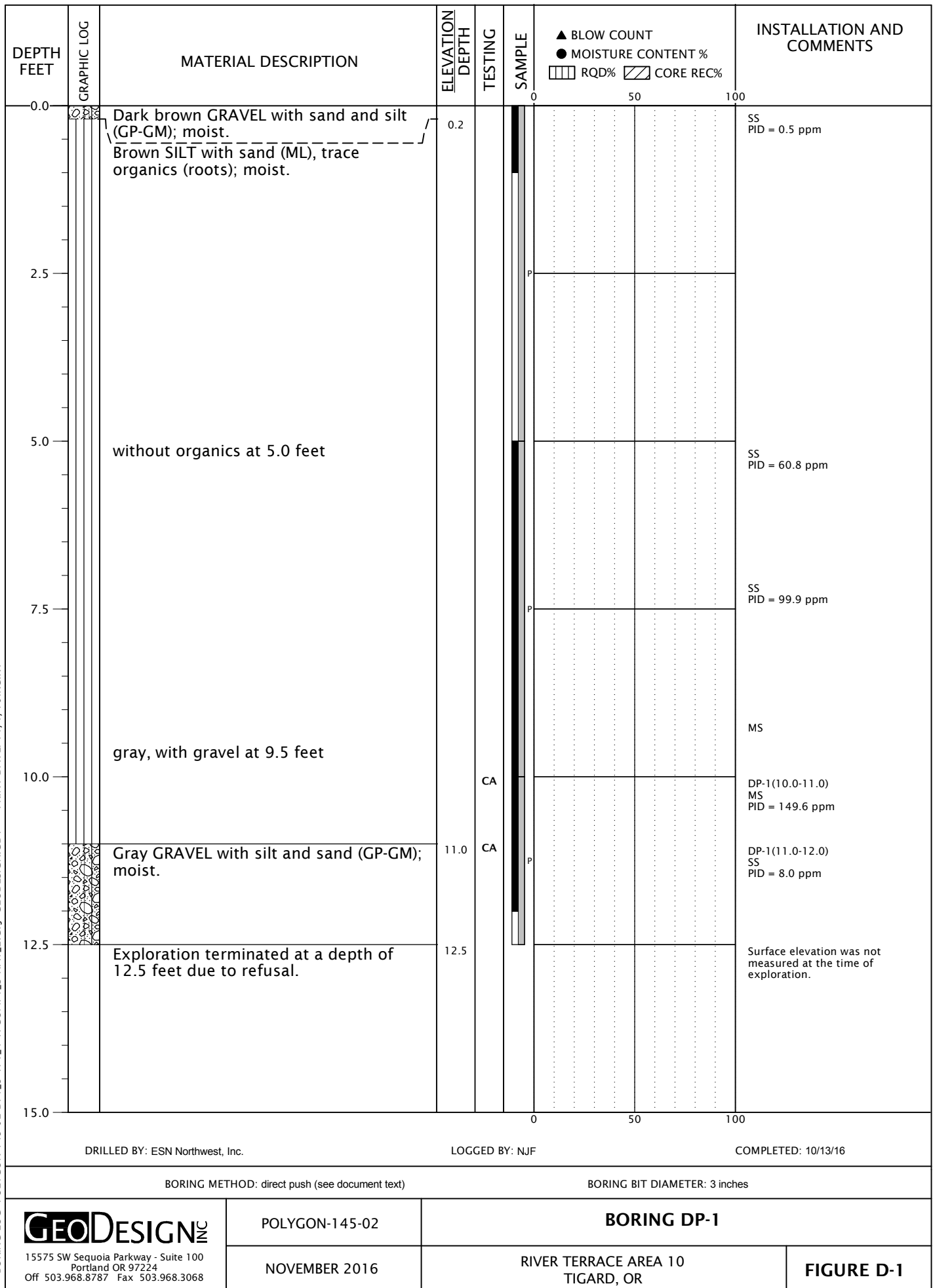
IDW MANAGEMENT

IDW from the direct-push explorations (soil cuttings and decontamination water) was placed into one 16-gallon drum that was left on site pending disposal. IDW (soil) from the test pit and hand-augered explorations was backfilled in the test pit or borehole and the ground surface was repaired.

SYMBOL	SAMPLING DESCRIPTION		
	Location of sample obtained in general accordance with ASTM D 1586 Standard Penetration Test with recovery		
	Location of sample obtained using thin-wall Shelby tube or Geoprobe® sampler in general accordance with ASTM D 1587 with recovery		
	Location of sample obtained using Dames & Moore sampler and 300-pound hammer or pushed with recovery		
	Location of sample obtained using Dames & Moore and 140-pound hammer or pushed with recovery		
	Location of sample obtained using 3-inch-O.D. California split-spoon sampler and 140-pound hammer		
	Location of grab sample		
	Rock coring interval		
	Water level during drilling		
	Water level taken on date shown		
Graphic Log of Soil and Rock Types 			
GEOTECHNICAL TESTING EXPLANATIONS			
ATT	Atterberg Limits	PP	Pocket Penetrometer
CBR	California Bearing Ratio	P200	Percent Passing U.S. Standard No. 200 Sieve
CON	Consolidation		
DD	Dry Density	RES	Resilient Modulus
DS	Direct Shear	SIEV	Sieve Gradation
HYD	Hydrometer Gradation	TOR	Torvane
MC	Moisture Content	UC	Unconfined Compressive Strength
MD	Moisture-Density Relationship	VS	Vane Shear
OC	Organic Content	kPa	Kilopascal
P	Pushed Sample		
ENVIRONMENTAL TESTING EXPLANATIONS			
CA	Sample Submitted for Chemical Analysis	ND	Not Detected
P	Pushed Sample	NS	No Visible Sheen
PID	Photoionization Detector Headspace Analysis	SS	Slight Sheen
		MS	Moderate Sheen
ppm	Parts per Million	HS	Heavy Sheen
</			

RELATIVE DENSITY - COARSE-GRAINED SOILS							
Relative Density		Standard Penetration Resistance		Dames & Moore Sampler (140-pound hammer)		Dames & Moore Sampler (300-pound hammer)	
Very Loose		0 - 4		0 - 11		0 - 4	
Loose		4 - 10		11 - 26		4 - 10	
Medium Dense		10 - 30		26 - 74		10 - 30	
Dense		30 - 50		74 - 120		30 - 47	
Very Dense		More than 50		More than 120		More than 47	
CONSISTENCY - FINE-GRAINED SOILS							
Consistency	Standard Penetration Resistance	Dames & Moore Sampler (140-pound hammer)		Dames & Moore Sampler (300-pound hammer)		Unconfined Compressive Strength (tsf)	
Very Soft	Less than 2	Less than 3		Less than 2		Less than 0.25	
Soft	2 - 4	3 - 6		2 - 5		0.25 - 0.50	
Medium Stiff	4 - 8	6 - 12		5 - 9		0.50 - 1.0	
Stiff	8 - 15	12 - 25		9 - 19		1.0 - 2.0	
Very Stiff	15 - 30	25 - 65		19 - 31		2.0 - 4.0	
Hard	More than 30	More than 65		More than 31		More than 4.0	
PRIMARY SOIL DIVISIONS				GROUP SYMBOL		GROUP NAME	
COARSE-GRAINED SOILS (more than 50% retained on No. 200 sieve)	GRAVEL (more than 50% of coarse fraction retained on No. 4 sieve)	CLEAN GRAVELS (< 5% fines)		GW or GP		GRAVEL	
		GRAVEL WITH FINES (≥ 5% and ≤ 12% fines)		GW-GM or GP-GM		GRAVEL with silt	
				GW-GC or GP-GC		GRAVEL with clay	
		GRAVELS WITH FINES (> 12% fines)		GM		silty GRAVEL	
				GC		clayey GRAVEL	
				GC-GM		silty, clayey GRAVEL	
	SAND (50% or more of coarse fraction passing No. 4 sieve)	CLEAN SANDS (<5% fines)		SW or SP		SAND	
		SANDS WITH FINES (≥ 5% and ≤ 12% fines)		SW-SM or SP-SM		SAND with silt	
				SW-SC or SP-SC		SAND with clay	
		SANDS WITH FINES (> 12% fines)		SM		silty SAND	
				SC		clayey SAND	
				SC-SM		silty, clayey SAND	
FINE-GRAINED SOILS (50% or more passing No. 200 sieve)	SILT AND CLAY	Liquid limit less than 50		ML		SILT	
				CL		CLAY	
				CL-ML		silty CLAY	
				OL		ORGANIC SILT or ORGANIC CLAY	
		Liquid limit 50 or greater		MH		SILT	
				CH		CLAY	
				OH		ORGANIC SILT or ORGANIC CLAY	
HIGHLY ORGANIC SOILS				PT		PEAT	
MOISTURE CLASSIFICATION		ADDITIONAL CONSTITUENTS					
Term	Field Test	Secondary granular components or other materials such as organics, man-made debris, etc.					
		Percent	Silt and Clay In:		Percent	Sand and Gravel In:	
Fine-Grained Soils	Coarse-Grained Soils		Fine-Grained Soils	Coarse-Grained Soils			
dry	very low moisture, dry to touch	< 5	trace	trace	< 5	trace	trace
moist	damp, without visible moisture	5 - 12	minor	with	5 - 15	minor	minor
		> 12	some	silty/clayey	15 - 30	with	with
wet	visible free water, usually saturated				> 30	sandy/gravelly	Indicate %
 15575 SW Sequoia Parkway - Suite 100 Portland OR 97224 Off 503.968.8787 Fax 503.968.3068		SOIL CLASSIFICATION SYSTEM					TABLE D-2

BORING LOG POLYGON-145-02-DP1_9-TP1_4-TPCOMP1_3-HA1_2.GPJ GEODESIGN.GDT PRINT DATE: 11/1/16:RC:KT



BORING LOG POLYGON-145-02-DP1_9-TP1_4-TPCOMP1_3-HA1_2.GPJ GEODESIGN.GDT PRINT DATE: 11/1/16:RC:KT

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION DEPTH	TESTING	SAMPLE	▲ BLOW COUNT ● MOISTURE CONTENT % RQD% CORE REC%	INSTALLATION AND COMMENTS
0.0		CONCRETE (1.0 inch).				0 50 100	
0.1		Brown SILT with sand (ML), trace organics (roots); moist.	0.1	CA			DP-2(1.0-2.0) HS PID = 397.6 ppm
2.5					P		SS
5.0		without organics at 4.0 feet					MS PID = 8.4 ppm
5.5		gray at 5.5 feet			P		
7.5							
10.0		dark gray at 10.0 feet			P		
12.0		Gray GRAVEL with silt (GP-GM); moist.	12.0	CA	P		DP-2(11.5-12.5) MS PID = 178.0 ppm
12.5		Exploration terminated at a depth of 12.5 feet due to refusal.	12.5				MS PID = 58.0 ppm Surface elevation was not measured at the time of exploration.
15.0						0 50 100	
DRILLED BY: ESN Northwest, Inc.		LOGGED BY: NJF		COMPLETED: 10/14/16			
BORING METHOD: direct push (see document text)				BORING BIT DIAMETER: 3 inches			
GEO DESIGN		POLYGON-145-02		BORING DP-2			
15575 SW Sequoia Parkway - Suite 100 Portland OR 97224 Off 503.968.8787 Fax 503.968.3068		NOVEMBER 2016		RIVER TERRACE AREA 10 TIGARD, OR		FIGURE D-2	

BORING LOG POLYGON-145-02-DP1_9-TP1_4-TPCOMP1_3-HA1_2.GPJ GEODESIGN.GDT PRINT DATE: 11/1/16:RC:KT

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION DEPTH	TESTING	SAMPLE	▲ BLOW COUNT ● MOISTURE CONTENT % RQD% CORE REC%	INSTALLATION AND COMMENTS
0.0		Brown GRAVEL with silt (GP-GM); dry.	0.1			0 50 100	
		Brown SILT with sand and gravel (ML), trace organics; dry.					NS PID = 2.9 ppm
2.5							
		without organics; moist at 4.0 feet					
5.0							DP-3(6.0-7.0) NS PID = 3.5 ppm
		dark gray at 7.5 feet					SS PID = 46.2 ppm
7.5							
10.0							
		Gray GRAVEL with silt and sand (GP-GM); moist.	11.0	CA			DP-3(10.5-12.5) MS PID = 190.8 ppm
12.5		Exploration terminated at a depth of 12.5 feet due to refusal.	12.5				Surface elevation was not measured at the time of exploration.
15.0						0 50 100	
DRILLED BY: ESN Northwest, Inc.		LOGGED BY: NJF		COMPLETED: 10/14/16			
BORING METHOD: direct push (see document text)					BORING BIT DIAMETER: 3 inches		
POLYGON-145-02		BORING DP-3					
NOVEMBER 2016		RIVER TERRACE AREA 10 TIGARD, OR				FIGURE D-3	

BORING LOG POLYGON-145-02-DP1_9-TP1_4-TPCOMP1_3-HA1_2.GPJ GEODESIGN.GDT PRINT DATE: 11/1/16-RC:KT

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION DEPTH	TESTING	SAMPLE	▲ BLOW COUNT ● MOISTURE CONTENT % RQD% CORE REC%	INSTALLATION AND COMMENTS
0.0		Brown GRAVEL with silt (GP-GM); dry.	0.1			0 50 100	
		Brown SILT with sand and gravel (ML), trace organics (roots); dry.					
2.5		moist at 2.5 feet			P		NS
		without organics at 4.0 feet					
5.0		red-brown at 6.5 feet			P		DP-4(6.5-9.0) NS PID = 2.6 ppm
7.5							NS PID = 3.2 ppm
9.0		Brown-gray GRAVEL with silt and sand (GP-GM); moist.	9.0	CA	P		DP-4(9.0-11.0) SS PID = 3.9 ppm
10.0							SS PID = 4.2 ppm
11.5		Exploration terminated at a depth of 11.5 feet due to refusal.	11.5				Surface elevation was not measured at the time of exploration.
12.5							
15.0						0 50 100	
DRILLED BY: ESN Northwest, Inc.		LOGGED BY: NJF		COMPLETED: 10/14/16			
BORING METHOD: direct push (see document text)				BORING BIT DIAMETER: 3 inches			
GEO DESIGN		POLYGON-145-02		BORING DP-4			
15575 SW Sequoia Parkway - Suite 100 Portland OR 97224 Off 503.968.8787 Fax 503.968.3068		NOVEMBER 2016		RIVER TERRACE AREA 10 TIGARD, OR		FIGURE D-4	

BORING LOG POLYGON-145-02-DP1_9-TP1_4-TPCOMP1_3-HA1_2.GPJ GEODESIGN.GDT PRINT DATE: 11/1/16-RC-KT

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION DEPTH	TESTING	SAMPLE	▲ BLOW COUNT ● MOISTURE CONTENT % RQD% CORE REC%	INSTALLATION AND COMMENTS
0.0		Brown GRAVEL with sand and silt (GP- GM); dry.	0.1	CA			DP-5(0.5-1.5) NS PID = 2.3 ppm NS
		Brown SILT (ML), trace sand and organics (roots); dry.			P		
2.5							
					P		NS
5.0							
		Gray GRAVEL (GP); dry.	6.5		P		
7.5		Gray-brown SILT with sand and gravel (ML); moist.	8.0		P		DP-5(8.0-9.0) NS PID = 2.7 ppm
		yellow with brown mottles, without sand at 9.5 feet			P		NS
10.0		Exploration terminated at a depth of 11.0 feet due to refusal.	11.0				Surface elevation was not measured at the time of exploration.
12.5							
15.0							
DRILLED BY: ESN Northwest, Inc.		LOGGED BY: NJF		COMPLETED: 10/14/16			
BORING METHOD: direct push (see document text)				BORING BIT DIAMETER: 3 inches			
GEO DESIGN		POLYGON-145-02		BORING DP-5			
15575 SW Sequoia Parkway - Suite 100 Portland OR 97224 Off 503.968.8787 Fax 503.968.3068		NOVEMBER 2016		RIVER TERRACE AREA 10 TIGARD, OR		FIGURE D-5	

BORING LOG POLYGON-145-02-DP1_9-TP1_4-TPCOMP1_3-HA1_2.GPJ GEODESIGN.GDT PRINT DATE: 11/1/16:RC:KT

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION DEPTH	TESTING	SAMPLE	▲ BLOW COUNT ● MOISTURE CONTENT % RQD% CORE REC%	INSTALLATION AND COMMENTS
0.0		Gray GRAVEL (GP); dry. Dark brown SILT (ML), trace sand; moist. brown at 1.0 foot	0.1	CA		0 50 100	DP-6(0.5-2.0) SS PID = 3.4 ppm
2.5					P		SS
5.0					P		SS
7.5					P		DP-6(5.5-6.5) NS PID = 4.0 ppm
10.0		Exploration completed at a depth of 10.0 feet.	10.0		P		NS
12.5							NS
15.0						0 50 100	Surface elevation was not measured at the time of exploration.
DRILLED BY: ESN Northwest, Inc.		LOGGED BY: NJF		COMPLETED: 10/14/16			
BORING METHOD: direct push (see document text)					BORING BIT DIAMETER: 3 inches		
GEODESIGN 15575 SW Sequoia Parkway - Suite 100 Portland OR 97224 Off 503.968.8787 Fax 503.968.3068		POLYGON-145-02	BORING DP-6				
		NOVEMBER 2016	RIVER TERRACE AREA 10 TIGARD, OR			FIGURE D-6	

BORING LOG POLYGON-145-02-DP1_9-TP1_4-TPCOMP1_3-HA1_2.GPJ GEODESIGN.GDT PRINT DATE: 11/1/16-RC:KT

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION DEPTH	TESTING	SAMPLE	▲ BLOW COUNT ● MOISTURE CONTENT % RQD% CORE REC%	INSTALLATION AND COMMENTS
0.0		Brown, sandy SILT (ML), trace organics; dry - FILL.				0 50 100	NS
2.5		trace sand; moist at 1.0 foot			P		
5.0				CA			DP-7(4.0-5.5) SS PID = 3.1 ppm
7.5					P		SS PID = 2.5 ppm
8.5		Gray-brown GRAVEL with sand and silt (GP-GM); moist - FILL.	8.5		P		DP-7(8.0-9.5) NS PID = 3.1 ppm
10.0		Exploration completed at a depth of 10.0 feet.	10.0				Piece of fabric at 9.0 feet. Surface elevation was not measured at the time of exploration.
12.5							
15.0						0 50 100	
DRILLED BY: ESN Northwest, Inc.		LOGGED BY: NJF		COMPLETED: 10/14/16			
BORING METHOD: direct push (see document text)				BORING BIT DIAMETER: 3 inches			
GEODESIGN 15575 SW Sequoia Parkway - Suite 100 Portland OR 97224 Off 503.968.8787 Fax 503.968.3068		POLYGON-145-02	BORING DP-7				
		NOVEMBER 2016	RIVER TERRACE AREA 10 TIGARD, OR				FIGURE D-7

BORING LOG POLYGON-145-02-DP1_9-TP1_4-TPCOMP1_3-HA1_2.GPJ GEODESIGN.GDT PRINT DATE: 11/1/16-RC:KT

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION DEPTH	TESTING	SAMPLE	▲ BLOW COUNT ● MOISTURE CONTENT % RQD% CORE REC%	INSTALLATION AND COMMENTS
0.0					0	50	100
0.5		Gray GRAVEL with debris (brick pieces) (GP); moist - FILL.	0.5	CA			DP-8(0.5-2.0) SS PID = 1.7 ppm
2.5		Dark brown SILT with sand and gravel (ML), trace organics (roots); moist.			P		
		brown, without gravel and organics at 1.5 feet					
4.0		Gray GRAVEL with cobbles (GP); moist.	4.0				NS PID = 3.3 ppm
4.5		Brown SILT with sand (ML); moist.	4.5				
5.0					P		
7.5							NS
8.0		gray-brown, with gravel at 8.0 feet		CA			DP-8(8.5-10.5) SS PID = 3.3 ppm
10.0					P		
10.2		Dark brown GRAVEL (GP); moist.	10.2				
11.5		Exploration terminated at a depth of 11.5 feet due to refusal.	11.5				Surface elevation was not measured at the time of exploration.
12.5							
15.0							
DRILLED BY: ESN Northwest, Inc.		LOGGED BY: NJF		COMPLETED: 10/14/16			
BORING METHOD: direct push (see document text)				BORING BIT DIAMETER: 3 inches			
GEO DESIGN INC 15575 SW Sequoia Parkway - Suite 100 Portland OR 97224 Off 503.968.8787 Fax 503.968.3068		POLYGON-145-02		BORING DP-8			
NOVEMBER 2016		RIVER TERRACE AREA 10 TIGARD, OR		FIGURE D-8			

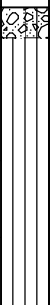
BORING LOG POLYGON-145-02-DP1_9-TP1_4-TPCOMP1_3-HA1_2.GPJ GEODESIGN.GDT PRINT DATE: 11/1/16-RC:KT

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION DEPTH	TESTING	SAMPLE	▲ BLOW COUNT ● MOISTURE CONTENT % RQD% CORE REC%	INSTALLATION AND COMMENTS
0.0		Brown GRAVEL with silt and sand (GP-GM), trace organics (roots); moist.				0 50 100	
1.0		Brown SILT with sand (ML); moist.	1.0		P		SS PID = 2.4 ppm
2.5							
5.0				CA	P		DP-9(5.0-6.5) SS PID = 3.0 ppm
7.5							
9.5		Gray GRAVEL with silt and sand (GP-GM); moist.	9.5	CA	P		SS PID = 3.0 ppm
10.0							DP-9(9.5-11.0) NS PID = 3.0 ppm
11.5		Exploration terminated at a depth of 11.5 feet due to refusal.	11.5				Surface elevation was not measured at the time of exploration.
12.5							
15.0						0 50 100	
DRILLED BY: ESN Northwest, Inc.		LOGGED BY: NJF		COMPLETED: 10/13/16			
BORING METHOD: direct push (see document text)				BORING BIT DIAMETER: 3 inches			
GEODESIGN 15575 SW Sequoia Parkway - Suite 100 Portland OR 97224 Off 503.968.8787 Fax 503.968.3068		POLYGON-145-02	BORING DP-9				
		NOVEMBER 2016	RIVER TERRACE AREA 10 TIGARD, OR				FIGURE D-9

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION DEPTH	TESTING	SAMPLE	● MOISTURE CONTENT %	COMMENTS
0.0		Brown, sandy SILT with gravel (ML), trace organics (roots); moist.		CA		0 50 100	TP-1N(0.0-0.5) NS PID = 2.5 ppm TP-1S(0.0-0.5) NS PID = 2.5 ppm
2.0		Exploration completed at a depth of 2.0 feet.	2.0				TP-1N(1.5-2.0) NS PID = 2.0 ppm TP-1S(1.5-2.0) NS PID = 1.7 ppm No groundwater seepage observed to the depth explored. No caving observed to the depth explored. Surface elevation was not measured at the time of exploration.
2.5							
5.0							
7.5							
10.0							
EXCAVATED BY: Northwest Earthmovers, Inc. LOGGED BY: NJF COMPLETED: 10/12/16							
EXCAVATION METHOD: trackhoe (see document text)							
		POLYGON-145-02	TEST PIT TP-1				
		NOVEMBER 2016	RIVER TERRACE AREA 10 TIGARD, OR				FIGURE D-10

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION DEPTH	TESTING	SAMPLE	● MOISTURE CONTENT %	COMMENTS
0.0		Brown, sandy SILT (ML), trace organics (roots); moist.		CA		0 50 100	TP-2S(0.0-0.5) SS PID = 8.4 ppm TP-2N(0.0-0.5) SS PID = 6.8 ppm
2.5				CA			SS PID = 7.6 ppm TP-2N(2.0-2.5) NS PID = 6.5 ppm TP-2S(2.5-3.0) SS PID = 5.8 ppm
3.0		Exploration completed at a depth of 3.0 feet.	3.0	CA			No groundwater seepage observed to the depth explored. No caving observed to the depth explored. Surface elevation was not measured at the time of exploration.
5.0							
7.5							
10.0							
EXCAVATED BY: Northwest Earthmovers, Inc. LOGGED BY: NJF COMPLETED: 10/12/16							
EXCAVATION METHOD: trackhoe (see document text)							
 15575 SW Sequoia Parkway - Suite 100 Portland OR 97224 Off 503.968.8787 Fax 503.968.3068		POLYGON-145-02	TEST PIT TP-2				
		NOVEMBER 2016	RIVER TERRACE AREA 10 TIGARD, OR				FIGURE D-11

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION DEPTH	TESTING	SAMPLE	● MOISTURE CONTENT %	COMMENTS
0.0		Brown GRAVEL with silt (GP-GM), trace organics (roots); moist.	0.1	CA		0 50 100	TP-3E(0.0-0.5) SS PID = 1.7 ppm TP-3W(0.0-0.5) SS PID = 2.4 ppm
		Brown, sandy SILT (ML), trace organics (roots); moist.		CA			
2.0		Exploration completed at a depth of 2.0 feet,	2.0	CA		0 50 100	TP-3E(1.5-2.0) NS PID = 2 ppm TP-3W(1.5-2.0) NS PID = 2.1 ppm No groundwater seepage observed to the depth explored. No caving observed to the depth explored. Surface elevation was not measured at the time of exploration.
2.5				CA			
5.0							
7.5							
10.0						0 50 100	
EXCAVATED BY: Northwest Earthmovers, Inc.			LOGGED BY: NJF			COMPLETED: 10/12/16	
EXCAVATION METHOD: trackhoe (see document text)							
 15575 SW Sequoia Parkway - Suite 100 Portland OR 97224 Off 503.968.8787 Fax 503.968.3068		POLYGON-145-02	TEST PIT TP-3				
		NOVEMBER 2016	RIVER TERRACE AREA 10 TIGARD, OR				FIGURE D-12

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION DEPTH	TESTING	SAMPLE	● MOISTURE CONTENT %			COMMENTS
0.0						0	50	100	
		Brown GRAVEL with silt (GP-GM), trace organics; moist. Brown, sandy SILT (ML), trace organics; moist.	0.2	CA CA					TP-4N(0.0-0.5) SS PID = 1.8 ppm TP-4S(0.0-0.5) SS PID = 3.7 ppm
									TP-4N(1.5-2.0) NS PID = 3.0 ppm TP-4S(1.5-2.0) NS PID = 2.4 ppm
2.5		Exploration completed at a depth of 2.0 feet.	2.0						No groundwater seepage observed to the depth explored. No caving observed to the depth explored. Surface elevation was not measured at the time of exploration.
5.0									
7.5									
10.0						0	50	100	
EXCAVATED BY: Northwest Earthmovers, Inc.			LOGGED BY: NJF			COMPLETED: 10/12/16			
EXCAVATION METHOD: trackhoe (see document text)									
 15575 SW Sequoia Parkway - Suite 100 Portland OR 97224 Off 503.968.8787 Fax 503.968.3068		POLYGON-145-02		TEST PIT TP-4					
		NOVEMBER 2016		RIVER TERRACE AREA 10 TIGARD, OR				FIGURE D-13	

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION DEPTH	TESTING	SAMPLE	● MOISTURE CONTENT %	COMMENTS
0.0		BURNT WOOD DEBRIS; moist. Brown SILT with gravel (ML), trace organics (roots); moist.	0.1	CA		0 50 100	TPComp-1(0.0-1.0) SS PID = 2.4 ppm
2.5		Exploration completed at a depth of 2.5 feet.	2.5				TPComp-1(1.5-2.5) NS PID = 3.1 ppm No groundwater seepage observed to the depth explored. No caving observed to the depth explored. Surface elevation was not measured at the time of exploration.
5.0							
7.5							
10.0							
EXCAVATED BY: Northwest Earthmovers, Inc. LOGGED BY: NJF COMPLETED: 10/12/16							
EXCAVATION METHOD: trackhoe (see document text)							
 15575 SW Sequoia Parkway - Suite 100 Portland OR 97224 Off 503.968.8787 Fax 503.968.3068		POLYGON-145-02	TEST PIT TPComp-1				
		NOVEMBER 2016	RIVER TERRACE AREA 10 TIGARD, OR				FIGURE D-14

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION DEPTH	TESTING	SAMPLE	● MOISTURE CONTENT %	COMMENTS
0.0		Brown, sandy SILT (ML), trace organics (roots); moist.		CA		0 50 100	TPComp-2(0.0-0.5) NS PID = 4.1 ppm
				CA			TPComp-2(1.5-2.0) NS PID = 3.6 ppm
2.5		Exploration completed at a depth of 2.0 feet.	2.0				No groundwater seepage observed to the depth explored. No caving observed to the depth explored. Surface elevation was not measured at the time of exploration.
5.0							
7.5							
10.0						0 50 100	
EXCAVATED BY: Northwest Earthmovers, Inc.			LOGGED BY: NJF			COMPLETED: 10/12/16	
EXCAVATION METHOD: trackhoe (see document text)							
 15575 SW Sequoia Parkway - Suite 100 Portland OR 97224 Off 503.968.8787 Fax 503.968.3068		POLYGON-145-02	TEST PIT TPComp-2				
		NOVEMBER 2016	RIVER TERRACE AREA 10 TIGARD, OR				FIGURE D-15

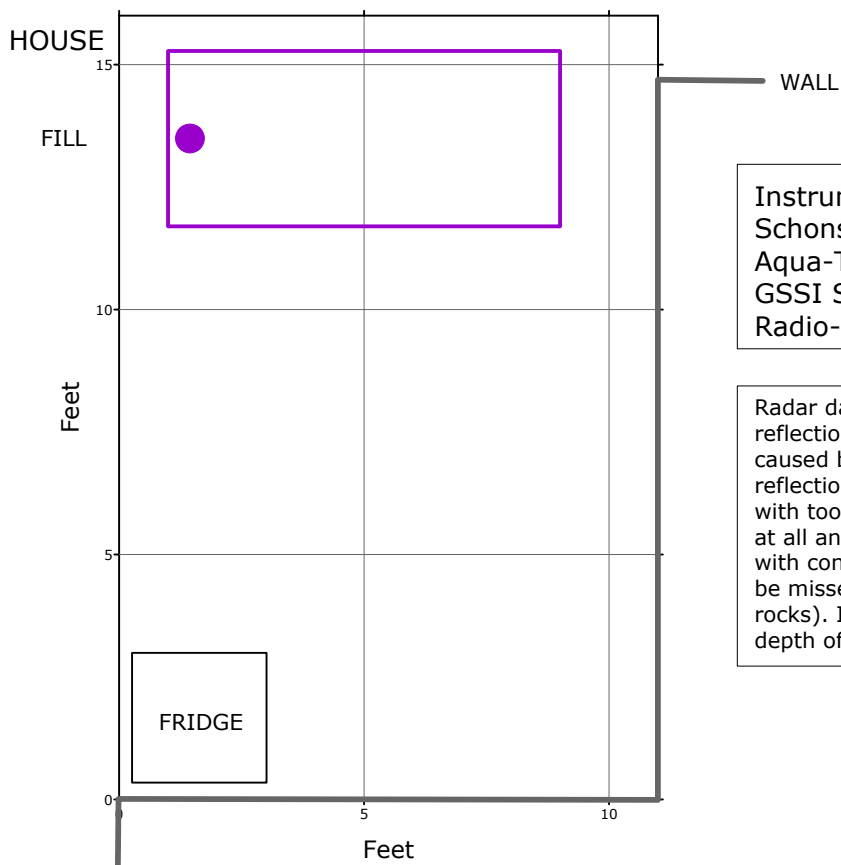
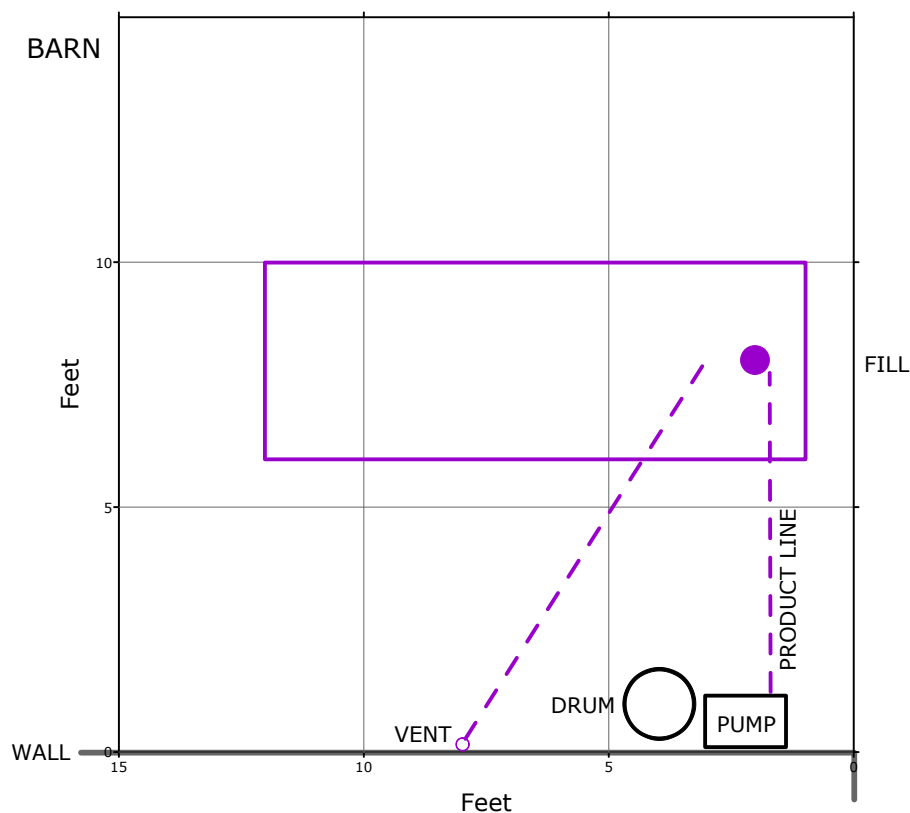
DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION DEPTH	TESTING	SAMPLE	● MOISTURE CONTENT %	COMMENTS
0.0		Gray GRAVEL with sand and silt (GP-GM); moist. Brown, sandy SILT (ML), trace organics (roots); moist.	0.1	CA		0 50 100	TPComp-3(0.0-0.5) HS PID = 2.3 ppm
2.5		Exploration completed at a depth of 2.0 feet.	2.0	CA		0 50 100	TPComp-3(1.5-2.0) NS PID = 2.7 ppm No groundwater seepage observed to the depth explored. No caving observed to the depth explored. Surface elevation was not measured at the time of exploration.
10.0						0 50 100	
EXCAVATED BY: Northwest Earthmovers, Inc.			LOGGED BY: NJF			COMPLETED: 10/12/16	
EXCAVATION METHOD: trackhoe (see document text)							
 15575 SW Sequoia Parkway - Suite 100 Portland OR 97224 Off 503.968.8787 Fax 503.968.3068		POLYGON-145-02	TEST PIT TPComp-3				
		NOVEMBER 2016	RIVER TERRACE AREA 10 TIGARD, OR				FIGURE D-16

BORING LOG POLYGON-145-02-DP1_9-TP1_4-TPCOMP1_3-HA1_2.GPJ GEODESIGN.GDT PRINT DATE: 11/1/16-RC:KT

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION DEPTH	TESTING	SAMPLE	BLOW COUNT ● MOISTURE CONTENT % RQD% CORE REC%			INSTALLATION AND COMMENTS
						0	50	100	
0.0		Brown SILT (ML), trace sand; moist.		CA					HA-1(0.0-1.0) SS PID = 1.8 ppm
2.5		trace gravel at 3.5 feet							SS PID = 0.7 ppm
5.0		gray at 5.5 feet							HS PID = 15.3 ppm
		dark gray at 6.5 feet		CA					HS PID = 67.8 ppm
7.5		gray at 8.0 feet		CA					HS PID = 191.0 ppm
		Exploration terminated at a depth of 8.5 feet due to refusal.	8.5						HA-1(6.5-8.0) HS PID = 389.0 ppm
									HS PID = 213.0 ppm
									HS PID = 374.0 ppm
									HA-1(8.0-8.5) HS PID = 560.0 ppm
									Surface elevation was not measured at the time of exploration.
10.0									
DRILLED BY: GeoDesign, Inc. staff		LOGGED BY: JMZ		COMPLETED: 10/20/16					
BORING METHOD: hand auger (see document text)				BORING BIT DIAMETER: 2 3/4 inches					
POLYGON-145-02		BORING HA-1							
NOVEMBER 2016		RIVER TERRACE AREA 10 TIGARD, OR				FIGURE D-17			

BORING LOG POLYGON-145-02-DP1_9-TP1_4-TPCOMP1_3-HA1_2.GPJ GEODESIGN.GDT PRINT DATE: 11/1/16:RC:KT

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION DEPTH	TESTING	SAMPLE	▲ BLOW COUNT ● MOISTURE CONTENT % RQD% CORE REC%	INSTALLATION AND COMMENTS
0.0		Brown SILT (ML), trace sand; moist.			0	50100	
2.5							SS PID = 1.2 ppm
							SS PID = 3.7 ppm
5.0							NS PID = 4.5 ppm
		gray at 6.5 feet					SS PID = 1.4 ppm
7.5				CA			HS PID = 122.0 ppm
		red-brown at 8.0 feet					HA-2(7.0-8.0) HS PID = 390.0 ppm
				CA			HS PID = 210.0 ppm
							MS PID = 47.1 ppm
		Exploration terminated at a depth of 8.75 feet due to refusal.	8.8				HA-2(8.25-8.75) SS PID = 2.4 ppm
10.0					0	50100	Surface elevation was not measured at the time of exploration.
DRILLED BY: GeoDesign, Inc. staff		LOGGED BY: JMZ		COMPLETED: 10/20/16			
BORING METHOD: hand auger (see document text)				BORING BIT DIAMETER: 2 3/4 inches			
POLYGON-145-02		BORING HA-2					
NOVEMBER 2016		RIVER TERRACE AREA 10 TIGARD, OR				FIGURE D-18	



Instruments used:
 Schonstedt Magnetic Gradiometer
 Aqua-Tronics EMA6 Tracer
 GSSI SIR2000 GPR system with 270-MHz antenna
 Radio-Detection RD8000PDL Rec./TX3 Transm.

Radar data are ambiguous. It can be difficult to distinguish the reflection produced by an object of interest from the reflection caused by some natural feature. Rocks or tree roots have reflections that appear similar to reflections from pipes. Objects with too small an electrical contrast may produce no reflections at all and may be missed. Target objects buried below objects with contrasting properties that also produce reflections may be missed (e.g. USTs below roots, concrete pieces, pipes or rocks). If an object of interest like a UST is buried below the depth of penetration of the radar signal, it will be missed.



APPENDIX E

APPENDIX E

CHEMICAL ANALYTICAL PROGRAM

GENERAL

Chain-of-custody procedures were followed during handling and transport of the soil and sediment samples to the analytical laboratory. The laboratory holds the samples in cold storage pending extraction and/or analysis. The analytical results, analytical methods reference, and laboratory QC records are included in this appendix. The soil analytical results are summarized in Tables 1 through 6 of this report.

REVIEW OF ANALYTICAL DATA

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

Surrogate Recoveries: Surrogates are organic compounds that are similar in nature to the analytes of concern but are not normally found in nature. The surrogates are added to QC and field 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: An MS sample is a sample that has been split into a second portion. The MSD is obtained by further splitting the MS sample. A known concentration of the analyte of interest is added to the MS and MSD samples. The analytical results for both samples are then compared for RPD and percent recovery to demonstrate acceptable method performance.

BS/BSD 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.

SUMMARY OF ANALYTICAL DATA REVIEW

GeoDesign reviewed the attached analytical data reports for data quality exceptions and deviations from acceptable method performance criteria. Based on our data review, it is our opinion that the analytical data are acceptable for their intended use.

Apex Labs

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

Tuesday, October 4, 2016

Jeremy Zimmer
GeoDesign, Inc.
15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

RE: River Terrace East / Polygon-145-02

Enclosed are the results of analyses for work order A6I0938, which was received by the laboratory on 9/30/2016 at 1:15:00PM.

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

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

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace East**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/04/16 17:02

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Comp-1(0.0-0.5)	A6I0938-01	Soil	09/30/16 12:35	09/30/16 13:15
Comp-2(0.0-0.5)	A6I0938-02	Soil	09/30/16 12:25	09/30/16 13:15
Comp-3(0.0-0.5)	A6I0938-03	Soil	09/30/16 10:15	09/30/16 13:15
Comp-4(0.0-0.5)	A6I0938-04	Soil	09/30/16 10:05	09/30/16 13:15
Comp-5(0.0-0.5)	A6I0938-05	Soil	09/30/16 10:50	09/30/16 13:15
Comp-6(0.0-0.5)	A6I0938-06	Soil	09/30/16 10:25	09/30/16 13:15
Comp-7(0.0-0.5)	A6I0938-07	Soil	09/30/16 10:35	09/30/16 13:15
Comp-8(0.0-0.5)	A6I0938-08	Soil	09/30/16 11:55	09/30/16 13:15
Comp-9(0.0-0.5)	A6I0938-09	Soil	09/30/16 11:45	09/30/16 13:15

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace East

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/04/16 17:02

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
Comp-1(0.0-0.5) (A6I0938-01RE1)			Matrix: Soil		Batch: 6091198			C-05
Aldrin	ND	---	1.93	ug/kg dry	1	10/03/16 15:31	EPA 8081B	
alpha-BHC	ND	---	1.93	"	"	"	"	
beta-BHC	ND	---	1.93	"	"	"	"	
delta-BHC	ND	---	1.93	"	"	"	"	
gamma-BHC (Lindane)	5.53	---	1.93	"	"	"	"	
cis-Chlordane	ND	---	1.93	"	"	"	"	
trans-Chlordane	ND	---	1.93	"	"	"	"	
4,4'-DDD	ND	---	1.93	"	"	"	"	
4,4'-DDE	11.0	---	1.93	"	"	"	"	
4,4'-DDT	10.0	---	1.93	"	"	"	"	
Dieldrin	168	---	1.93	"	"	"	"	
Endosulfan I	ND	---	1.93	"	"	"	"	
Endosulfan II	ND	---	1.93	"	"	"	"	
Endosulfan sulfate	ND	---	1.93	"	"	"	"	
Endrin	ND	---	1.93	"	"	"	"	
Endrin Aldehyde	ND	---	1.93	"	"	"	"	
Endrin ketone	ND	---	1.93	"	"	"	"	
Heptachlor	ND	---	1.93	"	"	"	"	
Heptachlor epoxide	ND	---	1.93	"	"	"	"	
Methoxychlor	ND	---	5.78	"	"	"	"	
Chlordane (Technical)	ND	---	57.8	"	"	"	"	
Toxaphene (Total)	ND	---	57.8	"	"	"	"	
<i>Surrogate: 2,4,5,6-TCMX (Surr)</i>			<i>Recovery: 64 %</i>	<i>Limits: 42-129 %</i>	"	"	"	
<i>Decachlorobiphenyl (Surr)</i>			<i>75 %</i>	<i>Limits: 65-151 %</i>	"	"	"	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace East

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/04/16 17:02

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
Comp-2(0.0-0.5) (A6I0938-02RE1)			Matrix: Soil		Batch: 6091198			C-05
Aldrin	ND	---	2.00	ug/kg dry	1	10/03/16 16:06	EPA 8081B	
alpha-BHC	ND	---	2.00	"	"	"	"	
beta-BHC	ND	---	2.00	"	"	"	"	
delta-BHC	ND	---	2.00	"	"	"	"	
gamma-BHC (Lindane)	5.61	---	2.00	"	"	"	"	
cis-Chlordane	ND	---	2.00	"	"	"	"	
trans-Chlordane	ND	---	2.00	"	"	"	"	
4,4'-DDD	ND	---	2.00	"	"	"	"	
4,4'-DDE	22.4	---	2.00	"	"	"	"	
4,4'-DDT	16.9	---	2.00	"	"	"	"	
Dieldrin	119	---	2.00	"	"	"	"	
Endosulfan I	ND	---	2.00	"	"	"	"	
Endosulfan II	ND	---	2.00	"	"	"	"	
Endosulfan sulfate	ND	---	2.00	"	"	"	"	
Endrin	ND	---	2.00	"	"	"	"	
Endrin Aldehyde	ND	---	2.00	"	"	"	"	
Endrin ketone	ND	---	2.00	"	"	"	"	
Heptachlor	ND	---	2.00	"	"	"	"	
Heptachlor epoxide	ND	---	2.00	"	"	"	"	
Methoxychlor	ND	---	5.99	"	"	"	"	
Chlordane (Technical)	ND	---	59.9	"	"	"	"	
Toxaphene (Total)	ND	---	59.9	"	"	"	"	

Surrogate: 2,4,5,6-TCMX (Surr)

Recovery: 71 %

Limits: 42-129 %

"

"

"

Decachlorobiphenyl (Surr)

79 %

Limits: 65-151 %

"

"

"

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace East

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/04/16 17:02

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
Comp-3(0.0-0.5) (A6I0938-03RE1)			Matrix: Soil		Batch: 6091198		C-05	
Aldrin	ND	---	1.94	ug/kg dry	1	10/03/16 16:24	EPA 8081B	
alpha-BHC	ND	---	1.94	"	"	"	"	
beta-BHC	ND	---	1.94	"	"	"	"	
delta-BHC	ND	---	1.94	"	"	"	"	
gamma-BHC (Lindane)	ND	---	1.94	"	"	"	"	
cis-Chlordane	ND	---	1.94	"	"	"	"	
trans-Chlordane	ND	---	1.94	"	"	"	"	
4,4'-DDD	ND	---	1.94	"	"	"	"	
4,4'-DDE	56.8	---	1.94	"	"	"	"	
4,4'-DDT	42.2	---	1.94	"	"	"	"	
Endosulfan I	ND	---	1.94	"	"	"	"	
Endosulfan II	ND	---	1.94	"	"	"	"	
Endosulfan sulfate	ND	---	1.94	"	"	"	"	
Endrin	ND	---	1.94	"	"	"	"	
Endrin Aldehyde	ND	---	1.94	"	"	"	"	
Endrin ketone	ND	---	1.94	"	"	"	"	
Heptachlor	ND	---	1.94	"	"	"	"	
Heptachlor epoxide	ND	---	1.94	"	"	"	"	
Methoxychlor	ND	---	5.81	"	"	"	"	
Chlordane (Technical)	ND	---	58.1	"	"	"	"	
Toxaphene (Total)	ND	---	58.1	"	"	"	"	
<i>Surrogate: 2,4,5,6-TCMX (Surr)</i>			<i>Recovery: 71 %</i>	<i>Limits: 42-129 %</i>	"	"	"	
<i>Decachlorobiphenyl (Surr)</i>			<i>87 %</i>	<i>Limits: 65-151 %</i>	"	"	"	

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace East**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/04/16 17:02

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
Comp-3(0.0-0.5) (A6I0938-03RE2)			Matrix: Soil		Batch: 6091198			C-05
Dieldrin	189	---	9.69	ug/kg dry	5	10/04/16 11:58	EPA 8081B	
Comp-4(0.0-0.5) (A6I0938-04RE1)			Matrix: Soil		Batch: 6091198			C-05
Aldrin	ND	---	1.90	ug/kg dry	1	10/03/16 17:16	EPA 8081B	
alpha-BHC	ND	---	1.90	"	"	"	"	
beta-BHC	ND	---	1.90	"	"	"	"	
delta-BHC	ND	---	1.90	"	"	"	"	
gamma-BHC (Lindane)	ND	---	1.90	"	"	"	"	
cis-Chlordane	ND	---	2.37	"	"	"	"	R-02
trans-Chlordane	ND	---	1.90	"	"	"	"	
4,4'-DDD	ND	---	1.90	"	"	"	"	
4,4'-DDE	97.1	---	1.90	"	"	"	"	
4,4'-DDT	42.6	---	1.90	"	"	"	"	
Dieldrin	43.7	---	1.90	"	"	"	"	
Endosulfan I	ND	---	1.90	"	"	"	"	
Endosulfan II	ND	---	1.90	"	"	"	"	
Endosulfan sulfate	ND	---	1.90	"	"	"	"	
Endrin	ND	---	1.90	"	"	"	"	
Endrin Aldehyde	ND	---	1.90	"	"	"	"	
Endrin ketone	ND	---	1.90	"	"	"	"	
Heptachlor	ND	---	1.90	"	"	"	"	
Heptachlor epoxide	ND	---	1.90	"	"	"	"	
Methoxychlor	ND	---	5.69	"	"	"	"	
Chlordane (Technical)	ND	---	56.9	"	"	"	"	
Toxaphene (Total)	ND	---	56.9	"	"	"	"	
<i>Surrogate: 2,4,5,6-TCMX (Surr)</i>			<i>Recovery: 67 %</i>	<i>Limits: 42-129 %</i>	"	"	"	
<i>Decachlorobiphenyl (Surr)</i>			<i>85 %</i>	<i>Limits: 65-151 %</i>	"	"	"	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace East

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/04/16 17:02

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
Comp-5(0.0-0.5) (A6I0938-05RE1)			Matrix: Soil		Batch: 6091198		C-05	
Aldrin	ND	---	1.96	ug/kg dry	1	10/03/16 17:51	EPA 8081B	
alpha-BHC	ND	---	1.96	"	"	"	"	
beta-BHC	ND	---	1.96	"	"	"	"	
delta-BHC	ND	---	1.96	"	"	"	"	
gamma-BHC (Lindane)	ND	---	1.96	"	"	"	"	
cis-Chlordane	ND	---	1.96	"	"	"	"	
trans-Chlordane	ND	---	1.96	"	"	"	"	
4,4'-DDD	ND	---	1.96	"	"	"	"	
4,4'-DDE	48.4	---	1.96	"	"	"	"	
4,4'-DDT	39.5	---	1.96	"	"	"	"	
Dieldrin	134	---	1.96	"	"	"	"	
Endosulfan I	ND	---	1.96	"	"	"	"	
Endosulfan II	ND	---	1.96	"	"	"	"	
Endosulfan sulfate	ND	---	1.96	"	"	"	"	
Endrin	ND	---	1.96	"	"	"	"	
Endrin Aldehyde	ND	---	1.96	"	"	"	"	
Endrin ketone	ND	---	1.96	"	"	"	"	
Heptachlor	ND	---	1.96	"	"	"	"	
Heptachlor epoxide	ND	---	1.96	"	"	"	"	
Methoxychlor	ND	---	5.87	"	"	"	"	
Chlordane (Technical)	ND	---	58.7	"	"	"	"	
Toxaphene (Total)	ND	---	58.7	"	"	"	"	

Surrogate: 2,4,5,6-TCMX (Surr)

Decachlorobiphenyl (Surr)

Recovery: 65 %

Limits: 42-129 %

"

"

"

77 %

Limits: 65-151 %

"

"

"

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace East

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/04/16 17:02

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
Comp-6(0.0-0.5) (A6I0938-06RE1)			Matrix: Soil		Batch: 6091198			C-05
Aldrin	ND	---	1.87	ug/kg dry	1	10/03/16 18:09	EPA 8081B	
alpha-BHC	ND	---	1.87	"	"	"	"	
beta-BHC	ND	---	1.87	"	"	"	"	
delta-BHC	ND	---	1.87	"	"	"	"	
gamma-BHC (Lindane)	2.12	---	1.87	"	"	"	"	
cis-Chlordane	ND	---	3.47	"	"	"	"	R-02
trans-Chlordane	ND	---	1.87	"	"	"	"	
4,4'-DDD	ND	---	3.19	"	"	"	"	R-02
4,4'-DDE	117	---	1.87	"	"	"	"	
4,4'-DDT	105	---	1.87	"	"	"	"	
Dieldrin	77.1	---	1.87	"	"	"	"	
Endosulfan I	ND	---	1.87	"	"	"	"	
Endosulfan II	ND	---	1.87	"	"	"	"	
Endosulfan sulfate	ND	---	2.25	"	"	"	"	R-02
Endrin	ND	---	1.87	"	"	"	"	
Endrin Aldehyde	ND	---	1.87	"	"	"	"	
Endrin ketone	ND	---	1.87	"	"	"	"	
Heptachlor	ND	---	1.87	"	"	"	"	
Heptachlor epoxide	ND	---	1.87	"	"	"	"	
Methoxychlor	ND	---	5.62	"	"	"	"	
Chlordane (Technical)	ND	---	56.2	"	"	"	"	
Toxaphene (Total)	ND	---	56.2	"	"	"	"	

Surrogate: 2,4,5,6-TCMX (Surr)

Recovery: 65 %

Limits: 42-129 %

"

"

"

Decachlorobiphenyl (Surr)

77 %

Limits: 65-151 %

"

"

"

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace East

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/04/16 17:02

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
Comp-7(0.0-0.5) (A6I0938-07RE1)			Matrix: Soil		Batch: 6091198		C-05	
Aldrin	ND	---	1.90	ug/kg dry	1	10/03/16 18:26	EPA 8081B	
alpha-BHC	ND	---	1.90	"	"	"	"	
beta-BHC	ND	---	1.90	"	"	"	"	
delta-BHC	ND	---	1.90	"	"	"	"	
gamma-BHC (Lindane)	ND	---	1.90	"	"	"	"	
cis-Chlordane	ND	---	1.90	"	"	"	"	
trans-Chlordane	ND	---	1.90	"	"	"	"	
4,4'-DDD	3.43	---	1.90	"	"	"	"	
4,4'-DDE	108	---	1.90	"	"	"	"	
4,4'-DDT	70.0	---	1.90	"	"	"	"	
Dieldrin	77.6	---	1.90	"	"	"	"	
Endosulfan I	ND	---	1.90	"	"	"	"	
Endosulfan II	ND	---	1.90	"	"	"	"	
Endosulfan sulfate	ND	---	1.90	"	"	"	"	
Endrin	ND	---	1.90	"	"	"	"	
Endrin Aldehyde	ND	---	1.90	"	"	"	"	
Endrin ketone	ND	---	1.90	"	"	"	"	
Heptachlor	ND	---	1.90	"	"	"	"	
Heptachlor epoxide	ND	---	1.90	"	"	"	"	
Methoxychlor	ND	---	5.70	"	"	"	"	
Chlordane (Technical)	ND	---	57.0	"	"	"	"	
Toxaphene (Total)	ND	---	57.0	"	"	"	"	

Surrogate: 2,4,5,6-TCMX (Surr)

Recovery: 58 %

Limits: 42-129 %

"

"

"

Decachlorobiphenyl (Surr)

81 %

Limits: 65-151 %

"

"

"

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace East

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/04/16 17:02

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
Comp-8(0.0-0.5) (A6I0938-08RE1)			Matrix: Soil	Batch: 6091198			C-05	
Aldrin	ND	---	2.02	ug/kg dry	1	10/03/16 18:43	EPA 8081B	
alpha-BHC	ND	---	2.02	"	"	"	"	
beta-BHC	ND	---	2.02	"	"	"	"	
delta-BHC	ND	---	2.02	"	"	"	"	
gamma-BHC (Lindane)	ND	---	2.02	"	"	"	"	
cis-Chlordane	ND	---	2.02	"	"	"	"	
trans-Chlordane	ND	---	2.02	"	"	"	"	
4,4'-DDD	ND	---	2.02	"	"	"	"	
4,4'-DDE	4.29	---	2.02	"	"	"	"	
4,4'-DDT	2.24	---	2.02	"	"	"	"	
Dieldrin	ND	---	2.02	"	"	"	"	
Endosulfan I	ND	---	2.02	"	"	"	"	
Endosulfan II	ND	---	2.02	"	"	"	"	
Endosulfan sulfate	ND	---	2.02	"	"	"	"	
Endrin	ND	---	2.02	"	"	"	"	
Endrin Aldehyde	ND	---	2.02	"	"	"	"	
Endrin ketone	ND	---	2.39	"	"	"	"	R-02
Heptachlor	ND	---	2.02	"	"	"	"	
Heptachlor epoxide	ND	---	2.02	"	"	"	"	
Methoxychlor	ND	---	6.07	"	"	"	"	
Chlordane (Technical)	ND	---	60.7	"	"	"	"	
Toxaphene (Total)	ND	---	60.7	"	"	"	"	
<i>Surrogate: 2,4,5,6-TCMX (Surr)</i>			<i>Recovery: 70 %</i>	<i>Limits: 42-129 %</i>	"	"	"	
<i>Decachlorobiphenyl (Surr)</i>			<i>98 %</i>	<i>Limits: 65-151 %</i>	"	"	"	

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace East**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/04/16 17:02

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
Comp-9(0.0-0.5) (A6I0938-09RE1)			Matrix: Soil		Batch: 6091198			C-05
Aldrin	ND	---	1.88	ug/kg dry	1	10/03/16 19:01	EPA 8081B	
alpha-BHC	ND	---	1.88	"	"	"	"	
beta-BHC	ND	---	1.88	"	"	"	"	
delta-BHC	ND	---	1.88	"	"	"	"	
gamma-BHC (Lindane)	ND	---	1.88	"	"	"	"	
cis-Chlordane	ND	---	1.88	"	"	"	"	
trans-Chlordane	ND	---	1.88	"	"	"	"	
4,4'-DDD	ND	---	1.88	"	"	"	"	
4,4'-DDE	45.0	---	1.88	"	"	"	"	
4,4'-DDT	27.0	---	1.88	"	"	"	"	
Dieldrin	47.1	---	1.88	"	"	"	"	
Endosulfan I	ND	---	1.88	"	"	"	"	
Endosulfan II	ND	---	1.88	"	"	"	"	
Endosulfan sulfate	ND	---	1.88	"	"	"	"	
Endrin	ND	---	1.88	"	"	"	"	
Endrin Aldehyde	ND	---	1.88	"	"	"	"	
Endrin ketone	ND	---	1.88	"	"	"	"	
Heptachlor	ND	---	1.88	"	"	"	"	
Heptachlor epoxide	ND	---	1.88	"	"	"	"	
Methoxychlor	ND	---	5.65	"	"	"	"	
Chlordane (Technical)	ND	---	56.5	"	"	"	"	
Toxaphene (Total)	ND	---	56.5	"	"	"	"	

Surrogate: 2,4,5,6-TCMX (Surr)

Decachlorobiphenyl (Surr)

Recovery: 81 %

Limits: 42-129 %

95 % Limits: 65-151 %

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace East

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/04/16 17:02

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
Comp-1(0.0-0.5) (A6I0938-01)			Matrix: Soil					
Batch: 6100147								
Antimony	ND	---	1.09	mg/kg dry	10	10/03/16 21:21	EPA 6020A	
Arsenic	3.14	---	1.09	"	"	"	"	
Barium	263	---	1.09	"	"	"	"	
Beryllium	0.557	---	0.219	"	"	"	"	
Cadmium	ND	---	0.219	"	"	"	"	
Chromium	16.9	---	1.09	"	"	"	"	
Cobalt	12.9	---	0.219	"	"	"	"	
Copper	10.1	---	1.09	"	"	"	"	
Lead	9.65	---	0.219	"	"	"	"	
Mercury	ND	---	0.0874	"	"	"	"	
Molybdenum	ND	---	1.09	"	"	"	"	
Nickel	11.6	---	1.09	"	"	"	"	
Selenium	ND	---	1.09	"	"	"	"	
Silver	ND	---	0.219	"	"	"	"	
Thallium	ND	---	0.219	"	"	"	"	
Vanadium	54.5	---	1.09	"	"	"	"	
Zinc	55.5	---	4.37	"	"	"	"	
Comp-2(0.0-0.5) (A6I0938-02)			Matrix: Soil					
Batch: 6100147								
Antimony	ND	---	1.14	mg/kg dry	10	10/03/16 21:25	EPA 6020A	
Arsenic	2.44	---	1.14	"	"	"	"	
Barium	229	---	1.14	"	"	"	"	
Beryllium	0.398	---	0.227	"	"	"	"	
Cadmium	ND	---	0.227	"	"	"	"	
Chromium	15.5	---	1.14	"	"	"	"	
Cobalt	10.1	---	0.227	"	"	"	"	
Copper	12.9	---	1.14	"	"	"	"	
Lead	8.79	---	0.227	"	"	"	"	
Mercury	ND	---	0.0909	"	"	"	"	
Molybdenum	ND	---	1.14	"	"	"	"	
Nickel	11.0	---	1.14	"	"	"	"	
Selenium	ND	---	1.14	"	"	"	"	
Silver	ND	---	0.227	"	"	"	"	
Thallium	ND	---	0.227	"	"	"	"	
Vanadium	45.6	---	1.14	"	"	"	"	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace East**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/04/16 17:02

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
Comp-2(0.0-0.5) (A6I0938-02)			Matrix: Soil					
Zinc	55.7	---	4.54	mg/kg dry	10	"	EPA 6020A	
Comp-3(0.0-0.5) (A6I0938-03)			Matrix: Soil					
Batch: 6100147								
Antimony	ND	---	1.23	mg/kg dry	10	10/03/16 21:28	EPA 6020A	
Arsenic	2.86	---	1.23	"	"	"	"	
Barium	264	---	1.23	"	"	"	"	
Beryllium	0.481	---	0.247	"	"	"	"	
Cadmium	0.444	---	0.247	"	"	"	"	
Chromium	17.0	---	1.23	"	"	"	"	
Cobalt	13.3	---	0.247	"	"	"	"	
Copper	42.4	---	1.23	"	"	"	"	
Lead	40.0	---	0.247	"	"	"	"	
Mercury	ND	---	0.0986	"	"	"	"	
Molybdenum	ND	---	1.23	"	"	"	"	
Nickel	10.9	---	1.23	"	"	"	"	
Selenium	ND	---	1.23	"	"	"	"	
Silver	ND	---	0.247	"	"	"	"	
Thallium	ND	---	0.247	"	"	"	"	
Vanadium	49.2	---	1.23	"	"	"	"	
Zinc	88.8	---	4.93	"	"	"	"	
Comp-4(0.0-0.5) (A6I0938-04)			Matrix: Soil					
Batch: 6100147								
Antimony	ND	---	1.12	mg/kg dry	10	10/03/16 21:31	EPA 6020A	
Arsenic	3.37	---	1.12	"	"	"	"	
Barium	181	---	1.12	"	"	"	"	
Beryllium	0.438	---	0.225	"	"	"	"	
Cadmium	0.360	---	0.225	"	"	"	"	
Chromium	16.2	---	1.12	"	"	"	"	
Cobalt	10.3	---	0.225	"	"	"	"	
Copper	11.6	---	1.12	"	"	"	"	
Lead	19.3	---	0.225	"	"	"	"	
Mercury	0.138	---	0.0899	"	"	"	"	
Molybdenum	ND	---	1.12	"	"	"	"	
Nickel	9.67	---	1.12	"	"	"	"	
Selenium	ND	---	1.12	"	"	"	"	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace East

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/04/16 17:02

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
Comp-4(0.0-0.5) (A6I0938-04)			Matrix: Soil					
Silver	ND	---	0.225	mg/kg dry	10	"	EPA 6020A	
Thallium	ND	---	0.225	"	"	"	"	
Vanadium	50.1	---	1.12	"	"	"	"	
Zinc	62.9	---	4.50	"	"	"	"	
Comp-5(0.0-0.5) (A6I0938-05)			Matrix: Soil					
Batch: 6100147								
Antimony	ND	---	1.16	mg/kg dry	10	10/03/16 21:34	EPA 6020A	
Arsenic	3.48	---	1.16	"	"	"	"	
Barium	200	---	1.16	"	"	"	"	
Beryllium	0.557	---	0.232	"	"	"	"	
Cadmium	0.232	---	0.232	"	"	"	"	
Chromium	18.4	---	1.16	"	"	"	"	
Cobalt	15.8	---	0.232	"	"	"	"	
Copper	12.4	---	1.16	"	"	"	"	
Lead	11.6	---	0.232	"	"	"	"	
Mercury	ND	---	0.0929	"	"	"	"	
Molybdenum	ND	---	1.16	"	"	"	"	
Nickel	11.7	---	1.16	"	"	"	"	
Selenium	ND	---	1.16	"	"	"	"	
Silver	ND	---	0.232	"	"	"	"	
Thallium	ND	---	0.232	"	"	"	"	
Vanadium	60.6	---	1.16	"	"	"	"	
Zinc	58.0	---	4.64	"	"	"	"	
Comp-6(0.0-0.5) (A6I0938-06)			Matrix: Soil					
Batch: 6100147								
Antimony	ND	---	1.13	mg/kg dry	10	10/03/16 21:43	EPA 6020A	
Arsenic	3.45	---	1.13	"	"	"	"	
Barium	136	---	1.13	"	"	"	"	
Beryllium	0.465	---	0.227	"	"	"	"	
Cadmium	0.340	---	0.227	"	"	"	"	
Chromium	19.6	---	1.13	"	"	"	"	
Cobalt	12.2	---	0.227	"	"	"	"	
Copper	13.0	---	1.13	"	"	"	"	
Lead	10.5	---	0.227	"	"	"	"	
Mercury	ND	---	0.0908	"	"	"	"	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace East

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/04/16 17:02

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
Comp-6(0.0-0.5) (A6I0938-06)			Matrix: Soil					
Molybdenum	ND	---	1.13	mg/kg dry	10	"	EPA 6020A	
Nickel	11.0	---	1.13	"	"	"	"	
Selenium	ND	---	1.13	"	"	"	"	
Silver	ND	---	0.227	"	"	"	"	
Thallium	ND	---	0.227	"	"	"	"	
Vanadium	65.0	---	1.13	"	"	"	"	
Zinc	53.5	---	4.54	"	"	"	"	
Comp-7(0.0-0.5) (A6I0938-07)			Matrix: Soil					
Batch: 6100147								
Antimony	ND	---	1.17	mg/kg dry	10	10/03/16 21:46	EPA 6020A	
Arsenic	3.24	---	1.17	"	"	"	"	
Barium	153	---	1.17	"	"	"	"	
Beryllium	0.468	---	0.234	"	"	"	"	
Cadmium	0.374	---	0.234	"	"	"	"	
Chromium	19.6	---	1.17	"	"	"	"	
Cobalt	12.9	---	0.234	"	"	"	"	
Copper	12.4	---	1.17	"	"	"	"	
Lead	17.9	---	0.234	"	"	"	"	
Mercury	ND	---	0.0936	"	"	"	"	
Molybdenum	ND	---	1.17	"	"	"	"	
Nickel	9.28	---	1.17	"	"	"	"	
Selenium	ND	---	1.17	"	"	"	"	
Silver	ND	---	0.234	"	"	"	"	
Thallium	ND	---	0.234	"	"	"	"	
Vanadium	57.1	---	1.17	"	"	"	"	
Zinc	53.1	---	4.68	"	"	"	"	
Comp-8(0.0-0.5) (A6I0938-08)			Matrix: Soil					
Batch: 6100147								
Antimony	ND	---	1.13	mg/kg dry	10	10/03/16 21:49	EPA 6020A	
Arsenic	2.26	---	1.13	"	"	"	"	
Barium	197	---	1.13	"	"	"	"	
Beryllium	0.418	---	0.226	"	"	"	"	
Cadmium	ND	---	0.226	"	"	"	"	
Chromium	15.2	---	1.13	"	"	"	"	
Cobalt	11.7	---	0.226	"	"	"	"	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace East**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/04/16 17:02

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
Comp-8(0.0-0.5) (A6I0938-08)			Matrix: Soil					
Copper	9.38	---	1.13	mg/kg dry	10	"	EPA 6020A	
Lead	10.6	---	0.226	"	"	"	"	
Mercury	ND	---	0.0903	"	"	"	"	
Molybdenum	ND	---	1.13	"	"	"	"	
Nickel	9.31	---	1.13	"	"	"	"	
Selenium	ND	---	1.13	"	"	"	"	
Silver	ND	---	0.226	"	"	"	"	
Thallium	ND	---	0.226	"	"	"	"	
Vanadium	57.7	---	1.13	"	"	"	"	
Zinc	58.6	---	4.51	"	"	"	"	
Comp-9(0.0-0.5) (A6I0938-09)			Matrix: Soil					
Batch: 6100147								
Antimony	ND	---	1.21	mg/kg dry	10	10/03/16 21:53	EPA 6020A	
Arsenic	3.20	---	1.21	"	"	"	"	
Barium	133	---	1.21	"	"	"	"	
Beryllium	0.471	---	0.241	"	"	"	"	
Cadmium	ND	---	0.241	"	"	"	"	
Chromium	16.5	---	1.21	"	"	"	"	
Cobalt	12.0	---	0.241	"	"	"	"	
Copper	12.8	---	1.21	"	"	"	"	
Lead	9.90	---	0.241	"	"	"	"	
Mercury	ND	---	0.0966	"	"	"	"	
Molybdenum	ND	---	1.21	"	"	"	"	
Nickel	9.95	---	1.21	"	"	"	"	
Selenium	ND	---	1.21	"	"	"	"	
Silver	ND	---	0.241	"	"	"	"	
Thallium	ND	---	0.241	"	"	"	"	
Vanadium	59.1	---	1.21	"	"	"	"	
Zinc	56.0	---	4.83	"	"	"	"	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace East

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/04/16 17:02

ANALYTICAL SAMPLE RESULTS

Percent Dry Weight								
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
Comp-1(0.0-0.5) (A6I0938-01)			Matrix: Soil		Batch: 6100153			
% Solids	90.4	---	1.00	% by Weight	1	10/04/16 09:24	EPA 8000C	
Comp-2(0.0-0.5) (A6I0938-02)			Matrix: Soil		Batch: 6100153			
% Solids	90.0	---	1.00	% by Weight	1	10/04/16 09:24	EPA 8000C	
Comp-3(0.0-0.5) (A6I0938-03)			Matrix: Soil		Batch: 6100153			
% Solids	89.7	---	1.00	% by Weight	1	10/04/16 09:24	EPA 8000C	
Comp-4(0.0-0.5) (A6I0938-04)			Matrix: Soil		Batch: 6100153			
% Solids	91.3	---	1.00	% by Weight	1	10/04/16 09:24	EPA 8000C	
Comp-5(0.0-0.5) (A6I0938-05)			Matrix: Soil		Batch: 6100153			
% Solids	90.5	---	1.00	% by Weight	1	10/04/16 09:24	EPA 8000C	
Comp-6(0.0-0.5) (A6I0938-06)			Matrix: Soil		Batch: 6100153			
% Solids	92.0	---	1.00	% by Weight	1	10/04/16 09:24	EPA 8000C	
Comp-7(0.0-0.5) (A6I0938-07)			Matrix: Soil		Batch: 6100153			
% Solids	90.6	---	1.00	% by Weight	1	10/04/16 09:24	EPA 8000C	
Comp-8(0.0-0.5) (A6I0938-08)			Matrix: Soil		Batch: 6100153			
% Solids	87.9	---	1.00	% by Weight	1	10/04/16 09:24	EPA 8000C	
Comp-9(0.0-0.5) (A6I0938-09)			Matrix: Soil		Batch: 6100153			
% Solids	89.6	---	1.00	% by Weight	1	10/04/16 09:24	EPA 8000C	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace East

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/04/16 17:02

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6091198 - EPA 3546						Soil						
Blank (6091198-BLK1)				Prepared: 09/30/16 15:22				Analyzed: 10/03/16 14:57				C-05
EPA 8081B												
Aldrin	ND	---	1.67	ug/kg wet	1	---	---	---	---	---	---	
alpha-BHC	ND	---	1.67	"	"	---	---	---	---	---	---	
beta-BHC	ND	---	1.67	"	"	---	---	---	---	---	---	
delta-BHC	ND	---	1.67	"	"	---	---	---	---	---	---	
gamma-BHC (Lindane)	ND	---	1.67	"	"	---	---	---	---	---	---	
cis-Chlordane	ND	---	1.67	"	"	---	---	---	---	---	---	
trans-Chlordane	ND	---	1.67	"	"	---	---	---	---	---	---	
4,4'-DDD	ND	---	1.67	"	"	---	---	---	---	---	---	
4,4'-DDE	ND	---	1.67	"	"	---	---	---	---	---	---	
4,4'-DDT	ND	---	1.67	"	"	---	---	---	---	---	---	
Dieldrin	ND	---	1.67	"	"	---	---	---	---	---	---	
Endosulfan I	ND	---	1.67	"	"	---	---	---	---	---	---	
Endosulfan II	ND	---	1.67	"	"	---	---	---	---	---	---	
Endosulfan sulfate	ND	---	1.67	"	"	---	---	---	---	---	---	
Endrin	ND	---	1.67	"	"	---	---	---	---	---	---	
Endrin Aldehyde	ND	---	1.67	"	"	---	---	---	---	---	---	
Endrin ketone	ND	---	1.67	"	"	---	---	---	---	---	---	
Heptachlor	ND	---	1.67	"	"	---	---	---	---	---	---	
Heptachlor epoxide	ND	---	1.67	"	"	---	---	---	---	---	---	
Methoxychlor	ND	---	5.00	"	"	---	---	---	---	---	---	
Chlordane (Technical)	ND	---	50.0	"	"	---	---	---	---	---	---	
Toxaphene (Total)	ND	---	50.0	"	"	---	---	---	---	---	---	
Surr: 2,4,5,6-TCMX (Surr)		Recovery: 75 %		Limits: 42-129 %		Dilution: 1x						
Decachlorobiphenyl (Surr)		90 %		65-151 %		"						

LCS (6091198-BS1)

Prepared: 09/30/16 15:22 Analyzed: 10/03/16 15:14

C-05

EPA 8081B												
Aldrin	42.2	---	2.00	ug/kg wet	1	50.0	---	84	45-136%	---	---	
alpha-BHC	43.6	---	2.00	"	"	"	---	87	45-137%	---	---	Q-41
beta-BHC	43.7	---	2.00	"	"	"	---	87	50-136%	---	---	
delta-BHC	48.1	---	2.00	"	"	"	---	96	47-139%	---	---	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace East

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/04/16 17:02

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6091198 - EPA 3546						Soil						
LCS (6091198-BS1)						Prepared: 09/30/16 15:22	Analyzed: 10/03/16 15:14	C-05				
gamma-BHC (Lindane)	44.1	---	2.00	"	"	"	---	88	49-135%	---	---	
cis-Chlordane	45.3	---	2.00	"	"	"	---	91	54-133%	---	---	
trans-Chlordane	45.8	---	2.00	"	"	"	---	92	53-135%	---	---	
4,4'-DDD	49.0	---	2.00	"	"	"	---	98	56-139%	---	---	
4,4'-DDE	47.4	---	2.00	"	"	"	---	95	56-134%	---	---	
4,4'-DDT	60.5	---	2.00	"	"	"	---	121	50-141%	---	---	
Dieldrin	50.3	---	2.00	"	"	"	---	101	56-136%	---	---	
Endosulfan I	49.5	---	2.00	"	"	"	---	99	52-132%	---	---	
Endosulfan II	50.8	---	2.00	"	"	"	---	102	53-134%	---	---	
Endosulfan sulfate	49.6	---	2.00	"	"	"	---	99	55-136%	---	---	
Endrin	55.6	---	2.00	"	"	"	---	111	56-140%	---	---	
Endrin Aldehyde	53.4	---	2.00	"	"	"	---	107	35-137%	---	---	
Endrin ketone	49.7	---	2.00	"	"	"	---	99	55-136%	---	---	
Heptachlor	42.7	---	2.00	"	"	"	---	85	47-136%	---	---	
Heptachlor epoxide	47.2	---	2.00	"	"	"	---	94	52-136%	---	---	
Methoxychlor	59.6	---	6.00	"	"	"	---	119	52-143%	---	---	

Surr: 2,4,5,6-TCMX (Surr)

Recovery: 77 %

Limits: 42-129 %

Dilution: 1x

Decachlorobiphenyl (Surr)

95 %

65-151 %

"

Duplicate (6091198-DUP1)

Prepared: 09/30/16 15:22 Analyzed: 10/03/16 15:49

C-05

QC Source Sample: Comp-1(0.0-0.5) (A610938-01RE1)

EPA 8081B

Aldrin	ND	---	1.93	ug/kg dry	1	---	1.31	---	---	***	30%	
alpha-BHC	ND	---	1.93	"	"	---	ND	---	---	---	30%	
beta-BHC	ND	---	1.93	"	"	---	ND	---	---	---	30%	
delta-BHC	ND	---	1.93	"	"	---	ND	---	---	---	30%	
gamma-BHC (Lindane)	3.58	---	1.93	"	"	---	5.53	---	---	43	30%	Q-05
cis-Chlordane	ND	---	1.93	"	"	---	ND	---	---	---	30%	
trans-Chlordane	ND	---	1.93	"	"	---	ND	---	---	---	30%	
4,4'-DDD	ND	---	1.93	"	"	---	ND	---	---	---	30%	
4,4'-DDE	10.3	---	1.93	"	"	---	11.0	---	---	7	30%	
4,4'-DDT	9.71	---	1.93	"	"	---	10.0	---	---	3	30%	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace East

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/04/16 17:02

QUALITY CONTROL (QC) SAMPLE RESULTS

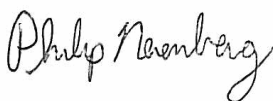
Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6091198 - EPA 3546						Soil						
Duplicate (6091198-DUP1)				Prepared: 09/30/16 15:22			Analyzed: 10/03/16 15:49			C-05		
QC Source Sample: Comp-1(0.0-0.5) (A6I0938-01RE1)												
Dieldrin	163	---	1.93	"	"	---	168	---	---	3	30%	
Endosulfan I	ND	---	1.93	"	"	---	ND	---	---	---	30%	
Endosulfan II	ND	---	1.93	"	"	---	ND	---	---	---	30%	
Endosulfan sulfate	ND	---	1.93	"	"	---	ND	---	---	---	30%	
Endrin	ND	---	1.93	"	"	---	ND	---	---	---	30%	
Endrin Aldehyde	ND	---	1.93	"	"	---	ND	---	---	---	30%	
Endrin ketone	ND	---	1.93	"	"	---	ND	---	---	---	30%	
Heptachlor	ND	---	1.93	"	"	---	ND	---	---	---	30%	
Heptachlor epoxide	ND	---	1.93	"	"	---	ND	---	---	---	30%	
Methoxychlor	ND	---	5.80	"	"	---	ND	---	---	---	30%	
Chlordane (Technical)	ND	---	58.0	"	"	---	ND	---	---	---	30%	
Toxaphene (Total)	ND	---	58.0	"	"	---	ND	---	---	---	30%	
Surr: 2,4,5,6-TCMX (Surr)		Recovery: 66 %		Limits: 42-129 %		Dilution: 1x						
Decachlorobiphenyl (Surr)		75 %		65-151 %		"						

Matrix Spike (6091198-MS1)					Prepared: 09/30/16 15:22		Analyzed: 10/03/16 19:18		C-05			
QC Source Sample: Comp-9(0.0-0.5) (A6I0938-09RE1)												
EPA 8081B												
Aldrin	29.6	---	1.88	ug/kg dry	1	47.0	ND	63	45-136%	---	---	Q-41
alpha-BHC	27.3	---	1.88	"	"	"	ND	58	45-137%	---	---	
beta-BHC	35.3	---	1.88	"	"	"	ND	75	50-136%	---	---	
delta-BHC	39.3	---	1.88	"	"	"	ND	84	47-139%	---	---	
gamma-BHC (Lindane)	30.2	---	1.88	"	"	"	1.47	61	49-135%	---	---	
cis-Chlordane	37.7	---	1.88	"	"	"	ND	80	54-133%	---	---	
trans-Chlordane	38.7	---	1.88	"	"	"	ND	82	53-135%	---	---	
4,4'-DDD	44.2	---	1.88	"	"	"	0.970	92	56-139%	---	---	
4,4'-DDE	91.1	---	1.88	"	"	"	45.0	98	56-134%	---	---	
4,4'-DDT	75.6	---	1.88	"	"	"	27.0	104	50-141%	---	---	
Dieldrin	88.7	---	1.88	"	"	"	47.1	89	56-136%	---	---	
Endosulfan I	38.3	---	1.88	"	"	"	ND	81	52-132%	---	---	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace East

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/04/16 17:02

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6091198 - EPA 3546						Soil						
Matrix Spike (6091198-MS1)						Prepared: 09/30/16 15:22		Analyzed: 10/03/16 19:18			C-05	
QC Source Sample: Comp-9(0.0-0.5) (A6I0938-09RE1)												
Endosulfan II	45.1	---	1.88	ug/kg dry	"	"	ND	96	53-134%	---	---	
Endosulfan sulfate	45.7	---	1.88	"	"	"	ND	97	55-136%	---	---	
Endrin	49.5	---	1.88	"	"	"	ND	105	56-140%	---	---	
Endrin Aldehyde	48.1	---	1.88	"	"	"	ND	102	35-137%	---	---	
Endrin ketone	45.3	---	1.88	"	"	"	ND	96	55-136%	---	---	
Heptachlor	28.5	---	1.88	"	"	"	ND	61	47-136%	---	---	
Heptachlor epoxide	35.2	---	1.88	"	"	"	ND	75	52-136%	---	---	
Methoxychlor	55.8	---	5.64	"	"	"	ND	119	52-143%	---	---	

Surr: 2,4,5,6-TCMX (Surr)

Recovery: 57 %

Limits: 42-129 %

Dilution: 1x

Decachlorobiphenyl (Surr)

89 %

65-151 %

"

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace East

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/04/16 17:02

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100147 - EPA 3051A						Soil						
Blank (6100147-BLK1)				Prepared: 10/03/16 13:09 Analyzed: 10/03/16 20:06								
EPA 6020A												
Antimony	ND	---	1.00	mg/kg wet	10	---	---	---	---	---	---	
Arsenic	ND	---	1.00	"	"	---	---	---	---	---	---	
Barium	ND	---	1.00	"	"	---	---	---	---	---	---	
Beryllium	ND	---	0.200	"	"	---	---	---	---	---	---	
Cadmium	ND	---	0.200	"	"	---	---	---	---	---	---	
Chromium	ND	---	1.00	"	"	---	---	---	---	---	---	
Cobalt	ND	---	0.200	"	"	---	---	---	---	---	---	
Copper	ND	---	1.00	"	"	---	---	---	---	---	---	
Lead	ND	---	0.200	"	"	---	---	---	---	---	---	
Mercury	ND	---	0.0800	"	"	---	---	---	---	---	---	
Molybdenum	ND	---	1.00	"	"	---	---	---	---	---	---	
Nickel	ND	---	1.00	"	"	---	---	---	---	---	---	
Selenium	ND	---	1.00	"	"	---	---	---	---	---	---	
Silver	ND	---	0.200	"	"	---	---	---	---	---	---	
Thallium	ND	---	0.200	"	"	---	---	---	---	---	---	
Vanadium	ND	---	1.00	"	"	---	---	---	---	---	---	
Zinc	ND	---	4.00	"	"	---	---	---	---	---	---	

LCS (6100147-BS1)

Prepared: 10/03/16 13:09 Analyzed: 10/03/16 20:12

EPA 6020A

Antimony	26.5	---	1.00	mg/kg wet	10	25.0	---	106	80-120%	---	---
Arsenic	50.4	---	1.00	"	"	50.0	---	101	"	---	---
Barium	51.9	---	1.00	"	"	"	---	104	"	---	---
Beryllium	23.6	---	0.200	"	"	25.0	---	94	"	---	---
Cadmium	52.0	---	0.200	"	"	50.0	---	104	"	---	---
Chromium	51.0	---	1.00	"	"	"	---	102	"	---	---
Cobalt	52.5	---	0.200	"	"	"	---	105	"	---	---
Copper	52.5	---	1.00	"	"	"	---	105	"	---	---
Lead	54.3	---	0.200	"	"	"	---	109	"	---	---
Mercury	1.02	---	0.0800	"	"	1.00	---	102	"	---	---

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace East

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/04/16 17:02

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100147 - EPA 3051A						Soil						
LCS (6100147-BS1)						Prepared: 10/03/16 13:09 Analyzed: 10/03/16 20:12						
Molybdenum	26.6	---	1.00	mg/kg wet	"	25.0	---	107	"	---	---	
Nickel	51.7	---	1.00	"	"	50.0	---	103	"	---	---	
Selenium	25.9	---	1.00	"	"	25.0	---	104	"	---	---	
Silver	26.8	---	0.200	"	"	"	---	107	"	---	---	
Thallium	27.2	---	0.200	"	"	"	---	109	"	---	---	
Vanadium	50.3	---	1.00	"	"	50.0	---	101	"	---	---	
Zinc	50.5	---	4.00	"	"	"	---	101	"	---	---	

Matrix Spike (6100147-MS2)

Prepared: 10/03/16 13:09 Analyzed: 10/03/16 22:05

QC Source Sample: Comp-9(0.0-0.5) (A610938-09)

EPA 6020A

Antimony	27.4	---	1.22	mg/kg dry	10	30.5	ND	90	75-125%	---	---	
Arsenic	61.4	---	1.22	"	"	61.2	3.20	95	"	---	---	
Barium	180	---	1.22	"	"	"	133	77	"	---	---	
Beryllium	28.8	---	0.245	"	"	30.5	0.471	93	"	---	---	
Cadmium	61.4	---	0.245	"	"	61.2	0.229	100	"	---	---	
Chromium	75.7	---	1.22	"	"	"	16.5	97	"	---	---	
Cobalt	72.0	---	0.245	"	"	"	12.0	98	"	---	---	
Copper	73.9	---	1.22	"	"	"	12.8	100	"	---	---	
Lead	71.0	---	0.245	"	"	"	9.90	100	"	---	---	
Mercury	1.30	---	0.0979	"	"	1.22	ND	106	"	---	---	
Molybdenum	30.7	---	1.22	"	"	30.5	ND	101	"	---	---	
Nickel	69.5	---	1.22	"	"	61.2	9.95	97	"	---	---	
Selenium	28.7	---	1.22	"	"	30.5	ND	94	"	---	---	
Silver	30.7	---	0.245	"	"	"	ND	100	"	---	---	
Thallium	31.3	---	0.245	"	"	"	0.145	102	"	---	---	
Vanadium	116	---	1.22	"	"	61.2	59.1	92	"	---	---	
Zinc	108	---	4.89	"	"	"	56.0	85	"	---	---	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc. 15575 SW Sequoia Pkwy, Ste 100 Portland, OR 97224	Project: River Terrace East Project Number: Polygon-145-02 Project Manager: Jeremy Zimmer	Reported: 10/04/16 17:02

QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100153 - Total Solids (Dry Weight)							Soil					

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

Philip Nerenberg

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace East**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/04/16 17:02

SAMPLE PREPARATION INFORMATION

Organochlorine Pesticides by EPA 8081B

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6091198							
A6I0938-01RE1	Soil	EPA 8081B	09/30/16 12:35	09/30/16 15:22	11.48g/10mL	10g/5mL	1.74
A6I0938-02RE1	Soil	EPA 8081B	09/30/16 12:25	09/30/16 15:22	11.12g/10mL	10g/5mL	1.80
A6I0938-03RE1	Soil	EPA 8081B	09/30/16 10:15	09/30/16 15:22	11.5g/10mL	10g/5mL	1.74
A6I0938-03RE2	Soil	EPA 8081B	09/30/16 10:15	09/30/16 15:22	11.5g/10mL	10g/5mL	1.74
A6I0938-04RE1	Soil	EPA 8081B	09/30/16 10:05	09/30/16 15:22	11.54g/10mL	10g/5mL	1.73
A6I0938-05RE1	Soil	EPA 8081B	09/30/16 10:50	09/30/16 15:22	11.3g/10mL	10g/5mL	1.77
A6I0938-06RE1	Soil	EPA 8081B	09/30/16 10:25	09/30/16 15:22	11.6g/10mL	10g/5mL	1.72
A6I0938-07RE1	Soil	EPA 8081B	09/30/16 10:35	09/30/16 15:22	11.62g/10mL	10g/5mL	1.72
A6I0938-08RE1	Soil	EPA 8081B	09/30/16 11:55	09/30/16 15:22	11.24g/10mL	10g/5mL	1.78
A6I0938-09RE1	Soil	EPA 8081B	09/30/16 11:45	09/30/16 15:22	11.85g/10mL	10g/5mL	1.69

Total Metals by EPA 6020 (ICPMS)

Prep: EPA 3051A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6100147							
A6I0938-01	Soil	EPA 6020A	09/30/16 12:35	10/03/16 13:09	0.506g/50mL	0.5g/50mL	0.99
A6I0938-02	Soil	EPA 6020A	09/30/16 12:25	10/03/16 13:09	0.489g/50mL	0.5g/50mL	1.02
A6I0938-03	Soil	EPA 6020A	09/30/16 10:15	10/03/16 13:09	0.452g/50mL	0.5g/50mL	1.11
A6I0938-04	Soil	EPA 6020A	09/30/16 10:05	10/03/16 13:09	0.487g/50mL	0.5g/50mL	1.03
A6I0938-05	Soil	EPA 6020A	09/30/16 10:50	10/03/16 13:09	0.476g/50mL	0.5g/50mL	1.05
A6I0938-06	Soil	EPA 6020A	09/30/16 10:25	10/03/16 13:09	0.479g/50mL	0.5g/50mL	1.04
A6I0938-07	Soil	EPA 6020A	09/30/16 10:35	10/03/16 13:09	0.472g/50mL	0.5g/50mL	1.06
A6I0938-08	Soil	EPA 6020A	09/30/16 11:55	10/03/16 13:09	0.504g/50mL	0.5g/50mL	0.99
A6I0938-09	Soil	EPA 6020A	09/30/16 11:45	10/03/16 13:09	0.462g/50mL	0.5g/50mL	1.08

Percent Dry Weight

Prep: Total Solids (Dry Weight)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6100153							
A6I0938-01	Soil	EPA 8000C	09/30/16 12:35	10/03/16 14:06	1N/A/1N/A	1N/A/1N/A	NA
A6I0938-02	Soil	EPA 8000C	09/30/16 12:25	10/03/16 14:06	1N/A/1N/A	1N/A/1N/A	NA
A6I0938-03	Soil	EPA 8000C	09/30/16 10:15	10/03/16 14:06	1N/A/1N/A	1N/A/1N/A	NA
A6I0938-04	Soil	EPA 8000C	09/30/16 10:05	10/03/16 14:06	1N/A/1N/A	1N/A/1N/A	NA

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace East**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/04/16 17:02

SAMPLE PREPARATION INFORMATION

Percent Dry Weight

Prep: Total Solids (Dry Weight)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A6I0938-05	Soil	EPA 8000C	09/30/16 10:50	10/03/16 14:06	1N/A/1N/A	1N/A/1N/A	NA
A6I0938-06	Soil	EPA 8000C	09/30/16 10:25	10/03/16 14:06	1N/A/1N/A	1N/A/1N/A	NA
A6I0938-07	Soil	EPA 8000C	09/30/16 10:35	10/03/16 14:06	1N/A/1N/A	1N/A/1N/A	NA
A6I0938-08	Soil	EPA 8000C	09/30/16 11:55	10/03/16 14:06	1N/A/1N/A	1N/A/1N/A	NA
A6I0938-09	Soil	EPA 8000C	09/30/16 11:45	10/03/16 14:06	1N/A/1N/A	1N/A/1N/A	NA

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace East**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/04/16 17:02

Notes and Definitions

Qualifiers:

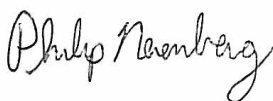
- C-05 Extract has undergone a GPC (Gel-Permeation Chromatography) cleanup per EPA 3640A. Reporting levels may be raised due to dilution necessary for cleanup. Sample Final Volume includes the GPC dilution factor, see the Prep page for details.
- Q-05 Analyses are not controlled on RPD values from sample and duplicate concentrations that are below 5 times the reporting level.
- Q-41 Estimated Results. Recovery of Continuing Calibration Verification sample above upper control limit for this analyte. Results are likely biased high.
- R-02 The Reporting Limit for this analyte has been raised to account for interference from coeluting organic compounds present in the sample.

Notes and Conventions:

- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis. Results listed as 'wet' or without 'dry' designation are not dry weight corrected.
- RPD Relative Percent Difference
- MDL If MDL is not listed, data has been evaluated to the Method Reporting Limit only.
- WMSC Water Miscible Solvent Correction has been applied to Results and MRLs for volatiles soil samples per EPA 8000C.
- Batch QC Unless specifically requested, this report contains only results for Batch QC derived from client samples included in this report. All analyses were performed with the appropriate Batch QC (including Sample Duplicates, Matrix Spikes and/or Matrix Spike Duplicates) in order to meet or exceed method and regulatory requirements. Any exceptions to this will be qualified in this report. Complete Batch QC results are available upon request. In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.
- Blank Policy Apex assesses blank data for potential high bias down to a level equal to 1/2 the method reporting limit (MRL), except for conventional chemistry and HCID analyses which are assessed only to the MRL. Sample results flagged with a B or B-02 qualifier are potentially biased high if they are less than ten times the level found in the blank for inorganic analyses or less than five times the level found in the blank for organic analyses.

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

Results qualified as reported below the MRL may include a potential high bias if associated with a B or B-02 qualified blank. B and B-02 qualifications are not applied to J qualified results reported below the MRL.
- QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.
- *** Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).



GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace East

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/04/16 17:02

CHAIN OF CUSTODY

APEX LABS Lab # MD10938 coc 1 of 1

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

Company: <u>GEODESIGN INC</u>		Project Mgr: <u>JEREMY ZIMMER</u>		Project Name: <u>RIVER TERRACE</u>		Project # <u>POLY145-02</u>	
Address: <u>15575 SW SEQUOIA PKWY ST 100</u>		Phone: <u>503-718-8787</u>		Fax: <u></u>		Email: <u>KCUNE@GEODESIGNINC</u>	
Sampled by: <u>KEVIN CUNE</u>							
Site Location: <u>OR</u> WA							
Other: <u></u>							
LAB ID #		DATE		TIME		# OF CONTAINERS	
SAMPLE ID							
1. <u>Comp-1(0.0-0.5)</u>		<u>9/30/16</u>		<u>1235</u>		<u>2</u>	
2. <u>Comp-2(0.0-0.5)</u>		<u>10/5</u>		<u>1225</u>		<u>2</u>	
3. <u>Comp-3(0.0-0.5)</u>		<u>10/5</u>		<u>1015</u>		<u>2</u>	
4. <u>Comp-4(0.0-0.5)</u>		<u>10/5</u>		<u>1005</u>		<u>2</u>	
5. <u>Comp-5(0.0-0.5)</u>		<u>10/5</u>		<u>1050</u>		<u>2</u>	
6. <u>Comp-6(0.0-0.5)</u>		<u>10/5</u>		<u>1025</u>		<u>2</u>	
7. <u>Comp-7(0.0-0.5)</u>		<u>10/5</u>		<u>1045</u>		<u>2</u>	
8. <u>Comp-8(0.0-0.5)</u>		<u>10/5</u>		<u>1055</u>		<u>2</u>	
9. <u>Comp-9(0.0-0.5)</u>		<u>10/5</u>		<u>1145</u>		<u>2</u>	
10. <u></u>		<u></u>		<u></u>		<u></u>	
ANALYSIS REQUEST		AL, SH, AS, BA, BB, CD, TC, P, MEALS (8) RCRA MEALS (8) 600 TTO 8082 PCBs 8270 SIM PAHS 8270 SVOC 8260 BTEX VOCs 8260 HVOCS 8260 RBDN VOCs 8260 VOCs Full List NWTPH-GS NWTPH-DS NWTPH-ICID					
SPECIAL INSTRUCTIONS:		YES <u>NO</u> Normal Turn Around Time (TAT) = 10 Business Days TAT Requested (circle) 1 Day <u>2 Day</u> 3 Day 4 DAY 5 DAY Other: <u></u>					
RECEIVED BY:		Signature: <u>[Signature]</u> Date: <u>9/30/16</u> Printed Name: <u>KEVIN CUNE</u> Time: <u>1315</u> Company: <u>Apex</u>					
RELINQUISHED BY:		Signature: <u>[Signature]</u> Date: <u></u> Printed Name: <u></u> Time: <u></u> Company: <u></u>					

Apex Laboratories

Philip Nerenberg

Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Apex Labs

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

Tuesday, October 25, 2016

Jeremy Zimmer
GeoDesign, Inc.
15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

RE: River Terrace Area 10 / Polygon-145-02

Enclosed are the results of analyses for work order A6J0409, which was received by the laboratory on 10/12/2016 at 6:50:00PM.

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

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

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SED-1(0.0-0.5)	A6J0409-01	Sediment	10/12/16 17:25	10/12/16 18:50
TPComp-1(0.0-1.0)	A6J0409-02	Soil	10/12/16 10:40	10/12/16 18:50
TP-1N(0.0-0.5)	A6J0409-04	Soil	10/12/16 11:20	10/12/16 18:50
TP-1S(0.0-0.5)	A6J0409-05	Soil	10/12/16 11:25	10/12/16 18:50
TP-4N(0.0-0.5)	A6J0409-06	Soil	10/12/16 16:23	10/12/16 18:50
TP-4S(0.0-0.5)	A6J0409-07	Soil	10/12/16 16:30	10/12/16 18:50
TPComp-2(0.0-0.5)	A6J0409-12	Soil	10/12/16 13:35	10/12/16 18:50
TPComp-3(0.0-0.5)	A6J0409-13	Soil	10/12/16 14:25	10/12/16 18:50
TPComp-2(1.5-2.0)	A6J0409-14	Soil	10/12/16 13:45	10/12/16 18:50
TPComp-3(1.5-2.0)	A6J0409-15	Soil	10/12/16 14:45	10/12/16 18:50
TP-2S(0.0-0.5)	A6J0409-16	Soil	10/12/16 12:05	10/12/16 18:50
TP-2S(2.5-3.0)	A6J0409-17	Soil	10/12/16 12:35	10/12/16 18:50
TP-2N(0.0-0.5)	A6J0409-18	Soil	10/12/16 12:55	10/12/16 18:50
TP-2N(2.0-2.5)	A6J0409-19	Soil	10/12/16 13:05	10/12/16 18:50
TP-3E(0.0-0.5)	A6J0409-20	Soil	10/12/16 15:13	10/12/16 18:50
TP-3E(1.5-2.0)	A6J0409-21	Soil	10/12/16 15:45	10/12/16 18:50
TP-3W(0.0-0.5)	A6J0409-22	Soil	10/12/16 15:23	10/12/16 18:50
TP-3W(1.5-2.0)	A6J0409-23	Soil	10/12/16 15:35	10/12/16 18:50

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

ANALYTICAL SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TPComp-1(0.0-1.0) (A6J0409-02)			Matrix: Soil		Batch: 6100596			
Diesel	ND	---	25.0	mg/kg dry	1	10/14/16 21:31	NWTPH-Dx	
Oil	763	---	50.0	"	"	"	"	F-13, Q-42
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 83 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
TP-1N(0.0-0.5) (A6J0409-04)			Matrix: Soil		Batch: 6100596			
Diesel	ND	---	25.0	mg/kg dry	1	10/14/16 22:15	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 80 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
TP-1S(0.0-0.5) (A6J0409-05)			Matrix: Soil		Batch: 6100596			
Diesel	ND	---	25.0	mg/kg dry	1	10/14/16 22:37	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 77 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
TP-4N(0.0-0.5) (A6J0409-06)			Matrix: Soil		Batch: 6100596			
Diesel	ND	---	25.0	mg/kg dry	1	10/14/16 22:59	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	F-03
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 86 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
TP-4S(0.0-0.5) (A6J0409-07)			Matrix: Soil		Batch: 6100596			
Diesel	ND	---	25.0	mg/kg dry	1	10/14/16 23:21	NWTPH-Dx	
Oil	62.3	---	50.0	"	"	"	"	F-03
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 84 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
TPComp-2(0.0-0.5) (A6J0409-12)			Matrix: Soil		Batch: 6100596			
Diesel	61.3	---	25.0	mg/kg dry	1	10/14/16 23:43	NWTPH-Dx	F-13
Oil	ND	---	50.0	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 84 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
TPComp-3(0.0-0.5) (A6J0409-13RE1)			Matrix: Soil		Batch: 6100596			
Diesel	ND	---	466	mg/kg dry	20	10/17/16 09:00	NWTPH-Dx	
Oil	17100	---	931	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: %</i>	<i>Limits: 50-150 %</i>	"	"	"	S-01
TP-2S(0.0-0.5) (A6J0409-16)			Matrix: Soil		Batch: 6100596			
Diesel	7560	---	110	mg/kg dry	5	10/15/16 00:27	NWTPH-Dx	F-11
Oil	ND	---	220	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 76 %</i>	<i>Limits: 50-150 %</i>	"	"	"	S-05

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

ANALYTICAL SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TP-2S(2.5-3.0) (A6J0409-17)			Matrix: Soil		Batch: 6100758			
Diesel	31.1	---	25.0	mg/kg dry	1	10/19/16 21:58	NWTPH-Dx	F-11
Oil	ND	---	50.0	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 85 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
TP-2N(0.0-0.5) (A6J0409-18RE1)			Matrix: Soil		Batch: 6100596			
Diesel	7950	---	464	mg/kg dry	20	10/17/16 09:40	NWTPH-Dx	F-11
Oil	ND	---	929	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: %</i>	<i>Limits: 50-150 %</i>	"	"	"	<i>S-01</i>
TP-2N(2.0-2.5) (A6J0409-19)			Matrix: Soil		Batch: 6100758			
Diesel	ND	---	25.0	mg/kg dry	1	10/19/16 22:40	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 91 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
TP-3E(0.0-0.5) (A6J0409-20RE1)			Matrix: Soil		Batch: 6100596			
Diesel	ND	---	25.0	mg/kg dry	1	10/17/16 10:20	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 72 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
TP-3W(0.0-0.5) (A6J0409-22RE1)			Matrix: Soil		Batch: 6100596			
Diesel	ND	---	25.0	mg/kg dry	1	10/17/16 10:59	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 90 %</i>	<i>Limits: 50-150 %</i>	"	"	"	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02
Project Manager: Jeremy Zimmer

Reported:
10/25/16 17:22

ANALYTICAL SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TPComp-1(0.0-1.0) (A6J0409-02)			Matrix: Soil		Batch: 6100585			
Gasoline Range Organics	ND	---	6.85	mg/kg dry	50	10/14/16 12:01	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 100 %</i>	<i>Limits: 50-150 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Sur)</i>			<i>97 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
TPComp-2(0.0-0.5) (A6J0409-12)			Matrix: Soil		Batch: 6100585			
Gasoline Range Organics	ND	---	6.61	mg/kg dry	50	10/14/16 12:55	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 101 %</i>	<i>Limits: 50-150 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Sur)</i>			<i>98 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
TPComp-3(0.0-0.5) (A6J0409-13)			Matrix: Soil		Batch: 6100585			
Gasoline Range Organics	12.8	---	6.42	mg/kg dry	50	10/14/16 13:22	NWTPH-Gx (MS)	F-13
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 110 %</i>	<i>Limits: 50-150 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Sur)</i>			<i>98 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
TP-2S(0.0-0.5) (A6J0409-16)			Matrix: Soil		Batch: 6100585			
Gasoline Range Organics	ND	---	6.89	mg/kg dry	50	10/14/16 13:48	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 101 %</i>	<i>Limits: 50-150 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Sur)</i>			<i>96 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
TP-2N(0.0-0.5) (A6J0409-18)			Matrix: Soil		Batch: 6100585			
Gasoline Range Organics	ND	---	6.99	mg/kg dry	50	10/14/16 14:15	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 99 %</i>	<i>Limits: 50-150 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Sur)</i>			<i>94 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
TP-3E(0.0-0.5) (A6J0409-20)			Matrix: Soil		Batch: 6100585			
Gasoline Range Organics	ND	---	6.54	mg/kg dry	50	10/14/16 14:42	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 98 %</i>	<i>Limits: 50-150 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Sur)</i>			<i>93 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
TP-3W(0.0-0.5) (A6J0409-22)			Matrix: Soil		Batch: 6100585			
Gasoline Range Organics	ND	---	6.83	mg/kg dry	50	10/14/16 16:02	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 106 %</i>	<i>Limits: 50-150 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Sur)</i>			<i>95 %</i>	<i>Limits: 50-150 %</i>	"	"	"	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TPComp-1(0.0-1.0) (A6J0409-02)			Matrix: Soil	Batch: 6100585				
Acetone	ND	---	1.37	mg/kg dry	50	10/14/16 12:01	5035/8260B	
Benzene	ND	---	0.0137	"	"	"	"	
Bromobenzene	ND	---	0.0342	"	"	"	"	
Bromochloromethane	ND	---	0.0685	"	"	"	"	
Bromodichloromethane	ND	---	0.137	"	"	"	"	
Bromoform	ND	---	0.137	"	"	"	"	
Bromomethane	ND	---	0.685	"	"	"	"	
2-Butanone (MEK)	ND	---	0.685	"	"	"	"	
n-Butylbenzene	ND	---	0.0685	"	"	"	"	
sec-Butylbenzene	ND	---	0.0685	"	"	"	"	
tert-Butylbenzene	ND	---	0.0685	"	"	"	"	
Carbon tetrachloride	ND	---	0.0685	"	"	"	"	
Chlorobenzene	ND	---	0.0342	"	"	"	"	
Chloroethane	ND	---	0.685	"	"	"	"	Q-31
Chloroform	ND	---	0.0685	"	"	"	"	
Chloromethane	ND	---	0.342	"	"	"	"	
2-Chlorotoluene	ND	---	0.0685	"	"	"	"	
4-Chlorotoluene	ND	---	0.0685	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	0.342	"	"	"	"	
Dibromochloromethane	ND	---	0.137	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	0.0685	"	"	"	"	
Dibromomethane	ND	---	0.0685	"	"	"	"	
1,2-Dichlorobenzene	ND	---	0.0342	"	"	"	"	
1,3-Dichlorobenzene	ND	---	0.0342	"	"	"	"	
1,4-Dichlorobenzene	ND	---	0.0342	"	"	"	"	
Dichlorodifluoromethane	ND	---	0.137	"	"	"	"	
1,1-Dichloroethane	ND	---	0.0342	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.0342	"	"	"	"	
1,1-Dichloroethene	ND	---	0.0342	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	0.0342	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	0.0342	"	"	"	"	
1,2-Dichloropropane	ND	---	0.0342	"	"	"	"	
1,3-Dichloropropane	ND	---	0.0685	"	"	"	"	
2,2-Dichloropropane	ND	---	0.0685	"	"	"	"	
1,1-Dichloropropene	ND	---	0.0685	"	"	"	"	

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TPComp-1(0.0-1.0) (A6J0409-02)			Matrix: Soil	Batch: 6100585				
cis-1,3-Dichloropropene	ND	---	0.0685	mg/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND	---	0.0685	"	"	"	"	
Ethylbenzene	ND	---	0.0342	"	"	"	"	
Hexachlorobutadiene	ND	---	0.137	"	"	"	"	
2-Hexanone	ND	---	0.685	"	"	"	"	
Isopropylbenzene	ND	---	0.0685	"	"	"	"	
4-Isopropyltoluene	ND	---	0.0685	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	0.685	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	0.0685	"	"	"	"	
Methylene chloride	ND	---	0.342	"	"	"	"	
Naphthalene	ND	---	0.137	"	"	"	"	
n-Propylbenzene	ND	---	0.0342	"	"	"	"	
Styrene	ND	---	0.0685	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	0.0342	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	0.0685	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	0.0342	"	"	"	"	
Toluene	ND	---	0.0685	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	0.342	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	0.342	"	"	"	"	
1,1,1-Trichloroethane	ND	---	0.0342	"	"	"	"	
1,1,2-Trichloroethane	ND	---	0.0342	"	"	"	"	
Trichloroethene (TCE)	ND	---	0.0342	"	"	"	"	
Trichlorofluoromethane	ND	---	0.137	"	"	"	"	
1,2,3-Trichloropropane	ND	---	0.0685	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	0.0685	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	0.0685	"	"	"	"	
Vinyl chloride	ND	---	0.0342	"	"	"	"	
m,p-Xylene	ND	---	0.0685	"	"	"	"	
o-Xylene	ND	---	0.0342	"	"	"	"	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 106 %</i>		<i>Limits: 70-130 %</i>	1	"	"	
<i>Toluene-d8 (Surr)</i>		<i>97 %</i>		<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>		<i>98 %</i>		<i>Limits: 70-130 %</i>	"	"	"	

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TPComp-2(0.0-0.5) (A6J0409-12)			Matrix: Soil		Batch: 6100585			
Acetone	ND	---	1.32	mg/kg dry	50	10/14/16 12:55	5035/8260B	
Benzene	ND	---	0.0132	"	"	"	"	
Bromobenzene	ND	---	0.0330	"	"	"	"	
Bromochloromethane	ND	---	0.0661	"	"	"	"	
Bromodichloromethane	ND	---	0.132	"	"	"	"	
Bromoform	ND	---	0.132	"	"	"	"	
Bromomethane	ND	---	0.661	"	"	"	"	
2-Butanone (MEK)	ND	---	0.661	"	"	"	"	
n-Butylbenzene	ND	---	0.0661	"	"	"	"	
sec-Butylbenzene	ND	---	0.0661	"	"	"	"	
tert-Butylbenzene	ND	---	0.0661	"	"	"	"	
Carbon tetrachloride	ND	---	0.0661	"	"	"	"	
Chlorobenzene	ND	---	0.0330	"	"	"	"	
Chloroethane	ND	---	0.661	"	"	"	"	Q-31
Chloroform	ND	---	0.0661	"	"	"	"	
Chloromethane	ND	---	0.330	"	"	"	"	
2-Chlorotoluene	ND	---	0.0661	"	"	"	"	
4-Chlorotoluene	ND	---	0.0661	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	0.330	"	"	"	"	
Dibromochloromethane	ND	---	0.132	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	0.0661	"	"	"	"	
Dibromomethane	ND	---	0.0661	"	"	"	"	
1,2-Dichlorobenzene	ND	---	0.0330	"	"	"	"	
1,3-Dichlorobenzene	ND	---	0.0330	"	"	"	"	
1,4-Dichlorobenzene	ND	---	0.0330	"	"	"	"	
Dichlorodifluoromethane	ND	---	0.132	"	"	"	"	
1,1-Dichloroethane	ND	---	0.0330	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.0330	"	"	"	"	
1,1-Dichloroethene	ND	---	0.0330	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	0.0330	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	0.0330	"	"	"	"	
1,2-Dichloropropane	ND	---	0.0330	"	"	"	"	
1,3-Dichloropropane	ND	---	0.0661	"	"	"	"	
2,2-Dichloropropane	ND	---	0.0661	"	"	"	"	
1,1-Dichloropropene	ND	---	0.0661	"	"	"	"	

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TPComp-2(0.0-0.5) (A6J0409-12)			Matrix: Soil	Batch: 6100585				
cis-1,3-Dichloropropene	ND	---	0.0661	mg/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND	---	0.0661	"	"	"	"	
Ethylbenzene	ND	---	0.0330	"	"	"	"	
Hexachlorobutadiene	ND	---	0.132	"	"	"	"	
2-Hexanone	ND	---	0.661	"	"	"	"	
Isopropylbenzene	ND	---	0.0661	"	"	"	"	
4-Isopropyltoluene	ND	---	0.0661	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	0.661	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	0.0661	"	"	"	"	
Methylene chloride	ND	---	0.330	"	"	"	"	
Naphthalene	ND	---	0.132	"	"	"	"	
n-Propylbenzene	ND	---	0.0330	"	"	"	"	
Styrene	ND	---	0.0661	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	0.0330	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	0.0661	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	0.0330	"	"	"	"	
Toluene	ND	---	0.0661	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	0.330	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	0.330	"	"	"	"	
1,1,1-Trichloroethane	ND	---	0.0330	"	"	"	"	
1,1,2-Trichloroethane	ND	---	0.0330	"	"	"	"	
Trichloroethene (TCE)	ND	---	0.0330	"	"	"	"	
Trichlorofluoromethane	ND	---	0.132	"	"	"	"	
1,2,3-Trichloropropane	ND	---	0.0661	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	0.0661	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	0.0661	"	"	"	"	
Vinyl chloride	ND	---	0.0330	"	"	"	"	
m,p-Xylene	ND	---	0.0661	"	"	"	"	
o-Xylene	ND	---	0.0330	"	"	"	"	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 107 %</i>		<i>Limits: 70-130 %</i>	1	"	"	
<i>Toluene-d8 (Surr)</i>		<i>98 %</i>		<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>		<i>97 %</i>		<i>Limits: 70-130 %</i>	"	"	"	

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TPComp-3(0.0-0.5) (A6J0409-13)			Matrix: Soil	Batch: 6100585				
Acetone	ND	---	1.28	mg/kg dry	50	10/14/16 13:22	5035/8260B	
Benzene	ND	---	0.0128	"	"	"	"	
Bromobenzene	ND	---	0.0321	"	"	"	"	
Bromochloromethane	ND	---	0.0642	"	"	"	"	
Bromodichloromethane	ND	---	0.128	"	"	"	"	
Bromoform	ND	---	0.128	"	"	"	"	
Bromomethane	ND	---	0.642	"	"	"	"	
2-Butanone (MEK)	ND	---	0.642	"	"	"	"	
n-Butylbenzene	ND	---	0.0642	"	"	"	"	
sec-Butylbenzene	ND	---	0.0642	"	"	"	"	
tert-Butylbenzene	ND	---	0.0642	"	"	"	"	
Carbon tetrachloride	ND	---	0.0642	"	"	"	"	
Chlorobenzene	ND	---	0.0321	"	"	"	"	
Chloroethane	ND	---	0.642	"	"	"	"	Q-31
Chloroform	ND	---	0.0642	"	"	"	"	
Chloromethane	ND	---	0.321	"	"	"	"	
2-Chlorotoluene	ND	---	0.0642	"	"	"	"	
4-Chlorotoluene	ND	---	0.0642	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	0.321	"	"	"	"	
Dibromochloromethane	ND	---	0.128	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	0.0642	"	"	"	"	
Dibromomethane	ND	---	0.0642	"	"	"	"	
1,2-Dichlorobenzene	ND	---	0.0321	"	"	"	"	
1,3-Dichlorobenzene	ND	---	0.0321	"	"	"	"	
1,4-Dichlorobenzene	ND	---	0.0321	"	"	"	"	
Dichlorodifluoromethane	ND	---	0.128	"	"	"	"	
1,1-Dichloroethane	ND	---	0.0321	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.0321	"	"	"	"	
1,1-Dichloroethene	ND	---	0.0321	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	0.0321	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	0.0321	"	"	"	"	
1,2-Dichloropropane	ND	---	0.0321	"	"	"	"	
1,3-Dichloropropane	ND	---	0.0642	"	"	"	"	
2,2-Dichloropropane	ND	---	0.0642	"	"	"	"	
1,1-Dichloropropene	ND	---	0.0642	"	"	"	"	

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TPComp-3(0.0-0.5) (A6J0409-13)			Matrix: Soil		Batch: 6100585			
cis-1,3-Dichloropropene	ND	---	0.0642	mg/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND	---	0.0642	"	"	"	"	
Ethylbenzene	ND	---	0.0321	"	"	"	"	
Hexachlorobutadiene	ND	---	0.128	"	"	"	"	
2-Hexanone	ND	---	0.642	"	"	"	"	
Isopropylbenzene	ND	---	0.0642	"	"	"	"	
4-Isopropyltoluene	ND	---	0.0642	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	0.642	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	0.0642	"	"	"	"	
Methylene chloride	ND	---	0.321	"	"	"	"	
Naphthalene	0.235	---	0.128	"	"	"	"	
n-Propylbenzene	ND	---	0.0321	"	"	"	"	
Styrene	ND	---	0.0642	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	0.0321	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	0.0642	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	0.0321	"	"	"	"	
Toluene	ND	---	0.0642	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	0.321	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	0.321	"	"	"	"	
1,1,1-Trichloroethane	ND	---	0.0321	"	"	"	"	
1,1,2-Trichloroethane	ND	---	0.0321	"	"	"	"	
Trichloroethene (TCE)	ND	---	0.0321	"	"	"	"	
Trichlorofluoromethane	ND	---	0.128	"	"	"	"	
1,2,3-Trichloropropane	ND	---	0.0642	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	0.0642	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	0.0642	"	"	"	"	
Vinyl chloride	ND	---	0.0321	"	"	"	"	
m,p-Xylene	ND	---	0.0642	"	"	"	"	
o-Xylene	ND	---	0.0321	"	"	"	"	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>			<i>Recovery: 106 %</i>	<i>Limits: 70-130 %</i>	1	"	"	
<i>Toluene-d8 (Surr)</i>			<i>97 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>90 %</i>	<i>Limits: 70-130 %</i>	"	"	"	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TP-2S(0.0-0.5) (A6J0409-16)			Matrix: Soil	Batch: 6100585				
Acetone	ND	---	1.38	mg/kg dry	50	10/14/16 13:48	5035/8260B	
Benzene	ND	---	0.0138	"	"	"	"	
Bromobenzene	ND	---	0.0345	"	"	"	"	
Bromochloromethane	ND	---	0.0689	"	"	"	"	
Bromodichloromethane	ND	---	0.138	"	"	"	"	
Bromoform	ND	---	0.138	"	"	"	"	
Bromomethane	ND	---	0.689	"	"	"	"	
2-Butanone (MEK)	ND	---	0.689	"	"	"	"	
n-Butylbenzene	ND	---	0.0689	"	"	"	"	
sec-Butylbenzene	ND	---	0.0689	"	"	"	"	
tert-Butylbenzene	ND	---	0.0689	"	"	"	"	
Carbon tetrachloride	ND	---	0.0689	"	"	"	"	
Chlorobenzene	ND	---	0.0345	"	"	"	"	
Chloroethane	ND	---	0.689	"	"	"	"	Q-31
Chloroform	ND	---	0.0689	"	"	"	"	
Chloromethane	ND	---	0.345	"	"	"	"	
2-Chlorotoluene	ND	---	0.0689	"	"	"	"	
4-Chlorotoluene	ND	---	0.0689	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	0.345	"	"	"	"	
Dibromochloromethane	ND	---	0.138	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	0.0689	"	"	"	"	
Dibromomethane	ND	---	0.0689	"	"	"	"	
1,2-Dichlorobenzene	ND	---	0.0345	"	"	"	"	
1,3-Dichlorobenzene	ND	---	0.0345	"	"	"	"	
1,4-Dichlorobenzene	ND	---	0.0345	"	"	"	"	
Dichlorodifluoromethane	ND	---	0.138	"	"	"	"	
1,1-Dichloroethane	ND	---	0.0345	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.0345	"	"	"	"	
1,1-Dichloroethene	ND	---	0.0345	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	0.0345	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	0.0345	"	"	"	"	
1,2-Dichloropropane	ND	---	0.0345	"	"	"	"	
1,3-Dichloropropane	ND	---	0.0689	"	"	"	"	
2,2-Dichloropropane	ND	---	0.0689	"	"	"	"	
1,1-Dichloropropene	ND	---	0.0689	"	"	"	"	

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TP-2S(0.0-0.5) (A6J0409-16)			Matrix: Soil		Batch: 6100585			
cis-1,3-Dichloropropene	ND	---	0.0689	mg/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND	---	0.0689	"	"	"	"	
Ethylbenzene	ND	---	0.0345	"	"	"	"	
Hexachlorobutadiene	ND	---	0.138	"	"	"	"	
2-Hexanone	ND	---	0.689	"	"	"	"	
Isopropylbenzene	ND	---	0.0689	"	"	"	"	
4-Isopropyltoluene	ND	---	0.0689	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	0.689	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	0.0689	"	"	"	"	
Methylene chloride	ND	---	0.345	"	"	"	"	
Naphthalene	ND	---	0.138	"	"	"	"	
n-Propylbenzene	ND	---	0.0345	"	"	"	"	
Styrene	ND	---	0.0689	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	0.0345	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	0.0689	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	0.0345	"	"	"	"	
Toluene	ND	---	0.0689	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	0.345	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	0.345	"	"	"	"	
1,1,1-Trichloroethane	ND	---	0.0345	"	"	"	"	
1,1,2-Trichloroethane	ND	---	0.0345	"	"	"	"	
Trichloroethene (TCE)	ND	---	0.0345	"	"	"	"	
Trichlorofluoromethane	ND	---	0.138	"	"	"	"	
1,2,3-Trichloropropane	ND	---	0.0689	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	0.0689	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	0.0689	"	"	"	"	
Vinyl chloride	ND	---	0.0345	"	"	"	"	
m,p-Xylene	ND	---	0.0689	"	"	"	"	
o-Xylene	ND	---	0.0345	"	"	"	"	
Surrogate: 1,4-Difluorobenzene (Surr)		Recovery: 106 %		Limits: 70-130 %	1	"	"	
Toluene-d8 (Surr)		96 %		Limits: 70-130 %	"	"	"	
4-Bromofluorobenzene (Surr)		97 %		Limits: 70-130 %	"	"	"	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TP-2N(0.0-0.5) (A6J0409-18)			Matrix: Soil		Batch: 6100585			
Acetone	ND	---	1.40	mg/kg dry	50	10/14/16 14:15	5035/8260B	
Benzene	ND	---	0.0140	"	"	"	"	
Bromobenzene	ND	---	0.0350	"	"	"	"	
Bromochloromethane	ND	---	0.0699	"	"	"	"	
Bromodichloromethane	ND	---	0.140	"	"	"	"	
Bromoform	ND	---	0.140	"	"	"	"	
Bromomethane	ND	---	0.699	"	"	"	"	
2-Butanone (MEK)	ND	---	0.699	"	"	"	"	
n-Butylbenzene	ND	---	0.0699	"	"	"	"	
sec-Butylbenzene	ND	---	0.0699	"	"	"	"	
tert-Butylbenzene	ND	---	0.0699	"	"	"	"	
Carbon tetrachloride	ND	---	0.0699	"	"	"	"	
Chlorobenzene	ND	---	0.0350	"	"	"	"	
Chloroethane	ND	---	0.699	"	"	"	"	Q-31
Chloroform	ND	---	0.0699	"	"	"	"	
Chloromethane	ND	---	0.350	"	"	"	"	
2-Chlorotoluene	ND	---	0.0699	"	"	"	"	
4-Chlorotoluene	ND	---	0.0699	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	0.350	"	"	"	"	
Dibromochloromethane	ND	---	0.140	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	0.0699	"	"	"	"	
Dibromomethane	ND	---	0.0699	"	"	"	"	
1,2-Dichlorobenzene	ND	---	0.0350	"	"	"	"	
1,3-Dichlorobenzene	ND	---	0.0350	"	"	"	"	
1,4-Dichlorobenzene	ND	---	0.0350	"	"	"	"	
Dichlorodifluoromethane	ND	---	0.140	"	"	"	"	
1,1-Dichloroethane	ND	---	0.0350	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.0350	"	"	"	"	
1,1-Dichloroethene	ND	---	0.0350	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	0.0350	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	0.0350	"	"	"	"	
1,2-Dichloropropane	ND	---	0.0350	"	"	"	"	
1,3-Dichloropropane	ND	---	0.0699	"	"	"	"	
2,2-Dichloropropane	ND	---	0.0699	"	"	"	"	
1,1-Dichloropropene	ND	---	0.0699	"	"	"	"	

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TP-2N(0.0-0.5) (A6J0409-18)			Matrix: Soil		Batch: 6100585			
cis-1,3-Dichloropropene	ND	---	0.0699	mg/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND	---	0.0699	"	"	"	"	
Ethylbenzene	ND	---	0.0350	"	"	"	"	
Hexachlorobutadiene	ND	---	0.140	"	"	"	"	
2-Hexanone	ND	---	0.699	"	"	"	"	
Isopropylbenzene	ND	---	0.0699	"	"	"	"	
4-Isopropyltoluene	ND	---	0.0699	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	0.699	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	0.0699	"	"	"	"	
Methylene chloride	ND	---	0.350	"	"	"	"	
Naphthalene	ND	---	0.140	"	"	"	"	
n-Propylbenzene	ND	---	0.0350	"	"	"	"	
Styrene	ND	---	0.0699	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	0.0350	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	0.0699	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	0.0350	"	"	"	"	
Toluene	ND	---	0.0699	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	0.350	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	0.350	"	"	"	"	
1,1,1-Trichloroethane	ND	---	0.0350	"	"	"	"	
1,1,2-Trichloroethane	ND	---	0.0350	"	"	"	"	
Trichloroethene (TCE)	ND	---	0.0350	"	"	"	"	
Trichlorofluoromethane	ND	---	0.140	"	"	"	"	
1,2,3-Trichloropropane	ND	---	0.0699	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	0.0699	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	0.0699	"	"	"	"	
Vinyl chloride	ND	---	0.0350	"	"	"	"	
m,p-Xylene	ND	---	0.0699	"	"	"	"	
o-Xylene	ND	---	0.0350	"	"	"	"	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 103 %</i>		<i>Limits: 70-130 %</i>		1	"	"
<i>Toluene-d8 (Surr)</i>		<i>97 %</i>		<i>Limits: 70-130 %</i>		"	"	"
<i>4-Bromofluorobenzene (Surr)</i>		<i>96 %</i>		<i>Limits: 70-130 %</i>		"	"	"

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TP-3E(0.0-0.5) (A6J0409-20)			Matrix: Soil		Batch: 6100585			
Acetone	ND	---	1.31	mg/kg dry	50	10/14/16 14:42	5035/8260B	
Benzene	ND	---	0.0131	"	"	"	"	
Bromobenzene	ND	---	0.0327	"	"	"	"	
Bromochloromethane	ND	---	0.0654	"	"	"	"	
Bromodichloromethane	ND	---	0.131	"	"	"	"	
Bromoform	ND	---	0.131	"	"	"	"	
Bromomethane	ND	---	0.654	"	"	"	"	
2-Butanone (MEK)	ND	---	0.654	"	"	"	"	
n-Butylbenzene	ND	---	0.0654	"	"	"	"	
sec-Butylbenzene	ND	---	0.0654	"	"	"	"	
tert-Butylbenzene	ND	---	0.0654	"	"	"	"	
Carbon tetrachloride	ND	---	0.0654	"	"	"	"	
Chlorobenzene	ND	---	0.0327	"	"	"	"	
Chloroethane	ND	---	0.654	"	"	"	"	Q-31
Chloroform	ND	---	0.0654	"	"	"	"	
Chloromethane	ND	---	0.327	"	"	"	"	
2-Chlorotoluene	ND	---	0.0654	"	"	"	"	
4-Chlorotoluene	ND	---	0.0654	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	0.327	"	"	"	"	
Dibromochloromethane	ND	---	0.131	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	0.0654	"	"	"	"	
Dibromomethane	ND	---	0.0654	"	"	"	"	
1,2-Dichlorobenzene	ND	---	0.0327	"	"	"	"	
1,3-Dichlorobenzene	ND	---	0.0327	"	"	"	"	
1,4-Dichlorobenzene	ND	---	0.0327	"	"	"	"	
Dichlorodifluoromethane	ND	---	0.131	"	"	"	"	
1,1-Dichloroethane	ND	---	0.0327	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.0327	"	"	"	"	
1,1-Dichloroethene	ND	---	0.0327	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	0.0327	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	0.0327	"	"	"	"	
1,2-Dichloropropane	ND	---	0.0327	"	"	"	"	
1,3-Dichloropropane	ND	---	0.0654	"	"	"	"	
2,2-Dichloropropane	ND	---	0.0654	"	"	"	"	
1,1-Dichloropropene	ND	---	0.0654	"	"	"	"	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TP-3E(0.0-0.5) (A6J0409-20)			Matrix: Soil	Batch: 6100585				
cis-1,3-Dichloropropene	ND	---	0.0654	mg/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND	---	0.0654	"	"	"	"	
Ethylbenzene	ND	---	0.0327	"	"	"	"	
Hexachlorobutadiene	ND	---	0.131	"	"	"	"	
2-Hexanone	ND	---	0.654	"	"	"	"	
Isopropylbenzene	ND	---	0.0654	"	"	"	"	
4-Isopropyltoluene	ND	---	0.0654	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	0.654	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	0.0654	"	"	"	"	
Methylene chloride	ND	---	0.327	"	"	"	"	
Naphthalene	ND	---	0.131	"	"	"	"	
n-Propylbenzene	ND	---	0.0327	"	"	"	"	
Styrene	ND	---	0.0654	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	0.0327	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	0.0654	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	0.0327	"	"	"	"	
Toluene	ND	---	0.0654	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	0.327	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	0.327	"	"	"	"	
1,1,1-Trichloroethane	ND	---	0.0327	"	"	"	"	
1,1,2-Trichloroethane	ND	---	0.0327	"	"	"	"	
Trichloroethene (TCE)	ND	---	0.0327	"	"	"	"	
Trichlorofluoromethane	ND	---	0.131	"	"	"	"	
1,2,3-Trichloropropane	ND	---	0.0654	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	0.0654	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	0.0654	"	"	"	"	
Vinyl chloride	ND	---	0.0327	"	"	"	"	
m,p-Xylene	ND	---	0.0654	"	"	"	"	
o-Xylene	ND	---	0.0327	"	"	"	"	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>			<i>Recovery: 102 %</i>	<i>Limits: 70-130 %</i>	1	"	"	
<i>Toluene-d8 (Surr)</i>			<i>96 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>99 %</i>	<i>Limits: 70-130 %</i>	"	"	"	

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TP-3W(0.0-0.5) (A6J0409-22)			Matrix: Soil		Batch: 6100585			
Acetone	ND	---	1.37	mg/kg dry	50	10/14/16 16:02	5035/8260B	
Benzene	ND	---	0.0137	"	"	"	"	
Bromobenzene	ND	---	0.0341	"	"	"	"	
Bromochloromethane	ND	---	0.0683	"	"	"	"	
Bromodichloromethane	ND	---	0.137	"	"	"	"	
Bromoform	ND	---	0.137	"	"	"	"	
Bromomethane	ND	---	0.683	"	"	"	"	
2-Butanone (MEK)	ND	---	0.683	"	"	"	"	
n-Butylbenzene	ND	---	0.0683	"	"	"	"	
sec-Butylbenzene	ND	---	0.0683	"	"	"	"	
tert-Butylbenzene	ND	---	0.0683	"	"	"	"	
Carbon tetrachloride	ND	---	0.0683	"	"	"	"	
Chlorobenzene	ND	---	0.0341	"	"	"	"	
Chloroethane	ND	---	0.683	"	"	"	"	Q-31
Chloroform	ND	---	0.0683	"	"	"	"	
Chloromethane	ND	---	0.341	"	"	"	"	
2-Chlorotoluene	ND	---	0.0683	"	"	"	"	
4-Chlorotoluene	ND	---	0.0683	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	0.341	"	"	"	"	
Dibromochloromethane	ND	---	0.137	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	0.0683	"	"	"	"	
Dibromomethane	ND	---	0.0683	"	"	"	"	
1,2-Dichlorobenzene	ND	---	0.0341	"	"	"	"	
1,3-Dichlorobenzene	ND	---	0.0341	"	"	"	"	
1,4-Dichlorobenzene	ND	---	0.0341	"	"	"	"	
Dichlorodifluoromethane	ND	---	0.137	"	"	"	"	
1,1-Dichloroethane	ND	---	0.0341	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.0341	"	"	"	"	
1,1-Dichloroethene	ND	---	0.0341	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	0.0341	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	0.0341	"	"	"	"	
1,2-Dichloropropane	ND	---	0.0341	"	"	"	"	
1,3-Dichloropropane	ND	---	0.0683	"	"	"	"	
2,2-Dichloropropane	ND	---	0.0683	"	"	"	"	
1,1-Dichloropropene	ND	---	0.0683	"	"	"	"	

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

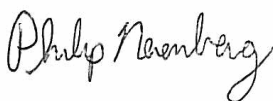
10/25/16 17:22

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TP-3W(0.0-0.5) (A6J0409-22)			Matrix: Soil	Batch: 6100585				
cis-1,3-Dichloropropene	ND	---	0.0683	mg/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND	---	0.0683	"	"	"	"	
Ethylbenzene	ND	---	0.0341	"	"	"	"	
Hexachlorobutadiene	ND	---	0.137	"	"	"	"	
2-Hexanone	ND	---	0.683	"	"	"	"	
Isopropylbenzene	ND	---	0.0683	"	"	"	"	
4-Isopropyltoluene	ND	---	0.0683	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	0.683	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	0.0683	"	"	"	"	
Methylene chloride	ND	---	0.341	"	"	"	"	
Naphthalene	ND	---	0.137	"	"	"	"	
n-Propylbenzene	ND	---	0.0341	"	"	"	"	
Styrene	ND	---	0.0683	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	0.0341	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	0.0683	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	0.0341	"	"	"	"	
Toluene	ND	---	0.0683	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	0.341	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	0.341	"	"	"	"	
1,1,1-Trichloroethane	ND	---	0.0341	"	"	"	"	
1,1,2-Trichloroethane	ND	---	0.0341	"	"	"	"	
Trichloroethene (TCE)	ND	---	0.0341	"	"	"	"	
Trichlorofluoromethane	ND	---	0.137	"	"	"	"	
1,2,3-Trichloropropane	ND	---	0.0683	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	0.0683	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	0.0683	"	"	"	"	
Vinyl chloride	ND	---	0.0341	"	"	"	"	
m,p-Xylene	ND	---	0.0683	"	"	"	"	
o-Xylene	ND	---	0.0341	"	"	"	"	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>			<i>Recovery: 105 %</i>	<i>Limits: 70-130 %</i>	1	"	"	
<i>Toluene-d8 (Surr)</i>			<i>96 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>99 %</i>	<i>Limits: 70-130 %</i>	"	"	"	

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TPComp-1(0.0-1.0) (A6J0409-02)			Matrix: Soil		Batch: 6100537			C-07
Aroclor 1016	ND	---	0.0117	mg/kg dry	1	10/14/16 14:33	EPA 8082A	
Aroclor 1221	ND	---	0.0117	"	"	"	"	
Aroclor 1232	ND	---	0.0117	"	"	"	"	
Aroclor 1242	ND	---	0.0117	"	"	"	"	
Aroclor 1248	ND	---	0.0117	"	"	"	"	
Aroclor 1254	ND	---	0.0117	"	"	"	"	
Aroclor 1260	ND	---	0.0117	"	"	"	"	
<i>Surrogate: Decachlorobiphenyl (Surr)</i>			<i>Recovery: 70 %</i>	<i>Limits: 72-126 %</i>	"	"	"	<i>S-03</i>
TPComp-2(0.0-0.5) (A6J0409-12)			Matrix: Soil		Batch: 6100537			C-07
Aroclor 1016	ND	---	0.0112	mg/kg dry	1	10/14/16 15:47	EPA 8082A	
Aroclor 1221	ND	---	0.0112	"	"	"	"	
Aroclor 1232	ND	---	0.0112	"	"	"	"	
Aroclor 1242	ND	---	0.0112	"	"	"	"	
Aroclor 1248	ND	---	0.0270	"	"	"	"	R-02
Aroclor 1254	ND	---	0.0157	"	"	"	"	R-02
Aroclor 1260	ND	---	0.0112	"	"	"	"	
<i>Surrogate: Decachlorobiphenyl (Surr)</i>			<i>Recovery: 76 %</i>	<i>Limits: 72-126 %</i>	"	"	"	
TPComp-3(0.0-0.5) (A6J0409-13)			Matrix: Soil		Batch: 6100537			C-07
Aroclor 1016	ND	---	0.0522	mg/kg dry	1	10/14/16 16:24	EPA 8082A	R-02
Aroclor 1221	ND	---	0.0113	"	"	"	"	
Aroclor 1232	ND	---	0.157	"	"	"	"	R-02
Aroclor 1242	ND	---	0.0715	"	"	"	"	R-02
Aroclor 1248	ND	---	0.0828	"	"	"	"	R-02
Aroclor 1254	ND	---	0.379	"	"	"	"	R-02
Aroclor 1260	ND	---	0.139	"	"	"	"	R-02
<i>Surrogate: Decachlorobiphenyl (Surr)</i>			<i>Recovery: 76 %</i>	<i>Limits: 72-126 %</i>	"	"	"	
TP-2S(0.0-0.5) (A6J0409-16)			Matrix: Soil		Batch: 6100537			C-07
Aroclor 1016	ND	---	0.0111	mg/kg dry	1	10/14/16 17:38	EPA 8082A	
Aroclor 1221	ND	---	0.0111	"	"	"	"	
Aroclor 1232	ND	---	0.0111	"	"	"	"	
Aroclor 1242	ND	---	0.0111	"	"	"	"	
Aroclor 1248	ND	---	0.0234	"	"	"	"	R-02
Aroclor 1254	ND	---	0.0223	"	"	"	"	R-02
Aroclor 1260	ND	---	0.0111	"	"	"	"	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TP-2S(0.0-0.5) (A6J0409-16)			Matrix: Soil		Batch: 6100537			C-07
<i>Surrogate: Decachlorobiphenyl (Surr)</i>			<i>Recovery: 80 %</i>	<i>Limits: 72-126 %</i>	1	"	EPA 8082A	
TP-2N(0.0-0.5) (A6J0409-18)			Matrix: Soil		Batch: 6100537			C-07
Aroclor 1016	ND	---	0.0113	mg/kg dry	1	10/14/16 18:15	EPA 8082A	
Aroclor 1221	ND	---	0.0113	"	"	"	"	
Aroclor 1232	ND	---	0.0113	"	"	"	"	
Aroclor 1242	ND	---	0.0113	"	"	"	"	
Aroclor 1248	ND	---	0.0124	"	"	"	"	R-02
Aroclor 1254	ND	---	0.0113	"	"	"	"	
Aroclor 1260	ND	---	0.0113	"	"	"	"	
<i>Surrogate: Decachlorobiphenyl (Surr)</i>			<i>Recovery: 85 %</i>	<i>Limits: 72-126 %</i>	"	"	"	
TP-3E(0.0-0.5) (A6J0409-20)			Matrix: Soil		Batch: 6100537			C-07
Aroclor 1016	ND	---	0.0117	mg/kg dry	1	10/14/16 18:51	EPA 8082A	
Aroclor 1221	ND	---	0.0117	"	"	"	"	
Aroclor 1232	ND	---	0.0117	"	"	"	"	
Aroclor 1242	ND	---	0.0117	"	"	"	"	
Aroclor 1248	ND	---	0.0117	"	"	"	"	
Aroclor 1254	ND	---	0.0117	"	"	"	"	
Aroclor 1260	ND	---	0.0117	"	"	"	"	
<i>Surrogate: Decachlorobiphenyl (Surr)</i>			<i>Recovery: 71 %</i>	<i>Limits: 72-126 %</i>	"	"	"	S-06
TP-3W(0.0-0.5) (A6J0409-22)			Matrix: Soil		Batch: 6100537			C-07
Aroclor 1016	ND	---	0.0117	mg/kg dry	1	10/14/16 19:28	EPA 8082A	
Aroclor 1221	ND	---	0.0117	"	"	"	"	
Aroclor 1232	ND	---	0.0117	"	"	"	"	
Aroclor 1242	ND	---	0.0117	"	"	"	"	
Aroclor 1248	ND	---	0.0117	"	"	"	"	
Aroclor 1254	ND	---	0.0117	"	"	"	"	
Aroclor 1260	ND	---	0.0117	"	"	"	"	
<i>Surrogate: Decachlorobiphenyl (Surr)</i>			<i>Recovery: 68 %</i>	<i>Limits: 72-126 %</i>	"	"	"	S-03

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
SED-1(0.0-0.5) (A6J0409-01RE1)			Matrix: Sediment		Batch: 6100600		C-05	
Aldrin	ND	---	2.95	ug/kg dry	1	10/19/16 18:29	EPA 8081B	
alpha-BHC	ND	---	2.95	"	"	"	"	
beta-BHC	ND	---	2.95	"	"	"	"	
delta-BHC	ND	---	2.95	"	"	"	"	
gamma-BHC (Lindane)	ND	---	2.95	"	"	"	"	
cis-Chlordane	ND	---	2.95	"	"	"	"	
trans-Chlordane	ND	---	2.95	"	"	"	"	
4,4'-DDD	ND	---	2.95	"	"	"	"	
4,4'-DDE	4.48	---	2.95	"	"	"	"	
Dieldrin	6.15	---	2.95	"	"	"	"	
Endosulfan I	ND	---	2.95	"	"	"	"	
Endosulfan II	ND	---	2.95	"	"	"	"	
Endosulfan sulfate	ND	---	2.95	"	"	"	"	
Endrin	ND	---	2.95	"	"	"	"	
Endrin Aldehyde	ND	---	2.95	"	"	"	"	
Endrin ketone	ND	---	2.95	"	"	"	"	
Heptachlor	ND	---	2.95	"	"	"	"	
Heptachlor epoxide	ND	---	2.95	"	"	"	"	
Methoxychlor	ND	---	8.86	"	"	"	"	
Chlordane (Technical)	ND	---	88.6	"	"	"	"	
Toxaphene (Total)	ND	---	88.6	"	"	"	"	
<i>Surrogate: 2,4,5,6-TCMX (Surr)</i>			<i>Recovery: 85 %</i>	<i>Limits: 42-129 %</i>	"	"	"	
<i>Decachlorobiphenyl (Surr)</i>			<i>85 %</i>	<i>Limits: 65-151 %</i>	"	"	"	

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
SED-1(0.0-0.5) (A6J0409-01RE2)			Matrix: Sediment		Batch: 6100600			C-05
4,4'-DDT	5.26	---	2.95	ug/kg dry	1	10/20/16 12:14	EPA 8081B	
TPComp-2(0.0-0.5) (A6J0409-12RE1)			Matrix: Soil		Batch: 6100565			C-05
Aldrin	ND	---	2.10	ug/kg dry	1	10/17/16 09:19	EPA 8081B	
alpha-BHC	ND	---	2.10	"	"	"	"	
beta-BHC	ND	---	2.10	"	"	"	"	
delta-BHC	ND	---	2.10	"	"	"	"	
cis-Chlordane	ND	---	57.7	"	"	"	"	R-02
trans-Chlordane	ND	---	32.7	"	"	"	"	R-02
4,4'-DDD	ND	---	4.51	"	"	"	"	R-02
4,4'-DDT	177	---	2.10	"	"	"	"	
Endosulfan I	ND	---	2.10	"	"	"	"	
Endosulfan II	ND	---	2.73	"	"	"	"	R-02
Endosulfan sulfate	ND	---	2.52	"	"	"	"	R-02
Endrin	ND	---	5.24	"	"	"	"	R-02
Endrin Aldehyde	ND	---	2.52	"	"	"	"	R-02
Endrin ketone	ND	---	3.15	"	"	"	"	R-02
Heptachlor	ND	---	2.10	"	"	"	"	
Heptachlor epoxide	ND	---	4.20	"	"	"	"	R-02
Methoxychlor	ND	---	6.29	"	"	"	"	
Chlordane (Technical)	ND	---	62.9	"	"	"	"	
Toxaphene (Total)	ND	---	62.9	"	"	"	"	
<i>Surrogate: 2,4,5,6-TCMX (Surr)</i>			<i>Recovery: 57 %</i>	<i>Limits: 42-129 %</i>	"	"	"	
<i>Decachlorobiphenyl (Surr)</i>			<i>102 %</i>	<i>Limits: 65-151 %</i>	"	"	"	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TPComp-2(0.0-0.5) (A6J0409-12RE3)			Matrix: Soil		Batch: 6100565			C-05
4,4'-DDE	229	---	21.0	ug/kg dry	10	10/17/16 19:25	EPA 8081B	
TPComp-2(0.0-0.5) (A6J0409-12RE4)			Matrix: Soil		Batch: 6100565			C-05
gamma-BHC (Lindane)	3.33	---	2.10	ug/kg dry	1	10/19/16 14:44	EPA 8081B	
Dieldrin	91.7	---	2.10	"	"	"	"	
TPComp-3(0.0-0.5) (A6J0409-13RE2)			Matrix: Soil		Batch: 6100565			C-05
alpha-BHC	ND	---	41.5	ug/kg dry	20	10/17/16 20:01	EPA 8081B	
beta-BHC	ND	---	41.5	"	"	"	"	
delta-BHC	ND	---	41.5	"	"	"	"	
gamma-BHC (Lindane)	ND	---	41.5	"	"	"	"	
cis-Chlordane	ND	---	41.5	"	"	"	"	
trans-Chlordane	ND	---	41.5	"	"	"	"	
4,4'-DDD	ND	---	104	"	"	"	"	R-02
4,4'-DDE	240	---	41.5	"	"	"	"	
4,4'-DDT	435	---	41.5	"	"	"	"	
Endosulfan I	ND	---	41.5	"	"	"	"	
Endosulfan II	ND	---	41.5	"	"	"	"	
Endosulfan sulfate	ND	---	41.5	"	"	"	"	
Endrin	ND	---	41.5	"	"	"	"	
Endrin Aldehyde	ND	---	41.5	"	"	"	"	
Endrin ketone	ND	---	91.4	"	"	"	"	R-02
Heptachlor	ND	---	41.5	"	"	"	"	
Heptachlor epoxide	ND	---	41.5	"	"	"	"	
Methoxychlor	ND	---	162	"	"	"	"	R-02
Chlordane (Technical)	ND	---	1250	"	"	"	"	
Toxaphene (Total)	ND	---	1250	"	"	"	"	
<i>Surrogate: 2,4,5,6-TCMX (Surr)</i>			<i>Recovery: 90 %</i>	<i>Limits: 42-129 %</i>	"	"	"	
<i>Decachlorobiphenyl (Surr)</i>			<i>138 %</i>	<i>Limits: 65-151 %</i>	"	"	"	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

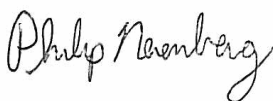
10/25/16 17:22

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TPComp-3(0.0-0.5) (A6J0409-13RE3)			Matrix: Soil		Batch: 6100565			C-05
Aldrin	5930	---	104	ug/kg dry	50	10/19/16 15:01	EPA 8081B	
Dieldrin	507	---	104	"	"	"	"	
TPComp-2(1.5-2.0) (A6J0409-14)			Matrix: Soil		Batch: 6100789			
Aldrin	ND	---	1.12	ug/kg dry	1	10/24/16 12:27	EPA 8081B	
alpha-BHC	ND	---	1.12	"	"	"	"	
beta-BHC	ND	---	1.12	"	"	"	"	
delta-BHC	ND	---	1.12	"	"	"	"	
gamma-BHC (Lindane)	ND	---	1.12	"	"	"	"	
cis-Chlordane	ND	---	1.12	"	"	"	"	
trans-Chlordane	ND	---	1.12	"	"	"	"	
4,4'-DDD	ND	---	1.12	"	"	"	"	
4,4'-DDE	1.16	---	1.12	"	"	"	"	Q-39
4,4'-DDT	ND	---	1.12	"	"	"	"	A-01a
Dieldrin	ND	---	1.12	"	"	"	"	Q-37
Endosulfan I	ND	---	1.12	"	"	"	"	
Endosulfan II	ND	---	1.12	"	"	"	"	
Endosulfan sulfate	ND	---	1.12	"	"	"	"	
Endrin	ND	---	1.12	"	"	"	"	
Endrin Aldehyde	ND	---	1.12	"	"	"	"	
Endrin ketone	ND	---	1.12	"	"	"	"	
Heptachlor	ND	---	1.12	"	"	"	"	
Heptachlor epoxide	ND	---	1.12	"	"	"	"	
Methoxychlor	ND	---	3.36	"	"	"	"	
Chlordane (Technical)	ND	---	33.6	"	"	"	"	
Toxaphene (Total)	ND	---	33.6	"	"	"	"	
<i>Surrogate: 2,4,5,6-TCMX (Surr)</i>			<i>Recovery: 77 %</i>	<i>Limits: 42-129 %</i>	"	"	"	
<i>Decachlorobiphenyl (Surr)</i>			<i>75 %</i>	<i>Limits: 65-151 %</i>	"	"	"	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TPComp-3(1.5-2.0) (A6J0409-15)		Matrix: Soil		Batch: 6100789				
Aldrin	85.4	---	1.01	ug/kg dry	1	10/24/16 13:02	EPA 8081B	
alpha-BHC	ND	---	1.01	"	"	"	"	
beta-BHC	ND	---	1.01	"	"	"	"	
delta-BHC	ND	---	1.01	"	"	"	"	
gamma-BHC (Lindane)	ND	---	1.01	"	"	"	"	
cis-Chlordane	ND	---	1.01	"	"	"	"	
trans-Chlordane	ND	---	1.01	"	"	"	"	
4,4'-DDD	ND	---	1.01	"	"	"	"	
4,4'-DDE	3.59	---	1.01	"	"	"	"	
4,4'-DDT	7.34	---	1.01	"	"	"	"	P-11
Dieldrin	10.9	---	1.01	"	"	"	"	
Endosulfan I	ND	---	1.01	"	"	"	"	
Endosulfan II	ND	---	1.01	"	"	"	"	
Endosulfan sulfate	ND	---	1.01	"	"	"	"	
Endrin	ND	---	1.01	"	"	"	"	
Endrin Aldehyde	ND	---	1.01	"	"	"	"	
Endrin ketone	ND	---	4.50	"	"	"	"	R-02
Heptachlor	ND	---	1.01	"	"	"	"	
Heptachlor epoxide	ND	---	1.01	"	"	"	"	
Methoxychlor	ND	---	3.04	"	"	"	"	
Chlordane (Technical)	ND	---	30.4	"	"	"	"	
Toxaphene (Total)	ND	---	30.4	"	"	"	"	
<i>Surrogate: 2,4,5,6-TCMX (Surr)</i>		<i>Recovery: 60 %</i>		<i>Limits: 42-129 %</i>	"	"	"	
<i>Decachlorobiphenyl (Surr)</i>		<i>74 %</i>		<i>Limits: 65-151 %</i>	"	"	"	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TP-2S(0.0-0.5) (A6J0409-16RE3)			Matrix: Soil		Batch: 6100565			C-05
Aldrin	ND	---	41.7	ug/kg dry	20	10/19/16 15:18	EPA 8081B	
alpha-BHC	ND	---	41.7	"	"	"	"	
beta-BHC	ND	---	41.7	"	"	"	"	
delta-BHC	ND	---	41.7	"	"	"	"	
gamma-BHC (Lindane)	ND	---	41.7	"	"	"	"	
cis-Chlordane	60.7	---	41.7	"	"	"	"	
trans-Chlordane	ND	---	41.7	"	"	"	"	P-11
4,4'-DDD	ND	---	41.7	"	"	"	"	
4,4'-DDE	48.8	---	41.7	"	"	"	"	
4,4'-DDT	271	---	41.7	"	"	"	"	
Dieldrin	97.3	---	41.7	"	"	"	"	
Endosulfan I	ND	---	41.7	"	"	"	"	
Endosulfan II	ND	---	41.7	"	"	"	"	
Endosulfan sulfate	ND	---	41.7	"	"	"	"	
Endrin	ND	---	41.7	"	"	"	"	
Endrin Aldehyde	ND	---	41.7	"	"	"	"	
Endrin ketone	ND	---	41.7	"	"	"	"	
Heptachlor	ND	---	41.7	"	"	"	"	
Heptachlor epoxide	ND	---	41.7	"	"	"	"	
Methoxychlor	ND	---	125	"	"	"	"	
Chlordane (Technical)	ND	---	1250	"	"	"	"	
Toxaphene (Total)	ND	---	1250	"	"	"	"	

Surrogate: 2,4,5,6-TCMX (Surr)

Decachlorobiphenyl (Surr)

Recovery: 64 %

Limits: 42-129 %

128 %

Limits: 65-151 %

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TP-2S(2.5-3.0) (A6J0409-17)			Matrix: Soil	Batch: 6100889				
Aldrin	ND	---	0.979	ug/kg dry	1	10/25/16 12:35	EPA 8081B	
alpha-BHC	ND	---	0.979	"	"	"	"	
beta-BHC	ND	---	0.979	"	"	"	"	
delta-BHC	ND	---	0.979	"	"	"	"	
gamma-BHC (Lindane)	ND	---	0.979	"	"	"	"	
cis-Chlordane	ND	---	0.979	"	"	"	"	
trans-Chlordane	ND	---	0.979	"	"	"	"	
4,4'-DDD	ND	---	0.979	"	"	"	"	
4,4'-DDE	ND	---	0.979	"	"	"	"	
4,4'-DDT	ND	---	0.979	"	"	"	"	P-11
Dieldrin	ND	---	0.979	"	"	"	"	
Endosulfan I	ND	---	0.979	"	"	"	"	
Endosulfan II	ND	---	0.979	"	"	"	"	
Endosulfan sulfate	ND	---	0.979	"	"	"	"	
Endrin	ND	---	0.979	"	"	"	"	
Endrin Aldehyde	ND	---	0.979	"	"	"	"	
Endrin ketone	ND	---	0.979	"	"	"	"	
Heptachlor	ND	---	0.979	"	"	"	"	
Heptachlor epoxide	ND	---	0.979	"	"	"	"	
Methoxychlor	ND	---	2.94	"	"	"	"	
Chlordane (Technical)	ND	---	29.4	"	"	"	"	
Toxaphene (Total)	ND	---	29.4	"	"	"	"	
<i>Surrogate: 2,4,5,6-TCMX (Surr)</i>			<i>Recovery: 73 %</i>	<i>Limits: 42-129 %</i>	"	"	"	
<i>Decachlorobiphenyl (Surr)</i>			<i>74 %</i>	<i>Limits: 65-151 %</i>	"	"	"	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TP-2N(0.0-0.5) (A6J0409-18RE3)			Matrix: Soil		Batch: 6100565			C-05
Aldrin	ND	---	40.6	ug/kg dry	20	10/19/16 15:35	EPA 8081B	
alpha-BHC	ND	---	40.6	"	"	"	"	
beta-BHC	ND	---	40.6	"	"	"	"	
delta-BHC	ND	---	40.6	"	"	"	"	
gamma-BHC (Lindane)	ND	---	40.6	"	"	"	"	
cis-Chlordane	ND	---	40.6	"	"	"	"	
trans-Chlordane	ND	---	40.6	"	"	"	"	
4,4'-DDD	ND	---	40.6	"	"	"	"	
4,4'-DDE	ND	---	40.6	"	"	"	"	
4,4'-DDT	ND	---	40.6	"	"	"	"	
Dieldrin	50.1	---	40.6	"	"	"	"	
Endosulfan I	ND	---	40.6	"	"	"	"	
Endosulfan II	ND	---	40.6	"	"	"	"	
Endosulfan sulfate	ND	---	40.6	"	"	"	"	
Endrin	ND	---	40.6	"	"	"	"	
Endrin Aldehyde	ND	---	40.6	"	"	"	"	
Endrin ketone	ND	---	40.6	"	"	"	"	
Heptachlor	ND	---	40.6	"	"	"	"	
Heptachlor epoxide	ND	---	40.6	"	"	"	"	
Methoxychlor	ND	---	122	"	"	"	"	
Chlordane (Technical)	ND	---	1220	"	"	"	"	
Toxaphene (Total)	ND	---	1220	"	"	"	"	
<i>Surrogate: 2,4,5,6-TCMX (Surr)</i>			<i>Recovery: 66 %</i>	<i>Limits: 42-129 %</i>	"	"	"	
<i>Decachlorobiphenyl (Surr)</i>			<i>125 %</i>	<i>Limits: 65-151 %</i>	"	"	"	

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TP-2N(2.0-2.5) (A6J0409-19)		Matrix: Soil		Batch: 6100889				
Aldrin	ND	---	1.06	ug/kg dry	1	10/25/16 12:53	EPA 8081B	
alpha-BHC	ND	---	1.06	"	"	"	"	
beta-BHC	ND	---	1.06	"	"	"	"	
delta-BHC	ND	---	1.06	"	"	"	"	
gamma-BHC (Lindane)	ND	---	1.06	"	"	"	"	
cis-Chlordane	ND	---	1.06	"	"	"	"	
trans-Chlordane	ND	---	1.06	"	"	"	"	
4,4'-DDD	ND	---	1.06	"	"	"	"	
4,4'-DDE	ND	---	1.06	"	"	"	"	
4,4'-DDT	1.59	---	1.06	"	"	"	"	
Dieldrin	1.72	---	1.06	"	"	"	"	
Endosulfan I	ND	---	1.06	"	"	"	"	
Endosulfan II	ND	---	1.06	"	"	"	"	
Endosulfan sulfate	ND	---	1.06	"	"	"	"	
Endrin	ND	---	1.06	"	"	"	"	
Endrin Aldehyde	ND	---	1.06	"	"	"	"	
Endrin ketone	ND	---	1.06	"	"	"	"	
Heptachlor	ND	---	1.06	"	"	"	"	
Heptachlor epoxide	ND	---	1.06	"	"	"	"	
Methoxychlor	ND	---	3.19	"	"	"	"	
Chlordane (Technical)	ND	---	31.9	"	"	"	"	
Toxaphene (Total)	ND	---	31.9	"	"	"	"	

Surrogate: 2,4,5,6-TCMX (Surr)

Recovery: 69 %

Limits: 42-129 %

"

"

"

Decachlorobiphenyl (Surr)

77 %

Limits: 65-151 %

"

"

"

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TP-3E(0.0-0.5) (A6J0409-20RE1)			Matrix: Soil		Batch: 6100565			C-05
Aldrin	ND	---	2.14	ug/kg dry	1	10/17/16 11:38	EPA 8081B	
alpha-BHC	ND	---	2.14	"	"	"	"	
beta-BHC	ND	---	2.14	"	"	"	"	
delta-BHC	ND	---	2.14	"	"	"	"	
gamma-BHC (Lindane)	ND	---	2.14	"	"	"	"	
cis-Chlordane	ND	---	2.14	"	"	"	"	
trans-Chlordane	ND	---	2.14	"	"	"	"	
4,4'-DDD	4.72	---	2.14	"	"	"	"	
4,4'-DDT	117	---	2.14	"	"	"	"	
Endosulfan I	ND	---	2.14	"	"	"	"	
Endosulfan II	ND	---	2.14	"	"	"	"	
Endosulfan sulfate	ND	---	2.14	"	"	"	"	
Endrin	ND	---	2.14	"	"	"	"	
Endrin Aldehyde	ND	---	2.14	"	"	"	"	
Endrin ketone	ND	---	2.14	"	"	"	"	
Heptachlor	ND	---	2.14	"	"	"	"	
Heptachlor epoxide	ND	---	2.14	"	"	"	"	
Methoxychlor	ND	---	7.07	"	"	"	"	R-02
Chlordane (Technical)	ND	---	64.3	"	"	"	"	
Toxaphene (Total)	ND	---	64.3	"	"	"	"	
<i>Surrogate: 2,4,5,6-TCMX (Surr)</i>			<i>Recovery: 53 %</i>	<i>Limits: 42-129 %</i>	"	"	"	
<i>Decachlorobiphenyl (Surr)</i>			<i>90 %</i>	<i>Limits: 65-151 %</i>	"	"	"	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TP-3E(0.0-0.5) (A6J0409-20RE2)			Matrix: Soil		Batch: 6100565			C-05
4,4'-DDE	422	---	21.4	ug/kg dry	10	10/17/16 21:45	EPA 8081B	
TP-3E(0.0-0.5) (A6J0409-20RE3)			Matrix: Soil		Batch: 6100565			C-05
Dieldrin	110	---	2.14	ug/kg dry	1	10/19/16 15:53	EPA 8081B	
TP-3E(1.5-2.0) (A6J0409-21)			Matrix: Soil		Batch: 6100789			
Aldrin	ND	---	1.04	ug/kg dry	1	10/24/16 13:19	EPA 8081B	
alpha-BHC	ND	---	1.04	"	"	"	"	
beta-BHC	ND	---	1.04	"	"	"	"	
delta-BHC	ND	---	1.04	"	"	"	"	
gamma-BHC (Lindane)	ND	---	1.04	"	"	"	"	
cis-Chlordane	ND	---	1.04	"	"	"	"	
trans-Chlordane	ND	---	1.04	"	"	"	"	
4,4'-DDD	ND	---	1.04	"	"	"	"	
4,4'-DDE	4.31	---	1.04	"	"	"	"	
4,4'-DDT	1.37	---	1.04	"	"	"	"	P-11
Dieldrin	ND	---	1.04	"	"	"	"	
Endosulfan I	ND	---	1.04	"	"	"	"	
Endosulfan II	ND	---	1.04	"	"	"	"	
Endosulfan sulfate	ND	---	1.04	"	"	"	"	
Endrin	ND	---	1.04	"	"	"	"	
Endrin Aldehyde	ND	---	1.04	"	"	"	"	
Endrin ketone	ND	---	1.04	"	"	"	"	
Heptachlor	ND	---	1.04	"	"	"	"	
Heptachlor epoxide	ND	---	1.04	"	"	"	"	
Methoxychlor	ND	---	3.12	"	"	"	"	
Chlordane (Technical)	ND	---	31.2	"	"	"	"	
Toxaphene (Total)	ND	---	31.2	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			Recovery: 72 %	Limits: 42-129 %	"	"	"	
Decachlorobiphenyl (Surr)			68 %	Limits: 65-151 %	"	"	"	

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TP-3W(0.0-0.5) (A6J0409-22RE1)			Matrix: Soil		Batch: 6100565		C-05	
Aldrin	ND	---	2.03	ug/kg dry	1	10/17/16 11:55	EPA 8081B	
alpha-BHC	ND	---	2.03	"	"	"	"	
beta-BHC	ND	---	2.03	"	"	"	"	
delta-BHC	ND	---	2.03	"	"	"	"	
cis-Chlordane	ND	---	2.03	"	"	"	"	
trans-Chlordane	ND	---	2.03	"	"	"	"	
4,4'-DDD	5.84	---	2.03	"	"	"	"	
4,4'-DDT	133	---	2.03	"	"	"	"	
Endosulfan I	ND	---	2.03	"	"	"	"	
Endosulfan II	ND	---	2.03	"	"	"	"	
Endosulfan sulfate	ND	---	2.03	"	"	"	"	
Endrin	ND	---	2.03	"	"	"	"	
Endrin Aldehyde	ND	---	2.03	"	"	"	"	
Endrin ketone	ND	---	2.03	"	"	"	"	
Heptachlor	ND	---	2.03	"	"	"	"	
Heptachlor epoxide	ND	---	2.03	"	"	"	"	
Methoxychlor	ND	---	6.08	"	"	"	"	
Chlordane (Technical)	ND	---	60.8	"	"	"	"	
Toxaphene (Total)	ND	---	60.8	"	"	"	"	
<i>Surrogate: 2,4,5,6-TCMX (Surr)</i>			<i>Recovery: 67 %</i>	<i>Limits: 42-129 %</i>	"	"	"	
<i>Decachlorobiphenyl (Surr)</i>			<i>109 %</i>	<i>Limits: 65-151 %</i>	"	"	"	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TP-3W(0.0-0.5) (A6J0409-22RE3)			Matrix: Soil		Batch: 6100565			C-05
gamma-BHC (Lindane)	ND	---	2.03	ug/kg dry	1	10/19/16 16:10	EPA 8081B	
TP-3W(0.0-0.5) (A6J0409-22RE4)			Matrix: Soil		Batch: 6100565			C-05
4,4'-DDE	454	---	20.3	ug/kg dry	10	10/19/16 16:45	EPA 8081B	
Dieldrin	248	---	20.3	"	"	"	"	
TP-3W(1.5-2.0) (A6J0409-23)			Matrix: Soil		Batch: 6100789			
Aldrin	ND	---	1.14	ug/kg dry	1	10/24/16 13:36	EPA 8081B	
alpha-BHC	ND	---	1.14	"	"	"	"	
beta-BHC	ND	---	1.14	"	"	"	"	
delta-BHC	ND	---	1.14	"	"	"	"	
gamma-BHC (Lindane)	ND	---	1.14	"	"	"	"	
cis-Chlordane	ND	---	1.14	"	"	"	"	
trans-Chlordane	ND	---	1.14	"	"	"	"	
4,4'-DDD	ND	---	1.14	"	"	"	"	
4,4'-DDE	5.71	---	1.14	"	"	"	"	
4,4'-DDT	3.85	---	1.14	"	"	"	"	
Dieldrin	2.57	---	1.14	"	"	"	"	
Endosulfan I	ND	---	1.14	"	"	"	"	
Endosulfan II	ND	---	1.14	"	"	"	"	
Endosulfan sulfate	ND	---	1.14	"	"	"	"	
Endrin	ND	---	1.14	"	"	"	"	
Endrin Aldehyde	ND	---	1.14	"	"	"	"	
Endrin ketone	ND	---	1.14	"	"	"	"	
Heptachlor	ND	---	1.14	"	"	"	"	
Heptachlor epoxide	ND	---	1.14	"	"	"	"	
Methoxychlor	ND	---	3.43	"	"	"	"	
Chlordane (Technical)	ND	---	34.3	"	"	"	"	
Toxaphene (Total)	ND	---	34.3	"	"	"	"	
<i>Surrogate: 2,4,5,6-TCMX (Surr)</i>			<i>Recovery: 71 %</i>	<i>Limits: 42-129 %</i>	"	"	"	
<i>Decachlorobiphenyl (Surr)</i>			<i>72 %</i>	<i>Limits: 65-151 %</i>	"	"	"	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TPComp-1(0.0-1.0) (A6J0409-02RE1)			Matrix: Soil		Batch: 6100637			
Acenaphthene	ND	---	0.0578	mg/kg dry	5	10/18/16 10:45	EPA 8270D (SIM)	
Acenaphthylene	ND	---	0.0578	"	"	"	"	
Anthracene	ND	---	0.0578	"	"	"	"	
Benz(a)anthracene	ND	---	0.0578	"	"	"	"	
Benzo(a)pyrene	ND	---	0.0578	"	"	"	"	
Benzo(b)fluoranthene	ND	---	0.0578	"	"	"	"	
Benzo(k)fluoranthene	ND	---	0.0578	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	0.0578	"	"	"	"	
Chrysene	ND	---	0.0578	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.0578	"	"	"	"	
Dibenzofuran	ND	---	0.0578	"	"	"	"	
Fluoranthene	ND	---	0.0578	"	"	"	"	
Fluorene	ND	---	0.0578	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	0.0578	"	"	"	"	
1-Methylnaphthalene	0.105	---	0.0578	"	"	"	"	
2-Methylnaphthalene	0.142	---	0.0578	"	"	"	"	
Naphthalene	0.171	---	0.0578	"	"	"	"	
Phenanthrene	0.139	---	0.0578	"	"	"	"	
Pyrene	0.0909	---	0.0578	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 91 %</i>	<i>Limits: 44-120 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>			<i>84 %</i>	<i>Limits: 54-127 %</i>	"	"	"	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TP-1N(0.0-0.5) (A6J0409-04)			Matrix: Soil		Batch: 6100550			
Acenaphthene	ND	---	0.0115	mg/kg dry	1	10/14/16 15:58	EPA 8270D (SIM)	
Acenaphthylene	ND	---	0.0115	"	"	"	"	
Anthracene	ND	---	0.0115	"	"	"	"	
Benz(a)anthracene	ND	---	0.0115	"	"	"	"	
Benzo(a)pyrene	ND	---	0.0115	"	"	"	"	
Benzo(b)fluoranthene	ND	---	0.0115	"	"	"	"	
Benzo(k)fluoranthene	ND	---	0.0115	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	0.0115	"	"	"	"	
Chrysene	ND	---	0.0115	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.0115	"	"	"	"	
Dibenzofuran	ND	---	0.0115	"	"	"	"	
Fluoranthene	ND	---	0.0115	"	"	"	"	
Fluorene	ND	---	0.0115	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	0.0115	"	"	"	"	
1-Methylnaphthalene	ND	---	0.0115	"	"	"	"	
2-Methylnaphthalene	ND	---	0.0115	"	"	"	"	
Naphthalene	ND	---	0.0115	"	"	"	"	
Phenanthrene	ND	---	0.0115	"	"	"	"	
Pyrene	ND	---	0.0115	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 78 %</i>	<i>Limits: 44-120 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>			<i>80 %</i>	<i>Limits: 54-127 %</i>	"	"	"	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TP-1S(0.0-0.5) (A6J0409-05)			Matrix: Soil		Batch: 6100550			
Acenaphthene	ND	---	0.0116	mg/kg dry	1	10/14/16 16:25	EPA 8270D (SIM)	
Acenaphthylene	ND	---	0.0116	"	"	"	"	
Anthracene	ND	---	0.0116	"	"	"	"	
Benz(a)anthracene	ND	---	0.0116	"	"	"	"	
Benzo(a)pyrene	ND	---	0.0116	"	"	"	"	
Benzo(b)fluoranthene	ND	---	0.0116	"	"	"	"	
Benzo(k)fluoranthene	ND	---	0.0116	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	0.0116	"	"	"	"	
Chrysene	ND	---	0.0116	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.0116	"	"	"	"	
Dibenzofuran	ND	---	0.0116	"	"	"	"	
Fluoranthene	ND	---	0.0116	"	"	"	"	
Fluorene	ND	---	0.0116	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	0.0116	"	"	"	"	
1-Methylnaphthalene	ND	---	0.0116	"	"	"	"	
2-Methylnaphthalene	ND	---	0.0116	"	"	"	"	
Naphthalene	ND	---	0.0116	"	"	"	"	
Phenanthrene	ND	---	0.0116	"	"	"	"	
Pyrene	ND	---	0.0116	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 79 %</i>	<i>Limits: 44-120 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>			<i>80 %</i>	<i>Limits: 54-127 %</i>	"	"	"	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TP-4N(0.0-0.5) (A6J0409-06)			Matrix: Soil	Batch: 6100550				
Acenaphthene	ND	---	0.0109	mg/kg dry	1	10/14/16 16:51	EPA 8270D (SIM)	
Acenaphthylene	ND	---	0.0109	"	"	"	"	
Anthracene	ND	---	0.0109	"	"	"	"	
Benz(a)anthracene	ND	---	0.0109	"	"	"	"	
Benzo(a)pyrene	ND	---	0.0109	"	"	"	"	
Benzo(b)fluoranthene	ND	---	0.0109	"	"	"	"	
Benzo(k)fluoranthene	ND	---	0.0109	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	0.0109	"	"	"	"	
Chrysene	ND	---	0.0109	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.0109	"	"	"	"	
Dibenzofuran	ND	---	0.0109	"	"	"	"	
Fluoranthene	ND	---	0.0109	"	"	"	"	
Fluorene	ND	---	0.0109	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	0.0109	"	"	"	"	
1-Methylnaphthalene	ND	---	0.0109	"	"	"	"	
2-Methylnaphthalene	ND	---	0.0109	"	"	"	"	
Naphthalene	ND	---	0.0109	"	"	"	"	
Phenanthrene	ND	---	0.0109	"	"	"	"	
Pyrene	ND	---	0.0109	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 80 %</i>	<i>Limits: 44-120 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>			<i>85 %</i>	<i>Limits: 54-127 %</i>	"	"	"	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TP-4S(0.0-0.5) (A6J0409-07)			Matrix: Soil	Batch: 6100550				
Acenaphthene	ND	---	0.0112	mg/kg dry	1	10/14/16 17:17	EPA 8270D (SIM)	
Acenaphthylene	ND	---	0.0112	"	"	"	"	
Anthracene	ND	---	0.0112	"	"	"	"	
Benz(a)anthracene	ND	---	0.0112	"	"	"	"	
Benzo(a)pyrene	ND	---	0.0112	"	"	"	"	
Benzo(b)fluoranthene	ND	---	0.0112	"	"	"	"	
Benzo(k)fluoranthene	ND	---	0.0112	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	0.0112	"	"	"	"	
Chrysene	ND	---	0.0112	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.0112	"	"	"	"	
Dibenzofuran	ND	---	0.0112	"	"	"	"	
Fluoranthene	ND	---	0.0112	"	"	"	"	
Fluorene	ND	---	0.0112	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	0.0112	"	"	"	"	
1-Methylnaphthalene	ND	---	0.0112	"	"	"	"	
2-Methylnaphthalene	ND	---	0.0112	"	"	"	"	
Naphthalene	ND	---	0.0112	"	"	"	"	
Phenanthrene	ND	---	0.0112	"	"	"	"	
Pyrene	ND	---	0.0112	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 74 %</i>	<i>Limits: 44-120 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>			<i>79 %</i>	<i>Limits: 54-127 %</i>	"	"	"	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TPComp-2(0.0-0.5) (A6J0409-12)			Matrix: Soil		Batch: 6100550			
Acenaphthene	ND	---	0.0120	mg/kg dry	1	10/14/16 17:43	EPA 8270D (SIM)	
Acenaphthylene	ND	---	0.0120	"	"	"	"	
Anthracene	ND	---	0.0120	"	"	"	"	
Benz(a)anthracene	ND	---	0.0120	"	"	"	"	
Benzo(a)pyrene	ND	---	0.0120	"	"	"	"	
Benzo(b)fluoranthene	ND	---	0.0120	"	"	"	"	
Benzo(k)fluoranthene	ND	---	0.0120	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	0.0120	"	"	"	"	
Chrysene	ND	---	0.0120	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.0120	"	"	"	"	
Dibenzofuran	ND	---	0.0120	"	"	"	"	
Fluoranthene	ND	---	0.0120	"	"	"	"	
Fluorene	ND	---	0.0120	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	0.0120	"	"	"	"	
1-Methylnaphthalene	ND	---	0.0120	"	"	"	"	
2-Methylnaphthalene	ND	---	0.0120	"	"	"	"	
Naphthalene	ND	---	0.0120	"	"	"	"	
Phenanthrene	ND	---	0.0120	"	"	"	"	
Pyrene	ND	---	0.0120	"	"	"	"	
Surrogate: 2-Fluorobiphenyl (Surr)			Recovery: 78 %	Limits: 44-120 %	"	"	"	
p-Terphenyl-d14 (Surr)			80 %	Limits: 54-127 %	"	"	"	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TPComp-3(0.0-0.5) (A6J0409-13)			Matrix: Soil	Batch: 6100550				
Acenaphthene	ND	---	0.114	mg/kg dry	10	10/14/16 18:09	EPA 8270D (SIM)	
Acenaphthylene	ND	---	0.114	"	"	"	"	
Anthracene	ND	---	0.136	"	"	"	"	R-02
Benzo(a)anthracene	0.709	---	0.114	"	"	"	"	M-02
Benzo(a)pyrene	0.468	---	0.114	"	"	"	"	
Benzo(b)fluoranthene	0.566	---	0.114	"	"	"	"	M-02
Benzo(k)fluoranthene	0.219	---	0.114	"	"	"	"	M-02
Benzo(g,h,i)perylene	0.719	---	0.114	"	"	"	"	
Chrysene	0.574	---	0.114	"	"	"	"	M-02
Dibenz(a,h)anthracene	ND	---	0.114	"	"	"	"	
Dibenzofuran	ND	---	0.114	"	"	"	"	
Fluoranthene	0.848	---	0.114	"	"	"	"	
Fluorene	0.124	---	0.114	"	"	"	"	M-04
Indeno(1,2,3-cd)pyrene	0.265	---	0.114	"	"	"	"	
1-Methylnaphthalene	0.665	---	0.114	"	"	"	"	B
2-Methylnaphthalene	0.654	---	0.114	"	"	"	"	B
Naphthalene	ND	---	0.114	"	"	"	"	
Phenanthrene	0.670	---	0.114	"	"	"	"	
Pyrene	1.66	---	0.114	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 89 %</i>	<i>Limits: 44-120 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>			<i>92 %</i>	<i>Limits: 54-127 %</i>	"	"	"	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TP-2S(0.0-0.5) (A6J0409-16)			Matrix: Soil		Batch: 6100550			
Acenaphthene	ND	---	0.0556	mg/kg dry	5	10/14/16 18:35	EPA 8270D (SIM)	
Acenaphthylene	ND	---	0.0556	"	"	"	"	
Anthracene	ND	---	0.0556	"	"	"	"	
Benz(a)anthracene	ND	---	0.156	"	"	"	"	R-02
Benzo(a)pyrene	ND	---	0.0556	"	"	"	"	
Benzo(b)fluoranthene	ND	---	0.0556	"	"	"	"	
Benzo(k)fluoranthene	ND	---	0.0556	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	0.0556	"	"	"	"	
Chrysene	ND	---	0.167	"	"	"	"	R-02
Dibenz(a,h)anthracene	ND	---	0.0556	"	"	"	"	
Dibenzofuran	ND	---	0.0556	"	"	"	"	
Fluoranthene	ND	---	0.0556	"	"	"	"	
Fluorene	ND	---	0.0556	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	0.0556	"	"	"	"	
1-Methylnaphthalene	ND	---	0.0556	"	"	"	"	
2-Methylnaphthalene	ND	---	0.0556	"	"	"	"	
Naphthalene	ND	---	0.0556	"	"	"	"	
Phenanthrene	0.234	---	0.0556	"	"	"	"	M-02
Pyrene	ND	---	0.0556	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>		<i>Recovery: 80 %</i>		<i>Limits: 44-120 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>		<i>90 %</i>		<i>Limits: 54-127 %</i>	"	"	"	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TP-2N(0.0-0.5) (A6J0409-18)			Matrix: Soil	Batch: 6100550				
Acenaphthene	ND	---	0.0562	mg/kg dry	5	10/14/16 19:01	EPA 8270D (SIM)	
Acenaphthylene	ND	---	0.0562	"	"	"	"	
Anthracene	ND	---	0.0562	"	"	"	"	
Benz(a)anthracene	ND	---	0.112	"	"	"	"	R-02
Benzo(a)pyrene	ND	---	0.0562	"	"	"	"	
Benzo(b)fluoranthene	ND	---	0.0562	"	"	"	"	
Benzo(k)fluoranthene	ND	---	0.0562	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	0.0562	"	"	"	"	
Chrysene	ND	---	0.124	"	"	"	"	R-02
Dibenz(a,h)anthracene	ND	---	0.0562	"	"	"	"	
Dibenzofuran	ND	---	0.0562	"	"	"	"	
Fluoranthene	ND	---	0.0562	"	"	"	"	
Fluorene	ND	---	0.0562	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	0.0562	"	"	"	"	
1-Methylnaphthalene	ND	---	0.0562	"	"	"	"	
2-Methylnaphthalene	ND	---	0.0562	"	"	"	"	
Naphthalene	ND	---	0.0562	"	"	"	"	
Phenanthrene	0.177	---	0.0562	"	"	"	"	
Pyrene	ND	---	0.0562	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>		<i>Recovery: 81 %</i>		<i>Limits: 44-120 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>		<i>90 %</i>		<i>Limits: 54-127 %</i>	"	"	"	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TP-3E(0.0-0.5) (A6J0409-20)			Matrix: Soil	Batch: 6100550				
Acenaphthene	ND	---	0.0123	mg/kg dry	1	10/14/16 19:27	EPA 8270D (SIM)	
Acenaphthylene	ND	---	0.0123	"	"	"	"	
Anthracene	ND	---	0.0123	"	"	"	"	
Benz(a)anthracene	ND	---	0.0123	"	"	"	"	
Benzo(a)pyrene	ND	---	0.0123	"	"	"	"	
Benzo(b)fluoranthene	ND	---	0.0123	"	"	"	"	
Benzo(k)fluoranthene	ND	---	0.0123	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	0.0123	"	"	"	"	
Chrysene	ND	---	0.0123	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.0123	"	"	"	"	
Dibenzofuran	ND	---	0.0123	"	"	"	"	
Fluoranthene	ND	---	0.0123	"	"	"	"	
Fluorene	ND	---	0.0123	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	0.0123	"	"	"	"	
1-Methylnaphthalene	ND	---	0.0123	"	"	"	"	
2-Methylnaphthalene	ND	---	0.0123	"	"	"	"	
Naphthalene	ND	---	0.0123	"	"	"	"	
Phenanthrene	ND	---	0.0123	"	"	"	"	
Pyrene	ND	---	0.0123	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 74 %</i>	<i>Limits: 44-120 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>			<i>79 %</i>	<i>Limits: 54-127 %</i>	"	"	"	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TP-3W(0.0-0.5) (A6J0409-22)			Matrix: Soil		Batch: 6100550			
Acenaphthene	ND	---	0.0117	mg/kg dry	1	10/14/16 19:53	EPA 8270D (SIM)	
Acenaphthylene	ND	---	0.0117	"	"	"	"	
Anthracene	ND	---	0.0117	"	"	"	"	
Benz(a)anthracene	ND	---	0.0117	"	"	"	"	
Benzo(a)pyrene	ND	---	0.0117	"	"	"	"	
Benzo(b)fluoranthene	ND	---	0.0117	"	"	"	"	
Benzo(k)fluoranthene	ND	---	0.0117	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	0.0117	"	"	"	"	
Chrysene	ND	---	0.0117	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.0117	"	"	"	"	
Dibenzofuran	ND	---	0.0117	"	"	"	"	
Fluoranthene	ND	---	0.0117	"	"	"	"	
Fluorene	ND	---	0.0117	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	0.0117	"	"	"	"	
1-Methylnaphthalene	ND	---	0.0117	"	"	"	"	
2-Methylnaphthalene	ND	---	0.0117	"	"	"	"	
Naphthalene	ND	---	0.0117	"	"	"	"	
Phenanthrene	ND	---	0.0117	"	"	"	"	
Pyrene	ND	---	0.0117	"	"	"	"	
Surrogate: 2-Fluorobiphenyl (Surr)			Recovery: 81 %	Limits: 44-120 %	"	"	"	
p-Terphenyl-d14 (Surr)			83 %	Limits: 54-127 %	"	"	"	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
SED-1(0.0-0.5) (A6J0409-01)			Matrix: Sediment					
Batch: 6100582								
Arsenic	3.24	---	3.05	mg/kg dry	10	10/14/16 18:55	EPA 6020A	
Barium	238	---	1.53	"	"	"	"	
Beryllium	0.779	---	0.305	"	"	"	"	
Chromium	28.3	---	3.05	"	"	"	"	
Cobalt	13.8	---	1.53	"	"	"	"	
Copper	13.8	---	3.05	"	"	"	"	
Lead	11.4	---	1.53	"	"	"	"	
Nickel	14.3	---	3.05	"	"	"	"	
Vanadium	78.1	---	3.05	"	"	"	"	
Zinc	78.1	---	6.11	"	"	"	"	
SED-1(0.0-0.5) (A6J0409-01RE1)			Matrix: Sediment					
Batch: 6100582								
Antimony	ND	---	0.764	mg/kg dry	5	10/17/16 15:50	EPA 6020A	
Cadmium	ND	---	0.764	"	"	"	"	
Mercury	ND	---	0.0611	"	"	"	"	
Molybdenum	ND	---	1.53	"	"	"	"	
Selenium	ND	---	1.53	"	"	"	"	A-01
Silver	ND	---	0.764	"	"	"	"	
Thallium	ND	---	0.764	"	"	"	"	
TPComp-1(0.0-1.0) (A6J0409-02)			Matrix: Soil					
Batch: 6100650								
Arsenic	11.9	---	1.27	mg/kg dry	10	10/18/16 14:27	EPA 6020A	
Barium	174	---	1.27	"	"	"	"	
Cadmium	0.724	---	0.254	"	"	"	"	
Chromium	25.1	---	1.27	"	"	"	"	
Lead	78.7	---	0.254	"	"	"	"	
Mercury	ND	---	0.102	"	"	"	"	
Selenium	ND	---	1.27	"	"	"	"	
Silver	ND	---	0.254	"	"	"	"	
TPComp-2(0.0-0.5) (A6J0409-12)			Matrix: Soil					
Batch: 6100650								
Antimony	ND	---	1.22	mg/kg dry	10	10/18/16 14:30	EPA 6020A	
Arsenic	3.00	---	1.22	"	"	"	"	
Barium	167	---	1.22	"	"	"	"	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TPComp-2(0.0-0.5) (A6J0409-12)			Matrix: Soil					
Beryllium	0.462	---	0.243	mg/kg dry	10	"	EPA 6020A	
Cadmium	ND	---	0.243	"	"	"	"	
Chromium	16.5	---	1.22	"	"	"	"	
Cobalt	14.2	---	0.243	"	"	"	"	
Copper	11.9	---	1.22	"	"	"	"	
Lead	14.7	---	0.243	"	"	"	"	
Mercury	ND	---	0.0972	"	"	"	"	
Molybdenum	ND	---	1.22	"	"	"	"	
Nickel	10.4	---	1.22	"	"	"	"	
Selenium	ND	---	1.22	"	"	"	"	
Silver	ND	---	0.243	"	"	"	"	
Thallium	ND	---	0.243	"	"	"	"	
Vanadium	57.1	---	1.22	"	"	"	"	
Zinc	54.7	---	4.86	"	"	"	"	
TPComp-3(0.0-0.5) (A6J0409-13)			Matrix: Soil					
Batch: 6100650								
Antimony	ND	---	1.30	mg/kg dry	10	10/18/16 14:33	EPA 6020A	
Arsenic	2.90	---	1.30	"	"	"	"	
Barium	282	---	1.30	"	"	"	"	
Beryllium	0.518	---	0.259	"	"	"	"	
Cadmium	0.441	---	0.259	"	"	"	"	
Chromium	16.9	---	1.30	"	"	"	"	
Cobalt	15.4	---	0.259	"	"	"	"	
Copper	19.0	---	1.30	"	"	"	"	
Lead	343	---	0.259	"	"	"	"	
Mercury	ND	---	0.104	"	"	"	"	
Molybdenum	ND	---	1.30	"	"	"	"	
Nickel	12.9	---	1.30	"	"	"	"	
Selenium	ND	---	1.30	"	"	"	"	
Silver	ND	---	0.259	"	"	"	"	
Thallium	ND	---	0.259	"	"	"	"	
Vanadium	59.4	---	1.30	"	"	"	"	
Zinc	141	---	5.18	"	"	"	"	
TPComp-2(1.5-2.0) (A6J0409-14)			Matrix: Soil					
Batch: 6100802								

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TPComp-2(1.5-2.0) (A6J0409-14)			Matrix: Soil					
Antimony	ND	---	1.34	mg/kg dry	10	10/21/16 12:53	EPA 6020A	
Arsenic	5.53	---	1.34	"	"	"	"	
Barium	137	---	1.34	"	"	"	"	
Beryllium	0.873	---	0.269	"	"	"	"	
Cadmium	ND	---	0.269	"	"	"	"	
Chromium	28.4	---	1.34	"	"	"	"	
Cobalt	18.8	---	0.269	"	"	"	"	
Copper	21.2	---	1.34	"	"	"	"	
Lead	10.6	---	0.269	"	"	"	"	
Molybdenum	ND	---	1.34	"	"	"	"	
Nickel	16.1	---	1.34	"	"	"	"	
Selenium	ND	---	1.34	"	"	"	"	
Silver	ND	---	0.269	"	"	"	"	
Thallium	ND	---	0.269	"	"	"	"	
Vanadium	92.8	---	1.34	"	"	"	"	
Zinc	55.4	---	5.37	"	"	"	"	
TPComp-2(1.5-2.0) (A6J0409-14RE1)			Matrix: Soil					
Batch: 6100802								
Mercury	ND	---	0.107	mg/kg dry	10	10/21/16 14:55	EPA 6020A	
TPComp-3(1.5-2.0) (A6J0409-15)			Matrix: Soil					
Batch: 6100802								
Antimony	ND	---	1.16	mg/kg dry	10	10/21/16 12:57	EPA 6020A	
Arsenic	4.46	---	1.16	"	"	"	"	
Barium	146	---	1.16	"	"	"	"	
Beryllium	0.647	---	0.231	"	"	"	"	
Cadmium	0.277	---	0.231	"	"	"	"	
Chromium	24.2	---	1.16	"	"	"	"	
Cobalt	15.6	---	0.231	"	"	"	"	
Copper	17.5	---	1.16	"	"	"	"	
Lead	13.9	---	0.231	"	"	"	"	
Molybdenum	ND	---	1.16	"	"	"	"	
Nickel	14.3	---	1.16	"	"	"	"	
Selenium	ND	---	1.16	"	"	"	"	
Silver	ND	---	0.231	"	"	"	"	
Thallium	ND	---	0.231	"	"	"	"	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02
Project Manager: Jeremy Zimmer

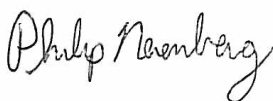
Reported:
10/25/16 17:22

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TPComp-3(1.5-2.0) (A6J0409-15)			Matrix: Soil					
Vanadium	88.0	---	1.16	mg/kg dry	10	"	EPA 6020A	
Zinc	55.8	---	4.62	"	"	"	"	
TPComp-3(1.5-2.0) (A6J0409-15RE1)			Matrix: Soil					
Batch: 6100802								
Mercury	ND	---	0.0925	mg/kg dry	10	10/21/16 15:13	EPA 6020A	
TP-2S(0.0-0.5) (A6J0409-16)			Matrix: Soil					
Batch: 6100650								
Antimony	ND	---	1.24	mg/kg dry	10	10/18/16 14:36	EPA 6020A	
Arsenic	2.46	---	1.24	"	"	"	"	
Barium	208	---	1.24	"	"	"	"	
Beryllium	0.458	---	0.247	"	"	"	"	
Cadmium	ND	---	0.247	"	"	"	"	
Chromium	17.7	---	1.24	"	"	"	"	
Cobalt	10.3	---	0.247	"	"	"	"	
Copper	15.0	---	1.24	"	"	"	"	
Lead	14.4	---	0.247	"	"	"	"	
Mercury	ND	---	0.0990	"	"	"	"	
Molybdenum	ND	---	1.24	"	"	"	"	
Nickel	11.3	---	1.24	"	"	"	"	
Selenium	ND	---	1.24	"	"	"	"	
Silver	ND	---	0.247	"	"	"	"	
Thallium	ND	---	0.247	"	"	"	"	
Vanadium	50.3	---	1.24	"	"	"	"	
Zinc	85.7	---	4.95	"	"	"	"	
TP-2N(0.0-0.5) (A6J0409-18)			Matrix: Soil					
Batch: 6100650								
Antimony	ND	---	1.26	mg/kg dry	10	10/18/16 14:39	EPA 6020A	
Arsenic	2.88	---	1.26	"	"	"	"	
Barium	153	---	1.26	"	"	"	"	
Beryllium	0.478	---	0.251	"	"	"	"	
Cadmium	0.314	---	0.251	"	"	"	"	
Chromium	15.8	---	1.26	"	"	"	"	
Cobalt	14.3	---	0.251	"	"	"	"	
Copper	12.3	---	1.26	"	"	"	"	
Lead	13.1	---	0.251	"	"	"	"	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TP-2N(0.0-0.5) (A6J0409-18)			Matrix: Soil					
Mercury	ND	---	0.101	mg/kg dry	10	"	EPA 6020A	
Molybdenum	ND	---	1.26	"	"	"	"	
Nickel	10.5	---	1.26	"	"	"	"	
Selenium	ND	---	1.26	"	"	"	"	
Silver	ND	---	0.251	"	"	"	"	
Thallium	ND	---	0.251	"	"	"	"	
Vanadium	58.4	---	1.26	"	"	"	"	
Zinc	61.5	---	5.03	"	"	"	"	
TP-3E(0.0-0.5) (A6J0409-20)			Matrix: Soil					
Batch: 6100650								
Antimony	ND	---	1.35	mg/kg dry	10	10/18/16 14:42	EPA 6020A	
Arsenic	5.83	---	1.35	"	"	"	"	
Barium	241	---	1.35	"	"	"	"	
Beryllium	0.541	---	0.270	"	"	"	"	
Cadmium	0.325	---	0.270	"	"	"	"	
Chromium	19.7	---	1.35	"	"	"	"	
Cobalt	13.9	---	0.270	"	"	"	"	
Copper	15.8	---	1.35	"	"	"	"	
Lead	32.6	---	0.270	"	"	"	"	
Mercury	ND	---	0.108	"	"	"	"	
Molybdenum	ND	---	1.35	"	"	"	"	
Nickel	12.5	---	1.35	"	"	"	"	
Selenium	ND	---	1.35	"	"	"	"	
Silver	ND	---	0.270	"	"	"	"	
Thallium	ND	---	0.270	"	"	"	"	
Vanadium	60.7	---	1.35	"	"	"	"	
Zinc	93.2	---	5.41	"	"	"	"	
TP-3E(1.5-2.0) (A6J0409-21)			Matrix: Soil					
Batch: 6100802								
Antimony	ND	---	1.20	mg/kg dry	10	10/21/16 13:00	EPA 6020A	
Arsenic	5.27	---	1.20	"	"	"	"	
Barium	140	---	1.20	"	"	"	"	
Beryllium	0.758	---	0.241	"	"	"	"	
Cadmium	0.289	---	0.241	"	"	"	"	
Chromium	29.3	---	1.20	"	"	"	"	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TP-3E(1.5-2.0) (A6J0409-21)			Matrix: Soil					
Cobalt	12.9	---	0.241	mg/kg dry	10	"	EPA 6020A	
Copper	20.2	---	1.20	"	"	"	"	
Lead	10.3	---	0.241	"	"	"	"	
Molybdenum	ND	---	1.20	"	"	"	"	
Nickel	16.7	---	1.20	"	"	"	"	
Selenium	ND	---	1.20	"	"	"	"	
Silver	ND	---	0.241	"	"	"	"	
Thallium	ND	---	0.241	"	"	"	"	
Vanadium	103	---	1.20	"	"	"	"	
Zinc	62.4	---	4.82	"	"	"	"	
TP-3E(1.5-2.0) (A6J0409-21RE1)			Matrix: Soil					
Batch: 6100802								
Mercury	ND	---	0.0963	mg/kg dry	10	10/21/16 15:21	EPA 6020A	
TP-3W(0.0-0.5) (A6J0409-22)			Matrix: Soil					
Batch: 6100650								
Antimony	ND	---	1.26	mg/kg dry	10	10/18/16 14:45	EPA 6020A	
Arsenic	3.15	---	1.26	"	"	"	"	
Barium	205	---	1.26	"	"	"	"	
Beryllium	0.403	---	0.252	"	"	"	"	
Cadmium	0.252	---	0.252	"	"	"	"	
Chromium	20.6	---	1.26	"	"	"	"	
Cobalt	11.8	---	0.252	"	"	"	"	
Copper	14.4	---	1.26	"	"	"	"	
Lead	21.7	---	0.252	"	"	"	"	
Mercury	ND	---	0.101	"	"	"	"	
Molybdenum	ND	---	1.26	"	"	"	"	
Nickel	11.6	---	1.26	"	"	"	"	
Selenium	ND	---	1.26	"	"	"	"	
Silver	ND	---	0.252	"	"	"	"	
Thallium	ND	---	0.252	"	"	"	"	
Vanadium	55.7	---	1.26	"	"	"	"	
Zinc	77.4	---	5.04	"	"	"	"	
TP-3W(1.5-2.0) (A6J0409-23)			Matrix: Soil					
Batch: 6100802								
Antimony	ND	---	1.32	mg/kg dry	10	10/21/16 13:03	EPA 6020A	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TP-3W(1.5-2.0) (A6J0409-23)			Matrix: Soil					
Arsenic	6.77	---	1.32	mg/kg dry	10	"	EPA 6020A	Q-42
Barium	140	---	1.32	"	"	"	"	
Beryllium	0.871	---	0.264	"	"	"	"	
Cadmium	0.317	---	0.264	"	"	"	"	
Chromium	34.1	---	1.32	"	"	"	"	
Cobalt	17.5	---	0.264	"	"	"	"	
Copper	25.0	---	1.32	"	"	"	"	
Lead	11.8	---	0.264	"	"	"	"	
Molybdenum	ND	---	1.32	"	"	"	"	
Nickel	19.5	---	1.32	"	"	"	"	
Selenium	ND	---	1.32	"	"	"	"	
Silver	ND	---	0.264	"	"	"	"	
Thallium	ND	---	0.264	"	"	"	"	
Vanadium	114	---	1.32	"	"	"	"	
Zinc	67.4	---	5.28	"	"	"	"	
TP-3W(1.5-2.0) (A6J0409-23RE1)			Matrix: Soil					
Batch: 6100802								
Mercury	ND	---	0.106	mg/kg dry	10	10/21/16 15:24	EPA 6020A	

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

ANALYTICAL SAMPLE RESULTS

TCLP Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TPComp-3(0.0-0.5) (A6J0409-13)			Matrix: Soil					
Batch: 6100847								
Lead	0.914	---	0.0500	mg/L	5	10/21/16 14:05	1311/6020A	

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02
Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

ANALYTICAL SAMPLE RESULTS

Percent Dry Weight								
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
SED-1(0.0-0.5) (A6J0409-01)			Matrix: Sediment		Batch: 6100607			
% Solids	63.3	---	1.00	% by Weight	1	10/17/16 09:09	EPA 8000C	
TPComp-1(0.0-1.0) (A6J0409-02)			Matrix: Soil		Batch: 6100607			
% Solids	80.7	---	1.00	% by Weight	1	10/17/16 09:09	EPA 8000C	
TP-1N(0.0-0.5) (A6J0409-04)			Matrix: Soil		Batch: 6100607			
% Solids	80.9	---	1.00	% by Weight	1	10/17/16 09:09	EPA 8000C	
TP-1S(0.0-0.5) (A6J0409-05)			Matrix: Soil		Batch: 6100607			
% Solids	82.8	---	1.00	% by Weight	1	10/17/16 09:09	EPA 8000C	
TP-4N(0.0-0.5) (A6J0409-06)			Matrix: Soil		Batch: 6100607			
% Solids	87.4	---	1.00	% by Weight	1	10/17/16 09:09	EPA 8000C	
TP-4S(0.0-0.5) (A6J0409-07)			Matrix: Soil		Batch: 6100607			
% Solids	84.4	---	1.00	% by Weight	1	10/17/16 09:09	EPA 8000C	
TPComp-2(0.0-0.5) (A6J0409-12)			Matrix: Soil		Batch: 6100607			
% Solids	81.5	---	1.00	% by Weight	1	10/17/16 09:09	EPA 8000C	
TPComp-3(0.0-0.5) (A6J0409-13)			Matrix: Soil		Batch: 6100607			
% Solids	81.6	---	1.00	% by Weight	1	10/17/16 09:09	EPA 8000C	
TPComp-2(1.5-2.0) (A6J0409-14)			Matrix: Soil		Batch: 6100826			
% Solids	80.2	---	1.00	% by Weight	1	10/21/16 09:36	EPA 8000C	
TPComp-3(1.5-2.0) (A6J0409-15)			Matrix: Soil		Batch: 6100826			
% Solids	87.2	---	1.00	% by Weight	1	10/21/16 09:36	EPA 8000C	
TP-2S(0.0-0.5) (A6J0409-16)			Matrix: Soil		Batch: 6100607			
% Solids	84.4	---	1.00	% by Weight	1	10/17/16 09:09	EPA 8000C	
TP-2S(2.5-3.0) (A6J0409-17)			Matrix: Soil		Batch: 6100754			
% Solids	87.2	---	1.00	% by Weight	1	10/20/16 10:08	EPA 8000C	
TP-2N(0.0-0.5) (A6J0409-18)			Matrix: Soil		Batch: 6100607			
% Solids	83.4	---	1.00	% by Weight	1	10/17/16 09:09	EPA 8000C	
TP-2N(2.0-2.5) (A6J0409-19)			Matrix: Soil		Batch: 6100754			
% Solids	80.7	---	1.00	% by Weight	1	10/20/16 10:08	EPA 8000C	
TP-3E(0.0-0.5) (A6J0409-20)			Matrix: Soil		Batch: 6100607			
% Solids	79.5	---	1.00	% by Weight	1	10/17/16 09:09	EPA 8000C	
TP-3E(1.5-2.0) (A6J0409-21)			Matrix: Soil		Batch: 6100826			
% Solids	86.5	---	1.00	% by Weight	1	10/21/16 09:36	EPA 8000C	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

ANALYTICAL SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TP-3W(0.0-0.5) (A6J0409-22)			Matrix: Soil		Batch: 6100607			
% Solids	82.6	---	1.00	% by Weight	1	10/17/16 09:09	EPA 8000C	
TP-3W(1.5-2.0) (A6J0409-23)			Matrix: Soil		Batch: 6100826			
% Solids	82.0	---	1.00	% by Weight	1	10/21/16 09:36	EPA 8000C	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100596 - EPA 3546 (Fuels)						Soil						
Blank (6100596-BLK1)						Prepared: 10/14/16 10:19 Analyzed: 10/14/16 20:47						
NWTPH-Dx												
Diesel	ND	---	25.0	mg/kg wet	1	---	---	---	---	---	---	
Oil	ND	---	50.0	"	"	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)		Recovery: 82 %		Limits: 50-150 %		Dilution: 1x						
LCS (6100596-BS1)						Prepared: 10/14/16 10:19 Analyzed: 10/14/16 21:08						
NWTPH-Dx												
Diesel	117	---	25.0	mg/kg wet	1	125	---	93	76-115%	---	---	
Surr: o-Terphenyl (Surr)		Recovery: 87 %		Limits: 50-150 %		Dilution: 1x						
Duplicate (6100596-DUP1)						Prepared: 10/14/16 10:19 Analyzed: 10/14/16 21:53						
QC Source Sample: TPComp-1(0.0-1.0) (A6J0409-02)												
NWTPH-Dx												
Diesel	ND	---	25.0	mg/kg dry	1	---	ND	---	---	---	30%	
Oil	477	---	50.0	"	"	---	763	---	---	46	30%	F-13, Q-04
Surr: o-Terphenyl (Surr)		Recovery: 76 %		Limits: 50-150 %		Dilution: 1x						
Batch 6100758 - EPA 3546 (Fuels)						Soil						
Blank (6100758-BLK1)						Prepared: 10/19/16 13:39 Analyzed: 10/19/16 18:51						
NWTPH-Dx												
Diesel	ND	---	25.0	mg/kg wet	1	---	---	---	---	---	---	
Oil	ND	---	50.0	"	"	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)		Recovery: 85 %		Limits: 50-150 %		Dilution: 1x						
LCS (6100758-BS1)						Prepared: 10/19/16 13:39 Analyzed: 10/19/16 19:11						
NWTPH-Dx												
Diesel	121	---	25.0	mg/kg wet	1	125	---	96	76-115%	---	---	
Surr: o-Terphenyl (Surr)		Recovery: 89 %		Limits: 50-150 %		Dilution: 1x						
Duplicate (6100758-DUP1)						Prepared: 10/19/16 13:39 Analyzed: 10/19/16 22:19						
QC Source Sample: TP-2S(2.5-3.0) (A6J0409-17)												
NWTPH-Dx												
Diesel	ND	---	25.0	mg/kg dry	1	---	31.1	---	---	***	30%	Q-05

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100758 - EPA 3546 (Fuels)							Soil					
Duplicate (6100758-DUP1)				Prepared: 10/19/16 13:39 Analyzed: 10/19/16 22:19								
QC Source Sample: TP-2S(2.5-3.0) (A6J0409-17)												
Oil	ND	---	50.0	mg/kg dry	"	---	25.7	---	---	***	30%	
Surr: o-Terphenyl (Surr)		Recovery: 87 %		Limits: 50-150 %		Dilution: 1x						

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100585 - EPA 5035A						Soil						
Blank (6100585-BLK1)						Prepared: 10/14/16 09:01		Analyzed: 10/14/16 11:35				
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	---	3.33	mg/kg wet	50	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)		Recovery: 100 %		Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)		95 %		50-150 %		"						
LCS (6100585-BS2)						Prepared: 10/14/16 09:01		Analyzed: 10/14/16 11:08				
NWTPH-Gx (MS)												
Gasoline Range Organics	22.7	---	5.00	mg/kg wet	50	25.0	---	91	70-130%	---	---	
Surr: 4-Bromofluorobenzene (Sur)		Recovery: 98 %		Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)		101 %		50-150 %		"						
Duplicate (6100585-DUP1)						Prepared: 10/12/16 10:40		Analyzed: 10/14/16 12:28				
QC Source Sample: TPComp-1(0.0-1.0) (A6J0409-02)												
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	---	6.22	mg/kg dry	50	---	ND	---	---	---	30%	
Surr: 4-Bromofluorobenzene (Sur)		Recovery: 105 %		Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)		106 %		50-150 %		"						

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02
Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100585 - EPA 5035A						Soil						
Blank (6100585-BLK1)						Prepared: 10/14/16 09:01		Analyzed: 10/14/16 11:35				
5035/8260B												
Acetone	ND	---	0.667	mg/kg wet	50	---	---	---	---	---	---	
Benzene	ND	---	0.00667	"	"	---	---	---	---	---	---	
Bromobenzene	ND	---	0.0167	"	"	---	---	---	---	---	---	
Bromochloromethane	ND	---	0.0333	"	"	---	---	---	---	---	---	
Bromodichloromethane	ND	---	0.0667	"	"	---	---	---	---	---	---	
Bromoform	ND	---	0.0667	"	"	---	---	---	---	---	---	
Bromomethane	ND	---	0.333	"	"	---	---	---	---	---	---	
2-Butanone (MEK)	ND	---	0.333	"	"	---	---	---	---	---	---	
n-Butylbenzene	ND	---	0.0333	"	"	---	---	---	---	---	---	
sec-Butylbenzene	ND	---	0.0333	"	"	---	---	---	---	---	---	
tert-Butylbenzene	ND	---	0.0333	"	"	---	---	---	---	---	---	
Carbon tetrachloride	ND	---	0.0333	"	"	---	---	---	---	---	---	
Chlorobenzene	ND	---	0.0167	"	"	---	---	---	---	---	---	
Chloroethane	ND	---	0.333	"	"	---	---	---	---	---	---	Q-31
Chloroform	ND	---	0.0333	"	"	---	---	---	---	---	---	
Chloromethane	ND	---	0.167	"	"	---	---	---	---	---	---	
2-Chlorotoluene	ND	---	0.0333	"	"	---	---	---	---	---	---	
4-Chlorotoluene	ND	---	0.0333	"	"	---	---	---	---	---	---	
1,2-Dibromo-3-chloroprop ane	ND	---	0.167	"	"	---	---	---	---	---	---	
Dibromochloromethane	ND	---	0.0667	"	"	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	---	0.0333	"	"	---	---	---	---	---	---	
Dibromomethane	ND	---	0.0333	"	"	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	---	0.0167	"	"	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	---	0.0167	"	"	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	---	0.0167	"	"	---	---	---	---	---	---	
Dichlorodifluoromethane	ND	---	0.0667	"	"	---	---	---	---	---	---	
1,1-Dichloroethane	ND	---	0.0167	"	"	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	---	0.0167	"	"	---	---	---	---	---	---	
1,1-Dichloroethene	ND	---	0.0167	"	"	---	---	---	---	---	---	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02
Project Manager: Jeremy Zimmer

Reported:
10/25/16 17:22

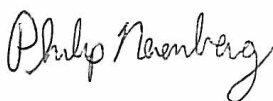
QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100585 - EPA 5035A						Soil						
Blank (6100585-BLK1)						Prepared: 10/14/16 09:01 Analyzed: 10/14/16 11:35						
cis-1,2-Dichloroethene	ND	---	0.0167	mg/kg wet	"	---	---	---	---	---	---	
trans-1,2-Dichloroethene	ND	---	0.0167	"	"	---	---	---	---	---	---	
1,2-Dichloropropane	ND	---	0.0167	"	"	---	---	---	---	---	---	
1,3-Dichloropropane	ND	---	0.0333	"	"	---	---	---	---	---	---	
2,2-Dichloropropane	ND	---	0.0333	"	"	---	---	---	---	---	---	
1,1-Dichloropropene	ND	---	0.0333	"	"	---	---	---	---	---	---	
cis-1,3-Dichloropropene	ND	---	0.0333	"	"	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	---	0.0333	"	"	---	---	---	---	---	---	
Ethylbenzene	ND	---	0.0167	"	"	---	---	---	---	---	---	
Hexachlorobutadiene	ND	---	0.0667	"	"	---	---	---	---	---	---	
2-Hexanone	ND	---	0.333	"	"	---	---	---	---	---	---	
Isopropylbenzene	ND	---	0.0333	"	"	---	---	---	---	---	---	
4-Isopropyltoluene	ND	---	0.0333	"	"	---	---	---	---	---	---	
4-Methyl-2-pentanone (MiBK)	ND	---	0.333	"	"	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	---	0.0333	"	"	---	---	---	---	---	---	
Methylene chloride	ND	---	0.167	"	"	---	---	---	---	---	---	
Naphthalene	ND	---	0.0667	"	"	---	---	---	---	---	---	
n-Propylbenzene	ND	---	0.0167	"	"	---	---	---	---	---	---	
Styrene	ND	---	0.0333	"	"	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	---	0.0167	"	"	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	---	0.0333	"	"	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	---	0.0167	"	"	---	---	---	---	---	---	
Toluene	ND	---	0.0333	"	"	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	---	0.167	"	"	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	---	0.167	"	"	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	---	0.0167	"	"	---	---	---	---	---	---	
1,1,2-Trichloroethane	ND	---	0.0167	"	"	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	---	0.0167	"	"	---	---	---	---	---	---	
Trichlorofluoromethane	ND	---	0.0667	"	"	---	---	---	---	---	---	
1,2,3-Trichloropropane	ND	---	0.0333	"	"	---	---	---	---	---	---	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100585 - EPA 5035A						Soil						
Blank (6100585-BLK1)						Prepared: 10/14/16 09:01 Analyzed: 10/14/16 11:35						
1,2,4-Trimethylbenzene	ND	---	0.0333	"	"	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	---	0.0333	"	"	---	---	---	---	---	---	
Vinyl chloride	ND	---	0.0167	"	"	---	---	---	---	---	---	
m,p-Xylene	ND	---	0.0333	"	"	---	---	---	---	---	---	
o-Xylene	ND	---	0.0167	"	"	---	---	---	---	---	---	

Surr: 1,4-Difluorobenzene (Surr)

Recovery: 104 %

Limits: 70-130 %

Dilution: 1x

Toluene-d8 (Surr)

96 %

70-130 %

"

4-Bromofluorobenzene (Surr)

98 %

70-130 %

"

LCS (6100585-BS1)

Prepared: 10/14/16 09:01 Analyzed: 10/14/16 10:41

5035/8260B

Acetone	1.86	---	1.00	mg/kg wet	50	2.00	---	93	65-135%	---	---	
Benzene	0.854	---	0.0100	"	"	1.00	---	85	"	---	---	
Bromobenzene	0.806	---	0.0250	"	"	"	---	81	"	---	---	
Bromochloromethane	0.777	---	0.0500	"	"	"	---	78	"	---	---	
Bromodichloromethane	0.894	---	0.100	"	"	"	---	89	"	---	---	
Bromoform	1.10	---	0.100	"	"	"	---	110	"	---	---	
Bromomethane	1.37	---	0.500	"	"	"	---	137	"	---	---	Q-41
2-Butanone (MEK)	1.40	---	0.500	"	"	2.00	---	70	"	---	---	
n-Butylbenzene	0.903	---	0.0500	"	"	1.00	---	90	"	---	---	
sec-Butylbenzene	0.873	---	0.0500	"	"	"	---	87	"	---	---	
tert-Butylbenzene	0.801	---	0.0500	"	"	"	---	80	"	---	---	
Carbon tetrachloride	0.912	---	0.0500	"	"	"	---	91	"	---	---	
Chlorobenzene	0.865	---	0.0250	"	"	"	---	86	"	---	---	
Chloroethane	0.650	---	0.500	"	"	"	---	65	"	---	---	Q-31
Chloroform	0.844	---	0.0500	"	"	"	---	84	"	---	---	
Chloromethane	0.960	---	0.250	"	"	"	---	96	"	---	---	
2-Chlorotoluene	0.792	---	0.0500	"	"	"	---	79	"	---	---	
4-Chlorotoluene	0.797	---	0.0500	"	"	"	---	80	"	---	---	
1,2-Dibromo-3-chloroprop ane	0.848	---	0.250	"	"	"	---	85	"	---	---	
Dibromochloromethane	0.958	---	0.100	"	"	"	---	96	"	---	---	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

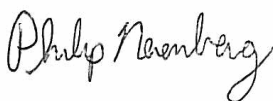
QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100585 - EPA 5035A						Soil						
LCS (6100585-BS1)						Prepared: 10/14/16 09:01 Analyzed: 10/14/16 10:41						
1,2-Dibromoethane (EDB)	0.893	---	0.0500	mg/kg wet	"	"	---	89	"	---	---	
Dibromomethane	0.908	---	0.0500	"	"	"	---	91	"	---	---	
1,2-Dichlorobenzene	0.854	---	0.0250	"	"	"	---	85	"	---	---	
1,3-Dichlorobenzene	0.874	---	0.0250	"	"	"	---	87	"	---	---	
1,4-Dichlorobenzene	0.850	---	0.0250	"	"	"	---	85	"	---	---	
Dichlorodifluoromethane	1.01	---	0.100	"	"	"	---	101	"	---	---	
1,1-Dichloroethane	0.919	---	0.0250	"	"	"	---	92	"	---	---	
1,2-Dichloroethane (EDC)	0.790	---	0.0250	"	"	"	---	79	"	---	---	
1,1-Dichloroethene	0.960	---	0.0250	"	"	"	---	96	"	---	---	
cis-1,2-Dichloroethene	0.760	---	0.0250	"	"	"	---	76	"	---	---	
trans-1,2-Dichloroethene	0.922	---	0.0250	"	"	"	---	92	"	---	---	
1,2-Dichloropropane	0.802	---	0.0250	"	"	"	---	80	"	---	---	
1,3-Dichloropropane	0.844	---	0.0500	"	"	"	---	84	"	---	---	
2,2-Dichloropropane	0.854	---	0.0500	"	"	"	---	85	"	---	---	
1,1-Dichloropropene	0.836	---	0.0500	"	"	"	---	84	"	---	---	
cis-1,3-Dichloropropene	0.802	---	0.0500	"	"	"	---	80	"	---	---	
trans-1,3-Dichloropropene	0.898	---	0.0500	"	"	"	---	90	"	---	---	
Ethylbenzene	0.856	---	0.0250	"	"	"	---	86	"	---	---	
Hexachlorobutadiene	0.804	---	0.100	"	"	"	---	80	"	---	---	
2-Hexanone	1.43	---	0.500	"	"	2.00	---	71	"	---	---	
Isopropylbenzene	0.904	---	0.0500	"	"	1.00	---	90	"	---	---	
4-Isopropyltoluene	0.912	---	0.0500	"	"	"	---	91	"	---	---	
4-Methyl-2-pentanone (MiBK)	1.46	---	0.500	"	"	2.00	---	73	"	---	---	
Methyl tert-butyl ether (MTBE)	0.952	---	0.0500	"	"	1.00	---	95	"	---	---	
Methylene chloride	0.974	---	0.250	"	"	"	---	97	"	---	---	
Naphthalene	0.761	---	0.100	"	"	"	---	76	"	---	---	
n-Propylbenzene	0.785	---	0.0250	"	"	"	---	78	"	---	---	
Styrene	0.904	---	0.0500	"	"	"	---	90	"	---	---	
1,1,1,2-Tetrachloroethane	0.888	---	0.0250	"	"	"	---	89	"	---	---	
1,1,2,2-Tetrachloroethane	0.811	---	0.0500	"	"	"	---	81	"	---	---	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02
Project Manager: Jeremy Zimmer

Reported:
10/25/16 17:22

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100585 - EPA 5035A						Soil						
LCS (6100585-BS1)						Prepared: 10/14/16 09:01 Analyzed: 10/14/16 10:41						
Tetrachloroethene (PCE)	0.870	---	0.0250	"	"	"	---	87	"	---	---	
Toluene	0.828	---	0.0500	"	"	"	---	83	"	---	---	
1,2,3-Trichlorobenzene	0.791	---	0.250	"	"	"	---	79	"	---	---	
1,2,4-Trichlorobenzene	0.748	---	0.250	"	"	"	---	75	"	---	---	
1,1,1-Trichloroethane	0.869	---	0.0250	"	"	"	---	87	"	---	---	
1,1,2-Trichloroethane	0.887	---	0.0250	"	"	"	---	89	"	---	---	
Trichloroethene (TCE)	0.897	---	0.0250	"	"	"	---	90	"	---	---	
Trichlorofluoromethane	1.24	---	0.100	"	"	"	---	124	"	---	---	Q-41
1,2,3-Trichloropropane	0.842	---	0.0500	"	"	"	---	84	"	---	---	
1,2,4-Trimethylbenzene	0.865	---	0.0500	"	"	"	---	86	"	---	---	
1,3,5-Trimethylbenzene	0.828	---	0.0500	"	"	"	---	83	"	---	---	
Vinyl chloride	0.976	---	0.0250	"	"	"	---	98	"	---	---	
m,p-Xylene	1.81	---	0.0500	"	"	2.00	---	90	"	---	---	
o-Xylene	0.894	---	0.0250	"	"	1.00	---	89	"	---	---	

Surr: 1,4-Difluorobenzene (Surr) Recovery: 100 % Limits: 70-130 % Dilution: 1x
Toluene-d8 (Surr) 94 % 70-130 % "
4-Bromofluorobenzene (Surr) 90 % 70-130 % "

Duplicate (6100585-DUP1)

Prepared: 10/12/16 10:40 Analyzed: 10/14/16 12:28

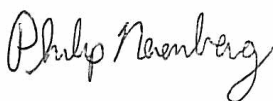
QC Source Sample: TPComp-1(0.0-1.0) (A6J0409-02)

5035/8260B

Acetone	ND	---	1.24	mg/kg dry	50	---	ND	---	---	---	30%
Benzene	ND	---	0.0124	"	"	---	0.0110	---	---	***	30%
Bromobenzene	ND	---	0.0311	"	"	---	ND	---	---	---	30%
Bromochloromethane	ND	---	0.0622	"	"	---	ND	---	---	---	30%
Bromodichloromethane	ND	---	0.124	"	"	---	ND	---	---	---	30%
Bromoform	ND	---	0.124	"	"	---	ND	---	---	---	30%
Bromomethane	ND	---	0.622	"	"	---	ND	---	---	---	30%
2-Butanone (MEK)	ND	---	0.622	"	"	---	ND	---	---	---	30%
n-Butylbenzene	ND	---	0.0622	"	"	---	ND	---	---	---	30%
sec-Butylbenzene	ND	---	0.0622	"	"	---	ND	---	---	---	30%
tert-Butylbenzene	ND	---	0.0622	"	"	---	ND	---	---	---	30%

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02
Project Manager: Jeremy Zimmer

Reported:
10/25/16 17:22

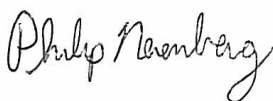
QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100585 - EPA 5035A						Soil						
Duplicate (6100585-DUP1)						Prepared: 10/12/16 10:40		Analyzed: 10/14/16 12:28				
QC Source Sample: TPComp-1(0.0-1.0) (A6J0409-02)												
Carbon tetrachloride	ND	---	0.0622	"	"	---	ND	---	---	---	30%	Q-31
Chlorobenzene	ND	---	0.0311	"	"	---	ND	---	---	---	30%	
Chloroethane	ND	---	0.622	"	"	---	ND	---	---	---	30%	
Chloroform	ND	---	0.0622	"	"	---	ND	---	---	---	30%	
Chloromethane	ND	---	0.311	"	"	---	ND	---	---	---	30%	
2-Chlorotoluene	ND	---	0.0622	"	"	---	ND	---	---	---	30%	
4-Chlorotoluene	ND	---	0.0622	"	"	---	ND	---	---	---	30%	
1,2-Dibromo-3-chloropropane	ND	---	0.311	"	"	---	ND	---	---	---	30%	
Dibromochloromethane	ND	---	0.124	"	"	---	ND	---	---	---	30%	
1,2-Dibromoethane (EDB)	ND	---	0.0622	"	"	---	ND	---	---	---	30%	
Dibromomethane	ND	---	0.0622	"	"	---	ND	---	---	---	30%	
1,2-Dichlorobenzene	ND	---	0.0311	"	"	---	ND	---	---	---	30%	
1,3-Dichlorobenzene	ND	---	0.0311	"	"	---	ND	---	---	---	30%	
1,4-Dichlorobenzene	ND	---	0.0311	"	"	---	ND	---	---	---	30%	
Dichlorodifluoromethane	ND	---	0.124	"	"	---	ND	---	---	---	30%	
1,1-Dichloroethane	ND	---	0.0311	"	"	---	ND	---	---	---	30%	
1,2-Dichloroethane (EDC)	ND	---	0.0311	"	"	---	ND	---	---	---	30%	
1,1-Dichloroethene	ND	---	0.0311	"	"	---	ND	---	---	---	30%	
cis-1,2-Dichloroethene	ND	---	0.0311	"	"	---	ND	---	---	---	30%	
trans-1,2-Dichloroethene	ND	---	0.0311	"	"	---	ND	---	---	---	30%	
1,2-Dichloropropane	ND	---	0.0311	"	"	---	ND	---	---	---	30%	
1,3-Dichloropropane	ND	---	0.0622	"	"	---	ND	---	---	---	30%	
2,2-Dichloropropane	ND	---	0.0622	"	"	---	ND	---	---	---	30%	
1,1-Dichloropropene	ND	---	0.0622	"	"	---	ND	---	---	---	30%	
cis-1,3-Dichloropropene	ND	---	0.0622	"	"	---	ND	---	---	---	30%	
trans-1,3-Dichloropropene	ND	---	0.0622	"	"	---	ND	---	---	---	30%	
Ethylbenzene	ND	---	0.0311	"	"	---	ND	---	---	---	30%	
Hexachlorobutadiene	ND	---	0.124	"	"	---	ND	---	---	---	30%	
2-Hexanone	ND	---	0.622	"	"	---	ND	---	---	---	30%	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100585 - EPA 5035A							Soil					
Duplicate (6100585-DUP1)				Prepared: 10/12/16 10:40 Analyzed: 10/14/16 12:28								
QC Source Sample: TPComp-1(0.0-1.0) (A6J0409-02)												
Isopropylbenzene	ND	---	0.0622	mg/kg dry	"	---	ND	---	---	---	30%	
4-Isopropyltoluene	ND	---	0.0622	"	"	---	ND	---	---	---	30%	
4-Methyl-2-pentanone (MiBK)	ND	---	0.622	"	"	---	ND	---	---	---	30%	
Methyl tert-butyl ether (MTBE)	ND	---	0.0622	"	"	---	ND	---	---	---	30%	
Methylene chloride	ND	---	0.311	"	"	---	ND	---	---	---	30%	
Naphthalene	ND	---	0.124	"	"	---	ND	---	---	---	30%	
n-Propylbenzene	ND	---	0.0311	"	"	---	ND	---	---	---	30%	
Styrene	ND	---	0.0622	"	"	---	ND	---	---	---	30%	
1,1,1,2-Tetrachloroethane	ND	---	0.0311	"	"	---	ND	---	---	---	30%	
1,1,2,2-Tetrachloroethane	ND	---	0.0622	"	"	---	ND	---	---	---	30%	
Tetrachloroethene (PCE)	ND	---	0.0311	"	"	---	ND	---	---	---	30%	
Toluene	ND	---	0.0622	"	"	---	ND	---	---	---	30%	
1,2,3-Trichlorobenzene	ND	---	0.311	"	"	---	ND	---	---	---	30%	
1,2,4-Trichlorobenzene	ND	---	0.311	"	"	---	ND	---	---	---	30%	
1,1,1-Trichloroethane	ND	---	0.0311	"	"	---	ND	---	---	---	30%	
1,1,2-Trichloroethane	ND	---	0.0311	"	"	---	ND	---	---	---	30%	
Trichloroethene (TCE)	ND	---	0.0311	"	"	---	ND	---	---	---	30%	
Trichlorofluoromethane	ND	---	0.124	"	"	---	ND	---	---	---	30%	
1,2,3-Trichloropropane	ND	---	0.0622	"	"	---	ND	---	---	---	30%	
1,2,4-Trimethylbenzene	ND	---	0.0622	"	"	---	ND	---	---	---	30%	
1,3,5-Trimethylbenzene	ND	---	0.0622	"	"	---	ND	---	---	---	30%	
Vinyl chloride	ND	---	0.0311	"	"	---	ND	---	---	---	30%	
m,p-Xylene	ND	---	0.0622	"	"	---	ND	---	---	---	30%	
o-Xylene	ND	---	0.0311	"	"	---	ND	---	---	---	30%	

Surr: 1,4-Difluorobenzene (Surr)

Recovery: 112 %

Limits: 70-130 %

Dilution: 1x

Toluene-d8 (Surr)

97 %

70-130 %

"

4-Bromofluorobenzene (Surr)

96 %

70-130 %

"

Matrix Spike (6100585-MS1)

Prepared: 10/12/16 15:23 Analyzed: 10/14/16 16:29

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100585 - EPA 5035A						Soil						
Matrix Spike (6100585-MS1)						Prepared: 10/12/16 15:23		Analyzed: 10/14/16 16:29				
QC Source Sample: TP-3W(0.0-0.5) (A6J0409-22)												
5035/8260B												
Acetone	2.09	---	1.37	mg/kg dry	50	2.73	ND	77	65-135%	---	---	
Benzene	1.13	---	0.0137	"	"	1.37	ND	82	"	---	---	
Bromobenzene	1.13	---	0.0341	"	"	"	ND	82	"	---	---	
Bromochloromethane	1.02	---	0.0683	"	"	"	ND	75	"	---	---	
Bromodichloromethane	1.19	---	0.137	"	"	"	ND	87	"	---	---	
Bromoform	1.47	---	0.137	"	"	"	ND	107	"	---	---	
Bromomethane	1.69	---	0.683	"	"	"	ND	124	"	---	---	Q-41
2-Butanone (MEK)	1.92	---	0.683	"	"	2.73	ND	70	"	---	---	
n-Butylbenzene	1.09	---	0.0683	"	"	1.37	ND	80	"	---	---	
sec-Butylbenzene	1.21	---	0.0683	"	"	"	ND	88	"	---	---	
tert-Butylbenzene	1.11	---	0.0683	"	"	"	ND	81	"	---	---	
Carbon tetrachloride	1.22	---	0.0683	"	"	"	ND	89	"	---	---	
Chlorobenzene	1.16	---	0.0341	"	"	"	ND	85	"	---	---	
Chloroethane	0.839	---	0.683	"	"	"	ND	61	"	---	---	Q-31
Chloroform	1.10	---	0.0683	"	"	"	ND	81	"	---	---	
Chloromethane	1.25	---	0.341	"	"	"	ND	91	"	---	---	
2-Chlorotoluene	1.15	---	0.0683	"	"	"	ND	84	"	---	---	
4-Chlorotoluene	1.11	---	0.0683	"	"	"	ND	81	"	---	---	
1,2-Dibromo-3-chloropropane	1.24	---	0.341	"	"	"	ND	91	"	---	---	
Dibromochloromethane	1.29	---	0.137	"	"	"	ND	94	"	---	---	
1,2-Dibromoethane (EDB)	1.22	---	0.0683	"	"	"	ND	89	"	---	---	
Dibromomethane	1.22	---	0.0683	"	"	"	ND	90	"	---	---	
1,2-Dichlorobenzene	1.13	---	0.0341	"	"	"	ND	82	"	---	---	
1,3-Dichlorobenzene	1.17	---	0.0341	"	"	"	ND	86	"	---	---	
1,4-Dichlorobenzene	1.12	---	0.0341	"	"	"	ND	82	"	---	---	
Dichlorodifluoromethane	1.36	---	0.137	"	"	"	ND	99	"	---	---	
1,1-Dichloroethane	1.10	---	0.0341	"	"	"	ND	81	"	---	---	
1,2-Dichloroethane (EDC)	1.05	---	0.0341	"	"	"	ND	77	"	---	---	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100585 - EPA 5035A						Soil						
Matrix Spike (6100585-MS1)				Prepared: 10/12/16 15:23 Analyzed: 10/14/16 16:29								
QC Source Sample: TP-3W(0.0-0.5) (A6J0409-22)												
1,1-Dichloroethene	1.19	---	0.0341	mg/kg dry	"	"	ND	87	"	---	---	
cis-1,2-Dichloroethene	0.962	---	0.0341	"	"	"	ND	70	"	---	---	
trans-1,2-Dichloroethene	1.04	---	0.0341	"	"	"	ND	76	"	---	---	
1,2-Dichloropropane	1.04	---	0.0341	"	"	"	ND	76	"	---	---	
1,3-Dichloropropane	1.10	---	0.0683	"	"	"	ND	81	"	---	---	
2,2-Dichloropropane	1.08	---	0.0683	"	"	"	ND	79	"	---	---	
1,1-Dichloropropene	1.09	---	0.0683	"	"	"	ND	80	"	---	---	
cis-1,3-Dichloropropene	1.05	---	0.0683	"	"	"	ND	77	"	---	---	
trans-1,3-Dichloropropene	1.18	---	0.0683	"	"	"	ND	86	"	---	---	
Ethylbenzene	1.12	---	0.0341	"	"	"	ND	82	"	---	---	
Hexachlorobutadiene	1.09	---	0.137	"	"	"	ND	80	"	---	---	
2-Hexanone	1.96	---	0.683	"	"	2.73	ND	72	"	---	---	
Isopropylbenzene	1.20	---	0.0683	"	"	1.37	ND	88	"	---	---	
4-Isopropyltoluene	1.22	---	0.0683	"	"	"	ND	89	"	---	---	
4-Methyl-2-pentanone (MiBK)	1.99	---	0.683	"	"	2.73	ND	73	"	---	---	
Methyl tert-butyl ether (MTBE)	1.11	---	0.0683	"	"	1.37	ND	81	"	---	---	
Methylene chloride	1.14	---	0.341	"	"	"	ND	84	"	---	---	
Naphthalene	1.08	---	0.137	"	"	"	ND	79	"	---	---	
n-Propylbenzene	1.10	---	0.0341	"	"	"	ND	80	"	---	---	
Styrene	1.18	---	0.0683	"	"	"	ND	86	"	---	---	
1,1,1,2-Tetrachloroethane	1.19	---	0.0341	"	"	"	ND	87	"	---	---	
1,1,2,2-Tetrachloroethane	1.16	---	0.0683	"	"	"	ND	85	"	---	---	
Tetrachloroethene (PCE)	1.13	---	0.0341	"	"	"	ND	83	"	---	---	
Toluene	1.07	---	0.0683	"	"	"	ND	79	"	---	---	
1,2,3-Trichlorobenzene	1.10	---	0.341	"	"	"	ND	80	"	---	---	
1,2,4-Trichlorobenzene	1.02	---	0.341	"	"	"	ND	75	"	---	---	
1,1,1-Trichloroethane	1.15	---	0.0341	"	"	"	ND	85	"	---	---	
1,1,2-Trichloroethane	1.18	---	0.0341	"	"	"	ND	86	"	---	---	
Trichloroethene (TCE)	1.18	---	0.0341	"	"	"	ND	86	"	---	---	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100585 - EPA 5035A							Soil					
Matrix Spike (6100585-MS1)					Prepared: 10/12/16 15:23		Analyzed: 10/14/16 16:29					
QC Source Sample: TP-3W(0.0-0.5) (A6J0409-22)												
Trichlorofluoromethane	1.73	---	0.137	"	"	"	ND	126	"	---	---	Q-41
1,2,3-Trichloropropane	1.21	---	0.0683	"	"	"	ND	89	"	---	---	
1,2,4-Trimethylbenzene	1.20	---	0.0683	"	"	"	ND	88	"	---	---	
1,3,5-Trimethylbenzene	1.17	---	0.0683	"	"	"	ND	86	"	---	---	
Vinyl chloride	1.61	---	0.0341	"	"	"	ND	118	"	---	---	
m,p-Xylene	2.36	---	0.0683	"	"	2.73	ND	86	"	---	---	
o-Xylene	1.16	---	0.0341	"	"	1.37	ND	85	"	---	---	

Surr: 1,4-Difluorobenzene (Surr)

Recovery: 100 %

Limits: 70-130 %

Dilution: 1x

Toluene-d8 (Surr)

92 %

70-130 %

"

4-Bromofluorobenzene (Surr)

97 %

70-130 %

"

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

QUALITY CONTROL (QC) SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100537 - EPA 3546						Soil						
Blank (6100537-BLK1)				Prepared: 10/13/16 11:17 Analyzed: 10/14/16 13:56					C-07			
EPA 8082A												
Aroclor 1016	ND	---	0.00909	mg/kg wet	1	---	---	---	---	---	---	
Aroclor 1221	ND	---	0.00909	"	"	---	---	---	---	---	---	
Aroclor 1232	ND	---	0.00909	"	"	---	---	---	---	---	---	
Aroclor 1242	ND	---	0.00909	"	"	---	---	---	---	---	---	
Aroclor 1248	ND	---	0.00909	"	"	---	---	---	---	---	---	
Aroclor 1254	ND	---	0.00909	"	"	---	---	---	---	---	---	
Aroclor 1260	ND	---	0.00909	"	"	---	---	---	---	---	---	
Surr: Decachlorobiphenyl (Surr)		Recovery: 88 %		Limits: 72-126 %		Dilution: 1x						
LCS (6100537-BS1)				Prepared: 10/13/16 11:17 Analyzed: 10/14/16 14:15					C-07			
EPA 8082A												
Aroclor 1016	0.168	---	0.0100	mg/kg wet	1	0.250	---	67	47-134%	---	---	
Aroclor 1260	0.210	---	0.0100	"	"	"	---	84	53-140%	---	---	
Surr: Decachlorobiphenyl (Surr)		Recovery: 86 %		Limits: 72-126 %		Dilution: 1x						
Duplicate (6100537-DUP1)				Prepared: 10/13/16 11:17 Analyzed: 10/14/16 15:10					C-07			
QC Source Sample: TPComp-1(0.0-1.0) (A6J0409-02)												
EPA 8082A												
Aroclor 1016	ND	---	0.0118	mg/kg dry	1	---	ND	---	---	---	30%	
Aroclor 1221	ND	---	0.0118	"	"	---	ND	---	---	---	30%	
Aroclor 1232	ND	---	0.0118	"	"	---	ND	---	---	---	30%	
Aroclor 1242	ND	---	0.0118	"	"	---	ND	---	---	---	30%	
Aroclor 1248	ND	---	0.0118	"	"	---	ND	---	---	---	30%	
Aroclor 1254	ND	---	0.0118	"	"	---	ND	---	---	---	30%	
Aroclor 1260	ND	---	0.0118	"	"	---	ND	---	---	---	30%	
Surr: Decachlorobiphenyl (Surr)		Recovery: 80 %		Limits: 72-126 %		Dilution: 1x						
Matrix Spike (6100537-MS1)				Prepared: 10/13/16 11:17 Analyzed: 10/14/16 20:05					C-07			
QC Source Sample: TP-3W(0.0-0.5) (A6J0409-22)												
EPA 8082A												
Aroclor 1016	0.161	---	0.0117	mg/kg dry	1	0.293	ND	55	47-134%	---	---	
Aroclor 1260	0.194	---	0.0117	"	"	"	ND	66	53-140%	---	---	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc. 15575 SW Sequoia Pkwy, Ste 100 Portland, OR 97224	Project: River Terrace Area 10 Project Number: Polygon-145-02 Project Manager: Jeremy Zimmer	Reported: 10/25/16 17:22

QUALITY CONTROL (QC) SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100537 - EPA 3546							Soil					
Matrix Spike (6100537-MS1)					Prepared: 10/13/16 11:17		Analyzed: 10/14/16 20:05					C-07
QC Source Sample: TP-3W(0.0-0.5) (A6J0409-22)												
Surr: Decachlorobiphenyl (Surr)			Recovery: 68 %		Limits: 72-126 %		Dilution: 1x		S-03			

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100536 - EPA 3546						Sediment						
Blank (6100536-BLK1)						Prepared: 10/13/16 15:48 Analyzed: 10/14/16 16:25						
EPA 8081B												
Aldrin	ND	---	0.909	ug/kg wet	1	---	---	---	---	---	---	
alpha-BHC	ND	---	0.909	"	"	---	---	---	---	---	---	
beta-BHC	ND	---	0.909	"	"	---	---	---	---	---	---	
delta-BHC	ND	---	0.909	"	"	---	---	---	---	---	---	
gamma-BHC (Lindane)	ND	---	0.909	"	"	---	---	---	---	---	---	
cis-Chlordane	ND	---	0.909	"	"	---	---	---	---	---	---	
trans-Chlordane	ND	---	0.909	"	"	---	---	---	---	---	---	
4,4'-DDD	ND	---	0.909	"	"	---	---	---	---	---	---	
4,4'-DDE	ND	---	0.909	"	"	---	---	---	---	---	---	
4,4'-DDT	ND	---	0.909	"	"	---	---	---	---	---	---	
Dieldrin	ND	---	0.909	"	"	---	---	---	---	---	---	
Endosulfan I	ND	---	0.909	"	"	---	---	---	---	---	---	
Endosulfan II	ND	---	0.909	"	"	---	---	---	---	---	---	
Endosulfan sulfate	ND	---	0.909	"	"	---	---	---	---	---	---	
Endrin	ND	---	0.909	"	"	---	---	---	---	---	---	
Endrin Aldehyde	ND	---	0.909	"	"	---	---	---	---	---	---	
Endrin ketone	ND	---	0.909	"	"	---	---	---	---	---	---	
Heptachlor	ND	---	0.909	"	"	---	---	---	---	---	---	
Heptachlor epoxide	ND	---	0.909	"	"	---	---	---	---	---	---	
Methoxychlor	ND	---	2.73	"	"	---	---	---	---	---	---	
Chlordane (Technical)	ND	---	27.3	"	"	---	---	---	---	---	---	
Toxaphene (Total)	ND	---	27.3	"	"	---	---	---	---	---	---	
Surr: 2,4,5,6-TCMX (Surr)		Recovery: 90 %		Limits: 42-129 %		Dilution: 1x						
Decachlorobiphenyl (Surr)		103 %		65-151 %		"						

LCS (6100536-BS1)

Prepared: 10/13/16 15:48 Analyzed: 10/14/16 16:43

EPA 8081B												
Aldrin	48.9	---	1.00	ug/kg wet	1	50.0	---	98	45-136%	---	---	Q-41
alpha-BHC	55.9	---	1.00	"	"	"	---	112	45-137%	---	---	
beta-BHC	52.1	---	1.00	"	"	"	---	104	50-136%	---	---	
delta-BHC	51.1	---	1.00	"	"	"	---	102	47-139%	---	---	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100536 - EPA 3546						Sediment						
LCS (6100536-BS1)						Prepared: 10/13/16 15:48 Analyzed: 10/14/16 16:43						
gamma-BHC (Lindane)	56.4	---	1.00	"	"	"	---	113	49-135%	---	---	
cis-Chlordane	56.8	---	1.00	"	"	"	---	114	54-133%	---	---	Q-41
trans-Chlordane	56.9	---	1.00	"	"	"	---	114	53-135%	---	---	Q-41
4,4'-DDD	53.4	---	1.00	"	"	"	---	107	56-139%	---	---	
4,4'-DDE	58.1	---	1.00	"	"	"	---	116	56-134%	---	---	
4,4'-DDT	54.9	---	1.00	"	"	"	---	110	50-141%	---	---	
Dieldrin	59.1	---	1.00	"	"	"	---	118	56-136%	---	---	Q-41
Endosulfan I	57.9	---	1.00	"	"	"	---	116	52-132%	---	---	
Endosulfan II	58.4	---	1.00	"	"	"	---	117	53-134%	---	---	
Endosulfan sulfate	53.5	---	1.00	"	"	"	---	107	55-136%	---	---	
Endrin	57.6	---	1.00	"	"	"	---	115	56-140%	---	---	
Endrin Aldehyde	52.0	---	1.00	"	"	"	---	104	35-137%	---	---	
Endrin ketone	53.9	---	1.00	"	"	"	---	108	55-136%	---	---	
Heptachlor	54.9	---	1.00	"	"	"	---	110	47-136%	---	---	
Heptachlor epoxide	56.7	---	1.00	"	"	"	---	113	52-136%	---	---	Q-41
Methoxychlor	54.7	---	3.00	"	"	"	---	109	52-143%	---	---	
Surr: 2,4,5,6-TCMX (Surr)		Recovery: 93 %		Limits: 42-129 %		Dilution: 1x						
Decachlorobiphenyl (Surr)		106 %		65-151 %		"						

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100565 - EPA 3546						Soil						
Blank (6100565-BLK1)				Prepared: 10/13/16 08:28				Analyzed: 10/14/16 18:30				C-05
EPA 8081B												
Aldrin	ND	---	1.67	ug/kg wet	1	---	---	---	---	---	---	
alpha-BHC	ND	---	1.67	"	"	---	---	---	---	---	---	
beta-BHC	ND	---	1.67	"	"	---	---	---	---	---	---	
delta-BHC	ND	---	1.67	"	"	---	---	---	---	---	---	
gamma-BHC (Lindane)	ND	---	1.67	"	"	---	---	---	---	---	---	
cis-Chlordane	ND	---	1.67	"	"	---	---	---	---	---	---	
trans-Chlordane	ND	---	1.67	"	"	---	---	---	---	---	---	
4,4'-DDD	ND	---	1.67	"	"	---	---	---	---	---	---	
4,4'-DDE	ND	---	1.67	"	"	---	---	---	---	---	---	
4,4'-DDT	ND	---	1.67	"	"	---	---	---	---	---	---	
Dieldrin	ND	---	1.67	"	"	---	---	---	---	---	---	
Endosulfan I	ND	---	1.67	"	"	---	---	---	---	---	---	
Endosulfan II	ND	---	1.67	"	"	---	---	---	---	---	---	
Endosulfan sulfate	ND	---	1.67	"	"	---	---	---	---	---	---	
Endrin	ND	---	1.67	"	"	---	---	---	---	---	---	
Endrin Aldehyde	ND	---	1.67	"	"	---	---	---	---	---	---	
Endrin ketone	ND	---	1.67	"	"	---	---	---	---	---	---	
Heptachlor	ND	---	1.67	"	"	---	---	---	---	---	---	
Heptachlor epoxide	ND	---	1.67	"	"	---	---	---	---	---	---	
Methoxychlor	ND	---	5.00	"	"	---	---	---	---	---	---	
Chlordane (Technical)	ND	---	50.0	"	"	---	---	---	---	---	---	
Toxaphene (Total)	ND	---	50.0	"	"	---	---	---	---	---	---	
Surr: 2,4,5,6-TCMX (Surr)		Recovery: 84 %		Limits: 42-129 %		Dilution: 1x						
Decachlorobiphenyl (Surr)		101 %		65-151 %		"						

LCS (6100565-BS1)

Prepared: 10/13/16 08:28 Analyzed: 10/14/16 18:47

C-05

EPA 8081B												
Aldrin	41.0	---	2.00	ug/kg wet	1	50.0	---	82	45-136%	---	---	Q-41
alpha-BHC	44.6	---	2.00	"	"	"	---	89	45-137%	---	---	
beta-BHC	48.9	---	2.00	"	"	"	---	98	50-136%	---	---	
delta-BHC	50.6	---	2.00	"	"	"	---	101	47-139%	---	---	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100565 - EPA 3546						Soil						
LCS (6100565-BS1)				Prepared: 10/13/16 08:28		Analyzed: 10/14/16 18:47					C-05	
gamma-BHC (Lindane)	46.2	---	2.00	"	"	"	---	92	49-135%	---	---	
cis-Chlordane	52.6	---	2.00	"	"	"	---	105	54-133%	---	---	Q-41
trans-Chlordane	51.4	---	2.00	"	"	"	---	103	53-135%	---	---	Q-41
4,4'-DDD	52.2	---	2.00	"	"	"	---	104	56-139%	---	---	
4,4'-DDE	56.8	---	2.00	"	"	"	---	114	56-134%	---	---	
4,4'-DDT	63.1	---	2.00	"	"	"	---	126	50-141%	---	---	
Dieldrin	54.8	---	2.00	"	"	"	---	110	56-136%	---	---	Q-41
Endosulfan I	54.0	---	2.00	"	"	"	---	108	52-132%	---	---	
Endosulfan II	54.7	---	2.00	"	"	"	---	109	53-134%	---	---	
Endosulfan sulfate	54.8	---	2.00	"	"	"	---	110	55-136%	---	---	
Endrin	62.3	---	2.00	"	"	"	---	125	56-140%	---	---	
Endrin Aldehyde	53.0	---	2.00	"	"	"	---	106	35-137%	---	---	
Endrin ketone	50.7	---	2.00	"	"	"	---	101	55-136%	---	---	
Heptachlor	46.2	---	2.00	"	"	"	---	92	47-136%	---	---	
Heptachlor epoxide	51.7	---	2.00	"	"	"	---	103	52-136%	---	---	Q-41
Methoxychlor	61.6	---	6.00	"	"	"	---	123	52-143%	---	---	

Surr: 2,4,5,6-TCMX (Surr)

Recovery: 78 %

Limits: 42-129 %

Dilution: 1x

Decachlorobiphenyl (Surr)

100 %

65-151 %

"

Matrix Spike (6100565-MS1)

Prepared: 10/13/16 08:28 Analyzed: 10/17/16 12:30

C-05

QC Source Sample: TP-3W(0.0-0.5) (A6J0409-22RE1)

EPA 8081B

Aldrin	41.5	---	2.08	ug/kg dry	1	51.9	ND	80	45-136%	---	---	Q-41
alpha-BHC	36.6	---	2.08	"	"	"	ND	70	45-137%	---	---	Q-41
beta-BHC	45.6	---	2.08	"	"	"	ND	88	50-136%	---	---	
delta-BHC	48.5	---	2.08	"	"	"	ND	93	47-139%	---	---	
cis-Chlordane	49.9	---	2.08	"	"	"	1.79	93	54-133%	---	---	
trans-Chlordane	46.4	---	2.08	"	"	"	ND	89	53-135%	---	---	Q-41
4,4'-DDD	59.5	---	2.08	"	"	"	5.84	103	56-139%	---	---	
4,4'-DDT	179	---	2.08	"	"	"	133	89	50-141%	---	---	
Endosulfan I	49.0	---	2.08	"	"	"	ND	94	52-132%	---	---	
Endosulfan II	53.9	---	2.08	"	"	"	ND	104	53-134%	---	---	Q-41

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

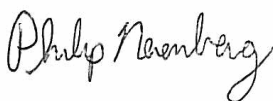
10/25/16 17:22

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100565 - EPA 3546						Soil						
Matrix Spike (6100565-MS1)						Prepared: 10/13/16 08:28		Analyzed: 10/17/16 12:30			C-05	
QC Source Sample: TP-3W(0.0-0.5) (A6J0409-22RE1)												
Endosulfan sulfate	54.7	---	2.08	"	"	"	1.99	102	55-136%	---	---	
Endrin	57.7	---	2.08	"	"	"	ND	111	56-140%	---	---	Q-41
Endrin Aldehyde	59.5	---	2.08	"	"	"	ND	115	35-137%	---	---	
Endrin ketone	55.0	---	2.08	"	"	"	1.89	102	55-136%	---	---	Q-41
Heptachlor	41.5	---	2.08	"	"	"	ND	80	47-136%	---	---	Q-41
Heptachlor epoxide	47.5	---	2.08	"	"	"	ND	91	52-136%	---	---	
Methoxychlor	70.0	---	6.23	"	"	"	5.32	125	52-143%	---	---	
Surr: 2,4,5,6-TCMX (Surr)		Recovery: 62 %		Limits: 42-129 %		Dilution: 1x						
Decachlorobiphenyl (Surr)		96 %		65-151 %		"						
Matrix Spike (6100565-MS2)						Prepared: 10/13/16 08:28		Analyzed: 10/19/16 16:27			C-05	
QC Source Sample: TP-3W(0.0-0.5) (A6J0409-22RE3)												
EPA 8081B												
gamma-BHC (Lindane)	39.7	---	2.08	ug/kg dry	1	51.9	1.64	73	49-135%	---	---	
Matrix Spike (6100565-MS3)						Prepared: 10/13/16 08:28		Analyzed: 10/19/16 17:02			C-05	
QC Source Sample: TP-3W(0.0-0.5) (A6J0409-22RE4)												
EPA 8081B												
4,4'-DDE	410	---	20.8	ug/kg dry	10	51.9	454	-84	56-134%	---	---	Q-03
Dieldrin	254	---	20.8	"	"	"	248	12	56-136%	---	---	Q-03

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100600 - EPA 3546						Sediment						
Blank (6100600-BLK1)				Prepared: 10/13/16 15:48		Analyzed: 10/19/16 17:54					C-05	
EPA 8081B												
Aldrin	ND	---	1.82	ug/kg wet	1	---	---	---	---	---	---	
alpha-BHC	ND	---	1.82	"	"	---	---	---	---	---	---	
beta-BHC	ND	---	1.82	"	"	---	---	---	---	---	---	
delta-BHC	ND	---	1.82	"	"	---	---	---	---	---	---	
gamma-BHC (Lindane)	ND	---	1.82	"	"	---	---	---	---	---	---	
cis-Chlordane	ND	---	1.82	"	"	---	---	---	---	---	---	
trans-Chlordane	ND	---	1.82	"	"	---	---	---	---	---	---	
4,4'-DDD	ND	---	1.82	"	"	---	---	---	---	---	---	
4,4'-DDE	ND	---	1.82	"	"	---	---	---	---	---	---	
4,4'-DDT	ND	---	1.82	"	"	---	---	---	---	---	---	
Dieldrin	ND	---	1.82	"	"	---	---	---	---	---	---	
Endosulfan I	ND	---	1.82	"	"	---	---	---	---	---	---	
Endosulfan II	ND	---	1.82	"	"	---	---	---	---	---	---	
Endosulfan sulfate	ND	---	1.82	"	"	---	---	---	---	---	---	
Endrin	ND	---	1.82	"	"	---	---	---	---	---	---	
Endrin Aldehyde	ND	---	1.82	"	"	---	---	---	---	---	---	
Endrin ketone	ND	---	1.82	"	"	---	---	---	---	---	---	
Heptachlor	ND	---	1.82	"	"	---	---	---	---	---	---	
Heptachlor epoxide	ND	---	1.82	"	"	---	---	---	---	---	---	
Methoxychlor	ND	---	5.45	"	"	---	---	---	---	---	---	
Chlordane (Technical)	ND	---	54.5	"	"	---	---	---	---	---	---	
Toxaphene (Total)	ND	---	54.5	"	"	---	---	---	---	---	---	
Surr: 2,4,5,6-TCMX (Surr)		Recovery: 80 %		Limits: 42-129 %		Dilution: 1x						
Decachlorobiphenyl (Surr)		91 %		65-151 %		"						

LCS (6100600-BS1)

Prepared: 10/13/16 15:48 Analyzed: 10/19/16 18:12

C-05

EPA 8081B												
Aldrin	41.0	---	2.00	ug/kg wet	1	50.0	---	82	45-136%	---	---	
alpha-BHC	45.7	---	2.00	"	"	"	---	91	45-137%	---	---	
beta-BHC	46.7	---	2.00	"	"	"	---	93	50-136%	---	---	
delta-BHC	45.5	---	2.00	"	"	"	---	91	47-139%	---	---	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100600 - EPA 3546						Sediment						
LCS (6100600-BS1)				Prepared: 10/13/16 15:48		Analyzed: 10/19/16 18:12					C-05	
gamma-BHC (Lindane)	46.9	---	2.00	"	"	"	---	94	49-135%	---	---	
cis-Chlordane	46.4	---	2.00	"	"	"	---	93	54-133%	---	---	
trans-Chlordane	47.6	---	2.00	"	"	"	---	95	53-135%	---	---	
4,4'-DDD	52.1	---	2.00	"	"	"	---	104	56-139%	---	---	
4,4'-DDE	48.9	---	2.00	"	"	"	---	98	56-134%	---	---	
Dieldrin	48.0	---	2.00	"	"	"	---	96	56-136%	---	---	
Endosulfan I	48.5	---	2.00	"	"	"	---	97	52-132%	---	---	
Endosulfan II	48.8	---	2.00	"	"	"	---	98	53-134%	---	---	
Endosulfan sulfate	47.9	---	2.00	"	"	"	---	96	55-136%	---	---	
Endrin	58.1	---	2.00	"	"	"	---	116	56-140%	---	---	Q-41
Endrin Aldehyde	41.8	---	2.00	"	"	"	---	84	35-137%	---	---	
Endrin ketone	48.0	---	2.00	"	"	"	---	96	55-136%	---	---	
Heptachlor	47.9	---	2.00	"	"	"	---	96	47-136%	---	---	Q-41
Heptachlor epoxide	48.4	---	2.00	"	"	"	---	97	52-136%	---	---	
Methoxychlor	63.1	---	6.00	"	"	"	---	126	52-143%	---	---	Q-41
Surr: 2,4,5,6-TCMX (Surr)		Recovery: 81 %		Limits: 42-129 %		Dilution: 1x						
Decachlorobiphenyl (Surr)		88 %		65-151 %		"						
LCS (6100600-BS2)				Prepared: 10/13/16 15:48		Analyzed: 10/20/16 11:57					C-05	
EPA 8081B												
4,4'-DDT	64.0	---	2.00	ug/kg wet	1	50.0	---	128	50-141%	---	---	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100789 - EPA 3546						Soil						
Blank (6100789-BLK1)			Prepared: 10/20/16 08:07 Analyzed: 10/24/16 11:52									
EPA 8081B												
Aldrin	ND	---	0.833	ug/kg wet	1	---	---	---	---	---	---	
alpha-BHC	ND	---	0.833	"	"	---	---	---	---	---	---	
beta-BHC	ND	---	0.833	"	"	---	---	---	---	---	---	
delta-BHC	ND	---	0.833	"	"	---	---	---	---	---	---	
gamma-BHC (Lindane)	ND	---	0.833	"	"	---	---	---	---	---	---	
cis-Chlordane	ND	---	0.833	"	"	---	---	---	---	---	---	
trans-Chlordane	ND	---	0.833	"	"	---	---	---	---	---	---	
4,4'-DDD	ND	---	0.833	"	"	---	---	---	---	---	---	
4,4'-DDE	ND	---	0.833	"	"	---	---	---	---	---	---	
4,4'-DDT	ND	---	0.833	"	"	---	---	---	---	---	---	
Dieldrin	ND	---	0.833	"	"	---	---	---	---	---	---	
Endosulfan I	ND	---	0.833	"	"	---	---	---	---	---	---	
Endosulfan II	ND	---	0.833	"	"	---	---	---	---	---	---	
Endosulfan sulfate	ND	---	0.833	"	"	---	---	---	---	---	---	
Endrin	ND	---	0.833	"	"	---	---	---	---	---	---	
Endrin Aldehyde	ND	---	0.833	"	"	---	---	---	---	---	---	
Endrin ketone	ND	---	0.833	"	"	---	---	---	---	---	---	
Heptachlor	ND	---	0.833	"	"	---	---	---	---	---	---	
Heptachlor epoxide	ND	---	0.833	"	"	---	---	---	---	---	---	
Methoxychlor	ND	---	2.50	"	"	---	---	---	---	---	---	
Chlordane (Technical)	ND	---	25.0	"	"	---	---	---	---	---	---	
Toxaphene (Total)	ND	---	25.0	"	"	---	---	---	---	---	---	
Surr: 2,4,5,6-TCMX (Surr)		Recovery: 89 %		Limits: 42-129 %		Dilution: 1x						
Decachlorobiphenyl (Surr)		110 %		65-151 %		"						

LCS (6100789-BS1)

Prepared: 10/20/16 08:07 Analyzed: 10/24/16 12:09

EPA 8081B												
Aldrin	46.1	---	1.00	ug/kg wet	1	50.0	---	92	45-136%	---	---	
alpha-BHC	52.5	---	1.00	"	"	"	---	105	45-137%	---	---	
beta-BHC	50.4	---	1.00	"	"	"	---	101	50-136%	---	---	
delta-BHC	51.2	---	1.00	"	"	"	---	102	47-139%	---	---	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100789 - EPA 3546						Soil						
LCS (6100789-BS1)						Prepared: 10/20/16 08:07 Analyzed: 10/24/16 12:09						
gamma-BHC (Lindane)	51.9	---	1.00	"	"	"	---	104	49-135%	---	---	
cis-Chlordane	50.0	---	1.00	"	"	"	---	100	54-133%	---	---	
trans-Chlordane	51.3	---	1.00	"	"	"	---	103	53-135%	---	---	
4,4'-DDD	56.6	---	1.00	"	"	"	---	113	56-139%	---	---	
4,4'-DDE	53.0	---	1.00	"	"	"	---	106	56-134%	---	---	
4,4'-DDT	60.1	---	1.00	"	"	"	---	120	50-141%	---	---	
Dieldrin	51.0	---	1.00	"	"	"	---	102	56-136%	---	---	
Endosulfan I	49.5	---	1.00	"	"	"	---	99	52-132%	---	---	
Endosulfan II	52.5	---	1.00	"	"	"	---	105	53-134%	---	---	
Endosulfan sulfate	51.6	---	1.00	"	"	"	---	103	55-136%	---	---	
Endrin	61.0	---	1.00	"	"	"	---	122	56-140%	---	---	
Endrin Aldehyde	50.1	---	1.00	"	"	"	---	100	35-137%	---	---	
Endrin ketone	55.6	---	1.00	"	"	"	---	111	55-136%	---	---	
Heptachlor	49.4	---	1.00	"	"	"	---	99	47-136%	---	---	
Heptachlor epoxide	48.1	---	1.00	"	"	"	---	96	52-136%	---	---	
Methoxychlor	70.1	---	3.00	"	"	"	---	140	52-143%	---	---	Q-41

Surr: 2,4,5,6-TCMX (Surr)

Recovery: 85 %

Limits: 42-129 %

Dilution: 1x

Decachlorobiphenyl (Surr)

103 %

65-151 %

"

Duplicate (6100789-DUP1)

Prepared: 10/20/16 08:07 Analyzed: 10/24/16 12:44

QC Source Sample: TPComp-2(1.5-2.0) (A6J0409-14)

EPA 8081B

Aldrin	ND	---	1.11	ug/kg dry	1	---	ND	---	---	---	30%	
alpha-BHC	ND	---	1.11	"	"	---	ND	---	---	---	30%	
beta-BHC	ND	---	1.11	"	"	---	ND	---	---	---	30%	
delta-BHC	ND	---	1.11	"	"	---	ND	---	---	---	30%	
gamma-BHC (Lindane)	ND	---	1.11	"	"	---	ND	---	---	---	30%	
cis-Chlordane	ND	---	1.11	"	"	---	ND	---	---	---	30%	
trans-Chlordane	ND	---	1.11	"	"	---	ND	---	---	---	30%	
4,4'-DDD	ND	---	1.11	"	"	---	ND	---	---	---	30%	
4,4'-DDE	2.93	---	1.11	"	"	---	1.16	---	---	87	30%	Q-05
4,4'-DDT	1.11	---	1.11	"	"	---	ND	---	---	---	30%	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100789 - EPA 3546						Soil						
Duplicate (6100789-DUP1)				Prepared: 10/20/16 08:07		Analyzed: 10/24/16 12:44						
QC Source Sample: TPComp-2(1.5-2.0) (A6J0409-14)												
Dieldrin	1.27	---	1.11	"	"	---	ND	---	---		30%	
Endosulfan I	ND	---	1.11	"	"	---	ND	---	---	---	30%	
Endosulfan II	ND	---	1.11	"	"	---	ND	---	---	---	30%	
Endosulfan sulfate	ND	---	1.11	"	"	---	ND	---	---	---	30%	
Endrin	ND	---	1.11	"	"	---	ND	---	---	---	30%	
Endrin Aldehyde	ND	---	1.11	"	"	---	ND	---	---	---	30%	
Endrin ketone	ND	---	1.11	"	"	---	ND	---	---	---	30%	
Heptachlor	ND	---	1.11	"	"	---	ND	---	---	---	30%	
Heptachlor epoxide	ND	---	1.11	"	"	---	ND	---	---	---	30%	
Methoxychlor	ND	---	3.33	"	"	---	ND	---	---	---	30%	
Chlordane (Technical)	ND	---	33.3	"	"	---	ND	---	---	---	30%	
Toxaphene (Total)	ND	---	33.3	"	"	---	ND	---	---	---	30%	
Surr: 2,4,5,6-TCMX (Surr)		Recovery: 74 %		Limits: 42-129 %		Dilution: 1x						
Decachlorobiphenyl (Surr)		74 %		65-151 %		"						

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100889 - EPA 3546						Soil						
Blank (6100889-BLK1)			Prepared: 10/24/16 07:53 Analyzed: 10/25/16 12:00									
EPA 8081B												
Aldrin	ND	---	0.833	ug/kg wet	1	---	---	---	---	---	---	
alpha-BHC	ND	---	0.833	"	"	---	---	---	---	---	---	
beta-BHC	ND	---	0.833	"	"	---	---	---	---	---	---	
delta-BHC	ND	---	0.833	"	"	---	---	---	---	---	---	
gamma-BHC (Lindane)	ND	---	0.833	"	"	---	---	---	---	---	---	
cis-Chlordane	ND	---	0.833	"	"	---	---	---	---	---	---	
trans-Chlordane	ND	---	0.833	"	"	---	---	---	---	---	---	
4,4'-DDD	ND	---	0.833	"	"	---	---	---	---	---	---	
4,4'-DDE	ND	---	0.833	"	"	---	---	---	---	---	---	
4,4'-DDT	ND	---	0.833	"	"	---	---	---	---	---	---	
Dieldrin	ND	---	0.833	"	"	---	---	---	---	---	---	
Endosulfan I	ND	---	0.833	"	"	---	---	---	---	---	---	
Endosulfan II	ND	---	0.833	"	"	---	---	---	---	---	---	
Endosulfan sulfate	ND	---	0.833	"	"	---	---	---	---	---	---	
Endrin	ND	---	0.833	"	"	---	---	---	---	---	---	
Endrin Aldehyde	ND	---	0.833	"	"	---	---	---	---	---	---	
Endrin ketone	ND	---	0.833	"	"	---	---	---	---	---	---	
Heptachlor	ND	---	0.833	"	"	---	---	---	---	---	---	
Heptachlor epoxide	ND	---	0.833	"	"	---	---	---	---	---	---	
Methoxychlor	ND	---	2.50	"	"	---	---	---	---	---	---	
Chlordane (Technical)	ND	---	25.0	"	"	---	---	---	---	---	---	
Toxaphene (Total)	ND	---	25.0	"	"	---	---	---	---	---	---	
Surr: 2,4,5,6-TCMX (Surr)		Recovery: 86 %		Limits: 42-129 %		Dilution: 1x						
Decachlorobiphenyl (Surr)		97 %		65-151 %		"						

LCS (6100889-BS1)

Prepared: 10/24/16 07:53 Analyzed: 10/25/16 12:18

EPA 8081B												
Aldrin	39.4	---	1.00	ug/kg wet	1	50.0	---	79	45-136%	---	---	
alpha-BHC	52.7	---	1.00	"	"	"	---	105	45-137%	---	---	
beta-BHC	50.7	---	1.00	"	"	"	---	101	50-136%	---	---	
delta-BHC	49.7	---	1.00	"	"	"	---	99	47-139%	---	---	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100889 - EPA 3546						Soil						
LCS (6100889-BS1)						Prepared: 10/24/16 07:53 Analyzed: 10/25/16 12:18						
gamma-BHC (Lindane)	52.1	---	1.00	"	"	"	---	104	49-135%	---	---	
cis-Chlordane	48.5	---	1.00	"	"	"	---	97	54-133%	---	---	
trans-Chlordane	51.5	---	1.00	"	"	"	---	103	53-135%	---	---	
4,4'-DDD	54.3	---	1.00	"	"	"	---	109	56-139%	---	---	
4,4'-DDE	51.7	---	1.00	"	"	"	---	103	56-134%	---	---	
4,4'-DDT	58.4	---	1.00	"	"	"	---	117	50-141%	---	---	
Dieldrin	48.9	---	1.00	"	"	"	---	98	56-136%	---	---	
Endosulfan I	47.0	---	1.00	"	"	"	---	94	52-132%	---	---	
Endosulfan II	49.5	---	1.00	"	"	"	---	99	53-134%	---	---	
Endosulfan sulfate	49.1	---	1.00	"	"	"	---	98	55-136%	---	---	
Endrin	55.7	---	1.00	"	"	"	---	111	56-140%	---	---	
Endrin Aldehyde	46.8	---	1.00	"	"	"	---	94	35-137%	---	---	
Endrin ketone	51.7	---	1.00	"	"	"	---	103	55-136%	---	---	
Heptachlor	49.9	---	1.00	"	"	"	---	100	47-136%	---	---	
Heptachlor epoxide	46.1	---	1.00	"	"	"	---	92	52-136%	---	---	
Methoxychlor	68.1	---	3.00	"	"	"	---	136	52-143%	---	---	Q-41
Surr: 2,4,5,6-TCMX (Surr)			Recovery: 91 %	Limits: 42-129 %		Dilution: 1x						
Decachlorobiphenyl (Surr)			102 %	65-151 %		"						

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02
Project Manager: Jeremy Zimmer

Reported:
10/25/16 17:22

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100550 - EPA 3546						Soil						
Blank (6100550-BLK1)						Prepared: 10/13/16 13:19 Analyzed: 10/14/16 12:03						
EPA 8270D (SIM)												
Acenaphthene	ND	---	0.00909	mg/kg wet	1	---	---	---	---	---	---	
Acenaphthylene	ND	---	0.00909	"	"	---	---	---	---	---	---	
Anthracene	ND	---	0.00909	"	"	---	---	---	---	---	---	
Benz(a)anthracene	ND	---	0.00909	"	"	---	---	---	---	---	---	
Benzo(a)pyrene	ND	---	0.00909	"	"	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	---	0.00909	"	"	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	---	0.00909	"	"	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	---	0.00909	"	"	---	---	---	---	---	---	
Chrysene	ND	---	0.00909	"	"	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	---	0.00909	"	"	---	---	---	---	---	---	
Dibenzofuran	ND	---	0.00909	"	"	---	---	---	---	---	---	
Fluoranthene	ND	---	0.00909	"	"	---	---	---	---	---	---	
Fluorene	ND	---	0.00909	"	"	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	---	0.00909	"	"	---	---	---	---	---	---	
1-Methylnaphthalene	0.0182	---	0.00909	"	"	---	---	---	---	---	---	B
2-Methylnaphthalene	0.0228	---	0.00909	"	"	---	---	---	---	---	---	B
Naphthalene	0.0158	---	0.00909	"	"	---	---	---	---	---	---	B
Phenanthrene	ND	---	0.00909	"	"	---	---	---	---	---	---	
Pyrene	ND	---	0.00909	"	"	---	---	---	---	---	---	
Surr: 2-Fluorobiphenyl (Surr)		Recovery: 83 %		Limits: 44-120 %		Dilution: 1x						
p-Terphenyl-d14 (Surr)		86 %		54-127 %		"						

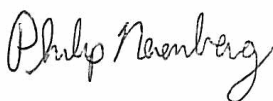
LCS (6100550-BS1)

Prepared: 10/13/16 13:19 Analyzed: 10/14/16 12:29

EPA 8270D (SIM)												
Acenaphthene	0.698	---	0.0100	mg/kg wet	1	0.800	---	87	40-122%	---	---	
Acenaphthylene	0.682	---	0.0100	"	"	"	---	85	32-132%	---	---	
Anthracene	0.714	---	0.0100	"	"	"	---	89	47-123%	---	---	
Benz(a)anthracene	0.648	---	0.0100	"	"	"	---	81	49-126%	---	---	
Benzo(a)pyrene	0.719	---	0.0100	"	"	"	---	90	45-129%	---	---	
Benzo(b)fluoranthene	0.708	---	0.0100	"	"	"	---	89	45-132%	---	---	
Benzo(k)fluoranthene	0.760	---	0.0100	"	"	"	---	95	47-132%	---	---	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100550 - EPA 3546						Soil						
LCS (6100550-BS1)						Prepared: 10/13/16 13:19 Analyzed: 10/14/16 12:29						
Benzo(g,h,i)perylene	0.606	---	0.0100	"	"	"	---	76	43-134%	---	---	
Chrysene	0.685	---	0.0100	"	"	"	---	86	50-124%	---	---	
Dibenz(a,h)anthracene	0.703	---	0.0100	"	"	"	---	88	45-134%	---	---	
Dibenzofuran	0.696	---	0.0100	"	"	"	---	87	44-120%	---	---	
Fluoranthene	0.697	---	0.0100	"	"	"	---	87	50-127%	---	---	
Fluorene	0.691	---	0.0100	"	"	"	---	86	43-125%	---	---	
Indeno(1,2,3-cd)pyrene	0.623	---	0.0100	"	"	"	---	78	45-133%	---	---	
1-Methylnaphthalene	0.695	---	0.0100	"	"	"	---	87	40-120%	---	---	B
2-Methylnaphthalene	0.683	---	0.0100	"	"	"	---	85	38-122%	---	---	B
Naphthalene	0.693	---	0.0100	"	"	"	---	87	35-123%	---	---	B
Phenanthrene	0.650	---	0.0100	"	"	"	---	81	50-121%	---	---	
Pyrene	0.701	---	0.0100	"	"	"	---	88	47-127%	---	---	
Surr: 2-Fluorobiphenyl (Surr)			Recovery: 82 %		Limits: 44-120 %		Dilution: 1x					
p-Terphenyl-d14 (Surr)			86 %		54-127 %		"					

Matrix Spike (6100550-MS1)

Prepared: 10/13/16 13:19 Analyzed: 10/14/16 20:19

QC Source Sample: TP-3W(0.0-0.5) (A6J0409-22)

EPA 8270D (SIM)

Acenaphthene	0.778	---	0.0117	mg/kg dry	1	0.933	ND	83	40-122%	---	---	
Acenaphthylene	0.752	---	0.0117	"	"	"	ND	81	32-132%	---	---	
Anthracene	0.775	---	0.0117	"	"	"	ND	83	47-123%	---	---	
Benz(a)anthracene	0.725	---	0.0117	"	"	"	ND	78	49-126%	---	---	
Benzo(a)pyrene	0.815	---	0.0117	"	"	"	ND	87	45-129%	---	---	
Benzo(b)fluoranthene	0.786	---	0.0117	"	"	"	ND	84	45-132%	---	---	
Benzo(k)fluoranthene	0.825	---	0.0117	"	"	"	ND	88	47-132%	---	---	
Benzo(g,h,i)perylene	0.674	---	0.0117	"	"	"	ND	72	43-134%	---	---	
Chrysene	0.764	---	0.0117	"	"	"	ND	82	50-124%	---	---	
Dibenz(a,h)anthracene	0.783	---	0.0117	"	"	"	ND	84	45-134%	---	---	
Dibenzofuran	0.771	---	0.0117	"	"	"	ND	83	44-120%	---	---	
Fluoranthene	0.801	---	0.0117	"	"	"	ND	86	50-127%	---	---	
Fluorene	0.779	---	0.0117	"	"	"	ND	84	43-125%	---	---	
Indeno(1,2,3-cd)pyrene	0.688	---	0.0117	"	"	"	ND	74	45-133%	---	---	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100550 - EPA 3546						Soil						
Matrix Spike (6100550-MS1)					Prepared: 10/13/16 13:19		Analyzed: 10/14/16 20:19					
QC Source Sample: TP-3W(0.0-0.5) (A6J0409-22)												
1-Methylnaphthalene	0.750	---	0.0117	"	"	"	ND	80	40-120%	---	---	B
2-Methylnaphthalene	0.728	---	0.0117	"	"	"	ND	78	38-122%	---	---	B
Naphthalene	0.694	---	0.0117	"	"	"	ND	74	35-123%	---	---	B
Phenanthrene	0.714	---	0.0117	"	"	"	ND	77	50-121%	---	---	
Pyrene	0.793	---	0.0117	"	"	"	0.00589	84	47-127%	---	---	
Surr: 2-Fluorobiphenyl (Surr)			Recovery: 78 %		Limits: 44-120 %		Dilution: 1x					
p-Terphenyl-d14 (Surr)			80 %		54-127 %		"					

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100637 - EPA 3546						Soil						
Blank (6100637-BLK1)				Prepared: 10/17/16 07:28 Analyzed: 10/17/16 12:51								
EPA 8270D (SIM)												
Acenaphthene	ND	---	0.00833	mg/kg wet	1	---	---	---	---	---	---	
Acenaphthylene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Anthracene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Benz(a)anthracene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Benzo(a)pyrene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Chrysene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Dibenzofuran	ND	---	0.00833	"	"	---	---	---	---	---	---	
Fluoranthene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Fluorene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	---	0.00833	"	"	---	---	---	---	---	---	
1-Methylnaphthalene	ND	---	0.00833	"	"	---	---	---	---	---	---	
2-Methylnaphthalene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Naphthalene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Phenanthrene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Pyrene	ND	---	0.00833	"	"	---	---	---	---	---	---	

Surr: 2-Fluorobiphenyl (Surr)

p-Terphenyl-d14 (Surr)

Recovery: 80 %

86 %

Limits: 44-120 %

54-127 %

Dilution: 1x

"

LCS (6100637-BS1)

Prepared: 10/17/16 07:28 Analyzed: 10/17/16 13:17

EPA 8270D (SIM)

Acenaphthene	0.715	---	0.0100	mg/kg wet	1	0.800	---	89	40-122%	---	---	
Acenaphthylene	0.688	---	0.0100	"	"	"	---	86	32-132%	---	---	
Anthracene	0.715	---	0.0100	"	"	"	---	89	47-123%	---	---	
Benz(a)anthracene	0.683	---	0.0100	"	"	"	---	85	49-126%	---	---	
Benzo(a)pyrene	0.732	---	0.0100	"	"	"	---	92	45-129%	---	---	
Benzo(b)fluoranthene	0.755	---	0.0100	"	"	"	---	94	45-132%	---	---	
Benzo(k)fluoranthene	0.779	---	0.0100	"	"	"	---	97	47-132%	---	---	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100637 - EPA 3546						Soil						
LCS (6100637-BS1)						Prepared: 10/17/16 07:28 Analyzed: 10/17/16 13:17						
Benzo(g,h,i)perylene	0.641	---	0.0100	"	"	"	---	80	43-134%	---	---	
Chrysene	0.711	---	0.0100	"	"	"	---	89	50-124%	---	---	
Dibenz(a,h)anthracene	0.703	---	0.0100	"	"	"	---	88	45-134%	---	---	
Dibenzofuran	0.712	---	0.0100	"	"	"	---	89	44-120%	---	---	
Fluoranthene	0.712	---	0.0100	"	"	"	---	89	50-127%	---	---	
Fluorene	0.717	---	0.0100	"	"	"	---	90	43-125%	---	---	
Indeno(1,2,3-cd)pyrene	0.654	---	0.0100	"	"	"	---	82	45-133%	---	---	
1-Methylnaphthalene	0.689	---	0.0100	"	"	"	---	86	40-120%	---	---	
2-Methylnaphthalene	0.672	---	0.0100	"	"	"	---	84	38-122%	---	---	
Naphthalene	0.652	---	0.0100	"	"	"	---	81	35-123%	---	---	
Phenanthrene	0.654	---	0.0100	"	"	"	---	82	50-121%	---	---	
Pyrene	0.711	---	0.0100	"	"	"	---	89	47-127%	---	---	
Surr: 2-Fluorobiphenyl (Surr)		Recovery: 84 %		Limits: 44-120 %		Dilution: 1x						
p-Terphenyl-d14 (Surr)		92 %		54-127 %		"						

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100582 - EPA 3051A						Sediment						
Blank (6100582-BLK2)						Prepared: 10/14/16 08:15 Analyzed: 10/17/16 15:32						
EPA 6020A												
Antimony	ND	---	0.500	mg/kg wet	5	---	---	---	---	---	---	Q-16
Arsenic	ND	---	1.00	"	"	---	---	---	---	---	---	Q-16
Barium	ND	---	0.500	"	"	---	---	---	---	---	---	Q-16
Beryllium	ND	---	0.100	"	"	---	---	---	---	---	---	Q-16
Cadmium	ND	---	0.500	"	"	---	---	---	---	---	---	Q-16
Chromium	ND	---	1.00	"	"	---	---	---	---	---	---	Q-16
Cobalt	ND	---	0.500	"	"	---	---	---	---	---	---	Q-16
Copper	ND	---	1.00	"	"	---	---	---	---	---	---	Q-16
Lead	ND	---	0.500	"	"	---	---	---	---	---	---	Q-16
Mercury	ND	---	0.0400	"	"	---	---	---	---	---	---	Q-16
Molybdenum	ND	---	1.00	"	"	---	---	---	---	---	---	Q-16
Nickel	ND	---	1.00	"	"	---	---	---	---	---	---	Q-16
Selenium	ND	---	1.00	"	"	---	---	---	---	---	---	Q-16
Silver	ND	---	0.500	"	"	---	---	---	---	---	---	Q-16
Thallium	ND	---	0.500	"	"	---	---	---	---	---	---	Q-16
Vanadium	ND	---	1.00	"	"	---	---	---	---	---	---	Q-16
Zinc	ND	---	2.00	"	"	---	---	---	---	---	---	Q-16

LCS (6100582-BS1)

Prepared: 10/14/16 08:15 Analyzed: 10/14/16 18:43

EPA 6020A												
Antimony	13.2	---	1.00	mg/kg wet	10	12.5	---	106	80-120%	---	---	
Arsenic	26.7	---	2.00	"	"	25.0	---	107	"	---	---	
Barium	25.8	---	1.00	"	"	"	---	103	"	---	---	
Beryllium	12.2	---	0.200	"	"	12.5	---	98	"	---	---	
Cadmium	25.6	---	1.00	"	"	25.0	---	102	"	---	---	
Chromium	26.0	---	2.00	"	"	"	---	104	"	---	---	
Cobalt	27.0	---	1.00	"	"	"	---	108	"	---	---	
Copper	26.6	---	2.00	"	"	"	---	106	"	---	---	
Lead	26.8	---	1.00	"	"	"	---	107	"	---	---	
Mercury	0.509	---	0.0800	"	"	0.500	---	102	"	---	---	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100582 - EPA 3051A						Sediment						
LCS (6100582-BS1)				Prepared: 10/14/16 08:15			Analyzed: 10/14/16 18:43					
Molybdenum	13.2	---	2.00	mg/kg wet	"	12.5	---	105	"	---	---	
Nickel	27.2	---	2.00	"	"	25.0	---	109	"	---	---	
Silver	12.9	---	1.00	"	"	12.5	---	103	"	---	---	
Thallium	13.1	---	1.00	"	"	"	---	105	"	---	---	
Vanadium	26.6	---	2.00	"	"	25.0	---	106	"	---	---	
Zinc	26.2	---	4.00	"	"	"	---	105	"	---	---	
LCS (6100582-BS2)				Prepared: 10/14/16 08:15			Analyzed: 10/17/16 15:35					
EPA 6020A												
Selenium	12.3	---	1.00	mg/kg wet	5	12.5	---	98	80-120%	---	---	Q-16

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100650 - EPA 3051A						Soil						
Blank (6100650-BLK1)						Prepared: 10/17/16 09:57 Analyzed: 10/18/16 13:18						
EPA 6020A												
Antimony	ND	---	1.00	mg/kg wet	10	---	---	---	---	---	---	
Arsenic	ND	---	1.00	"	"	---	---	---	---	---	---	
Barium	ND	---	1.00	"	"	---	---	---	---	---	---	
Beryllium	ND	---	0.200	"	"	---	---	---	---	---	---	
Cadmium	ND	---	0.200	"	"	---	---	---	---	---	---	
Chromium	ND	---	1.00	"	"	---	---	---	---	---	---	
Cobalt	ND	---	0.200	"	"	---	---	---	---	---	---	
Copper	ND	---	1.00	"	"	---	---	---	---	---	---	
Lead	ND	---	0.200	"	"	---	---	---	---	---	---	
Mercury	ND	---	0.0800	"	"	---	---	---	---	---	---	
Molybdenum	ND	---	1.00	"	"	---	---	---	---	---	---	
Nickel	ND	---	1.00	"	"	---	---	---	---	---	---	
Selenium	ND	---	1.00	"	"	---	---	---	---	---	---	
Silver	ND	---	0.200	"	"	---	---	---	---	---	---	
Thallium	ND	---	0.200	"	"	---	---	---	---	---	---	
Vanadium	ND	---	1.00	"	"	---	---	---	---	---	---	
Zinc	ND	---	4.00	"	"	---	---	---	---	---	---	

LCS (6100650-BS1)

Prepared: 10/17/16 09:57 Analyzed: 10/18/16 13:21

EPA 6020A												
Antimony	25.8	---	1.00	mg/kg wet	10	25.0	---	103	80-120%	---	---	
Arsenic	50.4	---	1.00	"	"	50.0	---	101	"	---	---	
Barium	50.9	---	1.00	"	"	"	---	102	"	---	---	
Beryllium	24.2	---	0.200	"	"	25.0	---	97	"	---	---	
Cadmium	50.0	---	0.200	"	"	50.0	---	100	"	---	---	
Chromium	52.2	---	1.00	"	"	"	---	104	"	---	---	
Cobalt	52.3	---	0.200	"	"	"	---	104	"	---	---	
Copper	52.5	---	1.00	"	"	"	---	105	"	---	---	
Lead	52.1	---	0.200	"	"	"	---	104	"	---	---	
Mercury	1.05	---	0.0800	"	"	1.00	---	105	"	---	---	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100650 - EPA 3051A						Soil						
LCS (6100650-BS1)						Prepared: 10/17/16 09:57 Analyzed: 10/18/16 13:21						
Molybdenum	26.5	---	1.00	mg/kg wet	"	25.0	---	106	"	---	---	
Nickel	52.6	---	1.00	"	"	50.0	---	105	"	---	---	
Selenium	26.8	---	1.00	"	"	25.0	---	107	"	---	---	
Silver	26.3	---	0.200	"	"	"	---	105	"	---	---	
Thallium	26.4	---	0.200	"	"	"	---	106	"	---	---	
Vanadium	51.9	---	1.00	"	"	50.0	---	104	"	---	---	
Zinc	49.9	---	4.00	"	"	"	---	100	"	---	---	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100802 - EPA 3051A						Soil						
Blank (6100802-BLK1)						Prepared: 10/20/16 11:18		Analyzed: 10/21/16 12:48				
EPA 6020A												
Antimony	ND	---	1.00	mg/kg wet	10	---	---	---	---	---	---	
Arsenic	ND	---	1.00	"	"	---	---	---	---	---	---	
Barium	ND	---	1.00	"	"	---	---	---	---	---	---	
Beryllium	ND	---	0.200	"	"	---	---	---	---	---	---	
Cadmium	ND	---	0.200	"	"	---	---	---	---	---	---	
Chromium	ND	---	1.00	"	"	---	---	---	---	---	---	
Cobalt	ND	---	0.200	"	"	---	---	---	---	---	---	
Copper	ND	---	1.00	"	"	---	---	---	---	---	---	
Lead	ND	---	0.200	"	"	---	---	---	---	---	---	
Molybdenum	ND	---	1.00	"	"	---	---	---	---	---	---	
Nickel	ND	---	1.00	"	"	---	---	---	---	---	---	
Selenium	ND	---	1.00	"	"	---	---	---	---	---	---	
Silver	ND	---	0.200	"	"	---	---	---	---	---	---	
Thallium	ND	---	0.200	"	"	---	---	---	---	---	---	
Vanadium	ND	---	1.00	"	"	---	---	---	---	---	---	
Zinc	ND	---	4.00	"	"	---	---	---	---	---	---	
Blank (6100802-BLK2)						Prepared: 10/20/16 11:18		Analyzed: 10/21/16 14:45				
EPA 6020A												
Mercury	ND	---	0.0800	mg/kg wet	10	---	---	---	---	---	---	Q-16
LCS (6100802-BS1)						Prepared: 10/20/16 11:18		Analyzed: 10/21/16 12:50				
EPA 6020A												
Antimony	27.1	---	1.00	mg/kg wet	10	25.0	---	108	80-120%	---	---	
Arsenic	52.8	---	1.00	"	"	50.0	---	106	"	---	---	
Barium	53.1	---	1.00	"	"	"	---	106	"	---	---	
Beryllium	24.6	---	0.200	"	"	25.0	---	98	"	---	---	
Cadmium	51.4	---	0.200	"	"	50.0	---	103	"	---	---	
Chromium	52.8	---	1.00	"	"	"	---	106	"	---	---	
Cobalt	54.2	---	0.200	"	"	"	---	108	"	---	---	
Copper	54.5	---	1.00	"	"	"	---	109	"	---	---	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100802 - EPA 3051A						Soil						
LCS (6100802-BS1)				Prepared: 10/20/16 11:18 Analyzed: 10/21/16 12:50								
Lead	54.8	---	0.200	mg/kg wet	"	"	---	110	"	---	---	
Molybdenum	26.5	---	1.00	"	"	25.0	---	106	"	---	---	
Nickel	54.2	---	1.00	"	"	50.0	---	108	"	---	---	
Selenium	26.8	---	1.00	"	"	25.0	---	107	"	---	---	
Silver	26.9	---	0.200	"	"	"	---	108	"	---	---	
Thallium	27.5	---	0.200	"	"	"	---	110	"	---	---	
Vanadium	52.5	---	1.00	"	"	50.0	---	105	"	---	---	
Zinc	52.0	---	4.00	"	"	"	---	104	"	---	---	
LCS (6100802-BS2)				Prepared: 10/20/16 11:18 Analyzed: 10/21/16 14:52								
EPA 6020A												
Mercury	1.10	---	0.0800	mg/kg wet	10	1.00	---	110	80-120%	---	---	Q-16
Duplicate (6100802-DUP1)				Prepared: 10/20/16 11:18 Analyzed: 10/21/16 13:06								
QC Source Sample: TP-3W(1.5-2.0) (A6J0409-23)												
EPA 6020A												
Antimony	ND	---	1.25	mg/kg dry	10	---	ND	---	---	---	40%	
Arsenic	5.43	---	1.25	"	"	---	6.77	---	---	22	40%	
Barium	138	---	1.25	"	"	---	140	---	---	1	40%	
Beryllium	0.840	---	0.251	"	"	---	0.871	---	---	4	40%	
Cadmium	0.251	---	0.251	"	"	---	0.317	---	---	23	40%	
Chromium	29.9	---	1.25	"	"	---	34.1	---	---	13	40%	
Cobalt	11.5	---	0.251	"	"	---	17.5	---	---	41	40%	Q-04
Copper	21.6	---	1.25	"	"	---	25.0	---	---	15	40%	
Lead	11.3	---	0.251	"	"	---	11.8	---	---	4	40%	
Molybdenum	ND	---	1.25	"	"	---	ND	---	---	---	40%	
Nickel	15.8	---	1.25	"	"	---	19.5	---	---	21	40%	
Selenium	ND	---	1.25	"	"	---	ND	---	---	---	40%	
Silver	ND	---	0.251	"	"	---	ND	---	---	---	40%	
Thallium	ND	---	0.251	"	"	---	0.198	---	---	***	40%	
Vanadium	100	---	1.25	"	"	---	114	---	---	13	40%	
Zinc	55.8	---	5.02	"	"	---	67.4	---	---	19	40%	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100802 - EPA 3051A						Soil						
Duplicate (6100802-DUP2)						Prepared: 10/20/16 11:18 Analyzed: 10/21/16 15:27						
QC Source Sample: TP-3W(1.5-2.0) (A6J0409-23RE1)												
EPA 6020A												
Mercury	ND	---	0.100	mg/kg dry	10	---	ND	---	---	---	40%	Q-16
Matrix Spike (6100802-MS1)						Prepared: 10/20/16 11:18 Analyzed: 10/21/16 13:09						
QC Source Sample: TP-3W(1.5-2.0) (A6J0409-23)												
EPA 6020A												
Antimony	28.2	---	1.23	mg/kg dry	10	30.6	ND	92	75-125%	---	---	
Arsenic	67.7	---	1.23	"	"	61.3	6.77	99	"	---	---	
Barium	199	---	1.23	"	"	"	140	96	"	---	---	
Beryllium	30.6	---	0.245	"	"	30.6	0.871	97	"	---	---	
Cadmium	64.5	---	0.245	"	"	61.3	0.317	105	"	---	---	
Chromium	95.8	---	1.23	"	"	"	34.1	101	"	---	---	
Cobalt	79.7	---	0.245	"	"	"	17.5	101	"	---	---	
Copper	88.0	---	1.23	"	"	"	25.0	103	"	---	---	
Lead	76.4	---	0.245	"	"	"	11.8	105	"	---	---	
Molybdenum	32.2	---	1.23	"	"	30.6	ND	105	"	---	---	
Nickel	83.5	---	1.23	"	"	61.3	19.5	104	"	---	---	
Selenium	31.1	---	1.23	"	"	30.6	ND	102	"	---	---	
Silver	33.4	---	0.245	"	"	"	ND	109	"	---	---	
Thallium	33.2	---	0.245	"	"	"	0.198	108	"	---	---	
Vanadium	168	---	1.23	"	"	61.3	114	87	"	---	---	
Zinc	122	---	4.91	"	"	"	67.4	89	"	---	---	
Matrix Spike (6100802-MS3)						Prepared: 10/20/16 11:18 Analyzed: 10/21/16 15:30						
QC Source Sample: TP-3W(1.5-2.0) (A6J0409-23RE1)												
EPA 6020A												
Mercury	1.29	---	0.0981	mg/kg dry	10	1.23	ND	106	75-125%	---	---	Q-16

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

QUALITY CONTROL (QC) SAMPLE RESULTS

TCLP Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100847 - EPA 1311/3015						Soil						
Blank (6100847-BLK1)				Prepared: 10/21/16 08:51 Analyzed: 10/21/16 13:56								
1311/6020A												
Lead	ND	---	0.0500	mg/L	5	---	---	---	---	---	---	TCLP
LCS (6100847-BS1)				Prepared: 10/21/16 08:51 Analyzed: 10/21/16 14:02								
1311/6020A												
Lead	2.75	---	0.0500	mg/L	5	2.50	---	110	80-120%	---	---	TCLP
Matrix Spike (6100847-MS1)				Prepared: 10/21/16 08:51 Analyzed: 10/21/16 14:17								
QC Source Sample: TPComp-3(0.0-0.5) (A6J0409-13)												
1311/6020A												
Lead	3.64	---	0.0500	mg/L	5	2.50	0.914	109	50-150%	---	---	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100607 - Total Solids (Dry Weight)							Soil					
Duplicate (6100607-DUP1)					Prepared: 10/14/16 12:50		Analyzed: 10/17/16 09:09					
QC Source Sample: TP-1N(0.0-0.5) (A6J0409-04)												
EPA 8000C												
% Solids	80.6	---	1.00	% by Weight	1	---	80.9	---	---	0.3	10%	

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

Batch 6100754 - Total Solids (Dry Weight)**Soil**

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

Batch 6100826 - Total Solids (Dry Weight)**Soil**

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

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

SAMPLE PREPARATION INFORMATION

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Prep: EPA 3546 (Fuels)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6100596							
A6J0409-02	Soil	NWTPH-Dx	10/12/16 10:40	10/14/16 10:19	10.33g/5mL	10g/5mL	0.97
A6J0409-04	Soil	NWTPH-Dx	10/12/16 11:20	10/14/16 10:19	10.36g/5mL	10g/5mL	0.97
A6J0409-05	Soil	NWTPH-Dx	10/12/16 11:25	10/14/16 10:19	10.28g/5mL	10g/5mL	0.97
A6J0409-06	Soil	NWTPH-Dx	10/12/16 16:23	10/14/16 10:19	10.66g/5mL	10g/5mL	0.94
A6J0409-07	Soil	NWTPH-Dx	10/12/16 16:30	10/14/16 10:19	10.57g/5mL	10g/5mL	0.95
A6J0409-12	Soil	NWTPH-Dx	10/12/16 13:35	10/14/16 10:19	10.6g/5mL	10g/5mL	0.94
A6J0409-13RE1	Soil	NWTPH-Dx	10/12/16 14:25	10/14/16 10:19	10.53g/5mL	10g/5mL	0.95
A6J0409-16	Soil	NWTPH-Dx	10/12/16 12:05	10/14/16 10:19	10.79g/5mL	10g/5mL	0.93
A6J0409-18RE1	Soil	NWTPH-Dx	10/12/16 12:55	10/14/16 10:19	10.33g/5mL	10g/5mL	0.97
A6J0409-20RE1	Soil	NWTPH-Dx	10/12/16 15:13	10/14/16 10:19	10.68g/5mL	10g/5mL	0.94
A6J0409-22RE1	Soil	NWTPH-Dx	10/12/16 15:23	10/14/16 10:19	10.66g/5mL	10g/5mL	0.94

Batch: 6100758

A6J0409-17	Soil	NWTPH-Dx	10/12/16 12:35	10/19/16 13:39	10.55g/5mL	10g/5mL	0.95
A6J0409-19	Soil	NWTPH-Dx	10/12/16 13:05	10/19/16 13:39	10.36g/5mL	10g/5mL	0.97

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Prep: EPA 5035A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6100585							
A6J0409-02	Soil	NWTPH-Gx (MS)	10/12/16 10:40	10/12/16 10:40	5.48g/5mL	5g/5mL	0.91
A6J0409-12	Soil	NWTPH-Gx (MS)	10/12/16 13:35	10/12/16 13:35	5.61g/5mL	5g/5mL	0.89
A6J0409-13	Soil	NWTPH-Gx (MS)	10/12/16 14:25	10/12/16 14:25	5.79g/5mL	5g/5mL	0.86
A6J0409-16	Soil	NWTPH-Gx (MS)	10/12/16 12:05	10/12/16 12:05	4.97g/5mL	5g/5mL	1.01
A6J0409-18	Soil	NWTPH-Gx (MS)	10/12/16 12:55	10/12/16 12:55	5g/5mL	5g/5mL	1.00
A6J0409-20	Soil	NWTPH-Gx (MS)	10/12/16 15:13	10/12/16 15:13	5.99g/5mL	5g/5mL	0.84
A6J0409-22	Soil	NWTPH-Gx (MS)	10/12/16 15:23	10/12/16 15:23	5.25g/5mL	5g/5mL	0.95

Volatile Organic Compounds by EPA 8260B

Prep: EPA 5035A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6100585							
A6J0409-02	Soil	5035/8260B	10/12/16 10:40	10/12/16 10:40	5.48g/5mL	5g/5mL	0.91
A6J0409-12	Soil	5035/8260B	10/12/16 13:35	10/12/16 13:35	5.61g/5mL	5g/5mL	0.89

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

SAMPLE PREPARATION INFORMATION

Volatile Organic Compounds by EPA 8260B

Prep: EPA 5035A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A6J0409-13	Soil	5035/8260B	10/12/16 14:25	10/12/16 14:25	5.79g/5mL	5g/5mL	0.86
A6J0409-16	Soil	5035/8260B	10/12/16 12:05	10/12/16 12:05	4.97g/5mL	5g/5mL	1.01
A6J0409-18	Soil	5035/8260B	10/12/16 12:55	10/12/16 12:55	5g/5mL	5g/5mL	1.00
A6J0409-20	Soil	5035/8260B	10/12/16 15:13	10/12/16 15:13	5.99g/5mL	5g/5mL	0.84
A6J0409-22	Soil	5035/8260B	10/12/16 15:23	10/12/16 15:23	5.25g/5mL	5g/5mL	0.95

Polychlorinated Biphenyls by EPA 8082A

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6100537							
A6J0409-02	Soil	EPA 8082A	10/12/16 10:40	10/13/16 11:17	10.55g/5mL	10g/5mL	0.95
A6J0409-12	Soil	EPA 8082A	10/12/16 13:35	10/13/16 11:17	10.92g/5mL	10g/5mL	0.92
A6J0409-13	Soil	EPA 8082A	10/12/16 14:25	10/13/16 11:17	10.81g/5mL	10g/5mL	0.93
A6J0409-16	Soil	EPA 8082A	10/12/16 12:05	10/13/16 11:17	10.65g/5mL	10g/5mL	0.94
A6J0409-18	Soil	EPA 8082A	10/12/16 12:55	10/13/16 11:17	10.63g/5mL	10g/5mL	0.94
A6J0409-20	Soil	EPA 8082A	10/12/16 15:13	10/13/16 11:17	10.76g/5mL	10g/5mL	0.93
A6J0409-22	Soil	EPA 8082A	10/12/16 15:23	10/13/16 11:17	10.33g/5mL	10g/5mL	0.97

Organochlorine Pesticides by EPA 8081B

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6100565							
A6J0409-12RE1	Soil	EPA 8081B	10/12/16 13:35	10/13/16 08:28	11.7g/10mL	10g/5mL	1.71
A6J0409-12RE3	Soil	EPA 8081B	10/12/16 13:35	10/13/16 08:28	11.7g/10mL	10g/5mL	1.71
A6J0409-12RE4	Soil	EPA 8081B	10/12/16 13:35	10/13/16 08:28	11.7g/10mL	10g/5mL	1.71
A6J0409-13RE2	Soil	EPA 8081B	10/12/16 14:25	10/13/16 08:28	11.81g/10mL	10g/5mL	1.69
A6J0409-13RE3	Soil	EPA 8081B	10/12/16 14:25	10/13/16 08:28	11.81g/10mL	10g/5mL	1.69
A6J0409-16RE3	Soil	EPA 8081B	10/12/16 12:05	10/13/16 08:28	11.36g/10mL	10g/5mL	1.76
A6J0409-18RE3	Soil	EPA 8081B	10/12/16 12:55	10/13/16 08:28	11.82g/10mL	10g/5mL	1.69
A6J0409-20RE1	Soil	EPA 8081B	10/12/16 15:13	10/13/16 08:28	11.74g/10mL	10g/5mL	1.70
A6J0409-20RE2	Soil	EPA 8081B	10/12/16 15:13	10/13/16 08:28	11.74g/10mL	10g/5mL	1.70
A6J0409-20RE3	Soil	EPA 8081B	10/12/16 15:13	10/13/16 08:28	11.74g/10mL	10g/5mL	1.70
A6J0409-22RE1	Soil	EPA 8081B	10/12/16 15:23	10/13/16 08:28	11.95g/10mL	10g/5mL	1.67
A6J0409-22RE3	Soil	EPA 8081B	10/12/16 15:23	10/13/16 08:28	11.95g/10mL	10g/5mL	1.67

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

SAMPLE PREPARATION INFORMATION

Organochlorine Pesticides by EPA 8081B

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A6J0409-22RE4	Soil	EPA 8081B	10/12/16 15:23	10/13/16 08:28	11.95g/10mL	10g/5mL	1.67
Batch: 6100600							
A6J0409-01RE1	Sediment	EPA 8081B	10/12/16 17:25	10/13/16 15:48	10.69g/10mL	10g/5mL	1.87
A6J0409-01RE2	Sediment	EPA 8081B	10/12/16 17:25	10/13/16 15:48	10.69g/10mL	10g/5mL	1.87
Batch: 6100789							
A6J0409-14	Soil	EPA 8081B	10/12/16 13:45	10/20/16 08:07	11.11g/5mL	10g/5mL	0.90
A6J0409-15	Soil	EPA 8081B	10/12/16 14:45	10/20/16 08:07	11.33g/5mL	10g/5mL	0.88
A6J0409-21	Soil	EPA 8081B	10/12/16 15:45	10/20/16 08:07	11.12g/5mL	10g/5mL	0.90
A6J0409-23	Soil	EPA 8081B	10/12/16 15:35	10/20/16 08:07	10.67g/5mL	10g/5mL	0.94
Batch: 6100889							
A6J0409-17	Soil	EPA 8081B	10/12/16 12:35	10/24/16 07:53	11.71g/5mL	10g/5mL	0.85
A6J0409-19	Soil	EPA 8081B	10/12/16 13:05	10/24/16 07:53	11.66g/5mL	10g/5mL	0.86

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6100550							
A6J0409-04	Soil	EPA 8270D (SIM)	10/12/16 11:20	10/13/16 13:19	10.76g/5mL	10g/5mL	0.93
A6J0409-05	Soil	EPA 8270D (SIM)	10/12/16 11:25	10/13/16 13:19	10.4g/5mL	10g/5mL	0.96
A6J0409-06	Soil	EPA 8270D (SIM)	10/12/16 16:23	10/13/16 13:19	10.53g/5mL	10g/5mL	0.95
A6J0409-07	Soil	EPA 8270D (SIM)	10/12/16 16:30	10/13/16 13:19	10.58g/5mL	10g/5mL	0.95
A6J0409-12	Soil	EPA 8270D (SIM)	10/12/16 13:35	10/13/16 13:19	10.24g/5mL	10g/5mL	0.98
A6J0409-13	Soil	EPA 8270D (SIM)	10/12/16 14:25	10/13/16 13:19	10.79g/5mL	10g/5mL	0.93
A6J0409-16	Soil	EPA 8270D (SIM)	10/12/16 12:05	10/13/16 13:19	10.66g/5mL	10g/5mL	0.94
A6J0409-18	Soil	EPA 8270D (SIM)	10/12/16 12:55	10/13/16 13:19	10.67g/5mL	10g/5mL	0.94
A6J0409-20	Soil	EPA 8270D (SIM)	10/12/16 15:13	10/13/16 13:19	10.21g/5mL	10g/5mL	0.98
A6J0409-22	Soil	EPA 8270D (SIM)	10/12/16 15:23	10/13/16 13:19	10.38g/5mL	10g/5mL	0.96
Batch: 6100637							
A6J0409-02RE1	Soil	EPA 8270D (SIM)	10/12/16 10:40	10/17/16 13:38	10.72g/5mL	10g/5mL	0.93

Total Metals by EPA 6020 (ICPMS)

Prep: EPA 3051A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

SAMPLE PREPARATION INFORMATION

Total Metals by EPA 6020 (ICPMS)

Prep: EPA 3051A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6100582							
A6J0409-01	Sediment	EPA 6020A	10/12/16 17:25	10/14/16 14:23	0.517g/50mL	0.5g/50mL	0.97
A6J0409-01	Sediment	EPA 6020A	10/12/16 17:25	10/14/16 14:50	0.517g/50mL	0.5g/50mL	0.97
A6J0409-01RE1	Sediment	EPA 6020A	10/12/16 17:25	10/14/16 14:23	0.517g/50mL	0.5g/50mL	0.97
A6J0409-01RE1	Sediment	EPA 6020A	10/12/16 17:25	10/14/16 14:50	0.517g/50mL	0.5g/50mL	0.97

Batch: 6100650

A6J0409-02	Soil	EPA 6020A	10/12/16 10:40	10/17/16 09:57	0.488g/50mL	0.5g/50mL	1.02
A6J0409-12	Soil	EPA 6020A	10/12/16 13:35	10/17/16 09:57	0.505g/50mL	0.5g/50mL	0.99
A6J0409-13	Soil	EPA 6020A	10/12/16 14:25	10/17/16 09:57	0.473g/50mL	0.5g/50mL	1.06
A6J0409-16	Soil	EPA 6020A	10/12/16 12:05	10/17/16 09:57	0.479g/50mL	0.5g/50mL	1.04
A6J0409-18	Soil	EPA 6020A	10/12/16 12:55	10/17/16 09:57	0.477g/50mL	0.5g/50mL	1.05
A6J0409-20	Soil	EPA 6020A	10/12/16 15:13	10/17/16 09:57	0.465g/50mL	0.5g/50mL	1.08
A6J0409-22	Soil	EPA 6020A	10/12/16 15:23	10/17/16 09:57	0.481g/50mL	0.5g/50mL	1.04

Batch: 6100802

A6J0409-14	Soil	EPA 6020A	10/12/16 13:45	10/20/16 11:18	0.464g/50mL	0.5g/50mL	1.08
A6J0409-14RE1	Soil	EPA 6020A	10/12/16 13:45	10/20/16 11:18	0.464g/50mL	0.5g/50mL	1.08
A6J0409-15	Soil	EPA 6020A	10/12/16 14:45	10/20/16 11:18	0.496g/50mL	0.5g/50mL	1.01
A6J0409-15RE1	Soil	EPA 6020A	10/12/16 14:45	10/20/16 11:18	0.496g/50mL	0.5g/50mL	1.01
A6J0409-21	Soil	EPA 6020A	10/12/16 15:45	10/20/16 11:18	0.48g/50mL	0.5g/50mL	1.04
A6J0409-21RE1	Soil	EPA 6020A	10/12/16 15:45	10/20/16 11:18	0.48g/50mL	0.5g/50mL	1.04
A6J0409-23	Soil	EPA 6020A	10/12/16 15:35	10/20/16 11:18	0.462g/50mL	0.5g/50mL	1.08
A6J0409-23RE1	Soil	EPA 6020A	10/12/16 15:35	10/20/16 11:18	0.462g/50mL	0.5g/50mL	1.08

TCLP Metals by EPA 6020 (ICPMS)

Prep: EPA 1311/3015

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6100847							
A6J0409-13	Soil	1311/6020A	10/12/16 14:25	10/21/16 08:51	5mL/50mL	5mL/50mL	1.00

Percent Dry Weight

Prep: Total Solids (Dry Weight)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6100607							
A6J0409-01	Sediment	EPA 8000C	10/12/16 17:25	10/14/16 12:50	1N/A/1N/A	1N/A/1N/A	NA

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

SAMPLE PREPARATION INFORMATION

Percent Dry Weight

Prep: Total Solids (Dry Weight)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A6J0409-02	Soil	EPA 8000C	10/12/16 10:40	10/14/16 12:50	1N/A/1N/A	1N/A/1N/A	NA
A6J0409-04	Soil	EPA 8000C	10/12/16 11:20	10/14/16 12:50	1N/A/1N/A	1N/A/1N/A	NA
A6J0409-05	Soil	EPA 8000C	10/12/16 11:25	10/14/16 12:50	1N/A/1N/A	1N/A/1N/A	NA
A6J0409-06	Soil	EPA 8000C	10/12/16 16:23	10/14/16 12:50	1N/A/1N/A	1N/A/1N/A	NA
A6J0409-07	Soil	EPA 8000C	10/12/16 16:30	10/14/16 12:50	1N/A/1N/A	1N/A/1N/A	NA
A6J0409-12	Soil	EPA 8000C	10/12/16 13:35	10/14/16 12:50	1N/A/1N/A	1N/A/1N/A	NA
A6J0409-13	Soil	EPA 8000C	10/12/16 14:25	10/14/16 12:50	1N/A/1N/A	1N/A/1N/A	NA
A6J0409-16	Soil	EPA 8000C	10/12/16 12:05	10/14/16 12:50	1N/A/1N/A	1N/A/1N/A	NA
A6J0409-18	Soil	EPA 8000C	10/12/16 12:55	10/14/16 12:50	1N/A/1N/A	1N/A/1N/A	NA
A6J0409-20	Soil	EPA 8000C	10/12/16 15:13	10/14/16 12:50	1N/A/1N/A	1N/A/1N/A	NA
A6J0409-22	Soil	EPA 8000C	10/12/16 15:23	10/14/16 12:50	1N/A/1N/A	1N/A/1N/A	NA
Batch: 6100754							
A6J0409-17	Soil	EPA 8000C	10/12/16 12:35	10/19/16 13:19	1N/A/1N/A	1N/A/1N/A	NA
A6J0409-19	Soil	EPA 8000C	10/12/16 13:05	10/19/16 13:19	1N/A/1N/A	1N/A/1N/A	NA
Batch: 6100826							
A6J0409-14	Soil	EPA 8000C	10/12/16 13:45	10/20/16 17:05	1N/A/1N/A	1N/A/1N/A	NA
A6J0409-15	Soil	EPA 8000C	10/12/16 14:45	10/20/16 17:05	1N/A/1N/A	1N/A/1N/A	NA
A6J0409-21	Soil	EPA 8000C	10/12/16 15:45	10/20/16 17:05	1N/A/1N/A	1N/A/1N/A	NA
A6J0409-23	Soil	EPA 8000C	10/12/16 15:35	10/20/16 17:05	1N/A/1N/A	1N/A/1N/A	NA

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02
Project Manager: Jeremy Zimmer

Reported:

10/25/16 17:22

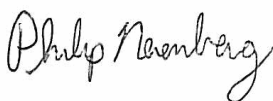
Notes and Definitions

Qualifiers:

- A-01 MDL raised to MRL due to B-02.
- A-01a Sample results are less than MDL and duplicate results have hits greater than the MDL. See duplicate results
- B Analyte detected in an associated blank at a level above the MRL. (See Notes and Conventions below.)
- C-05 Extract has undergone a GPC (Gel-Permeation Chromatography) cleanup per EPA 3640A. Reporting levels may be raised due to dilution necessary for cleanup. Sample Final Volume includes the GPC dilution factor, see the Prep page for details.
- C-07 Extract has undergone Sulfuric Acid Cleanup by EPA 3665A, Sulfur Cleanup by EPA 3660B, and Florisil Cleanup by EPA 3620B in order to minimize matrix interference.
- F-03 The result for this hydrocarbon range is elevated due to the presence of individual analyte peaks in the quantitation range that are not representative of the fuel pattern reported.
- F-11 The hydrocarbon pattern indicates possible weathered diesel, or a contribution from a related component.
- F-13 The chromatographic pattern does not resemble the fuel standard used for quantitation
- M-02 Due to matrix interference, this analyte cannot be accurately quantified. The reported result is estimated.
- M-04 Due to matrix interference, this analyte cannot be accurately quantified. The reported result may contain a high bias.
- P-11 Result estimated. Secondary column confirmation does not meet method criteria due to matrix interference.
- Q-03 Spike recovery and/or RPD is outside control limits due to the high concentration of analyte present in the sample.
- Q-04 Spike recovery and/or RPD is outside control limits due to a non-homogeneous sample matrix.
- Q-05 Analyses are not controlled on RPD values from sample and duplicate concentrations that are below 5 times the reporting level.
- Q-16 Reanalysis of an original Batch QC sample.
- Q-31 Estimated Results. Recovery of Continuing Calibration Verification sample below lower control limit for this analyte. Results are likely biased low.
- Q-37 Sample is non-homogenous. Sample results are less than MRL and duplicate results have hits greater than the MRL. See Duplicate results.
- Q-39 Results for sample duplicate are significantly higher than the sample results. See duplicate results in QC section of the report.
- Q-41 Estimated Results. Recovery of Continuing Calibration Verification sample above upper control limit for this analyte. Results are likely biased high.
- Q-42 Matrix Spike and/or Duplicate analysis was performed on this sample. % Recovery or RPD for this analyte is outside laboratory control limits. (Refer to the QC Section of Analytical Report.)
- R-02 The Reporting Limit for this analyte has been raised to account for interference from coeluting organic compounds present in the sample.
- S-01 Surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interference.
- S-03 Reextraction and analysis, or analysis of laboratory duplicate, confirms surrogate failure due to sample matrix effect.
- S-05 Surrogate recovery is estimated due to sample dilution required for high analyte concentration and/or matrix interference.
- S-06 Surrogate recovery is outside of established control limits.
- TCLP This batch QC sample was prepared with TCLP or SPLP fluid from preparation batch 6100819.

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02
Project Manager: Jeremy Zimmer

Reported:
10/25/16 17:22

Notes and Conventions:

- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis. Results listed as 'wet' or without 'dry' designation are not dry weight corrected.
- RPD Relative Percent Difference
- MDL If MDL is not listed, data has been evaluated to the Method Reporting Limit only.
- WMSC Water Miscible Solvent Correction has been applied to Results and MRLs for volatiles soil samples per EPA 8000C.
- Batch QC Unless specifically requested, this report contains only results for Batch QC derived from client samples included in this report. All analyses were performed with the appropriate Batch QC (including Sample Duplicates, Matrix Spikes and/or Matrix Spike Duplicates) in order to meet or exceed method and regulatory requirements. Any exceptions to this will be qualified in this report. Complete Batch QC results are available upon request. In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.
- Blank Policy Apex assesses blank data for potential high bias down to a level equal to ½ the method reporting limit (MRL), except for conventional chemistry and HCID analyses which are assessed only to the MRL. Sample results flagged with a B or B-02 qualifier are potentially biased high if they are less than ten times the level found in the blank for inorganic analyses or less than five times the level found in the blank for organic analyses.
- For accurate comparison of volatile results to the level found in the blank; water sample results should be divided by the dilution factor, and soil sample results should be divided by 1/50 of the sample dilution to account for the sample prep factor.
- Results qualified as reported below the MRL may include a potential high bias if associated with a B or B-02 qualified blank. B and B-02 qualifications are not applied to J qualified results reported below the MRL.
- QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.
- *** Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

GeoDesign, Inc.	Project: River Terrace Area 10	
15575 SW Sequoia Pkwy, Ste 100	Project Number: Polygon-145-02	Reported:
Portland, OR 97224	Project Manager: Jeremy Zimmer	10/25/16 17:22

[illegible]

Apex Labs

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

Thursday, October 20, 2016

Jeremy Zimmer
GeoDesign, Inc.
15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

RE: River Terrace Area 10 / Polygon-145-02

Enclosed are the results of analyses for work order A6J0490, which was received by the laboratory on 10/13/2016 at 12:40:00PM.

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

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

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:05

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
DP-1(10.0.-11.0)	A6J0490-01	Soil	10/13/16 11:00	10/13/16 12:40
DP-1(11.0-12.0)	A6J0490-02	Soil	10/13/16 11:10	10/13/16 12:40

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:05

ANALYTICAL SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
DP-1(10.0.-11.0) (A6J0490-01)			Matrix: Soil		Batch: 6100627			
Diesel	2710	---	25.6	mg/kg dry	1	10/14/16 21:36	NWTPH-Dx	F-11
Oil	ND	---	51.2	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 99 %</i>		<i>Limits: 50-150 %</i>		"	"	"
DP-1(11.0-12.0) (A6J0490-02)			Matrix: Soil		Batch: 6100695			
Diesel	1660	---	25.7	mg/kg dry	1	10/18/16 18:13	NWTPH-Dx	
Oil	ND	---	51.3	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 85 %</i>		<i>Limits: 50-150 %</i>		"	"	"

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:05

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
DP-1(10.0.-11.0) (A6J0490-01)			Matrix: Soil		Batch: 6100637			
Acenaphthene	ND	---	0.151	mg/kg dry	1	10/17/16 14:09	EPA 8270D (SIM)	R-02
Acenaphthylene	ND	---	0.0505	"	"	"	"	R-02
Anthracene	ND	---	0.106	"	"	"	"	R-02
Benz(a)anthracene	ND	---	0.0189	"	"	"	"	R-02
Benzo(a)pyrene	ND	---	0.0126	"	"	"	"	
Benzo(b)fluoranthene	ND	---	0.0126	"	"	"	"	
Benzo(k)fluoranthene	ND	---	0.0126	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	0.0126	"	"	"	"	
Chrysene	ND	---	0.0202	"	"	"	"	R-02
Dibenz(a,h)anthracene	ND	---	0.0126	"	"	"	"	
Dibenzofuran	0.247	---	0.0126	"	"	"	"	
Fluoranthene	0.0348	---	0.0126	"	"	"	"	
Fluorene	0.501	---	0.0126	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	0.0126	"	"	"	"	
1-Methylnaphthalene	0.660	---	0.0126	"	"	"	"	
2-Methylnaphthalene	0.607	---	0.0126	"	"	"	"	
Naphthalene	0.208	---	0.0126	"	"	"	"	M-02
Phenanthrene	0.793	---	0.0126	"	"	"	"	
Pyrene	0.0820	---	0.0126	"	"	"	"	M-02
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 82 %</i>	<i>Limits: 44-120 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>			<i>89 %</i>	<i>Limits: 54-127 %</i>	"	"	"	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:05

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
DP-1(11.0-12.0) (A6J0490-02)			Matrix: Soil	Batch: 6100637				
Acenaphthene	ND	---	0.181	mg/kg dry	1	10/18/16 15:31	EPA 8270D (SIM)	R-02
Acenaphthylene	ND	---	0.0735	"	"	"	"	R-02
Anthracene	ND	---	0.155	"	"	"	"	R-02
Benz(a)anthracene	ND	---	0.0284	"	"	"	"	R-02
Benzo(a)pyrene	ND	---	0.0129	"	"	"	"	
Benzo(b)fluoranthene	ND	---	0.0129	"	"	"	"	
Benzo(k)fluoranthene	ND	---	0.0129	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	0.0129	"	"	"	"	
Chrysene	ND	---	0.0284	"	"	"	"	R-02
Dibenz(a,h)anthracene	ND	---	0.0129	"	"	"	"	
Dibenzofuran	0.443	---	0.0129	"	"	"	"	
Fluoranthene	0.0528	---	0.0129	"	"	"	"	
Fluorene	0.791	---	0.0129	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	0.0129	"	"	"	"	
1-Methylnaphthalene	0.500	---	0.0129	"	"	"	"	
2-Methylnaphthalene	0.394	---	0.0129	"	"	"	"	
Naphthalene	ND	---	0.142	"	"	"	"	R-02
Phenanthrene	0.794	---	0.0129	"	"	"	"	
Pyrene	0.113	---	0.0129	"	"	"	"	M-02
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>		<i>Recovery: 87 %</i>		<i>Limits: 44-120 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>		<i>90 %</i>		<i>Limits: 54-127 %</i>	"	"	"	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:05

ANALYTICAL SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
DP-1(10.0-11.0) (A6J0490-01)			Matrix: Soil		Batch: 6100607			
% Solids	71.9	---	1.00	% by Weight	1	10/17/16 09:09	EPA 8000C	
DP-1(11.0-12.0) (A6J0490-02)			Matrix: Soil		Batch: 6100698			
% Solids	73.1	---	1.00	% by Weight	1	10/19/16 09:42	EPA 8000C	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02
Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:05

QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100627 - EPA 3546 (Fuels)						Soil						

Blank (6100627-BLK1)

Prepared: 10/14/16 17:18 Analyzed: 10/14/16 20:56

NWTPH-Dx

Diesel	ND	---	25.0	mg/kg wet	1	---	---	---	---	---	---	
Oil	ND	---	50.0	"	"	---	---	---	---	---	---	

Surr: o-Terphenyl (Surr)

Recovery: 93 %

Limits: 50-150 %

Dilution: 1x

LCS (6100627-BS1)

Prepared: 10/14/16 17:18 Analyzed: 10/14/16 21:16

NWTPH-Dx

Diesel	118	---	25.0	mg/kg wet	1	125	---	95	76-115%	---	---	

Surr: o-Terphenyl (Surr)

Recovery: 98 %

Limits: 50-150 %

Dilution: 1x

Duplicate (6100627-DUP1)

Prepared: 10/14/16 17:18 Analyzed: 10/14/16 21:56

QC Source Sample: DP-1(10.0.-11.0) (A6J0490-01)

NWTPH-Dx

Diesel	2980	---	25.5	mg/kg dry	1	---	2710	---	---	10	30%	F-11
Oil	ND	---	51.0	"	"	---	ND	---	---	---	30%	

Surr: o-Terphenyl (Surr)

Recovery: 100 %

Limits: 50-150 %

Dilution: 1x

Batch 6100695 - EPA 3546 (Fuels)

Soil

Blank (6100695-BLK1)

Prepared: 10/18/16 10:23 Analyzed: 10/18/16 12:10

NWTPH-Dx

Diesel	ND	---	25.0	mg/kg wet	1	---	---	---	---	---	---	
Oil	ND	---	50.0	"	"	---	---	---	---	---	---	
Mineral Oil	ND	---	33.3	"	"	---	---	---	---	---	---	

Surr: o-Terphenyl (Surr)

Recovery: 97 %

Limits: 50-150 %

Dilution: 1x

LCS (6100695-BS1)

Prepared: 10/18/16 10:23 Analyzed: 10/18/16 12:30

NWTPH-Dx

Diesel	122	---	25.0	mg/kg wet	1	125	---	97	76-115%	---	---	

Surr: o-Terphenyl (Surr)

Recovery: 106 %

Limits: 50-150 %

Dilution: 1x

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:05

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100637 - EPA 3546						Soil						
Blank (6100637-BLK1)						Prepared: 10/17/16 07:28 Analyzed: 10/17/16 12:51						
EPA 8270D (SIM)												
Acenaphthene	ND	---	0.00833	mg/kg wet	1	---	---	---	---	---	---	
Acenaphthylene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Anthracene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Benz(a)anthracene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Benzo(a)pyrene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Chrysene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Dibenzofuran	ND	---	0.00833	"	"	---	---	---	---	---	---	
Fluoranthene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Fluorene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	---	0.00833	"	"	---	---	---	---	---	---	
1-Methylnaphthalene	ND	---	0.00833	"	"	---	---	---	---	---	---	
2-Methylnaphthalene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Naphthalene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Phenanthrene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Pyrene	ND	---	0.00833	"	"	---	---	---	---	---	---	

Surr: 2-Fluorobiphenyl (Surr)

p-Terphenyl-d14 (Surr)

Recovery: 80 %

86 %

Limits: 44-120 %

54-127 %

Dilution: 1x

"

LCS (6100637-BS1)

Prepared: 10/17/16 07:28 Analyzed: 10/17/16 13:17

EPA 8270D (SIM)

Acenaphthene	0.715	---	0.0100	mg/kg wet	1	0.800	---	89	40-122%	---	---	
Acenaphthylene	0.688	---	0.0100	"	"	"	---	86	32-132%	---	---	
Anthracene	0.715	---	0.0100	"	"	"	---	89	47-123%	---	---	
Benz(a)anthracene	0.683	---	0.0100	"	"	"	---	85	49-126%	---	---	
Benzo(a)pyrene	0.732	---	0.0100	"	"	"	---	92	45-129%	---	---	
Benzo(b)fluoranthene	0.755	---	0.0100	"	"	"	---	94	45-132%	---	---	
Benzo(k)fluoranthene	0.779	---	0.0100	"	"	"	---	97	47-132%	---	---	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:05

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100637 - EPA 3546						Soil						
LCS (6100637-BS1)						Prepared: 10/17/16 07:28 Analyzed: 10/17/16 13:17						
Benzo(g,h,i)perylene	0.641	---	0.0100	"	"	"	---	80	43-134%	---	---	
Chrysene	0.711	---	0.0100	"	"	"	---	89	50-124%	---	---	
Dibenz(a,h)anthracene	0.703	---	0.0100	"	"	"	---	88	45-134%	---	---	
Dibenzofuran	0.712	---	0.0100	"	"	"	---	89	44-120%	---	---	
Fluoranthene	0.712	---	0.0100	"	"	"	---	89	50-127%	---	---	
Fluorene	0.717	---	0.0100	"	"	"	---	90	43-125%	---	---	
Indeno(1,2,3-cd)pyrene	0.654	---	0.0100	"	"	"	---	82	45-133%	---	---	
1-Methylnaphthalene	0.689	---	0.0100	"	"	"	---	86	40-120%	---	---	
2-Methylnaphthalene	0.672	---	0.0100	"	"	"	---	84	38-122%	---	---	
Naphthalene	0.652	---	0.0100	"	"	"	---	81	35-123%	---	---	
Phenanthrene	0.654	---	0.0100	"	"	"	---	82	50-121%	---	---	
Pyrene	0.711	---	0.0100	"	"	"	---	89	47-127%	---	---	
Surr: 2-Fluorobiphenyl (Surr)		Recovery: 84 %		Limits: 44-120 %		Dilution: 1x						
p-Terphenyl-d14 (Surr)		92 %		54-127 %		"						

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:05

QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100607 - Total Solids (Dry Weight)							Soil					
Duplicate (6100607-DUP4)					Prepared: 10/14/16 18:04		Analyzed: 10/17/16 09:09					
QC Source Sample: DP-1(10.0.-11.0) (A6J0490-01)												
EPA 8000C												
% Solids	71.4	---	1.00	% by Weight	1	---	71.9	---	---	0.7	10%	

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

Batch 6100698 - Total Solids (Dry Weight)

Soil

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

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:05

SAMPLE PREPARATION INFORMATION

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Prep: EPA 3546 (Fuels)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6100627							
A6J0490-01	Soil	NWTPH-Dx	10/13/16 11:00	10/14/16 17:18	10.88g/5mL	10g/5mL	0.92
Batch: 6100695							
A6J0490-02	Soil	NWTPH-Dx	10/13/16 11:10	10/18/16 13:39	10.66g/5mL	10g/5mL	0.94

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6100637							
A6J0490-01	Soil	EPA 8270D (SIM)	10/13/16 11:00	10/17/16 07:28	11.03g/5mL	10g/5mL	0.91
A6J0490-02	Soil	EPA 8270D (SIM)	10/13/16 11:10	10/17/16 17:22	10.607g/5mL	10g/5mL	0.94

Percent Dry Weight

Prep: Total Solids (Dry Weight)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6100607							
A6J0490-01	Soil	EPA 8000C	10/13/16 11:00	10/14/16 18:04	1N/A/1N/A	1N/A/1N/A	NA
Batch: 6100698							
A6J0490-02	Soil	EPA 8000C	10/13/16 11:10	10/18/16 11:17	1N/A/1N/A	1N/A/1N/A	NA

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02
Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:05

Notes and Definitions

Qualifiers:

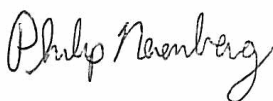
- F-11 The hydrocarbon pattern indicates possible weathered diesel, or a contribution from a related component.
- M-02 Due to matrix interference, this analyte cannot be accurately quantified. The reported result is estimated.
- R-02 The Reporting Limit for this analyte has been raised to account for interference from coeluting organic compounds present in the sample.

Notes and Conventions:

- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis. Results listed as 'wet' or without 'dry' designation are not dry weight corrected.
- RPD Relative Percent Difference
- MDL If MDL is not listed, data has been evaluated to the Method Reporting Limit only.
- WMSC Water Miscible Solvent Correction has been applied to Results and MRLs for volatiles soil samples per EPA 8000C.
- Batch
QC Unless specifically requested, this report contains only results for Batch QC derived from client samples included in this report. All analyses were performed with the appropriate Batch QC (including Sample Duplicates, Matrix Spikes and/or Matrix Spike Duplicates) in order to meet or exceed method and regulatory requirements. Any exceptions to this will be qualified in this report. Complete Batch QC results are available upon request. In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.
- Blank
Policy Apex assesses blank data for potential high bias down to a level equal to ½ the method reporting limit (MRL), except for conventional chemistry and HCID analyses which are assessed only to the MRL. Sample results flagged with a B or B-02 qualifier are potentially biased high if they are less than ten times the level found in the blank for inorganic analyses or less than five times the level found in the blank for organic analyses.

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

Results qualified as reported below the MRL may include a potential high bias if associated with a B or B-02 qualified blank. B and B-02 qualifications are not applied to J qualified results reported below the MRL.
- QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.
- *** Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).



GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:05

APEX LABS

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

Company: GeoDesign
Address: 15575 SW Sequoia Pkwy, STE 100, PDX
Sampled by: Nathan Fulton

CHAIN OF CUSTODY

Project Mgr: Jeremy Zimmer
Phone: 503-968-8787
Project Name: River Terrace Area 10
Lab # A0J0460
Email: JZimmer@geodesigninc.com

PO#

Project # Polygon-145-02

SAMPLE ID		LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	NWTPH-ICID	NWTPH-DS	NWTPH-GS	8260 VOCs Full List	8260 RBDN VOCs	8260 HVOCs	8260 BTEX VOCs	8270 SIM PAHs	8082 PCBs	600 TTO	RCRA Metals (8)	TCLP Metals (8)	Al, Sb, As, Ba, Be, Cd, Cr, Cu, Fe, Pb, Pt, Se, Ag, Na, Ti, V, Zn	TOTAL DISS TCLP	1200-COLS	1200-Z	
1	DP-1(10.0-11.0)		10/13/16	11:00	S	1	X																
2	DP-1(11.0-12.0)		11/1/16		I	1																	X
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							

ANALYSIS REQUEST

Special Instructions: Pricing as discussed with Jeremy Zimmer

RELINQUISHED BY:

Signature: Nathan Fulton
Printed Name: Nathan Fulton
Date: 10/13/16
Time: 12:40

RECEIVED BY:

Signature: [Signature]
Printed Name: [Name]
Date: [Date]
Time: [Time]

Apex Labs

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

Thursday, October 20, 2016

Jeremy Zimmer
GeoDesign, Inc.
15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

RE: River Terrace Area 10 / Polygon-145-02

Enclosed are the results of analyses for work order A6J0505, which was received by the laboratory on 10/14/2016 at 5:15:00PM.

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

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

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:13

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
DP-2(1.0-2.0)	A6J0505-01	Soil	10/14/16 09:50	10/14/16 17:15
DP-2(11.5-12.5)	A6J0505-02	Soil	10/14/16 09:55	10/14/16 17:15
DP-3(10.5-12.5)	A6J0505-04	Soil	10/14/16 10:30	10/14/16 17:15
DP-4(9.0-11.0)	A6J0505-06	Soil	10/14/16 11:35	10/14/16 17:15
DP-5(0.5-1.5)	A6J0505-07	Soil	10/14/16 12:20	10/14/16 17:15
DP-6(0.5-2.0)	A6J0505-09	Soil	10/14/16 12:55	10/14/16 17:15
DP-7(4.0-5.5)	A6J0505-11	Soil	10/14/16 13:50	10/14/16 17:15
DP-8(0.5-2.0)	A6J0505-13	Soil	10/14/16 14:31	10/14/16 17:15
DP-8(8.5-10.5)	A6J0505-14	Soil	10/14/16 14:40	10/14/16 17:15
DP-9(5.0-6.5)	A6J0505-15	Soil	10/14/16 15:15	10/14/16 17:15
DP-9(9.5-11.0)	A6J0505-16	Soil	10/14/16 15:25	10/14/16 17:15

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:13

ANALYTICAL SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
DP-2(1.0-2.0) (A6J0505-01RE1)			Matrix: Soil	Batch: 6100652				
Diesel	6640	---	223	mg/kg dry	10	10/18/16 11:51	NWTPH-Dx	
Oil	ND	---	445	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 102 %</i>		<i>Limits: 50-150 %</i>		"	"	<i>S-05</i>
DP-2(11.5-12.5) (A6J0505-02)			Matrix: Soil	Batch: 6100695				
Diesel	1690	---	25.0	mg/kg dry	1	10/18/16 18:34	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 98 %</i>		<i>Limits: 50-150 %</i>		"	"	
DP-5(0.5-1.5) (A6J0505-07)			Matrix: Soil	Batch: 6100652				
Diesel	ND	---	25.0	mg/kg dry	1	10/17/16 22:28	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 82 %</i>		<i>Limits: 50-150 %</i>		"	"	
DP-6(0.5-2.0) (A6J0505-09)			Matrix: Soil	Batch: 6100652				
Diesel	ND	---	25.0	mg/kg dry	1	10/17/16 22:48	NWTPH-Dx	
Oil	57.6	---	50.0	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 83 %</i>		<i>Limits: 50-150 %</i>		"	"	
DP-7(4.0-5.5) (A6J0505-11)			Matrix: Soil	Batch: 6100652				
Diesel	ND	---	25.0	mg/kg dry	1	10/17/16 23:29	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 78 %</i>		<i>Limits: 50-150 %</i>		"	"	
DP-8(0.5-2.0) (A6J0505-13)			Matrix: Soil	Batch: 6100695				
Diesel	ND	---	25.0	mg/kg dry	1	10/18/16 18:54	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 93 %</i>		<i>Limits: 50-150 %</i>		"	"	
DP-8(8.5-10.5) (A6J0505-14)			Matrix: Soil	Batch: 6100652				
Diesel	ND	---	27.1	mg/kg dry	1	10/17/16 23:49	NWTPH-Dx	
Oil	ND	---	54.2	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 83 %</i>		<i>Limits: 50-150 %</i>		"	"	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02
Project Manager: Jeremy Zimmer

Reported:
10/20/16 17:13

ANALYTICAL SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
DP-3(10.5-12.5) (A6J0505-04)			Matrix: Soil		Batch: 6100655			
Gasoline Range Organics	519	---	141	mg/kg dry	1000	10/17/16 15:28	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			Recovery: 104 %	Limits: 50-150 %	1	"	"	
1,4-Difluorobenzene (Sur)			108 %	Limits: 50-150 %	"	"	"	
DP-4(9.0-11.0) (A6J0505-06)			Matrix: Soil		Batch: 6100655			
Gasoline Range Organics	ND	---	8.23	mg/kg dry	50	10/17/16 15:54	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			Recovery: 105 %	Limits: 50-150 %	1	"	"	
1,4-Difluorobenzene (Sur)			110 %	Limits: 50-150 %	"	"	"	
DP-5(0.5-1.5) (A6J0505-07)			Matrix: Soil		Batch: 6100655			
Gasoline Range Organics	ND	---	5.96	mg/kg dry	50	10/17/16 16:48	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			Recovery: 108 %	Limits: 50-150 %	1	"	"	
1,4-Difluorobenzene (Sur)			113 %	Limits: 50-150 %	"	"	"	
DP-6(0.5-2.0) (A6J0505-09)			Matrix: Soil		Batch: 6100655			
Gasoline Range Organics	ND	---	6.12	mg/kg dry	50	10/17/16 17:15	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			Recovery: 109 %	Limits: 50-150 %	1	"	"	
1,4-Difluorobenzene (Sur)			113 %	Limits: 50-150 %	"	"	"	
DP-7(4.0-5.5) (A6J0505-11)			Matrix: Soil		Batch: 6100655			
Gasoline Range Organics	ND	---	6.87	mg/kg dry	50	10/17/16 17:42	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			Recovery: 110 %	Limits: 50-150 %	1	"	"	
1,4-Difluorobenzene (Sur)			113 %	Limits: 50-150 %	"	"	"	
DP-9(5.0-6.5) (A6J0505-15)			Matrix: Soil		Batch: 6100655			
Gasoline Range Organics	ND	---	6.10	mg/kg dry	50	10/17/16 18:08	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			Recovery: 113 %	Limits: 50-150 %	1	"	"	
1,4-Difluorobenzene (Sur)			119 %	Limits: 50-150 %	"	"	"	
DP-9(9.5-11.0) (A6J0505-16)			Matrix: Soil		Batch: 6100655			
Gasoline Range Organics	ND	---	8.44	mg/kg dry	50	10/17/16 18:35	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			Recovery: 112 %	Limits: 50-150 %	1	"	"	
1,4-Difluorobenzene (Sur)			118 %	Limits: 50-150 %	"	"	"	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:13

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
DP-3(10.5-12.5) (A6J0505-04)			Matrix: Soil		Batch: 6100655			
Acetone	ND	---	28.1	mg/kg dry	1000	10/17/16 15:28	5035/8260B	
Benzene	ND	---	0.281	"	"	"	"	
Bromobenzene	ND	---	0.703	"	"	"	"	
Bromochloromethane	ND	---	1.41	"	"	"	"	
Bromodichloromethane	ND	---	2.81	"	"	"	"	
Bromoform	ND	---	2.81	"	"	"	"	
Bromomethane	ND	---	14.1	"	"	"	"	
2-Butanone (MEK)	ND	---	14.1	"	"	"	"	
n-Butylbenzene	ND	---	1.41	"	"	"	"	
sec-Butylbenzene	ND	---	1.41	"	"	"	"	
tert-Butylbenzene	ND	---	1.41	"	"	"	"	
Carbon tetrachloride	ND	---	1.41	"	"	"	"	
Chlorobenzene	ND	---	0.703	"	"	"	"	
Chloroethane	ND	---	14.1	"	"	"	"	Q-31
Chloroform	ND	---	1.41	"	"	"	"	
Chloromethane	ND	---	7.03	"	"	"	"	
2-Chlorotoluene	ND	---	1.41	"	"	"	"	
4-Chlorotoluene	ND	---	1.41	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	7.03	"	"	"	"	
Dibromochloromethane	ND	---	2.81	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	1.41	"	"	"	"	
Dibromomethane	ND	---	1.41	"	"	"	"	
1,2-Dichlorobenzene	ND	---	0.703	"	"	"	"	
1,3-Dichlorobenzene	ND	---	0.703	"	"	"	"	
1,4-Dichlorobenzene	ND	---	0.703	"	"	"	"	
Dichlorodifluoromethane	ND	---	2.81	"	"	"	"	
1,1-Dichloroethane	ND	---	0.703	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.703	"	"	"	"	
1,1-Dichloroethene	ND	---	0.703	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	0.703	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	0.703	"	"	"	"	
1,2-Dichloropropane	ND	---	0.703	"	"	"	"	
1,3-Dichloropropane	ND	---	1.41	"	"	"	"	
2,2-Dichloropropane	ND	---	1.41	"	"	"	"	
1,1-Dichloropropene	ND	---	1.41	"	"	"	"	

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:13

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
DP-3(10.5-12.5) (A6J0505-04)			Matrix: Soil		Batch: 6100655			
cis-1,3-Dichloropropene	ND	---	1.41	mg/kg dry	1000	"	5035/8260B	
trans-1,3-Dichloropropene	ND	---	1.41	"	"	"	"	
Ethylbenzene	1.31	---	0.703	"	"	"	"	
Hexachlorobutadiene	ND	---	2.81	"	"	"	"	
2-Hexanone	ND	---	14.1	"	"	"	"	
Isopropylbenzene	ND	---	1.41	"	"	"	"	
4-Isopropyltoluene	ND	---	1.41	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	14.1	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	1.41	"	"	"	"	
Methylene chloride	ND	---	7.03	"	"	"	"	
Naphthalene	ND	---	2.81	"	"	"	"	
n-Propylbenzene	2.43	---	0.703	"	"	"	"	
Styrene	ND	---	1.41	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	0.703	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	1.41	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	0.703	"	"	"	"	
Toluene	ND	---	1.41	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	7.03	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	7.03	"	"	"	"	
1,1,1-Trichloroethane	ND	---	0.703	"	"	"	"	
1,1,2-Trichloroethane	ND	---	0.703	"	"	"	"	
Trichloroethene (TCE)	ND	---	0.703	"	"	"	"	
Trichlorofluoromethane	ND	---	2.81	"	"	"	"	
1,2,3-Trichloropropane	ND	---	1.41	"	"	"	"	
1,2,4-Trimethylbenzene	14.2	---	1.41	"	"	"	"	
1,3,5-Trimethylbenzene	5.71	---	1.41	"	"	"	"	
Vinyl chloride	ND	---	0.703	"	"	"	"	
m,p-Xylene	4.75	---	1.41	"	"	"	"	
o-Xylene	ND	---	0.703	"	"	"	"	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 106 %</i>		<i>Limits: 70-130 %</i>	1	"	"	
<i>Toluene-d8 (Surr)</i>		<i>101 %</i>		<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>		<i>94 %</i>		<i>Limits: 70-130 %</i>	"	"	"	

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:13

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
DP-4(9.0-11.0) (A6J0505-06)			Matrix: Soil		Batch: 6100655			
Acetone	ND	---	1.65	mg/kg dry	50	10/17/16 15:54	5035/8260B	
Benzene	ND	---	0.0165	"	"	"	"	
Bromobenzene	ND	---	0.0411	"	"	"	"	
Bromochloromethane	ND	---	0.0823	"	"	"	"	
Bromodichloromethane	ND	---	0.165	"	"	"	"	
Bromoform	ND	---	0.165	"	"	"	"	
Bromomethane	ND	---	0.823	"	"	"	"	
2-Butanone (MEK)	ND	---	0.823	"	"	"	"	
n-Butylbenzene	ND	---	0.0823	"	"	"	"	
sec-Butylbenzene	ND	---	0.0823	"	"	"	"	
tert-Butylbenzene	ND	---	0.0823	"	"	"	"	
Carbon tetrachloride	ND	---	0.0823	"	"	"	"	
Chlorobenzene	ND	---	0.0411	"	"	"	"	
Chloroethane	ND	---	0.823	"	"	"	"	Q-31
Chloroform	ND	---	0.0823	"	"	"	"	
Chloromethane	ND	---	0.411	"	"	"	"	
2-Chlorotoluene	ND	---	0.0823	"	"	"	"	
4-Chlorotoluene	ND	---	0.0823	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	0.411	"	"	"	"	
Dibromochloromethane	ND	---	0.165	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	0.0823	"	"	"	"	
Dibromomethane	ND	---	0.0823	"	"	"	"	
1,2-Dichlorobenzene	ND	---	0.0411	"	"	"	"	
1,3-Dichlorobenzene	ND	---	0.0411	"	"	"	"	
1,4-Dichlorobenzene	ND	---	0.0411	"	"	"	"	
Dichlorodifluoromethane	ND	---	0.165	"	"	"	"	
1,1-Dichloroethane	ND	---	0.0411	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.0411	"	"	"	"	
1,1-Dichloroethene	ND	---	0.0411	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	0.0411	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	0.0411	"	"	"	"	
1,2-Dichloropropane	ND	---	0.0411	"	"	"	"	
1,3-Dichloropropane	ND	---	0.0823	"	"	"	"	
2,2-Dichloropropane	ND	---	0.0823	"	"	"	"	
1,1-Dichloropropene	ND	---	0.0823	"	"	"	"	

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02
Project Manager: Jeremy Zimmer

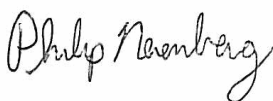
Reported:
10/20/16 17:13

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
DP-4(9.0-11.0) (A6J0505-06)			Matrix: Soil	Batch: 6100655				
cis-1,3-Dichloropropene	ND	---	0.0823	mg/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND	---	0.0823	"	"	"	"	
Ethylbenzene	ND	---	0.0411	"	"	"	"	
Hexachlorobutadiene	ND	---	0.165	"	"	"	"	
2-Hexanone	ND	---	0.823	"	"	"	"	
Isopropylbenzene	ND	---	0.0823	"	"	"	"	
4-Isopropyltoluene	ND	---	0.0823	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	0.823	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	0.0823	"	"	"	"	
Methylene chloride	ND	---	0.411	"	"	"	"	
Naphthalene	ND	---	0.165	"	"	"	"	
n-Propylbenzene	ND	---	0.0411	"	"	"	"	
Styrene	ND	---	0.0823	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	0.0411	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	0.0823	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	0.0411	"	"	"	"	
Toluene	ND	---	0.0823	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	0.411	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	0.411	"	"	"	"	
1,1,1-Trichloroethane	ND	---	0.0411	"	"	"	"	
1,1,2-Trichloroethane	ND	---	0.0411	"	"	"	"	
Trichloroethene (TCE)	ND	---	0.0411	"	"	"	"	
Trichlorofluoromethane	ND	---	0.165	"	"	"	"	
1,2,3-Trichloropropane	ND	---	0.0823	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	0.0823	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	0.0823	"	"	"	"	
Vinyl chloride	ND	---	0.0411	"	"	"	"	
m,p-Xylene	ND	---	0.0823	"	"	"	"	
o-Xylene	ND	---	0.0411	"	"	"	"	
Surrogate: 1,4-Difluorobenzene (Surr)		Recovery: 113 %		Limits: 70-130 %	1	"	"	
Toluene-d8 (Surr)		101 %		Limits: 70-130 %	"	"	"	
4-Bromofluorobenzene (Surr)		96 %		Limits: 70-130 %	"	"	"	

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:13

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
DP-5(0.5-1.5) (A6J0505-07)			Matrix: Soil		Batch: 6100655			
Acetone	ND	---	1.19	mg/kg dry	50	10/17/16 16:48	5035/8260B	
Benzene	ND	---	0.0119	"	"	"	"	
Bromobenzene	ND	---	0.0298	"	"	"	"	
Bromochloromethane	ND	---	0.0596	"	"	"	"	
Bromodichloromethane	ND	---	0.119	"	"	"	"	
Bromoform	ND	---	0.119	"	"	"	"	
Bromomethane	ND	---	0.596	"	"	"	"	
2-Butanone (MEK)	ND	---	0.596	"	"	"	"	
n-Butylbenzene	ND	---	0.0596	"	"	"	"	
sec-Butylbenzene	ND	---	0.0596	"	"	"	"	
tert-Butylbenzene	ND	---	0.0596	"	"	"	"	
Carbon tetrachloride	ND	---	0.0596	"	"	"	"	
Chlorobenzene	ND	---	0.0298	"	"	"	"	
Chloroethane	ND	---	0.596	"	"	"	"	Q-31
Chloroform	ND	---	0.0596	"	"	"	"	
Chloromethane	ND	---	0.298	"	"	"	"	
2-Chlorotoluene	ND	---	0.0596	"	"	"	"	
4-Chlorotoluene	ND	---	0.0596	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	0.298	"	"	"	"	
Dibromochloromethane	ND	---	0.119	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	0.0596	"	"	"	"	
Dibromomethane	ND	---	0.0596	"	"	"	"	
1,2-Dichlorobenzene	ND	---	0.0298	"	"	"	"	
1,3-Dichlorobenzene	ND	---	0.0298	"	"	"	"	
1,4-Dichlorobenzene	ND	---	0.0298	"	"	"	"	
Dichlorodifluoromethane	ND	---	0.119	"	"	"	"	
1,1-Dichloroethane	ND	---	0.0298	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.0298	"	"	"	"	
1,1-Dichloroethene	ND	---	0.0298	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	0.0298	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	0.0298	"	"	"	"	
1,2-Dichloropropane	ND	---	0.0298	"	"	"	"	
1,3-Dichloropropane	ND	---	0.0596	"	"	"	"	
2,2-Dichloropropane	ND	---	0.0596	"	"	"	"	
1,1-Dichloropropene	ND	---	0.0596	"	"	"	"	

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:13

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
DP-5(0.5-1.5) (A6J0505-07)			Matrix: Soil	Batch: 6100655				
cis-1,3-Dichloropropene	ND	---	0.0596	mg/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND	---	0.0596	"	"	"	"	
Ethylbenzene	ND	---	0.0298	"	"	"	"	
Hexachlorobutadiene	ND	---	0.119	"	"	"	"	
2-Hexanone	ND	---	0.596	"	"	"	"	
Isopropylbenzene	ND	---	0.0596	"	"	"	"	
4-Isopropyltoluene	ND	---	0.0596	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	0.596	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	0.0596	"	"	"	"	
Methylene chloride	ND	---	0.298	"	"	"	"	
Naphthalene	ND	---	0.119	"	"	"	"	
n-Propylbenzene	ND	---	0.0298	"	"	"	"	
Styrene	ND	---	0.0596	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	0.0298	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	0.0596	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	0.0298	"	"	"	"	
Toluene	ND	---	0.0596	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	0.298	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	0.298	"	"	"	"	
1,1,1-Trichloroethane	ND	---	0.0298	"	"	"	"	
1,1,2-Trichloroethane	ND	---	0.0298	"	"	"	"	
Trichloroethene (TCE)	ND	---	0.0298	"	"	"	"	
Trichlorofluoromethane	ND	---	0.119	"	"	"	"	
1,2,3-Trichloropropane	ND	---	0.0596	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	0.0596	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	0.0596	"	"	"	"	
Vinyl chloride	ND	---	0.0298	"	"	"	"	
m,p-Xylene	ND	---	0.0596	"	"	"	"	
o-Xylene	ND	---	0.0298	"	"	"	"	
Surrogate: 1,4-Difluorobenzene (Surr)		Recovery: 115 %		Limits: 70-130 %	1	"	"	
Toluene-d8 (Surr)		102 %		Limits: 70-130 %	"	"	"	
4-Bromofluorobenzene (Surr)		97 %		Limits: 70-130 %	"	"	"	

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:13

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
DP-6(0.5-2.0) (A6J0505-09)			Matrix: Soil	Batch: 6100655				
Acetone	ND	---	1.22	mg/kg dry	50	10/17/16 17:15	5035/8260B	
Benzene	ND	---	0.0122	"	"	"	"	
Bromobenzene	ND	---	0.0306	"	"	"	"	
Bromochloromethane	ND	---	0.0612	"	"	"	"	
Bromodichloromethane	ND	---	0.122	"	"	"	"	
Bromoform	ND	---	0.122	"	"	"	"	
Bromomethane	ND	---	0.612	"	"	"	"	
2-Butanone (MEK)	ND	---	0.612	"	"	"	"	
n-Butylbenzene	ND	---	0.0612	"	"	"	"	
sec-Butylbenzene	ND	---	0.0612	"	"	"	"	
tert-Butylbenzene	ND	---	0.0612	"	"	"	"	
Carbon tetrachloride	ND	---	0.0612	"	"	"	"	
Chlorobenzene	ND	---	0.0306	"	"	"	"	
Chloroethane	ND	---	0.612	"	"	"	"	Q-31
Chloroform	ND	---	0.0612	"	"	"	"	
Chloromethane	ND	---	0.306	"	"	"	"	
2-Chlorotoluene	ND	---	0.0612	"	"	"	"	
4-Chlorotoluene	ND	---	0.0612	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	0.306	"	"	"	"	
Dibromochloromethane	ND	---	0.122	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	0.0612	"	"	"	"	
Dibromomethane	ND	---	0.0612	"	"	"	"	
1,2-Dichlorobenzene	ND	---	0.0306	"	"	"	"	
1,3-Dichlorobenzene	ND	---	0.0306	"	"	"	"	
1,4-Dichlorobenzene	ND	---	0.0306	"	"	"	"	
Dichlorodifluoromethane	ND	---	0.122	"	"	"	"	
1,1-Dichloroethane	ND	---	0.0306	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.0306	"	"	"	"	
1,1-Dichloroethene	ND	---	0.0306	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	0.0306	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	0.0306	"	"	"	"	
1,2-Dichloropropane	ND	---	0.0306	"	"	"	"	
1,3-Dichloropropane	ND	---	0.0612	"	"	"	"	
2,2-Dichloropropane	ND	---	0.0612	"	"	"	"	
1,1-Dichloropropene	ND	---	0.0612	"	"	"	"	

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:13

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
DP-6(0.5-2.0) (A6J0505-09)			Matrix: Soil		Batch: 6100655			
cis-1,3-Dichloropropene	ND	---	0.0612	mg/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND	---	0.0612	"	"	"	"	
Ethylbenzene	ND	---	0.0306	"	"	"	"	
Hexachlorobutadiene	ND	---	0.122	"	"	"	"	
2-Hexanone	ND	---	0.612	"	"	"	"	
Isopropylbenzene	ND	---	0.0612	"	"	"	"	
4-Isopropyltoluene	ND	---	0.0612	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	0.612	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	0.0612	"	"	"	"	
Methylene chloride	ND	---	0.306	"	"	"	"	
Naphthalene	ND	---	0.122	"	"	"	"	
n-Propylbenzene	ND	---	0.0306	"	"	"	"	
Styrene	ND	---	0.0612	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	0.0306	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	0.0612	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	0.0306	"	"	"	"	
Toluene	ND	---	0.0612	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	0.306	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	0.306	"	"	"	"	
1,1,1-Trichloroethane	ND	---	0.0306	"	"	"	"	
1,1,2-Trichloroethane	ND	---	0.0306	"	"	"	"	
Trichloroethene (TCE)	ND	---	0.0306	"	"	"	"	
Trichlorofluoromethane	ND	---	0.122	"	"	"	"	
1,2,3-Trichloropropane	ND	---	0.0612	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	0.0612	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	0.0612	"	"	"	"	
Vinyl chloride	ND	---	0.0306	"	"	"	"	
m,p-Xylene	ND	---	0.0612	"	"	"	"	
o-Xylene	ND	---	0.0306	"	"	"	"	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>			<i>Recovery: 116 %</i>	<i>Limits: 70-130 %</i>	1	"	"	
<i>Toluene-d8 (Surr)</i>			<i>103 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>96 %</i>	<i>Limits: 70-130 %</i>	"	"	"	

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:13

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
DP-7(4.0-5.5) (A6J0505-11)			Matrix: Soil		Batch: 6100655			
Acetone	ND	---	1.37	mg/kg dry	50	10/17/16 17:42	5035/8260B	
Benzene	ND	---	0.0137	"	"	"	"	
Bromobenzene	ND	---	0.0344	"	"	"	"	
Bromochloromethane	ND	---	0.0687	"	"	"	"	
Bromodichloromethane	ND	---	0.137	"	"	"	"	
Bromoform	ND	---	0.137	"	"	"	"	
Bromomethane	ND	---	0.687	"	"	"	"	
2-Butanone (MEK)	ND	---	0.687	"	"	"	"	
n-Butylbenzene	ND	---	0.0687	"	"	"	"	
sec-Butylbenzene	ND	---	0.0687	"	"	"	"	
tert-Butylbenzene	ND	---	0.0687	"	"	"	"	
Carbon tetrachloride	ND	---	0.0687	"	"	"	"	
Chlorobenzene	ND	---	0.0344	"	"	"	"	
Chloroethane	ND	---	0.687	"	"	"	"	Q-31
Chloroform	ND	---	0.0687	"	"	"	"	
Chloromethane	ND	---	0.344	"	"	"	"	
2-Chlorotoluene	ND	---	0.0687	"	"	"	"	
4-Chlorotoluene	ND	---	0.0687	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	0.344	"	"	"	"	
Dibromochloromethane	ND	---	0.137	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	0.0687	"	"	"	"	
Dibromomethane	ND	---	0.0687	"	"	"	"	
1,2-Dichlorobenzene	ND	---	0.0344	"	"	"	"	
1,3-Dichlorobenzene	ND	---	0.0344	"	"	"	"	
1,4-Dichlorobenzene	ND	---	0.0344	"	"	"	"	
Dichlorodifluoromethane	ND	---	0.137	"	"	"	"	
1,1-Dichloroethane	ND	---	0.0344	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.0344	"	"	"	"	
1,1-Dichloroethene	ND	---	0.0344	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	0.0344	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	0.0344	"	"	"	"	
1,2-Dichloropropane	ND	---	0.0344	"	"	"	"	
1,3-Dichloropropane	ND	---	0.0687	"	"	"	"	
2,2-Dichloropropane	ND	---	0.0687	"	"	"	"	
1,1-Dichloropropene	ND	---	0.0687	"	"	"	"	

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:13

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
DP-7(4.0-5.5) (A6J0505-11)			Matrix: Soil	Batch: 6100655				
cis-1,3-Dichloropropene	ND	---	0.0687	mg/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND	---	0.0687	"	"	"	"	
Ethylbenzene	ND	---	0.0344	"	"	"	"	
Hexachlorobutadiene	ND	---	0.137	"	"	"	"	
2-Hexanone	ND	---	0.687	"	"	"	"	
Isopropylbenzene	ND	---	0.0687	"	"	"	"	
4-Isopropyltoluene	ND	---	0.0687	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	0.687	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	0.0687	"	"	"	"	
Methylene chloride	ND	---	0.344	"	"	"	"	
Naphthalene	ND	---	0.137	"	"	"	"	
n-Propylbenzene	ND	---	0.0344	"	"	"	"	
Styrene	ND	---	0.0687	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	0.0344	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	0.0687	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	0.0344	"	"	"	"	
Toluene	ND	---	0.0687	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	0.344	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	0.344	"	"	"	"	
1,1,1-Trichloroethane	ND	---	0.0344	"	"	"	"	
1,1,2-Trichloroethane	ND	---	0.0344	"	"	"	"	
Trichloroethene (TCE)	ND	---	0.0344	"	"	"	"	
Trichlorofluoromethane	ND	---	0.137	"	"	"	"	
1,2,3-Trichloropropane	ND	---	0.0687	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	0.0687	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	0.0687	"	"	"	"	
Vinyl chloride	ND	---	0.0344	"	"	"	"	
m,p-Xylene	ND	---	0.0687	"	"	"	"	
o-Xylene	ND	---	0.0344	"	"	"	"	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>			<i>Recovery: 115 %</i>	<i>Limits: 70-130 %</i>	1	"	"	
<i>Toluene-d8 (Surr)</i>			<i>101 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>95 %</i>	<i>Limits: 70-130 %</i>	"	"	"	

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:13

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
DP-9(5.0-6.5) (A6J0505-15)			Matrix: Soil		Batch: 6100655			
Acetone	ND	---	1.22	mg/kg dry	50	10/17/16 18:08	5035/8260B	
Benzene	ND	---	0.0122	"	"	"	"	
Bromobenzene	ND	---	0.0305	"	"	"	"	
Bromochloromethane	ND	---	0.0610	"	"	"	"	
Bromodichloromethane	ND	---	0.122	"	"	"	"	
Bromoform	ND	---	0.122	"	"	"	"	
Bromomethane	ND	---	0.610	"	"	"	"	
2-Butanone (MEK)	ND	---	0.610	"	"	"	"	
n-Butylbenzene	ND	---	0.0610	"	"	"	"	
sec-Butylbenzene	ND	---	0.0610	"	"	"	"	
tert-Butylbenzene	ND	---	0.0610	"	"	"	"	
Carbon tetrachloride	ND	---	0.0610	"	"	"	"	
Chlorobenzene	ND	---	0.0305	"	"	"	"	
Chloroethane	ND	---	0.610	"	"	"	"	Q-31
Chloroform	ND	---	0.0610	"	"	"	"	
Chloromethane	ND	---	0.305	"	"	"	"	
2-Chlorotoluene	ND	---	0.0610	"	"	"	"	
4-Chlorotoluene	ND	---	0.0610	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	0.305	"	"	"	"	
Dibromochloromethane	ND	---	0.122	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	0.0610	"	"	"	"	
Dibromomethane	ND	---	0.0610	"	"	"	"	
1,2-Dichlorobenzene	ND	---	0.0305	"	"	"	"	
1,3-Dichlorobenzene	ND	---	0.0305	"	"	"	"	
1,4-Dichlorobenzene	ND	---	0.0305	"	"	"	"	
Dichlorodifluoromethane	ND	---	0.122	"	"	"	"	
1,1-Dichloroethane	ND	---	0.0305	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.0305	"	"	"	"	
1,1-Dichloroethene	ND	---	0.0305	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	0.0305	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	0.0305	"	"	"	"	
1,2-Dichloropropane	ND	---	0.0305	"	"	"	"	
1,3-Dichloropropane	ND	---	0.0610	"	"	"	"	
2,2-Dichloropropane	ND	---	0.0610	"	"	"	"	
1,1-Dichloropropene	ND	---	0.0610	"	"	"	"	

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

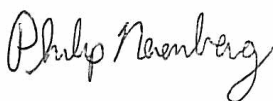
10/20/16 17:13

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
DP-9(5.0-6.5) (A6J0505-15)			Matrix: Soil		Batch: 6100655			
cis-1,3-Dichloropropene	ND	---	0.0610	mg/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND	---	0.0610	"	"	"	"	
Ethylbenzene	ND	---	0.0305	"	"	"	"	
Hexachlorobutadiene	ND	---	0.122	"	"	"	"	
2-Hexanone	ND	---	0.610	"	"	"	"	
Isopropylbenzene	ND	---	0.0610	"	"	"	"	
4-Isopropyltoluene	ND	---	0.0610	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	0.610	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	0.0610	"	"	"	"	
Methylene chloride	ND	---	0.305	"	"	"	"	
Naphthalene	ND	---	0.122	"	"	"	"	
n-Propylbenzene	ND	---	0.0305	"	"	"	"	
Styrene	ND	---	0.0610	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	0.0305	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	0.0610	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	0.0305	"	"	"	"	
Toluene	ND	---	0.0610	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	0.305	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	0.305	"	"	"	"	
1,1,1-Trichloroethane	ND	---	0.0305	"	"	"	"	
1,1,2-Trichloroethane	ND	---	0.0305	"	"	"	"	
Trichloroethene (TCE)	ND	---	0.0305	"	"	"	"	
Trichlorofluoromethane	ND	---	0.122	"	"	"	"	
1,2,3-Trichloropropane	ND	---	0.0610	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	0.0610	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	0.0610	"	"	"	"	
Vinyl chloride	ND	---	0.0305	"	"	"	"	
m,p-Xylene	ND	---	0.0610	"	"	"	"	
o-Xylene	ND	---	0.0305	"	"	"	"	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>			<i>Recovery: 120 %</i>	<i>Limits: 70-130 %</i>	1	"	"	
<i>Toluene-d8 (Surr)</i>			<i>101 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>97 %</i>	<i>Limits: 70-130 %</i>	"	"	"	

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:13

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
DP-9(9.5-11.0) (A6J0505-16)			Matrix: Soil		Batch: 6100655			
Acetone	ND	---	1.69	mg/kg dry	50	10/17/16 18:35	5035/8260B	
Benzene	ND	---	0.0169	"	"	"	"	
Bromobenzene	ND	---	0.0422	"	"	"	"	
Bromochloromethane	ND	---	0.0844	"	"	"	"	
Bromodichloromethane	ND	---	0.169	"	"	"	"	
Bromoform	ND	---	0.169	"	"	"	"	
Bromomethane	ND	---	0.844	"	"	"	"	
2-Butanone (MEK)	ND	---	0.844	"	"	"	"	
n-Butylbenzene	ND	---	0.0844	"	"	"	"	
sec-Butylbenzene	ND	---	0.0844	"	"	"	"	
tert-Butylbenzene	ND	---	0.0844	"	"	"	"	
Carbon tetrachloride	ND	---	0.0844	"	"	"	"	
Chlorobenzene	ND	---	0.0422	"	"	"	"	
Chloroethane	ND	---	0.844	"	"	"	"	Q-31
Chloroform	ND	---	0.0844	"	"	"	"	
Chloromethane	ND	---	0.422	"	"	"	"	
2-Chlorotoluene	ND	---	0.0844	"	"	"	"	
4-Chlorotoluene	ND	---	0.0844	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	0.422	"	"	"	"	
Dibromochloromethane	ND	---	0.169	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	0.0844	"	"	"	"	
Dibromomethane	ND	---	0.0844	"	"	"	"	
1,2-Dichlorobenzene	ND	---	0.0422	"	"	"	"	
1,3-Dichlorobenzene	ND	---	0.0422	"	"	"	"	
1,4-Dichlorobenzene	ND	---	0.0422	"	"	"	"	
Dichlorodifluoromethane	ND	---	0.169	"	"	"	"	
1,1-Dichloroethane	ND	---	0.0422	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.0422	"	"	"	"	
1,1-Dichloroethene	ND	---	0.0422	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	0.0422	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	0.0422	"	"	"	"	
1,2-Dichloropropane	ND	---	0.0422	"	"	"	"	
1,3-Dichloropropane	ND	---	0.0844	"	"	"	"	
2,2-Dichloropropane	ND	---	0.0844	"	"	"	"	
1,1-Dichloropropene	ND	---	0.0844	"	"	"	"	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:13

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
DP-9(9.5-11.0) (A6J0505-16)			Matrix: Soil	Batch: 6100655				
cis-1,3-Dichloropropene	ND	---	0.0844	mg/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND	---	0.0844	"	"	"	"	
Ethylbenzene	ND	---	0.0422	"	"	"	"	
Hexachlorobutadiene	ND	---	0.169	"	"	"	"	
2-Hexanone	ND	---	0.844	"	"	"	"	
Isopropylbenzene	ND	---	0.0844	"	"	"	"	
4-Isopropyltoluene	ND	---	0.0844	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	0.844	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	0.0844	"	"	"	"	
Methylene chloride	ND	---	0.422	"	"	"	"	
Naphthalene	ND	---	0.169	"	"	"	"	
n-Propylbenzene	ND	---	0.0422	"	"	"	"	
Styrene	ND	---	0.0844	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	0.0422	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	0.0844	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	0.0422	"	"	"	"	
Toluene	ND	---	0.0844	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	0.422	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	0.422	"	"	"	"	
1,1,1-Trichloroethane	ND	---	0.0422	"	"	"	"	
1,1,2-Trichloroethane	ND	---	0.0422	"	"	"	"	
Trichloroethene (TCE)	ND	---	0.0422	"	"	"	"	
Trichlorofluoromethane	ND	---	0.169	"	"	"	"	
1,2,3-Trichloropropane	ND	---	0.0844	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	0.0844	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	0.0844	"	"	"	"	
Vinyl chloride	ND	---	0.0422	"	"	"	"	
m,p-Xylene	ND	---	0.0844	"	"	"	"	
o-Xylene	ND	---	0.0422	"	"	"	"	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>			<i>Recovery: 119 %</i>	<i>Limits: 70-130 %</i>	1	"	"	
<i>Toluene-d8 (Surr)</i>			<i>102 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>95 %</i>	<i>Limits: 70-130 %</i>	"	"	"	

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

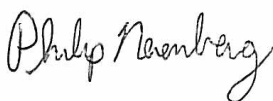
10/20/16 17:13

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
DP-5(0.5-1.5) (A6J0505-07)			Matrix: Soil		Batch: 6100636			C-07
Aroclor 1016	ND	---	0.0103	mg/kg dry	1	10/17/16 19:54	EPA 8082A	
Aroclor 1221	ND	---	0.0103	"	"	"	"	
Aroclor 1232	ND	---	0.0103	"	"	"	"	
Aroclor 1242	ND	---	0.0103	"	"	"	"	
Aroclor 1248	ND	---	0.0103	"	"	"	"	
Aroclor 1254	ND	---	0.0103	"	"	"	"	
Aroclor 1260	ND	---	0.0103	"	"	"	"	
<i>Surrogate: Decachlorobiphenyl (Surr)</i>			<i>Recovery: 96 %</i>	<i>Limits: 72-126 %</i>	"	"	"	
DP-6(0.5-2.0) (A6J0505-09)			Matrix: Soil		Batch: 6100636			C-07
Aroclor 1016	ND	---	0.0113	mg/kg dry	1	10/17/16 21:05	EPA 8082A	
Aroclor 1221	ND	---	0.0113	"	"	"	"	
Aroclor 1232	ND	---	0.0113	"	"	"	"	
Aroclor 1242	ND	---	0.0113	"	"	"	"	
Aroclor 1248	ND	---	0.0113	"	"	"	"	
Aroclor 1254	ND	---	0.0113	"	"	"	"	
Aroclor 1260	ND	---	0.0113	"	"	"	"	
<i>Surrogate: Decachlorobiphenyl (Surr)</i>			<i>Recovery: 104 %</i>	<i>Limits: 72-126 %</i>	"	"	"	
DP-7(4.0-5.5) (A6J0505-11)			Matrix: Soil		Batch: 6100636			C-07
Aroclor 1016	ND	---	0.0110	mg/kg dry	1	10/17/16 21:40	EPA 8082A	
Aroclor 1221	ND	---	0.0110	"	"	"	"	
Aroclor 1232	ND	---	0.0110	"	"	"	"	
Aroclor 1242	ND	---	0.0110	"	"	"	"	
Aroclor 1248	ND	---	0.0110	"	"	"	"	
Aroclor 1254	ND	---	0.0110	"	"	"	"	
Aroclor 1260	ND	---	0.0110	"	"	"	"	
<i>Surrogate: Decachlorobiphenyl (Surr)</i>			<i>Recovery: 99 %</i>	<i>Limits: 72-126 %</i>	"	"	"	

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:13

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
DP-2(1.0-2.0) (A6J0505-01)			Matrix: Soil		Batch: 6100637			
Acenaphthene	ND	---	0.145	mg/kg dry	1	10/17/16 15:27	EPA 8270D (SIM)	R-02
Acenaphthylene	ND	---	0.0644	"	"	"	"	R-02
Anthracene	ND	---	0.0488	"	"	"	"	R-02
Benz(a)anthracene	ND	---	0.0114	"	"	"	"	R-02
Benzo(a)pyrene	ND	---	0.0104	"	"	"	"	
Benzo(b)fluoranthene	ND	---	0.0104	"	"	"	"	
Benzo(k)fluoranthene	ND	---	0.0104	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	0.0104	"	"	"	"	
Chrysene	ND	---	0.0135	"	"	"	"	R-02
Dibenz(a,h)anthracene	ND	---	0.0104	"	"	"	"	
Dibenzofuran	0.329	---	0.0104	"	"	"	"	
Fluoranthene	ND	---	0.0104	"	"	"	"	
Fluorene	ND	---	0.302	"	"	"	"	R-02
Indeno(1,2,3-cd)pyrene	ND	---	0.0104	"	"	"	"	
1-Methylnaphthalene	1.59	---	0.0104	"	"	"	"	
2-Methylnaphthalene	2.68	---	0.0104	"	"	"	"	
Naphthalene	ND	---	1.35	"	"	"	"	R-02
Phenanthrene	0.383	---	0.0104	"	"	"	"	
Pyrene	0.151	---	0.0104	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 58 %</i>	<i>Limits: 44-120 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>			<i>79 %</i>	<i>Limits: 54-127 %</i>	"	"	"	

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:13

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
DP-2(11.5-12.5) (A6J0505-02)			Matrix: Soil	Batch: 6100637				
Acenaphthene	ND	---	0.153	mg/kg dry	1	10/18/16 15:57	EPA 8270D (SIM)	R-02
Acenaphthylene	ND	---	0.0508	"	"	"	"	R-02
Anthracene	ND	---	0.0394	"	"	"	"	R-02
Benz(a)anthracene	0.0127	---	0.0127	"	"	"	"	
Benzo(a)pyrene	ND	---	0.0127	"	"	"	"	
Benzo(b)fluoranthene	ND	---	0.0127	"	"	"	"	
Benzo(k)fluoranthene	ND	---	0.0127	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	0.0127	"	"	"	"	
Chrysene	ND	---	0.0153	"	"	"	"	R-02
Dibenz(a,h)anthracene	ND	---	0.0127	"	"	"	"	
Dibenzofuran	ND	---	0.216	"	"	"	"	R-02
Fluoranthene	0.0231	---	0.0127	"	"	"	"	
Fluorene	0.404	---	0.0127	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	0.0127	"	"	"	"	
1-Methylnaphthalene	1.49	---	0.0127	"	"	"	"	
2-Methylnaphthalene	1.16	---	0.0127	"	"	"	"	
Naphthalene	0.391	---	0.0127	"	"	"	"	M-02
Phenanthrene	0.840	---	0.0127	"	"	"	"	
Pyrene	0.0427	---	0.0127	"	"	"	"	M-02
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 84 %</i>	<i>Limits: 44-120 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>			<i>87 %</i>	<i>Limits: 54-127 %</i>	"	"	"	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:13

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
DP-5(0.5-1.5) (A6J0505-07)			Matrix: Soil	Batch: 6100637				
Acenaphthene	ND	---	0.00973	mg/kg dry	1	10/17/16 15:53	EPA 8270D (SIM)	
Acenaphthylene	ND	---	0.00973	"	"	"	"	
Anthracene	ND	---	0.00973	"	"	"	"	
Benz(a)anthracene	ND	---	0.00973	"	"	"	"	
Benzo(a)pyrene	ND	---	0.00973	"	"	"	"	
Benzo(b)fluoranthene	ND	---	0.00973	"	"	"	"	
Benzo(k)fluoranthene	ND	---	0.00973	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	0.00973	"	"	"	"	
Chrysene	ND	---	0.00973	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.00973	"	"	"	"	
Dibenzofuran	ND	---	0.00973	"	"	"	"	
Fluoranthene	ND	---	0.00973	"	"	"	"	
Fluorene	ND	---	0.00973	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	0.00973	"	"	"	"	
1-Methylnaphthalene	ND	---	0.00973	"	"	"	"	
2-Methylnaphthalene	ND	---	0.00973	"	"	"	"	
Naphthalene	ND	---	0.00973	"	"	"	"	
Phenanthrene	ND	---	0.00973	"	"	"	"	
Pyrene	ND	---	0.00973	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 80 %</i>	<i>Limits: 44-120 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>			<i>86 %</i>	<i>Limits: 54-127 %</i>	"	"	"	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:13

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
DP-6(0.5-2.0) (A6J0505-09)			Matrix: Soil	Batch: 6100637				
Acenaphthene	ND	---	0.0114	mg/kg dry	1	10/17/16 16:20	EPA 8270D (SIM)	
Acenaphthylene	ND	---	0.0114	"	"	"	"	
Anthracene	ND	---	0.0114	"	"	"	"	
Benz(a)anthracene	ND	---	0.0114	"	"	"	"	
Benzo(a)pyrene	ND	---	0.0114	"	"	"	"	
Benzo(b)fluoranthene	ND	---	0.0114	"	"	"	"	
Benzo(k)fluoranthene	ND	---	0.0114	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	0.0114	"	"	"	"	
Chrysene	ND	---	0.0126	"	"	"	"	R-02
Dibenz(a,h)anthracene	ND	---	0.0114	"	"	"	"	
Dibenzofuran	ND	---	0.0114	"	"	"	"	
Fluoranthene	ND	---	0.0114	"	"	"	"	
Fluorene	ND	---	0.0114	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	0.0114	"	"	"	"	
1-Methylnaphthalene	ND	---	0.0114	"	"	"	"	
2-Methylnaphthalene	ND	---	0.0114	"	"	"	"	
Naphthalene	ND	---	0.0114	"	"	"	"	
Phenanthrene	ND	---	0.0114	"	"	"	"	
Pyrene	ND	---	0.0114	"	"	"	"	
Surrogate: 2-Fluorobiphenyl (Surr)			Recovery: 81 %	Limits: 44-120 %	"	"	"	
p-Terphenyl-d14 (Surr)			85 %	Limits: 54-127 %	"	"	"	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:13

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
DP-7(4.0-5.5) (A6J0505-11)			Matrix: Soil	Batch: 6100637				
Acenaphthene	ND	---	0.0121	mg/kg dry	1	10/17/16 16:45	EPA 8270D (SIM)	
Acenaphthylene	ND	---	0.0121	"	"	"	"	
Anthracene	ND	---	0.0121	"	"	"	"	
Benz(a)anthracene	ND	---	0.0121	"	"	"	"	
Benzo(a)pyrene	ND	---	0.0121	"	"	"	"	
Benzo(b)fluoranthene	ND	---	0.0121	"	"	"	"	
Benzo(k)fluoranthene	ND	---	0.0121	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	0.0121	"	"	"	"	
Chrysene	ND	---	0.0121	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.0121	"	"	"	"	
Dibenzofuran	ND	---	0.0121	"	"	"	"	
Fluoranthene	ND	---	0.0121	"	"	"	"	
Fluorene	ND	---	0.0121	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	0.0121	"	"	"	"	
1-Methylnaphthalene	ND	---	0.0121	"	"	"	"	
2-Methylnaphthalene	ND	---	0.0121	"	"	"	"	
Naphthalene	ND	---	0.0121	"	"	"	"	
Phenanthrene	ND	---	0.0121	"	"	"	"	
Pyrene	ND	---	0.0121	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 90 %</i>	<i>Limits: 44-120 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>			<i>96 %</i>	<i>Limits: 54-127 %</i>	"	"	"	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:13

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
DP-8(0.5-2.0) (A6J0505-13)			Matrix: Soil		Batch: 6100637			
Acenaphthene	ND	---	0.0110	mg/kg dry	1	10/18/16 16:23	EPA 8270D (SIM)	
Acenaphthylene	ND	---	0.0110	"	"	"	"	
Anthracene	ND	---	0.0110	"	"	"	"	
Benz(a)anthracene	ND	---	0.0110	"	"	"	"	
Benzo(a)pyrene	ND	---	0.0110	"	"	"	"	
Benzo(b)fluoranthene	ND	---	0.0110	"	"	"	"	
Benzo(k)fluoranthene	ND	---	0.0110	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	0.0110	"	"	"	"	
Chrysene	ND	---	0.0110	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.0110	"	"	"	"	
Dibenzofuran	ND	---	0.0110	"	"	"	"	
Fluoranthene	ND	---	0.0110	"	"	"	"	
Fluorene	ND	---	0.0110	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	0.0110	"	"	"	"	
1-Methylnaphthalene	ND	---	0.0110	"	"	"	"	
2-Methylnaphthalene	ND	---	0.0110	"	"	"	"	
Naphthalene	ND	---	0.0110	"	"	"	"	
Phenanthrene	ND	---	0.0110	"	"	"	"	
Pyrene	ND	---	0.0110	"	"	"	"	
Surrogate: 2-Fluorobiphenyl (Surr)			Recovery: 91 %	Limits: 44-120 %	"	"	"	
p-Terphenyl-d14 (Surr)			92 %	Limits: 54-127 %	"	"	"	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:13

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
DP-8(8.5-10.5) (A6J0505-14)			Matrix: Soil		Batch: 6100637			
Acenaphthene	ND	---	0.0132	mg/kg dry	1	10/17/16 17:11	EPA 8270D (SIM)	
Acenaphthylene	ND	---	0.0132	"	"	"	"	
Anthracene	ND	---	0.0132	"	"	"	"	
Benz(a)anthracene	ND	---	0.0132	"	"	"	"	
Benzo(a)pyrene	ND	---	0.0132	"	"	"	"	
Benzo(b)fluoranthene	ND	---	0.0132	"	"	"	"	
Benzo(k)fluoranthene	ND	---	0.0132	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	0.0132	"	"	"	"	
Chrysene	ND	---	0.0132	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.0132	"	"	"	"	
Dibenzofuran	ND	---	0.0132	"	"	"	"	
Fluoranthene	ND	---	0.0132	"	"	"	"	
Fluorene	ND	---	0.0132	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	0.0132	"	"	"	"	
1-Methylnaphthalene	ND	---	0.0132	"	"	"	"	
2-Methylnaphthalene	ND	---	0.0132	"	"	"	"	
Naphthalene	ND	---	0.0132	"	"	"	"	
Phenanthrene	ND	---	0.0132	"	"	"	"	
Pyrene	ND	---	0.0132	"	"	"	"	
Surrogate: 2-Fluorobiphenyl (Surr)			Recovery: 81 %	Limits: 44-120 %	"	"	"	
p-Terphenyl-d14 (Surr)			86 %	Limits: 54-127 %	"	"	"	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:13

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
DP-3(10.5-12.5) (A6J0505-04)			Matrix: Soil					
Batch: 6100676								
Lead	11.4	---	0.251	mg/kg dry	10	10/18/16 00:19	EPA 6020A	
DP-4(9.0-11.0) (A6J0505-06)			Matrix: Soil					
Batch: 6100676								
Lead	7.83	---	0.297	mg/kg dry	10	10/18/16 00:22	EPA 6020A	
DP-5(0.5-1.5) (A6J0505-07)			Matrix: Soil					
Batch: 6100676								
Arsenic	3.86	---	1.19	mg/kg dry	10	10/18/16 00:25	EPA 6020A	
Barium	225	---	1.19	"	"	"	"	
Cadmium	0.320	---	0.237	"	"	"	"	
Chromium	23.9	---	1.19	"	"	"	"	
Lead	20.8	---	0.237	"	"	"	"	
Mercury	ND	---	0.0950	"	"	"	"	
Selenium	ND	---	2.37	"	"	"	"	
Silver	ND	---	0.237	"	"	"	"	
DP-6(0.5-2.0) (A6J0505-09)			Matrix: Soil					
Batch: 6100676								
Arsenic	2.70	---	1.21	mg/kg dry	10	10/18/16 00:28	EPA 6020A	
Barium	267	---	1.21	"	"	"	"	
Cadmium	0.388	---	0.243	"	"	"	"	
Chromium	19.1	---	1.21	"	"	"	"	
Lead	44.3	---	0.243	"	"	"	"	
Mercury	ND	---	0.0970	"	"	"	"	
Selenium	ND	---	2.43	"	"	"	"	
Silver	ND	---	0.243	"	"	"	"	
DP-7(4.0-5.5) (A6J0505-11)			Matrix: Soil					
Batch: 6100676								
Arsenic	4.15	---	1.32	mg/kg dry	10	10/18/16 00:31	EPA 6020A	
Barium	130	---	1.32	"	"	"	"	
Cadmium	ND	---	0.264	"	"	"	"	
Chromium	25.5	---	1.32	"	"	"	"	
Lead	9.80	---	0.264	"	"	"	"	
Mercury	ND	---	0.106	"	"	"	"	
Selenium	ND	---	2.64	"	"	"	"	
Silver	ND	---	0.264	"	"	"	"	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:13

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
DP-9(5.0-6.5) (A6J0505-15)			Matrix: Soil					
Batch: 6100676								
Lead	9.36	---	0.264	mg/kg dry	10	10/18/16 00:34	EPA 6020A	
DP-9(9.5-11.0) (A6J0505-16)			Matrix: Soil					
Batch: 6100676								
Lead	7.31	---	0.294	mg/kg dry	10	10/18/16 00:37	EPA 6020A	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:13

ANALYTICAL SAMPLE RESULTS

Percent Dry Weight								
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
DP-2(1.0-2.0) (A6J0505-01)			Matrix: Soil		Batch: 6100661			
% Solids	84.7	---	1.00	% by Weight	1	10/18/16 09:22	EPA 8000C	
DP-2(11.5-12.5) (A6J0505-02)			Matrix: Soil		Batch: 6100698			
% Solids	75.1	---	1.00	% by Weight	1	10/19/16 09:42	EPA 8000C	
DP-3(10.5-12.5) (A6J0505-04)			Matrix: Soil		Batch: 6100661			
% Solids	77.1	---	1.00	% by Weight	1	10/18/16 09:22	EPA 8000C	
DP-4(9.0-11.0) (A6J0505-06)			Matrix: Soil		Batch: 6100661			
% Solids	70.8	---	1.00	% by Weight	1	10/18/16 09:22	EPA 8000C	
DP-5(0.5-1.5) (A6J0505-07)			Matrix: Soil		Batch: 6100661			
% Solids	88.5	---	1.00	% by Weight	1	10/18/16 09:22	EPA 8000C	
DP-6(0.5-2.0) (A6J0505-09)			Matrix: Soil		Batch: 6100661			
% Solids	83.3	---	1.00	% by Weight	1	10/18/16 09:22	EPA 8000C	
DP-7(4.0-5.5) (A6J0505-11)			Matrix: Soil		Batch: 6100661			
% Solids	79.9	---	1.00	% by Weight	1	10/18/16 09:22	EPA 8000C	
DP-8(0.5-2.0) (A6J0505-13)			Matrix: Soil		Batch: 6100698			
% Solids	82.9	---	1.00	% by Weight	1	10/19/16 09:42	EPA 8000C	
DP-8(8.5-10.5) (A6J0505-14)			Matrix: Soil		Batch: 6100661			
% Solids	70.0	---	1.00	% by Weight	1	10/18/16 09:22	EPA 8000C	
DP-9(5.0-6.5) (A6J0505-15)			Matrix: Soil		Batch: 6100661			
% Solids	77.6	---	1.00	% by Weight	1	10/18/16 09:22	EPA 8000C	
DP-9(9.5-11.0) (A6J0505-16)			Matrix: Soil		Batch: 6100698			
% Solids	68.4	---	1.00	% by Weight	1	10/19/16 09:42	EPA 8000C	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:13

QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100652 - EPA 3546 (Fuels)						Soil						
Blank (6100652-BLK1)						Prepared: 10/17/16 10:16 Analyzed: 10/17/16 18:00						
NWTPH-Dx												
Diesel	ND	---	25.0	mg/kg wet	1	---	---	---	---	---	---	
Oil	ND	---	50.0	"	"	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)		Recovery: 83 %		Limits: 50-150 %		Dilution: 1x						
LCS (6100652-BS1)						Prepared: 10/17/16 10:16 Analyzed: 10/17/16 18:20						
NWTPH-Dx												
Diesel	114	---	25.0	mg/kg wet	1	125	---	91	76-115%	---	---	
Surr: o-Terphenyl (Surr)		Recovery: 95 %		Limits: 50-150 %		Dilution: 1x						
Batch 6100695 - EPA 3546 (Fuels)						Soil						
Blank (6100695-BLK1)						Prepared: 10/18/16 10:23 Analyzed: 10/18/16 12:10						
NWTPH-Dx												
Diesel	ND	---	25.0	mg/kg wet	1	---	---	---	---	---	---	
Oil	ND	---	50.0	"	"	---	---	---	---	---	---	
Mineral Oil	ND	---	33.3	"	"	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)		Recovery: 97 %		Limits: 50-150 %		Dilution: 1x						
LCS (6100695-BS1)						Prepared: 10/18/16 10:23 Analyzed: 10/18/16 12:30						
NWTPH-Dx												
Diesel	122	---	25.0	mg/kg wet	1	125	---	97	76-115%	---	---	
Surr: o-Terphenyl (Surr)		Recovery: 106 %		Limits: 50-150 %		Dilution: 1x						

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:13

QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100655 - EPA 5035A						Soil						
Blank (6100655-BLK1)						Prepared: 10/17/16 10:00		Analyzed: 10/17/16 14:27				
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	---	3.33	mg/kg wet	50	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)		Recovery: 105 %		Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)		107 %		50-150 %		"						
LCS (6100655-BS2)						Prepared: 10/17/16 10:00		Analyzed: 10/17/16 14:00				
NWTPH-Gx (MS)												
Gasoline Range Organics	26.7	---	5.00	mg/kg wet	50	25.0	---	107	70-130%	---	---	
Surr: 4-Bromofluorobenzene (Sur)		Recovery: 104 %		Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)		114 %		50-150 %		"						
Duplicate (6100655-DUP1)						Prepared: 10/14/16 11:35		Analyzed: 10/17/16 16:21				
QC Source Sample: DP-4(9.0-11.0) (A6J0505-06)												
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	---	8.46	mg/kg dry	50	---	ND	---	---	---	30%	
Surr: 4-Bromofluorobenzene (Sur)		Recovery: 107 %		Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)		111 %		50-150 %		"						

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02
Project Manager: Jeremy Zimmer

Reported:
10/20/16 17:13

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100655 - EPA 5035A						Soil						
Blank (6100655-BLK1)				Prepared: 10/17/16 10:00 Analyzed: 10/17/16 14:27								
5035/8260B												
Acetone	ND	---	0.667	mg/kg wet	50	---	---	---	---	---	---	
Benzene	ND	---	0.00667	"	"	---	---	---	---	---	---	
Bromobenzene	ND	---	0.0167	"	"	---	---	---	---	---	---	
Bromochloromethane	ND	---	0.0333	"	"	---	---	---	---	---	---	
Bromodichloromethane	ND	---	0.0667	"	"	---	---	---	---	---	---	
Bromoform	ND	---	0.0667	"	"	---	---	---	---	---	---	
Bromomethane	ND	---	0.333	"	"	---	---	---	---	---	---	
2-Butanone (MEK)	ND	---	0.333	"	"	---	---	---	---	---	---	
n-Butylbenzene	ND	---	0.0333	"	"	---	---	---	---	---	---	
sec-Butylbenzene	ND	---	0.0333	"	"	---	---	---	---	---	---	
tert-Butylbenzene	ND	---	0.0333	"	"	---	---	---	---	---	---	
Carbon tetrachloride	ND	---	0.0333	"	"	---	---	---	---	---	---	
Chlorobenzene	ND	---	0.0167	"	"	---	---	---	---	---	---	
Chloroethane	ND	---	0.333	"	"	---	---	---	---	---	---	Q-31
Chloroform	ND	---	0.0333	"	"	---	---	---	---	---	---	
Chloromethane	ND	---	0.167	"	"	---	---	---	---	---	---	
2-Chlorotoluene	ND	---	0.0333	"	"	---	---	---	---	---	---	
4-Chlorotoluene	ND	---	0.0333	"	"	---	---	---	---	---	---	
1,2-Dibromo-3-chloroprop ane	ND	---	0.167	"	"	---	---	---	---	---	---	
Dibromochloromethane	ND	---	0.0667	"	"	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	---	0.0333	"	"	---	---	---	---	---	---	
Dibromomethane	ND	---	0.0333	"	"	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	---	0.0167	"	"	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	---	0.0167	"	"	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	---	0.0167	"	"	---	---	---	---	---	---	
Dichlorodifluoromethane	ND	---	0.0667	"	"	---	---	---	---	---	---	
1,1-Dichloroethane	ND	---	0.0167	"	"	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	---	0.0167	"	"	---	---	---	---	---	---	
1,1-Dichloroethene	ND	---	0.0167	"	"	---	---	---	---	---	---	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:13

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100655 - EPA 5035A						Soil						
Blank (6100655-BLK1)						Prepared: 10/17/16 10:00 Analyzed: 10/17/16 14:27						
cis-1,2-Dichloroethene	ND	---	0.0167	mg/kg wet	"	---	---	---	---	---	---	
trans-1,2-Dichloroethene	ND	---	0.0167	"	"	---	---	---	---	---	---	
1,2-Dichloropropane	ND	---	0.0167	"	"	---	---	---	---	---	---	
1,3-Dichloropropane	ND	---	0.0333	"	"	---	---	---	---	---	---	
2,2-Dichloropropane	ND	---	0.0333	"	"	---	---	---	---	---	---	
1,1-Dichloropropene	ND	---	0.0333	"	"	---	---	---	---	---	---	
cis-1,3-Dichloropropene	ND	---	0.0333	"	"	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	---	0.0333	"	"	---	---	---	---	---	---	
Ethylbenzene	ND	---	0.0167	"	"	---	---	---	---	---	---	
Hexachlorobutadiene	ND	---	0.0667	"	"	---	---	---	---	---	---	
2-Hexanone	ND	---	0.333	"	"	---	---	---	---	---	---	
Isopropylbenzene	ND	---	0.0333	"	"	---	---	---	---	---	---	
4-Isopropyltoluene	ND	---	0.0333	"	"	---	---	---	---	---	---	
4-Methyl-2-pentanone (MiBK)	ND	---	0.333	"	"	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	---	0.0333	"	"	---	---	---	---	---	---	
Methylene chloride	ND	---	0.167	"	"	---	---	---	---	---	---	
Naphthalene	ND	---	0.0667	"	"	---	---	---	---	---	---	
n-Propylbenzene	ND	---	0.0167	"	"	---	---	---	---	---	---	
Styrene	ND	---	0.0333	"	"	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	---	0.0167	"	"	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	---	0.0333	"	"	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	---	0.0167	"	"	---	---	---	---	---	---	
Toluene	ND	---	0.0333	"	"	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	---	0.167	"	"	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	---	0.167	"	"	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	---	0.0167	"	"	---	---	---	---	---	---	
1,1,2-Trichloroethane	ND	---	0.0167	"	"	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	---	0.0167	"	"	---	---	---	---	---	---	
Trichlorofluoromethane	ND	---	0.0667	"	"	---	---	---	---	---	---	
1,2,3-Trichloropropane	ND	---	0.0333	"	"	---	---	---	---	---	---	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:13

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100655 - EPA 5035A						Soil						
Blank (6100655-BLK1)						Prepared: 10/17/16 10:00 Analyzed: 10/17/16 14:27						
1,2,4-Trimethylbenzene	ND	---	0.0333	"	"	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	---	0.0333	"	"	---	---	---	---	---	---	
Vinyl chloride	ND	---	0.0167	"	"	---	---	---	---	---	---	
m,p-Xylene	ND	---	0.0333	"	"	---	---	---	---	---	---	
o-Xylene	ND	---	0.0167	"	"	---	---	---	---	---	---	

Surr: 1,4-Difluorobenzene (Surr)

Recovery: 111 %

Limits: 70-130 %

Dilution: 1x

Toluene-d8 (Surr)

100 %

70-130 %

"

4-Bromofluorobenzene (Surr)

98 %

70-130 %

"

LCS (6100655-BS1)

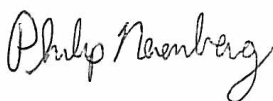
Prepared: 10/17/16 10:00 Analyzed: 10/17/16 13:33

5035/8260B

Acetone	1.74	---	1.00	mg/kg wet	50	2.00	---	87	65-135%	---	---	
Benzene	0.940	---	0.0100	"	"	1.00	---	94	"	---	---	
Bromobenzene	0.805	---	0.0250	"	"	"	---	81	"	---	---	
Bromochloromethane	0.884	---	0.0500	"	"	"	---	88	"	---	---	
Bromodichloromethane	0.981	---	0.100	"	"	"	---	98	"	---	---	
Bromoform	1.02	---	0.100	"	"	"	---	102	"	---	---	
Bromomethane	1.24	---	0.500	"	"	"	---	124	"	---	---	
2-Butanone (MEK)	1.66	---	0.500	"	"	2.00	---	83	"	---	---	
n-Butylbenzene	0.869	---	0.0500	"	"	1.00	---	87	"	---	---	
sec-Butylbenzene	0.927	---	0.0500	"	"	"	---	93	"	---	---	
tert-Butylbenzene	0.877	---	0.0500	"	"	"	---	88	"	---	---	
Carbon tetrachloride	0.969	---	0.0500	"	"	"	---	97	"	---	---	
Chlorobenzene	0.848	---	0.0250	"	"	"	---	85	"	---	---	
Chloroethane	0.576	---	0.500	"	"	"	---	58	"	---	---	Q-31
Chloroform	0.922	---	0.0500	"	"	"	---	92	"	---	---	
Chloromethane	1.10	---	0.250	"	"	"	---	110	"	---	---	
2-Chlorotoluene	0.833	---	0.0500	"	"	"	---	83	"	---	---	
4-Chlorotoluene	0.868	---	0.0500	"	"	"	---	87	"	---	---	
1,2-Dibromo-3-chloroprop ane	0.779	---	0.250	"	"	"	---	78	"	---	---	
Dibromochloromethane	0.932	---	0.100	"	"	"	---	93	"	---	---	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:13

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100655 - EPA 5035A						Soil						
LCS (6100655-BS1)						Prepared: 10/17/16 10:00 Analyzed: 10/17/16 13:33						
1,2-Dibromoethane (EDB)	0.886	---	0.0500	mg/kg wet	"	"	---	89	"	---	---	
Dibromomethane	1.00	---	0.0500	"	"	"	---	100	"	---	---	
1,2-Dichlorobenzene	0.804	---	0.0250	"	"	"	---	80	"	---	---	
1,3-Dichlorobenzene	0.856	---	0.0250	"	"	"	---	86	"	---	---	
1,4-Dichlorobenzene	0.820	---	0.0250	"	"	"	---	82	"	---	---	
Dichlorodifluoromethane	1.09	---	0.100	"	"	"	---	109	"	---	---	
1,1-Dichloroethane	0.943	---	0.0250	"	"	"	---	94	"	---	---	
1,2-Dichloroethane (EDC)	0.908	---	0.0250	"	"	"	---	91	"	---	---	
1,1-Dichloroethene	0.932	---	0.0250	"	"	"	---	93	"	---	---	
cis-1,2-Dichloroethene	0.842	---	0.0250	"	"	"	---	84	"	---	---	
trans-1,2-Dichloroethene	0.884	---	0.0250	"	"	"	---	88	"	---	---	
1,2-Dichloropropane	0.892	---	0.0250	"	"	"	---	89	"	---	---	
1,3-Dichloropropane	0.887	---	0.0500	"	"	"	---	89	"	---	---	
2,2-Dichloropropane	0.958	---	0.0500	"	"	"	---	96	"	---	---	
1,1-Dichloropropene	0.940	---	0.0500	"	"	"	---	94	"	---	---	
cis-1,3-Dichloropropene	0.828	---	0.0500	"	"	"	---	83	"	---	---	
trans-1,3-Dichloropropene	0.957	---	0.0500	"	"	"	---	96	"	---	---	
Ethylbenzene	0.860	---	0.0250	"	"	"	---	86	"	---	---	
Hexachlorobutadiene	0.764	---	0.100	"	"	"	---	76	"	---	---	
2-Hexanone	1.56	---	0.500	"	"	2.00	---	78	"	---	---	
Isopropylbenzene	0.879	---	0.0500	"	"	1.00	---	88	"	---	---	
4-Isopropyltoluene	0.904	---	0.0500	"	"	"	---	90	"	---	---	
4-Methyl-2-pentanone (MiBK)	1.64	---	0.500	"	"	2.00	---	82	"	---	---	
Methyl tert-butyl ether (MTBE)	0.911	---	0.0500	"	"	1.00	---	91	"	---	---	
Methylene chloride	0.931	---	0.250	"	"	"	---	93	"	---	---	
Naphthalene	0.741	---	0.100	"	"	"	---	74	"	---	---	
n-Propylbenzene	0.861	---	0.0250	"	"	"	---	86	"	---	---	
Styrene	0.840	---	0.0500	"	"	"	---	84	"	---	---	
1,1,1,2-Tetrachloroethane	0.866	---	0.0250	"	"	"	---	87	"	---	---	
1,1,2,2-Tetrachloroethane	0.916	---	0.0500	"	"	"	---	92	"	---	---	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:13

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100655 - EPA 5035A						Soil						
LCS (6100655-BS1)						Prepared: 10/17/16 10:00 Analyzed: 10/17/16 13:33						
Tetrachloroethene (PCE)	0.774	---	0.0250	"	"	"	---	77	"	---	---	
Toluene	0.828	---	0.0500	"	"	"	---	83	"	---	---	
1,2,3-Trichlorobenzene	0.766	---	0.250	"	"	"	---	77	"	---	---	
1,2,4-Trichlorobenzene	0.693	---	0.250	"	"	"	---	69	"	---	---	
1,1,1-Trichloroethane	0.950	---	0.0250	"	"	"	---	95	"	---	---	
1,1,2-Trichloroethane	0.894	---	0.0250	"	"	"	---	89	"	---	---	
Trichloroethene (TCE)	0.914	---	0.0250	"	"	"	---	91	"	---	---	
Trichlorofluoromethane	1.14	---	0.100	"	"	"	---	114	"	---	---	
1,2,3-Trichloropropane	0.934	---	0.0500	"	"	"	---	93	"	---	---	
1,2,4-Trimethylbenzene	0.920	---	0.0500	"	"	"	---	92	"	---	---	
1,3,5-Trimethylbenzene	0.889	---	0.0500	"	"	"	---	89	"	---	---	
Vinyl chloride	1.25	---	0.0250	"	"	"	---	125	"	---	---	
m,p-Xylene	1.80	---	0.0500	"	"	2.00	---	90	"	---	---	
o-Xylene	0.862	---	0.0250	"	"	1.00	---	86	"	---	---	

Surr: 1,4-Difluorobenzene (Surr)

Recovery: 105 %

Limits: 70-130 %

Dilution: 1x

Toluene-d8 (Surr)

97 %

70-130 %

"

4-Bromofluorobenzene (Surr)

95 %

70-130 %

"

Duplicate (6100655-DUP1)

Prepared: 10/14/16 11:35 Analyzed: 10/17/16 16:21

QC Source Sample: DP-4(9.0-11.0) (A6J0505-06)

5035/8260B

Acetone	ND	---	1.69	mg/kg dry	50	---	ND	---	---	---	30%
Benzene	ND	---	0.0169	"	"	---	ND	---	---	---	30%
Bromobenzene	ND	---	0.0423	"	"	---	ND	---	---	---	30%
Bromochloromethane	ND	---	0.0846	"	"	---	ND	---	---	---	30%
Bromodichloromethane	ND	---	0.169	"	"	---	ND	---	---	---	30%
Bromoform	ND	---	0.169	"	"	---	ND	---	---	---	30%
Bromomethane	ND	---	0.846	"	"	---	ND	---	---	---	30%
2-Butanone (MEK)	ND	---	0.846	"	"	---	ND	---	---	---	30%
n-Butylbenzene	ND	---	0.0846	"	"	---	ND	---	---	---	30%
sec-Butylbenzene	ND	---	0.0846	"	"	---	ND	---	---	---	30%
tert-Butylbenzene	ND	---	0.0846	"	"	---	ND	---	---	---	30%

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02
Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:13

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100655 - EPA 5035A							Soil					
Duplicate (6100655-DUP1)				Prepared: 10/14/16 11:35		Analyzed: 10/17/16 16:21						
QC Source Sample: DP-4(9.0-11.0) (A6J0505-06)												
Carbon tetrachloride	ND	---	0.0846	"	"	---	ND	---	---	---	30%	Q-31
Chlorobenzene	ND	---	0.0423	"	"	---	ND	---	---	---	30%	
Chloroethane	ND	---	0.846	"	"	---	ND	---	---	---	30%	
Chloroform	ND	---	0.0846	"	"	---	ND	---	---	---	30%	
Chloromethane	ND	---	0.423	"	"	---	ND	---	---	---	30%	
2-Chlorotoluene	ND	---	0.0846	"	"	---	ND	---	---	---	30%	
4-Chlorotoluene	ND	---	0.0846	"	"	---	ND	---	---	---	30%	
1,2-Dibromo-3-chloropropane	ND	---	0.423	"	"	---	ND	---	---	---	30%	
Dibromochloromethane	ND	---	0.169	"	"	---	ND	---	---	---	30%	
1,2-Dibromoethane (EDB)	ND	---	0.0846	"	"	---	ND	---	---	---	30%	
Dibromomethane	ND	---	0.0846	"	"	---	ND	---	---	---	30%	
1,2-Dichlorobenzene	ND	---	0.0423	"	"	---	ND	---	---	---	30%	
1,3-Dichlorobenzene	ND	---	0.0423	"	"	---	ND	---	---	---	30%	
1,4-Dichlorobenzene	ND	---	0.0423	"	"	---	ND	---	---	---	30%	
Dichlorodifluoromethane	ND	---	0.169	"	"	---	ND	---	---	---	30%	
1,1-Dichloroethane	ND	---	0.0423	"	"	---	ND	---	---	---	30%	
1,2-Dichloroethane (EDC)	ND	---	0.0423	"	"	---	ND	---	---	---	30%	
1,1-Dichloroethene	ND	---	0.0423	"	"	---	ND	---	---	---	30%	
cis-1,2-Dichloroethene	ND	---	0.0423	"	"	---	ND	---	---	---	30%	
trans-1,2-Dichloroethene	ND	---	0.0423	"	"	---	ND	---	---	---	30%	
1,2-Dichloropropane	ND	---	0.0423	"	"	---	ND	---	---	---	30%	
1,3-Dichloropropane	ND	---	0.0846	"	"	---	ND	---	---	---	30%	
2,2-Dichloropropane	ND	---	0.0846	"	"	---	ND	---	---	---	30%	
1,1-Dichloropropene	ND	---	0.0846	"	"	---	ND	---	---	---	30%	
cis-1,3-Dichloropropene	ND	---	0.0846	"	"	---	ND	---	---	---	30%	
trans-1,3-Dichloropropene	ND	---	0.0846	"	"	---	ND	---	---	---	30%	
Ethylbenzene	ND	---	0.0423	"	"	---	ND	---	---	---	30%	
Hexachlorobutadiene	ND	---	0.169	"	"	---	ND	---	---	---	30%	
2-Hexanone	ND	---	0.846	"	"	---	ND	---	---	---	30%	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:13

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100655 - EPA 5035A							Soil					
Duplicate (6100655-DUP1)				Prepared: 10/14/16 11:35 Analyzed: 10/17/16 16:21								
QC Source Sample: DP-4(9.0-11.0) (A6J0505-06)												
Isopropylbenzene	ND	---	0.0846	mg/kg dry	"	---	ND	---	---	---	30%	
4-Isopropyltoluene	ND	---	0.0846	"	"	---	ND	---	---	---	30%	
4-Methyl-2-pentanone (MiBK)	ND	---	0.846	"	"	---	ND	---	---	---	30%	
Methyl tert-butyl ether (MTBE)	ND	---	0.0846	"	"	---	ND	---	---	---	30%	
Methylene chloride	ND	---	0.423	"	"	---	ND	---	---	---	30%	
Naphthalene	ND	---	0.169	"	"	---	ND	---	---	---	30%	
n-Propylbenzene	ND	---	0.0423	"	"	---	ND	---	---	---	30%	
Styrene	ND	---	0.0846	"	"	---	ND	---	---	---	30%	
1,1,1,2-Tetrachloroethane	ND	---	0.0423	"	"	---	ND	---	---	---	30%	
1,1,2,2-Tetrachloroethane	ND	---	0.0846	"	"	---	ND	---	---	---	30%	
Tetrachloroethene (PCE)	ND	---	0.0423	"	"	---	ND	---	---	---	30%	
Toluene	ND	---	0.0846	"	"	---	ND	---	---	---	30%	
1,2,3-Trichlorobenzene	ND	---	0.423	"	"	---	ND	---	---	---	30%	
1,2,4-Trichlorobenzene	ND	---	0.423	"	"	---	ND	---	---	---	30%	
1,1,1-Trichloroethane	ND	---	0.0423	"	"	---	ND	---	---	---	30%	
1,1,2-Trichloroethane	ND	---	0.0423	"	"	---	ND	---	---	---	30%	
Trichloroethene (TCE)	ND	---	0.0423	"	"	---	ND	---	---	---	30%	
Trichlorofluoromethane	ND	---	0.169	"	"	---	ND	---	---	---	30%	
1,2,3-Trichloropropane	ND	---	0.0846	"	"	---	ND	---	---	---	30%	
1,2,4-Trimethylbenzene	ND	---	0.0846	"	"	---	ND	---	---	---	30%	
1,3,5-Trimethylbenzene	ND	---	0.0846	"	"	---	ND	---	---	---	30%	
Vinyl chloride	ND	---	0.0423	"	"	---	ND	---	---	---	30%	
m,p-Xylene	ND	---	0.0846	"	"	---	ND	---	---	---	30%	
o-Xylene	ND	---	0.0423	"	"	---	ND	---	---	---	30%	

Surr: 1,4-Difluorobenzene (Surr)

Recovery: 115 %

Limits: 70-130 %

Dilution: 1x

Toluene-d8 (Surr)

103 %

70-130 %

"

4-Bromofluorobenzene (Surr)

93 %

70-130 %

"

Matrix Spike (6100655-MS1)

Prepared: 10/14/16 15:25 Analyzed: 10/17/16 19:02

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:13

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100655 - EPA 5035A						Soil						
Matrix Spike (6100655-MS1)						Prepared: 10/14/16 15:25 Analyzed: 10/17/16 19:02						
QC Source Sample: DP-9(9.5-11.0) (A6J0505-16)												
5035/8260B												
Acetone	4.46	---	1.69	mg/kg dry	50	3.37	ND	132	65-135%	---	---	
Benzene	1.70	---	0.0169	"	"	1.69	ND	101	"	---	---	
Bromobenzene	1.46	---	0.0422	"	"	"	ND	87	"	---	---	
Bromochloromethane	2.10	---	0.0844	"	"	"	ND	125	"	---	---	
Bromodichloromethane	2.15	---	0.169	"	"	"	ND	128	"	---	---	
Bromoform	2.05	---	0.169	"	"	"	ND	122	"	---	---	
Bromomethane	2.51	---	0.844	"	"	"	ND	149	"	---	---	Q-01
2-Butanone (MEK)	4.08	---	0.844	"	"	3.37	ND	121	"	---	---	
n-Butylbenzene	1.45	---	0.0844	"	"	1.69	ND	86	"	---	---	
sec-Butylbenzene	1.52	---	0.0844	"	"	"	ND	90	"	---	---	
tert-Butylbenzene	1.48	---	0.0844	"	"	"	ND	88	"	---	---	
Carbon tetrachloride	1.94	---	0.0844	"	"	"	ND	115	"	---	---	
Chlorobenzene	1.51	---	0.0422	"	"	"	ND	90	"	---	---	
Chloroethane	1.39	---	0.844	"	"	"	ND	83	"	---	---	Q-31
Chloroform	1.86	---	0.0844	"	"	"	ND	110	"	---	---	
Chloromethane	2.19	---	0.422	"	"	"	ND	130	"	---	---	
2-Chlorotoluene	1.39	---	0.0844	"	"	"	ND	82	"	---	---	
4-Chlorotoluene	1.56	---	0.0844	"	"	"	ND	92	"	---	---	
1,2-Dibromo-3-chloroprop ane	1.70	---	0.422	"	"	"	ND	101	"	---	---	
Dibromochloromethane	1.83	---	0.169	"	"	"	ND	109	"	---	---	
1,2-Dibromoethane (EDB)	1.75	---	0.0844	"	"	"	ND	104	"	---	---	
Dibromomethane	2.18	---	0.0844	"	"	"	ND	129	"	---	---	
1,2-Dichlorobenzene	1.47	---	0.0422	"	"	"	ND	87	"	---	---	
1,3-Dichlorobenzene	1.51	---	0.0422	"	"	"	ND	90	"	---	---	
1,4-Dichlorobenzene	1.46	---	0.0422	"	"	"	ND	87	"	---	---	
Dichlorodifluoromethane	2.12	---	0.169	"	"	"	ND	126	"	---	---	
1,1-Dichloroethane	1.84	---	0.0422	"	"	"	ND	109	"	---	---	
1,2-Dichloroethane (EDC)	2.06	---	0.0422	"	"	"	ND	122	"	---	---	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:13

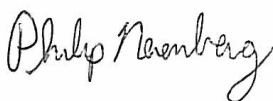
QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100655 - EPA 5035A						Soil						
Matrix Spike (6100655-MS1)				Prepared: 10/14/16 15:25		Analyzed: 10/17/16 19:02						
QC Source Sample: DP-9(9.5-11.0) (A6J0505-16)												
1,1-Dichloroethene	2.25	---	0.0422	mg/kg dry	"	"	ND	134	"	---	---	
cis-1,2-Dichloroethene	1.58	---	0.0422	"	"	"	ND	94	"	---	---	
trans-1,2-Dichloroethene	1.70	---	0.0422	"	"	"	ND	101	"	---	---	
1,2-Dichloropropane	1.76	---	0.0422	"	"	"	ND	105	"	---	---	
1,3-Dichloropropane	1.67	---	0.0844	"	"	"	ND	99	"	---	---	
2,2-Dichloropropane	1.78	---	0.0844	"	"	"	ND	105	"	---	---	
1,1-Dichloropropene	1.61	---	0.0844	"	"	"	ND	95	"	---	---	
cis-1,3-Dichloropropene	1.43	---	0.0844	"	"	"	ND	85	"	---	---	
trans-1,3-Dichloropropene	1.85	---	0.0844	"	"	"	ND	110	"	---	---	
Ethylbenzene	1.46	---	0.0422	"	"	"	ND	87	"	---	---	
Hexachlorobutadiene	1.26	---	0.169	"	"	"	ND	75	"	---	---	
2-Hexanone	3.29	---	0.844	"	"	3.37	ND	98	"	---	---	
Isopropylbenzene	1.38	---	0.0844	"	"	1.69	ND	82	"	---	---	
4-Isopropyltoluene	1.45	---	0.0844	"	"	"	ND	86	"	---	---	
4-Methyl-2-pentanone (MiBK)	3.51	---	0.844	"	"	3.37	ND	104	"	---	---	
Methyl tert-butyl ether (MTBE)	1.85	---	0.0844	"	"	1.69	ND	110	"	---	---	
Methylene chloride	1.86	---	0.422	"	"	"	ND	111	"	---	---	
Naphthalene	1.32	---	0.169	"	"	"	ND	78	"	---	---	
n-Propylbenzene	1.48	---	0.0422	"	"	"	ND	88	"	---	---	
Styrene	1.47	---	0.0844	"	"	"	ND	87	"	---	---	
1,1,1,2-Tetrachloroethane	1.64	---	0.0422	"	"	"	ND	97	"	---	---	
1,1,2,2-Tetrachloroethane	1.94	---	0.0844	"	"	"	ND	115	"	---	---	
Tetrachloroethene (PCE)	1.28	---	0.0422	"	"	"	ND	76	"	---	---	
Toluene	1.40	---	0.0844	"	"	"	ND	83	"	---	---	
1,2,3-Trichlorobenzene	1.38	---	0.422	"	"	"	ND	82	"	---	---	
1,2,4-Trichlorobenzene	1.18	---	0.422	"	"	"	ND	70	"	---	---	
1,1,1-Trichloroethane	1.85	---	0.0422	"	"	"	ND	110	"	---	---	
1,1,2-Trichloroethane	1.81	---	0.0422	"	"	"	ND	107	"	---	---	
Trichloroethene (TCE)	1.55	---	0.0422	"	"	"	ND	92	"	---	---	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:13

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100655 - EPA 5035A						Soil						
Matrix Spike (6100655-MS1)					Prepared: 10/14/16 15:25		Analyzed: 10/17/16 19:02					
QC Source Sample: DP-9(9.5-11.0) (A6J0505-16)												
Trichlorofluoromethane	2.62	---	0.169	"	"	"	ND	156	"	---	---	Q-01
1,2,3-Trichloropropane	1.97	---	0.0844	"	"	"	ND	117	"	---	---	
1,2,4-Trimethylbenzene	1.58	---	0.0844	"	"	"	ND	94	"	---	---	
1,3,5-Trimethylbenzene	1.50	---	0.0844	"	"	"	ND	89	"	---	---	
Vinyl chloride	2.42	---	0.0422	"	"	"	ND	144	"	---	---	Q-01
m,p-Xylene	3.09	---	0.0844	"	"	3.37	ND	92	"	---	---	
o-Xylene	1.39	---	0.0422	"	"	1.69	ND	83	"	---	---	

Surr: 1,4-Difluorobenzene (Surr)

Recovery: 112 %

Limits: 70-130 %

Dilution: 1x

Toluene-d8 (Surr)

96 %

70-130 %

"

4-Bromofluorobenzene (Surr)

89 %

70-130 %

"

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:13

QUALITY CONTROL (QC) SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100636 - EPA 3546						Soil						
Blank (6100636-BLK1)			Prepared: 10/17/16 07:23		Analyzed: 10/17/16 18:08						C-07	
EPA 8082A												
Aroclor 1016	ND	---	0.00833	mg/kg wet	1	---	---	---	---	---	---	
Aroclor 1221	ND	---	0.00833	"	"	---	---	---	---	---	---	
Aroclor 1232	ND	---	0.00833	"	"	---	---	---	---	---	---	
Aroclor 1242	ND	---	0.00833	"	"	---	---	---	---	---	---	
Aroclor 1248	ND	---	0.00833	"	"	---	---	---	---	---	---	
Aroclor 1254	ND	---	0.00833	"	"	---	---	---	---	---	---	
Aroclor 1260	ND	---	0.00833	"	"	---	---	---	---	---	---	
Surr: Decachlorobiphenyl (Surr)		Recovery: 103 %		Limits: 72-126 %		Dilution: 1x						
LCS (6100636-BS1)			Prepared: 10/17/16 07:23		Analyzed: 10/17/16 18:26						C-07	
EPA 8082A												
Aroclor 1016	0.218	---	0.0100	mg/kg wet	1	0.250	---	87	47-134%	---	---	
Aroclor 1260	0.254	---	0.0100	"	"	"	---	101	53-140%	---	---	
Surr: Decachlorobiphenyl (Surr)		Recovery: 109 %		Limits: 72-126 %		Dilution: 1x						

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:13

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100637 - EPA 3546						Soil						
Blank (6100637-BLK1)						Prepared: 10/17/16 07:28 Analyzed: 10/17/16 12:51						
EPA 8270D (SIM)												
Acenaphthene	ND	---	0.00833	mg/kg wet	1	---	---	---	---	---	---	
Acenaphthylene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Anthracene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Benz(a)anthracene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Benzo(a)pyrene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Chrysene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Dibenzofuran	ND	---	0.00833	"	"	---	---	---	---	---	---	
Fluoranthene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Fluorene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	---	0.00833	"	"	---	---	---	---	---	---	
1-Methylnaphthalene	ND	---	0.00833	"	"	---	---	---	---	---	---	
2-Methylnaphthalene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Naphthalene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Phenanthrene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Pyrene	ND	---	0.00833	"	"	---	---	---	---	---	---	

Surr: 2-Fluorobiphenyl (Surr)

p-Terphenyl-d14 (Surr)

Recovery: 80 %

86 %

Limits: 44-120 %

54-127 %

Dilution: 1x

"

LCS (6100637-BS1)

Prepared: 10/17/16 07:28 Analyzed: 10/17/16 13:17

EPA 8270D (SIM)												
Acenaphthene	0.715	---	0.0100	mg/kg wet	1	0.800	---	89	40-122%	---	---	
Acenaphthylene	0.688	---	0.0100	"	"	"	---	86	32-132%	---	---	
Anthracene	0.715	---	0.0100	"	"	"	---	89	47-123%	---	---	
Benz(a)anthracene	0.683	---	0.0100	"	"	"	---	85	49-126%	---	---	
Benzo(a)pyrene	0.732	---	0.0100	"	"	"	---	92	45-129%	---	---	
Benzo(b)fluoranthene	0.755	---	0.0100	"	"	"	---	94	45-132%	---	---	
Benzo(k)fluoranthene	0.779	---	0.0100	"	"	"	---	97	47-132%	---	---	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:13

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100637 - EPA 3546						Soil						
LCS (6100637-BS1)						Prepared: 10/17/16 07:28 Analyzed: 10/17/16 13:17						
Benzo(g,h,i)perylene	0.641	---	0.0100	"	"	"	---	80	43-134%	---	---	
Chrysene	0.711	---	0.0100	"	"	"	---	89	50-124%	---	---	
Dibenz(a,h)anthracene	0.703	---	0.0100	"	"	"	---	88	45-134%	---	---	
Dibenzofuran	0.712	---	0.0100	"	"	"	---	89	44-120%	---	---	
Fluoranthene	0.712	---	0.0100	"	"	"	---	89	50-127%	---	---	
Fluorene	0.717	---	0.0100	"	"	"	---	90	43-125%	---	---	
Indeno(1,2,3-cd)pyrene	0.654	---	0.0100	"	"	"	---	82	45-133%	---	---	
1-Methylnaphthalene	0.689	---	0.0100	"	"	"	---	86	40-120%	---	---	
2-Methylnaphthalene	0.672	---	0.0100	"	"	"	---	84	38-122%	---	---	
Naphthalene	0.652	---	0.0100	"	"	"	---	81	35-123%	---	---	
Phenanthrene	0.654	---	0.0100	"	"	"	---	82	50-121%	---	---	
Pyrene	0.711	---	0.0100	"	"	"	---	89	47-127%	---	---	
Surr: 2-Fluorobiphenyl (Surr)			Recovery: 84 %		Limits: 44-120 %		Dilution: 1x					
p-Terphenyl-d14 (Surr)			92 %		54-127 %		"					

Matrix Spike (6100637-MS1)

Prepared: 10/17/16 07:28 Analyzed: 10/17/16 17:37

QC Source Sample: DP-8(8.5-10.5) (A6J0505-14)

EPA 8270D (SIM)

Acenaphthene	0.894	---	0.0135	mg/kg dry	1	1.08	ND	83	40-122%	---	---	
Acenaphthylene	0.849	---	0.0135	"	"	"	ND	79	32-132%	---	---	
Anthracene	0.885	---	0.0135	"	"	"	ND	82	47-123%	---	---	
Benz(a)anthracene	0.821	---	0.0135	"	"	"	ND	76	49-126%	---	---	
Benzo(a)pyrene	0.889	---	0.0135	"	"	"	ND	82	45-129%	---	---	
Benzo(b)fluoranthene	0.904	---	0.0135	"	"	"	ND	84	45-132%	---	---	
Benzo(k)fluoranthene	0.949	---	0.0135	"	"	"	ND	88	47-132%	---	---	
Benzo(g,h,i)perylene	0.774	---	0.0135	"	"	"	ND	72	43-134%	---	---	
Chrysene	0.853	---	0.0135	"	"	"	ND	79	50-124%	---	---	
Dibenz(a,h)anthracene	0.856	---	0.0135	"	"	"	ND	79	45-134%	---	---	
Dibenzofuran	0.892	---	0.0135	"	"	"	ND	83	44-120%	---	---	
Fluoranthene	0.876	---	0.0135	"	"	"	ND	81	50-127%	---	---	
Fluorene	0.880	---	0.0135	"	"	"	ND	82	43-125%	---	---	
Indeno(1,2,3-cd)pyrene	0.793	---	0.0135	"	"	"	ND	74	45-133%	---	---	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:13

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100637 - EPA 3546						Soil						
Matrix Spike (6100637-MS1)					Prepared: 10/17/16 07:28		Analyzed: 10/17/16 17:37					
QC Source Sample: DP-8(8.5-10.5) (A6J0505-14)												
1-Methylnaphthalene	0.872	---	0.0135	"	"	"	ND	81	40-120%	---	---	
2-Methylnaphthalene	0.847	---	0.0135	"	"	"	ND	79	38-122%	---	---	
Naphthalene	0.821	---	0.0135	"	"	"	ND	76	35-123%	---	---	
Phenanthrene	0.821	---	0.0135	"	"	"	ND	76	50-121%	---	---	
Pyrene	0.873	---	0.0135	"	"	"	ND	81	47-127%	---	---	
Surr: 2-Fluorobiphenyl (Surr)		Recovery: 80 %		Limits: 44-120 %		Dilution: 1x						
p-Terphenyl-d14 (Surr)		82 %		54-127 %		"						

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:13

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100676 - EPA 3051A						Soil						
Blank (6100676-BLK1)				Prepared: 10/17/16 16:33 Analyzed: 10/17/16 23:43								
EPA 6020A												
Arsenic	ND	---	1.00	mg/kg wet	10	---	---	---	---	---	---	
Barium	ND	---	1.00	"	"	---	---	---	---	---	---	
Cadmium	ND	---	0.200	"	"	---	---	---	---	---	---	
Chromium	ND	---	1.00	"	"	---	---	---	---	---	---	
Lead	ND	---	0.200	"	"	---	---	---	---	---	---	
Mercury	ND	---	0.0800	"	"	---	---	---	---	---	---	
Selenium	ND	---	2.00	"	"	---	---	---	---	---	---	
Silver	ND	---	0.200	"	"	---	---	---	---	---	---	
LCS (6100676-BS1)				Prepared: 10/17/16 16:33 Analyzed: 10/17/16 23:46								
EPA 6020A												
Arsenic	43.9	---	1.00	mg/kg wet	10	50.0	---	88	80-120%	---	---	
Barium	45.3	---	1.00	"	"	"	---	91	"	---	---	
Cadmium	44.1	---	0.200	"	"	"	---	88	"	---	---	
Chromium	44.8	---	1.00	"	"	"	---	89	"	---	---	
Lead	48.0	---	0.200	"	"	"	---	96	"	---	---	
Mercury	0.944	---	0.0800	"	"	1.00	---	94	"	---	---	
Selenium	22.5	---	2.00	"	"	25.0	---	90	"	---	---	
Silver	22.7	---	0.200	"	"	"	---	91	"	---	---	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02
Project Manager: Jeremy Zimmer

Reported:
10/20/16 17:13

QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100661 - Total Solids (Dry Weight)							Soil					
Duplicate (6100661-DUP1)					Prepared: 10/17/16 12:43		Analyzed: 10/18/16 09:22					
QC Source Sample: DP-5(0.5-1.5) (A6J0505-07)												
EPA 8000C												
% Solids	88.8	---	1.00	% by Weight	1	---	88.5	---	---	0.4	10%	

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

Batch 6100698 - Total Solids (Dry Weight)

Soil

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

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02
Project Manager: Jeremy Zimmer

Reported:
10/20/16 17:13

SAMPLE PREPARATION INFORMATION

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Prep: EPA 3546 (Fuels)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6100652							
A6J0505-01RE1	Soil	NWTPH-Dx	10/14/16 09:50	10/17/16 10:16	10.61g/5mL	10g/5mL	0.94
A6J0505-07	Soil	NWTPH-Dx	10/14/16 12:20	10/17/16 10:16	10.43g/5mL	10g/5mL	0.96
A6J0505-09	Soil	NWTPH-Dx	10/14/16 12:55	10/17/16 10:16	10.33g/5mL	10g/5mL	0.97
A6J0505-11	Soil	NWTPH-Dx	10/14/16 13:50	10/17/16 10:16	10.26g/5mL	10g/5mL	0.98
A6J0505-14	Soil	NWTPH-Dx	10/14/16 14:40	10/17/16 10:16	10.54g/5mL	10g/5mL	0.95
Batch: 6100695							
A6J0505-02	Soil	NWTPH-Dx	10/14/16 09:55	10/18/16 13:39	10.65g/5mL	10g/5mL	0.94
A6J0505-13	Soil	NWTPH-Dx	10/14/16 14:31	10/18/16 13:39	10.19g/5mL	10g/5mL	0.98

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Prep: EPA 5035A

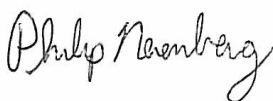
Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6100655							
A6J0505-04	Soil	NWTPH-Gx (MS)	10/14/16 10:30	10/14/16 10:30	5.85g/5mL	5g/5mL	0.86
A6J0505-06	Soil	NWTPH-Gx (MS)	10/14/16 11:35	10/14/16 11:35	5.72g/5mL	5g/5mL	0.87
A6J0505-07	Soil	NWTPH-Gx (MS)	10/14/16 12:20	10/14/16 12:20	5.32g/5mL	5g/5mL	0.94
A6J0505-09	Soil	NWTPH-Gx (MS)	10/14/16 12:55	10/14/16 12:55	5.87g/5mL	5g/5mL	0.85
A6J0505-11	Soil	NWTPH-Gx (MS)	10/14/16 13:50	10/14/16 13:50	5.58g/5mL	5g/5mL	0.90
A6J0505-15	Soil	NWTPH-Gx (MS)	10/14/16 15:15	10/14/16 15:15	6.91g/5mL	5g/5mL	0.72
A6J0505-16	Soil	NWTPH-Gx (MS)	10/14/16 15:25	10/14/16 15:25	5.97g/5mL	5g/5mL	0.84

Volatile Organic Compounds by EPA 8260B

Prep: EPA 5035A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6100655							
A6J0505-04	Soil	5035/8260B	10/14/16 10:30	10/14/16 10:30	5.85g/5mL	5g/5mL	0.86
A6J0505-06	Soil	5035/8260B	10/14/16 11:35	10/14/16 11:35	5.72g/5mL	5g/5mL	0.87
A6J0505-07	Soil	5035/8260B	10/14/16 12:20	10/14/16 12:20	5.32g/5mL	5g/5mL	0.94
A6J0505-09	Soil	5035/8260B	10/14/16 12:55	10/14/16 12:55	5.87g/5mL	5g/5mL	0.85
A6J0505-11	Soil	5035/8260B	10/14/16 13:50	10/14/16 13:50	5.58g/5mL	5g/5mL	0.90
A6J0505-15	Soil	5035/8260B	10/14/16 15:15	10/14/16 15:15	6.91g/5mL	5g/5mL	0.72
A6J0505-16	Soil	5035/8260B	10/14/16 15:25	10/14/16 15:25	5.97g/5mL	5g/5mL	0.84

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:13

SAMPLE PREPARATION INFORMATION

Polychlorinated Biphenyls by EPA 8082A

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6100636							
A6J0505-07	Soil	EPA 8082A	10/14/16 12:20	10/17/16 07:23	10.96g/5mL	10g/5mL	0.91
A6J0505-09	Soil	EPA 8082A	10/14/16 12:55	10/17/16 07:23	10.64g/5mL	10g/5mL	0.94
A6J0505-11	Soil	EPA 8082A	10/14/16 13:50	10/17/16 07:23	11.41g/5mL	10g/5mL	0.88

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6100637							
A6J0505-01	Soil	EPA 8270D (SIM)	10/14/16 09:50	10/17/16 07:28	11.37g/5mL	10g/5mL	0.88
A6J0505-02	Soil	EPA 8270D (SIM)	10/14/16 09:55	10/17/16 17:22	10.478g/5mL	10g/5mL	0.95
A6J0505-07	Soil	EPA 8270D (SIM)	10/14/16 12:20	10/17/16 07:28	11.61g/5mL	10g/5mL	0.86
A6J0505-09	Soil	EPA 8270D (SIM)	10/14/16 12:55	10/17/16 07:28	10.5g/5mL	10g/5mL	0.95
A6J0505-11	Soil	EPA 8270D (SIM)	10/14/16 13:50	10/17/16 07:28	10.37g/5mL	10g/5mL	0.96
A6J0505-13	Soil	EPA 8270D (SIM)	10/14/16 14:31	10/17/16 17:22	10.949g/5mL	10g/5mL	0.91
A6J0505-14	Soil	EPA 8270D (SIM)	10/14/16 14:40	10/17/16 07:28	10.82g/5mL	10g/5mL	0.92

Total Metals by EPA 6020 (ICPMS)

Prep: EPA 3051A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6100676							
A6J0505-04	Soil	EPA 6020A	10/14/16 10:30	10/17/16 16:33	0.517g/50mL	0.5g/50mL	0.97
A6J0505-06	Soil	EPA 6020A	10/14/16 11:35	10/17/16 16:33	0.475g/50mL	0.5g/50mL	1.05
A6J0505-07	Soil	EPA 6020A	10/14/16 12:20	10/17/16 16:33	0.476g/50mL	0.5g/50mL	1.05
A6J0505-09	Soil	EPA 6020A	10/14/16 12:55	10/17/16 16:33	0.495g/50mL	0.5g/50mL	1.01
A6J0505-11	Soil	EPA 6020A	10/14/16 13:50	10/17/16 16:33	0.474g/50mL	0.5g/50mL	1.05
A6J0505-15	Soil	EPA 6020A	10/14/16 15:15	10/17/16 16:33	0.488g/50mL	0.5g/50mL	1.02
A6J0505-16	Soil	EPA 6020A	10/14/16 15:25	10/17/16 16:33	0.497g/50mL	0.5g/50mL	1.01

Percent Dry Weight

Prep: Total Solids (Dry Weight)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6100661							

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:13

SAMPLE PREPARATION INFORMATION

Percent Dry Weight

Prep: Total Solids (Dry Weight)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A6J0505-01	Soil	EPA 8000C	10/14/16 09:50	10/17/16 12:43	1N/A/1N/A	1N/A/1N/A	NA
A6J0505-04	Soil	EPA 8000C	10/14/16 10:30	10/17/16 12:43	1N/A/1N/A	1N/A/1N/A	NA
A6J0505-06	Soil	EPA 8000C	10/14/16 11:35	10/17/16 12:43	1N/A/1N/A	1N/A/1N/A	NA
A6J0505-07	Soil	EPA 8000C	10/14/16 12:20	10/17/16 12:43	1N/A/1N/A	1N/A/1N/A	NA
A6J0505-09	Soil	EPA 8000C	10/14/16 12:55	10/17/16 12:43	1N/A/1N/A	1N/A/1N/A	NA
A6J0505-11	Soil	EPA 8000C	10/14/16 13:50	10/17/16 12:43	1N/A/1N/A	1N/A/1N/A	NA
A6J0505-14	Soil	EPA 8000C	10/14/16 14:40	10/17/16 12:43	1N/A/1N/A	1N/A/1N/A	NA
A6J0505-15	Soil	EPA 8000C	10/14/16 15:15	10/17/16 12:43	1N/A/1N/A	1N/A/1N/A	NA
Batch: 6100698							
A6J0505-02	Soil	EPA 8000C	10/14/16 09:55	10/18/16 11:17	1N/A/1N/A	1N/A/1N/A	NA
A6J0505-13	Soil	EPA 8000C	10/14/16 14:31	10/18/16 11:17	1N/A/1N/A	1N/A/1N/A	NA
A6J0505-16	Soil	EPA 8000C	10/14/16 15:25	10/18/16 11:17	1N/A/1N/A	1N/A/1N/A	NA

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02
Project Manager: Jeremy Zimmer

Reported:

10/20/16 17:13

Notes and Definitions

Qualifiers:

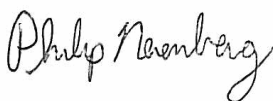
- C-07 Extract has undergone Sulfuric Acid Cleanup by EPA 3665A, Sulfur Cleanup by EPA 3660B, and Florisil Cleanup by EPA 3620B in order to minimize matrix interference.
- M-02 Due to matrix interference, this analyte cannot be accurately quantified. The reported result is estimated.
- Q-01 Spike recovery and/or RPD is outside acceptance limits.
- Q-31 Estimated Results. Recovery of Continuing Calibration Verification sample below lower control limit for this analyte. Results are likely biased low.
- R-02 The Reporting Limit for this analyte has been raised to account for interference from coeluting organic compounds present in the sample.
- S-05 Surrogate recovery is estimated due to sample dilution required for high analyte concentration and/or matrix interference.

Notes and Conventions:

- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis. Results listed as 'wet' or without 'dry' designation are not dry weight corrected.
- RPD Relative Percent Difference
- MDL If MDL is not listed, data has been evaluated to the Method Reporting Limit only.
- WMSC Water Miscible Solvent Correction has been applied to Results and MRLs for volatiles soil samples per EPA 8000C.
- Batch QC Unless specifically requested, this report contains only results for Batch QC derived from client samples included in this report. All analyses were performed with the appropriate Batch QC (including Sample Duplicates, Matrix Spikes and/or Matrix Spike Duplicates) in order to meet or exceed method and regulatory requirements. Any exceptions to this will be qualified in this report. Complete Batch QC results are available upon request. In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.
- Blank Policy Apex assesses blank data for potential high bias down to a level equal to 1/2 the method reporting limit (MRL), except for conventional chemistry and HCID analyses which are assessed only to the MRL. Sample results flagged with a B or B-02 qualifier are potentially biased high if they are less than ten times the level found in the blank for inorganic analyses or less than five times the level found in the blank for organic analyses.

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

Results qualified as reported below the MRL may include a potential high bias if associated with a B or B-02 qualified blank. B and B-02 qualifications are not applied to J qualified results reported below the MRL.
- QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.
- *** Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).



GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02
Project Manager: Jeremy Zimmer

Reported:
10/20/16 17:13

Lab # 1010505 COC 1 of 2

CHAIN OF CUSTODY

APEX LABS

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

Company: <u>GeoDesign Inc</u>		Project Mgr: <u>Jeremy Zimmer</u>		Project Name: <u>River Terrace Area 10</u>		Project # <u>Polygon-145-02</u>																				
Address: <u>15575 SW Sequoia Pkwy STE 100</u>		Phone: <u>503-968-8987</u>		Fax: <u></u>		Email: <u>JZimmer@geodesigninc.com</u>																				
Sampled by: <u>Nathan Fulton</u>																										
Site Location: <u>OR</u> WA																										
Other: <u></u>																										
SAMPLE ID	LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	NWTPH-ICID	NWTPH-DX	NWTPH-GX	8260 VOCs Full List	8260 RBDV VOCs	8260 HVOCS	8260 BTEX VOCs	8270 SVOC	8270 SIM PAHS	8082 PCBs	600 TTO	RCRA Metals (8)	TCLP Metals (8)	AL, Sb, As, Ba, Be, Bi, Br, Cd, Cr, Cu, Fe, Hg, Mn, Mo, Ni, Pb, Pt, Se, Ag, Na, Ti, V, Zn	TOTAL DISS TCLP	1200-COLS	1200-Z	Total Lead by 6010B	Hold for possible follow-up		
DP-2(1.0-2.0)		10/14/16	9:50	5	1	X								X												
DP-2(11.5-12.5)			9:55	1	1																			X		
DP-3(6.0-7.0)			10:45	4	4																			X		
DP-3(10.5-12.5)			10:50	4	4																			X		
DP-4(6.5-9.0)			11:25	4	4																			X		
DP-4(9.0-11.0)			11:35	4	4																			X		
DP-5(0.5-1.5)			12:00	4	4																			X		
DP-5(8.0-9.0)			12:30	4	4																			X		
DP-6(0.5-2.0)			12:55	4	4																			X		
DP-6(5.5-6.5)			13:10	4	4																			X		
Normal Turn Around Time (TAT) = 10 Business Days		YES <u>(X)</u>																								
TAT Requested (circle)		1 Day		2 Day <u>(X)</u>		3 Day		4 DAY		5 DAY		Other:														
RELINQUISHED BY:		SIGNATURE: <u>Nathan Fulton</u>		DATE: <u>10/14/16</u>		TIME: <u>17:15</u>		COMPANY: <u>GeoDesign</u>		RELINQUISHED BY:		SIGNATURE: <u>Jeremy Zimmer</u>		DATE: <u>10/14/16</u>		TIME: <u>17:15</u>		COMPANY: <u>GeoDesign</u>								
SAMPLES ARE HELD FOR 30 DAYS		RELINQUISHED BY:		SIGNATURE: <u>Nathan Fulton</u>		DATE: <u>10/14/16</u>		TIME: <u>17:15</u>		COMPANY: <u>GeoDesign</u>		RELINQUISHED BY:		SIGNATURE: <u>Jeremy Zimmer</u>		DATE: <u>10/14/16</u>		TIME: <u>17:15</u>		COMPANY: <u>GeoDesign</u>						

Apex Laboratories

Philip Nerenberg

Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02
Project Manager: Jeremy Zimmer

Reported:
10/20/16 17:13

Lab # ALJ 0505 COC 2 of 2

CHAIN OF CUSTODY

APEX LABS

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

Company: <u>GeoDesign Inc</u>		Project Mgr: <u>Jeremy Zimmer</u>		Project Name: <u>River Terrace Area 10</u>		Project # <u>Polygon-145-02</u>																			
Address: <u>15575 SW Sequoia Pkwy STE 100</u>		Phone: <u>503-968-9787</u>		Fax: <u></u>		Email: <u>J.Zimmer@geodesigninc.com</u>																			
Sampled by: <u>Nathan Fulton</u>																									
Site Location: <u>WA</u>	Other: <u></u>																								
SAMPLE ID	LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	NWTPH-HCID	NWTPH-D5	NWTPH-G5	8260 RBDM VOCs	8260 HVOCS	8260 BTEX VOCs	8270 SVOC	8270 SIM PAHs	8082 PCBs	600 TTO	RCRA Metals (8)	TCLP Metals (8)	AL, Sb, As, Ba, Be, Cd, Cr, Cu, Fe, Pb, Ni, K, Hg, Mn, Mo, Se, Zn, Ag, Na, Ti, V, Zn	TOTAL DISS. TCLP	1200-Z	1200-COLS	1200-Z			
DP-7(4.0-5.5)		10/14/16	17:50	S	4		X	X	X				X	X	X	X									
DP-7(8.0-9.5)		10/14/16	14:00	I	1																				
DP-8(0.5-2.0)		10/14/16	14:31	I	1																				
DP-8(8.5-10.5)		10/14/16	14:40	I	1																				
DP-9(5.0-6.5)		10/14/16	15:15	I	4		X	X	X																
DP-9(9.5-11.0)		10/14/16	15:25	I	4																				
Normal Turn Around Time (TAT) = 10 Business Days YES ☒ NO ☐ TAT Requested (circle) 1 Day ☒ 3 Day ☐ 5 Day ☐ Other:																									
RELINQUISHED BY: <u>Nathan Fulton</u> Date: <u>10/14/16</u> Signature: <u>[Signature]</u> Printed Name: <u>Nathan Fulton</u> Time: <u>17:15</u> Printed Name: <u>Kudrin MS</u> Time: <u></u> Company: <u>GeoDesign</u> Company: <u>Apex</u>												SPECIAL INSTRUCTIONS: <u>Pricing as discussed with Jeremy Zimmer</u>													
RECEIVED BY: <u>[Signature]</u> Date: <u>10/14/16</u> Signature: <u>[Signature]</u> Printed Name: <u>Nathan Fulton</u> Time: <u>17:15</u> Printed Name: <u>Kudrin MS</u> Time: <u></u> Company: <u>GeoDesign</u> Company: <u>Apex</u>												RECEIVED BY: <u>[Signature]</u> Date: <u>10/14/16</u> Signature: <u>[Signature]</u> Printed Name: <u>Nathan Fulton</u> Time: <u>17:15</u> Printed Name: <u>Kudrin MS</u> Time: <u></u> Company: <u>GeoDesign</u> Company: <u>Apex</u>													

Apex Laboratories

Philip Nerenberg

Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Apex Labs

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

Thursday, October 27, 2016

Jeremy Zimmer
GeoDesign, Inc.
15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

RE: River Terrace Area 10 / Polygon-145-02

Enclosed are the results of analyses for work order A6J0739, which was received by the laboratory on 10/20/2016 at 7:10:00PM.

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

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

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/27/16 14:08

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Comp-5(0.25-0.5)	A6J0739-01	Soil	10/20/16 16:10	10/20/16 19:10
Comp-1(0.25-0.5)	A6J0739-04	Soil	10/20/16 15:05	10/20/16 19:10
Comp-7(0.25-0.5)	A6J0739-07	Soil	10/20/16 17:45	10/20/16 19:10
Comp-6(0.25-0.5)	A6J0739-10	Soil	10/20/16 17:06	10/20/16 19:10
Comp-2(0.25-0.5)	A6J0739-11	Soil	10/20/16 14:02	10/20/16 19:10
Comp-3(0.25-0.5)	A6J0739-12	Soil	10/20/16 12:52	10/20/16 19:10
Comp-4(0.25-0.5)	A6J0739-13	Soil	10/20/16 11:27	10/20/16 19:10
HA-2(7.0-8.0)	A6J0739-15	Soil	10/20/16 17:25	10/20/16 19:10
HA-1(0.0-1.0)	A6J0739-16	Soil	10/20/16 16:20	10/20/16 19:10
HA-2(8.25-8.75)	A6J0739-17	Soil	10/20/16 17:40	10/20/16 19:10
HA-1(6.5-8.0)	A6J0739-18	Soil	10/20/16 16:05	10/20/16 19:10
HA-1(8.0-8.5)	A6J0739-19	Soil	10/20/16 16:15	10/20/16 19:10

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/27/16 14:08

ANALYTICAL SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
HA-2(7.0-8.0) (A6J0739-15)			Matrix: Soil	Batch: 6100864				
Diesel	51900	---	1230	mg/kg dry	50	10/21/16 22:05	NWTPH-Dx	
Oil	ND	---	2470	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: %</i>	<i>Limits: 50-150 %</i>	"	"	"	<i>S-01</i>
HA-1(0.0-1.0) (A6J0739-16)			Matrix: Soil	Batch: 6100864				
Diesel	119	---	27.4	mg/kg dry	1	10/21/16 22:25	NWTPH-Dx	F-11
Oil	ND	---	54.7	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 94 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
HA-2(8.25-8.75) (A6J0739-17)			Matrix: Soil	Batch: 6100864				
Diesel	512	---	25.1	mg/kg dry	1	10/21/16 23:06	NWTPH-Dx	
Oil	ND	---	50.2	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 97 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
HA-1(6.5-8.0) (A6J0739-18)			Matrix: Soil	Batch: 6100864				
Diesel	24700	---	231	mg/kg dry	10	10/21/16 23:27	NWTPH-Dx	
Oil	ND	---	462	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 157 %</i>	<i>Limits: 50-150 %</i>	"	"	"	<i>S-05</i>
HA-1(8.0-8.5) (A6J0739-19RE1)			Matrix: Soil	Batch: 6100864				
Diesel	37800	---	1220	mg/kg dry	50	10/24/16 12:07	NWTPH-Dx	
Oil	ND	---	2450	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: %</i>	<i>Limits: 50-150 %</i>	"	"	"	<i>S-01</i>

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/27/16 14:08

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
Comp-5(0.25-0.5) (A6J0739-01RE1)			Matrix: Soil		Batch: 6100923			C-05
Aldrin	ND	---	2.17	ug/kg dry	1	10/26/16 12:46	EPA 8081B	
alpha-BHC	ND	---	2.17	"	"	"	"	
beta-BHC	ND	---	2.17	"	"	"	"	
delta-BHC	ND	---	2.17	"	"	"	"	
gamma-BHC (Lindane)	ND	---	2.17	"	"	"	"	A-01
cis-Chlordane	ND	---	2.17	"	"	"	"	
trans-Chlordane	ND	---	2.17	"	"	"	"	
4,4'-DDD	ND	---	2.17	"	"	"	"	
4,4'-DDE	39.2	---	2.17	"	"	"	"	
4,4'-DDT	32.5	---	2.17	"	"	"	"	
Dieldrin	93.3	---	2.17	"	"	"	"	
Endosulfan I	ND	---	2.17	"	"	"	"	
Endosulfan II	ND	---	2.17	"	"	"	"	
Endosulfan sulfate	ND	---	2.17	"	"	"	"	
Endrin	ND	---	2.17	"	"	"	"	
Endrin Aldehyde	ND	---	2.17	"	"	"	"	
Endrin ketone	ND	---	2.17	"	"	"	"	
Heptachlor	ND	---	2.17	"	"	"	"	
Heptachlor epoxide	ND	---	2.17	"	"	"	"	
Methoxychlor	ND	---	6.50	"	"	"	"	
Chlordane (Technical)	ND	---	65.0	"	"	"	"	
Toxaphene (Total)	ND	---	65.0	"	"	"	"	

Surrogate: 2,4,5,6-TCMX (Surr)

Recovery: 64 %

Limits: 42-129 %

"

"

"

Decachlorobiphenyl (Surr)

95 %

Limits: 65-151 %

"

"

"

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/27/16 14:08

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
Comp-1(0.25-0.5) (A6J0739-04RE1)		Matrix: Soil		Batch: 6100923			C-05	
Aldrin	ND	---	2.21	ug/kg dry	1	10/26/16 13:21	EPA 8081B	
alpha-BHC	ND	---	2.21	"	"	"	"	
beta-BHC	ND	---	2.21	"	"	"	"	
delta-BHC	ND	---	2.21	"	"	"	"	
gamma-BHC (Lindane)	11.6	---	2.21	"	"	"	"	
cis-Chlordane	ND	---	2.21	"	"	"	"	
trans-Chlordane	ND	---	2.21	"	"	"	"	
4,4'-DDD	ND	---	2.21	"	"	"	"	
4,4'-DDE	8.83	---	2.21	"	"	"	"	
4,4'-DDT	9.31	---	2.21	"	"	"	"	
Dieldrin	145	---	2.21	"	"	"	"	
Endosulfan I	ND	---	2.21	"	"	"	"	
Endosulfan II	ND	---	2.21	"	"	"	"	
Endosulfan sulfate	ND	---	2.21	"	"	"	"	
Endrin	ND	---	2.21	"	"	"	"	
Endrin Aldehyde	ND	---	2.21	"	"	"	"	
Endrin ketone	ND	---	2.21	"	"	"	"	
Heptachlor	ND	---	2.21	"	"	"	"	
Heptachlor epoxide	ND	---	2.21	"	"	"	"	
Methoxychlor	ND	---	6.62	"	"	"	"	
Chlordane (Technical)	ND	---	66.2	"	"	"	"	
Toxaphene (Total)	ND	---	66.2	"	"	"	"	

Surrogate: 2,4,5,6-TCMX (Surr)

Recovery: 49 %

Limits: 42-129 %

"

"

"

Decachlorobiphenyl (Surr)

85 %

Limits: 65-151 %

"

"

"

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/27/16 14:08

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
Comp-7(0.25-0.5) (A6J0739-07RE1)			Matrix: Soil		Batch: 6100923			C-05
Aldrin	ND	---	2.12	ug/kg dry	1	10/26/16 13:38	EPA 8081B	
alpha-BHC	ND	---	2.12	"	"	"	"	
beta-BHC	ND	---	2.12	"	"	"	"	
delta-BHC	ND	---	2.12	"	"	"	"	
gamma-BHC (Lindane)	ND	---	2.12	"	"	"	"	
cis-Chlordane	ND	---	2.12	"	"	"	"	
trans-Chlordane	ND	---	2.12	"	"	"	"	
4,4'-DDD	ND	---	2.12	"	"	"	"	
4,4'-DDE	15.3	---	2.12	"	"	"	"	
4,4'-DDT	19.1	---	2.12	"	"	"	"	
Dieldrin	18.3	---	2.12	"	"	"	"	
Endosulfan I	ND	---	2.12	"	"	"	"	
Endosulfan II	ND	---	2.12	"	"	"	"	
Endosulfan sulfate	ND	---	2.12	"	"	"	"	
Endrin	ND	---	2.12	"	"	"	"	
Endrin Aldehyde	ND	---	2.12	"	"	"	"	
Endrin ketone	ND	---	2.12	"	"	"	"	
Heptachlor	ND	---	2.12	"	"	"	"	
Heptachlor epoxide	ND	---	2.12	"	"	"	"	
Methoxychlor	ND	---	6.37	"	"	"	"	
Chlordane (Technical)	ND	---	63.7	"	"	"	"	
Toxaphene (Total)	ND	---	63.7	"	"	"	"	

Surrogate: 2,4,5,6-TCMX (Surr)

Recovery: 37 %

Limits: 42-129 %

"

"

"

S-06

Decachlorobiphenyl (Surr)

88 %

Limits: 65-151 %

"

"

"

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/27/16 14:08

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
Comp-6(0.25-0.5) (A6J0739-10RE1)			Matrix: Soil		Batch: 6100923			C-05
Aldrin	ND	---	2.15	ug/kg dry	1	10/26/16 13:56	EPA 8081B	
alpha-BHC	ND	---	2.15	"	"	"	"	
beta-BHC	ND	---	2.15	"	"	"	"	
delta-BHC	ND	---	2.15	"	"	"	"	
gamma-BHC (Lindane)	2.73	---	2.15	"	"	"	"	
cis-Chlordane	11.7	---	2.15	"	"	"	"	
trans-Chlordane	3.64	---	2.15	"	"	"	"	
4,4'-DDD	ND	---	2.58	"	"	"	"	R-02
4,4'-DDE	50.1	---	2.15	"	"	"	"	
4,4'-DDT	56.1	---	2.15	"	"	"	"	
Dieldrin	53.8	---	2.15	"	"	"	"	
Endosulfan I	ND	---	2.15	"	"	"	"	
Endosulfan II	ND	---	2.15	"	"	"	"	
Endosulfan sulfate	ND	---	2.15	"	"	"	"	
Endrin	ND	---	4.62	"	"	"	"	R-02
Endrin Aldehyde	ND	---	2.15	"	"	"	"	
Endrin ketone	ND	---	2.15	"	"	"	"	
Heptachlor	ND	---	2.15	"	"	"	"	
Heptachlor epoxide	ND	---	2.15	"	"	"	"	
Methoxychlor	ND	---	6.44	"	"	"	"	
Chlordane (Technical)	ND	---	64.4	"	"	"	"	
Toxaphene (Total)	ND	---	64.4	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			Recovery: 40 %	Limits: 42-129 %	"	"	"	S-06
Decachlorobiphenyl (Surr)			86 %	Limits: 65-151 %	"	"	"	

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/27/16 14:08

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
Comp-2(0.25-0.5) (A6J0739-11RE1)			Matrix: Soil		Batch: 6100923			C-05
Aldrin	ND	---	2.25	ug/kg dry	1	10/26/16 14:51	EPA 8081B	
alpha-BHC	ND	---	2.25	"	"	"	"	
beta-BHC	ND	---	2.25	"	"	"	"	
delta-BHC	ND	---	2.25	"	"	"	"	
gamma-BHC (Lindane)	3.60	---	2.25	"	"	"	"	
cis-Chlordane	ND	---	2.25	"	"	"	"	
trans-Chlordane	ND	---	2.25	"	"	"	"	
4,4'-DDD	ND	---	2.25	"	"	"	"	
4,4'-DDE	15.7	---	2.25	"	"	"	"	
4,4'-DDT	9.76	---	2.25	"	"	"	"	
Dieldrin	41.8	---	2.25	"	"	"	"	
Endosulfan I	ND	---	2.25	"	"	"	"	
Endosulfan II	ND	---	2.25	"	"	"	"	
Endosulfan sulfate	ND	---	2.25	"	"	"	"	
Endrin	ND	---	2.25	"	"	"	"	
Endrin Aldehyde	ND	---	2.25	"	"	"	"	
Endrin ketone	ND	---	2.25	"	"	"	"	
Heptachlor	ND	---	2.25	"	"	"	"	
Heptachlor epoxide	ND	---	2.25	"	"	"	"	
Methoxychlor	ND	---	6.75	"	"	"	"	
Chlordane (Technical)	ND	---	67.5	"	"	"	"	
Toxaphene (Total)	ND	---	67.5	"	"	"	"	

Surrogate: 2,4,5,6-TCMX (Surr)

Recovery: 55 %

Limits: 42-129 %

"

"

"

Decachlorobiphenyl (Surr)

80 %

Limits: 65-151 %

"

"

"

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/27/16 14:08

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
Comp-3(0.25-0.5) (A6J0739-12RE1)			Matrix: Soil		Batch: 6100923			C-05
Aldrin	ND	---	2.26	ug/kg dry	1	10/26/16 15:08	EPA 8081B	
alpha-BHC	ND	---	2.26	"	"	"	"	
beta-BHC	ND	---	2.26	"	"	"	"	
delta-BHC	ND	---	2.26	"	"	"	"	
gamma-BHC (Lindane)	7.31	---	2.26	"	"	"	"	
cis-Chlordane	ND	---	2.26	"	"	"	"	
trans-Chlordane	ND	---	2.26	"	"	"	"	
4,4'-DDD	ND	---	2.26	"	"	"	"	
4,4'-DDE	19.2	---	2.26	"	"	"	"	
4,4'-DDT	22.5	---	2.26	"	"	"	"	
Dieldrin	208	---	2.26	"	"	"	"	
Endosulfan I	ND	---	2.26	"	"	"	"	
Endosulfan II	ND	---	2.26	"	"	"	"	
Endosulfan sulfate	ND	---	2.26	"	"	"	"	
Endrin	ND	---	2.26	"	"	"	"	
Endrin Aldehyde	ND	---	2.26	"	"	"	"	
Endrin ketone	3.15	---	2.26	"	"	"	"	
Heptachlor	ND	---	2.26	"	"	"	"	
Heptachlor epoxide	ND	---	2.26	"	"	"	"	
Methoxychlor	ND	---	6.77	"	"	"	"	
Chlordane (Technical)	ND	---	67.7	"	"	"	"	
Toxaphene (Total)	ND	---	67.7	"	"	"	"	

Surrogate: 2,4,5,6-TCMX (Surr)

Decachlorobiphenyl (Surr)

Recovery: 84 %

Limits: 42-129 %

"

"

"

98 %

Limits: 65-151 %

"

"

"

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/27/16 14:08

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
Comp-4(0.25-0.5) (A6J0739-13RE1)		Matrix: Soil		Batch: 6100923			C-05	
Aldrin	ND	---	2.29	ug/kg dry	1	10/26/16 15:26	EPA 8081B	
alpha-BHC	ND	---	2.29	"	"	"	"	
beta-BHC	ND	---	2.29	"	"	"	"	
delta-BHC	ND	---	2.29	"	"	"	"	
gamma-BHC (Lindane)	ND	---	2.29	"	"	"	"	
cis-Chlordane	3.69	---	2.29	"	"	"	"	
trans-Chlordane	ND	---	2.29	"	"	"	"	
4,4'-DDD	ND	---	2.29	"	"	"	"	
4,4'-DDE	37.4	---	2.29	"	"	"	"	
4,4'-DDT	28.3	---	2.29	"	"	"	"	
Dieldrin	30.0	---	2.29	"	"	"	"	
Endosulfan I	ND	---	2.29	"	"	"	"	
Endosulfan II	ND	---	2.29	"	"	"	"	
Endosulfan sulfate	ND	---	2.29	"	"	"	"	
Endrin	ND	---	2.29	"	"	"	"	
Endrin Aldehyde	ND	---	2.29	"	"	"	"	
Endrin ketone	ND	---	2.29	"	"	"	"	
Heptachlor	ND	---	2.29	"	"	"	"	
Heptachlor epoxide	ND	---	2.29	"	"	"	"	
Methoxychlor	ND	---	6.86	"	"	"	"	
Chlordane (Technical)	ND	---	68.6	"	"	"	"	
Toxaphene (Total)	ND	---	68.6	"	"	"	"	

Surrogate: 2,4,5,6-TCMX (Surr)

Recovery: 46 %

Limits: 42-129 %

"

"

"

Decachlorobiphenyl (Surr)

86 %

Limits: 65-151 %

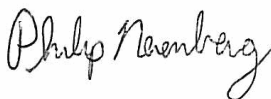
"

"

"

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/27/16 14:08

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
HA-2(7.0-8.0) (A6J0739-15RE1)			Matrix: Soil	Batch: 6100837				
Acenaphthene	ND	---	3.86	mg/kg dry	50	10/24/16 11:02	EPA 8270D (SIM)	R-02
Acenaphthylene	ND	---	1.49	"	"	"	"	R-02
Anthracene	ND	---	1.68	"	"	"	"	R-02
Benz(a)anthracene	ND	---	0.622	"	"	"	"	
Benzo(a)pyrene	ND	---	0.622	"	"	"	"	
Benzo(b)fluoranthene	ND	---	0.622	"	"	"	"	
Benzo(k)fluoranthene	ND	---	0.622	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	0.622	"	"	"	"	
Chrysene	ND	---	0.622	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.622	"	"	"	"	
Dibenzofuran	4.88	---	0.622	"	"	"	"	
Fluoranthene	ND	---	0.622	"	"	"	"	
Fluorene	8.03	---	0.622	"	"	"	"	M-04
Indeno(1,2,3-cd)pyrene	ND	---	0.622	"	"	"	"	
1-Methylnaphthalene	26.6	---	0.622	"	"	"	"	
2-Methylnaphthalene	43.3	---	0.622	"	"	"	"	
Naphthalene	14.1	---	0.622	"	"	"	"	
Phenanthrene	11.7	---	0.622	"	"	"	"	
Pyrene	1.88	---	0.622	"	"	"	"	M-02
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>		<i>Recovery: 114 %</i>		<i>Limits: 44-120 %</i>	"	"	"	<i>S-05</i>
<i>p-Terphenyl-d14 (Surr)</i>		<i>107 %</i>		<i>Limits: 54-127 %</i>	"	"	"	<i>S-05</i>

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

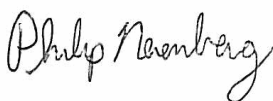
10/27/16 14:08

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
HA-1(0.0-1.0) (A6J0739-16)			Matrix: Soil	Batch: 6100837				
Acenaphthene	ND	---	0.0131	mg/kg dry	1	10/21/16 19:06	EPA 8270D (SIM)	
Acenaphthylene	ND	---	0.0131	"	"	"	"	
Anthracene	ND	---	0.0131	"	"	"	"	
Benz(a)anthracene	ND	---	0.0131	"	"	"	"	
Benzo(a)pyrene	ND	---	0.0131	"	"	"	"	
Benzo(b)fluoranthene	ND	---	0.0131	"	"	"	"	
Benzo(k)fluoranthene	ND	---	0.0131	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	0.0131	"	"	"	"	
Chrysene	ND	---	0.0131	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.0131	"	"	"	"	
Dibenzofuran	ND	---	0.0131	"	"	"	"	
Fluoranthene	ND	---	0.0131	"	"	"	"	
Fluorene	ND	---	0.0131	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	0.0131	"	"	"	"	
1-Methylnaphthalene	ND	---	0.0131	"	"	"	"	
2-Methylnaphthalene	ND	---	0.0131	"	"	"	"	
Naphthalene	ND	---	0.0131	"	"	"	"	
Phenanthrene	ND	---	0.0131	"	"	"	"	
Pyrene	ND	---	0.0131	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 96 %</i>	<i>Limits: 44-120 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>			<i>91 %</i>	<i>Limits: 54-127 %</i>	"	"	"	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/27/16 14:08

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
HA-2(8.25-8.75) (A6J0739-17)			Matrix: Soil	Batch: 6100837				
Acenaphthene	ND	---	0.0419	mg/kg dry	1	10/21/16 19:32	EPA 8270D (SIM)	R-02
Acenaphthylene	ND	---	0.0190	"	"	"	"	R-02
Anthracene	ND	---	0.0127	"	"	"	"	
Benz(a)anthracene	ND	---	0.0127	"	"	"	"	
Benzo(a)pyrene	ND	---	0.0127	"	"	"	"	
Benzo(b)fluoranthene	ND	---	0.0127	"	"	"	"	
Benzo(k)fluoranthene	ND	---	0.0127	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	0.0127	"	"	"	"	
Chrysene	ND	---	0.0127	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.0127	"	"	"	"	
Dibenzofuran	ND	---	0.0584	"	"	"	"	R-02
Fluoranthene	ND	---	0.0127	"	"	"	"	
Fluorene	0.0937	---	0.0127	"	"	"	"	M-04
Indeno(1,2,3-cd)pyrene	ND	---	0.0127	"	"	"	"	
1-Methylnaphthalene	0.272	---	0.0127	"	"	"	"	
2-Methylnaphthalene	0.486	---	0.0127	"	"	"	"	
Naphthalene	0.145	---	0.0127	"	"	"	"	M-02
Phenanthrene	0.150	---	0.0127	"	"	"	"	
Pyrene	0.0180	---	0.0127	"	"	"	"	M-02
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>		<i>Recovery: 90 %</i>		<i>Limits: 44-120 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>		<i>88 %</i>		<i>Limits: 54-127 %</i>	"	"	"	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/27/16 14:08

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
HA-1(6.5-8.0) (A6J0739-18RE1)			Matrix: Soil		Batch: 6100837			
Acenaphthene	ND	---	1.51	mg/kg dry	20	10/24/16 11:28	EPA 8270D (SIM)	R-02
Acenaphthylene	ND	---	0.497	"	"	"	"	R-02
Anthracene	ND	---	0.639	"	"	"	"	R-02
Benz(a)anthracene	ND	---	0.237	"	"	"	"	
Benzo(a)pyrene	ND	---	0.237	"	"	"	"	
Benzo(b)fluoranthene	ND	---	0.237	"	"	"	"	
Benzo(k)fluoranthene	ND	---	0.237	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	0.237	"	"	"	"	
Chrysene	ND	---	0.237	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.237	"	"	"	"	
Dibenzofuran	1.73	---	0.237	"	"	"	"	
Fluoranthene	ND	---	0.237	"	"	"	"	
Fluorene	2.71	---	0.237	"	"	"	"	M-04
Indeno(1,2,3-cd)pyrene	ND	---	0.237	"	"	"	"	
1-Methylnaphthalene	9.66	---	0.237	"	"	"	"	
2-Methylnaphthalene	14.7	---	0.237	"	"	"	"	
Naphthalene	4.71	---	0.237	"	"	"	"	M-02
Phenanthrene	3.71	---	0.237	"	"	"	"	
Pyrene	0.914	---	0.237	"	"	"	"	M-02
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 99 %</i>	<i>Limits: 44-120 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>			<i>99 %</i>	<i>Limits: 54-127 %</i>	"	"	"	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/27/16 14:08

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
HA-1(8.0-8.5) (A6J0739-19RE1)			Matrix: Soil		Batch: 6100837			
Acenaphthene	ND	---	1.34	mg/kg dry	50	10/24/16 11:54	EPA 8270D (SIM)	R-02
Acenaphthylene	ND	---	0.732	"	"	"	"	R-02
Anthracene	ND	---	0.610	"	"	"	"	
Benz(a)anthracene	ND	---	0.610	"	"	"	"	
Benzo(a)pyrene	ND	---	0.610	"	"	"	"	
Benzo(b)fluoranthene	ND	---	0.610	"	"	"	"	
Benzo(k)fluoranthene	ND	---	0.610	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	0.610	"	"	"	"	
Chrysene	ND	---	0.610	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.610	"	"	"	"	
Dibenzofuran	2.31	---	0.610	"	"	"	"	
Fluoranthene	ND	---	0.610	"	"	"	"	
Fluorene	ND	---	2.68	"	"	"	"	R-02
Indeno(1,2,3-cd)pyrene	ND	---	0.610	"	"	"	"	
1-Methylnaphthalene	11.4	---	0.610	"	"	"	"	
2-Methylnaphthalene	18.4	---	0.610	"	"	"	"	
Naphthalene	6.65	---	0.610	"	"	"	"	M-02
Phenanthrene	3.03	---	0.610	"	"	"	"	
Pyrene	0.891	---	0.610	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 106 %</i>	<i>Limits: 44-120 %</i>	"	"	"	<i>S-05</i>
<i>p-Terphenyl-d14 (Surr)</i>			<i>99 %</i>	<i>Limits: 54-127 %</i>	"	"	"	<i>S-05</i>

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/27/16 14:08

ANALYTICAL SAMPLE RESULTS

Percent Dry Weight								
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
Comp-5(0.25-0.5) (A6J0739-01)			Matrix: Soil		Batch: 6100912			
% Solids	79.8	---	1.00	% by Weight	1	10/25/16 09:29	EPA 8000C	
Comp-1(0.25-0.5) (A6J0739-04)			Matrix: Soil		Batch: 6100912			
% Solids	76.9	---	1.00	% by Weight	1	10/25/16 09:29	EPA 8000C	
Comp-7(0.25-0.5) (A6J0739-07)			Matrix: Soil		Batch: 6100912			
% Solids	80.0	---	1.00	% by Weight	1	10/25/16 09:29	EPA 8000C	
Comp-6(0.25-0.5) (A6J0739-10)			Matrix: Soil		Batch: 6100912			
% Solids	77.9	---	1.00	% by Weight	1	10/25/16 09:29	EPA 8000C	
Comp-2(0.25-0.5) (A6J0739-11)			Matrix: Soil		Batch: 6100912			
% Solids	79.5	---	1.00	% by Weight	1	10/25/16 09:29	EPA 8000C	
Comp-3(0.25-0.5) (A6J0739-12)			Matrix: Soil		Batch: 6100912			
% Solids	78.6	---	1.00	% by Weight	1	10/25/16 09:29	EPA 8000C	
Comp-4(0.25-0.5) (A6J0739-13)			Matrix: Soil		Batch: 6100912			
% Solids	78.6	---	1.00	% by Weight	1	10/25/16 09:29	EPA 8000C	
HA-2(7.0-8.0) (A6J0739-15)			Matrix: Soil		Batch: 6100912			
% Solids	78.1	---	1.00	% by Weight	1	10/25/16 09:29	EPA 8000C	
HA-1(0.0-1.0) (A6J0739-16)			Matrix: Soil		Batch: 6100912			
% Solids	70.0	---	1.00	% by Weight	1	10/25/16 09:29	EPA 8000C	
HA-2(8.25-8.75) (A6J0739-17)			Matrix: Soil		Batch: 6100912			
% Solids	77.7	---	1.00	% by Weight	1	10/25/16 09:29	EPA 8000C	
HA-1(6.5-8.0) (A6J0739-18)			Matrix: Soil		Batch: 6100912			
% Solids	79.6	---	1.00	% by Weight	1	10/25/16 09:29	EPA 8000C	
HA-1(8.0-8.5) (A6J0739-19)			Matrix: Soil		Batch: 6100912			
% Solids	77.5	---	1.00	% by Weight	1	10/25/16 09:29	EPA 8000C	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/27/16 14:08

QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100864 - EPA 3546 (Fuels)						Soil						
Blank (6100864-BLK1)						Prepared: 10/21/16 13:37 Analyzed: 10/22/16 09:21						
NWTPH-Dx												
Diesel	ND	---	25.0	mg/kg wet	1	---	---	---	---	---	---	
Oil	ND	---	50.0	"	"	---	---	---	---	---	---	
Mineral Oil	ND	---	36.4	"	"	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)		Recovery: 69 %		Limits: 50-150 %		Dilution: 1x						
LCS (6100864-BS1)						Prepared: 10/21/16 13:37 Analyzed: 10/22/16 09:41						
NWTPH-Dx												
Diesel	125	---	25.0	mg/kg wet	1	125	---	100	76-115%	---	---	
Surr: o-Terphenyl (Surr)		Recovery: 104 %		Limits: 50-150 %		Dilution: 1x						

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/27/16 14:08

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100889 - EPA 3546						Soil						
Blank (6100889-BLK1)			Prepared: 10/24/16 07:53 Analyzed: 10/25/16 12:00									
EPA 8081B												
Aldrin	ND	---	0.833	ug/kg wet	1	---	---	---	---	---	---	
alpha-BHC	ND	---	0.833	"	"	---	---	---	---	---	---	
beta-BHC	ND	---	0.833	"	"	---	---	---	---	---	---	
delta-BHC	ND	---	0.833	"	"	---	---	---	---	---	---	
gamma-BHC (Lindane)	ND	---	0.833	"	"	---	---	---	---	---	---	
cis-Chlordane	ND	---	0.833	"	"	---	---	---	---	---	---	
trans-Chlordane	ND	---	0.833	"	"	---	---	---	---	---	---	
4,4'-DDD	ND	---	0.833	"	"	---	---	---	---	---	---	
4,4'-DDE	ND	---	0.833	"	"	---	---	---	---	---	---	
4,4'-DDT	ND	---	0.833	"	"	---	---	---	---	---	---	
Dieldrin	ND	---	0.833	"	"	---	---	---	---	---	---	
Endosulfan I	ND	---	0.833	"	"	---	---	---	---	---	---	
Endosulfan II	ND	---	0.833	"	"	---	---	---	---	---	---	
Endosulfan sulfate	ND	---	0.833	"	"	---	---	---	---	---	---	
Endrin	ND	---	0.833	"	"	---	---	---	---	---	---	
Endrin Aldehyde	ND	---	0.833	"	"	---	---	---	---	---	---	
Endrin ketone	ND	---	0.833	"	"	---	---	---	---	---	---	
Heptachlor	ND	---	0.833	"	"	---	---	---	---	---	---	
Heptachlor epoxide	ND	---	0.833	"	"	---	---	---	---	---	---	
Methoxychlor	ND	---	2.50	"	"	---	---	---	---	---	---	
Chlordane (Technical)	ND	---	25.0	"	"	---	---	---	---	---	---	
Toxaphene (Total)	ND	---	25.0	"	"	---	---	---	---	---	---	
Surr: 2,4,5,6-TCMX (Surr)		Recovery: 86 %		Limits: 42-129 %		Dilution: 1x						
Decachlorobiphenyl (Surr)		97 %		65-151 %		"						

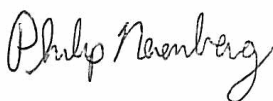
LCS (6100889-BS1)

Prepared: 10/24/16 07:53 Analyzed: 10/25/16 12:18

EPA 8081B												
Aldrin	39.4	---	1.00	ug/kg wet	1	50.0	---	79	45-136%	---	---	
alpha-BHC	52.7	---	1.00	"	"	"	---	105	45-137%	---	---	
beta-BHC	50.7	---	1.00	"	"	"	---	101	50-136%	---	---	
delta-BHC	49.7	---	1.00	"	"	"	---	99	47-139%	---	---	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/27/16 14:08

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100889 - EPA 3546						Soil						
LCS (6100889-BS1)						Prepared: 10/24/16 07:53 Analyzed: 10/25/16 12:18						
gamma-BHC (Lindane)	52.1	---	1.00	"	"	"	---	104	49-135%	---	---	
cis-Chlordane	48.5	---	1.00	"	"	"	---	97	54-133%	---	---	
trans-Chlordane	51.5	---	1.00	"	"	"	---	103	53-135%	---	---	
4,4'-DDD	54.3	---	1.00	"	"	"	---	109	56-139%	---	---	
4,4'-DDE	51.7	---	1.00	"	"	"	---	103	56-134%	---	---	
4,4'-DDT	58.4	---	1.00	"	"	"	---	117	50-141%	---	---	
Dieldrin	48.9	---	1.00	"	"	"	---	98	56-136%	---	---	
Endosulfan I	47.0	---	1.00	"	"	"	---	94	52-132%	---	---	
Endosulfan II	49.5	---	1.00	"	"	"	---	99	53-134%	---	---	
Endosulfan sulfate	49.1	---	1.00	"	"	"	---	98	55-136%	---	---	
Endrin	55.7	---	1.00	"	"	"	---	111	56-140%	---	---	
Endrin Aldehyde	46.8	---	1.00	"	"	"	---	94	35-137%	---	---	
Endrin ketone	51.7	---	1.00	"	"	"	---	103	55-136%	---	---	
Heptachlor	49.9	---	1.00	"	"	"	---	100	47-136%	---	---	
Heptachlor epoxide	46.1	---	1.00	"	"	"	---	92	52-136%	---	---	
Methoxychlor	68.1	---	3.00	"	"	"	---	136	52-143%	---	---	Q-41
Surr: 2,4,5,6-TCMX (Surr)			Recovery: 91 %	Limits: 42-129 %		Dilution: 1x						
Decachlorobiphenyl (Surr)			102 %	65-151 %		"						

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/27/16 14:08

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100923 - EPA 3546						Soil						
Blank (6100923-BLK1)				Prepared: 10/24/16 07:53		Analyzed: 10/26/16 12:11					C-05	
EPA 8081B												
Aldrin	ND	---	1.67	ug/kg wet	1	---	---	---	---	---	---	
alpha-BHC	ND	---	1.67	"	"	---	---	---	---	---	---	
beta-BHC	ND	---	1.67	"	"	---	---	---	---	---	---	
delta-BHC	ND	---	1.67	"	"	---	---	---	---	---	---	
gamma-BHC (Lindane)	ND	---	1.67	"	"	---	---	---	---	---	---	
cis-Chlordane	ND	---	1.67	"	"	---	---	---	---	---	---	
trans-Chlordane	ND	---	1.67	"	"	---	---	---	---	---	---	
4,4'-DDD	ND	---	1.67	"	"	---	---	---	---	---	---	
4,4'-DDE	ND	---	1.67	"	"	---	---	---	---	---	---	
4,4'-DDT	ND	---	1.67	"	"	---	---	---	---	---	---	
Dieldrin	ND	---	1.67	"	"	---	---	---	---	---	---	
Endosulfan I	ND	---	1.67	"	"	---	---	---	---	---	---	
Endosulfan II	ND	---	1.67	"	"	---	---	---	---	---	---	
Endosulfan sulfate	ND	---	1.67	"	"	---	---	---	---	---	---	
Endrin	ND	---	1.67	"	"	---	---	---	---	---	---	
Endrin Aldehyde	ND	---	1.67	"	"	---	---	---	---	---	---	
Endrin ketone	ND	---	1.67	"	"	---	---	---	---	---	---	
Heptachlor	ND	---	1.67	"	"	---	---	---	---	---	---	
Heptachlor epoxide	ND	---	1.67	"	"	---	---	---	---	---	---	
Methoxychlor	ND	---	5.00	"	"	---	---	---	---	---	---	
Chlordane (Technical)	ND	---	50.0	"	"	---	---	---	---	---	---	
Toxaphene (Total)	ND	---	50.0	"	"	---	---	---	---	---	---	
Surr: 2,4,5,6-TCMX (Surr)		Recovery: 77 %		Limits: 42-129 %		Dilution: 1x						
Decachlorobiphenyl (Surr)		102 %		65-151 %		"						

LCS (6100923-BS1)

Prepared: 10/24/16 07:53 Analyzed: 10/26/16 12:29

C-05

EPA 8081B												
Aldrin	31.2	---	2.00	ug/kg wet	1	50.0	---	62	45-136%	---	---	
alpha-BHC	34.1	---	2.00	"	"	"	---	68	45-137%	---	---	
beta-BHC	38.4	---	2.00	"	"	"	---	77	50-136%	---	---	
delta-BHC	39.5	---	2.00	"	"	"	---	79	47-139%	---	---	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/27/16 14:08

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100923 - EPA 3546						Soil						
LCS (6100923-BS1)						Prepared: 10/24/16 07:53	Analyzed: 10/26/16 12:29	C-05				
gamma-BHC (Lindane)	36.2	---	2.00	"	"	"	---	72	49-135%	---	---	
cis-Chlordane	41.8	---	2.00	"	"	"	---	84	54-133%	---	---	
trans-Chlordane	44.9	---	2.00	"	"	"	---	90	53-135%	---	---	
4,4'-DDD	53.6	---	2.00	"	"	"	---	107	56-139%	---	---	
4,4'-DDE	46.9	---	2.00	"	"	"	---	94	56-134%	---	---	
4,4'-DDT	65.7	---	2.00	"	"	"	---	131	50-141%	---	---	
Dieldrin	47.1	---	2.00	"	"	"	---	94	56-136%	---	---	
Endosulfan I	44.3	---	2.00	"	"	"	---	89	52-132%	---	---	
Endosulfan II	50.7	---	2.00	"	"	"	---	101	53-134%	---	---	
Endosulfan sulfate	51.8	---	2.00	"	"	"	---	104	55-136%	---	---	
Endrin	55.6	---	2.00	"	"	"	---	111	56-140%	---	---	
Endrin Aldehyde	49.2	---	2.00	"	"	"	---	98	35-137%	---	---	
Endrin ketone	53.9	---	2.00	"	"	"	---	108	55-136%	---	---	
Heptachlor	38.1	---	2.00	"	"	"	---	76	47-136%	---	---	
Heptachlor epoxide	41.0	---	2.00	"	"	"	---	82	52-136%	---	---	
Methoxychlor	75.8	---	6.00	"	"	"	---	152	52-143%	---	---	Q-41

Surr: 2,4,5,6-TCMX (Surr)

Recovery: 62 %

Limits: 42-129 %

Dilution: 1x

Decachlorobiphenyl (Surr)

101 %

65-151 %

"

Duplicate (6100923-DUP1)

Prepared: 10/24/16 07:53 Analyzed: 10/26/16 13:04

C-05

QC Source Sample: Comp-5(0.25-0.5) (A6J0739-01RE1)

EPA 8081B

Aldrin	ND	---	2.20	ug/kg dry	1	---	ND	---	---	---	30%
alpha-BHC	ND	---	2.20	"	"	---	ND	---	---	---	30%
beta-BHC	ND	---	2.20	"	"	---	ND	---	---	---	30%
delta-BHC	ND	---	2.20	"	"	---	ND	---	---	---	30%
gamma-BHC (Lindane)	2.57	---	2.20	"	"	---	2.05	---	---	23	30%
cis-Chlordane	ND	---	2.20	"	"	---	ND	---	---	---	30%
trans-Chlordane	ND	---	2.20	"	"	---	ND	---	---	---	30%
4,4'-DDD	ND	---	2.20	"	"	---	ND	---	---	---	30%
4,4'-DDE	47.8	---	2.20	"	"	---	39.2	---	---	20	30%
4,4'-DDT	39.9	---	2.20	"	"	---	32.5	---	---	21	30%

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/27/16 14:08

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100923 - EPA 3546						Soil						
Duplicate (6100923-DUP1)				Prepared: 10/24/16 07:53		Analyzed: 10/26/16 13:04					C-05	
QC Source Sample: Comp-5(0.25-0.5) (A6J0739-01RE1)												
Dieldrin	98.7	---	2.20	"	"	---	93.3	---	---	6	30%	
Endosulfan I	ND	---	2.20	"	"	---	ND	---	---	---	30%	
Endosulfan II	ND	---	2.20	"	"	---	ND	---	---	---	30%	
Endosulfan sulfate	ND	---	2.20	"	"	---	ND	---	---	---	30%	
Endrin	ND	---	2.20	"	"	---	ND	---	---	---	30%	
Endrin Aldehyde	ND	---	2.20	"	"	---	ND	---	---	---	30%	
Endrin ketone	ND	---	2.20	"	"	---	ND	---	---	---	30%	
Heptachlor	ND	---	2.20	"	"	---	ND	---	---	---	30%	
Heptachlor epoxide	ND	---	2.20	"	"	---	ND	---	---	---	30%	
Methoxychlor	ND	---	6.61	"	"	---	ND	---	---	---	30%	
Chlordane (Technical)	ND	---	66.1	"	"	---	ND	---	---	---	30%	
Toxaphene (Total)	ND	---	66.1	"	"	---	ND	---	---	---	30%	
Surr: 2,4,5,6-TCMX (Surr)		Recovery: 59 %		Limits: 42-129 %		Dilution: 1x						
Decachlorobiphenyl (Surr)		91 %		65-151 %		"						

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/27/16 14:08

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100837 - EPA 3546						Soil						
Blank (6100837-BLK1)						Prepared: 10/21/16 07:15 Analyzed: 10/21/16 13:01						
EPA 8270D (SIM)												
Acenaphthene	ND	---	0.00833	mg/kg wet	1	---	---	---	---	---	---	
Acenaphthylene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Anthracene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Benzo(a)anthracene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Benzo(a)pyrene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Chrysene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Dibenzofuran	ND	---	0.00833	"	"	---	---	---	---	---	---	
Fluoranthene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Fluorene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	---	0.00833	"	"	---	---	---	---	---	---	
1-Methylnaphthalene	ND	---	0.00833	"	"	---	---	---	---	---	---	
2-Methylnaphthalene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Naphthalene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Phenanthrene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Pyrene	ND	---	0.00833	"	"	---	---	---	---	---	---	

Surr: 2-Fluorobiphenyl (Surr)

p-Terphenyl-d14 (Surr)

Recovery: 100 %

96 %

Limits: 44-120 %

54-127 %

Dilution: 1x

"

LCS (6100837-BS1)

Prepared: 10/21/16 07:15 Analyzed: 10/21/16 13:27

EPA 8270D (SIM)

Acenaphthene	0.787	---	0.0100	mg/kg wet	1	0.800	---	98	40-122%	---	---	
Acenaphthylene	0.756	---	0.0100	"	"	"	---	95	32-132%	---	---	
Anthracene	0.769	---	0.0100	"	"	"	---	96	47-123%	---	---	
Benz(a)anthracene	0.686	---	0.0100	"	"	"	---	86	49-126%	---	---	
Benzo(a)pyrene	0.779	---	0.0100	"	"	"	---	97	45-129%	---	---	
Benzo(b)fluoranthene	0.741	---	0.0100	"	"	"	---	93	45-132%	---	---	
Benzo(k)fluoranthene	0.776	---	0.0100	"	"	"	---	97	47-132%	---	---	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/27/16 14:08

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100837 - EPA 3546						Soil						
LCS (6100837-BS1)						Prepared: 10/21/16 07:15 Analyzed: 10/21/16 13:27						
Benzo(g,h,i)perylene	0.656	---	0.0100	"	"	"	---	82	43-134%	---	---	
Chrysene	0.705	---	0.0100	"	"	"	---	88	50-124%	---	---	
Dibenz(a,h)anthracene	0.739	---	0.0100	"	"	"	---	92	45-134%	---	---	
Dibenzofuran	0.759	---	0.0100	"	"	"	---	95	44-120%	---	---	
Fluoranthene	0.748	---	0.0100	"	"	"	---	93	50-127%	---	---	
Fluorene	0.729	---	0.0100	"	"	"	---	91	43-125%	---	---	
Indeno(1,2,3-cd)pyrene	0.663	---	0.0100	"	"	"	---	83	45-133%	---	---	
1-Methylnaphthalene	0.717	---	0.0100	"	"	"	---	90	40-120%	---	---	
2-Methylnaphthalene	0.707	---	0.0100	"	"	"	---	88	38-122%	---	---	
Naphthalene	0.699	---	0.0100	"	"	"	---	87	35-123%	---	---	
Phenanthrene	0.703	---	0.0100	"	"	"	---	88	50-121%	---	---	
Pyrene	0.761	---	0.0100	"	"	"	---	95	47-127%	---	---	
Surr: 2-Fluorobiphenyl (Surr)		Recovery: 96 %		Limits: 44-120 %		Dilution: 1x						
p-Terphenyl-d14 (Surr)		87 %		54-127 %		"						

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/27/16 14:08

QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100912 - Total Solids (Dry Weight)							Soil					
Duplicate (6100912-DUP4)					Prepared: 10/24/16 13:11		Analyzed: 10/25/16 09:29					
QC Source Sample: Comp-4(0.25-0.5) (A6J0739-13)												
EPA 8000C												
% Solids	78.9	---	1.00	% by Weight	1	---	78.6	---	---	0.4	10%	

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

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/27/16 14:08

SAMPLE PREPARATION INFORMATION

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Prep: EPA 3546 (Fuels)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6100864							
A6J0739-15	Soil	NWTPH-Dx	10/20/16 17:25	10/21/16 13:37	10.37g/5mL	10g/5mL	0.96
A6J0739-16	Soil	NWTPH-Dx	10/20/16 16:20	10/21/16 13:37	10.44g/5mL	10g/5mL	0.96
A6J0739-17	Soil	NWTPH-Dx	10/20/16 17:40	10/21/16 13:37	10.26g/5mL	10g/5mL	0.98
A6J0739-18	Soil	NWTPH-Dx	10/20/16 16:05	10/21/16 13:37	10.87g/5mL	10g/5mL	0.92
A6J0739-19RE1	Soil	NWTPH-Dx	10/20/16 16:15	10/21/16 13:37	10.54g/5mL	10g/5mL	0.95

Organochlorine Pesticides by EPA 8081B

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6100923							
A6J0739-01RE1	Soil	EPA 8081B	10/20/16 16:10	10/24/16 07:53	11.57g/10mL	10g/5mL	1.73
A6J0739-04RE1	Soil	EPA 8081B	10/20/16 15:05	10/24/16 07:53	11.79g/10mL	10g/5mL	1.70
A6J0739-07RE1	Soil	EPA 8081B	10/20/16 17:45	10/24/16 07:53	11.76g/10mL	10g/5mL	1.70
A6J0739-10RE1	Soil	EPA 8081B	10/20/16 17:06	10/24/16 07:53	11.96g/10mL	10g/5mL	1.67
A6J0739-11RE1	Soil	EPA 8081B	10/20/16 14:02	10/24/16 07:53	11.19g/10mL	10g/5mL	1.79
A6J0739-12RE1	Soil	EPA 8081B	10/20/16 12:52	10/24/16 07:53	11.28g/10mL	10g/5mL	1.77
A6J0739-13RE1	Soil	EPA 8081B	10/20/16 11:27	10/24/16 07:53	11.12g/10mL	10g/5mL	1.80

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6100837							
A6J0739-15RE1	Soil	EPA 8270D (SIM)	10/20/16 17:25	10/21/16 13:40	10.28g/5mL	10g/5mL	0.97
A6J0739-16	Soil	EPA 8270D (SIM)	10/20/16 16:20	10/21/16 13:40	10.89g/5mL	10g/5mL	0.92
A6J0739-17	Soil	EPA 8270D (SIM)	10/20/16 17:40	10/21/16 13:40	10.14g/5mL	10g/5mL	0.99
A6J0739-18RE1	Soil	EPA 8270D (SIM)	10/20/16 16:05	10/21/16 13:40	10.62g/5mL	10g/5mL	0.94
A6J0739-19RE1	Soil	EPA 8270D (SIM)	10/20/16 16:15	10/21/16 13:40	10.58g/5mL	10g/5mL	0.95

Percent Dry Weight

Prep: Total Solids (Dry Weight)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6100912							

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/27/16 14:08

SAMPLE PREPARATION INFORMATION

Percent Dry Weight

Prep: Total Solids (Dry Weight)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A6J0739-01	Soil	EPA 8000C	10/20/16 16:10	10/24/16 13:11	1N/A/1N/A	1N/A/1N/A	NA
A6J0739-04	Soil	EPA 8000C	10/20/16 15:05	10/24/16 13:11	1N/A/1N/A	1N/A/1N/A	NA
A6J0739-07	Soil	EPA 8000C	10/20/16 17:45	10/24/16 13:11	1N/A/1N/A	1N/A/1N/A	NA
A6J0739-10	Soil	EPA 8000C	10/20/16 17:06	10/24/16 13:11	1N/A/1N/A	1N/A/1N/A	NA
A6J0739-11	Soil	EPA 8000C	10/20/16 14:02	10/24/16 13:11	1N/A/1N/A	1N/A/1N/A	NA
A6J0739-12	Soil	EPA 8000C	10/20/16 12:52	10/24/16 13:11	1N/A/1N/A	1N/A/1N/A	NA
A6J0739-13	Soil	EPA 8000C	10/20/16 11:27	10/24/16 13:11	1N/A/1N/A	1N/A/1N/A	NA
A6J0739-15	Soil	EPA 8000C	10/20/16 17:25	10/24/16 13:11	1N/A/1N/A	1N/A/1N/A	NA
A6J0739-16	Soil	EPA 8000C	10/20/16 16:20	10/24/16 13:11	1N/A/1N/A	1N/A/1N/A	NA
A6J0739-17	Soil	EPA 8000C	10/20/16 17:40	10/24/16 13:11	1N/A/1N/A	1N/A/1N/A	NA
A6J0739-18	Soil	EPA 8000C	10/20/16 16:05	10/24/16 13:11	1N/A/1N/A	1N/A/1N/A	NA
A6J0739-19	Soil	EPA 8000C	10/20/16 16:15	10/24/16 13:11	1N/A/1N/A	1N/A/1N/A	NA

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02
Project Manager: Jeremy Zimmer

Reported:

10/27/16 14:08

Notes and Definitions

Qualifiers:

- A-01 Sample results are less than MRL and duplicate results have hits greater than the MRL. See duplicate results.
- C-05 Extract has undergone a GPC (Gel-Permeation Chromatography) cleanup per EPA 3640A. Reporting levels may be raised due to dilution necessary for cleanup. Sample Final Volume includes the GPC dilution factor, see the Prep page for details.
- F-11 The hydrocarbon pattern indicates possible weathered diesel, or a contribution from a related component.
- M-02 Due to matrix interference, this analyte cannot be accurately quantified. The reported result is estimated.
- M-04 Due to matrix interference, this analyte cannot be accurately quantified. The reported result may contain a high bias.
- Q-41 Estimated Results. Recovery of Continuing Calibration Verification sample above upper control limit for this analyte. Results are likely biased high.
- R-02 The Reporting Limit for this analyte has been raised to account for interference from coeluting organic compounds present in the sample.
- S-01 Surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interference.
- S-05 Surrogate recovery is estimated due to sample dilution required for high analyte concentration and/or matrix interference.
- S-06 Surrogate recovery is outside of established control limits.

Notes and Conventions:

- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis. Results listed as 'wet' or without 'dry' designation are not dry weight corrected.
- RPD Relative Percent Difference
- MDL If MDL is not listed, data has been evaluated to the Method Reporting Limit only.
- WMSC Water Miscible Solvent Correction has been applied to Results and MRLs for volatiles soil samples per EPA 8000C.
- Batch QC Unless specifically requested, this report contains only results for Batch QC derived from client samples included in this report. All analyses were performed with the appropriate Batch QC (including Sample Duplicates, Matrix Spikes and/or Matrix Spike Duplicates) in order to meet or exceed method and regulatory requirements. Any exceptions to this will be qualified in this report. Complete Batch QC results are available upon request. In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.
- Blank Policy Apex assesses blank data for potential high bias down to a level equal to ½ the method reporting limit (MRL), except for conventional chemistry and HCID analyses which are assessed only to the MRL. Sample results flagged with a B or B-02 qualifier are potentially biased high if they are less than ten times the level found in the blank for inorganic analyses or less than five times the level found in the blank for organic analyses.

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

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

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02
Project Manager: Jeremy Zimmer

Reported:
10/27/16 14:08

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

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

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/27/16 14:08

PO#

CHAIN OF CUSTODY

APEX LABS

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

Company: GeoDesign, Inc.		Project Mgr: Jeremy Zimmer		Project Name: River Terrace Area 10		Project # Polygon-145-02	
Address: 15575 SW Sequoia Pkwy, Ste 100		Phone: 503-968-8787		Fax: 503-968-7008		Email: jzimmer@geodesigninc.com	
Sampled by: RMM							
Site Location: ☒ WA							
Other: ☐							
SAMPLE ID		LAB ID #		DATE		TIME	
1 Comp-5 (0.25-0.5)		102416		10/24/16		1610	
2 Comp-6 (1.5-2.0)		1706		1706		1706	
3 Comp-7 (1.5-2.0)		1745		1745		1745	
4 Comp-1 (0.25-0.5)		1505		1505		1505	
5 Comp-5 (1.5-2.0)		1610		1610		1610	
6 Comp-1 (1.5-2.0)		1505		1505		1505	
7 Comp-7 (0.25-0.5)		1745		1745		1745	
8 Comp-2 (1.5-2.0)		1402		1402		1402	
9 Comp-4 (1.5-2.0)		1140		1140		1140	
10 Comp-6 (0.25-0.5)		1706		1706		1706	
Normal Turn Around Time (TAT) = 10 Business Days		TAT Requested (circle)		1 Day		2 Day	
				3 Day		Other:	
				4 Day		5 Day	
				6 Day		7 Day	
				8 Day		9 Day	
				10 Day		11 Day	
				12 Day		13 Day	
				14 Day		15 Day	
				16 Day		17 Day	
				18 Day		19 Day	
				20 Day		21 Day	
				22 Day		23 Day	
				24 Day		25 Day	
				26 Day		27 Day	
				28 Day		29 Day	
				30 Day		31 Day	
				32 Day		33 Day	
				34 Day		35 Day	
				36 Day		37 Day	
				38 Day		39 Day	
				40 Day		41 Day	
				42 Day		43 Day	
				44 Day		45 Day	
				46 Day		47 Day	
				48 Day		49 Day	
				50 Day		51 Day	
				52 Day		53 Day	
				54 Day		55 Day	
				56 Day		57 Day	
				58 Day		59 Day	
				60 Day		61 Day	
				62 Day		63 Day	
				64 Day		65 Day	
				66 Day		67 Day	
				68 Day		69 Day	
				70 Day		71 Day	
				72 Day		73 Day	
				74 Day		75 Day	
				76 Day		77 Day	
				78 Day		79 Day	
				80 Day		81 Day	
				82 Day		83 Day	
				84 Day		85 Day	
				86 Day		87 Day	
				88 Day		89 Day	
				90 Day		91 Day	
				92 Day		93 Day	
				94 Day		95 Day	
				96 Day		97 Day	
				98 Day		99 Day	
				100 Day		101 Day	
				102 Day		103 Day	
				104 Day		105 Day	
				106 Day		107 Day	
				108 Day		109 Day	
				110 Day		111 Day	
				112 Day		113 Day	
				114 Day		115 Day	
				116 Day		117 Day	
				118 Day		119 Day	
				120 Day		121 Day	
				122 Day		123 Day	
				124 Day		125 Day	
				126 Day		127 Day	
				128 Day		129 Day	
				130 Day		131 Day	
				132 Day		133 Day	
				134 Day		135 Day	
				136 Day		137 Day	
				138 Day		139 Day	
				140 Day		141 Day	
				142 Day		143 Day	
				144 Day		145 Day	
				146 Day		147 Day	
				148 Day		149 Day	
				150 Day		151 Day	
				152 Day		153 Day	
				154 Day		155 Day	
				156 Day		157 Day	
				158 Day		159 Day	
				160 Day		161 Day	
				162 Day		163 Day	
				164 Day		165 Day	
				166 Day		167 Day	
				168 Day		169 Day	
				170 Day		171 Day	
				172 Day		173 Day	
				174 Day		175 Day	
				176 Day		177 Day	
				178 Day		179 Day	
				180 Day		181 Day	
				182 Day		183 Day	
				184 Day		185 Day	
				186 Day		187 Day	
				188 Day		189 Day	
				190 Day		191 Day	
				192 Day		193 Day	
				194 Day		195 Day	
				196 Day		197 Day	
				198 Day		199 Day	
				200 Day		201 Day	
				202 Day		203 Day	
				204 Day		205 Day	
				206 Day		207 Day	
				208 Day		209 Day	
				210 Day		211 Day	
				212 Day		213 Day	
				214 Day		215 Day	
				216 Day		217 Day	
				218 Day		219 Day	
				220 Day		221 Day	
				222 Day		223 Day	
				224 Day		225 Day	
				226 Day		227 Day	
				228 Day		229 Day	
				230 Day		231 Day	
				232 Day		233 Day	
				234 Day		235 Day	
				236 Day		237 Day	
				238 Day		239 Day	
				240 Day		241 Day	
				242 Day		243 Day	
				244 Day		245 Day	
				246 Day		247 Day	
				248 Day		249 Day	
				250 Day		251 Day	
				252 Day		253 Day	
				254 Day		255 Day	
				256 Day		257 Day	
				258 Day		259 Day	
				260 Day		261 Day	
				262 Day		263 Day	
				264 Day		265 Day	
				266 Day		267 Day	
				268 Day		269 Day	
				270 Day		271 Day	
				272 Day		273 Day	
				274 Day		275 Day	
				276 Day		277 Day	
				278 Day		279 Day	
				280 Day		281 Day	
				282 Day		283 Day	
				284 Day		285 Day	
				286 Day		287 Day	
				288 Day		289 Day	
				290 Day		291 Day	
				292 Day		293 Day	
				294 Day		295 Day	
				296 Day		297 Day	
				298 Day		299 Day	
				300 Day		301 Day	
				302 Day		303 Day	
				304 Day		305 Day	
				306 Day		307 Day	
				308 Day		309 Day	
				310 Day		311 Day	
				312 Day		313 Day	
				314 Day		315 Day	
				316 Day		317 Day	
				318 Day		319 Day	
				320 Day		321 Day	
				322 Day		323 Day	
				324 Day		325 Day	
				326 Day		327 Day	
				328 Day		329 Day	
				330 Day		331 Day	
				332 Day		333 Day	
				334 Day		335 Day	
				336 Day		337 Day	
				338 Day		339 Day	
				340 Day		341 Day	
				342 Day		343 Day	
				344 Day		345 Day	
				346 Day		347 Day	
				348 Day		349 Day	
				350 Day		351 Day	
				352 Day		353 Day	
				354 Day		355 Day	
				356 Day		357 Day	
				358 Day		359 Day	
				360 Day		361 Day	
				362 Day		363 Day	
				364 Day		365 Day	
				366 Day		367 Day	
				368 Day		369 Day	
				370 Day		371 Day	
				372 Day		373 Day	
				374 Day		375 Day	
				376 Day		377 Day	
				378 Day		379 Day	
				380 Day		381 Day	
				382 Day		383 Day	
				384 Day		385 Day	
				386 Day		387 Day	
				388 Day		389 Day	
				390 Day		391 Day	
				392 Day		393 Day	
				394 Day		395 Day	
				396 Day		397 Day	
				398 Day		399 Day	
				400 Day		401 Day	
				402 Day		403 Day	
				404 Day		405 Day	
				406 Day		407 Day	
				408 Day		409 Day	
				410 Day		411 Day	
				412 Day		413 Day	
				414 Day		415 Day	
				416 Day		417 Day	
				418 Day		419 Day	
				420 Day		421 Day	
				422 Day		423 Day	
				424 Day		425 Day	
				426 Day		427 Day	
				428 Day		429 Day	
				430 Day		431 Day	
				432 Day		433 Day	
				434 Day		435 Day	
				436 Day			

Reported:
10/27/16 14:08

Page 31 of 31

Apex Labs

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

Monday, October 31, 2016

Jeremy Zimmer
GeoDesign, Inc.
15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

RE: River Terrace Area 10 / Polygon-145-02

Enclosed are the results of analyses for work order A6J0739, which was received by the laboratory on 10/20/2016 at 7:10:00PM.

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

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

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/31/16 16:11

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Comp-6(1.5-2.0)	A6J0739-02	Soil	10/20/16 17:06	10/20/16 19:10
Comp-7(1.5-2.0)	A6J0739-03	Soil	10/20/16 17:45	10/20/16 19:10
Comp-5(1.5-2.0)	A6J0739-05	Soil	10/20/16 16:10	10/20/16 19:10
Comp-1(1.5-2.0)	A6J0739-06	Soil	10/20/16 15:05	10/20/16 19:10
Comp-2(1.5-2.0)	A6J0739-08	Soil	10/20/16 14:02	10/20/16 19:10
Comp-4(1.5-2.0)	A6J0739-09	Soil	10/20/16 11:40	10/20/16 19:10
Comp-3(1.5-2.0)	A6J0739-14	Soil	10/20/16 12:57	10/20/16 19:10

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/31/16 16:11

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
Comp-6(1.5-2.0) (A6J0739-02)		Matrix: Soil		Batch: 6101087				
Aldrin	ND	---	1.06	ug/kg dry	1	10/28/16 14:16	EPA 8081B	
alpha-BHC	ND	---	1.06	"	"	"	"	
beta-BHC	ND	---	1.06	"	"	"	"	
delta-BHC	ND	---	1.06	"	"	"	"	
gamma-BHC (Lindane)	ND	---	1.06	"	"	"	"	Q-37
cis-Chlordane	1.07	---	1.06	"	"	"	"	P-11
trans-Chlordane	ND	---	1.06	"	"	"	"	
4,4'-DDD	2.06	---	1.06	"	"	"	"	P-11
4,4'-DDE	23.2	---	1.06	"	"	"	"	Q-39, Q-42
4,4'-DDT	14.7	---	1.06	"	"	"	"	
Dieldrin	38.0	---	1.06	"	"	"	"	Q-39, Q-42
Endosulfan I	ND	---	1.06	"	"	"	"	
Endosulfan II	ND	---	1.06	"	"	"	"	
Endosulfan sulfate	ND	---	1.06	"	"	"	"	
Endrin	ND	---	1.06	"	"	"	"	
Endrin Aldehyde	ND	---	1.06	"	"	"	"	
Endrin ketone	ND	---	1.06	"	"	"	"	
Heptachlor	ND	---	1.06	"	"	"	"	
Heptachlor epoxide	ND	---	1.06	"	"	"	"	
Methoxychlor	ND	---	3.18	"	"	"	"	
Chlordane (Technical)	ND	---	31.8	"	"	"	"	
Toxaphene (Total)	ND	---	31.8	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)		Recovery: 80 %		Limits: 42-129 %	"	"	"	
Decachlorobiphenyl (Surr)		81 %		Limits: 65-151 %	"	"	"	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/31/16 16:11

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
Comp-7(1.5-2.0) (A6J0739-03)		Matrix: Soil		Batch: 6101087				
Aldrin	ND	---	1.06	ug/kg dry	1	10/28/16 14:51	EPA 8081B	
alpha-BHC	ND	---	1.06	"	"	"	"	
beta-BHC	ND	---	1.06	"	"	"	"	
delta-BHC	ND	---	1.06	"	"	"	"	
gamma-BHC (Lindane)	ND	---	1.06	"	"	"	"	
cis-Chlordane	ND	---	1.06	"	"	"	"	
trans-Chlordane	ND	---	1.06	"	"	"	"	
4,4'-DDD	ND	---	1.06	"	"	"	"	
4,4'-DDE	24.4	---	1.06	"	"	"	"	
4,4'-DDT	12.1	---	1.06	"	"	"	"	
Dieldrin	4.89	---	1.06	"	"	"	"	
Endosulfan I	ND	---	1.06	"	"	"	"	
Endosulfan II	ND	---	1.06	"	"	"	"	
Endosulfan sulfate	ND	---	1.06	"	"	"	"	
Endrin	ND	---	1.06	"	"	"	"	
Endrin Aldehyde	ND	---	1.06	"	"	"	"	
Endrin ketone	ND	---	1.06	"	"	"	"	
Heptachlor	ND	---	1.06	"	"	"	"	
Heptachlor epoxide	ND	---	1.06	"	"	"	"	
Methoxychlor	ND	---	3.19	"	"	"	"	
Chlordane (Technical)	ND	---	31.9	"	"	"	"	
Toxaphene (Total)	ND	---	31.9	"	"	"	"	

Surrogate: 2,4,5,6-TCMX (Surr)

Decachlorobiphenyl (Surr)

Recovery: 76 %

Limits: 42-129 %

77 %

Limits: 65-151 %

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/31/16 16:11

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
Comp-5(1.5-2.0) (A6J0739-05)			Matrix: Soil		Batch: 6101087			
Aldrin	ND	---	1.07	ug/kg dry	1	10/28/16 15:08	EPA 8081B	
alpha-BHC	ND	---	1.07	"	"	"	"	
beta-BHC	ND	---	1.07	"	"	"	"	
delta-BHC	ND	---	1.07	"	"	"	"	
gamma-BHC (Lindane)	ND	---	1.07	"	"	"	"	
cis-Chlordane	ND	---	1.07	"	"	"	"	
trans-Chlordane	ND	---	1.07	"	"	"	"	
4,4'-DDD	ND	---	1.07	"	"	"	"	
4,4'-DDE	1.79	---	1.07	"	"	"	"	
4,4'-DDT	1.18	---	1.07	"	"	"	"	
Dieldrin	3.78	---	1.07	"	"	"	"	
Endosulfan I	ND	---	1.07	"	"	"	"	
Endosulfan II	ND	---	1.07	"	"	"	"	
Endosulfan sulfate	ND	---	1.07	"	"	"	"	
Endrin	ND	---	1.07	"	"	"	"	
Endrin Aldehyde	ND	---	1.07	"	"	"	"	
Endrin ketone	ND	---	1.07	"	"	"	"	
Heptachlor	ND	---	1.07	"	"	"	"	
Heptachlor epoxide	ND	---	1.07	"	"	"	"	
Methoxychlor	ND	---	3.22	"	"	"	"	
Chlordane (Technical)	ND	---	32.2	"	"	"	"	
Toxaphene (Total)	ND	---	32.2	"	"	"	"	

Surrogate: 2,4,5,6-TCMX (Surr)

Decachlorobiphenyl (Surr)

Recovery: 79 %

Limits: 42-129 %

"

"

"

84 %

Limits: 65-151 %

"

"

"

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/31/16 16:11

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
Comp-1(1.5-2.0) (A6J0739-06)		Matrix: Soil		Batch: 6101087				
Aldrin	ND	---	1.14	ug/kg dry	1	10/28/16 13:44	EPA 8081B	
alpha-BHC	ND	---	1.14	"	"	"	"	
beta-BHC	ND	---	1.14	"	"	"	"	
delta-BHC	ND	---	1.14	"	"	"	"	
gamma-BHC (Lindane)	ND	---	1.14	"	"	"	"	
cis-Chlordane	ND	---	1.14	"	"	"	"	
trans-Chlordane	ND	---	1.14	"	"	"	"	
4,4'-DDD	ND	---	1.14	"	"	"	"	
4,4'-DDE	ND	---	1.14	"	"	"	"	
4,4'-DDT	ND	---	1.14	"	"	"	"	
Dieldrin	3.61	---	1.14	"	"	"	"	
Endosulfan I	ND	---	1.14	"	"	"	"	
Endosulfan II	ND	---	1.14	"	"	"	"	
Endosulfan sulfate	ND	---	1.14	"	"	"	"	
Endrin	ND	---	1.14	"	"	"	"	
Endrin Aldehyde	ND	---	1.14	"	"	"	"	
Endrin ketone	ND	---	1.14	"	"	"	"	
Heptachlor	ND	---	1.14	"	"	"	"	
Heptachlor epoxide	ND	---	1.14	"	"	"	"	
Methoxychlor	ND	---	3.43	"	"	"	"	
Chlordane (Technical)	ND	---	34.3	"	"	"	"	
Toxaphene (Total)	ND	---	34.3	"	"	"	"	
<i>Surrogate: 2,4,5,6-TCMX (Surr)</i>		<i>Recovery: 79 %</i>		<i>Limits: 42-129 %</i>	"	"	"	
<i>Decachlorobiphenyl (Surr)</i>		<i>69 %</i>		<i>Limits: 65-151 %</i>	"	"	"	

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/31/16 16:11

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
Comp-2(1.5-2.0) (A6J0739-08)			Matrix: Soil		Batch: 6101087			
Aldrin	ND	---	1.17	ug/kg dry	1	10/28/16 14:01	EPA 8081B	
alpha-BHC	ND	---	1.17	"	"	"	"	
beta-BHC	ND	---	1.17	"	"	"	"	
delta-BHC	ND	---	1.17	"	"	"	"	
gamma-BHC (Lindane)	ND	---	1.17	"	"	"	"	
cis-Chlordane	ND	---	1.17	"	"	"	"	
trans-Chlordane	ND	---	1.17	"	"	"	"	
4,4'-DDD	ND	---	1.17	"	"	"	"	
4,4'-DDE	ND	---	1.17	"	"	"	"	
4,4'-DDT	ND	---	1.17	"	"	"	"	
Dieldrin	ND	---	1.17	"	"	"	"	
Endosulfan I	ND	---	1.17	"	"	"	"	
Endosulfan II	ND	---	1.17	"	"	"	"	
Endosulfan sulfate	ND	---	1.17	"	"	"	"	
Endrin	ND	---	1.17	"	"	"	"	
Endrin Aldehyde	ND	---	1.17	"	"	"	"	
Endrin ketone	ND	---	1.17	"	"	"	"	
Heptachlor	ND	---	1.17	"	"	"	"	
Heptachlor epoxide	ND	---	1.17	"	"	"	"	
Methoxychlor	ND	---	3.51	"	"	"	"	
Chlordane (Technical)	ND	---	35.1	"	"	"	"	
Toxaphene (Total)	ND	---	35.1	"	"	"	"	
<i>Surrogate: 2,4,5,6-TCMX (Surr)</i>			<i>Recovery: 81 %</i>	<i>Limits: 42-129 %</i>	"	"	"	
<i>Decachlorobiphenyl (Surr)</i>			<i>73 %</i>	<i>Limits: 65-151 %</i>	"	"	"	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/31/16 16:11

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
Comp-4(1.5-2.0) (A6J0739-09)			Matrix: Soil		Batch: 6101087			
Aldrin	ND	---	1.09	ug/kg dry	1	10/28/16 14:19	EPA 8081B	
alpha-BHC	ND	---	1.09	"	"	"	"	
beta-BHC	ND	---	1.09	"	"	"	"	
delta-BHC	ND	---	1.09	"	"	"	"	
gamma-BHC (Lindane)	ND	---	1.09	"	"	"	"	
cis-Chlordane	17.0	---	1.09	"	"	"	"	
trans-Chlordane	9.62	---	1.09	"	"	"	"	
4,4'-DDD	ND	---	4.83	"	"	"	"	R-02
4,4'-DDE	33.6	---	1.09	"	"	"	"	
4,4'-DDT	20.0	---	1.09	"	"	"	"	
Dieldrin	22.0	---	1.09	"	"	"	"	
Endosulfan I	ND	---	1.09	"	"	"	"	
Endosulfan II	ND	---	1.09	"	"	"	"	
Endosulfan sulfate	ND	---	1.09	"	"	"	"	
Endrin	ND	---	3.04	"	"	"	"	R-02
Endrin Aldehyde	ND	---	1.09	"	"	"	"	
Endrin ketone	ND	---	1.09	"	"	"	"	
Heptachlor	ND	---	1.09	"	"	"	"	
Heptachlor epoxide	3.47	---	1.09	"	"	"	"	
Methoxychlor	ND	---	3.26	"	"	"	"	
Toxaphene (Total)	ND	---	32.6	"	"	"	"	
<i>Surrogate: 2,4,5,6-TCMX (Surr)</i>			<i>Recovery: 56 %</i>	<i>Limits: 42-129 %</i>	"	"	"	
<i>Decachlorobiphenyl (Surr)</i>			<i>66 %</i>	<i>Limits: 65-151 %</i>	"	"	"	

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/31/16 16:11

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
Comp-3(1.5-2.0) (A6J0739-14)			Matrix: Soil		Batch: 6101087			
Aldrin	ND	---	1.11	ug/kg dry	1	10/28/16 14:36	EPA 8081B	
alpha-BHC	ND	---	1.11	"	"	"	"	
beta-BHC	ND	---	1.11	"	"	"	"	
delta-BHC	ND	---	1.11	"	"	"	"	
gamma-BHC (Lindane)	ND	---	1.11	"	"	"	"	
cis-Chlordane	ND	---	1.11	"	"	"	"	
trans-Chlordane	ND	---	1.11	"	"	"	"	
4,4'-DDD	ND	---	1.11	"	"	"	"	
4,4'-DDE	3.79	---	1.11	"	"	"	"	
4,4'-DDT	2.74	---	1.11	"	"	"	"	
Dieldrin	22.9	---	1.11	"	"	"	"	
Endosulfan I	ND	---	1.11	"	"	"	"	
Endosulfan II	ND	---	1.11	"	"	"	"	
Endosulfan sulfate	ND	---	1.11	"	"	"	"	
Endrin	ND	---	1.11	"	"	"	"	
Endrin Aldehyde	ND	---	1.11	"	"	"	"	
Endrin ketone	ND	---	1.11	"	"	"	"	
Heptachlor	ND	---	1.11	"	"	"	"	
Heptachlor epoxide	ND	---	1.11	"	"	"	"	
Methoxychlor	ND	---	3.33	"	"	"	"	
Chlordane (Technical)	ND	---	33.3	"	"	"	"	
Toxaphene (Total)	ND	---	33.3	"	"	"	"	

Surrogate: 2,4,5,6-TCMX (Surr)

Decachlorobiphenyl (Surr)

Recovery: 69 %

Limits: 42-129 %

64 %

Limits: 65-151 %

S-06

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/31/16 16:11

ANALYTICAL SAMPLE RESULTS

Percent Dry Weight								
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
Comp-6(1.5-2.0) (A6J0739-02)			Matrix: Soil		Batch: 6101108			
% Solids	80.7	---	1.00	% by Weight	1	10/29/16 10:00	EPA 8000C	
Comp-7(1.5-2.0) (A6J0739-03)			Matrix: Soil		Batch: 6101108			
% Solids	82.7	---	1.00	% by Weight	1	10/29/16 10:00	EPA 8000C	
Comp-5(1.5-2.0) (A6J0739-05)			Matrix: Soil		Batch: 6101108			
% Solids	79.8	---	1.00	% by Weight	1	10/29/16 10:00	EPA 8000C	
Comp-1(1.5-2.0) (A6J0739-06)			Matrix: Soil		Batch: 6101108			
% Solids	76.9	---	1.00	% by Weight	1	10/29/16 10:00	EPA 8000C	
Comp-2(1.5-2.0) (A6J0739-08)			Matrix: Soil		Batch: 6101108			
% Solids	79.4	---	1.00	% by Weight	1	10/29/16 10:00	EPA 8000C	
Comp-4(1.5-2.0) (A6J0739-09)			Matrix: Soil		Batch: 6101108			
% Solids	78.4	---	1.00	% by Weight	1	10/29/16 10:00	EPA 8000C	
Comp-3(1.5-2.0) (A6J0739-14)			Matrix: Soil		Batch: 6101108			
% Solids	78.1	---	1.00	% by Weight	1	10/29/16 10:00	EPA 8000C	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/31/16 16:11

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6101087 - EPA 3546						Soil						
Blank (6101087-BLK1)			Prepared: 10/28/16 07:03 Analyzed: 10/28/16 13:42									
EPA 8081B												
Aldrin	ND	---	0.833	ug/kg wet	1	---	---	---	---	---	---	
alpha-BHC	ND	---	0.833	"	"	---	---	---	---	---	---	
beta-BHC	ND	---	0.833	"	"	---	---	---	---	---	---	
delta-BHC	ND	---	0.833	"	"	---	---	---	---	---	---	
gamma-BHC (Lindane)	ND	---	0.833	"	"	---	---	---	---	---	---	
cis-Chlordane	ND	---	0.833	"	"	---	---	---	---	---	---	
trans-Chlordane	ND	---	0.833	"	"	---	---	---	---	---	---	
4,4'-DDD	ND	---	0.833	"	"	---	---	---	---	---	---	
4,4'-DDE	ND	---	0.833	"	"	---	---	---	---	---	---	
4,4'-DDT	ND	---	0.833	"	"	---	---	---	---	---	---	
Dieldrin	ND	---	0.833	"	"	---	---	---	---	---	---	
Endosulfan I	ND	---	0.833	"	"	---	---	---	---	---	---	
Endosulfan II	ND	---	0.833	"	"	---	---	---	---	---	---	
Endosulfan sulfate	ND	---	0.833	"	"	---	---	---	---	---	---	
Endrin	ND	---	0.833	"	"	---	---	---	---	---	---	
Endrin Aldehyde	ND	---	0.833	"	"	---	---	---	---	---	---	
Endrin ketone	ND	---	0.833	"	"	---	---	---	---	---	---	
Heptachlor	ND	---	0.833	"	"	---	---	---	---	---	---	
Heptachlor epoxide	ND	---	0.833	"	"	---	---	---	---	---	---	
Methoxychlor	ND	---	2.50	"	"	---	---	---	---	---	---	
Chlordane (Technical)	ND	---	25.0	"	"	---	---	---	---	---	---	
Toxaphene (Total)	ND	---	25.0	"	"	---	---	---	---	---	---	
Surr: 2,4,5,6-TCMX (Surr)		Recovery: 84 %		Limits: 42-129 %		Dilution: 1x						
Decachlorobiphenyl (Surr)		93 %		65-151 %		"						

LCS (6101087-BS1)

Prepared: 10/28/16 07:03 Analyzed: 10/28/16 13:59

EPA 8081B												
Aldrin	43.3	---	1.00	ug/kg wet	1	50.0	---	87	45-136%	---	---	
alpha-BHC	46.1	---	1.00	"	"	"	---	92	45-137%	---	---	
beta-BHC	42.9	---	1.00	"	"	"	---	86	50-136%	---	---	
delta-BHC	48.0	---	1.00	"	"	"	---	96	47-139%	---	---	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/31/16 16:11

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6101087 - EPA 3546						Soil						
LCS (6101087-BS1)						Prepared: 10/28/16 07:03 Analyzed: 10/28/16 13:59						
gamma-BHC (Lindane)	45.8	---	1.00	"	"	"	---	92	49-135%	---	---	
cis-Chlordane	45.2	---	1.00	"	"	"	---	90	54-133%	---	---	
trans-Chlordane	45.9	---	1.00	"	"	"	---	92	53-135%	---	---	
4,4'-DDD	53.4	---	1.00	"	"	"	---	107	56-139%	---	---	
4,4'-DDE	48.9	---	1.00	"	"	"	---	98	56-134%	---	---	
4,4'-DDT	50.2	---	1.00	"	"	"	---	100	50-141%	---	---	
Dieldrin	49.5	---	1.00	"	"	"	---	99	56-136%	---	---	
Endosulfan I	45.7	---	1.00	"	"	"	---	91	52-132%	---	---	
Endosulfan II	50.1	---	1.00	"	"	"	---	100	53-134%	---	---	
Endosulfan sulfate	50.4	---	1.00	"	"	"	---	101	55-136%	---	---	
Endrin	59.7	---	1.00	"	"	"	---	119	56-140%	---	---	
Endrin Aldehyde	45.8	---	1.00	"	"	"	---	92	35-137%	---	---	
Endrin ketone	49.2	---	1.00	"	"	"	---	98	55-136%	---	---	
Heptachlor	45.1	---	1.00	"	"	"	---	90	47-136%	---	---	
Heptachlor epoxide	47.1	---	1.00	"	"	"	---	94	52-136%	---	---	
Methoxychlor	57.3	---	3.00	"	"	"	---	115	52-143%	---	---	

Surr: 2,4,5,6-TCMX (Surr)

Recovery: 85 %

Limits: 42-129 %

Dilution: 1x

Decachlorobiphenyl (Surr)

97 %

65-151 %

"

Duplicate (6101087-DUP1)

Prepared: 10/28/16 07:03 Analyzed: 10/28/16 14:34

QC Source Sample: Comp-6(1.5-2.0) (A6J0739-02)

EPA 8081B

Aldrin	ND	---	1.11	ug/kg dry	1	---	ND	---	---	---	30%	
alpha-BHC	ND	---	1.11	"	"	---	ND	---	---	---	30%	
beta-BHC	ND	---	1.11	"	"	---	ND	---	---	---	30%	
delta-BHC	ND	---	1.11	"	"	---	ND	---	---	---	30%	
gamma-BHC (Lindane)	1.34	---	1.11	"	"	---	0.841	---	---	45	30%	Q-05
cis-Chlordane	ND	---	1.11	"	"	---	1.07	---	---	***	30%	P-11
trans-Chlordane	ND	---	1.11	"	"	---	ND	---	---	---	30%	
4,4'-DDD	3.22	---	1.11	"	"	---	2.06	---	---	44	30%	Q-05
4,4'-DDE	40.2	---	1.11	"	"	---	23.2	---	---	54	30%	Q-17
4,4'-DDT	17.1	---	1.11	"	"	---	14.7	---	---	15	30%	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/31/16 16:11

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6101087 - EPA 3546						Soil						
Duplicate (6101087-DUP1)				Prepared: 10/28/16 07:03		Analyzed: 10/28/16 14:34						
QC Source Sample: Comp-6(1.5-2.0) (A6J0739-02)												
Dieldrin	65.2	---	1.11	"	"	---	38.0	---	---	53	30%	Q-17
Endosulfan I	ND	---	1.11	"	"	---	ND	---	---	---	30%	
Endosulfan II	ND	---	1.11	"	"	---	ND	---	---	---	30%	
Endosulfan sulfate	ND	---	1.11	"	"	---	ND	---	---	---	30%	
Endrin	ND	---	1.11	"	"	---	ND	---	---	---	30%	
Endrin Aldehyde	ND	---	1.11	"	"	---	ND	---	---	---	30%	
Endrin ketone	ND	---	1.11	"	"	---	ND	---	---	---	30%	
Heptachlor	ND	---	1.11	"	"	---	ND	---	---	---	30%	
Heptachlor epoxide	ND	---	1.11	"	"	---	ND	---	---	---	30%	
Methoxychlor	ND	---	3.34	"	"	---	ND	---	---	---	30%	
Chlordane (Technical)	ND	---	33.4	"	"	---	ND	---	---	---	30%	
Toxaphene (Total)	ND	---	33.4	"	"	---	ND	---	---	---	30%	
Surr: 2,4,5,6-TCMX (Surr)		Recovery: 71 %		Limits: 42-129 %		Dilution: 1x						
Decachlorobiphenyl (Surr)		76 %		65-151 %		"						

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/31/16 16:11

QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes

Batch 6101108 - Total Solids (Dry Weight)

Soil

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

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

GeoDesign, Inc.15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/31/16 16:11

SAMPLE PREPARATION INFORMATION**Organochlorine Pesticides by EPA 8081B****Prep: EPA 3546**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6101087							
A6J0739-02	Soil	EPA 8081B	10/20/16 17:06	10/28/16 07:03	11.7g/5mL	10g/5mL	0.86
A6J0739-03	Soil	EPA 8081B	10/20/16 17:45	10/28/16 07:03	11.39g/5mL	10g/5mL	0.88
A6J0739-05	Soil	EPA 8081B	10/20/16 16:10	10/28/16 07:03	11.68g/5mL	10g/5mL	0.86
A6J0739-06	Soil	EPA 8081B	10/20/16 15:05	10/28/16 07:03	11.37g/5mL	10g/5mL	0.88
A6J0739-08	Soil	EPA 8081B	10/20/16 14:02	10/28/16 07:03	10.77g/5mL	10g/5mL	0.93
A6J0739-09	Soil	EPA 8081B	10/20/16 11:40	10/28/16 07:03	11.75g/5mL	10g/5mL	0.85
A6J0739-14	Soil	EPA 8081B	10/20/16 12:57	10/28/16 07:03	11.54g/5mL	10g/5mL	0.87

Percent Dry Weight**Prep: Total Solids (Dry Weight)**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6101108							
A6J0739-02	Soil	EPA 8000C	10/20/16 17:06	10/28/16 10:42	1N/A/1N/A	1N/A/1N/A	NA
A6J0739-03	Soil	EPA 8000C	10/20/16 17:45	10/28/16 10:42	1N/A/1N/A	1N/A/1N/A	NA
A6J0739-05	Soil	EPA 8000C	10/20/16 16:10	10/28/16 10:42	1N/A/1N/A	1N/A/1N/A	NA
A6J0739-06	Soil	EPA 8000C	10/20/16 15:05	10/28/16 10:42	1N/A/1N/A	1N/A/1N/A	NA
A6J0739-08	Soil	EPA 8000C	10/20/16 14:02	10/28/16 10:42	1N/A/1N/A	1N/A/1N/A	NA
A6J0739-09	Soil	EPA 8000C	10/20/16 11:40	10/28/16 10:42	1N/A/1N/A	1N/A/1N/A	NA
A6J0739-14	Soil	EPA 8000C	10/20/16 12:57	10/28/16 10:42	1N/A/1N/A	1N/A/1N/A	NA

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

Page 15 of 19

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02
Project Manager: Jeremy Zimmer

Reported:
10/31/16 16:11

Notes and Definitions

Qualifiers:

- P-11 Result estimated. Secondary column confirmation does not meet method criteria due to matrix interference.
- Q-05 Analyses are not controlled on RPD values from sample and duplicate concentrations that are below 5 times the reporting level.
- Q-17 RPD between original and duplicate sample is outside of established control limits.
- Q-37 Sample is non-homogenous. Sample results are less than MRL and duplicate results have hits greater than the MRL. See Duplicate results.
- Q-39 Results for sample duplicate are significantly higher than the sample results. See duplicate results in QC section of the report.
- Q-42 Matrix Spike and/or Duplicate analysis was performed on this sample. % Recovery or RPD for this analyte is outside laboratory control limits. (Refer to the QC Section of Analytical Report.)
- R-02 The Reporting Limit for this analyte has been raised to account for interference from coeluting organic compounds present in the sample.
- S-06 Surrogate recovery is outside of established control limits.

Notes and Conventions:

- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis. Results listed as 'wet' or without 'dry' designation are not dry weight corrected.
- RPD Relative Percent Difference
- MDL If MDL is not listed, data has been evaluated to the Method Reporting Limit only.
- WMSC Water Miscible Solvent Correction has been applied to Results and MRLs for volatiles soil samples per EPA 8000C.
- Batch QC Unless specifically requested, this report contains only results for Batch QC derived from client samples included in this report. All analyses were performed with the appropriate Batch QC (including Sample Duplicates, Matrix Spikes and/or Matrix Spike Duplicates) in order to meet or exceed method and regulatory requirements. Any exceptions to this will be qualified in this report. Complete Batch QC results are available upon request. In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.
- Blank Policy Apex assesses blank data for potential high bias down to a level equal to ½ the method reporting limit (MRL), except for conventional chemistry and HCID analyses which are assessed only to the MRL. Sample results flagged with a B or B-02 qualifier are potentially biased high if they are less than ten times the level found in the blank for inorganic analyses or less than five times the level found in the blank for organic analyses.

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

Results qualified as reported below the MRL may include a potential high bias if associated with a B or B-02 qualified blank. B and B-02 qualifications are not applied to J qualified results reported below the MRL.
- QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02
Project Manager: Jeremy Zimmer

Reported:

10/31/16 16:11

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

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/31/16 16:11

PO#

CHAIN OF CUSTODY

APEX LABS

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

Company: GeoDesign, Inc.		Project Mgr: Jeremy Zimmer		Project Name: River Terrace Area 10		Project #: Polygon-145-02	
Address: 15575 SW Sequoia Pkwy, Ste 100		Phone: 503-968-8787		Fax: 503-968-7008		Email: jzimmer@geodesigninc.com	
Sampled by: RMMH							
Site Location: ☒ OR ☐ WA							
Other:							
SAMPLE ID		LAB ID #		DATE		TIME	
1 Comp-5 (0.25-0.5)		102416		10/24/16		1610	
2 Comp-6 (1.5-2.0)		1706		10/24/16		1706	
3 Comp-7 (1.5-2.0)		1745		10/24/16		1745	
4 Comp-1 (0.25-0.5)		1505		10/24/16		1505	
5 Comp-5 (1.5-2.0)		1610		10/24/16		1610	
6 Comp-1 (1.5-2.0)		1505		10/24/16		1505	
7 Comp-7 (0.25-0.5)		1745		10/24/16		1745	
8 Comp-2 (1.5-2.0)		1402		10/24/16		1402	
9 Comp-4 (1.5-2.0)		1140		10/24/16		1140	
10 Comp-6 (0.25-0.5)		1706		10/24/16		1706	
Normal Turn Around Time (TAT) = 10 Business Days		TAT Requested (circle)		1 Day		2 Day	
				3 Day		Other:	
				4 Day		5 Day	
				6 Day		7 Day	
				8 Day		9 Day	
				10 Day		11 Day	
				12 Day		13 Day	
				14 Day		15 Day	
				16 Day		17 Day	
				18 Day		19 Day	
				20 Day		21 Day	
				22 Day		23 Day	
				24 Day		25 Day	
				26 Day		27 Day	
				28 Day		29 Day	
				30 Day		31 Day	
				32 Day		33 Day	
				34 Day		35 Day	
				36 Day		37 Day	
				38 Day		39 Day	
				40 Day		41 Day	
				42 Day		43 Day	
				44 Day		45 Day	
				46 Day		47 Day	
				48 Day		49 Day	
				50 Day		51 Day	
				52 Day		53 Day	
				54 Day		55 Day	
				56 Day		57 Day	
				58 Day		59 Day	
				60 Day		61 Day	
				62 Day		63 Day	
				64 Day		65 Day	
				66 Day		67 Day	
				68 Day		69 Day	
				70 Day		71 Day	
				72 Day		73 Day	
				74 Day		75 Day	
				76 Day		77 Day	
				78 Day		79 Day	
				80 Day		81 Day	
				82 Day		83 Day	
				84 Day		85 Day	
				86 Day		87 Day	
				88 Day		89 Day	
				90 Day		91 Day	
				92 Day		93 Day	
				94 Day		95 Day	
				96 Day		97 Day	
				98 Day		99 Day	
				100 Day		101 Day	
				102 Day		103 Day	
				104 Day		105 Day	
				106 Day		107 Day	
				108 Day		109 Day	
				110 Day		111 Day	
				112 Day		113 Day	
				114 Day		115 Day	
				116 Day		117 Day	
				118 Day		119 Day	
				120 Day		121 Day	
				122 Day		123 Day	
				124 Day		125 Day	
				126 Day		127 Day	
				128 Day		129 Day	
				130 Day		131 Day	
				132 Day		133 Day	
				134 Day		135 Day	
				136 Day		137 Day	
				138 Day		139 Day	
				140 Day		141 Day	
				142 Day		143 Day	
				144 Day		145 Day	
				146 Day		147 Day	
				148 Day		149 Day	
				150 Day		151 Day	
				152 Day		153 Day	
				154 Day		155 Day	
				156 Day		157 Day	
				158 Day		159 Day	
				160 Day		161 Day	
				162 Day		163 Day	
				164 Day		165 Day	
				166 Day		167 Day	
				168 Day		169 Day	
				170 Day		171 Day	
				172 Day		173 Day	
				174 Day		175 Day	
				176 Day		177 Day	
				178 Day		179 Day	
				180 Day		181 Day	
				182 Day		183 Day	
				184 Day		185 Day	
				186 Day		187 Day	
				188 Day		189 Day	
				190 Day		191 Day	
				192 Day		193 Day	
				194 Day		195 Day	
				196 Day		197 Day	
				198 Day		199 Day	
				200 Day		201 Day	
				202 Day		203 Day	
				204 Day		205 Day	
				206 Day		207 Day	
				208 Day		209 Day	
				210 Day		211 Day	
				212 Day		213 Day	
				214 Day		215 Day	
				216 Day		217 Day	
				218 Day		219 Day	
				220 Day		221 Day	
				222 Day		223 Day	
				224 Day		225 Day	
				226 Day		227 Day	
				228 Day		229 Day	
				230 Day		231 Day	
				232 Day		233 Day	
				234 Day		235 Day	
				236 Day		237 Day	
				238 Day		239 Day	
				240 Day		241 Day	
				242 Day		243 Day	
				244 Day		245 Day	
				246 Day		247 Day	
				248 Day		249 Day	
				250 Day		251 Day	
				252 Day		253 Day	
				254 Day		255 Day	
				256 Day		257 Day	
				258 Day		259 Day	
				260 Day		261 Day	
				262 Day		263 Day	
				264 Day		265 Day	
				266 Day		267 Day	
				268 Day		269 Day	
				270 Day		271 Day	
				272 Day		273 Day	
				274 Day		275 Day	
				276 Day		277 Day	
				278 Day		279 Day	
				280 Day		281 Day	
				282 Day		283 Day	
				284 Day		285 Day	
				286 Day		287 Day	
				288 Day		289 Day	
				290 Day		291 Day	
				292 Day		293 Day	
				294 Day		295 Day	
				296 Day		297 Day	
				298 Day		299 Day	
				300 Day		301 Day	
				302 Day		303 Day	
				304 Day		305 Day	
				306 Day		307 Day	
				308 Day		309 Day	
				310 Day		311 Day	
				312 Day		313 Day	
				314 Day		315 Day	
				316 Day		317 Day	
				318 Day		319 Day	
				320 Day		321 Day	
				322 Day		323 Day	
				324 Day		325 Day	
				326 Day		327 Day	
				328 Day		329 Day	
				330 Day		331 Day	
				332 Day		333 Day	
				334 Day		335 Day	
				336 Day		337 Day	
				338 Day		339 Day	
				340 Day		341 Day	
				342 Day		343 Day	
				344 Day		345 Day	
				346 Day		347 Day	
				348 Day		349 Day	
				350 Day		351 Day	
				352 Day		353 Day	
				354 Day		355 Day	
				356 Day		357 Day	
				358 Day		359 Day	
				360 Day		361 Day	
				362 Day		363 Day	
				364 Day		365 Day	
				366 Day		367 Day	
				368 Day		369 Day	
				370 Day		371 Day	
				372 Day		373 Day	
				374 Day		375 Day	
				376 Day		377 Day	
				378 Day		379 Day	
				380 Day		381 Day	
				382 Day		383 Day	
				384 Day		385 Day	
				386 Day		387 Day	
				388 Day		389 Day	
				390 Day		391 Day	
				392 Day		393 Day	
				394 Day		395 Day	
				396 Day		397 Day	
				398 Day		399 Day	
				400 Day		401 Day	
				402 Day		403 Day	
				404 Day		405 Day	
				406 Day		407 Day	
				408 Day		409 Day	
				410 Day		411 Day	
				412 Day		413 Day	
				414 Day		415 Day	
				416 Day		417 Day	
				418 Day		419 Day	
				420 Day		421 Day	
				422 Day		423 Day	
				424 Day		425 Day	
				426 Day		427 Day	
				428 Day		429 Day	
				430 Day		431 Day	
				432 Day		433 Day	
				434 Day		435 Day	

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/31/16 16:11

CHAIN OF CUSTODY

APEX LABS

Lab # HeJo1961 COC 2 of 2

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

Company: <u>GeoDesign, Inc.</u>		Project Mgr: <u>Jeremy Zimmer</u>		Project Name: <u>River Terrace Area 10</u>		Project # <u>Polygon-145-02</u>																			
Address: <u>15375 SW Sequoia Pkwy, Suite 100</u>		Phone: <u>503-918-3088</u>		Fax: <u>503-918-3088</u>		Email: <u>jzimmer@geodesigninc.com</u>																			
Sampled by: <u>RMM</u>		PO# <u>8787</u>																							
Site Location: <u>OR</u> WA																									
Other: _____																									
SAMPLE ID	LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	NWTPH-ICID	NWTPH-DX	NWTPH-GX	8260 VOCs Full List	8260 RBDN VOCs	8260 HVOCs	8260 BTEX VOCs	8270 SVOC	8270 SINI PAHs	8082 PCBs	600 TTO	RCRA Metals (8)	TCLP Metals (8)	AL, Sb, As, Ba, Be, Cd, Cr, Cu, Fe, Pb, Hg, Mn, Mo, Ni, P, Se, Ag, Na, Ti, V, Zn	TOTAL DISS TCLP	1200-COLS	1200-Z	Residuals		
1 Comp-2 (0.25-0.5)	102116	1402	S		1																				
2 Comp-3 (0.25-0.5)		1252																							
3 Comp-4 (0.25-0.5)		1127																							
4 Comp-3 (1.5-2.0)		1257																							
5 HA-2 (7.0-8.0)		1725																							
6 HA-1 (0.0-1.0)		1620																							
7 HA-2 (8.25-8.75)		1740																							
8 HA-1 (6.5-8.0)		1605																							
9 HA-1 (8.0-8.5)		1615																							
Normal Turn Around Time (TAT) = 10 Business Days YES <u>NO</u> TAT Requested (circle) 1 Day 2 Day 3 Day 4 DAY 5 DAY Other: _____																									
RELINQUISHED BY: _____ Signature: <u>[Signature]</u> Date: <u>10/26/16</u> Printed Name: <u>Jeremy Zimmer</u> Time: <u>1410</u> Company: <u>GeoDesign, Inc.</u>												RECEIVED BY: _____ Signature: <u>[Signature]</u> Date: <u>10/31/16</u> Printed Name: <u>Anissa Kagan</u> Time: <u>1910</u> Company: <u>Apex Labs</u>													

Apex Laboratories

Philip Nerenberg

Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Apex Labs

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

Thursday, October 27, 2016

Jeremy Zimmer
GeoDesign, Inc.
15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

RE: River Terrace Area 10 / Polygon-145-02

Enclosed are the results of analyses for work order A6J0750, which was received by the laboratory on 10/21/2016 at 12:30:00PM.

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

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

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/27/16 14:13

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Comp-8 (0.25-0.5)	A6J0750-01	Soil	10/21/16 11:50	10/21/16 12:30
Comp-9(0.25-0.5)	A6J0750-04	Soil	10/21/16 11:02	10/21/16 12:30

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/27/16 14:13

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
Comp-8 (0.25-0.5) (A6J0750-01RE1)			Matrix: Soil		Batch: 6100923			C-05
Aldrin	ND	---	2.23	ug/kg dry	1	10/26/16 15:43	EPA 8081B	
alpha-BHC	ND	---	2.23	"	"	"	"	
beta-BHC	ND	---	2.23	"	"	"	"	
delta-BHC	ND	---	2.23	"	"	"	"	
gamma-BHC (Lindane)	ND	---	2.23	"	"	"	"	
cis-Chlordane	ND	---	2.23	"	"	"	"	
trans-Chlordane	ND	---	2.23	"	"	"	"	
4,4'-DDD	ND	---	2.23	"	"	"	"	
4,4'-DDE	ND	---	2.23	"	"	"	"	
4,4'-DDT	ND	---	2.23	"	"	"	"	
Dieldrin	ND	---	2.23	"	"	"	"	
Endosulfan I	ND	---	2.23	"	"	"	"	
Endosulfan II	ND	---	2.23	"	"	"	"	
Endosulfan sulfate	ND	---	2.23	"	"	"	"	
Endrin	ND	---	2.23	"	"	"	"	
Endrin Aldehyde	ND	---	2.23	"	"	"	"	
Endrin ketone	ND	---	2.23	"	"	"	"	
Heptachlor	ND	---	2.23	"	"	"	"	
Heptachlor epoxide	ND	---	2.23	"	"	"	"	
Methoxychlor	ND	---	6.69	"	"	"	"	
Chlordane (Technical)	ND	---	66.9	"	"	"	"	
Toxaphene (Total)	ND	---	66.9	"	"	"	"	

Surrogate: 2,4,5,6-TCMX (Surr)

Recovery: 36 %

Limits: 42-129 %

"

"

"

S-06

Decachlorobiphenyl (Surr)

75 %

Limits: 65-151 %

"

"

"

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/27/16 14:13

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
Comp-9(0.25-0.5) (A6J0750-04RE1)			Matrix: Soil		Batch: 6100923			C-05
Aldrin	ND	---	2.18	ug/kg dry	1	10/26/16 16:00	EPA 8081B	
alpha-BHC	ND	---	2.18	"	"	"	"	
beta-BHC	ND	---	2.18	"	"	"	"	
delta-BHC	ND	---	2.18	"	"	"	"	
gamma-BHC (Lindane)	4.73	---	2.18	"	"	"	"	
cis-Chlordane	ND	---	2.18	"	"	"	"	
trans-Chlordane	ND	---	2.18	"	"	"	"	
4,4'-DDD	ND	---	2.18	"	"	"	"	
4,4'-DDE	78.8	---	2.18	"	"	"	"	
4,4'-DDT	59.1	---	2.18	"	"	"	"	
Dieldrin	75.1	---	2.18	"	"	"	"	
Endosulfan I	ND	---	2.18	"	"	"	"	
Endosulfan II	ND	---	2.18	"	"	"	"	
Endosulfan sulfate	ND	---	2.18	"	"	"	"	
Endrin	ND	---	2.18	"	"	"	"	
Endrin Aldehyde	ND	---	2.18	"	"	"	"	
Endrin ketone	ND	---	2.18	"	"	"	"	
Heptachlor	ND	---	2.18	"	"	"	"	
Heptachlor epoxide	ND	---	2.18	"	"	"	"	
Methoxychlor	ND	---	6.55	"	"	"	"	
Chlordane (Technical)	ND	---	65.5	"	"	"	"	
Toxaphene (Total)	ND	---	65.5	"	"	"	"	
<i>Surrogate: 2,4,5,6-TCMX (Surr)</i>			<i>Recovery: 54 %</i>	<i>Limits: 42-129 %</i>	"	"	"	
<i>Decachlorobiphenyl (Surr)</i>			<i>82 %</i>	<i>Limits: 65-151 %</i>	"	"	"	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/27/16 14:13

ANALYTICAL SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
Comp-8 (0.25-0.5) (A6J0750-01)			Matrix: Soil		Batch: 6100912			
% Solids	76.3	---	1.00	% by Weight	1	10/25/16 09:29	EPA 8000C	
Comp-9(0.25-0.5) (A6J0750-04)			Matrix: Soil		Batch: 6100912			
% Solids	80.5	---	1.00	% by Weight	1	10/25/16 09:29	EPA 8000C	

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/27/16 14:13

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100889 - EPA 3546						Soil						
Blank (6100889-BLK1)			Prepared: 10/24/16 07:53 Analyzed: 10/25/16 12:00									
EPA 8081B												
Aldrin	ND	---	0.833	ug/kg wet	1	---	---	---	---	---	---	
alpha-BHC	ND	---	0.833	"	"	---	---	---	---	---	---	
beta-BHC	ND	---	0.833	"	"	---	---	---	---	---	---	
delta-BHC	ND	---	0.833	"	"	---	---	---	---	---	---	
gamma-BHC (Lindane)	ND	---	0.833	"	"	---	---	---	---	---	---	
cis-Chlordane	ND	---	0.833	"	"	---	---	---	---	---	---	
trans-Chlordane	ND	---	0.833	"	"	---	---	---	---	---	---	
4,4'-DDD	ND	---	0.833	"	"	---	---	---	---	---	---	
4,4'-DDE	ND	---	0.833	"	"	---	---	---	---	---	---	
4,4'-DDT	ND	---	0.833	"	"	---	---	---	---	---	---	
Dieldrin	ND	---	0.833	"	"	---	---	---	---	---	---	
Endosulfan I	ND	---	0.833	"	"	---	---	---	---	---	---	
Endosulfan II	ND	---	0.833	"	"	---	---	---	---	---	---	
Endosulfan sulfate	ND	---	0.833	"	"	---	---	---	---	---	---	
Endrin	ND	---	0.833	"	"	---	---	---	---	---	---	
Endrin Aldehyde	ND	---	0.833	"	"	---	---	---	---	---	---	
Endrin ketone	ND	---	0.833	"	"	---	---	---	---	---	---	
Heptachlor	ND	---	0.833	"	"	---	---	---	---	---	---	
Heptachlor epoxide	ND	---	0.833	"	"	---	---	---	---	---	---	
Methoxychlor	ND	---	2.50	"	"	---	---	---	---	---	---	
Chlordane (Technical)	ND	---	25.0	"	"	---	---	---	---	---	---	
Toxaphene (Total)	ND	---	25.0	"	"	---	---	---	---	---	---	
Surr: 2,4,5,6-TCMX (Surr)		Recovery: 86 %		Limits: 42-129 %		Dilution: 1x						
Decachlorobiphenyl (Surr)		97 %		65-151 %		"						

LCS (6100889-BS1)

Prepared: 10/24/16 07:53 Analyzed: 10/25/16 12:18

EPA 8081B												
Aldrin	39.4	---	1.00	ug/kg wet	1	50.0	---	79	45-136%	---	---	
alpha-BHC	52.7	---	1.00	"	"	"	---	105	45-137%	---	---	
beta-BHC	50.7	---	1.00	"	"	"	---	101	50-136%	---	---	
delta-BHC	49.7	---	1.00	"	"	"	---	99	47-139%	---	---	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02
Project Manager: Jeremy Zimmer

Reported:
10/27/16 14:13

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100889 - EPA 3546						Soil						
LCS (6100889-BS1)						Prepared: 10/24/16 07:53 Analyzed: 10/25/16 12:18						
gamma-BHC (Lindane)	52.1	---	1.00	"	"	"	---	104	49-135%	---	---	
cis-Chlordane	48.5	---	1.00	"	"	"	---	97	54-133%	---	---	
trans-Chlordane	51.5	---	1.00	"	"	"	---	103	53-135%	---	---	
4,4'-DDD	54.3	---	1.00	"	"	"	---	109	56-139%	---	---	
4,4'-DDE	51.7	---	1.00	"	"	"	---	103	56-134%	---	---	
4,4'-DDT	58.4	---	1.00	"	"	"	---	117	50-141%	---	---	
Dieldrin	48.9	---	1.00	"	"	"	---	98	56-136%	---	---	
Endosulfan I	47.0	---	1.00	"	"	"	---	94	52-132%	---	---	
Endosulfan II	49.5	---	1.00	"	"	"	---	99	53-134%	---	---	
Endosulfan sulfate	49.1	---	1.00	"	"	"	---	98	55-136%	---	---	
Endrin	55.7	---	1.00	"	"	"	---	111	56-140%	---	---	
Endrin Aldehyde	46.8	---	1.00	"	"	"	---	94	35-137%	---	---	
Endrin ketone	51.7	---	1.00	"	"	"	---	103	55-136%	---	---	
Heptachlor	49.9	---	1.00	"	"	"	---	100	47-136%	---	---	
Heptachlor epoxide	46.1	---	1.00	"	"	"	---	92	52-136%	---	---	
Methoxychlor	68.1	---	3.00	"	"	"	---	136	52-143%	---	---	Q-41
Surr: 2,4,5,6-TCMX (Surr)			Recovery: 91 %	Limits: 42-129 %		Dilution: 1x						
Decachlorobiphenyl (Surr)			102 %	65-151 %		"						

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02
Project Manager: Jeremy Zimmer

Reported:
10/27/16 14:13

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100923 - EPA 3546						Soil						
Blank (6100923-BLK1)				Prepared: 10/24/16 07:53 Analyzed: 10/26/16 12:11					C-05			
EPA 8081B												
Aldrin	ND	---	1.67	ug/kg wet	1	---	---	---	---	---	---	
alpha-BHC	ND	---	1.67	"	"	---	---	---	---	---	---	
beta-BHC	ND	---	1.67	"	"	---	---	---	---	---	---	
delta-BHC	ND	---	1.67	"	"	---	---	---	---	---	---	
gamma-BHC (Lindane)	ND	---	1.67	"	"	---	---	---	---	---	---	
cis-Chlordane	ND	---	1.67	"	"	---	---	---	---	---	---	
trans-Chlordane	ND	---	1.67	"	"	---	---	---	---	---	---	
4,4'-DDD	ND	---	1.67	"	"	---	---	---	---	---	---	
4,4'-DDE	ND	---	1.67	"	"	---	---	---	---	---	---	
4,4'-DDT	ND	---	1.67	"	"	---	---	---	---	---	---	
Dieldrin	ND	---	1.67	"	"	---	---	---	---	---	---	
Endosulfan I	ND	---	1.67	"	"	---	---	---	---	---	---	
Endosulfan II	ND	---	1.67	"	"	---	---	---	---	---	---	
Endosulfan sulfate	ND	---	1.67	"	"	---	---	---	---	---	---	
Endrin	ND	---	1.67	"	"	---	---	---	---	---	---	
Endrin Aldehyde	ND	---	1.67	"	"	---	---	---	---	---	---	
Endrin ketone	ND	---	1.67	"	"	---	---	---	---	---	---	
Heptachlor	ND	---	1.67	"	"	---	---	---	---	---	---	
Heptachlor epoxide	ND	---	1.67	"	"	---	---	---	---	---	---	
Methoxychlor	ND	---	5.00	"	"	---	---	---	---	---	---	
Chlordane (Technical)	ND	---	50.0	"	"	---	---	---	---	---	---	
Toxaphene (Total)	ND	---	50.0	"	"	---	---	---	---	---	---	
Surr: 2,4,5,6-TCMX (Surr)		Recovery: 77 %		Limits: 42-129 %		Dilution: 1x						
Decachlorobiphenyl (Surr)		102 %		65-151 %		"						

LCS (6100923-BS1)

Prepared: 10/24/16 07:53 Analyzed: 10/26/16 12:29

C-05

EPA 8081B												
Aldrin	31.2	---	2.00	ug/kg wet	1	50.0	---	62	45-136%	---	---	
alpha-BHC	34.1	---	2.00	"	"	"	---	68	45-137%	---	---	
beta-BHC	38.4	---	2.00	"	"	"	---	77	50-136%	---	---	
delta-BHC	39.5	---	2.00	"	"	"	---	79	47-139%	---	---	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/27/16 14:13

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100923 - EPA 3546							Soil					
LCS (6100923-BS1)				Prepared: 10/24/16 07:53			Analyzed: 10/26/16 12:29			C-05		
gamma-BHC (Lindane)	36.2	---	2.00	"	"	"	---	72	49-135%	---	---	
cis-Chlordane	41.8	---	2.00	"	"	"	---	84	54-133%	---	---	
trans-Chlordane	44.9	---	2.00	"	"	"	---	90	53-135%	---	---	
4,4'-DDD	53.6	---	2.00	"	"	"	---	107	56-139%	---	---	
4,4'-DDE	46.9	---	2.00	"	"	"	---	94	56-134%	---	---	
4,4'-DDT	65.7	---	2.00	"	"	"	---	131	50-141%	---	---	
Dieldrin	47.1	---	2.00	"	"	"	---	94	56-136%	---	---	
Endosulfan I	44.3	---	2.00	"	"	"	---	89	52-132%	---	---	
Endosulfan II	50.7	---	2.00	"	"	"	---	101	53-134%	---	---	
Endosulfan sulfate	51.8	---	2.00	"	"	"	---	104	55-136%	---	---	
Endrin	55.6	---	2.00	"	"	"	---	111	56-140%	---	---	
Endrin Aldehyde	49.2	---	2.00	"	"	"	---	98	35-137%	---	---	
Endrin ketone	53.9	---	2.00	"	"	"	---	108	55-136%	---	---	
Heptachlor	38.1	---	2.00	"	"	"	---	76	47-136%	---	---	
Heptachlor epoxide	41.0	---	2.00	"	"	"	---	82	52-136%	---	---	
Methoxychlor	75.8	---	6.00	"	"	"	---	152	52-143%	---	---	Q-41

Surr: 2,4,5,6-TCMX (Surr)

Recovery: 62 %

Limits: 42-129 %

Dilution: 1x

Decachlorobiphenyl (Surr)

101 %

65-151 %

"

Matrix Spike (6100923-MS1)

Prepared: 10/24/16 07:53 Analyzed: 10/26/16 16:18

C-05

QC Source Sample: Comp-9(0.25-0.5) (A6J0750-04RE1)

EPA 8081B

Aldrin	38.3	---	2.11	ug/kg dry	1	52.8	ND	72	45-136%	---	---	
alpha-BHC	40.0	---	2.11	"	"	"	ND	76	45-137%	---	---	
beta-BHC	42.8	---	2.11	"	"	"	ND	81	50-136%	---	---	
delta-BHC	43.2	---	2.11	"	"	"	ND	82	47-139%	---	---	
gamma-BHC (Lindane)	50.0	---	2.11	"	"	"	4.73	86	49-135%	---	---	
cis-Chlordane	41.6	---	2.11	"	"	"	ND	79	54-133%	---	---	
trans-Chlordane	45.6	---	2.11	"	"	"	ND	86	53-135%	---	---	
4,4'-DDD	50.4	---	2.11	"	"	"	1.40	93	56-139%	---	---	
4,4'-DDE	170	---	2.11	"	"	"	78.8	173	56-134%	---	---	Q-03
4,4'-DDT	148	---	2.11	"	"	"	59.1	169	50-141%	---	---	Q-03

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/27/16 14:13

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100923 - EPA 3546						Soil						
Matrix Spike (6100923-MS1)				Prepared: 10/24/16 07:53		Analyzed: 10/26/16 16:18					C-05	
QC Source Sample: Comp-9(0.25-0.5) (A6J0750-04RE1)												
Dieldrin	157	---	2.11	"	"	"	75.1	156	56-136%	---	---	Q-03
Endosulfan I	44.4	---	2.11	"	"	"	ND	84	52-132%	---	---	
Endosulfan II	44.0	---	2.11	"	"	"	ND	83	53-134%	---	---	
Endosulfan sulfate	45.9	---	2.11	"	"	"	ND	87	55-136%	---	---	
Endrin	55.3	---	2.11	"	"	"	ND	105	56-140%	---	---	
Endrin Aldehyde	47.6	---	2.11	"	"	"	ND	90	35-137%	---	---	
Endrin ketone	50.5	---	2.11	"	"	"	ND	96	55-136%	---	---	
Heptachlor	44.6	---	2.11	"	"	"	ND	84	47-136%	---	---	
Heptachlor epoxide	42.8	---	2.11	"	"	"	ND	81	52-136%	---	---	
Methoxychlor	71.3	---	6.34	"	"	"	ND	135	52-143%	---	---	Q-41
Surr: 2,4,5,6-TCMX (Surr)		Recovery: 62 %		Limits: 42-129 %		Dilution: 1x						
Decachlorobiphenyl (Surr)		85 %		65-151 %		"						

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc. 15575 SW Sequoia Pkwy, Ste 100 Portland, OR 97224	Project: River Terrace Area 10 Project Number: Polygon-145-02 Project Manager: Jeremy Zimmer	Reported: 10/27/16 14:13

QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100912 - Total Solids (Dry Weight)							Soil					

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

Philip Nerenberg

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/27/16 14:13

SAMPLE PREPARATION INFORMATION

Organochlorine Pesticides by EPA 8081B

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6100923							
A6J0750-01RE1	Soil	EPA 8081B	10/21/16 11:50	10/24/16 07:53	11.74g/10mL	10g/5mL	1.70
A6J0750-04RE1	Soil	EPA 8081B	10/21/16 11:02	10/24/16 07:53	11.37g/10mL	10g/5mL	1.76

Percent Dry Weight

Prep: Total Solids (Dry Weight)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6100912							
A6J0750-01	Soil	EPA 8000C	10/21/16 11:50	10/24/16 13:11	1N/A/1N/A	1N/A/1N/A	NA
A6J0750-04	Soil	EPA 8000C	10/21/16 11:02	10/24/16 13:11	1N/A/1N/A	1N/A/1N/A	NA

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02
Project Manager: Jeremy Zimmer

Reported:

10/27/16 14:13

Notes and Definitions

Qualifiers:

- C-05 Extract has undergone a GPC (Gel-Permeation Chromatography) cleanup per EPA 3640A. Reporting levels may be raised due to dilution necessary for cleanup. Sample Final Volume includes the GPC dilution factor, see the Prep page for details.
- Q-03 Spike recovery and/or RPD is outside control limits due to the high concentration of analyte present in the sample.
- Q-41 Estimated Results. Recovery of Continuing Calibration Verification sample above upper control limit for this analyte. Results are likely biased high.
- S-06 Surrogate recovery is outside of established control limits.

Notes and Conventions:

- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis. Results listed as 'wet' or without 'dry' designation are not dry weight corrected.
- RPD Relative Percent Difference
- MDL If MDL is not listed, data has been evaluated to the Method Reporting Limit only.
- WMSC Water Miscible Solvent Correction has been applied to Results and MRLs for volatiles soil samples per EPA 8000C.
- Batch QC Unless specifically requested, this report contains only results for Batch QC derived from client samples included in this report. All analyses were performed with the appropriate Batch QC (including Sample Duplicates, Matrix Spikes and/or Matrix Spike Duplicates) in order to meet or exceed method and regulatory requirements. Any exceptions to this will be qualified in this report. Complete Batch QC results are available upon request. In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.
- Blank Policy Apex assesses blank data for potential high bias down to a level equal to 1/2 the method reporting limit (MRL), except for conventional chemistry and HCID analyses which are assessed only to the MRL. Sample results flagged with a B or B-02 qualifier are potentially biased high if they are less than ten times the level found in the blank for inorganic analyses or less than five times the level found in the blank for organic analyses.

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

Results qualified as reported below the MRL may include a potential high bias if associated with a B or B-02 qualified blank. B and B-02 qualifications are not applied to J qualified results reported below the MRL.
- QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.
- *** Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/27/16 14:13

CHAIN OF CUSTODY

APEX LABS

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

Company: Geo Design Inc Project Mgr: Jeremy Zimmer Project # Polygon-145-02

Address: 15575 SW Sequoia Parkway - Suite 100 Phone: 503-720-3000 Fax: 503-720-3000 Email: jzimmer@geodesigninc.com

Sampled by: RMM

Site Location: OR WA

Other:

LAB ID #

DATE

TIME

MATRIX

OF CONTAINERS

ANALYSIS REQUEST

RCRA Metals (8)

TCLP Metals (8)

600 TTO

8082 PCBs

8270 SIM PAHs

8270 SVOC

8260 BTEX VOCs

8260 HVCs

8260 RBDN VOCs

8260 VOCs Full List

NWTPH-Gx

NWTPH-Dx

NWTPH-HCID

Normal Turn Around Time (TAT) = 10 Business Days

1 Day 2 Day 3 Day 4 DAY 5 DAY Other:

TAT Requested (circle)

SAMPLES ARE HELD FOR 30 DAYS

RECEIVED BY:

Signature: Date: 10/21/16

Printed Name: Kevin Frislin Time: 1230

Company: Geo Design Inc

RECEIVED BY:

Signature: Date: 10/27/16

Printed Name: Kevin Frislin Time: 1230

Company: Geo Design Inc

RECEIVED BY:

Signature: Date: 10/27/16

Printed Name: Kevin Frislin Time: 1230

Company: Geo Design Inc

RECEIVED BY:

Signature: Date: 10/27/16

Printed Name: Kevin Frislin Time: 1230

Company: Geo Design Inc

Apex Labs

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

Monday, October 31, 2016

Jeremy Zimmer
GeoDesign, Inc.
15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

RE: River Terrace Area 10 / Polygon-145-02

Enclosed are the results of analyses for work order A6J0750, which was received by the laboratory on 10/21/2016 at 12:30:00PM.

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

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

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/31/16 16:08

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Comp-9(1.5-2.0)	A6J0750-03	Soil	10/21/16 11:07	10/21/16 12:30

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/31/16 16:08

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
Comp-9(1.5-2.0) (A6J0750-03)			Matrix: Soil		Batch: 6101087			
Aldrin	ND	---	1.06	ug/kg dry	1	10/28/16 14:54	EPA 8081B	
alpha-BHC	ND	---	1.06	"	"	"	"	
beta-BHC	ND	---	1.06	"	"	"	"	
delta-BHC	ND	---	1.06	"	"	"	"	
gamma-BHC (Lindane)	ND	---	1.06	"	"	"	"	
cis-Chlordane	ND	---	1.06	"	"	"	"	
trans-Chlordane	ND	---	1.06	"	"	"	"	
4,4'-DDD	ND	---	1.06	"	"	"	"	
4,4'-DDE	2.02	---	1.06	"	"	"	"	
4,4'-DDT	1.75	---	1.06	"	"	"	"	
Dieldrin	1.82	---	1.06	"	"	"	"	
Endosulfan I	ND	---	1.06	"	"	"	"	
Endosulfan II	ND	---	1.06	"	"	"	"	
Endosulfan sulfate	ND	---	1.06	"	"	"	"	
Endrin	ND	---	1.06	"	"	"	"	
Endrin Aldehyde	ND	---	1.06	"	"	"	"	
Endrin ketone	ND	---	1.06	"	"	"	"	
Heptachlor	ND	---	1.06	"	"	"	"	
Heptachlor epoxide	ND	---	1.06	"	"	"	"	
Methoxychlor	ND	---	3.17	"	"	"	"	
Chlordane (Technical)	ND	---	31.7	"	"	"	"	
Toxaphene (Total)	ND	---	31.7	"	"	"	"	

Surrogate: 2,4,5,6-TCMX (Surr)

Decachlorobiphenyl (Surr)

Recovery: 76 %

Limits: 42-129 %

"

"

"

68 %

Limits: 65-151 %

"

"

"

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/31/16 16:08

ANALYTICAL SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
Comp-9(1.5-2.0) (A6J0750-03)			Matrix: Soil		Batch: 6101108			
% Solids	80.2	---	1.00	% by Weight	1	10/29/16 10:00	EPA 8000C	

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/31/16 16:08

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6101087 - EPA 3546						Soil						
Blank (6101087-BLK1)			Prepared: 10/28/16 07:03 Analyzed: 10/28/16 13:42									
EPA 8081B												
Aldrin	ND	---	0.833	ug/kg wet	1	---	---	---	---	---	---	
alpha-BHC	ND	---	0.833	"	"	---	---	---	---	---	---	
beta-BHC	ND	---	0.833	"	"	---	---	---	---	---	---	
delta-BHC	ND	---	0.833	"	"	---	---	---	---	---	---	
gamma-BHC (Lindane)	ND	---	0.833	"	"	---	---	---	---	---	---	
cis-Chlordane	ND	---	0.833	"	"	---	---	---	---	---	---	
trans-Chlordane	ND	---	0.833	"	"	---	---	---	---	---	---	
4,4'-DDD	ND	---	0.833	"	"	---	---	---	---	---	---	
4,4'-DDE	ND	---	0.833	"	"	---	---	---	---	---	---	
4,4'-DDT	ND	---	0.833	"	"	---	---	---	---	---	---	
Dieldrin	ND	---	0.833	"	"	---	---	---	---	---	---	
Endosulfan I	ND	---	0.833	"	"	---	---	---	---	---	---	
Endosulfan II	ND	---	0.833	"	"	---	---	---	---	---	---	
Endosulfan sulfate	ND	---	0.833	"	"	---	---	---	---	---	---	
Endrin	ND	---	0.833	"	"	---	---	---	---	---	---	
Endrin Aldehyde	ND	---	0.833	"	"	---	---	---	---	---	---	
Endrin ketone	ND	---	0.833	"	"	---	---	---	---	---	---	
Heptachlor	ND	---	0.833	"	"	---	---	---	---	---	---	
Heptachlor epoxide	ND	---	0.833	"	"	---	---	---	---	---	---	
Methoxychlor	ND	---	2.50	"	"	---	---	---	---	---	---	
Chlordane (Technical)	ND	---	25.0	"	"	---	---	---	---	---	---	
Toxaphene (Total)	ND	---	25.0	"	"	---	---	---	---	---	---	
Surr: 2,4,5,6-TCMX (Surr)		Recovery: 84 %		Limits: 42-129 %		Dilution: 1x						
Decachlorobiphenyl (Surr)		93 %		65-151 %		"						

LCS (6101087-BS1)

Prepared: 10/28/16 07:03 Analyzed: 10/28/16 13:59

EPA 8081B												
Aldrin	43.3	---	1.00	ug/kg wet	1	50.0	---	87	45-136%	---	---	
alpha-BHC	46.1	---	1.00	"	"	"	---	92	45-137%	---	---	
beta-BHC	42.9	---	1.00	"	"	"	---	86	50-136%	---	---	
delta-BHC	48.0	---	1.00	"	"	"	---	96	47-139%	---	---	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/31/16 16:08

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6101087 - EPA 3546						Soil						
LCS (6101087-BS1)						Prepared: 10/28/16 07:03 Analyzed: 10/28/16 13:59						
gamma-BHC (Lindane)	45.8	---	1.00	"	"	"	---	92	49-135%	---	---	
cis-Chlordane	45.2	---	1.00	"	"	"	---	90	54-133%	---	---	
trans-Chlordane	45.9	---	1.00	"	"	"	---	92	53-135%	---	---	
4,4'-DDD	53.4	---	1.00	"	"	"	---	107	56-139%	---	---	
4,4'-DDE	48.9	---	1.00	"	"	"	---	98	56-134%	---	---	
4,4'-DDT	50.2	---	1.00	"	"	"	---	100	50-141%	---	---	
Dieldrin	49.5	---	1.00	"	"	"	---	99	56-136%	---	---	
Endosulfan I	45.7	---	1.00	"	"	"	---	91	52-132%	---	---	
Endosulfan II	50.1	---	1.00	"	"	"	---	100	53-134%	---	---	
Endosulfan sulfate	50.4	---	1.00	"	"	"	---	101	55-136%	---	---	
Endrin	59.7	---	1.00	"	"	"	---	119	56-140%	---	---	
Endrin Aldehyde	45.8	---	1.00	"	"	"	---	92	35-137%	---	---	
Endrin ketone	49.2	---	1.00	"	"	"	---	98	55-136%	---	---	
Heptachlor	45.1	---	1.00	"	"	"	---	90	47-136%	---	---	
Heptachlor epoxide	47.1	---	1.00	"	"	"	---	94	52-136%	---	---	
Methoxychlor	57.3	---	3.00	"	"	"	---	115	52-143%	---	---	

Surr: 2,4,5,6-TCMX (Surr)

Recovery: 85 %

Limits: 42-129 %

Dilution: 1x

Decachlorobiphenyl (Surr)

97 %

65-151 %

"

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/31/16 16:08

QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes

Batch 6101108 - Total Solids (Dry Weight)

Soil

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

Apex Laboratories



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/31/16 16:08

SAMPLE PREPARATION INFORMATION

Organochlorine Pesticides by EPA 8081B

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6101087							
A6J0750-03	Soil	EPA 8081B	10/21/16 11:07	10/28/16 07:03	11.8g/5mL	10g/5mL	0.85

Percent Dry Weight

Prep: Total Solids (Dry Weight)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6101108							
A6J0750-03	Soil	EPA 8000C	10/21/16 11:07	10/28/16 10:42	1N/A/1N/A	1N/A/1N/A	NA

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: **River Terrace Area 10**

Project Number: Polygon-145-02
Project Manager: Jeremy Zimmer

Reported:

10/31/16 16:08

Notes and Definitions

Qualifiers:

Notes and Conventions:

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis. Results listed as 'wet' or without 'dry' designation are not dry weight corrected.
RPD	Relative Percent Difference
MDL	If MDL is not listed, data has been evaluated to the Method Reporting Limit only.
WMSC	Water Miscible Solvent Correction has been applied to Results and MRLs for volatiles soil samples per EPA 8000C.
Batch QC	Unless specifically requested, this report contains only results for Batch QC derived from client samples included in this report. All analyses were performed with the appropriate Batch QC (including Sample Duplicates, Matrix Spikes and/or Matrix Spike Duplicates) in order to meet or exceed method and regulatory requirements. Any exceptions to this will be qualified in this report. Complete Batch QC results are available upon request. In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.
Blank Policy	Apex assesses blank data for potential high bias down to a level equal to ½ the method reporting limit (MRL), except for conventional chemistry and HCID analyses which are assessed only to the MRL. Sample results flagged with a B or B-02 qualifier are potentially biased high if they are less than ten times the level found in the blank for inorganic analyses or less than five times the level found in the blank for organic analyses. For accurate comparison of volatile results to the level found in the blank; water sample results should be divided by the dilution factor, and soil sample results should be divided by 1/50 of the sample dilution to account for the sample prep factor. Results qualified as reported below the MRL may include a potential high bias if associated with a B or B-02 qualified blank. B and B-02 qualifications are not applied to J qualified results reported below the MRL.
---	QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.
***	Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

GeoDesign, Inc.

15575 SW Sequoia Pkwy, Ste 100
Portland, OR 97224

Project: River Terrace Area 10

Project Number: Polygon-145-02

Project Manager: Jeremy Zimmer

Reported:

10/31/16 16:08

CHAIN OF CUSTODY

CHAIN OF CUSTODY

APEX LABS

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

Company: Geo Design Inc		Project Mgr: Jeremy Zimmer		Project Name: Polygon-145-02		Project # Polygon-145-02	
Address: 15575 SW Sequoia Parkway - Suite 100		Phone: 503-726-3000		Fax:		Email: jzimmer@geodesigninc.com	
Sampled by: RMM							
Site Location: OR WA	Other:						
SAMPLE ID	LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	ANALYSIS REQUEST	
1 (comp-8 (0.25-0.5))	10/21	1150	5	1	1	RCRA Metals (8)	
2 (comp-8 (1.5-2.0))	10/21	1200	1	1	1	TCLP Metals (8)	
3 (comp-9 (1.5-2.0))	10/21	1107	1	1	1	600 TTO	
4 (comp-9 (0.25-0.5))	10/21	1102	1	1	1	8082 PCBs	
						8270 SVOC	
						8270 SIM PAHs	
						8260 BVOCs	
						8260 RBDN VOCs	
						8260 VOCs Full List	
						NWTPH-Gx	
						NWTPH-Dx	
						NWTPH-HCID	
						SPECIAL INSTRUCTIONS:	
TAT Requested (circle)		1 Day	2 Day	3 Day	4 DAY	5 DAY	Other:
SAMPLES ARE HELD FOR 30 DAYS							
RELINQUISHED BY:		RECEIVED BY:		RECEIVED BY:			
Signature: Ryan Melgize		Signature: Kevin Frislin		Signature:			
Date: 10/21/16		Date: 10/21/16		Date:			
Printed Name: Ryan Melgize		Printed Name: Kevin Frislin		Printed Name:			
Time: 1230		Time: 1230		Time:			
Company: GeoDesign Inc		Company: Apex		Company:			

Apex Laboratories

Philip Nerenberg

Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

ACRONYMS AND ABBREVIATIONS

ACRONYMS AND ABBREVIATIONS

AST	aboveground storage tank
ASTM	American Society for Testing and Materials
BGS	below ground surface
BS	blank spike
BSD	blank spike duplicate
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
CFSL	Clean Fill Screening Level
DDD	dichlorodiphenyldichloroethane
DDE	dichlorodiphenyldichloroethylene
DDT	dichlorodiphenyltrichloroethane
DEQ	Oregon Department of Environmental Quality
ECSI	Environmental Cleanup Site Information
EDR	Environmental Data Resources, Inc.
EES	Equitable Easement and Servitude
EPA	U.S. Environmental Protection Agency
ESA	Environmental Site Assessment
HOT	heating oil tank
HSIS	Hazardous Substance Information Survey
IDW	investigation-derived waste
LUST	Leaking Underground Storage Tank
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
MRL	method reporting limit
MS	matrix spike
MSD	matrix spike duplicate
MSL	mean sea level
NE	not established
NFA	No Further Action
ORS	Oregon Revised Statute
OSFM	Oregon State Fire Marshal
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
PID	photoionization detector
ppm	parts per million
QC	quality control
RBC	risk-based concentration
RCRA	Resource Conservation and Recovery Act
RPD	relative percent difference
TCLP	Toxicity Characteristic Leaching Procedure
TMB	trimethylbenzene
USGS	U.S. Geological Survey
UST	underground storage tank

VCP
VOC

Voluntary Cleanup Program
volatile organic compound

