PARTNERS INC

Remedial Investigation, Feasibility Study, and Cleanup Action Plan

Meeker Former Gas Station Site 105 Washington Avenue N Kent, Washington

Prepared For:

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ABBREVIATIONS AND ACRONYMS

Abbreviation/	
Acronym	Definition
bgs	Below ground surface
BTEX	Benzene, toluene, ethylbenzene, and total xylenes
CAP	Cleanup Action Plan
COPC	Constituent of potential concern
CSM	Conceptual site model
CUL	Cleanup level
DCA	Disproportionate cost analysis
DRO	Diesel-range organics
EC	Environmental Covenant
Ecology	Washington State Department of Ecology
EPI	Environmental Partners, Inc.
FS	Feasibility Study
GRO	Gasoline-range organics
µg/L	Micrograms per liter
mg/kg	Milligrams per kilogram
MTCA	Model Toxics Control Act
ORC	Oxygen-release compound
ORO	Oil-range organics
PCS	Petroleum-contaminated soil
RAO	Remedial action objective
RI	Remedial investigation
RI/FS/CAP	Remedial Investigation, Feasibility Study, and Cleanup Action Plan
RTF	Restoration time frame
SCS	SCS Engineers
SVE	Soil vapor extraction
TEE	Terrestrial Ecological Evaluation
UST	Underground storage tank
VCP	Voluntary Cleanup Program

1.0 INTRODUCTION

Environmental Partners, Inc. (EPI) is pleased to submit this *Remedial Investigation, Feasibility Study, and Cleanup Action Plan* (RI/FS/CAP) for the Former Meeker Gas Station Site located at 105 Washington Avenue North in Kent, Washington (subject property). The general location of the subject property is indicated on Figure 1.

This RI/FS/CAP has been prepared in accordance with the Washington Model Toxics Control Act (Chapter 70.105D RCW) and its implementing regulations (Chapter 173-340 WAC), collectively referred to as "MTCA." For the purpose of this document, and as defined in MTCA, the "Site" shall mean all areas where contaminants released from the former gas station facility have come to be located.

Limited residual petroleum hydrocarbons impacts are present at the Site in soil and groundwater along the southern property boundary and off-property to the south beneath the Meeker Street right-of-way. Petroleum-impacted soil and groundwater are primarily present in the vicinity of buried utilities running south-adjacent to the property line. The impacted groundwater extends to the south beneath Meeker Street, but not beyond the southern boundary of the street. Both soil and groundwater contain gasoline-range organics (GRO) and one or more related compounds of benzene, toluene, ethylbenzene, and total xylenes (BTEX). The impacted groundwater also contains heavy oil-range organics (ORO), but to a lesser degree than GRO and BTEX.

The Site is listed in the Washington State Department of Ecology (Ecology) facility/site database as Facility/Site ID No. 44681713. Concurrent with environmental investigations of the property in 2002, the Site was enrolled in Ecology's Voluntary Cleanup Program (VCP) and assigned VCP Site No. NW0878. The Site was terminated from the VCP in 2006.

This RI/FS/CAP summarizes the results of environmental investigations and actions conducted at the subject property, evaluates cleanup alternatives for the affected portion of the Site, selects a cleanup action that meets the requirements of MTCA and is protective of human health and the environment, and presents a plan for the selected cleanup action. The selected cleanup action will be implemented as an independent remedial action in accordance with the requirements of MTCA.

1.1 Report Organization

The remaining portion of this RI/FS/CAP is organized as follows:

- Section 2.0 presents a description of the subject property and current and historical uses of the subject property.
- Section 3.0 presents the remedial investigation (RI) for the Site.
- Section 4.0 presents the Feasibility Study (FS) for the Site.
- Section 5.0 presents the Cleanup Action Plan (CAP) for the portion of the Site on the subject property.

- Section 6.0 presents EPI's standard limitations.
- Section 7.0 presents the list of references and source materials used in preparing this RI/FS/CAP.

2.0 DESCRIPTION AND USE OF SUBJECT PROPERTY

2.1 Description of Subject Property

The subject property is located at the southeast corner of the Meeker Square shopping center within a commercially zoned area of Kent, Washington. Washington Avenue North runs adjacent to the subject property to the east and West Meeker Street runs adjacent to the subject property to the south. The Meeker Square shopping center includes a departmental store (Big Lots), a pharmacy (Rite Aid), dry cleaners (Meeker Cleaners), restaurants (Ichi Teriyaki and Jimmy Johns), and the Washington Department of Social Health and Welfare (DSHS), and is surrounded by a commercial parking lot. The Rite Aid pharmacy and associated parking currently occupies the subject property portion of the shopping center. A depiction of the subject property is provided on Figure 2.

The subject property comprises approximately 0.4 acre on the eastern portion of King County Parcel No. 5436200526 and is located at an elevation of about 40 feet above mean sea level. The ground surface is relatively flat with a slight topographic gradient to the south-southeast.

2.2 Historical Use of Subject Property

EPI's understanding of historical uses of the subject property is based on information presented in a soil remediation report prepared by SCS Engineers, dated July 2002 (SCS 2002). According to the SCS report, a grocery store historically occupied the subject property from 1928 until it burned down in September 1960. Standard Oil (Chevron) purchased the property and constructed a gasoline service station in 1960 and 1961. The former gas station reportedly included two fuel island canopies, a station building, and underground storage tanks (USTs) that had contained gasoline and waste oil. Information was not available regarding the number of USTs that were present on the property nor their storage capacity. EPI understands that the gas station operated from 1961 until 1983, at which time the USTs were removed and the station building was demolished. Following removal of the gas station, the subject property was primarily used for parking associated with the Meeker Square shopping center.

According to tax records, the Meeker Square shopping center was originally constructed on the surrounding property in 1966, with an addition constructed in 1983. The current building that is occupied by Rite Aid on the subject property was built in 2007.

3.0 REMEDIAL INVESTIGATION

This section describes the results of the RI for the subject property. Multiple environmental investigations have been conducted at the subject property since 1991. A soil removal action was also performed at the subject property in 2002. The investigations have assessed the condition of soil and groundwater under and adjacent to the subject property and characterized the sources, nature, and extent of hazardous substances. The results of these investigations together constitute the RI for the subject property.

3.1 Constituents of Potential Concern

Constituents of potential concern (COPCs) evaluated in soil and groundwater during the RI were selected based on known historical uses of subject property and the sampling requirements for petroleum-contaminated sites. The COPCs evaluated in soil and groundwater at the subject property are:

- GRO;
- Diesel-range organics (DRO);
- ORO; and
- BTEX compounds.

3.2 Affected Media

Based on geological and hydrogeological conditions and current and future land uses at the subject property, the media of potential concern evaluated during the RI were soil and groundwater. Indoor air and surface water are not media of concern at the subject property for the following reasons:

- No buildings were present on the subject property during most of the RI activities;
- The current building was constructed following removal of contamination within the property boundary;
- Residual soil and groundwater concentrations remaining after the 2002 soil removal action do not pose a potential threat to indoor air quality;
- No surface water bodies are present on or near the subject property; and
- A pathway of contaminated groundwater migration to surface water does not exist.

3.3 Summary of Environmental Investigations and Actions

This section presents the summary results of previously documented Site investigation and remedial excavation activities that were conducted between 1991 and 2015. A brief review of these investigations and remedial actions is presented below. Sampling locations from the prior investigations and remedial activities are shown on Figures 3 through 6. Soil and groundwater analytical data from the investigation and remedial activities are summarized in Tables 1 and 2, respectively, and copies of the analytical laboratory reports are provided in Attachment A.

3.3.1 Environmental Site Assessments – SCS Engineers (1991)

According to the July 2002 SCS report cited above in Section 2.2, SCS conducted Phase I and Phase II Environmental Site Assessments (ESAs) of the subject property in 1991. The Phase I ESA identified the former Chevron gas station as having operated on the subject property. Consequently, SCS performed a Phase II ESA in the location of the former gas station to determine if the property had been impacted by the former gas station. The assessment included advancement of four soil borings (BH1 through BH4) in the vicinity of the former USTs, and collection and analysis of soil samples from the borings. The analytical results indicated the presence of detectable petroleum hydrocarbons at a depth of 5 feet from boring BH2 and at depths of 10 and 15 feet from boring BH4. The 5-foot sample from BH2 contained the highest concentration of petroleum hydrocarbons, which was detected at 1,800 milligrams per kilogram (mg/kg) and was reportedly identified as diesel. The 10-foot and 15-foot samples from BH-4 contained petroleum hydrocarbons at concentrations of 47 and 44 mg/kg, respectively. The boring locations are shown on Figure 3 and soil sample analytical results are summarized in Table 1.

3.3.2 Phase II ESA – Giles Engineering Associates (1998)

The July 2002 SCS report indicates that Giles Engineering Associates (Giles) conducted a Phase II ESA at the subject property in 1998 to further investigate petroleum hydrocarbons in the vicinity of the former gas station. The assessment included advancement of 13 soil borings (B1 through B13), installation of monitoring wells at four of the borings (MW1 through MW4), and collection of soil and groundwater samples for laboratory analysis. The results indicated the presence of GRO in all the soil and groundwater samples, and one or more BTEX compounds in four of the soil samples and five of the groundwater samples. GRO in soil ranged from 6 mg/kg to 700 mg/kg. GRO in groundwater ranged from 83 micrograms per liter (μ g/L) to 4,800 μ g/L. The highest concentrations of contaminants were detected at the southeast corner of the property from B4, B8/MW2, and B9. The soil borings and well locations are included on Figure 3. Soil sample analytical results are included in Table 1 and groundwater analytical results are summarized in Table 2.

3.3.3 Supplemental Assessment – SCS Engineers (April 2000)

Supplemental assessment activities were reportedly conducted by SCS in April 2000 (SCS 2002) that included direct-push soil and groundwater sampling from one location (DP13) at the southern edge of the former gas station property (Figure 3), surveying the elevations of the monitoring wells installed by Giles in 1998, and measuring groundwater elevations to determine the direction of flow. Laboratory analysis of the soil and groundwater samples collected from DP13 indicated the presence of GRO and BTEX

compounds. GRO and benzene were both detected at elevated levels in the groundwater sample, with GRO at 9,000 μ g/L and benzene at 330 μ g/L. The groundwater flow direction was reportedly to the south. The soil and groundwater analytical results are included in Tables 1 and 2, respectively.

3.3.4 Supplemental Assessment – SCS Engineers (January 2002)

In 2001 and 2002, the City of Kent widened the two streets that run adjacent to the subject property and installed underground utilities beneath the new sidewalk and roads. During those activities, monitoring well MW4 was decommissioned. Following the road and utilities work, SCS performed an additional assessment at the subject property to obtain additional data to further define the nature and extent of petroleum impacts in soil and groundwater at the Site. The assessment included collection of groundwater samples from the three remaining wells (MW1 through MW3) and direct-push soil and groundwater sampling from six additional locations (SP1 through SP6) located within and at the downgradient edge of the subject property (Figure 3). The sampling results (included in Tables 1 and 2) were generally consistent with previously obtained data, indicating the presence of GRO and one or more BTEX compounds detected in soil and groundwater.

3.3.5 Remedial Excavation – SCS Engineers (April 2002)

In April 2002, SCS conducted a remedial excavation to remove petroleum-impacted soil from the former gas station property. Monitoring wells MW1 and MW2 were decommissioned prior to the excavation activities to allow for soil removal in the area of those wells. Soil excavation extended to an approximate depth of 7 to 8 feet below ground surface (bgs). A total of approximately 342 tons of petroleum-contaminated soil (PCS) was excavated and transported offsite for disposal. Confirmation samples from the base and sidewalls of the excavation indicated that petroleum compounds remained in saturated soil at the central floor of the excavation and in very limited extent within shallow soil along the southern property boundary where utility and property lines prevented further excavation. The confirmation samples from shown on Figure 4. To facilitate biological degradation of remaining contaminants in saturated soil, oxygen-release compound (ORC) was mixed into the saturated soil at the base of the excavation. Details and results of the excavation activities were documented in the July 2002 SCS report (SCS 2002).

3.3.6 Soil & Groundwater Assessment – SCS Engineers (May/June 2002)

Following the remedial excavation, SCS installed three new wells at the Site (OW1, OW2, and OW3). Well OW1 was installed at the west end of the excavated area and wells OW2 and OW3 were installed as near as possible to the south edge of the property. The well locations are shown on Figure 5. Laboratory analysis of soil samples collected from each of the well borings indicated detectable GRO and BTEX compounds at depths of 5 and 10 feet bgs from OW3. Following well installation and development, groundwater samples were collected from each of the new wells and from one of the previously installed wells on the subject property (MW3). Laboratory analysis of the groundwater samples indicated only detectable concentrations of GRO and BTEX compounds at OW3. GRO and benzene were both detected at elevated levels in the sample from OW3, with GRO at 4,550 µg/L and benzene at 125 µg/L. Based on wellhead surveying and groundwater elevation measurements, groundwater was observed to flow in a south-southeasterly direction. The soil and groundwater analytical data are summarized in

Tables 1 and 2, respectively. Groundwater elevations for the wells are summarized in Table 3 and are included on Figure 5. Additional details of the assessment were documented in a letter report prepared by SCS, dated January 10, 2003 (SCS 2003).

3.3.7 Groundwater Sampling – Migizi Group (August 2014)

Migizi Group, Inc. (Migizi) performed groundwater monitoring at the Site in August 2014 as part of an assessment of the Meeker Square shopping center property. The assessment included monitoring of previously-installed wells located on both the former gas station property and the adjacent Former Meeker Cleaners property. Well monitoring activities consisted of locating and surveying existing wells, measuring groundwater depths, and collecting groundwater samples from accessible wells using low-flow purging techniques. Migizi was not able to locate MW3 on the subject property, so groundwater samples were collected from OW1, OW2, and OW3. Laboratory analysis of the samples indicated detectable concentrations of GRO at 2,450 μ g/L, benzene at 14.9 μ g/L, ethylbenzene at 6.10 μ g/L, and xylenes at 1.39 μ g/L in OW3. No COCs were detected in the samples from OW1 and OW2. The analytical results are included in Table 2. Additional details of the groundwater monitoring activities were documented in a memorandum prepared by Migizi, dated September 8, 2014 (Migizi 2014).

3.3.8 Site Investigation – EPI (November 2015)

EPI conducted a subsurface investigation at the Meeker Square shopping center in October and November 2015 as part of a pre-purchase due diligence. The investigation activities were performed in the area of the subject property, as well as the adjacent Former Meeker Cleaners property and in two areas to the north (current Meeker Cleaners drop-off facility and an auto repair facility).

Soil and groundwater samples were collected from three direct-push boring locations (B-7, B-9, and B-10) in the vicinity of the former gas station during the investigation. Borings B-7 and B-9 were advanced on the subject property and boring B-10 was advanced within the roadway south of the subject property. It should be noted that due to extensive utilities within the roadway, B-10 was advanced as near as possible to the intersection. Due to existing infrastructure, it is not possible to advance borings any closer to the middle of the intersection or beyond. The sampling locations are shown on Figure 6 and copies of the bore logs are presented in Attachment B.

Laboratory analysis indicated that no COCs were detected at concentrations greater than the method reporting limits in any of the soil samples nor in the groundwater samples collected from B-7 and B-9. The groundwater sample from B-10 exhibited detectable concentrations of GRO and BTEX compounds that were slightly greater than the method reporting limits, but were below the MTCA Method A Cleanup Levels for Groundwater. The soil and groundwater analytical data are included in Tables 1 and 2, respectively. Additional details of the investigation were documented in a Technical Memorandum prepared by EPI, dated February 25, 2016 (EPI 2016).

3.4 Geology and Hydrogeology

3.4.1 Soil

Historical reports indicate that subsurface soil conditions at the subject property generally consist of sands and silts with varying amounts of clay. Underlying the surface pavement is reportedly 1 to 2 feet of gravelly sand fill material, which is underlain by a layer of silt and sandy silt that varies in thickness from approximately 1 to 3 feet. Beneath the silt layer is approximately 2 to 3 feet of medium-grained clean brown sand. A layer of brown clayey silt and silty clay is present beneath the clean sand at a depth of approximately 6 to 8 feet bgs. Groundwater is present within the finer grained soils beneath the clean sand.

During the 2015 investigation, poorly-graded sand was observed on the subject property from approximately 1 foot bgs to depths ranging from 6 to 9 feet bgs. Silty sand and poorly-graded sand with silt was observed beneath the shallower sand layer and extended to the maximum depth explored of 15 feet bgs. Soils beneath Meeker Street south of the subject property consist of silty sand to a depth of approximately 6 feet bgs, which is underlain by sandy silt to the maximum depth explored of 15 feet bgs. Consistent with historical findings, the deeper siltier soils became saturated at depths ranging from 9 to 13 feet bgs.

Descriptions of the soil types encountered during the 2015 field investigation are presented on the bore logs included in Attachment B.

3.4.2 Groundwater

Shallow groundwater is present at the Site at depths that have reportedly ranged from approximately 7.5 feet to 10 feet, depending on seasonal variations. During the remedial excavation in April 2002, groundwater was encountered at a depth of approximately 7 feet bgs. In June 2002, groundwater was measured in the Site wells (OW1, OW2, OW3, and MW3) at depths ranging from 7.46 to 8.27 feet (Table 3). Corresponding water table elevations in June 2002 indicated that groundwater flowed in a south-southeasterly direction at an approximate gradient of 0.003 foot/foot (Figure 5). In November 2015, groundwater was encountered in the direct-push borings on the subject property at depths of approximately 11 and 13 feet bgs, and in the roadway at a depth of approximately 9 feet bgs.

3.4.3 Surface Water

The Green River is located approximately 1,900 feet (0.35 mile) south of the subject property.

3.5 Nature and Extent of Contamination

The primary sources of petroleum impacts at the Site are the former USTs and associated product piping that were used during operation of the former gas station from 1961 to 1983. Historical releases of gasoline fuel apparently occurred from the former UST system, which impacted soils and groundwater in the vicinity of the former tanks and product lines. The majority of those impacts were removed during the remedial action performed by SCS in April 2002.

3.5.1 Petroleum Impacts Remaining in Soil

Data obtained from the 2002 excavation limits and from subsequent investigations indicate that residual petroleum hydrocarbons remain in Site soil near the southwest corner of the subject property and beneath the southern property boundary at depths ranging between 2 and 11 feet bgs. The presence of buried utilities and the property line prevented further excavation where these impacts remain. Detectable GRO concentrations in this area range from 9.4 mg/kg to 840 mg/kg, while detectable BTEX compounds remain at concentrations up to 0.168 mg/kg, 0.084 mg/kg, 5.7 mg/kg, and 11 mg/kg, respectively. A summary of residual petroleum hydrocarbons remaining in soil is presented in Table 4 and corresponding soil sampling locations are shown on Figure 6. Remaining soil impacts at depth are illustrated in the cross-section on Figure 7.

3.5.2 Petroleum Impacts Remaining in Groundwater

Groundwater in the vicinity of the impacted soil at the property boundary is also impacted with gasoline and related compounds. The most recent groundwater data collected from the monitoring wells (Migizi 2014) indicated detectable concentrations of GRO and benzene in well OW3 at concentrations of 2,450 μ g/L and 14.9 μ g/L, respectively. These impacts appear to extend off-property to the south, beneath Meeker Street, where groundwater sampled from boring B-10 from the 2015 investigation contained GRO at 160 μ g/L and benzene at 4.9 μ g/L (EPI 2016). These impacts do not appear to extend beyond the southern boundary of Meeker Street. Therefore, any remaining groundwater impacts associated with the Meeker Former Gas Station Site are very limited and appear to be restricted to a small area beneath the southwest property boundary and adjacent roadway. The groundwater data are summarized in Table 2 and shown on Figure 8.

3.6 Terrestrial Ecological Evaluation

In accordance with WAC 173-340-7490, a terrestrial ecological evaluation (TEE) was performed for the Site to determine if it poses a threat to the terrestrial environment. The Site qualifies for the TEE exclusion set forth at WAC 173-340-7491(1)(c)(i), which states:

"For sites with hazardous substances other than those specified in (c)(ii) of this subsection [chlorinated dioxins or furans, PCB mixtures, DDT, DDE, DDD, aldrin chlordane, dieldrin, endosulfan, endrin, heptachlor, heptachlor epoxide, benzene hexachloride, toxophene, hexachlorobenzene, pentachlorophenol, or pentachlorobenzene], there is less than 1.5 acres of contiguous undeveloped land on or within 500 feet of any area of the Site."

Therefore, terrestrial ecological exposures do not require further consideration. The completed *TEE Process – Primary Exclusions* form is provided as Attachment C.

3.7 Conceptual Site Model

A conceptual site model (CSM) was developed for the Site based on the data collected at the subject property. The CSM identifies current and potential future exposure pathways for human and ecological receptors. The CSM is presented as Attachment D and is discussed below:

- Following the 2002 remedial excavation, GRO and BTEX compounds remain in shallow soil at the southwest corner of the subject property and primarily beneath and immediately surrounding buried utilities. Residual GRO, benzene, and xylenes are present in this area at concentrations that exceed respective MTCA Method A Soil Cleanup Levels for Unrestricted Land Uses, which are conservative values based on residential exposures and protection of groundwater.
- GRO and BTEX compounds have been detected in shallow groundwater near the southwestern boundary of the subject property where impacted soil remains. During the most recent well sampling event in August 2014, GRO and benzene were detected in groundwater in this area at concentrations that exceed respective MTCA Method A Cleanup Levels for Groundwater, which are conservative values based on residential exposures and protection of drinking water.
- The 2015 investigation confirmed that the remaining impacts in soil and groundwater at the subject property boundary are not adversely affecting water quality downgradient of the subject property beneath West Meeker Street. GRO and BTEX compounds were detected at concentrations slightly greater than the laboratory reporting limits in groundwater beneath the street, south of the subject property. The diminished concentrations detected in this downgradient location suggest that impacted groundwater does not extend beyond the south edge of West Meeker Street.
- The source of the impacts to Site soil and groundwater appears to be from underground releases of petroleum hydrocarbons from the former gas station's USTs and associated piping. The majority of impacted soil was removed from the Site in 2002, and the lateral and vertical extents of remaining impacts appear to be very limited.
- The environmental media of concern at the Site are soil and groundwater. Potential current or future exposure pathways to remaining petroleum impacts include dermal, ingestion, and inhalation exposure by commercial workers during construction activities. Residential exposures are not reasonably possible given the current and likely future land use of the property.
- Based on WAC 173-340-7491, the Site qualifies for the exclusion from a TEE, as there is not a completed exposure pathway for TEE receptors (i.e., less than 1.5 acres of contiguous undeveloped land).

3.8 Cleanup Standards

Cleanup standards consist of cleanup levels and the point of compliance at which those levels must be met. Cleanup standards are used as the basis for developing remedial action objectives for a cleanup action.

3.8.1 Cleanup Levels

Cleanup levels (CULs) for affected media at the Site were evaluated in accordance with MTCA and take into consideration exposure pathways and receptors based on current and likely future uses of the Site. Because the Site is within an urban setting developed with buildings, roads, and sidewalks, and the Site qualifies for a TEE exclusion under WAC 173-340-7491(1)(c)(i), only exposure pathways for human receptors have been taken into consideration. Based on current and future land uses, the only potential pathway for exposure to COPCs at the subject property is direct contact (i.e., dermal, ingestion, and inhalation exposures) by construction workers.

CULs under MTCA may be established under Method A, Method B, or Method C. Under WAC 173-340-704(1), MTCA Method A CULs are appropriate for use at sites where:

- Few hazardous substances have been detected;
- The site is undergoing a routine cleanup action; and
- Numerical standards are available for applicable COCs and media of concern.

MTCA Method A CULs are appropriate for the Site because there are a limited number of COPCs in soil and groundwater, all of the cleanup alternatives considered in the FS are routine cleanup actions, and there are established MTCA CULs for the COPCs in the affected media of concern.

The COPCs and their associated MTCA Method A CULs for soil at the Site include the following:

- GRO 30 mg/kg;
- Benzene 0.03 mg/kg;
- Toluene 7 mg/kg;
- Ethylbenzene 6 mg/kg; and
- Total xylenes 9 mg/kg.

The COPCs and their associated MTCA Method A CULs for groundwater at the Site include the following:

- GRO 800 µg/L;
- Benzene 5 µg/L;
- Toluene 1,000 μg/L;
- Ethylbenzene 700 µg/L; and

• Total xylenes – 1,000 µg/L.

3.8.1 Points of Compliance

A point of compliance is that point or location on a property where the CULs must be attained in each medium of concern. The points of compliance for the Site were established in accordance with WAC 173-340-740(6) for soil and WAC 173-340-720(8) for groundwater. The point of compliance for soil is all soil throughout the Site and the point of compliance for groundwater is all groundwater throughout the Site.

3.8.2 Constituents of Concern

The constituents of concern (COCs) for the Site are those COPCs that have been detected in soil or groundwater at concentrations exceeding their respective MTCA Method A CULs.

Based on the results of the environmental investigations and actions, the only COCs for soil at the Site are:

- GRO,
- Benzene, and
- Total xylenes.

COCs for groundwater are:

- GRO, and
- Benzene.

4.0 FEASIBILITY STUDY

The purpose of an FS is to develop and evaluate cleanup alternatives for a site and select a final cleanup action in accordance with WAC 173-340-350(8). The objective of a selected cleanup action is to protect human health and the environment and to meet the requirements of MTCA. This FS evaluates and selects a cleanup action that will serve as a final, permanent remedy for the Site. The cleanup action selected in this FS does not foreclose future remedial action in areas of the Site not located on the subject property.

4.1 Applicable Regulations

The work documented herein is intended to comply with the laws and regulations of the State of Washington. The work to be performed during implementation of the selected remedy will be performed under the VCP and will comply with MTCA (70.105D RCW) and its implementing regulations (WAC 173-340). Applicable or Relevant and Appropriate Requirements (ARARs) for the selected remedy will be MTCA, and all potential exposure pathways will be addressed. This RI/FS/CAP contains a fully MTCA-compliant CUL development. Therefore, further consideration of ARARs is not warranted and MTCA has been selected as the regulation with primacy for this project.

4.2 Remedial Action Objectives

Remedial action objectives (RAOs) have been established for the Site to provide remedial alternatives that protect human health and the environment under the MTCA cleanup process (WAC 173-340-350). Based on the assessment of conditions at the Site and the applicable CULs presented in Section 3.8.1, the RAOs for the Site have been established as follows:

- Prevent human exposure to soil and groundwater exhibiting concentrations of COCs in excess of the CULs identified in Section 3.0.
- If feasible, reduce concentrations of COCs in soil to levels protective of human health and the environment and that are protective of groundwater quality.
- If feasible, reduce concentrations of COCs in groundwater to levels protective of human health and the environment.

The RAOs are of primary importance to the evaluation of the general response actions, technologies, process options, and cleanup action alternatives presented in this FS.

4.3 Analysis of All Known, Available, and Reasonable Technologies (AKART)

Based on the physical conditions at the Site, the available remedial options are limited. Typically, general response actions that are applicable to most impacted sites include the following:

- No action;
- Institutional controls;
- Monitored natural attenuation (MNA);
- Containment;
- Removal;
- Ex situ treatment; and
- In situ treatment.

Potentially applicable technologies associated with these general response actions have been identified and screened based on the Site COCs and affected media, and take into consideration the current and future use of the property. The remedial alternatives under evaluation herein are based on the response actions and applicable technologies, and are presented in Section 4.4 below.

4.4 Description of Remedial Alternatives

EPI evaluated the following remedial alternatives to address the impacts to soil and groundwater at the Site. This evaluation is based upon EPI's past experience, best professional judgment, and the application of scientific principles to the known and available data.

The following three remedial alternatives were evaluated as part of this FS:

- Alternative 1 Institutional Controls
- Alternative 2 Excavation of All Remaining Impacted Soil
- Alternative 3 In Situ Treatment of Impacted Soil and Groundwater

Descriptions of each of the alternatives are provided below.

4.4.1 Alternative 1 – Institutional Controls

This remedial alternative consists of implementing institutional controls to limit exposures to remaining impacts. No additional excavation would be performed.

For Alternative 1 it is assumed that an Environmental Covenant (EC) would be implemented for the Site that imposes restrictions on the use of the affected portion of the land such that it cannot be redeveloped for residential purposes. Land use restrictions would remain in force until COC concentrations decrease to levels less than the CULs.

The EC will apply to the southwest portion of the subject property and adjacent public right-of-way, including the utility easement, that contain concentrations of COCs greater than the CULs. The EC would also include deed notifications to inform future property owners of the presence of contaminants.

If implemented, this remedy may need to be altered in the future if redevelopment of the affected property is desired before COCs reduce to levels that comply with the CULs.

The general scope of Alternative 1 would consist of the following:

- Prepare an EC according to Ecology's template;
- Implement the EC; and
- Prepare a final Cleanup Action Report.

4.4.2 Alternative 2 – Excavation of All Remaining Impacted Soil

This remedial alternative consists of excavation and off-Site disposal of all impacted soil that exceeds the CULs developed in Section 3.8.1. This remedial option will also fully address groundwater impacts at the Site, as it will serve to remove the source of dissolved COCs. It is currently estimated that approximately 200 cubic yards of in-place soil exceed the CULs at the Site.

For Alternative 2 it is assumed that remediation will consist of removal, off-Site disposal, and replacement of approximately 220 cubic yards of soil, which is the total in-place volume of impacted soil plus a 10 percent contingency for additional volume based on performance sampling results. To implement this alternative, it is assumed that the existing buried utilities that are within the area of remaining soil impacts will need to be temporarily rerouted prior to the soil excavation work then replaced following completion of the soil excavation.

After all remaining impacted soil has been removed from the Site, groundwater would be sampled on a quarterly basis to monitor for compliance with the CULs. Quarterly monitoring would be conducted until groundwater demonstrates compliance for four consecutive quarters.

The general scope of Alternative 2 would consist of the following:

- Prepare a Sampling and Analysis Plan (SAP) and Health and Safety Plan (HASP);
- Obtain appropriate construction permits;
- Prepare the Site with appropriate traffic control and public safety and security measures;
- Coordinate with the affected utility companies and the City of Kent Public Works department for relocating affected utility lines out of the impacted zone;
- Excavate and dispose of 220 cubic yards of PCS;
- Sample and analyze excavated soil to document soil conditions for disposal;
- Sample and analyze soil from the limits of the excavation;
- Import, place, and compact clean backfill in the excavated area;
- Re-install all previously re-routed utilities back into the affected utility corridor and restore the ground surface to pre-existing conditions;
- Install additional monitoring wells and performing quarterly groundwater compliance monitoring to verify the effectiveness of the remedial alternative in addressing groundwater impacts; and
- Document all remedial activities.

4.4.3 Alternative 3 – In Situ Treatment of Impacted Soil and Groundwater

This remedial alternative consists of active soil and groundwater remediation using *in situ* treatment technologies in close proximity to the area of remaining COCs that exceed the CULs. Soil vapor extraction (SVE) would be used for treating the impacted soil that is present at depths shallower than the groundwater table, and injections of ORC would be used for treating dissolved COCs in groundwater. Under an induced vacuum, SVE will volatilize and physically remove sorbed contaminants from the soil to reduce concentrations of residual contaminants. Injection of ORC into groundwater will increase dissolved oxygen levels to enhance aerobic biological activity and naturally break down residual petroleum hydrocarbons.

For Alternative 3, a regenerative vacuum blower would be used to apply vacuum to a small network of SVE wells to extract soil vapors and facilitate mass removal of contaminants from Site soil. The SVE wells would be constructed of 4-inch diameter polyvinyl chloride (PVC), installed to an approximate depth of 8 feet bgs, with approximately 5 feet of slotted screen (i.e., 3 to 8 feet bgs). A 15-foot radius of influence for SVE is assumed for this alternative; however, pilot testing would be necessary to confirm the actual

radius of influence for design and implementation. Extracted soil vapors would initially be treated through activated carbon filters prior to discharge to the atmosphere. At a minimum, the system would require regular operation and maintenance and monitoring of system vapors monthly until it is no longer needed. It is assumed that the SVE system would need to operate for about 2 years to fully remediate Site soil. A conceptual layout for implementing SVE is illustrated in Figure 9.

The groundwater treatment component of Alternative 3 would include pressurized injections of ORC slurry using direct-push technology. The injection borings would be advanced in locations near and immediately upgradient from the zone of impacted groundwater (Figure 9). It is anticipated that one to two injection events would be necessary to complete groundwater remediation in this area. Quarterly groundwater monitoring would be necessary to determine whether additional ORC injections would be necessary and also to determine when groundwater compliance has been met.

The general scope of Alternative 3 would consist of the following:

- Prepare an Engineering Design and Work Plan;
- Prepare a SAP and HASP;
- Perform a pilot test to evaluate the treatment methods;
- Obtain construction permits for excavating SVE trenches;
- Obtain an air permit for treated vapor discharges;
- Prepare the Site with appropriate traffic control and public safety and security measures;
- Drill and install SVE wells;
- Excavate SVE trenches and install SVE conveyance piping;
- Backfill trenches and restore the ground surface to pre-existing conditions;
- Procure and set up aboveground SVE equipment and carbon treatment vessels, and connect SVE piping to equipment;
- Operate the SVE system for approximately 2 years;
- Perform up to two ORC injection events using direct-push technology and ORC slurry;
- Monitor the soil and groundwater treatment monthly to verify performance and compliance with the air permit;
- Install additional monitoring wells and performing quarterly groundwater compliance monitoring to verify the effectiveness of the remedial alternative in addressing groundwater impacts; and
- Document all remedial activities.

4.5 MTCA Threshold Requirements

A selected cleanup action must satisfy the requirements of WAC 173-340-360(2). These requirements include both threshold requirements (WAC 173-340-360(2)(a)) and other requirements (WAC 173-340-360(2)(b)). The threshold requirements include:

- Protection of human health and the environment;
- Compliance with cleanup standards;

- Compliance with applicable state and federal laws; and
- Provisions for compliance monitoring.

Other requirements include:

- Use of permanent solutions to the maximum extent practicable;
- Provisions for a reasonable restoration time frame; and
- Consideration of public concerns.

4.6 Evaluation of Remedial Alternatives

This section presents an evaluation and comparison of the proposed remedial alternatives for selecting the preferred cleanup action for the Site. In accordance with MTCA, the alternatives are evaluated relative to the criteria and sub-criteria specified in WAC 173-340-360(3)(f) and WAC 173-340-360(4), which include the following:

- Protectiveness;
- Permanence;
- Effectiveness over the long term;
- Management of short-term risks;
- Technical and administrative implementability;
- Consideration of public concerns;
- Restoration time frame; and
- Cost.

A summary of the evaluation of the proposed alternatives is provided in Table 5 and each criterion is addressed in Sections 4.6.1 through 4.6.8. The overall evaluation is then used to determine the relative benefit of each alternative.

Based upon EPI's experience, best professional judgment, and the application of scientific principles, each alternative has been assigned a score for each criterion ranging from 5 (best) to 1 (worst). Each score is based on the perceived benefit associated with the criterion and is included in Table 5. Several of the criteria are comprised of sub-criteria. In such cases, each sub-criterion is scored and the average of those scores is used as the criterion score. Alternatives deemed equally beneficial for a criterion or

sub-criterion are given the same score. The highest score is the preferred alternative for the non-cost criteria.

Two of the three proposed alternatives present a permanent solution to the observed conditions. As indicated in WAC 173-340-360(d), it is necessary to perform a disproportionate cost analysis (DCA) if a permanent solution is to be considered. For the DCA, the non-cost criteria are weighted based on weighting factors established by Ecology and then summed. That summed score is then compared to the conceptual cost of each alternative. The results of the DCA are presented in Section 4.6.9.

4.6.1 Protectiveness

Protectiveness is defined in WAC 173-340-360(3)(f)(i) as:

"Overall protectiveness of human health and the environment, including the degree to which existing risks are reduced, time required to reduce risk at the facility and attain cleanup standards, on-site and off-site risks resulting from implementing the alternative, and improvement of the overall environmental quality."

All remedial alternatives are protective of human health and the environment. Two of the alternatives actively remediate soil beneath the Site, while one alternative imposes restrictions to prevent exposures. Alternative 2 is most protective because it removes all impacted soils to the maximum extent practicable in the shortest amount of time. Alternative 3 is slightly less protective than Alternative 2 primarily because the *in situ* treatment will require more time to achieve compliance than removal and off-Site disposal. Alternative 1 is the least protective of each of the alternatives evaluated because contamination would remain in place at the Site following its implementation.

Alternative 1 is assigned a score of 1.5, Alternative 2 is assigned a score of 5, and Alternative 3 is assigned a score of 3.3.

4.6.2 Permanence

Permanence is defined in WAC 173-340-360(3)(f)(ii) as:

"The degree to which the alternative permanently reduces the toxicity, mobility or volume of hazardous substances, including the adequacy of the alternative in destroying the hazardous substances, the reduction or elimination of hazardous substance releases and sources of releases, the degree of irreversibility of waste treatment process, and the characteristics and improvement of the overall environmental quality."

At the completion of remedial activities, Alternatives 2 and 3 will each result in a permanent solution. Alternative 1, if implemented indefinitely, would also be a permanent solution, but would have a much lower degree of permanence during its implementation due to the contamination remaining in place for a significantly longer time frame.

Permanence includes the sub-criteria of reduction in toxicity, degree of irreversibility, and the type and character of the waste streams generated during treatment. Due to the soil waste stream that would be generated during excavation and disposal, Alternative 2 ranks slightly lower than Alternative 3 for this sub-criterion. While all technologies, if successfully implemented, would be permanent, the degree of certainty in the success of each technology varies due to the nature of the technologies.

Alternative 1 is assigned a score of 2.3, Alternative 2 is assigned a score of 3.7, and Alternative 3 is assigned a score of 3.

4.6.3 Effectiveness over the Long Term

Effectiveness over the long term is defined in WAC 173-340-360(3)(f)(iv) as:

"Long-term effectiveness includes the degree of certainty that the alternative will be successful, the reliability of the alternative during the period of time hazardous substances are expected to remain on-site at concentrations that exceed cleanup levels, the magnitude of residual risk with the alternative in place, and the effectiveness of controls required to manage treatment residues or remaining wastes. The following types of cleanup action components may be used as a guide, in descending order, when assessing the relative degree of long-term effectiveness: Reuse or recycling; destruction or detoxification; immobilization or solidification; on-site or off-site disposal in an engineered, lined and monitored facility; on-site isolation or containment with attendant engineering controls; and institutional controls and monitoring."

Alternatives 2 and 3 both have the intent and goal of meeting cleanup standards and protecting human health and the environment after completion of the remedial action, while Alternative 1 has the intent and goal of protecting human health and the environment during its implementation. There are varying levels of uncertainty and reliability associated with each technology throughout the process. Long-term effectiveness includes the sub-criteria of certainty, reliability, residual risk, and utilization of preferred remedies. Alternatives 2 and 3 are ranked higher for long-term effectiveness than Alternative 1 primarily due to their higher degree of certainty and general reliability associated with the technology used.

Alternative 1 is assigned a score of 1.8, Alternative 2 is assigned a score of 4.3, and Alternative 3 is assigned a score of 3.5.

4.6.4 Management of Short-Term Risks

Management of short-term risks is defined in WAC 173-340-360(3)(f)(v):

"The risk to human health and the environment associated with the alternative during construction and implementation, and the effectiveness of measures that will be taken to manage such risks."

Each of the alternatives has manageable short-term risks and effective measures for mitigating those risks. Alternative 1 has been ranked the highest for this criterion because it does not involve any intrusive work and, therefore, little to no short-term risks. Alternative 2 has the highest level of short-term risk of the three alternatives due to the excavation work and moving of existing underground utilities. Alternative 3 has moderate risks associated with the drilling and trenching near buried utilities.

Alternative 1 is assigned a score of 5, Alternative 2 is assigned a score of 1.5, and Alternative 3 is assigned a score of 2.

4.6.5 Technical and Administrative Implementability

Technical and administrative implementability is defined in WAC 173-340-360(3)(f)(vi):

"Ability to be implemented including consideration of whether the alternative is technically possible, availability of necessary off-site facilities, services and materials, administrative and regulatory requirements, scheduling, size, complexity, monitoring requirements, access for construction operations and monitoring, and integration with existing facility operations and other current or potential remedial actions."

This criterion includes the concepts of technical possibility, access, necessary resources, monitoring requirements, and integration into existing facility features. All alternatives are technically possible to implement, but primarily vary based on their overall complexity. Alternative 1 received the highest implementability score because it is the easiest to implement. Alternative 2 received the lowest score because it is the most complex alternative due to the necessary relocation and replacement of buried utilities and potentially difficult access and limited space for performing the excavation work.

Alternative 1 is assigned a score of 5, Alternative 2 is assigned a score of 1.5, and Alternative 3 is assigned a score of 2.

4.6.6 Consideration of Public Concerns

Consideration of public concerns is defined in WAC 173-340-360(3)(f)(vii):

"Whether the community has concerns regarding the alternative, and if so, the extent to which the alternative addresses those concerns. This process includes concerns from individuals, community groups, local governments, tribes, federal and state agencies, or any other organization that may have an interest in or knowledge of the site."

Public concerns are expected to vary depending on the remedial action. There would likely be more significant concerns associated with Alternative 2 due to the need for rerouting and replacing utilities, temporary closure of the sidewalk and a portion of the adjacent roadway, increased traffic, construction noise, and the high potential for generating fugitive vapors and dust during excavation activities. Public concerns associated with Alternative 3 would not be as significant as those associated with Alternative 2, but would likely include concerns regarding drilling and trenching in close proximity to buried utilities,

noise issues during construction and during SVE system operation, potential vapor discharges from the SVE system, and use of a portion of the parking lot for placement of system equipment. Alternative 1 would not have these concerns, but would likely have concerns associated with leaving impacted soil in place and related issues involving potential future redevelopment.

Alternative 1 is assigned a score of 4, Alternative 2 is assigned a score of 2, and Alternative 3 is assigned a score of 3.

4.6.7 Restoration Time Frame

Restoration time frame (RTF) is evaluated using the following factors described in WAC 173-340-360(4)(b)(i through ix):

- "Potential risks posed by the site to human health and the environment
- Practicability of achieving a shorter RTF
- Current use of the site
- Potential future use of the site
- Availability of alternative water supplies
- Likely effectiveness and reliability of institutional controls
- Ability to monitor and control migration of hazardous substances from the site
- Toxicity of hazardous substances at the site
- Natural processes that reduce concentrations of hazardous substances at the site."

Estimates of RTF are necessarily subjective. Each of the alternatives is assumed to provide a reasonable RTF, but more accurate estimates of *in situ* treatment effectiveness are premature without data regarding actual treatment effectiveness and response to the methods that will be used.

RTF was ranked based upon the general aggressiveness of each of the remedial actions and perceived certainty associated with the action. Alternative 2 is judged to be the most aggressive based on the contaminant mass removed in the shortest period of time. Although Alternative 3 also removes contaminant mass, the certainty associated with its successful implementation and ability to achieve cleanup standards is perceived to be lower than that of Alternative 2. Alternative 1 would have the longest restoration time frame than the other alternatives due to its lack of using any active remediation technology to remove contaminants.

Alternative 1 is assigned a score of 1, Alternative 2 is assigned a score of 5, and Alternative 3 is assigned a score of 3.

4.6.8 Cost

Cost is defined in WAC 173-340-360(3)(f)(iii) as:

"The cost to implement the alternative, including the cost of construction, the net present value of any long-term costs, and agency oversight costs that are cost recoverable. Long-term costs include operation and maintenance costs, monitoring costs, equipment replacement costs, and the cost of maintaining institutional controls. Cost estimates for treatment technologies shall describe pretreatment, analytical, labor, and waste management costs. The design life of the cleanup action shall be estimated and the cost of replacement or repair of major elements shall be included in the cost estimate."

Order-of-magnitude remediation costs (i.e., ±30 to 50 percent) were estimated for each of the remedial alternatives based on the descriptions presented in Section 4.4 and associated assumptions, and without engineering design or contractor bidding. The order-of-magnitude remedial costs are based on typical costs for Washington State and the current knowledge of the Site and are summarized in the following table. These costs are for comparison purposes only and actual implementation costs will vary from those provided below. These estimated costs incorporate a variety of necessary assumptions and the validity of those assumptions cannot be fully known at this time.

Remedial Alternative	Order-of-Magnitude Remediation Cost Estimate
1. Institutional Controls	\$ 20,000
2. Excavation of All Remaining Impacted Soil	\$ 900,000
3. In Situ Treatment of Impacted Soil and Groundwater	\$ 500,000

Remedial Alternatives Cost Summary

4.6.9 Disproportionate Cost Analysis

Under WAC 173-340-360(3)(e), a cleanup action shall not be considered practicable "if the incremental cost of the alternative over that of a lower cost alternative exceeds the incremental degree of benefits achieved by the alternative over that of the other lower cost alternative." The determination of practicability is made using an analysis of benefit versus cost. The DCA can be performed quantitatively using the judged scoring of the non-cost criteria as the net benefit.

As previously discussed, each alternative was assigned a score for each of the non-cost evaluation criteria, with a score of 5 representing the highest overall perceived benefit and a score of 1 representing the lowest overall perceived benefit. The raw scores that were assigned in Sections 4.6.1 through 4.6.7 are summarized below and are weighted for each criterion according to weighting factors established by Ecology. The sum of the individual weighted scores for each alternative represents a value of the overall benefit of the alternative.

The table and chart below present the DCA using the estimated order-of-magnitude costs and quantitative net benefit values.

Factor		Alterna	ative 1	Alterna	ative 2	Alternative 3		
Factor	weighting	Rank	Value	Rank	Value	Rank	Value	
Protectiveness	0.3	1.5	0.45	5.0	1.50	3.3	0.99	
Permanence	0.2	2.3	0.46	3.7	0.74	3.0	0.60	
Long-Term Effectiveness	0.2	1.8	0.36	4.3	0.86	3.5	0.70	
Short-Term Risk	0.1	5.0	0.50	1.5	0.15	2.0	0.20	
Implementability	0.1	5.0	0.50	1.5	0.15	2.0	0.20	
Public Concerns	0.1	4.0	0.40	2.0 0.20		3.0	0.30	
Sum	1	2.67		3.60		2.99		

Remedial Alternatives Scoring Summary

Cost-to-Benefit Analysis



4.7 Selected Cleanup Action

Based on the remedial alternatives evaluation, Alternative 2 ranks highest overall in raw scoring for the non-cost criteria (i.e., a total of 3.60 compared to scores of 2.67 and 2.99 for Alternatives 1 and 3, respectively). However, the scores are not appreciably different between any of the remedial alternatives. Alternative 1 is significantly lower in cost than the other alternatives. While the weighted score for Alternative 1 is slightly lower than Alternative 2 and Alternative 3, the perceived benefit for the estimated cost of Alternative 1 is significantly greater, as shown in the above graph.

Institutional controls would be appropriate for this Site due to the limited potential for exposures to COCs exceeding the CULs. The remaining soil impacts are very limited in extent and are covered by the southwestern portion of the parking lot and the adjacent sidewalk. Recent data also indicate that while COCs are present in groundwater that extends to the south beneath Meeker Street, those impacts do not appear to extend beyond the southern boundary of Meeker Street and the concentrations beneath the street are all less than the CULs. In general, the use of the affected portion of the subject property and adjacent public right-of-way and the lack of significant migration of COCs will serve to isolate the remaining impacts from human contact while concentrations continue to exceed the CULs.

Alternative 1 is protective of human health and the environment, and adequately manages and addresses the Threshold Criteria and DCA evaluation criteria. This alternative also does not represent a disproportionate cost relative to the level of protectiveness provided.

Alternatives 2 and 3 do not provide a substantially greater level of environmental protectiveness, but do result in substantial and disproportionate costs. Those alternatives also have substantial short-term risks and issues related to public concerns.

5.0 CLEANUP ACTION PLAN

As indicated above, institutional controls in the form of a deed restriction has been selected as the preferred cleanup action for the Site (Alternative 1). To implement this action, an EC will be prepared according to the Ecology template provided in Attachment E.

The EC will only be applicable to the portions of the subject property and adjacent City-owned property that are impacted with COCs at concentrations greater than the CULs. In order to identify this area in the EC, a land survey will be performed and a legal description and boundary map will be prepared by a licensed surveyor. Performance of the survey will include placement of boundary markers or reference monuments on the property to physically identify the area addressed by the EC. The legal description and map will cover all affected parcels.

Along with the new legal description and boundary map, the EC will also include specific restrictions to be placed on the use of the affected property. Land use restrictions will be determined through direct communications with the local planning authority and consultations with Ecology staff.

Once the EC has been prepared, all affected property owners and persons holding other property interests such as utility easements and public right-of way will be required to provide a notarized signature on the EC. The signed EC will then be submitted to Ecology for final signature.

After the EC has been signed by all parties, it will be submitted to the County Auditor and recorded on the title of each parcel of real property subject to the EC. The original recorded EC will then be sent to Ecology for their records, and copies will be provided to all signatories and interested parties.

6.0 LIMITATIONS

To the extent that preparation of this RI/FS/CAP required the application of best professional judgment and the application of scientific principles, certain results of this work were based on subjective interpretation. EPI makes no warranties, express or implied, including and without limitation warranties as to merchantability or fitness for a particular purpose. The information provided in this RI/FS/CAP is not to be construed as legal advice.

7.0 REFERENCES

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- SCS Engineers (SCS). 2003. Letter Report: Well Installation and Initial Groundwater Monitoring at the Former Chevron Gasoline Station Site, Meeker Square, Kent, Washington. 10 January.

Tables

Table 1Summary of Historical and Current Soil Analytical DataRemedial Investigation, Feasibility Study, and Cleanup Action PlanMeeker Former Gas Station Site105 Washington Avenue N, Kent, WA

Sample Location	Sample ID	Sample Depth (feet)	Sample Date	TPH ^a	GRO⁵	DRO ^c	ORO	Benzene ^d	Toluene ^d	Ethyl- benzene ^d	Total Xylenes ^d	Lead ^e
Phase II Environm	ental Site Ass	essment (S	CS Engineers	s – 1991)								
<u>В</u> Ц1	BH1-10'	10	4/25/91	<10								
ВПТ	BH1-15'	15	4/25/91	<10								
BH2	BH2-5'	5	4/25/91	1,800 ^f								
	BH2-15'	15	4/25/91	<10								
BH3	BH3-10'	10	4/25/91	<10								
	BH3-15	15	4/25/91	<10								
BH4	BH4-10 BH4-15'	10	4/25/91	4/ ⁵								
Phase II Environm	ental Site Ass	essment (G	iles Enginee	44 ⁻	 ates - 1998)							
			1/26/08		ates – 1550			<0.1	<0.1	<0.1	<0.3	
B1/////	B1-0 B2-7'	7	1/26/98			<26	<51					
B3/MW3	B2-7'	7	1/26/98		6			<0.1	<0.1	<0.1	<0.3	
B4	B4-4'	4	1/26/98		380			<0.4	0.6	2.9	10	12
B8/MW2	B8-4'	4	3/11/98		120			<0.5	<0.5	<0.5	<1.5	
B9	B9-4'	4	3/11/98		700			<0.5	<0.5	5.7	9.8	
B10	B10-6'	6	3/11/98		27			<0.1	<0.1	0.2	0.3	
B11	B11	NR	3/11/98		<5			<0.1	<0.1	<0.1	<0.3	
B12	B12	NR	3/11/98		<5			<0.1	<0.1	<0.1	<0.3	
B13/MW4	B13-3'	3	3/11/98		38			3	0.1	0.1	<0.3	
Supplemental Ass	essments (SC	S Engineer	s – 2000 and	2002)			1					
DP-13	DP13-11'	11	4/6/00		85			< 0.05	0.079	1.3	3.1	
SP1	SP1-2.8'	2.8	1/14/02		24 - 5	<20	<50	<0.02	<0.05	<0.05	<0.05	
	SP1-8.5 SP2 2.5'	8.5 2.5	1/14/02		<5	<20	<50	< 0.02	<0.05	<0.05	<0.05	
SP2	SP2-2.5	2.5 A	1/14/02		 <5	<20 <20	<50 <50	<0.02	<0.05	<0.05	<0.05	
0	SP2-6.8	6.8	1/14/02		-5 <5	<20	<50	<0.02	<0.05	<0.05	<0.05	
	SP3-4'	4	1/14/02		64	<20	<50	< 0.02	< 0.05	0.19	0.16	
SP3	SP3-10'	10	1/14/02		9.4	<20	<50	<0.02	<0.05	<0.05	<0.05	
SP4	SP4-7.5'	7.5	1/14/02		<5	<20	<50	<0.02	<0.05	<0.05	<0.05	
SP5	SP5-3'	3	1/14/02		<5	<20	<50	<0.02	<0.05	<0.05	<0.05	
51.5	SP5-8'	8	1/14/02		<5	<20	<50	<0.02	<0.05	<0.05	<0.05	
SP6	SP6-3'	3	1/14/02		8.8	<20	<50	<0.02	<0.05	<0.05	<0.05	
	SP6-9.5'	9.5	1/14/02		<5	<20	<50	<0.02	<0.05	<0.05	<0.05	
Remedial Excavat	ion (SCS Engi	neers – 200	2)		_	-	1					
N Sidewall	A3south-3'	3	4/22/02		<5			< 0.02	< 0.05	< 0.05	<0.05	
NVV Sidewali	B2-3'	3	4/22/02		<5			< 0.02	<0.05	<0.05	<0.05	
N Excavation ^h	B2-7 B3NW-3'	י ז	4/19/02		130			<0.02	<0.05	<0.00 0 15	<0.03	
NE Sidewall	B4east-3'	3	4/22/02		<5			<0.02	<0.05	<0.05	<0.05	
W Sidewall	COSE-2'	2	4/22/02		<5			< 0.02	< 0.05	< 0.05	< 0.05	
Central Floor	C3-8'	8	4/19/02		130			<0.02	<0.05	4.2	0.32	
E Sidewall	C4-7'	7	4/19/02		<5			<0.02	<0.05	<0.05	<0.05	
SW Sidewall	D0east-2'	2	4/22/02		<5			<0.02	<0.05	<0.05	<0.05	
S Excavation ^h	D1-2'	2	4/19/02		580			<0.02	<0.05	<0.05	1.1	
SW Excavation	D1south-2'	2	4/22/02		840			<0.02	<0.05	0.28	11	
S Excavation ^h	D2east-5'	5	4/19/02		220			< 0.02	<0.05	0.25	0.92	
S Sidewall	D2-3'	3	4/19/02		<5			< 0.02	< 0.05	< 0.05	<0.05	
S Sidewall	D3-5'	5	4/19/02		140			< 0.02	<0.05	0.80	U.54	
S Floor	D3-7.5	7.5	4/19/02		<5			<0.02	< 0.05	< 0.05	< 0.05	
	D4-7.0	7.0 ont (SCS En	$\frac{4}{19} \frac{19}{02}$		N 0			NU.UZ	<0.05	<0.05	<0.05	
			5/17/02	02)	<1.00			<0.022	<0.042	<0.042	<0.095	
0\\/2	010/2-51	5	5/17/02		~4.22 <4 82			<0.022	<0.043	<0.043	<0.000	
0002	OW3-5'	5	5/17/02		271			0.024	0.049	15	2.883	
OW3	OW3-10'	10	5/17/02		31			0.091	0.015	0.104	0.181	
-	OW3-15'	15	5/17/02		<5.04			<0.026	<0.051	<0.051	0.007	
Site Investigation	(Environment	al Partners.	Inc. – 2015)	_			-					<u>.</u>
B-7	B-7:12	12	, 11/6/15		<2			<0.02	< 0.02	<0.02	<0.06	
B-9	B-9:5	5	11/6/15		<2			<0.02	<0.02	<0.02	<0.06	
B-10	B-10:5	5	11/12/15		<2			<0.02	<0.02	<0.02	<0.06	
MTCAN	othed A Sail C	loanun Las										
MTCA Method A Soil Cleanup Levels for Unrestricted Land Uses ⁱ				NVE	30/100 ^j	2,000	2,000	0.03	7	6	9	250

Notes:

All results presented in milligrams per kilogram (mg/kg).

- **Bold** Bold results indicate that the compound was detected.
- Shaded cells indicate that the compound was detected at a concentration greater than the cleanup level.
 - a Total petroleum hydrocarbons (TPH) analyzed by EPA Method 8015, unless otherwise noted.
 - b Gasoline-range organics (GRO) analyzed by WTPH-G (prior to 2000) and NWTPH-Gx (2000 and later).
 - c Diesel-range (DRO) and oil-range organics (ORO) analyzed by NWTPH-Dx.
 - d Benzene, toluene, ethylbenzene, and total xylenes (BTEX) analyzed by EPA Method 8020 (1998) and 8021B (2000 and later).
 - e Lead analyzed by EPA Method 7420.
 - f Identified as diesel range.
 - g Analyzed by EPA Method 418.1.
 - h Identified as a characterization sample for soil that was excavated.
 - i Model Toxics Control Act (MTCA) cleanup levels from Table 740-1 in Chapter 1732-340-900.
 - j Cleanup level is 30 mg/kg when benzene is present, and 100 mg/kg when benzene is not detected.
 - -- Not analyzed.
 - NR Not reported.
- NVE No value established.

Table 2 Summary of Historical and Current Groundwater Analytical Data Remedial Investigation, Feasibility Study, and Cleanup Action Plan **Meeker Former Gas Station Site** 105 Washington Avenue N, Kent, WA

Sample Location	Sample Date	GROª	DRO⁵	ORO⁵	Benzene ^c	Toluene ^c	Ethyl- Benzene ^c	Total Xylenes ^c
Phase II Envir	onmental Site As	sessment (Gile	es Engineering	g Associates –	1998)			
B4	1/26/98	890			1	<1	5	<3
B7	1/26/98		<250	<500				
B9	3/11/98	870			61	1	14	4
B10	3/11/98	630			3	<1	4	<3
	1/26/98	<50			<1	<1	<1	<3
	4/15/98	<50			<1	<1	<1	<3
MM/2 (B8)	3/11/98	1,600			120	3	60	31
Sample Location Phase II Enviro B4 B7 B9 B10 MW1 (B1) MW2 (B8) MW2 (B8) MW3 (B3) MW4 (B4) Supplemental MW1 MW2 MW3 SP1 SP2 SP3 SP1 SP2 SP3 SP1 SP2 SP3 SP4 SP2 SP3 SP4 SP5 SP5 SP5 SP5 SP5 SP5 SP5 SP5 SP5 SP5	4/15/98	4,800			84	<5	130	<15
MW/3 (B3)	1/26/98	<50			<1	<1	<1	<3
10003 (83)	4/15/98	<50			<1	<1	<1	<3
MW4 (B4)	4/15/98	83			<1	<1	<1	<3
Supplemental	Assessments (S	CS Engineers	– 2000 and 200	02)				
DP13	4/6/00	9,000			330	12	230	860
MW1	1/9/02	<100	<200	<500	<1.0	<1.0	<1.0	<1.0
MW2	1/9/02	1,700	<200	<500	13	<1.0	14	<1.0
MW3	1/9/02	<100	<200	<500	<1.0	<1.0 <1.0 <1.0		<1.0
SP1	1/14/02	<100	<200	<500	<1.0	<1.0 <1.0		<1.0
SP2	1/14/02	<100	<200	<500	<1.0	<1.0 <1.0 <1.0		<1.0
SP3	1/14/02	1,500	<200	<500	6.4	<1.0	<1.0	8.9
SP4	1/14/02	1,200	<200	<500	5.0	<1.0	<1.0	<1.0
SP5	1/14/02	160	<200	<500	<1.0	<1.0	<1.0	<1.0
SP5	1/14/02	<100	<200	<500	<1.0	<1.0	<1.0	<1.0
Soil and Grou	ndwater Assessr	nent (SCS Eng	ineers – 2002)					
OW1	6/6/02	<100			<0.5	<1	<1	<3
OW2	6/6/02	<100			<0.5	<1	<1	<3
OW3	6/6/02	4,550			125	2.62	119	46.4
MW3	6/6/02	<100			<0.5	<1	<1	<3
Groundwater	Sampling (Migizi	Group – 2014)						
OW1	8/27/14	<50.0	<50.0	<100	<1 00 ^f	<1.00 ^f	<1.00 ^f	<2 00 ^f
OW2	8/27/14	<50.0	<50.0	<100	<1.00 ^f	<1.00 ^f	<1.00 ^f	<2.00 ^f
OW3 ^d	8/27/14	2,450	<50.0 ^e	<100	14.9 ^f	<1.00 ^f	6.10 ^f	1.39 ^f
Site Investigat	tion (Environmen	tal Partners, In	ic. – 2015)	•				
B-7	11/6/15	<100			<1	<1	<1	<3
B-9	11/6/15	<100			<1	<1	<1	<3
B-10	11/12/15	160			4.9	1.4	1.1	5.2
MTCA Method A Cleanup Levels for Groundwater ^g		800/1,000 ^h	500	500	5	1,000	700	1,000

Notes:

All results presented in micrograms per liter (µg/L).

Bold Bold results indicate that the compound was detected.

Shaded cells indicate that the compound was detected at a concentration greater than the cleanup level.

а Gasoline-range organics (GRO) analyzed by WTPH-G (prior to 2000) and NWTPH-Gx (2000 and later).

Diesel-range (DRO) and oil-range organics (ORO) analyzed by NWTPH-Dx. b

Benzene, toluene, ethylbenzene, and total xylenes (BTEX) analyzed by EPA Method 8020 (Jan. 1998) and 8021B (Mar. 1998 and later), С unless otherwise noted.

Sample also analyzed for semivolatile organic compounds by EPA Method 8270, which indicated detectable naphthalene (32.3 µg/L), 1d methylnaphthalene (30.3 µg/L), and 2-methylnaphthalene (9.22 µg/L). Volatile analysis by EPA Method 8260 also indicated detectable isopropylbenzene (48.6 µg/L), n-propylbenzene (111 µg/L), 1,2,3-trichloropropane (3.94 µg/L), 1,2-dibromo-3-chloropropane (23.5 µg/L), and naphthalene (64.8 μ g/L) in the sample from OW3.

е Lab analysis indicated the presence of unresolved compounds eluting from dodecane through tetracosane (C12-C24) at a concentration of 851 ug/L; DRO as fuel was reported as non-detectable.

BTEX analyzed by EPA Method 8260.

- Model Toxics Control Act (MTCA) cleanup levels from Table 720-1 in Chapter 173-340-900. g
- h Cleanup level is 800 μ g/L when benzene is present, and 1,000 μ g/L when benzene is not detected.
- --Not analyzed.

Table 3

Groundwater Elevation Data – June 6, 2002 Remedial Investigation, Feasibility Study, and Cleanup Action Plan Meeker Former Gas Station Site 105 Washington Avenue N, Kent, WA

Well ID	Date	Top of Casing Elevation ^a	Depth to Water ^b	Relative Water Table Elevation ^c
OW1	6/6/2002	99.78	7.91	91.87
OW2	6/6/2002	99.82	8.03	91.79
OW3	6/6/2002	99.25	7.46	91.79
MW3	6/6/2002	100.21	8.27	91.94

Notes:

a Top of casing elevation surveyed by SCS Engineers in June 2002, relative to an arbitrary benchmark with an elevation of 100 feet.

b Depth to water measured in feet from surveyed point at top of well casing.

c Relative Water Table Elevation = (Top of Casing Elevation) - (Depth to Water)

Table 4 Residual Petroleum Hydrocarbons Remaining in Soil Remedial Investigation, Feasibility Study, and Cleanup Action Plan Meeker Former Gas Station Site

105 Washington Avenue N, Kent, WA

Sample Location	Sample ID	Sample Depth (feet)	Sample Date	TPH ^a	GRO ^b	DRO°	ORO°	Benzene ^d	Toluene ^d	Ethyl- benzene ^d	Total Xylenes ^d
Phase II Environme	ntal Site Asse	essment (SC	E Engineers -	- 1991)							
5114	BH1-10'	10	4/25/91	<10							
BH1	BH1-15'	15	4/25/91	<10							
BH2	BH2-15'	15	4/25/91	<10							
DUO	BH3-10'	10	4/25/91	<10							
впа	BH3-15'	15	4/25/91	<10							
DUA	BH4-10'	10	4/25/91	47 ^e	1) 10 10 10 10 10 10 10 10 10 50 <-						
DN4	BH4-15'	15	4/25/91	44 ^e							
Phase II Environme	ntal Site Asse	essment (Gil	es Engineerir	ng Associat	es – 1998)						
B2	B2-7'	7	1/26/98			<26	<51				
B3/MW3	B3-7'	7	1/26/98		6			<0.1	<0.1	<0.1	<0.3
B9	B9-4'	4	3/11/98		700			<0.5	<0.5	5.7	9.8
B10	B10-6'	6	3/11/98		27			<0.1	<0.1	0.2	0.3
B11	B11	NR	3/11/98	-	<5			<0.1	<0.1	<0.1	<0.3
B12	B12	NR	3/11/98		<5			<0.1	<0.1	<0.1	<0.3
Supplemental Asse	ssments (SCS	6 Engineers	– 2000 and 20	002)							
DP-13	DP13-11'	11	4/6/00		85			<0.05	0.079	1.3	3.1
0.04	SP1-2.8'	2.8	1/14/02		24	<20	<50	<0.02	<0.05	<0.05	<0.05
SP1	SP1-8.5'	8.5	1/14/02		<5	<20	<50	<0.02	<0.05	<0.05	<0.05
0.02	SP3-4'	4	1/14/02		64	<20	<50	<0.02	<0.05	0.19	0.16
SP3	SP3-10'	10	1/14/02		9.4	<20	<50	<0.02	<0.05	<0.05	<0.05
SP4	SP4-7.5'	7.5	1/14/02		<5	<20	<50	<0.02	<0.05	<0.05	<0.05
SP5	SP5-3'	3	1/14/02		<5	<20	<50	<0.02	<0.05	<0.05	<0.05
	SP5-8'	8	1/14/02		<5	<20	<50	<0.02	<0.05	<0.05	<0.05
SD6	SP6-3'	3	1/14/02		8.8	<20	<50	<0.02	<0.05	<0.05	<0.05
3F0	SP6-9.5'	9.5	1/14/02		<5	<20	<50	<0.02	<0.05	<0.05	<0.05
Remedial Excavation	on (SCS Engin	eers – 2002)									
N Sidewall	A3south-3'	3	4/22/02		<5			<0.02	<0.05	<0.05	<0.05
NW Sidewall	B2-3'	3	4/22/02	-	<5			<0.02	<0.05	<0.05	<0.05
N Floor	B2-7'	7	4/19/02		<5			<0.02	<0.05	<0.05	<0.05
NE Sidewall	B4east-3'	3	4/22/02		<5			<0.02	<0.05	<0.05	<0.05
W Sidewall	C0SE-2'	2	4/22/02		<5			<0.02	<0.05	<0.05	<0.05
Central Floor	C3-8'	8	4/19/02		130			<0.02	<0.05	4.2	0.32
E Sidewall	C4-7'	7	4/19/02		<5			<0.02	<0.05	<0.05	<0.05
SW Sidewall	D0east-2'	2	4/22/02		<5			<0.02	<0.05	<0.05	<0.05
SW Excavation	D1south-2'	2	4/22/02		840			<0.02	<0.05	0.28	11
S Sidewall	D2-3'	3	4/19/02		<5			<0.02	<0.05	<0.05	<0.05
S Sidewall	D3-5'	5	4/19/02		140			<0.02	<0.05	0.80	0.54
S Floor	D3-7.5'	7.5	4/19/02		<5			<0.02	<0.05	<0.05	<0.05
SE Sidewall	D4-7.5'	7.5	4/19/02		<5			<0.02	<0.05	<0.05	<0.05
Soil and Groundwa	ter Assessme	nt (SCS Eng	ineers – 2002	2)	1	1					
OW1	OW1-5'	5	5/17/02		<4.22			<0.022	<0.043	<0.043	<0.085
OW2	OW2-5'	5	5/17/02		<4.83			<0.024	<0.049	<0.049	<0.097
0	OW3-5'	5	5/17/02		271			0.168	0.084	1.5	2.883
OW3	OW3-10'	10	5/17/02		31			0.091	0.015	0.104	0.181
	OW3-15'	15	5/17/02		<5.04			<0.026	<0.051	<0.051	0.007
Site Investigation (B	Environmental	l Partners, Ir	nc. – 2015)								
B-7	B-7:12	12	11/6/15		<2			<0.02	<0.02	<0.02	<0.06
B-9	B-9:5	5	11/6/15		<2			<0.02	<0.02	<0.02	<0.06
B-10	B-10:5	5	11/12/15		<2			<0.02	<0.02	<0.02	<0.06
MTCA Method A Soil Cleanup Levels for Unrestricted Land Uses ^f			NVE	30/100 ^g	2,000	2,000	0.03	7	6	9	

Notes:

All results presented in milligrams per kilogram (mg/kg).

- **Bold** Bold results indicate that the compound was detected.
- Shaded cells indicate that the compound was detected at a concentration greater than the cleanup level.
- a Total petroleum hydrocarbons (TPH) analyzed by EPA Method 8015, unless otherwise noted.
- b Gasoline-range organics (GRO) analyzed by WTPH-G (prior to 2000) and NWTPH-Gx (2000 and later).
- c Diesel-range (DRO) and oil-range organics (ORO) analyzed by NWTPH-Dx.
- d Benzene, toluene, ethylbenzene, and total xylenes (BTEX) analyzed by EPA Method 8020 (1998) and 8021B (2000 and later).
- e Analyzed by EPA Method 418.1.
- f Model Toxics Control Act (MTCA) cleanup levels from Table 740-1 in Chapter 1732-340-900.
- g Cleanup level is 30 mg/kg when benzene is present, and 100 mg/kg when benzene is not detected.
- -- Not analyzed.
- NR Not reported.
- NVE No value established.

Table 5

Remedial Alternatives Evaluation Remedial Investigation, Feasibility Study, and Cleanup Action Plan Meeker Former Gas Station Site 105 Washington Avenue N, Kent, WA

	Alternative 1		Alternative 2		Alternative 3	
Criteria	Institutional Controls Score ^a Excavation of All Remaining Impacted Soil		Score ^ª	In Situ Treatment of Impacted Soil and Groundwater	Score ^ª	
Description/Issues	Implement institutional controls to place a deed restriction on the impacted property. This would not require any intrusive work at the Site.		Excavate all remaining impacted soil and transport to an offsite facility for disposal; perform four quarters of groundwater compliance monitoring. Will require temporary rerouting of utilities that are present within affected utility corridor and replacing utilities once soil excavation is complete.	:	Apply soil vapor extraction (SVE) technology to remove and reduce soil contaminant concentrations; inject oxygen release compound (ORC) into groundwater to enhance aerobic biological degradation of dissolved contaminants. Soil remediation effectiveness limited to SVE radius of influence.	
Protectiveness	Overall protectiveness of human health and the environment, including implementing the alternative, and improvement of the overall environment.	g the deg nental qu	ree to which existing risks are reduced, time required to reduce risk at t ality.	he facility	v and attain cleanup standards, on-site and off-site risks resulting from	
Overall protectiveness	Protective if maintained	2	Protective when complete	5	Protective when complete	3
Reduces existing risks	Reduces risks when implemented	3	Reduces risks when implemented	5	Reduces risks when implemented	4
Time required to reduce risk	Longer duration to reduce risks	1	Shortest duration to reduce risks	5	Moderate duration to reduce risks	3
On-Site risks	Reduces risks with lower level of certainty	1	Reduces risks with very high level of certainty	5	Reduces risks with moderate to high level of certainty	3
Off-Site risks	Reduces risks with lower level of certainty	1	Reduces risks with very high level of certainty	5	Reduces risks with moderate to high level of certainty	3
Improvement in environmental quality	No immediate change in environmental quality	1	High level of improvement	5	High level of improvement	4
Criterion Score		1.5		5.0		3.3
Permanence	The degree to which the alternative permanently reduces the toxicity, substance releases and sources of releases, the degree of irreversibil	mobility o ity of was	r volume of hazardous substances, including the adequacy of the altern te treatment process, and the characteristics and improvement of the o	native in o verall env	destroying the hazardous substances, the reduction or elimination of having the neuronal quality.	azardous
Reduces toxicity, mobility, and volume	Reduces toxicity, mobility, and volume slowly	1	Reduces toxicity, mobility, and volume rapidly	5	Reduces toxicity, mobility and volume moderately	3
Degree of irreversibility	Low degree of irreversibilty	1	Irreversible		Irreversible	4
Waste characteristics	No waste stream	5	Generates soil waste stream	1	Generates air waste stream	2
Criterion Score		2.3		3.7		3.0
Long-Term Effectiveness	Long-term effectiveness includes the degree of certainty that the altern cleanup levels, the magnitude of residual risk with the alternative in pla guide, in descending order, when assessing the relative degree of lon- facility; on-site isolation or containment with attendant engineering cor	native wil ace, and g-term ef itrols; and	be successful, the reliability of the alternative during the period of time the effectiveness of controls required to manage treatment residues or fectiveness: Reuse or recycling; destruction or detoxification; immobilize d institutional controls and monitoring.	hazardo remaining ation or s	us substances are expected to remain on-site at concentrations that ex g wastes. The following types of cleanup action components may be us olidification; on-site or off-site disposal in an engineered, lined and mor	ceed sed as a hitored
Degree of Certainty	Moderately certain	2	Highly certain	5	Moderately to highly certain	4
Reliability	Moderately reliable	2	Highly reliable	5	Moderately to highly reliable	4
Residual Risk	Moderate	2	Low	5	Low to moderate	3
Technology hierarchy	Low	1	Low rank due to offsite soil disposal	2	Moderate to high	3
Criterion Score		1.8		4.3		3.5

Table 5

Remedial Alternatives Evaluation Remedial Investigation, Feasibility Study, and Cleanup Action Plan Meeker Former Gas Station Site 105 Washington Avenue N, Kent, WA

					T	
	Alternative 1		Alternative 2		Alternative 3	
Criteria	Institutional Controls	Score ^ª	Excavation of All Remaining Impacted Soil	Score ^ª	In Situ Treatment of Impacted Soil and Groundwater	Score ^ª
Description/Issues	Implement institutional controls to place a deed restriction on the impacted property. This would not require any intrusive work at the Site.		Excavate all remaining impacted soil and transport to an offsite facility for disposal; perform four quarters of groundwater compliance monitoring. Will require temporary rerouting of utilities that are present within affected utility corridor and replacing utilities once soil excavation is complete.		Apply soil vapor extraction (SVE) technology to remove and reduce soil contaminant concentrations; inject oxygen release compound (ORC) into groundwater to enhance aerobic biological degradation of dissolved contaminants. Soil remediation effectiveness limited to SVE radius of influence.	
Short-Term Risk Management	The risk to human health and the environment associated with the alternative during construction and implementation, and the effectiveness of measures that will be taken to manage such risks.					
During construction and implementation	Low risks	5	Very high risks associated with excavation and moving of utilities	1	Low to moderate risks associated with drilling and trenching near buried utilities	2
Effectiveness of risk management	Very effective	5	Moderately effective	2	Moderately effective	2
Criterion Score		5.0		1.5		2.0
Implementability	Ability to be implemented including consideration of whether the alternative is technically possible, availability of necessary off-site facilities, services and materials, administrative and regulatory requirements, scheduling, size, complexity, monitoring requirements, access for construction operations and monitoring, and integration with existing facility operations and other current or potential remedial actions.					
Technically possible	Possible if all affected property owners (Meeker Square property owner and City of Kent) agree to environmental covenant.	5	Possible if utility companies agree to temporarily reroute affected utility lines for implementation of soil excavation.	1	Possible, based on subsurface data; SVE parameters should be evaluated	2
Access	No issues related to access for implementing deed restrictions.	5	Access for construction will be dependent on available space within the parking lot and the adjacent public right-of-way.	1	Access for construction will be dependent on available space within the parking lot and the adjacent public right-of-way.	1
Availability of necessary resources	Readily available	5	Readily available	2	Readily available	4
Scheduling, size, and complexity	Very low complexity; environmental covenant can be prepared within 1 to 2 weeks.	5	High complexity and size due to necessary rerouting of buried utilities; excavation, disposal, and restoration of utilities can be completed in 4 to 6 weeks.	1	Moderate complexity and size; SVE installation and startup can be completed within 4 to 6 weeks; SVE operation may require an air discharge permit.	2
Monitoring requirements	Low	5	Low to moderate	3	High	1
Integration with existing features	High	5	Low due to temporary rerouting of buried utilities	1	Moderate. Will require a small portion of the subject property for installation of aboveground equipment.	2
Criterion Score		5.0		1.5		2.0
Public Concerns	Whether the community has concerns regarding the alternative and, if so, the extent to which the alternative addresses those concerns. This process includes concerns from individuals, community groups, local governments, tribes, federal and state agencies, or any other organization that may have an interest in or knowledge of the Site.					
Concerns	Potential concerns regarding impacts remaining in soil and groundwater.	4.0	Potential concerns regarding temporary rerouting of utilities, temporary closure of sidewalk and possible lane closure during excavation, use of heavy equipment, dust generation, noise issues, and transport of impacted soil on public roadways.	2.0	Potential concerns regarding drilling and trenching in close proximity to buried utilities, vapor discharges, noise issues, and partial use of the property for placement of system equipment.	3.0
Restoration Time Frame	Determination of whether a cleanup action provides for a reasonable restoration time frame based on criteria in WAC 173-340-360(4)(b).					
Time Frame	Moderate time frame	1.0	Shorter time frame	5.0	Moderate to shorter time frame	3.0
TOTAL SCORE	20.6		22.9		19.8	
Conceptual Level Cost	\$20,000		\$900,000		\$500,000	

Note:

a Each sub-criterion is scored from 5 (best) to 1 (worst) based on the perceived benefit; the total criterion score is the average of the associated sub-criterion scores.
Figures









SUBJECT PROPERTY BOUNDARY



FIGURE 3 HISTORICAL SOIL AND GROUNDWATER SAMPLING LOCATIONS (1991-2002)

PREPARED BY	PARTNERS INC			
REPORT	REMEDIAL INVESTIGATION, FEASIBILITY STUDY, AND CLEANUP ACTION PLAN			
LOCATION	MEEKER FORMER GAS STATION SITE 105 WASHINGTON AVENUE N, KENT, WASHINGTON			
PREPARED FOR	MJR DEVELOPMENT			
DATE 8/3/17	DRAWN BY REVIEWED BY PROJECT NUMBER TSS EMK 65112.5			







WASHING TON

SP3 (1/14/02)					
RO	B T E X				
64	<0.02	<0.05	0.19	0.16	
.4	<0.02	<0.05	<0.05	<0.05	

D3-5' (4/19/02)					
)	В	Т	Е	х	
	<0.02	<0.05	0.8	0.54	

/11/98)					
	Т	E	х		
5	<0.5	5.7	9.8		

Е	х
1.5	2.883
0.104	0.181
<0.051	0.007



FIGURE 6 RESIDUAL PETROLEUM HYDROCARBONS IN SOIL					
PREPARED BY	ENVIRONMENTAL PARTNERS INC				
REPORT	REMEDIAL INVESTIGATION, FEASIBILITY STUDY, AND CLEANUP ACTION PLAN				
LOCATION	MEEKER FORMER GAS STATION SITE 105 WASHINGTON AVENUE N, KENT, WASHINGTON				
PREPARED					

FOR	MJR DEVELOPMENT			
DATE	DRAWN BY	REVIEWED BY	PROJECT NUMBER	
8/16/17	TSS	EMK	65112.5	



FIGURE 7					
	CROSS SECTION A-A'				
PREPARED BY	PREPARED BY ENVIRONMENTAL PARTNERSINC				
REPORT	REMEDIAL INVESTIGATION, FEASIBILITY STUDY, AND CLEANUP ACTION PLAN				
LOCATION	MEEKER FORMER GAS 105 WASHINGTON AVE	S STATION SITE NUE N, KENT, WASHINGT	ON		
PREPARED FOR	MJR DEVELOPMENT				
DATE 8/16/17	DRAWN BY REVIEWED BY PROJECT NUMBER TSS EMK 65112.5				



TOTAL XYLENES

Х

WASHING TON

MW3					
GRO	В	Т	Е	Х	
<100	<1.0	<1.0	<1.0	<1.0	
<100	<0.5	<1	<1	<3	

OW3					
GRO	В	Т	E	Х	
4,550	125	2.62	119	46.4	
2,450	14.9	<1.00	6.1	1.39	



FIGURE 8 RESIDUAL PETROLEUM HYDROCARBONS IN GROUNDWATER

PREPARED BY	PARTNERS INC			
REPORT	REMEDIAL INVESTIGATION, FEASIBILITY STUDY, AND CLEANUP ACTION PLAN			
LOCATION	MEEKER FORMER GAS STATION SITE 105 WASHINGTON AVENUE N, KENT, WASHINGTON			
PREPARED FOR	MJR DEVELOPMENT			
DATE 8/11/17	DRAWN BY REVIEWED BY PROJECT NUMBER TSS EMK 65112.5			



WASHING TON



FIGURE 9 CONCEPTUAL LAYOUT FOR REMEDIAL ALTERNATIVE 3 (IN SITU TREATMENT)

BY	PARTNERS INC			
REPORT	REMEDIAL INVESTIGATION, FEASIBILITY STUDY, AND CLEANUP ACTION PLAN			
LOCATION	MEEKER FORMER GAS STATION SITE 105 WASHINGTON AVENUE N, KENT, WASHINGTON			
PREPARED FOR	MJR DEVELOPMENT			
DATE 8/16/17	DRAWN BY TSS REVIEWED BY EMK PROJECT NUMBER 65112.5			

Attachment A Copies of Analytical Laboratory Reports

RECEIVED MAY 1 3 1991

S.C.S. ENGINEERS



2860 X/AUNUT AVENUE LONG BEACH, CAUFORNIA 90806 (213) 595/9324 FAX (213) 595/6709

MEMO					(2)3) 5457 FAX (2)3) 55
To: Greg	Helland				
From: Lam	V. Ho		May 9,	1991	
Job No.:	0491003.00		Page l	of 1	,,,
		LABORATORY RE	PORT		MRT 10111 1
Samples:	Thirteen (1 II, receiv 05/07/91. archived.	3) soil samples ved 04/26/91 a Eight to be and	from Pri nd analy alyzed, t	ncipal - Pha zed 05/06/91 he remainder	se I & . and to be
Sample ID		EPA 8015 mg/kg	-		`
18182 BH1 18183 BH1 18185 BH2 18186 BH2 18189 BH3 18190 BH3	-10 -15 -5 -15 -10 -15	ND ND 1800(D) ND ND ND			
Detection	Limit	10			
Sample ID)	EPA 418.1 mg/kg			
18192 BH4 18193 BH4	-10 -15	47 44			
Dectectio	on Limit	10			
ND = Not D = Dies	Detected sel				
Di	1 year		(am V. Ho	JELLERUUNTTT

David Mikesell Chemist

Lam V. Ho PhD, REP Laboratory Director

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Quality Assurance Addendum Report Page 1 of 2

EPA 8015 Diesel

Matrix Spikes	
Lab ID	Diesel
	Recovery
6421-3 Spk.	110
6421-3 Spk. Dup.	110
& RSD	0
Control Limits	33/94
# Outside Limits	2
% Completeness	0

EPA 418.1

<u>Matrix Spikes</u> Lab ID	 Recovery-
6448-11 Spk. 6448-11 Dup. Spk. % RSD	106 103 2.9
Control limits	56/126
# Outside limits	0
% Completeness	100

princ1.qa

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Quality Assurance Addendum Report Page 2 of 2

Notes:

Note that Matrix Spikes are not project specific. Therefore, spike information shown on this report may not be from the same project; however, they were analyzed in the same analytical batch.

Definitions:

- Spike: A sample from the analytical batch which has been spiked with the parameter(s) of interest at a known concentration.
 - Spike Duplicate: A duplicate of the spiked sample.
 - Mean: The average spike recoveries, from both spikes and spike duplicates.
 - % RSD: Relative Standard Deviation between a Spike and a Spike Duplicate. %RSD = [(Spike-Spk. Dup.)/Mean] * 100

Control limits are calculated by SCS Analytical Laboratory for internal use from existing spike data. Control limits are found by calculating three standard deviations above and below the mean of the population.

WTPH-G with BTEX

WTPH-G is a method extracted with Methanol. Quantification is conducted utilizing gas chromatography (GC) coupled with a flame ionization detector (FID). The sample is held in a hollow "sparge" tube. A purified, inert gas (helium) is bubbled through the sample, which efficiently extracts the purgeable organic analytes from the aqueous phase to the vapor phase. The vapor phase is then passed through a sorbent trap where the analytes are collected. After the extraction is complete, the trap is back-flushed and heated, which effectively desorbs the purgeable analytes from the trap and flushes them onto the GC column. Analysis is primarily restricted petroleum hydrocarbons in the C_5 to C_{12} (gasoline) range.

Total Lead by EPA Method 7420

Soil samples are digested in concentrated nitric acid. The resulting extract is analyzed by flame atomic absorption spectroscopy with direct aspiration.



CHENT	GILES ENGINEERING AND ASSOC.	DATE:	1/30/98
	11807 NORTHCREEK BLVD S #102	CCIL JOB #:	801070
	BOTHELL, WA 98011	CCIL SAMPLE #:	2
		DATE RECEIVED:	1/27/98
		WDOE ACCREDITATION #:	C1 42

CLIENT CONTACT: MARIA AGNE

CLIENT PROJECT ID:	6E 9801007
CLIENT SAMPLE ID:	B1 S2-6

ANALYTE	METHOD	RESULTS*	UNITS**	ACTION LEVEL***	ANALYSIS DATE	ANALYSIS BY
TPH-GASOLINE	WTPH-G	7	MG/KG	100MG/KG	1/29/98	AMR
BENZENE	EPA-8020	ND(<0.1)	MG/KG	.5MG/KG	1/29/98	AMR
TOLUENE	EPA-8020	ND(<0.1)	MG/KG	40MG/KG	1/29/98	AMR
ETHYLBENZENE	EPA-8020	ND(<0.1)	MG/KG	20MG/KG	1/29/98	AMR
XYLENES	EPA-8020	ND(<0.3)	MG/KG	20MG/KG	1/29/98	AMR

* "ND" INDICATES ANALYTE NOT DETECTED AT LEVEL ABOVE REPORTING LIMIT. REPORTING LIMIT IS GIVEN IN PARENTHESES

** UNITS FOR ALL NON LIQUID SAMPLES ARE REPORTED ON A DRY. WEIGHT BASIS

APPROVED BY:



		CERTIFICATE OF	ANALYSIS	
CLIENT:	GILES ENGINEERING 11807 NORTHCREEK BOTHELL, WA 98011	AND ASSOC. BLVD S #102	DATE: CCIL JOB #: CCIL SAMPLE #: DATE RECEIVED: WDOE ACCREDITATION #:	1/30/98 801070 4 1/27/98 C142

CLIENT CONTACT: MARIA AGNE

CLIENT PROJECT ID:	6E 9801007
CLIENT SAMPLE ID:	B1 H2O

ANALYTE	METHOD	RESULTS*	UNITS**	ACTION	ANALYSIS DATE	ANALYSIS BY
TPH-GASOLINE BENZENE TOLUENE ETHYLBENZENE XYLENES	WTPH-G EPA-8020 EPA-8020 EPA-8020 EPA-8020 EPA-8020	ND(<50) ND(<1) ND(<1) ND(<1) ND(<3)	UG/L UG/L UG/L UG/L UG/L	1000 \JG/L 5 \JG/L 40 UG/L 30 \JG/L 20 UG/L	1/29/98 1/29/98 1/29/98 1/29/98 1/29/98	AMR AMR AMR AMR AMR

* "NO" INDICATES ANALYTE NOT DETECTED AT LEVEL ABOVE REPORTING DMIT, REPORTING DMIT IS GIVEN IN PARENTHESES

** UNITS FOR ALL NON LIQUID SAMPLES ARE REPORTED ON A DRY, WEIGHT BASIS

APPROVED BY:



CLIENT:	GILES ENGINEERING AND ASSOC.	DATE:	1/30/98
	11807 NORTHCREEK BLVD S #102	CCIL JOB #:	801070
	BOTHELL, WA 98011	CCIL SAMPLE #:	6
	,	DATE RECEIVED:	1/27/98
		WDOE ACCREDITATION #:	C142

CLIENT CONTACT: MARIA AGNE

CLIENT PROJECT ID:	6E 9801007
CLIENT SAMPLE ID:	B2 S2-7

	METHOD	RESULTS*	UNITS**	ACTION LEVEL***	ANALYSIS DATE	ANALYSIS BY
TPH-DIESEL RANGE	WTPH-D EXT	ND(<26)	MG/KG	200MG/KG	1/28/98	AMR
TPH-OIL RANGE	WTPH-D EXT	ND(<51)	MG/KG	200MG/KG	1/28/98	AMR

DATARESUITS

* "ND" INDICATES ANALYTE NOT DETECTED AT LEVEL ABOVE REPORTING UMIT, REPORTING LIMIT IS GIVEN IN PARENTHESES

** UNITS FOR ALL NON LIQUID SAMPLES ARE REPORTED ON A DRY. WEIGHT BASIS

APPROVED BY:



	=	METHOD	RESULTS*		ACTION	ANALYSIS DATE	ANALYSIS BY
ngto thilingen	lenen en en regelsente	DA	TA RESULT	r S acht Geengever	and here the section reaction of the	issa piyathatean	elande (galene et derek) S
CLIENT F	PROJECT ID: SAMPLE ID:	6E 980100' B3 S2-7	7				
CLIENT (CONTACT: MARI	A AGNE					
CLIENT:	GILES ENGINEE 11807 NORTHOF BOTHELL, WA 9	RING AND ASS(REEK BLVD S #1 8011	DC. 02		DATE: CCIL JOB #: CCIL SAMPLE #: DATE RECEIVED: CREDITATION #:	1/30/98 801070 9 1/27/98 C142	
		CERTIFIC	ATE OF AN				

TPH-GASOLINE BENZENE TOLUENE ETHYLBENZENE XYLENES	WTPH-G EPA-8020 EPA-8020 EPA-8020 EPA-8020	6 ND(<0.1) ND(<0.1) ND(<0.1) ND(<0.3)	MG/KG MG/KG MG/KG MG/KG	100MG/KG ,5MG/KG 40MG/KG 20MG/KG 20MG/KG	1/29/98 1/29/98 1/29/98 1/29/98 1/29/98	AMR AMR AMR AMR AMR
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* "ND" INDICATES ANALYTE NOT DETECTED AT LEVEL ABOVE REPORTING LIMIT. REPORTING LIMIT IS GIVEN IN PARENTHESES

... UNITS FOR ALL NON LIQUID SAMPLIES ARE REPORTED ON A DRY, WEIGHT BASIS

APPROVED BY: _____



CLIENT:	GILES ENGINEERING AND ASSOC. 11807 NORTHCREEK BLVD S #102 BOTHELL, WA 98011	DATE: CCIL JOB #: CCIL SAMPLE #:	1/30/98 801070 10		
			1/27/09		

DATE RECEIVED: 1/2//98 WDOE ACCREDITATION #: C142

CLIENT CONTACT: MARIA AGNE

CLIENT PROJECT ID:	6E 9801007
CLIENT SAMPLE ID:	B3 WATER

DATARESULTS

				ACTION	ANALY5IS	ANALYSIS
ANALYTE	METHOD	RESULTS*	UNITS	LEVEL	DATE	BY
	WTPH-G	ND(<50)	UG/L	1000 UG/L	1/29/98	AMR
BENZENE	EPA-8020	ND(<1)	UG/L	5 UG/L	1/29/98	AMR
TOLUENE	EPA-8020	ND(<1)	UG/L	40 UG/L	1/29/98	AMR
ETHYLBENZENE	EPA-8020	ND(<1)	UG/L	30 UG/L	1/29/98	AMR
XYLENES	EPA-8020	ND(<3)	UG/L	20 UG/I.	1/29/98	AMR

* "NO" INDICATES ANALYTE NOT DETECTED AT LEVEL ABOVE REPORTING LIMIT. REPORTING LIMIT IS GIVEN IN PARENTHESES

** UNITS FOR ALL NON LIQUID SAMPLES ARE REPORTED ON A ORY. WEIGHT BASIS

APPROVED BY: _



	CEPTIFICATE OF AN	JALYSIS		
·	CERTIFICATE OF A			
		DATE:	1/30/98	
CLIENT:	GILES ENGINEERING AND ABOUD.	CCIL JOB #:	801070	
	11807 NORTHCREEK BLVD 3 #102	CCIL SAMPLE #:	11	
	BOTHELL, WA 98011	DATE RECEIVED:	1/27/98	
		WDOE ACCREDITATION #:	C142	
	NONTAOT MARIA AGNE			

CLIENT CONTACT: MARIA AGNE

DUENT PROJECT ID:	6E 9801007
CLIENT SAMPLE ID:	B4 S1-4

DATA RESULTS

ANALYTE	METHOD	RESULTS*	UNITS	ACTION LEVEL***	ANALYSIS DATE	ANALYSIS BY
TPH-GASOLINE	WTPH-G	380	MG/KG	100MG/KG	1/29/98	AMR
BENZENE	EPA-8020	ND(<0.4)	MG/KG	,5MG/KG	1/29/98	AMR
TOLUENE	EPA-8020	0.6	MG/KG	40MG/KG	1/29/98	AMR
ETHYLBENZENE	EPA-8020	2.9	MG/KG	20MG/KG	1/29/98	AMR
XYLENES	EPA-8020	10	MG/KG	20MG/KG	1/29/98	AMR

* "NO" INDICATES AMALYTE NOT DETECTED AT LEVEL ABOVE REPORTING UMIT. REPORTING LIMIT IS GIVEN IN PARENTHESES

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1 10 10 10						
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CLIENT:	GILES ENGINEERING AND ASSOC.	DATE:	1/30/98	
	11807 NORTHCREEK BLVD S #102	CCIL JOB #:	801070	
	BOTHELL, WA 98011	CCIL SAMPLE #:	13	
		DATE RECEIVED:	1/27/98	
		WDOE ACCREDITATION #:	C142	

CLIENT CONTACT: MARIA AGNE

CLIENT PROJECT ID:	6E 9801007
CLIENT SAMPLE ID:	84 WATER

	DA	TARESULT	rs.		ana spainach	
	METHOD	RESULTS"	UNITS**	ACTION	ANALYSIS DATE	ANALYSIS BY
TPH-GASOLINE BENZENE TOLUENE ETHYLBENZENE XYLENES	WTPH-G EPA-8020 EPA-8020 EPA-8020 EPA-8020 EPA-8020	890 1 ND(<1) 5 ND(<3)	UG/L UG/L UG/L UG/L UG/L	1000 UG/L 5 UG/L 40 UG/L 30 UG/L 20 UG/L	1/29/98 1/29/98 1/29/98 1/29/98 1/29/98	AMR AMR AMR AMR AMR

* "NO" INDICATES ANALYTE NOT DETECTED AT LEVEL ABOVE REPORTING LIMIT. REPORTING LIMIT IS GIVEN IN PARENTHESES

** UNITS FOR ALL NON LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS

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APPROVED BY: _



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CLIENT:	GILES ENGINEERI 11807 NORTHCRE BOTHELL, WA 980	NG AND ASSO EK BLVD S #1 11	DC. 02	WDOE AC	DATE: CCIL JOB #: CCIL SAMPLE #: DATE RECEIVED: CREDITATION #:	1/30/98 801070 22 1/27/98 C142	
	CONTACT: MARIA	AGNË		1			
CLIENT F	PROJECT ID: SAMPLE ID:	6E 9801007 B7 H20	7				
hina kina ki	gi, ng gang ng n	e de la companya de l	TA RESUL	S erenja serio, z	n de la constante de la constan La constante de la constante de	andri so <u>ta da p</u> unda se a si	<u>atofostes en tras del .</u>
ANALYTE		METHOD	RESULTS*	UNITS**	ACTION	ANALYSIS DATE	ANALYSIS BY
TPH-DIESE TPH-OIL R	EL RANGE ANGE	WTPH-D EXT WTPH-D EXT	ND(~250) ND(<500)	UG/L UG/L	1000UG/L 1000UG/L	1/30/98 1/30/98	AMR AMR

* "NO" INDICATES ANALYTE NOT DETECTED AT LEVEL ABOVE REPORTING LIMIT. REPORTING LIMIT IS GIVEN IN PARENTHESES

** UNITS FOR ALL NON LIQUID SAMPLES ARE REPORTED ON A DRY, WEIGHT BASIS

APPROVED BY: _____



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CLIENT: GILES	ENGINEERING AND ASSOC.	DATE:	1/30/98	
11807 M BOTHE	NORTHCREEK BLVD S #102 LL, WA 98011	CCIL JOB #:	801070	
		DATE RECEIVED:	1/27/98	
		WDOE ACCREDITATION #:	C142	
CLIENT CONTACT	Γ: MARIA AGNE			
CLIENT PROJECT	1D: 6E 9801007			

SURROGATE RECOVERY						
CCIL SAMPLE ID	ANALYTE	SUR ID	% RECV			
801070-02	WTPH-G	TFT	116			
801070-02	EPA-8020	TET	101			
801070-04	WTPH-G	TFT	119			
801070-04	EPA-8020	TFT	101			
801070-06	WTPH-D EXT	C25	89			
801070-09	WTPH-G	Ϋ́́ΎΤ	126			
801070-09	EPA-8020	TFT	110			
801070-10	WTPH-G	TFT	111			
801070-10	EPA-8020	TFT	97			
801070-11	WTPH-G	ᠵ᠋ᢡᠮ	*			
801070-11	EPA-8020	TFT	*			
801070-13	WTPH-G	TFT	119			
801070-13	EPA-8020	TFT	104			
801070-22	WTPH-D EXT	C25	72			

* SURROGATE DILUTED OUT OF CALIBRATION RANGE

CIA APPROVED BY:___



		DATE:	2/10/98
CLIENT:	GILES ENGINEERING AND A00000	CCIL JOB #:	801070
	11807 NORTHOREER BLVD 0 #102	CCIL SAMPLE #:	11
	BOTHELL, WA 98011	DATE RECEIVED:	1/27/98
		WDOE ACCREDITATION #:	C142

CLIENT CONTACT: MARIA AGNE

CHENT PROJECT ID:	6E 9801007
CLIENT SAMPLE ID:	B4 \$1-4

AMENDED REPORT WITH ADDITIONAL PARAMETER

THE ATTACH THE ADDRESS OF A DATA RESULTS AND ADDRESS AND ADDRESS ADDRESS ADDRESS ADDRESS ADDRESS ADDRESS ADDRES

ANALYTE	METHOD	RESULTS*	UNITS**	ACTION LEVEL***	ANALYSIS DATE	ANALYSIS BY
TPH-GASOLINE BENZENE TOLUENE ETHYLBENZENE YVI ENES	WTPH-G EPA-8020 EPA-8020 EPA-8020 EPA-8020 EPA-8020	380 ND(<0.4) 0.6 2.9 10	MG/KG MG/KG MG/KG MG/KG MG/KG	100MG/KG .5MG/KG 40MG/KG 20MG/KG 20MG/KG	1/29/98 1/29/98 1/29/98 1/29/98 1/29/98	AMR AMR AMR AMR AMR
	EPA-7420	12	MG/KG		2/9/98	JLB

* "NO" INDICATES ANALYTE NOT DETECTED AT LEVEL ABOVE REPORTING LIMIT. REPORTING LIMIT IS GIVEN IN PARENTHESES

** UNITS FOR ALL NON LIQUID SAMPLES ARE REPORTED ON A DRY, WEIGHT BASIS

APPROVED BY: CR



	CERTIFIC	ATE OF AN	VALYSIS			
CLIENT: GILES ENGINEERIN 11807 NORTHCREE BOTHELL, WA 98013	G AND ASS < BLVD S # I	OC. 102	WDOE AC	DATE; CCIL JOB #: CCIL SAMPLE #: DATE RECEIVED; CREDITATION #:	3/17/98 803045 1 3/12/98 C142	
CLIENT CONTACT: MARIA AC	GNE					
CLIENT PROJECT ID: CLIENT SAMPLE ID:	6E-980200 B8-S1 3/11	8 /98 0949 TA RESUL	B			
				ACTION	ANALYSIS	ANALYSIS
ANALYTE	METHOD	RESULTS*	UNITS**	LEVEL***	DATE	BY
TPH-GASOLINE BENZENE TOLUENE	WTPH-G EPA-8021 EPA-8021 EPA-8021	120 NÜ(<0,5) ND(<0.5) ND(<0.5)	MG/KG MG/KG MG/KG MG/KG	100MG/KG ,5MG/KG 40MG/KG 20MG/KG	3/16/98 3/16/98 3/15/98 3/16/98	AMR AMR AMR AMR
XYLENES	EPA-8021	ND(<1.5)	MG/KG	20MG/KG	3/16/98	AMR

* "NO" INDICATES ANALYTE NOT DETECTED AT LEVEL ABOVE REPORTING LIMIT. REPORTING LIMIT IS DIVEN IN PARENTHESES

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APPROVED BY:

Page 1

3229 Pine St. • Everett, WA 98201 • 425 258-4548 • FAX 425 259-6289 • Seattle 206 292-9059



		IALYSIS	
CLIENT:	GILES ENGINEERING AND ASSOC. 11807 NORTHCREEK BLVD S #102 BOTHELL, WA 98011	DATE: CCIL JOB #: CCIL SAMPLE #: DATE RECEIVED: WDOE ACCREDITATION #:	3/17/98 803045 4 3/12/98 C142
CLIENT C	ONTACT: MARIA AGNE		

CUENT PROJECT ID:	6E-9802008
OFICIAL LUCOPERT IS:	DOLLOO 2/41/08 1020
CLIENT SAMPLE ID:	B8-M20 3/11/98 1020

	DX	TARESUU	S			
	METHOD	RESULTS*		ACTION	ANALYSIS DATE	ANALYSIS BY
TPH-GASOLINE BENZENE TOLUENE ETHYLBENZENE XYLENES	WTPH-G EPA-8021 EPA-8021 EPA-8021 EPA-8021	1600 120 3 60 31	UG/L UG/L UG/L UG/L UG/L	1000 UG/L 5 VG/L 40 VG/L 30 VG/L 20 VG/L	3/17/98 3/17/98 3/17/98 3/17/98 3/17/98	AMR AMR AMR AMR AMR

1 "NO" INDICATES ANALYTE NOT DETECTED AT LEVEL ABOVE REPORTING LIMIT. REPORTING LIMIT IS GIVEN IN PARENTHESES

11 UNITS FOR ALL NON LIQUID SAMPLES ARE REPORTED ON A DRY, WEIGHT BASIS

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APPROVED BY: CVA

3229 Fine St. • Everett, WA 98201 • 425 258-4548 • FAX 425 259-6289 • Seattle 206 292-9059



TOLUENE

XYLENES

ETHYLBENZENE

		CERTIFIC	MATE OF AN	IALYSIS			
CLIENT:	GILES ENGINEER	ING AND ASS	OC.		DATE:	3/17/98	
	11807 NORTHCRE	EK BLVD S #	102		CCIL JOB #:	803045	
	BOTHELL, WA 980)11		_	CCIL SAMPLE #:	6	
					DATE RECEIVED:	3/12/98	
				WDOE AC	CREDITATION #:	C142	
CLIENT C	ONTACT: MARIA	AGNË					
CLIENT P CLIENT S	ROJECT ID: SAMPLE ID:	6E-980200 B9-\$2 3/11	8 1/98 1043				
		¢/¢	TA RESUL	rs			
		METHOD		UNITS*	ACTION	ANALYSIS DATE	ANALYSIS
ANALYIE		METHOD	NEGOE13	01110		BALL	21
TPH-GASOL	INE	WTPH-G	700	MG/KG	100MG/KG	3/16/98	AMR
BENZENE		EPA-8021	ND(<0.5)	MG/KG	,5MG/KG	3/16/98	AMR

ND(<0.5)

5,7

9.8

EPA-8021

EPA-8021

EPA-8021

MG/KG

MG/KØ

MG/KG

* "NO" INDICATES ANALYTE NOT DETECTED AT LEVEL ABOVE REPORTING LIMIT. REPORTING LIMIT IS GIVEN IN PARENTHESES

** UNITS FOR ALL NON LIQUID SAMPLES ARE REPORTED ON A DRY, WEIGHT BASIS

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APPROVED BY:

3/16/98

3/16/98

3/16/98

AMR

AMR

AMR

40MG/KG

20MG/KG

20MG/KG

Page 1



		DATE:	3/17/98
CLIENT:		CCIL JOB #:	803045
		CCIL SAMPLE #:	В
	BOTHELL, WA 98011	DATE RECEIVED:	3/12/98
		WDOE ACCREDITATION #:	C142

CLIENT CONTACT: MARIA AGNE

CHENT PROJECT ID:	6E-9802008
CLIENT SAMPLE ID:	B9-H20 3/11/98 1101

	DA	TARESUL	16			
ANALYTE	METHOD	RESULTS*	UNITS**	ACTION	ANALYSIS DATE	ANALYSIS BY
TPH-GASOLINE BENZENE TOLUENE ETHYLBENZENE XYLENES	₩ТРН-G ЕРА-8021 ЕРА-8021 ЕРА-8021 ЕРА-8021	870 61 1 14 4	UG/L UG/L UG/L UG/L UG/L	1000 UG/L 5 VG/L 40 UG/L 30 UG/L 20 UG/L	3/17/98 3/17/98 3/17/98 3/17/98 3/17/98	AMR AMR AMR AMR AMR

* "ND" INDICATES ANALYTE NOT DETECTED AT LEVEL ABOVE REPORTING LIMIT. REPORTING LIMIT IS GIVEN IN PARENTHESES

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ETHYLBENZENE

XYLENES

		OERTIFIC	ATE OF AN	IALYSIS			
CLIENT: GILES ENGINEERING AND ASSOC. 11807 NORTHCREEK BLVD S #102 BOTHELL, WA 98011					DATE: CCIL JOB #: CCIL SAMPLE #: DATE RECEIVED: CREDITATION #:	3/17/98 803045 10 3/12/98 C142	
CLIENT C	ONTACT: MARIA	AGNE					
CLIENT F	PROJECT ID: SAMPLE ID:	6E-980200 B10-S2 3/1	8 1/98 1120				
		DA	TARESUL	IŞ.			
ANALYTË		METHOD	RESULTS	UNITS**	ACTION LEVEL***	ANALYSIS DATE	analysis By
TPH-GASO BENZENE TOLUENE	LINE	WTPH-G EPA-8021 EPA-8021	27 ND(<0,1) ND(<01)	MG/KG MG/KG MG/KG	100MG/KG .5MG/KG 40MG/KG	3/16/98 3/16/98 3/16/98	AMR AMR AMR

0,2

0.3

MG/KG

MG/KG

* "NO" INDICATES ANALYTE NOT DETECTED AT LEVEL ABOVE REPORTING LIMIT. REPORTING LIMIT IS GIVEN IN PARENTHESES

EPA-8021

EPA-8021

** UNITS FOR ALL NON LIQUID SAMPLES ARE REPORTED ON A DRY, WEIGHT BASIS

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3/16/98

3/16/98

20MG/KG

20MG/KG

AMR

AMR

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	DATË:	3/17/98
GILES ENGINEERING AND A0000.	CCIL JOB #:	803045
	CCIL SAMPLE #:	12
BOTHELL, WA 98011	DATE RECEIVED:	3/12/98
	WDOE ACCREDITATION #:	C142
	GILES ENGINEERING AND ASSOC. 11807 NORTHCREEK BLVD S #102 BOTHELL, WA 98011	GILES ENGINEERING AND ASSOC. DATE: 11807 NORTHCREEK BLVD S #102 CCIL JOB #: BOTHELL, WA 98011 DATE RECEIVED: WDOE ACCREDITATION #:

CLIENT CONTACT: MARIA AGNE

THENT PROJECT ID:	6E-9802008
CLIENT SAMPLE ID:	B10-H20 3/11/98 1143

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ANALYTE	METHOD	RESULTS"	UNITS**	ACTION LEVEL***	ANALYSIS DATE	ANALYSIS EY
TPH-GASOLINE BENZENE TOLUENE ETMYLBENZENE XYLENES	WTPH-G EPA-8021 EPA-8021 EPA-8021 EPA-8021	630 3 ND(<1) 4 ND(<3)	UG/L UG/L UG/L UG/L UG/L	1000 UG/L 5 UG/L 40 UG/L 30 UG/L 20 UG/L	3/17/98 3/17/98 3/17/98 3/17/98 3/17/98	AMR AMR AMR AMR AMR

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Page 1



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CLIENT: GILES ENGINEERING AND ASSOC. 11807 NORTHCREEK BLVD S #102 BOTHELL, WA 98011				(D, WDOE ACC	DATE: CCIL JOB #: CCIL SAMPLE #: ATE RECEIVED: REDITATION #;	3/17/98 803045 14 3/12/98 C142	
CLIENT C	ONTACT: MARIA A	GNE					
CLIENT P CLIENT (PROJECT ID: SAMPLE ID:	6E-980200 B11-S2 3/1	8 1/98 1158 TA RESUL	rs.			
ANALYTE		METHOD	RESULTS*	UNITS**	ACTION LEVEL***	ANALYSIS DATE	ANALYSIS, BY

* "ND" INDICATES ANALYTE NOT DETECTED AT LEVEL ABOVE REPORTING LIMIT. REPORTING LIMIT IS GIVEN IN PARENTHESES

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DECISIONS BASED ON ANALYTICAL DATA

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CLIENT: GILES ENGINEERING AND ASSOC. 11807 NORTHCREEK BLVD S #102 BOTHELL, WA 98011	DATE: CCIL JOB #: CCIL SAMPLE #: DATE RECEIVED: WDOE ACCREDITATION #:	3/17/98 803045 18 3/12/98 C142
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CLIENT CONTACT: MARIA AGNE

CLIENT PROJECT ID:	6E-9802008
CLIENT SAMPLE ID:	B12-S3 3/11/98 1232

	DA	TARESUL	rs			
	метнор	RESULTS'	UNITS**	ACTION	ANALYSIS DATE	ANALYSIS BY
TPH-GASOLINE BENZENE TOLUENE ETHYLBENZENE XYLENES	WTPH-G EPA-8021 EPA-8021 EPA-8021 EPA-8021	ND(<5) ND(<0.1) ND(<0.1) ND(<0.1) ND(<0.3)	MG/KG MG/KG MG/KG MG/KG MG/KG	100MG/KG ,SMG/KG 40MG/KG 20MG/KG 20MG/KG	3/16/98 3/16/98 3/16/98 3/16/98 3/16/98	AMR AMR AMR AMR AMR

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XYLENES

		Certific	DATE OF AN	JALYSIS			
CLIENT:	GILES ENGINEER 11807 NORTHCRE BOTHELL, WA 980	NG AND ASS EK BLVD S # 11	OC. 102 <u>.</u>		DATE: CCIL JOB #: CCIL SAMPLE #: ATE RECEIVED: REDITATION #	3/17/98 803045 19 3/12/98 C142	
CLIENT C	ONTACT: MARIA			VVDOL AU		0142	
CLIENT P CLIENT S	ROJECT ID: SAMPLE ID:	6E-980200 B13-S1 3/1	8 1/98 1245				
		D/	TA RESUL	IS.			
ANALYTE		METHOD	RESULTS"	UNITS**	ACTION LEVEL***	ANALYSIS DATE	ANALYSIS BY
TPH-GASOL BENZÊNÊ TOLUENE	INE	WTPH-G SPA-8021 EPA-8021	38 3.0 0.1	MG/KG MG/KG MG/KG	100MG/KG ,5MG/KG 40MG/KG	3/16/98 3/16/98 3/16/98	AMR AMR AMR
	766 6	EPA-8021	0.1	MG/KG	20MG/KG	3/16/98	AMR

0.1

ND(<0.3)

MG/KG

MG/KG

* "NO" INDICATES ANALYTE NOT DETECTED AT LEVEL ABOVE REPORTING LIMIT. REPORTING LIMIT IS GIVEN IN PARENTHESES

EPA-8021

EPA-8021

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3/16/98

20MG/KG

AMR

Page 1

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	CERTIFICATE	<u> 9E ANALYSIS</u>		.98.003.9
DLIENT:	GILES ENGINEERING AND ASSOC. 11807 NORTHCREEK BLVD S #102	DATE: CCIL JOB #:	3/17/98 803045	
	BOTHELL, WA 98011	DATE RECEIVED: WDOE ACCREDITATION #:	3/12/98 C142	
	CONTACT: MARIA AGNÉ			

CLIENT PROJECT ID: 6E-9802008

QUALITY CONTROL RESULTS

SURROGATE RECOVERY

	ANALYTE	SUR ID	% RECV
COL SAMPLE ID			
	WTPH-G	TFT	117
803045-01	EPA-802)	TFT	115
803045-01	WTPH-G	TFT	141
803045-04	EPA-8021	ጉዳዮ	120
803045-04(TOL., ETHYLBENZ, XYLENE)		TFT	85
803045-04(BENZENE)		ŢĔŢ	133
803045-06		тет	127
803045-06		τ μ Γ	119
803045-08		TET	106
803045-08	EPA-BUZ (TET	125
803045-10	WTPH-G	TET	106
803045-10	EPA-8021	TET	108
803045-12	WTPH-G		95
803045-12	EPA-8021		126
003040-12	WTPH-G		105
	EPA-8021	171	105
603045-14	WTPH-G	TFT	103
803045-18	EPA-8021	TFT	91 100
803045-18	WTPH-G	TFT	120
603045-19	EPA-8021	ΤFŤ	106
803045-19			

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CERTIFICATE OF ANALYSIS

CLIENT:	GILES ENGINEERING AND ASSOC.	DATE:	4/21/98	
	11807 NORTHCREEK BLVD S #102	COIL JOB #:	804062	
	BOTHELL, WA 98011	CCIL SAMPLE #:	1	
	<u> </u>	DATE RECEIVED:	4/16/98	
		WDOE ACCREDITATION #:	C142	

CLIENT CONTACT: MARIA AGNE

CLIENT PROJECT ID:	6E-9802008 KENT MEEKER
CLIENT SAMPLE ID:	MW1-H20 4/15/98 4:35

ØATA RESULTS

				ACTION	ANALYSIS	ANALYSIS
ANALYTE	METHOD	RESULTS*	UNITS**	LEVEL***	DATE	BY
TPH-GASOLINE	W7PH-G	ND(<50)	UG/L	1000 UG/L	4/21/98	AMR
BENZENE	EPA-8021	ND(<1)	UG/L	5 UG/L	4/21/98	AMR
TOLUENE	EPA-8021	ND(<1)	UG/L	40 UG/L	4/21/98	AMR
ETHYLBENZENE	EPA-8021	ND(<1)	UG/L	30 UG/L	4/21/98	AMR
XYLENËS	EPA-8021	ND(<3)	UG/L	20 UG/L	4/21/98	AMR

* "ND" INDICATES ANALYTE NOT DETECTED AT LEVEL ABOVE REPORTING LIMIT. REPORTING LIMIT IS GIVEN IN PARENTHESES

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CERTIFICATE OF ANALYSIS

OLIENT:	ENT: GILES ENGINEERING AND ASSOC. 11807 NORTHCREEK BLVD S #102	DATE: CCIL JOB #: CCIL SAMPLE #:	4/21/98 804062 2
	BOTHELL, WA 98011	DATE RECEIVED: WDOE ACCREDITATION #:	4/16/98 C142

CLIENT CONTACT: MARIA AGNE

CLIENT PROJECT ID:	6E-9802008 KENT MEEKER
CLIENT SAMPLE ID:	MW2-H20 4/15/98 4:48

	Dł	TARESUC				
	METHOD	RESULTS	UNITS**	ACTION LEVEL***	ANALYSIS DATE	ANALYSIS BY
TPH-GASOLINE BENZENE TOLUENE ETHYLBENZENE XYLENES	WTPH-G EPA-8021 EPA-8021 EPA-8021 EPA-8021	4800 84 ND(<5) 130 ND(<15)	UG/L UG/L UG/L UG/L UG/L	1000 UG/L ぢ UG/L 40 UG/L 30 UG/L 20 UG/L	4/21/98 4/21/98 4/21/98 4/21/98 4/21/98	AMR AMR AMR AMR AMR

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APPROVED BY: _____



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CERTIFICATE OF ANALYSIS

CLIENT	GILES ENGINEERING AND ASSOC.	DATE:	4/21/98	
00000000	11807 NORTHCREEK BLVD S #102	CC1L JOB #:	804062	
	BOTHELL WA 98011	CCIL SAMPLE #:	3	
		DATE RECEIVED:	4/16/98	
		WDOE ACCREDITATION #:	C142	

CLIENT CONTACT: MARIA AGNE

XYLENES

CLIENT PROJECT ID:	6E-9802008 KENT MEEKER
CLIENT SAMPLE ID:	MW3-H20 4/15/98 4:39

DATARESUUTS ACTION ANALYSIS ANALYSIS ΒY UNITS** LEVEL*** DATE RESULTS* METHOD ANALYTE 4/21/98 AMR UG/L 1000 UG/L ND(<50) WTPH-G TPH-GASOLINE 5 UG/L 4/21/98 AMR UG/L EPA-8021 ND(<1) BENZENE 40 UG/L 4/21/98 AMR EPA-8021 ND(<1) ԱԹ/Ր TOLUENE 4/21/98 AMR 30 UG/L UG/L ND(<1) ETHYLBENZENE EPA-8021 4/21/98 AMR 20 UG/L ŲG/L EPA-8021 ND(<3)

* "ND" INDICATES ANALYTE NOT DETECTED AT LEVEL ABOVE REPORTING LIMIT. REPORTING LIMIT IS GIVEN IN PARENTHESES

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CERTIFICATE OF ANALYSIS

		DATE:	4/21/98
CLIENT:	GILES ENGINEERING AND ASSOC	CCIL JOB #:	804062
		CCIL SAMPLE #:	4
	BOTHELL, WA 98011	DATE RECEIVED:	4/16/98
		WDOE ACCREDITATION #:	C142

CLIENT CONTACT: MARIA AGNE

CLIENT PROJECT ID:	6E-9802008 KENT MEEKER
CLIENT SAMPLE ID:	MW4-1-120 4/3 5/98 4:41

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	METHOD	RESULTS"	UNITS**	ACTION LEVEL***	ANALYSIS DATE	ANALYSIS BY
TPH-GASOLINE BENZENE TOLUENE ETHYLBENZENE XYLENES	WTPH-G EPA-8021 EPA-8021 EPA-8021 EPA-8021	83 ND(<1) ND(<1) ND(<1) ND(<3)	UG/L UG/L UG/L UG/L	1000 UG/L S UG/L 40 UG/L 30 UG/L 20 UG/L	4/21/98 4/21/98 4/21/98 4/21/98 4/21/98	AMR AMR AMR AMR AMR

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APPROVED BY: _____





CERTIFICATE OF ANALYSIS

CLIENT: GILES ENGINEERING AND ASSOC. DATE: 4/21/98 11807 NORTHCREEK BLVD S #102 BOTHELL, WA 98011 DATE RECEIVED: 4/16/98 WDOE ACCREDITATION #: C142

CLIENT CONTACT: MARIA AGNE

CLIENT PROJECT ID: 6E-9802008 KENT MEEKER

QUALITY CONTROL RESULTS

	SURROGATE RE	COVERY	
COL SAMPLE ID	ANALYTÉ	SUR ID	% RECV
804062-01	WTPH-G	<mark>ተ</mark> ሥፕ	87
804062-01	EPA-8021	TEL	74
804052-02	WTPH-G	ገ ጉ ተ	106
804062-02	EPA-8021	TFT	90
804062-03	WTPB-G	ТЕТ	97
804062-03	EPA-8021	てドゴ	84
804062-04	WTPH-G	ТЕТ	107
804062-04	EPA-8021	ŤFŤ	92

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(425) 259-4548 (425) 292-9059 Seattle (425) 259-5289 Fax	Date	Page 2 of 3
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January 16, 2002

Greg Helland SCS Engineers 2405 140th Ave. NE, #107 Bellevue, WA 98005

Dear Mr. Helland:

Please find enclosed the analytical data report for the Mecker Square Project in Kent, Washington. Soil samples were analyzed for Diesel and Oil by NWTPH-Dx/Dx Extended, Gasoline by NWTPH-Gx, and BTEX by Method 8021B on January 16, 2002.

The results of these analyses are summarized in the attached table. Applicable detection limits and QA/QC data are included. An invoice for this analytical work is also enclosed.

ESN Northwest appreciates the opportunity to have provided analytical services to SCS Engineers for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,

Murg 2 Uh

Sherry L. Chilcutt Vice President



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January 16, 2002

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Sincerely,

Mury & Und

Sherry L. Chilcutt Vice President

S20109-2
SCS ENGINEERS
MEEEKER SQUARE
NA

Analytical Results							
NWTPH-Gx / BTEX		MTHBLK	LCS	MW-1		MW-3	DUP A
Matrix	Water	Water	Water	Water	Water	Water	Water
Date extracted	Reporting	01/09/02	01/09/02	01/09/02	01/09/02	01/09/02	01/09/02
Date analyzed	Limits	01/09/02	01/09/02	01/09/02	01/09/02	01/09/02	01/09/02
<u>NWTPH-Gx, mg/L</u>							
Mineral spirits/Stockard solvent	0.10	nd		nd	nd	nd	nd
Gasoline	0.10	nd		กป	1.7	nd	1.6
BTEX , µg/L							
Benzene	1.0	nd	92%	nd	13	nd	14
Toluene	1.0	nd	103%	nd	nd	រាជ	រាជ
Ethylbenzene	1.0	nđ		nd	14	nd	13
Xylenes	1.0	nd		nd	nd	nd	រាជ
Surrogate recoveries:							
Trifluorotoluene		99%	86%	93%	97%	92%	95%
Bromofluorobenzene		97%	86%	103%	102%	104%	101%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

C - coelution with sample peaks

M - matrix interference

J - estimated value

Acceptable Recovery limits; 65% TO 135%

ESN Job Number:	S20109-2
Glient:	SCS ENGINEERS
Client Job Name:	MEEEKER SQUARE
Client Job Number:	NA

					ԵՍԲԼ	
	MTH BLK	MW-1	MW-2	MW-3	MW-3	DUPA
Water	Water	Water	Water	Water	Water	Water
Reporting	01/09/01	01/09/01	01/09/01	01/09/01	01/09/01	01/09/01
Limits	01/09/01	01/09/01	01/09/01	01/09/01	01/09/01	01/09/01
0.20	nd	nđ	nđ	nd	nd	nd
0.20	nd	nd	nd	nd	nd	nđ
0.50	กต่	nđ	nd	nd	nd	nd
	99%	105%	89%	92%	100%	97%
	109%	127%	100%	104%	104%	102%
	Water Reporting Limits 0.20 0.20 0.50	MTH BŁ.K Water Water Reporting 01/09/01 Limits 01/09/01 0.20 nd 0.20 nd 0.50 nd 99% 109%	MTH BLK MW-1 Water Water Water Reporting 01/09/01 01/09/01 Limits 01/09/01 01/09/01 0.20 nd nd 0.20 nd nd 0.50 nd nd 0.50 nd 105% 109% 127%	MTH BLK MW-1 MW-2 Water Water Water Water Reporting 01/09/01 01/09/01 01/09/01 Limits 01/09/01 01/09/01 01/09/01 0.20 nd nd nd 0.20 nd nd nd 0.50 nd nd nd 99% 105% 89% 109% 127% 100%	MTH BLK MW-1 MW-2 MW-3 Water Water Water Water Water Water Reporting 01/09/01 01/09/01 01/09/01 01/09/01 01/09/01 Limits 01/09/01 01/09/01 01/09/01 01/09/01 01/09/01 0.20 nd nd nd nd nd 0.20 nd nd nd nd nd 0.20 nd nd nd nd nd nd 0.50 nd nd nd nd nd nd nd 99% 105% 89% 92% 109% 104% 104%	DUPL MTH BLK MW-1 MW-2 MW-3 MW-3 Water Water Water Water Water Water Water Reporting 01/09/01 01/09/01 01/09/01 01/09/01 01/09/01 01/09/01 Limits 01/09/01 01/09/01 01/09/01 01/09/01 01/09/01 0.20 nd nd nd nd nd 0.20 nd nd nd nd nd 0.20 nd nd nd nd nd 0.50 nd nd nd nd nd 99% 105% 89% 92% 100% 109% 127% 100% 104% 104%

Data Qualifiers and Analytical Comments

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C - coelution with sample peaks

M - matrix interference

J - estimated value

Acceptable Recovery limits: 65% TO 135%

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January 22, 2002

Greg Helland SCS Engineers 2405 140th Ave. NE, #107 Bellevue, WA 98005

Dear Mr. Helland:

Please find enclosed the analytical data report for the Meeker Square Project in Kent, Washington. Soil and water samples were analyzed for Diesel and Oil by NWTPH-Dx/Dx Extended, Gasoline by NWTPH-Gx, and BTEX by Method 8021B on January 16, 2002.

The results of these analyses are summarized in the attached table. All soil values are reported on a dry weight basisl. Applicable detection limits and QA/QC data are included. An invoice for this analytical work is also enclosed.

ESN Northwest appreciates the opportunity to have provided analytical services to SCS Engineers for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,

midnel a Korace

Michael A. Korosec President

ESN Job Number:	S20114-4
Client:	SCS ENGINEERS
Client Job Name:	MEEKER SQUARE
Client Job Number:	04201049.00

Analytical Results							DUPL
NWTPH-Dx, mg/l		MTH BLK	SP1	SP2	SP3	SP4	SP4
Matrix	Water	Water	Water	Water	Water	Water	Water
Date extracted	Reporting	01/15/02	01/15/02	01/15/02	01/15/02	01/15/02	01/15/02
Date analyzed	Limits	01/15/02	01/15/02	01/15/02	01/15/02	01/15/02	01/15/02
Kerosene/Jet fuel	0.20	nd	nd	nd	nd	nd	nd
Diesel/Fuet oli	0.20	nd	nd	nd	nd	nd	nď
Reavy oil	0.50	nd	nd	nd	nd	nd	nd
Surrogate recoveries:							
Fluorobiphenyl		124%	113%	111%	111%	112%	101%
o-Terphenyl		131%	117%	115%	118%	114%	114%

,

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

C - coelution with sample peaks

M - matrix Interference

J - estimated value

,

Acceptable Recovery limits: 65% TO 135%

ESN Job Number:	S20114-4
Client:	SCS ENGINEERS
Client Job Name:	MEEKER SQUARE
Client Job Number:	04201049.00

Analytical Results

NWTPH-Dx, mg/l		SP5	SP6
Matrix	Water	Water	Water
Date extracted	Reporting	01/15/02	01/15/02
Date analyzed	Limits	01/15/02	01/15/02
Kerosene/Jet fuel	0.20	nd	nd
Diesel/Fuel oil	0.20	nd	nd
Heavy oll	0.50	nd	nd
Surrogate recoveries;			
Fluorobiphenyl		109%	105%
o-Terphenyl		116%	118%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

C - coelution with sample peaks

M - matrix interference

J - estimated value

Acceptable Recovery limits: 65% TO 135%

ESN Job Number:	S20114-4
Client:	SCS ENGINEERS
Client Job Name:	MEEKER SQUARE
Client Job Number:	04201049.00

Analytical Results					MS	MSD	RPD
NWTPH-Gx / BTEX		MTH BLK	LCS	SP1-2.8	SP1-2.8	SP1-2.8	SP1-2.8
Matrix	Soil	Soil	Soll	Soil	Soil	Soit	Soll
Date extracted	Reporting	01/15/02	01/15/02	01/15/02	01/15/02	01/16/02	01/15/02
Date analyzed	Limits	01/15/02	01/15/02	01/15/02	01/15/02	01/15/02	01/15/02
NWTPH-Gx, mg/kg							
Mineral spirits/Stoddard solvent	5.0	nd		nđ			
Gasoline	5.0	nd		24			
BTEX.ua/ka							
Benzene	20	nd	93%	nd	95%	102%	7%
Toluene	50	nd	102%	nd	110%	113%	3%
Ethylbenzene	50	nd		nd			
Xylenes	50	กต่		nd			
Surrogate recoveries:							
Trifluorotoluene		118%	107%	122%	315%	112%	
Bromofluorobenzene		111%	111%	117%	112%	108%	

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

C - coelution with sample peaks

M - matrix interference

J - estimated value

Results reported on dry-weight basis

Acceptable Recovery limits: 65% TO 135%

S20114-4
SCS ENGINEERS
MEEKER SQUARE
04201049.00

Analytical Results							
NWTPH-Gx / BTEX		SP1-8.5	SP2-2.5	SP2-4	SP2-6.8	SP3-4	SP3-10
Matrix	Soil	Soll	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	01/15/02	01/15/02	01/15/02	01/15/02	01/15/02	01/15/02
Date analyzed	Limits	01/15/02	01/15/02	01/15/02	01/15/02	01/15/02	01/15/02
NWTPH-Gx, mg/kg							
Mineral spirits/Stoddard solvent	5.0	nd	nd	nd	nd	nd	nd
Gasoline	5.0	nd	រាd	nd	nd	64	9.4
BTEX , µg/kg							
Benzene	20	nd	nd	nd	nd	nd	nd
Taluene	50	nd	nd	nd	nd	nd	nd
Ethylbenzene	50	nd	nd	nd	nd	190	nd
Xylenes	50	nd	nd	nd	nd	160	nd
Surrogate recoveries:							
Trifiuorotoluene		118%	116%	111%	100%	101%	103%
Bromofluorobenzene		116%	111%	112%	74%	78%	78%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

C - coelution with sample peaks

M - matrix interference

J - estimated value

Results reported on dry-weight basis

Acceptable Recovery limits: 65% TO 135%

ESN Job Number:	S20114-4
Client:	SCS ENGINEERS
Client Job Name:	MEEKER SQUARE
Client Job Number:	04201049.00

Analytical Results						
NWTPH-Gx / BTEX		SP4-7.5	SP5-3	SP6-3	SP6-9.5	SP5-8
Matrix	Soil	Soil	Soil	Soil	Soil	Salt
Date extracted	Reporting	01/15/02	01/15/02	01/15/02	01/15/02	01/15/02
Date analyzed	Limits	01/15/02	01/15/02	01/15/02	01/15/02	01/15/02
NWTPH-Gx, mg/kg						
Mineral spirits/Stoddard solvent	5.0	nd	nd	nd	nd	nd
Gasoline	5,0	nd	nd	8.8	กต่	រាង
BTEX,µg/kg						
Benzene	20	nd	nd	nd	nd	nd
Toluene	50	nd	nd	nd	nd	nd
Ethylbenzono	50	nd	nd	nd	nd	nd
Xylénes	5 0	nd	nd	nd	nd	nd
Surrogate recovertes:						
Trifluorotoluene		94%	96%	99%	106%	97%
Bromofluorobenzene		71%	71%	88%	92%	82%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

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Results reported on dry-weight basis

Acceptable Recovery limits; 65% TO 135%



\$20114-4
SCS ENGINEERS
MEEKER SQUARE
04201049,00

	MTH BLK	LCS	SP1	SP2	SP3	SP4
Water	Water	Water	Water	Water	Water	Water
Reporting	01/15/02	01/15/02	01/15/02	01/15/02	01/15/02	01/15/02
Limits	01/15/02	01/15/02	01/15/02	01/15/02	01/15/02	01/15/02
0.10	nd		nd	nd	nd	nd
0.10	nd		nd	nd	1.5	1.2
1.0	nd	93%	nd	nd	6.4	5.0
1.0	nd	102%	nd	nd	nd	. nd
1.0	nd		nd	nd	nd	nd
1.0	nd		nd	nd	8,9	nd
	118%	107%	128%	126%	118%	115%
	111%	111%	118%	116%	118%	118%
	Water Reporting Limits 0.10 0.10 1.0 1.0 1.0 1.0	MTH BLK Water Water Reporting 01/15/02 Limits 01/15/02 0.10 nd 0.10 nd 1.0 nd	MTH BLK LCS Water Water Water Reporting 01/15/02 01/15/02 Limits 01/15/02 01/15/02 0.10 nd 0.10 0.10 nd 93% 1.0 nd 102% 1.0 nd 102% 1.0 nd 107% 111% 111% 111%	MTH BLK LCs SP1 Water Water Water Water Reporting 01/15/02 01/15/02 01/15/02 Limits 01/15/02 01/15/02 01/15/02 0.10 nd nd 0.10 nd nd 1.0 nd nd 1.0 nd 102% 1.0 nd nd 1.0 nd 128% 1111% 1111% 118%	MTH BLK LCs SP1 SP2 Water Water Water Water Water Reporting 01/15/02 01/15/02 01/15/02 01/15/02 Limits 01/15/02 01/15/02 01/15/02 01/15/02 0.10 nd nd nd nd 0.10 nd nd nd nd 1.0 nd 93% nd nd 1.0 nd 102% nd nd 1.0 nd 102% nd nd 1.0 nd nd nd nd 1.0 nd 111% 118% 116%	MTH BLK LCs SP1 SP2 SP3 Water Water Water Water Water Water Reporting 01/15/02 01/15/02 01/15/02 01/15/02 01/15/02 Limits 01/15/02 01/15/02 01/15/02 01/15/02 01/15/02 0.10 nd nd nd nd nd 0.10 nd nd nd nd 1.5 1.0 nd 93% nd nd 6.4 1.0 nd 102% nd nd nd 1.0 nd 102% nd nd 6.4 1.0 nd nd nd nd 6.4 1.0 nd 102% nd nd 6.4 1.0 nd nd nd 8.9 9 110% nd nd nd 8.9 118%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

C - coelution with sample peaks

M - matrix interference

J - estimated value

Acceptable Recovery limits: 65% TO 135%

ESN Job Number:	S20114-4
Client:	SCS ENGINEERS
Client Job Name:	MEEKER SQUARE
Client Job Number:	04201049.00

Analytical Results				DUPL
NWTPH-Gx / BTEX		SP5	SP6	SP6
Matrix	Water	Water	Water	Water
Date extracted	Reporting	01/15/02	01/15/02	01/15/02
Date analyzed	Limits	01/15/02	01/15/02	01/15/02
NWTPH-Gx. mg/L				
Mineral spirits/Stockard solvent	0.10	nd	nd	nd
Gasoline	0.10	0.16	nd	nd
BTEX, µg/L				
Benzene	1.Q	nd	nd	nd
Toluene	1.0	nd	nd	nd
Ethylbenzene	1.0	nd	nđ	nd
Xylenes	1.0	nd	nd	nd
Surrogate recoveries:				
Trifluorotoluene		110%	117%	108%
Bromofluorobenzene		113%	113%	111%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

C - coelution with sample peaks

M - matrix interference

J - estimated value

Acceptable Recovery limits: 65% TO 135% Acceptable RPD limit: 35%

ESN Job Number:	S20114-4
Client:	SCS ENGINEERS
Olient Job Name:	MEEKER SQUARE
Client Job Number:	04201049.00

Analytical Results

NWTPH-Dx, mg/kg		MTH BLK	SP1-2.8	SP1-8.5	SP2-2.5	SP2-4	SP2-6.8
Matrix	Soil	Soil	Soli	Soll	Soil	Soil	Soil
Date extracted	Reporting	01/15/02	01/15/02	01/15/02	01/15/02	01/15/02	01/15/02
Date analyzed	Limits	01/15/02	01/15/02	01/15/02	01/15/02	01/16/02	01/15/02
Kerosene/Jet fuel	20	nd	nd	nd	nd	nd	nd
Diesel/Fuel oil	20	nd	nd	nd	nd	nd	nd
Heavy oll 50		nd	nd	nd	nd	nd	nd
Surrogate recoveries:							
Fluorobiphenyl		124%	105%	106%	103%	100%	103%
o-Terphenyl		131%	116%	115%	115%	113%	114%

Data Qualifiers and Analytical Comments

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J - estimated value

Results reported on dry-weight basis

Acceptable Recovery limits: 65% TO 135%

ESN Job Number:	S20114-4
Client:	SCS ENGINEERS
Client Job Name:	MEEKER SQUARE
Client Job Number:	04201049.00

Analytical Results			DUPL				
NWTPH-Dx, mg/kg		SP3-4	SP3-4	SP3-10	SP4-7.5	SP5-3	SP6-3
Matrix	Soli	Soil	Soil	Soil	Soil	Soil	Soll
Date extracted	Reporting	01/15/02	01/15/02	01/15/02	01/15/02	01/15/02	01/15/02
Date analyzed	Limits	01/15/02	01/15/02	01/15/02	01/15/02	01/15/02	01/15/02
Kerosene/Jet fuel	20	nd	nd	nd	nd	nd	nd
Diese#/Fuel oil	20	nd	nd	nd	nd	nď	nd
Heavy oil	50	nd	nd	nd	nd	nđ	nd
Surrogate recoveries:							
Fluorobiphenyl		109%	110%	102%	101%	102%	101%
o-Terphenyl		115%	115%	113%	112%	113%	111%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

C - coelution with sample peaks

M - matrix interference

J - estimated value

Results reported on dry-weight basis

Acceptable Recovery limits: 65% TO 135%

ESN Job Number:	520114-4
Client:	SCS ENGINEERS
Client Job Name:	MEEKER SQUARE
Client Job Number:	04201049.00

Analytical Results				DUPL
NWTPH-Dx, mg/kg		SP6-9.5	SP5-B	SP5-8
Matrix	Soll	Soil	Soil	Soll
Date extracted	Reporting	01/15/02	01/15/02	01/15/02
Date analyzed	Limits	01/15/02	01/15/02	01/15/02
Kerosene/Jet fuel	20	nd	nd	nd
Diesel/Fuel oil	20	nd	nd	nd
Heavy oil	50	nd	nd	nd
Surrogato recoveries:				
Fluorobiphenyl		103%	105%	105%
o-Terpheny!		111%	113%	115%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

C - coelution with sample peaks

M - matrix interference

J - estimated value

Results reported on dry-weight basis

Acceptable Recovery limits: 65% TO 135%

CUSTODY RECORD	PAGEOF	Sucre Former (see Shittan	W/H	RELO COLLECTION	Z S S S S S S S S S S S S S										> =	y -					LABORATORY NOTES:				Tum Avound Time: CFA)
CHAIN-OF-(DATE: 1- 14-2002	PROJECT NAME: Merker	LOCATION: Kent	- COLLECTOR: Shie																<u> </u>	SAMPLE RECEIPT	DTAL NUMBER OF CONTAINERS	EALS INTACT? YAWNA	ECEIVED GOOD COND./COLD	OTES:
5 × 01.154		= #13, Balewe, WA 9800S	FAX: 425-746 - 6747	PROJECT MANAGER: Greg Hellind	L L <thl< th=""> <thl< th=""> <thl< th=""> <thl< th=""></thl<></thl<></thl<></thl<>											VoA NoA				$\wedge $	RECEIVED BY (Signature) OATE/TIME	plon with 1	RECEIVED BY (Signature) DATE/TIME		LINSTRUCTIONS
nvironmental rrices Network	haineers	140th Ave M	6- 4 00	wa. P.Y.apusta	Sample C										->	Wester					re) DATE/TIME	1-14-2002	re) DATE/TIME		SAMPLE DISPOSA SW DISPOSAL @ 52.00
ESIN SCIENCES	CLIENT: SCS EA	ADDRESS: 2405	PHONE: 425-74	CLIENT PROJECT #:	Sample Number	1. SP1 - 2.8	2. SP1 - 8.5	<u>3. SP2 - Z·S</u>	4.522-4 5.522-6.8	6. 5P3 - 4'	7. SP3-10'	8. SPU - 7.5'	10 < 25 - 31	11. 546 - 9.5'	12. SP 5 - 8'	13. SP/	14. SP2	15. 5P3 4e 5PU	17. 585	18 596	REMNOUISHED BY (Signatu	Dian San	RELINOUISHED BY (Signatu		



Environmental

Services Network

April 25, 2002

Greg Helland SCS Engineers 2405 140th Ave. NE, #107 Bellevue, WA 98005

Dear Mr. Helland:

Please find enclosed the analytical data report for the Meeker Cleaners Project in Kent, Washington. Soil samples were analyzed for Gasoline by NWTPH-Gx and BTEX by Method 8021B on April 19, 2002.

The results of these analyses are summarized in the attached table. All soil values are reported on a dry weight basisl. Applicable detection limits and QA/QC data are included. An invoice for this analytical work is also enclosed.

ESN Northwest appreciates the opportunity to have provided analytical services to SCS Engineers for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,

Sherry L. Chilcutt Vice President

S20419-5
SCS ENGINEERS
MEEKER SQUARE
GAS STATION
04202001.01

Analytical Results						DUPL	RPD
NWTPH-Gx / BTEX		MTH BLK	LCS	D2-3	D1-2	D1-2	D1-2
Matrix	Soit	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	04/19/02	04/19/02	04/19/02	04/19/02	04/19/02	04/19/02
Date analyzed	Limits	04/19/02	04/19/02	04/19/02	04/19/02	04/19/02	04/19/02
NWTPH-Gx, mg/kg							
Mineral spirits/Stoddard solvent	5.0	nd		nd	nd	nd	
Gasoline	5.0	nd		nd	580	740	24%
BTEX,µg/kg							
Benzene	20	nd	77%	nd	nd	nd	
Toluene	50	nd	82%	nđ	nd	nd	
Ethylbenzene	50	nd		nd	nd	nd	
Xylenes	50	nd		nd	1,100	1,300	17%
Surrogate recoveries:							
Trifluorotoluene		120%	124%	129%	124%	123%	
Bromofluorobenzene		110%	118%	121%	¢	С	

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

C - coelution with sample peaks

M - matrix interference

J - estimated value

Results reported on dry-weight basis

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

.

ESN Job Number:	S20419-5
Client:	SCS ENGINEERS
Client Job Name;	MEEKER SQUARE
	GAS STATION
Client Job Number:	04202001.01

Analytical Results							
NWTPH-Gx / BTEX		D3-5	C4-7	B3NW-3	D3-7.5	D2EAST-5	D4-7.5
Matrix	Soil	Soli	Soil	Soil	Soil	Soll	Soil
Date extracted	Reporting	04/19/02	04/19/02	04/19/02	04/19/02	04/19/02	04/19/02
Date analyzed	Limits	04/19/02	04/19/02	04/19/02	04/19/02	04/19/02	04/19/02
NWTPH-Gx, mg/kg							
Mineral spirits/Stoddard solvent	5.0	nd	nd	nd	nd	nd	nd
Gasoline	5.0	†40	nd	130	nd	220	nd
<u>BTEX , µq/ka</u>							
Benzene	20	hđ	nd	nd	nd	nd	hd
Toluene	50	nd	nd	nd	nd	nd	nd
Ethylbenzene	50	800	nd	150	nd	250	nd
Xylenes	50	540	nd	170	nd	920	nđ
Surrogate recoveries:							
Trifluorotoluene		131%	120%	116%	103%	134%	101%
Bromofluorobenzene		С	110%	120%	97%	¢.	107%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

C - coelution with sample peaks

M - matrix interference

J - estimated value

Results reported on dry-weight basis

Acceptable Recovery limits: 65% TO 135%

ESN Job Number:	S20419-5
Client:	SCS ENGINEERS
Client Job Name:	MEEKER SQUARE
	GAS STATION
Client Job Number:	04202001.01

Analytical Results				DUPI.,	RPD	MS	MSD
NWTPH-Gx / BTEX		B2-7	C3-8	C3-8	C3-8	C4-7	C4-7
Matrix	Soll	Soíl	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	04/19/02	04/19/02	04/19/02	04/19/02	04/19/02	04/19/02
Date analyzed	Limits	04/19/02	04/19/02	04/19/02	04/19/02	04/19/02	04/19/02
NWTPH-Gx, mg/kg							
Mineral spirits/Stoddard solvent	5.0	nd	nd	nd			
Gasoline	5.0	nd	130	130	0%		
RTEY ualka							
	20	nd	nd	nd		77%	79%
Toluene	50	nd	nd	nd		112%	87%
Ethylbenzene	50	nd	4,200	5,900	34%		
Xylenes	50	nd	320	310	3%		
Surrogato recoveries:							
Trifluorotoluene		74%	с	127%		125%	130%
Bromofluorobenzene		75%	С	С		124%	120%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

C - coelution with sample peaks

M - matrix interference

J - estimated value

Results reported on dry-weight basis

Acceptable Recovery limits: 65% TO 135%

ESN Job Number:	S20419-5
Client:	SCS ENGINEERS
Client Job Name:	MEEKER SQUARE
	GAS STATION
Client Job Number;	04202001.01

	RPD
	C4-7
Soil	Soil
Reporting	04/19/02
Limits	04/19/02
5.0 5.0	
20	3%
50	25%
50	
50	
	Soil Reporting Limits 5.0

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

C - coelution with sample peaks

M - matrix Interference

J - estimated value

Results reported on dry-weight basis

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

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y we the Matter	PROJECT NAME:	<u> </u>		The Mr +	5 140	ADDRESS: 340
	DATE: <u> </u>			1. 220 (A		CLIENT:
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Environmental

Services Network

May 7, 2002

Greg Helland SCS Engineers 2405 140th Ave. NE, #107 Bellevue, WA 98005

Dear Mr. Helland:

Please find enclosed the analytical data report for the Meeker Square Project in Kent, Washington. Soil samples were analyzed for Gasoline hy NWTPH-Gx and BTEX by Method 8021B on April 22, 2002.

The results of these analyses are summarized in the attached table. All soil values are reported on a dry weight basisl. Applicable detection limits and QA/QC data are included. An invoice for this analytical work is also enclosed.

ESN Northwest appreciates the opportunity to have provided analytical services to SCS Engineers for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,

michael a Korne

Michael A. Korosec President

ESN Job Number:	S20422-2 SCS ENGINE®RS
Client Job Name:	MEEKER SOUARE
Client Job Number:	04202001.01

Association) Consults		•			MS	MSC	RPD	
Analytical Results		MTHBLK	LCS	A3SOUTH-3	A3SOUTH-3	A3SOUTH-3	A3SOUTH-3	B2-3
NVVTPH-GX70TEX	Sall	Soil	Sail	Soil	Soft	Soft	Soll	Soil
Mallox	Reporting	04/22/02	04/22/02	04/22/02	04/22/02	04/22/02	04/22/02	04/22/02
Date analyzed	Limits	04/22/02	04/22/02	04/22/02	04/22/02	04/22/02	04/22/02	04/22/02
NWTPH-Gx, mg/kg Mineral spirits/Stoddard solvent Gasoline	5.0 5.0	ಗಳ nd		nd nd				nd nd
<u>BTEX,ug/ka</u> Genzeno Edvelbenzeno Xylenos	20 50 50 50	nd nd nd	70% 77%	กช กช กช กช	74% 81%	79% 87%	7% 7%	nd nd nd nd
Surrogate recoverios: Trifiuorotoluene Bromofluorobenzene		98% 95%	113% 120%	120% 112%	119% 114%	118% 113%		126% 118%

Data Qualifiers and Analytical Commonts rid - not detected at listed reporting limits na - not analyzed C - codution with sample peaks M - matrix interference J - estimated value

Results reported on dry-weight basis Acceptable Recovery limits: 65% TO 135% Acceptable RPD limit: 35%
(ISN SEATTLE CHEMISTRY LABORATORY (425) 957-9872, fax (425) 957-9904

ESN Job Number:	S20422-2
Client:	SCS ENGINEERS
Glient Job Name:	MEEKER SQUARE
	FORMER GAS STATION
Client Job Number:	04202001.01

Analytical Results NWTPH-Gx / BTEX B4EAST-3 COSE-2 DOEAST-2 DISOUTH-2 Matrix Sail Sail Soil Soil 04/22/02 Reporting 04/22/02 04/22/02 04/22/02 Date extracted 04/22/02 Date analyzed Umits 04/22/02 04/22/02 04/22/02 NWTPE-Gx, ing/kg Mineral spirits/Stoddard solvent 5,0 nd nd nd Gasoline 6.0 πd nd nd BTEX, µg/kg 20 nd nd nd Benzene 50 nd Toluene nd nd 60 Ethylbenzene nd nd nd 50 nd nď nđ 11,000 Xylenes Surrogate recoveries: 126% 119% 116% Trilluoratoluene 116% 118% 111% 118% Bromofluorobenzene 114%

Soil

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Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

C - coelution with sample peaks

M - matrix interference

J - estimated value

Results reported on dry-weight basis

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

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STL Seattle 5755 8th Street East Tacoma, WA 98424

Tel: 253 922 2310 Fax: 253 922 5047 www.stl-inc.com

TRANSMITTAL MEMORANDUM

DATE: May 30, 2002

TO: Brian Doan SCS Engineers 2405 140th Ave. N. E., Suite 107 Bellevue, WA 98005

PROJECT: Meeker Former Gas Station 04202001.01

REPORT NUMBER: 106043

TOTAL NUMBER OF PAGES:

Enclosed are the test results for nine samples received at STL Seattle on May 17, 2002.

The report consists of this transmittal memo, analytical results, quality control reports, a copy of the chain-of-custody, a list of data qualifiers and analytical narrative when applicable, and a copy of any requested raw data.

Should there be any questions regarding this report, please contact me at (253) 922-2310.

Sincerely,

Daria Powell

Project Manager

STL Seattle is a part of Severn Trent Laboratories, Inc.

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Sample Identification:

			N A substant
<u>Lab. No.</u>	<u>Client ID</u>	<u>Date/Time Sampled</u>	<u>Mannx</u>
106043-1 106043-2 106043-3 106043-4 106043-5 106043-6 106043-7 106043-8 106043-9	OW1-5' OW1-10' OW1-15' OW2-5' OW2-10' OW2-15' OW3-5' OW3-10' OW3-15'	05-16-02 * 05-16-02 * 05-16-02 * 05-16-02 * 05-16-02 * 05-16-02 * 05-16-02 * 05-16-02 *	solid solid solid solid solid solid solid solid solid

* - Sampling time not specified for this sample

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Client Name Project Name SCS Engineers Meeker Former Gas Station 04202001.01 05-17-02

Date Received

General Chemistry Parameters

	Client Sample ID Lab ID		OW 10604	1-5' 43-01	
l.		Date	United	Result	PQL
k amoter	Method	Analyzed		6 76	0.1
6 ivloisture	EPA 160.3	05-28-02	%	0.70	
	Client Sample ID Lab ID		OW 1060	(2-5) 43 - 04	I
1		Date	Unite	Result	PQL
2 ameter	Method	Analyzeu		22.71	0.1
% Moisture	EPA 160.3	05-28-02	70		1
I					
	Client Sample ID Lab ID		0V 1060	V3-5')43-07	1
		Date		- N	POL
	Method	Analyzed	Units	Result	01
Parameter	EPA 160.3	05-28-02	%	13.82	0.1
% Moisture				•	l
			~~~~	Va 10'	
	Client Sample ID		106	043-08	
	Lab ID		100	1	ł
		Date		Desuit	PQL
Parameter	Method	Analyzed		22.68	0.1
Moisture	EPA 160.3	05-28-02	70	22.00	
Molatara	Client Sample ID Lab ID		1 0) 106	' W3-15' 5043-09 I	1
	na stant	Analyzed	Units	Result	PQL
arameter	Method	05-28-02	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	24.89	0.1
, Moisture	EPA 160.3	00-20-02			ļ

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	SCS Engineers
Client Name	OW1-5'
Client ID:	106043-01
Lab ID:	5/17/02
Date Received:	5/28/02
Date Prepared:	5/28/02
Date Analyzed:	93.24
% Solids	1
Dilution Factor	

# Volatile Aromatic Hydrocarbons by USEPA Method 8021B/5030B Modified

Volatile Aronitation 1.1			Recov	ery Limits
<b>Surrogate</b>	% <b>Recovery</b>	Flags	Low	<b>High</b>
Trifluorotoluene	86.8		70	130
Bromofluorobenzene	93.7		80	130

Sample results are on a dry weight basis.

Analyte Benzene Toluene Ethylbenzene m&p-Xylene o-Xylene	Result (mg/kg) ND ND ND ND ND ND	POL 0.0211 0.0422 0.0422 0.0845 0.0422	MDL         Flags           0.00422         0.00676           0.00634         0.00296           0.00803         0.00803
-------------------------------------------------------------------------	-------------------------------------------------------	-------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------

	SCS Engineers
Client Name	OW2-5'
Client ID:	106043-04
Lab ID:	5/17/02
Date Received:	5/28/02
Date Prepared:	5/28/02
Date Analyzed:	77.29
% Solids	1
Dilution Factor	

## Volatile Aromatic Hydrocarbons by USEPA Method 8021B/5030B Modified

			Recove	ery Limits
<b>Surrogate</b>	% <b>Recovery</b>	Flags	<b>Low</b>	<b>High</b>
Trifluorotoluene	75.2		70	130
Bromofluorobenzene	82		80	130

Sample results are on a dry weight basis.

Analyto Benzene Toluene Ethylbenzene m&p-Xylene o-Xylene	Result (mg/kg) ND ND ND ND ND ND	PQL 0.0242 0.0483 0.0483 0.0966 0.0483	MDLFlags0.004830.007730.007250.003380.00918
-------------------------------------------------------------------------	-------------------------------------------------------	-------------------------------------------------------	---------------------------------------------

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	SCS Engineers
Client Name	OW3-5'
Client ID:	106043-07
LabiD:	5/17/02
Date Received:	5/28/02
Date Prepared:	5/28/02
Date Analyzed:	86.18
% Solids	1
Dilution Factor	

## Volatile Aromatic Hydrocarbons by USEPA Method 8021B/5030B Modified

			Recovery Limi				
Surrogate	% <b>Recovery</b>	Flags	Low	<b>High</b>			
Trifluorotoluene	87.1		70	130			
Bromofluorobenzene	125		80	130			

Sample results are on a dry weight basis.

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Analyte Benzene Toluene Ethylbenzene m&p-Xylene	<b>Result</b> (mg/kg) 0.168 0.0844 1.5 2.44 0.443	P <b>QL</b> 0.0225 0.045 0.045 0.09 0.045	MDL         Flags           0.0045         0.0072           0.00675         0.00315           0.00855         0.00855
o-Xylene			

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Olivet Nerro	SCS Engineers
Chent Name	OW3-10'
Client ID:	106043-08
	5/17/02
Date Received:	5/28/02
Date Prepared:	5/29/02
Date Analyzed:	77.32
% Solids	1
Dilution Factor	,

## Volatile Aromatic Hydrocarbons by USEPA Method 8021B/5030B Modified

			Recove	ory Limits
<b>Surrogate</b>	% <b>Recovery</b>	Flags	<b>Low</b>	<b>High</b>
Trifluorotoluene	74.4		70	130
Bromofluorobenzene	80.3		80	130

Sample results are on a dry weight basis.

.

	Result	501	MDL	Flags
Analyte Benzene Toluene Ethylbenzene m&p-Xylene o-Xylene	(mg/kg) 0.0914 0.0153 0.104 0.159 0.0221	POL 0.0247 0.0494 0.0494 0.0988 0.0494	0.00494 0.0079 0.00741 0.00346 0.00939	روی، ا ل

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	SCS Engineers
Client Name	OW3-15'
Client ID:	106043-09
Lab ID:	5/17/02
Date Received:	5/28/02
Date Prepared:	5/29/02
Date Analyzed:	75.11
% Solids	1
Dilution Factor	

## Volatile Aromatic Hydrocarbons by USEPA Method 8021B/5030B Modified

			Recovery Limits		
<b>Surrogate</b> Trifluorotoluene Bromofluorobenzene	% <b>Recovery</b> 73 75.1	Flags N	<b>Low</b> 70 80	<b>High</b> 130 130	

Sample results are on a dry weight basis.

Analyte		Result (mg/kg)	PQL 0.0252	MDL 0.00504	Flags
Benzene Toluene Ethylbenzene m&p-Xylene o-Xylene	ND ND ND ND	0.00677	0.0504 0.0504 0.101 0.0504	0.00806 0.00756 0.00353 0.00957	J

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and the second	SCS Engineers
Client Name	OW1-5'
Client ID:	106043-01
LabiDi	5/17/02
Date Received:	5/28/02
Date Prepared:	5/28/02
Date Analyzed:	93,24
% Solids	1
Dilution Factor	

## Volatile Petroleum Products by WSDOE Method NWTPH-Gx Modified

			Recove	ery Limits
Surrogate	% <b>Recovery</b>	Flags	Low	High
Trifluorotoluene	86.4		50	150
Bromofluorobenzene	97.5		50	150

Sample results are on a dry weight basis.

Analyte (mg/kg) PQL Gasoline by NWTPH-G ND 4.22
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our - this me	SCS Engineers
Chent Name	OW2-5'
Client ID:	106043-04
Lab ID:	5/17/02
Date Received:	5/28/02
Date Prepared:	5/28/02
Date Analyzed:	77.29
% Solids	1
Dilution Factor	•

## Volatile Petroleum Products by WSDOE Method NWTPH-Gx Modified

			Recove	ery Limits
<b>Surrogate</b>	% <b>Recovery</b>	Flag5	Low	<b>High</b>
Trifluorotoluene	76.2		50	150
Bromofluorobenzene	84.4		50	150

Sample results are on a dry weight basis.

Analyte Gasoline by NWTPH-G NE	Result (mg/kg) )	<b>PQL</b> 4.83	Flags
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Chapt Norge	SCS Engineers
	OW3-5'
	106043-07
	5/17/02
Date Heceived:	5/28/02
Date Prepared:	5/28/02
Date Analyzed:	86.18
% Solids	
Dilution Factor	i i

## Volatile Petroleum Products by WSDOE Method NWTPH-Gx Modified

			Recovery Limits	
Surrogate Trifluorotoluene	% Recovery 116 206	Flags X9	<b>Low</b> 50 50	<b>High</b> 150 150
RIOMOIIIOIODENZEne				

Sample results are on a dry weight basis.

	Result (ma/kg)	POL	Flags
Analyte Gasoline by NWTPH-G	(mg/kg) 271	4.5	_

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Olivert Nomo	SCS Engineers
Client Name	OW3-10'
Client ID:	106043-08
Labit	5/17/02
Date Received:	5/28/02
Date Prepared:	5/29/02
Date Analyzed:	77.32
% Solids	-1
Dilution Factor	,

## Volatile Petroleum Products by WSDOE Method NWTPH-Gx Modified

			Recov	ery Limits
Surrogate	% <b>Recovery</b>	Flags	Low	High
Trifluorotoluone	78.5		50	150
Bromofluorobenzene	95.8		50	150

Sample results are on a dry weight basis.

	Result (mg/kg)	31	PQL 4.94	Flags
Gasoline by NW1PH-G				

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	SCS Engineers
CRent Name	OW3-15'
Client ID:	106043-09
Lab ID:	5/17/02
Date Received:	5/28/02
Date Prepared:	5/29/02
Date Analyzed:	75.11
% Solids	1
Dilution Factor	

## Volatile Petroleum Products by WSDOE Method NWTPH-Gx Modified

			Recovery Li	
<b>Surrogate</b>	<b>% Recovery</b>	Flags	Low	<b>High</b>
Trifluarotoluene	73.6		50	150
Bromofluorobenzene	80.7		50	150

Sample results are on a dry weight basis.

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	Result (mg/kg) ND	PQL 5.04	Flags
Gasoline by NWTPH-G	NL/		

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#### QUALITY CONTROL REPORT

Client Sample ID: Lab ID: QC Batch Number: OW1-5' 106043-01 1054-53

Me	thod Blank	
Parameter	Result (%)	
% Moisture		<u></u>

	Duplicat	e	r	······
Parameter % Moisture	Sample Result (%) 6.76	Duplicate Result (%) 6.55	RPD (%) 0.22	Flag

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Lab ID:	Method Blank - GB3078
Labib.	<b>u</b>
Date Received:	5/28/02
Date Prepared:	5/28/02
Date Analyzed: % Solids	() _ () =
Dilution Factor	٦

## Volatile Aromatic Hydrocarbons by USEPA Method 8021B/5030B Modified

			Recove	ery Limits
Surrogate	% <b>Recovery</b>	Flags	<b>Low</b>	High
Trifluorotoluene	104		75	130
Bromofluorobenzene	99.3		80	130

Sample results are on an as received basis.

Analyte Benzene Toluene Ethylbenzene m&p-Xylene	Result (mg/kg) ND ND ND ND ND	PQL 0.02 0.04 0.04 0.08 0.04	MDL Flags 0.004 0.0064 0.006 0.0028 0.0076
o-Xviene	ND	0.04	

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#### Blank Spike/Blank Spike Duplicate Report

	GB3078
Lab ID:	5/28/02
Date Prepared:	5/28/02
Date Analyzed:	GB3078
QC Batch ID:	<b>•</b> ·

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Volatile Aromatic Hydrocarbons by USEPA Method 8021B/5030B Modified

Compound Name 3 izene Foiuene Ethylbenzene m p-Xylene o-wlane	Biank Result (mg/kg) 0 0 0 0 0	Spike Amount (mg/kg) 1 1 1 2 1	BS Result (mg/Kg) 0.908 0.945 0.938 2.02 1.01	BS % Rec. 90.8 94.5 93.8 101 101	BSD Result (mg/kg) 0.916 0.983 0.953 2.06 1.03	BSD % Rec. 91.6 98.3 95.3 103 103	RPD 0.88 3.9 1.6 2 2	Flag
------------------------------------------------------------------------------	-----------------------------------------------------	-----------------------------------------------------	--------------------------------------------------------------------	----------------------------------------------------	---------------------------------------------------------------------	-----------------------------------------------------	-------------------------------------	------

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#### Matrix Spike/Matrix Spike Duplicate Report

Client Sample ID: Lab ID: Date Prepared: Date Analyzed: QC Batch ID:

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OW1-5' 106043-01 5/28/02 5/28/02 GB3078

## Volatile Aromatic Hydrocarbons by USEPA Method 8021B/5030B Modified

Сотроилd Name 3 nzene Гошеле ≘thylbanzene π_p-Xylene	Sample Result (mg/Kg) 0 0 0 0 0	Spike Amount (mg/kg) 1.05 1.05 2.11 1.05	MS Result (mg/kg) 0.859 0.919 0.907 1.95 0.971	MS % Rec. 81.5 87.2 86 92.7 92.1	MSD Result (mg/kg) 0.862 0.887 0.919 1.97 0.984	MSD % Rec. 84.9 87.4 90.5 96.9 96.9	RPD 4.1 0.23 5.1 4.4 5.1	Flag
Touene Ξthylbenzene π_p-Xylene p	0 0	1.05 2.11 1.05	0.907 1.95 0.971	86 92.7 92.1	0.919 1.97 0.984	90.5 96.9 96.9	4.4 5.1	

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Lob ID:	Method Blank - GB3078
Date Beceived:	- F (00-100
Date Prepared:	5/28/02
Date Analyzed:	3/20/02
% Solids	1
Dilution Factor	

## Volatile Petroleum Products by WSDOE Method NWTPH-Gx Modified

V OILINIQ 1 = 11				and I implied	
Surrogate Trifluorotoluene Bromofluorobenzene	% Recovery 98.2 104	Flags	<b>Recov</b> Low 50 50	ery Limits High 150 150	
Bromofluorobenzene					

Sample results are on an as received basis.

		Result (mg/kg)	PQL	F	lags
Analyte Gasoline by NWTPH-G	ND	. –		4	

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#### Blank Spike/Blank Spike Duplicate Report

Lab ID: Date Prepared: Date Analyzed: QC Batch ID: GB3078 5/28/02 5/28/02 GB3078

## Volatile Petroleum Products by WSDOE Method NWTPH-Gx Modified

Compound Name Gosoline by NWTPH-G	Blank Result (mg/kg) 0	Spike Amount (mg/kg) 50	BS Result (mg/kg) 48.2	<b>BS</b> % Rec. 96.4	BSD Result (mg/kg) 48.1	<b>BSD</b> % Rec. 96.2	RPD -0.21	Flag
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#### Duplicate Report

 Client Sample ID:
 OW1-5'

 Lab ID:
 106043-01

 Date Prepared:
 5/28/02

 Date Analyzed:
 5/28/02

 QC Batch ID:
 GB3078

Volatile Petroleum Products by WSDQE Method NWTPH-Gx Modified

Parameter Name Gasoline by NWTPH-G	Sample Besult (mg/kg) 0	Duplicate Result (mg/kg) 0	RPD % NC	Flag
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11-16-1	Laboratory No.	, , , , , , , , , , , , , , , , ,	(13)	f808 yd Aret8 yd i (8) sisiell Al sisiell Trefulk sisiel	esticides Periority Pe FOLP Me FOLP Me							· · · · · · · · · · · · · · · · · · ·			COMMENTS:				Chromatographs with fine	Mac
".ne" U "Uv"uy ".ne" U	Check One)	Same Day 1 Day	2 Day	21     Standard       2270C     270C       21     4 Volatilies by 8270C       21     65 by 8270C       22     20120       21     2016       22     20120       23     20120       24     20120       25     2025       26     20120       27     20150       28     20120       29     20120       20120     20120       20120     20120       20120     20120       20120     20120       20120     20120       20120     20120       20120     20120       20120     20120       20120     20120       20120     20120       20120     20120       20120     20120       20120     20120       20120     20120       20120     20120       20120     20120       20120     20120       20120     20120       20120     20120       20120     20120       20120     20120       20120     20120       20120     20120       20120     20120       20120     20120	С(H, з р л к what р л к what р л к what р л к с(thet) (othet) minogenate л л р н м т р н - р л м т р н р н р н - р л м т р н р н р н р н р н р н р н р н р н р		5-16-2 - 12-1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -									LIBRIN CT / TIME / 1.13/4	RECEIVED BY		DATE REVIEWED	DISTRIBUTION LEGEND: White - OnSite Copy Yellow - Report Copy Pink - Client C
	Environmental Inc. Environmental Inc. 14648 NE 9510 Street · Redmond, WA 98052 14648 NE 9510 Street · Redmond, WA 98052 14648 NE 9510 Street · Redmond, WA 98052	Phone: (425) 500-500 (325)	Company: SS Clugineers	Project No.: V OVE OR OOT LOT Project Name:	Project Manager	tain fit	1001-5	$\frac{2}{2}$ $\frac{2}{2}$ $\frac{2}{2}$	3 OWI-15'	4 DUZ-5'	 L 202 - S	1 06255	2 21 22 - 10	4 0W3-15		PREFINOUISHED SY DATE	FIRM CONCEPTION (013	FIRM		21

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#### SEVERN TRENT SERVICES

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STL Scattle 5755 8th Street East Tacoma, WA 98424

Tel: 253 922 2310 Fax: 253 922 5047 www.stl-inc.com

#### TRANSMITTAL MEMORANDUM

DATE: June 26, 2002

TO: Brian Doan SCS Engineers 2405 140th Ave. N. E., Suite 107 Bellevue, WA 98005

PROJECT: Meeker Square Former Gas Station

REPORT NUMBER: 106499

TOTAL NUMBER OF PAGES: 2,2

Enclosed are the test results for seven samples received at STL Seattle on June 7, 2002.

The report consists of this transmittal memo, analytical results, quality control reports, a copy of the chain-of-custody, a list of data qualifiers and analytical narrative when applicable, and a copy of any requested raw data.

Should there be any questions regarding this report, please contact me at (253) 922-2310.

Sincerely.

Q. Tenel

Darla Powell Project Manager

STL Seattle is a part of Severn Trent Laboratories, Inc.

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#### Sample Identification:

Lab. No.	<u>Client_ID</u>	Date/Time Sampled	<u>Matrix</u>
106499-1 106499-2 106499-3 106499-4 106499-5 106499-6 106499-7	OW1 OW2 OW3 MW3GS DUPGS Decon Drum Old Drums	06-06-02 * 06-06-02 * 06-06-02 * 06-06-02 * 06-06-02 * 06-06-02 *	Liquid Liquid Liquid Liquid Liquid Liquid Liquid

* - Sampling time not specified for this sample

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Client Name Client ID: Lab ID: Date Received: Date Prepared: Date Analyzed:	SCS Engineers OW1 106499-01 6/7/02 6/19/02 6/19/02
Date Analyzeu.	-
% Solids	1
Dilution Factor	

## Volatile Aromatic Hydrocarbons by USEPA Method 8021B/5030B Modified

		Recovery Lim	
Recovery 104 116	Flags	Low 78 81	<b>High</b> 12 <b>7</b> 135
	Recovery 104 116	Recovery Flags 104 116	Recovery         Flags         Low           104         78           116         81

Analyte Benzane Toluene Ethylbenzane m&p-Xylene o-Xylene	Result (mg/L) ND ND ND ND ND ND	PQL 0.0005 0.001 0.001 0.002 0.001	MDLFlags0.00016
-------------------------------------------------------------------------	------------------------------------------------------	---------------------------------------------------	-----------------

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Oliopt Namo	SCS Engineers
Cilent Name	OW2
Client ID:	106499-02
	6/7/02
Date Received:	6/19/02
Date Prepared:	6/19/02
Date Analyzed:	0,.002
% Solids	
Dilution Factor	I

## Volatile Aromatic Hydrocarbons by USEPA Method 8021B/5030B Modified

			Recovery Limit		
Surrogate	% <b>Recovery</b>	Flags	Low	<b>High</b>	
Trifluorotoluene	100		78	127	
Bromofluorobenzene	111		81	135	

Anaiyte Benzene Toluene Ethylbenzene m&p-Xylene o Xylene	Result (mg/L) ND ND ND ND ND ND	PQL 0.0005 0.001 0.001 0.002 0.001	MDLFlags0.00016
m&p-Xylene o-Xylene	ND	0.001	0.00021

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allast Namo	SCS Engineers
Cheft Name	ОWЗ
Client ID:	106499-03
	6/7/02
Date Received:	6/19/02
Date Prepared:	6/19/02
Date Analyzed:	8/10/02
% Solids	-
Dilution Factor	2.

## Volatile Aromatic Hydrocarbons by USEPA Method 8021B/5030B Modified

			Recov	ery Limits
<b>Surrogate</b>	% <b>Recovery</b>	Flags	Low	<b>High</b>
Trifluorotoluene	91.2		78	127
Bromofluorobenzene	93.4		81	135

Analyte Benzene Toluene Ethylbenzene m&p-Xylene o-Xylene	Result (mg/L) 0.125 0.00262 0.119 0.0443 0.0021	PQL 0.001 0.002 0.002 0.004 0.002	-	MDL 0.00032 0.00034 0.00036 0.00034 0.00042	Flags
o-Xylene	0.0021	0.002		0.0	

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Client Name	SCS Engineers
	MW3GS
Client ID:	106499-04
Lab ID:	6/7/02
Date Received:	0/1/02
Date Prepared:	6/19/02
Date Analyzed:	6/19/02
e/ Solide	-
Survive Fester	1
DININON MACION	

## Volatile Aromatic Hydrocarbons by USEPA Method 8021B/5030B Modified

			Recov	ery Limits
<b>Surrogate</b>	% Recovery	Flags	Low	<b>High</b>
Trifluorotoluene	103		78	127
Bromolluorobenzene	113		81	135

Anaiyte Benzene Toluene Ethylbenzene m&p-Xylene o-Xylene	Result (mg/L) ND ND ND ND ND	PQL 0.0005 0.001 0.001 0.002 0.001	MDL Flags 0.00016 0.00017 0.00018 0.00017 0.00021
-------------------------------------------------------------------------	------------------------------------------------	---------------------------------------------------	------------------------------------------------------------------

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Client Name	SCS Engineers
	DUPGS
	106499-05
Lab ID.	6/7/02
Date Heceived:	6/19/02
Date Prepared:	6/19/02
Date Analyzed:	0,10,02
% Solids	
Dilution Factor	G.

## Volatile Aromatic Hydrocarbons by USEPA Method 8021B/5030B Modified

		Recov	ery Limits
% <b>Recovery</b>	Flags	<b>Low</b>	High
94.1		78	127
96.1		81	135
	% <b>Recovery</b>	% Recovery Flags	Recovery Flags Low
	94.1	94.1	94.1 78
	96.1	96.1	96.1 81

Analyte Benzene Toluene Ethylbenzene m&p-Xylene	Result (mg/L) 0.125 0.00255 0.12 0.0446 0.00203	PQL 0.001 0.002 0.002 0.004 0.002	MDL 0.00032 0.00034 0.00036 0.00034 0.00042	Flags
o-Xylene	0.00203	0.002	0,00042	

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Oligat Naraa	SCS Engineers
	DECON DRUM
	106499-06
Lab ID:	6/7/02
Date Received:	6/19/02
Date Prepared:	6/19/02
Date Analyzed:	<u>,</u> ,
% Solids	1
Dilution Factor	1

## Volatile Aromatic Hydrocarbons by USEPA Method 8021B/5030B Modified

			Recove	ery Limits
<b>Surrogate</b>	% <b>Recovery</b>	Flags	Low	High
Trifluorotoluene	98.8		78	127
Bromofluorobenzene	110		81	135

Analyte Benzene Toluene Ethylbenzene m&p-Xylene	Result (mg/L) 0.00182 0.0906 0.00253 0.00706 0.00301	PQL 0.0005 0.001 0.001 0.002 0.001	MDL Flags 0.00016 0.00017 0.00018 0.00017 0.00021
o-Xylene	0.0000,		

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Client Name Client ID: Lab ID: Date Received: Date Prepared: Date Analyzed:	SCS Engineers OLD DRUMS 106499-07 6/7/02 6/19/02 6/19/02
Date Analyzed.	-
Dilution Factor	1

## Volatile Aromatic Hydrocarbons by USEPA Method 8021B/5030B Modified

		Flags	Recove Low	ery Limits High
<b>Surrogate</b> Triiluorotoluene Bromofluorobenzene	% <b>Hecovery</b> 99.9 111	1 1495	78 81	127 135

0.00017 0.00018 0.00017 0.00021	
	0.00017 0.00018 0.00017 0.00021

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Olicet Namo	SCS Engineers
Chentinanie	OW1
Client ID:	106499-01
	6/7/02
Date Received:	6/19/02
Date Prepared:	6/19/02
Date Analyzed:	0/15/02.
% Solids	
Dilution Factor	1

## Volatile Petroleum Products by WSDOE Method NWTPH-Gx Modified

			Recove	ery Limits
Surrogate Trifluorotoluene	% Recovery 99.6 105	Flags	<b>Low</b> 50 50	High 150 150
Bromofluorobenzene				

	Result (mg/L)	PQL	Flags
Analyte Gasoline by NWTPH-G	ND	0.1	

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oli-at Noma	SCS Engineers
Client Name	OW2
Client ID:	106499-02
Lab ID:	6/7/02
Date Received:	6/19/02
Date Prepared:	6/19/02
Date Analyzed:	
% Solids	1
Dilution Factor	•

## Volatile Petroleum Products by WSDOE Method NWTPH-Gx Modified

			Recovery Limits		
<b>Surrogate</b>	% <b>Recovery</b>	Flags	Low	<b>High</b>	
Trifluorotoluene	96.2		50	150	
Bromofluorobenzene	102		50	150	

	Result (mg/L)	PQL	Flags
Analyte Gasoline by NWTPH-G	ND	0.1	

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OU	SCS Engineers
Client Name	ОWЗ
Client ID:	106499-03
Lab (D)	6/7/02
Date Received:	6/19/02
Date Prepared:	6/19/02
Date Analyzed:	0/10/02
% Solids	-
Dilution Factor	2

## Volatile Petroleum Products by WSDOE Method NWTPH-Gx Modified

			Recovery Limits		
<b>Surrogate</b>	% <b>Recovery</b>	Flags	<b>Low</b>	<b>High</b>	
Trifluorotoluene	104		50	150	
Bromofluorobenzene	100		50	150	

	Result (mg/l.)	POL	Flags
Analyte Gasoline by NWTPH-G	4.55	0.2	

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allast Name	SCS Engineers
	MW3GS
Client ID:	106499-04
	6/7/02
Date Received:	6/19/02
Date Prepared:	6/19/02
Date Analyzed:	0,10,0%
% Solids	
Dilution Factor	I

## Volatile Petroleum Products by WSDOE Method NWTPH-Gx Modified

		Recovery Limits	
% <b>Recovery</b>	Flags	<b>Low</b>	<b>High</b>
98.3		50	150
103		50	150
	% <b>Recovery</b>	% Recovery Flags	Recovery Flags Low
	98.3	98.3	98.3 50
	103	103	103 50

Analyte Gasoline by NWTPH-G	ND	Result (mg/L)	<b>PQL</b> 0.1	Flags
:

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Official Namo	SCS Engineers
	DUPGS
Client ID:	106499-05
	6/7/02
Date Received:	6/19/02
Date Prepared:	6/19/02
Date Analyzed:	0/10/02
% Solids	
Dilution Factor	2

# Volatile Petroleum Products by WSDOE Method NWTPH-Gx Modified

		Recovery Limit		
% <b>Recovery</b>	Flags	Low	<b>High</b>	
106		50	150	
102		50	150	
	% <b>Recovery</b>	% Recovery Flags	Recovery Flags Low	
	106	106	106 50	
	102	102	102 50	

	Result	PQL	Flags
Analyte Gasoline by NWTPH-G	(ng/c) 4_62	0.2	

Client Name	SCS Engineers
	DECON DRUM
	106499-06
	6/7/02
Date Heceived:	6/19/02
Date Prepared:	6/19/02
Date Analyzed:	0,13,06
% Solids	
Dilution Factor	1

# Volatile Petroleum Products by WSDOE Method NWTPH-Gx Modified

			Recove	ery Limits
<b>Surrogate</b>	% <b>Recovery</b>	Flags	Low	<b>High</b>
Trifluorotoluene	94.5		50	150
Bromofluorobenzene	101		50	150

Anaiyte	Result (mg/L) 0.445	PQL 0.1	Flags
Gasoline by NWTPH-G	0.445	Q.1	

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Client Name	SCS Engineers OLD DRUMS
Lab ID:	106499-07
Date Received:	6/7/02
Date Prepared:	6/19/02
Date Analyzed:	6/19/02
% Solids	
Dilution Factor	1

# Volatile Petroleum Products by WSDOE Method NWTPH-Gx Modified

			Recove	ery Limits
Surrogate	% <b>Recovery</b>	Flags	<b>Low</b>	High
Trifluorotoluene	95.7		50	150
Bromofluorobenzene	101		50	150

	Result (ma/L)	PQL	Flags
Analyte Gasoline by NWTPH-G	ND	0.1	

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Lab ID:Method Blank - GB3117Date Received:6/19/02Date Prepared:6/19/02Date Analyzed:-% Solids1Dilution Factor1

# Volatile Aromatic Hydrocarbons by USEPA Method 8021B/5030B Modified

			Recov	ery Limits
Surrogate Trifluorotoluene Bromofluorobenzene	% <b>Recovery</b> 103 112	Flags	Low 78 81	<b>High</b> 127 135

Analyte P	Result	POL	MDL	Flags
Benzene P	(mg/L)	0.0005	0.00016	
Toluene P	ND	0.001	0.00017	
Ethylbenzene P	ND	0.001	0.00018	
m&p-Xylene P	ND	0.002	0.00017	
o-Xylene P	ND	0.001	0.00021	

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## Blank Spike/Blank Spike Duplicate Report

Lab ID: Date Prepared: Date Analyzed: QC Batch ID: GB3117 6/19/02 6/19/02 GB3117 :::

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# Volatile Aromatic Hydrocarbons by USEPA Method 8021B/5030B Modified

Compound Name E inzene i Juene Ethylbenzene r^ &p-Xylene c Xylene	Blank Result (mg/L) 0 0 0 0 0	Spike Amount (mg/L) 0.025 0.025 0.025 0.05 0.025	BS Result (mg/L) 0.0258 0.0271 0.026B 0.054 0.0272	<b>BS</b> % <b>Rec.</b> 103 109 107 108 109	B\$D Resulf (mg/L) 0.0253 0.0269 0.0262 0.0532 0.0274	<b>BSD</b> % <b>Rec.</b> 101 107 105 106 110	RPD -2 -1.9 -1.9 -1.9 0.91	Flag
----------------------------------------------------------------------------------	----------------------------------------------------	-----------------------------------------------------------------------	-------------------------------------------------------------------------	---------------------------------------------------------------	----------------------------------------------------------------------------	----------------------------------------------------------------	-------------------------------------------	------

Lab ID:	Method Blank - GB3117
Date Received: Date Prepared: Date Analyzed: % Solids Dilution Factor	6/19/02 6/19/02 - 1

# Volatile Petroleum Products by WSDOE Method NWTPH-Gx Modified

		Recov	ary Limits
% Recovery	Flags	Low	High
99.3		50	150
102		50	150
	% <b>Recovery</b>	% Recovery Flags	Recovery Flags Low
	99.3	99.3	99.3 50
	102	102	102 50

		Result			<u></u>
Analyte Gasoline by NWTPH-G	ND	(mg/L)	PQL	0.1	Flags

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# Blank Spike/Blank Spike Duplicate Report

Lab ID: Date Prepared: Date Analyzed: QC Batch ID: GB3117 6/19/02 6/19/02 GB3117 :: --

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Volatile Petroleum Products by WSDOE Method NWTPH-Gx Modified

Compound Name Casoline by NWTPH-G	Blank Result (mg/L) 0	Spike Amount (mg/L) 1.25	BS Result (mg/L) 1.31	<b>BS</b> % Rec. 105	BSD Result (mg/L) 1.27	BSD % Rec. 102	<b>RPD</b> -2.9	Flag
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STL Soattle 5785 8th Street East Tacoma, WA 98424

Tel: 253 922 2310 Fax: 263 922 5047 www.stl-inc.com



### A QUALIFIERS AND ABBREVIATIONS

- This analyte was detected in the associated method blank. The analyte concentration was determined not to be significantly higher than the associated method blank (less than ten times the concentration reported in the blank). 1:
- This analyte was detected in the associated method blank. The analyte concentration in the sample was determined to be significantly higher than the method blank (greater than ten times the concentration reported in the blank). .2:
- Second column confirmation was performed. The relative percent difference value (RPD) between the results on the 1. two columns was evaluated and determined to be  $\leq 40\%$ .
- Second column confirmation was performed. The RPD between the results on the two columns was evaluated and determined to be > 40%. The higher result was reported unless anomalies were noted. 12
- GC/MS confirmation was performed. The result derived from the original analysis was reported.
- Л The reported result for this analyte was calculated based on a secondary dilution factor.
- The concentration of this analyte exceeded the instrument calibration range and should be considered an estimated 5: 3:
- The analyte was analyzed for and positively identified, but the associated numerical value is an estimated quantity.
- v L: Maximum Contaminant Level
- MDL: Method Detection Limit
- See analytical narrative. ×.
- Not Detected ND:

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- Practical Quantitation Limit FL:
- Contaminant does not appear to be "typical" product. Elution pattern suggests it may be _____. X1:
- Contaminant does not appear to be "typical" product. 2 2
- Identification and quantitation of the analyte or surrogate was complicated by matrix interference.
- RPD for duplicates was outside advisory QC limits. The sample was re-analyzed with similar results. The sample X3: ; ;; matrix may be nonhomogeneous.
- RPD for duplicates outside advisory QC limits due to analyte concentration near the method practical quantitation X4a: limit/detection limit.
- Matrix spike recovery was not determined due to the required dilution.
- Recovery and/or RPD values for matrix spike(/matrix spike duplicate) outside advisory QC limits. Sample was re-X5: 6: analyzed with similar results.
- Recovery and/or RPD values for matrix spike(/matrix spike duplicate) outside advisory QC limits. Matrix interference may be indicated based on acceptable blank spike recovery and/or RPD. <u>∑7:</u>
- Recovery and/or RPD values for this spiked analyte outside advisory QC limits due to high concentration of the X7a:
- analyte in the original sample. Surrogate recovery was not determined due to the required dilution.
- X8: Surrogate recovery outside advisory QC limits due to matrix interference. X9:

Matrix to the second stands     Matrix to the second stands <t< th=""><th>Services Severn Lielli Laboratorico, in the</th></t<>	Services Severn Lielli Laboratorico, in the
11-11-1     Disk     Link     Disk       Clean     Clean     Project Vanage     Project Vanage     Link       Clean     Regioners Municipation     Regioners Municipation     Link     Link     Link       Clean     Sample JD, Clean     Regioners Municipation     Regioners Municipation     Link     Link <td></td>	
Contract	Date Otation of Otation Otation
Materials     Materials     Materials     Materials     Materials       Resploreer Kunneer All     Same     2500     2500     2500     2500     2500     2500     2500     2500     2500     2500     2500     2500     2500     2500     2500     2500     2500     2500     2500     2500     2500     2500     2500     2500     2500     2500     2500     2500     2500     2500     2500     2500     2500     2500     2500     2500     250	
Operation Same Lab Contract   Preservatives Same 20 contract Analysis fi   Analysis fi Analysis fi Analysis fi   Analysis fi <td< td=""><td>ber Lao Annee Page of of the second sec</td></td<>	ber Lao Annee Page of of the second sec
Bige: Name end Location (Sig)   Matrix     Cameract/Purplese of Angle   Matrix     Contract/Purplese   Matrix     Contract/Purplese   Matrix     Contract/Purplese   Matrix     Contract/Purplese   Matrix     Contract/Purplese   Matrix     Contract/Purplese   Matrix	sci 1. 4nalysis (Attach list if more space is needed)
Address Name and Location (Siege)     Matrix     Containers & Location (Siege)       Matrix     Containers & Location (Siege)     Matrix     Containers & Contai	
Matrix Sampter as OrderOute No.	Special Instructions
Sample ID   A   A   A   A     Sample ID   A   A   A   A     A   A   A   A   A     A   A   A   A   A   A     A   A   A   A   A   A   A     A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A   A	Containers & Conta
	HOEN NOOH NOOH NOOH NOOH
	(A fee may be seesed if samples are retained
Possible Hazard Identification	Disposel By LabArchive ForMonths_longer (nan 3 montus)
Tum Atoma Time Required	DC Requirements Jopenian
24 Hours 27 Days 14 Days 12 Days 12 Days 11 Other 1, Repeired By 2	(. Received By (. ). ().
1. Reinquisities by $\sqrt{1-2}$ $\sqrt{107}$ $3$ Borenieed By	Time Time
2. Reinquished By	Bare Land
3. Relarquished, By	3. Received By
Conserts	
C.D. DISTRIBUTION: WHITE - Stars with the Sample: CANARY - Returned to Client with Report, PINK - Field Copy	

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

Migizi Group, Inc. Jason Souza 3227 178th St SE Bothell, WA 98012

RE: Meeker Square Lab ID: 1408261

September 05, 2014

#### Attention Jason Souza:

Fremont Analytical, Inc. received 7 sample(s) on 8/28/2014 for the analyses presented in the following report.

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext. Gasoline by NWTPH-Gx Mercury by EPA Method 245.1 Polychlorinated Biphenyls (PCB) by EPA 8082 Semi-Volatile Organic Compounds by EPA Method 8270 Total Metals by EPA Method 200.8 Volatile Organic Compounds by EPA Method 8260

This report consists of the following:

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

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

Thank you for using Fremont Analytical.

Sincerely,

Chelsea Ward Project Manager



CLIENT: Project: Lab Order:	Migizi Group, Inc. Meeker Square 1408261	Work Order Sample Summary					
Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received				
1408261-001	MW-1	08/27/2014 12:00 AM	08/28/2014 8:10 AM				
1408261-002	MW-2	08/27/2014 12:00 AM	08/28/2014 8:10 AM				
1408261-003	MW-3	08/27/2014 12:00 AM	08/28/2014 8:10 AM				
1408261-004	OW-1	08/27/2014 12:00 AM	08/28/2014 8:10 AM				
1408261-005	OW-2	08/27/2014 12:00 AM	08/28/2014 8:10 AM				
1408261-006	OW-3	08/27/2014 12:00 AM	08/28/2014 8:10 AM				
1408261-007	TRIP	08/25/2014 10:00 AM	08/28/2014 8:10 AM				



**Case Narrative** 

WO#: **1408261** Date: **9/5/2014** 

CLIENT:Migizi Group, Inc.Project:Meeker Square

#### I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

#### II. GENERAL REPORTING COMMENTS:

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

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

#### **III. ANALYSES AND EXCEPTIONS:**

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



WO#: **1408261** Date Reported: **9/5/2014** 

Client: Migizi Group, Inc.	<b>Collection Date:</b> 8/27/2014					27/2014		
Project: Meeker Square								
Lab ID: 1408261-004		Matrix: Water						
Client Sample ID: OW-1								
Analysos	Pocult	Ы	Qual	Unite	DE	Data Analyzad		
Allalyses	Result	κL	Quai	Units	DF	Date Analyzeu		
Diesel and Heavy Oil by NWTP	H-Dx/Dx Ext.			Bato	h ID: 8557	Analyst: EC		
Diesel (Fuel Oil)	ND	50.0		µg/L	1	9/2/2014 11:05:00 PM		
Heavy Oil	ND	100		µg/L	1	9/2/2014 11:05:00 PM		
Surr: 2-Fluorobiphenyl	67.1	50-150		%REC	1	9/2/2014 11:05:00 PM		
Surr: o-Terphenyl	84.6	50-150		%REC	1	9/2/2014 11:05:00 PM		
Semi-Volatile Organic Compou	Inds by EPA Me	thod 8270		Bato	h ID: 8554	Analyst: MD		
Dhonol	ND	2.00		ug/I	1	0/2/2014 5:41:00 DM		
		2.00		µg/∟ ug/l	1	9/2/2014 5.41.00 PM		
		1.00		µg/L	1	9/2/2014 5.41.00 PM		
		1.00		µg/L	1	9/2/2014 5.41.00 PM		
1,2 Dichlorobonzono		1.00		µg/L	1	9/2/2014 5.41.00 PM		
Ronzyd alcohol		1.00		µg/L	1	9/2/2014 5.41.00 PM		
Big(2 objerential) other		2.00		µg/L	1	9/2/2014 5.41.00 PM		
2 Methylphonel (o group)		2.00		µg/L	1	9/2/2014 5.41.00 PM		
		1.00		µg/L	1	9/2/2014 5.41.00 PM		
N Nitroadi a propulamina		1.00		µg/L	1	9/2/2014 5.41.00 PM		
N-Nitrosodi-II-propylamine		1.00		µg/∟ 	1	9/2/2014 5.41.00 PM		
		2.00		µg/∟ ug/l	1	9/2/2014 5.41.00 PM		
A Methylahanal (n. araaal)		1.00		µg/∟ 	1	9/2/2014 5.41.00 PM		
2 Nitrophonol		1.00		µg/∟ ug/l	1	9/2/2014 5.41.00 PM		
2 4 Dimethylahanal		2.00		µg/∟ /I	1	9/2/2014 5.41.00 PM		
2,4-Dimethylphenol	ND	1.00		µg/∟	1	9/2/2014 5:41:00 PM		
Bis(2-chloroethoxy)methane	ND	1.00		µg/∟	1	9/2/2014 5:41:00 PM		
2,4-Dichlorophenol	ND	2.00		µg/∟	1	9/2/2014 5:41:00 PM		
1,2,4-1 richlorobenzene	ND	1.00		µg/∟	1	9/2/2014 5:41:00 PM		
	ND	0.500		µg/∟	1	9/2/2014 5:41:00 PM		
	ND	5.00		µg/∟	1	9/2/2014 5:41:00 PM		
	ND	1.00		µg/∟	1	9/2/2014 5:41:00 PM		
4-Chioro-3-methylphenol	ND	5.00		µg/∟	1	9/2/2014 5:41:00 PM		
	ND	0.500		µg/L	1	9/2/2014 5:41:00 PM		
	ND	0.500		µg/L	1	9/2/2014 5:41:00 PM		
	ND	1.00		µg/L	1	9/2/2014 5:41:00 PM		
2,4,6- I richlorophenol	ND	2.00		µg/L	1	9/2/2014 5:41:00 PM		
2,4,5- I richlorophenol	ND	2.00		µg/L	1	9/2/2014 5:41:00 PM		
2-Chloronaphthalene	ND	1.00		µg/L	1	9/2/2014 5:41:00 PM		

Qualifiers: B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

RL Reporting Limit

D Dilution was required

H Holding times for preparation or analysis exceeded

ND Not detected at the Reporting Limit



WO#: **1408261** Date Reported: **9/5/2014** 

Project: Meeker Square							
negeti meener equare							
Lab ID: 1408261-004	Matrix: Water						
Client Sample ID: OW-1							
Analyses	Result	RL	Qual	Units	DF	Date Analyzed	
Semi-Volatile Organic Compou	inds by EPA Me	<u>thod 8270</u>		Bato	h ID: 8554	Analyst: MD	
2-Nitroaniline	ND	5.00		µg/L	1	9/2/2014 5:41:00 PM	
Acenaphthene	ND	0.500		µg/L	1	9/2/2014 5:41:00 PM	
Dimethylphthalate	ND	1.00		µg/L	1	9/2/2014 5:41:00 PM	
2,6-Dinitrotoluene	ND	1.00		µg/L	1	9/2/2014 5:41:00 PM	
Acenaphthylene	ND	0.500		µg/L	1	9/2/2014 5:41:00 PM	
2,4-Dinitrophenol	ND	2.00		µg/L	1	9/2/2014 5:41:00 PM	
Dibenzofuran	ND	1.00		µg/L	1	9/2/2014 5:41:00 PM	
2,4-Dinitrotoluene	ND	1.00		µg/L	1	9/2/2014 5:41:00 PM	
4-Nitrophenol	ND	5.00		µg/L	1	9/2/2014 5:41:00 PM	
Fluorene	ND	0.500		µg/L	1	9/2/2014 5:41:00 PM	
4-Chlorophenyl phenyl ether	ND	1.00		µg/L	1	9/2/2014 5:41:00 PM	
Diethylphthalate	ND	1.00		µg/L	1	9/2/2014 5:41:00 PM	
4,6-Dinitro-2-methylphenol	ND	5.00		µg/L	1	9/2/2014 5:41:00 PM	
4-Bromophenyl phenyl ether	ND	1.00		µg/L	1	9/2/2014 5:41:00 PM	
Hexachlorobenzene	ND	1.00		µg/L	1	9/2/2014 5:41:00 PM	
Pentachlorophenol	ND	2.00		µg/L	1	9/2/2014 5:41:00 PM	
Phenanthrene	ND	0.500		µg/L	1	9/2/2014 5:41:00 PM	
Anthracene	ND	0.500		µg/L	1	9/2/2014 5:41:00 PM	
Carbazole	ND	5.00		µg/L	1	9/2/2014 5:41:00 PM	
Di-n-butyl phthalate	ND	1.00		µg/L	1	9/2/2014 5:41:00 PM	
Fluoranthene	ND	0.500		µg/L	1	9/2/2014 5:41:00 PM	
Pyrene	ND	0.500		µg/L	1	9/2/2014 5:41:00 PM	
Benzyl Butylphthalate	ND	1.00		µg/L	1	9/2/2014 5:41:00 PM	
bis(2-Ethylhexyl)adipate	ND	1.00		µg/L	1	9/2/2014 5:41:00 PM	
Benz[a]anthracene	ND	0.500		µg/L	1	9/2/2014 5:41:00 PM	
Chrysene	ND	0.500		µg/L	1	9/2/2014 5:41:00 PM	
Bis(2-ethylhexyl) phthalate	ND	1.00		µg/L	1	9/2/2014 5:41:00 PM	
Di-n-octyl phthalate	ND	1.00		µg/L	1	9/2/2014 5:41:00 PM	
Benzo (b) fluoranthene	ND	0.500		µg/L	1	9/2/2014 5:41:00 PM	
Benzo (k) fluoranthene	ND	0.500		µg/L	1	9/2/2014 5:41:00 PM	
Benzo[a]pyrene	ND	0.500		µa/L	1	9/2/2014 5:41:00 PM	
Indeno (1,2,3-cd) pvrene	ND	0.500		µa/L	1	9/2/2014 5:41:00 PM	
Dibenzo (a,h) anthracene	ND	0.500		µa/L	1	9/2/2014 5:41:00 PM	
Benzo (g,h,l) pervlene	ND	0.500		µa/L	1	9/2/2014 5:41:00 PM	
Surr: 2.4.6-Tribromophenol	50.4	18-139		%REC	1	9/2/2014 5:41:00 PM	

Qualifiers: B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

RL Reporting Limit

D Dilution was required

H Holding times for preparation or analysis exceeded

ND Not detected at the Reporting Limit



WO#: **1408261** Date Reported: **9/5/2014** 

Project:     Meeker Square Lab ID:     HoleS261-004     Matrix:     Water       Client Sample ID:     OW-1     Analyses     Result     RL     Qual     Units     DF     Date Analyzed       Analyses     Result     RL     Qual     Units     DF     Date Analyzed       Semi-Volatile Organic Compounds by EPA Method 8270     Batch     D:     8554     Analyst: MD       Sur: 2-Fluorobiphenyl     74.4     23.3-118     %REC     1     9/22014 5.41:00 PM       Sur: 2-Fluorobiphenyl     74.4     23.3-118     %REC     1     9/22014 5.41:00 PM       Sur: 2-Fluorobiphenyl     74.4     23.3-118     %REC     1     9/22014 5.41:00 PM       Sur: Plenphenyl     119     41.3-140     %REC     1     9/22014 5.41:00 PM       NOTES:     S<-Laboratory technical control limit for Phenol-d6 is below 10:     Batch     ID:     R16482     Analyst: BC       Gasoline     ND     50.0     gs/2     1     8/29/2014 12:54:00 AM       Sur: Toluened8     96.0     65-135     %REC     1     8/29/2014 12:54:00 A	Client: Migizi Group, Inc.	: Migizi Group, Inc. Collection Date: 8/27/2014					8/27/2014
Lab ID:     1408261-004     Matrix:     Water       Client Sample ID:     OW-1     Analyses     Result     RL     Qual     Units     DF     Date Analyzed       Semi-Volatile Organic Compounds by EPA Method 8270     Batch ID:     8554     Analyst: MD       Surr: 2-Fluorobiphenyl     74.4     23.3-118     SkREC     1     9/22014 5:41:00 PM       Surr: Phenol-66     8.39     10-103     S     %REC     1     9/22014 5:41:00 PM       Surr: pTerphenyl     119     41:3-140     %REC     1     9/22014 5:41:00 PM       NOTEs:     S     Laboratory technical control limit for Phenol-66 is below 10.     Stress Provide 1     9/22014 5:41:00 PM       Gasoline by NWTPH-GX     Batch ID: R16482     Analyst: BC     Gasoline control limit for Phenol-86 is below 10.       Surr: Toluene-d8     96.0     65-135     %REC     1     8/29/2014 12:54:00 AM       Surr: Toluene-d8     96.0     65-135     %REC     1     8/29/2014 12:54:00 AM       Vind chlorodfluoromethane (CFC-12)     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM	Project: Meeker Square						
Client Sample ID: OW-1     Result     RL     Qual     Units     DF     Date Analyzed       Semi-Volatile Organic Compounds by EPA Method 8270     Batch ID: 8554     Analyst: MD       Surr: 2-Fluorobiphenyl     74.4     23.3-118     %REC     1     9/22014 5.41:00 PM       Surr: Parphenyl     74.4     23.3-118     %REC     1     9/22014 5.41:00 PM       Surr: Parphenyl     119     41.3-140     \$ %REC     1     9/22014 5.41:00 PM       Surr: parphenyl     119     41.3-140     \$ %REC     1     9/22014 5.41:00 PM       NOTEs:     S- Laboratory technical control limit for Phenol-d6 is below 10.     \$ %REC     1     9/2/2014 5.41:00 PM       Surr: Toluane-d8     96.0     65-135     %REC     1     8/29/2014 12:54:00 AM       Surr: Toluane-d8     96.0     65-135     %REC     1     8/29/2014 12:54:00 AM       Surr: Toluane-d8     96.0     65-135     %REC     1     8/29/2014 12:54:00 AM       Surr: Toluane-d8     96.0     65-135     %REC     1     8/29/2014 12:54:00 AM       Surr: Toluane-d8     96.0	Lab ID: 1408261-004				Matrix: M	/ater	
Analyses     Result     RL     Qual     Units     DF     Date Analyzed       Semi-Volatile Organic Compounds by EPA Method 8270     Batch ID: 8554     Analyst: MD       Surr: 2-Fluorobiphenyl     74.4     23.3-118     %REC     1     9/2/2014 5.41:00 PM       Surr: Phenol-d6     8.3.3     10-103     S     %REC     1     9/2/2014 5.41:00 PM       Surr: Phenol-d6     8.3.3     10-103     S     %REC     1     9/2/2014 5.41:00 PM       Surr: Phenol-d6     8.3.3     10-103     S     %REC     1     9/2/2014 5.41:00 PM       NOTES:     S - Laboratory technical control limit for Phenol-d6 is below 10.     %REC     1     9/2/2014 5.41:00 PM       Surr: Toluene-d8     96.0     65-135     %REC     1     8/2/2/2014 12:54:00 AM       Surr: Toluene-d8     96.0     65-135     %REC     1     8/2/2/2014 12:54:00 AM       Varit 4-Bromofluorobenzene     98.7     65-135     %REC     1     8/2/2/2014 12:54:00 AM       Ving chiodifluoromethane (CFC-12)     ND     1.00     µg/L     1     8/2/2/2014 12:54:00 AM	Client Sample ID: OW-1				indi inci y	valor	
Analyses     Result     RL     Quai     Units     Dr     Date Analyseu       Semi-Volatile Organic Compounds by EPA Method 8270     Batch ID: 8554     Analyst: MD       Sur: 2-Fluorobiphenyl     74.4     23.3-118     %REC     1     9/2/2014 5.41:00 PM       Sur: Phenol-d6     8.39     10-103     S     %REC     1     9/2/2014 5.41:00 PM       Sur: p-Terphenyl     119     41.3-140     %REC     1     9/2/2014 5.41:00 PM       NOTEs:     S - Laboratory technical control limit for Phenol-d6 is below 10.     Batch ID: R16482     Analyst: BC       Gasoline by NWTPH-GX     Batch ID: R16482     Analyst: BC     1     8/29/2014 12:54:00 AM       Sur: 4-Bromofluorobenzene     98.7     65-135     %REC     1     8/29/2014 12:54:00 AM       Volatile Organic Compounds by EPA Method 8260     Batch ID: R16477     Analyst: BC       Dichlorodifluoromethane (CFC-12)     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Ying dhilding     ND     0.00     µg/L     1     8/29/2014 12:54:00 AM       Ving dhilding     ND     0.00 <t< th=""><th></th><th>Decult</th><th></th><th>Qual</th><th>Unito</th><th>DE</th><th>Data Analyzad</th></t<>		Decult		Qual	Unito	DE	Data Analyzad
Semi-Volatile Organic Compounds by EPA Method 8270     Batch ID: 8554     Analyst: MD       Sur: 2-Fluorobiphenyl     74.4     23.3-118     %REC     1     9/2/2014 5.41:00 PM       Sur: Pithenol-d6     8.3.9     10-103     S     %REC     1     9/2/2014 5.41:00 PM       Sur: Pithenol-d6     8.3.9     10-103     S     %REC     1     9/2/2014 5.41:00 PM       NUTESI     3     Vertec     1     9/2/2014 5.41:00 PM     Method       Sour: pithenol-d6     babontony technical control limit for Phenol-d6 is below 10.     Secontrol     9/2/2014 5.41:00 PM       Sour: Toluen-d8     Sour: 60.0     65-135     %REC     1     8/2/2014 12.54:00 AM       Sur: 7-Bronofluorobenzene     98.7     65-135     %REC     1     8/2/2014 12.54:00 AM       Sur: 4-Bromofluorobenzene     98.7     65-135     %REC     1     8/2/2014 12.54:00 AM       Chloromethane (CFC-12)     ND     1.00     µg/L     1     8/2/2014 12.54:00 AM       Chloromethane     ND     0.00     µg/L     1     8/2/2014 12.54:00 AM       Chloromethane	Analyses	Result	KL	Quai	Units	DF	Date Analyzed
Semi-Volatile Organic Compounds by EPA Method 8270     Batch ID: 8054     Analyst: MD       Surr: 2-Fluorobiphenyl     74.4     23.3-118     %REC     1     9/2/2014 5.41:00 PM       Surr: Witrobenzen-d5     82.7     21.9-139     %REC     1     9/2/2014 5.41:00 PM       Surr: Prenol-d6     8.39     10-103     S     %REC     1     9/2/2014 5.41:00 PM       NorrEs:     S     - Laboratory technical control limit for Phenol-d6 is below 10.     8/27     1     8/29/2014 5.41:00 PM       Surr: Toluene-d8     96.0     65-135     %REC     1     8/29/2014 5.41:00 AM       Surr: 4-Bromofluorobenzene     98.7     65-135     %REC     1     8/29/2014 12.54:00 AM       Volatile Organic Compounds by EPA Method 8260     Batch ID: R16477     Analyst: BC       Dichlorodifluoromethane (CFC-12)     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Viny chioride     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Foromethane     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Chioromethane     ND			(1		Dete		
Surr: 2-Fluorobiphenyl     74.4     23.3-118     %REC     1     9/2/2014 5.41:00 PM       Surr: Ntrobenzene-d5     8.2.7     21.9-139     %REC     1     9/2/2014 5.41:00 PM       Surr: Phenol-d6     8.39     10-103     S     %REC     1     9/2/2014 5.41:00 PM       Surr: Prephenyl     119     41.3-140     %REC     1     9/2/2014 5.41:00 PM       NOTES:     S - Laboratory technical control limit for Phenol-d6 is below 10.     S     %REC     1     9/2/2014 5.41:00 PM       Surr: Toluene-d8     Sec.0     65-135     %REC     1     8/29/2014 12:54:00 AM       Surr: Toluene-d8     96.0     65-135     %REC     1     8/29/2014 12:54:00 AM       Volatile Organic Compounds by EPA Method 8260     Batch ID: R16477     Analyst: BC       Dichlorodfluoromethane (CFC-12)     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Vinyl chioride     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Vinyl chioride     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Vinyl chioride	Semi-Volatile Organic Compou	nds by EPA Me	ethod 8270		Bato	n id: 85	54 Analyst: MD
Surr: Nitrobenzene-d5     82.7     21.9-139     %REC     1     9/2/2014 5.41:00 PM       Surr: Phenol-d6     8.39     10-103     S     %REC     1     9/2/2014 5.41:00 PM       Surr: Prephenyl     119     41.3-140     %REC     1     9/2/2014 5.41:00 PM       NOTES:     S     Laboratory technical control limit for Phenol-d6 is below 10.     Batch ID: R16482     Analyst: BC       Gasoline by NWTPH-GX     Batch ID: R16482     Analyst: BC     8/29/2014 12:54:00 AM       Surr: Toluene-d8     96.0     65-135     %REC     1     8/29/2014 12:54:00 AM       Surr: 4-Bromofluorobenzene     98.7     65-135     %REC     1     8/29/2014 12:54:00 AM       Volatile Organic Compounds by EPA Method 8260     Batch ID: R16477     Analyst: BC       Dichlorodfluoromethane (CFC-12)     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Ving chloride     ND     0.00     µg/L     1     8/29/2014 12:54:00 AM       Chloromethane (CFC-12)     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Trichlorofluoromethane (CFC-11) <td< td=""><td>Surr: 2-Fluorobiphenyl</td><td>74.4</td><td>23.3-118</td><td></td><td>%REC</td><td>1</td><td>9/2/2014 5:41:00 PM</td></td<>	Surr: 2-Fluorobiphenyl	74.4	23.3-118		%REC	1	9/2/2014 5:41:00 PM
Surr: Phenol-d6     8.39     10-103     S     %REC     1     9/2/2014 5:41:00 PM       Surr: p-Terphenyl     119     41.3-140     %REC     1     9/2/2014 5:41:00 PM       NOTES: S - Laboratory technical control limit for Phenol-d6 is below 10.     Batch ID: R16482     Analyst: BC       Gasoline     ND     50.0     µg/L     1     8/29/2014 12:54:00 AM       Surr: Toluene-d8     96.0     65-135     %REC     1     8/29/2014 12:54:00 AM       Surr: A-Bromofluorobenzene     98.7     65-135     %REC     1     8/29/2014 12:54:00 AM       Volatile Organic Compounds by EPA Method 8260     Batch ID: R16477     Analyst: BC       Dichlorodifluoromethane (CFC-12)     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Bromomethane     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Chloromethane (CFC-11)     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Trichlorofluoromethane (CFC-11)     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Chloromethane     ND     1.00	Surr: Nitrobenzene-d5	82.7	21.9-139		%REC	1	9/2/2014 5:41:00 PM
Surr: p-Terphenyl     119     41.3-140     %REC     1     9/2/2014 5:41:00 PM       NOTES:     S - Laboratory technical control limit for Phenol-d6 is below 10.     Batch ID: R16482     Analyst: BC       Gasoline by NWTPH-GX     Batch ID: R16482     Analyst: BC       Gasoline of NO     96.0     65-135     %REC     1     8/29/2014 12:54:00 AM       Surr: 1-Divene-d8     96.0     65-135     %REC     1     8/29/2014 12:54:00 AM       Volatile Organic Compounds by EPA Method 8260     Batch ID: R16477     Analyst: BC       Dichlorodifluoromethane (CFC-12)     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Vinyl chloride     ND     0.200     µg/L     1     8/29/2014 12:54:00 AM       Vinyl chloride     ND     0.200     µg/L     1     8/29/2014 12:54:00 AM       Chloromethane     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Vinyl chloride     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Trichlorofluoromethane (CFC-11)     ND     1.00     µg/L     1     8/29/2014 12:54:0	Surr: Phenol-d6	8.39	10-103	S	%REC	1	9/2/2014 5:41:00 PM
NOTES: s - Laboratory technical control limit for Phenol-d6 is below 10.       Gasoline by NWTPH-Gx     Batch ID: R16482     Analyst: BC       Gasoline by Owtrong technical control limit for Phenol-d6 is below 10.     by 20/21412:54:00 AM     by 20/21412:54:00 AM       Surr: Toluene-d8     96.0     65-135     %REC     1     b/22/201412:54:00 AM       Surr: 4-Bromofluorobenzene     98.7     65-135     %REC     1     b/22/201412:54:00 AM       Volatile Organic Compounds by EPA Method 8260     Batch ID: R16477     Analyst: BC       Dichlorodifluoromethane (CFC-12)     ND     1.00     µg/L     1     b/22/201412:54:00 AM       Viny chloride     ND     0.200     µg/L     1     b/22/201412:54:00 AM       Bromomethane     ND     1.00     µg/L     1     b/22/201412:54:00 AM       Trichlorofluoromethane (CFC-11)     ND     1.00     µg/L     1     b/22/201412:54:00 AM       Chloroethane     ND     1.00     µg/L     1     b/22/201412:54:00 AM       1.1-Dichloroethane     ND     1.00     µg/L     1     b/22/201412:54:00 AM       1.1-Dichloroethane     <	Surr: p-Terphenyl	119	41.3-140		%REC	1	9/2/2014 5:41:00 PM
S - Laboratory technical control limit for Phenol-d6 is below 10.   Batch ID: R16482   Analyst: BC     Gasoline   ND   50.0   µg/L   1   8/29/2014 12:54:00 AM     Surr: Toluene-d8   96.0   65-135   %REC   1   8/29/2014 12:54:00 AM     Surr: A Bromofluorobenzene   98.7   65-135   %REC   1   8/29/2014 12:54:00 AM     Volatile Organic Compounds by EPA Method 8260   Batch ID: R16477   Analyst: BC     Dichlorodifluoromethane (CFC-12)   ND   1.00   µg/L   1   8/29/2014 12:54:00 AM     Vinyt chloride   ND   0.200   µg/L   1   8/29/2014 12:54:00 AM     Bromomethane   ND   1.00   µg/L   1   8/29/2014 12:54:00 AM     Bromomethane   ND   1.00   µg/L   1   8/29/2014 12:54:00 AM     Chloroethane   ND   1.00   µg/L   1   8/29/2014 12:54:00 AM     Chloroethane   ND   1.00   µg/L   1   8/29/2014 12:54:00 AM     Chloroethane   ND   1.00   µg/L   1   8/29/2014 12:54:00 AM     1.1-Dichloroethene   ND   1.00   µg/L	NOTES:						
Casoline by NWTPH-Cx     Batch ID:     R16482     Analyst:     CC       Gasoline     ND     50.0     µg/L     1     8/29/2014 12:54:00 AM       Sur: Toluene-d8     96.0     65-135     %REC     1     8/29/2014 12:54:00 AM       Sur: 4-Bromofluorobenzene     98.7     65-135     %REC     1     8/29/2014 12:54:00 AM       Volatile Organic Compounds by EPA Method 8260     Batch ID:     R16477     Analyst: BC       Dichlorodifluoromethane (CFC-12)     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Vinyl chloride     ND     0.200     µg/L     1     8/29/2014 12:54:00 AM       Bromomethane     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Chlorodifluoromethane (CFC-11)     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Chlorodthane     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Chlorodthane     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Chlorodthane     ND     1.00     µg/L     1	S - Laboratory technical control limit for F	Phenol-d6 is below 1	0.				
Gasoline     ND     50.0     µg/L     1     8/29/2014 12:54:00 AM       Surr: Toluene-d8     96.0     65-135     %REC     1     8/29/2014 12:54:00 AM       Surr: 4-Bromofluorobenzene     98.7     65-135     %REC     1     8/29/2014 12:54:00 AM       Volatile Organic Compounds by EPA Method 8260     Batch ID: R16477     Analyst: BC       Dichlorodifluoromethane (CFC-12)     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Vinyl chloride     ND     0.200     µg/L     1     8/29/2014 12:54:00 AM       Bromomethane     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Chlorodethane     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Trichlorofluoromethane (CFC-11)     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       1,1-Dichloroethane     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       1,1-Dichloroethene     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       1,1-Dichloroethene     ND     1.00     µg/L	Gasoline by NWTPH-Gx				Bato	h ID: R1	6482 Analyst: BC
Surr: Toluene-d8     96.0     65-135     %REC     1     8/29/2014 12:54:00 AM       Surr: 4-Bromofluorobenzene     98.7     65-135     %REC     1     8/29/2014 12:54:00 AM       Volatile Organic Compounds by EPA Method 8260     Batch ID: R16477     Analyst: BC       Dichlorodifluoromethane (CFC-12)     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Vinyl chloride     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Bromomethane     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Vinyl chloride     ND     0.200     µg/L     1     8/29/2014 12:54:00 AM       Bromomethane     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Chloroethane     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       1,1-Dichloroethene     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       1,1-Dichloroethene     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       1,1-Dichloroethene     ND     1.00     µg/L     1 <td>Gasoline</td> <td>ND</td> <td>50.0</td> <td></td> <td>ua/l</td> <td>1</td> <td>8/29/2014 12:54:00 AM</td>	Gasoline	ND	50.0		ua/l	1	8/29/2014 12:54:00 AM
Sur: 4-Bromofluorobenzene     98.7     65-135     %REC     1     8/29/2014 12:54:00 AM       Volatile Organic Compounds by EPA Method 8260     Batch ID: R16477     Analyst: BC       Dichlorodifluoromethane (CFC-12)     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Chloromethane     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Bromomethane     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Trichlorofluoromethane (CFC-11)     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Chloromethane     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Trichlorofluoromethane (CFC-11)     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Chloromethane     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       1,1-Dichloroethene     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       1,1-Dichloroethene     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       1,1-Dichloroethene     ND     1.00	Surr: Toluene-d8	96.0	65-135		%REC	1	8/29/2014 12:54:00 AM
Volatile Organic Compounds by EPA Method 8260     Batch ID: R16477     Analyst: BC       Dichlorodifluoromethane (CFC-12)     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Chloromethane     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Vinyl chloride     ND     0.200     µg/L     1     8/29/2014 12:54:00 AM       Bromomethane     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Bromomethane     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Chloroethane     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Chloroethane     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       1,1-Dichloroethene     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Methylene chloride     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       1,1-Dichloroethene     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       1,1-Dichloroethene     ND     1.00     µg/L     1     8/29/20	Surr: 4-Bromofluorobenzene	98.7	65-135		%REC	1	8/29/2014 12:54:00 AM
Volatile Organic Compounds by EPA Method 8260     Batch ID: R16477     Analyst: BC       Dichlorodifluoromethane (CFC-12)     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Chloromethane     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Vinyl chloride     ND     0.200     µg/L     1     8/29/2014 12:54:00 AM       Bromomethane     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Bromomethane     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Chloroethane     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       1,1-Dichloroethene     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Methylene chloride     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Itrans-1,2-Dichloroethene     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       1,1-Dichloroethane     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       2,2-Dichloropropane     ND     1.00     µg/L     1							
Dichlorodifluoromethane (CFC-12)     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Chloromethane     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Vinyl chloride     ND     0.200     µg/L     1     8/29/2014 12:54:00 AM       Bromomethane     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Trichlorofluoromethane (CFC-11)     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Chloroethane     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       1,1-Dichloroethene     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Methylene chloride     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Itrans-1,2-Dichloroethene     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Methyl tert-butyl ether (MTBE)     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       2,2-Dichloroethane     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       cis-1,2-Dichloroethane     ND	Volatile Organic Compounds by	y EPA Method	<u>8260</u>		Bato	h ID: R1	6477 Analyst: BC
Chloromethane     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Vinyl chloride     ND     0.200     µg/L     1     8/29/2014 12:54:00 AM       Bromomethane     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Trichlorofluoromethane (CFC-11)     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Chloroethane     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       1,1-Dichloroethane     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Methylene chloride     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       trans-1,2-Dichloroethene     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Methyl tert-butyl ether (MTBE)     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       1,1-Dichloroethane     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       2,2-Dichloroppapae     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       chloroform     ND     1.00	Dichlorodifluoromethane (CFC-12)	ND	1.00		μg/L	1	8/29/2014 12:54:00 AM
Vinyl chloride     ND     0.200     µg/L     1     8/29/2014 12:54:00 AM       Bromomethane     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Trichlorofluoromethane (CFC-11)     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Chloroethane     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       1,1-Dichloroethene     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Methylene chloride     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       trans-1,2-Dichloroethene     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Methyl tert-butyl ether (MTBE)     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       1,1-Dichloroethane     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       2,2-Dichloroptopane     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       cis-1,2-Dichloroethene     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       cis-1,2-Dichloroethane (TCA)     ND	Chloromethane	ND	1.00		µg/L	1	8/29/2014 12:54:00 AM
Bromomethane     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Trichlorofluoromethane (CFC-11)     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Chloroethane     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       1,1-Dichloroethene     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Methylene chloride     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       trans-1,2-Dichloroethene     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       trans-1,2-Dichloroethene     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       trans-1,2-Dichloroethene     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       1,1-Dichloroethane     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       cis-1,2-Dichloroethene     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       cis-1,2-Dichloroethane (TCA)     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       1,1,1-Trichloroethane (TCA) <t< td=""><td>Vinyl chloride</td><td>ND</td><td>0.200</td><td></td><td>µg/L</td><td>1</td><td>8/29/2014 12:54:00 AM</td></t<>	Vinyl chloride	ND	0.200		µg/L	1	8/29/2014 12:54:00 AM
Trichlorofluoromethane (CFC-11)     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Chloroethane     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       1,1-Dichloroethene     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Methylene chloride     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       trans-1,2-Dichloroethene     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Methylene chloride     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       trans-1,2-Dichloroethene     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Methyl tert-butyl ether (MTBE)     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       2,2-Dichloroethane     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       cis-1,2-Dichloroethene     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Chloroform     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       1,1,1-Trichloroethane (TCA)     ND </td <td>Bromomethane</td> <td>ND</td> <td>1.00</td> <td></td> <td>µg/L</td> <td>1</td> <td>8/29/2014 12:54:00 AM</td>	Bromomethane	ND	1.00		µg/L	1	8/29/2014 12:54:00 AM
ChloroethaneND1.00µg/L18/29/2014 12:54:00 AM1,1-DichloroetheneND1.00µg/L18/29/2014 12:54:00 AMMethylene chlorideND1.00µg/L18/29/2014 12:54:00 AMtrans-1,2-DichloroetheneND1.00µg/L18/29/2014 12:54:00 AMMethyl tert-butyl ether (MTBE)ND1.00µg/L18/29/2014 12:54:00 AM1,1-DichloroethaneND1.00µg/L18/29/2014 12:54:00 AM2,2-DichloroethaneND1.00µg/L18/29/2014 12:54:00 AM2,2-DichloroethaneND1.00µg/L18/29/2014 12:54:00 AMcis-1,2-DichloroethaneND1.00µg/L18/29/2014 12:54:00 AMcis-1,2-DichloroethaneND1.00µg/L18/29/2014 12:54:00 AMchloroformND1.00µg/L18/29/2014 12:54:00 AM1,1,1-Trichloroethane (TCA)ND1.00µg/L18/29/2014 12:54:00 AM1,1-DichloropropeneND1.00µg/L18/29/2014 12:54:00 AM1,2-Dichloroethane (EDC)ND1.00µg/L18/29/2014 12:54:00 AM1,2-Dichloroethane (EDC)ND1.00µg/L18/29/2014 12:54:00 AM1,2-Dichloroethane (EDC)ND1.00µg/L18/29/2014 12:54:00 AMBenzeneND1.00µg/L18/29/2014 12:54:00 AMTrichloroethene (TCE)ND0.500µg/L18/	Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	8/29/2014 12:54:00 AM
1,1-DichloroetheneND1.00µg/L18/29/2014 12:54:00 AMMethylene chlorideND1.00µg/L18/29/2014 12:54:00 AMtrans-1,2-DichloroetheneND1.00µg/L18/29/2014 12:54:00 AMMethyl tert-butyl ether (MTBE)ND1.00µg/L18/29/2014 12:54:00 AM1,1-DichloroethaneND1.00µg/L18/29/2014 12:54:00 AM2,2-DichloropropaneND1.00µg/L18/29/2014 12:54:00 AMcis-1,2-DichloroethaneND1.00µg/L18/29/2014 12:54:00 AMChloroformND1.00µg/L18/29/2014 12:54:00 AM1,1,1-Trichloroethane (TCA)ND1.00µg/L18/29/2014 12:54:00 AM1,1-DichloropropaneND1.00µg/L18/29/2014 12:54:00 AM1,1,1-Trichloroethane (TCA)ND1.00µg/L18/29/2014 12:54:00 AM1,1-DichloropropaneND1.00µg/L18/29/2014 12:54:00 AM1,1-DichloropropaneND1.00µg/L18/29/2014 12:54:00 AM1,1-DichloropropaneND1.00µg/L18/29/2014 12:54:00 AM1,1-DichloropropaneND1.00µg/L18/29/2014 12:54:00 AM1,2-DichloropropaneND1.00µg/L18/29/2014 12:54:00 AM1,2-Dichloroethane (EDC)ND1.00µg/L18/29/2014 12:54:00 AMBenzeneND1.00µg/L18	Chloroethane	ND	1.00		µg/L	1	8/29/2014 12:54:00 AM
Methylene chlorideND1.00µg/L18/29/2014 12:54:00 AMtrans-1,2-DichloroetheneND1.00µg/L18/29/2014 12:54:00 AMMethyl tert-butyl ether (MTBE)ND1.00µg/L18/29/2014 12:54:00 AM1,1-DichloroethaneND1.00µg/L18/29/2014 12:54:00 AM2,2-DichloropropaneND2.00µg/L18/29/2014 12:54:00 AMcis-1,2-DichloroetheneND1.00µg/L18/29/2014 12:54:00 AMChloroformND1.00µg/L18/29/2014 12:54:00 AM1,1,1-Trichloroethane (TCA)ND1.00µg/L18/29/2014 12:54:00 AM1,1-DichloropropaneND1.00µg/L18/29/2014 12:54:00 AM1,1,1-Trichloroethane (TCA)ND1.00µg/L18/29/2014 12:54:00 AM1,2-DichloropropeneND1.00µg/L18/29/2014 12:54:00 AM1,2-Dichloroethane (EDC)ND1.00µg/L18/29/2014 12:54:00 AMBenzeneND1.00µg/L18/29/2014 12:54:00 AMTrichloroethene (TCE)ND0.500µg/L18/29/2014 12:54:00 AM	1,1-Dichloroethene	ND	1.00		µg/L	1	8/29/2014 12:54:00 AM
trans-1,2-DichloroetheneND1.00µg/L18/29/2014 12:54:00 AMMethyl tert-butyl ether (MTBE)ND1.00µg/L18/29/2014 12:54:00 AM1,1-DichloroethaneND1.00µg/L18/29/2014 12:54:00 AM2,2-DichloropropaneND2.00µg/L18/29/2014 12:54:00 AMcis-1,2-DichloroetheneND1.00µg/L18/29/2014 12:54:00 AMChloroformND1.00µg/L18/29/2014 12:54:00 AM1,1,1-Trichloroethane (TCA)ND1.00µg/L18/29/2014 12:54:00 AM1,1-DichloropropeneND1.00µg/L18/29/2014 12:54:00 AM1,1,1-Trichloroethane (TCA)ND1.00µg/L18/29/2014 12:54:00 AM1,2-DichloropropeneND1.00µg/L18/29/2014 12:54:00 AM1,2-Dichloroethane (EDC)ND1.00µg/L18/29/2014 12:54:00 AMBenzeneND1.00µg/L18/29/2014 12:54:00 AMTrichloroethene (TCE)ND0.500µg/L18/29/2014 12:54:00 AM	Methylene chloride	ND	1.00		µg/L	1	8/29/2014 12:54:00 AM
Methyl tert-butyl ether (MTBE)ND1.00µg/L18/29/2014 12:54:00 AM1,1-DichloroethaneND1.00µg/L18/29/2014 12:54:00 AM2,2-DichloropropaneND2.00µg/L18/29/2014 12:54:00 AMcis-1,2-DichloroetheneND1.00µg/L18/29/2014 12:54:00 AMChloroformND1.00µg/L18/29/2014 12:54:00 AM1,1,1-Trichloroethane (TCA)ND1.00µg/L18/29/2014 12:54:00 AM1,1-DichloropropeneND1.00µg/L18/29/2014 12:54:00 AM1,2-Dichloroethane (EDC)ND1.00µg/L18/29/2014 12:54:00 AM1,2-Dichloroethane (TCE)ND1.00µg/L18/29/2014 12:54:00 AM	trans-1,2-Dichloroethene	ND	1.00		µg/L	1	8/29/2014 12:54:00 AM
1,1-DichloroethaneND1.00µg/L18/29/2014 12:54:00 AM2,2-DichloropropaneND2.00µg/L18/29/2014 12:54:00 AMcis-1,2-DichloroetheneND1.00µg/L18/29/2014 12:54:00 AMChloroformND1.00µg/L18/29/2014 12:54:00 AM1,1,1-Trichloroethane (TCA)ND1.00µg/L18/29/2014 12:54:00 AM1,1-DichloropropeneND1.00µg/L18/29/2014 12:54:00 AM1,2-Dichloroethane (EDC)ND1.00µg/L18/29/2014 12:54:00 AM1,2-Dichloroethane (TCE)ND1.00µg/L18/29/2014 12:54:00 AM	Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	8/29/2014 12:54:00 AM
2,2-DichloropropaneND2.00µg/L18/29/2014 12:54:00 AMcis-1,2-DichloroetheneND1.00µg/L18/29/2014 12:54:00 AMChloroformND1.00µg/L18/29/2014 12:54:00 AM1,1,1-Trichloroethane (TCA)ND1.00µg/L18/29/2014 12:54:00 AM1,1-DichloropropeneND1.00µg/L18/29/2014 12:54:00 AM1,2-Dichloroethane (EDC)ND1.00µg/L18/29/2014 12:54:00 AM1,2-Dichloroethane (EDC)ND1.00µg/L18/29/2014 12:54:00 AMBenzeneND1.00µg/L18/29/2014 12:54:00 AMTrichloroethene (TCE)ND0.500µg/L18/29/2014 12:54:00 AM	1,1-Dichloroethane	ND	1.00		µg/L	1	8/29/2014 12:54:00 AM
cis-1,2-DichloroetheneND1.00µg/L18/29/2014 12:54:00 AMChloroformND1.00µg/L18/29/2014 12:54:00 AM1,1,1-Trichloroethane (TCA)ND1.00µg/L18/29/2014 12:54:00 AM1,1-DichloropropeneND1.00µg/L18/29/2014 12:54:00 AMCarbon tetrachlorideND1.00µg/L18/29/2014 12:54:00 AM1,2-Dichloroethane (EDC)ND1.00µg/L18/29/2014 12:54:00 AMBenzeneND1.00µg/L18/29/2014 12:54:00 AMTrichloroethene (TCE)ND0.500µg/L18/29/2014 12:54:00 AM	2,2-Dichloropropane	ND	2.00		µg/L	1	8/29/2014 12:54:00 AM
ChloroformND1.00μg/L18/29/2014 12:54:00 AM1,1,1-Trichloroethane (TCA)ND1.00μg/L18/29/2014 12:54:00 AM1,1-DichloropropeneND1.00μg/L18/29/2014 12:54:00 AMCarbon tetrachlorideND1.00μg/L18/29/2014 12:54:00 AM1,2-Dichloroethane (EDC)ND1.00μg/L18/29/2014 12:54:00 AMBenzeneND1.00μg/L18/29/2014 12:54:00 AMTrichloroethene (TCE)ND0.500μg/L18/29/2014 12:54:00 AM	cis-1,2-Dichloroethene	ND	1.00		µg/L	1	8/29/2014 12:54:00 AM
1,1,1-Trichloroethane (TCA)ND1.00µg/L18/29/2014 12:54:00 AM1,1-DichloropropeneND1.00µg/L18/29/2014 12:54:00 AMCarbon tetrachlorideND1.00µg/L18/29/2014 12:54:00 AM1,2-Dichloroethane (EDC)ND1.00µg/L18/29/2014 12:54:00 AMBenzeneND1.00µg/L18/29/2014 12:54:00 AMTrichloroethene (TCE)ND0.500µg/L18/29/2014 12:54:00 AM	Chloroform	ND	1.00		µg/L	1	8/29/2014 12:54:00 AM
1,1-Dichloropropene     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Carbon tetrachloride     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       1,2-Dichloroethane (EDC)     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Benzene     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Trichloroethene (TCE)     ND     0.500     µg/L     1     8/29/2014 12:54:00 AM	1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	8/29/2014 12:54:00 AM
Carbon tetrachloride     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       1,2-Dichloroethane (EDC)     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Benzene     ND     1.00     µg/L     1     8/29/2014 12:54:00 AM       Trichloroethene (TCE)     ND     0.500     µg/L     1     8/29/2014 12:54:00 AM	1,1-Dichloropropene	ND	1.00		µg/L	1	8/29/2014 12:54:00 AM
1,2-Dichloroethane (EDC)ND1.00μg/L18/29/2014 12:54:00 AMBenzeneND1.00μg/L18/29/2014 12:54:00 AMTrichloroethene (TCE)ND0.500μg/L18/29/2014 12:54:00 AM	Carbon tetrachloride	ND	1.00		µg/L	1	8/29/2014 12:54:00 AM
Benzene     ND     1.00     μg/L     1     8/29/2014 12:54:00 AM       Trichloroethene (TCE)     ND     0.500     μg/L     1     8/29/2014 12:54:00 AM	1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	8/29/2014 12:54:00 AM
Trichloroethene (TCE) ND 0.500 µg/L 1 8/29/2014 12:54:00 AM	Benzene	ND	1.00		µg/L	1	8/29/2014 12:54:00 AM
	Trichloroethene (TCE)	ND	0.500		µg/L	1	8/29/2014 12:54:00 AM

Qualifiers: B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

RL Reporting Limit

D Dilution was required

H Holding times for preparation or analysis exceeded

ND Not detected at the Reporting Limit



WO#: **1408261** Date Reported: **9/5/2014** 

ient: Migizi Group, Inc. Collection Date: 8/27/2014				14			
Project: Meeker Square							
Lab ID: 1408261-004	Matrix: Water						
Client Sample ID: OW-1							
Analyses	Result	RI	Qual	Units	DF	Da	te Analyzed
	nooun		quai	•		24	
Volatile Organic Compounds I	by EPA Method 8	<u>3260</u>		Bato	h ID: R1	6477	Analyst: BC
1,2-Dichloropropane	ND	1.00		µg/L	1	8/29/	2014 12:54:00 AM
Bromodichloromethane	ND	1.00		μg/L	1	8/29/	2014 12:54:00 AM
Dibromomethane	ND	1.00		µg/L	1	8/29/	2014 12:54:00 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	8/29/	2014 12:54:00 AM
Toluene	ND	1.00		µg/L	1	8/29/	2014 12:54:00 AM
trans-1,3-Dichloropropene	ND	1.00		μg/L	1	8/29/	2014 12:54:00 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	8/29/	2014 12:54:00 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	8/29/	2014 12:54:00 AM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	8/29/	2014 12:54:00 AM
Dibromochloromethane	ND	1.00		µg/L	1	8/29/	2014 12:54:00 AM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	8/29/	2014 12:54:00 AM
Chlorobenzene	ND	1.00		µg/L	1	8/29/	2014 12:54:00 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	8/29/	2014 12:54:00 AM
Ethylbenzene	ND	1.00		µg/L	1	8/29/	2014 12:54:00 AM
m,p-Xylene	ND	1.00		µg/L	1	8/29/	2014 12:54:00 AM
o-Xylene	ND	1.00		µg/L	1	8/29/	2014 12:54:00 AM
Styrene	ND	1.00		µg/L	1	8/29/	2014 12:54:00 AM
Isopropylbenzene	ND	1.00		µg/L	1	8/29/	2014 12:54:00 AM
Bromoform	ND	1.00		µg/L	1	8/29/	2014 12:54:00 AM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	8/29/	2014 12:54:00 AM
n-Propylbenzene	ND	1.00		µg/L	1	8/29/	2014 12:54:00 AM
Bromobenzene	ND	1.00		µg/L	1	8/29/	2014 12:54:00 AM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	8/29/	2014 12:54:00 AM
2-Chlorotoluene	ND	1.00		µg/L	1	8/29/	2014 12:54:00 AM
4-Chlorotoluene	ND	1.00		µg/L	1	8/29/	2014 12:54:00 AM
tert-Butylbenzene	ND	1.00		µg/L	1	8/29/	2014 12:54:00 AM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	8/29/	2014 12:54:00 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	8/29/	2014 12:54:00 AM
sec-Butylbenzene	ND	1.00		µg/L	1	8/29/	2014 12:54:00 AM
4-Isopropyltoluene	ND	1.00		µg/L	1	8/29/	2014 12:54:00 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	8/29/	2014 12:54:00 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	8/29/	2014 12:54:00 AM
n-Butylbenzene	ND	1.00		µg/L	1	8/29/	2014 12:54:00 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	8/29/	2014 12:54:00 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	8/29/	2014 12:54:00 AM

Qualifiers: B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

RL Reporting Limit

D Dilution was required

H Holding times for preparation or analysis exceeded

ND Not detected at the Reporting Limit



WO#: **1408261** Date Reported: **9/5/2014** 

Client: Migizi Group, Inc.	Collection Date: 8/27/2014					
Lab ID: 1408261-004				Matrix: W	/ater	
Client Sample ID: OW-1				•	ator	
Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by E	PA Method	<u>8260</u>		Batc	h ID: R164	77 Analyst: BC
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	8/29/2014 12:54:00 AM
Hexachlorobutadiene	ND	4.00		µg/L	1	8/29/2014 12:54:00 AM
Naphthalene	ND	1.00		µg/L	1	8/29/2014 12:54:00 AM
1,2,3-Trichlorobenzene	ND	4.00	*	µg/L	1	8/29/2014 12:54:00 AM
Surr: Dibromofluoromethane	106	61.7-130		%REC	1	8/29/2014 12:54:00 AM
Surr: Toluene-d8	98.6	40.1-139		%REC	1	8/29/2014 12:54:00 AM
Surr: 1-Bromo-4-fluorobenzene	97.2	68.2-127		%REC	1	8/29/2014 12:54:00 AM
NOTES:						
* - Flagged value is not within established co	ntrol limits.					
Mercury by EPA Method 245.1				Batc	h ID: 8573	Analyst: MW
Mercury	ND	0.100		µg/L	1	8/29/2014 1:59:43 PM
Total Metals by EPA Method 200.8	<u> </u>			Batc	h ID: 8553	Analyst: TN
Arsenic	4.14	1.00		µg/L	1	8/28/2014 3:31:14 PM
Barium	18.3	0.500		µg/L	1	8/28/2014 3:31:14 PM
Cadmium	ND	0.200		µg/L	1	8/28/2014 3:31:14 PM
Chromium	1.74	0.500		µg/L	1	8/28/2014 3:31:14 PM
Lead	ND	1.00		µg/L	1	8/28/2014 3:31:14 PM
Selenium	ND	1.00		µg/L	1	8/28/2014 3:31:14 PM
Silver	ND	0.200		µg/L	1	8/28/2014 3:31:14 PM

Qualifiers:	В	Analyte detected in the associated Method Blank
	_	

E Value above quantitation range

J Analyte detected below quantitation limits

RL Reporting Limit

- D Dilution was required
- H Holding times for preparation or analysis exceeded

ND Not detected at the Reporting Limit



WO#: **1408261** Date Reported: **9/5/2014** 

Client: Migizi Group, Inc.	Collection Date: 8/27/2014						
Project: Meeker Square							
Lab ID: 1408261-005				Matrix: W	/ater		
Client Sample ID: OW-2							
Analyses	Result	RL	Qual	Units	DF	Date Analyzed	
Diesel and Heavy Oil by NWTF	<u>PH-Dx/Dx Ext.</u>			Bato	n ID: 8557	Analyst: EC	
Diesel (Fuel Oil)	ND	50.0		μg/L	1	9/2/2014 11:36:00 PM	
Heavy Oil	ND	100		µg/L	1	9/2/2014 11:36:00 PM	
Surr: 2-Fluorobiphenyl	66.6	50-150		%REC	1	9/2/2014 11:36:00 PM	
Surr: o-Terphenyl	79.7	50-150		%REC	1	9/2/2014 11:36:00 PM	
Semi-Volatile Organic Compo	unds by EPA Me	<u>thod 8270</u>		Bato	h ID: 8554	Analyst: MD	
Phenol	ND	2 00		ua/l	1	9/2/2014 6·04·00 PM	
2-Chlorophenol	ND	1.00		µg/⊑ ua/l	1	9/2/2014 6:04:00 PM	
1 3-Dichlorobenzene	ND	1.00		µg/⊑ ua/l	1	9/2/2014 6:04:00 PM	
1 4-Dichlorobenzene	ND	1.00		µg/=	1	9/2/2014 6:04:00 PM	
1.2-Dichlorobenzene	ND	1.00		ua/l	1	9/2/2014 6:04:00 PM	
Benzyl alcohol	ND	1.00		µg/=	1	9/2/2014 6:04:00 PM	
Bis(2-chloroethyl) ether	ND	2.00		ua/L	1	9/2/2014 6:04:00 PM	
2-Methylphenol (o-cresol)	ND	1.00		ua/L	1	9/2/2014 6:04:00 PM	
Hexachloroethane	ND	1.00		ua/L	1	9/2/2014 6:04:00 PM	
N-Nitrosodi-n-propylamine	ND	1.00		µg/L	1	9/2/2014 6:04:00 PM	
Nitrobenzene	ND	2.00		ua/L	1	9/2/2014 6:04:00 PM	
Isophorone	ND	1.00		ua/L	1	9/2/2014 6:04:00 PM	
4-Methylphenol (p-cresol)	ND	1.00		ua/L	1	9/2/2014 6:04:00 PM	
2-Nitrophenol	ND	2.00		ua/L	1	9/2/2014 6:04:00 PM	
2.4-Dimethylphenol	ND	1.00		ua/L	1	9/2/2014 6:04:00 PM	
Bis(2-chloroethoxy)methane	ND	1.00		ua/L	1	9/2/2014 6:04:00 PM	
2,4-Dichlorophenol	ND	2.00		µg/L	1	9/2/2014 6:04:00 PM	
1,2,4-Trichlorobenzene	ND	1.00		µg/L	1	9/2/2014 6:04:00 PM	
Naphthalene	ND	0.500		µg/L	1	9/2/2014 6:04:00 PM	
4-Chloroaniline	ND	5.00		µg/L	1	9/2/2014 6:04:00 PM	
Hexachlorobutadiene	ND	1.00		μg/L	1	9/2/2014 6:04:00 PM	
4-Chloro-3-methylphenol	ND	5.00		μg/L	1	9/2/2014 6:04:00 PM	
2-Methylnaphthalene	ND	0.500		µg/L	1	9/2/2014 6:04:00 PM	
1-Methylnaphthalene	ND	0.500		µg/L	1	9/2/2014 6:04:00 PM	
Hexachlorocyclopentadiene	ND	1.00		µg/L	1	9/2/2014 6:04:00 PM	
2,4,6-Trichlorophenol	ND	2.00		µg/L	1	9/2/2014 6:04:00 PM	
2,4,5-Trichlorophenol	ND	2.00		µg/L	1	9/2/2014 6:04:00 PM	
2-Chloronaphthalene	ND	1.00		µg/L	1	9/2/2014 6:04:00 PM	

Qualifiers: B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

RL Reporting Limit

D Dilution was required

H Holding times for preparation or analysis exceeded

ND Not detected at the Reporting Limit



WO#: **1408261** Date Reported: **9/5/2014** 

Client: Migizi Group, Inc.				Collectior	n Date: 8	8/27/2014
Project: Meeker Square						
Lab ID: 1408261-005	Matrix: Water					
Client Sample ID: OW-2						
Analyses	Result	RL	Qual	Units	DF	Date Analvzed
- ,			•			
Semi-Volatile Organic Compo	unds by EPA Me	thod 8270		Bato	ch ID: 855	4 Analyst: MD
2-Nitroaniline	ND	5.00		µg/L	1	9/2/2014 6:04:00 PM
Acenaphthene	ND	0.500		µg/L	1	9/2/2014 6:04:00 PM
Dimethylphthalate	ND	1.00		µg/L	1	9/2/2014 6:04:00 PM
2,6-Dinitrotoluene	ND	1.00		µg/L	1	9/2/2014 6:04:00 PM
Acenaphthylene	ND	0.500		µg/L	1	9/2/2014 6:04:00 PM
2,4-Dinitrophenol	ND	2.00		µg/L	1	9/2/2014 6:04:00 PM
Dibenzofuran	ND	1.00		µg/L	1	9/2/2014 6:04:00 PM
2,4-Dinitrotoluene	ND	1.00		µg/L	1	9/2/2014 6:04:00 PM
4-Nitrophenol	ND	5.00		µg/L	1	9/2/2014 6:04:00 PM
Fluorene	ND	0.500		µg/L	1	9/2/2014 6:04:00 PM
4-Chlorophenyl phenyl ether	ND	1.00		µg/L	1	9/2/2014 6:04:00 PM
Diethylphthalate	ND	1.00		µg/L	1	9/2/2014 6:04:00 PM
4,6-Dinitro-2-methylphenol	ND	5.00		µg/L	1	9/2/2014 6:04:00 PM
4-Bromophenyl phenyl ether	ND	1.00		µg/L	1	9/2/2014 6:04:00 PM
Hexachlorobenzene	ND	1.00		µg/L	1	9/2/2014 6:04:00 PM
Pentachlorophenol	ND	2.00		µg/L	1	9/2/2014 6:04:00 PM
Phenanthrene	ND	0.500		µg/L	1	9/2/2014 6:04:00 PM
Anthracene	ND	0.500		µg/L	1	9/2/2014 6:04:00 PM
Carbazole	ND	5.00		µg/L	1	9/2/2014 6:04:00 PM
Di-n-butyl phthalate	ND	1.00		µg/L	1	9/2/2014 6:04:00 PM
Fluoranthene	ND	0.500		µg/L	1	9/2/2014 6:04:00 PM
Pyrene	ND	0.500		µg/L	1	9/2/2014 6:04:00 PM
Benzyl Butylphthalate	ND	1.00		µg/L	1	9/2/2014 6:04:00 PM
bis(2-Ethylhexyl)adipate	ND	1.00		µg/L	1	9/2/2014 6:04:00 PM
Benz[a]anthracene	ND	0.500		µg/L	1	9/2/2014 6:04:00 PM
Chrysene	ND	0.500		µg/L	1	9/2/2014 6:04:00 PM
Bis(2-ethylhexyl) phthalate	ND	1.00		µg/L	1	9/2/2014 6:04:00 PM
Di-n-octyl phthalate	ND	1.00		µg/L	1	9/2/2014 6:04:00 PM
Benzo (b) fluoranthene	ND	0.500		µg/L	1	9/2/2014 6:04:00 PM
Benzo (k) fluoranthene	ND	0.500		µg/L	1	9/2/2014 6:04:00 PM
Benzo[a]pyrene	ND	0.500		µg/L	1	9/2/2014 6:04:00 PM
Indeno (1,2,3-cd) pyrene	ND	0.500		µg/L	1	9/2/2014 6:04:00 PM
Dibenzo (a,h) anthracene	ND	0.500		µg/L	1	9/2/2014 6:04:00 PM
Benzo (g,h,l) perylene	ND	0.500		µg/L	1	9/2/2014 6:04:00 PM
Surr: 2,4,6-Tribromophenol	53.6	18-139		%REC	1	9/2/2014 6:04:00 PM

Qualifiers: B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

RL Reporting Limit

D Dilution was required

H Holding times for preparation or analysis exceeded

ND Not detected at the Reporting Limit



WO#: **1408261** Date Reported: **9/5/2014** 

Client: Migizi Group, Inc.	Collection Date: 8/27/2014					
Project: Meeker Square						
Lab ID: 1408261-005				Matrix: W	/ater	
Client Sample ID: OW-2						
Analyses	Result	RL	Qual	Units	DF	Date Analyzed
						,
Semi-Volatile Organic Compour	nds by EPA Me	ethod 8270		Bato	h ID: 85	54 Analyst: MD
Surr: 2-Fluorobiphenyl	83.6	23.3-118		%REC	1	9/2/2014 6:04:00 PM
Surr: Nitrobenzene-d5	93.5	21.9-139		%REC	1	9/2/2014 6:04:00 PM
Surr: Phenol-d6	10.3	10-103		%REC	1	9/2/2014 6:04:00 PM
Surr: p-Terphenyl	126	41.3-140		%REC	1	9/2/2014 6:04:00 PM
Gasoline by NWTPH-Gx				Bato	h ID: R1	6482 Analyst: BC
Gasoline	ND	50.0		ua/L	1	8/29/2014 1:22:00 AM
Surr: Toluene-d8	97.0	65-135		%REC	1	8/29/2014 1:22:00 AM
Surr: 4-Bromofluorobenzene	104	65-135		%REC	1	8/29/2014 1:22:00 AM
Volatile Organic Compounds by	VEPA Method	<u>8260</u>		Bato	h ID: R1	6477 Analyst: BC
Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	8/29/2014 1:22:00 AM
Chloromethane	ND	1.00		µg/L	1	8/29/2014 1:22:00 AM
Vinyl chloride	ND	0.200		µg/L	1	8/29/2014 1:22:00 AM
Bromomethane	ND	1.00		µg/L	1	8/29/2014 1:22:00 AM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	8/29/2014 1:22:00 AM
Chloroethane	ND	1.00		µg/L	1	8/29/2014 1:22:00 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	8/29/2014 1:22:00 AM
Methylene chloride	ND	1.00		µg/L	1	8/29/2014 1:22:00 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	8/29/2014 1:22:00 AM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	8/29/2014 1:22:00 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	8/29/2014 1:22:00 AM
2,2-Dichloropropane	ND	2.00		µg/L	1	8/29/2014 1:22:00 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	8/29/2014 1:22:00 AM
Chloroform	ND	1.00		µg/L	1	8/29/2014 1:22:00 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	8/29/2014 1:22:00 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	8/29/2014 1:22:00 AM
Carbon tetrachloride	ND	1.00		µg/L	1	8/29/2014 1:22:00 AM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	8/29/2014 1:22:00 AM
Benzene	ND	1.00		µg/L	1	8/29/2014 1:22:00 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	8/29/2014 1:22:00 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	8/29/2014 1:22:00 AM
Bromodichloromethane	ND	1.00		µg/L	1	8/29/2014 1:22:00 AM

Qualifiers: B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

RL Reporting Limit

D Dilution was required

H Holding times for preparation or analysis exceeded

ND Not detected at the Reporting Limit



WO#: **1408261** Date Reported: **9/5/2014** 

Client: Migizi Group, Inc.	Collection Date: 8/27/2014						
Project: Meeker Square							
Lab ID: 1408261-005	Matrix: Water						
Client Sample ID: OW-2							
Analyses	Result	RL	Qual	Units	DF	Date Analyze	∍d
Volatile Organic Compounds I	by EPA Method 8	<u>3260</u>		Bato	h ID: R1	6477 Analyst:	BC
Dibromomethane	ND	1.00		µg/L	1	8/29/2014 1:22:00	AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	8/29/2014 1:22:00	AM
Toluene	ND	1.00		µg/L	1	8/29/2014 1:22:00	AM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	8/29/2014 1:22:00	AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	8/29/2014 1:22:00	AM
1,3-Dichloropropane	ND	1.00		µg/L	1	8/29/2014 1:22:00	AM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	8/29/2014 1:22:00	AM
Dibromochloromethane	ND	1.00		µg/L	1	8/29/2014 1:22:00	AM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	8/29/2014 1:22:00	AM
Chlorobenzene	ND	1.00		µg/L	1	8/29/2014 1:22:00	AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	8/29/2014 1:22:00	AM
Ethylbenzene	ND	1.00		µg/L	1	8/29/2014 1:22:00	AM
m,p-Xylene	ND	1.00		µg/L	1	8/29/2014 1:22:00	AM
o-Xylene	ND	1.00		µg/L	1	8/29/2014 1:22:00	AM
Styrene	ND	1.00		µg/L	1	8/29/2014 1:22:00	AM
Isopropylbenzene	ND	1.00		µg/L	1	8/29/2014 1:22:00	AM
Bromoform	ND	1.00		µg/L	1	8/29/2014 1:22:00	AM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	8/29/2014 1:22:00	AM
n-Propylbenzene	ND	1.00		µg/L	1	8/29/2014 1:22:00	AM
Bromobenzene	ND	1.00		µg/L	1	8/29/2014 1:22:00	AM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	8/29/2014 1:22:00	AM
2-Chlorotoluene	ND	1.00		µg/L	1	8/29/2014 1:22:00	AM
4-Chlorotoluene	ND	1.00		µg/L	1	8/29/2014 1:22:00	AM
tert-Butylbenzene	ND	1.00		µg/L	1	8/29/2014 1:22:00	AM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	8/29/2014 1:22:00	AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	8/29/2014 1:22:00	AM
sec-Butylbenzene	ND	1.00		µg/L	1	8/29/2014 1:22:00	AM
4-Isopropyltoluene	ND	1.00		µg/L	1	8/29/2014 1:22:00	AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	8/29/2014 1:22:00	AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	8/29/2014 1:22:00	AM
n-Butylbenzene	ND	1.00		µg/L	1	8/29/2014 1:22:00	AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	8/29/2014 1:22:00	AM
1,2-Dibromo-3-chloropropane	ND	1.00		μg/L	1	8/29/2014 1:22:00	AM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	8/29/2014 1:22:00	AM
Hexachlorobutadiene	ND	4.00		μα/L	1	8/29/2014 1:22:00	AM

Qualifiers: B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

RL Reporting Limit

D Dilution was required

H Holding times for preparation or analysis exceeded

ND Not detected at the Reporting Limit



WO#: **1408261** Date Reported: **9/5/2014** 

Client: Migizi Group, Inc.			(	Collectior	Date:	8/27/2014
Project: Meeker Square						
Lab ID: 1408261-005				Matrix: W	ater	
Client Sample ID: OW-2						
Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by	EPA Method	<u>8260</u>		Batc	h ID: R	16477 Analyst: BC
Naphthalene	ND	1.00		µg/L	1	8/29/2014 1:22:00 AM
1,2,3-Trichlorobenzene	ND	4.00	*	µg/L	1	8/29/2014 1:22:00 AM
Surr: Dibromofluoromethane	103	61.7-130		%REC	1	8/29/2014 1:22:00 AM
Surr: Toluene-d8	97.6	40.1-139		%REC	1	8/29/2014 1:22:00 AM
Surr: 1-Bromo-4-fluorobenzene	103	68.2-127		%REC	1	8/29/2014 1:22:00 AM
NOTES:						
* - Flagged value is not within established	control limits.					
Mercury by EPA Method 245.1				Bato	h ID: 8	573 Analyst: MW
Mercury	ND	0.100		μg/L	1	8/29/2014 2:01:24 PM
Total Metals by EPA Method 200	<u>).8</u>			Bato	h ID: 8	553 Analyst: TN
Arsenic	1.68	1.00		µg/L	1	8/28/2014 3:44:56 PM
Barium	11.1	0.500		µg/L	1	8/28/2014 3:44:56 PM
Cadmium	ND	0.200		µg/L	1	8/28/2014 3:44:56 PM
Chromium	1.15	0.500		µg/L	1	8/28/2014 3:44:56 PM
Lead	ND	1.00		µg/L	1	8/28/2014 3:44:56 PM
Selenium	ND	1.00		µg/L	1	8/28/2014 3:44:56 PM
Silver	ND	0.200		µg/L	1	8/28/2014 3:44:56 PM

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

ND Not detected at the Reporting LimitS Spike recovery outside accepted recovery limits

RL Reporting Limit



WO#: **1408261** Date Reported: **9/5/2014** 

Client: Migizi Group, Inc.			(	Collectior	Date: 8	3/27/2014
Project: Meeker Square Lab ID: 1408261-006			l	Matrix: W	/ater	
Client Sample ID: OW-3						
Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Polychlorinated Biphenyls (PC	B) by EPA 8082			Batc	h ID: 842	22 Analyst: NG
Aroclor 1016	ND	0.200		µg/L	1	9/2/2014 1:46:00 AM
Aroclor 1221	ND	0.200		µg/L	1	9/2/2014 1:46:00 AM
Aroclor 1232	ND	0.200		µg/L	1	9/2/2014 1:46:00 AM
Aroclor 1242	ND	0.200		µg/L	1	9/2/2014 1:46:00 AM
Aroclor 1248	ND	0.200		µg/L	1	9/2/2014 1:46:00 AM
Aroclor 1254	ND	0.200		µg/L	1	9/2/2014 1:46:00 AM
Aroclor 1260	ND	0.200		µg/L	1	9/2/2014 1:46:00 AM
Aroclor 1262	ND	0.200		µg/L	1	9/2/2014 1:46:00 AM
Aroclor 1268	ND	0.200		µg/L	1	9/2/2014 1:46:00 AM
Total PCBs	ND	0.200		µg/L	1	9/2/2014 1:46:00 AM
Surr: Decachlorobiphenyl	137	45.1-140		%REC	1	9/2/2014 1:46:00 AM
Surr: Tetrachloro-m-xylene	151	30.1-116	S	%REC	1	9/2/2014 1:46:00 AM
NOTES:						

S - Surrogate outside recovery limits. Minimum method criterion of one surrogate within established recovery limits was met.

Diesel and Heavy Oil by NWTPH-	iesel and Heavy Oil by NWTPH-Dx/Dx Ext.			Batch ID: 8557		
Diesel (Fuel Oil)	ND	50.0	µg/L	1	9/3/2014 12:07:00 AM	
Diesel Range Organics (C12-C24)	<mark>851</mark>	50.0	µg/L	1	9/3/2014 12:07:00 AM	
Heavy Oil	ND	100	µg/L	1	9/3/2014 12:07:00 AM	
Surr: 2-Fluorobiphenyl	70.7	50-150	%REC	1	9/3/2014 12:07:00 AM	
Surr: o-Terphenyl	73.5	50-150	%REC	1	9/3/2014 12:07:00 AM	
NOTES:						

DRO - Indicates the presence of unresolved compounds eluting from dodecane through tetracosane (C12-C24).

Semi-Volatile Organic Compou	nds by EPA Met	thod 8270	Batch ID: 8554		54 Analyst: MD
Phenol	ND	2.00	µg/L	1	9/2/2014 7:00:00 PM
2-Chlorophenol	ND	1.00	µg/L	1	9/2/2014 7:00:00 PM
1,3-Dichlorobenzene	ND	1.00	µg/L	1	9/2/2014 7:00:00 PM
1,4-Dichlorobenzene	ND	1.00	µg/L	1	9/2/2014 7:00:00 PM
1,2-Dichlorobenzene	ND	1.00	µg/L	1	9/2/2014 7:00:00 PM
Benzyl alcohol	ND	1.00	µg/L	1	9/2/2014 7:00:00 PM
Bis(2-chloroethyl) ether	ND	2.00	µg/L	1	9/2/2014 7:00:00 PM
2-Methylphenol (o-cresol)	ND	1.00	µg/L	1	9/2/2014 7:00:00 PM

**Qualifiers:** B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

RL Reporting Limit

D Dilution was required

H Holding times for preparation or analysis exceeded

ND Not detected at the Reporting Limit



WO#: **1408261** Date Reported: **9/5/2014** 

Client: Migizi Group, Inc.				Collection	n Date: 8	3/27/2014
Project: Meeker Square	<b></b>					
Lab ID: 1408261-006				Matrix: V	Vater	
Client Sample ID: OW-3						
Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Semi-Volatile Organic Compou	unds by EPA Met	hod 8270		Bato	ch ID: 855	54 Analyst: MD
Hexachloroethane	ND	1.00		µg/L	1	9/2/2014 7:00:00 PM
N-Nitrosodi-n-propylamine	ND	1.00		µg/L	1	9/2/2014 7:00:00 PM
Nitrobenzene	ND	2.00		µg/L	1	9/2/2014 7:00:00 PM
Isophorone	ND	1.00		µg/L	1	9/2/2014 7:00:00 PM
4-Methylphenol (p-cresol)	ND	1.00		µg/L	1	9/2/2014 7:00:00 PM
2-Nitrophenol	ND	2.00		μg/L	1	9/2/2014 7:00:00 PM
2,4-Dimethylphenol	ND	1.00		µg/L	1	9/2/2014 7:00:00 PM
Bis(2-chloroethoxy)methane	ND	1.00		µg/L	1	9/2/2014 7:00:00 PM
2,4-Dichlorophenol	ND	2.00		µg/L	1	9/2/2014 7:00:00 PM
1,2,4-Trichlorobenzene	ND	1.00		µg/L	1	9/2/2014 7:00:00 PM
Naphthalene	32.3	0.500		µg/L	1	9/2/2014 7:00:00 PM
4-Chloroaniline	ND	5.00		µg/L	1	9/2/2014 7:00:00 PM
Hexachlorobutadiene	ND	1.00		µg/L	1	9/2/2014 7:00:00 PM
4-Chloro-3-methylphenol	ND	5.00		µg/L	1	9/2/2014 7:00:00 PM
2-Methylnaphthalene	9.22	0.500		µg/L	1	9/2/2014 7:00:00 PM
1-Methylnaphthalene	30.3	0.500		µg/L	1	9/2/2014 7:00:00 PM
Hexachlorocyclopentadiene	ND	1.00		µg/L	1	9/2/2014 7:00:00 PM
2,4,6-Trichlorophenol	ND	2.00		µg/L	1	9/2/2014 7:00:00 PM
2,4,5-Trichlorophenol	ND	2.00		µg/L	1	9/2/2014 7:00:00 PM
2-Chloronaphthalene	ND	1.00		µg/L	1	9/2/2014 7:00:00 PM
2-Nitroaniline	ND	5.00		µg/L	1	9/2/2014 7:00:00 PM
Acenaphthene	ND	0.500		µg/L	1	9/2/2014 7:00:00 PM
Dimethylphthalate	ND	1.00		µg/L	1	9/2/2014 7:00:00 PM
2,6-Dinitrotoluene	ND	1.00		µg/L	1	9/2/2014 7:00:00 PM
Acenaphthylene	ND	0.500		µg/L	1	9/2/2014 7:00:00 PM
2,4-Dinitrophenol	ND	2.00		µg/L	1	9/2/2014 7:00:00 PM
Dibenzofuran	ND	1.00		µg/L	1	9/2/2014 7:00:00 PM
2,4-Dinitrotoluene	ND	1.00		µg/L	1	9/2/2014 7:00:00 PM
4-Nitrophenol	ND	5.00		µg/L	1	9/2/2014 7:00:00 PM
Fluorene	ND	0.500		µg/L	1	9/2/2014 7:00:00 PM
4-Chlorophenyl phenyl ether	ND	1.00		µg/L	1	9/2/2014 7:00:00 PM
Diethylphthalate	ND	1.00		µg/L	1	9/2/2014 7:00:00 PM
4,6-Dinitro-2-methylphenol	ND	5.00		µg/L	1	9/2/2014 7:00:00 PM
4-Bromophenyl phenyl ether	ND	1.00		µg/L	1	9/2/2014 7:00:00 PM
Hexachlorobenzene	ND	1.00		µg/L	1	9/2/2014 7:00:00 PM

Qualifiers: B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

RL Reporting Limit

D Dilution was required

H Holding times for preparation or analysis exceeded

ND Not detected at the Reporting Limit



WO#: **1408261** Date Reported: **9/5/2014** 

Client: Migizi Group, Inc.	Collection Date: 8/27/2014						
Project: Meeker Square							
Lab ID: 1408261-006				Matrix: W	/ater		
Client Sample ID: OW-3							
Analyses	Result	RL	Qual	Units	DF	Date Analyzed	
Sami Valatila Organia Compour		ath and 9270		Boto		54 Applyst: MD	
Semi-volatile Organic Compour	ICS DY EPA NIE	<u>ethod 8270</u>		Dail	II ID. 65	54 Analysi. MD	
Pentachlorophenol	ND	2.00		µg/L	1	9/2/2014 7:00:00 PM	
Phenanthrene	ND	0.500		μg/L	1	9/2/2014 7:00:00 PM	
Anthracene	ND	0.500		μg/L	1	9/2/2014 7:00:00 PM	
Carbazole	ND	5.00		µg/L	1	9/2/2014 7:00:00 PM	
Di-n-butyl phthalate	ND	1.00		µg/L	1	9/2/2014 7:00:00 PM	
Fluoranthene	ND	0.500		µg/L	1	9/2/2014 7:00:00 PM	
Pyrene	ND	0.500		µg/L	1	9/2/2014 7:00:00 PM	
Benzyl Butylphthalate	ND	1.00		µg/L	1	9/2/2014 7:00:00 PM	
bis(2-Ethylhexyl)adipate	ND	1.00		µg/L	1	9/2/2014 7:00:00 PM	
Benz[a]anthracene	ND	0.500		µg/L	1	9/2/2014 7:00:00 PM	
Chrysene	ND	0.500		µg/L	1	9/2/2014 7:00:00 PM	
Bis(2-ethylhexyl) phthalate	ND	1.00		µg/L	1	9/2/2014 7:00:00 PM	
Di-n-octyl phthalate	ND	1.00		µg/L	1	9/2/2014 7:00:00 PM	
Benzo (b) fluoranthene	ND	0.500		µg/L	1	9/2/2014 7:00:00 PM	
Benzo (k) fluoranthene	ND	0.500		µg/L	1	9/2/2014 7:00:00 PM	
Benzo[a]pyrene	ND	0.500		µg/L	1	9/2/2014 7:00:00 PM	
Indeno (1,2,3-cd) pyrene	ND	0.500		µg/L	1	9/2/2014 7:00:00 PM	
Dibenzo (a,h) anthracene	ND	0.500		µg/L	1	9/2/2014 7:00:00 PM	
Benzo (g,h,l) pervlene	ND	0.500		µg/L	1	9/2/2014 7:00:00 PM	
Surr: 2,4,6-Tribromophenol	49.1	18-139		%REC	1	9/2/2014 7:00:00 PM	
Surr: 2-Fluorobiphenyl	81.4	23.3-118		%REC	1	9/2/2014 7:00:00 PM	
Surr: Nitrobenzene-d5	102	21.9-139		%REC	1	9/2/2014 7:00:00 PM	
Surr: Phenol-d6	10.6	10-103		%REC	1	9/2/2014 7:00:00 PM	
Surr: p-Terphenyl	107	41.3-140		%REC	1	9/2/2014 7:00:00 PM	
Gasoline by NWTPH-Gx				Bato	h ID: R1	6482 Analyst: BC	
Gasoline	2,450	500	D	µa/L	10	8/29/2014 12:05:00 PM	
Surr: Toluene-d8	101	65-135		%REC	1	8/29/2014 1:50:00 AM	
Surr: 4-Bromofluorobenzene	101	65-135		%REC	1	8/29/2014 1:50:00 AM	
Volatile Organic Compounds by	EPA Method	<u>8260</u>		Bato	h ID: R1	6477 Analyst: BC	
Dichlorodifluoromethane (CFC-12)	ND	1.00		µa/L	1	8/29/2014 1:50:00 AM	
Chloromethane	ND	1.00		μα/L	1	8/29/2014 1:50:00 AM	
<b>Qualifiers:</b> B Analyte detected in the as	sociated Method B	Iank	ט 	Dilution was re	equired	atta a su a su bata da da da d	
E Value above quantitation	range		H	Holding times	for prepara	ation or analysis exceeded	
J Analyte detected below qu	Jantitation limits		ND	NOT DETECTED a	it the Repo		
RL Reporting Limit			S	Spike recovery	outside a	cepted recovery limits	



WO#: **1408261** Date Reported: **9/5/2014** 

Client: Migizi Group, Inc. Project: Meeker Square	Collection Date: 8/27/2014						
Lab ID: 1408261-006	Matrix: Water						
Client Sample ID: OW-3 Analyses	Result	RL	Qual	Units	DF	Date Analyzed	
Volatile Organic Compounds by	/ EPA Method 8	3260		Bato	h ID: R1	6477 Analyst: BC	
Vinyl chloride	ND	0.200		µg/L	1	8/29/2014 1:50:00 AM	
Bromomethane	ND	1.00		µg/L	1	8/29/2014 1:50:00 AM	
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	8/29/2014 1:50:00 AM	
Chloroethane	ND	1.00		µg/L	1	8/29/2014 1:50:00 AM	
1,1-Dichloroethene	ND	1.00		µg/L	1	8/29/2014 1:50:00 AM	
Methylene chloride	ND	1.00		µg/L	1	8/29/2014 1:50:00 AM	
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	8/29/2014 1:50:00 AM	
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	8/29/2014 1:50:00 AM	
1,1-Dichloroethane	ND	1.00		µg/L	1	8/29/2014 1:50:00 AM	
2,2-Dichloropropane	ND	2.00		µg/L	1	8/29/2014 1:50:00 AM	
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	8/29/2014 1:50:00 AM	
Chloroform	ND	1.00		µg/L	1	8/29/2014 1:50:00 AM	
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	8/29/2014 1:50:00 AM	
1,1-Dichloropropene	ND	1.00		µg/L	1	8/29/2014 1:50:00 AM	
Carbon tetrachloride	ND	1.00		µg/L	1	8/29/2014 1:50:00 AM	
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	8/29/2014 1:50:00 AM	
Benzene	<mark>14.9</mark>	1.00		µg/L	1	8/29/2014 1:50:00 AM	
Trichloroethene (TCE)	ND	0.500		µg/L	1	8/29/2014 1:50:00 AM	
1,2-Dichloropropane	ND	1.00		µg/L	1	8/29/2014 1:50:00 AM	
Bromodichloromethane	ND	1.00		µg/L	1	8/29/2014 1:50:00 AM	
Dibromomethane	ND	1.00		µg/L	1	8/29/2014 1:50:00 AM	
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	8/29/2014 1:50:00 AM	
Toluene	ND	1.00		µg/L	1	8/29/2014 1:50:00 AM	
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	8/29/2014 1:50:00 AM	
1,1,2-Trichloroethane	ND	1.00		µg/L	1	8/29/2014 1:50:00 AM	
1,3-Dichloropropane	ND	1.00		µg/L	1	8/29/2014 1:50:00 AM	
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	8/29/2014 1:50:00 AM	
Dibromochloromethane	ND	1.00		µg/L	1	8/29/2014 1:50:00 AM	
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	8/29/2014 1:50:00 AM	
Chlorobenzene	ND	1.00		µg/L	1	8/29/2014 1:50:00 AM	
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	8/29/2014 1:50:00 AM	
Ethylbenzene	<mark>6.10</mark>	<mark>1.00</mark>		<mark>μg/L</mark>	1	8/29/2014 1:50:00 AM	
m,p-Xylene	<mark>1.39</mark>	1.00		µg/L	1	8/29/2014 1:50:00 AM	
o-Xylene	ND	1.00		µg/L	1	8/29/2014 1:50:00 AM	
Styrene	ND	1.00		µg/L	1	8/29/2014 1:50:00 AM	

Qualifiers: B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

RL Reporting Limit

D Dilution was required

H Holding times for preparation or analysis exceeded

ND Not detected at the Reporting Limit



WO#: **1408261** Date Reported: **9/5/2014** 

Client: Migizi Group, Inc.				Collection	n Date: 8/2	27/2014
Project: Meeker Square						
Lab ID: 1408261-006				Matrix: W	/ater	
Client Sample ID: OW-3				-		
Analyses	Result	RL	Qual	Units	DF	Date Analyzed
						,
Volatile Organic Compounds	by EPA Method	8260		Bato	h ID: R164	77 Analyst: BC
Isopropylbenzene	48.6	10.0	D	µg/L	10	8/29/2014 12:05:00 PM
Bromoform	ND	1.00		µg/L	1	8/29/2014 1:50:00 AM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	8/29/2014 1:50:00 AM
n-Propylbenzene	<mark>.111</mark>	10.0	D	µg/L	10	8/29/2014 12:05:00 PM
Bromobenzene	ND	1.00		µg/L	1	8/29/2014 1:50:00 AM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	8/29/2014 1:50:00 AM
2-Chlorotoluene	ND	1.00		µg/L	1	8/29/2014 1:50:00 AM
4-Chlorotoluene	ND	1.00		µg/L	1	8/29/2014 1:50:00 AM
tert-Butylbenzene	ND	1.00		µg/L	1	8/29/2014 1:50:00 AM
1,2,3-Trichloropropane	<mark>3.94</mark>	1.00		µg/L	1	8/29/2014 1:50:00 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	8/29/2014 1:50:00 AM
sec-Butylbenzene	10.1	1.00		µg/L	1	8/29/2014 1:50:00 AM
4-Isopropyltoluene	ND	1.00		µg/L	1	8/29/2014 1:50:00 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	8/29/2014 1:50:00 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	8/29/2014 1:50:00 AM
n-Butylbenzene	11.6	1.00		µg/L	1	8/29/2014 1:50:00 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	8/29/2014 1:50:00 AM
1,2-Dibromo-3-chloropropane	23.5	1.00		µg/L	1	8/29/2014 1:50:00 AM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	8/29/2014 1:50:00 AM
Hexachlorobutadiene	ND	4.00		µg/L	1	8/29/2014 1:50:00 AM
Naphthalene	<mark>64.8</mark>	1.00		µg/L	1	8/29/2014 1:50:00 AM
1,2,3-Trichlorobenzene	ND	4.00	*	µg/L	1	8/29/2014 1:50:00 AM
Surr: Dibromofluoromethane	103	61.7-130		%REC	1	8/29/2014 1:50:00 AM
Surr: Toluene-d8	97.3	40.1-139		%REC	1	8/29/2014 1:50:00 AM
Surr: 1-Bromo-4-fluorobenzene	99.3	68.2-127		%REC	1	8/29/2014 1:50:00 AM
* - Flagged value is not within establish	ned control limits.					
Mercury by EPA Method 245.1	L			Bato	h ID: 8573	Analyst: MW
Mercury	ND	0.100		µg/L	1	8/29/2014 2:06:30 PM
Total Metals by EPA Method	<u>200.8</u>			Bato	h ID: 8553	Analyst: TN
Arsenic	35.9	1.00		µa/L	1	8/28/2014 3:48:21 PM
				1.0.		
Qualifiers: B Analyte detected in the	e associated Method B	Blank	D	Dilution was re	equired	
E Value above quantitation	on range		Н	Holding times	for preparatio	n or analysis exceeded
J Analyte detected below	v quantitation limits		ND	Not detected a	t the Reportir	ng Limit
RL Reporting Limit			S	Spike recovery	outside acce	pted recovery limits



WO#: **1408261** Date Reported: **9/5/2014** 

Client:	Migizi Group, Inc.			(	Collectior	Date: 8/2	27/2014
Project:	Meeker Square						
Lab ID:	1408261-006				Matrix: M	/ater	
<b>Client Sa</b>	ample ID: OW-3						
Analyses	S	Result	RL	Qual	Units	DF	Date Analyzed
<u>Total M</u>	letals by EPA Method 20	<u>0.8</u> 41 4	0 500		Batc	h ID: 8553	Analyst: TN 8/28/2014 3:48:21 PM
Cadmiur	m	ND	0.200		μg/L	1	8/28/2014 3:48:21 PM
Chromiu	ım	5.37	0.500		µg/L	1	8/28/2014 3:48:21 PM
Lead		1.40	1.00		µg/L	1	8/28/2014 3:48:21 PM
Seleniun	n	ND	1.00		µg/L	1	8/28/2014 3:48:21 PM
Silver		ND	0.200		µg/L	1	8/28/2014 3:48:21 PM

Qualifiers:

В

Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

RL Reporting Limit

- D Dilution was required
- H Holding times for preparation or analysis exceeded

ND Not detected at the Reporting Limit



WO#: **1408261** Date Reported: **9/5/2014** 

Client: Migizi Group, Inc.				Collectior	n Date:	8/25/2014 10:00:00 AM
Project:   Meeker Square     Lab ID:   1408261-007				Matrix: W	/ater	
Client Sample ID: TRIP	Pocult	ы	Qual	Unito	DE	Data Analyzad
Analyses	Result	ĸL	Quai	Units	DF	Date Analyzeu
Volatile Organic Compounds by	/ EPA Method 8	260		Bato	h ID: R1	6477 Analyst: BC
Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	8/28/2014 4:59:00 PM
Chloromethane	ND	1.00		µg/L	1	8/28/2014 4:59:00 PM
Vinyl chloride	ND	0.200		µg/L	1	8/28/2014 4:59:00 PM
Bromomethane	ND	1.00		µg/L	1	8/28/2014 4:59:00 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	8/28/2014 4:59:00 PM
Chloroethane	ND	1.00		µg/L	1	8/28/2014 4:59:00 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	8/28/2014 4:59:00 PM
Methylene chloride	ND	1.00		µg/L	1	8/28/2014 4:59:00 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	8/28/2014 4:59:00 PM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	8/28/2014 4:59:00 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	8/28/2014 4:59:00 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	8/28/2014 4:59:00 PM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	8/28/2014 4:59:00 PM
Chloroform	ND	1.00		µg/L	1	8/28/2014 4:59:00 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	8/28/2014 4:59:00 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	8/28/2014 4:59:00 PM
Carbon tetrachloride	ND	1.00		µg/L	1	8/28/2014 4:59:00 PM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	8/28/2014 4:59:00 PM
Benzene	ND	1.00		µg/L	1	8/28/2014 4:59:00 PM
Trichloroethene (TCE)	ND	0.500		µg/L	1	8/28/2014 4:59:00 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	8/28/2014 4:59:00 PM
Bromodichloromethane	ND	1.00		µg/L	1	8/28/2014 4:59:00 PM
Dibromomethane	ND	1.00		µg/L	1	8/28/2014 4:59:00 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	8/28/2014 4:59:00 PM
Toluene	ND	1.00		µg/L	1	8/28/2014 4:59:00 PM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	8/28/2014 4:59:00 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	8/28/2014 4:59:00 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	8/28/2014 4:59:00 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	8/28/2014 4:59:00 PM
Dibromochloromethane	ND	1.00		µg/L	1	8/28/2014 4:59:00 PM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	8/28/2014 4:59:00 PM
Chlorobenzene	ND	1.00		μg/L	1	8/28/2014 4:59:00 PM
1,1,1,2-Tetrachloroethane	ND	1.00		μg/L	1	8/28/2014 4:59:00 PM
Ethylbenzene	ND	1.00		µg/L	1	8/28/2014 4:59:00 PM
m,p-Xylene	ND	1.00		μg/L	1	8/28/2014 4:59:00 PM

Qualifiers: B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

RL Reporting Limit

D Dilution was required

H Holding times for preparation or analysis exceeded

ND Not detected at the Reporting Limit



WO#: **1408261** Date Reported: **9/5/2014** 

Client: Migizi Group, Inc.			(	Collectior	Date:	8/25/2014 10:00:00 AM
Project: Meeker Square						
Lab ID: 1408261-007				Matrix: W	/ater	
Client Sample ID: TRIP						
Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds b	y EPA Method	<u>8260</u>		Batc	h ID: R1	6477 Analyst: BC
o-Xylene	ND	1.00		µg/L	1	8/28/2014 4:59:00 PM
Styrene	ND	1.00		µg/L	1	8/28/2014 4:59:00 PM
Isopropylbenzene	ND	1.00		µg/L	1	8/28/2014 4:59:00 PM
Bromoform	ND	1.00		µg/L	1	8/28/2014 4:59:00 PM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	8/28/2014 4:59:00 PM
n-Propylbenzene	ND	1.00		µg/L	1	8/28/2014 4:59:00 PM
Bromobenzene	ND	1.00		µg/L	1	8/28/2014 4:59:00 PM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	8/28/2014 4:59:00 PM
2-Chlorotoluene	ND	1.00		µg/L	1	8/28/2014 4:59:00 PM
4-Chlorotoluene	ND	1.00		µg/L	1	8/28/2014 4:59:00 PM
tert-Butylbenzene	ND	1.00		µg/L	1	8/28/2014 4:59:00 PM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	8/28/2014 4:59:00 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	8/28/2014 4:59:00 PM
sec-Butylbenzene	ND	1.00		µg/L	1	8/28/2014 4:59:00 PM
4-Isopropyltoluene	ND	1.00		µg/L	1	8/28/2014 4:59:00 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	8/28/2014 4:59:00 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	8/28/2014 4:59:00 PM
n-Butylbenzene	ND	1.00		µg/L	1	8/28/2014 4:59:00 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	8/28/2014 4:59:00 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	8/28/2014 4:59:00 PM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	8/28/2014 4:59:00 PM
Hexachlorobutadiene	ND	4.00		µg/L	1	8/28/2014 4:59:00 PM
Naphthalene	ND	1.00		µg/L	1	8/28/2014 4:59:00 PM
1,2,3-Trichlorobenzene	ND	4.00	*	µg/L	1	8/28/2014 4:59:00 PM
Surr: Dibromofluoromethane	95.8	61.7-130		%REC	1	8/28/2014 4:59:00 PM
Surr: Toluene-d8	99.0	40.1-139		%REC	1	8/28/2014 4:59:00 PM
Surr: 1-Bromo-4-fluorobenzene	94.8	68.2-127		%REC	1	8/28/2014 4:59:00 PM

#### NOTES:

* - Flagged value is not within established control limits.

 $\label{eq:Qualifiers: B Analyte detected in the associated Method Blank$ 

- E Value above quantitation range
- J Analyte detected below quantitation limits
- RL Reporting Limit

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

Work Order	r: 1	408261										QC S	SUMMA	RY REF	PORT
CLIENT:	N	ligizi Group,	Inc.									Total Met	ale hy FD/	Mothor	200 8
Project:	N	leeker Squa	re												200.0
Sample ID: MB	8-8553		SampType:	MBLK			Units: µg/L		Prep Da	ite: 8/2	28/201	4	RunNo: <b>16</b> 4	172	
Client ID: MB	BLKW		Batch ID:	8553					Analysis Da	ite: 8/2	28/201	4	SeqNo: 331	525	
Analyte			R	lesult	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighL	.imit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic				ND	1.00										
Barium				ND	0.500										
Cadmium				ND	0.200										
Chromium				ND	0.500										
Lead				ND	1.00										
Selenium				ND	1.00										
Silver				ND	0.200										
Sample ID: LCS	S-8553		SampType:	LCS			Units: µg/L		Prep Da	ite: 8/2	28/201	4	RunNo: <b>16</b> 4	172	
Client ID: LCS	sw		Batch ID:	8553					Analysis Da	ite: <b>8/2</b>	28/201	4	SeqNo: 331	1526	
Analyte			R	lesult	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighL	.imit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic				95.4	1.00	100.0	0	95.4	85		115				
Barium				96.2	0.500	100.0	0	96.2	85		115				
Cadmium				4.99	0.200	5.000	0	99.9	85		115				
Chromium				104	0.500	100.0	0	104	85		115				
Lead				50.2	1.00	50.00	0	100	85		115				
Selenium				10.9	1.00	10.00	0	109	85		115				
Silver				4.65	0.200	5.000	0	92.9	85		115				
Sample ID: 140	08261-0	004DDUP	SampType:	DUP			Units: µg/L		Prep Da	ite: 8/2	28/201	4	RunNo: <b>16</b> 4	172	
Client ID: OW	V-1		Batch ID:	8553					Analysis Da	ite: 8/2	28/201	4	SeqNo: 331	1528	
Analyte			R	lesult	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighL	.imit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic				2.98	1.00							4.144	32.7	30	R
Barium				20.1	0.500							18.31	9.30	30	
Cadmium				ND	0.200							0		30	
Chromium			(	).892	0.500							1.744	64.7	30	R
Qualifiers:	B Ar	alyte detected in the	associated Metho	od Blank		D Dilution wa	is required			E	Value	above quantitation ra	ange		
H	H Ho	Iding times for prepa	aration or analysis	exceeded		J Analyte de	tected below quantitation li	mits		ND	Not de	etected at the Reporti	ng Limit		
F	R RF	D outside accepted	recovery limits			RL Reporting	Limit			S	Spike	recovery outside acc	epted recovery limit	S	

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Ĩ		on									Date: 9/3	5/2014	
Work Order:	1408261									00.9			DORT
CLIENT:	Migizi Grou	p, Inc.											
Project:	Meeker Squ	lare								Total Met	als by EP/	A Method	200.8
Sample ID: 140	8261-004DDUP	SampType	e: DUP			Units: µg/L		Prep Dat	te: 8/28/20	14	RunNo: 164	472	
Client ID: OW	-1	Batch ID:	8553					Analysis Dat	te: 8/28/20	14	SeqNo: 33	1528	
Analyte			Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
, ,				1.00					0	0		20	
Selenium				1.00						0		30	
Silver			ND	0.200						0		30	
NOTES: R - High RPD	observed. The met	hod is in conti	rol as indicate	ed by the lab	oratory control	sample (LCS).				· ·			
Sample ID: 140	8261-004DMS	SampType	e: MS			Units: µg/L		Prep Dat	te: 8/28/20	14	RunNo: 164	472	
Client ID: OW	-1	Batch ID:	8553					Analysis Dat	te: <b>8/28/20</b>	14	SeqNo: 33	1529	
Analyte			Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic			480	1.00	500.0	4.144	95.2	70	130				
Barium			516	0.500	500.0	18.31	99.5	70	130				
Cadmium			25.8	0.200	25.00	0.04800	103	70	130				
Chromium			513	0.500	500.0	1.744	102	70	130				
Lead			241	1.00	250.0	0.07950	96.6	70	130				
Selenium			52.0	1.00	50.00	0	104	70	130				
Silver			22.2	0.200	25.00	0	88.7	70	130				
Sample ID: 140	8261-004DMSD	SampType	e: MSD			Units: µg/L		Prep Dat	te: <b>8/28/20</b>	14	RunNo: 164	472	
Client ID: OW	-1	Batch ID:	8553					Analysis Dat	te: 8/28/20	14	SeqNo: 33	1530	
Analyte			Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic			489	1.00	500.0	4.144	97.0	70	130	480.2	1.80	30	
Barium			511	0.500	500.0	18.31	98.5	70	130	515.8	0.959	30	
Cadmium			25.2	0.200	25.00	0.04800	101	70	130	25.82	2.24	30	
Chromium			536	0.500	500.0	1.744	107	70	130	513.2	4.31	30	
Lead			250	1.00	250.0	0.07950	100	70	130	241.5	3.47	30	
Selenium			54.1	1.00	50.00	0	108	70	130	51.98	4.09	30	
Qualifiers:	3 Analyte detected in t	the associated Me	thod Blank		D Dilution wa	as required			E Value	e above quantitation ra	ange		
	H Holding times for pre	eparation or analy	sis exceeded		J Analyte de	tected below quantitation	limits		ND Not d	letected at the Report	ing Limit		
F	R RPD outside accept	ed recovery limits			RL Reporting	Limit			S Spike	e recovery outside acc	epted recovery limit	ts	



Work Order:	1408261									20	SUMMA	RY REF	ORT
CLIENT:	Migizi Group	, Inc.											
Project:	Meeker Squa	are								Total Met	als by EPA	A Method	200.8
Sample ID: 14082	61-004DMSD	SampType:	MSD			Units: µg/L		Prep Da	te: <b>8/28/20</b>	)14	RunNo: 164	172	
Client ID: OW-1		Batch ID:	8553					Analysis Da	te: <b>8/28/20</b>	)14	SeqNo: 331	530	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver			22.5	0.200	25.00	0	89.8	70	130	22.17	1.26	30	

#### Qualifiers: В Analyte detected in the associated Method Blank

- Holding times for preparation or analysis exceeded
- н
- R RPD outside accepted recovery limits

- D Dilution was required
- Analyte detected below quantitation limits J
- RL Reporting Limit

- Е Value above quantitation range
- ND Not detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits



Work Order:	1408261								QCS	SUMMAI	RY REF	ORT
CLIENT:	Migizi Group, Inc.								More		Mothod	245 1
Project:	Meeker Square								IVIELC			245.1
Sample ID: MB-857	73 SampT	ype: MBLK			Units: µg/L		Prep Da	te: 8/29/20	14	RunNo: 164	492	
Client ID: MBLK	V Batch	D: 8573					Analysis Da	te: <b>8/29/20</b>	14	SeqNo: 33	1818	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		ND	0.100									
Sample ID: LCS-85	73 SampT	ype: LCS			Units: µg/L		Prep Da	te: 8/29/20	14	RunNo: 164	492	
Client ID: LCSW	Batch	D: 8573					Analysis Da	te: <b>8/29/20</b>	14	SeqNo: 33	1819	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		2.60	0.100	2.500	0	104	85	115				
Sample ID: 140827	3-001ADUP SampT	ype: DUP			Units: µg/L		Prep Da	te: <b>8/29/20</b>	14	RunNo: 164	492	
Client ID: BATCH	Batch	D: 8573					Analysis Da	te: <b>8/29/20</b>	14	SeqNo: 33	1821	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		ND	0.100						0		20	
Sample ID: 140827	3-001AMS SampT	ype: MS			Units: µg/L		Prep Da	te: <b>8/29/20</b>	14	RunNo: 164	192	
Client ID: BATCH	Batch	D: 8573					Analysis Da	te: <b>8/29/20</b>	14	SeqNo: 33	1822	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		2.68	0.100	2.500	0	107	80	120				
Sample ID: 140827	3-001AMSD SampT	ype: MSD			Units: µg/L		Prep Da	te: <b>8/29/20</b>	14	RunNo: 164	492	
Client ID: BATCH	Batch	D: 8573					Analysis Da	te: <b>8/29/20</b>	14	SeqNo: 33	1823	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		2.57	0.100	2.500	0	103	80	120	2.680	4.19	20	
Qualifiers: B H R	Analyte detected in the associated Holding times for preparation or a RPD outside accepted recovery lin	Method Blank nalysis exceeded nits		D Dilution wa J Analyte de RL Reporting	as required tected below quantitation Limit	limits		E Value ND Not d S Spike	e above quantitation ra letected at the Report e recovery outside acc	ange ing Limit æpted recovery limit	ts	Do

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Work Order:	1408261									00.5			ORT
CLIENT:	Migizi Group,	Inc.											
Project:	Meeker Squa	re							Diesel a	and Heavy C	Dil by NW	IPH-DX/D	X Ext.
Sample ID: LCS-8	557	SampType	LCS			Units: µg/L		Prep Dat	e: <b>8/29/20</b>	14	RunNo: 16	530	
Client ID: LCSW		Batch ID:	8557					Analysis Dat	e: <b>9/2/201</b>	4	SeqNo: 332	2608	
Analyte		I	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)			1,010	50.0	1,000	0	101	65	135				
Surr: 2-Fluorobip	henyl		58.8		80.00		73.5	50	150				
Surr: o-Terpheny	4		68.7		80.00		85.9	50	150				
Sample ID: MB-85	57	SampType	MBLK			Units: µg/L		Prep Dat	e: <b>8/29/20</b>	14	RunNo: 16	530	
Client ID: MBLK	w	Batch ID:	8557					Analysis Dat	e: <b>9/2/201</b>	4	SeqNo: 33	2609	
Analyte		I	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)			ND	50.0									
Heavy Oil			ND	100									
Surr: 2-Fluorobip	henyl		47.7		80.00		59.7	50	150				
Surr: o-Terpheny	d		63.7		80.00		79.6	50	150				

Qualifiers: B

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- R RPD outside accepted recovery limits

- D Dilution was required
- J Analyte detected below quantitation limits
- RL Reporting Limit

- E Value above quantitation range
- ND Not detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

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Work Order: 14	408261								QC S		RY REF	PORT
CLIENT: M	ligizi Group, Inc.						Po	lyoblarin	antad Dinha	onvie (DCI		1 0000
Project: M	leeker Square						FU	lychiorir		enyis (PCI		4 0002
Sample ID: CCV PCB-	- <b>C-8422</b> SampTyp	e: CCV			Units: %REC		Prep Dat	e: <b>9/3/201</b>	4	RunNo: 16	538	
Client ID: CCV	Batch ID	R16538					Analysis Dat	e: <b>9/3/201</b>	4	SeqNo: 33	2837	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Decachlorobiph	henyl	52.3		50.00		105	54.3	143				
Surr: Tetrachloro-m-	xylene	44.4		50.00		88.8	64.9	133				
Sample ID: 1408261-0	006EMS SampTyp	De: MS			Units: µg/L		Prep Dat	e: <b>8/28/20</b>	14	RunNo: 16	538	
Client ID: OW-3	Batch ID	8422					Analysis Dat	e: <b>9/3/201</b>	4	SeqNo: 33	2838	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016		1.82 0	0.200	2.000	0	90.8	45.5	118				
Aroclor 1260		1.93 (	0.200	2.000	0	96.7	50.8	129				
Surr: Decachlorobiph	henyl	278		200.0		139	45.1	140				
Surr: Tetrachloro-m-	xylene	212		200.0		106	30.1	116				
Sample ID: CCV PCB-	-D-8422 SampTyp	De: CCV			Units: %REC		Prep Dat	ie: 9/3/201	4	RunNo: 16	538	
Sample ID: CCV PCB- Client ID: CCV	-D-8422 SampTyp Batch ID	be: CCV R16538			Units: %REC		Prep Dat Analysis Dat	e: 9/3/201 e: 9/3/201	4 4	RunNo: <b>16</b> SeqNo: <b>33</b>	538 2839	
Sample ID: CCV PCB- Client ID: CCV Analyte	- <b>D-8422</b> SampTyp Batch ID	be: CCV R16538 Result	RL	SPK value	Units: <b>%REC</b> SPK Ref Val	%REC	Prep Dat Analysis Dat LowLimit	e: <b>9/3/201</b> 4 e: <b>9/3/201</b> 4 HighLimit	4 4 RPD Ref Val	RunNo: <b>16</b> SeqNo: <b>33</b> %RPD	538 2839 RPDLimit	Qual
Sample ID: CCV PCB- Client ID: CCV Analyte Surr: Decachlorobiph	-D-8422 SampTyp Batch ID	e: CCV R16538 Result 51.6	RL	SPK value	Units: %REC	%REC 103	Prep Dat Analysis Dat LowLimit 54.3	e: <b>9/3/201</b> e: <b>9/3/201</b> HighLimit 143	4 4 RPD Ref Val	RunNo: <b>16</b> : SeqNo: <b>33</b> : %RPD	538 2839 RPDLimit	Qual
Sample ID: CCV PCB- Client ID: CCV Analyte Surr: Decachlorobiph Surr: Tetrachloro-m-	- <b>D-8422</b> SampTyp Batch ID henyl xylene	e: CCV R16538 Result 51.6 46.0	RL	SPK value 50.00 50.00	Units: %REC	%REC 103 91.9	Prep Dat Analysis Dat LowLimit 54.3 64.9	e: <b>9/3/201</b> e: <b>9/3/201</b> HighLimit 143 133	4 4 RPD Ref Val	RunNo: <b>16</b> SeqNo: <b>33</b> %RPD	538 2839 RPDLimit	Qual
Sample ID: CCV PCB- Client ID: CCV Analyte Surr: Decachlorobiph Surr: Tetrachloro-m- Sample ID: LCS-8422	- <b>D-8422</b> SampTyp Batch ID henyl xylene SampTyp	e: CCV R16538 Result 51.6 46.0 ee: LCS	RL	SPK value 50.00 50.00	Units: %REC SPK Ref Val Units: µg/L	%REC 103 91.9	Prep Dat Analysis Dat LowLimit 54.3 64.9 Prep Dat	e: 9/3/2014 e: 9/3/2014 HighLimit 143 133 re: 8/28/20	4 4 RPD Ref Val 14	RunNo: 16: SeqNo: 33: %RPD RunNo: 16:	538 2839 RPDLimit 538	Qual
Sample ID: CCV PCB- Client ID: CCV Analyte Surr: Decachlorobiph Surr: Tetrachloro-m- Sample ID: LCS-8422 Client ID: LCSW	- <b>D-8422</b> SampTyp Batch ID henyl xylene SampTyp Batch ID	e: CCV : R16538 Result 51.6 46.0 be: LCS : 8422	RL	SPK value 50.00 50.00	Units: %REC SPK Ref Val Units: µg/L	%REC 103 91.9	Prep Dat Analysis Dat LowLimit 54.3 64.9 Prep Dat Analysis Dat	e: 9/3/2014 e: 9/3/2014 HighLimit 143 133 e: 8/28/20 e: 9/2/2014	4 4 RPD Ref Val 14 4	RunNo: 16: SeqNo: 33: %RPD RunNo: 16: SeqNo: 33:	538 2839 RPDLimit 538 2842	Qual
Sample ID: CCV PCB- Client ID: CCV Analyte Surr: Decachlorobiph Surr: Tetrachloro-m- Sample ID: LCS-8422 Client ID: LCSW Analyte	- <b>D-8422</b> SampTyp Batch ID henyl xylene SampTyp Batch ID	De: CCV R16538 Result 51.6 46.0 De: LCS 8422 Result	RL	SPK value 50.00 50.00 SPK value	Units: %REC SPK Ref Val Units: µg/L SPK Ref Val	%REC 103 91.9 %REC	Prep Dat Analysis Dat LowLimit 54.3 64.9 Prep Dat Analysis Dat LowLimit	e: 9/3/2014 e: 9/3/2014 HighLimit 143 133 e: 8/28/20 e: 9/2/2014 HighLimit	4 RPD Ref Val 14 RPD Ref Val	RunNo: 16: SeqNo: 33: %RPD RunNo: 16: SeqNo: 33: %RPD	538 2839 RPDLimit 538 2842 RPDLimit	Qual
Sample ID: CCV PCB- Client ID: CCV Analyte Surr: Decachlorobiph Surr: Tetrachloro-m- Sample ID: LCS-8422 Client ID: LCSW Analyte Aroclor 1016	- <b>D-8422</b> SampTyp Batch ID henyl xylene SampTyp Batch ID	Dee:   CCV     :   R16538     Result   51.6     46.0   46.0     Dee:   LCS     :   8422     Result   1.28	RL RL 0.200	SPK value 50.00 50.00 SPK value 2.000	Units: %REC SPK Ref Val Units: µg/L SPK Ref Val	%REC 103 91.9 %REC 63.8	Prep Dat Analysis Dat LowLimit 54.3 64.9 Prep Dat Analysis Dat LowLimit 38.2	e: 9/3/2014 e: 9/3/2014 HighLimit 143 133 e: 8/28/20 e: 9/2/2014 HighLimit 129	4 RPD Ref Val 14 RPD Ref Val	RunNo: 16: SeqNo: 33: %RPD RunNo: 16: SeqNo: 33: %RPD	538 2839 RPDLimit 538 2842 RPDLimit	Qual
Sample ID: CCV PCB- Client ID: CCV Analyte Surr: Decachlorobiph Surr: Tetrachloro-m- Sample ID: LCS-8422 Client ID: LCSW Analyte Aroclor 1016 Aroclor 1260	- <b>D-8422</b> SampTyp Batch ID henyl xylene SampTyp Batch ID	De: CCV R16538 Result 51.6 46.0 De: LCS 8422 Result 1.28 ( 1.55 (	RL RL 0.200 0.200	SPK value 50.00 50.00 SPK value 2.000 2.000	Units: %REC SPK Ref Val Units: µg/L SPK Ref Val 0 0	%REC 103 91.9 %REC 63.8 77.4	Prep Dat Analysis Dat LowLimit 54.3 64.9 Prep Dat Analysis Dat LowLimit 38.2 43.3	e: 9/3/2014 e: 9/3/2014 HighLimit 143 133 e: 8/28/20 e: 9/2/2014 HighLimit 129 126	4 RPD Ref Val 14 RPD Ref Val	RunNo: 16: SeqNo: 33: %RPD RunNo: 16: SeqNo: 33: %RPD	538 2839 RPDLimit 538 2842 RPDLimit	Qual
Sample ID: CCV PCB- Client ID: CCV Analyte Surr: Decachlorobiph Surr: Tetrachloro-m- Sample ID: LCS-8422 Client ID: LCSW Analyte Aroclor 1016 Aroclor 1260 Surr: Decachlorobiph	-D-8422 SampTyr Batch ID henyl xylene SampTyr Batch ID	De: CCV R16538 Result 51.6 46.0 De: LCS 8422 Result 1.28 1.55 367	RL RL 0.200 0.200	SPK value 50.00 50.00 SPK value 2.000 2.000 200.0	Units: <b>%REC</b> SPK Ref Val Units: <b>µg/L</b> SPK Ref Val 0 0	%REC 103 91.9 %REC 63.8 77.4 183	Prep Dat Analysis Dat LowLimit 54.3 64.9 Prep Dat Analysis Dat LowLimit 38.2 43.3 45.1	e: 9/3/2014 HighLimit 143 133 e: 8/28/2014 HighLimit 129 126 140	4 RPD Ref Val 14 4 RPD Ref Val	RunNo: 16: SeqNo: 33: %RPD RunNo: 16: SeqNo: 33: %RPD	538 2839 RPDLimit 538 2842 RPDLimit	Qual Qual
Sample ID: CCV PCB- Client ID: CCV Analyte Surr: Decachlorobiph Surr: Tetrachloro-m- Sample ID: LCS-8422 Client ID: LCSW Analyte Aroclor 1016 Aroclor 1260 Surr: Decachlorobiph Surr: Tetrachloro-m-	- <b>D-8422</b> SampTyr Batch ID henyl xylene SampTyr Batch ID	De: CCV R16538 Result 51.6 46.0 De: LCS 8422 Result 1.28 1.55 367 184	RL RL 0.200 0.200	SPK value 50.00 50.00 SPK value 2.000 2.000 200.0 200.0	Units: %REC SPK Ref Val Units: µg/L SPK Ref Val 0 0	%REC 103 91.9 %REC 63.8 77.4 183 91.8	Prep Dat Analysis Dat LowLimit 54.3 64.9 Prep Dat Analysis Dat LowLimit 38.2 43.3 45.1 30.1	e: 9/3/2014 e: 9/3/2014 HighLimit 143 133 e: 8/28/20 e: 9/2/2014 HighLimit 129 126 140 116	4 RPD Ref Val 14 RPD Ref Val	RunNo: 16: SeqNo: 33: %RPD RunNo: 16: SeqNo: 33: %RPD	538 2839 RPDLimit 538 2842 RPDLimit	Qual Qual S
Sample ID: CCV PCB- Client ID: CCV Analyte Surr: Decachlorobiph Surr: Tetrachloro-m- Sample ID: LCS-8422 Client ID: LCSW Analyte Aroclor 1016 Aroclor 1260 Surr: Decachlorobiph Surr: Tetrachloro-m- Gualifiers: B Ana	-D-8422 SampTyp Batch ID henyl xylene SampTyp Batch ID henyl xylene	De: CCV R16538 Result 51.6 46.0 De: LCS <b>8422</b> Result 1.28 (1.55 367 184 Lethod Blank	RL RL 0.200 0.200	SPK value 50.00 50.00 SPK value 2.000 2.000 200.0 200.0 Dilution wa	Units: %REC SPK Ref Val Units: µg/L SPK Ref Val 0 0	%REC 103 91.9 %REC 63.8 77.4 183 91.8	Prep Dat Analysis Dat LowLimit 54.3 64.9 Prep Dat Analysis Dat LowLimit 38.2 43.3 45.1 30.1	e: 9/3/2014 e: 9/3/2014 HighLimit 143 133 e: 8/28/20 e: 9/2/2014 HighLimit 129 126 140 116 E Value	4 4 RPD Ref Val 14 4 RPD Ref Val above quantitation ra	RunNo: 16: SeqNo: 33: %RPD RunNo: 16: SeqNo: 33: %RPD	538 2839 RPDLimit 538 2842 RPDLimit	Qual Qual S
Sample ID: CCV PCB- Client ID: CCV Analyte Surr: Decachlorobiph Surr: Tetrachloro-m- Sample ID: LCS-8422 Client ID: LCSW Analyte Aroclor 1016 Aroclor 1260 Surr: Decachlorobiph Surr: Tetrachloro-m- Qualifiers: B Ana H Hol	-D-8422 SampTyp Batch ID henyl xylene SampTyp Batch ID henyl xylene alyte detected in the associated M lding times for preparation or anal	De: CCV R16538 Result 51.6 46.0 De: LCS <b>8422</b> Result 1.28 (1.55 367 184 Lethod Blank ysis exceeded	RL .200 .200	SPK value 50.00 50.00 SPK value 2.000 2.000 200.0 200.0 200.0 J Analyte det	Units: %REC SPK Ref Val Units: µg/L SPK Ref Val 0 0 0	%REC 103 91.9 %REC 63.8 77.4 183 91.8	Prep Dat Analysis Dat LowLimit 54.3 64.9 Prep Dat Analysis Dat LowLimit 38.2 43.3 45.1 30.1	e: 9/3/2014 e: 9/3/2014 HighLimit 143 133 e: 8/28/20 e: 9/2/2014 HighLimit 129 126 140 116 E Value ND Not de	4 4 RPD Ref Val 14 4 RPD Ref Val a above quantitation ra etected at the Reporti	RunNo: 16: SeqNo: 33: %RPD RunNo: 16: SeqNo: 33: %RPD	538 2839 RPDLimit 538 2842 RPDLimit	Qual Qual S


Work Order: CLIENT: Project:	1408261 Migizi Group, Inc. Meeker Square						QC S Polychlorinated Biphe	SUMMARY REPORT enyls (PCB) by EPA 8082
Sample ID:LCS-8422SampType:LCSClient ID:LCSWBatch ID:8422		LCS 8422			Units: µg/L		Prep Date: <b>8/28/2014</b> Analysis Date: <b>9/2/2014</b>	RunNo: <b>16538</b> SeqNo: <b>332842</b>
Analyte		Result	RL S	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
NOTES								

#### NOTES:

S - Surrogate outside recovery limits. Minimum method criterion of one surrogate within established recovery limits was met.

Sample ID: LCSD-8422	SampType: LCSD			Units: µg/L		Prep Da	te: 8/28/20	14	RunNo: 165	i38	
Client ID: LCSW02	Batch ID: 8422					Analysis Da	te: 9/2/201	4	SeqNo: 332	2843	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	1.59	0.200	2.000	0	79.6	38.2	129	1.275	22.1	30	
Aroclor 1260	2.06	0.200	2.000	0	103	43.3	126	1.548	28.5	30	
Surr: Decachlorobiphenyl	398		200.0		199	45.1	140		0		S
Surr: Tetrachloro-m-xylene NOTES:	214		200.0		107	30.1	116		0		

S - Surrogate outside recovery limits. Minimum method criterion of one surrogate within established recovery limits was met.

Qualifiers:

В

- Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

D Dilution was required

- J Analyte detected below quantitation limits
- RL Reporting Limit

E Value above quantitation range

- ND Not detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits



Fremont
Analytical

Work Order:	1408261									20	SUMMAI	RY REF	PORT
CLIENT:	Migizi Grou	ıp, Inc.					-		_				
Project:	Meeker Sq	uare					Sen	ni-Volatil	e Organ	ic Compou	nds by EP	A Method	d 8270
Sample ID: MB-85	54	SampType:	MBLK			Units: µg/L		Prep Da	nte: <b>8/28/20</b>	014	RunNo: 16		
Client ID: MBLK	w	Batch ID:	8554					Analysis Da	ite: 9/2/201	14	SeqNo: 333	3615	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenol			ND	2.00									
2-Chlorophenol			ND	1.00									
1,3-Dichlorobenzen	ne		ND	1.00									
1,4-Dichlorobenzen	ne		ND	1.00									
1,2-Dichlorobenzen	ne		ND	1.00									
Benzyl alcohol			ND	1.00									
Bis(2-chloroethyl) e	ther		ND	2.00									
2-Methylphenol (o-c	cresol)		ND	1.00									
Hexachloroethane			ND	1.00									
N-Nitrosodi-n-propy	/lamine		ND	1.00									
Nitrobenzene			ND	2.00									
Isophorone			ND	1.00									
4-Methylphenol (p-c	cresol)		ND	1.00									
2-Nitrophenol			ND	2.00									
2,4-Dimethylphenol	I		ND	1.00									
Bis(2-chloroethoxy)	methane		ND	1.00									
2,4-Dichlorophenol			ND	2.00									
1,2,4-Trichlorobenz	zene		ND	1.00									
Naphthalene			ND	0.500									
4-Chloroaniline			ND	5.00									
Hexachlorobutadier	ne		ND	1.00									
4-Chloro-3-methylp	henol		ND	5.00									
2-Methylnaphthalen	ne		ND	0.500									
1-Methylnaphthalen	ne		ND	0.500									
Hexachlorocycloper	ntadiene		ND	1.00									
2,4,6-Trichlorophen	nol		ND	2.00									
2,4,5-Trichlorophen	nol		ND	2.00									
2-Chloronaphthaler	ne		ND	1.00									
2-Nitroaniline			ND	5.00									

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

- J Analyte detected below quantitation limits
- RL Reporting Limit

- ND Not detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

Fremont
Analytical

Work Order: CLIENT: Project:	1408261 Migizi Grou Meeker Squ	p, Inc. Iare					Ser	ni-Volatil	e Organ	QC S ic Compou	SUMMA nds by EP	RY REF A Method	PORT d 8270
Sample ID: MB-85	554	SampType:	MBLK			Units: µg/L		Prep Da	ate: 8/28/20	014	RunNo: 16		
Client ID: MBLK	W	Batch ID:	8554					Analysis Da	ite: 9/2/20	14	SeqNo: 33	3615	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene			ND	0.500									
Dimethylphthalate			ND	1.00									
2,6-Dinitrotoluene			ND	1.00									
Acenaphthylene			ND	0.500									
2,4-Dinitrophenol			ND	2.00									
Dibenzofuran			ND	1.00									
2,4-Dinitrotoluene			ND	1.00									
4-Nitrophenol			ND	5.00									
Fluorene			ND	0.500									
4-Chlorophenyl phe	enyl ether		ND	1.00									
Diethylphthalate			ND	1.00									
4,6-Dinitro-2-methy	/lphenol		ND	5.00									
4-Bromophenyl phe	enyl ether		ND	1.00									
Hexachlorobenzene	e		ND	1.00									
Pentachlorophenol			ND	2.00									
Phenanthrene			ND	0.500									
Anthracene			ND	0.500									
Carbazole			ND	5.00									
Di-n-butyl phthalate	e		ND	1.00									
Fluoranthene			ND	0.500									
Pyrene			ND	0.500									
Benzyl Butylphthala	ate		ND	1.00									
bis(2-Ethylhexyl)ad	ipate		ND	1.00									
Benz[a]anthracene			ND	0.500									
Chrysene			ND	0.500									
Bis(2-ethylhexyl) ph	nthalate		ND	1.00									
Di-n-octyl phthalate	9		ND	1.00									
Benzo (b) fluoranth	iene		ND	0.500									
Benzo (k) fluoranth	ene		ND	0.500									
Qualifiers: B	Analyte detected in t	he associated Meth	nod Blank		D Dilution w	as required			E Valu	e above quantitation r	ange		

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

J Analyte detected below quantitation limits

RL Reporting Limit

- ND Not detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

Fremont
Analytical

1408261		
Migizi Group, Ir	nc.	
Meeker Square	)	
54 S	SampType:	MBLK
<b>N</b> E	Batch ID:	8554
	1408261 Migizi Group, Ir Meeker Square 54 S	1408261 Migizi Group, Inc. Meeker Square 54 SampType: N Batch ID:

### Semi-Volatile Organic Compounds by EPA Method 8270

Sample ID: MB-8554	SampType: MBLK			Units: µg/L		Prep Da	te: <b>8/28/20</b>	14	RunNo: 165	587	
Client ID: MBLKW	Batch ID: 8554					Analysis Dat	te: 9/2/201	4	SeqNo: 333	8615	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzo[a]pyrene	ND	0.500									
Indeno (1,2,3-cd) pyrene	ND	0.500									
Dibenzo (a,h) anthracene	ND	0.500									
Benzo (g,h,l) perylene	ND	0.500									
Surr: 2,4,6-Tribromophenol	2.24		8.000		28.0	18	139				
Surr: 2-Fluorobiphenyl	1.98		4.000		49.6	23.3	118				
Surr: Nitrobenzene-d5	2.43		4.000		60.7	21.9	139				
Surr: Phenol-d6	0.641		8.000		8.01	10	103				S
Surr: p-Terphenyl	2.81		4.000		70.3	41.3	140				
NOTES:											

S - Laboratory technical control limit for Phenol-d6 is below 10.

Sample ID: LCS-8554	SampType: LCS			Units: µg/L		Prep Dat	e: <b>8/28/20</b>	14	RunNo: 16587			
Client ID: LCSW	Batch ID: 8554					Analysis Date: 9/2/2014				SeqNo: 333616		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Phenol	0.814	2.00	4.000	0	20.4	16.3	115					
2-Chlorophenol	2.06	1.00	4.000	0	51.5	25	112					
1,3-Dichlorobenzene	2.33	1.00	4.000	0	58.4	25	108					
1,4-Dichlorobenzene	2.33	1.00	4.000	0	58.4	25	110					
1,2-Dichlorobenzene	2.36	1.00	4.000	0	59.1	25	109					
Benzyl alcohol	3.30	1.00	4.000	0	82.4	20	96.5					
Bis(2-chloroethyl) ether	2.80	2.00	4.000	0	69.9	25	111					
2-Methylphenol (o-cresol)	1.77	1.00	4.000	0	44.3	25	101					
Hexachloroethane	2.32	1.00	4.000	0	57.9	25	109					
N-Nitrosodi-n-propylamine	3.22	1.00	4.000	0	80.5	25	122					
Nitrobenzene	2.46	2.00	4.000	0	61.5	25	110					
Isophorone	2.89	1.00	4.000	0	72.4	25	126					
4-Methylphenol (p-cresol)	0.884	1.00	2.000	0	44.2	25	113					

Qualifiers: В Analyte detected in the associated Method Blank

R

- D Dilution was required
  - J Analyte detected below quantitation limits

Е Value above quantitation range

ND

н Holding times for preparation or analysis exceeded RPD outside accepted recovery limits

RL Reporting Limit

Not detected at the Reporting Limit s Spike recovery outside accepted recovery limits



Work	Order:	1408261

#### CLIENT: Migizi Group, Inc.

# **QC SUMMARY REPORT**

Project: Meeker Square

### Semi-Volatile Organic Compounds by EPA Method 8270

Sample ID: LCS-8554	SampType: LCS			Units: µg/L		Prep Da	te: 8/28/20	14	RunNo: 165	87	
Client ID: LCSW	Batch ID: 8554					Analysis Dat	te: 9/2/201	4	SeqNo: 333	616	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Nitrophenol	2.16	2.00	4.000	0	53.9	25	126				
2,4-Dimethylphenol	2.80	1.00	4.000	0	69.9	25	124				
Bis(2-chloroethoxy)methane	2.96	1.00	4.000	0	74.1	25	121				
2,4-Dichlorophenol	2.84	2.00	4.000	0	71.0	29.1	110				
1,2,4-Trichlorobenzene	2.44	1.00	4.000	0	60.9	25	113				
Naphthalene	2.69	0.500	4.000	0	67.2	25	115				
4-Chloroaniline	3.81	5.00	4.000	0	95.1	25	136				
Hexachlorobutadiene	2.11	1.00	4.000	0	52.7	25	111				
4-Chloro-3-methylphenol	3.56	5.00	4.000	0	88.9	32.3	122				
2-Methylnaphthalene	3.10	0.500	4.000	0	77.5	25	119				
1-Methylnaphthalene	3.08	0.500	4.000	0	77.0	25	117				
Hexachlorocyclopentadiene	1.75	1.00	4.000	0	43.7	25	125				
2,4,6-Trichlorophenol	2.97	2.00	4.000	0	74.2	25	133				
2,4,5-Trichlorophenol	3.24	2.00	4.000	0	81.1	25	125				
2-Chloronaphthalene	2.66	1.00	4.000	0	66.6	25	121				
2-Nitroaniline	3.46	5.00	4.000	0	86.5	25	121				
Acenaphthene	3.29	0.500	4.000	0	82.2	25	120				
Dimethylphthalate	3.02	1.00	4.000	0	75.6	25	133				
2,6-Dinitrotoluene	2.76	1.00	4.000	0	69.1	25	131				
Acenaphthylene	3.27	0.500	4.000	0	81.8	25	128				
2,4-Dinitrophenol	0.779	2.00	4.000	0	19.5	12.9	110				
Dibenzofuran	3.72	1.00	4.000	0	93.1	25	121				
2,4-Dinitrotoluene	2.89	1.00	4.000	0	72.4	25	132				
4-Nitrophenol	3.52	5.00	4.000	0	88.0	20	106				
Fluorene	3.64	0.500	4.000	0	91.0	25	127				
4-Chlorophenyl phenyl ether	3.02	1.00	4.000	0	75.5	25	124				
Diethylphthalate	3.40	1.00	4.000	0	85.0	31.3	142				
4,6-Dinitro-2-methylphenol	1.67	5.00	4.000	0	41.7	16.1	109				
4-Bromophenyl phenyl ether	3.01	1.00	4.000	0	75.2	25	130				
Qualifiers: B Analyte detected in the	associated Method Blank		D Dilution wa	s required			E Value	above quantitation rai	nge		

Qualifiers: в

н

R

Analyte detected in the associated Method Blank

Dilution was required

J Analyte detected below quantitation limits

RPD outside accepted recovery limits

Holding times for preparation or analysis exceeded

RL Reporting Limit Е Value above quantitation range

ND

Not detected at the Reporting Limit



Work Order:	1408261

#### CLIENT: Migizi Group, Inc. Project:

# Meeker Square

# **QC SUMMARY REPORT**

### Semi-Volatile Organic Compounds by EPA Method 8270

Sample ID: LCS-8554	SampType: LCS			Units: µg/L		Prep Dat	te: 8/28/20	14	RunNo: 165	87	
Client ID: LCSW	Batch ID: 8554					Analysis Dat	te: 9/2/201	4	SeqNo: 333	616	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexachlorobenzene	2.78	1.00	4.000	0	69.5	29	120				
Pentachlorophenol	1.68	2.00	4.000	0	42.1	20	137				
Phenanthrene	3.62	0.500	4.000	0	90.5	34	125				
Anthracene	3.63	0.500	4.000	0	90.6	27.7	134				
Di-n-butyl phthalate	3.87	1.00	4.000	0	96.7	62	158				
Fluoranthene	3.93	0.500	4.000	0	98.3	34.8	143				
Pyrene	4.04	0.500	4.000	0	101	35.5	140				
Benzyl Butylphthalate	4.18	1.00	4.000	0	104	51.4	144				
Benz[a]anthracene	2.75	0.500	4.000	0	68.7	27.2	132				
Chrysene	3.73	0.500	4.000	0	93.3	39.5	123				
Bis(2-ethylhexyl) phthalate	4.47	1.00	4.000	0	112	44.7	180				
Di-n-octyl phthalate	4.07	1.00	4.000	0	102	52.8	164				
Benzo (b) fluoranthene	3.07	0.500	4.000	0	76.7	37.8	123				
Benzo (k) fluoranthene	3.29	0.500	4.000	0	82.2	25	144				
Benzo[a]pyrene	3.27	0.500	4.000	0	81.8	24.9	125				
Indeno (1,2,3-cd) pyrene	2.39	0.500	4.000	0	59.6	25	127				
Dibenzo (a,h) anthracene	2.26	0.500	4.000	0	56.6	25	132				
Benzo (g,h,l) perylene	2.39	0.500	4.000	0	59.8	25	133				
Surr: 2,4,6-Tribromophenol	3.54		4.000		88.5	18	139				
Surr: 2-Fluorobiphenyl	2.58		4.000		64.5	23.3	118				
Surr: Nitrobenzene-d5	3.22		4.000		80.6	21.9	139				
Surr: Phenol-d6	0.699		4.000		17.5	10	103				
Surr: p-Terphenyl	3.88		4.000		97.0	41.3	140				

#### **Qualifiers:**

В

- Analyte detected in the associated Method Blank
- н Holding times for preparation or analysis exceeded
- R RPD outside accepted recovery limits

- D Dilution was required
- J Analyte detected below quantitation limits
- RL Reporting Limit

- Е Value above quantitation range
- ND Not detected at the Reporting Limit
- s Spike recovery outside accepted recovery limits

Fremont
Analytical

Work Order:	1408261
CLIENT:	Migizi Group, Inc.
Project:	Meeker Square

### Semi-Volatile Organic Compounds by EPA Method 8270

Sample ID: 1408261-002BDUP	SampType: <b>DUP</b>			Units: µg/L		Prep Dat	e: 8/28/20	14	RunNo: 165	587	
Client ID: MW-2	Batch ID: 8554					Analysis Dat	e: <b>9/2/201</b>	4	SeqNo: 333	619	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenol	ND	2.00						0		50	
2-Chlorophenol	ND	1.00						0		50	
1,3-Dichlorobenzene	ND	1.00						0		50	
1,4-Dichlorobenzene	ND	1.00						0		50	
1,2-Dichlorobenzene	ND	1.00						0		50	
Benzyl alcohol	ND	1.00						0		50	
Bis(2-chloroethyl) ether	ND	2.00						0		50	
2-Methylphenol (o-cresol)	ND	1.00						0		50	
Hexachloroethane	ND	1.00						0		50	
N-Nitrosodi-n-propylamine	ND	1.00						0		50	
Nitrobenzene	ND	2.00						0		50	
Isophorone	ND	1.00						0		50	
4-Methylphenol (p-cresol)	ND	1.00						0		50	
2-Nitrophenol	ND	2.00						0		50	
2,4-Dimethylphenol	ND	1.00						0		50	
Bis(2-chloroethoxy)methane	ND	1.00						0		50	
2,4-Dichlorophenol	ND	2.00						0		50	
1,2,4-Trichlorobenzene	ND	1.00						0		50	
Naphthalene	ND	0.500						0		50	
4-Chloroaniline	ND	5.00						0		50	
Hexachlorobutadiene	ND	1.00						0		50	
4-Chloro-3-methylphenol	ND	5.00						0		50	
2-Methylnaphthalene	ND	0.500						0		50	
1-Methylnaphthalene	ND	0.500						0		50	
Hexachlorocyclopentadiene	ND	1.00						0		50	
2,4,6-Trichlorophenol	ND	2.00						0		50	
2,4,5-Trichlorophenol	ND	2.00						0		50	
2-Chloronaphthalene	ND	1.00						0		50	
2-Nitroaniline	ND	5.00						0		50	
Qualifiers: B Analyte detected in the	e associated Method Blank		D Dilution wa	is required	mite		E Value	above quantitation ra	nge		

Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits

Analyte detected below quantitation limits

RL Reporting Limit

Fremont
Analytical

Work Order:	1408261
CLIENT:	Migizi Group, Inc.
Project:	Meeker Square

### Semi-Volatile Organic Compounds by EPA Method 8270

Sample ID: 1408261-002BDUP	SampType: <b>DUP</b>			Units: µg/L		Prep Da	te: <b>8/28/20</b>	014	RunNo: 165	587	
Client ID: MW-2	Batch ID: 8554					Analysis Dat	te: 9/2/201	4	SeqNo: 333	8619	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	ND	0.500						0		50	
Dimethylphthalate	ND	1.00						0		50	
2,6-Dinitrotoluene	ND	1.00						0		50	
Acenaphthylene	ND	0.500						0		50	
2,4-Dinitrophenol	ND	2.00						0		50	
Dibenzofuran	ND	1.00						0		50	
2,4-Dinitrotoluene	ND	1.00						0		50	
4-Nitrophenol	ND	5.00						0		50	
Fluorene	ND	0.500						0		50	
4-Chlorophenyl phenyl ether	ND	1.00						0		50	
Diethylphthalate	ND	1.00						0		50	
4,6-Dinitro-2-methylphenol	ND	5.00						0		50	
4-Bromophenyl phenyl ether	ND	1.00						0		50	
Hexachlorobenzene	ND	1.00						0		50	
Pentachlorophenol	ND	2.00						0		50	
Phenanthrene	ND	0.500						0		50	
Anthracene	ND	0.500						0		50	
Carbazole	ND	5.00						0		50	
Di-n-butyl phthalate	ND	1.00						0		50	
Fluoranthene	ND	0.500						0		50	
Pyrene	ND	0.500						0		50	
Benzyl Butylphthalate	ND	1.00						0		50	
bis(2-Ethylhexyl)adipate	ND	1.00						0		50	
Benz[a]anthracene	ND	0.500						0		50	
Chrysene	ND	0.500						0		50	
Bis(2-ethylhexyl) phthalate	ND	1.00						0		50	
Di-n-octyl phthalate	ND	1.00						0		50	
Benzo (b) fluoranthene	ND	0.500						0		50	
Benzo (k) fluoranthene	ND	0.500						0		50	
Qualifiers: B Analyte detected in the	he associated Method Blank		D Dilution wa	s required			E Value	e above quantitation rar	nge		

Holding times for preparation or analysis exceeded н RPD outside accepted recovery limits

R

Analyte detected below quantitation limits J RL Reporting Limit

Not detected at the Reporting Limit ND



Work Order:	1408261
CLIENT:	Migizi Group, Inc.

Project: Meeker Square

### Semi-Volatile Organic Compounds by EPA Method 8270

Sample ID: 1408261-002BDUP	SampType: <b>DUP</b>			Units: µg/L		Prep Dat	ie: <b>8/28/20</b>	14	RunNo: 165	87	
Client ID: MW-2	Batch ID: 8554					Analysis Dat	e: <b>9/2/201</b>	4	SeqNo: 333	619	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzo[a]pyrene	ND	0.500						0		50	
Indeno (1,2,3-cd) pyrene	ND	0.500						0		50	
Dibenzo (a,h) anthracene	ND	0.500						0		50	
Benzo (g,h,l) perylene	ND	0.500						0		50	
Surr: 2,4,6-Tribromophenol	4.19		8.000		52.4	18	139		0		
Surr: 2-Fluorobiphenyl	2.97		4.000		74.4	23.3	118		0		
Surr: Nitrobenzene-d5	3.64		4.000		91.0	21.9	139		0		
Surr: Phenol-d6	0.783		8.000		9.79	10	103		0		S
Surr: p-Terphenyl	4.02		4.000		100	41.3	140		0		

NOTES:

S - Laboratory technical control limit for Phenol-d6 is below 10.

Sample ID: 1408261-005BMS	SampType: <b>MS</b>			Units: µg/L		Prep Dat	e: <b>8/28/20</b>	14	RunNo: 165	587	
Client ID: OW-2	Batch ID: 8554					Analysis Dat	e: <b>9/2/201</b>	4	SeqNo: 333	625	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenol	ND	2.00	4.000	0	27.7	10	78.2				
2-Chlorophenol	2.64	1.00	4.000	0	66.1	25	106				
1,3-Dichlorobenzene	2.94	1.00	4.000	0	73.4	25.5	103				
1,4-Dichlorobenzene	2.93	1.00	4.000	0	73.3	25.6	104				
1,2-Dichlorobenzene	3.02	1.00	4.000	0	75.5	26.1	105				
Benzyl alcohol	4.21	1.00	4.000	0	105	20	96.8				S
Bis(2-chloroethyl) ether	3.57	2.00	4.000	0	89.3	25	110				
2-Methylphenol (o-cresol)	2.49	1.00	4.000	0	62.2	25.1	95.8				
Hexachloroethane	3.04	1.00	4.000	0	75.9	25	106				
N-Nitrosodi-n-propylamine	3.68	1.00	4.000	0	91.9	25.5	116				
Nitrobenzene	2.74	2.00	4.000	0	68.6	30.5	105				
Isophorone	3.24	1.00	4.000	0	81.0	25	121				
4-Methylphenol (p-cresol)	1.29	1.00	2.000	0	64.5	25	106				

**Qualifiers:** 

В

н

Analyte detected in the associated Method Blank

Holding times for preparation or analysis exceeded

- D Dilution was required
- J Analyte detected below quantitation limits

Е Value above quantitation range

R RPD outside accepted recovery limits Reporting Limit

RL

ND Not detected at the Reporting Limit



Work	Order:	1408261

#### CLIENT: Migizi Group, Inc.

#### Project: Meeker Square

# **QC SUMMARY REPORT**

### Semi-Volatile Organic Compounds by EPA Method 8270

Sample ID: 1408261-005BMS SampType: MS				Units: µg/L	/L Prep Date: 8/28/2014				RunNo: 16587		
Client ID: OW-2	Batch ID: 8554					Analysis Da	te: 9/2/201	4	SeqNo: 333	625	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Nitrophenol	2.87	2.00	4.000	0	71.7	25	123				
2,4-Dimethylphenol	3.97	1.00	4.000	0	99.3	25	123				
Bis(2-chloroethoxy)methane	3.81	1.00	4.000	0	95.2	25.4	116				
2,4-Dichlorophenol	3.75	2.00	4.000	0	93.8	34.3	110				
1,2,4-Trichlorobenzene	3.17	1.00	4.000	0	79.3	25	110				
Naphthalene	3.17	0.500	4.000	0	79.3	25	131				
4-Chloroaniline	ND	5.00	4.000	0	86.0	25	130				
Hexachlorobutadiene	2.80	1.00	4.000	0	70.0	25	105				
4-Chloro-3-methylphenol	5.09	5.00	4.000	0	127	36.3	120				S
2-Methylnaphthalene	3.58	0.500	4.000	0	89.6	25	119				
1-Methylnaphthalene	3.81	0.500	4.000	0	95.3	25.3	117				
Hexachlorocyclopentadiene	2.58	1.00	4.000	0	64.4	25	114				
2,4,6-Trichlorophenol	3.58	2.00	4.000	0	89.4	25	131				
2,4,5-Trichlorophenol	2.46	2.00	4.000	0	61.5	25	122				
2-Chloronaphthalene	3.30	1.00	4.000	0	82.6	27.3	115				
2-Nitroaniline	ND	5.00	4.000	0	93.3	27.9	114				
Acenaphthene	3.58	0.500	4.000	0	89.5	25	136				
Dimethylphthalate	3.07	1.00	4.000	0	76.8	31	128				
2,6-Dinitrotoluene	2.84	1.00	4.000	0	71.1	26.9	125				
Acenaphthylene	3.67	0.500	4.000	0	91.6	26.8	122				
2,4-Dinitrophenol	ND	2.00	4.000	0	48.5	25	148				
Dibenzofuran	4.44	1.00	4.000	0	111	27.8	116				
2,4-Dinitrotoluene	3.04	1.00	4.000	0	75.9	25	123				
4-Nitrophenol	ND	5.00	4.000	0	96.4	20	109				
Fluorene	4.04	0.500	4.000	0	101	25	131				
4-Chlorophenyl phenyl ether	3.57	1.00	4.000	0	89.3	28.9	119				
Diethylphthalate	3.53	1.00	4.000	0	88.2	36.6	136				
4,6-Dinitro-2-methylphenol	ND	5.00	4.000	0	59.2	25	136				
4-Bromophenyl phenyl ether	3.58	1.00	4.000	0	89.5	30.2	124				
Qualifiers: B Analyte detected in the	e associated Method Blank		D Dilution was	s required			E Value	above quantitation ra	nge		

Reporting Limit

RL

Value above quantitation range

Н Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

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



Work	Order:	1408261

#### CLIENT: Migizi Group, Inc. Project:

# Meeker Square

# **QC SUMMARY REPORT**

## Semi-Volatile Organic Compounds by EPA Method 8270

Sample ID: 1408261-005BMS	SampType: MS			Units: µg/L		Prep Da	te: 8/28/20	14	RunNo: 16	587	
Client ID: OW-2	Batch ID: 8554					Analysis Da	te: 9/2/201	4	SeqNo: 333	625	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexachlorobenzene	3.28	1.00	4.000	0	82.1	34.6	114				
Pentachlorophenol	4.41	2.00	4.000	0	110	25	145				
Phenanthrene	3.75	0.500	4.000	0	93.8	26	139				
Anthracene	3.85	0.500	4.000	0	96.3	34.5	129				
Carbazole	ND	5.00	4.000	0	0	36.7	143				S
Di-n-butyl phthalate	3.87	1.00	4.000	0.2969	89.4	39.7	149				
Fluoranthene	4.06	0.500	4.000	0	101	39.3	141				
Pyrene	4.15	0.500	4.000	0	104	40.9	137				
Benzyl Butylphthalate	4.46	1.00	4.000	0	111	50.5	139				
Benz[a]anthracene	3.13	0.500	4.000	0	78.2	34.2	124				
Chrysene	3.80	0.500	4.000	0	95.1	44.6	116				
Bis(2-ethylhexyl) phthalate	4.36	1.00	4.000	0.4466	97.9	39.9	143				
Di-n-octyl phthalate	4.80	1.00	4.000	0	120	37.5	163				
Benzo (b) fluoranthene	3.51	0.500	4.000	0	87.7	40.7	116				
Benzo (k) fluoranthene	3.24	0.500	4.000	0	80.9	25.5	135				
Benzo[a]pyrene	3.86	0.500	4.000	0	96.5	25	120				
Indeno (1,2,3-cd) pyrene	3.43	0.500	4.000	0	85.7	25	121				
Dibenzo (a,h) anthracene	3.44	0.500	4.000	0	86.1	25	125				
Benzo (g,h,l) perylene	3.28	0.500	4.000	0	82.1	25	124				
Surr: 2,4,6-Tribromophenol	4.16		8.000		52.0	18	139				
Surr: 2-Fluorobiphenyl	3.33		4.000		83.4	23.3	118				
Surr: Nitrobenzene-d5	4.15		4.000		104	21.9	139				
Surr: Phenol-d6	0.900		8.000		11.2	10	103				
Surr: p-Terphenyl	4.60		4.000		115	41.3	140				
NOTES:											

S - Outlying QC recoveries were associated with this sample. The method is in control as indicated by the LCS.

**Qualifiers:** 

В н

R

RPD outside accepted recovery limits

D Dilution was required

- J Analyte detected below quantitation limits
  - RL Reporting Limit

- Е Value above quantitation range
- ND Not detected at the Reporting Limit
- s Spike recovery outside accepted recovery limits



Work Order:	1408261									200			ORT
CLIENT:	Migizi Group	, Inc.								401			
Project:	Meeker Squa	are									Gasoline	by NWT	PH-Gx
Sample ID: 14082	64-001ADUP	SampType:	DUP			Units: µg/L		Prep Da	te: <b>8/28/20</b>	)14	RunNo: 164	482	
Client ID: BATC	н	Batch ID:	R16482					Analysis Da	te: <b>8/28/20</b>	)14	SeqNo: 33	1712	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline			ND	50.0						0		30	
Surr: Toluene-d8	3		50.3		50.00		101	65	135		0	0	
Surr: 4-Bromoflu	lorobenzene		50.8		50.00		102	65	135		0	0	
Sample ID: LCS-R	16482	SampType:	LCS			Units: µg/L		Prep Da	te: 8/28/20	)14	RunNo: 164	482	
Client ID: LCSW	1	Batch ID:	R16482					Analysis Da	te: <b>8/28/20</b>	014	SeqNo: 33	1716	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline			575	50.0	500.0	0	115	65	135				
Surr: Toluene-d8	3		49.4		50.00		98.9	65	135				
Surr: 4-Bromoflu	lorobenzene		48.3		50.00		96.6	65	135				
Sample ID: MB-R	16482	SampType:	MBLK			Units: µg/L		Prep Da	te: 8/28/20	)14	RunNo: 164	482	
Client ID: MBLK	W	Batch ID:	R16482					Analysis Da	te: <b>8/28/20</b>	014	SeqNo: 33	1717	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline			ND	50.0									
Surr: Toluene-d8	3		50.2		50.00		100	65	135				
Surr: 4-Bromoflu	iorobenzene		48.2		50.00		96.4	65	135				

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- R RPD outside accepted recovery limits

- D Dilution was required
- J Analyte detected below quantitation limits
- RL Reporting Limit

- E Value above quantitation range
- ND Not detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits



W	ork	Order:	1408261

Project:

CLIENT: Migizi Group, Inc.

### Meeker Square

# **QC SUMMARY REPORT**

### Volatile Organic Compounds by EPA Method 8260

Sample ID: LCS-R16477	SampType: LCS			Units: µg/L	μg/L Prep Date: 8/28/2014			14	RunNo: <b>16477</b>		
Client ID: LCSW	Batch ID: R16477					Analysis Da	te: <b>8/28/20</b>	14	SeqNo: 331	579	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	16.2	1.00	20.00	0	80.9	43	136				
Chloromethane	19.8	1.00	20.00	0	98.8	43.9	139				
Vinyl chloride	21.0	0.200	20.00	0	105	53.6	139				
Bromomethane	24.4	1.00	20.00	0	122	44.8	148				
Trichlorofluoromethane (CFC-11)	22.2	1.00	20.00	0	111	63.7	133				
Chloroethane	20.0	1.00	20.00	0	99.9	53	141				
1,1-Dichloroethene	21.6	1.00	20.00	0	108	65.6	136				
Methylene chloride	21.8	1.00	20.00	0	109	67.1	131				
trans-1,2-Dichloroethene	21.1	1.00	20.00	0	106	71.7	129				
Methyl tert-butyl ether (MTBE)	19.8	1.00	20.00	0	99.2	67.7	131				
1,1-Dichloroethane	21.6	1.00	20.00	0	108	67.9	134				
2,2-Dichloropropane	23.2	2.00	20.00	0	116	33.7	152				
cis-1,2-Dichloroethene	22.1	1.00	20.00	0	110	71.1	130				
Chloroform	20.8	1.00	20.00	0	104	76.7	124				
1,1,1-Trichloroethane (TCA)	21.5	1.00	20.00	0	108	71	131				
1,1-Dichloropropene	22.2	1.00	20.00	0	111	74.5	126				
Carbon tetrachloride	22.0	1.00	20.00	0	110	66.2	134				
1,2-Dichloroethane (EDC)	21.1	1.00	20.00	0	106	70	129				
Benzene	22.0	1.00	20.00	0	110	73.1	126				
Trichloroethene (TCE)	22.0	0.500	20.00	0	110	65.2	136				
1,2-Dichloropropane	21.1	1.00	20.00	0	105	70.5	130				
Bromodichloromethane	21.5	1.00	20.00	0	108	74.6	127				
Dibromomethane	20.8	1.00	20.00	0	104	75.5	126				
cis-1,3-Dichloropropene	21.4	1.00	20.00	0	107	62.6	137				
Toluene	21.2	1.00	20.00	0	106	61.3	145				
trans-1,3-Dichloropropene	20.5	1.00	20.00	0	103	58.5	142				
1,1,2-Trichloroethane	19.2	1.00	20.00	0	96.2	76	124				
1,3-Dichloropropane	21.1	1.00	20.00	0	106	73.5	127				
Tetrachloroethene (PCE)	21.9	1.00	20.00	0	109	47.5	147				
Qualifiers: B Analyte detected in the	associated Method Blank		D Dilution wa	is required			E Value	above quantitation ra	inge		

Qualifiers: В

R

Analyte detected in the associated Method Blank

Analyte detected below quantitation limits

Value above quantitation range Е

н Holding times for preparation or analysis exceeded RPD outside accepted recovery limits

RL Reporting Limit

J

ND Not detected at the Reporting Limit



Meeker Square

Work	Order:	1408261

Project:

#### CLIENT: Migizi Group, Inc.

# **QC SUMMARY REPORT**

### Volatile Organic Compounds by EPA Method 8260

Sample ID: LCS-R16477	SampType: LCS			Units: µg/L		Prep Da	te: 8/28/20	14	RunNo: 164	77	
Client ID: LCSW	Batch ID: R16477					Analysis Da	te: 8/28/20	14	SeqNo: 331	579	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibromochloromethane	20.5	1.00	20.00	0	102	67.2	134				
1,2-Dibromoethane (EDB)	21.0	0.0600	20.00	0	105	73.6	125				
Chlorobenzene	23.0	1.00	20.00	0	115	73.9	126				
1,1,1,2-Tetrachloroethane	22.0	1.00	20.00	0	110	76.8	124				
Ethylbenzene	22.7	1.00	20.00	0	114	72	130				
m,p-Xylene	46.5	1.00	40.00	0	116	73	131				
o-Xylene	23.0	1.00	20.00	0	115	72.1	131				
Styrene	22.1	1.00	20.00	0	110	64.3	140				
Isopropylbenzene	23.0	1.00	20.00	0	115	73.9	128				
Bromoform	22.7	1.00	20.00	0	114	63.8	135				
1,1,2,2-Tetrachloroethane	20.2	1.00	20.00	0	101	62.9	132				
n-Propylbenzene	22.8	1.00	20.00	0	114	74.5	127				
Bromobenzene	21.4	1.00	20.00	0	107	71	131				
1,3,5-Trimethylbenzene	22.4	1.00	20.00	0	112	73.1	128				
2-Chlorotoluene	22.0	1.00	20.00	0	110	70.8	130				
4-Chlorotoluene	22.2	1.00	20.00	0	111	70.1	131				
tert-Butylbenzene	22.7	1.00	20.00	0	113	68.2	131				
1,2,3-Trichloropropane	20.5	1.00	20.00	0	102	67.7	131				
1,2,4-Trichlorobenzene	16.6	2.00	20.00	0	83.3	72.4	127				
sec-Butylbenzene	22.1	1.00	20.00	0	110	72	129				
4-Isopropyltoluene	22.7	1.00	20.00	0	113	69.2	130				
1,3-Dichlorobenzene	22.6	1.00	20.00	0	113	72.4	129				
1,4-Dichlorobenzene	22.4	1.00	20.00	0	112	70.6	128				
n-Butylbenzene	22.7	1.00	20.00	0	114	73.8	127				
1,2-Dichlorobenzene	21.3	1.00	20.00	0	107	74.2	129				
1,2-Dibromo-3-chloropropane	16.6	1.00	20.00	0	82.9	63.1	136				
1,2,4-Trimethylbenzene	22.1	1.00	20.00	0	110	73.4	127				
Hexachlorobutadiene	22.3	4.00	20.00	0	112	58.6	138				
Naphthalene	14.1	1.00	20.00	0	70.6	62	136				
Qualifiers: B Analyte detected in the	e associated Method Blank		D Dilution wa	s required			E Value	e above quantitation ra	nge		

Qualifiers: В

R

Analyte detected in the associated Method Blank

J Analyte detected below quantitation limits

Value above quantitation range Е

н Holding times for preparation or analysis exceeded

RPD outside accepted recovery limits

RL Reporting Limit ND Not detected at the Reporting Limit



Work Order: 1408261 CLIENT: Migizi Gro Project: Meeker So	oup, Inc. quare					Volatile Organic Co	QC SUMMARY REPORT
Sample ID: LCS-R16477	SampType: LCS			Units: µg/L		Prep Date: 8/28/2014	RunNo: <b>16477</b>
Client ID: LCSW	Batch ID: R16477					Analysis Date: 8/28/2014	SeqNo: 331579
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD	Ref Val %RPD RPDLimit Qual
1,2,3-Trichlorobenzene	13.0	4.00	20.00	0	65.3	66.4 132	S
Surr: Dibromofluoromethane	48.8		50.00		97.5	61.7 130	
Surr: Toluene-d8	48.3		50.00		96.6	40.1 139	
Surr: 1-Bromo-4-fluorobenzene	45.5		50.00		91.1	68.2 127	
NOTES:							
S - Outlying QC recoveries were	e observed (1,2,3-Ttrichlorobe	nzene; low	bias). The follo	owing samples will be	e qualified	with an *.	
Sample ID: MB-R16477	SampType: MBLK			Units: µg/L		Prep Date: 8/28/2014	RunNo: <b>16477</b>
Client ID: MBLKW	Batch ID: R16477					Analysis Date: 8/28/2014	SeqNo: <b>331580</b>
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD	Ref Val %RPD RPDLimit Qual
Dichlorodifluoromethane (CFC-12	) ND	1.00					
Chloromethane	ND	1.00					
Vinyl chloride	ND	0.200					
Bromomethane	ND	1.00					
Trichlorofluoromethane (CFC-11)	ND	1.00					
Chloroethane	ND	1.00					
1,1-Dichloroethene	ND	1.00					
Methylene chloride	ND	1.00					
trans-1,2-Dichloroethene	ND	1.00					
Methyl tert-butyl ether (MTBE)	ND	1.00					
1,1-Dichloroethane	ND	1.00					
2,2-Dichloropropane	ND	2.00					
cis-1,2-Dichloroethene	ND	1.00					
Chloroform	ND	1.00					
1,1,1-Trichloroethane (TCA)	ND	1.00					
1,1-Dichloropropene	ND	1.00					
Carbon tetrachloride	ND	1.00					
1,2-Dichloroethane (EDC)	ND	1.00					

Qualifiers: B Analyte detected in the associated Method Blank

- D Dilution was required
- H Holding times for preparation or analysis exceeded
- R RPD outside accepted recovery limits

- J Analyte detected below quantitation limits
- RL Reporting Limit

- E Value above quantitation range
- ND Not detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

Fremont
Analytical

Work Order: 1408261								00.5			ORT	
CLIENT: Migizi Gro	oup, Inc.											
Project: Meeker S	quare					Volatil	e Organi	ic Compour	nds by EP	A Method	8260	
Sample ID: MB-R16477	SampType: MBLK		Units: µg/L			Prep Date: 8/28/2014				RunNo: 16477		
Client ID: MBLKW	Batch ID: R16477					Analysis Da	te: <b>8/28/20</b>	14	SeqNo: 331	1580		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Benzene	ND	1.00										
Trichloroethene (TCE)	ND	0.500										
1,2-Dichloropropane	ND	1.00										
Bromodichloromethane	ND	1.00										
Dibromomethane	ND	1.00										
cis-1,3-Dichloropropene	ND	1.00										
Toluene	ND	1.00										
trans-1,3-Dichloropropene	ND	1.00										
1,1,2-Trichloroethane	ND	1.00										
1,3-Dichloropropane	ND	1.00										
Tetrachloroethene (PCE)	ND	1.00										
Dibromochloromethane	ND	1.00										
1,2-Dibromoethane (EDB)	ND	0.0600										
Chlorobenzene	ND	1.00										
1,1,1,2-Tetrachloroethane	ND	1.00										
Ethylbenzene	ND	1.00										
m,p-Xylene	ND	1.00										
o-Xylene	ND	1.00										
Styrene	ND	1.00										
Isopropylbenzene	ND	1.00										
Bromoform	ND	1.00										
1,1,2,2-Tetrachloroethane	ND	1.00										
n-Propylbenzene	ND	1.00										
Bromobenzene	ND	1.00										
1,3,5-Trimethylbenzene	ND	1.00										
2-Chlorotoluene	ND	1.00										
4-Chlorotoluene	ND	1.00										
tert-Butylbenzene	ND	1.00										
1,2,3-Trichloropropane	ND	1.00										

Qualifiers:

н

B Analyte detected in the associated Method Blank

D Dilution was required

Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

- J Analyte detected below quantitation limits
- RL Reporting Limit

- E Value above quantitation range
- ND Not detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

Fremont
Analytical

1408261								2.00	SUMMAI	RYRFF	ORT
Migizi Group	o, Inc.						-				
Meeker Squ	are					Volatil	e Organ	ic Compoui	nds by EP	A Method	1 8260
16477	SampType: <b>MBLK</b>			Units: µg/L		Prep Da	ite: 8/28/20	14	RunNo: 164	177	
W	Batch ID: R16477					Analysis Da	te: <b>8/28/20</b>	14	SeqNo: 331	580	
	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
ene	ND	2.00									
	ND	1.00									
	ND	1.00									
e	ND	1.00									
e	ND	1.00									
	ND	1.00									
e	ND	1.00									
ropropane	ND	1.00									
zene	ND	1.00									
ne	ND	4.00									
	ND	1.00									
ene	ND	4.00									*
oromethane	47.8		50.00		95.6	61.7	130				
3	48.4		50.00		96.7	40.1	139				
fluorobenzene	47.2		50.00		94.4	68.2	127				
	1408261 Migizi Group Meeker Squ 6477 W ene ie ie ie iropropane zene ie ie ie ie ie ie ie ie ie ie ie ie ie	1408261 Migizi Group, Inc. Meeker Square 6477 SampType: MBLK W Batch ID: R16477 Result ene ND ND ND ND ND ND ND ND ND ND	1408261         Migizi Group, Inc.         Meeker Square         6477       SampType: MBLK         W       Batch ID:       R16477         Result       RL       RL         Result       RL         :ene       ND       2.00         ND       1.00       ND       1.00         Ie       ND       1.00       1.00         Ie       ND       4.00       ND         Ie       ND       4.00       1.00         Ie       ND       4.00       1.00         Ie       ND       4.00       1.00         Ie       ND       4.00       1.00         Ie	1408261         Migizi Group, Inc.         Meeker Square         6477       SampType: MBLK         W       Batch ID:       R16477         Result       RL       SPK value         iene       ND       2.00         ND       1.00       ND       1.00         iee       ND       1.00       ND       1.00         iene       ND       4.00       ND       1.00         iene       ND       4.00       ND       3.00       3.00       3.00       3.00       3.00       3.00       3.00       3.00       3.00       3.00       3.00       3.00       3.00       3.00       3.00       3	1408261         Migizi Group, Inc.         Meeker Square         16477       SampType: MBLK       Units: µg/L         W       Batch ID:       R16477         W       Batch ID:       R16477       Clinits:       µg/L         W       Batch ID:       R16477       SPK value       SPK Ref Val         Iene       ND       1.00       ND       1.00       ND       1.00         Iene       ND       1.00       ND       3.00       3.00<	1408261         Migizi Group, Inc.         Meeker Square         (6477       SampType: MBLK       Units: µg/L         W       Batch ID:       R16477       Curits:       µg/L         W       Batch ID:       R16477       Curits:       µg/L         W       Batch ID:       R16477       SPK value       SPK Ref Val       %REC         Image: Second S	1408/261         Migizi Group, Inc.       Volatil         Meeker Square       Volatil         i6477       SampType: MBLK       Units: µg/L       Prep Da         W       Batch ID:       R16477       Column (Second Column)       Prep Da         W       Batch ID:       R16477       Column (Second Column)       Prep Da         W       Batch ID:       R16477       Column (Second Column)       Prep Da         W       Batch ID:       R16477       Column (Second Column)       Prep Da         w       Batch ID:       R16477       Analysis Da         rene       ND       2.00       NREC       LowLimit         rene       ND       1.00       ND       1.00         re       ND       1.00       ND       1.00         rene       ND       1.00       Second Column       Second Column         rene       ND       1.00       Second Column       Second Column         rene       ND       4.00       Second Column       Second Column         rene       ND       4.00       Second Column       Second Column         rene       ND       4.00       Second Column       Second Column	1408/261         Migizi Group, Inc.       Volatile Organi         Meeker Square       Volatile Organi         6477       SampType: MBLK       Units: μg/L       Prep Date:       8/28/20         W       Batch ID:       R16477       Analysis Date:       8/28/20         Result       RL       SPK value       SPK Ref Val       %REC       LowLimit       HighLimit         rene       ND       2.00       ND       1.00       ND       1.00       Image: SPK value       SPK Ref Val       %REC       LowLimit       HighLimit         rene       ND       1.00       ND       1.00       Image: SPK value       S	QC S         Migizi Group, Inc.         Meeker Square         Volatile Organic Compount         6477       SampType: MBLK       Units: µg/L       Prep Date: 8/28/2014         Prep Date: 8/28/2014         W       Batch ID:       R16477       SampType: MBLK       Units: µg/L       Prep Date:       8/28/2014         W       Batch ID:       R16477       SPK value       SPK value       SPK Ref Val       %REC       LowLimit       HighLimit       RPD Ref Val         ene       ND       1.00       ND       1.00       ND       ND	QC SUMMAN         Migizi Group, Inc.         Meeker Square         Volatile Organic Compounds by EP.         6477       SampType: MBLK       Units: µg/L       Prep Date:       8/28/2014       RunNo:       164         W       Batch ID:       R16477       SPK value       SPK Ref Val       %REC       LowLimit       HighLimit       RPD Ref Val       %RPD         rene       ND       2.00       ND       1.00       ND       1.00       ND       97.00       ND       97.01       %REC       LowLimit       HighLimit       RPD Ref Val       %RPD         rene       ND       1.00       ND       1.00	Add82/61       QC SUMMARY REF         Migizi Group, Inc.         Meeker Square         Colatile Organic Compounds by EPA Method         G477       SampType: MBLK       Units: µg/L       Prep Date: 8/28/2014       RunNo: 16477         Mesuit       RI 6477       Analysis Date: 8/28/2014       SeqNo: 331580         ND 2.00       ND 1.00       RPD Imit       RPD Ref Val       % RPD       RPDLimit         ene       ND 2.00       ND 1.00       ND 1.00         ene       ND 1.00       ND 1.00         ND 1.00       Ene       ND 1.00         ND 1.00       Ene       ND 1.00         ND 1.00       Ene       ND 1.00         PRE Math       South colspan="4">South colspan="4">South colspan= 4"         ND 1.00       Ene       ND 1.00         Total And       South colspan="4"         ND 1.00       Ene       ND

NOTES:

* - Flagged value is not within established control limits.

Sample ID: 1408258-005AMS	SampType: <b>MS</b>			Units: µg/L		Prep Da	te: 8/28/20 ⁻	14	RunNo: 164	177	
Client ID: BATCH	Batch ID: R16477					Analysis Dat	te: <b>8/28/20</b> 7	14	SeqNo: 331	659	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	11.1	1.00	20.00	0	55.4	33.3	122				
Chloromethane	18.8	1.00	20.00	0.2000	93.1	48.2	145				
Vinyl chloride	20.1	0.200	20.00	0	100	58.1	158				
Bromomethane	23.7	1.00	20.00	0.4100	116	31.5	135				
Trichlorofluoromethane (CFC-11)	23.3	1.00	20.00	0	116	54.7	138				
Chloroethane	22.0	1.00	20.00	0	110	49.9	143				
1,1-Dichloroethene	22.0	1.00	20.00	0	110	63	141				

Qualifiers: B Analyte d H Holding ti

B Analyte detected in the associated Method Blank

D Dilution was required

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

Holding times for preparation or analysis exceeded

RL Reporting Limit

E Value above quantitation range

ND Not detected at the Reporting Limit



Work	Order:	1408261

Project:

CLIENT: Migizi Group, Inc.

### Meeker Square

# **QC SUMMARY REPORT**

### Volatile Organic Compounds by EPA Method 8260

Sample ID: 1408258-005AMS	SampType: <b>MS</b>			Units: µg/L		Prep Da	te: 8/28/201	4	RunNo: 164	77	
Client ID: BATCH	Batch ID: R16477					Analysis Dat	te: <b>8/28/201</b>	4	SeqNo: 331	659	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methylene chloride	22.9	1.00	20.00	0	114	61.6	135				
trans-1,2-Dichloroethene	23.3	1.00	20.00	0	117	63.5	138				
Methyl tert-butyl ether (MTBE)	22.2	1.00	20.00	0	111	60.9	132				
1,1-Dichloroethane	23.8	1.00	20.00	0	119	67.8	136				
2,2-Dichloropropane	22.1	2.00	20.00	0	110	31.5	121				
cis-1,2-Dichloroethene	23.7	1.00	20.00	0	118	67.1	123				
Chloroform	22.9	1.00	20.00	0	114	66.7	136				
1,1,1-Trichloroethane (TCA)	23.2	1.00	20.00	0.3700	114	64.2	146				
1,1-Dichloropropene	24.4	1.00	20.00	0	122	73.8	136				
Carbon tetrachloride	23.4	1.00	20.00	0	117	62.7	146				
1,2-Dichloroethane (EDC)	22.9	1.00	20.00	0	114	63.4	137				
Benzene	24.2	1.00	20.00	0	121	65.4	138				
Trichloroethene (TCE)	23.6	0.500	20.00	0	118	60.4	134				
1,2-Dichloropropane	23.8	1.00	20.00	0	119	62.6	138				
Bromodichloromethane	23.6	1.00	20.00	0	118	59.4	139				
Dibromomethane	23.8	1.00	20.00	0	119	63.6	139				
cis-1,3-Dichloropropene	22.9	1.00	20.00	0	115	63.8	132				
Toluene	23.4	1.00	20.00	0	117	64	139				
trans-1,3-Dichloropropene	21.6	1.00	20.00	0	108	57.7	125				
1,1,2-Trichloroethane	22.6	1.00	20.00	0	113	59.4	127				
1,3-Dichloropropane	22.7	1.00	20.00	0	114	64.3	135				
Tetrachloroethene (PCE)	23.8	1.00	20.00	0	119	50.3	133				
Dibromochloromethane	23.6	1.00	20.00	0	118	61.6	139				
1,2-Dibromoethane (EDB)	22.7	0.0600	20.00	0	113	63.2	134				
Chlorobenzene	24.5	1.00	20.00	0	123	65.8	134				
1,1,1,2-Tetrachloroethane	24.4	1.00	20.00	0.1400	121	65.4	135				
Ethylbenzene	24.5	1.00	20.00	0	123	64.5	136				
m,p-Xylene	50.7	1.00	40.00	0	127	63.3	135				
o-Xylene	23.3	1.00	20.00	0	117	65.4	134				
Qualifiers: B Analyte detected in the	e associated Method Blank		D Dilution wa	s required			E Value	above quantitation ra	ange		

R

J

Reporting Limit

ND

Н Holding times for preparation or analysis exceeded

RPD outside accepted recovery limits

RL

Analyte detected below quantitation limits

Not detected at the Reporting Limit s Spike recovery outside accepted recovery limits



Work	Order:	1408261

CLIENT: Migizi Group, Inc.

### Project: Meeker Square

# QC SUMMARY REPORT

### Volatile Organic Compounds by EPA Method 8260

Sample ID: 1408258-005AMS	SampType: <b>MS</b>			Units: µg/L		Prep Da	ite: 8/28/20	)14	RunNo: 164	77	
Client ID: BATCH	Batch ID: R16477					Analysis Da	te: <b>8/28/20</b>	)14	SeqNo: 331	659	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Styrene	23.3	1.00	20.00	0.3000	115	59.1	134				
Isopropylbenzene	24.9	1.00	20.00	0	125	56	147				
Bromoform	23.2	1.00	20.00	0	116	57.7	139				
1,1,2,2-Tetrachloroethane	23.4	1.00	20.00	0	117	59.8	146				
n-Propylbenzene	24.4	1.00	20.00	0	122	57.6	142				
Bromobenzene	22.2	1.00	20.00	0	111	63.6	130				
1,3,5-Trimethylbenzene	23.8	1.00	20.00	0.3000	118	59.9	136				
2-Chlorotoluene	24.0	1.00	20.00	0	120	61.7	134				
4-Chlorotoluene	24.0	1.00	20.00	0	120	58.4	134				
tert-Butylbenzene	23.6	1.00	20.00	0	118	66.8	141				
1,2,3-Trichloropropane	23.5	1.00	20.00	0	118	62.4	129				
1,2,4-Trichlorobenzene	19.2	2.00	20.00	0.8600	91.8	50.9	133				
sec-Butylbenzene	23.6	1.00	20.00	0.2000	117	56	146				
4-Isopropyltoluene	23.1	1.00	20.00	0.1300	115	56.4	136				
1,3-Dichlorobenzene	22.6	1.00	20.00	0.2400	112	58.2	128				
1,4-Dichlorobenzene	23.0	1.00	20.00	0.1600	114	60.1	123				
n-Butylbenzene	22.6	1.00	20.00	0.2700	112	54.6	135				
1,2-Dichlorobenzene	22.5	1.00	20.00	0.1500	112	65.4	133				
1,2-Dibromo-3-chloropropane	20.7	1.00	20.00	0	104	51.8	142				
1,2,4-Trimethylbenzene	23.4	1.00	20.00	0.1500	116	63.7	132				
Hexachlorobutadiene	20.8	4.00	20.00	0.3900	102	58.1	130				
Naphthalene	17.8	1.00	20.00	3.000	74.0	54.5	132				
1,2,3-Trichlorobenzene	16.4	4.00	20.00	3.370	65.4	57	131				*
Surr: Dibromofluoromethane	49.7		50.00		99.4	61.7	130				
Surr: Toluene-d8	50.0		50.00		100	40.1	139				
Surr: 1-Bromo-4-fluorobenzene NOTES:	48.9		50.00		97.8	68.2	127				

* - Flagged value is not within established control limits.

Qualifiers:

В

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R

Analyte detected in the associated Method Blank

D Dilution was required

- Holding times for preparation or analysis exceeded J Ana
- RPD outside accepted recovery limits

J Analyte detected below quantitation limits

RL Reporting Limit

- E Value above quantitation range
- ND Not detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits



Meeker Square

Work Order:	1408261
CLIENT:	Migizi Group, Inc.

Project:

# **QC SUMMARY REPORT**

Volatile Organic Compounds by EPA Method 8260

Sample ID: 1408264-001ADUP	SampType: <b>DUP</b>			Units: µg/L		Prep Da	ate: 8/28/20	14	RunNo: 164	477	
Client ID: BATCH	Batch ID: R16477					Analysis Da	ite: <b>8/28/20</b>	14	SeqNo: 33	1673	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	1.00						0		30	
Chloromethane	ND	1.00						0		30	
Vinyl chloride	ND	0.200						0		30	
Bromomethane	ND	1.00						0		30	
Trichlorofluoromethane (CFC-11)	ND	1.00						0		30	
Chloroethane	ND	1.00						0		30	
1,1-Dichloroethene	ND	1.00						0		30	
Methylene chloride	ND	1.00						0		30	
trans-1,2-Dichloroethene	ND	1.00						0		30	
Methyl tert-butyl ether (MTBE)	ND	1.00						0		30	
1,1-Dichloroethane	ND	1.00						0		30	
2,2-Dichloropropane	ND	2.00						0		30	
cis-1,2-Dichloroethene	ND	1.00						0		30	
Chloroform	ND	1.00						0		30	
1,1,1-Trichloroethane (TCA)	ND	1.00						0		30	
1,1-Dichloropropene	ND	1.00						0		30	
Carbon tetrachloride	ND	1.00						0		30	
1,2-Dichloroethane (EDC)	ND	1.00						0		30	
Benzene	ND	1.00						0		30	
Trichloroethene (TCE)	ND	0.500						0		30	
1,2-Dichloropropane	ND	1.00						0		30	
Bromodichloromethane	ND	1.00						0		30	
Dibromomethane	ND	1.00						0		30	
cis-1,3-Dichloropropene	ND	1.00						0		30	
Toluene	ND	1.00						0		30	
trans-1,3-Dichloropropene	ND	1.00						0		30	
1,1,2-Trichloroethane	ND	1.00						0		30	
1,3-Dichloropropane	ND	1.00						0		30	
Tetrachloroethene (PCE)	ND	1.00						0		30	
Qualifiers: B Analyte detected in the	e associated Method Blank		D Dilution wa	as required			E Value	e above quantitation rar	nge		

Holding times for preparation or analysis exceeded Н

R

RPD outside accepted recovery limits

J Analyte detected below quantitation limits

Reporting Limit

RL

Not detected at the Reporting Limit ND



1408261

Work Order:

	Migizi Grou	in Inc								
Project:	Meeker Sq	uare						Volatile	e Organ	ic Con
Sample ID: 140	8264-001ADUP	SampType:	DUP			Units: µg/L		Prep Dat	te: <b>8/28/20</b>	014
Client ID: BAT	гсн	Batch ID:	R16477					Analysis Dat	ie: <b>8/28/20</b>	)14
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD R
Dibromochlorom	ethane		ND	1.00						
1,2-Dibromoetha	ane (EDB)		ND	0.0600						
Chlorobenzene			ND	1.00						
1,1,1,2-Tetrachle	oroethane		ND	1.00						
Ethylbenzene			ND	1.00						
m,p-Xylene			ND	1.00						
o-Xylene			ND	1.00						
Styrene			ND	1.00						
Isopropylbenzen	e		ND	1.00						
Bromoform			ND	1.00						
1,1,2,2-Tetrachle	oroethane		ND	1.00						
n-Propylbenzene	e		ND	1.00						

# **QC SUMMARY REPORT**

RunNo: 16477

### mpounds by EPA Method 8260

Client ID:	ВАТСН	Batch ID:	R16477					Analysis Da	ate: <b>8/28/20</b>	14	SeqNo: 331	673	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibromocl	nloromethane		ND	1.00						0		30	
1,2-Dibror	noethane (EDB)		ND	0.0600						0		30	
Chloroben	zene		ND	1.00						0		30	
1,1,1,2-Te	etrachloroethane		ND	1.00						0		30	
Ethylbenz	ene		ND	1.00						0		30	
m,p-Xylen	e		ND	1.00						0		30	
o-Xylene			ND	1.00						0		30	
Styrene			ND	1.00						0		30	
Isopropylb	enzene		ND	1.00						0		30	
Bromoforr	n		ND	1.00						0		30	
1,1,2,2-Te	etrachloroethane		ND	1.00						0		30	
n-Propylbe	enzene		ND	1.00						0		30	
Bromoben	zene		ND	1.00						0		30	
1,3,5-Trim	nethylbenzene		ND	1.00						0		30	
2-Chloroto	bluene		ND	1.00						0		30	
4-Chloroto	bluene		ND	1.00						0		30	
tert-Butylb	enzene		ND	1.00						0		30	
1,2,3-Tricl	hloropropane		ND	1.00						0		30	
1,2,4-Tricl	hlorobenzene		ND	2.00						0		30	
sec-Butylb	enzene		ND	1.00						0		30	
4-Isopropy	/Itoluene		ND	1.00						0		30	
1,3-Dichlo	robenzene		ND	1.00						0		30	
1,4-Dichlo	robenzene		ND	1.00						0		30	
n-Butylber	nzene		ND	1.00						0		30	
1,2-Dichlo	robenzene		ND	1.00						0		30	
1,2-Dibror	no-3-chloropropane		ND	1.00						0		30	
1,2,4-Trim	nethylbenzene		ND	1.00						0		30	
Hexachlor	obutadiene		ND	4.00						0		30	
Naphthale	ne		ND	1.00						0		30	
Qualifiers	- B Analyte detected i	in the associated Meth	od Blank		D Dilution wa	as required			E Valu	e above quantitation rand	je		

Qualmers:

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Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

J Analyte detected below quantitation limits

RL Reporting Limit

ND Not detected at the Reporting Limit



Work Order: CLIENT: Project:	1408261 Migizi Grou Meeker Squ	p, Inc. Iare						Volatil	e Organ	QC S	SUMMAI	RY REF	PORT 1 8260
Sample ID: 14082	64-001ADUP	SampType	DUP			Units: µg/L		Prep Da	te: <b>8/28/20</b>	)14	RunNo: 164	477	
Client ID: BATCI	н	Batch ID:	R16477					Analysis Da	te: <b>8/28/20</b>	)14	SeqNo: 331	1673	
Analyte		I	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,3-Trichlorobenz	ene		ND	4.00						0		30	*
Surr: Dibromoflu	oromethane		48.9		50.00		97.9	61.7	130		0		
Surr: Toluene-d8	3		48.3		50.00		96.6	40.1	139		0		
Surr: 1-Bromo-4- NOTES:	fluorobenzene		49.8		50.00		99.6	68.2	127		0		

* - Flagged value is not within established control limits.

Qualifiers: B Analyte de

- Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- R RPD outside accepted recovery limits

- D Dilution was required
- J Analyte detected below quantitation limits
- RL Reporting Limit

- E Value above quantitation range
- ND Not detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits



# Sample Log-In Check List

Logged by:       Erica Silva       Date Received:       8/28/2014 8:10:00 AM         Chain of Custody       Yes       No       Not Present         1.       Is Chain of Custody complete?       Yes       No       Not Present         2.       How was the sample delivered?       Client       Client         Log In       Yes       No       NA         3.       Coolers are present?       Yes       No       NA	
Chain of Custody         1. Is Chain of Custody complete?         2. How was the sample delivered?         Client         Log In         3. Coolers are present?    Yes ♥ No □ NA □	
1. Is Chain of Custody complete?       Yes ☑ No □ Not Present □         2. How was the sample delivered?       Client         Log In       3. Coolers are present?       Yes ☑ No □ NA □	
2. How was the sample delivered?       Client         Log In       Yes ☑ No □       NA □	
Log In       3. Coolers are present?   Yes ♥ No □ NA □	
Log In         Yes         ✓         No         NA           3. Coolers are present?         Yes         ✓         No         NA	
3. Coolers are present?   Yes   ✓   No   NA	
4. Shipping container/cooler in good condition? Yes ☑ No	
5. Custody seals intact on shipping container/cooler? Yes No Not Required 🗹	
6. Was an attempt made to cool the samples? Yes 🔽 No 🗌 NA 🗌	
7 Were all coolers received at a temperature of $>0^{\circ}$ C to 10.0°C Ves $\checkmark$ No $\square$ NA	
8. Sample(s) in proper container(s)? Yes 🗹 No	
9. Sufficient sample volume for indicated test(s)? Yes 🗹 No	
10. Are samples properly preserved? Yes 🔽 No 🗌	
11. Was preservative added to bottles? Yes 🗌 No 🗹 NA 🗌	
12. Is the headspace in the VOA vials?   Yes   No   NA	
13. Did all samples containers arrive in good condition(unbroken)? Yes ☑ No □	
14. Does paperwork match bottle labels?   Yes   ✓   No	
15 Are matrices correctly identified on Chain of Custody? Yes 🗹 No	
16 Is it clear what analyses were requested? Yes ☑ No	
17. Were all holding times able to be met? Yes ☑ No	
<u>Special Handling (if applicable)</u>	
18. Was client notified of all discrepancies with this order? Yes No No NA	_
Person Notified: Date:	
By Whom: Via: eMail Phone Fax In Person	
Regarding:	
Client Instructions:	

19. Additional remarks:

For samples MW-1 and MW-3 each, a single 1L amber preserved with HCl was received for Diesel/Heavy Oil Range Organics analysis and Semi-Volatile Organics analysis.

#### Item Information

Item #	Temp ⁰C	Condition
Cooler 1	6.4	Good
Cooler 2	9.5	Good
Sample 1	5.4	Good
Sample 2	7.9	Good

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### ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D. Yelena Aravkina, M.S. Michael Erdahl, B.S. Arina Podnozova, B.S. Eric Young, B.S. 3012 16th Avenue West Seattle, WA 98119-2029 (206) 285-8282 fbi@isomedia.com www.friedmanandbruya.com

November 11, 2015

Eric Koltes, Project Manager Environmental Partners, Inc. 1180 NW Maple St, Suite 310 Issaquah, WA 98027

RE: 65112.0, F&BI 511066

Dear Mr. Koltes:

Included are the results from the testing of material submitted on November 6, 2015 from the 65112.0, F&BI 511066 project. There are 31 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl Project Manager

Enclosures c: Cynthia Moon, Monica Mogg EPI1111R.DOC

# ENVIRONMENTAL CHEMISTS

# CASE NARRATIVE

This case narrative encompasses samples received on November 6, 2015 by Friedman & Bruya, Inc. from the Environmental Partners 65112.0, F&BI 511066 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Environmental Partners</u>
511066 -01	B-14:5
511066 -02	B-14:10
511066 -03	B-14
511066 -04	B-21:5
511066 -05	B-21:10
511066 -06	B-21
511066 -07	B-22:5
511066 -08	B-22:10
511066 -09	B-22
511066 -10	B-23:5
511066 -11	B-23:10
511066 -12	B-23
511066 -13	B-7:5
511066 -14	<mark>B-7:12</mark>
511066 -15	<mark>B-7</mark>
511066 -16	<mark>B-9:5</mark>
511066 -17	<u>B-9</u> :10
511066 -18	<mark>B-9</mark>
511066 -19	B-19:5
511066 -20	B-19:10
511066 -21	B-19
511066 -22	B-20:5
511066 -23	B-20:10
511066 -24	B-20
511066 -25	B-3:5
511066 -26	B-3:8
511066 -27	B-3
511066 -28	B-4:6
511066 -29	B-4:10
511066 -30	B-4
511066 -31	B-2:5
511066 -32	B-2:10
511066 -33	B-2

# ENVIRONMENTAL CHEMISTS

# CASE NARRATIVE (Continued)

The 8260C hexachlorobutadiene matrix spike sample exceeded the acceptance criteria. The laboratory control sample met the acceptance criteria, therefore the results were likely due to matrix effect.

All other quality control requirements were acceptable.

### ENVIRONMENTAL CHEMISTS

Date of Report: 11/11/15 Date Received: 11/06/15 Project: 65112.0, F&BI 511066 Date Extracted: 11/06/15 Date Analyzed: 11/06/15

### RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES AND TPH AS GASOLINE USING METHODS 8021B AND NWTPH-Gx

Results Reported on a Dry Weight Basis Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	Ethyl <u>Benzene</u>	Total <u>Xylenes</u>	Gasoline <u>Range</u>	Surrogate ( <u>% Recovery)</u> (Limit 50-132)
B-7:12 511066-14	< 0.02	< 0.02	< 0.02	< 0.06	<2	92
B-9:5 511066-16	<0.02	< 0.02	<0.02	< 0.06	<2	93
Method Blank 05-2257 MB	< 0.02	< 0.02	< 0.02	<0.06	<2	95

### ENVIRONMENTAL CHEMISTS

Date of Report: 11/11/15 Date Received: 11/06/15 Project: 65112.0, F&BI 511066 Date Extracted: 11/06/15 Date Analyzed: 11/06/15

### RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES AND TPH AS GASOLINE USING METHODS 8021B AND NWTPH-Gx

Sample ID Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	Ethyl <u>Benzene</u>	Total <u>Xylenes</u>	Gasoline <u>Range</u>	Surrogate ( <u>% Recovery</u> ) (Limit 52-124)
B-7 511066-15	<1	<1	<1	<3	<100	93
B-9 511066-18	<1	<1	<1	<3	<100	95
Method Blank ^{05-2221 MB}	<1	<1	<1	<3	<100	94

Results Reported as ug/L (ppb)

### ENVIRONMENTAL CHEMISTS

Date of Report: 11/11/15 Date Received: 11/06/15 Project: 65112.0, F&BI 511066

## QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES, AND TPH AS GASOLINE USING EPA METHOD 8021B AND NWTPH-Gx

Laboratory Code: 511063-02 (Duplicate)

		Sample	Duplicate	
	Reporting	Result	Result	RPD
Analyte	Units	(Wet Wt)	(Wet Wt)	(Limit 20)
Benzene	mg/kg (ppm)	< 0.02	< 0.02	nm
Toluene	mg/kg (ppm)	< 0.02	< 0.02	nm
Ethylbenzene	mg/kg (ppm)	< 0.02	< 0.02	nm
Xylenes	mg/kg (ppm)	< 0.06	< 0.06	nm
Gasoline	mg/kg (ppm)	<2	<2	nm

Laboratory Code: Laboratory Control Sample

			Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	Criteria
Benzene	mg/kg (ppm)	0.5	97	66-121
Toluene	mg/kg (ppm)	0.5	96	72-128
Ethylbenzene	mg/kg (ppm)	0.5	98	69-132
Xylenes	mg/kg (ppm)	1.5	98	69-131
Gasoline	mg/kg (ppm)	20	100	61-153

### ENVIRONMENTAL CHEMISTS

Date of Report: 11/11/15 Date Received: 11/06/15 Project: 65112.0, F&BI 511066

## QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES, AND TPH AS GASOLINE USING EPA METHOD 8021B AND NWTPH-Gx

Laboratory Code: 511064-02 (Duplicate) Sample Reporting Duplicate RPD Analyte Units Result Result (Limit 20) Benzene ug/L (ppb) <1 <1 nm Toluene ug/L (ppb) <1 <1 nm Ethylbenzene ug/L (ppb) <1 <1 nm Xylenes ug/L (ppb) <3 <3 nm Gasoline <100 ug/L (ppb) <100 nm

Laboratory Code: Laboratory Control Sample

			Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	Criteria
Benzene	ug/L (ppb)	50	97	65-118
Toluene	ug/L (ppb)	50	96	72-122
Ethylbenzene	ug/L (ppb)	50	96	73-126
Xylenes	ug/L (ppb)	150	95	74-118
Gasoline	ug/L (ppb)	1,000	98	69-134

### ENVIRONMENTAL CHEMISTS

# **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

 ${\bf b}$  - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

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FORMS/COC/COC.DOC	Fax (206) 283-5044	Ph. (206) 285-8282	Seattle, WA 98119-2029	3012 16th Avenue West	Friedman & Bruya, Inc.	6-19:10	8-19:5	. 69	8-9:10	6-9:5	8.7	8-7:12	8-7:5	B-23	6-23:10	Sample ID		Phone # (425) 395-0010	City, State, ZIP Issaqu	Address 1180	Company Envir	Sand Benort To Frich	511066
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### ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D. Yelena Aravkina, M.S. Michael Erdahl, B.S. Arina Podnozova, B.S. Eric Young, B.S. 3012 16th Avenue West Seattle, WA 98119-2029 (206) 285-8282 fbi@isomedia.com www.friedmanandbruya.com

November 19, 2015

Eric Koltes, Project Manager Environmental Partners, Inc. 1180 NW Maple St, Suite 310 Issaquah, WA 98027

RE: 65112.0, F&BI 511183

Dear Mr. Koltes:

Included are the results from the testing of material submitted on November 13, 2015 from the 65112.0, F&BI 511183 project. There are 6 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl Project Manager

Enclosures c: Cynthia Moon, Monica Mogg EPI1119R.DOC

## ENVIRONMENTAL CHEMISTS

# CASE NARRATIVE

This case narrative encompasses samples received on November 13, 2015 by Friedman & Bruya, Inc. from the Environmental Partners 65112.0, F&BI 511183 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Environmental Partners
511183-01	B-10:5'
511183-02	B-10:10'
511183-03	B-10'

All quality control requirements were acceptable.

### ENVIRONMENTAL CHEMISTS

Date of Report: 11/19/15 Date Received: 11/13/15 Project: 65112.0, F&BI 511183 Date Extracted: 11/16/15 Date Analyzed: 11/16/15

### RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES AND TPH AS GASOLINE USING METHODS 8021B AND NWTPH-Gx

Results Reported on a Dry Weight Basis Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	Ethyl <u>Benzene</u>	Total <u>Xylenes</u>	Gasoline <u>Range</u>	Surrogate ( <u>% Recovery)</u> (Limit 50-150)
B-10:5' 511183-01	<0.02	<0.02	< 0.02	<0.06	<2	100
Method Blank 05-2321 MB	<0.02	< 0.02	<0.02	<0.06	<2	99
#### ENVIRONMENTAL CHEMISTS

Date of Report: 11/19/15 Date Received: 11/13/15 Project: 65112.0, F&BI 511183 Date Extracted: 11/16/15 Date Analyzed: 11/16/15

#### RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES AND TPH AS GASOLINE USING METHODS 8021B AND NWTPH-Gx

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	Ethyl <u>Benzene</u>	Total <u>Xylenes</u>	Gasoline <u>Range</u>	Surrogate ( <u>% Recovery</u> ) (Limit 52-124)
B-10' 511183-03	4.9	1.4	1.1	5.2	160	94
Method Blank 05-2320 MB	<1	<1	<1	<3	<100	94

Results Reported as ug/L (ppb)

#### ENVIRONMENTAL CHEMISTS

Date of Report: 11/19/15 Date Received: 11/13/15 Project: 65112.0, F&BI 511183

#### QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES, AND TPH AS GASOLINE USING EPA METHOD 8021B AND NWTPH-Gx

Laboratory Code: 511197-01 (Duplicate)

		Sample	Duplicate	
	Reporting	Result	Result	RPD
Analyte	Units	(Wet Wt)	(Wet Wt)	(Limit 20)
Benzene	mg/kg (ppm)	< 0.02	< 0.02	nm
Toluene	mg/kg (ppm)	< 0.02	< 0.02	nm
Ethylbenzene	mg/kg (ppm)	< 0.02	< 0.02	nm
Xylenes	mg/kg (ppm)	< 0.06	< 0.06	nm
Gasoline	mg/kg (ppm)	<2	<2	nm

Laboratory Code: Laboratory Control Sample

			Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	Criteria
Benzene	mg/kg (ppm)	0.5	89	69-120
Toluene	mg/kg (ppm)	0.5	92	70-117
Ethylbenzene	mg/kg (ppm)	0.5	93	65-123
Xylenes	mg/kg (ppm)	1.5	89	66-120
Gasoline	mg/kg (ppm)	20	105	71-131

#### ENVIRONMENTAL CHEMISTS

Date of Report: 11/19/15 Date Received: 11/13/15 Project: 65112.0, F&BI 511183

#### QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES, AND TPH AS GASOLINE USING EPA METHOD 8021B AND NWTPH-Gx

Laboratory Code: 511189-01 (Duplicate) Reporting Sample Duplicate RPD Analyte Units Result Result (Limit 20) Benzene ug/L (ppb) <1 <1 nm Toluene ug/L (ppb) <1 <1 nm Ethylbenzene ug/L (ppb) <1 <1 nm Xylenes ug/L (ppb) <3 <3 nm Gasoline ug/L (ppb) <100 <100 nm

Laboratory Code: Laboratory Control Sample

	Percent						
	Reporting	Spike	Recovery	Acceptance			
Analyte	Units	Level	LCS	Criteria			
Benzene	ug/L (ppb)	50	100	65-118			
Toluene	ug/L (ppb)	50	98	72-122			
Ethylbenzene	ug/L (ppb)	50	98	73-126			
Xylenes	ug/L (ppb)	150	96	74-118			
Gasoline	ug/L (ppb)	1,000	98	69-134			

#### ENVIRONMENTAL CHEMISTS

## **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

 ${\bf b}$  - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

 ${\rm d}$  - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

	•			
Friedman & Bruya, Inc. 3012 16th Avenue West Seattle, WA 98119-2029 Ph. (206) 285-8282 Fax (206) 283-5044 FORMS/COC/COC/DOC		B-10:5	Sample ID	511183 Send Report To $612$ Company $160$ NM Address $160$ NM City, State, ZIP $75$ Phone # $4257-395$
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Attachment B Bore Logs

PARTNERS INC		BORING ID: B-7						
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Depth (feet)	USCS	Description USCS name; Color; Moisture; Density; Plasticity; Dilatency; EPI description; Other	Interval & % Recovery	PID (ppm)	Sample	Sheen	Notes	
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1 -		POORLY-GRADED SAND; brownish gray; damp						
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12 -	SPI		05	20.1	B-7:12			
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NO	FES: recor	n water sample						
							1 of 1	

PARTNERS INC			BORING ID: B-9						
SITE A	DDRESS		CLIENT:						
1301	W. Meeke	er St. Kent, WA	MJR						
DRILLI	NG CONTRA	ACTOR:	PRO	PROJECT #:					
ESN			651	12					
DRILLI		1ENT:	DATI	=: 					
Geop			11/5			DECOMMISSIONI			
		D.	GKU	UND SUKF	AGE ELEV. FT ANISE.	Bentonite & A	snhalt		
LOGG	ED BY:		тот	AL DEPTH:		BOREHOLE SIZE:			
J. Sh	errod		15			2"	1		
Depth (feet)	USCS	<b>Description</b> USCS name; Color; Moisture; Density; Plasticity; Dilatency; EPI description; Other	Interval & % Recovery	PID (ppm)	Sample	Sheen	Notes		
0		ASPHALT AND FILL							
1 -		SAND; brownish gray, damp							
3 -	еп		70	0.8					
4 -	<u></u> Эг								
5 -		Clay lense @ 5'		0.8	B-9:5				
6 -		SILTY SAND; reddish gray; moist		0.0					
8 -			80	0.9		NO	Recon water sample		
9 -									
10 -	SM			0.7	B-9:10				
11 -		Reddish gray; wet @ 11'		0.8					
13 -			100	0.0					
14 -									
15 -	<u> : : : : : </u> :	End of Borehole		0.3					
16 -									
18 -									
19 -	-								
20 -	-								
21 -									
22 -									
24 -	-								
25 -	] [								
		n water sample							
							1 of 1		

PARTNERS INC		BORING ID: B-10							
SITE A	DDRESS		CLIE	CLIENT:					
1301	W. Meeke	er St. Kent, WA	MJF	MJR					
DRILLI	NG CONTRA	ACTOR:	PRO	JECT #:					
ESN		1-11-	651	12					
Bobo	DRILLING EQUIPMENT: Robert mounted Reverprobe 0100 SK		11/1	=:   2/15					
DRILL	ING METHO	D:	GRO	UND SURF	ACE ELEV. FT AMSL:	DECOMMISSIONI	NG MATERIAL:		
DPT						Bentonite & As	sphalt		
LOGG	ED BY:		TOT	AL DEPTH:		BOREHOLE SIZE:			
M. M	ogg		15 			2"			
Depth (fee	USCS	Description USCS name; Color; Moisture; Density; Plasticity; Dilatency; EPI description; Other	Interval & % Recovei	PID (ppm)	Sample	Sheen	Notes		
0 _		CONCRETE/ ASPHALT							
1 -	-								
2 -		SILTY SAND; reddish brown; damp	15						
3 -									
4 -	SM								
5 -					B-10: 5				
6 -		SANDY SILT: reddish brown: damp							
7 -							Booon Water		
- 8			70			NO	Sample		
9 -		Wet @ 9' and grayish brown							
10 -					B-10: 10				
11 -									
12 -									
13 -			90						
14 -									
- 15 -		End of Porcholo	_						
16 -	-								
17 -	-								
18 -	-								
19 -									
20 -									
21 -									
22 -									
23 -									
24 -									
25 -	]								
NO	IES: reco	n water sample					1 of 1		
							1011		

Attachment C Terrestrial Ecological Evaluation Exclusion Form



# **Voluntary Cleanup Program**

## Washington State Department of Ecology Toxics Cleanup Program

# TERRESTRIAL ECOLOGICAL EVALUATION FORM

Under the Model Toxics Control Act (MTCA), a terrestrial ecological evaluation is necessary if hazardous substances are released into the soils at a Site. In the event of such a release, you must take one of the following three actions as part of your investigation and cleanup of the Site:

- 1. Document an exclusion from further evaluation using the criteria in WAC 173-340-7491.
- 2. Conduct a simplified evaluation as set forth in WAC 173-340-7492.
- 3. Conduct a site-specific evaluation as set forth in WAC 173-340-7493.

When requesting a written opinion under the Voluntary Cleanup Program (VCP), you must complete this form and submit it to the Department of Ecology (Ecology). The form documents the type and results of your evaluation.

# Completion of this form is not sufficient to document your evaluation. You still need to document your analysis and the basis for your conclusion in your cleanup plan or report.

If you have questions about how to conduct a terrestrial ecological evaluation, please contact the Ecology site manager assigned to your Site. For additional guidance, please refer to <a href="http://www.ecy.wa.gov/programs/tcp/policies/terrestrial/TEEHome.htm">www.ecy.wa.gov/programs/tcp/policies/terrestrial/TEEHome.htm</a>.

## Step 1: IDENTIFY HAZARDOUS WASTE SITE

Please identify below the hazardous waste site for which you are documenting an evaluation.

Facility/Site Name:

Facility/Site Address:

Facility/Sit	te No:
r aunity/On	

VCP Project No.:

# Step 2: IDENTIFY EVALUATOR

Please identify below the person who conducted the evaluation and their contact information.

Name:				Title:
Organization:				
Mailing address:				
City:		State:		Zip code:
Phone:	Fax:		E-mail:	

Step 3: DOCUMENT EVALUATION TYPE AND RESULTS
A. Exclusion from further evaluation.
1. Does the Site qualify for an exclusion from further evaluation?
Yes If you answered " <b>YES</b> ," then answer <b>Question 2</b> .
No or Unknown If you answered "NO" or "UKNOWN," then skip to Step 3B of this form.
2. What is the basis for the exclusion? Check all that apply. Then skip to Step 4 of this form.
Point of Compliance: WAC 173-340-7491(1)(a)
All soil contamination is, or will be,* at least 15 feet below the surface.
All soil contamination is, or will be,* at least 6 feet below the surface (or alternative depth if approved by Ecology), and institutional controls are used to manage remaining contamination.
Barriers to Exposure: WAC 173-340-7491(1)(b)
All contaminated soil, is or will be,* covered by physical barriers (such as buildings of paved roads) that prevent exposure to plants and wildlife, and institutional controls are used to manage remaining contamination.
Undeveloped Land: WAC 173-340-7491(1)(c)
<ul> <li>There is less than 0.25 acres of contiguous[#] undeveloped[±] land on or within 500 feet of any area of the Site and any of the following chemicals is present: chlorinated dioxins or furans, PCB mixtures, DDT, DDE, DDD, aldrin, chlordane, dieldrin, endosulfan, endrin, heptachlor, heptachlor epoxide, benzene hexachloride, toxaphene, hexachlorobenzene, pentachlorophenol, or pentachlorobenzene.</li> </ul>
For sites not containing any of the chemicals mentioned above, there is less than 1.5 acres of contiguous [#] undeveloped [±] land on or within 500 feet of any area of the Site.
Background Concentrations: WAC 173-340-7491(1)(d)
Concentrations of hazardous substances in soil do not exceed natural background levels as described in WAC 173-340-200 and 173-340-709.
<ul> <li>* An exclusion based on future land use must have a completion date for future development that is acceptable to Ecology.</li> <li>* "Undeveloped land" is land that is not covered by building, roads, paved areas, or other barriers that would prevent wildlife from feeding on plants, earthworms, insects, or other food in or on the soil.</li> <li>* "Contiguous" undeveloped land is an area of undeveloped land that is not divided into smaller areas of highways, extensive paving, or similar structures that are likely to reduce the potential use of the overall area by wildlife.</li> </ul>

В.	3. Simplified evaluation.			
1.	Does the S	Site qualify for a simplified evaluation?		
	□ Y	es If you answered "YES," then answer Question 2 below.		
	🗌 N Unkn	lo or own If you answered " <b>NO</b> " or " <b>UNKNOWN,</b> " then skip to <b>Step 3C</b> of this form.		
2.	Did you co	onduct a simplified evaluation?		
	🗌 Y	es If you answered "YES," then answer Question 3 below.		
	🗌 N	lo If you answered " <b>NO,</b> " then skip to <b>Step 3C</b> of this form.		
3.	Was furthe	er evaluation necessary?		
	□ Y	es If you answered "YES," then answer Question 4 below.		
	🗌 N	lo If you answered " <b>NO,</b> " then answer <b>Question 5</b> below.		
4.	lf further e	valuation was necessary, what did you do?		
		Used the concentrations listed in Table 749-2 as cleanup levels. If so, then skip to <b>Step 4</b> of this form.		
		Conducted a site-specific evaluation. If so, then skip to Step 3C of this form.		
5.	If no furthe to Step 4 o	er evaluation was necessary, what was the reason? Check all that apply. Then skip f this form.		
	Exposure Analysis: WAC 173-340-7492(2)(a)			
		Area of soil contamination at the Site is not more than 350 square feet.		
		Current or planned land use makes wildlife exposure unlikely. Used Table 749-1.		
	Pathway A	nalysis: WAC 173-340-7492(2)(b)		
		No potential exposure pathways from soil contamination to ecological receptors.		
	Contamina	nt Analysis: WAC 173-340-7492(2)(c)		
		No contaminant listed in Table 749-2 is, or will be, present in the upper 15 feet at concentrations that exceed the values listed in Table 749-2.		
		No contaminant listed in Table 749-2 is, or will be, present in the upper 6 feet (or alternative depth if approved by Ecology) at concentrations that exceed the values listed in Table 749-2, and institutional controls are used to manage remaining contamination.		
		No contaminant listed in Table 749-2 is, or will be, present in the upper 15 feet at concentrations likely to be toxic or have the potential to bioaccumulate as determined using Ecology-approved bioassays.		
		No contaminant listed in Table 749-2 is, or will be, present in the upper 6 feet (or alternative depth if approved by Ecology) at concentrations likely to be toxic or have the potential to bioaccumulate as determined using Ecology-approved bioassays, and institutional controls are used to manage remaining contamination.		

C.	Site-speci the probler require cor	<b>fic evaluation.</b> A site-specific evaluation process consists of two parts: (1) formulating n, and (2) selecting the methods for addressing the identified problem. Both steps insultation with and approval by Ecology. See WAC 173-340-7493(1)(c).			
1.	Was there	a problem? See WAC 173-340-7493(2).			
	Yes If you answered "YES," then answer Question 2 below.				
	□ N	If you answered " <b>NO</b> ," then identify the reason here and then skip to <b>Question 5</b> below:			
		No issues were identified during the problem formulation step.			
		While issues were identified, those issues were addressed by the cleanup actions for protecting human health.			
2.	What did y	you do to resolve the problem? See WAC 173-340-7493(3).			
		Used the concentrations listed in Table 749-3 as cleanup levels. If so, then skip to <b>Question 5</b> below.			
		Used one or more of the methods listed in WAC 173-340-7493(3) to evaluate and address the identified problem. <i>If so, then answer <b>Questions 3 and 4</b> below.</i>			
3.	<b>3. If you conducted further site-specific evaluations, what methods did you use?</b> <i>Check all that apply. See</i> WAC 173-340-7493(3).				
		Literature surveys.			
		Soil bioassays.			
		Wildlife exposure model.			
		Biomarkers.			
		Site-specific field studies.			
		Weight of evidence.			
		Other methods approved by Ecology. If so, please specify:			
4.	What was	the result of those evaluations?			
		Confirmed there was no problem.			
		Confirmed there was a problem and established site-specific cleanup levels.			
5.	Have you problem re	already obtained Ecology's approval of both your problem formulation and esolution steps?			
	□ Y	es If so, please identify the Ecology staff who approved those steps:			
	□ N	□ No			

#### Step 4: SUBMITTAL

Please mail your completed form to the Ecology site manager assigned to your Site. If a site manager has not yet been assigned, please mail your completed form to the Ecology regional office for the County in which your Site is located.

Northwest Region:	<b>Central Region:</b>
Attn: VCP Coordinator	Attn: VCP Coordinator
3190 160 th Ave. SE	1250 West Alder St.
Bellevue, WA 98008-5452	Union Gap, WA 98903-0009
Southwest Region:	Eastern Region:
Attn: VCP Coordinator	Attn: VCP Coordinator
P.O. Box 47775	N. 4601 Monroe
Olympia, WA 98504-7775	Spokane WA 99205-1295



ECY 090-300 (07/2015) To request ADA accommodation including materials in a format for the visually impaired, call Ecology Toxic Cleanup Program 360-407-7170. Persons with impaired hearing may call Washington Relay Service at 711. Persons with speech disability may call TTY at 877-833-6341.

Attachment D Conceptual Site Model Diagram

Primary Sources	Contaminants of Potential Concern	Media of Concern	Transport Mechanisms	Exposure Media	Exposure Pathway
	Gasoline-Range Organics (GRO) and Benzene, Toluene, Ethylbenzene, and Xylenes	Surface Soil (0-2 feet bgs)	<ul> <li>Direct release to soil</li> <li>Migration to subsurface soil</li> <li>Migration to groundwater</li> <li>Volatilization</li> <li>Runoff or erosion</li> <li>Utake by plant or animal</li> <li>Other (list)</li> <li>X Direct release to soil</li> <li>X Migration to groundwater</li> </ul>	X     Soil       X     Groundwater	X       Ingestion         X       Dermal Exposure         X       Ingestion         X       Dermal Exposure
Fuel releases from former undergound storage tanks and piping associated with former gas station	(BTEX)	X Groundwater	<ul> <li>X Volatilization</li> <li>Other (list)</li></ul>	X Air	Inhalation
	<ul> <li>X Adsorbed onto soil</li> <li>X Dissolved in water</li> <li>Non-aqueous phase</li> </ul>	Surface Water		Sediment	Ingestion Dermal Contact
			Resuspension or erosion     Uptake by plant or animal     Other (list)	Indoor Air	Inhalation



Attachment E Environmental Covenant Template



# Environmental Covenant for MTCA Sites: Instructions for Use and Covenant Template

Established:	August 20, 2015
Revised:	December 22, 2016
To:	Interested Persons
From:	James. J. Pendowski, Program Manager Toxics Cleanup Program
Contact:	Policy & Technical Support Unit, Headquarters
Note:	This is Attachment C in Procedure 440A. For additional instructions on using this Covenant, please see Toxics Cleanup Program's <b>Procedure 440A: Establishing Environmental Covenants under the Model Toxics Control Act,</b> publication no. 15-09-054.

# **Instructions for Use**

The following steps provide guidance on how to develop an environmental covenant using the enclosed template. While the exact sequence of steps, as well as who conducts the work (Ecology, potentially liable person (PLP) or Voluntary Cleanup Program (VCP) customer), may vary from site to site, all of the elements identified here must be addressed. When requesting a Covenant, Ecology should identify which steps are the responsibilities of the PLP or VCP customer at the site. Questions about specific provisions in the Covenant template should be directed to the Ecology Cleanup Project Manager assigned to the site. If no Cleanup Project Manager has been assigned, contact Ecology's Toxics Cleanup Program at (360) 407-7170 and ask for advice from the Toxics Cleanup Program (TCP) Policy Unit.

#### Step 1: Identify the Parcels Subject to the Covenant

Using the County Assessors Tax records, identify the parcels subject to the Covenant. Even though the site (or part of the site subject to the Covenant) may be owned by one entity, it may actually encompass more than one parcel of real property as shown on the County's property (and tax) records.

#### Step 2: Identify the Specific Activity and Use Restrictions for the Property

Create a conceptual list of specific prohibited activities (e.g., don't drill wells on the property) and prohibited uses (e.g., property can't be used for residential uses).

Work with the PLP/VCP customer, the property owner, and owners of other property interests (if different) to refine the language implementing these restrictions.

#### Step 3: Consult with the Local Government Land Use Planning Authority

The Uniform Environmental Covenants Act (UECA) and Model Toxics Control Act (MTCA) require Ecology to "consult" with the local government land use planning authority on the terms of the Covenant. While technically the Mayor/Executive is this authority, this guidance recommends contacting the staff that who work with land use issues. However, if the jurisdiction prefers the contact be through the local elected executive, work through the Mayor/Executive instead.

Ideally, before drafting the Covenant, Ecology staff should discuss the proposed restrictions with the local government staff by phone or email. **Once the Covenant has been drafted, the full covenant should be sent to the local government for review.** This consultation should be done by Ecology, but may be delegated to the PLP or VCP customer, upon agreement by Ecology.

The purpose of this consultation is to identify provisions in the Covenant that might conflict with current or future land use plans and development regulations for the property. For example, a provision requiring the land to remain in industrial use won't hold up in the long term if the comprehensive plans for the area call for future mixed residential and commercial use development. Similarly, a provision prohibiting infiltration of stormwater anywhere on the property may conflict with local development regulations requiring all stormwater to be retained and infiltrated on the property. If there is a conflict, see if it's possible to apply the restriction to only part of the property where the exposure pathway is of concern.

Jurisdiction	Department
City or Town	City or Town Planning Department
Unincorporated Areas	County Planning Department
Urban Growth Areas not Annexed to City or Town ¹	Both City or Town Planning Department and County Planning Department

Use the following table as a guide for whom to contact:

Note: In larger communities, planning staff who work on zoning and comprehensive plan issues are typically different than those who review development proposals. *Make sure you are talking to the right staff.* 

¹ City limits and urban growth area should be identified in the City's and County's comprehensive plans. They can typically be found on the local jurisdiction's website. If not, call the jurisdiction's staff to obtain a copy.

#### Step 4: Confirm the Recorded Interests in the Property

To determine who owns the property and any relevant property interests that may need to be superseded by the Covenant, a title search must be conducted to identify all recorded interests in the Property. The title search should be the responsibility of the PLP (or VCP customer) and conducted by a title company. The results of this search, typically called a title report or plat certificate, must be included with any request asking Ecology to sign a Covenant. An uninsured title report is sufficient for this purpose.

In general, the title search should be no more than six months old to ensure it reflects the current status of the property. However, under some circumstances, Ecology may accept an older title search, such as that completed during the PLP identification process. Accepting older title searches should be done only if Ecology has been closely involved with the site during the intervening time period since the last title search, and there is no reason to suspect the owner has changed or an easement or other interest in the property has been granted. Examples of changes that would trigger the need for a new title search are:

- Establishment of a new business on the property;
- Change in the name of the business currently on the property;
- Subdivision of the property;
- Construction of new utilities or roads across the property;
- Foreclosure on the property;
- Change in the status of the persons owning the property (death, divorce or marriage); and
- Bankruptcy of the site owner or operator.

#### Step 5: Determine Who Needs to Sign the Covenant

Real property interests are prioritized according to the date on which they were recorded with the land record authority. Such interests include not only ownership of the property, but may also include mortgages; tax or mechanics' liens; utility easements; surface land rights; and judgments. If a senior mortgage holder forecloses on the property, for instance, it may be able to dispose of all other interests, including Ecology's Covenant. For this reason, to ensure the restrictions in a Covenant are enforceable, the Covenant must supersede these pre-existing property interests.

Grantors or signatories to a Covenant not only are granting access to Ecology and agreeing to adhere to the restrictions on future activities or uses of the property, they are also agreeing to be responsible for any "affirmative obligations" described in the Covenant, such as maintaining the remedy and monitoring.

Signing a subordination agreement means the person holding a senior property interest is agreeing that the Covenant takes precedent over their interest, including providing Ecology with access, and consenting to the restrictions on future uses and activities on the property. However, they are not necessarily agreeing to the affirmative obligations in the Covenant.

Use the following as a guide to determine who must sign the Covenant as a grantor or subordinate their interests:

a) Persons holding fee simple title to the property (i.e., landowners).

The landowner must always sign the Covenant as a Grantor.

b) Persons holding other property interests (such as easements, right-of-ways, water & mineral rights).

In general, if a person holds a title to:

a) An easement or right-of-way,

b) Water rights (if groundwater use is restricted); or

c) Mineral rights,

...that is located within the area of activity or use restrictions, and compliance with those restrictions could be overridden by the person exercising their rights, then the person holding the title should either:

- a) Sign the covenant as a Grantor, or
- b) Subordinate their interests by signing a subordination agreement.

However, if a current contact cannot be located, or if the holder's interest is not critical to the success of the Covenant, it is probably not necessary to expend a lot of effort to track them down and obtain a signature. For example, many properties, especially in eastern Washington State, have underlying mineral rights that are controlled by someone different than the owner. In most urban areas it is unlikely those rights would be exercised to the detriment of the remedy, and so there would be no reason to pursue a signature.

Similarly, the holder of an easement or right-of-way for overhead power lines that is unlikely to affect the performance of the remedy does not need to be pursued.

However, if a cap is part of the remedy, and the easement or right-of-way grants the holder the right to conduct activities that could compromise the integrity of the cap (such as installation and maintenance of road or an underground utility), these holders should be required to sign the Covenant as a Grantor or subordinate their interests.

#### c) Persons holding encumbrances on the property (such as lien and mortgage holders).

In general, persons holding a lien have merely a monetary interest (lien imposed because of lack of payment of a bill) and do not need to sign the Covenant or subordinate their interests. However, if the lien holder is claiming a right that could affect the performance of the remedy, such as control over future sale and development of the property, then they should be required to subordinate their interest.

Mortgage holders such as banks usually hold the title to the property until the property owner pays off the loan for purchase of the property. Should they foreclose on a property, they may be able to extinguish all subsequent interests, including Ecology's Covenant. As such, they should be required to sign a subordination agreement.

A Covenant or subordination agreement must be voluntarily granted. There may be circumstances where the holder of an interest or encumbrance on the property (other than the property owner) refuses to grant a Covenant or subordinate their interests, can't be located, or are not responsive. In these cases, the Ecology Cleanup Project Manager should, in consultation with the Assistant Attorney General assigned to the site, consider the success of the remedy without their signature. If it is deemed necessary to secure their signature and they refuse to sign, then a more complete cleanup will be required.

In cases where there is minimal risk to the success of the remedy and it is decided to proceed without their signature, a letter should be sent to the holder of this interest or encumbrance notifying them that, should they do anything on the property that affects the integrity of the remedial action or results in a release of a hazardous substance, they could trigger liability under MTCA. If the holder of this interest is unresponsive or cannot be located, work with the Assistant Attorney General assigned to the site on an appropriate notification procedure.

#### Step 6: Prepare the Covenant

Use the attached Ecology template to prepare the Covenant.

A precise legal description of the Property and any interests in the Property (such as an easement) is essential to know where the Covenant applies. A map must also be developed to provide a visual representation of where the restrictions apply on the Property.

- If the restrictions apply to the entire Property, the legal description in the Property deed and a map of the Property should be sufficient.
- If the restrictions apply to only part of the Property, a new legal description and map will need to be developed, and boundary markers or reference monuments will need to be established on the Property by a licensed surveyor.

If the Property includes more than one parcel of real property, the legal description and map should cover all of the parcels. This will enable recording of the same covenant on each parcel instead of creating and recording a different covenant for each parcel.

There are specific formatting requirements that apply to recorded Covenants. For example, there must be a three inch margin on the top of the first page and a one inch margin on the bottom and sides. See Chapter 65.04.045 RCW for additional format requirements.

#### **Step 7: Public Involvement**

In general, there is no requirement for a public notice and comment period on a Covenant, other than the requirement for local government consultation discussed above. However, because a Covenant can affect future uses of a property and potentially impact future development in the area, any public notice issued for the cleanup action plan or order or decree governing the cleanup should highlight the fact that there will be restrictions on future activities or uses of the property.

For sites with a high level of public interest or controversy, it may be appropriate to provide a separate opportunity for public comment. The Ecology Cleanup Project Manager should consult with the public involvement specialist assigned to the site regarding the appropriate level of public involvement.

#### **Step 8: Sign the Covenant**

The Ecology Cleanup Project Manager must ensure all appropriate persons sign the Covenant and that each of those signatures is notarized. This responsibility can be delegated to the PLP (or VCP applicant) but Ecology staff must verify this step has been completed.

Ecology's representative should sign the Covenant only after all other parties to the Covenant have signed.

#### **Step 9: Record the Covenant**

The Covenant must be recorded on the title of each parcel of real property subject to the Covenant. Recording is done by the County Auditor. If the area covered by the Covenant extends across a County boundary, the Covenant will have to be recorded in both Counties.

#### Step 10: Send the Recorded Covenant to Ecology and Others per RCW 64.70.070

- a. Send the original recorded Covenant to Ecology's contact for the site.²
- b. Send a legible copy of the recorded Covenant, with the recording number evident, to the following persons (per RCW 64.70.070):
  - Each person who signed the Covenant.
  - Each person holding a recorded interest in the real property subject to the Covenant (including each person who subordinated their interests to Ecology's Covenant).
  - Each person in possession of the real property subject to the Covenant at the time the Covenant is executed (such as renters).
  - The local government planning authority in which the real property subject to the Covenant is located.
  - Any other person to whom the Covenant expressly grants the power to enforce the Covenant.
  - Any other persons required by Ecology.

*Note:* These instructions and attached template are intended solely for the guidance of Ecology staff. They are not intended, and cannot be relied on, to create rights, substantive or procedural, enforceable by any party in litigation with the state of Washington. Ecology may act at variance with these instructions and the attached template depending on site-specific circumstances, or modify or withdraw these documents at any time.

² Some Counties retain the original. If that is the case, make sure Ecology receives a legible copy of the recorded Covenant with all the signatures and with recorded notation.

# Environmental Covenant for MTCA Sites: Covenant Template

See Toxics Cleanup Program's **Procedure 440A** for additional instructions on the use of this Covenant.

Text highlighted by yellow are instructions/comments and options. Those instructions and related footnotes should be removed from the Covenant.

After Recording Return Original Signed Covenant to: ¹ [ECOLOGY SITE MANAGER] Toxics Cleanup Program Department of Ecology [ECOLOGY OFFICE ADDRESS]

NOTE: This Covenant is not valid without Ecology's approval and signature.

# **Environmental Covenant**

(For MTCA Sites – August 20, 2015 Version)

Grantor: [NAME OF THE LANDOWNER OR OTHER GRANTOR]² Grantee: State of Washington, Department of Ecology (hereafter "Ecology") Brief Legal Description: [BRIEF LEGAL DESCRIPTION] Tax Parcel Nos.: [INSERT TAX PARCEL NUMBERS] Cross Reference: [SEE BOX]

- If superseding or amending an existing Covenant, insert <u>one</u> of the following: "Original Covenant <u>#</u> (superseding)" OR "Original Covenant <u>#</u> (amending)"
- Insert a reference to any subordination agreements, if separately recorded
- Insert a list of other related documents such as consent decree, order, or NFA opinion
- Otherwise, delete

#### **RECITALS ³**

**a.** This document is an environmental (restrictive) covenant (hereafter "Covenant") executed pursuant to the Model Toxics Control Act ("MTCA"), chapter 70.105D RCW, and Uniform Environmental Covenants Act ("UECA"), chapter 64.70 RCW.

**b.** The Property that is the subject of this Covenant is part or all of a site commonly known as **ECOLOGY SITE NAME AND FACILITY ID**. The Property is legally described in Exhibit A, and illustrated in Exhibit B, both of which are attached (hereafter "Property"). If there are differences between these two Exhibits, the legal description in Exhibit A shall prevail.

**c.** The Property is the subject of remedial action conducted under MTCA. This Covenant is required because residual contamination remains on the Property after completion of remedial actions. Specifically, the following principal contaminants remain on the Property: ⁴

¹ Some counties keep the original Covenant, others don't. If the signed original is available, it must be sent to Ecology. If the signed original is not available, send a legible copy to Ecology.

² The Grantor of a Covenant typically is the fee simple land owner of the property. The Grantor may also include holders of other property interests such as a holder of an easement, right-of-way, mineral right, lien, or mortgage.

³ This section is primarily used to describe this document and its purpose. It should not be used for substantive binding provisions.

⁴ List the contaminants for the associated media. If more than a few are present, list the top three to five for each medium.

Medium	Principal Contaminants Present
Soil	
Groundwater	
Surface Water/Sediment	

**d.** It is the purpose of this Covenant to restrict certain activities and uses of the Property to protect human health and the environment and the integrity of remedial actions conducted at the site. Records describing the extent of residual contamination and remedial actions conducted are available through Ecology. [Optional--This includes the following documents: (list key documents such as RI/FS, Cleanup Action Plan, Voluntary Cleanup Report(s), As-built report)].

**e.** This Covenant grants Ecology certain rights under UECA and as specified in this Covenant. As a Holder of this Covenant under UECA, Ecology has an interest in real property, however, this is not an ownership interest which equates to liability under MTCA or the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. § 9601 *et seq.* The rights of Ecology as an "agency" under UECA, other than its' right as a holder, are not an interest in real property.

**f.** [Include the following statement if this Covenant is superseding another environmental covenant.] This Covenant supersedes and replaces the existing Environmental (Restrictive) Covenant, which is recorded with [_____] County as [#OF ORIGINAL COVENANT].

#### COVENANT

[NAME OF LANDOWNER OR OTHER GRANTOR], as Grantor ⁵ and [FEE SIMPLE, EASEMENT OR OTHER] owner of the Property hereby grants to the Washington State Department of Ecology, and its successors and assignees, the following covenants. Furthermore, it is the intent of the Grantor that such covenants shall supersede any prior interests the GRANTOR has in the property and run with the land and be binding on all current and future owners of any portion of, or interest in, the Property.

#### Section 1. General Restrictions and Requirements.

The following general restrictions and requirements shall apply to the Property:

**a.** Interference with Remedial Action. The Grantor shall not engage in any activity on the Property that may impact or interfere with the remedial action and any operation, maintenance, inspection or monitoring of that remedial action without prior written approval from Ecology.

**b. Protection of Human Health and the Environment**. The Grantor shall not engage in any activity on the Property that may threaten continued protection of human health or the environment without prior written approval from Ecology. This includes, but is not limited to, any activity that results in the release of residual contamination that was contained as a part of the remedial action or that exacerbates or creates a new exposure to residual contamination remaining on the Property.

⁵ If there is more than one Grantor, use the term "Grantors" here and throughout this document.

**c.** Continued Compliance Required. Grantor shall not convey any interest in any portion of the Property without providing for the continued adequate and complete operation, maintenance and monitoring of remedial actions and continued compliance with this Covenant.

**d.** Leases. Grantor shall restrict any lease for any portion of the Property to uses and activities consistent with this Covenant and notify all lessees of the restrictions on the use of the Property.

e. **Preservation of Reference Monuments.** Grantor shall make a good faith effort to preserve any reference monuments and boundary markers used to define the areal extent of coverage of this Covenant. Should a monument or marker be damaged or destroyed, Grantor shall have it replaced by a licensed professional surveyor within 30 days of discovery of the damage or destruction.

#### Section 2. Specific Prohibitions and Requirements.

In addition to the general restrictions in Section 1 of this Covenant, the following additional specific restrictions and requirements shall apply to the Property.

#### [See Appendix 1 for example restrictions.]

Select from the restrictions in Appendix 1 as appropriate, based on site-specific circumstances. Most sites will have only some of these restrictions. Options are provided to illustrate the range of potential restrictions. In some cases, the options are mutually exclusive (pick one or the other, but not both). In other cases, several options may need to be combined to cover the range of conditions at the site. This is not intended to be an all-inclusive list. In circumstances where none of the categories or suggested options fit the site conditions, adjust the language as appropriate to fit the situation.

- a. Land use.
- b. Containment of soil/waste materials.
- c. Stormwater facilities.
- d. Vapor/gas controls.
- e. Groundwater use.
- f. Sediments.
- g. Monitoring.
- h. Other.

Section 3. Access.

**a.** The Grantor shall maintain clear access to all remedial action components necessary to construct, operate, inspect, monitor and maintain the remedial action.

**b.** The Grantor freely and voluntarily grants Ecology and its authorized representatives, upon reasonable notice, the right to enter the Property at reasonable times to evaluate the effectiveness of this Covenant and associated remedial actions, and enforce compliance with this Covenant and those actions, including the right to take samples, inspect any remedial actions conducted on the Property, and to inspect related records.

**c.** No right of access or use by a third party to any portion of the Property is conveyed by this instrument.

#### Section 4. Notice Requirements.

a. Conveyance of Any Interest. The Grantor, when conveying any interest [IN ANY PART OF THE PROPERTY] **OR** [WITHIN THE AREA OF THE PROPERTY DESCRIBED AND ILLUSTRATED IN EXHIBITS B AND C], including but not limited to title, easement, leases, and security or other interests, must:

- i. Provide written notice to Ecology of the intended conveyance at least thirty (30) days in advance of the conveyance.⁶
- **ii**. Include in the conveying document a notice in substantially the following form, as well as a complete copy of this Covenant:

NOTICE: THIS PROPERTY IS SUBJECT TO AN ENVIRONMENTAL COVENANT GRANTED TO THE WASHINGTON STATE DEPARTMENT OF ECOLOGY ON [Date] AND RECORDED WITH THE [COUNTY] COUNTY AUDITOR UNDER RECORDING NUMBER [Recording Number]. USES AND ACTIVITIES ON THIS PROPERTY MUST COMPLY WITH THAT COVENANT, A COMPLETE COPY OF WHICH IS ATTACHED TO THIS DOCUMENT.

**iii.** Unless otherwise agreed to in writing by Ecology, provide Ecology with a complete copy of the executed document within thirty (30) days of the date of execution of such document.

**b. Reporting Violations.** Should the Grantor become aware of any violation of this Covenant, Grantor shall promptly report such violation in writing to Ecology.

**c. Emergencies.** For any emergency or significant change in site conditions due to Acts of Nature (for example, flood or fire) resulting in a violation of this Covenant, the Grantor is authorized to respond to such an event in accordance with state and federal law. The Grantor must notify Ecology in writing of the event and response actions planned or taken as soon as practical but no later than within 24 hours of the discovery of the event.

**d.** Notification procedure. Any required written notice, approval, reporting or other communication shall be personally delivered or sent by first class mail to the following persons. Any change in this contact information shall be submitted in writing to all parties to this Covenant. Upon mutual agreement of the parties to this Covenant, an alternative to personal delivery or first class mail, such as e-mail or other electronic means, may be used for these communications.

⁶ Ecology may waive this notice provision for some units at a Property where the anticipated use is a multi-tenant/owner building where some owners or tenants are unlikely to be exposed to residual contamination. For example: upper story apartments or condominiums, or commercial tenants in a strip mall, with limited rights to use the grounds under and around the building (such as for parking).

If Ecology agrees to such a waiver, the circumstances of the waiver must be detailed in paragraph 4.a.i. In addition to the specific circumstances, this provision must include the following statement: "Waiver of this advance notice to Ecology for these transactions does not constitute waiver of this notice for the entire Property nor a waiver of the requirement in Section 4.a.ii. to include this notice in any document conveying interest in the Property."

insert contact name, address, phone	Environmental Covenants Coordinator
number and e-mail for Grantor	Washington State Department of Ecology
	Toxics Cleanup Program
	P.O. Box 47600
	Olympia, WA 98504 – 7600
	(360) 407-6000
	ToxicsCleanupProgramHQ@ecy.wa.gov

#### Section 5. Modification or Termination.

**a.** Grantor must provide written notice and obtain approval from Ecology at least sixty (60) days in advance of any proposed activity or use of the Property in a manner that is inconsistent with this Covenant. ⁷ For any proposal that is inconsistent with this Covenant and permanently modifies an activity or use restriction at the site: ⁸

i. Ecology must issue a public notice and provide an opportunity for the public to comment on the proposal; and

ii. If Ecology approves of the proposal, the Covenant must be amended to reflect the change before the activity or use can proceed.

**b.** If the conditions at the site requiring a Covenant have changed or no longer exist, then the Grantor may submit a request to Ecology that this Covenant be amended or terminated. Any amendment or termination of this Covenant must follow the procedures in MTCA and UECA and any rules promulgated under these chapters.

**c.** [*Optional*] By signing this agreement, per RCW 64.70.100, the original signatories to this agreement, other than Ecology, agree to waive all rights to sign amendments to and termination of this Covenant.⁹

#### Section 6. Enforcement and Construction.

**a.** This Covenant is being freely and voluntarily granted by the Grantor.

**b.** Within ten (10) days of execution of this Covenant, Grantor shall provide Ecology with an original signed Covenant and proof of recording and a copy of the Covenant and proof of recording to others required by RCW 64.70.070.

**c.** Ecology shall be entitled to enforce the terms of this Covenant by resort to specific performance or legal process. All remedies available in this Covenant shall be in addition to any

⁷ Example of inconsistent uses are using the Property for a use not allowed under the covenant (i.e. mixed residential and commercial use on a property restricted to industrial uses), OR drilling a water supply well when use of the groundwater for water supply is prohibited by the covenant.

⁸ An example of an activity that is unlikely to be considered a permanent modification is a proposal to disturb a cap to repair an existing underground utility that passes through the site. However, installing a new underground utility within a capped area would be a permanent change.

⁹ As time passes, the original grantor and other signers of the Covenant may no longer exist as viable entities. This provision is intended to allow future amendments or termination of the Covenant without Ecology having to seek court authorization, as provided by RCW 64.70.100.

and all remedies at law or in equity, including MTCA and UECA. Enforcement of the terms of this Covenant shall be at the discretion of Ecology, and any forbearance, delay or omission to exercise its rights under this Covenant in the event of a breach of any term of this Covenant is not a waiver by Ecology of that term or of any subsequent breach of that term, or any other term in this Covenant, or of any rights of Ecology under this Covenant.

**d.** The Grantor shall be responsible for all costs associated with implementation of this Covenant. Furthermore, the Grantor, upon request by Ecology, shall be obligated to pay for Ecology's costs to process a request for any modification or termination of this Covenant and any approval required by this Covenant.

e. This Covenant shall be liberally construed to meet the intent of MTCA and UECA.

**f.** The provisions of this Covenant shall be severable. If any provision in this Covenant or its application to any person or circumstance is held invalid, the remainder of this Covenant or its application to any person or circumstance is not affected and shall continue in full force and effect as though such void provision had not been contained herein.

**g.** A heading used at the beginning of any section or paragraph or exhibit of this Covenant may be used to aid in the interpretation of that section or paragraph or exhibit but does not override the specific requirements in that section or paragraph.

#### [GRANTOR'S SIGNATURE BLOCK FOR ORIGINAL COVENANTS]

Each person who signs must have a separate signature block and applicable notary acknowledgment. Repeat as many times as necessary.

Holders of other property interests must either sign the amended Covenant as a GRANTOR or sign the subordination agreement in Exhibit D.

The undersigned Grantor warrants he/she holds the title [to the Property] OR [to an (Easement/Right of Way/etc.) on the Property] and has authority to execute this Covenant.

EXECUTED this _____ day of ______, 20___.

[SIGNATURE]

by: _____ [Printed name] _____

Title:

Insert one of the following, as applicable after each signature. See example format on page after next:

INDIVIDUAL ACKNOWLEDGMENT CORPORATE ACKNOWLEDGMENT REPRESENTATIVE ACKNOWLEDGEMENT

#### [GRANTOR'S SIGNATURE BLOCK FOR AMENDED COVENANTS]

Each person who signs must have a separate signature block and applicable notary acknowledgment. Repeat as many times as necessary.

When amending a Covenant, each GRANTOR of the existing Covenant must sign the amended Covenant unless the GRANTOR waived its rights under Section 5(b) of the Covenant.

Holders of other property interests must either sign the amended Covenant as a GRANTOR or sign the subordination agreement in Exhibit D.

The undersigned Grantor warrants he/she holds the title [to the Property] OR [to an (Easement/Right of Way/etc.) on the Property] and has authority to execute this Covenant.

EXECUTED this _____ day of _____, 20___.

The undersigned further acknowledges [Environmental or Restrictive] Covenant [# OF THE ORIGINAL COVENANT] filed in [_____] County, is hereby terminated and replaced with the above Environmental Covenant.

[SIGNATURE]

by: _____ [Printed name] _____

Title:

Insert one of the following, as applicable. See example format on next page: INDIVIDUAL ACKNOWLEDGMENT CORPORATE ACKNOWLEDGMENT REPRESENTATIVE ACKNOWLEDGEMENT

#### INDIVIDUAL ACKNOWLEDGMENT

STATE OF	
COUNTY OF	

On this _____ day of _____, 20__, I certify that _____ personally appeared before me, acknowledged that **he/she** is the individual described herein and who executed the within and foregoing instrument and signed the same at **his/her** free and voluntary act and deed for the uses and purposes therein mentioned.

Notary Public in and for the State of Washington ¹⁰ Residing at ______ My appointment expires ______


#### CORPORATE ACKNOWLEDGMENT

STATE OF ______ COUNTY OF ______

On this	day of	, 20 , I certify that
personally appeared	d before me, ac	knowledged that <b>he/she</b> is the

of the corporation that executed the within and foregoing instrument, and signed said instrument by free and voluntary act and deed of said corporation, for the uses and purposes therein mentioned, and on oath stated that **he/she** was authorized to execute said instrument for said corporation.

> Notary Public in and for the State of Washington ¹⁵ Residing at ______ My appointment expires ______


#### **REPRESENTATIVE ACKNOWLEDGEMENT**

STATE OF ______ COUNTY OF ______

On this _____ day of _____, 20__, I certify that _____ personally appeared before me, acknowledged that **he/she** signed this instrument, on oath stated that **he/she** was authorized to execute this instrument, and acknowledged it as the ______[TYPE OF AUTHORITY] of ______ [NAME OF PARTY BEING REPRESENTED] to be the free and voluntary act and deed of such party for the uses and purposes mentioned in the instrument.

> Notary Public in and for the State of Washington ¹⁵ Residing at ______ My appointment expires ______

¹⁰ Where landowner is located out of state, replace with appropriate out-of-state title and location.

#### [ECOLOGY'S SIGNATURE BLOCK]

The Department of Ecology, hereby accepts the status as GRANTEE and HOLDER of the above Environmental Covenant.

STATE OF WASHINGTON DEPARTMENT OF ECOLOGY

_____[SIGNATURE]_____

by: _____ [Printed name] _____

Title: _____

Dated: _____

#### STATE ACKNOWLEDGMENT

STATE OF _____

COUNTY OF _____

On this _____ day of _____, 20__, I certify that _____

personally appeared before me, acknowledged that he/she is the

of the state agency that executed the within and foregoing instrument, and signed said instrument by free and voluntary act and deed, for the uses and purposes therein mentioned, and on oath stated that **he/she** was authorized to execute said instrument for said state agency.

Notary Public in and for the State of Washington

Residing at

My appointment expires

#### Exhibit A

#### **LEGAL DESCRIPTION**

<mark>(Required)</mark>

#### Exhibit B

#### PROPERTY MAP

(Required)
## Exhibit C

### MAP ILLUSTRATING LOCATION OF RESTRICTIONS

While a map illustrating the location of the restrictions is required, the grantor has the option of creating a separate map or including this information in Exhibit B.

More than one map may be necessary to illustrate the area subject to restrictions. For example, the area encompassing a soil cap may be different than the area where vapor or groundwater contamination is a concern.

The area subject to the restrictions, if less than the entire property, should be a contiguous area with even boundaries that follow physical features on the site so the boundary can be easily discerned in the field.

### Exhibit D

### SUBORDINATION AGREEMENT

KNOW ALL PERSONS, That [HOLDER'S NAME], the owner and holder of that certain
[INSTRUMENT – E.G. EASEMENT/ROW/MORTGAGE/ETC.] bearing the date the day
of <u>[Month]</u> , [Year] , executed by <u>[Name of Person that Granted the Interest</u>
BEING SUBORDINATED],[LEGAL STATUS OF ORIGINAL GRANTOR – E.G. LANDOWNER,
CORPORATE OFFICER, ETC.], and recorded in the office of the County Auditor of
[COUNTY] County, State of Washington, on [DATE], under Auditor's File Number
, does hereby agree that said Instrument shall be subordinate to the interest of the
State of Washington, Department of Ecology, under the environmental (restrictive) covenant
dated [DATE], executed by [NAME OF PERSON SIGNING THIS SUBORDINATION
AGREEMENT], and recorded in _[COUNTY]_ County, Washington under Auditor's File
Number

	[ <mark>SIGNATURE</mark> ]	
by:	[PRINTED NAME]	

 Title:
 ______

 Dated:
 ______

Insert one of the following, as applicable. See example format on next page: INDIVIDUAL ACKNOWLEDGMENT CORPORATE ACKNOWLEDGMENT REPRESENTATIVE ACKNOWLEDGEMENT

#### INDIVIDUAL ACKNOWLEDGMENT

STATE OF	
COUNTY OF	

On this _____ day of _____, 20__, I certify that _____ personally appeared before me, acknowledged that **he/she** is the individual described herein and who executed the within and foregoing instrument and signed the same at **his/her** free and voluntary act and deed for the uses and purposes therein mentioned.

Notary Public in and for the State of Washington ¹¹ Residing at ______ My appointment expires ______


### **CORPORATE ACKNOWLEDGMENT**

STATE OF _____ COUNTY OF _____

On this _____ day of _____, 20__, I certify that _____ personally appeared before me, acknowledged that **he/she** is the

of the corporation that executed the within and foregoing instrument, and signed said instrument by free and voluntary act and deed of said corporation, for the uses and purposes therein mentioned, and on oath stated that **he/she** was authorized to execute said instrument for said corporation.

 Notary Public in and for the State of Washington 16

 Residing at

 My appointment expires

_____

### **REPRESENTATIVE ACKNOWLEDGEMENT**

STATE OF ______ COUNTY OF _____

On this _____ day of _____, 20__, I certify that _____ personally appeared before me, acknowledged that **he/she** signed this instrument, on oath stated that **he/she** was authorized to execute this instrument, and acknowledged it as the [TYPE OF AUTHORITY] of _____ [NAME OF PARTY BEING REPRESENTED] to be the free and voluntary act and deed of such party for the uses and purposes mentioned in the instrument.

> Notary Public in and for the State of Washington ¹⁶ Residing at ______ My appointment expires

¹¹ Where landowner is located out of state, replace with appropriate out-of-state title and location.

# **APPENDIX 1**

## **EXAMPLE** SITE-SPECIFIC COVENANT PROVISIONS

## a. Land Use. ¹²

**Option 1** Industrial Land Use: The remedial action for the Property is based on a cleanup designed for industrial property. As such, the Property shall be used in perpetuity only for industrial uses, as that term is defined in the rules promulgated under Chapter 70.105D RCW. Prohibited uses on the Property include but are not limited to residential uses, childcare facilities, K-12 public or private schools, parks, grazing of animals, growing of food crops, and non-industrial commercial uses.

**Option 2** Commercial Land Use: The remedial action for the Property is based on a cleanup designed for commercial property. As such, the Property shall be used in perpetuity only for commercial land uses as that term is defined in the rules promulgated under Chapter 70.105D RCW. Prohibited uses on the Property include but are not limited to residential uses, childcare facilities, K-12 public or private schools, parks, grazing of animals, and growing of food crops.

**Option 3 Park:** The remedial action for the Property is based on a cleanup designed for a public park. As such, the Property shall be used in perpetuity only for a public park. Prohibited uses on the Property include but are not limited to residential uses, childcare facilities, K-12 public or private schools, grazing of animals, and growing of food crops.

**Option 4** [Specify other land use limitations as appropriate.]

## b. Containment of Soil/Waste Materials. ¹³

[Use where contaminated soil or solid or hazardous waste remains on the property.]

The remedial action for the Property is based on containing contaminated soil [and waste materials] under a cap consisting of [Insert a description of the cap] ¹⁴ and located as illustrated in [Exhibit B/C] ¹⁵. The primary purpose of this cap is to [Insert purpose of cap]. ¹⁶ As such, the following restrictions shall apply within the area illustrated in [Exhibit B/C] ¹⁷:

**Option 1 [Use where a cap is required.]** Any activity on the Property that will compromise the integrity of the cap including: drilling; digging; piercing the cap with sampling device, post, stake or similar device; grading; excavation; installation of underground utilities; removal of the cap; or, application of loads in excess of the cap load bearing capacity, is prohibited without prior written approval by Ecology. The Grantor shall report to Ecology within forty-eight (48) hours of the discovery of any damage to the cap. Unless an alternative plan has been approved by Ecology in writing, the Grantor shall promptly repair the damage and submit a report documenting this work to Ecology within thirty (30) days of completing the repairs.

¹² Use one of these restrictions only if the underlying zoning allows the use.

¹³ Waste materials means solid wastes as defined in Chapter 70.95 RCW or hazardous wastes as defined in Chapter 70.105 RCW and the rules promulgated under these statutes.

 ¹⁴ Such as: an X foot thick layer of clean soil; an engineered cap consisting of X inches of clean soil overlying a X mil thick geomembrane and/or clay layer; asphalt pavement; an X square foot building, etc.]
 ¹⁵ Be very clear in describing or diagramming where the contamination is located relative to a legally defined benchmark such as a property line or survey monument; or use a legal description.

¹⁶ Such as: minimize the potential for contact with contaminated soil; minimize leaching of contaminants to groundwater and surface water; prevent runoff from contacting contaminated soil; minimize airborne contaminants. A cap may have multiple purposes.

¹⁷ NOTE: More than one exhibit may be necessary to illustrate the area restricted by this and other limitations.

## **Option 2** [Use when contamination is left behind under a building.]

The Grantor shall not alter or remove the existing structures on the Property in any manner that would expose contaminated soil **[and waste materials]**, result in a release to the environment of contaminants, or create a new exposure pathway, without prior written approval of Ecology. Should the Grantor propose to remove all or a portion of the existing structures illustrated in **[Exhibit B/C]** so that access to the underlying contamination is feasible, Ecology may require treatment or removal of the underlying contaminated soil **[and waste materials]**.

**Option 3:** [Use when periodic inspections of a cap/building are included.]

The Grantor covenants and agrees that it shall annually, or at another time as approved in writing by Ecology, inspect the [cap/building] and report within thirty (30) days of the inspection the condition of the [cap/building] and any changes to the [cap/building] that would impair its performance.

c. Stormwater facilities. [Use when infiltration needs to be controlled to minimize leaching from soil or waste materials, or spreading of groundwater contamination.]

To minimize the potential for mobilization of contaminants remaining in the [soil/waste materials/groundwater] on the Property, no stormwater infiltration facilities or ponds shall be constructed [on the Property] OR [within the area of the Property illustrated in Exhibit B/C]. All stormwater catch basins, conveyance systems, and other appurtenances located within this area shall be of water-tight construction.¹⁸

d. Vapor/gas controls. [Use when vapors and/or methane gas are a concern. An example of when this provision would be appropriate is if a soil cap or a groundwater conditional point of compliance are being used to address volatile contaminants remaining on the property.]

The residual contamination on the Property includes [volatile chemicals that may generate harmful vapors] and/or [biodegradable wastes/chemicals that may generate methane, a combustible gas]. As such, the following restrictions shall apply [on the Property] or [within the area of the Property illustrated in Exhibit B/C] to minimize the potential for exposure to these vapors:

- 1. No building or other enclosed structure shall be constructed **[on the Property/within this area]** unless approved by Ecology.
- 2. If a building or other enclosed structure is approved, it shall be constructed with a sealed foundation and a **[vapor/gas]** control system that is operated and maintained to prevent the migration of **[vapors/gas]** into the building or structure, unless an alternative approach is approved by Ecology.
- e. Groundwater Use. [Use when groundwater use restrictions are required.]

The groundwater beneath [the Property] OR [within the area of the Property illustrated in Exhibit B/C] remains contaminated and shall not be extracted for any purpose other than temporary construction dewatering, investigation, monitoring or remediation. Drilling of a well for any water supply purpose is strictly prohibited. Groundwater extracted [from the

¹⁸ NOTE: Most local ordinances require on-site infiltration of runoff. If redevelopment of the Property is anticipated, the cleanup plan should reserve an area for this infiltration to occur without exacerbating leaching of residual soil contamination or enhancing movement of contaminants within the groundwater.

**Property/within this area** for any purpose shall be considered potentially contaminated and any discharge of this water shall be done in accordance with state and federal law.

# f. Sediments. [Use for sediment cleanup sites.] ¹⁹

The residual contamination on the Property includes contaminated sediments. As such, the following restrictions shall apply to minimize potential disturbance of these sediments **[on the Property] OR [within the area of the Property illustrated in Exhibit B/C]**:

**Option 1 [Use where a cap is required.]** Any activity **[on the Property/within this area]** that will compromise the integrity of the cap including: drilling; digging; piercing the cap with sampling device, post, stake or similar device; excavation; installation of buried utilities; removal of the cap; or, application of loads in excess of the cap load bearing capacity, is prohibited without prior written approval by Ecology. The Grantor shall report to Ecology within forty-eight (48) hours of the discovery of any damage to the cap. Unless an alternative plan has been approved by Ecology in writing, the Grantor shall promptly repair the damage and submit a report documenting this work to Ecology within thirty (30) days of completing the repairs.

**Option 2** No docks or other structures shall be constructed **[on the Property/within this area]** without prior written approval of Ecology.

**Option 3** No dredging shall be allowed **[on the Property/within this area]** without prior written approval of Ecology.

**Option 4** No ships or boats shall be allowed to anchor or use side thrusters **[on the Property/within this area]**. A no wake zone shall be enforced and ships and boats shall be limited to a draft depth of **[XX]** feet **[on the Property/within this area]**.

**Option 5** No digging for clams, setting of crab pots or fishing nets, anchoring of mooring buoys or channel markers, or similar activities that could disturb the surface of the sediment shall be allowed **on the Property/within this area** without prior written approval of Ecology.

# g. Monitoring. [Use for long-term protection of monitoring devices.]

Several **[groundwater monitoring wells, vapor probes, etc.]** are located on the Property to monitor the performance of the remedial action. The Grantor shall maintain clear access to these devices and protect them from damage. The Grantor shall report to Ecology within forty-eight (48) hours of the discovery of any damage to any monitoring device. Unless Ecology approves of an alternative plan in writing, the Grantor shall promptly repair the damage and submit a report documenting this work to Ecology within thirty (30) days of completing the repairs.

# h. Other.

[Add other property-specific use or activity restrictions and affirmative obligations that are necessary but not identified above. Examples include special remedy-specific requirements such as restrictions on structures over leachate/groundwater collection systems, or protection requirements for cut-off walls or sheet piling.]

¹⁹ NOTE: Sediment restrictions are currently evolving. Additional guidance can be found in Ecology's Sediment Cleanup Users Manual II (SCUM II), Publication No. 12-09-057, located at: <u>https://fortress.wa.gov/ecy/publications/SummaryPages/1209057.html</u>

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