REMEDIAL INVESTIGATION AND FEASIBILITY STUDY REPORT

GWI Tukwila Property 18700 Southcenter Parkway, Tukwila, WA

Prepared for: King County

Project No. 160427-001 • June 29, 2017

Aspect CONSULTING

earth + water

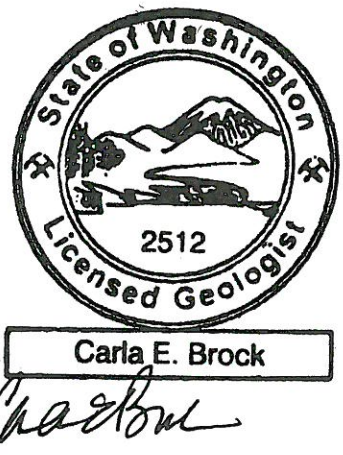
REMEDIAL INVESTIGATION AND FEASIBILITY STUDY REPORT

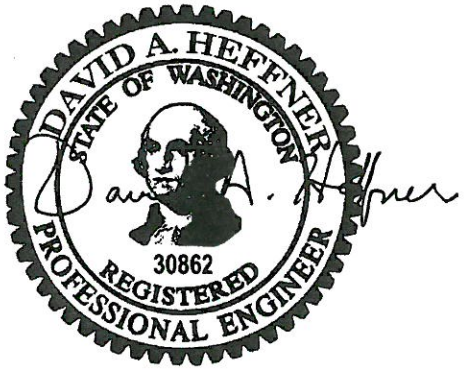
GWI Tukwila Property
18700 Southcenter Parkway, Tukwila, WA

Prepared for: King County

Project No. 160427-001 • June 29, 2017

Aspect Consulting, LLC





Carla E. Brock, LG
Associate Geologist
cbrock@aspectconsulting.com

Dave A. Heffner, PE
Associate Remediation Engineer
dheffner@aspectconsulting.com

V:\160427 King County WLRD Work Order Geotechnical Services #E00453E16\Deliverables\RIFS\Gaco Western RIFS Report_20170629.docx

Contents

List of Tables

List of Figures

List of Appendices

Acronyms

ARARs	applicable or relevant and appropriate requirements
Aspect	Aspect Consulting, LLC
BTEX	benzene, toluene, ethylbenzene, and xylenes
CESCL	Certified Erosion and Sediment Control Lead
COCs	chemicals of concern
COPCs	chemicals of potential concern
Corps	United States Army Corps of Engineers
CSM	conceptual site model
DCA	disproportionate cost analysis
DCE	cis-1,2-dichloroethene
District	Highline Water District
Ecology	Washington Department of Ecology
HPA	hydraulic project approval
gpm	gallons per minute
GWI	Gaco Western and Gaco West Inc.
Lbs.	pounds
LNAPL	light non-aqueous phase liquid
MEK	methyl ethyl ketone
MIBK	methyl isobutyl ketone
mg/kg	milligrams/kilograms
mg/L	milligrams per liter
µg/L	micrograms per liter
MTCA	Model Toxics Control Act
NFA	No Further Action
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NPV	Net Present Value

OSHA	Occupational Safety and Health Administration
PCE	tetrachloroethylene
PID	photoionization detector
RAOs	remedial action objectives
RI/FS	Remedial Investigation/Feasibility Study
SEPA	State Environmental Policy Act
SL	screening level
SVE	soil vapor extraction
SWAP	Source Water Assessment Program
SWPPP	Stormwater Pollution Prevention Plan
TCE	trichloroethene [TCE]
TPH	total petroleum hydrocarbons
UDOT	United States Department of Transportation
UST	underground storage tank
USCS	Unified Soil Classification System
USGS	U.S. Geological Survey
VC	vinyl chloride
VCP	Voluntary Cleanup Program
VOC	volatile organic compound
WAC	Washington Administrative Code
WDFW	Washington State Department of Fish & Wildlife
WISHA	Washington Industrial Safety and Health Act
WSDOT	Washington State Department of Transportation

Executive Summary

This purpose of this remedial investigation (RI) and feasibility study (FS) conducted by Aspect Consulting, LLC (Aspect) for the Gaco Western Inc. (GWI) Tukwila property (Site) is to develop, evaluate, and enable selection of a cleanup action. The selected cleanup action for the Site will comply with the requirements of the Washington State Model Toxics Control Act (MTCA). A future planned project at the Site will include construction of a levee setback project. The anticipated future Site use will be either public/recreational (such as a park) or river floodplain. Redevelopment for any other use is not a likely future site use.

The Site is located at 18700 Southcenter Parkway in Tukwila, Washington and developed with a combined industrial warehouse and office building that were previously used for manufacturing of liquid rubber coatings and sales operations. Releases of volatile organic compounds (VOCs) from storage and distribution of raw products from underground storage tanks (USTs) have impacted soil and groundwater quality at the Site.

Based on our review of previous environmental reports prepared by others and explorations performed by Aspect, the chemicals of concern (COCs) for the Site consist of petroleum distillates (benzene, toluene, ethylbenzene, and xylenes (BTEX compounds) and several halogenated VOCs (tetrachloroethene [PCE], trichloroethene [TCE], cis-1,2-dichloroethene [DCE], and vinyl chloride [VC]). The primary remedial action objectives (RAOs) proposed for this Site to address the COCs at the Site are outlined below. These RAOs assume a future recreational or open space land use scenario.

- Reduce risk to human health from direct contact with soil containing concentrations of COCs above site cleanup levels; and
- Prevent unacceptable risk to human health from ingestion of and exposure to groundwater containing concentrations of COCs above risk-based cleanup levels.

The secondary RAOs are:

- Reduce the mass of contaminants in soil that is acting as an ongoing source to groundwater, to reduce concentrations of COPCs in groundwater to below site cleanup levels; and
- Ensure that COCs in groundwater do not migrate to surface water at concentrations exceeding risk-based cleanup levels.

The following remedial alternatives were selected for evaluation as the Site's cleanup action. Following MTCA guidelines for developing remedial alternatives, Aspect conducted a disproportionate cost analysis (DCA) to determine whether a cleanup action uses permanent solutions to the maximum extent practicable. The remedial alternatives, with associated DCA cost, are below.

- **Alternative 1 – Removal of all impacted vadose zone soils.** Alternative 1 is estimated to achieve a contaminant mass removal of approximately 38,000 pounds (lbs.) via soil excavation, at an estimated cost of $2.9 million.
- **Alternative 2 – Removal of all impacted vadose zone soils and *in situ* treatment of highly impacted saturated zone soils**. Alternative 2 is estimated to achieve a contaminant mass removal of approximately 38,000 lbs. via soil excavation and 5,000 lbs. via *in situ* treatment (43,000 lbs. total), at an estimated cost of $3.3 million.
- **Alternative 3 – Removal of all impacted vadose zone soils and highly impacted saturated zone soils.** Alternative 3 is estimated to achieve a contaminant mass removal of approximately 48,000 lbs. via soil excavation, at an estimated cost of $3.6 million
- **Alternative 4 – Removal of all impacted soils**. Alternative 4 is estimated to achieve a contaminant mass removal of approximately 49,000 lbs. via soil excavation, at an estimated cost of $5.8 million

Based on the results of the DCA presented above, Alternative 1 is the most cost effective of the four remedial alternatives evaluated in this FS. Therefore, under MTCA, Alternative 1 is identified as the alternative that is permanent to the maximum extent practicable.

1 Introduction

This report presents the results of the remedial investigation (RI) and feasibility study (FS) for the Gaco Western Inc. (GWI) Tukwila site located at 18700 Southcenter Parkway in Tukwila, Washington (herein referred to as the Site; Figure 1). The Site property is comprised of two King County tax parcels that are developed with a combined industrial warehouse and office building that were previously used by GWI for manufacturing of liquid rubber coatings and sales operations. Currently, the warehouse is being used for storage and the office building is vacant. Releases of volatile organic compounds (VOCs) from storage and distribution of raw products from underground storage tanks (USTs) have impacted soil and groundwater quality at the Site.

The RI/FS Report has been prepared for submittal to the Washington State Department of Ecology (Ecology) to meet the requirements of the Model Toxics Control Act Cleanup (MTCA) and regulations implementing it, Chapter 173-340 of the Washington Administrative Code (WAC 173-340). The RI/FS Report has been prepared in general accordance with the Remedial Investigation Checklist Guidance (Ecology, 2016a) and the Feasibility Study Checklist Guidance (Ecology, 2016b). The purpose of this RI/FS is to collect and evaluate sufficient information to develop and evaluate cleanup action alternatives to enable selection of a cleanup action for the Site in accordance with WAC 173-340-360 through -390. This RI/FS Report will support selection, development, and implementation of a cleanup action to facilitate a planned King County levee setback project along the adjacent Green River.

1.1 Report Organization

This RI/FS report has been organized in accordance with Ecology's RI and FS Checklists (Publications No. 16-09-006 and 16-09-007, respectively) dated May 2016 and includes the following:

- Section 2 provides a definition of the Site and property, and presents a summary of the background information including the environmental setting, historical use of the property/vicinity, and regulatory involvement.
- Section 3 provides the scope of work and results of the RI, including a summary of the historical environmental studies/actions and screening/cleanup levels used to evaluate the soil and groundwater data collected for the RI to facilitate site characterization.
- Section 4 presents the Conceptual Site Model (CSM) for the Site, including the sources and nature and extent of concentrations of hazardous substances in soil and groundwater at the Site, and a preliminary assessment of potential receptors and exposure pathways.
- Section 5 presents the proposed cleanup standards for future cleanup at the Site, including cleanup levels and points of compliance for soil and groundwater.

- Section 6 presents the FS, including a summary of cleanup standards, remedial action objectives (RAOs), and applicable laws and regulations; the results of the screening and detailed evaluation of feasible remedial alternatives; and a description of the recommended remedial alternative.

2 Site Description and Background

2.1 Site Information

The GWI Tukwila property is located at 18700 Southcenter Parkway within the city limits of Tukwila in King County, Washington on the outside of a tight river bend in the Green River (Figure 1). According to the King County tax assessor records (King County, 2017), the property consists of two tax parcels (Parcel #352304-9014 [2.13 acres] and #352304-9081 [0.45 acre]) totaling approximately 2.58 acres and is currently owned by GWI Tukwila Realty LLC (King County, 2017). The property is in the SW ¼ of the NE ¼ of Township 23 North, Range 4 East, Section 35 (King County, 2017).

Existing physical improvements on the property include a single commercial-use building and associated asphalt-paved parking lot (Figure 2). The building was reportedly constructed in 1968 and consists of 33,000 square feet of manufacturing area and 13,000 square feet of office space.

The property is zoned Heavy Industrial and is surrounded by other commercial-use properties to the north (Segale Enterprise) and south (Mitchell Moving and Storage) (Figure 2). The 57th Avenue SE public right-of-way is located to the west. To the east of the building is a grass/landscaped area and a flood-control levee on the west bank of the Green River (Figure 2). The existing property and vicinity features are depicted in Figure 2.

The Site is listed in Ecology's regulatory databases as Facility Site ID#2402, with two Cleanup Site ID#s of 7381 and 2979. A restrictive covenant was recorded for the property in 1996 (Ecology, 1996) when the Site received a No Further Action determination from Ecology's Hazardous Waste and Toxics Reduction division, as discussed further in Section 3.1.3. Periodic reviews are performed by Ecology every 5 years; the most recent was conducted in 2016 (Ecology, 2016c). The 2016 Ecology Periodic Review concluded that, although concentrations of contaminants are presently exceeding the current cleanup levels, the cleanup action completed at the Site continues to be protective of human health and the environment. Ecology recommended an evaluation of current groundwater conditions at the Site but indicated that the requirements of the Restrictive Covenant continue to be satisfactorily met regardless.

2.2 Site History

Historical information indicates that the property was undeveloped until construction of the current building in 1968. Gaco West (also Gaco Western and Gaco West Inc. [GWI]) operated on the property between approximately 1968 and 2009. Operations consisted of the manufacturing of liquid rubber coatings used for industrial tank liners, roof coatings,

and general waterproofing. Reportedly, 14 USTs, with storage capacities ranging from 3,000 to 10,000 gallons, were installed at two locations on the west portion of the property between 1968 and 1972 (Figure 2). The USTs were historically used for storing chemicals including: xylene, butyl acetate, toluene, methyl ethyl ketone (MEK), methyl isobutyl ketone (MIBK), methylene chloride, ethylbenzene, chlorinated paraffin, cyclolube oil, trimethylbenzene, isopropyl/propyl alcohol, and naphtha. Products from the USTs were transferred via an underground piping system into the building for use in the manufacturing processes (Figure 2). The USTs and a limited amount of soil were reportedly removed from the property in September 1991; the piping associated with the USTs was reportedly left-in-place beneath the west portion of the existing building (Figure 2).

Additional documents found in the regulatory files obtained from Ecology, including a 1997 Pollution Prevention Plan, identify interior storage areas for isocyanate, oil and latex products and solvent tanks (Figure 2). Additionally, historical compliance records include the use of hazardous substances in a paint-making process in 1995, including benzene, toluene, ethylbenzene and xylenes (BTEX), chlorinated paraffins, MEK, MIBK, 1,1,1-trichloroethane, and tetrachloroethene (PCE). By 2002, the process operations at the Site were reported to be solvent-free. Manufacturing operations ceased at the property in July 2009. The property has mostly remained vacant since then except for occasional use as a storage building.

2.3 Site Setting

The Site is in the western portion of the Duwamish Valley, which is a north-south trending valley bounded on the west and east by glacial upland areas. The valley walls are relatively steep-sided and rise about 350 to 400 ft above the valley floor. The Green River, located adjacent to the east of the Site, currently flows northward through the valley to Puget Sound located approximately 15 miles to the north-northwest.

The surface topography of the Site is relatively flat in the west half (Elevation 30 to 31 feet, NAVD88) and rises slightly in the east half towards the flood-control levee (Elevation 35 feet, NAVD88) and drops off gradually towards the Green River (Elevation 20 feet, NAVD88) located east of the Site (Figure 2).

2.4 Geology and Hydrogeology

Explorations conducted by Aspect and others to total depths of 45 feet below ground surface (bgs) indicate that the Site is underlain by three layers of alluvial sediment, including clay, silt, silty sand, and sand, all with varying amounts of gravel. The layers consist of the following:

- Finer-grained sand with silt from beneath surficial fill to depths of 10 to 17 feet.
- A semi-confining sandy silt, silt and clay with thicknesses ranging from 7 to 10 feet.
- Saturated, coarser-grained sand with minor amounts of silt, coarsening with depth, to the total depth explored of 45 feet bgs.

Figures 3 through 5 are cross sections that depict the subsurface lithology, as interpreted from boring and well logs completed to document subsurface conditions at the Site. Further description of the geologic conditions at the Site is provided in the conceptual site model (Section 4) and depicted on the boring and well logs included in Appendix A.

Seasonal and localized perched water has been documented by others in the uppermost, finer-grained sand during drilling and sampling at the Site. Six shallow monitoring wells (HC-1S through HC-5S, and GW-6S, Figure 2) were installed between 1992 and 1994, with total depths from about 8 to 12 feet bgs to target this water-bearing unit. Locally and seasonally, these shallow wells are dry.

The continuous water-bearing zone has been encountered in the coarser-grained sand horizon, located beneath the semi-confining silt and clay layer, during drilling at depths ranging from 12 to 18 feet bgs. The existing six deep monitoring wells (HC-1D, HC-2D, HC-3D, HC-5D, GW-6D, GW-7, GW-8, and GW-9) were constructed with total depths ranging from approximately 28 to 32 feet bgs. During the RI, groundwater elevations were calculated from water level measurements taken at the deep monitoring wells (Table 1). Based on the historical and current groundwater elevation data, Site topography, and proximity to the Green River, groundwater flow at the Site appears to be in an eastern-southeastern direction towards the river (see Figure 6).

2.5 Future Site Use

The existing building on the Site has mostly remained vacant since 2009 except for occasional use as a miscellaneous storage building. A flood-control levee that protects the upland portion of the Site property from the Green River is located on the east portion of the Site property. A future planned project will include a levee setback project. The anticipated future site use will be either public/recreational (such as a park) or river floodplain. Redevelopment for any other use is not a likely future site use.

2.6 Groundwater Use

Groundwater is currently not utilized for any purposes at the Site property. According to the Source Water Assessment Program (SWAP) map of the Washington State Department of Health, the Highline Water District (District) supplies water to the Site property. According to the King County Water and Land Services' Groundwater Well Viewer, the two nearest wells N_472551122155501 (well location name is unknown) and S_472542122160101 (well location name Gunter) are located in the Lower Green River – West basin approximately ¼- and ½-mile south of the Site Property, respectively. The Gunter well reportedly extends to an approximate depth of 123 feet bgs. No information is available regarding the depth of other well or water levels/quality in either of the wells. Based on the location and available information, these wells do not appear to be hydraulically connected to the groundwater at the Site.

Ecology's well logs database search identified no additional water wells except for the groundwater monitoring wells (discussed in Section 3 of this report) near the site.

3 Field Investigations

Multiple phases of environmental investigation and cleanup have been completed at the Site between 1991 and 2017. The early cleanup phase of work (1991 to 2006) primarily included source control (UST removal, soil excavation and disposal, and soil vapor extraction), compliance monitoring, and periodic regulatory interaction. Post-2006 environmental work included groundwater sampling followed by additional subsurface investigations, and regulatory interaction until 2017 culminating into this RI.

This section provides a summary of historical environmental cleanup and assessment work and a detailed discussion of the additional site characterization work performed by Aspect to complete the RI. Please note that the RI discusses all the historical information and data but only presents data on tables and figures from post-2006 environmental investigations since these investigations either replicated or provided more updated information relative to the older action. Relevant post-2006 chemical analytical data collected by others is tabulated along with the RI data collected by Aspect in Tables 4 through 7 and presented on Figures 7 through 12. Copies of analytical laboratory reports from the investigations completed between 2007 and 2010 can be found in previous environmental reports included in Appendix B. The analytical laboratory reports of RI data collected in 2017 by Aspect are provided in Appendix C.

3.1 Previous Environmental Investigations

This section provides a description of the environmental investigations conducted at the Site by others. The information provided in this section has been summarized from numerous reports prepared by others, as cited, and those reports should be referenced for additional details. Historical Site features and environmental explorations associated with the previous environmental investigations are generally shown in Figure 2. Copies of the key documents and previous environmental reports mentioned in the following sections is presented in Appendix B.

3.1.1 Envirocon (1991-1992)

Envirocon performed site assessment in 1991 as part of the removal and closure of 14 USTs located at the Site. The USTs were decommissioned by removal from two separate excavation areas on the west half of the Site property in September 1991 (Envirocon, 1991a). The northern excavation area totaled approximately 2,500 square feet and the southern excavation area totaled approximately 1,600 square feet (Figure 2). At the time of the UST removal, the total excavation depth ranged from 12 to 14 feet bgs (Envirocon, 1991a). A total of 26 soil confirmation samples, including samples from beneath each UST and from the sidewalls of each excavation area, were collected for chemical analysis of total petroleum hydrocarbons and volatile organic compounds (VOCs). According to the analytical results, one or more of the VOCs, including tetrachloroethene (PCE), methyl-ethyl-ketone (MEK), toluene, ethylbenzene, and xylenes were detected in soil at concentrations exceeding regulatory cleanup levels (Envirocon, 1991a). The excavations were reportedly covered with a high-density polyethylene (HDPE) liner and left open temporarily. Groundwater was not encountered in the excavations during UST removal.

Envirocon conducted soil and groundwater sampling at the Site in October and November 1991, including installation of four groundwater monitoring wells on the west side of the property (MW-1 through MW-4; Figure 2), collection of soil and groundwater samples for laboratory analysis, and measurement of groundwater levels (Envirocon, 1991b). Gasoline- and heavy oil-range total petroleum hydrocarbons (TPH), and BTEX were reported in soil and groundwater. Gasoline as light non-aqueous phase liquid (LNAPL) was also reported to be present on groundwater in at least one of the wells (Envirocon, 1991b).

Ecology sent an Early Notice Letter to GWI on March 13, 1992, to provide notice of listing of the Site on the known or suspected contaminated sites list (Ecology, 1992a). In 1994, Ecology notified GWI that the Site had been re-ranked from a rank of 5 to a rank of 3 under the Washington Ranking Method (WARM; Ecology 1994)[1]. Compliance and investigation activities were conducted at the Site under MTCA Agreed Order No. DE 92 HS-N28S (Ecology Agreed Order, 1992b), dated November 16, 1992, including abandonment of monitoring wells MW-1 through MW-4 and installation of eight new monitoring wells; additional soil and groundwater sampling, excavation of contaminated soil, remedial technology pilot testing, and backfill of the UST excavation areas.

3.1.2 Hart Crowser (1992-1994)

The objective of the Hart Crower effort was to further evaluate site soil and groundwater quality and conduct soil cleanup. The four monitoring wells (MW-1 through MW-4) installed by Envirocon in 1991, were abandoned by Hart Crowser in February 1992 because they were suspected to be screened across a silty-clay aquitard between upper and lower water-bearing zones (Hart Crowser, 1992). Five new monitoring wells were installed in the upper water-bearing zone (HC-1S, HC-2S, HC-3S, HC-4S and HC-5S) and one new monitoring well was installed in the lower water-bearing zone (HC-5D) in February 1992. Two additional wells were installed in the lower water-bearing zone in April 1992 to evaluate groundwater quality in the lower water-bearing zone (HC-1D and HC-2D).

Soil samples, consisting of seven two-point composite samples collected from the northern tank excavation area and four two-point composite samples collected from the southern tank excavation area, were obtained by Hart-Crowser in February 1992 prior to over-excavation and backfilling of the UST excavation areas (Hart Crowser, 1992). Documents summarizing the sampling and the excavation/restoration work were not provided/available to Aspect; however, since more recent information is available regarding site conditions and soil and groundwater quality, this is not considered a data gap.

A soil vapor extraction (SVE) system operated between July and December 1993 using horizontal pipes in the northern tank excavation area and well HC-2S in the southern tank excavation area (Hart Crowser, 1994). The SVE system reportedly removed 2,300

[1]The WARM ranks sites on a scale of one to five, with a score of one representing the highest relative level of concern, and five the lowest, based on the potential threat to human health and the environment.

pounds of volatile hydrocarbons from the northern tank excavation and 600 pounds of volatile hydrocarbons from the southern tank excavation (Hart Crowser, 1994). The extracted vapors were treated by thermal oxidation prior to discharge. The SVE system was shut down in December 1993 because of rising groundwater levels, reducing the hydrocarbon recovery rate, and decreasing recovery of volatile hydrocarbons.

3.1.3 Gaco Western (1994-1996)

Monitoring wells GW-6S and GW-6D were installed in June 1994 (Gaco Western, 1994) to meet the requirements of the Agreed Order for groundwater compliance monitoring. Groundwater compliance monitoring was conducted through September 1996 (Gaco Western, 1996). A Restrictive Covenant was recorded in 1996 and the Site received a No Further Action determination (NFA) from Ecology's Hazardous Waste and Toxics Reduction Program via letter dated March 26, 1996 (Ecology, 1996).[2]

3.1.4 Gaco Western (2007)

Groundwater samples were collected from wells HC-1S and HC-5D in May 2007 to meet the requirements of the Restrictive Covenant. No VOCs were detected in HC-1S above current regulatory cleanup levels, and contaminants were not detected above reporting limits in HC-5D (Gaco Western, 2009) in May 2007 samples. Groundwater samples were collected from monitoring wells HC-1D and HC-2D in August 2007 to meet the requirements of the Restrictive Covenant (Gaco Western, 2009). The laboratory results detected benzene, ethylbenzene, total xylenes, and isopropylbenzene in the sample collected from well HC-2D at concentrations exceeding current regulatory cleanup levels. The total xylene concentration was reported at 32,700 micrograms per liter (ug/L) which exceeded the MTCA Method A cleanup level of 1,000 ug/L (Gaco Western, 2009). The results of the 2007 groundwater sampling were used in this RI for development of the conceptual site model to support the interpretation of the current nature and extent of chemicals of concern (COCs) in media at the Site.

3.1.5 Farallon Consulting (2009)

Farallon Consulting, LLC (Farallon) performed a subsurface investigation to evaluate soil and groundwater conditions for Segale Properties, the adjacent property owner and potential purchaser of the Site property, in November 2009 (Farallon, 2010). The investigation included advancement of 10 soil borings (B1 through B10), collection of soil and groundwater reconnaissance samples from the borings and collection of groundwater samples from four wells for laboratory analysis. According to the analytical results, one or more VOC constituents were detected at concentrations exceeding the cleanup levels in seven groundwater samples from the borings and three wells. The

[2]An Ecology letter dated April 23, 2009 (Ecology, 2009) further clarified that the NFA pertained only to the field investigation work required by the Agreed Order and is not the equivalent of an NFA letter issued by the Toxics Cleanup Program through the Voluntary Cleanup Program (VCP). Ecology advised GWI to enter the VCP if GWI desired a current NFA.

results of the investigation are documented in Farallon's report dated January 26, 2010 (Farallon, 2010).

VOCs were also detected in soil samples at concentrations exceeding cleanup level in four of the ten borings. The results of the Farallon investigation were used in this RI for development of the conceptual site model to support the interpretation of the current nature and extent of COCs in media at the Site.

3.1.6 Ecology Further Action Letter (2009)

Following the Farallon investigation, GWI submitted a VCP Application/Agreement (Facility/Site No. 2402 and VCP Project No. NW2217) with a request for an NFA to support sale of the property. Ecology issued a Further Action letter to GWI on May 10, 2010 (Ecology, 2010), that concluded that further remedial actions were necessary at the Site, based on the following conclusions:

- Concentrations of VOCs are present in soil and groundwater above cleanup levels;
- Characterization of the Site is not sufficient to establish cleanup standards and select a cleanup action;
- The presence of contaminated soil and groundwater beneath the building implies a potential for vapor intrusion; and
- A feasibility study is required to support evaluation and selection of cleanup action(s).

3.1.7 Landau Associates (2010-2011)

An RI was conducted by Landau Associates (Landau) in 2011, on behalf of Gaco Western, to document the nature and extent of contamination at the Site and support selection of a cleanup action. The RI included collection and analysis of groundwater samples from existing monitoring wells and collection and analysis of soil and groundwater samples from sixteen borings (DP-1 through DP-16), eight of which were completed inside the existing building (Figure 2). The results of the RI are documented in Landau's RI report dated August 2, 2011 (Landau Associates, 2011a).

Subsequent investigation was completed by Landau to evaluate the vapor intrusion and included collection of indoor air and sub-slab soil gas samples for laboratory analysis. A comparison of the data to the current regulatory criteria indicates the following:

- BTEX compounds and VOCs were detected in both the sub-slab soil gas samples at concentrations exceeding the MTCA Method B Sub-Slab Soil Gas Screening Levels for residential exposure (Ecology, 2016d).

- Benzene and/or PCE were detected in two of the six indoor air samples at concentrations exceeding the MTCA Method B Indoor Air Cleanup Level[3] (Ecology, 2016d).

The indoor air and sub-slab soil gas sample results are summarized on Tables 6 and 7, respectively. The results of this work are documented in the Report Follow-On Environmental Investigation, Gaco Western Facility, prepared by Landau and dated September 20, 2011 (Landau, 2011b). The results of the Landau investigation were used in the development of the preliminary CSM to support the interpretation of the current nature and extent of extent of COCs in media at the Site.

3.2 Site Characterization

3.2.1 Chemicals of Potential Concern

Based on our review of previous environmental reports prepared by others, the chemicals of potential concern (COPCs) for the Site consist of petroleum distillates (BTEX compounds) and VOCs (tetrachloroethene [PCE], trichloroethene [TCE], cis-1,2-dichloroethene [DCE], and vinyl chloride [VC]).

Site characterization activities included development of Site Screening Levels (SLs) to evaluate chemical analytical results and addressing RI data gaps to enable the development, evaluation and selection of a cleanup remedy in the FS. The potential exposure pathways and receptors are summarized on Section 3.2.2, as the basis for the selection of Site SLs in Section 3.2.3. Section 3.2.4 summarizes the activities performed to address RI data gaps. The RI results are presented in Section 3.3 by media.

3.2.2 Potential Exposure Pathways

The development of Site SLs relies on the identification of current and potential future exposure pathways and receptors. Considering the Site setting and current and potential future site uses, the following exposure pathways and receptors are applicable:

- **Soil leaching to groundwater –** Contaminants in soil can leach to groundwater by infiltration of precipitation through contaminated soil and where groundwater is in contact with contaminated soil.
- **Ingestion of groundwater –** Human receptors have the potential to contact contaminants in groundwater via ingestion.
- **Direct contact with soil, surface water and sediment –** Human, ecological and aquatic receptors have the potential to contact contaminants in soil, groundwater that discharges as surface water, and sediment under current exposure scenarios.

[3] The reported indoor air concentrations were normalized by subtracting ambient air detections from indoor air detections in accordance with the Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action (Ecology, 2016d).

- **Ingestion of surface water and aquatic organisms –** Human receptors have the potential to ingest surface water and aquatic organisms that come into contact with contaminants in groundwater that discharges to surface water and sediment.
- **Soil vapor discharge to ambient and indoor air –** Soil vapor has the potential to migrate from the subsurface and expose ambient and indoor air receptors to volatile contaminants.

3.2.3 Site Screening Levels

This section presents the Site SLs, values that were derived to evaluate data collected during the RI to assess the nature and extent of contamination at the Site. The Site SLs have been developed based on the current and potential future exposure pathways and receptors, as described in Section 3.2.2, and applicable regulatory criteria. The Site SLs are not cleanup levels, they are intentionally conservative representing the most stringent of the relevant and appropriate criteria for all potential exposure pathways. Site-specific cleanup levels will be developed as part of the FS.

3.2.3.1 Soil Screening Levels

The Site SLs for soil include consideration of the following:

- Standard MTCA Method A, B and C cleanup levels for the protection of human health for unrestricted and industrial land use.
- Calculated MTCA Method B cleanup levels for the protection of groundwater, direct contact and ingestion exposure.
- Calculated MTCA Method B cleanup levels for the protection of groundwater, indoor air and inhalation exposure.

Soil concentrations protective of groundwater's highest beneficial use are calculated conservatively using Ecology's variable parameter 3-phase partitioning model (WAC 173-340-747[5]), and using the most stringent groundwater screening level, including potable (drinking) water criteria and groundwater criteria protective of vapor intrusion. Separate values are developed for unsaturated versus saturated soil (using MTCA-default dilution factors of 20 versus 1), in accordance with WAC 173-340-747(4)(e). MTCA-default parameter values are used in the 3-phase model. Based on groundwater elevations measured across the Site, Aspect classified soil at elevations above 17 feet NAVD88 as "Vadose" and soil at or below 17 feet NAVD88 as "Saturated".

The soil concentrations generated by this MTCA-default methodology are intentionally conservative, and are intended for preliminary data screening in the RI. Soil concentrations above these screening levels may or may not actually be leaching contaminants to groundwater at concentrations of concern. MTCA provides a range of options to further evaluate site-specific soil concentrations protective of groundwater, including use of soil leaching tests and empirical groundwater quality data, as outlined in WAC 173-340-747. The soil-to-groundwater-based soil screening levels may not be considered for a chemical if it can be demonstrated that soil concentrations are protective of groundwater using methods in WAC 173-340-747.

Table 2 presents the preliminary soil criteria incorporated into the Site SL derivation, and the resulting most stringent vadose zone and saturated zone soil screening level to be applied for the RI.

3.2.3.2 Groundwater Screening Levels

The Site SLs for groundwater include consideration of the following:

- Standard MTCA Method A and B cleanup levels for the protection of human health through direct contact and ingestion for unrestricted land use.
- MTCA Method B groundwater screening levels for the protection of indoor air.
- Applicable state and federal criteria for the protection of surface water quality: protection of aquatic organisms and human health through consumption of aquatic organisms.

In accordance with MTCA, groundwater screening levels protective of surface water incorporate MTCA surface water cleanup levels including criteria from applicable state and federal laws (WAC 173-340-730). For protection of fresh water quality, screening levels are the most stringent of the following aquatic life criteria and human health criteria for consumption of aquatic organisms under state and federal laws:

- Standard MTCA Method B surface water cleanup levels based on human consumption of fish (human health only);
- Washington State Water Quality Standards (WAC 173-201A-240);
- Federal National Recommended Water Quality Criteria pursuant to Section 304(a) of the Clean Water Act; and
- Washington State human health criteria for the consumption of organisms, EPA-approved values under Section 303(c) of the Clean Water Act.

Table 3 presents the preliminary groundwater criteria incorporated into the Site SL derivation, and the resulting most stringent groundwater screening level to be applied for the RI.

3.2.3.3 Soil Gas and Indoor Air

The Site SLs for soil gas and indoor air are the MTCA Method B Sub-Slab Soil Gas Screening Levels and Indoor Air Cleanup Levels for the protection of human health in residential exposure scenarios (Ecology, 2016d).

3.2.4 Remedial Investigation

Aspect compiled and evaluated the data and information reported by others during investigations completed at the Site between 2007 and 2010 and identified the following data gaps:

- The extent of the COPCs in soil at concentrations exceeding potentially-applicable cleanup levels has not been characterized sufficiently to evaluate excavation as a remedial technology.

- The groundwater flow direction and gradient have not been defined.
- The lateral and vertical extent of the COPCs in groundwater have not been defined.

Aspect developed and implemented the following scope of work to address the RI data gaps:

1. Advancement of five borings, AB-1 through AB-5, to 20 feet through the floor of the existing building to evaluate soil quality and collect soil samples for laboratory analysis;
2. Advancement of three borings, GW-7 through GW-9, to 32 feet through the floor of the existing building to collect soil samples for laboratory analysis and install groundwater monitoring wells;
3. Collection of groundwater samples from four existing wells, including HC-1D, HC-2D, HC-5D and GW-6D, and the three newly-installed wells for laboratory analysis; and
4. Submit select soil samples collected from the new borings and groundwater samples collected from the wells to a laboratory for chemical analysis of VOCs.

The drilling and monitoring well construction was conducted by Holocene Drilling, Inc. using a limited-access direct-push probe rig on February 10 and 13, 2017. Prior to drilling, each location was cleared of subsurface utilities by a private utility locator with Applied Professional Services, Inc. (APS). Soil cores were observed and classified by an Aspect geologist per the Unified Soil Classification System (USCS) and field screened using a photoionization detector (PID) to measure volatile organic vapors in soil. Field screening also included observation of soil cores for staining or odors. The soil borings were backfilled with bentonite and the building floor was patched with concrete to match the surrounding floor conditions. The monitoring wells were installed at an approximate total depth of 32 feet beneath the building floor, with 10 feet of screen, and completed with 8-inch diameter, steel monuments set in the concrete floor slab. Each well was developed following installation, and the top of each well casing was surveyed into the existing well network to the nearest 0.01-foot.

The soil, groundwater, sub-slab soil gas, and indoor air chemical analytical results are summarized in Tables 4 through 7, respectively. Figure 2 depicts the approximate locations of historical site features and all environmental explorations. Figure 7 depicts the soil analytical data for BTEX and VOCs, separated by vadose zone and saturated zone data. Figure 4 shows the groundwater elevations data and interpreted flow direction for water levels measured on February 21, 2017. Figures 8 through 10 depict groundwater analytical data for benzene, total xylenes and vinyl chloride, respectively. Figure 11 depicts the extent of COPCs in soil in the vadose zone at concentrations exceeding the Site SLs. Figure 12 depicts the extent of COPCs in soil in the saturated zone at concentrations exceeding the Site SLs. Figures 3 through 5 are cross-sections that depict the subsurface profiles.

The logs for the 2017 remedial investigation explorations are presented in Appendix A. The laboratory analytical reports and exploration logs from 2007 through 2010

investigations can be found in the previous environmental reports presented as Appendix B. The 2017 soil and groundwater samples were submitted to Onsite Environmental Laboratory (OnSite) for chemical analysis. The laboratory analytical from Onsite is presented as Appendix C.

3.3 Remedial Investigation Results

This section presents the results of the site characterization activities completed by Aspect in 2017 to address RI data gaps. The results are presented by media and further relied upon to complete the Conceptual Site Model in Section 4.

3.3.1 Soil

Elevated volatile vapor readings as measured by a PID were noted in six of the eight RI explorations, including soil borings AB-1 through AB-5 and monitoring well GW-9 (Figure 2). PID readings ranged from 0.7 ppm to greater than 15,000 ppm in soil generally extending from an approximate depth of 6 feet bgs to the maximum depth explored (32 feet bgs). The PID readings, along with other field observations and the description of soil types observed in the RI borings, are presented on the boring logs included in Appendix A.

Vadose Zone: A total of 20 vadose zone soil samples were collected from eight explorations, at elevations ranging from 17.3 feet NAVD88 to 29.3 feet NAVD88, and analyzed for VOCs (Table 4). According to the soil analytical results, one or more of the BTEX compounds was detected at concentrations exceeding Site SLs in the vadose zone in five locations, at explorations AB-2, AB-3, AB-4, GW-7 and GW-9 (Table 4; Figure 11). Other VOCs either were not detected or were detected at concentrations below than the Site SLs in remaining vadose zone soil samples. The extent of VOCs in vadose zone soils at concentrations exceeding the Site SLs, including data collected previously by others, is depicted on Figure 11.

Saturated Zone: A total of four saturated zone soil samples were collected from three explorations and analyzed for VOCs (Table 4). According to the soil chemical analytical results, one or more of the BTEX compounds was detected in saturated zone soils at concentrations exceeding the Site SLs in all four explorations (Table 4; Figure 12). Other VOCs either were not detected or were detected at concentrations below than the Site SLs in the remaining saturated zone soil sample. The extent of VOCs in saturated zone soils at concentrations exceeding the Site SLs, including data collected previously by others, is depicted on Figure 12.

The RI vadose and saturated zone soil sampling results are similar to the results of the soil analytical results reported from previous environmental investigations at the Site, by others, between 2007 and 2010. Both PCE and methylene chloride, a common laboratory contaminant, were detected in saturated zone soil samples collected by others at concentrations exceeding the Site SLs; however, those analytes were not detected above the Site SLs in any of the saturated zone soil samples collected by Aspect (Table 4).

3.3.2 Groundwater

The laboratory analytical results of groundwater samples collected from monitoring wells in February 2017 indicate the following:

- Benzene and vinyl chloride were detected above the Site SLs in groundwater samples collected from wells GW-6D, GW-7, GW-8 and HC-5D.
- All the BTEX compounds were detected above the Site SLs in the groundwater sample collected from well GW-9.
- Other VOCs either were not detected or were detected at concentrations less than the Site SLs.

The groundwater analytical data is summarized on Table 5. For wells where previous data exists, the laboratory analytical results of the February 2017 sampling are similar to previous sampling events with one significant exception. Relatively high concentrations of BTEX were detected in groundwater samples collected from well HC-2D in 2009 and 2010. The laboratory results of the February 2017 sampling event did not detect concentrations of BTEX above the Site SLs, and reported them at significantly lower concentrations than previously detected (Table 5).

The groundwater data results for samples collected from Site monitoring wells are similar to those of reconnaissance groundwater samples collected from soil borings B-1 through B-10 (Farallon, 2010) and DP-1 through DP-16 (Landau, 2011a) during environmental investigations completed between 2007 and 2010 (Table 5). Other VOCs historically detected in groundwater at concentrations above the Site SLs, including PCE, TCE and DCE, were not reported above the Site SLs in groundwater samples collected from the monitoring wells in February 2017 (Table 5).

Figures 8 through 10 depict the extent of benzene, total xylenes and vinyl chloride, respectively, in groundwater based on samples collected from Site monitoring wells and borings between 2007 and 2010.

4 Conceptual Site Model

This section presents the conceptual site model (CSM), which was developed based on the results of previous environmental investigations and the work completed by Aspect in 2017 to address RI data gaps. The CSM is the basis for developing technically feasible cleanup alternatives and selecting a final cleanup action. The CSM is dynamic, and may be refined as additional information becomes available. This section discusses the components of the CSM including the source of the COPCs, nature and extent of contamination, contaminant fate and transport, and a preliminary exposure assessment.

4.1 Sources of Chemicals of Potential Concern

The historical operations conducted on the property include:

1) Storage and distribution of chemical products from fourteen USTs;

2) Storage and distribution of chemical and petroleum products from interior storage areas of the warehouse; and

3) Long-term manufacturing operations to produce liquid rubber coatings.

The raw chemical products documented to have been stored and/or used on the Site include xylene, butyl acetate, toluene, methyl ethyl ketone (MEK), methyl isobutyl ketone (MIBK), methylene chloride, ethylbenzene, chlorinated paraffin, cyclolube oil, trimethylbenzene, isopropyl/propyl alcohol, naphtha, oil, and solvents. Based on these historical activities and chemical product information, the COPCs for the RI are VOCs.

The potential sources of COPCs to soil and groundwater at the Site consist of the following:

- Releases of chemical products stored in the USTs through leaks, spills and tank overfills.
- Leaks and spills from the product distribution piping that conveyed chemicals from the USTs to interior production and manufacturing areas.
- Leaks and spills from interior product storage areas including the isocyanate storage area, oil and latex tanks, and portable solvent tank pit.
- Spills and releases inside the building during the manufacturing process.

Based on the results of the RI, there appear to be source areas at each of the previous UST locations and a potential source area near boring DP-12 and well GW-9, where higher concentrations of VOCs are detected in soil and groundwater than in surrounding explorations. The releases at the UST locations were likely due to ongoing and/or intermittent releases associated with product storage and distribution from the USTs. There is no definitive evidence to conclude whether releases in the DP-12/GP-9 area are attributable to a single incident, such as a spill or leaking pipe, or associated with long-term operations in that portion of the warehouse building.

The COPCs that will be considered in the development and evaluation of feasible cleanup alternatives are those identified as exceeding the Site SLs used for the RI. Site-specific cleanup levels will be developed as part of the selected cleanup action to define the constituents of concern for the Site. The COPCs that have been detected in soil, groundwater, soil gas, and indoor air exceeding the Site SLs include BTEX and HVOCs.

4.2 Nature and Extent

The nature and extent of the COPCs at the Site are described based on the sources, physical conditions and analytical data collected from previous environmental investigations and the work completed by Aspect in 2017 to address RI data gaps. The following subsections summarize the physical conditions of the Site and the known distribution of concentrations of COPCs in soil and groundwater

4.2.1 Physical Conditions

The Site consists of a relatively flat upland area that is separated from the surface water of the Green River on the east by an earthen flood-control levee (Figure 2). The physical improvements of the Site include a single combined warehouse and office building and associated asphalt-paved parking in the west half of the Site, which create an impermeable surface to prevent infiltration of precipitation and stormwater. The warehouse building is elevated by approximately 4 feet from the surrounding surface grade. The eastern portion of the Site is a vegetated natural area.

The geology at the Site consists of layers of alluvial silt, silty sand, and sand to a total depth explored of 45 feet below ground surface (bgs). Figures 3 through 5 depict subsurface characteristics based on the exploration logs prepared by Aspect and others. Native sand, with varying amounts of silt, is present beneath surficial fill to depths of 6 to 14 feet bgs. A 7- to 10-foot-thick layer of sandy silt, silt and clay, that may act locally as a semi-confining unit, is located beneath the upper sand layer. Beneath this, a lower sand layer, with variable amounts of silt that appear to decrease with depth, is present to the total depth explored at the Site of 45 feet bgs. Seasonally, the upper-most water-bearing zone is present, locally and discontinuously, at depths of 8 to 12 feet bgs; shallow monitoring wells are frequently dry. Groundwater levels in the lower water-bearing zone have ranged from 9 to 20 feet bgs but are typically between 14 and 18 feet bgs. The groundwater levels measured in 2017 are presented in Table 1, and calculated elevations based on the February 21, 2017 water level measurements indicate a groundwater flow direction to the southeast (Figure 7).

A review of water level data as recorded by the United States Geological Survey (USGS) in the Green River, at a gauge located at 200th Street in Kent, approximately ¾-mile upstream of the Site indicates seasonal lows in surface water levels are typical between May and October, with average river height elevations of 12 to 13 feet NAVD88 (USGS, 2017). Based on King County LiDAR data, the ground surface of the Site is at approximately 32 feet NAVD88. Gaco Western measured water levels in the monitoring wells on almost a monthly basis between November 1993 and October 1995. The water levels fluctuate by approximately 6 feet seasonally, with depths typically ranging from 12 to 18 feet below the top of the well casings, corresponding to elevations of 18 to 12 feet NAVD88. Based on the recent RI explorations, the deeper static groundwater table is at an approximate depth of 15 feet bgs corresponding to an elevation of 17 feet NAVD88.

4.2.2 Soil

Concentrations of VOCs exceeding the Site SLs are present in soil in an area beneath and to the west of the former USTs and the western portion of the warehouse building (Figure 11). In the immediate area of the former northern USTs and the product distribution piping beneath the warehouse, the concentrations of VOCs above the Site SLs are located from near the ground surface. However, beneath other portions of the warehouse building, there is 10 to 13 feet of clean overburden soil beneath the floor slab.

The reported concentrations of VOCs in vadose zone soil are highest to the west of the former northern UST area, with total concentrations of toluene, ethylbenzene and xylenes exceeding 10,000 mg/kg (Figure 11). The highest VOC concentrations are generally detected in vadose soil samples collected between approximate elevations of 19 to 22 feet NAVD88 (Table 4). Figure 11 depicts the extent of VOCs in vadose zone soil at concentrations exceeding the Site SLs.

The high concentrations of VOCs reported in saturated zone soil correlate to high concentrations of VOCs in groundwater – compare the extent of total xylenes in groundwater on Figure 9 with the extent of VOCs in saturated soil on Figure 12 – in an area at and downgradient of the former northern UST area and beneath the south-central portion of the warehouse building.

4.2.3 Groundwater

The highest VOC concentrations in groundwater were toluene, ethylbenzene and xylenes previously detected near the northern tank area, at borings B-1, B-2, B-3, DP-5 and in well HC-2D (Figures 8 and 9). As discussed in Section 3.3.2, concentrations of VOCs in groundwater at well HC-2D have declined significantly since 2009 and were below the Site SLs in samples collected in February 2017 (Table 5). The groundwater data collected by Aspect in 2017 indicates that either the concentrations of toluene, ethylbenzene and xylenes in groundwater in this area have attenuated over time and/or are laterally attenuating with distance from the northern tank area, as suggested by the groundwater data from well GW-7 (Table 5).

The groundwater data collected from new monitoring wells installed as part of the RI in 2017 suggests that the highest VOC concentrations are currently present in groundwater beneath the southern portion of the warehouse building, as indicated by groundwater results from well GW-9 (Figures 8 and 9). Well HC-5D is the furthest downgradient well from the source areas and the well located nearest to the surface water of the Green River. Concentrations of benzene and vinyl chloride exceeding the Site SLs were detected in groundwater at well HC-5D in February 2017 (Table 5).

The extent of VOCs in groundwater at concentrations exceeding the Site SLs has not been fully defined to the south (Figures 8 and 10); however, the data is sufficient to meet the requirements of MTCA for the evaluation and selection of a cleanup action (WAC 173-340-350).

4.3 Fate and Transport

Concentrations of VOCs are highest near the former northern tank area, along product distribution piping located beneath the building, and near explorations DP-12 and GW-9 (Figure 2). These shallow soils have likely been impacted directly by releases from the former USTs and product distribution piping, which migrated via gravity through the surface and shallow subsurface soils into the top of the silt layer, where downward migration slowed or ceased because of the change in lithology and/or the presence of groundwater.

To the east of the former southern tank excavation, the highest concentrations of VOCs are in the silt layer at depths of 10 to 14 feet below the building floor slab. There is up to 10 feet of clean overburden overlying the impacted soil suggesting that the source mechanism is groundwater transport in the smear zone.

The detected concentrations of VOCs in groundwater generally correlate to locations of the highest concentrations in soil. Both former tank excavations appear to be the location of sources of VOCs to groundwater, with commingled but separate plumes emanating from each area and extending to the east in the downgradient groundwater flow direction (Figures 9 and 10). Results of groundwater samples collected from wells GW-6D, GW-7, GW-8, and HC-5D indicate that concentrations of toluene, ethylbenzene, and xylenes are attenuating within a short distance from the source areas and are below the Site SLs by the time that groundwater reaches the eastern side of the building. Benzene and vinyl chloride are also present in groundwater at concentrations exceeding the Site SLs (Table 5). These compounds are more mobile in groundwater than other VOCs and although they were both detected in well HC-5D, the farthest downgradient well, at concentrations above the Site SLs; the relatively low concentrations are expected to attenuate and are unlikely to represent an adverse risk to the Green River.

4.4 Preliminary Exposure Assessment

The development of final cleanup standards will consider all potential receptors and exposure pathways. A brief discussion of the potential receptors and exposure pathways is provided in the following sections.

Protection of Human Health. The FS will be completed to ensure the protection of human health through the following potential exposures to receptors:

- Direct contact by Site workers with soil and groundwater containing concentrations of VOCs exceeding the Site-Specific Screening Levels; and

Although VOCs were detected in indoor air samples at concentrations exceeding the MTCA Method B Cleanup Levels, based on the anticipated future exposure scenario, which involves demolition of the existing building and does not include the presence of any new structures or concern with vapor intrusion risk, the indoor air inhalation by Site workers pathway is considered incomplete. This pathway will not be considered in the FS.

Protection of Groundwater Discharge to Surface Water. The FS will consider the groundwater to surface water discharge migration pathway to ensure the protection of beneficial use of surface water (Green River).

Protection of Terrestrial Ecological Receptors. WAC 173-340-7490 addresses procedures to be followed to ensure protection of terrestrial ecological receptors from exposure to contaminated soil. The soil containing concentrations of VOCs is currently, and is anticipated to remain in the future, at depths greater than 6 feet below ground level and an institutional control (Restrictive Covenant) has been implemented as required by WC 173-340-440; therefore, under WAC 173-340-7491(1)(a), the Site qualifies for an exclusion from the terrestrial ecological evaluation process. A terrestrial ecological evaluation (TEE) exclusion form is presented in Appendix D.

5 Proposed Cleanup Standards

A cleanup standard includes both a cleanup level (chemical- and media-specific concentration of a contaminant that is protective of human health and the environment via all exposure pathways) and a point of compliance (the location where the cleanup level must be attained to achieve protectiveness). The proposed cleanup levels and points of compliance for the Site are described in the following subsections.

5.1 Cleanup Levels

This section proposes soil and groundwater cleanup levels for the Site. Cleanup levels are defined by regulatory numeric criteria (contaminant concentrations) that are protective of human health and the environment. Cleanup levels are contaminant-specific and media-specific, and are only proposed for hazardous substances that exceed Site SLs at the Site. The cleanup levels are used as the basis for developing media-specific remedial action objectives (RAOs) for the cleanup action. The soil and groundwater cleanup levels are equivalent to the Site SLs developed in Section 3.2.3. The soil cleanup levels are based on the protection of human health through the direct contact and on protection of groundwater. The groundwater cleanup levels are based on the protection of human health through the potential surface water exposure pathway for consumption of organisms and water.[4]

5.2 Points of Compliance

5.2.1 Soil

In accordance with MTCA, the point of compliance for direct contact with soil extends to 15 feet bgs, based on a reasonable maximum depth of excavation and assumed placement of excavated soils at the surface where contact occurs.

For soil cleanup levels or remediation levels based on leaching to groundwater, the soil point of compliance is all depths, above and below the water table.

5.2.2 Groundwater

Under MTCA, the standard point of compliance for groundwater cleanup levels is throughout the site, regardless of whether groundwater is potable (WAC 173-340-720(8)(b)). If it is not practicable to meet groundwater cleanup levels throughout the site within a reasonable restoration time frame, Ecology may approve a conditional point of compliance (WAC 173-340-720(8)(c)). Remedial alternatives are developed and evaluated in this FS assuming the standard point of compliance for groundwater.

[4] Because future land use does not include the presence of buildings or structures on the Site, groundwater cleanup levels for the protection of indoor air are not applicable.

6 Feasibility Study

6.1 Remedial Action Objectives

Remedial action objectives (RAOs) are medium-specific or site-specific goals for protecting human health and the environment. They are established based on the nature and extent of contamination, the receptors that are currently and potentially threatened, and the potential for human and environmental exposure. The primary RAOs proposed for this Site are:

- Reduce risk to human health from direct contact with soil containing concentrations of COCs above site cleanup levels; and
- Prevent unacceptable risk to human health from ingestion of and exposure to groundwater containing concentrations of COCs above risk-based cleanup levels.

The secondary RAOs are:

- Reduce the mass of contaminants in soil that is acting as an ongoing source to groundwater, to reduce concentrations of COPCs in groundwater to below site cleanup levels; and
- Ensure that COCs in groundwater do not migrate to surface water at concentrations exceeding risk-based cleanup levels.

These RAOs assume a future recreational or open space land use scenario.

6.2 Potentially Applicable Laws and Regulations

The cleanup action must comply with applicable state and federal laws (WAC 173-40-710(1)). Requirements from state and federal laws that are determined to be legally applicable or relevant and appropriate are collectively referred to as applicable or relevant and appropriate requirements (ARARs). Potentially applicable state and federal laws are discussed below.

MTCA. The MTCA statute (Chapter 70.105D Revised Code of Washington [RCW]) is the primary law that governs cleanup of contaminated sites in the state of Washington. The MTCA cleanup regulation (Chapter 173-340 WAC) specifies criteria for the evaluation and conduct of a cleanup action. It requires that cleanup actions protect human health and the environment, meet environmental standards in other applicable laws, and provide for monitoring to confirm compliance with cleanup levels.

For cleanup actions involving containment of hazardous substances, MTCA has requirements that must be met for the cleanup action to be considered in compliance with soil cleanup standards. These include implementing a compliance monitoring program that is designed to ensure the long-term integrity of the containment system and applying institutional controls where appropriate to the affected areas (WAC 173-340-440).

SEPA. The State Environmental Policy Act (SEPA; Chapter 197-11 WAC) and the SEPA procedures (Chapter 173-802 WAC) ensure that state and local government officials consider environmental values when making decisions. The SEPA process

begins when an application for a permit is submitted to an agency, or an agency proposes to take some official action, such as implementing a MTCA CAP. Completion of a SEPA checklist would be required prior to initiating remedial construction activities.

Hydraulic Project Approval (HPA). The Hydraulic Code (WAC 220-660, and implementing regulations RCW 77.55) regulates anyone planning certain construction projects or activities in or near state waters to obtain an environmental permit, the HPA from the Washington Department of Fish and Wildlife (WDFW).

Solid and Hazardous Waste Management. The Washington Dangerous Waste Regulations (Chapter 173-303 WAC) would apply if dangerous wastes are generated, and United State Department of Transportation (USDOT) and Washington State Department of Transportation (WSDOT) regulations regarding transport of hazardous materials (49 CFR Parts 171-180) would apply if regulated material is transported off-site as part of the cleanup action. However, there is no expectation that dangerous wastes would be generated during the cleanup action. The Washington Solid Waste Handling Standards (Chapter 173-350 WAC) regulate handling, treatment, or off-site disposal of non-hazardous solid waste.

Shoreline Management Act. The Washington Shoreline Management Act (RCW 90.58) and its implementing regulations establish requirements for substantial developments occurring within 200 feet of the shoreline. The City of Tukwila Shoreline Master Program is adopted under the state regulations, creating an enforceable state law. An approved shoreline variance from the City of Tukwila will likely be required for the cleanup action.

NPDES Construction Stormwater Permit. If construction-generated dewatering water or stormwater from the cleanup action is discharged to waters of the State of Washington, such discharge would need to comply with requirements of a National Pollutant Discharge Elimination System (NPDES) Construction Stormwater General Permit. Ecology administers the federal NPDES program in Washington State. Operators of regulated construction sites discharging to waters of the state are required to:

- Submit a Notice of Intent (NOI) and obtain coverage under the Construction Stormwater General Permit;
- Develop stormwater pollution prevention plan (SWPPP); and
- Implement sediment, erosion, and pollution prevention control measures, including water quality treatment as needed, to comply with the SWPPP.

The permit also requires that site inspections be conducted by a Certified Erosion and Sediment Control Lead (CESCL). This is typically an individual that works for the contractor performing the work.

Other:

- Occupational Safety and Health Administration (OSHA) and Washington Industrial Safety and Health Act (WISHA) regulations (29 CFR 1910.120; Chapter 296-62 WAC) governing worker safety during cleanup action execution.

Compliance would be achieved through preparation and implementation of Site-specific health and safety plan(s) with appropriate controls, worker training and certifications, and occupational monitoring.

- City of Tukwila Public Works Permit for grading/excavation and filling.
- Washington State Water Well Construction Regulations (Chapter 173-160 WAC) regulating groundwater well installation and decommissioning as part of the cleanup action.

The Archeological and Historical Preservation Act (16 USCA 496a-1) would be applicable if any subject materials are discovered during grading and excavation activities. A cultural resources assessment will likely be a required element of the project and archeological oversight of any subsurface disturbing activities may be required.

6.3 Selection and Description of Remedial Alternatives

The following remedial alternatives were selected for evaluation in this FS:

- **Alternative 1** – Removal of all impacted vadose zone soils.
- **Alternative 2** – Removal of all impacted vadose zone soils and *in situ* treatment of highly impacted saturated zone soils.
- **Alternative 3** – Removal of all impacted vadose zone soils and highly impacted saturated zone soils.
- **Alternative 4** – Removal of all impacted soils.

Components of the alternatives are summarized in Table 8, and assumed areal extents of soil excavation and *in situ* treatment are depicted on Figure 13. For the purposes of this FS evaluation, vadose zone soils are defined as all soils situated less than 15 feet bgs, which generally corresponds to an elevation of 17 feet NAVD88. All four alternatives rely on excavation and offsite disposal of impacted vadose zone soils. Soil vapor extraction (SVE) was considered as an alternative *in situ* remedial technology for vadose zone soils givens its past use at the Site and demonstrated success at remediating VOCs. However, it was rejected as being unreliable, given the high silt content and heterogeneous nature of impacted vadose zone soils.

Each alternative is described, and conceptual design criteria and assumptions are briefly discussed. These criteria and assumptions provide the basis for estimating the contaminant mass removal achieved by soil excavation and *in situ* treatment in each alternative, and each alternative's cost. Contaminant mass removal estimates are depicted on Figure 14, and associated calculations are provided in Appendix E. Costs are evaluated over a 30-year period, in accordance with EPA guidance for FS cost estimating. The cost estimates are order-of-magnitude, with an intended accuracy in the range of -30 percent to +50 percent. Costs are estimated in 2017 dollars, and the net present value (NPV) of future-year costs is calculated using a discount factor of 0.7

percent[5]. The estimated costs of the remedial alternatives are summarized in Table 11. Quantity estimates are provided in Appendix E, and itemized cost estimates in Appendix F.

6.3.1 Alternative 1: Removal of All Impacted Vadose Zone Soils

Alternative 1 is based on a cleanup approach consisting of the following three phases:

- Remedy design and construction preparation.
- Remedy construction (soil removal).
- Post-construction monitoring.

The first phase involves steps that must be completed to further develop the cleanup remedy (Cleanup Action Plan) and prepare for remedy construction (engineering design, permitting, and bid package preparation). It is assumed that an independent remedial action will be conducted under Ecology's Voluntary Cleanup Program (VCP), in accordance with the requirements of WAC 173-340-515.

The second phase, remedy construction, all vadose zone soils with COC concentrations exceeding proposed cleanup levels will be excavated and transported offsite for treatment/disposal. The assumed areal extent of excavated vadose zone soils is shown on Figure 13. The most cost-effective and permanent cleanup action that can be completed within a reasonable restoration time frame requires removal of the building[6]. Once the building is removed, impacted vadose zone soils will be accessible for removal using conventional excavation techniques. For cost estimating purposes, it is assumed that excavation side slopes would not exceed 1.5 horizontal:1 vertical (1.5H:1V). During excavation, field monitoring techniques will be used to segregate soils with COC concentrations below soil reuse criteria developed during cleanup design. These soils, estimated at approximately 3,300 bank cubic yards (BCY), will be temporarily stockpiled and then used along with clean imported fill to backfill the excavation. Excavated soils that are not reused (estimated at approximately 9,500 BCY) will be transported off site. Disposal as non-hazardous waste is assumed. An equal volume of clean fill will be imported to restore the ground surface to preconstruction grades.

Any water accumulating in the excavation (e.g., due to precipitation or infiltration of localized perched groundwater) will need to be managed. It is assumed that excavation dewatering can be accomplished using relatively low-cost methods (e.g., sump pumps in trenches within the excavation). Water removed from the excavation is assumed to be pretreated onsite and discharged to sanitary sewer under a temporary construction discharge authorization.

---

[5] The discount factor of 0.7 percent is based on the real interest rate on US Treasury 30-year notes and bonds (per the November 2016 revision of Circular A-94 Appendix C, Office of Management and Budget).

[6] The cost of building demolition and associated tasks (e.g., hazardous building materials evaluation and abatement) is not considered a remediation cost, and is not included in the cleanup cost estimates.

Once remedy construction is completed, it is assumed that any remaining groundwater monitoring wells will be decommissioned and the Site will be turned over to the U.S. Army Corps of Engineers (Corps) for levee setback construction during the 2018 construction season. While that construction may involve large-scale excavation of Site soils, it is not expected to encounter soils or groundwater with concentrations of COCs above proposed cleanup levels.

The third phase of Site cleanup will occur after the Corps has completed levee setback construction, and will begin with installation of a new groundwater well network for compliance monitoring. Periodic groundwater monitoring will be conducted until cleanup levels are achieved throughout the monitoring well network for four consecutive quarters. Since this alternative leaves significant contaminant mass in place in saturated zone soils, a restoration time frame of greater than 30 years is assumed.

Alternative 1 is estimated to achieve a contaminant mass removal of approximately 38,000 pounds (lbs.) via soil excavation, at an estimated cost of $2.9 million (Table 11).

6.3.2 Alternative 2: Removal of All Impacted Vadose Zone Soils and In situ Treatment of Highly Impacted Saturated Zone Soils

Excavation to remove impacted vadose zone soils would proceed in Alternative 2 in the same manner as in Alternative 1. However, this alternative also includes *in situ* treatment of saturated zone soils in areas where COC concentrations are at least 100 times the proposed saturated zone soil cleanup levels. These "highly impacted" saturated zone soils will be treated *in situ* using a remediation product that promote chemical oxidation of COCs. For cost estimating purposes, the remediation product is assumed to be PersulfOx®[7], provided by Regenesis.

Based on investigation results, highly impacted saturated zone soils are found at two distinct locations; Figure 13 shows their assumed areal extents. The larger of the two areas is situated within the vadose zone soil excavation footprint. In this area, PersulfOx® would be applied by mixing it into the soil in the bottom of the completed excavation prior to backfilling. Groundwater infiltration will then disperse the remediation product into underlying impacted soils. The smaller area of highly impacted saturated zone soils is situated outside the excavation footprint (centered around boring DP-2). PersulfOx® would be applied to this area via push-probe injection. A single injection event, with injection to the 15- to 20-foot depth range, is assumed.

The one-time application of remediation product is assumed to reduce the contaminant mass by 50 percent in highly impacted saturated zone soils. Similar to Alternative 1, a restoration time frame of greater than 30 years is assumed in this alternative because it leaves significant contaminant mass in place in saturated zone soils.

Alternative 2 is estimated to achieve a contaminant mass removal of approximately 38,000 lbs. via soil excavation and 5,000 lbs. via *in situ* treatment (43,000 lbs. total), at an estimated cost of $3.3 million (Table 11).

---

[7] PersulfOx is a sodium persulfate-based reagent that promotes *in situ* chemical oxidation of contaminants.

6.3.3 Alternative 3: Removal of All Impacted Vadose Zone Soils and Highly Impacted Saturated Zone Soils

Excavation to remove impacted vadose zone soils would proceed in Alternative 3 in the same manner as in Alternatives 1 and 2. However, this alternative also includes excavation and offsite disposal of highly impacted saturated zone soils. Excavation to a depth of 20 feet bgs is assumed. The assumed footprints of the deeper excavations correspond to the areas of *in situ* treatment in Alternative 2 (Figure 13). Alternative 3 is estimated to yield a soil volume of approximately 11,000 BCY for offsite disposal (1,500 BCY more than in Alternatives 1 and 2). In addition, roughly 4,300 BCY of overburden soils will be temporarily stockpiled and then used to backfill the excavation (1,000 BCY more than in Alternatives 1 and 2).

Since soils are excavated below the water table in this alternative, excavation dewatering and water management will be considerably more complex and costly than in Alternatives 1 and 2. The need for advanced dewatering techniques such as perimeter well points would need to be evaluated during engineering design.

Saturated zone soils in areas where COC concentrations are less than 100 times proposed cleanup levels are left in place in this alternative, and will provide a continuing source of contaminants to groundwater, likely for many years into the future. Nonetheless, restoration time frame is expected to be significantly shorter than in Alternative 2, since highly impacted saturated zone soils are removed. To differentiate Alternative 3 from the previous alternatives, a restoration time frame of 20 to 30 years is estimated for purposes of comparing alternatives in this FS.

Alternative 3 is estimated to achieve a contaminant mass removal of approximately 48,000 lbs. via soil excavation, at an estimated cost of $3.6 million (Table 11).

6.3.4 Alternative 4: Removal of All Impacted Soils

Excavation of impacted saturated zone soils would be much more extensive in Alternative 4 than in Alternative 3. Figure 13 shows the assumed areal extent of soil excavation in this alternative. Note that very low concentrations of contaminants were detected in 2010 at DP-15 and DP-16, downgradient of the assumed excavation footprint. These soil impacts apparently resulted from transport of contaminants dissolved in groundwater, and it is reasonable to assume that they will attenuate once groundwater concentrations decrease[8]. Therefore, minimally impacted saturated zone soils downgradient of the source area are not excavated in Alternative 3.

As in Alternative 3, saturated zone soil excavation to 20 feet bgs is assumed. On this basis, an estimated 33,900 BCY of soil would be excavated in Alternative 4, 17,600 BCY of which is assumed to be stockpiled and reused. The balance of excavated soil (16,300 BCY) would be disposed of offsite as in Alternatives 1 and 2.

[8] Groundwater monitoring results indicate that concentrations in groundwater may have already attenuated significantly since 2010; therefore, soil concentrations at DP-15 and DP-16 may now be below levels of concern.

Groundwater monitoring results indicate that contaminant concentrations in groundwater are very low outside the Alternative 4 excavation footprint. Therefore, any residual groundwater cleanup level exceedances are expected to attenuate quickly upon completion of construction. A restoration time frame of 3 years is assumed.

Alternative 4 is estimated to achieve a contaminant mass removal of approximately 49,000 lbs. via soil excavation, at an estimated cost of $5.8 million (Table 11).

6.4 Evaluation of Remedial Alternatives

The remedial alternatives presented in Section 6.3 are evaluated in this section with respect to MTCA criteria. The evaluation is accomplished in three steps:

- Threshold criteria evaluation.
- Reasonable restoration time frame evaluation.
- Disproportionate cost analysis (DCA).

6.4.1 Threshold Criteria Evaluation

Cleanup actions selected under MTCA must meet four "threshold" requirements identified in WAC 173-340-360(2)(a) to be accepted by Ecology. All cleanup actions must:

- Protect human health and the environment.
- Comply with cleanup standards.
- Comply with applicable state and federal laws.
- Provide for compliance monitoring.

Table 9 provides an evaluation of the alternatives with respect to these criteria. All four alternatives are judged to meet the threshold criteria and are therefore carried forward to the next stage of evaluation.

6.4.2 Reasonable Restoration Time Frame Evaluation

MTCA places a preference on remedial alternatives that can achieve Site cleanup in a shorter period of time. Factors to be considered in evaluating whether an alternative provides for a reasonable restoration time frame (per WAC 173-340-360(4)(b)) are listed in Table 10. Alternative 4 would achieve the shortest restoration time frame because more impacted soils would be excavated and disposed of offsite than in the other alternatives. However, the restoration time frames of all four alternatives are considered to be reasonable.

The estimated restoration timeframe of the preferred cleanup remedy (Alternative 1), which involves excavation and removal of soil containing concentrations of one or more of the COCs above the Site cleanup levels to an approximate depth of 15 feet bgs (17 feet NAVD88) will be immediate for protecting human health and the environment through direct contact pathways with COCs in soil and will allow for construction of a flood control levy without risk to workers. The estimated restoration timeframe for

groundwater, which consists of source removal followed by long-term compliance groundwater monitoring, is estimated to be greater than 30 years.

6.4.3 Disproportionate Cost Analysis

A DCA is conducted to determine whether a cleanup action uses permanent solutions to the maximum extent practicable. This is done by evaluating the relative benefits and costs of remedial alternatives. Seven criteria are considered in the evaluation as specified in WAC173-340-360(3)(f):

- **Protectiveness** – overall protectiveness of human health and the environment, including the degree to which existing site risks are reduced, time required to reduce the risks and attain cleanup standards, on-site and off-site risks during implementation, and improvement in overall environmental quality.
- **Permanence** – degree to which the alternative permanently reduces the toxicity, mobility, or volume of hazardous substances, including the adequacy of destroying hazardous substances, the reduction or elimination of hazardous substance releases and sources of releases, the degree of irreversibility of treatment, and the characteristics and quantity of the treatment residuals.
- **Cost** – Remedy design, construction, and long-term O&M costs to implement the alternative.
- **Long-term effectiveness** – degree of certainty that the alternative will successfully and reliably address contamination that exceeds applicable cleanup levels until cleanup levels are attained, the magnitude of the residual risk with the alternative in place, and the effectiveness of controls to manage treatment residue and remaining wastes.
- **Short-term risk management** – the risks to human health and the environment during construction and implementation of the alternative, and the effectiveness of measures that will be taken to manage such risks.
- **Implementability** – includes consideration of whether the alternative is technically possible; the availability of necessary offsite facilities, services, and materials; administrative and regulatory requirements; scheduling, size, and complexity of the alternative; monitoring requirements; access for construction, operations, and monitoring; and integration with existing facility operations and other current or potential remedial actions.
- **Consideration of public concerns** – concerns from individuals, community groups, local governments, tribes, federal and state agencies, and other interested organizations are addressed by Ecology responding to public comments.

The DCA is based on a comparative evaluation of an alternative's cost against the other six criteria (environmental benefits). Per WAC 173-340-360(3)(e)(i), cost is disproportionate to benefits if the incremental cost of an alternative over that of a lower-cost alternative exceeds the incremental degree of benefits achieved by the alternative over that of the lower-cost alternative.

The DCA is summarized in Table 11. Environmental benefit is quantified by first rating the alternatives with respect to each of the six criteria (excluding "cost") discussed above. Rating values are assigned on a scale of 1 to 5, where 1 indicates the criterion is satisfied to a very low degree, and 5 indicates the criterion is satisfied to a very high degree. Since Ecology does not consider the criteria to be of equal importance, each criterion is assigned a "weighting factor." Weighting factors are assigned as follows:

- Overall protectiveness: 30 percent;
- Permanence: 25 percent;
- Long-term effectiveness: 20 percent;
- Short-term effectiveness: 10 percent;
- Implementability: 10 percent; and
- Consideration of public concerns: 5 percent.

A MTCA benefits ranking is then obtained for each alternative by multiplying the six rating values by their corresponding weighting factors, and summing the weighted values. Finally, the benefits ranking of each alternative is divided by the alternative's estimated cost to obtain a benefit/cost ratio, which is a relative measure of the cost effectiveness of the alternative.

Based on the DCA, Alternative 1 has the highest benefit/cost ratio.

6.5 Recommendation

Based on the results of the DCA presented above, Alternative 1 is the most cost effective of the four remedial alternatives evaluated in this FS. Therefore, under MTCA, Alternative 1 is identified as the alternative that is permanent to the maximum extent practicable.

References

Envirocon, Inc. (Envirocon), 1991a. Findings from the UST Site Assessment performed at the GACO Western Facility, Tukwila, Washington, November 26, 1991.

Envirocon, 1991b. Findings from the Soil and Groundwater Sampling performed at the GACO Western Facility, Tukwila, Washington, November 26, 1991.

Farallon Consulting, LLC, (Farallon, 2010). Summary of Subsurface Investigation and Preliminary Remedial Alternatives, Gaco Western, Inc. Facility, January 26, 2010.

Gaco Western, Inc., (Gaco Western), 1994. Well Installation and Groundwater Monitoring Report, Gaco Western, Inc., Tukwila, Washington, September 22, 1994.

Gaco Western, 1996. September 1996 Groundwater Monitoring Report, Gaco Western, Inc., Tukwila, Washington, November 25, 1996.

Gaco Western, 2009. 2004 Groundwater Monitoring Well Sampling Analysis Files sent to Ecology, Tukwila, Washington, April 1, 2009.

Hart Crowser, Inc. (Hart Crowser), 1992. Work Plan for Site Characterization and Upper Water-Bearing Zone Soil Remediation, Gaco Western, Inc., Tukwila, Washington, May 7, 1992.

Hart Crowser, 1994. Final Report, Soil Vapor Extraction, Interim Remedial Action, Gaco Western, Inc., Tukwila, Washington, February 9, 1994.

King County Water and Land Services Groundwater Well Viewer: http://green2.kingcounty.gov/groundwater/map.aspx

King County. 2017. Property information for 18700 Southcenter Parkway, King County iMap. (http://gismaps.kingcounty.gov/iMap/) Accessed on May 11, 2017.

Landau Associates, (Landau), 2011a. Remedial Investigation Report, Gaco Western Facility, 18700 Southcenter Parkway, Tukwila, Washington, August 2, 2011.

Landau, 2011b. Follow-On Environmental Investigation, Gaco Western Facility, 18700 Southcenter Parkway, Tukwila, Washington. September 20, 2011.

United States Geological Survey (USGS), 2017, National Water Information System, USGS Water Resources, USGS 12113344 Green River at 200th Street at Kent, WA (https://waterdata,usgs,gov/wa/nwis/uv/?site_no=12113344), Accessed on January 26, 2017.

Washington State Department of Ecology (Ecology), 1992a. Letter regarding Early Notice Letter, GACO Western, Inc. #N-17-5173-000 from Louise Bardy, Site Information Coordinator, Toxics Cleanup Program to Jim Hazard, GACO Western, Inc., March 13, 1992.

Ecology, 1992b. MTCA Agreed Order No. DE 92 HS – N28S signed by Gaco Western, Inc. and Ecology, November 16, 1992.

Ecology, 1994. Letter regarding Reranking of GACO Western Inc., from Michael Gallagher, NWRO Section Manager, Toxics Cleanup Program to Jim P. Hazard, Gaco Western, Inc., August 4, 1994.

Ecology, 1995. Restrictive Covenant #9601170252, signed by Gaco Western Inc. and Ecology, December 15, 1995.

Ecology, 1996. Letter regarding No Further Action determination for activities completed under the MTCA Agreed Order #DE 92 HS-N28S at Gaco Western, Inc., 18700 Southcenter Parkway, Tukwila, WA 98188, March 26, 1996.

Ecology, 2009. Periodic Review of Gaco Western (FS ID #2402), 18700 Southcenter Parkway, Tukwila, WA 98188, May 2009.

Ecology, 2010. Letter regarding Further Action at the Gaco Western LLC, 18700 Southcenter Parkway, Facility/Site No: 2402, VCP Project No: NW2217, May 10, 2010.

Ecology. 2016a. Remedial Investigation Checklist, Toxics Cleanup Program. Ecology Publication No. 16-09-006. May 2016.

Ecology. 2016b. Feasibility Study Checklist, Toxics Cleanup Program. Ecology Publication No. 16-09-007. May 2016.

Ecology, 2016c. Periodic Review of Gaco Western (FS ID #2402), 18700 Southcenter Parkway, Tukwila, WA 98188, February 2016.

Ecology, 2016d. Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action. Publication no. 09-09-047. Review Draft Revised February 2016.

Washington State Department of Ecology Well Logs Database Viewer: https://fortress.wa.gov/ecy/waterresources/map/WCLSWebMap/WellConstructionMapSearch.aspx

Washington State Department of Health, Source Water Assessment Program (SWAP) Mapper: https://fortress.wa.gov/doh/eh/maps/SWAP/index.html

Limitations

Work for this project was performed for King County (Client), and this report was prepared in accordance with generally accepted professional practices for the nature and conditions of work completed in the same or similar localities, at the time the work was performed. This report does not represent a legal opinion. No other warranty, expressed or implied, is made.

All reports prepared by Aspect Consulting for the Client apply only to the services described in the Agreement(s) with the Client. Any use or reuse by any party other than the Client is at the sole risk of that party, and without liability to Aspect Consulting. Aspect Consulting's original files/reports shall govern in the event of any dispute regarding the content of electronic documents furnished to others.

TABLES

Table 1 - Groundwater Elevation Data

Project No. 160427-001 - GWI Tukwila Property
18700 Southcenter Parkway, Tukwila, Washington

Monitoring Well	Elevation TOC[1]	Date	Depth to Groundwater (feet below TOC)	Groundwater Elevation (feet)
GW-6D	31.73	2/21/2017	14.67	17.06
	31.73	5/3/2017	15.53	16.20
	31.73	5/22/2017	16.04	15.69
GW-7	31.85	2/21/2017	14.97	16.88
	31.85	5/3/2017	15.91	15.94
	31.85	5/22/2017	16.38	15.47
GW-8	31.69	2/21/2017	14.80	16.89
	31.69	5/3/2017	15.77	15.92
	31.69	5/22/2017	16.27	15.42
GW-9	31.91	2/21/2017	15.09	16.82
	31.91	5/3/2017	15.97	15.94
	31.91	5/22/2017	16.50	15.41
HC-1D	27.59	2/21/2017	10.60	16.99
	27.59	5/3/2017	11.60	15.99
	27.59	5/22/2017	12.04	15.55
HC-2D	27.88	2/21/2017	10.89	16.99
	27.88	5/3/2017	11.89	15.99
	27.88	5/22/2017	12.38	15.50
HC-5D	27.2	2/21/2017	12.32	14.88
	27.2	5/3/2017	13.45	13.75
	27.2	5/22/2017	13.96	13.24

Notes:
[1]Surveyed elevation of the top of the monitoring well casing (TOC), new wells surveyed into existing network by PLS, Inc. in February, 2017, datum NAVD88.
[2]Depth to groundwater measured in feet below the top of the monitoring well casing.
[3]Groundwater elevation in feet relative to NAVD88 datum.
TOC = top of casing

Table 2 - Preliminary Soil Criteria

Project No. 160427-001 - GWI Tukwila Property
18700 Southcenter Parkway, Tukwila, Washington

Constituent (by analyte group)	Protection of Human Health[1]		Protection of Groundwater							Site Screening Levels[4]	
			Calculation Parameters			MTCA Method B Calculated Soil Cleanup Level Protection of Groundwater[2]		MTCA Method B Calculated Soil Cleanup Level Protection of Groundwater (Indoor Air)[3]			
	MTCA Method A/B (Unrestricted Land Use)	MTCA Method C (Industrial Land Use)	Koc (Soil Organic Carbon-Water Partitioning Coefficient) (L/kg)	Kd (Distribution Coefficient) (L/kg)	Henry's Law Constant	Vadose Zone	Saturated Zone	Vadose Zone	Saturated Zone	Vadose Zone	Saturated Zone
Petroleum Distillates											
Benzene	0.03	2390	6.20E+01	6.20E-02	2.28E-01	0.03	0.0017	0.011	0.014	0.03	0.0017
Toluene	7	280000	1.40E+02	1.40E-01	2.72E-01	7.3	0.43	2343	223	7	0.43
Ethylbenzene	6	350000	2.04E+02	2.04E-01	3.23E-01	6	0.34	349	35	6	0.34
Xylenes	9	700000	2.33E+02	2.33E-01	2.79E-01	14.6	0.83	131	9.84	9	0.83
Halogenated Volatile Organic Compounds											
1,1-dichloroethane	175	23000	5.30E+01	5.30E-02	2.30E-01	0.042	0.0026	0.061	0.0038	0.042	0.0026
Tetrachloroethene	0.05	70000	2.65E+02	2.65E-01	7.54E-01	0.05	0.003	0.243	0.0126	0.05	0.003
Trichloroethene	0.03	1750	9.40E+01	9.40E-02	4.22E-01	0.033	0.0019	0.010	0.0006	0.03	0.0019
cis-1,2-dichloroethene	160	7000	3.55E+01	3.55E-02	1.67E-01	0.08	0.0052			0.08	0.0052
trans-1,2-dichloroethene	1600	70000	3.80E+01	3.80E-02	3.85E-01	0.87	0.052			0.87	0.052
Vinyl Chloride	0.67	87.50	1.86E+01	1.86E-02	1.11E+00	0.0013	0.000061	0.0022	0.00011	0.0013	0.000061
Other Volatile Organic Compounds											
1,2,4-trimethylbenzene											
1,2-dichlorobenzene	7200	315000	3.79E+02	3.79E-01	7.79E-02	8.4	0.48	30.11	1.71	8.4	0.48
1,3,5-trimethylbenzene	800	35000								800	800
1,4-dichlorobenzene	185	24300	6.16E+02	6.16E-01	9.96E-02	0.13	0.0073	0.08	0.0044	0.13	0.0073
2-Butanone											
2-chlorotoluene (o-chlorotoluene)	1600	70000								1600	1600
4-chlorotoluene											
Acetone	72000	3150000	5.75E-01	5.75E-04	1.59E-03	28.9	2.07			28.9	2.07
Carbon Disulfide	8000	350000	4.57E+01	4.57E-02	1.24E+00	5.65	0.27	2.83	0.13	5.65	0.27
Chloroform	32.3	4230	5.30E+01	5.30E-02	1.50E-01	0.0075	0.00048	0.006	0.00041	0.008	0.00048
Isopropylbenzene (cumene)	8000	350000						2.88	0.21	8000	8000
Isopropyltoluene											
Methylene Chloride	0.020	21000	1.00E+01	1.00E-02	8.98E-02	0.022	0.0015	19.3	1.31	0.020	0.0015
Naphthalene	5	70000	1.19E+03	1.19E+00	1.98E-02	4.45	0.24	0.25	0.013	4.45	0.24
n-butylbenzene	4000	175000								4000	4000
n-propylbenzene	8000	350000								8000	8000
sec-butylbenzene	8000	350000								8000	8000

Notes:
All units in milligrams per kilogram (mg/kg), unless otherwise stated.
Blank cells are intentional and indicate that criteria are not available.

[1]Cleanup level is based on standard Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Method A/B (unrestricted land use) or Method C (industrial land use) values from the Cleanup and Risk Calculations tables (CLARC).

[2]Soil levels protective of groundwater (ingestion and direct contact) calculated value from 3-phase model, per MTCA Equation 747-1, with MTCA Method A/B (unrestricted use) standard groundwater criteria from Table 2. Values for Koc, Kd and Henry's Law Constant are from CLARC.

[3]Soil levels protective of groundwater calculated value from 3-phase model, per MTCA Equation 747-1, with groundwater criteria as MTCA Method B groundwater screening level for the protection of indoor air (Table B-1, Appendix B, Ecology's Guidance for Evaluating Soil Vapor Intrusion in Washington State, October 2009)

[4]Soil criteria selected based on the anticipated future exposure scenario, which does not include the presence of structures or concern with vapor intrusion risk.

Table 3 - Preliminary Groundwater Criteria

Project No. 160427-001 - GWI Tukwila Property
18700 Southcenter Parkway, Tukwila, Washington

Constituent (by analyte group)	Protection of Groundwater as Drinking Water (Ingestion)[1]	Protection of Surface Water							Protection of Indoor Air	Site Screening Levels[7]
		Protection of Human Health				Protection of Aquatic Organisms				
		EPA 2016 CWA-Effective Human Health Criteria[2]	National Recommended Water Quality Criteria[3]	Surface Water WAC 173-201A[4]	MTCA Method B Standard Formula Value[5]	National Recommended Water Quality Criteria[3]		Surface Water WAC 173-201A[4]	MTCA Method B Groundwater Screening Level[6]	
				Protection of Human Health	Protection of Human Health	Protection of Aquatic Life		Protection of Aquatic Organisms		
	MTCA Method A/B (Unrestricted Land Use)	Water & Organisms	Water & Organisms	Water & Organisms	Fish Consumption	Freshwater Acute	Freshwater Chronic	Freshwater		
Petroleum Distillates										
Benzene	5	0.44	0.58	0.44	22.7				2.4	0.44
Toluene	1000	72	57	180	18900				15600	57
Ethylbenzene	700	29	68	200	6820				2780	29
Xylenes	1600								440	1600
Halogenated Volatile Organic Compounds										
1,1-dichloroethane	7.68								11.2	7.68
Tetrachloroethene	5	2.4	10	4.9	99.6				22.9	2.4
Trichloroethene	5	0.3	0.6	0.38	12.8				1.55	0.3
cis-1,2-dichloroethene	16									16
trans-1,2-dichloroethene	160		100	600	32400					100
Vinyl Chloride	0.2	0.02	0.022	0.02	0.025				0.347	0.02
Other Volatile Organic Compounds										
1,2,4-trimethylbenzene										
1,2-dichlorobenzene	720	700	1000	2000	4170				2570	700
1,3,5-trimethylbenzene	80									80
1,4-dichlorobenzene	8.1	200	300	460	21.4				4.85	8.1
2-Butanone										
2-chlorotoluene (o-chlorotoluene)	160									160
4-chlorotoluene										
Acetone	7200									7200
Carbon Disulfide	800								400	800
Chloroform	1.41	100	60	260	55				1.2	1.41
Isopropylbenzene (cumene)	800								720	800
Isopropyltoluene										
Methylene Chloride	5	10	20	16	3600				4430	5
Naphthalene	160				4710				8.93	160
n-butylbenzene	400									400
n-propylbenzene	800									800
sec-butylbenzene	800									800

Notes:

All units in micrograms per liter (ug/L), unless otherwise stated

Blank cells are intentional and indicate that criteria are not available

[1]Washington State Model Toxics Control Act (MTCA) Cleanup Regulation Ground Water Method A or Method B Standard Formula Values for protection of human health through ingestion (groundwater as drinking water; WAC 173-340-720)

[2]Washington State human health criteria for the consumption of organisms, EPA-approved values under the Clean Water Act Section 303(c.

[3]National recommended water quality critiera for the protection of aquatic organisms and protection of human health based on consumption of organisms from Section 304 of the Clean Water Act.

[4]Water Quality Standards for Surface Waters of the State of Washington, Chapter 173-201A WAC, based on protection of aquatic organisms

[5]MTCA Method B surface water criteria, WAC 173-340-7305, Standard formula value, most restrictive.

[6]MTCA Method B Groudwater Screening Level for the protection of indoor air.

[7]Groundwater criteria selected based on the anticipated future exposure scenario, which does not include the presence of structures or concern with vapor intrusion risk.

Table 4 - Summary of Soil Analytical Data

Project No. 160427-001 - GWI Tukwila Property
18700 Southcenter Parkway, Tukwila, Washington

		Sample Location	AB-1	AB-1	AB-1	AB-2	AB-3	AB-3	AB-3	AB-3	AB-4	AB-4	AB-4	AB-4	AB-5	AB-5	AB-5	AB-5	GW-7	GW-7
		Sample Date	2/13/2017	2/13/2017	2/13/2017	2/13/2017	2/10/2017	2/10/2017	2/10/2017	2/10/2017	2/10/2017	2/10/2017	2/10/2017	2/10/2017	2/10/2017	2/10/2017	2/10/2017	2/10/2017	2/13/2017	2/13/2017
		Sample Depth (ft bgs)	8.5	13	18	8	6	10	14	18	6	11	15	19	5	9	13	18	9	13
		Surface Elevation[1] (ft)	34.3	34.3	34.3	33.81	34.3	34.3	34.3	34.3	34.3	34.3	34.3	34.3	34.3	34.3	34.3	34.3	34.3	34.3
		Sample Elevation (ft)	25.8	21.3	16.3	25.8	28.3	24.3	20.3	16.3	28.3	23.3	19.3	15.3	29.3	25.3	21.3	16.3	25.3	21.3
		Sample Zone[2]	Vadose	Vadose	Saturated	Vadose	Vadose	Vadose	Vadose	Saturated	Vadose	Vadose	Vadose	Saturated	Vadose	Vadose	Vadose	Saturated	Vadose	Vadose
	Site Screening Levels[3]																			
Analyte	Vadose Zone	Saturated Zone																		
Petroleum Distilates																				
Benzene	0.03	0.0017	**0.018**	**0.0024**	**0.0074**	1.4 U	0.0010 U	**0.0012**	**0.046**	**0.034**	0.0014 U	1.4 U	1.3 U	0.17 U	0.0011 U	0.0014 U	0.0013 U	0.75 U	**0.03**	**0.029**
Toluene	7	0.43	0.0078 U	0.0056 U	0.0087 U	**160**	**0.0066**	0.0062 U	0.0067 U	0.0080 U	0.0069 U	**50**	**870**	**18**	0.0054 U	0.0069 U	0.0065 U	**5.7**	0.0066 U	0.0065 U
Ethylbenzene	6	0.34	0.0016 U	0.0011 U	**0.0069**	**200**	**0.011**	**0.0026**	**0.0024**	**0.0045**	**0.0049**	**370**	**1100**	**9.7**	0.0011 U	0.0014 U	**0.74**	**85**	**0.0064**	**0.018**
Total Xylenes	9	0.83	**0.0041**	0.0023 U	**0.0282**	**630**	**0.0278**	**0.0128**	**0.0085**	**0.0779**	**0.0223**	**1760**	**5200**	**47**	**0.0038**	**0.0014**	**1.4**	**390**	**0.0052**	**7.9045**
Total TEX			0.0041	0	0.0351	990	0.0454	0.0154	0.0109	0.0824	0.0272	2180	7170	74.7	0.0038	0.0014	2.14	480.7	0.0116	7.9225
Volatile Organic Compounds																				
1,1-Dichloroethane	0.042	0.0026	0.0016 U	0.0011 U	0.0017 U	1.4 U	0.0010 U	0.0012 U	0.0013 U	0.0016 U	0.0014 U	1.4 U	1.3 U	0.17 U	0.0011 U	0.0014 U	0.0013 U	0.75 U	0.0013 U	0.0013 U
Tetrachloroethene (PCE)	0.05	0.003	0.0016 U	0.0011 U	0.0017 U	1.4 U	0.0010 U	0.0012 U	0.0013 U	0.0016 U	**0.0047**	1.4 U	1.3 U	0.17 U	**0.0017**	**0.0027**	0.0013 U	0.75 U	0.0013 U	0.0013 U
Trichloroethene (TCE)	0.03	0.0019	0.0016 U	0.0011 U	0.0017 U	1.4 U	0.0010 U	0.0012 U	0.0013 U	0.0016 U	0.0014 U	1.4 U	1.3 U	0.17 U	0.0011 U	0.0014 U	0.0013 U	0.75 U	0.0013 U	0.0013 U
cis-1,2-Dichloroethene (DCE)	0.08	0.0052	0.0016 U	0.0011 U	**0.0022**	1.4 U	0.0010 U	0.0012 U	**0.007**	**0.0042**	0.0014 U	1.4 U	1.3 U	0.17 U	0.0011 U	0.0014 U	0.0013 U	0.75 U	0.0013 U	0.0013 U
trans-1,2-Dichloroethene	0.87	0.052	0.0016 U	0.0011 U	0.0017 U	1.4 U	0.0010 U	0.0012 U	0.0013 U	0.0016 U	0.0014 U	1.4 U	1.3 U	0.17 U	0.0011 U	0.0014 U	0.0013 U	0.75 U	0.0013 U	0.0013 U
1,2,4-Trimethylbenzene			0.0016 U	0.0011 U	0.10 U	**37**	**0.13**	**0.0097**	0.0013 U	**0.0059**	0.0014 U	**14**	**20**	0.17 U	0.0011 U	0.0014 U	**0.062**	**3.3**	**0.062**	**0.81**
1,2-Dichlorobenzene	8.4	0.48	0.0016 U	0.0011 U	0.10 U	1.4 U	0.051 U	0.0012 U	0.0013 U	0.0016 U	0.0014 U	1.4 U	1.3 U	0.17 U	0.0011 U	0.0014 U	0.0013 U	0.75 U	0.0013 U	0.0013 U
1,3,5-Trimethylbenzene	800	800	0.0016 U	0.0011 U	0.10 U	**21**	0.051 U	0.0012 U	0.0013 U	0.0016 U	0.0014 U	**8.6**	**13**	0.17 U	0.0011 U	0.0014 U	**0.0022**	**1.9**	0.0013 U	**0.11**
1,4-Dichlorobenzene	0.13	0.0073	0.0016 U	0.0011 U	0.10 U	1.4 U	0.051 U	0.0012 U	0.0013 U	0.0016 U	0.0014 U	1.4 U	1.3 U	0.17 U	0.0011 U	0.0014 U	0.0013 U	0.75 U	0.0013 U	0.0013 U
2-Butanone			**0.035**	**0.012**	**0.093**	7.0 U	**0.13**	**0.026**	**0.012**	**0.029**	0.0069 U	7.2 U	6.7 U	0.83 U	0.0054 U	0.0069 U	0.0065 U	3.7 U	**0.039**	**0.0086**
2-Chlorotoluene	1600	1600	0.0016 U	0.0011 U	0.10 U	1.4 U	0.051 U	0.0012 U	0.0013 U	0.0016 U	0.0014 U	1.4 U	1.3 U	0.17 U	0.0011 U	0.0014 U	0.0013 U	0.75 U	0.0013 U	0.0013 U
4-Chlorotoluene			0.0016 U	0.0011 U	0.10 U	1.4 U	0.051 U	0.0012 U	0.0013 U	0.0016 U	0.0014 U	1.4 U	1.3 U	0.17 U	0.0011 U	0.0014 U	0.0013 U	0.75 U	0.0013 U	0.0013 U
Acetone	28.9	2.07	**0.16 J**	**0.051 J**	**0.49 J**	14 U	**0.68 J**	**0.095**	**0.19**	**0.93 J**	0.014 U	14 U	13 U	1.7 U	**0.012**	0.014 U	**0.19**	7.5 U	**0.21 J**	**0.054 J**
Carbon Disulfide	5.65	0.27	0.0016 U	0.0011 U	**0.007**	1.4 U	**0.0015 J**	**0.0016**	**0.008**	**0.0021**	0.0014 U	1.4 U	1.3 U	0.17 U	**0.002**	0.0014 U	**0.0013**	0.75 U	0.0013 U	0.0013 U
Chloroform	0.008	0.00048	0.0016 U	0.0011 U	0.0017 U	1.4 U	0.0010 U	0.0012 U	0.0013 U	0.0016 U	0.0014 U	1.4 U	1.3 U	0.17 U	0.0011 U	0.0014 U	0.0013 U	0.75 U	0.0013 U	0.0013 U
Isopropylbenzene	8000	8000	0.0016 U	0.0011 U	0.0017 U	**6.7**	**0.0037**	0.0012 U	0.0013 U	**0.0019**	0.0014 U	**6.6**	**14**	0.17 U	0.0011 U	0.0014 U	**0.018**	**1.5**	**0.15**	**0.084**
Methylene Chloride	0.02	0.0015	0.0078 U	0.0056 U	0.0087 U	7.0 U	0.013 U	0.015 U	0.017 U	0.020 U	0.017 U	36 U	67 U	2.1 U	0.014 U	0.017 U	0.016 U	9.3 U	0.0066 U	0.0065 U
Naphthalene	4.45	0.24	0.0016 U	0.0011 U	0.10 U	1.4 U	0.051 U	0.0012 U	0.0013 U	0.0016 U	0.0014 U	1.4 U	1.3 U	0.17 U	0.0011 U	0.0014 U	0.0013 U	0.75 U	0.0013 U	**0.0016**
n-Butylbenzene	4000	4000	0.0016 U	0.0011 U	0.10 U	1.4 U	0.051 U	0.0012 U	0.0013 U	0.0016 U	0.0014 U	1.4 U	1.3 U	0.17 U	0.0011 U	0.0014 U	0.0013 U	0.75 U	**0.0028**	0.0013 U
n-Propylbenzene	8000	8000	0.0016 U	0.0011 U	0.10 U	**14**	0.051 U	0.0012 U	0.0013 U	0.0016 U	0.0014 U	**6.1**	**10**	0.17 U	0.0011 U	0.0014 U	**0.025**	**1.4**	**0.7**	**0.11**
sec-Butylbenzene	8000	8000	0.0016 U	0.0011 U	0.10 U	1.4 U	0.051 U	0.0012 U	0.0013 U	0.0016 U	0.0014 U	1.4 U	1.3 U	0.17 U	0.0011 U	0.0014 U	0.0013 U	0.75 U	**0.005**	0.0013 U

Notes:
All concentrations in milligrams per kilogram
ft = feet
bgs = below existing ground surface
[1]Surface elevations based on King County LIDAR data, referenced datum NAVD88.
[2]Soil samples with elevations higher than 17 feet NAVD88 are considered "Vadose" and samples with elevations 17 feet NAVD88 or lower are considered "Saturated".
[3]Refer to Table 2 for derivation of the soil Site Screening Levels (SLs).
Bold = Analyte detected above laboratory reporting limits
Green Shading = Concentration exceeds vadose zone soil Site SL (Table 2)
Pink Shading = Concentration exceeds saturated zone soil Site
NE = not established
"--" = No value available
U = laboratory flag indicating that the analyte was not detected above the stated laboratory reporting limit
J = laboratory flag indicating that the listed value is an estimate

Table 4 - Summary of Soil Analytical Data

Project No. 160427-001 - GWI Tukwila Property
18700 Southcenter Parkway, Tukwila, Washington

		Sample Location	GW-7	GW-8	GW-8	GW-8	GW-9	GW-9	B-1	B-2	B-2	B-3	B-4	B-5	B-6	B-7	B-8	B-9
		Sample Date	2/13/2017	2/13/2017	2/13/2017	2/13/2017	2/13/2017	2/13/2017	11/24/2009	11/24/2009	11/24/2009	11/24/2009	11/24/2009	11/24/2009	11/24/2009	11/24/2009	11/24/2009	11/24/2009
		Sample Depth (ft bgs)	17	9	13	17	10	13.5	9.5	7.5	12	7.5	12.5	15	15	16	16	16
		Surface Elevation[1] (ft)	34.3	34.3	34.3	34.3	34.3	34.3	30.79	30.64	30.64	30.22	34.3	34.3	34.3	34.3	31.87	32.22
		Sample Elevation (ft)	17.3	25.3	21.3	17.3	24.3	20.8	21.29	23.14	18.64	22.72	21.8	19.3	19.3	18.3	15.87	16.22
		Sample Zone[2]	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Saturated	Saturated
	Site Screening Levels[3]																	
Analyte	**Vadose Zone**	**Saturated Zone**																
Petroleum Distilates																		
Benzene	0.03	0.0017	**0.034**	0.0012 U	0.0014 U	**0.0063**	0.92 U	0.068 U	0.075 U	1.2 U	0.052 U	0.0011 U	16 U	**0.0016**	8.7 U	0.0011 U	0.0013 U	0.0017 U
Toluene	7	0.43	0.0075 U	0.0061 U	0.0069 U	0.0046 U	**11**	0.34 U	0.38 U	**220**	**2.1**	0.0056 U	**5500**	0.0056 U	**190**	0.0053 U	0.0065 U	0.0085 U
Ethylbenzene	6	0.34	0.0015 U	0.0012 U	0.0014 U	0.00093 U	**53**	**0.2**	**0.2**	**62**	**6.4**	0.0011 U	**1900**	0.0011 U	**370**	0.0011 U	0.0011 U	0.0017 U
Total Xylenes	9	0.83	**0.2722**	0.0025 U	0.0027 U	**0.024**	**280**	**4.589**	**0.22**	**272**	**24**	0.0011 U	**6000**	**0.0074**	**1710**	0.0021 U	0.0026 U	0.0034 U
Total TEX			0.2722	0	0	0.024	344	4.789	0.42	554	32.5	0	13400	0.0074	2270	0	0	0
Volatile Organic Compounds																		
1,1-Dichloroethane	0.042	0.0026	0.0015 U	0.0012 U	0.0014 U	0.00093 U	0.92 U	0.068 U	0.075 U	1.2 U	0.052 U	0.0011 U	16 U	0.0011 U	8.7 U	0.0011 U	0.0013 U	0.0017 U
Tetrachloroethene (PCE)	0.05	0.003	0.0015 U	**0.012**	0.0014 U	0.00093 U	0.92 U	0.068 U	0.075 U	1.2 U	0.052 U	0.052 U	16 U	0.0011 U	8.7 U	**0.02**	0.0013 U	0.0017 U
Trichloroethene (TCE)	0.03	0.0019	0.0015 U	0.0012 U	0.0014 U	0.00093 U	0.92 U	0.068 U	0.075 U	1.2 U	0.052 U	0.0011 U	16 U	0.0011 U	8.7 U	0.0011 U	0.0013 U	0.0017 U
cis-1,2-Dichloroethene (DCE)	0.08	0.0052	**0.0029**	0.0012 U	**0.0015**	**0.0013**	0.92 U	0.068 U	0.075 U	1.2 U	0.052 U	0.0011 U	16 U	0.0011 U	8.7 U	0.0011 U	0.0013 U	0.0017 U
trans-1,2-Dichloroethene	0.87	0.052	0.0015 U	0.0012 U	0.0014 U	0.00093 U	0.92 U	0.068 U	0.075 U	1.2 U	0.052 U	0.0011 U	16 U	0.0011 U	8.7 U	0.0011 U	0.0013 U	0.0017 U
1,2,4-Trimethylbenzene			**0.22**	0.0012 U	0.0014 U	0.00093 U	**6.6**	**0.66**	0.075 U	**18**	**8.4**	0.0011 U	**200**	**0.0016**	**20**	0.0011 U	0.0013 U	0.0017 U
1,2-Dichlorobenzene	8.4	0.48	0.098 U	0.0012 U	0.0014 U	0.00093 U	0.92 U	0.068 U	0.075 U	1.2 U	0.052 U	0.0011 U	16 U	0.0011 U	8.7 U	0.0011 U	0.0013 U	0.0017 U
1,3,5-Trimethylbenzene	800	800	0.098 U	0.0012 U	0.0014 U	0.00093 U	**3.6**	0.068 U	0.075 U	**9**	**3.5**	0.0011 U	**120**	0.0011 U	**12**	0.0011 U	0.0013 U	0.0017 U
1,4-Dichlorobenzene	0.13	0.0073	0.098 U	0.0012 U	0.0014 U	0.00093 U	0.92 U	0.068 U	0.075 U	1.2 U	0.052 U	0.0011 U	16 U	0.0011 U	8.7 U	0.0011 U	0.0013 U	0.0017 U
2-Butanone			**0.025**	0.0061 U	**0.067**	**0.023**	4.6 U	0.34 U	0.38 U	6.1 U	0.26 U	0.0056 U	80 U	**0.022**	43 U	0.0053 U	**0.011**	**0.032**
2-Chlorotoluene	1600	1600	0.098 U	0.0012 U	0.0014 U	0.00093 U	0.92 U	0.068 U	0.075 U	1.2 U	0.052 U	0.0011 U	16 U	0.0011 U	8.7 U	0.0011 U	0.0013 U	0.0017 U
4-Chlorotoluene			0.098 U	0.0012 U	0.0014 U	0.00093 U	0.92 U	0.068 U	0.075 U	1.2 U	0.052 U	0.0011 U	16 U	0.0011 U	8.7 U	0.0011 U	0.0013 U	0.0017 U
Acetone	28.9	2.07	**0.16 J**	0.012 U	**0.37 J**	**0.15 J**	9.2 U	0.68 U	0.38 U	6.1 U	0.26 U	**0.014**	80 U	**0.12**	43 U	0.0053 U	**0.071**	**0.15**
Carbon Disulfide	5.65	0.27	**0.0016**	0.0012 U	**0.0014**	**0.0017**	0.92 U	0.068 U	0.075 U	1.2 U	0.052 U	0.0011 U	16 U	0.0011 U	8.7 U	0.0011 U	0.0013 U	0.0017 U
Chloroform	0.008	0.00048	0.0015 U	0.0012 U	0.0014 U	0.00093 U	0.92 U	0.068 U	0.075 U	1.2 U	0.052 U	0.0011 U	16 U	0.0011 U	8.7 U	0.0011 U	0.0013 U	0.0017 U
Isopropylbenzene	8000	8000	0.0015 U	0.0012 U	0.0014 U	0.00093 U	**1.5**	**0.38**	**0.26**	**2.4**	**0.53**	0.0011 U	**52**	**0.0016**	**12**	0.0011 U	0.0013 U	0.0017 U
Methylene Chloride	0.02	0.0015	0.0075 U	0.0061 U	0.0069 U	0.0046 U	4.6 U	0.34 U	0.38 U	6.1 U	0.26 U	0.0056 U	80 U	0.0056 U	43 U	0.0053 U	0.0065 U	0.0085 U
Naphthalene	4.45	0.24	0.098 U	0.0012 U	0.0014 U	0.00093 U	0.92 U	0.068 U	0.075 U	1.2 U	0.052 U	0.0011 U	16 U	0.0011 U	8.7 U	0.0011 U	0.0013 U	0.0017 U
n-Butylbenzene	4000	4000	0.098 U	0.0012 U	0.0014 U	0.00093 U	0.92 U	**0.071**	0.075 U	1.2 U	**0.29**	0.0011 U	16 U	0.0011 U	8.7 U	0.0011 U	0.0013 U	0.0017 U
n-Propylbenzene	8000	8000	0.098 U	0.0012 U	0.0014 U	0.00093 U	**2.2**	**0.53**	**0.25**	**3.7**	**1**	0.0011 U	**88**	**0.0019**	**10**	0.0011 U	0.0013 U	0.0017 U
sec-Butylbenzene	8000	8000	0.098 U	0.0012 U	0.0014 U	0.00093 U	0.92 U	0.068 U	0.075 U	1.2 U	**0.16**	0.0011 U	16 U	0.0011 U	8.7 U	0.0011 U	0.0013 U	0.0017 U

Notes:
All concentrations in milligrams per kilogram
ft = feet
bgs = below existing ground surface
[1]Surface elevations based on King County LIDAR data, referenced datum NAVD88.
[2]Soil samples with elevations higher than 17 feet NAVD88 are considered "Vadose" and samples with elevations 17 feet NAVD88 or lower are considered "Saturated".
[3]Refer to Table 2 for derivation of the soil Site Screening Levels (SLs).
Bold = Analyte detected above laboratory reporting limits
Green Shading = Concentration exceeds vadose zone soil Site SL (Table 2)
Pink Shading = Concentration exceeds saturated zone soil Site
NE = not established
"--" = No value available
U = laboratory flag indicating that the analyte was not detected above the stated laboratory reporting limit
J = laboratory flag indicating that the listed value is an estimate

Table 4 - Summary of Soil Analytical Data

Project No. 160427-001 - GWI Tukwila Property
18700 Southcenter Parkway, Tukwila, Washington

		Sample Location	B-10	DP-1	DP-2	DP-3	DP-4	DP-5	DP-6	DP-7	DP-8	DP-10	DP-11	DP-11	DP-12	DP-13	DP-14	DP-15	DP-16
		Sample Date	11/24/2009	6/21/2010	6/21/2010	6/21/2010	6/21/2010	6/21/2010	6/22/2010	6/22/2010	6/22/2010	6/22/2010	6/22/2010	6/22/2010	6/23/2010	6/23/2010	6/23/2010	6/23/2010	6/23/2010
		Sample Depth (ft bgs)	15.5	17.5	19.5	14.5	13.5	13.5	20.5	13.5	15.5	20.5	19.5	44.5	20.5	25.5	17.5	22.5	20.5
		Surface Elevation[1] (ft)	34.28	30.3	30.18	30.44	34.3	32.73	34.3	34.3	34.3	34.3	34.3	34.3	34.3	34.3	31.91	32.3	32.89
		Sample Elevation (ft)	18.78	12.8	10.68	15.94	20.8	19.23	13.8	20.8	18.8	13.8	14.8	-10.2	13.8	8.8	14.41	9.8	12.39
		Sample Zone[2]	Vadose	Saturated	Saturated	Saturated	Vadose	Vadose	Saturated	Vadose	Vadose	Saturated	Saturated	Saturated	Saturated	Saturated	Saturated	Saturated	Saturated
	Site Screening Levels[3]																		
Analyte	**Vadose Zone**	**Saturated Zone**																	
Petroleum Distilates																			
Benzene	0.03	0.0017	0.0019 U	0.005 U	**3.9**	0.005 U	0.5 U	0.5 U	0.5 U	**3.2**	**0.11**	0.005 U	0.005 U	0.005 U	0.5 U	0.005 U	0.005 U	**0.033**	**0.032**
Toluene	7	0.43	0.0097 U	**0.03**	**8900**	**0.62**	15 U	**4300**	**2000**	**2900**	**0.57**	**0.93**	**0.19**	0.1 U	**310**	0.14 U	0.13 U	**0.14**	0.12 U
Ethylbenzene	6	0.34	0.0019 U	0.01 U	**2500**	**0.17**	**590**	**1400**	**1400**	**1300**	**0.59**	**0.15**	0.13 U	0.1 U	**500**	**0.15**	0.13 U	0.13 U	0.12 U
Total Xylenes	9	0.83	0.0039 U	0.02 U	**8500**	**0.65**	**2150**	**4870**	**4990**	**4540**	**1.64**	**0.5**	0.24 U	**0.2**	**2000**	**0.66**	0.24 U	0.23 U	0.22 U
Total TEX			0	0.03	19900	1.44	2740	10570	8390	8740	2.8	1.58	0.19	0.2	2810	0.81	0	0.14	0
Volatile Organic Compounds																			
1,1-Dichloroethane	0.042	0.0026	0.0019 U	0.01 U	9.8 U	0.11 U	14 U	11 U	12 U	12 U	0.12 U	0.13 U	0.12 U	0.097 U	11 U	0.13 U	0.12 U	0.12 U	0.11 U
Tetrachloroethene (PCE)	0.05	0.003	0.0019 U	0.01 U	1 U	0.01 U	1 U	1 U	1 U	1 U	0.01 U	0.01 U	0.01 U	0.01 U	1 U	**0.22**	0.01 U	0.01 U	0.01 U
Trichloroethene (TCE)	0.03	0.0019	0.0019 U	0.01 U	1 U	0.01 U	1 U	1 U	1 U	1 U	0.01 U	0.01 U	0.01 U	0.01 U	1 U	0.01 U	0.01 U	0.01 U	0.01 U
cis-1,2-Dichloroethene (DCE)	0.08	0.0052	0.0019 U	0.01 U	11 U	0.12 U	15 U	12 U	13 U	13 U	0.13 U	0.14 U	0.13 U	0.1 U	12 U	0.14 U	0.13 U	0.13 U	0.12 U
trans-1,2-Dichloroethene	0.87	0.052	0.0019 U	0.01 U	9.7 U	0.11 U	14 U	11 U	12 U	12 U	0.12 U	0.13 U	0.12 U	0.096 U	11 U	0.13 U	0.12 U	0.11 U	0.11 U
1,2,4-Trimethylbenzene			0.0019 U	0.01 U	**48**	0.095 U	**17**	**170**	**270**	**140**	0.11 U	0.12 U	0.11 U	0.087 U	**18**	0.11 U	0.11 U	0.1 U	0.1 U
1,2-Dichlorobenzene	8.4	0.48	0.0019 U	0.01 U	11 U	0.12 U	16 U	13 U	14 U	14 U	0.14 U	0.15 U	0.14 U	0.11 U	13 U	0.15 U	0.14 U	0.13 U	0.13 U
1,3,5-Trimethylbenzene	800	800	0.0019 U	0.01 U	**32**	0.088 U	12 U	**100**	**160**	**89**	**0.12**	0.11 U	0.1 U	0.08 U	**15**	0.11 U	0.1 U	0.096 U	0.094 U
1,4-Dichlorobenzene	0.13	0.0073	0.0019 U	0.01 U	11 U	0.12 U	15 U	12 U	13 U	13 U	0.13 U	0.14 U	0.13 U	0.1 U	12 U	0.14 U	0.13 U	0.13 U	0.12 U
2-Butanone			0.0097 U	0.05 U	14 U	0.16 U	20 U	17 U	17 U	18 U	0.17 U	0.19 U	0.18 U	0.14 U	17 U	0.19 U	0.18 U	0.17 U	0.17 U
2-Chlorotoluene	1600	1600	0.0019 U	0.01 U	11 U	0.12 U	16 U	13 U	13 U	14 U	0.14 U	0.15 U	0.14 U	0.11 U	13 U	0.15 U	0.14 U	0.13 U	0.13 U
4-Chlorotoluene			0.0019 U	0.01 U	16 U	0.18 U	23 U	19 U	19 U	20 U	0.2 U	0.22 U	0.2 U	0.16 U	19 U	0.21 U	0.2 U	0.19 U	0.19 U
Acetone	28.9	2.07	0.0097 U	0.12 U	19 U	0.21 U	27 U	22 U	23 U	23 U	0.23 U	0.25 U	0.24 U	0.19 U	22 U	0.25 U	0.24 U	0.22 U	0.22 U
Carbon Disulfide	5.65	0.27	0.0019 U																
Chloroform	0.008	0.00048	**0.0037**	0.01 U	10 U	0.11 U	14 U	12 U	12 U	12 U	0.12 U	0.13 U	0.13 U	0.099 U	12 U	0.13 U	0.13 U	0.12 U	0.12 U
Isopropylbenzene	8000	8000	0.0019 U	0.01 U	**24**	0.097 U	**20**	**39**	**55**	**34**	**0.23**	0.12 U	0.11 U	0.088 U	**14**	0.12 U	0.11 U	0.11 U	0.1 U
Methylene Chloride	0.02	0.0015	0.0097 U	0.02 U	20 U	0.22 U	29 U	23 U	24 U	25 U	0.24 U	0.27 U	**0.3**	0.2 U	23 U	0.27 U	0.26 U	**0.31**	0.24 U
Naphthalene	4.45	0.24	0.0019 U	0.01 U	11 U	0.12 U	16 U	13 U	13 U	14 U	0.14 U	0.15 U	0.14 U	0.11 U	13 U	0.15 U	0.14 U	0.13 U	0.13 U
n-Butylbenzene	4000	4000	0.0019 U	0.01 U	8.5 U	0.092 U	12 U	9.7 U	10 U	10 U	0.1 U	0.11 U	0.11 U	0.084 U	9.7 U	0.11 U	0.11 U	0.1 U	0.098 U
n-Propylbenzene	8000	8000	0.0019 U	0.01 U	**25**	0.12 U	15 U	**76**	**110**	**61**	**0.23**	0.15 U	0.14 U	0.11 U	12 U	0.14 U	0.14 U	0.13 U	0.13 U
sec-Butylbenzene	8000	8000	0.0019 U	0.01 U	9.5 U	0.1 U	14 U	11 U	11 U	12 U	0.11 U	0.13 U	0.12 U	0.094 U	11 U	0.12 U	0.12 U	0.11 U	0.11 U

Notes:
All concentrations in milligrams per kilogram
ft = feet
bgs = below existing ground surface
[1]Surface elevations based on King County LIDAR data, referenced datum NAVD88.
[2]Soil samples with elevations higher than 17 feet NAVD88 are considered "Vadose" and samples with elevations 17 feet NAVD88 or lower are considered "Saturated".
[3]Refer to Table 2 for derivation of the soil Site Screening Levels (SLs).
Bold = Analyte detected above laboratory reporting limits
Green Shading = Concentration exceeds vadose zone soil Site SL (Table 2)
Pink Shading = Concentration exceeds saturated zone soil Site
NE = not established
"--" = No value available
U = laboratory flag indicating that the analyte was not detected above the stated laboratory reporting limit
J = laboratory flag indicating that the listed value is an estimate

Table 5 - Summary of Groundwater Analytical Data

Project No. 160427-001 - GWI Tukwila Property
18700 Southcenter Parkway, Tukwila, Washington

Sample Location		B-1	B-2	B-3	B-4	B-5	B-6	B-7	B-8	B-9	B-10	DP-1
Sample Date		11/24/2009	11/24/2009	11/24/2009	11/24/2009	11/24/2009	11/24/2009	11/24/2009	11/24/2009	11/24/2009	11/24/2009	6/21/2010
Sample Identification		B1-112409-GW	B2-112409-GW	B3-112409-GW	B4-112409-GW	B5-112409-GW	B6-112409-GW	B7-112409-GW	B8-112409-GW	B9-112409-GW	B10-112409-GW	DP-1-20100621
Analyte	Site Screening Levels[1]											
Petroleum Distillates												
Benzene	0.44	20 U	**330**	0.2 U	**230**	0.2 U	**35**	**26**	0.2 U	**2.8**	0.2 U	2 U
Toluene	57	**1200**	**91000**	5 U	**11000**	**4.5**	**25**	20 U	1 U	1 U	1 U	2 U
Ethylbenzene	29	**2800**	**4000**	**0.64**	**3400**	**1.6**	**18**	4 U	**0.25**	0.2 U	**0.29**	2 U
Total Xylenes	1600	**12900**	**11400**	**5.5**	**11300**	**5.7**	**322**	**770**	3 U	3 U	3 U	4 U
Volatile Organic Compounds												
1,1-Dichloroethane	7.68	20 U	20 U	**0.54**	50 U	0.2 U	1 U	4 U	0.2 U	0.2 U	0.2 U	2 U
Tetrachloroethene (PCE)	2.4	20 U	20 U	0.2 U	50 U	0.2 U	1 U	4 U	0.2 U	0.2 U	**0.23**	2 U
Trichloroethene (TCE)	0.3	20 U	20 U	0.2 U	50 U	0.2 U	1 U	4 U	0.2 U	0.2 U	**0.32**	2 U
cis-1,2-Dichloroethene (DCE)	16	20 U	20 U	**0.41**	50 U	0.2 U	**1.3**	**5.1**	0.2 U	0.2 U	**0.73**	2 U
trans-1,2-Dichloroethene	100	20 U	20 U	0.2 U	50 U	0.2 U	1 U	4 U	0.2 U	0.2 U	0.2 U	2 U
Vinyl Chloride	0.02	20 U	20 U	0.2 U	50 U	0.2 U	1 U	4 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2,4-Trimethylbenzene	NE	**44**	**130**	0.2 U	**130**	0.2 U	**3.8**	4 U	0.2 U	0.2 U	0.2 U	2 U
1,2-Dichlorobenzene	700	20 U	20 U	0.2 U	50 U	0.2 U	1 U	4 U	0.2 U	0.2 U	0.2 U	2 U
1,3,5-Trimethylbenzene	80	**21**	**53**	0.2 U	50 U	0.2 U	1 U	4 U	0.2 U	0.2 U	0.2 U	2 U
1,4-Dichlorobenzene	8.1	20 U	20 U	0.2 U	50 U	0.2 U	1 U	4 U	0.2 U	0.2 U	0.2 U	2 U
2-Chlorotoluene	160	20 U	20 U	0.2 U	50 U	0.2 U	1 U	4 U	0.2 U	0.2 U	0.2 U	2 U
4-Chlorotoluene	NE	20 U	20 U	0.2 U	50 U	0.2 U	1 U	4 U	0.2 U	0.2 U	0.2 U	2 U
Acetone	7200	500 U	500 U	5 U	1300 U	**18**	**29**	100 U	5 U	5 U	**22**	25 U
Carbon Disulfide	800	20 U	20 U	0.2 U	50 U	0.2 U	1 U	4 U	**0.41**	**0.23**	0.2 U	2 U
Chloroform	1.41	20 U	20 U	0.2 U	50 U	0.2 U	1 U	4 U	0.2 U	**0.64**	**0.71**	2 U
Isopropylbenzene	800	**200**	**39**	**0.44**	**71**	0.2 U	**2.9**	4 U	0.2 U	0.2 U	0.2 U	2 U
n-Propylbenzene	800	**110**	**37**	0.2 U	50 U	0.2 U	1 U	4 U	0.2 U	0.2 U	0.2 U	2 U

Notes:
All concentrations in micrograms per liter
Bold = Analyte detected above laboratory reporting limits
Blue Shading = Concentration exceeds Site Groundwater Screening Level.

NE = not established
U = laboratory flag indicating that the analyte was not detected above the stated laboratory reporting
[1]Refer to Table 3 for derivation of the groundwater Site Screening Levels (SLs).

Table 5 - Summary of Groundwater Analytical Data

Project No. 160427-001 - GWI Tukwila Property
18700 Southcenter Parkway, Tukwila, Washington

Sample Location		DP-2	DP-3	DP-4	DP-5	DP-6	DP-7	DP-8	DP-9	DP-10	DP-11
Sample Date		6/21/2010	6/21/2010	6/21/2010	6/21/2010	6/21/2010	6/22/2010	6/22/2010	6/22/2010	6/22/2010	6/22/2010
Sample Identification		DP-2-20100621	DP-3-20100621	DP-4-20100621	DP-5-20100621	DP-6-20100621	DP-720100622	DP-8-20100622	DP-9-20100622	DP-10-20100622	DP-11(30)-20100622
Analyte	**Site Screening Levels[1]**										
Petroleum Distillates											
Benzene	0.44	2 U	**8.7**	**51**	**210**	**370**	**110**	**6.8**	**27**	**7.1**	2 U
Toluene	57	**45**	2 U	**85**	**300**	**950**	**430**	**5.9**	2 U	2 U	2 U
Ethylbenzene	29	**13**	2 U	**85**	**3100**	**420**	**240**	**3.1**	2 U	2 U	2 U
Total Xylenes	1600	**41**	4 U	**470**	**13200**	**5830**	**950**	**12.9**	4 U	4 U	4 U
Volatile Organic Compounds											
1,1-Dichloroethane	7.68	2 U	2 U	2 U	**4.4**	**2.8**	2 U	2 U	2 U	2 U	**3.7**
Tetrachloroethene (PCE)	2.4	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Trichloroethene (TCE)	0.3	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
cis-1,2-Dichloroethene (DCE)	16	2 U	2 U	2 U	**56**	**30**	**6.2**	2 U	2 U	**4.2**	**72**
trans-1,2-Dichloroethene	100	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	**2.2**
Vinyl Chloride	0.02	0.2 U	0.2 U	**2.5**	**1.4**	**0.9**	**0.6**	0.2 U	0.2 U	**0.27**	**1.4**
1,2,4-Trimethylbenzene	NE	2 U	2 U	2 U	**22**	**43**	**8.9**	2 U	2 U	2 U	2 U
1,2-Dichlorobenzene	700	2 U	2 U	2 U	**2.1**	2 U	2 U	2 U	2 U	2 U	2 U
1,3,5-Trimethylbenzene	80	2 U	2 U	2 U	**11**	**33**	**3.3**	2 U	2 U	2 U	2 U
1,4-Dichlorobenzene	8.1	2 U	2 U	2 U	**3.8**	2 U	2 U	2 U	2 U	2 U	2 U
2-Chlorotoluene	160	2 U	2 U	2 U	**480**	2 U	2 U	2 U	2 U	2 U	2 U
4-Chlorotoluene	NE	2 U	2 U	2 U	**350**	2 U	2 U	2 U	2 U	2 U	2 U
Acetone	7200	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Carbon Disulfide	800	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Chloroform	1.41	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Isopropylbenzene	800	2 U	2 U	**8.3**	**11**	**16**	2 U	2 U	2 U	2 U	2 U
n-Propylbenzene	800	2 U	2 U	2 U	2 U	**22**	**2.1**	2 U	2 U	2 U	2 U

Notes:
All concentrations in micrograms per liter
Bold = Analyte detected above laboratory reporting limits
Blue Shading = Concentration exceeds Site Groundwater Screening Level.

NE = not established
U = laboratory flag indicating that the analyte was not detected above the stated laboratory reporting
[1]Refer to Table 3 for derivation of the groundwater Site Screening Levels (SLs).

Table 5 - Summary of Groundwater Analytical Data

Project No. 160427-001 - GWI Tukwila Property
18700 Southcenter Parkway, Tukwila, Washington

	Sample Location	DP-11	DP-12	DP-13	DP-14	DP-15	DP-16	HC-1D	HC-1D	HC-1D	HC-1S
	Sample Date	6/22/2010	6/23/2010	6/23/2010	6/23/2010	6/23/2010	6/23/2010	11/20/2009	6/22/2010	2/21/2017	5/1/2007
	Sample Identification	DP-11(45)-20100622	DP-12(30)-20100623	DP-13-20100623	DP-14-20100623	DP-15-20100623	DP-16-20100623	HC-1D-112009	HC1-D-20100622	HC-1D-022117	HC-1S-20070501
Analyte	**Site Screening Levels[1]**										
Petroleum Distillates											
Benzene	0.44	**39**	**360**	**26**	2 U	**15**	2 U	**1.6**	**5.2**	**0.38**	1 U
Toluene	57	2 U	**3800**	2 U	2 U	2 U	2 U	2 U	2 U	1.0 U	1 U
Ethylbenzene	29	**6.1**	**3900**	**2.1**	2 U	2 U	2 U	**0.51**	2 U	0.20 U	1 U
Total Xylenes	1600	**71**	**22500**	**31.2**	4 U	4 U	4 U	**91.94**	**192.4**	0.40 U	**6.3**
Volatile Organic Compounds											
1,1-Dichloroethane	7.68	2 U	2 U	2 U	2 U	2 U	2 U	0.4 U	2 U	0.20 U	1 U
Tetrachloroethene (PCE)	2.4	2 U	2 U	2 U	2 U	2 U	2 U	0.4 U	2 U	0.20 U	1 U
Trichloroethene (TCE)	0.3	2 U	2 U	2 U	2 U	2 U	2 U	0.4 U	2 U	0.20 U	1 U
cis-1,2-Dichloroethene (DCE)	16	2 U	**9.7**	**43**	2 U	2 U	**14**	0.4 U	2 U	0.20 U	1 U
trans-1,2-Dichloroethene	100	2 U	2 U	2 U	2 U	2 U	2 U	0.4 U	2 U	0.20 U	1 U
Vinyl Chloride	0.02	**0.43**	**2.2**	**1.1**	0.2 U	**0.75**	**0.61**	0.4 U	0.2 U	0.20 U	1 U
1,2,4-Trimethylbenzene	NE	2 U	**120**	2 U	2 U	2 U	2 U	**1.8**	**3.2**	0.20 U	1 U
1,2-Dichlorobenzene	700	2 U	2 U	2 U	2 U	2 U	2 U	0.4 U	2 U	0.20 U	1 U
1,3,5-Trimethylbenzene	80	2 U	**62**	2 U	2 U	2 U	2 U	0.4 U	2 U	0.20 U	1 U
1,4-Dichlorobenzene	8.1	2 U	2 U	2 U	2 U	2 U	2 U	0.4 U	2 U	0.20 U	1 U
2-Chlorotoluene	160	2 U	2 U	2 U	2 U	2 U	2 U	0.4 U	2 U	0.20 U	1 U
4-Chlorotoluene	NE	2 U	2 U	2 U	2 U	2 U	2 U	0.4 U	2 U	0.20 U	1 U
Acetone	7200	25 U	25 U	25 U	25 U	25 U	25 U	10 U	25 U	5.0 U	**94**
Carbon Disulfide	800	2 U	2 U	2 U	2 U	2 U	2 U	0.4 U	2 U	0.20 U	1 U
Chloroform	1.41	2 U	2 U	2 U	2 U	2 U	2 U	0.4 U	2 U	0.20 U	1 U
Isopropylbenzene	800	2 U	**100**	2 U	2 U	2 U	2 U	**1.2**	2 U	0.20 U	1 U
n-Propylbenzene	800	2 U	**55**	2 U	2 U	2 U	2 U	**0.63**	2 U	0.20 U	1 U

Notes:
All concentrations in micrograms per liter
Bold = Analyte detected above laboratory reporting limits
Blue Shading = Concentration exceeds Site Groundwater Screening Level.

NE = not established
U = laboratory flag indicating that the analyte was not detected above the stated laboratory reporting
[1]Refer to Table 3 for derivation of the groundwater Site Screening Levels (SLs).

Table 5 - Summary of Groundwater Analytical Data

Project No. 160427-001 - GWI Tukwila Property
18700 Southcenter Parkway, Tukwila, Washington

Sample Location		HC-1S	HC-2D	HC-2D	HC-2D	HC-2S	HC-3S	HC-4S	HC-5D	HC-5D	HC-5D	HC-5D
Sample Date		6/22/2010	11/20/2009	6/22/2010	2/21/2017	6/22/2010	6/22/2010	6/22/2010	5/1/2007	11/20/2009	6/22/2010	2/21/2017
Sample Identification		HC1-S-20100622	HC-2D-112009	HC2-D-20100622	HC-2D-022117	HC2-S-20100622	HC3-S-20100622	HC4-S-20100622	HC-5D-20070501	HC-5D-112009	HC5-D-20100622	HC-5D-022117
Analyte	**Site Screening Levels[1]**											
Petroleum Distillates												
Benzene	0.44	2 U	**23**	**7.2**	2.0 U	2 U	2 U	2 U	1 U	**6.9**	**3.6**	**6.9**
Toluene	57	2 U	**1000**	2 U	10 U	2 U	2 U	2 U	1 U	1 U	2 U	1.0 U
Ethylbenzene	29	2 U	**2300**	**890**	**9.1**	2 U	2 U	2 U	1 U	0.2 U	2 U	0.20 U
Total Xylenes	1600	**8.1**	**15300**	**9600**	**534**	4 U	4 U	**38**	1 U	0.4	4 U	**0.72**
Volatile Organic Compounds												
1,1-Dichloroethane	7.68	2 U	20 U	2 U	2.0 U	2 U	2 U	2 U	1 U	0.2 U	2 U	0.20 U
Tetrachloroethene (PCE)	2.4	2 U	20 U	2 U	2.0 U	2 U	**3.2**	**28**	1 U	0.2 U	2 U	0.20 U
Trichloroethene (TCE)	0.3	2 U	20 U	2 U	2.0 U	2 U	2 U	2 U	1 U	0.2 U	2 U	0.20 U
cis-1,2-Dichloroethene (DCE)	16	2 U	20 U	2 U	2.0 U	2 U	2 U	2 U	1 U	**0.54**	2 U	**3**
trans-1,2-Dichloroethene	100	2 U	20 U	2 U	2.0 U	2 U	2 U	2 U	1 U	0.2 U	2 U	0.20 U
Vinyl Chloride	0.02	0.2 U	20 U	**0.41**	2.0 U	0.2 U	0.2 U	0.2 U	1 U	0.2 U	0.2 U	**0.56**
1,2,4-Trimethylbenzene	NE	2 U	20 U	**36**	**3.6**	2 U	2 U	2 U	1 U	0.2 U	2 U	0.20 U
1,2-Dichlorobenzene	700	2 U	20 U	2 U	2.0 U	2 U	2 U	2 U	1 U	0.2 U	2 U	0.20 U
1,3,5-Trimethylbenzene	80	2 U	20 U	**8.9**	2.0 U	2 U	2 U	2 U	1 U	0.2 U	2 U	0.20 U
1,4-Dichlorobenzene	8.1	2 U	20 U	2 U	2.0 U	2 U	2 U	2 U	1 U	0.2 U	2 U	0.20 U
2-Chlorotoluene	160	2 U	20 U	2 U	2.0 U	2 U	2 U	2 U	1 U	0.2 U	2 U	0.20 U
4-Chlorotoluene	NE	2 U	20 U	2 U	2.0 U	2 U	2 U	2 U	1 U	0.2 U	2 U	0.20 U
Acetone	7200	25 U	500	25 U	50 U	25 U	25 U	25 U	5 U	5 U	25 U	5.0 U
Carbon Disulfide	800	2 U	20 U	2 U	2.0 U	2 U	2 U	2 U	1 U	0.2 U	2 U	0.20 U
Chloroform	1.41	2 U	20 U	2 U	2.0 U	2 U	2 U	**52**	1 U	0.2 U	2 U	0.20 U
Isopropylbenzene	800	2 U	**67**	**60**	**14**	2 U	2 U	2 U	1 U	0.2 U	2 U	0.20 U
n-Propylbenzene	800	2 U	20 U	**14**	**2.7**	2 U	2 U	2 U	1 U	0.2 U	2 U	0.20 U

Notes:
All concentrations in micrograms per liter
Bold = Analyte detected above laboratory reporting limits
Blue Shading = Concentration exceeds Site Groundwater Screening Level.

NE = not established
U = laboratory flag indicating that the analyte was not detected above the stated laboratory reporting
[1]Refer to Table 3 for derivation of the groundwater Site Screening Levels (SLs).

Table 5 - Summary of Groundwater Analytical Data

Project No. 160427-001 - GWI Tukwila Property
18700 Southcenter Parkway, Tukwila, Washington

Sample Location		GW-6D	GW-6D	GW-6D	GW-7	GW-8	GW-9
Sample Date		11/20/2009	6/22/2010	2/21/2017	2/21/2017	2/21/2017	2/21/2017
Sample Identification		GW-6D-112009	GW6-D-20100622	GW-6D-022117	GW-7-022117	GW-8-022117	GW-9-022117
Analyte	**Site Screening Levels[1]**						
Petroleum Distillates							
Benzene	0.44	**3.2**	2 U	**2.6**	**42**	**16**	**99**
Toluene	57	2 U	2 U	1.0 U	1.0 U	1.0 U	**2400**
Ethylbenzene	29	0.4 U	2 U	0.20 U	**0.86**	0.20 U	**2900**
Total Xylenes	1600	0.8 U	4 U	**0.21**	**48.72**	**8**	**13000**
Volatile Organic Compounds							
1,1-Dichloroethane	7.68	**0.54**	2 U	**0.22**	0.20 U	**0.55**	50 U
Tetrachloroethene (PCE)	2.4	0.4 U	2 U	0.20 U	0.20 U	0.20 U	50 U
Trichloroethene (TCE)	0.3	0.4 U	2 U	0.20 U	0.20 U	0.20 U	50 U
cis-1,2-Dichloroethene (DCE)	16	**0.43**	2 U	0.20 U	**8.4**	**2.3**	50 U
trans-1,2-Dichloroethene	100	0.4 U	2 U	0.20 U	0.20 U	0.20 U	50 U
Vinyl Chloride	0.02	**10**	**16**	**8**	**1**	**0.32**	50 U
1,2,4-Trimethylbenzene	NE	0.4 U	2 U	0.20 U	**4**	0.20 U	50 U
1,2-Dichlorobenzene	700	0.4 U	2 U	0.20 U	0.20 U	0.20 U	50 U
1,3,5-Trimethylbenzene	80	0.4 U	2 U	0.20 U	0.20 U	0.20 U	50 U
1,4-Dichlorobenzene	8.1	0.4 U	2 U	0.20 U	0.20 U	0.20 U	50 U
2-Chlorotoluene	160	0.4 U	2 U	0.20 U	0.20 U	0.20 U	50 U
4-Chlorotoluene	NE	0.4 U	2 U	0.20 U	0.20 U	0.20 U	50 U
Acetone	7200	10 U	25 U	5.0 U	5.0 U	**24**	1300 U
Carbon Disulfide	800	0.4 U	2 U	0.20 U	0.20 U	**0.45**	50 U
Chloroform	1.41	0.4 U	2 U	0.20 U	0.20 U	0.20 U	50 U
Isopropylbenzene	800	0.4 U	2 U	0.20 U	**1.6**	0.20 U	50 U
n-Propylbenzene	800	0.4 U	2 U	0.20 U	**1.1**	0.20 U	50 U

Notes:
All concentrations in micrograms per liter
Bold = Analyte detected above laboratory reporting limits
Blue Shading = Concentration exceeds Site Groundwater Screening Level.

NE = not established
U = laboratory flag indicating that the analyte was not detected above the stated laboratory reporting
[1]Refer to Table 3 for derivation of the groundwater Site Screening Levels (SLs).

Table 6 - Summary of Sub-Slab Soil Gas Analytical Data

Project No. 160427-001 - GWI Tukwila Property
18700 Southcenter Parkway, Tukwila, Washington

Analyte	Sub-Slab Soil Gas Screening Level: MTCA Method B (Residential)	Sample Name: LAI-SSAQ-1 Sample Date: 1/11/2011	Sample Name: LAI-SSAQ-2 Sample Date: 1/11/2011
Petroleum Distillates			
Benzene	10.7	**2,200**	230 U
Toluene	76,200	**810,000**	**180,000**
Ethylbenzene	15,200	**51,000**	**23,000**
m,p-Xylenes	1,520	**88,000**	**42,000**
o-Xylene[1]	1,520	4900 U	**5,400**
Volatile Organic Compounds			
1,1,1-Trichloroethane	76,200	970 U	230 U
1,1,2 - Trichlorotrifluoroethane	NE	**2,500**	**670**
1,2,4-Trimethylbenzene	107	4900 U	1200 U
1,2-Dichloroethane (EDC)[1]	107	970 U	230 U
1,3-Dichlorobenzene	NE	970 U	230 U
1-Propene	NE	4900 U	1200 U
2-Butanone	76,200	**400,000**	12000 U
2-Hexanone	NE	**26,000**	**4,900**
4-Methyl-2-pentanone	45,700	4900 U	1200 U
Acetone	NE	**120,000**	12000 U
alpha-Pinene	NE	4900 U	1200 U
Carbon Tetrachloride[1]	14	970 U	230 U
Chloromethane[1]	1,370	1900 U	470 U
Cyclohexane	NE	**61,000**	**3,500**
Dichlorodifluoromethane	1,520	4900 U	1200 U
Ethanol	NE	49000 U	12000 U
Ethyl acetate	NE	4900 U	1200 U
Heptane	NE	**210,000**	**27,000**
Isopropyl Alcohol	NE	9700 U	2300 U
Methylene Chloride	8,330	4900 U	1200 U
n-Hexane	10,700	**14,000**	1200 U
n-Octane	NE	**9,600**	**3,300**
Nonane	NE	4900 U	1200 U
Styrene	15,200	**11,000**	1200 U
Tetrachloroethene (PCE)[1]	321	970 U	230 U
Tetrahydrofuran	NE	4900 U	1200 U
trans-1,2-Dichloroethene	NE	970 U	230 U
Trichloroethene (TCE)	12.3	**4,100**	**990**
Trichlorofluoromethane	10,700	970 U	230 U

Notes:
All concentrations in micrograms per cubic meter
Bold = Analyte detected above laboratory reporting limits
Grey Shading = Concentration exceeds MTCA Sub-Slab Soil Gas Screening Level
NE = not established
U = laboratory flag indicating that the analyte was not detected above the stated laboratory reporting limit
[1]Laboratory reporting limit for these analytes is greater than the relevant screening criteria.

Table 7 - Summary of Ambient and Indoor Air Analytical Data

Project No. 160427-001 - GWI Tukwila Property
18700 Southcenter Parkway, Tukwila, Washington

	Sample Name	LAI-AAQ-1	LAI-IAQ-1	LAI-IAQ-2	LAI-IAQ-3	LAI-IAQ-4	LAI-IAQ-5	LAI-IAQ-6	LAI-IAQ-7
	Sample Date	1/11/2011	1/11/2011	1/11/2011	1/11/2011	1/11/2011	1/11/2011	1/11/2011	1/11/2011
	Sample Type	Ambient Air	Indoor Air						
Analyte	MTCA Method B Cleanup Level (Residential)								
Petroleum Distillates									
Benzene	0.321	**0.56**	**0.44**	**0**	**0**	**0**	**0.05**	**0**	**0**
Toluene	2,290	**1.3**	**19.7**	**6.1**	**6.2**	**6.2**	**3.9**	**5.6**	**5.9**
Ethylbenzene	457	0.66 U	**5.6**	**6.5**	**5.9**	**5.8**	**4.7**	**4.7**	**3.1**
m,p-Xylenes	457	0.66 U	**23**	**28**	**25**	**24**	**18**	**20**	**13**
o-Xylene	457	0.66 U	**6.8**	**7.9**	**7.4**	**7.3**	**4.9**	**6**	**3.9**
Volatile Organic Compounds									
1,1,1-Trichloroethane	2,290	0.13 U	**0.27**	**0.26**	**0.33**	**0.48**	0.15 U	**0.25**	**0.17**
1,1,2 - Trichlorotrifluoroethane	NE	**0.52**	**0.01**	**0**	**0**	**0.01**	**0**	**0.02**	**0**
1,2,4-Trimethylbenzene	3.2	0.66 U	**0.9**	**0.71**	**0.72**	**0.82**	**0.96**	**0.8**	0.8 U
1,2-Dichloroethane (EDC)	0.096	0.13 U	**0.19**	0.13 U	**0.13**	**0.16**	0.15 U	0.14 U	0.16 U
1,3-Dichlorobenzene	NE	0.13 U	**0.32**	0.13 U	0.13 U	0.12 U	0.15 U	0.14 U	0.16 U
1-Propene	NE	0.66 U	**1**	0.66 U	0.64 U	**0.82**	0.75 U	0.72 U	0.8 U
2-Butanone	2,300	6.6 U	**11**	**9.9**	**11**	**14**	**7.9**	**12**	**12**
2-Hexanone	NE	0.66 U	0.62 U	0.66 U	0.64 U	0.61 U	0.75 U	0.72 U	0.8 U
4-Methyl-2-pentanone	1,370	0.66 U	**10**	**13**	**17**	**24**	**8.3**	**14**	**8**
Acetone	NE	6.6 U	**12**	**9.9**	**7.3**	**13**	**11**	**7.5**	**9.1**
alpha-Pinene	NE	0.66 U	0.62 U	0.66 U	0.64 U	0.61 U	**1.1**	0.72 U	0.8 U
Carbon Tetrachloride	0.417	**0.41**	**0.02**	**0.02**	**0**	**0**	**0**	**0**	**0**
Chloromethane	41.1	**0.31**	**0.0**	0.26 U	**0**	**0.01**	**0**	**0**	0.32 U
Cyclohexane	NE	0.66 U	**0.33**	**40**	**61**	**88**	**240**	**29**	**29**
Dichlorodifluoromethane	45.7	**2.3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Ethanol	NE	6.6 U	**26**	**9.1**	**10**	**13**	**25**	**11**	**11**
Ethyl acetate	NE	0.66 U	**3.7**	0.66 U	0.64 U	0.61 U	**2**	0.72 U	**0.85**
Heptane	NE	0.66 U	**28**	**34**	**53**	**78**	**190**	**24**	**23**
Isopropyl Alcohol	NE	1.3 U	**2.1**	1.3 U	1.3 U	**1.5**	1.5 U	1.4 U	1.6 U
Methylene Chloride	250	0.66 U	**0.79**	0.66 U	0.64 U	0.61 U	**0.92**	0.72 U	0.8 U
n-Hexane	320	0.66 U	**3.5**	**3.4**	**4.9**	**6.9**	**17**	**2.6**	**2.1**
n-Octane	NE	0.66 U	**15**	**18**	**28**	**40**	**110**	**13**	**9.8**
Nonane	NE	0.66 U	**4.1**	**4.7**	**7**	**10**	**24**	**4.5**	**5.7**
Styrene	457	0.66 U	0.62 U	0.66 U	0.64 U	0.61 U	**1.3**	0.72 U	0.8 U
Tetrachloroethene (PCE)	9.62	0.13 U	**11**	**12**	**15**	**9.4**	**3**	**8.8**	**5.7**
Tetrahydrofuran	NE	0.66 U	**6.5**	0.66 U	0.64 U	0.61 U	0.75 U	0.72 U	0.8 U
trans-1,2-Dichloroethene	27	0.13 U	**0.38**	**0.35**	**0.5**	**0.69**	**0.91**	**0.3**	**0.2**
Trichloroethene (TCE)	0.37	0.13 U	0.12 U	0.13 U	0.13 U	0.12 U	0.15 U	0.14 U	0.16 U
Trichlorofluoromethane	320	**1.2**	**4.7**	**3.9**	**3.9**	**4.4**	**1.3**	**3.2**	**1.9**

Notes:
All concentrations in micrograms per cubic meter
Bold = Analyte detected above laboratory reporting limits
Pink Shading = Concentration exceeds MTCA Method B Cleanup Level
NE = not established
U = laboratory flag indicating that the analyte was not detected above the stated laboratory reporting limit
The MTCA Method B Cleanup Levels are protective of the continous residential exposure scenario. The values presented in this table are the more restrictive of those based on carcinogenic and non-carcinogenic risks.
Concentrations of chemicals detected in the ambient air sample were used to normalize detected indoor air values by subtracting ambient values from indoor air values. Negative corrected indoor air values are assigned 0 ug/m^3 value.

Table 8 - Components of Remedial Alternatives

Project No. 160427-001 - GWI Tukwila Property
18700 Southcenter Parkway, Tukwila, Washington

Remedial Alternative Components	Remedial Alternative			
	1	2	3	4
Remove all vadose zone soils with COC concentrations exceeding proposed cleanup levels.	X	X	X	X
Remove highly impacted[2] saturated zone soils.			X	
Remove all saturated zone soils with COC concentrations exceeding proposed cleanup levels.				X
Apply remediation product to highly impacted[2] saturated zone soils.		X		
Install monitoring wells[3] and conduct periodic groundwater monitoring until cleanup levels are achieved.	X	X	X	X

COC chemical of concern
FS Feasibility Study

Notes:

1) For the purposes of this FS, 15 feet below ground surface (bgs) is the assumed boundary between the vadose and saturated zones.

2) "Highly impacted" refers to saturated soils with COC concentrations at least 100 times greater than the proposed cleanup levels.

3) Monitoring wells would be installed after completion of the Corps' levee setback construction project.

Table 9 - Evaluation of Alternatives with Respect to the Threshold Criteria

Project No. 160427-001 - GWI Tukwila Property
18700 Southcenter Parkway, Tukwila, Washington

Remedial Alternative	Threshold Criteria			Evaluation Results
	Protection of Human Health and the Environment	Compliance with Cleanup Standards and Applicable Laws	Provision for Compliance Monitoring	
Alternative 1 − Removal of All Impacted Vadose Zone Soils	Yes - Alternative would protect human health and the environment.	Yes - Alternative would comply with cleanup standards and applicable laws.	Yes - Compliance monitoring would be conducted until cleanup levels are achieved.	Carried Forward to Detailed Evaluation
Alternative 2 − Removal of All Impacted Vadose Zone Soils and *In Situ* Treatment of Highly Impacted Saturated Zone Soils	Yes - Alternative would protect human health and the environment.	Yes - Alternative would comply with cleanup standards and applicable laws.	Yes - Compliance monitoring would be conducted until cleanup levels are achieved.	Carried Forward to Detailed Evaluation
Alternative 3 − Removal of All Impacted Vadose Zone Soils and Highly Impacted Saturated Zone Soils	Yes - Alternative would protect human health and the environment.	Yes - Alternative would comply with cleanup standards and applicable laws.	Yes - Compliance monitoring would be conducted until cleanup levels are achieved.	Carried Forward to Detailed Evaluation
Alternative 4 − Removal of All Impacted Soils	Yes - Alternative would protect human health and the environment.	Yes - Alternative would comply with cleanup standards and applicable laws.	Yes - Compliance monitoring would be conducted until cleanup levels are achieved.	Carried Forward to Detailed Evaluation

Table 10 - Evaluation of Reasonable Restoration Time Frame

Project No. 160427-001 - GWI Tukwila Property
18700 Southcenter Parkway, Tukwila, Washington

		Remedial Alternatives that Meet the Threshold Criteria			
		Alternative 1 − Removal of All Impacted Vadose Zone Soils	**Alternative 2 −** Removal of All Impacted Vadose Zone Soils and *In Situ* Treatment of Highly Impacted Saturated Zone Soils	**Alternative 3 −** Removal of All Impacted Vadose Zone Soils and Highly Impacted Saturated Zone Soils	**Alternative 4 −** Removal of All Impacted Soils
Factors Used to Determine Whether the Restoration Time Frame is Reasonable	Potential Risk	Risk is low.	Risk is low.	Risk is low.	Risk is low.
	Practicality of Achieving Shorter Time Frame	Alternatives 2, 3, and 4 are practical and would achieve shorter restoration time frames.	Alternatives 3 and 4 are practical and would achieve shorter restoration time frames.	Alternative 4 is practical and would achieve a shorter restoration time frame.	This alternative would achieve the shortest restoration time frame.
	Availability of Alternate Water Supplies	Impact on water supply is not a significant issue.	Impact on water supply is not a significant issue.	Impact on water supply is not a significant issue.	Impact on water supply is not a significant issue.
	Likely Effectiveness and Reliability of Institutional Controls	Highly effective and reliable institutional controls could be put in place if necessary.[1]	Highly effective and reliable institutional controls could be put in place if necessary.[1]	Highly effective and reliable institutional controls could be put in place if necessary.[1]	Highly effective and reliable institutional controls could be put in place if necessary.[1]
	Ability to Control and Monitor Contaminant Migration	Groundwater quality would be monitored periodically, and contingent measures[2] could be implemented if necessary to control contaminant migration.	Groundwater quality would be monitored periodically, and contingent measures[2] could be implemented if necessary to control contaminant migration.	Groundwater quality would be monitored periodically, and contingent measures[2] could be implemented if necessary to control contaminant migration.	Groundwater quality would be monitored periodically, and contingent measures[2] could be implemented if necessary to control contaminant migration.
	Potential for Contaminant Degradation Over Time	Yes - The COCs are amenable to degradation over time under ambient conditions.	Yes - The COCs are amenable to degradation over time under ambient conditions.	Yes - The COCs are amenable to degradation over time under ambient conditions.	Yes - Low-level residual COC concentrations in groundwater will degrade naturally.
Conclusion Regarding Reasonableness of Restoration Time Frame		Although long (estimated at >30 years), the restoration time frame of this alternative is considered reasonable because exposure pathways would be eliminated.	Although long (estimated at >30 years), the restoration time frame of this alternative is considered reasonable because exposure pathways would be eliminated.	Although long (estimated at 20 to 30 years), the restoration time frame of this alternative is considered reasonable because exposure pathways would be eliminated.	The restoration time frame of this alternative (estimated at 3 years) is considered reasonable.

COC constituent of concern

Notes:

1) The need for institutional controls would be considered during development of the Cleanup Action Plan.

2) Injection of PlumeStop® by Regenesis is an example of a potential contingent measure to control contaminant migration.

Table 11 - Disproportionate Cost Analysis

Project No. 160427-001 - GWI Tukwila Property
18700 Southcenter Parkway, Tukwila, Washington

		Remedial Alternatives that Meet the Threshold Criteria			
		Alternative 1 – Removal of All Impacted Vadose Zone Soils	**Alternative 2 –** Removal of All Impacted Vadose Zone Soils and *In Situ* Treatment of Highly Impacted Saturated Zone Soils	**Alternative 3 –** Removal of All Impacted Vadose Zone Soils and Highly Impacted Saturated Zone Soils	**Alternative 4 –** Removal of All Impacted Soils
Criteria to Evaluate Use of Permanent Solutions to the Maximum Extent Practicable	Protectiveness (30% weighting factor)	The four alternatives are considered to be equally protective (5).	The four alternatives are considered to be equally protective (5).	The four alternatives are considered to be equally protective (5).	The four alternatives are considered to be equally protective (5).
	Permanence (25% weighting factor)	Majority of contaminant mass is addressed via excavation with offsite disposal (3).	Same rating as Alternative 4 because, while less contaminant mass is actively addressed, this alternative includes some *in situ* treatment[5] (4).	Same rating as Alternative 4 since the difference in offsite disposal of contaminant mass is very small (4).	This alternative maximizes contaminant mass removal via excavation with offsite disposal (4).
	Long-Term Effectiveness (20% weighting factor)	This alternative rates lowest because natural attenuation is relied upon for all impacted soils (2).	This alternative rates higher than Alternative 1 because *in situ* treatment of highly impacted saturated zone soils is more reliable than natural attenuation. (3)	This alternative rates higher than Alternative 2 because excavation of highly impacted saturated zone soils is more reliable than *in situ* treatment. (4)	This alternative rates highest because all impacted soils are excavated and disposed of offsite (5).
	Short-Term Risk Management (10% weighting factor)	Short-term risks can be effectively managed in all four alternatives (5).	Short-term risks can be effectively managed in all four alternatives (5).	Short-term risks can be effectively managed in all four alternatives (5).	Short-term risks can be effectively managed in all four alternatives (5).
	Implementability (10% weighting factor)	The soil excavation scenario in this alternative is highly implementable (5).	The soil excavation scenario and remediation product applications in this alternative are highly implementable (5).	Limited soil excavation below the water table in this alternative has potential technical challenges (4).	Extensive soil excavation below water table has greater technical challenges than in Alternative 3 (3).
	Public Concerns (5% weighting factor)	More likely than Alternative 3 to generate public concerns because a larger amount of contaminant mass is not removed (3).	The chemical applications in this alternative may generate significant public concerns (2).	More likely than Alternative 4 to generate public concerns because a small amount of contaminant mass is not removed (4).	Unlikely to generate significant public concerns (5).
	MTCA Benefits Ranking[(2)]	3.80	4.20	4.40	4.55
	Estimated Cost[(3)]	$2,920,000	$3,300,000	$3,560,000	$5,770,000
	Benefit/Cost Ratio[(4)]	**1.30**	**1.27**	**1.24**	**0.79**

Notes:

1) A numeric scale of 1 to 5 is used to rate the alternatives with respect to the criteria to evaluate use of permanent solutions to the maximum extent practicable, as follows:

1 - meets criterion to a very low degree 3 - meets criterion to a moderate degree 5 - meets criterion to a very high degree

2 - meets criterion to a low degree 4 - meets criterion to a high degree

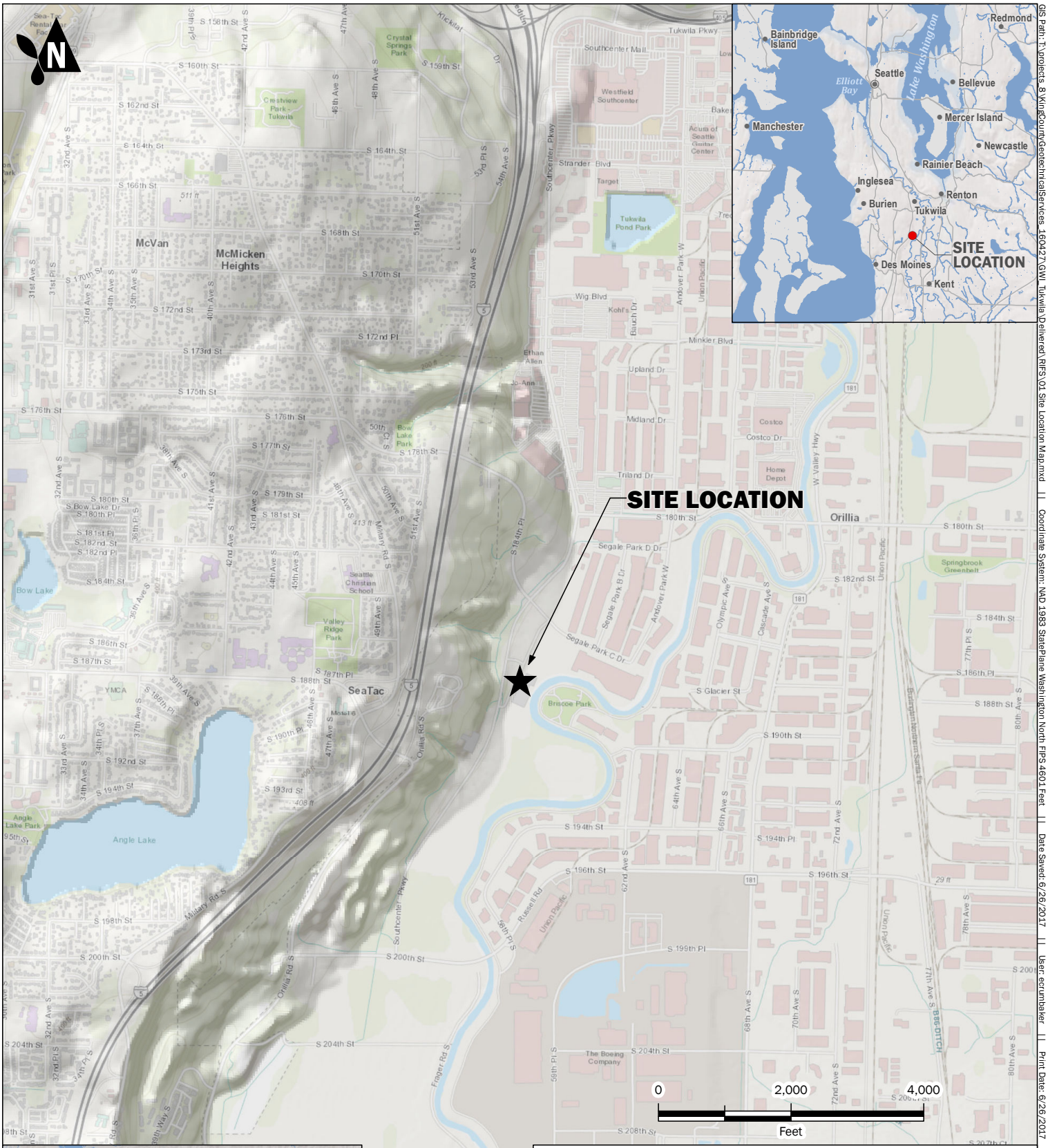
2) The MTCA benefits ranking is obtained by multiplying the rating for each criterion by its weighting factor, and summing the results for the six criteria.

3) Costs are estimated in 2017 dollars. The costs shown are rounded to three significant figures. Itemized estimates are provided in Appendix F.

4) The benefit/cost ratio is obtained by dividing the alternative's MTCA benefits ranking by its estimated cost (in $million).

5) *In situ* treatment is considered to provide greater permanence than excavation with offsite disposal because contaminants are permanently destroyed.

FIGURES

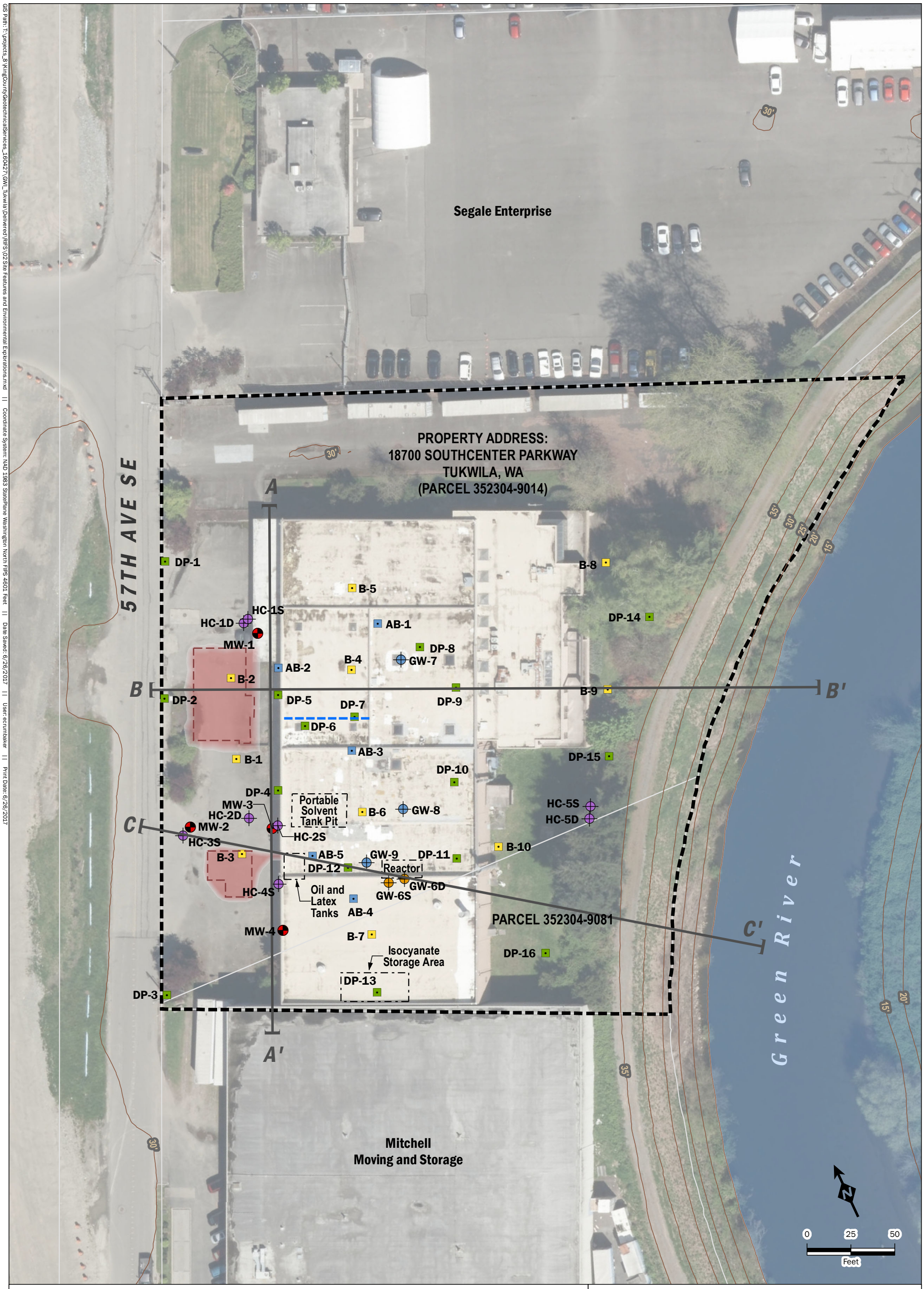


Site Location Map

Remedial Investigation and Feasibility Study
GWI Tukwila Property
18700 Southcenter Parkway
Tukwila, Washington

Aspect CONSULTING	JUN-2017	BY: CEB / EAC	FIGURE NO. 1
	PROJECT NO. 160427	REVISED BY: ---	

GIS Path: T:\projects_8\KingCounty\GeotechnicalServices_160427\GWI_Tukwila\Delivered\RIFS\01 Site Location Map.mxd || Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet || Date Saved: 6/26/2017 || User: ecrumbaker || Print Date: 6/26/2017



Historical Location of Underground Storage Tanks

Historical Feature

Symbol Indicates Exploration Type

Boring

Monitoring Well, Existing

Monitoring Well, Decommissioned

Color Indicates Consultant (Year)

Envirocon (1991)

Hart Crowser (1992)

Gaco (1994)

Farallon (2009)

Landau Associates (2011)

Aspect Consulting (2017)

Approximate Location of Product Distribution Piping

Cross Section

LiDAR 5-ft Contour

Approximate Excavation Limits (1991)

Subject Property Boundary

Parcels (King County)

Site Features and Environmental Explorations

Remedial Investigation and Feasibility Study
GWI Tukwila Property
18700 Southcenter Parkway
Tukwila, Washington

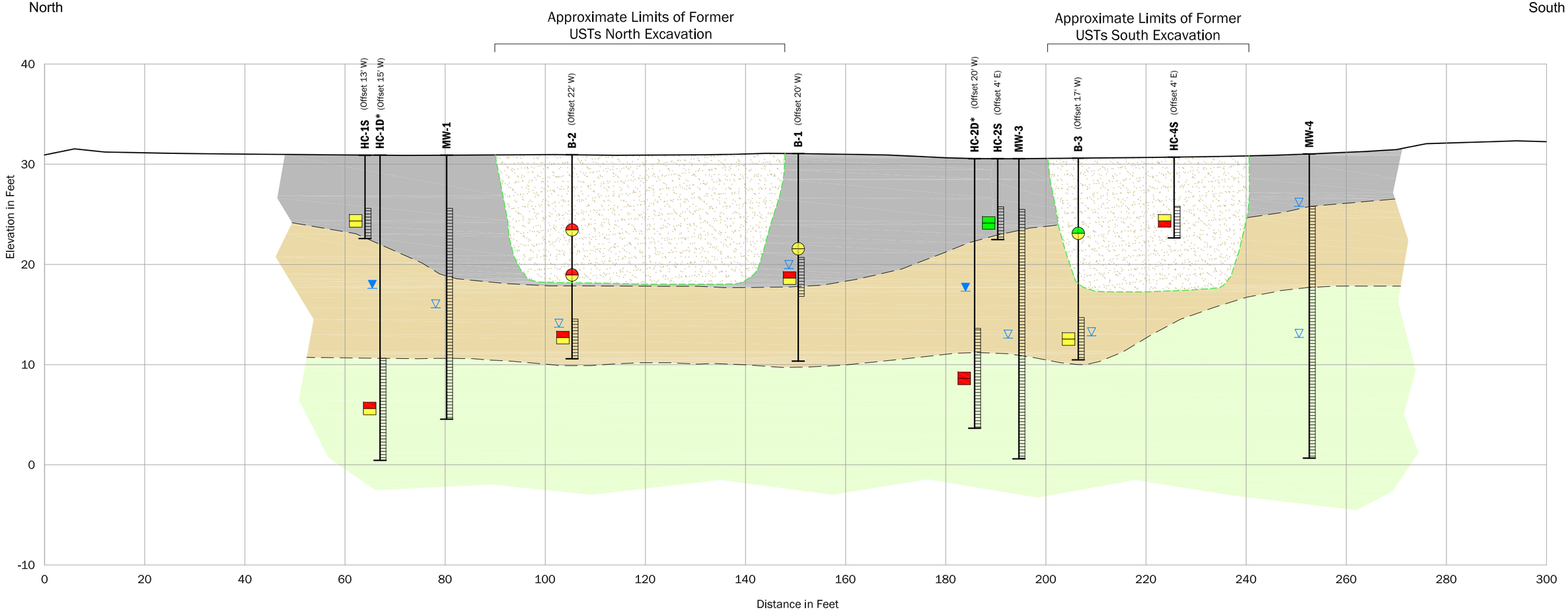
Aspect Consulting	JUN-2017	BY: CEB / EAC	FIGURE NO. 2
	PROJECT NO. 160427	REVISED BY: ---	

Basemap Layer Credits || Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

GIS Path: T:\projects_8\KingCountyGeotechnicalServices_160427\GWI_Tukwila\Delivered\RIFS\02 Site Features and Environmental Explorations.mxd || Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet || Date Saved: 6/26/2017 || User: ecrumbaker || Print Date: 6/26/2017

A North

A' South

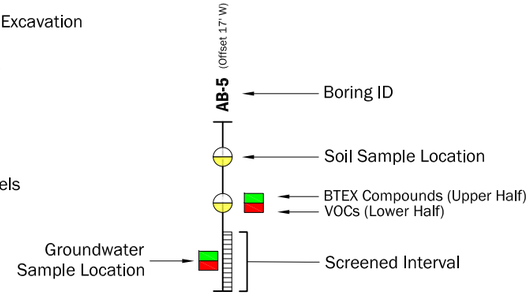


Horizontal Scale: 1" = 20'
Vertical Scale: 1" = 10'
Vertical Exaggeration 2x

0 20 40 Feet

Legend

- Approximate Extent of Former Remedial Excavation
- Depth to Groundwater at Time of Drilling
- Depth to Groundwater (2/21/17)
- Estimated Fill/Native Soils Contact
- Remedial Excavation Fill: Sand and Gravels
- Silty Sands and Sandy Silt
- Silt
- Sand and Silty Sand



Analytical Results

- One or more of contaminants of concern detected at a concentration greater than the Site Screening level.
- One or more of contaminants of concern detected at a concentration less than the Site Screening level.
- Contaminants of concern not detected.

Notes

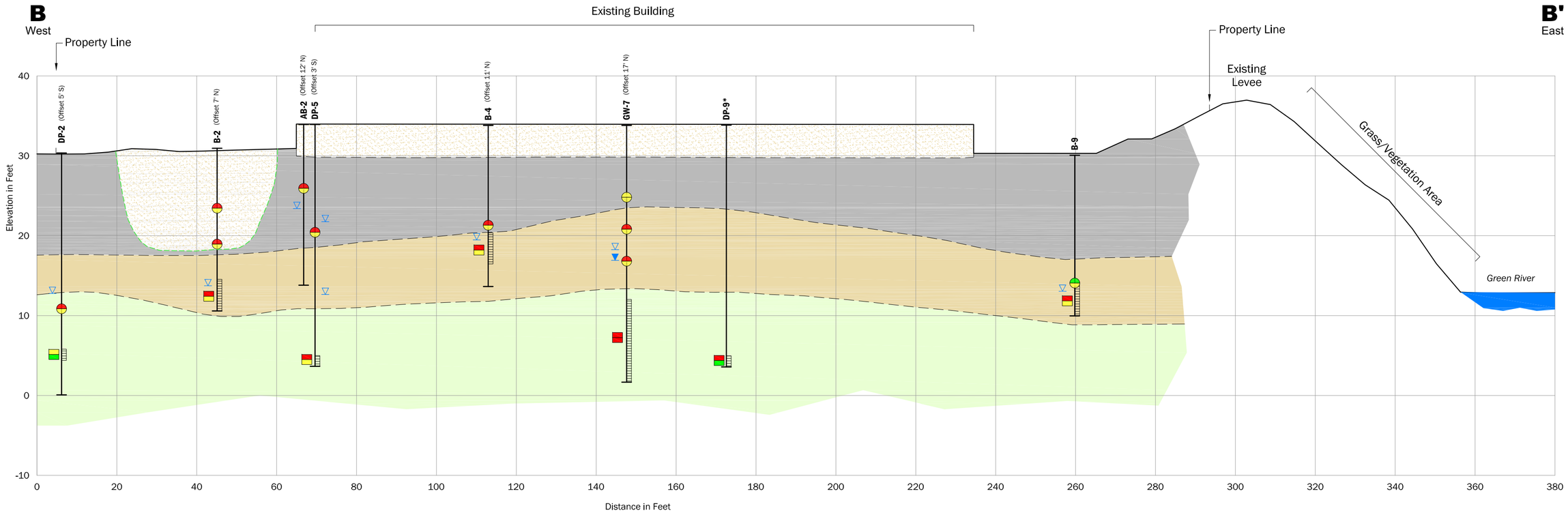
1. BTEX compounds include benzene, toluene, ethylbenzene and total xylenes.
2. Most recent data is depicted.
3. * No Well or Boring Log Available

Cross Section A-A'

Remedial Investigation and Feasibility Study
GWI Tukwila Property
18700 Southcenter Parkway
Tukwila, Washington

Aspect Consulting	Jun-2017	BY: CEB/SCC	FIGURE NO. 3
	PROJECT NO. 160427	REVISED BY: SCC	

CAD Path: Q:\GACO Property\160427 GWI Soil Remediation\2017-06 RI and FS\160427-AA.dwg Section A-A' || Coordinate System: NAD 1983 State Plane Washington North FIPS 4601 Feet || Date Saved: Jun 26, 2017 10:48am || User: scudd

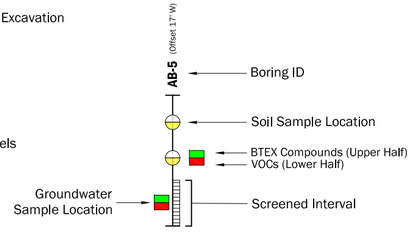


Horizontal Scale: 1" = 20'
Vertical Scale: 1" = 10'
Vertical Exaggeration 2x

0 20 40 Feet

Legend

- Approximate Extent of Former Remedial Excavation
- Depth to Groundwater at Time of Drilling
- Depth to Groundwater (2/21/17)
- Estimated Fill/Native Soils Contact
- Remedial Excavation Fill: Sand and Gravels
- Silty Sands and Sandy Silt
- Silt
- Sand and Silty Sand



Analytical Results

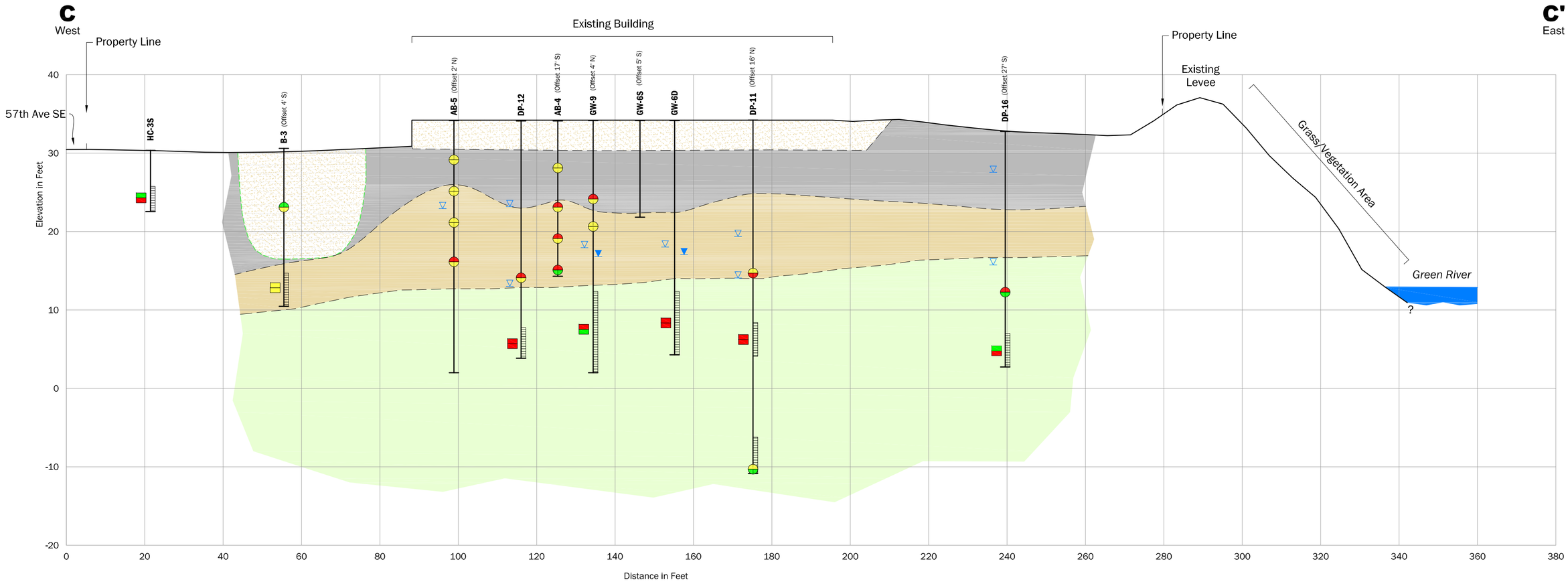
- One or more of contaminants of concern detected at a concentration greater than the Site Screening level.
- One or more of contaminants of concern detected at a concentration less than the Site Screening level.
- Contaminants of concern not detected.

Notes

1. BTEX compounds include benzene, toluene, ethylbenzene and total xylenes.
2. Most recent data is depicted.
3. * No Well or Boring Log Available

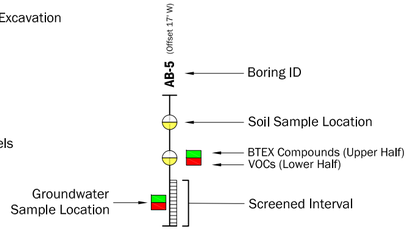
Cross Section B-B'
Remedial Investigation and Feasibility Study
GWI Tukwila Property
18700 Southcenter Parkway
Tukwila, Washington

Aspect Consulting	Jun-2017	BY: CEB/SCC	FIGURE NO. 4
	PROJECT NO. 160427	REVISED BY: SCC	



Legend

- Approximate Extent of Former Remedial Excavation
- Depth to Groundwater at Time of Drilling
- Depth to Groundwater (2/21/17)
- Estimated Fill/Native Soils Contact
- Remedial Excavation Fill: Sand and Gravels
- Silty Sands and Sandy Silt
- Silt
- Sand and Silty Sand



Analytical Results

- One or more of contaminants of concern detected at a concentration greater than the Site Screening level.
- One or more of contaminants of concern detected at a concentration less than the Site Screening level.
- Contaminants of concern not detected.

Notes

1. BTEX compounds include benzene, toluene, ethylbenzene and total xylenes.
2. Most recent data is depicted.
3. * No Well or Boring Log Available

Horizontal Scale: 1" = 20'
Vertical Scale: 1" = 10'
Vertical Exaggeration 2x

0 20 40 Feet

Cross Section C-C'
Remedial Investigation and Feasibility Study
GWI Tukwila Property
18700 Southcenter Parkway
Tukwila, Washington

Aspect Consulting	Jun-2017	BY: CEB/SCC	FIGURE NO. 5
	PROJECT NO. 160427	REVISED BY: SCC	

57TH AVE SE

Segale Enterprise

Mitchell
Moving and Storage

LEVEE

Green River

HC-1D
16.99

GW-7
16.88

HC-2D
16.99

Portable
Solvent
Tank Pit

GW-8
16.89

HC-5D
14.88

GW-9
16.82

Reactor

GW-6D
17.06

Oil and
Latex Tanks

Isocyanate
Storage Area

17.0
16.8
16.6
16.4
16.2
16.0
15.8
15.6
15.4
15.2
15.0

30'
35'
15'
20'
25'
30'

N

0 25 50
Feet

Existing Monitoring Well

- Aspect Consulting, 2017
- HC-1D 16.99 — Gaco, 1994
- Hart Crowser, 1992

Groundwater Elevation
(feet NAVD88)
Measure on 2/21/17

- Interpreted Groundwater Flow Direction
- Inferred Groundwater Elevation Contour (Dashed where uncertain)
- LiDAR 5-ft Contour
- Subject Property Boundary
- Historical Location of Underground Storage Tanks
- Historical Feature
- Approximate Excavation Limits (1991)
- Building Footprint
- Grassy Area

Groundwater Flow Direction Map

Remedial Investigation and Feasibility Study
GWI Tukwila Property
18700 Southcenter Parkway
Tukwila, Washington

Aspect CONSULTING

JUN-2017	BY: CEB / EAC	FIGURE NO. 6
PROJECT NO. 160427	REVISED BY: ---	

57TH AVE SE

Segale Enterprise

Mitchell
Moving and Storage

LEVEE

Green River

DP-1
B-5
HC-1D
HC-1S
AB-1
DP-8
GW-7
B-2
AB-2
B-4
DP-9
DP-2
DP-5
DP-7
DP-6
AB-3
B-1
DP-4
DP-10
HC-2S
Portable Solvent Tank Pit
B-6
GW-8
HC-2D
HC-3S
B-3
AB-5
GW-9
DP-11
DP-12
Reactor
HC-4S
GW-6D
GW-6S
AB-4
Oil and Latex Tanks
B-7
Isocyanate Storage Area
DP-13
DP-3
B-8
DP-14
B-9
DP-15
HC-5S
HC-5D
B-10
DP-16

30'
35'
15'
20'
25'

N

0 25 50
Feet

No Data

BTEX and VOCs not detected.

BTEX and VOCs detected at concentrations less than the site screening levels.

BTEX and VOCs detected at concentrations greater than the site screening levels.

Boring

Monitoring Well, Exisiting

LiDAR 5-ft Contour

Historical Location of Underground Storage Tanks

Subject Property Boundary

Historical Feature

Approximate Excavation Limits (1991)

Building Footprint

Grassy Area

Outer halo displays the sampling results in the saturated interval.

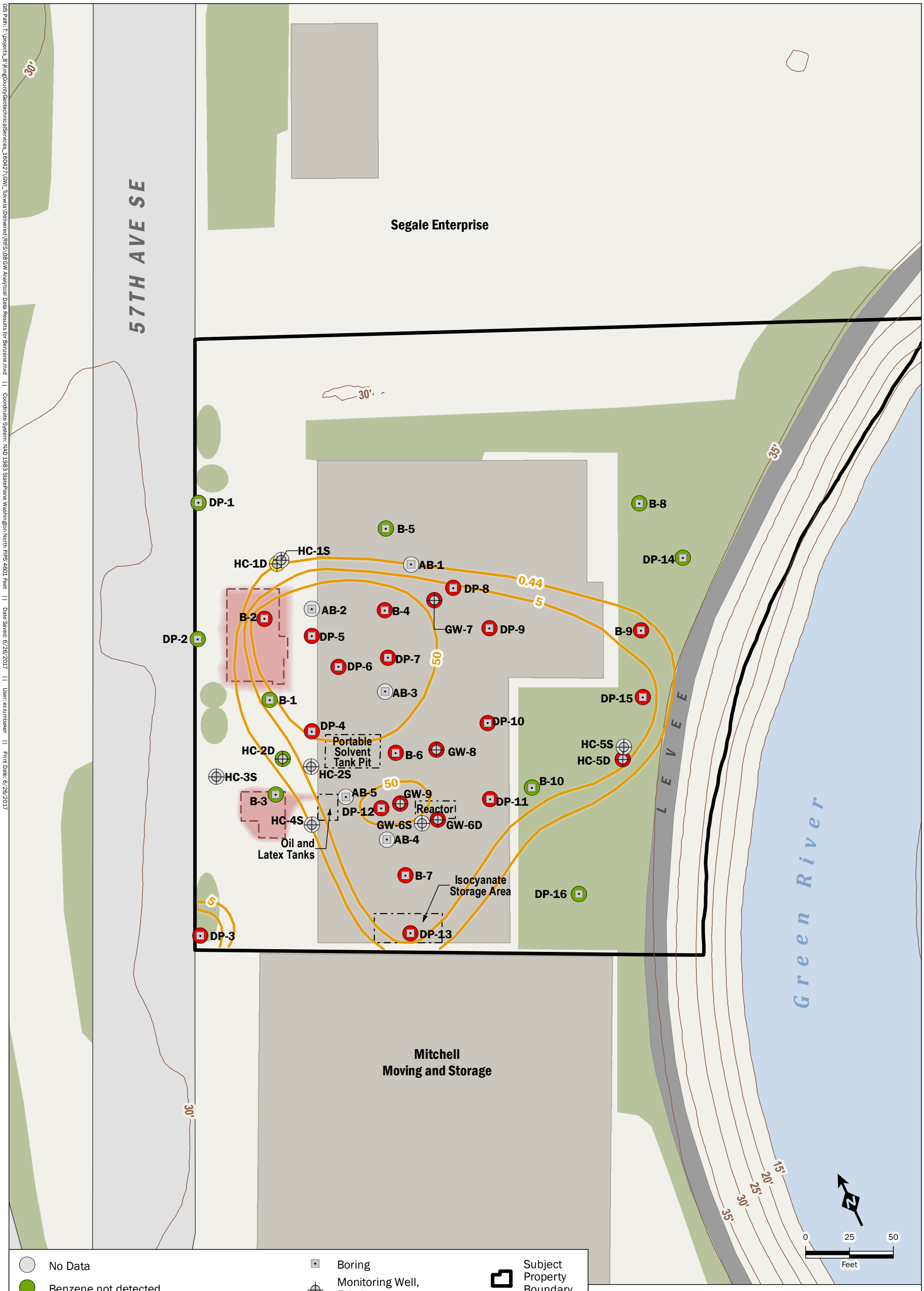
Inner halo displays the sampling results in the vadose interval.

BTEX: Benzene, Toluene, Ethylbenzene, Total Xylenes
VOC: Volatile Organic Compounds

Soil Analytical Data Results

Remedial Investigation and Feasibility Study
GWI Tukwila Property
18700 Southcenter Parkway
Tukwila, Washington

Aspect Consulting	JUN-2017	BY: CEB / EAC	FIGURE NO. 7
	PROJECT NO. 160427	REVISED BY: ---	



Groundwater Analytical Data Results for Benzene

Remedial Investigation and Feasibility Study
GWI Tukwila Property
18700 Southcenter Parkway
Tukwila, Washington

Aspect CONSULTING	JUN-2017	BY: CEB / EAC	FIGURE NO. 8
	PROJECT NO. 160427	REVISED BY: ---	

GIS Path: T:\projects_8\KingCountyGeotechnicalServices_160427\GWI_Tukwila\Delivered\RIFS\08 GW Analytical Data Results for Benzene.mxd || Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet || Date Saved: 6/26/2017 || User: eccumbaker || Print Date: 6/26/2017

57TH AVE SE

Segale Enterprise

Mitchell
Moving and Storage

LEVEE

Green River

DP-1 DP-2 DP-3 DP-4 DP-5 DP-6 DP-7 DP-8 DP-9 DP-10 DP-11 DP-12 DP-13 DP-14 DP-15 DP-16

B-1 B-2 B-3 B-4 B-5 B-6 B-7 B-8 B-9 B-10

AB-1 AB-2 AB-3 AB-4 AB-5

HC-1S HC-1D HC-2S HC-2D HC-3S HC-4S HC-5S HC-5D

GW-6S GW-6D GW-7 GW-8 GW-9

10,000

1,600

Portable Solvent Tank Pit

Reactor

Oil and Latex Tanks

Isocyanate Storage Area

30' 35' 15' 20' 25'

N

0 25 50

Feet

No Data

Total xylenes not detected.

Total xylenes detected at concentrations less than the site screening levels.

Total xylenes detected at concentrations greater than the site screening levels.

Boring

Monitoring Well, Existing

Approximate Extent of Total Xylenes in Groundwater Above the Site Screening Level

LiDAR 5-ft Contour

Historical Location of Underground Storage Tanks

Historical Feature

Subject Property Boundary

Approximate Excavation Limits (1991)

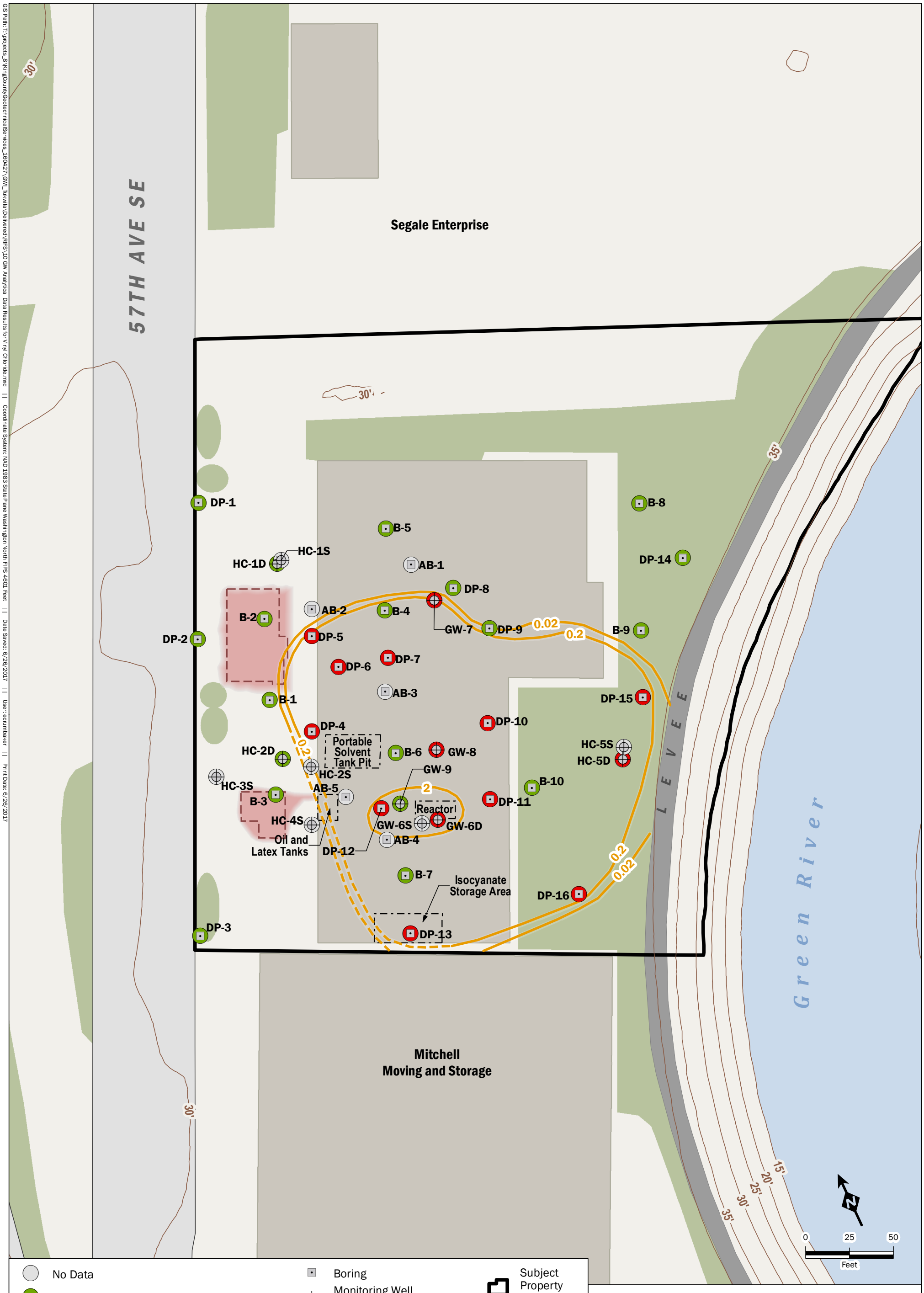
Building Footprint

Grassy Area

Groundwater Analytical Data Results for Total Xylenes

Remedial Investigation and Feasibility Study
GWI Tukwila Property
18700 Southcenter Parkway
Tukwila, Washington

Aspect CONSULTING	JUN-2017	BY: CEB / EAC	FIGURE NO. 9
	PROJECT NO. 160427	REVISED BY: ---	



Groundwater Analytical Data Results for Vinyl Chloride

Remedial Investigation and Feasibility Study
GWI Tukwila Property
18700 Southcenter Parkway
Tukwila, Washington

Aspect CONSULTING	JUN-2017	BY: CEB / EAC	FIGURE NO. 10
	PROJECT NO. 160427	REVISED BY: ---	

GIS Path: T:\projects_8\KingCountyGeotechnicalServices_160427\GWI_Tukwila\Delivered\RIFS\10 GW Analytical Data Results for Vinyl Chloride.mxd || Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet || Date Saved: 6/26/2017 || User: ecumbaker || Print Date: 6/26/2017

57TH AVE SE

Segale Enterprise

Mitchell
Moving and Storage

Portable Solvent Tank Pit

Oil and Latex Tanks

Reactor

Isocyanate Storage Area

LEVEE

Green River

DP-1 DP-2 DP-3 DP-4 DP-5 DP-6 DP-7 DP-8 DP-9 DP-10 DP-11 DP-12 DP-13 DP-14 DP-15 DP-16

B-1 B-2 B-3 B-4 B-5 B-6 B-7 B-8 B-9 B-10

AB-1 AB-2 AB-3 AB-4 AB-5

HC-1S HC-1D HC-2S HC-2D HC-3S HC-4S HC-5S HC-5D

GW-6S GW-6D GW-7 GW-8 GW-9

200 2,000 10,000 2,000

30' 35' 15' 20' 25' 30'

N

0 25 50
Feet

No Data

BTEX or VOCs detected at concentrations less than the stated criteria.

BTEX or VOCs detected at concentrations greater than the stated criteria.

Excavation to average 15-foot depth in Alternatives 1, 2 and 3.

Boring

Monitoring Well, Existing

Estimated extent of total toluene and ethylbenzene and xylenes, highest concentration in vadose zone soil at each exploration (in mg/kg)

LiDAR 5-ft Contour

Historical Location of Underground Storage Tanks

Historical Feature

Subject Property Boundary

Approximate Excavation Limits (1991)

Building Footprint

Grassy Area

Estimated Extent of Vadose-Zone Soil Screening Level Exceedances

Remedial Investigation and Feasibility Study
GWI Tukwila Property
18700 Southcenter Parkway
Tukwila, Washington

Aspect Consulting	JUN-2017	BY: CEB / EAC	FIGURE NO. 11
	PROJECT NO. 160427	REVISED BY: ---	

57TH AVE SE

Segale Enterprise

Mitchell
Moving and Storage

Green River

LEVEE

DP-1
DP-2
DP-3
B-1
B-2
B-3
B-4
B-5
B-6
B-7
B-8
B-9
B-10
HC-1S
HC-1D
HC-2S
HC-2D
HC-3S
HC-4S
HC-5S
HC-5D
AB-1
AB-2
AB-3
AB-4
AB-5
DP-4
DP-5
DP-6
DP-7
DP-8
DP-9
DP-10
DP-11
DP-12
DP-13
DP-14
DP-15
DP-16
GW-6D
GW-6S
GW-7
GW-8
GW-9
Portable Solvent Tank Pit
Reactor
Oil and Latex Tanks
Isocyanate Storage Area
10,000
2,000
200
30'
35'
15'
20'
25'
N
0
25
50
Feet

No Data
BTEX and VOCs not detected.
BTEX or VOCs detected at concentrations less than the site screening levels.
BTEX or VOCs detected at concentrations greater than the site screening levels.
Boring
Monitoring Well, Existing
Estimated extent of total toluene and ethylbenzene and xylenes, highest concentration in saturated zone soil at each exploration (in mg/kg)
LiDAR 5-ft Contour
Historical Location of Underground Storage Tanks
Subject Property Boundary
Approximate Excavation Limits (1991)
Historical Feature
Building Footprint
Grassy Area

Estimated Extent of Saturated-Zone Soil Screening Level Exceedances

Remedial Investigation and Feasibility Study
GWI Tukwila Property
18700 Southcenter Parkway
Tukwila, Washington

Aspect Consulting	JUN-2017	BY: CEB / EAC	FIGURE NO. 12
	PROJECT NO. 160427	REVISED BY: ---	

57TH AVE SE

Segale Enterprise

Mitchell
Moving and Storage

LEVEE

Green River

DP-1
B-5
HC-1D
HC-1S
AB-1
DP-8
GW-7
AB-2
B-4
B-2
DP-9
DP-2
DP-5
DP-5
DP-7
DP-6
AB-3
B-1
DP-4
B-6
DP-10
Portable Solvent Tank Pit
HC-2D
GW-8
HC-3S
HC-2S
B-3
AB-5
GW-9
DP-11
DP-12
Reactor
HC-4S
GW-6D
AB-4
GW-6S
Oil and Latex Tanks
B-7
Isocyanate Storage Area
DP-3
DP-13
B-8
DP-14
B-9
DP-15
HC-5S
HC-5D
B-10
DP-16

30'
35'
15'
20'
25'
30'
35'

N

0 25 50
Feet

Excavation to average 15-foot depth in Alternatives 1, 2 and 3.

In situ treatment of soils in 15- to 20-foot depth range in Alternative 2, and additional excavation to average 20-foot depth in Alternative 3.

Excavation to average 20-foot depth in Alternative 4.

Boring

Monitoring Well, Exisiting

BTEX: Benzene, Toluene, Ethylbenzene, Total Xylenes
VOC: Volatile Organic Compounds

No Data

BTEX and VOCs not detected.

BTEX and VOCs detected at concentrations less than the site screening levels.

BTEX and VOCs detected at concentrations greater than the site screening levels.

Outer halo displays the sampling results in the saturated interval.

Inner halo displays the sampling results in the vadose interval.

LiDAR 5-ft Contour

Historical Location of Underground Storage Tanks

Subject Property Boundary

Historical Feature

Approximate Excavation Limits (1991)

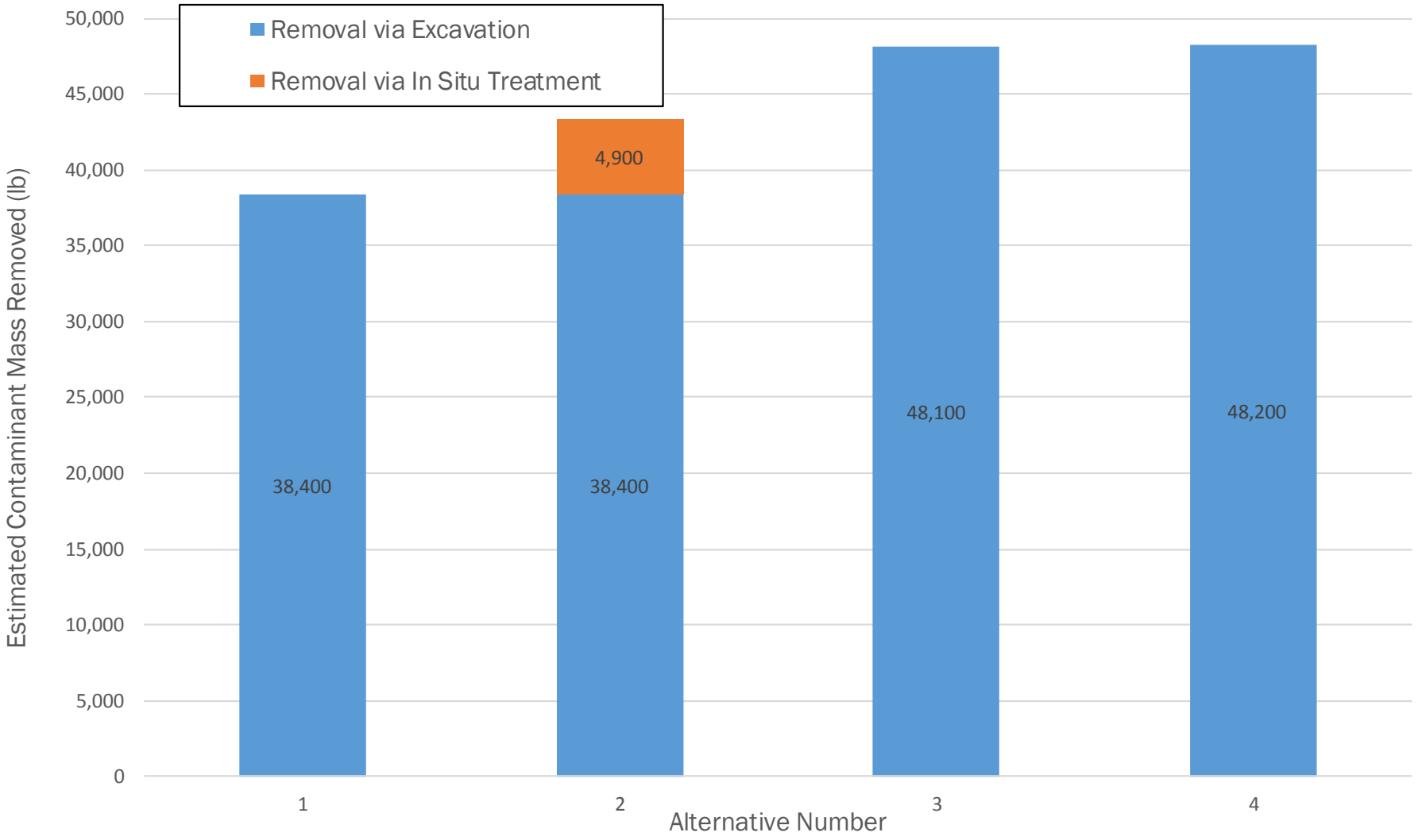
Building Footprint

Grassy Area

Assumed Areal Extent of Soil Excavation and *In Situ* Treatment

Remedial Investigation and Feasibility Study
GWI Tukwila Property
18700 Southcenter Parkway
Tukwila, Washington

Aspect Consulting	JUN-2017	BY: CEB / EAC	FIGURE NO. 13
	PROJECT NO. 160427	REVISED BY: ---	



Contaminant Mass Removal Estimates

Remedial Investigation and Feasibility Study
GWI Tukwila Property
18700 Southcenter Parkway
Tukwila, Washington

Aspect CONSULTING	JUN-2017	BY: DAH / EAC	FIGURE NO. 14
	PROJECT NO. 160427	REVISED BY: ---	

APPENDIX A

Exploration Logs

- Aspect Logs
- Farallon Logs
- Hart Crower Logs
- Landau Logs

Aspect Logs

Coarse-Grained Soils - More than 50% [1] Retained on No. 200 Sieve	Gravels - More than 50% [1] of Coarse Fraction Retained on No. 4 Sieve	≦5% Fines [5]	GW	Well-graded gravel and gravel with sand, little to no fines
			GP	Poorly-graded gravel and gravel with sand, little to no fines
		≧15% Fines [5]	GM	Silty gravel and silty gravel with sand
			GC	Clayey gravel and clayey gravel with sand
	Sands - 50% [1] or More of Coarse Fraction Passes No. 4 Sieve	≦5% Fines [5]	SW	Well-graded sand and sand with gravel, little to no fines
			SP	Poorly-graded sand and sand with gravel, little to no fines
		≧15% Fines [5]	SM	Silty sand and silty sand with gravel
			SC	Clayey sand and clayey sand with gravel
Fine-Grained Soils - 50% [1] or More Passes No. 200 Sieve	Silts and Clays Liquid Limit Less than 50		ML	Silt, sandy silt, gravelly silt, silt with sand or gravel
			CL	Clay of low to medium plasticity; silty, sandy, or gravelly clay, lean clay
			OL	Organic clay or silt of low plasticity
	Silts and Clays Liquid Limit 50 or More		MH	Elastic silt, clayey silt, silt with micaceous or diatomaceous fine sand or silt
			CH	Clay of high plasticity, sandy or gravelly clay, fat clay with sand or gravel
			OH	Organic clay or silt of medium to high plasticity
Highly Organic Soils			PT	Peat, muck and other highly organic soils

Terms Describing Relative Density and Consistency

	Density	SPT [2] blows/foot
Coarse-Grained Soils	Very Loose	0 to 4
	Loose	4 to 10
	Medium Dense	10 to 30
	Dense	30 to 50
	Very Dense	>50
	Consistency	**SPT [2] blows/foot**
Fine-Grained Soils	Very Soft	0 to 2
	Soft	2 to 4
	Medium Stiff	4 to 8
	Stiff	8 to 15
	Very Stiff	15 to 30
	Hard	>30

Test Symbols

FC = Fines Content
GS = Grain Size
MC = Moisture Content
AL = Atterberg Limits
C = Consolidation
DD = Dry Density
K = Permeability
Str = Shear Strength
Env = Environmental
PiD = Photoionization Detector

Component Definitions

Descriptive Term	Size Range and Sieve Number
Boulders	Larger than 12"
Cobbles	3" to 12"
Gravel	3" to No. 4 (4.75 mm)
Coarse Gravel	3" to 3/4"
Fine Gravel	3/4" to No. 4 (4.75 mm)
Sand	No. 4 (4.75 mm) to No. 200 (0.075 mm)
Coarse Sand	No. 4 (4.75 mm) to No. 10 (2.00 mm)
Medium Sand	No. 10 (2.00 mm) to No. 40 (0.425 mm)
Fine Sand	No. 40 (0.425 mm) to No. 200 (0.075 mm)
Silt and Clay	Smaller than No. 200 (0.075 mm)

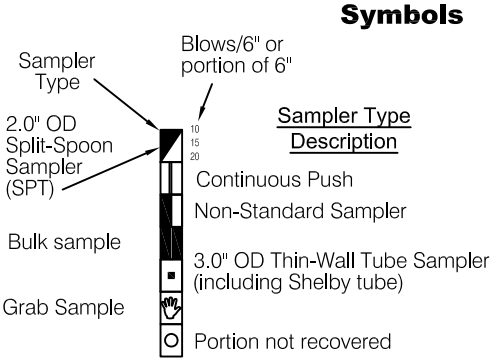
[3] Estimated Percentage

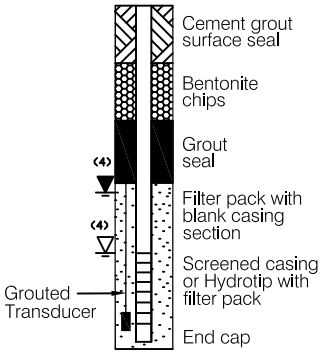
Percentage by Weight	Modifier
<5	Trace
5 to 15	Slightly (sandy, silty, clayey, gravelly)
15 to 30	Sandy, silty, clayey, gravelly)
30 to 49	Very (sandy, silty, clayey, gravelly)

Moisture Content

Dry - Absence of moisture, dusty, dry to the touch
Slightly Moist - Perceptible moisture
Moist - Damp but no visible water
Very Moist - Water visible but not free draining
Wet - Visible free water, usually from below water table

Symbols





(1) Percentage by dry weight
(2) (SPT) Standard Penetration Test (ASTM D-1586)
(3) In General Accordance with Standard Practice for Description and Identification of Soils (ASTM D-2488)
(4) Depth of groundwater — ATD = At time of drilling; Static water level (date); BGS = below ground surface
(5) Combined USCS symbols used for fines between 5% and 15% as estimated in General Accordance with Standard Practice for Description and Identification of Soils (ASTM D-2488)

Classifications of soils in this report are based on visual field and/or laboratory observations, which include density/consistency, moisture condition, grain size, and plasticity estimates and should not be construed to imply field or laboratory testing unless presented herein. Visual-manual and/or laboratory classification methods of ASTM D-2487 and D-2488 were used as an identification guide for the Unified Soil Classification System.

Aspect consulting earth+water
www.aspectconsulting.com
a limited liability company

Exploration Log Key

DATE:
DESIGNED BY:
DRAWN BY:
REVISED BY:
PROJECT NO.
FIGURE NO. A-1

Q:_ACAD Standards\Standard Details\Exploration Log Key A1.dwg

Aspect CONSULTING	GWI Tukwila - 150201		Environmental Exploration Log	
	Project Address & Site Specific Location 18700 Southcenter Parkway, Tukwila, WA, NE corner of Bay 3		*Coordinates* NA	*Exploration Number* **AB-1**
Contractor Holocene Drilling	*Equipment* Direct push rig	*Sampling Method* Percussion hammer	*Ground Surface (GS) Elev.* NA	
Operator Mitch	*Exploration Method(s)* Direct push	*Work Start/Completion Dates* 2/13/2017	*Top of Casing Elev.* NA	*Depth to Water (Below GS)* 11' (ATD)

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
		Concrete surface seal	S1		PID= 0.0		6-inch thick Concrete slab.	
					PID= 0.0		Moist, brown, SAND (SP); fine to medium sand, with no odor.	
		Backfilled with 3/8-inch bentonite chips					1-inch lens of silty sand.	
5			S2		PID= 54.9			5
					PID= 97.6		Moist, brown, slightly silty SAND (SP-SM); fine to medium sand, with slight odor.	
					PID= >15,000			
				Soil: AB-1-8.5 8260 C	PID= 7.5		Very moist, dark brown, silty SAND (SM); fine sand, with no odor, rare organics.	
10		▽ 2/13/2017			PID= 0			10
					PID= 0		Becomes wet.	
			S3		PID= 0			
				Soil: AB-1-13 8260 C	PID= 0			
					PID= 0			
15					PID= 0			15
					PID= 0			
			S4		PID= 0		Wet, brown, SILT (ML); trace fine sand, low to medium plasticity, with no odor.	
				Soil: AB-1-18 8260 C	PID= 0			
					PID= 0			
20							Bottom of exploration at 20 ft. bgs.	20

Legend

Sample Method
- ◯ No Soil Sample Recovery
- ◧ Continuous core 1.85" ID

Water Level
- ▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: MML
Approved by: CEB

Exploration Log AB-1
Sheet 1 of 1

ASPECT STANDARD EXPLORATION LOG TEMPLATE P:\GINTWPROJECTS\GACO WEST-150201.GPJ April 12, 2017

Aspect CONSULTING	GWI Tukwila - 150201		Environmental Exploration Log	
	Project Address & Site Specific Location 18700 Southcenter Parkway, Tukwila, WA, Outside loading dock		*Coordinates* NA	*Exploration Number* **AB-2**
Contractor Holocene Drilling	*Equipment* Direct push rig	*Sampling Method* Percussion hammer	*Ground Surface (GS) Elev.* NA	
Operator Mitch	*Exploration Method(s)* Direct push	*Work Start/Completion Dates* 2/13/2017	*Top of Casing Elev.* NA	*Depth to Water (Below GS)* 10' (ATD)

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
		Concrete surface seal	S1		PID= 0.0		6-inch thick Concrete slab.	
					PID= 0.0		Moist, brown, gravelly, slightly silty SAND (SP-SM); fine to medium sand, fine subrounded gravel, with no odor.	
					PID= 0.0			
		Backfilled with 3/8-inch bentonite chips						
5					PID= 232			5
							Moist, gray, silty SAND (SM); fine sand, with slight odor.	
			S2		PID= 352		Moist, gray, slightly silty SAND (SP-SM); fine sand, with rare organics, strong odor.	
				Soil: AB-2-8 8260 C	PID= >15,000			
10		▽ 2/13/2017					Becomes wet.	10
					PID= >15,000			
					PID= >15,000			
			S3		PID= >15,000		Wet, gray, SAND (SP); trace silt, fine to medium sand, with strong odor.	
					PID= >15,000		Wet, dark brown, silty SAND (SM); fine sand, with strong odor.	
15								15
					PID= >15,000		Wet, gray brown, SILT (ML); trace fine sand, low to medium plasticity, with rare organics, strong odor.	
			S4		PID= >15,000		Becomes moist and slightly sandy, coarsening with depth.	
					PID= >15,000			
					PID= >15,000			
					PID= >15,000			
20							Bottom of exploration at 20 ft. bgs.	20

Legend

Sample Method
- ◯ No Soil Sample Recovery
- ◧ Continuous core 1.85" ID

Water Level
- ▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: MML
Approved by: CEB

Exploration Log AB-2
Sheet 1 of 1

ASPECT STANDARD EXPLORATION LOG TEMPLATE P:\GINTWPROJECTS\GACO WEST-150201.GPJ April 12, 2017

Aspect CONSULTING	GWI Tukwila - 150201		Environmental Exploration Log	
	Project Address & Site Specific Location 18700 Southcenter Parkway, Tukwila, WA, North side of Bay 3		*Coordinates* NA	*Exploration Number* **AB-3**
Contractor Holocene Drilling	*Equipment* Direct push rig	*Sampling Method* Percussion hammer	*Ground Surface (GS) Elev.* NA	
Operator Mitch	*Exploration Method(s)* Direct push	*Work Start/Completion Dates* 2/10/2017	*Top of Casing Elev.* NA	*Depth to Water (Below GS)* 16' (ATD)

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
		Concrete surface seal	S1		PID= 0.0		7-inch thick Concrete slab.	
					PID= 0.0		Moist, brown, sandy, slightly silty GRAVEL (GP-GM); fine to medium sand, fine subrounded gravel, with no odor.	
					PID= 0.0		Moist, brown SAND (SP); trace silt, fine to medium sand, with no odor.	
					PID= 0.0			
					PID= 0.0			
		Backfilled with 3/8-inch bentonite chips						
5					PID= 0.6			5
					PID= 0.0			
				Soil: AB-3-6 8260 C				
			S2		PID= 45.1		Moist, dark gray brown, sandy SILT (ML); fine sand, low to medium plasticity, with no odor.	
					PID= 39.5			
					PID= 50.2		Becomes very moist.	
					PID= 23.3			
10				Soil: AB-3-10 8260 C				10
					PID= 11.0		Becomes wet with no sand content.	
					PID= 0.7		Becomes moist.	
			S3		PID= 1.0			
					PID= 1.5		Wet, dark gray, very silty SAND (SM); fine to medium sand, with no odor.	
				Soil: AB-3-14 8260 C				
15								15
		▽ 2/10/2017			PID= 1.0			
					PID= 2.3		Moist, dark gray, sandy SILT (ML); fine sand, with trace 1-inch wood pieces, no odor.	
			S4		PID= 1.5			
				Soil: AB-3-19 8260 C				
20							Bottom of exploration at 20 ft. bgs.	20

Legend

Sample Method
- ◯ No Soil Sample Recovery
- ◧ Continuous core 1.85" ID

Water Level
- ▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: MML
Approved by: CEB

Exploration Log AB-3
Sheet 1 of 1

ASPECT STANDARD EXPLORATION LOG TEMPLATE P:\GINTWPROJECTS\GACO WEST-150201.GPJ April 12, 2017

Aspect CONSULTING	GWI Tukwila - 150201		Environmental Exploration Log	
	Project Address & Site Specific Location 18700 Southcenter Parkway, Tukwila, WA, North end of Bay 4		*Coordinates* NA	*Exploration Number* **AB-4**
Contractor Holocene Drilling	*Equipment* Direct push rig	*Sampling Method* Percussion hammer	*Ground Surface (GS) Elev.* NA	
Operator Mitch	*Exploration Method(s)* Direct push	*Work Start/Completion Dates* 2/10/2017	*Top of Casing Elev.* NA	*Depth to Water (Below GS)* 12' (ATD)

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
							6-inch thick Concrete slab.	
		Concrete surface seal	S1		PID= 0.0		Moist, brown, sandy, slightly silty GRAVEL (GP-GM); fine to medium sand, fine subrounded gravel, with no odor.	
					PID= 2.1			
5		Backfilled with 3/8-inch bentonite chips	S2	Soil: AB-4-6 8260 C	PID= 1.1		Moist, brown, SAND (SP); fine sand, with slightly silty interbeds, no odor.	5
					PID= 0.0			
					PID= 0.0			
10		▽ 2/10/2017	S3	Soil: AB-4-11 8260 C	PID= >15,000		Very moist, gray SILT (ML); trace fine sand, low to medium plasticity, with rare organics, strong odor.	10
					PID= >15,000			
					PID= >15,000		Wet, gray brown, silty SAND (SM); fine sand, with strong odor.	
15			S4	Soil: AB-4-15 8260 C	PID= >15,000			15
					PID= >15,000		Moist, gray brown, slightly sandy SILT (ML); fine sand, with strong odor.	
					PID= >15,000			
					PID= >15,000		Wet, gray brown, silty SAND (SM); fine sand, with strong odor.	
				Soil: AB-4-19 8260 C	PID= >15,000		Moist, gray brown SILT (ML); trace fine sand, with strong odor.	
20					PID= >15,000		Bottom of exploration at 20 ft. bgs.	20

Legend

Sample Method
- ◯ No Soil Sample Recovery
- ◧ Continuous core 1.85" ID

Water Level
- ▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: MML
Approved by: CEB

Exploration Log AB-4

Sheet 1 of 1

ASPECT STANDARD EXPLORATION LOG TEMPLATE P:\GINTWPROJECTS\GACO WEST-150201.GPJ April 12, 2017

Aspect CONSULTING	GWI Tukwila - 150201		Environmental Exploration Log	
	Project Address & Site Specific Location 18700 Southcenter Parkway, Tukwila, WA, SW corner of Bay 5		*Coordinates* NA	*Exploration Number* **AB-5**
Contractor Holocene Drilling	*Equipment* Direct push rig	*Sampling Method* Percussion hammer	*Ground Surface (GS) Elev.* NA	
Operator Mitch	*Exploration Method(s)* Direct push	*Work Start/Completion Dates* 2/10/2017	*Top of Casing Elev.* NA	*Depth to Water (Below GS)* 11' (ATD)

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
							6-inch thick Concrete slab.	
		Concrete surface seal			PID= 0.0		Moist, brown, sandy, slightly silty GRAVEL (GP-GM); fine to medium sand, fine subrounded gravel, with no odor.	
					PID= 0.0			
			S1		PID= 0.0		Moist, brown, gravelly SAND (SP); fine to medium sand, fine subrounded gravel, with no odor.	
		Backfilled with 3/8-inch bentonite chips						
5				Soil: AB-5-5 8260 C	PID= 0.0			5
					PID= 0.0			
			S2		PID= 0.0		Moist, brown, slightly silty SAND (SP-SM); fine sand, with no odor.	
					PID= 0.0			
				Soil: AB-5-9 8260 C				
10								10
		▽ 2/10/2017			PID= 4.0		Wet, very soft, gray SILT (ML); trace fine sand, low to medium plasticity, with rare organics, no odor.	
					PID= 12.6			
			S3		PID= 37.3		Becomes moist.	
				Soil: AB-5-13 8260 C				
					PID= 122		Slight odor.	
15								15
					PID= >15,000		Wet, gray, silty SAND (SM); fine sand, with moderate odor.	
					PID= >15,000			
			S4		PID= >15,000		Moist, gray SILT (ML); trace fine sand, low to medium plasticity, with moderate odor.	
				Soil: AB-5-18 8260 C				
					PID= >15,000			
20								20
							Bottom of exploration at 20 ft. bgs.	

Legend

Sample Method
- ◯ No Soil Sample Recovery
- ◧ Continuous core 1.85" ID

Water Level
- ▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: MML
Approved by: CEB

Exploration Log AB-5
Sheet 1 of 1

ASPECT STANDARD EXPLORATION LOG TEMPLATE P:\GINTWPROJECTS\GACO WEST-150201.GPJ April 12, 2017

Aspect CONSULTING	GWI Tukwila - 150201		Monitoring Well Log	
	Project Address & Site Specific Location 18700 Southcenter Parkway, Tukwila, WA, Next to stairs in Bay 3		*Coordinates* NA	*Exploration Number* **GW-7**
Contractor Holocene Drilling	*Equipment* Direct push rig	*Sampling Method* Percussion hammer	*Ground Surface (GS) Elev. (NAVD88)* 32.07'(est)	Ecology Well Tag No. BJU-251
Operator Mitch	*Exploration Method(s)* Direct push	*Work Start/Completion Dates* 2/13/2017	*Top of Casing Elev. (NAVD88)* 31.85'	*Depth to Water (Below GS)* 14.97' (Static)

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
		8-inch diameter flush mount monument in concrete surface seal					6-inch thick Concreteslab.	
					PID= 0.0		Moist, brown SAND (SP); fine to medium sand, with no odor.	
	30		S1		PID= 1.5			
					PID= 381		Moist, dark brown SAND (SP); fine sand, with moderate odor.	
		3/8-inch bentonite chips 2-20 ft bgs						
5					PID= 324			5
					PID= 347		Odor becomes strong.	
	25		S2		PID= >15,000			
				Soil: GW-7-9 8260 C				
					PID= 31.4		Very moist, dark brown, sandy SILT (ML); fine sand, low plasticity, with moderate odor.	
10		2-inch diameter SCH 40 PVC casing 0-22 ft bgs						10
					PID= 68.5		Wet, dark brown, silty SAND (SM); fine sand, with no odor.	
					PID= 24.0			
	20		S3		PID= 12.6		Soft, wet, dark brown SILT (ML); trace fine sand, with no odor.	
				Soil: GW-7-13 8260 C				
					PID= 31.4		Wet, dark brown, silty SAND (SM); fine sand, with no odor.	
		2/21/2017						
15		2/10/2017						15
					PID= 23.6			
					PID= 1.2			
	15		S4	Soil: GW-7-17 8260 C			Moist, dark brown SILT (ML); trace fine sand, with no odor.	
					PID= 3.3			
					PID= 1.5			
							Becomes very moist.	
20							Becomes wet and gray brown.	20
		Colorado silica filterpack 20-32 ft bgs	S5		PID= 0.0			

Legend

Sample Method
- ◯ No Soil Sample Recovery
- ◧ Continuous core 1.85" ID

Water Level
- ▼ Static Water Level
- ▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: MML
Approved by: CEB

Exploration Log GW-7

Sheet 1 of 2

ASPECT STANDARD EXPLORATION LOG TEMPLATE P:\GINTWPROJECTS\GACO WEST-150201.GPJ April 12, 2017

Aspect CONSULTING	GWI Tukwila - 150201		Monitoring Well Log	
	Project Address & Site Specific Location 18700 Southcenter Parkway, Tukwila, WA, Next to stairs in Bay 3		*Coordinates* NA	*Exploration Number* **GW-7**
Contractor Holocene Drilling	*Equipment* Direct push rig	*Sampling Method* Percussion hammer	*Ground Surface (GS) Elev. (NAVD88)* 32.07'(est)	Ecology Well Tag No. BJU-251
Operator Mitch	*Exploration Method(s)* Direct push	*Work Start/Completion Dates* 2/13/2017	*Top of Casing Elev. (NAVD88)* 31.85'	*Depth to Water (Below GS)* 14.97' (Static)

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
					PID= 0.0		Wet, gray brown, silty SAND (SM); fine sand, with no odor.	
	10	2-inch diameter SCH 40 slotted PVC pre-packed screen 22-32 ft bgs	S5		PID= 0.0			
25					PID= 0.0			25
					PID= 0.0			
	5		S6	Water: GW-7-022117 8260 C	PID= 0.0			
					PID= 0.0			
					PID= 0.0		Wet, dark brown SAND (SP); trace silt, fine to medium sand, with no odor.	
30			S7					30
	0	Threaded endcap					Bottom of exploration at 32 ft. bgs.	
35								35
	-5							
40								40

Legend

Sample Method
- No Soil Sample Recovery
- Continuous core 1.85" ID

Water Level
- Static Water Level
- Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: MML
Approved by: CEB

Exploration Log GW-7
Sheet 2 of 2

ASPECT STANDARD EXPLORATION LOG TEMPLATE P:\GINTWPROJECTS\GACO WEST-150201.GPJ April 12, 2017

Aspect CONSULTING	GWI Tukwila - 150201		Monitoring Well Log	
	Project Address & Site Specific Location 18700 Southcenter Parkway, Tukwila, WA, East of Bay 4 center		*Coordinates* NA	*Exploration Number* **GW-8**
Contractor Holocene Drilling	*Equipment* Direct push rig	*Sampling Method* Percussion hammer	*Ground Surface (GS) Elev. (NAVD88)* 32.14'(est)	Ecology Well Tag No. BJU-252
Operator Mitch	*Exploration Method(s)* Direct push	*Work Start/Completion Dates* 2/13/2017	*Top of Casing Elev. (NAVD88)* 31.69'	*Depth to Water (Below GS)* 14.8' (Static)

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0	30	8-inch diameter flush mount monument in concrete surface seal	S1		PID= 0.0		6-inch thick Concreteslab.	0
					PID= 0.0		Moist, brown, sandy, slightly silty GRAVEL (GP-GM); fine to medium sand, fine subrounded gravel, with no odor.	
					PID= 0.0			
		3/8-inch bentonite chips 2-20 ft bgs						
5					PID= 0.0		Moist brown, gravelly, slightly silty SAND (SP-SM); fine to medium sand, fine subrounded gravel, with no odor.	5
	25		S2		PID= 0.0		Moist, brown SAND (SP); trace silt, fine sand, with no odor.	
					PID= 0.0			
				Soil: GW-8-9 8260 C	PID= 0.0		Very moist, brown silty SAND (SM); fine sand, with no odor.	
10		2-inch diameter SCH 40 PVC casing 0-22 ft bgs						10
					PID= 0.0		Becomes wet.	
					PID= 0.0			
	20		S3		PID= 0.0		Moist, gray brown SILT (ML); trace fine sand, low to medium plasticity, with no odor.	
				Soil: GW-8-13 8260 C	PID= 0.0			
		▼ 2/21/2017						
15		▽ 2/10/2017						15
		▼ 2/13/2017			PID= 0.0			
					PID= 0.0			
	15		S4	Soil: GW-8-17 8260 C				
					PID= 0.0			
					PID= 0.0			
					PID= 0.0		Becomes sandy.	
20		Colorado silica filterpack 20-32 ft bgs	S5		PID= 0.0			20

Legend

Sample Method
- ◯ No Soil Sample Recovery
- ◧ Continuous core 1.85" ID

Water Level
- ▼ Static Water Level
- ▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: MML
Approved by: CEB

Exploration Log GW-8

Aspect CONSULTING	GWI Tukwila - 150201		Monitoring Well Log	
	Project Address & Site Specific Location 18700 Southcenter Parkway, Tukwila, WA, East of Bay 4 center		*Coordinates* NA	*Exploration Number* **GW-8**
Contractor Holocene Drilling	*Equipment* Direct push rig	*Sampling Method* Percussion hammer	*Ground Surface (GS) Elev. (NAVD88)* 32.14'(est)	Ecology Well Tag No. BJU-252
Operator Mitch	*Exploration Method(s)* Direct push	*Work Start/Completion Dates* 2/13/2017	*Top of Casing Elev. (NAVD88)* 31.69'	*Depth to Water (Below GS)* 14.8' (Static)

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
					PID= 0.0		Wet, gray brown, very silty SAND (SM); fine sand, with no odor. (continued)	
	10				PID= 0.0		Coarsening with depth.	
		2-inch diameter SCH 40 slotted PVC pre-packed screen 22-32 ft bgs	S5		PID= 0.0			
25					PID= 0.0			25
	5		S6	Water: GW-8-022117 8260 C	PID= 0.0			
					PID= 0.0			
					PID= 0.0			
30			S7		PID= 0.0		Wet, dark brown SAND (SP); trace silt, fine to medium sand, with no odor.	30
					PID= 0.0			
	0	Threaded endcap			PID= 0.0		Wet, dark brown silty SAND (SM); fine to medium sand, with no odor.	
							Bottom of exploration at 32 ft. bgs.	
35	-5							35
40								40

Legend

Sample Method
- ◯ No Soil Sample Recovery
- ◧ Continuous core 1.85" ID

Water Level
- ▼ Static Water Level
- ▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: MML
Approved by: CEB

Exploration Log GW-8

Sheet 2 of 2

ASPECT STANDARD EXPLORATION LOG TEMPLATE P:\GINTWPROJECTS\GACO WEST-150201.GPJ April 12, 2017

Aspect CONSULTING	GWI Tukwila - 150201		Monitoring Well Log	
	Project Address & Site Specific Location 18700 Southcenter Parkway, Tukwila, WA, South end of Bay 4		*Coordinates* NA	*Exploration Number* **GW-9**
Contractor Holocene Drilling	*Equipment* Direct push rig	*Sampling Method* Percussion hammer	*Ground Surface (GS) Elev. (NAVD88)* 32.15'(est)	Ecology Well Tag No. BJU-253
Operator Mitch	*Exploration Method(s)* Direct push	*Work Start/Completion Dates* 2/13/2017	*Top of Casing Elev. (NAVD88)* 31.91'	*Depth to Water (Below GS)* 15.09' (Static)

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
		8-inch diameter flush mount monument in concrete surface seal					7-inch thick Concreteslab.	
					PID= 1.3		Moist, brown, gravelly, slightly silty SAND (SP-SM); fine to medium sand, fine subrounded gravel, with no odor.	
	30		S1		PID= 1.8			
		3/8-inch bentonite chips 2-20 ft bgs						
5					PID= 129.1			5
					PID= >15,000		Moist, gray brown SAND (SP); trace silt, fine sand, with strong odor.	
	25		S2		PID= >15,000			
10		2-inch diameter SCH 40 PVC casing 0-22 ft bgs		Soil: GW-9-10 8260 C			Becomes wet.	10
					PID= >15,000			
					PID= >15,000			
	20		S3		PID= >15,000		Moist, gray brown SILT (ML); trace fine sand, low to medium plasticity, with strong odor.	
				Soil: GW-9-13.5 8260 C			Wet, gray brown, silty SAND (SM); fine sand, with strong odor.	
15		▼ 2/21/2017						15
		▽ 2/10/2017			PID= >15,000			
					PID= >15,000		Moist, gray brown SILT (ML); trace fine sand, low to medium plasticity, with strong odor.	
	15		S4		PID= >15,000			
					PID= >15,000			
					PID= >15,000			
20					PID= >15,000			20
		Colorado silica filterpack 20-32 ft bgs	S5					

Legend

Sample Method
- ◯ No Soil Sample Recovery
- ◧ Continuous core 1.85" ID

Water Level
- ▼ Static Water Level
- ▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: MML
Approved by: CEB

Exploration Log GW-9

Sheet 1 of 2

ASPECT STANDARD EXPLORATION LOG TEMPLATE P:\GINTWPROJECTS\GACO WEST-150201.GPJ April 12, 2017

Aspect CONSULTING	GWI Tukwila - 150201		Monitoring Well Log	
	Project Address & Site Specific Location 18700 Southcenter Parkway, Tukwila, WA, South end of Bay 4		*Coordinates* NA	*Exploration Number* **GW-9**
Contractor Holocene Drilling	*Equipment* Direct push rig	*Sampling Method* Percussion hammer	*Ground Surface (GS) Elev. (NAVD88)* 32.15'(est)	Ecology Well Tag No. BJU-253
Operator Mitch	*Exploration Method(s)* Direct push	*Work Start/Completion Dates* 2/13/2017	*Top of Casing Elev. (NAVD88)* 31.91'	*Depth to Water (Below GS)* 15.09' (Static)

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
					PID= >15,000		Wet, dark gray brown, very silty SAND (SM); fine sand, with strong odor.	
	10	2-inch diameter SCH 40 slotted PVC pre-packed screen 22-32 ft bgs	S5		PID= >15,000			
					PID= >15,000			
25					PID= >15,000			25
					PID= >15,000			
	5		S6	Water: GW-9-022117 8260 C	PID= >15,000			
					PID= >15,000			
					PID= 62		Wet, gray brown SAND (SP); trace silt, fine to medium sand, with frequent very thinly bedded silty sand, slight odor.	
30					PID= 302			30
			S7		PID= 132			
	0	Threaded endcap			PID= 65.1		Bottom of exploration at 32 ft. bgs.	
	-5							
35								35
40								40

Legend

Sample Method
- No Soil Sample Recovery
- Continuous core 1.85" ID

Water Level
- Static Water Level
- Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: MML
Approved by: CEB

Exploration Log GW-9

Sheet 2 of 2

ASPECT STANDARD EXPLORATION LOG TEMPLATE P:\GINTWPROJECTS\GACO WEST-150201.GPJ April 12, 2017

Farallon Logs

FARALLON CONSULTING
975 5th Avenue Northwest
Issaquah, WA 98027

USCS Classification and Graphic Legend

Major Divisions			USCS Graphic Symbol	USCS Letter Symbol	Lithologic Description
Coarse-Grained Soil (More than 50% of material is larger than No. 200 sieve size)	GRAVEL AND GRAVELLY SOIL (More than 50% of coarse fraction retained on No. 4 sieve)	CLEAN GRAVEL (Little or no fines)		GW	Well graded GRAVEL, well graded GRAVEL with sand
				GP	Poorly graded GRAVEL, GRAVEL with sand
		GRAVEL WITH FINES (Appreciable amount of fines)		GP-GM	Poorly graded GRAVEL - GRAVEL with sand and silt
				GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOIL (More than 50% of coarse fraction passed through No. 4 sieve)	CLEAN SAND (Little or no fines)		SW	Well graded SAND
				SP	Poorly graded SAND
		SAND WITH FINES (Appreciable amount of fines)		SP-SM	Poorly graded SAND - silty SAND
				SM	Silty SAND
				SC	Clayey SAND
				SM-ML	SILT - Silty SAND
Fine-Grained Soil (More than 50% of material is smaller than No. 200 sieve size)	SILT AND CLAY (Liquid limit less than 50)			ML	SILT
				CL	CLAY
				OL	Organic SILT
	SILT AND CLAY (Liquid limit greater than 50)			MH	Inorganic SILT
				CH	Inorganic CLAY
				OH	Organic CLAY
		Highly Organic Soil		PT	Peat
OTHER MATERIALS	PAVEMENT			AC	Asphalt concrete
				CO	Concrete
	OTHER			RK	Bedrock
				WD	Wood Debris
				DB	Debris (Miscellaneous)
				PC	Portland cement

Legend

- Sample Interval
- 6 — Grab Sample Interval
- Water level at time of drilling
- Water level at time of sampling
- Blank Casing
- Screened Casing
- Cement Grout
- Bentonite
- Sand Pack
- Well Cap

_____ Solid line indicates sharp contact between units well defined.

_ _ _ _ _ _ Dashed line indicates gradational contact between units.

feet bgs = feet below ground surface
NE = Not Encountered
NA = Not Applicable
PID = Photoionization Detector
PN = Project Number
*ppm = parts per million total organic vapors in isobutylene equivalents using a 10.6 electron volt lamp
USCS = Unified Soil Classification System

FARALLON consulting
975 5th Avenue Northwest
Issaquah, Washington 98027

Log of Boring: B1

Client: Segale Properties
Project: GACO Western Property
Location: Tukwila, Washington
Farallon PN: 841-003
Logged By: Ken Scott

Date/Time Started:	11/24/2009 905	**Sampler Type:**	5' macrocore
Date/Time Completed:	11/24/2009 1050	**Drive Hammer (lbs.):**	N/A
Equipment:	Geoprobe 7730 DT	**Depth of Water ATD (ft bgs):**	11
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	20
Drilling Foreman:	Elijah Floyd	**Total Well Depth (ft bgs):**	N/A
Drilling Method:	Direct-push		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm*)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		0-0.3' Asphalt, black, dry, odor, sheen	AC							Asphalt
		0.3-2.0' Silty SAND with gravel (65% sand, 20% silt, 15% gravel), fine sand, fine gravel, brown, moist, no odor, no sheen. Observed 2" to 3" subrounded cobbles.	SM		100	N/A	0.0	B1-2.5		
		2.0-3.5' SAND with silt (80% sand, 20% silt), fine sand, brown, moist, no odor, no sheen. Observed 2" to 3" subrounded cobbles.	SM							
5		3.5-4.5' Sandy SILT (75% silt, 25% sand), fine sand, dark grey, moist, no odor, no sheen.	ML							Bentonite
		4.5-6.0' Silty SAND (65% sand, 35% silt), fine sand, brown, moist, no odor, no sheen.	SM							
		6.0-7.0' Sandy SILT (60% silt, 40% sand), fine sand, tan, moist, no odor, no sheen.	ML		80	N/A	0.0			
10		7.0-7.5' SILT (100% silt), grey, moist, odor, no sheen.	SP				526	B1-9.5	X	
		7.5-13.0' SAND (95% sand, 5% silt), fine sand, trace silt, brown, moist to wet, odor, no sheen.								Water level
					100	N/A	606	B1-112409-GW	X	Screen
		13.0-16.0' SILT (100% silt), brown, wet, odor, no sheen.	ML							
15		16.0-20.0' SILT (100% silt), grey, wet, slight odor, no sheen.	ML							
					100	N/A	48.0			
20										

Well Construction Information

Monument Type: N/A
Casing Diameter (inches): N/A
Screen Slot Size (inches): 0.010
Screened Interval (ft bgs): 10-14

Filter Pack: N/A
Surface Seal: Asphalt
Annular Seal: Bentonite

Ground Surface Elevation (ft): N/A
Top of Casing Elevation (ft): N/A
Boring Abandonment: Yes
Surveyed Location: X: N/A Y: N/A

FARALLON consulting
975 5th Avenue Northwest
Issaquah, Washington 98027

Log of Boring: B2

Client: Segale Properties
Project: GACO Western Property
Location: Tukwila, Washington
Farallon PN: 841-003
Logged By: Ken Scott

Date/Time Started:	11/24/2009 1105	**Sampler Type:**	5' macrocore
Date/Time Completed:	11/24/2009 1255	**Drive Hammer (lbs.):**	N/A
Equipment:	Geoprobe 7730 DT	**Depth of Water ATD (ft bgs):**	17.0
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	20
Drilling Foreman:	Elijah Floyd	**Total Well Depth (ft bgs):**	N/A
Drilling Method:	Direct-push		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	% Recovery	Blow Counts 8/8/8	PID (ppm*)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		0-0.3' Asphalt, black, dry, odor, sheen	AC						Asphalt
		0.3-3.5' Gravelly SAND, trace silt (60% sand, 35% gravel, 5% silt), fine sand, fine gravel, grey, moist, odor, no sheen. Observed 2" to 3" subrounded cobbles.	SP	100	N/A	48.0	B2-2.5		
		3.5-6.0' Silty SAND, trace gravel (65% sand, 30% silt, 5% gravel), fine sand, fine gravel, grey, moist, sweet-odor, sheen.	SM			12.1			Bentonite
5		6.0-12.5' SAND with silt (80% sand, 20% silt), fine sand, grey, moist to slightly-wet, sweet-odor, white sheen.	SM	100	N/A	2,288	B2-7.5	X	
10									
		12.5-13.5' SILT (100% silt), brown, moist, sweet-odor, no sheen.	ML	100	N/A	3,266	B2-12.0	X	
		13.5-16.0' SILT (100% silt), grey, moist, sweet-odor, sheen.	ML						
15		16.0-17.0' Silty SAND (65% sand 35% silt, 5% gravel), fine sand, grey, moist to wet, odor, no sheen.	SM	100	N/A	502	B2-16.0		Water level
		17.0-20.0' SILT (100% silt), brown, wet, odor, no sheen.	ML				B2-112409-GW	X	Screen
20									

Well Construction Information

Monument Type: N/A
Casing Diameter (inches): N/A
Screen Slot Size (inches): 0.010
Screened Interval (ft bgs): 16-20
Filter Pack: N/A
Surface Seal: Asphalt
Annular Seal: Bentonite
Ground Surface Elevation (ft): N/A
Top of Casing Elevation (ft): N/A
Boring Abandonment: Yes
Surveyed Location: X: N/A Y: N/A

FARALLON consulting
975 5th Avenue Northwest
Issaquah, Washington 98027

Log of Boring: B3

Client: Segale Properties
Project: GACO Western Property
Location: Tukwila, Washington
Farallon PN: 841-003
Logged By: Ken Scott

Date/Time Started:	11/24/2009 1305	**Sampler Type:**	5' macrocore
Date/Time Completed:	11/24/2009 1445	**Drive Hammer (lbs.):**	N/A
Equipment:	Geoprobe 7730 DT	**Depth of Water ATD (ft bgs):**	17.5
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	20
Drilling Foreman:	Elijah Floyd	**Total Well Depth (ft bgs):**	N/A
Drilling Method:	Direct-push		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm*)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		0-0.4' Asphalt, black, dry, odor, sheen	AC							Asphalt
		0.4-1.5' Gravelly SAND, trace silt (60% sand, 35% gravel, 5% silt), fine sand, fine gravel, grey, moist, no odor, no sheen. Observed 2" to 3" subrounded cobbles.	SP							
		1.5-1.75' Concrete (100%), aggregate, white, dry, no odor, no sheen.	CO		100	N/A	0.0	B3-2.5		
		1.75-7.0' Silty SAND with gravel (60% sand, 25% silt, 15% gravel), fine sand, fine gravel, brown, moist, no odor, no sheen.	SM							
5										Bentonite
		7.0-9.0' Silty SAND (60% sand, 40% silt), fine sand, grey, moist, no odor, no sheen.	SM		70	N/A	0.0	B3-7.5	X	
		9.0-12.0' SAND with silt (80% sand, 20% silt), fine sand, brown, moist to slightly wet @ 12'bgs, no odor, no sheen.	SM							
10										
		12.0-15.0' SILT (100% silt), grey, moist, no odor, no sheen.	ML		100	N/A	0.0	B3-12.5		
15										
		15.0-16.0' SILT with sand (80% silt, 20% sand), fine sand, brown, moist, no odor, no sheen.	ML							
		16.0-19.0' SILT, minor sand (90% silt, 10% sand), fine sand, grey, moist to wet, no odor, no sheen.	ML		100	N/A	0.0	B3-16.5		Water level
								B3-112409-GW	X	Screen
20		19.0-20.0' SILT with sand (80% silt, 20% sand), fine sand, dark-grey, wet, no odor, no sheen.	ML							

Well Construction Information

Monument Type: N/A
Casing Diameter (inches): N/A
Screen Slot Size (inches): 0.010
Screened Interval (ft bgs): 16-20
Filter Pack: N/A
Surface Seal: Asphalt
Annular Seal: Bentonite
Ground Surface Elevation (ft): N/A
Top of Casing Elevation (ft): N/A
Boring Abandonment: Yes
Surveyed Location: X: N/A Y: N/A

FARALLON consulting
975 5th Avenue Northwest
Issaquah, Washington 98027

Log of Boring: B4

Client: Segale Properties
Project: GACO Western Property
Location: Tukwila, Washington

Farallon PN: 841-003

Logged By: Ken Scott

Date/Time Started:	11/24/2009 1520	**Sampler Type:**	5' macrocore
Date/Time Completed:	11/24/2009 1645	**Drive Hammer (lbs.):**	N/A
Equipment:	Geoprobe 7730 DT	**Depth of Water ATD (ft bgs):**	14.0
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	20
Drilling Foreman:	Elijah Floyd	**Total Well Depth (ft bgs):**	N/A
Drilling Method:	Direct-push		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm*)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		0-0.4' Concrete, white, dry, no odor, no sheen	CO							Concrete
		0.4-3.0' SAND with gravel, trace silt (80% sand, 15% gravel, 5% silt), fine sand, fine gravel, brown, moist, no odor, no sheen.	SP		100	N/A	23.0	B4-2.5		
		3.0-12.0' Silty SAND (65% sand, 35% silt), fine sand, brown, moist, sweet-odor, no sheen.	SM							
5										Bentonite
					100	N/A	520	B4-7.0		
10										
		12.0-13.0' SILT (100% silt), brown, moist, odor, no sheen.	ML		100	N/A	4,416	B4-12.5	X	
		13.0-16.0' SAND with silt (80% sand, 20% silt), fine sand, brown, moist to wet, sweet-odor, no sheen.	SM							Water level
15								B4-112409-GW	X	Screen
		16.0-17.0' Silty SAND (65% sand, 35% silt), fine sand, brown, wet, odor, no sheen.	SM							
		17.0-20.0' SILT (100% silt), brown, wet, odor, no sheen.	ML		100	N/A	540			
20										

Well Construction Information

Monument Type: N/A
Casing Diameter (inches): N/A
Screen Slot Size (inches): 0.010
Screened Interval (ft bgs): 13-17

Filter Pack: N/A
Surface Seal: Concrete
Annular Seal: Bentonite

Ground Surface Elevation (ft): N/A
Top of Casing Elevation (ft): N/A
Boring Abandonment: Yes
Surveyed Location: X: N/A Y: N/A

FARALLON consulting
975 5th Avenue Northwest
Issaquah, Washington 98027

Log of Boring: B5

Client: Segale Properties
Project: GACO Western Property
Location: Tukwila, Washington

Farallon PN: 841-003

Logged By: Ken Scott

Date/Time Started:	11/25/2009 820	**Sampler Type:**	5' macrocore
Date/Time Completed:	11/25/2009 915	**Drive Hammer (lbs.):**	N/A
Equipment:	Geoprobe 7730 DT	**Depth of Water ATD (ft bgs):**	15.5
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	20
Drilling Foreman:	Elijah Floyd	**Total Well Depth (ft bgs):**	N/A
Drilling Method:	Direct-push		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	% Recovery	Blow Counts 8/8/8	PID (ppm*)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		0-0.5' Concrete, white, dry, no odor, no sheen	CO						Concrete
		0.5-4.0' Silty SAND (60% sand, 35% silt, 5% gravel), fine sand, trace fine gravel, brown, moist, no odor, no sheen.	SM	100	N/A	0.0	B5-2.5		
5		4.0-16.0' Poorly graded SAND, trace silt (95% sand 5% silt), fine sand, grey, moist to wet, no odor, no sheen.	SP	100	N/A	0.0	B5-7.0		Bentonite
10				100	N/A	0.0	B5-12.0		
15					N/A	0.0	B5-15.0	X	Screen ▽ Water level
		16.0-18.0' Silty SAND (65% sand 35% silt), fine sand, grey, wet, no odor, no sheen.	SM	100		0.0			
		18.0-20.0' SILT (100% silt), brown, wet, no odor, no sheen.	ML				B5-112509-GW	X	
20									

Well Construction Information

Monument Type: N/A
Casing Diameter (inches): N/A
Screen Slot Size (inches): 0.010
Screened Interval (ft bgs): 16-20

Filter Pack: N/A
Surface Seal: Concrete
Annular Seal: Bentonite

Ground Surface Elevation (ft): N/A
Top of Casing Elevation (ft): N/A
Boring Abandonment: Yes
Surveyed Location: X: N/A Y: N/A

FARALLON consulting
975 5th Avenue Northwest
Issaquah, Washington 98027

Log of Boring: B6

Client: Segale Properties
Project: GACO Western Property
Location: Tukwila, Washington
Farallon PN: 841-003
Logged By: Ken Scott

Date/Time Started:	11/25/2009 1005	**Sampler Type:**	5' macrocore
Date/Time Completed:	11/25/2009 1105	**Drive Hammer (lbs.):**	N/A
Equipment:	Geoprobe 7730 DT	**Depth of Water ATD (ft bgs):**	16.0
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	20
Drilling Foreman:	Elijah Floyd	**Total Well Depth (ft bgs):**	N/A
Drilling Method:	Direct-push		

Depth (feet bgs.)	Lithologic Description	USCS	% Recovery	Blow Counts 8/8/8	PID (ppm*)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0	0-0.5' Concrete, white, dry, no odor, no sheen	CO						Concrete
	0.5-5.0' Silty SAND with gravel (65% sand 20% silt, 15% gravel), fine sand, fine gravel, brown, moist, slight odor, no sheen. Observed 2" subrounded gravel.	SM	70	N/A	15.3	B6-2.5		
5	5.0-15.0' No recovery between 5 to 15' bgs due to rock in shoe per driller (Elijah).		0	N/A	NM			Bentonite
10			0	N/A	NM			
15	15.0-17.0' Silty SAND (65% sand 35% silt), fine sand, brown, moist to wet, sweet odor, no sheen.	SM		N/A	110	B6-15.0	X	Water level
	17.0-20.0' SILT (100% silt), grey, wet, odor, no sheen.	ML	100		12.0	B6-112509-GW	X	Screen
20								

Well Construction Information

Monument Type: N/A
Casing Diameter (inches): N/A
Screen Slot Size (inches): 0.010
Screened Interval (ft bgs): 16-20
Filter Pack: N/A
Surface Seal: Concrete
Annular Seal: Bentonite
Ground Surface Elevation (ft): N/A
Top of Casing Elevation (ft): N/A
Boring Abandonment: Yes
Surveyed Location: X: N/A Y: N/A

FARALLON consulting
975 5th Avenue Northwest
Issaquah, Washington 98027

Log of Boring: B7

Client: Segale Properties
Project: GACO Western Property
Location: Tukwila, Washington
Farallon PN: 841-003
Logged By: Ken Scott

Date/Time Started:	11/25/2009 1120	**Sampler Type:**	5' macrocore
Date/Time Completed:	11/25/2009 1215	**Drive Hammer (lbs.):**	N/A
Equipment:	Geoprobe 7730 DT	**Depth of Water ATD (ft bgs):**	17.0
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	20
Drilling Foreman:	Elijah Floyd	**Total Well Depth (ft bgs):**	N/A
Drilling Method:	Direct-push		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm*)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		0-0.5' Concrete, white, dry, no odor, no sheen	CO							Concrete
		0.5-7.0' Silty SAND (65% sand, 20% silt, 15% gravel), fine sand, fine to coarse gravel, brown, moist, no odor, no sheen.	SM		100	N/A	0.0	B7-2.5		
5										Bentonite
		7.0-16.0' Poorly graded SAND (95% sand 5% silt), fine sand, trace silt, brown, moist to slightly wet, no odor, no sheen.	SP		100	N/A	0.0	B7-7.0		
10					100	N/A	0.0	B7-12.0		
15		16.0-16.75' Silty SAND (65% sand 35% silt), fine sand, brown, moist to slightly wet, no odor, no sheen.	SM		100	N/A	0.0	B7-16.0	X	▽ Water level
		16.75-20.0' SILT (100% silt), brown, wet, no odor, no sheen.	ML					B7-112509-GW	X	Screen
		18.0-20.0' SILT (100% silt), grey, wet, no odor, no sheen.	ML							
20										

Well Construction Information

Monument Type: N/A
Casing Diameter (inches): N/A
Screen Slot Size (inches): 0.010
Screened Interval (ft bgs): 16-20
Filter Pack: N/A
Surface Seal: Concrete
Annular Seal: Bentonite
Ground Surface Elevation (ft): N/A
Top of Casing Elevation (ft): N/A
Boring Abandonment: Yes
Surveyed Location: X: N/A Y: N/A

FARALLON consulting
975 5th Avenue Northwest
Issaquah, Washington 98027

Log of Boring: B8

Client: Segale Properties
Project: GACO Western Property
Location: Tukwila, Washington
Farallon PN: 841-003
Logged By: Ken Scott

Date/Time Started:	11/25/2009 1330	**Sampler Type:**	5' macrocore
Date/Time Completed:	11/25/2009 1430	**Drive Hammer (lbs.):**	N/A
Equipment:	Geoprobe 7730 DT	**Depth of Water ATD (ft bgs):**	16'
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	20
Drilling Foreman:	Elijah Floyd	**Total Well Depth (ft bgs):**	N/A
Drilling Method:	Direct-push		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm*)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		0-0.3' Organic, (100% grass) green, moist, ortganic odor, no sheen	TOPSOIL							Topsoil
		0.4-6.0' SILT, minor sand (90% silt, 10% sand), fine sand, brown, moist, no odor, no sheen.	ML		100	N/A	0.1	B8-2.5		
5										Bentonite
		6.0-7.0' Poorly graded SAND (95% sand 5% silt), fine sand, trace silt, brown, moist, no odor, no sheen.	SP							
		7.0-11.0' SILT, minor sand (90% silt, 10% sand), fine sand, brown, moist, no odor, no sheen.	ML		100	N/A	0.0	B8-7.0		
10		11.0-12.0' Poorly graded SAND (95% sand, 5% silt), fine sand, trace silt, brown with red-oxides, moist, no odor, no sheen.	SP			N/A	0.0	B8-11.0		
		12.0-14.0' SILT (100% silt), brown, moist to wet, no odor, no sheen.	ML		100					
		14.0-15.0' Poorly graded SAND, minor silt (90% sand, 10% silt), fine sand, dark grey, moist to wet, no odor, no sheen.	SP							
15		15.0-16.0' SILT(100% silt), brown, wet, no odor, no sheen.	ML							▽ Water level
		16.0-17.0' Poorly graded SAND (95% sand, 5% silt), fine sand, trace silt, grey, wet, no odor, no sheen.	SP			N/A	0.0	B8-16.0	X	
		17.0-20.0' SILT, minor sand(90% silt, 10% sand), fine sand, grey, wet, no odor, no sheen.	ML		100			B8-112509-GW	X	
20										Screen

Well Construction Information

Monument Type: N/A
Casing Diameter (inches): N/A
Screen Slot Size (inches): 0.010
Screened Interval (ft bgs): 16-20

Filter Pack: N/A
Surface Seal: Topsoil
Annular Seal: Bentonite

Ground Surface Elevation (ft): N/A
Top of Casing Elevation (ft): N/A
Boring Abandonment: Yes
Surveyed Location: X: N/A Y: N/A

FARALLON consulting
975 5th Avenue Northwest
Issaquah, Washington 98027

Log of Boring: B9

Client: Segale Properties
Project: GACO Western Property
Location: Tukwila, Washington
Farallon PN: 841-003
Logged By: Ken Scott

Date/Time Started:	11/25/2009 1445	**Sampler Type:**	5' macrocore
Date/Time Completed:	11/25/2009 1550	**Drive Hammer (lbs.):**	N/A
Equipment:	Geoprobe 7730 DT	**Depth of Water ATD (ft bgs):**	17'
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	20
Drilling Foreman:	Elijah Floyd	**Total Well Depth (ft bgs):**	N/A
Drilling Method:	Direct-push		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm*)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		0-0.3' Organic, (100% grass) green, moist, ortganic odor, no sheen	TOPSOIL							Topsoil
		0.4-8.0' SILT, minor sand (90% silt, 10% sand), fine sand, brown, moist, no odor, no sheen.	ML		100	N/A	0.0	B9-2.5		
5										Bentonite
					100	N/A	0.0	B9-7.0		
		8.0-12.0' SAND with silt (80% sand, 20% silt), fine sand, brown, moist, no odor, no sheen.	SM							
10					100	N/A	0.0	B9-11.0		
		12.0-13.0' Poorly graded SAND (95% sand, 5% silt), fine sand, trace silt, brown, moist to slightly wet, no odor, no sheen.	SP							
		13.0-17.0' SILT (100% silt), grey, moist to wet, no odor, no sheen.	ML							
15					100	N/A	0.0	B9-16.0	X	▽ Water level
		17.0-18.0' Sandy SILT (65% silt, 35% sand), brown, wet, no odor, no sheen.	ML							
		18.0-20.0' SILT, minor sand (90% silt, 10% sand), fine sand, grey, wet, no odor, no sheen.	ML		100			B9-112509-GW	X	Screen
20										

Well Construction Information

Monument Type: N/A
Casing Diameter (inches): N/A
Screen Slot Size (inches): 0.010
Screened Interval (ft bgs): 16-20
Filter Pack: N/A
Surface Seal: Topsoil
Annular Seal: Bentonite
Ground Surface Elevation (ft): N/A
Top of Casing Elevation (ft): N/A
Boring Abandonment: Yes
Surveyed Location: X: N/A Y: N/A

FARALLON consulting
975 5th Avenue Northwest
Issaquah, Washington 98027

Log of Boring: B10

Client: Segale Properties
Project: GACO Western Property
Location: Tukwila, Washington
Farallon PN: 841-003
Logged By: Ken Scott

Date/Time Started:	11/25/2009 1600	**Sampler Type:**	5' macrocore
Date/Time Completed:	11/25/2009 1705	**Drive Hammer (lbs.):**	N/A
Equipment:	Geoprobe 7730 DT	**Depth of Water ATD (ft bgs):**	16'
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	20
Drilling Foreman:	Elijah Floyd	**Total Well Depth (ft bgs):**	N/A
Drilling Method:	Direct-push		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm*)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		0-0.3' Organic, (100% grass) green, moist, ortganic odor, no sheen	TOPSOIL							Topsoil
		0.4-4.0' SAND with gravel and silt (65% sand, 20% gravel, 15% silt), fine sand, fine to coarse gravel, brown, moist, no odor, no sheen.	SM		100	N/A	0.0	B10-2.5		
5		4.0-6.0' SILT (100% silt), brown, moist, no odor, no sheen.	ML							Bentonite
		6.0-12.0' Sandy SILT (65% silt, 35% sand), brown, moist, no odor, no sheen.	ML		100	N/A	0.0	B10-7.5		
10		12.0-13.5' SAND, minor silt (90% sand, 10% silt), fine sand, brown, moist, no odor, no sheen.	SM		100	N/A	0.0	B10-12.5		
		13.5-17.5' SILT (100% silt), grey, moist to wet, no odor, no sheen.	ML		100	N/A	0.0	B10-15.5	X	▽ Water level
15		17.5-20.0' SILT with sand (80% silt, 20% sand), fine sand, grey, wet, no odor, no sheen.	ML		100		0.0	B10-112509-GW	X	
20										Screen

Well Construction Information

onument Type: N/A
Casing Diameter (inches): N/A
Screen Slot Size (inches): 0.010
Screened Interval (ft bgs): 16-20
Filter Pack: N/A
Surface Seal: Topsoil
Annular Seal: Bentonite
Ground Surface Elevation (ft): N/A
Top of Casing Elevation (ft): N/A
Boring Abandonment: Yes
Surveyed Location: X: N/A Y: N/A

Hart Crowser Logs

23.4E.35J

HOLT DRILLING, INC.

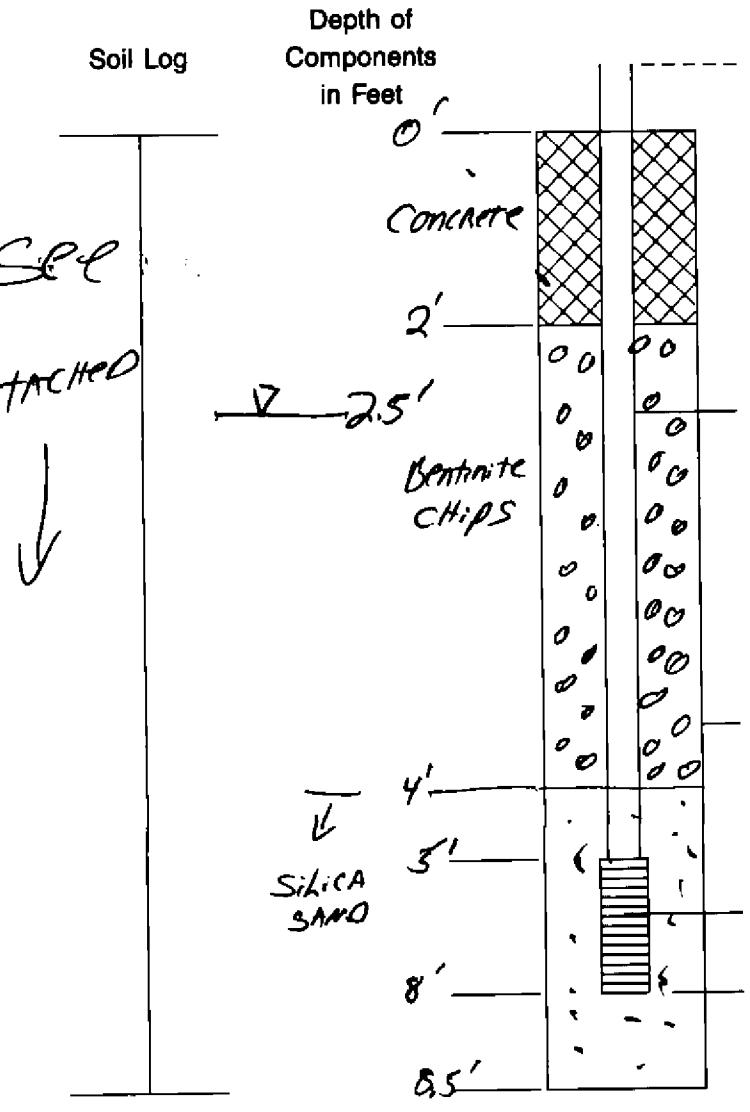
RECEIVED
MAY 12 1992
DEPT. OF ECOLOGY

Resource Protection Well Report

Project Name GACO WESTERN
Well Identification # HC-15
Drilling Method 6⅝ H.S.A.
Driller PAT MILLER
License # 1672

Date 2/28/92
County King, NE ¼ SE ¼
Section 35 T. 23N R. 4E
Start Card [illegible]
Consulting Firm HART & CROWSER

Stick up FLUSH on Monument Casing



Type of Surface Seal Bentonite
Amount 50#

ID of Riser Pipe 4"
Type of Riser Pipe PVC
Amount 5'
Type of Connection THREADED

Type of Backfill around Riser
Amount

Diameter of Borehole 10"

Screen Size or Type 4" .020 PVC
Type of Filter Material 10-20 SILICA
Amount 150#

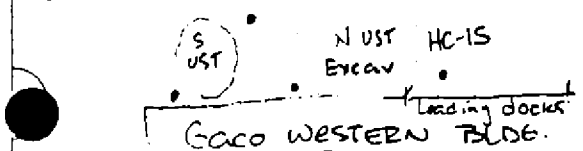
Remarks: SEE ATTACHED

Signature [signature]

HART CROWSER

Boring HC-1S Date 2/28/92 Sheet 1 of 1
Job Gaco Western Job No. 3450
Logged By B. Feuske Weather Cool, Clear
Drilled By Holt
Drill Type/Method B-61 HSA Mobile Drill Rig – 6 3/8" ID
Sampling Method 3" D/M @ 30" w/ 300 lbs
Bottom of Boring 8 ATD Water Level Depth NA

Boring Location:



Elevation: Datum:

Obs. Well Install. ■ No

SIZE (%) G Max.	SIZE (%) S Range	SIZE (%) F Att. Limits	PID or other	DEPTH From	DEPTH To	SAMPLE Type	SAMPLE Number	SAMPLE RECOVERY	Penetration Resistance	DESCRIPTION: Den., moist., color, minor, MAJOR CONSTITUENT. NON-SOIL SUBSTANCES: Odor, staining, sheen, scrap, slag, etc.	REMARKS. Drill action, drill and sample procedures, water conditions, heave,...etc..	SUMMARY LOG (Water & Dat
										Asphalt – 3"	Start Drill @ 0830	3" AC
10 1/4"	80 CF	10 L	4	2.5	4	3" D/M	1	3	3 4 2	loose, Moist, gray sl. gravelly sl. Silty, Sand. No app odors. Root frags.		Silty SAND
8 1/4"	72 CF	20 L	20	5	6.5	3" D/M	2	5	2 2 2	loose, V. Moist, DK gray, sl gravelly, Silty SAND Notable odor		
0	65 F	35 M	4	6.5	8	3" D/M	3	7	1 1 1	V. loose, V. Moist, DK grey to Black. V. Silty, Sand No odor	Note: 2' SILT in shoe Stop Drill @ 0900 BOH @ 8' Completed as a 4" PVC MW on 2/28/92. [3' x .020" slot screen from 8-5] B. Feuske	SILT

0 1 2 3 4 5 6 7 8 9 10 11 12 3 4 5 6 7 8 9 0

23.4E.35J

RECEIVED
MAY 12 1992
DEPT. OF ECOLOGY

HOLT DRILLING, INC.

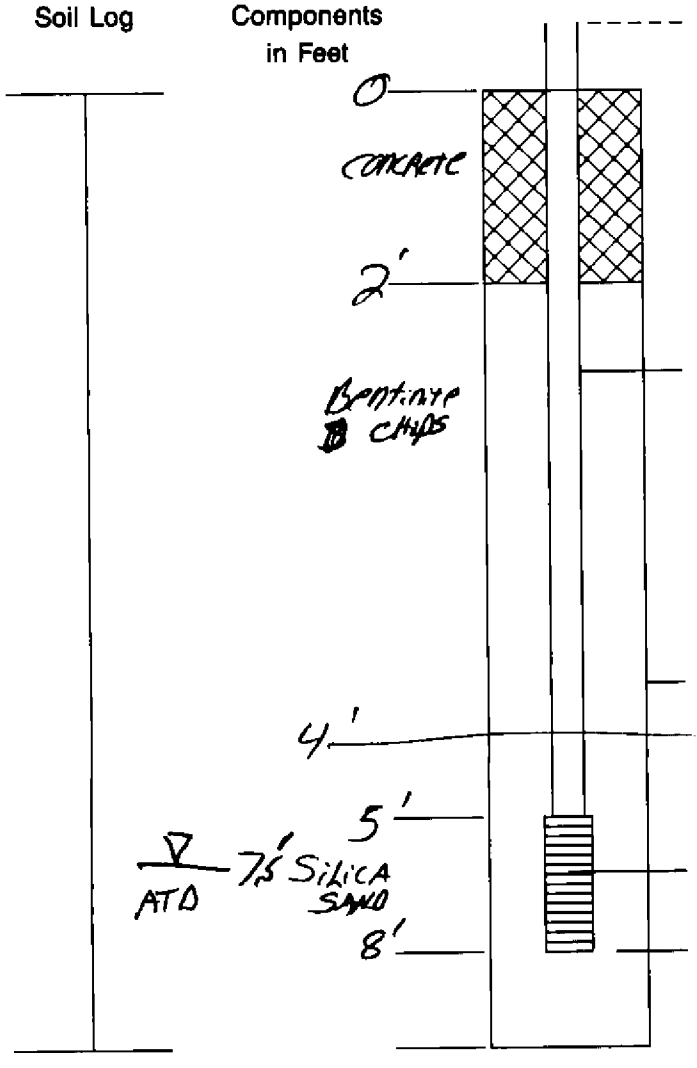
Resource Protection Well Report

Project Name GACO WESTERN
Well Identification # HC-25
Drilling Method 6¼" H.S.A.
Driller PAT MILLER
License # 1672

Date 2/25/92
County King, NE ¼ SE ¼
Section 35 T. 23N R. 4E
Start Card [redacted]701
Consulting Firm HART & CROWSER

Soil Log

Depth of Components in Feet



Stick up FLUSH on Monument Casing

Type of Surface Seal BENTONITE CHIPS
Amount [redacted] 100 #

ID of Riser Pipe 4"
Type of Riser Pipe PVC
Amount 5'
Type of Connection THREADED

Type of Backfill around Riser
Amount

Diameter of Borehole 12"

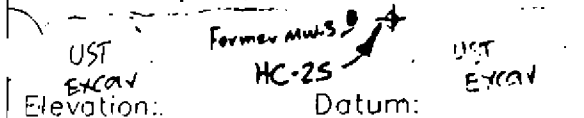
Screen Size or Type 4" .020 PVC

Type of Filter Material 10-20 SILICA
Amount 200 #

Remarks: SEE ATTACHED SOILS LOGS

Signature Pat Miller

Boring Location: Caro Bldg, Bay #3, Ramp



Elevation: Datum:

Obs. Well Install. [redacted] No

HARTCROWSER

Boring HC-25 Date 2/25/92 Sheet 1 of 1
Job Pacific Western Job No. 3450
Logged By B Fenske Weather
Drilled By Holt
Drill Type/Method HSA B-61 Mobil Drill 6 5/8"
Sampling Method 3' SPT @ 30" w/ 300lbs
Bottom of Boring 8' ATD Water Level Depth 7.5' Nd

SIZE (%) G Max.	SIZE (%) S Range	SIZE (%) F Att. Limits	PID or other	DEPTH From	DEPTH To	SAMPLE Type	SAMPLE Number	SAMPLE RECOVERY	Penetration Resistance	DESCRIPTION: Den., moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES: Odor, staining, sheen, scrap, slag, etc.	REMARKS, Drill action, drill and sample procedures, water conditions, heave,...etc...	SUMMAR LOG (Water & Dat
								0		2" Asphalt	Start Drill @ 1045	ASPHALT
								1				(Alluvial) Sand
								2				
5 1/2"	92 C-F	3	No sample	2.5	4	SPT	1	3	6 8 4	M. dense, Moist, Tan to grey, Sl. gravelly SAND		
								4				
								5	1 2	loose, V. Moist, grey, Sl. Silty Fine SAND	* HC odor @ 5.5'	
3 1/2"	91 M-F	6 H	344	5	6.5	SPT	2	6	1 1	- Same, but wet. -		
								7	2 1			
Ø	90 M-F	10 H	1069	6.5	8	SPT	3	8			Contact @ 7.8'	Clayey Silt
								9			Bottom of boring @ 8.0' depth. Completed as a 4" PVC (.020" slot) MW on 2/25/92. Screen from 8-5' Blank to Surf. Flush Lok Mon. B. Fenske	
								10				
								11				
								12				
								13				
								14				
								15				
								16				
								17				
								18				
								19				
								20				

RECEIVED
MAY 12 1992
DEPT. OF ECOLOGY

HOLT DRILLING, INC.

Resource Protection Well Report

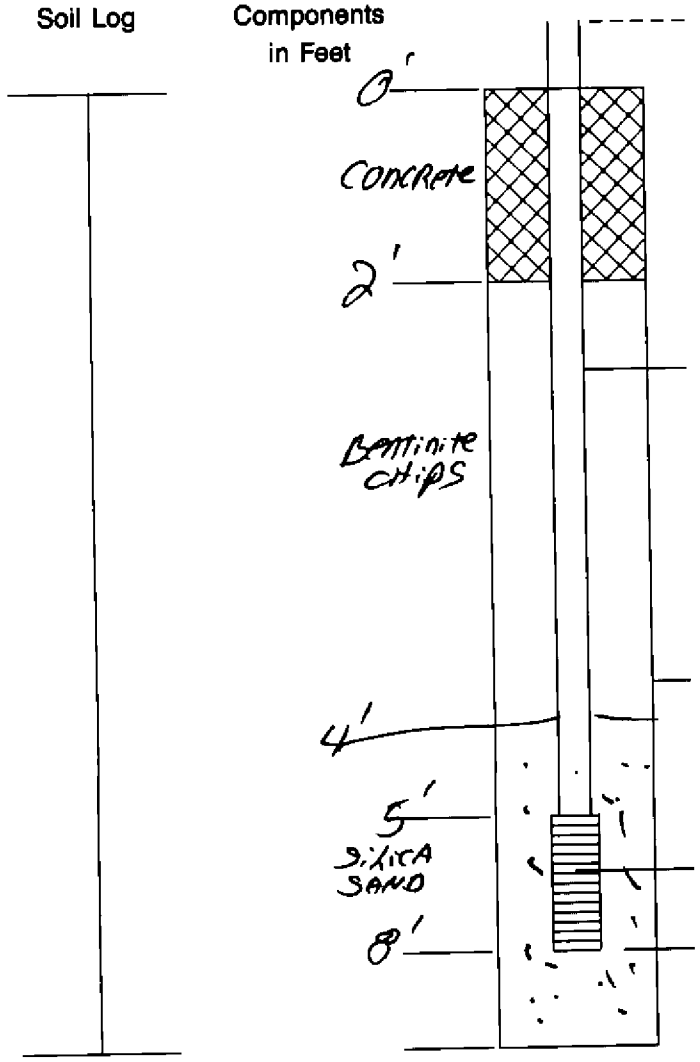
23.4E.35J

Project Name GACO WESTERN
Well Identification # HC-35
Drilling Method 6¼ H.S.A.
Driller PAT MILLER
License # 1672

Date 2/25/92
County King, NE ¼ SE ¼
Section 35 T. 23N R. 4E
Start Card [illegible]
Consulting Firm HART & CROWSER

Soil Log

Depth of Components in Feet



Stick up FLUSH on Monument Casing

Type of Surface Seal BENTINITE CHIPS
Amount 5'

ID of Riser Pipe 4"
Type of Riser Pipe PVC
Amount 5'
Type of Connection THREADED

Type of Backfill around Riser
Amount

Diameter of Borehole 10"

Screen Size or Type 4" .020 PVC

Type of Filter Material 10-20 - SILICA
Amount 200#

Remarks: SEE ATTACHED SOILS LOG

Signature [signature]

Boring Location: 250 ' 45'

HC-3S

Elevation: Datum:

Obs. Well Install. [hatched] No

HARTCROWSER

Boring HC-3S Date 2/25/92 Sheet 1 of 1
Job Gasco Western Job No. 3450
Logged By B. Fenske Weather Sunny
Drilled By Holt - Pat
Drill Type/Method HSA Mobil drill B61
Sampling Method 2" SPT @ 30" w/ 3 140 lbs
Bottom of Boring 8' ATD Water Level Depth NA

SIZE (%) G Max.	S Range	F Att. Limits	PID or other	DEPTH From	To	SAMPLE Type	Number	SAMPLE RECOVERY	Penetration Resistance	DESCRIPTION; Den., moist., color, minor, MAJOR CONSTITUENT. NON-SOIL SUBSTANCES: Odor, staining, sheen, scrap, slag, etc.	REMARKS, Drill action, drill and sample procedures, water conditions, heave,...etc..	SUMMARY LOG (Water & Date
15 1"	82 C-F	3	No sample	2.5	4	SPT	1		9 7 5	M. dense, moist, brown, gravelly SAND	-Well graded grades finer	ASPHALT
0	98 M-F	2	9	5	6.5	SPT	2		2 1 1	- Same, w/ Rust Mottling.		SAND
0	20 F	80 H	1	6.5	8	SPT	3		1	V. Soft, wet, grey, sandy SILT. Tr. organic frags @ contact.	Contact @ 7.6'	7.0 ATD SILT

BOH @ 8.1' depth.
Completed as a 4" PVC MW on 2/25/92.
Screen: 8-5' w/ .020" slot
Sand: 8-4'
Seal: 4-2'
Concrete: 2-0'
B. Fenske

23.4E.35J

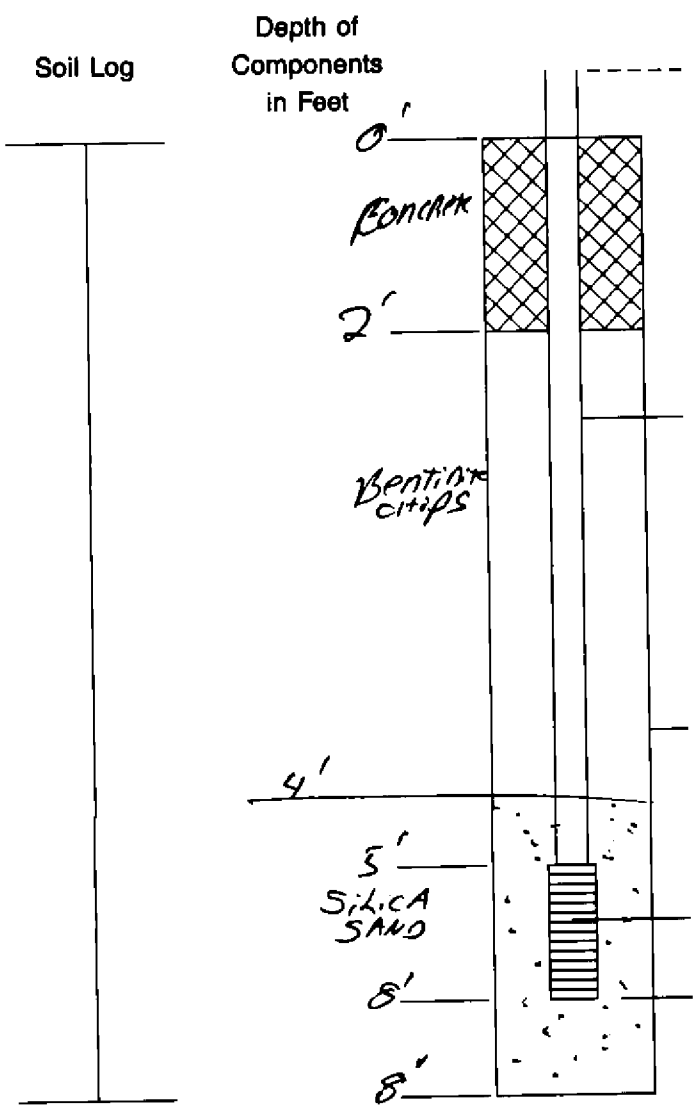
RECEIVED
MAY 12 1992
DEPT. OF ECOLOGY

HOLT DRILLING, INC.

Resource Protection Well Report

Project Name GACO WESTERN
Well Identification # HC-45
Drilling Method 6 5/8 H.S.A.
Driller PAT MILLER
License # 1672

Date 2/25/92
County King, NE 1/4 SE 1/4
Section 35 T. 23N R. 4E
Start Card 045781
Consulting Firm HART & CROWSER



Stick up FLUSH on Monument Casing

Type of Surface Seal BENTONITE CHIPS
Amount 100 #

ID of Riser Pipe 4"
Type of Riser Pipe PVC
Amount 5'
Type of Connection THREADED

Type of Backfill around Riser
Amount

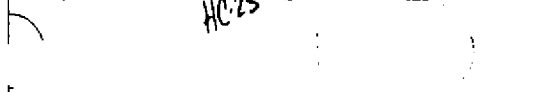
Diameter of Borehole 10"

Screen Size or Type 4" .020 PVC
Type of Filter Material 10-20 SILICA
Amount 200 #

Remarks: SEE ATTACHED SOILS LOG

Signature

Boring Location: Bldg



Elevation: Datum:

Obs. Well Install. ▨ No

HARTCROWSER

Boring HC-45 Date 2/25/92 Sheet 1 of 1
Job Gaco Western Job No. 3450
Logged By B. Fenske Weather Sunny
Drilled By Hold - Pat
Drill Type/Method Mobil Drill B-61 — HSA
Sampling Method 2" SPT @ 30" w/ 140lbs
Bottom of Boring 8' ATD Water Level Depth 7' No

SIZE (%) G Max.	SIZE (%) S Range	SIZE (%) F Att. Limits	PID or other	DEPTH From	DEPTH To	SAMPLE Type	SAMPLE Number	SAMPLE RECOVERY	Penetration Resistance	DESCRIPTION: Den., moist., color, minor, MAJOR CONSTITUENT. NON-SOIL SUBSTANCES: Odor, staining, sheen, scrap, slag, etc.	REMARKS: Drill action, drill and sample procedures, water conditions, heave,...etc...	SUMMARY LOG (Water & Date
								0		2" Asphalt	Start Drill @ 1030	2" AC
								1		gravelly Sand Fill		FILL
								2				SAND (Fluvial)
Ø	94 M-F	6 L	2	2.5	4	SPT	1	3	5	loose, Moist, Tan. Sl. Silty SAND No odor		
									4			
								4	3			
								5	1	V. loose, V. Moist, Tan Sl. Silty SAND · Mottled w/ Rust. No odor.		
Ø	90 F	10 M	4	5	6.5	SPT	2	6	2			
									1			
								7	1	—Same—	contact @ 7.1'	
Ø	5 F	95 M	1	7.5	8	SPT	3		2	Soft, wet, Tan/Brown SILT Tr. organic fines		SILT
								8	1		Stop drill @ 200	
								9			Bottle 8.0' depth. Completed as a 4" PVC MW on 2/25/92. Screen 3' x .020" from 8-5' Blank from 5-0' Sandpack 8-4' Seal 4-2' concrete to Surf.	
								10				
								11				
								12				
								13				
								14				
								15				
								16				
								17				
								18				
								19				
								20				

B. Fenske

6 Wells

23-4E-35 J

RECEIVED
MAY 12 1992
DEPT. OF ECOLOGY

HOLT DRILLING, INC.

Resource Protection Well Report

Project Name GACO WESTERN

Well Identification # HC-5D

Drilling Method 6 5/8 H.S.A.

Driller PAT MILLER

License # 1672

Date 2/27/92

County King, NE 1/4 SE 1/4

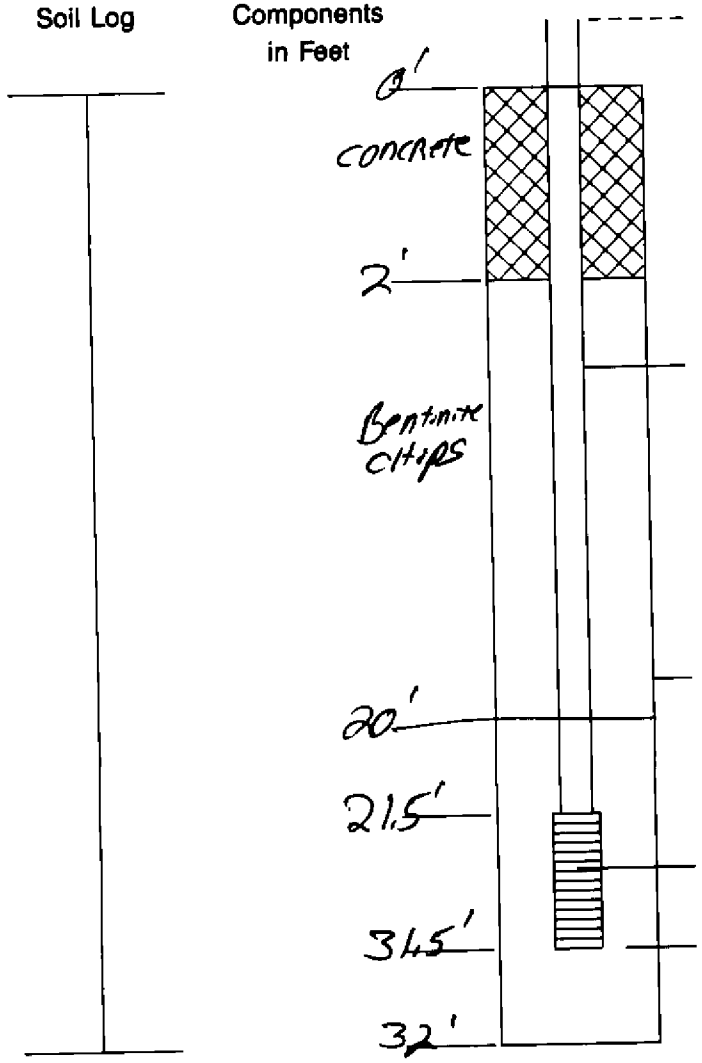
Section 35 T. 23N R. 4E

Start Card [redacted]

Consulting Firm HART & CROWSER

Soil Log

Depth of Components in Feet



Stick up FLUSH on Monument Casing

Type of Surface Seal Bentonite chips

Amount 500 LBS

ID of Riser Pipe 4" PVC

Type of Riser Pipe PVC

Amount 20'

Type of Connection THREADED

Type of Backfill around Riser

Amount

Diameter of Borehole 10"

Screen Size or Type 4" .020 PVC

Type of Filter Material SILICA 10-20

Amount 500 LBS

Remarks: See ATTACHED soils logs

Signature

Boring Location: Gaco

SS
SD

Elevation: Datum: 27'

Obs. Well Install. [X] No

HARTCROWSER

Boring HC-5D Date 2/27/92 Sheet 1 of 2
Job Gaco Western Job No. 3480
Logged By B. Feuske Weather Overcast / Foggy
Drilled By Holt
Drill Type/Method Mobil B-61 HSA
Sampling Method 3" SPT @ 30" w/ 300 lbs
Bottom of Boring @ 32 ATD Water Level Depth 8.5/29 No

SIZE (%) G Max.	SIZE (%) S Range	SIZE (%) F Att. Limits	PID or other	DEPTH From	DEPTH To	SAMPLE Type	SAMPLE Number	SAMPLE RECOVERY	Penetration Resistance	DESCRIPTION; Den., moist., color, minor, MAJOR CONSTITUENT. NON-SOIL SUBSTANCES: Odor, staining, sheen, scrap, slag, etc.	REMARKS; Drill action, drill and sample procedures, water conditions, heave,...etc...	SUMMARY LOG (Water & Date)
								0		Sod - 4"	Start @ 0915	SOD
								1			Soft	
								2				
5 ½"	80 C-F	15 M	Ø	2	4	SPT	1	3	2 2 2	Loose, V. Moist, Tan, cl. gravelly, Silty Sand root frags - No odor		
								4				
5 ½"	75 C-F	20 M	Ø	5	6½	SPT	2	5	1 0 1	- Same, mottled w/ rust.		
								6				
Ø	20 F	80 H	Ø	6½	8	SPT	3	7	1 1 1	V. soft, V. wet, brown, Sandy, SILT - organic frags	S-3 ~ 3" sand	SILT
								8			8.5' ATD	SAND
Ø	90	10		8	9½	SPT	4	9	0 0 0	V. loose, wet, brown, Silty Sand. No odor interbeds of SILT, and Lenses of fine Sand/SILT.		SILT
Ø	5	95	Ø					10	0 0 1		grades finer	Sand
Ø	70 F	30	Ø	9½	11	SPT	5	11	1 1 1	V. soft, wet, grey, V. Sandy* SILT. Some rust mottling, tr. organics / Peat layers. No odor	Color Change to grey	SILT
								12				
0	35	65	Ø	11	13	SPT	6	13	0 1 0	V. loose, Saturated, Dk. grey, Silty, fine Sand Peat lense, laminations of SILT		SAND
								14			1.5" Peat 14.2 / 14.4	Peat
0	75	25	Ø	13	15	SPT	7	15	0 0			SAND
								16			* 2½' Sample Intervals Now	
								17	0 1 1	Soft, V. Moist, green, Sl Sandy, SILT No odor.		SILT
Ø	10 F	90 M		17	19	SPT	8	18				
								19	0			
								20				

Boring Location:

HARTCROWSER

Boring HC-5D Date 2/27/92 Sheet 2 of 2
Job _____ Job No. 3450
Logged By B. Fenske Weather Sunny
Drilled By Hult
Drill Type/Method HSA
Sampling Method SPT
Bottom of Boring 32 ATD Water Level Depth 8.5/29 Ng

Elevation: Datum:
Obs. Well Install. [▨] [No]

SIZE (%) G Max.	SIZE (%) S Range	SIZE (%) F Att. Limits	PID or other	DEPTH From	DEPTH To	SAMPLE Type	SAMPLE Number	SAMPLE RECOVERY	Penetration Resistance	DESCRIPTION; Den., moist., color, minor, MAJOR CONSTITUENT. NON-SOIL SUBSTANCES: Odor, staining, sheen, scrap, slag, etc.	REMARKS, Drill action, drill and sample procedures, water conditions, heave,...etc...	SUMMARY LOG (Water & Date)
0	75 M-F	25 L	0	20	21.5	SPT	9	20-21	3, 7, 9	M. dense, wet, gray, silty SAND. Laminations of silt.		sand
								22				
0	35 M-F	65 M	0	22.5	24	SPT	10	23-24	2, 2, 2	Soft, wet, grey/black, V. sandy, SILT. No odor	No free water in Auger	SILT
								24				sand
0	70 C-F	30 L	0	25	26.5	SPT	11	25-26	2, 3, 4	loose, wet, DK grey to black, V. Silty, SAND. Thin Laminations of SILT		
								27				
0	75 C-F	25 L	0	27.5	29	SPT	12	28-29	3, 3, 2	— Same —		
								29				28½' ATD
0	98	2	0	30	31.5	SPT	13	30-1	3, 7, 9	M. dense, wet, DK grey, SAND No odors.	2-3' Heave — Added H_2O	
											Stop Drille 1145	
											BOH @ 32' [Screen (22-32')] Completed as a 4" PVC MW on 2/27/92 — See Scheme. B. Fenske	

25-4E-35J

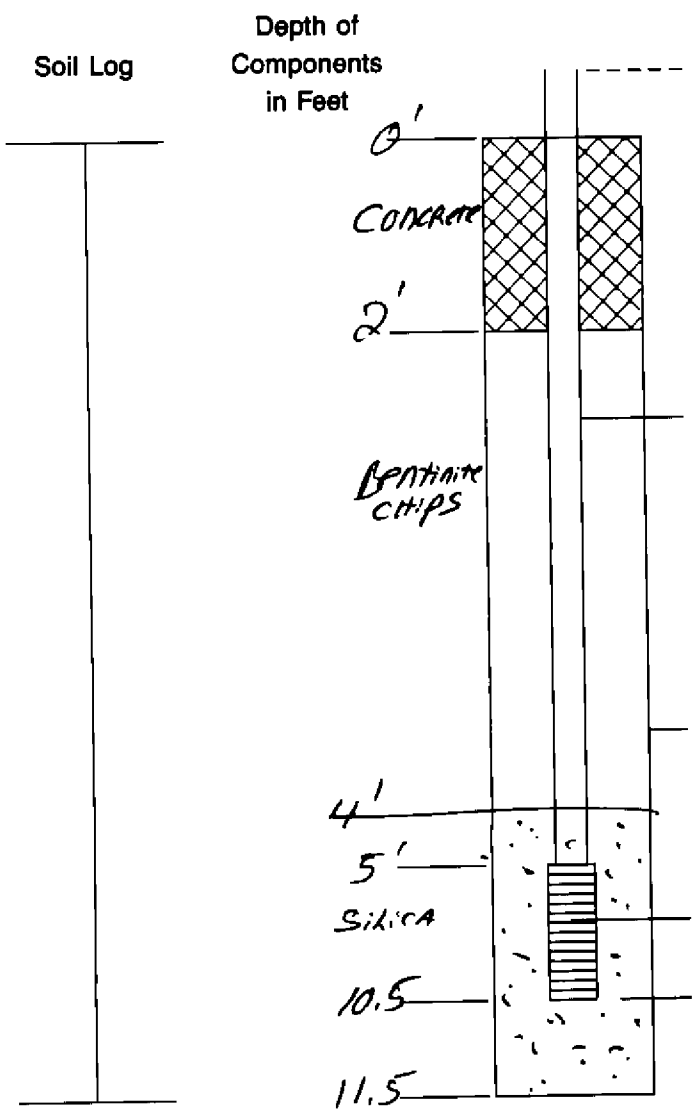
HOLT DRILLING, INC.

RECEIVED
MAY 12 1992
DEPT OF ECOLOGY

Resource Protection Well Report

Project Name GACO WESTERN
Well Identification # HC-5S
Drilling Method 6 5/8 H.S.A.
Driller PAT MILLER
License # 1672

Date 2/27/92
County King, NE 1/4 SE 1/4
Section 35 T. 23N R. 4E
Start Card [redacted]
Consulting Firm HART & CROWSER



Stick up FLUSH on Monument Casing

Type of Surface Seal BENTONITE CHIPS
Amount 50 LBS

ID of Riser Pipe 4"
Type of Riser Pipe PVC
Amount 5'
Type of Connection THREADED

Type of Backfill around Riser
Amount

Diameter of Borehole 10"

Screen Size or Type 4" .020. PVC

Type of Filter Material 10-20 SILICA
Amount 200#

Remarks: SEE ATTACHED SOILS log

Signature Pat Miller

Boring Location:

Elevation: Datum:

Obs. Well Install. ▨ No

HART CROWSER

Boring HC-5S Date 2/27/92 Sheet 1 of 1

Job Casco Western Job No. 3450

Logged By B Fenske Weather

Drilled By Holt

Drill Type/Method HSA - B-61 Mobil drill - 6 3/8 ID

Sampling Method 3" D&M @ 30" w/ 300lbs

Bottom of Boring 11.5 ATD Water Level Depth 10.8' No

SIZE (%) G Max.	SIZE (%) S Range	SIZE (%) F Att. Limits	PID or other	DEPTH From	DEPTH To	SAMPLE Type	SAMPLE Number	SAMPLE RECOVERY	Penetration Resistance	DESCRIPTION; Den., moist., color, minor, MAJOR CONSTITUENT. NON-SOIL SUBSTANCES: Odor, staining, sheen, scrap, slag, etc.	REMARKS. Drill action, drill and sample procedures, water conditions, heave,...etc.	SUMMARY LOG (Water & Dat
								0		Sod 6"	Start Drille 1345	Sod
								1			Soft surficial soils.	
								2				
5	75	20	Ø	2.5	4	D&M SPT	1	3	2	V. loose, Moist, Brown,		silty
1/4"	C-F =	L							1	silty, fine SAND		SAND
								4	1	root frags. No odor		
								5	6	V. loose, V. Moist, brown	Drills	
Ø	65	35	Ø	5	6½	3" D/M	2	6	1	V. silty, fine SAND	fast	
	M-F =	M							1	Root frags - No odor		
								7			↓	
								8	1		No H-No in Auger	
Ø	60	40	Ø	7½	9	3" D/M	3		1	- Same -		
	M-F =	M						9	1			
								10	0			
						3"			1	- same, wet and	Very little water	ATD 11.0
Ø	60	40	Ø	10	11.5	D/M	4	11	1	no frags of roots.	Stop drill @ 1410	
	M-F =	M						12			BOH @ 11.5'	
								13			Completed as a 4" PVC MW on 2/27/92.	
								14			Screen 10-5' (4" x .020" slot)	
								15			Sand 11.5-4'	
								6			B. Fenske	
								7				
								8				
								9				
								0				

Landau Logs

Soil Classification System

MAJOR DIVISIONS			GRAPHIC SYMBOL	USCS LETTER SYMBOL[1]	TYPICAL DESCRIPTIONS [2][3]
COARSE-GRAINED SOIL (More than 50% of material is larger than No. 200 sieve size)	GRAVEL AND GRAVELLY SOIL (More than 50% of coarse fraction retained on No. 4 sieve)	CLEAN GRAVEL (Little or no fines)		GW	Well-graded gravel; gravel/sand mixture(s); little or no fines
				GP	Poorly graded gravel; gravel/sand mixture(s); little or no fines
		GRAVEL WITH FINES (Appreciable amount of fines)		GM	Silty gravel; gravel/sand/silt mixture(s)
				GC	Clayey gravel; gravel/sand/clay mixture(s)
	SAND AND SANDY SOIL (More than 50% of coarse fraction passed through No. 4 sieve)	CLEAN SAND (Little or no fines)		SW	Well-graded sand; gravelly sand; little or no fines
				SP	Poorly graded sand; gravelly sand; little or no fines
		SAND WITH FINES (Appreciable amount of fines)		SM	Silty sand; sand/silt mixture(s)
				SC	Clayey sand; sand/clay mixture(s)
FINE-GRAINED SOIL (More than 50% of material is smaller than No. 200 sieve size)	SILT AND CLAY (Liquid limit less than 50)			ML	Inorganic silt and very fine sand; rock flour; silty or clayey fine sand or clayey silt with slight plasticity
				CL	Inorganic clay of low to medium plasticity; gravelly clay; sandy clay; silty clay; lean clay
				OL	Organic silt; organic, silty clay of low plasticity
	SILT AND CLAY (Liquid limit greater than 50)			MH	Inorganic silt; micaceous or diatomaceous fine sand
				CH	Inorganic clay of high plasticity; fat clay
				OH	Organic clay of medium to high plasticity; organic silt
	HIGHLY ORGANIC SOIL			PT	Peat; humus; swamp soil with high organic content

OTHER MATERIALS	GRAPHIC SYMBOL	LETTER SYMBOL	TYPICAL DESCRIPTIONS
PAVEMENT		AC or PC	Asphalt concrete pavement or Portland cement pavement
ROCK		RK	Rock (See Rock Classification)
WOOD		WD	Wood, lumber, wood chips
DEBRIS		DB	Construction debris, garbage

Notes:
1. USCS letter symbols correspond to symbols used by the Unified Soil Classification System and ASTM classification methods. Dual letter symbols (e.g., SP-SM for sand or gravel) indicate soil with an estimated 5-15% fines. Multiple letter symbols (e.g., ML/CL) indicate borderline or multiple soil classifications.
2. Soil descriptions are based on the general approach presented in the Standard Practice for Description and Identification of Soils (Visual-Manual Procedure), outlined in ASTM D 2488. Where laboratory index testing has been conducted, soil classifications are based on the Standard Test Method for Classification of Soils for Engineering Purposes, as outlined in ASTM D 2487.
3. Soil description terminology is based on visual estimates (in the absence of laboratory test data) of the percentages of each soil type and is defined as follows:

Primary Constituent:	> 50% - "GRAVEL," "SAND," "SILT," "CLAY," etc.
Secondary Constituents:	> 30% and ≤ 50% - "very gravelly," "very sandy," "very silty," etc.
	> 15% and ≤ 30% - "gravelly," "sandy," "silty," etc.
Additional Constituents:	> 5% and ≤ 15% - "with gravel," "with sand," "with silt," etc.
	≤ 5% - "with trace gravel," "with trace sand," "with trace silt," etc., or not noted.

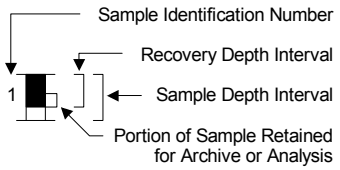
4. Soil density or consistency descriptions are based on judgement using a combination of sampler penetration blow counts, drilling or excavating conditions, field tests, and laboratory tests, as appropriate.

Drilling and Sampling Key

SAMPLER TYPE

Code	Description
a	3.25-inch O.D., 2.42-inch I.D. Split Spoon
b	2.00-inch O.D., 1.50-inch I.D. Split Spoon
c	Shelby Tube
d	Grab Sample
e	Single-Tube Core Barrel
f	Double-Tube Core Barrel
g	2.50-inch O.D., 2.00-inch I.D. WSDOT
h	3.00-inch O.D., 2.375-inch I.D. Mod. California
i	Other - See text if applicable
1	300-lb Hammer, 30-inch Drop
2	140-lb Hammer, 30-inch Drop
3	Pushed
4	Vibrocore (Rotosonic/Geoprobe)
5	Other - See text if applicable

SAMPLE NUMBER & INTERVAL



Field and Lab Test Data

Code	Description
PP = 1.0	Pocket Penetrometer, tsf
TV = 0.5	Torvane, tsf
PID = 100	Photoionization Detector VOC screening, ppm
W = 10	Moisture Content, %
D = 120	Dry Density, pcf
-200 = 60	Material smaller than No. 200 sieve, %
GS	Grain Size - See separate figure for data
AL	Atterberg Limits - See separate figure for data
GT	Other Geotechnical Testing
CA	Chemical Analysis

Groundwater

▽ Approximate water level at time of drilling (ATD)

▼ Approximate water level at time other than ATD

LANDAU ASSOCIATES

Gaco Western Remedial Investigation
Tukwila, Washington

Soil Classification System and Key

Figure B-1

DP-01

SAMPLE DATA						SOIL PROFILE			GROUNDWATER
Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft): 28.46	Water Level
0							AC	Asphalt	
			d3		0.5		SP/ SM SP	Light brown, silty, gravelly, fine to medium SAND (dense, damp)(fill)	
							SP	Mottled brown, fine to medium SAND, trace roots (medium dense, damp to moist)(native)	
			d3		0.4			Gray, fine to medium SAND, with silty lenses (medium dense, wet)	ATD
	20								
10			d3		0.3		ML	Gray, sandy, SILT (stiff, wet)	
					1.3				ATD
		DP-1 (17-18)	d3				SP	Gray, medium SAND (medium dense, wet)	
	10								
20							SP	Gray, medium to coarse SAND, wood debris at 27 ft, silty lenses (medium dense, wet)(native)	
			d3		1.0				
			d3		0.0				
	0								
30									
40									
50									

Boring Completed 06/21/10
Total Depth of Boring = 30.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

1226001.01 7/29/11 N:\PROJECTS\1226001.010.GPJ SOIL BORING LOG W/ ELEV

LANDAU ASSOCIATES

Gaco Western Remedial Investigation
Tukwila, Washington

Log of Soil Boring DP-01

Figure
B-2

DP-02

SAMPLE DATA | **SOIL PROFILE** | **GROUNDWATER**

Drilling Method: Geoprobe™

Ground Elevation (ft): 29.11

Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Soil Profile	Water Level
0							AC	Asphalt	
							SP		
			d3		1.0		SP	Light brown, gravelly, coarse SAND (medium dense, moist)(fil)	
							SP	Gray, fine SAND (very dense, damp)(fill)	
								Gray, fine SAND with silt, wood fragments, silt lenses, (medium dense, moist to wet)(native)	
			d3		0.8				
10	20								
			d3		1.2		SM/ ML	Gray, sandy SILT/silty fine SAND (solvent odors)(medium dense, moist)	
					9999				▽ ATD
		DP-2 (19-20)	d3				SP	Gray, medium to coarse SAND trace silt (medium dense to dense, moist to wet)	
20	10								
			d3		5.6				
			d3		4.1				
30	0								

Boring Completed 06/21/10
Total Depth of Boring = 30.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

1226001.01 7/29/11 N:\PROJECTS\1226001.010.GPJ SOIL BORING LOG W/ ELEV

LANDAU ASSOCIATES

Gaco Western Remedial Investigation
Tukwila, Washington

Log of Soil Boring DP-02

Figure
B-3

DP-03

SAMPLE DATA						SOIL PROFILE			GROUNDWATER
Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft): 32.23	Water Level
0							AC	Asphalt	
							SP		
	30		d3		0.0		SP	Brown, gravelly, coarse SAND (dense, damp)(fill)	
								Brown, fine to medium SAND with silt (medium dense, damp to moist)(native)	
			d3		0.0		SM	Mottled brown, silty, fine SAND (medium dense, wet)	
10					4.8		ML	Gray, sandy, SILT, trace mottling (medium stiff, moist to wet)	
	20	DP-3 (14-15)	d3						▽ ATD
							SP	Gray, fine to medium SAND with silt, silty lenses (medium dense, wet)	
			d3		2.1				
20									
	10		d3		0.0				
			d3		0.0		SP	Gray, medium to coarse SAND trace silt (medium dense, wet)	
30									
40									
50									

Boring Completed 06/21/10
Total Depth of Boring = 30.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

1226001.01 7/29/11 N:\PROJECTS\1226001.010.GPJ SOIL BORING LOG W/ ELEV

LANDAU ASSOCIATES

Gaco Western Remedial Investigation
Tukwila, Washington

Log of Soil Boring DP-03

Figure
B-4

DP-04

SAMPLE DATA						SOIL PROFILE			GROUNDWATER
Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft): 31.53	Water Level
0	30		d3		0.0		SP	Brown, gravelly, coarse SAND (loose to medium dense, damp)(fill)	
			d3		0.0		SP	Gray, fine SAND with silt (medium dense, damp to moist)(native)	▽ ATD
10					7		ML	Brown, sandy, SILT, (medium stiff, wet)	
					136		SP		
	20	DP-4 (13-14)	d3				ML	Gray, coarse SAND (solvent odors)(loose, wet)	
								Gray, sandy, SILT (solvent odors)(medium stiff, moist)	
			d3		403		SP	Gray, fine to medium SAND with silt (solvent odors)(medium dense, wet)	▽ ATD
20							SM	Gray, silty, fine SAND (solvent odors)(medium dense, wet)	
	10		d3		932				
							SP	Dark gray, fine to medium SAND with varying amounts of silt (solvent odors)(medium dense to loose, wet)	
			d3		58.2				
30									

Boring Completed 06/21/10
Total Depth of Boring = 30.0 ft.

40

50

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

1226001.01 7/29/11 N:\PROJECTS\1226001.010.GPJ SOIL BORING LOG W/ ELEV

LANDAU ASSOCIATES

Gaco Western Remedial Investigation
Tukwila, Washington

Log of Soil Boring DP-04

Figure
B-5

DP-05

SAMPLE DATA						SOIL PROFILE			GROUNDWATER
Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft): 32.04	Water Level
0							SP	Brown, gravelly, coarse SAND, concrete fragments (loose, damp)(fill)	
	30		d3		1.5				
							SP	Gray, fine to medium SAND trace silt (medium dense to loose, moist)(native)	
			d3		17.1		SP		
10					3862			Gray, fine to mediume SAND with silt (solvent odors)(medium dense to dense, moist)	
	20	DP-5 (13-14)	d3						▽ ATD
							SM/ ML	Gray, silty fine SAND/sandy SILT (solvent odors)(medium stiff, wet)	
			d3		25.5				
20									▽ ATD
	10		d3		1310		SP	Gray, fine to medium SAND with silt (medium dense, wet)	
			d3		143				
30							SP	Dark gray, medium to coarse SAND (solvent odors)(loose, wet)	
40									
50									

Boring Completed 06/21/10
Total Depth of Boring = 30.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

1226001.01 7/29/11 N:\PROJECTS\1226001.010.GPJ SOIL BORING LOG W/ ELEV

LANDAU ASSOCIATES

Gaco Western Remedial Investigation
Tukwila, Washington

Log of Soil Boring DP-05

Figure
B-6

DP-06

SAMPLE DATA						SOIL PROFILE			GROUNDWATER
Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft): 31.98	Water Level
0	30		d3		52.0		SP	Brown, gravelly, silty, medium to coarse SAND, concrete debris (loose to medium dense, damp)(fill)	
			d3		2901		SP	Gray, fine SAND with silt (solvent odors)(medium dense, damp)(native)	
10	20		d3		3509		SM	Gray, silty, fine SAND (solvent odors)(loose, wet)	▽ ATD
			d3		993		SM/ ML	Gray, alternating layers of sandy, SILT and silty, fine SAND, up to two feet thick (solvent odors)(medium stiff, moist to wet)	
20	10				5407				▽ ATD
		DP-6 (20-21)	d3						
			d3		1887		SP	Gray, fine to medium SAND with silt (solvent odors)(medium dense, wet)	
30									
40									
50									

Boring Completed 06/22/10
Total Depth of Boring = 30.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

1226001.01 7/29/11 N:\PROJECTS\1226001.010.GPJ SOIL BORING LOG W/ ELEV

LANDAU ASSOCIATES

Gaco Western Remedial Investigation
Tukwila, Washington

Log of Soil Boring DP-06

Figure
B-7

DP-07

SAMPLE DATA						SOIL PROFILE			GROUNDWATER
Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft): 31.53	Water Level
0	30		d3		0.0		SP	Grayish Brown, coarse SAND (loose, damp)(fill)	
			d3					No recovery	
10					8721		SM	Gray, silty, fine SAND, roots, lenses of medium sand, trace wood fragments (solvent odors)(medium dense, moist)(native)	▽ ATD
	20	DP-7 (13-14)	d3						
			d3		7267		ML	Gray, sandy, SILT, trace mottling, wood fragments (solvent odors)(stiff, moist)	
20	10		d3		1132		SP	Gray, silty, fine to medium SAND, wood fragments, silt lenses (solvent odors)(medium dense, wet)	▽ ATD
			d3		68.7				
30									

Boring Completed 06/22/10
Total Depth of Boring = 30.0 ft.

40

50

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

1226001.01 7/29/11 N:\PROJECTS\1226001.010.GPJ SOIL BORING LOG W/ ELEV

LANDAU ASSOCIATES

Gaco Western Remedial Investigation
Tukwila, Washington

Log of Soil Boring DP-07

Figure
B-8

DP-08

SAMPLE DATA					SOIL PROFILE			GROUNDWATER
Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft): 31.48	Water Level
0	30		d3		1.3		SP	Light brown, medium to coarse SAND with silt (loose, damp)(fill)	
							SP	Gray, fine to medium SAND with silt (dense, damp)(fill)	
							SM	Gray, silty, fine SAND, medium sand lenses (medium dense, moist to wet)(native)	
			d3		3.0				
10	20		d3		4.2				
					6.8				▽ ATD
		DP-8 (15-16)	d3				ML	Gray, sandy, SILT, wood fragments (dense, moist)	
20	10						SM	Gray, silty, fine to medium SAND, lenses of silt (medium dense, moist to wet)	▽ ATD
			d3		4.3				
							SP	Gray, fine to medium SAND with silt (medium dense, wet)	
			d3		0.6				
30									
40									
50									

Boring Completed 06/22/10
Total Depth of Boring = 30.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

1226001.01 7/29/11 N:\PROJECTS\1226001.010.GPJ SOIL BORING LOG W/ ELEV

LANDAU ASSOCIATES

Gaco Western Remedial Investigation
Tukwila, Washington

Log of Soil Boring DP-08

Figure
B-9

DP-10

SAMPLE DATA						SOIL PROFILE			GROUNDWATER
Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft): 31.56	
0	30		d3		0.0		SP	Brown, gravelly, medium to coarse SAND with silt, concrete debris, (loose to dense, damp)(fill)	Groundwater not encountered.
			d3		0.0		SP	Brown, fine SAND with silt, trace mottling (medium dense, damp)(native)	
10	20		d3		0.0		SM	Gray, silty, fine SAND, mottled (moist to wet)	
							SP	Gray, medium SAND, trace silt, mottled (medium dense, wet)	
			d3		0.0		SM/ML	Brown, silty fine SAND/sandy SILT, trace gravel (loose to medium dense, moist to wet)	
							ML	Gray, sandy, SILT (stiff, moist)	
20	10	DP-10 (20-21)	d3		0.0		SP	Gray, silty, fine to medium SAND, varying amounts of silt (medium dense, wet)	
			d3		0.0				
30									
40									
50									

Boring Completed 06/22/10
Total Depth of Boring = 30.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

1226001.01 7/29/11 N:\PROJECTS\1226001.010.GPJ SOIL BORING LOG W/ ELEV

LANDAU ASSOCIATES

Gaco Western Remedial Investigation
Tukwila, Washington

Log of Soil Boring DP-10

Figure
B-10

DP-11

SAMPLE DATA						SOIL PROFILE			GROUNDWATER
Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft): 31.77	Water Level
0	30		d3		0.0		SP	Brown, gravelly, medium to coarse SAND with silt, concrete debris, cobble fragments (no odors)(loose, damp)(fill)	
			d3		0.0		SP	Mottled brown, fine SAND with silt (medium dense, damp to moist)(native)	
10	20		d3		0.0		ML	Brown, sandy, SILT, mottled (no odors)(medium dense, moist)	▽ ATD
					0.0		SP	Gray, medium SAND wiht silt, trace gravel (no odors)(medium dense, wet)	
		DP-11 (19-20)	d3				ML	Gray, sandy, SILT (no odors)(stiff, moist)	
20	10		d3		0.0		SP	Gray, fine to medium SAND with silt (no odors)(medium dense to dense, wet)	▽ ATD
			d3		0.0				
30	0		d3		0.0		SP	Dark gray, medium to coarse SAND, trace silt (no odors)(medium dense, wet)	
			d3		0.0				
40	-10	DP-11 (44-45)	d3		0.0				
50									

Boring Completed 06/22/10
Total Depth of Boring = 45.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

1226001.01 7/29/11 N:\PROJECTS\1226001.010.GPJ SOIL BORING LOG W/ ELEV

LANDAU ASSOCIATES

Gaco Western Remedial Investigation
Tukwila, Washington

Log of Soil Boring DP-11

Figure
B-11

DP-12

SAMPLE DATA						SOIL PROFILE			GROUNDWATER
Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft): 32.49	Water Level
0							SP	Brown, gravelly, medium to coarse SAND with silt (loose to dense, damp)(fill)	
	30		d3		0.0				
			d3		22.9		SP	Brown, medium SAND (medium dense, damp)(native)	
10							SP	Gray, fine to medium SAND with silt (medium dense, damp to wet)	▽ ATD
	20		d3		286		SM	Gray, silty, fine SAND (solvent odors)(medium dense to dense, wet)	
			d3		2046		SP	Gray, medium SAND with silt (solvent odors)(medium dense, wet)	
							SM	Gray, silty, fine SAND (solvent odors)(medium dense, moist)	
20	10	DP-12 (20-21)	d3		9999		SP/ SM	Gray, fine to medium SAND with silt, varying amounts of silt (solvent odors)(medium dense, moist)	▽ ATD
			d3		9999				
30							SP	Gray, medium to coarse SAND, trace silt (solvent odors)(medium dense, wet)	

Boring Completed 06/23/10
Total Depth of Boring = 30.0 ft.

40

50

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

1226001.01 7/29/11 N:\PROJECTS\1226001.010.GPJ SOIL BORING LOG W/ ELEV

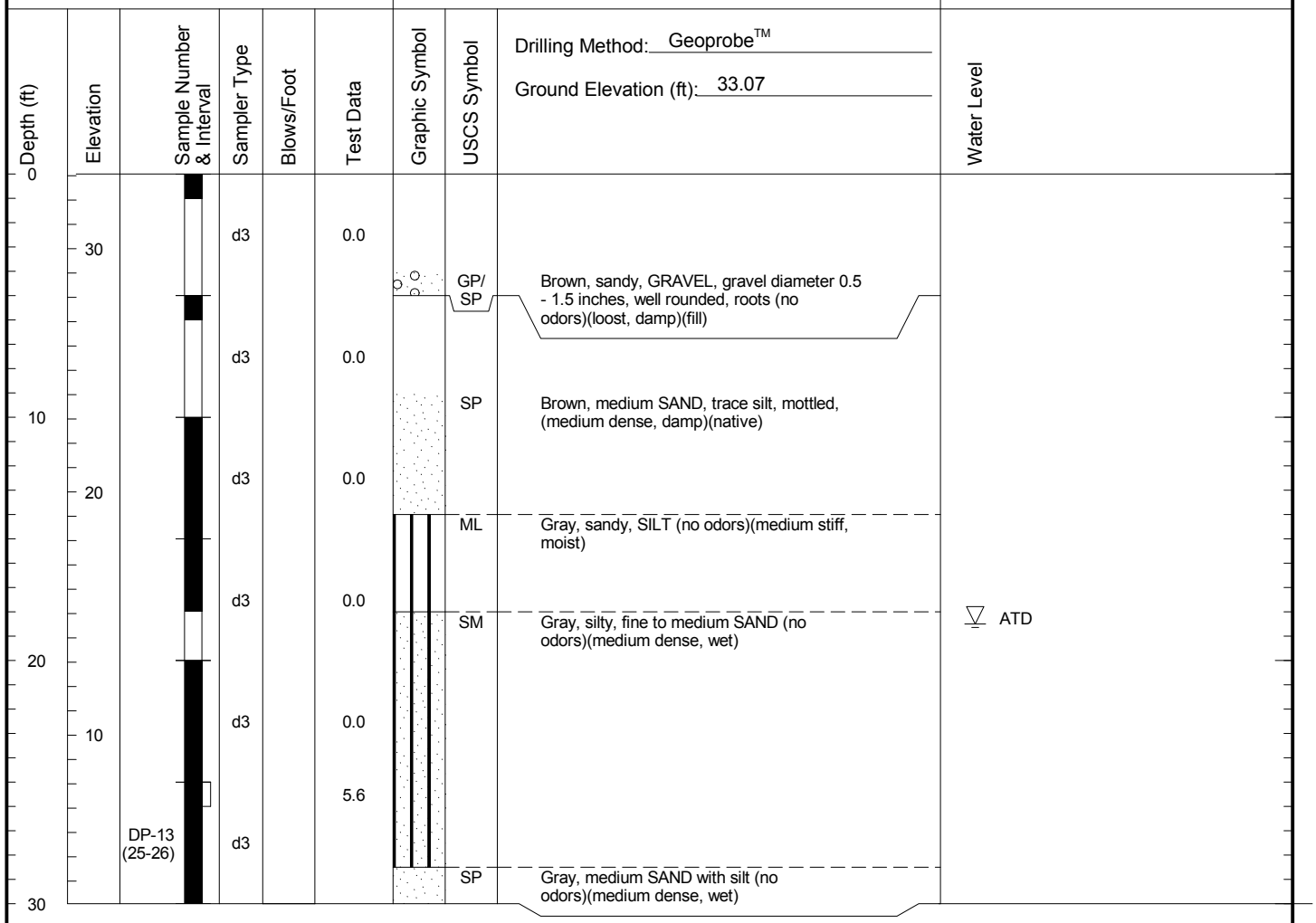
LANDAU ASSOCIATES

Gaco Western Remedial Investigation
Tukwila, Washington

Log of Soil Boring DP-12

Figure
B-12

DP-13



Boring Completed 06/23/10
Total Depth of Boring = 30.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

1226001.01 7/29/11 N:\PROJECTS\1226001.010.GPJ SOIL BORING LOG W/ ELEV

LANDAU ASSOCIATES

Gaco Western Remedial Investigation
Tukwila, Washington

Log of Soil Boring DP-13

Figure
B-13

DP-14

SAMPLE DATA						SOIL PROFILE			GROUNDWATER
Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft): 27.51	Water Level
0							SM	Brown, silty, fine to medium SAND, with mulch (loose, damp)(fill)	
			d3		0.0				
	20		d3		0.0		SP	Brown, fine SAND with silt, abundant roots (no odors)(medium dense, moist)(native)	
10									ATD
			d3		0.0				
							ML	Gray, sandy, SILT, mottled, wood fragments at 22 feet (no odors)(medium stiff, moist)	
					0.0				
	10	DP-14 (17-18)	d3						ATD
20									
			d3		0.0		SP	Gray, fine to medium SAND with silt (no odors)(medium dense, wet)	
	0		d3		0.0				
30									

Boring Completed 06/23/10
Total Depth of Boring = 30.0 ft.

40

50

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

1226001.01 7/29/11 N:\PROJECTS\1226001.010.GPJ SOIL BORING LOG W/ ELEV

LANDAU ASSOCIATES

Gaco Western Remedial Investigation
Tukwila, Washington

Log of Soil Boring DP-14

Figure
B-14

DP-15

SAMPLE DATA						SOIL PROFILE			GROUNDWATER
Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft): 27.12	Water Level
0			d3		0.0		SM	Brown, silty, fine SAND, poor sample recovery (loose, damp)(native)	
	20		d3				SM	Dark brown, silty, fine SAND, trace gravel, roots, poor sample recovery (no odors)(loose, damp)(native)	
10			d3		0.0		SM	Brown, silty, fine SAND(no odors) (medium dense, damp to wet)	ATD
							ML	Gray, sandy, SILT, trace clay (no odors)(medium stiff, moist)	
	10		d3		0.0		SM	Gray, silty, fine SAND (no odors)(medium dense, moist)	
20					0.0		ML	Gray, sandy, SILT (no odors)(medium stiff, moist)	
		DP-15 (22-23)	d3				SP	Gray, fine to medium SAND with silt (no odors)(medium dense to dense, wet)	ATD
	0		d3		0.0				
30									

Boring Completed 06/23/10
Total Depth of Boring = 30.0 ft.

40

50

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

1226001.01 7/29/11 N:\PROJECTS\1226001.010.GPJ SOIL BORING LOG W/ ELEV

LANDAU ASSOCIATES

Gaco Western Remedial Investigation
Tukwila, Washington

Log of Soil Boring DP-15

Figure
B-15

DP-16

SAMPLE DATA						SOIL PROFILE			GROUNDWATER
Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft): 27.71	Water Level
0			d3		0.0		AC	Concrete debris, gravel and sand (no odors)(loose, dry)(fill)	
	20		d3		0.0		SP	Brown, fine to medium SAND with silty, mottled (no odors)(medium dense, wet)(native)	
10							ML	Brown, sandy, SILT, mottled (no odors)(stiff, moist)	
			d3		0.0		SP	Brown, medium SAND with silt (no odors)(medium dense, moist to wet)	
							SM	Gray, silty, fine SAND (no odors)(dense, moist)	
	10		d3		0.0		SM	Gray, silty, fine to medium SAND, trace gravel (no odors)(medium dense, wet)	
20					0.0				▽ ATD
		DP-16 (20-21)	d3				SM	Gray, silty, fine to medium SAND (no odors)(medium dense, moist to wet)	
	0		d3		0.0				
30									
40									
50									

Boring Completed 06/23/10
Total Depth of Boring = 30.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

1226001.01 7/29/11 N:\PROJECTS\1226001.010.GPJ SOIL BORING LOG W/ ELEV

LANDAU ASSOCIATES

Gaco Western Remedial Investigation
Tukwila, Washington

Log of Soil Boring DP-16

Figure
B-16

APPENDIX B

Key Historical Environmental Reports (On CD)

- 1990 Envirocon UST Site Assessment
- 1992 Ecology Agreed Order
- 1993 Ecology Modified Agreed Order
- 1996 Ecology Restrictive Covenant
- 2009 Ecology Periodic Review
- 2010 Ecology Further Action Letter
- 2011 Landau Remedial Investigation
- 2011 Landau Follow-on Env. Investigation Report
- 2016 Ecology Periodic Review
- 2016 Ecology VCP Termination Letter

1990 Envirocon UST Site Assessment

10 SR 12-03-91 Soil Interim BAF Joe Hickey

ENVIROCON, INC.

1299 156th AVE. NE #L155
BELLEVUE, WASHINGTON 98007
TELEPHONE: (206) 649-8505
FAX: (206) 649-8487

ENVIROCON, INC.

November 26, 1991

Adrian L. Jenkins
GACO Western, Inc.
18700 Southcenter Parkway
Tukwila, WA 98138-2698

Re: Findings from the UST Site Assessment Performed at the GACO Western Facility, Tukwila, Washington.

Dear Mr. Jenkins:

This letter report presents the findings of Envirocon's underground storage tank (UST) site assessment performed as part of the removal and closure of 14 USTs located at GACO Western's Tukwila, Washington facility (Figure 1). The purpose of this work was to remove and close the 14 USTs and to assess whether the USTs and their associated piping had released chemical products into subsurface soils and groundwater.

This work was conducted in accordance with Envirocon's proposed work plan dated September 3, 1991. This report is for specific application to the referenced project and for the exclusive use of GACO Western, Inc.

Our services for this project included:

- Contracting with Northwest Enviros Field Services (NES) of Seattle, Washington to decommission 14 USTs and dispose of the USTs following Washington Department of Ecology (Ecology) Guidelines;
- Assessing and sampling soils adjacent to and underlying 14 USTs ranging in volume from 3,000 to 10,000 gallons containing solvents and petroleum products following Ecology Site Assessment Guidelines;
- Assessing the potential for solvent contamination (if

present) to impact groundwater in the vicinity of the site;

- Comparing concentrations of total petroleum hydrocarbon (TPH) and volatile organics detected in soil samples with Washington State Model Toxics Control Act cleanup levels (MTCA: 173-340 WAC); and

- Preparing this letter report.

Site Description

GACO Western, Inc., a manufacturer of liquid elastomeric coatings used for waterproofing, is located south of 180th Avenue Southeast on Southcenter Parkway in Tukwila, Washington (Figure 1). Land use adjacent to the GACO Western facility is as follows: Mitchell Moving & Storage, Inc. to the south, Segale Asphalt Plant to the north, and a llama ranch to the west across Southcenter Parkway. The eastern boundary of the GACO Western facility lies approximately 100 feet west of the Green River.

UST History

Fourteen USTs ranging in volume from 3,000 to 10,000 gallons were located in two groups along the west side of GACO facility (Figure 3). All 14 USTs were fitted with cathodic protection upon installation. The cathodic protection system was maintained and upgraded (when necessary) every two years by Norton Corrosion Engineers, Woodinville, Washington. In addition, USTs B and C were heated with hot water pipes located approximately two feet below ground surface. The product history of each UST is as follows:

- Tank A - 5,000 gallons double compartment, installed August 1972:

    1) contained methylene chloride September 1972 to June 1975;
    2) inactive June 1975 to June 1986;
    3) contained recycled xylene June 1986 to June 1987; and
    4) inactive June 1987 to September 1991.

- Tank B - 10,000 gallons, installed August 1972, tank walls tested in 1988 by Tank Liner, Inc. of Renton, Washington using an ultrasonic method:

    1) contained alkyd resin type A September 1972 to June 1974; and

2) contained chlorinated paraffin June 1974 to August 1991.

- Tank C - 10,000 gallons, installed August 1972:
  1) contained alkyd resin type B September 1972 to June 1974; and
  2) contained cyclolube oil June 1974 to September 1991.
- Tank 1 - 10,000 gallons, installed April 1968:
  1) contained aliphatic solvents April 1968 to 1972; and
  2) contained naphtha April 1972 to August 1991.
- Tank 2 - 3,000 gallons, installed April 1968:
  1) contained SoCal 325 April 1968 to 1972;
  2) contained methyl isobutyl ketone April 1972 to 1985; and
  3) inactive 1985 to August 1991.
- Tank 3 - 10,000 gallons, installed April 1968:
  1) contained SoCal 2 April 1968 to 1972; and
  2) contained xylene April 1972 to August 1991.
- Tank 4 - 3,000 gallons, installed April 1968:
  1) contained SoCal 25 and tri methyl benzene April 1968 to August 1991.
- Tank 5 - 6,000 gallons, installed April 1968:
  1) contained butyl acetate April 1968 to 1974; and
  2) contained methyl isobutyl ketone April 1974 to August 1991.
- Tank 6 - 6,000 gallons, installed in April 1968:
  1) contained ethyl benzene April 1968 to 1974; and
  2) contained toluene April 1974 to August 1991.
- Tank 7 - 6,000 gallons, installed April 1968:
  1) contained a mixture of 70% toluene and 30% aliphatics April 1968 to April 1970; and
  2) contained naphtha 1980 to April 1990.

- Tank 8 - 3,000 gallons, installed April 1968:
    1) contained isopropyl alcohol April 1968 to late 1970s;
    2) contained xylene late 1970s to mid-1980s; and
    3) inactive since mid-1980s.

- Tank 9 - 3,000 gallons, installed 1968:
    1) contained aliphatic solvents April 1968 to mid -1970s;
    2) contained toluene mid-1970s to early 1980s; and
    3) contained methyl ethyl ketone early 1980s to April 1991.

- Tank 10 - 3,000 gallons, installed April 1968:
    1) contained methyl ethyl ketone April 1968 to 1990.

- Tank 11 - 3,000 gallons, installed April 1968:
    1) contained propyl alcohol April 1968 to December 1990.

SITE ASSESSMENT

Excavation Site Description

All 14 USTs were located on the west side of the GACO Western facility (Figures 2 and 3). Three USTs were located near the south end of the facility and 11 were located nearer the north end. The northern excavation pit covers approximately 2,500 square feet, while the southern pit covers approximately 1,600 square feet.

Site Assessment - Soil Sampling

Soil samples were collected from beneath each UST and from two of four side walls of each excavation pit. Sample locations were chosen visually or by screening soils with a Photovac MICROTIP (PID) gas analyzer. Soil samples were collected by withdrawing soil from the excavation pit with a backhoe and then removing an aliquot of soil from the center of the backhoe bucket. The aliquot of soil was then placed in a pre-conditioned sterilized jar provided by Sound Analytical Services, Inc (SAS) of Tacoma, Washington. Samples were stored in an ice chest while on-site and

during transportation to SAS.

Subsurface Soil Conditions

Soils were described in the field using visual manual methods. The following soil types were observed during the site assessment:

- gravelly sands;
- sandy silt; and
- silty fine to medium sand.

In general, six inches to one foot of asphalt and concrete overly approximately 1 to 2 feet of gravelly sands. Gravelly sand is underlain by approximate 10 to 11 feet of sandy silts and silty sand.

Groundwater

Groundwater was not encountered during the excavation of the USTs. However, the watertable in the vicinity of the site is known to vary from three feet below ground surface (bgs) in the winter to 18 feet bgs in the summer.

According to Ecology's Water Resources Department, there are no drinking water wells within a one mile radius of the site.

LABORATORY ANALYSIS

Soil samples collected from within the two excavation pits were analyzed for the following chemical parameters by SAS:

- Total petroleum hydrocarbons (TPHs) - EPA Test Method 418.1 - 5 samples; and
- Volatile organics (VOAs) - EPA Test Methods 8240 and 8020 - 25 samples.

A full laboratory report and a quality assurance review of the laboratory results are presented in Appendix B.

DISCUSSION OF FINDINGS

Twenty-six discrete soil samples (including two duplicates) were collected from the side walls of the two excavation pits and beneath the 14 USTs. In addition, one composite stockpile soil sample was collected. Toluene, ethyl benzene, and xylenes (TEX)

were detected in 17, 19, and 24 of 24 total samples analyzed, respectively (Tables 1 and 2). Of the 14 samples analyzed for tetrachloroethene (PCE), methyl ethyl ketone (MEK), and tetrachloroethane (TCA), PCE was detected in one sample, MEK in a second sample, and TCA in a third (Table 1). TPHs were detected in three of five samples analyzed (Table 2).

The highest concentrations of TEX occurred in samples 9-1B (6,500 ppm), 9-1B (870 ppm), and A-1B (1,600 ppm), respectively. Sample 12-1B, a field duplicate of sample 9-1B, actually has the highest concentrations of TEX; however; this sample is suspected of containing free product where 9-1B is not. The only dectected concentrations of PCE, TCA, and MEK occurred in samples A-2E (0.120 ppm), E-1 (0.06 ppm), and 4-1B (1,300 ppm), respectively. The detection of MEK beneath tank 4 is an anomaly. The product history of tank 4 indicates that the tank contained SoCal 25 and tri methyl benzene during its tenure.

TPH concentrations in samples 1-1B and 7-1B were reported at 330 ppm and 1,600 ppm, respectively. Sample D-1, a composite stockpile soil sample, had a TPH concentration of 190 ppm.

WASHINGTON STATE CLEANUP GUIDELINES - MTCA

The upper confidence intervals for TEX concentrations reported in soil samples from the small excavation pit (Tanks A, B, and C) and the large excavation pit (Tanks 1 to 11) were calculated to determine whether the TEX concentrations are in compliance with MTCA (Method A) soil cleanup levels (Washington State Department of Ecology, Guidance for Remediation of Releases from the UST, July 1991). Concentrations of TEX reported below the practical quantitation limit (PQL) were used in calculating the upper confidence intervals. For TEX results reported as not detected one-half the method detection limit (MDL) was used in calculating the upper confidence intervals (WAC 173-340-740, February 28, 1991). See Tables 1 and 2 for MTCA cleanup levels. The upper confidence intervals for TEX concentrations are as follows:

Small Excavation - Tanks A, B, and C:

1) Toluene - 8 ppm;
2) Ethyl benzene - 72 ppm; and
3) Total xylenes - 736 ppm.

Large Excavation - Tanks 1 to 11:

1) Toluene - 2,968 ppm;
2) Ethyl benzene - 362 ppm; and
3) Total xylenes - 512 ppm.

TPH concentrations for soil samples collected in the small excavation pit are below cleanup levels, while those collected in the larger excavation have concentration above cleanup levels.

RECOMMENDATIONS

Based on the concentrations of TEX and TPHs detected in soils from the small and large excavation pits, Envirocon recommends treating soils using vapor extraction. Remediation of contaminated soils by vapor extraction is a standard, proven technique for use with volatile organic compounds. The technique can be employed either in situ or in a treatment cell constructed on site.

We also recommend resampling beneath the former location of Tank 4 in an effort verify the presence of MEK in the soil.

REPORT LIMITATIONS

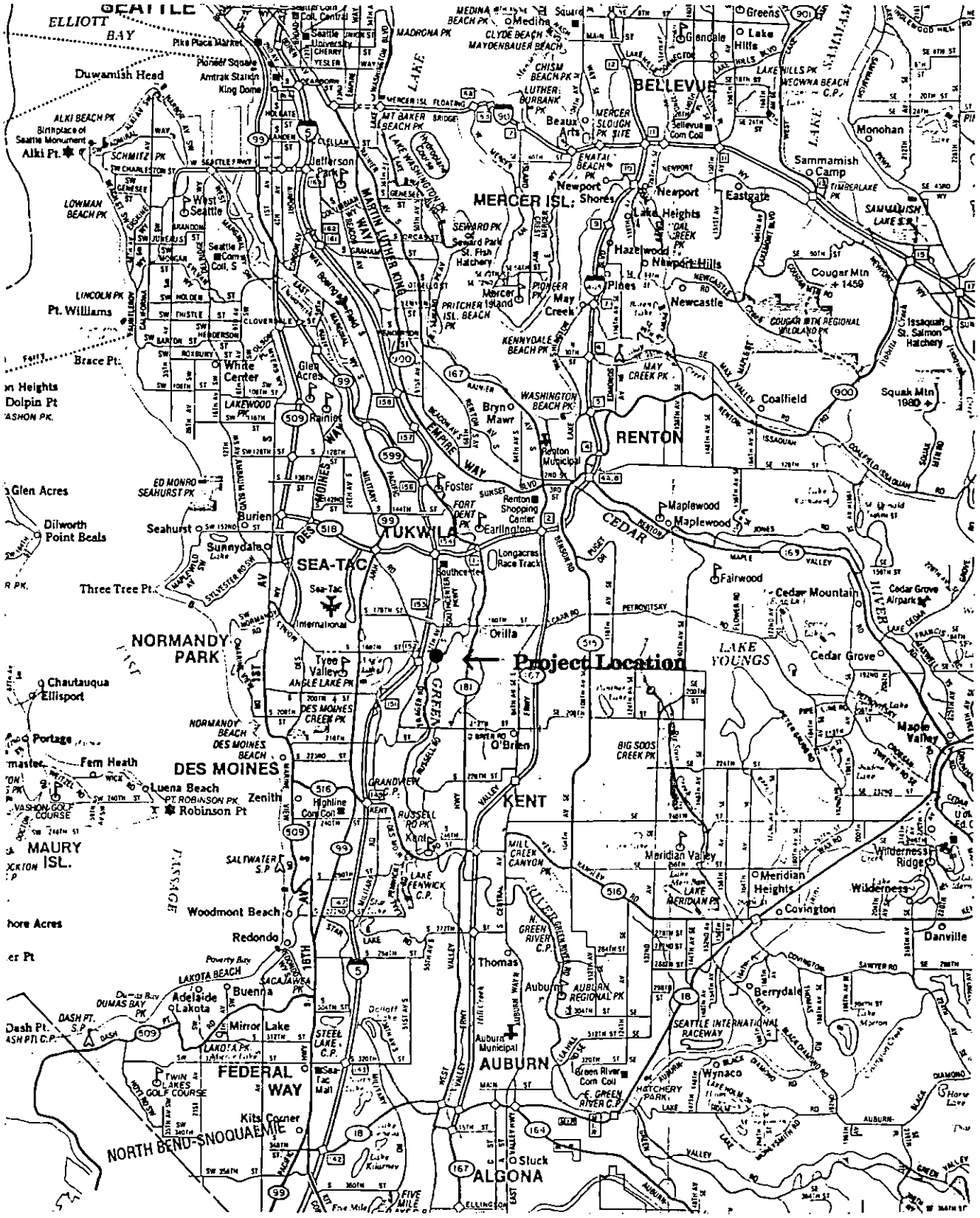
Work for this project was performed, and this letter report prepared, in accordance with generally accepted professional practices for the nature and conditions of the work completed in the same or similar localities at the time the work was performed. It is intended for the exclusive use of GACO Western, Inc. or specific application to the referenced property. This report is not meant to represent a legal opinion. No other warranty, expressed or implied, is made.

If you have any questions regarding this report and its findings, please contact Thomas Cammarata (206-649-8505).

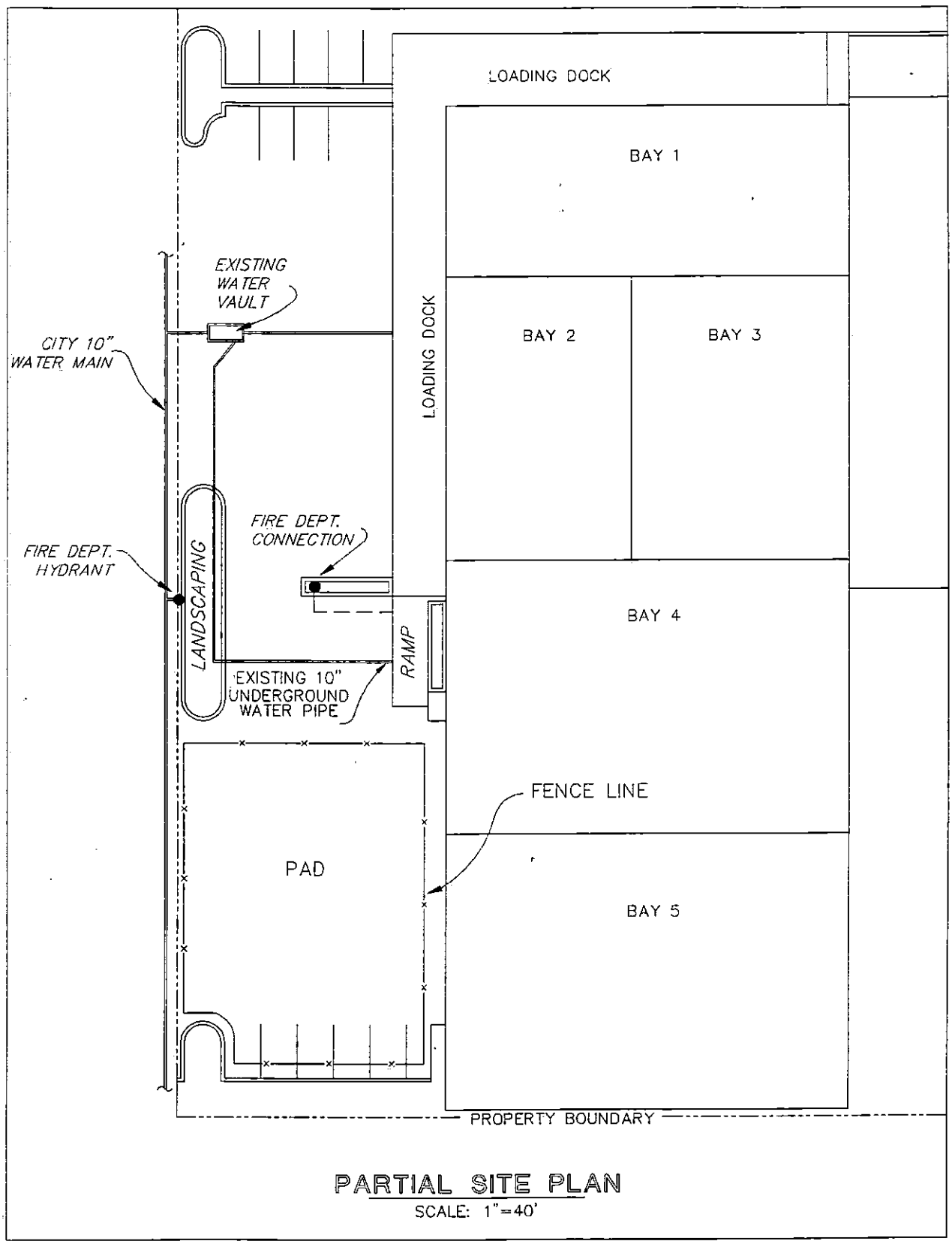
ENVIROCON, INC.

THOMAS CAMMARATA
Environmental Geochemist

WILLIAM SHEARER
Environmental Services Manager



GACO WESTERN SEATTLE, WASHINGTON	GACO WESTERN	PROJECT VICINITY MAP
ENVIROCON, INC.	AutoCAD FILE: GACO-4.DWG	11/20/91 | FIGURE 1.0



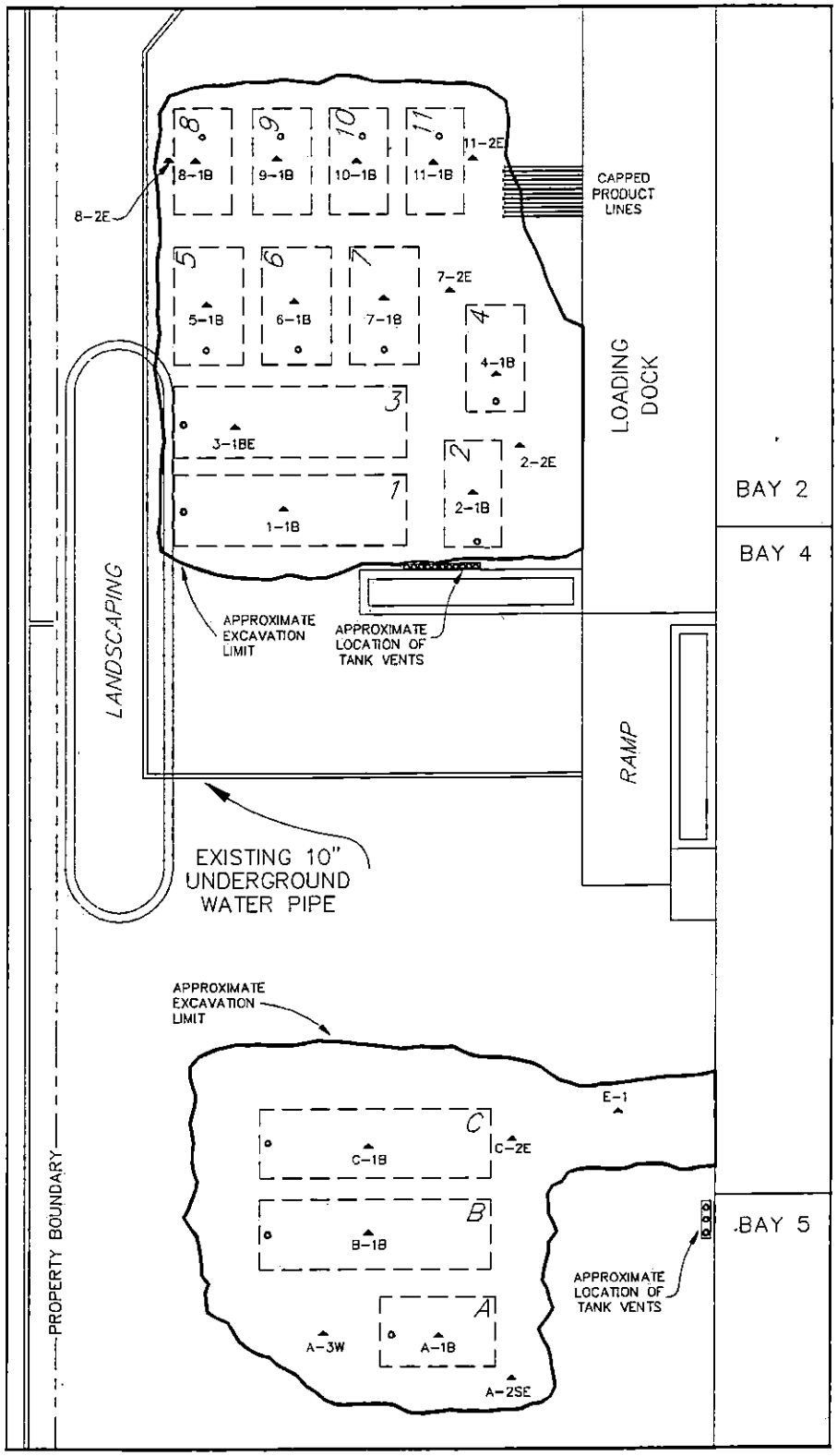
PARTIAL SITE PLAN

SCALE: 1"=40'

GACO WESTERN SEATTLE, WASHINGTON	GACO WESTERN	PARTIAL SITE PLAN DRAWING No. 8042-002
ENVIROCON, INC.	AutoCAD FILE: GACO-2.DWG_A	11/19/91 | FIGURE 2.0

UST INVENTORY

A	RECYCLE TOLUENE 5000 GAL
B	CHLORINATED PARAFIN 10000 GAL
C	CYCLOLUBE 10000 GAL
1	NAPHTHA 10000 GAL
2	METHYL ISOBUTYL KETONE 3000 GAL
3	XYLENE 10000 GAL
4	TRI METHYL BENZENE 3000 GAL
5	METHYL ISOBUTYL KETONE 6000 GAL
6	TOLUENE 6000 GAL
7	NAPHTHA 6000 GAL
8	XYLENE 3000 GAL
9	METHYL ETHYL KETONE 3000 GAL
10	METHYL ETHYL KETONE 3000 GAL
11	PROPANOL 3000 GAL



SYMBOL LEGEND

A-3W ▲ SAMPLE LOCATION AND NUMBER

o TANK FILL LOCATION

SCALE: 1" = 20'

GACO WESTERN SEATTLE, WASHINGTON	GACO WESTERN	STORAGE TANK LOCATIONS DRAWING No. 8042-003
ENVIROCON, INC.	AutoCAD FILE: GACO-3.DWG_A	11/20/91 | FIGURE 3.0

Table 1. A Summary of Results for Volatile Organics in Soils - EPA Test Method 8240

Sample Number	Sample Depth in Feet	MICRO TIP* (ppm)	TCA (ppm)	PCE (ppm)	MEK (ppm)	Toluene (ppm)	Ethyl benzene (ppm)	Total Xylene (ppm)
A-1B	12 to 13		-	-	-	19	160	1,600
A-2SE	7 to 8		-	0.120	-	-	-	0.092
A-3W	7 to 8		-	-	-	-	22	310
B-1B	12 to 13	1,023	-	-	-	4	26	260
B-2E	7		-	-	-	-	0.350	7.4
D-1B[1]	NA		-	-	-	-	16	120
D-1[2]	NA		-	-	-	12	97	900
E-1	2	11	0.06	-	-	-	0.130	0.870
4-1B	12 to 13	1,476	-	-	1,300	38	-	300
9-1B	12 to 13	8,013	-	-	-	6,500	870	870
10-1B	13	3,317	-	-	-	640	97	74
11-1B	12 to 13		-	-	-	400	71	130
11-2E	7 to 8		-	-	-	1.9	1.2	4.7
12-1B[3]	NA		-	-	-	15,000	1,700	1,700
MTCA			NA	0.5	NA	40	20	20

1 = Field Duplicate of B-1B
2 = Stockpile Soil Sample (composite)
3 = Field Duplicate of 9-1B
* = Field Screening Gas Analyzer - Photoionization Detector
Photovac MICROTIP
TCA = Tetrachloroethane
PCE = Tetrachloroethene
MEK = Methyl Ethyl Ketone (2-Butanone)
ppm = parts per million (mg/Kg)
- = below detection limit
MTCA = WA. State Models Toxics Control Act (Method A industrial soils)
NA = Not Applicable

Table 2. - A Summary of Results for Volatile Organics and Total Petroleum Hydrocarbons in Soils - EPA Test Methods 8020 and 418.1

Sample Number	Sample Depth in Feet	MICRO TIP* (ppm)	Toluene (ppm)	Ethyl benzene (ppm)	Total xylenes (ppm)	TPH (ppm)
C-1B	12	-	NA	NA	NA	-
C-2E	5	-	NA	NA	NA	-
D-1[a]						190
1-1B	10 to 12	3,900	12	17	77	330
1-2W	5 to 6	50	-	-	0.55	NA
2-1B	12 to 13		120	230	860	NA
2-2E	2		-	0.050	0.21	NA
3-1BE	12 to 13	4,800	330	120	560	NA
5-1B	12 to 13	2,120	2,500	100	410	NA
6-1B	12 to 13	5,500	840	90	260	NA
7-1B	12 to 13	8,176	NA	NA	NA	1,600
7-2E	4 to 5	6,676	18	84	460	NA
8-1B	13 to 14	1,700	40	-	13	NA
8-2E	12 to 13	76	0.070	-	0.36	NA
MTCA			40	20	20	200

a = See Table 1 for volatile organic results
* = Field Screening Gas Analyzer - Photoionization Detector
ppm = parts per million (mg/Kg)
- = below detection limit
MTCA = WA. State Models Toxics Control Act (Method A industrial soils)
NA = Not Analyzed

APPENDIX A
FIELD EXPLORATION

APPENDIX A
FIELD EXPLORATION

Soils were screened in the field for solvent contamination using olfactory, visual observations, and Photovac MICROPTIP (PID gas analyzer). Soil samples were placed in presterilized glass jars, stored in an ice chest on site, and transported in an ice chest to the analytical laboratory. Chain of custody procedures were followed for all samples. Samples were visually classified in the field in accordance with the methods presented in Appendix A.

All sampling equipment was decontaminated in the field between each sampling by washing it with strong laboratory detergent, followed by rinsing with tap water and a final rinsing with deionized water.

APPENDIX B
LABORATORY RESULTS
SOUND ANALYTICAL SERVICES
(SAS)

APPENDIX B
LABORATORY ANALYTICAL DATA
AND QUALITY ASSURANCE REVIEW

Quality Assurance/Quality Control Review

Upon receipt from the laboratory, all analytical results underwent a Quality Assurance/Quality Control (QA/QC) review of laboratory and sample handling procedures. In addition to sample results, the laboratory data reports include QA/QC data for laboratory blank and spike results. These data are attached and a summary of the data is presented within the text.

In general, the analytical data were deemed acceptable.

SOUND ANALYTICAL SERVICES, INC.

SPECIALIZING IN INDUSTRIAL & TOXIC WASTE ANALYSIS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

Report To: Envirocon, Inc.

Date: September 27, 1991

Report On: Analysis of Soil

Lab No.: 20192-4

IDENTIFICATION:

Samples Received on 09-25-91

Project: Gaco-Western

Client ID: **RUSH A-1B**

ANALYSIS:

Sample was analyzed in accordance with Test Methods for Evaluating Solid Waste, (SW-846), U.S.E.P.A., 1986 Method 8240 (Volatile Organics)

CAS No.	Compounds	Concentration ug/kg	PQL
74-87-3	Chloromethane	ND	80,000
74-83-9	Bromomethane	ND	80,000
75-01-4	Vinyl Chloride	ND	80,000
75-00-3	Chloroethane	ND	80,000
75-09-2	Methylene Chloride	ND	40,000
67-64-1	Acetone	ND	800,000
75-15-0	Carbon Disulfide	ND	40,000
75-35-4	1,1-Dichloroethene	ND	40,000
75-34-3	1,1-Dichloroethane	ND	40,000
540-59-0	1,2-Dichloroethene (Total)	ND	40,000
67-66-3	Chloroform	ND	40,000
107-06-2	1,2-Dicnloroethane	ND	40,000
78-93-3	2-Butanone	ND	200,000
71-55-6	1,1,1-Trichloroethane	ND	40,000
56-23-5	Carbon Tetrachloride	ND	40,000
108-05-4	Vinyl Acetate	ND	200,000
75-27-4	Bromodichloromethane	ND	40,000
78-87-5	1,2-Dichloropropane	ND	40,000
10061-01-5	Cis-1,3-Dichloropropene	ND	40,000
79-01-6	Trichloroethene	ND	40,000
124-48-1	Dibromochloromethane	ND	40,000
79-00-5	1,1,2-Trichloroethane	ND	40,000

ND = Not Detected

Continued . . . . .

SOUND ANALYTICAL SERVICES, INC.

Envirocon, Inc.
Project: Gaco-Western
Lab No. 20192-4

September 27, 1991

Client ID: **RUSH A-1B**

EPA Method 8240 Continued . . . . .

CAS No.	Compounds	Concentration ug/kg	PQL
71-43-2	Benzene	ND	40,000
10061-02-6	Trans-1,3-Dichloropropene	ND	40,000
75-25-2	Bromoform	ND	40,000
108-10-1	4-Methyl-2-Pentanone	ND	200,000
591-78-6	2-Hexanone	ND	40,000
127-18-4	Tetrachloroethene	ND	40,000
79-34-5	1,1,2,2-Tetrachloroethane	ND	40,000
108-88-3	Toluene	*(19,000)	40,000
108-90-7	Chlorobenzene	ND	40,000
100-41-4	Ethyl Benzene	160,000	40,000
100-42-5	Styrene	ND	40,000
1330-20-7	Total Xylenes	1,600,000	40,000

ND = Not Detected
PQL - Practical Quantitation Limit - These are the detection limits for this sample. This number is based on sample size, matrix and dilution required.
* = Compound was detected but below PQL. Value shown is an estimated quantity.

Volatile Surrogates

Surrogate	Percent Recovery	Control Limits
Toluene - D8	101	81 - 117
Bromofluorobenzene	102	74 - 121
1,2-Dichloroethane D4	96	70 - 121

SOUND ANALYTICAL SERVICES

DENNIS L. BEAN

SOUND ANALYTICAL SERVICES, INC.

SPECIALIZING IN INDUSTRIAL & TOXIC WASTE ANALYSIS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

Report To: Envirocon, Inc.

Date: September 27, 1991

Report On: Analysis of Soil

Lab No.: 20192-5

IDENTIFICATION:

Samples Received on 09-25-91
Project: Gaco-Western
Client ID: **RUSH A-2SE**

ANALYSIS:

Sample was analyzed in accordance with Test Methods for Evaluating Solid Waste, (SW-846), U.S.E.P.A., 1986 Method 8240 (Volatile Organics)

CAS No.	Compounds	Concentration ug/kg	PQL
74-87-3	Chloromethane	ND	400
74-83-9	Bromomethane	ND	400
75-01-4	Vinyl Chloride	ND	400
75-00-3	Chloroethane	ND	400
75-09-2	Methylene Chloride	ND	200
67-64-1	Acetone	ND	4,000
75-15-0	Carbon Disulfide	ND	200
75-35-4	1,1-Dichloroethene	ND	200
75-34-3	1,1-Dichloroethane	ND	200
540-59-0	1,2-Dichloroethene (Total)	ND	200
67-66-3	Chloroform	ND	200
107-06-2	1,2-Dichloroethane	ND	200
78-93-3	2-Butanone	ND	1,000
71-55-6	1,1,1-Trichloroethane	ND	200
56-23-5	Carbon Tetrachloride	ND	200
108-05-4	Vinyl Acetate	ND	1,000
75-27-4	Bromodichloromethane	ND	200
78-87-5	1,2-Dichloropropane	ND	200
10061-01-5	Cis-1,3-Dichloropropene	ND	200
79-01-6	Trichloroethene	ND	200
124-48-1	Dibromochloromethane	ND	200
79-00-5	1,1,2-Trichloroethane	ND	200

ND = Not Detected

Continued . . . . .

SOUND ANALYTICAL SERVICES, INC.

Envirocon, Inc.
Project: Gaco-Western
Lab No. 20192-5

September 27, 1991

Client ID: **RUSH A-2SE**

EPA Method 8240 Continued . . . . .

CAS No.	Compounds	Concentration ug/kg	PQL
71-43-2	Benzene	ND	200
10061-02-6	Trans-1,3-Dichloropropene	ND	200
75-25-2	Bromoform	ND	200
108-10-1	4-Methyl-2-Pentanone	ND	1,000
591-78-6	2-Hexanone	ND	200
127-18-4	Tetrachloroethene	*(120)	200
79-34-5	1,1,2,2-Tetrachloroethane	ND	200
108-88-3	Toluene	ND	200
108-90-7	Chlorobenzene	ND	200
100-41-4	Ethyl Benzene	ND	200
100-42-5	Styrene	ND	200
1330-20-7	Total Xylenes	*(92)	200

ND = Not Detected
PQL - Practical Quantitation Limit - These are the detection limits for this sample. This number is based on sample size, matrix and dilution required.
* = Compound was detected but below PQL. Value shown is an estimated quantity.

Volatile Surrogates

Surrogate	Percent Recovery	Control Limits
Toluene - D8	102	81 - 117
Bromofluorobenzene	98	74 - 121
1,2-Dichloroethane D4	100	70 - 121

SOUND ANALYTICAL SERVICES

DENNIS L. BEAN

SOUND ANALYTICAL SERVICES, INC.

SPECIALIZING IN INDUSTRIAL & TOXIC WASTE ANALYSIS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

Report To: Envirocon, Inc. Date: September 27, 1991

Report On: Analysis of Soil Lab No.: 20192-6

IDENTIFICATION:
Samples Received on 09-25-91
Project: Gaco-Western
Client ID: **RUSH A-3W**

ANALYSIS:

Sample was analyzed in accordance with Test Methods for Evaluating Solid Waste, (SW-846), U.S.E.P.A., 1986 Method 8240 (Volatile Organics)

CAS No.	Compounds	Concentration ug/kg	PQL
74-87-3	Chloromethane	ND	20,000
74-83-9	Bromomethane	ND	20,000
75-01-4	Vinyl Chloride	ND	20,000
75-00-3	Chloroethane	ND	20,000
75-09-2	Methylene Chloride	ND	10,000
67-64-1	Acetone	ND	200,000
75-15-0	Carbon Disulfide	ND	10,000
75-35-4	1,1-Dichloroethene	ND	10,000
75-34-3	1,1-Dichloroethane	ND	10,000
540-59-0	1,2-Dichloroethene (Total)	ND	10,000
67-66-3	Chloroform	ND	10,000
107-06-2	1,2-Dichloroethane	ND	10,000
78-93-3	2-Butanone	ND	50,000
71-55-6	1,1,1-Trichloroethane	ND	10,000
56-23-5	Carbon Tetrachloride	ND	10,000
108-05-4	Vinyl Acetate	ND	50,000
75-27-4	Bromodichloromethane	ND	10,000
78-87-5	1,2-Dichloropropane	ND	10,000
10061-01-5	Cis-1,3-Dichloropropene	ND	10,000
79-01-6	Trichloroethene	ND	10,000
124-48-1	Dibromochloromethane	ND	10,000
79-00-5	1,1,2-Trichloroethane	ND	10,000

ND = Not Detected

Continued . . . . .

SOUND ANALYTICAL SERVICES, INC.

Envirocon, Inc.
Project: Gaco-Western
Lab No. 20192-6

September 27, 1991

Client ID: **RUSH A-3W**

EPA Method 8240 Continued . . . . .

CAS No.	Compounds	Concentration ug/kg	PQL
71-43-2	Benzene	ND	10,000
10061-02-6	Trans-1,3-Dichloropropene	ND	10,000
75-25-2	Bromoform	ND	10,000
108-10-1	4-Methyl-2-Pentanone	ND	50,000
591-78-6	2-Hexanone	ND	10,000
127-18-4	Tetrachloroethene	ND	10,000
79-34-5	1,1,2,2-Tetrachloroethane	ND	10,000
108-88-3	Toluene	ND	10,000
108-90-7	Chlorobenzene	ND	10,000
100-41-4	Ethyl Benzene	22,000	10,000
100-42-5	Styrene	ND	10,000
1330-20-7	Total Xylenes	310,000	10,000

ND = Not Detected
PQL - Practical Quantitation Limit - These are the detection limits for this sample. This number is based on sample size, matrix and dilution required.

Volatile Surrogates

Surrogate	Percent Recovery	Control Limits
Toluene - D8	102	81 - 117
Bromofluorobenzene	103	74 - 121
1,2-Dichloroethane D4	96	70 - 121

SOUND ANALYTICAL SERVICES

DENNIS L. BEAN

SOUND ANALYTICAL SERVICES, INC.

SPECIALIZING IN INDUSTRIAL & TOXIC WASTE ANALYSIS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

Report To: Envirocon, Inc.

Date: September 27, 1991

Report On: Analysis of Soil

Lab No.: 20192-2

IDENTIFICATION:
Samples Received on 09-25-91
Project: Gaco-Western
Client ID: **RUSH B-1B**

ANALYSIS:

Sample was analyzed in accordance with Test Methods for Evaluating Solid Waste, (SW-846), U.S.E.P.A., 1986 Method 8240 (Volatile Organics)

CAS No.	Compounds	Concentration ug/kg	PQL
74-87-3	Chloromethane	ND	20,000
74-83-9	Bromomethane	ND	20,000
75-01-4	Vinyl Chloride	ND	20,000
75-00-3	Chloroethane	ND	20,000
75-09-2	Methylene Chloride	ND	10,000
67-64-1	Acetone	ND	200,000
75-15-0	Carbon Disulfide	ND	10,000
75-35-4	1,1-Dichloroethene	ND	10,000
75-34-3	1,1-Dichloroethane	ND	10,000
540-59-0	1,2-Dichloroethene (Total)	ND	10,000
67-66-3	Chloroform	ND	10,000
107-06-2	1,2-Dichloroethane	ND	10,000
78-93-3	2-Butanone	ND	50,000
71-55-6	1,1,1-Trichloroethane	ND	10,000
56-23-5	Carbon Tetrachloride	ND	10,000
108-05-4	Vinyl Acetate	ND	50,000
75-27-4	Bromodichloromethane	ND	10,000
78-87-5	1,2-Dichloropropane	ND	10,000
10061-01-5	Cis-1,3-Dichloropropene	ND	10,000
79-01-6	Trichloroethene	ND	10,000
124-48-1	Dibromochloromethane	ND	10,000
79-00-5	1,1,2-Trichloroethane	ND	10,000

ND = Not Detected

Continued . . . . .

SOUND ANALYTICAL SERVICES, INC.

Envirocon, Inc.
Project: Gaco-Western
Lab No. 20192-2

September 27, 1991

Client ID: **RUSH B-1B**

EPA Method 8240 Continued . . . . .

CAS No.	Compounds	Concentration ug/kg	PQL
71-43-2	Benzene	ND	10,000
10061-02-6	Trans-1,3-Dichloropropene	ND	10,000
75-25-2	Bromoform	ND	10,000
108-10-1	4-Methyl-2-Pentanone	ND	50,000
591-78-6	2-Hexanone	ND	10,000
127-18-4	Tetrachloroethene	ND	10,000
79-34-5	1,1,2,2-Tetrachloroethane	ND	10,000
108-88-3	Toluene	*(4,000)	10,000
108-90-7	Chlorobenzene	ND	10,000
100-41-4	Ethyl Benzene	26,000	10,000
100-42-5	Styrene	ND	10,000
1330-20-7	Total Xylenes	260,000	10,000

ND = Not Detected
PQL - Practical Quantitation Limit - These are the detection limits for this sample. This number is based on sample size, matrix and dilution required.
* = Compound was detected but below PQL. Value shown is an estimated quantity.

Volatile Surrogates

Surrogate	Percent Recovery	Control Limits
Toluene - D8	100	81 - 117
Bromofluorobenzene	103	74 - 121
1,2-Dichloroethane D4	96	70 - 121

SOUND ANALYTICAL SERVICES

DENNIS L. BEAN

SOUND ANALYTICAL SERVICES, INC.

SPECIALIZING IN INDUSTRIAL & TOXIC WASTE ANALYSIS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

Report To: Envirocon, Inc.

Date: September 27, 1991

Report On: Analysis of Soil

Lab No.: 20192-3

IDENTIFICATION:

Samples Received on 09-25-91

Project: Gaco-Western

Client ID: **RUSH B-2E**

ANALYSIS:

Sample was analyzed in accordance with Test Methods for Evaluating Solid Waste, (SW-846), U.S.E.P.A., 1986 Method 8240 (Volatile Organics)

CAS No.	Compounds	Concentration ug/kg	PQL
74-87-3	Chloromethane	ND	400
74-83-9	Bromomethane	ND	400
75-01-4	Vinyl Chloride	ND	400
75-00-3	Chloroethane	ND	400
75-09-2	Methylene Chloride	ND	200
67-64-1	Acetone	ND	4,000
75-15-0	Carbon Disulfide	ND	200
75-35-4	1,1-Dichloroethene	ND	200
75-34-3	1,1-Dichloroethane	ND	200
540-59-0	1,2-Dichloroethene (Total)	ND	200
67-66-3	Chloroform	ND	200
107-06-2	1,2-Dichloroethane	ND	200
78-93-3	2-Butanone	ND	1,000
71-55-6	1,1,1-Trichloroethane	ND	200
56-23-5	Carbon Tetrachloride	ND	200
108-05-4	Vinyl Acetate	ND	1,000
75-27-4	Bromodichloromethane	ND	200
78-87-5	1,2-Dichloropropane	ND	200
10061-01-5	Cis-1,3-Dichloropropene	ND	200
79-01-6	Trichloroethene	ND	200
124-48-1	Dibromochloromethane	ND	200
79-00-5	1,1,2-Trichloroethane	ND	200

ND = Not Detected

Continued . . . . .

SOUND ANALYTICAL SERVICES, INC.

Envirocon, Inc.
Project: Gaco-Western
Lab No. 20192-3

September 27, 1991

Client ID: **RUSH B-2E**

EPA Method 8240 Continued . . . . .

CAS No.	Compounds	Concentration ug/kg	PQL
71-43-2	Benzene	ND	200
10061-02-6	Trans-1,3-Dichloropropene	ND	200
75-25-2	Bromoform	ND	200
108-10-1	4-Methyl-2-Pentanone	ND	1,000
591-78-6	2-Hexanone	ND	200
127-18-4	Tetrachloroethene	ND	200
79-34-5	1,1,2,2-Tetrachloroethane	ND	200
108-88-3	Toluene	ND	200
108-90-7	Chlorobenzene	ND	200
100-41-4	Ethyl Benzene	350	200
100-42-5	Styrene	ND	200
1330-20-7	Total Xylenes	7,400	200

ND = Not Detected
PQL - Practical Quantitation Limit - These are the detection limits for this sample. This number is based on sample size, matrix and dilution required.

Volatile Surrogates

Surrogate	Percent Recovery	Control Limits
Toluene - D8	102	81 - 117
Bromofluorobenzene	100	74 - 121
1,2-Dichloroethane D4	100	70 - 121

SOUND ANALYTICAL SERVICES

DENNIS L. BEAN

SOUND ANALYTICAL SERVICES, INC.

SPECIALIZING IN INDUSTRIAL & TOXIC WASTE ANALYSIS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

Report To: Envirocon, Inc.

Date: September 27, 1991

Report On: Analysis of Soil

Lab No.: 20192-7

IDENTIFICATION:

Samples Received on 09-25-91
Project: Gaco-Western
Client ID: **D-1B**

ANALYSIS:

Sample was analyzed in accordance with Test Methods for Evaluating Solid Waste, (SW-846), U.S.E.P.A., 1986 Method 8240 (Volatile Organics)

CAS No.	Compounds	Concentration ug/kg	PQL
74-87-3	Chloromethane	ND	40,000
74-83-9	Bromomethane	ND	40,000
75-01-4	Vinyl Chloride	ND	40,000
75-00-3	Chloroethane	ND	40,000
75-09-2	Methylene Chloride	ND	20,000
67-64-1	Acetone	ND	400,000
75-15-0	Carbon Disulfide	ND	20,000
75-35-4	1,1-Dichloroethene	ND	20,000
75-34-3	1,1-Dichloroethane	ND	20,000
540-59-0	1,2-Dichloroethene (Total)	ND	20,000
67-66-3	Chloroform	ND	20,000
107-06-2	1,2-Dichloroethane	ND	20,000
78-93-3	2-Butanone	ND	100,000
71-55-6	1,1,1-Trichloroethane	ND	20,000
56-23-5	Carbon Tetrachloride	ND	20,000
108-05-4	Vinyl Acetate	ND	100,000
75-27-4	Bromodichloromethane	ND	20,000
78-87-5	1,2-Dichloropropane	ND	20,000
10061-01-5	Cis-1,3-Dichloropropene	ND	20,000
79-01-6	Trichloroethene	ND	20,000
124-48-1	Dibromochloromethane	ND	20,000
79-00-5	1,1,2-Trichloroethane	ND	20,000

ND = Not Detected

Continued . . . . .

ENVIROCON, INC.

By _____ Date 11/27 Subject _____ Sheet No. _____ of _____

Chkd. By _____ Date _____ Proj. No. _____

1/4" × 1/4"

Joe

Here is a copy of the

ACO Western Report

Tom Cammarata

SOUND ANALYTICAL SERVICES, INC.

Envirocon, Inc.
Project: Gaco-Western
Lab No. 20192-7

September 27, 1991

Client ID: **D-1B**

EPA Method 8240 Continued . . . . .

CAS No.	Compounds	Concentration ug/kg	PQL
71-43-2	Benzene	ND	20,000
10061-02-6	Trans-1,3-Dichloropropene	ND	20,000
75-25-2	Bromoform	ND	20,000
108-10-1	4-Methyl-2-Pentanone	ND	100,000
591-78-6	2-Hexanone	ND	20,000
127-18-4	Tetrachloroethene	ND	20,000
79-34-5	1,1,2,2-Tetrachloroethane	ND	20,000
108-88-3	Toluene	ND	20,000
108-90-7	Chlorobenzene	ND	20,000
100-41-4	Ethyl Benzene	*(16,000)	20,000
100-42-5	Styrene	ND	20,000
1330-20-7	Total Xylenes	120,000	20,000

ND = Not Detected
PQL - Practical Quantitation Limit - These are the detection limits for this sample. This number is based on sample size, matrix and dilution required.
* = Compound was detected but below PQL. Value shown is an estimated quantity.

Volatile Surrogates

Surrogate	Percent Recovery	Control Limits
Toluene - D8	105	81 - 117
Bromofluorobenzene	99	74 - 121
1,2-Dichloroethane D4	104	70 - 121

SOUND ANALYTICAL SERVICES

DENNIS L. BEAN

SOUND ANALYTICAL SERVICES, INC.

SPECIALIZING IN INDUSTRIAL & TOXIC WASTE ANALYSIS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

Report To: Envirocon, Inc.

Date: September 27, 1991

Report On: Analysis of Soil

Lab No.: 20192-7D

IDENTIFICATION:

Samples Received on 09-25-91

Project: Gaco-Western

Client ID: **D-1B (DUPLICATE)**

ANALYSIS:

Sample was analyzed in accordance with Test Methods for Evaluating Solid Waste, (SW-846), U.S.E.P.A., 1986 Method 8240 (Volatile Organics).

CAS No.	Compounds	Concentration ug/kg	PQL
74-87-3	Chloromethane	ND	40,000
74-83-9	Bromomethane	ND	40,000
75-01-4	Vinyl Chloride	ND	40,000
75-00-3	Chloroethane	ND	40,000
75-09-2	Methylene Chloride	ND	20,000
67-64-1	Acetone	ND	400,000
75-15-0	Carbon Disulfide	ND	20,000
75-35-4	1,1-Dichloroethene	ND	20,000
75-34-3	1,1-Dichloroethane	ND	20,000
540-59-0	1,2-Dichloroethene (Total)	ND	20,000
67-66-3	Chloroform	ND	20,000
107-06-2	1,2-Dichloroethane	ND	20,000
78-93-3	2-Butanone	ND	100,000
71-55-6	1,1,1-Trichloroethane	ND	20,000
56-23-5	Carbon Tetrachloride	ND	20,000
108-05-4	Vinyl Acetate	ND	100,000
75-27-4	Bromodichloromethane	ND	20,000
78-87-5	1,2-Dichloropropane	ND	20,000
10061-01-5	Cis-1,3-Dichloropropene	ND	20,000
79-01-6	Trichloroethene	ND	20,000
124-48-1	Dibromochloromethane	ND	20,000
79-00-5	1,1,2-Trichloroethane	ND	20,000

ND = Not Detected

Continued . . . . .

SOUND ANALYTICAL SERVICES, INC.

Envirocon, Inc.
Project: Gaco-Western
Lab No. 20192-7D

September 27, 1991

Client ID: **D-1B (DUPLICATE)**

EPA Method 8240 Continued . . . . .

CAS No.	Compounds	Concentration ug/kg	PQL
71-43-2	Benzene	ND	20,000
10061-02-6	Trans-1,3-Dichloropropene	ND	20,000
75-25-2	Bromoform	ND	20,000
108-10-1	4-Methyl-2-Pentanone	ND	100,000
591-78-6	2-Hexanone	ND	20,000
127-18-4	Tetrachloroethene	ND	20,000
79-34-5	1,1,2,2-Tetrachloroethane	ND	20,000
108-88-3	Toluene	ND	20,000
108-90-7	Chlorobenzene	ND	20,000
100-41-4	Ethyl Benzene	*(18,000)	20,000
100-42-5	Styrene	ND	20,000
1330-20-7	Total Xylenes	140,000	20,000

ND = Not Detected
PQL - Practical Quantitation Limit - These are the detection limits for this sample. This number is based on sample size, matrix and dilution required.
* = Compound was detected but below PQL. Value shown is an estimated quantity.

Volatile Surrogates

Surrogate	Percent Recovery	Control Limits
Toluene - D8	101	81 - 117
Bromofluorobenzene	102	74 - 121
1,2-Dichloroethane D4	97	70 - 121

SOUND ANALYTICAL SERVICES, INC.

SPECIALIZING IN INDUSTRIAL & TOXIC WASTE ANALYSIS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

Report To: Envirocon, Inc. Date: September 27, 1991

Report On: Analysis of Soil Lab No: 20192-8

IDENTIFICATION:

Samples received on 09-25-91
Project: Gaco-Western

ANALYSIS:

Lab Sample No.	RUSH 8	RUSH 9
Client Identification	C-1B	C2-E
Units	mg/kg	mg/kg
WTPH-418.1 MODIFIED Heavy petroleum oils (C24+)	< 100	< 100

Results are reported on a dry weight basis.

SOUND ANALYTICAL SERVICES

STAN P. PALMQUIST

SOUND ANALYTICAL SERVICES, INC.

SPECIALIZING IN INDUSTRIAL & TOXIC WASTE ANALYSIS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE (206) 922-2310 - FAX (206) 922-5047

QUALITY CONTROL REPORT

DUPLICATES

Lab No: 20192 (9)
Date: September 27, 1991
Client: Envirocon, Inc.

Client ID: C2-E
Matrix: Soil
Units: mg/kg

Parameter	Sample(S)	Duplicate(D)	RPD*
WTPH-418.1 MODIFIED Heavy Petroleum Oils (C24+)	< 100	< 100	0.0

*RPD = relative percent difference
= [(S - D) / ((S + D) / 2)] x 100

METHOD BLANK

PARAMETER	BLANK VALUE
WTPH-418.1 MODIFIED Heavy Petroleum Oils (C24+)	< 1.0

SOUND ANALYTICAL SERVICES, INC.

SPECIALIZING IN INDUSTRIAL & TOXIC WASTE ANALYSIS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

Report To: Envirocon, Inc.

Date: September 27, 1991

Report On: Analysis of Soil

Lab No.: 20192-1

IDENTIFICATION:

Samples Received on 09-25-91

Project: Gaco-Western

Client ID: **RUSH D-1**

ANALYSIS:

Sample was analyzed in accordance with Test Methods for Evaluating Solid Waste, (SW-846), U.S.E.P.A., 1986 Method 8240 (Volatile Organics)

CAS No.	Compounds	Concentration ug/kg	PQL
74-87-3	Chloromethane	ND	40,000
74-83-9	Bromomethane	ND	40,000
75-01-4	Vinyl Chloride	ND	40,000
75-00-3	Chloroethane	ND	40,000
75-09-2	Methylene Chloride	ND	20,000
67-64-1	Acetone	ND	400,000
75-15-0	Carbon Disulfide	ND	20,000
75-35-4	1,1-Dichloroethene	ND	20,000
75-34-3	1,1-Dichloroethane	ND	20,000
540-59-0	1,2-Dichloroethene (Total)	ND	20,000
67-66-3	Chloroform	ND	20,000
107-06-2	1,2-Dichloroethane	ND	20,000
78-93-3	2-Butanone	ND	100,000
71-55-6	1,1,1-Trichloroethane	ND	20,000
56-23-5	Carbon Tetrachloride	ND	20,000
108-05-4	Vinyl Acetate	ND	100,000
75-27-4	Bromodichloromethane	ND	20,000
78-87-5	1,2-Dichloropropane	ND	20,000
10061-01-5	Cis-1,3-Dichloropropene	ND	20,000
79-01-6	Trichloroethene	ND	20,000
124-48-1	Dibromochloromethane	ND	20,000
79-00-5	1,1,2-Trichloroethane	ND	20,000

ND = Not Detected

Continued . . . . .

SOUND ANALYTICAL SERVICES, INC.

Envirocon, Inc.
Project: Gaco-Western
Lab No. 20192-1

September 27, 1991

Client ID: **RUSH D-1**

EPA Method 8240 Continued . . . . .

CAS No.	Compounds	Concentration ug/kg	PQL
71-43-2	Benzene	ND	20,000
10061-02-6	Trans-1,3-Dichloropropene	ND	20,000
75-25-2	Bromoform	ND	20,000
108-10-1	4-Methyl-2-Pentanone	ND	100,000
591-78-6	2-Hexanone	ND	20,000
127-18-4	Tetrachloroethene	ND	20,000
79-34-5	1,1,2,2-Tetrachloroethane	ND	20,000
108-88-3	Toluene	12,000	20,000
108-90-7	Chlorobenzene	ND	20,000
100-41-4	Ethyl Benzene	97,000	20,000
100-42-5	Styrene	ND	20,000
1330-20-7	Total Xylenes	900,000	20,000

ND = Not Detected
PQL - Practical Quantitation Limit - These are the detection limits for this sample. This number is based on sample size, matrix and dilution required.

Volatile Surrogates

Surrogate	Percent Recovery	Control Limits
Toluene - D8	101	81 - 117
Bromofluorobenzene	101	74 - 121
1,2-Dichloroethane D4	96	70 - 121

Continued . . . . .

SOUND ANALYTICAL SERVICES, INC.

Envirocon, Inc.
Project: Gaco-Western

Lab No. 20192-1
September 27, 1991

Client ID: **RUSH D-1**

WTPH-418.1 MODIFIED	
Heavy petroleum oils, mg/kg (C24+)	190

SOUND ANALYTICAL SERVICES

DENNIS L. BEAN

SOUND ANALYTICAL SERVICES, INC.

SPECIALIZING IN INDUSTRIAL & TOXIC WASTE ANALYSIS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

Report To: Envirocon, Inc.

Date: September 30, 1991

Report On: Analysis of Soil

Lab No.: 20272

IDENTIFICATION:

Samples Received on 09-27-91
Project: Gaco - Western
Client ID: **RUSH E-1**

ANALYSIS:

Sample was analyzed in accordance with Test Methods for Evaluating Solid Waste, (SW-846), U.S.E.P.A., 1986 Method 8240 (Volatile Organics)

CAS No.	Compounds	Concentration ug/kg	PQL
74-87-3	Chloromethane	ND	400
74-83-9	Bromomethane	ND	400
75-01-4	Vinyl Chloride	ND	400
75-00-3	Chloroethane	ND	400
75-09-2	Methylene Chloride	ND	200
67-64-1	Acetone	ND	4,000
75-15-0	Carbon Disulfide	ND	200
75-35-4	1,1-Dichloroethene	ND	200
75-34-3	1,1-Dichloroethane	ND	200
540-59-0	1,2-Dichloroethene (Total)	ND	200
67-66-3	Chloroform	ND	200
107-06-2	1,2-Dichloroethane	ND	200
78-93-3	2-Butanone	ND	1,000
71-55-6	1,1,1-Trichloroethane	ND	200
56-23-5	Carbon Tetrachloride	ND	200
108-05-4	Vinyl Acetate	ND	1,000
75-27-4	Bromodichloromethane	ND	200
78-87-5	1,2-Dichloropropane	ND	200
10061-01-5	Cis-1,3-Dichloropropene	ND	200
79-01-6	Trichloroethene	ND	200
124-48-1	Dibromochloromethane	ND	200
79-00-5	1,1,2-Trichloroethane	ND	200

ND = Not Detected

Continued . . . . .

SOUND ANALYTICAL SERVICES, INC.

Envirocon, Inc.
Project: Gaco - Western
Lab No. 20272

September 30, 1991

Client ID: **RUSH E-1**

EPA Method 8240 Continued . . . . .

CAS No.	Compounds	Concentration ug/kg	PQL
71-43-2	Benzene	ND	200
10061-02-6	Trans-1,3-Dichloropropene	ND	200
75-25-2	Bromoform	ND	200
108-10-1	4-Methyl-2-Pentanone	ND	1,000
591-78-6	2-Hexanone	ND	200
127-18-4	Tetrachloroethene	ND	200
79-34-5	1,1,2,2-Tetrachloroethane	*(60)	200
108-88-3	Toluene	ND	200
108-90-7	Chlorobenzene	ND	200
100-41-4	Ethyl Benzene	*(130)	200
100-42-5	Styrene	ND	200
1330-20-7	Total Xylenes	870	200

ND = Not Detected
PQL - Practical Quantitation Limit - These are the detection limits for this sample. This number is based on sample size, matrix and dilution required.
* = Compound was detected but below PQL. Value shown is an estimated quantity.

Volatile Surrogates

Surrogate	Percent Recovery	Control Limits
Toluene - D8	95	81 - 117
Bromofluorobenzene	100	74 - 121
1,2-Dichloroethane D4	105	70 - 121

SOUND ANALYTICAL SERVICES

for DENNIS L. BEAN

SOUND ANALYTICAL SERVICES, INC.

SPECIALIZING IN INDUSTRIAL & TOXIC WASTE ANALYSIS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

Report To: Envirocon, Inc.

Date: September 30, 1991

Report On: Analysis of Soil

Lab No.: 20272-D

IDENTIFICATION:

Samples Received on 09-27-91
Project: Gaco - Western
Client ID: **RUSH E-1 (DUPLICATE)**

ANALYSIS:

Sample was analyzed in accordance with Test Methods for Evaluating Solid Waste, (SW-846), U.S.E.P.A., 1986 Method 8240 (Volatile Organics)

CAS No.	Compounds	Concentration ug/kg	PQL
74-87-3	Chloromethane	ND	400
74-83-9	Bromomethane	ND	400
75-01-4	Vinyl Chloride	ND	400
75-00-3	Chloroethane	ND	400
75-09-2	Methylene Chloride	ND	200
67-64-1	Acetone	ND	4,000
75-15-0	Carbon Disulfide	ND	200
75-35-4	1,1-Dichloroethene	ND	200
75-34-3	1,1-Dichloroethane	ND	200
540-59-0	1,2-Dichloroethene (Total)	ND	200
67-66-3	Chloroform	ND	200
107-06-2	1,2-Dichloroethane	ND	200
78-93-3	2-Butanone	ND	1,000
71-55-6	1,1,1-Trichloroethane	ND	200
56-23-5	Carbon Tetrachloride	ND	200
108-05-4	Vinyl Acetate	ND	1,000
75-27-4	Bromodichloromethane	ND	200
78-87-5	1,2-Dichloropropane	ND	200
10061-01-5	Cis-1,3-Dichloropropene	ND	200
79-01-6	Trichloroethene	ND	200
124-48-1	Dibromochloromethane	ND	200
79-00-5	1,1,2-Trichloroethane	ND	200

ND = Not Detected

Continued . . . . .

SOUND ANALYTICAL SERVICES, INC.

Envirocon, Inc.
Project: Gaco - Western
Lab No. 20272

September 30, 1991

Client ID: **RUSH E-1 (DUPLICATE)**

EPA Method 8240 Continued . . . . .

CAS No.	Compounds	Concentration ug/kg	PQL
71-43-2	Benzene	ND	200
10061-02-6	Trans-1,3-Dichloropropene	ND	200
75-25-2	Bromoform	ND	200
108-10-1	4-Methyl-2-Pentanone	ND	1,000
591-78-6	2-Hexanone	ND	200
127-18-4	Tetrachloroethene	ND	200
79-34-5	1,1,2,2-Tetrachloroethane	*(36)	200
108-88-3	Toluene	ND	200
108-90-7	Chlorobenzene	ND	200
100-41-4	Ethyl Benzene	*(65)	200
100-42-5	Styrene	ND	200
1330-20-7	Total Xylenes	740	200

ND = Not Detected
PQL - Practical Quantitation Limit - These are the detection limits for this sample. This number is based on sample size, matrix and dilution required.
* = Compound was detected but below PQL. Value shown is an estimated quantity.

Volatile Surrogates

Surrogate	Percent Recovery	Control Limits
Toluene - D8	92	81 - 117
Bromofluorobenzene	102	74 - 121
1,2-Dichloroethane D4	99	70 - 121

SOUND ANALYTICAL SERVICES

DENNIS L. BEAN

SOUND ANALYTICAL SERVICES, INC.

SPECIALIZING IN INDUSTRIAL & TOXIC WASTE ANALYSIS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

Report To: Envirocon, Inc.

Date: October 1, 1991

Report On: Analysis of Soil

Lab No.: 20247-5

IDENTIFICATION:

Samples Received on 09-26-91
Project: Gaco - Western
Client ID: **RUSH 4-1B**

ANALYSIS:

Sample was analyzed in accordance with Test Methods for Evaluating Solid Waste, (SW-846), U.S.E.P.A., 1986 Method 8240 (Volatile Organics)

CAS No.	Compounds	Concentration ug/kg	PQL
74-87-3	Chloromethane	ND	80,000
74-83-9	Bromomethane	ND	80,000
75-01-4	Vinyl Chloride	ND	80,000
75-00-3	Chloroethane	ND	80,000
75-09-2	Methylene Chloride	ND	40,000
67-64-1	Acetone	ND	800,000
75-15-0	Carbon Disulfide	ND	40,000
75-35-4	1,1-Dichloroethene	ND	40,000
75-34-3	1,1-Dichloroethane	ND	40,000
540-59-0	1,2-Dichloroethene (Total)	ND	40,000
67-66-3	Chloroform	ND	40,000
107-06-2	1,2-Dichloroethane	ND	40,000
78-93-3	2-Butanone	1,300,000	200,000
71-55-6	1,1,1-Trichloroethane	ND	40,000
56-23-5	Carbon Tetrachloride	ND	40,000
108-05-4	Vinyl Acetate	ND	200,000
75-27-4	Bromodichloromethane	ND	40,000
78-87-5	1,2-Dichloropropane	ND	40,000
10061-01-5	Cis-1,3-Dichloropropene	ND	40,000
79-01-6	Trichloroethene	ND	40,000
124-48-1	Dibromochloromethane	ND	40,000
79-00-5	1,1,2-Trichloroethane	ND	40,000

ND = Not Detected

Continued . . . .

SOUND ANALYTICAL SERVICES, INC.

Envirocon, Inc.
Project: Gaco - Western
Lab No. 20247-5

October 1, 1991

Client ID: **RUSH 4-1B**

EPA Method 8240 Continued . . . . .

CAS No.	Compounds	Concentration ug/kg	PQL
71-43-2	Benzene	ND	40,000
10061-02-6	Trans-1,3-Dichloropropene	ND	40,000
75-25-2	Bromoform	ND	40,000
108-10-1	4-Methyl-2-Pentanone	ND	200,000
591-78-6	2-Hexanone	ND	40,000
127-18-4	Tetrachloroethene	ND	40,000
79-34-5	1,1,2,2-Tetrachloroethane	ND	40,000
108-88-3	Toluene	*(38,000)	40,000
108-90-7	Chlorobenzene	ND	40,000
100-41-4	Ethyl Benzene	ND	40,000
100-42-5	Styrene	ND	40,000
1330-20-7	Total Xylenes	300,000	40,000

ND = Not Detected
PQL - Practical Quantitation Limit - These are the detection limits for this sample. This number is based on sample size, matrix and dilution required.
* = Compound was detected but below PQL. Value shown is an estimated quantity.

Volatile Surrogates

Surrogate	Percent Recovery	Control Limits
Toluene - D8	94	81 - 117
Bromofluorobenzene	100	74 - 121
1,2-Dichloroethane D4	97	70 - 121

SOUND ANALYTICAL SERVICES

DENNIS L. BEAN

SOUND ANALYTICAL SERVICES, INC.

SPECIALIZING IN INDUSTRIAL & TOXIC WASTE ANALYSIS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

Report To: Envirocon, Inc.

Date: October 1, 1991

Report On: Analysis of Soil

Lab No.: 20247-2

IDENTIFICATION:
Samples Received on 09-26-91
Project: Gaco - Western
Client ID: **RUSH 9-1B**

ANALYSIS:

Sample was analyzed in accordance with Test Methods for Evaluating Solid Waste, (SW-846), U.S.E.P.A., 1986 Method 8240 (Volatile Organics)

CAS No.	Compounds	Concentration ug/kg	PQL
74-87-3	Chloromethane	ND	400,000
74-83-9	Bromomethane	ND	400,000
75-01-4	Vinyl Chloride	ND	400,000
75-00-3	Chloroethane	ND	400,000
75-09-2	Methylene Chloride	ND	200,000
67-64-1	Acetone	ND	4,000,000
75-15-0	Carbon Disulfide	ND	200,000
75-35-4	1,1-Dichloroethene	ND	200,000
75-34-3	1,1-Dichloroethane	ND	200,000
540-59-0	1,2-Dichloroethene (Total)	ND	200,000
67-66-3	Chloroform	ND	200,000
107-06-2	1,2-Dichloroethane	ND	200,000
78-93-3	2-Butanone	ND	1,000,000
71-55-6	1,1,1-Trichloroethane	ND	200,000
56-23-5	Carbon Tetrachloride	ND	200,000
108-05-4	Vinyl Acetate	ND	1,000,000
75-27-4	Bromodichloromethane	ND	200,000
78-87-5	1,2-Dichloropropane	ND	200,000
10061-01-5	Cis-1,3-Dichloropropene	ND	200,000
79-01-6	Trichloroethene	ND	200,000
124-48-1	Dibromochloromethane	ND	200,000
79-00-5	1,1,2-Trichloroethane	ND	200,000

ND = Not Detected

Continued . . . . .

SOUND ANALYTICAL SERVICES, INC.

Envirocon, Inc.
Project: Gaco - Western
Lab No. 20247-2

October 1, 1991

Client ID: **RUSH 9-1B**

EPA Method 8240 Continued . . . . .

CAS No.	Compounds	Concentration ug/kg	PQL
71-43-2	Benzene	ND	200,000
10061-02-6	Trans-1,3-Dichloropropene	ND	200,000
75-25-2	Bromoform	ND	200,000
108-10-1	4-Methyl-2-Pentanone	ND	1,000,000
591-78-6	2-Hexanone	ND	200,000
127-18-4	Tetrachloroethene	ND	200,000
79-34-5	1,1,2,2-Tetrachloroethane	ND	200,000
108-88-3	Toluene	6,500,000	200,000
108-90-7	Chlorobenzene	ND	200,000
100-41-4	Ethyl Benzene	870,000	200,000
100-42-5	Styrene	ND	200,000
1330-20-7	Total Xylenes	870,000	200,000

ND = Not Detected
PQL - Practical Quantitation Limit - These are the detection limits for this sample. This number is based on sample size, matrix and dilution required.

Volatile Surrogates

Surrogate	Percent Recovery	Control Limits
Toluene - D8	93	81 - 117
Bromofluorobenzene	104	74 - 121
1,2-Dichloroethane D4	99	70 - 121

SOUND ANALYTICAL SERVICES

DENNIS L. BEAN

SOUND ANALYTICAL SERVICES, INC.

SPECIALIZING IN INDUSTRIAL & TOXIC WASTE ANALYSIS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

Report To: Envirocon, Inc.

Date: October 1, 1991

Report On: Analysis of Soil

Lab No.: 20247-1

IDENTIFICATION:

Samples Received on 09-26-91

Project: Gaco - Western

Client ID: **RUSH 10-1B**

ANALYSIS:

Sample was analyzed in accordance with Test Methods for Evaluating Solid Waste, (SW-846), U.S.E.P.A., 1986 Method 8240 (Volatile Organics)

CAS No.	Compounds	Concentration ug/kg	PQL
74-87-3	Chloromethane	ND	80,000
74-83-9	Bromomethane	ND	80,000
75-01-4	Vinyl Chloride	ND	80,000
75-00-3	Chloroethane	ND	80,000
75-09-2	Methylene Chloride	ND	40,000
67-64-1	Acetone	ND	800,000
75-15-0	Carbon Disulfide	ND	40,000
75-35-4	1,1-Dichloroethene	ND	40,000
75-34-3	1,1-Dichloroethane	ND	40,000
540-59-0	1,2-Dichloroethene (Total)	ND	40,000
67-66-3	Chloroform	ND	40,000
107-06-2	1,2-Dichloroethane	ND	40,000
78-93-3	2-Butanone	ND	200,000
71-55-6	1,1,1-Trichloroethane	ND	40,000
56-23-5	Carbon Tetrachloride	ND	40,000
108-05-4	Vinyl Acetate	ND	200,000
75-27-4	Bromodichloromethane	ND	40,000
78-87-5	1,2-Dichloropropane	ND	40,000
10061-01-5	Cis-1,3-Dichloropropene	ND	40,000
79-01-6	Trichloroethene	ND	40,000
124-48-1	Dibromochloromethane	ND	40,000
79-00-5	1,1,2-Trichloroethane	ND	40,000

ND = Not Detected

Continued . . . . .

SOUND ANALYTICAL SERVICES, INC.

Envirocon, Inc.
Project: Gaco - Western
Lab No. 20247-1

October 1, 1991

Client ID: **RUSH 10-1B**

EPA Method 8240 Continued . . . . .

CAS No.	Compounds	Concentration ug/kg	PQL
71-43-2	Benzene	ND	40,000
10061-02-6	Trans-1,3-Dichloropropene	ND	40,000
75-25-2	Bromoform	ND	40,000
108-10-1	4-Methyl-2-Pentanone	ND	200,000
591-78-6	2-Hexanone	ND	40,000
127-18-4	Tetrachloroethene	ND	40,000
79-34-5	1,1,2,2-Tetrachloroethane	ND	40,000
108-88-3	Toluene	640,000	40,000
108-90-7	Chlorobenzene	ND	40,000
100-41-4	Ethyl Benzene	97,000	40,000
100-42-5	Styrene	ND	40,000
1330-20-7	Total Xylenes	74,000	40,000

ND = Not Detected
PQL - Practical Quantitation Limit - These are the detection limits for this sample. This number is based on sample size, matrix and dilution required.

Volatile Surrogates

Surrogate	Percent Recovery	Control Limits
Toluene - D8	101	81 - 117
Bromofluorobenzene	97	74 - 121
1,2-Dichloroethane D4	99	70 - 121

SOUND ANALYTICAL SERVICES

DENNIS L. BEAN

SOUND ANALYTICAL SERVICES, INC.

Envirocon, Inc.
Project: Gaco - Western
Lab No. 20247-1D

October 1, 1991

Client ID: **RUSH 10-1B (DUPLICATE)**

EPA Method 8240 Continued . . . . .

CAS No.	Compounds	Concentration ug/kg	PQL
71-43-2	Benzene	ND	40,000
10061-02-6	Trans-1,3-Dichloropropene	ND	40,000
75-25-2	Bromoform	ND	40,000
108-10-1	4-Methyl-2-Pentanone	ND	200,000
591-78-6	2-Hexanone	ND	40,000
127-18-4	Tetrachloroethene	ND	40,000
79-34-5	1,1,2,2-Tetrachloroethane	ND	40,000
108-88-3	Toluene	530,000	40,000
108-90-7	Chlorobenzene	ND	40,000
100-41-4	Ethyl Benzene	86,000	40,000
100-42-5	Styrene	ND	40,000
1330-20-7	Total Xylenes	67,000	40,000

ND = Not Detected
PQL - Practical Quantitation Limit - These are the detection limits for this sample. This number is based on sample size, matrix and dilution required.

Volatile Surrogates

Surrogate	Percent Recovery	Control Limits
Toluene - D8	98	81 - 117
Bromofluorobenzene	100	74 - 121
1,2-Dichloroethane D4	101	70 - 121

SOUND ANALYTICAL SERVICES, INC.

SPECIALIZING IN INDUSTRIAL & TOXIC WASTE ANALYSIS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

Report To: Envirocon, Inc. Date: October 1, 1991

Report On: Analysis of Soil Lab No.: 20247-1D

IDENTIFICATION:
Samples Received on 09-26-91
Project: Gaco - Western
Client ID: **RUSH 10-1B (DUPLICATE)**

ANALYSIS:

Sample was analyzed in accordance with Test Methods for Evaluating Solid Waste, (SW-846), U.S.E.P.A., 1986 Method 8240 (Volatile Organics)

CAS No.	Compounds	Concentration ug/kg	PQL
74-87-3	Chloromethane	ND	80,000
74-83-9	Bromomethane	ND	80,000
75-01-4	Vinyl Chloride	ND	80,000
75-00-3	Chloroethane	ND	80,000
75-09-2	Methylene Chloride	ND	40,000
67-64-1	Acetone	ND	800,000
75-15-0	Carbon Disulfide	ND	40,000
75-35-4	1,1-Dichloroethene	ND	40,000
75-34-3	1,1-Dichloroethane	ND	40,000
540-59-0	1,2-Dichloroethene (Total)	ND	40,000
67-66-3	Chloroform	ND	40,000
107-06-2	1,2-Dichloroethane	ND	40,000
78-93-3	2-Butanone	ND	200,000
71-55-6	1,1,1-Trichloroethane	ND	40,000
56-23-5	Carbon Tetrachloride	ND	40,000
108-05-4	Vinyl Acetate	ND	200,000
75-27-4	Bromodichloromethane	ND	40,000
78-87-5	1,2-Dichloropropane	ND	40,000
10061-01-5	Cis-1,3-Dichloropropene	ND	40,000
79-01-6	Trichloroethene	ND	40,000
124-48-1	Dibromochloromethane	ND	40,000
79-00-5	1,1,2-Trichloroethane	ND	40,000

ND = Not Detected

Continued . . . . .

SOUND ANALYTICAL SERVICES, INC.

SPECIALIZING IN INDUSTRIAL & TOXIC WASTE ANALYSIS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

Report To: Envirocon, Inc.

Date: October 1, 1991

Report On: Analysis of Soil

Lab No.: 20247-4

IDENTIFICATION:

Samples Received on 09-26-91

Project: Gaco - Western

Client ID: **RUSH 11-1B**

ANALYSIS:

Sample was analyzed in accordance with Test Methods for Evaluating Solid Waste, (SW-846), U.S.E.P.A., 1986 Method 8240 (Volatile Organics)

CAS No.	Compounds	Concentration ug/kg	PQL
74-87-3	Chloromethane	ND	80,000
74-83-9	Bromomethane	ND	80,000
75-01-4	Vinyl Chloride	ND	80,000
75-00-3	Chloroethane	ND	80,000
75-09-2	Methylene Chloride	ND	40,000
67-64-1	Acetone	ND	800,000
75-15-0	Carbon Disulfide	ND	40,000
75-35-4	1,1-Dichloroethene	ND	40,000
75-34-3	1,1-Dichloroethane	ND	40,000
540-59-0	1,2-Dichloroethene (Total)	ND	40,000
67-66-3	Chloroform	ND	40,000
107-06-2	1,2-Dichloroethane	ND	40,000
78-93-3	2-Butanone	ND	200,000
71-55-6	1,1,1-Trichloroethane	ND	40,000
56-23-5	Carbon Tetrachloride	ND	40,000
108-05-4	Vinyl Acetate	ND	200,000
75-27-4	Bromodichloromethane	ND	40,000
78-87-5	1,2-Dichloropropane	ND	40,000
10061-01-5	Cis-1,3-Dichloropropene	ND	40,000
79-01-6	Trichloroethene	ND	40,000
124-48-1	Dibromochloromethane	ND	40,000
79-00-5	1,1,2-Trichloroethane	ND	40,000

ND = Not Detected

Continued . . . . .

SOUND ANALYTICAL SERVICES, INC.

Envirocon, Inc.
Project: Gaco - Western
Lab No. 20247-4

October 1, 1991

Client ID: **RUSH 11-1B**

EPA Method 8240 Continued . . . . .

CAS No.	Compounds	Concentration ug/kg	PQL
71-43-2	Benzene	ND	40,000
10061-02-6	Trans-1,3-Dichloropropene	ND	40,000
75-25-2	Bromoform	ND	40,000
108-10-1	4-Methyl-2-Pentanone	ND	200,000
591-78-6	2-Hexanone	ND	40,000
127-18-4	Tetrachloroethene	ND	40,000
79-34-5	1,1,2,2-Tetrachloroethane	ND	40,000
108-88-3	Toluene	400,000	40,000
108-90-7	Chlorobenzene	ND	40,000
100-41-4	Ethyl Benzene	71,000	40,000
100-42-5	Styrene	ND	40,000
1330-20-7	Total Xylenes	130,000	40,000

ND = Not Detected
PQL - Practical Quantitation Limit - These are the detection limits for this sample. This number is based on sample size, matrix and dilution required.

Volatile Surrogates

Surrogate	Percent Recovery	Control Limits
Toluene - D8	100	81 - 117
Bromofluorobenzene	100	74 - 121
1,2-Dichloroethane D4	101	70 - 121

SOUND ANALYTICAL SERVICES

DENNIS L. BEAN

SOUND ANALYTICAL SERVICES, INC.

SPECIALIZING IN INDUSTRIAL & TOXIC WASTE ANALYSIS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

Report To: Envirocon, Inc.

Date: October 1, 1991

Report On: Analysis of Soil

Lab No.: 20247-3

IDENTIFICATION:

Samples Received on 09-26-91

Project: Gaco - Western

Client ID: **RU8H 11-2E**

ANALYSIS:

Sample was analyzed in accordance with Test Methods for Evaluating Solid Waste, (SW-846), U.S.E.P.A., 1986 Method 8240 (Volatile Organics)

CAS No.	Compounds	Concentration ug/kg	PQL
74-87-3	Chloromethane	ND	400
74-83-9	Bromomethane	ND	400
75-01-4	Vinyl Chloride	ND	400
75-00-3	Chloroethane	ND	400
75-09-2	Methylene Chloride	ND	200
67-64-1	Acetone	ND	4,000
75-15-0	Carbon Disulfide	ND	200
75-35-4	1,1-Dichloroethene	ND	200
75-34-3	1,1-Dichloroethane	ND	200
540-59-0	1,2-Dichloroethene (Total)	ND	200
67-66-3	Chloroform	ND	200
107-06-2	1,2-Dichloroethane	ND	200
78-93-3	2-Butanone	ND	1,000
71-55-6	1,1,1-Trichloroethane	ND	200
56-23-5	Carbon Tetrachloride	ND	200
108-05-4	Vinyl Acetate	ND	1,000
75-27-4	Bromodichloromethane	ND	200
78-87-5	1,2-Dichloropropane	ND	200
10061-01-5	Cis-1,3-Dichloropropene	ND	200
79-01-6	Trichloroethene	ND	200
124-48-1	Dibromochloromethane	ND	200
79-00-5	1,1,2-Trichloroethane	ND	200

ND = Not Detected

Continued . . . . .

SOUND ANALYTICAL SERVICES, INC.

Envirocon, Inc.
Project: Gaco - Western
Lab No. 20247-3

October 1, 1991

Client ID: **RUSH 11-2E**

EPA Method 8240 Continued . . . . .

CAS No.	Compounds	Concentration ug/kg	PQL
71-43-2	Benzene	ND	200
10061-02-6	Trans-1,3-Dichloropropene	ND	200
75-25-2	Bromoform	ND	200
108-10-1	4-Methyl-2-Pentanone	ND	1,000
591-78-6	2-Hexanone	ND	200
127-18-4	Tetrachloroethene	ND	200
79-34-5	1,1,2,2-Tetrachloroethane	ND	200
108-88-3	Toluene	1,900	200
108-90-7	Chlorobenzene	ND	200
100-41-4	Ethyl Benzene	1,200	200
100-42-5	Styrene	ND	200
1330-20-7	Total Xylenes	4,700	200

ND = Not Detected
PQL - Practical Quantitation Limit - These are the detection limits for this sample. This number is based on sample size, matrix and dilution required.

Volatile Surrogates

Surrogate	Percent Recovery	Control Limits
Toluene - D8	90	81 - 117
Bromofluorobenzene	107	74 - 121
1,2-Dichloroethane D4	101	70 - 121

SOUND ANALYTICAL SERVICES

DENNIS L. BEAN

SOUND ANALYTICAL SERVICES, INC.

SPECIALIZING IN INDUSTRIAL & TOXIC WASTE ANALYSIS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

Report To: Envirocon, Inc.

Date: October 1, 1991

Report On: Analysis of Soil

Lab No.: 20247-6

IDENTIFICATION:

Samples Received on 09-26-91
Project: Gaco - Western
Client ID: **RUSH 12-1B**

ANALYSIS:

Sample was analyzed in accordance with Test Methods for Evaluating Solid Waste, (SW-846), U.S.E.P.A., 1986 Method 8240 (Volatile Organics)

CAS No.	Compounds	Concentration ug/kg	PQL
74-87-3	Chloromethane	ND	2,000,000
74-83-9	Bromomethane	ND	2,000,000
75-01-4	Vinyl Chloride	ND	2,000,000
75-00-3	Chloroethane	ND	2,000,000
75-09-2	Methylene Chloride	ND	1,000,000
67-64-1	Acetone	ND	20,000,000
75-15-0	Carbon Disulfide	ND	1,000,000
75-35-4	1,1-Dichloroethene	ND	1,000,000
75-34-3	1,1-Dichloroethane	ND	1,000,000
540-59-0	1,2-Dichloroethene (Total)	ND	1,000,000
67-66-3	Chloroform	ND	1,000,000
107-06-2	1,2-Dichloroethane	ND	1,000,000
78-93-3	2-Butanone	ND	5,000,000
71-55-6	1,1,1-Trichloroethane	ND	1,000,000
56-23-5	Carbon Tetrachloride	ND	1,000,000
108-05-4	Vinyl Acetate	ND	5,000,000
75-27-4	Bromodichloromethane	ND	1,000,000
78-87-5	1,2-Dichloropropane	ND	1,000,000
10061-01-5	Cis-1,3-Dichloropropene	ND	1,000,000
79-01-6	Trichloroethene	ND	1,000,000
124-48-1	Dibromochloromethane	ND	1,000,000
79-00-5	1,1,2-Trichloroethane	ND	1,000,000

ND = Not Detected

Continued . . . . .

SOUND ANALYTICAL SERVICES, INC.

Envirocon, Inc.
Project: Gaco - Western
Lab No. 20247-6

October 1, 1991

Client ID: **RUSH 12-1B**

EPA Method 8240 Continued . . . . .

CAS No.	Compounds	Concentration ug/kg	PQL
71-43-2	Benzene	ND	1,000,000
10061-02-6	Trans-1,3-Dichloropropene	ND	1,000,000
75-25-2	Bromoform	ND	1,000,000
108-10-1	4-Methyl-2-Pentanone	ND	5,000,000
591-78-6	2-Hexanone	ND	1,000,000
127-18-4	Tetrachloroethene	ND	1,000,000
79-34-5	1,1,2,2-Tetrachloroethane	ND	1,000,000
108-88-3	Toluene	15,000,000	1,000,000
108-90-7	Chlorobenzene	ND	1,000,000
100-41-4	Ethyl Benzene	1,700,000	1,000,000
100-42-5	Styrene	ND	1,000,000
1330-20-7	Total Xylenes	1,700,000	1,000,000

ND = Not Detected
PQL - Practical Quantitation Limit - These are the detection limits for this sample. This number is based on sample size, matrix and dilution required.

Volatile Surrogates

Surrogate	Percent Recovery	Control Limits
Toluene - D8	97	81 - 117
Bromofluorobenzene	100	74 - 121
1,2-Dichloroethane D4	101	70 - 121

SOUND ANALYTICAL SERVICES

DENNIS L. BEAN

SOUND ANALYTICAL SERVICES, INC.

Envirocon, Inc.
Project: Gaco - Western

Lab No. 20247-7
October 1, 1991

Lab Sample No.	RUSH 16	RUSH 17
Client Identification	1-1B	7-1B
Units	mg/kg	mg/kg
WTPH-418.1 MODIFIED Heavy petroleum oils (C24+)	330	1,600

Lab Sample No. RUSH 16 **Client Identification 1-1B**

Volatile Aromatics by EPA SW-846 Method 8020

	Concentration, mg/kg
Benzene	< 0.50
Toluene	12
Chlorobenzene	< 0.50
Ethyl Benzene	17
meta & para xylene	59
ortho xylene	18
1,3 dichlorobenzene	< 0.50
1,4 dichlorobenzene	< 0.50
1,2 dichlorobenzene	< 0.50

Results are reported on a dry weight basis.

SOUND ANALYTICAL SERVICES

STAN P. PALMQUIST

SOUND ANALYTICAL SERVICES, INC.

Envirocon, Inc.
Project: Gaco - Western

Lab No. 20247-7
October 1, 1991

Volatile Aromatics per EPA SW-846 Method 8020.

Lab Sample No.	RUSH 13	RUSH 14	RUSH 15
Client ID	3-1BE	1-2W	2-2E
Units	mg/kg	mg/kg	mg/kg
Benzene	< 0.50	< 0.05	< 0.05
Toluene	330	< 0.05	< 0.05
Chlorobenzene	< 0.50	< 0.05	< 0.05
Ethyl benzene	120	< 0.05	0.05
meta & para xylene	420	0.55	0.21
ortho xylene	140	< 0.05	< 0.05
1,3 dichlorobenzene	< 0.50	< 0.05	< 0.05
1,4 dichlorobenzene	< 0.50	< 0.05	< 0.05
1,2 dichlorobenzene	< 0.50	< 0.05	< 0.05
Surrogate Recovery,% Trifluorotoluene	62	60	72

Results reported on a dry weight basis.

Continued . . . . .

SOUND ANALYTICAL SERVICES, INC.

Envirocon, Inc.
Project: Gaco - Western

Lab No. 20247-7
October 1, 1991

Lab Sample No.	RUSH 16	RUSH 17
Client Identification	1-1B	7-1B
Units	mg/kg	mg/kg
WTPH-418.1 MODIFIED Heavy petroleum oils (C24+)	330	1,600
Benzene	< 0.50	NT
Toluene	12	NT
Chlorobenzene	< 0.50	NT
Ethyl Benzene	17	NT
meta & para xylene	59	NT
ortho xylene	18	NT
1,3 dichlorobenzene	< 0.50	NT
1,4 dichlorobenzene	< 0.50	NT
1,2 dichlorobenzene	< 0.50	NT
Surrogate Recovery, % Trifluorotoluene	60	NT

Results are reported on a dry weight basis.

SOUND ANALYTICAL SERVICES

STAN P. PALMQUIST

SOUND ANALYTICAL SERVICES, INC.

SPECIALIZING IN INDUSTRIAL & TOXIC WASTE ANALYSIS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

Report To: Envirocon, Inc.

Date: October 1, 1991

Report On: Analysis of Soil

Lab No.: 20247-7

IDENTIFICATION:
Samples Received on 09-26-91
Project: Gaco - Western

ANALYSIS:

Volatile Aromatics per EPA SW-846 Method 8020.

Lab Sample No.	RUSH 7	RUSH 8	RUSH 9
Client ID	2-1B	5-1B	8-2E
Units	mg/kg	mg/kg	mg/kg
Benzene	< 0.50	< 0.50	0.05
Toluene	120	2,500	0.07
Chlorobenzene	< 0.50	< 0.50	< 0.05
Ethyl benzene	230	100	< 0.05
meta & para xylene	630	260	0.36
ortho xylene	230	150	< 0.05
1,3 dichlorobenzene	< 0.50	< 0.50	< 0.05
1,4 dichlorobenzene	< 0.50	< 0.50	< 0.05
1,2 dichlorobenzene	< 0.50	< 0.50	< 0.05
Surrogate Recovery, % Trifluorotoluene	108	108	54

Results reported on a dry weight basis.

Continued . . . . .

SOUND ANALYTICAL SERVICES, INC.

Envirocon, Inc.
Project: Gaco - Western

Lab No. 20247-7
October 1, 1991

Volatile Aromatics per EPA SW-846 Method 8020.

Lab Sample No.	RUSH 10	RUSH 11	RUSH 12
Client ID	6-1B	8-1B	7-2E
Units	mg/kg	mg/kg	mg/kg
Benzene	< 0.50	< 0.50	< 0.50
Toluene	840	40	18
Chlorobenzene	< 0.50	< 0.50	< 0.50
Ethyl benzene	90	< 0.50	84
meta & para xylene	200	13	330
ortho xylene	60	< 0.50	130
1,3 dichlorobenzene	< 0.50	< 0.50	< 0.50
1,4 dichlorobenzene	< 0.50	< 0.50	< 0.50
1,2 dichlorobenzene	< 0.50	< 0.50	< 0.50
Surrogate Recovery,% Trifluorotoluene	143	66	133

Results reported on a dry weight basis.

Continued . . . . .

SOUND ANALYTICAL SERVICES, INC.

SPECIALIZING IN INDUSTRIAL & TOXIC WASTE ANALYSIS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

QUALITY CONTROL REPORT

DUPLICATES

Lab No: 20247-7 (16)
Date: October 1, 1991
Client: Envirocon

Client ID: 1-1B
Matrix: Soil
Units: mg/kg

Compound	Sample(S)	Duplicate(D)	RPD*
Benzene	< 0.50	< 0.50	0.0
Toluene	12	12	0.0
Chlorobenzene	< 0.50	< 0.50	0.0
Ethyl Benzene	17	17	0.0
Meta & para xylene	59	62	5.0
Ortho xylenes	18	18	0.0
1,3 dichlorobenzene	< 0.50	< 0.50	0.0
1,4 dichlorobenzene	< 0.50	< 0.50	0.0
1,2 dichlorobenzene	< 0.50	< 0.50	0.0
%Surrogate Recovery Trifluorotoluene	60	72	
Total Petroleum Hydrocarbons	330	320	3.1

*RPD = relative percent difference
= [(S - D) / ((S + D) / 2)] x 100

SOUND ANALYTICAL SERVICES, INC.

SPECIALIZING IN INDUSTRIAL & TOXIC WASTE ANALYSIS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

ANALYTICAL NARRATIVE

8020 CHECKLIST

Client: Envirocon

Lab No.: 20247

Project Name: Gaco-Western

Prepared by: Don Mc Afee

Delivered by: Susan Walker

Analyzed by: Larry Zuraw

Lab Number	RUSH 12	RUSH 13	RUSH 14	RUSH 15	RUSH 16
Client ID	7-2E	3-1BE	1-2W	2-2E	1-1-B
Date Sampled	9-25-91	9-25-91	9-25-91	9-25-91	9-25-91
Date Received	9-26-91	9-26-91	9-26-91	9-26-91	9-26-91
Date Extracted	9-27-91	9-27-91	9-27-91	9-27-91	9-27-91
Date Analyzed	9-29-91	9-29-91	9-29-91	9-29-91	9-29-91
Dilution Factor					
Sample Matrix	Soil	Soil	Soil	Soil	Soil
Duplicate RPD					
Surrogate Recovery BTEX- Trifluorotoluene%	133	62	60	72	60

Condition of samples on receipt:
Samples were received in good condition. Chain of custody was in ordre.

Notes and Discussion:

SOUND ANALYTICAL SERVICES, INC.

SPECIALIZING IN INDUSTRIAL & TOXIC WASTE ANALYSIS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

ANALYTICAL NARRATIVE

8020 CHECKLIST

Client: Envirocon

Lab No.: 20247

Project Name: Gaco-Western

Prepared by: Don Mc Afee

Delivered by: Susan Walker

Analyzed by: Larry Zuraw

Lab Number	RUSH 7	RUSH 8	RUSH 9	RUSH 10	RUSH 11
Client ID	2-1B	5-1B	8-2E	6-1B	8-1B
Date Sampled	9-26-91	9-25-91	9-25-91	9-25-91	9-25-91
Date Received	9-26-91	9-26-91	9-26-91	9-26-91	9-26-91
Date Extracted	9-27-91	9-27-91	9-27-91	9-27-91	9-27-91
Date Analyzed	9-29-91	9-29-91	9-29-91	9-29-91	9-29-91
Dilution Factor					
Sample Matrix	Soil	Soil	Soil	Soil	Soil
Duplicate RPD					
Surrogate Recovery BTEX- Trifluorotoluene%	108	108	54	143	66

Condition of samples on receipt:
Samples were received in good condition. Chain of custody was in ordre.

Notes and Discussion:

SEP-30-91 MON 16:54 SOUND ANALYTICAL SVCS FAX NO. 206 922 5047 P. 02

ENVIROCON, INC.

Bellevue, Wa. 98004
649-8505
Fx 649-8487

CHAIN OF CUSTODY RECORD

Bill Sheaver, Envirocon

PROJ. NO.:

PROJECT NAME: Graco-Western

SAMPLERS: (Signature) Susan C. Walker

BACK UP SAMPLE

	STAT. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	W418.1 - WTPH	8020 (FULL)	8240			REMARKS
1	12-1B	9/25	1300			Bottom of Tank 12 ✓	1						* 12-1B → 8240 Analysis
2	2-1B	9/26	1555			Bottom of Tank 2 ✓	1		X				
3	9-1B	9/25	1320		X	Bottom of Tank 9 ✓	1			X (see label)			Note: Contaminant levels anticipated to be high.
4	5-1B	9/25	1725		X	Bottom of Tank 5 ✓	1		X				
5	8-2E	"	1530		X	East wall Tank 8 ✓	1		X				Microtip readings
6	6-1B	"	1645		X	Bottom of Tank 6 ✓	1		X				average 2000-4000
7	10-1B	"	1215		X	Bottom of Tank 10 ✓	1			X			ppm. Up to 8000
8	7-1B	"	1540		X	Bottom of Tank 7 ✓	1	X					
9	8-1B	"	1515		X	Bottom of Tank 8 ✓	1		X				
10	9-2E	"	1610		X	East Wall Tank 9 ✓	1		X				
11	11-2E	"	1110		X	East Wall Tank 11 ✓	1			X			RUSH
12	11-1B	"	1100		X	Bottom Tank 11 ✓	1			X			
13	4-1B	"	1500		X	Bottom of Tank 4 ✓	1			X			
14	3-1BE	"	1400		X	Bottom of Tank 3 ✓	1		X				
15	1-1B	"	1645		X	Bottom of Tank 1 ✓	1	X	X				These are lower conc.
16	1-2W	"	1605		X	West wall Tank 1 ✓	1		X				microtip ≈ 100 ppm
17	2-2E	"	1615		X	East wall Tank 2 ✓	1		X				

Relinquished (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Susan C Walker	9/26/91 1725				
Relinquished (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)

Chain of Custody Seal:

Intact? (yes/no) yes

Lab Personnel (receiving)

Signature: J Giang

Remarks: ~~[illegible]~~ 24 HR TAT

Split Samples:
[] Accepted [] Declined ______ Signature

ENVI. ICON, INC. (?) 649-8505 ~~[illegible]~~ 1564 ...levue, Wa. 98005

ATTN: Bill Sauer

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME
	Gaco-Western

SAMPLERS: *(Signature)* Susan C. Walker

STAT. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CON-TAINERS	W418.1 - WTPH	8240				REMARKS
C-1B	9/24	1300		X	Bottom Tank C	1	X					NOTE: For all samples
C2-E	9/24	1310		X	E. wall Tank C	1	X					expect high concentra-
D-1	9/24	1715	X		Stockpile - 2 grabs	1	X	X				tions, potentially
B-1B	9/24	1445		X	Bottom Tank B	1		X				for WTPH & VOAs.
B-2E	9/24	1630		X	E. Wall Tank B	1		X				Microtip readings
A-1B	9/24	1645		X	Bottom Tank A	1		X				average @1000-1500 ppm
A-2SE	9/24	1650		X	SE corner Tank A	1		X				
A-3W	9/24	1700		X	W. wall near Tank A	1		X				
D-1B	9/24	1315		X	Bottom Tank D	1		X				

Relinquished *(Signature)*	Date/Time		Received by: *(Signature)*	Relinquished by: *(Signature)*	Date/Time	Received by: *(Signature)*
Susan C. Walker	9/25	1000	S Gong			
Relinquished *(Signature)*	Date/Time		Received by: *(Signature)*	Relinquished by: *(Signature)*	Date/Time	Received by: *(Signature)*

Chain of Custody Seal:

Intact? (yes/no) ______

Lab Personnel (receiving)

Signature: ______

Remarks RUSH! - 24 HR TAT

Split Samples:
[] Accepted [] Declined ______ Signature

JND ANALYTICAL SERVICES, INC.
ANALYTICAL & ENVIRONMENTAL CHEMISTS

4813 Pacific Hwy. East
Tacoma, Washington 98424
(206) 922-2310 • FAX (206) 922-5047

CHAIN OF CUSTODY / REQUEST FOR LABORATORY ANALYSIS

CLIENT: Envirocon

PROJECT NAME: Gaco Western

CONTACT: Bill Shearer

PHONE NO: 649-8505

ANALYSIS REQUESTED: (Circle, check box or write preferred method in box) OTHER:

SAMPLE ID #	DATE	TIME	PRES.	MATRIX	BTEX	TPH 418.1	TPH Mod 8015	BTEX/8015 Combo Gasoline Only	Halogenated Volatiles EPA 601/8010	Aromatics EPA 602/8020	PAH EPA 625/8270	Purgeables (GC/MS) EPA 624/8240	BNA's EPA 625/8270	Organochlorine Pest.,PCB's EPA 608/8080	Total Halogens EPA 9076	TCLP Extraction Metals	TCLP Extraction (ZHE) Volatile Organics	TCLP Extraction Semi-volatiles	TCLP Extraction Pesticides & Herbicides	Total Metals ICP GFAA							
1. E-1	9/27	1045	none	soil								X															
2.																											
3.																											
4.																											
5.																											
6.																											
7.																											
8.																											
9.																											
10.																											
11.																											
12.																											

RELINQUISHED BY:	RELINQUISHED BY:	RELINQUISHED BY:
Signature: Susan C. Walker	Signature:	Signature:
Printed Name: Susan C. Walker	Printed Name:	Printed Name:
Firm: Envirocon	Firm:	Firm:
Date/Time: 9/27/91 1250	Date/Time:	Date/Time:
RECEIVED BY:	RECEIVED BY:	RECEIVED BY:
Signature: S Biang	Signature:	Signature:
Printed Name: S Biang	Printed Name:	Printed Name:
Firm: SB	Firm:	Firm:
Date/Time: 9/27/91 1250	Date/Time:	Date/Time:

SPECIAL INSTRUCTIONS / COMMENTS:

Rush - TAT 24 hrs.

FAX 575-0587

Adrien Jenkins @ Gaco-Western & to Bill Shearer

APPENDIX C
REFERENCES

APPENDIX C
REFERENCES

Guidance for Site Checks and Site Assessment for Underground Storage Tanks, Washington State Department of Ecology Underground Storage Tank Program, February, 1991.

Guidance for Remediation of Releases from Underground Storage Tanks, Washington State Department of Ecology Leaking Underground Storage Tank Program, July, 1991.

The Model Toxics Control Act Cleanup Regulations, Chapter 173-340 WAC, February 28, 1991.

1992 Ecology Agreed Order

FS 2402

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

In the Matter of Remedial Action by: GACO Western, Inc 18700 Southcenter Parkway Tukwila, Washington	)	AGREED ORDER No. DE 92 HS - N28S

TO: GACO Western, Inc.
18700 Southcenter Parkway
Tukwila, Washington

I.

Jurisdiction

This Agreed Order ("Order") is issued pursuant to the authority of RCW 70.105D.050(1).

II.

Findings of Fact

The mutual objectives of the parties in entering into this Order are to prevent the release of hazardous substances from the Site, to prevent contamination of the waters of the state, and to protect the public health, welfare and environment. To accomplish these objectives and to resolve the matter constructively and without litigation, GACO Western, Inc. (GACO Western) agrees to perform the remedial investigations required by this Order. Based upon the information available to it and without adjudication of any facts or legal issues, and without admission of any facts by GACO Western, the Washington State

Department of Ecology (Ecology) finds that the following facts exist for the purpose of issuance of this Order:

A. GACO Western Inc. is a manufacturing facility located at 18700 Southcenter Parkway, Tukwila, WA. GACO Western's EPA/State hazardous/dangerous waste identification number is "WAD 009241027". GACO Western is an active Medium Quantity Generator of dangerous wastes (less than 2200 lb/yr and greater than 220 lb/yr). The company manufactures liquid rubber coatings used for industrial tank liners, roof coatings, and general waterproofing. There is approximately 33,000 square feet of manufacturing area and approximately 13,000 square feet of office space. The Site occupies an area of approximately three acres. North of the Site is the Segale Asphalt Plant and south of the Site is the Mitchell Moving/Storage Warehouse. A residential property is located west of the Site (and across Southcenter Parkway); however, none of the surrounding area is zoned residential for a radius of approximately one-half mile. The Green River is approximately 70' east of the GACO facility and 150' from any production areas of the plant. The GACO Western property eastern boundary is the high-water mark of the Green River. The GACO Western facility has been in commercial operation in Tukwila, Washington since 1968.

B. Until no later than September 1991, GACO Western operated 14 underground storage tanks (USTs), located on the west side of the above referenced Site. These USTs were organized in two groups: three USTs were clustered on the southwest side of

the facility and 11 USTs were clustered on the northwest side of the facility. The two UST groups were approximately 50 feet apart. These USTs contained the following product materials: xylenes, toluene, methyl-ethyl ketone, and ethylbenzene, chlorinated paraffins, cyclolube, trimethyl benzene, propanol, and naphtha. These products were pumped through an underground piping system into the facility building for manufacturing processes.

C. In mid-1991, GACO Western decided to have the 14 USTs removed and convert to a "just-in-time" system of production materials delivery. In September 1991, Northwest EnviroService, as a subcontractor to Envirocon, Inc., removed and disposed of the 14 USTs. Two pits were opened to remove the 14 USTs and associated piping. Solvents were detected under some of the tanks upon removal. Approximately seven yards of soil was removed from the excavated pits during UST removal and stockpiled near the excavation. GACO Western covered the two open pits with a high density polyethylene (HDPE) liner. Rain water on the surface of the HDPE liner was pumped out as necessary. Although GACO Western provided prior notice to Ecology of intent to remove its underground storage tanks, Ecology was unable to be present during tank removal operations.

D. Also, in September 1991, GACO Western hired ENVIROCON, Inc. as their environmental consultant to characterize the soil and ground water contamination suspected to be present after tank removal. ENVIROCON recommended the installation of four resource

protection wells located on the west side of the GACO Western facility. According to GACO Western records, these resource protection wells were screened over a clay-silt layer separating two water-bearing zones. Ground water samples taken from the four resource protection wells confirmed the presence of benzene, ethyl benzene, xylenes, and toluene in the ground water. In February 1992, while making water level measurements in the four resource protection wells, GACO Western personnel detected approximately 3/8"-1/2" of free product on top of the ground water table in resource protection well MW-3. Subsequent laboratory analysis identified this product as gasoline or a gasoline-like substance. At this time GACO Western does not have sufficient information to determine the amount of product released into the surrounding soils.

E. According to GACO Western, the water table fluctuates between 2-3 feet below ground surface in the winter and between 17-20 feet below ground surface in the summer.

F. Based on the chemical analyses of soil samples taken at the bottom of the two excavations and from soil borings, preliminary data indicated the following hazardous substances are present in the soils at the Site:

Methyl-Ethyl Ketone

Ethyl Benzene

Xylene (ortho, meta, para)

Toluene

Preliminary data indicated the following hazardous substances present in groundwater:

Benzene

Ethyl Benzene

MIBK

Methylene Chloride

Toluene

Xylene

Chloroform

1-1-2-2-Tetrachloroethane

Tetrachloroethene

Trichloroethene

1-2 Dichloroethene (Total)

1-1-1 Trichloroethane

G. On October 21, 1991 GACO Western and ENVIROCON representatives met with staff from the Department of Ecology to discuss the situation at the Site and to seek Ecology's advice about remedial measures. The company and its consultant speculated that the contamination found after tank removal may have been due to leaks from the underground piping system, or to unreported overfills, or a combination of both. The contractual agreement between GACO Western and ENVIROCON Inc. expired March 30, 1992. The contract was not renewed. ENVIROCON last performed work for GACO Western in November 1991. GACO Western hired Hart Crowser, Inc. (Hart Crowser) as their environmental consultant on November 8, 1991.

H. GACO Western recommended and was given permission by Ecology on February 19, 1992 to abandon the four existing resource protection wells to eliminate the possible threat of cross-contamination of the lower water-bearing zone as described in the Work Plan attached as Exhibit A. These wells were abandoned during the week of 2/24/92 through 2/28/92. Five resource protection wells (HC-1S, HC-2S, HC-3S, HC-4S, and HC-5S) were installed in the upper water-bearing zone during the week of 2/24/92. Two resource protection wells were installed in the lower water-bearing zone on April 13, 1992. All resource protection wells were installed as described in the Workplan attached as Exhibit A.

III.

Ecology Determinations

A. GACC Western is an "owner or operator" as defined at RCW 70.105D.020(6) of a "facility" as defined in RCW 70.105D.020(3).

B. The facility is known as GACO Western, Inc. and is located at 18700 Southcenter Parkway, Tukwila, Washington.

C. The substances found at the facility as described in Section II. Findings of Fact are "hazardous substances" as defined at RCW 70.105D.020(5).

D. Based on the presence of these hazardous substances at the facility and all factors known to the Department, there is a release or threatened release of hazardous substances from the facility, as defined at RCW 70.105D.020(10).

E. By a letter of March 24, 1992, GACO Western voluntarily waived its rights to notice and comment and accepted Ecology's determination that GACO Western is a "potentially liable person" under RCW 70.105D.040.

F. Pursuant to RCW 70.105D.030(1) and 70.105D.050, the Department may require potentially liable persons to investigate or conduct other remedial actions with respect to the release or threatened release of hazardous substances, whenever it believes such action to be in the public interest.

G. Based on the foregoing facts, Ecology believes the remedial investigations required by this Order are in the public interest.

IV.

Work to be Performed

Based on the foregoing Facts and Determinations, it is hereby agreed that GACO Western take the following remedial actions as more fully described in the Workplan attached to this Agreed Order as Exhibit A. These actions shall be conducted in accordance with Chapter 173-340 WAC unless otherwise specifically provided for herein. Exhibit A is incorporated by this reference and is an integral and enforceable part of this Agreed Order.

All work described in Tasks 1 through 5 shall be performed as soon as possible, but no later than seventy-five (75) days from the effective date of this Agreed Order, and in accordance with the Workplan attached as Exhibit A.

* Task 1: Within 30 days of the effective date of this Order, GACO Western will provide Ecology with the results of the most recent UST integrity certification report for all 14 USTs removed from the GACO Western facility. A safety and health plan meeting requirements of WAC 173-340-810 is required (WAC 173-340-430(6)(e)) and shall be submitted to Ecology within five (5) days of the effective date of this Order.

* Task 2: Abandonment of the four existing 4-inch diameter resource protection wells, installation of eight new resource protection wells, and collection of a 2.0 foot section of the clay-silt layer as discussed in Exhibit A. The locations of the eight new resource protection wells and clay-silt (Shelby Tube) soil sample are described in Exhibit A.

* Task 3: Soil sampling and chemical analyses, groundwater sampling and chemical analyses, dangerous waste material handling and disposal in accordance with applicable dangerous waste and MTCA regulations, excavation and management of contaminated soil at the south tank excavation, soil vapor survey, in-situ air permeability testing, in-situ vapor extraction system design and final report submittal.

* Task 4: Tank excavation backfilling and compaction, and horizontal soil venting system installation activities.

* Task 5: Hydrogeological characterization of the Site and identification of the horizontal and vertical extent of soil and ground water contamination at the Site.

* Task 6: GACO Western shall submit to Ecology within thirty (30) calendar days of completion of Tasks 1-5 a draft written report that completely describes the work performed pursuant to Section IV of this Agreed Order. This draft report will include all soil and ground water data obtained throughout the duration of the investigation. This report shall meet the general submittal requirements of WAC 173-340-840. GACO Western shall submit a final written report to Ecology within fifteen (15) days of receipt of Ecology's comments on the draft report.

* Task 7: After completion of Task 6, Ecology will determine whether GACO Western will be required to complete (1) a site specific baseline risk assessment in accordance with WAC 173-340-350(6)(d) and/or (2) a feasibility study of cleanup actions for environmental problems identified in the Remedial Investigation. If Ecology so requires, then GACO Western agrees to submit a draft Workplan for a complete feasibility study and/or site specific risk assessment to Ecology in accordance with WAC 173-340-350 within 30 days after receiving written notice from Ecology. If Ecology requires a feasibility study, then it shall include estimated costs and potential effectiveness of the proposed final cleanup action. Within 15 days of receipt of

Ecology's comments on the draft Workplan submitted by GACO Western, GACO Western shall submit a final Workplan.

* Task 8: Within 90 days after Ecology gives written approval of the Workplan as described in Task 7, GACO Western shall submit a draft report describing the results of implementation of the Task 7 Workplan. Within 15 days of receipt of Ecology's comments on the draft report, GACO Western shall submit a final report to Ecology in accordance with WAC 173-340-840.

V.

Terms and Conditions of Order

A. Definitions. Unless otherwise specified, the definitions set forth in ch. 70.105D RCW and ch. 173-340 WAC shall control the meanings of the terms used in this Order.

B. Public Notices. WAC 173-340-600(10)(c) requires a 30 day public comment period before this Agreed Order on a state RI/FS becomes effective. Ecology shall be responsible for providing such public notice and reserves the right to modify or withdraw any provisions of this Order should public comment disclose facts or considerations which indicate to Ecology that the Order is inadequate or improper in any respect.

C. Remedial Action Costs. GACO Western shall pay to Ecology costs incurred by Ecology pursuant to this Order. These costs shall include work performed by Ecology or its contractors for investigations, remedial actions, and Order preparation, oversight and administration. Ecology costs shall include costs

of direct activities; e.g., employee salary, laboratory costs, travel costs, contractor fees, and employee benefit packages; and agency indirect costs of direct activities. GACO Western shall pay the required amount within 90 days of receiving from Ecology an itemized statement of costs that includes a summary of costs incurred, an identification of involved staff, and the amount of time spent by involved staff members on the project. A general description of work performed will be provided upon request. Itemized statements shall be prepared quarterly. Failure to pay Ecology's costs within 90 days of receipt of the itemized statement of costs may result in interest charges.

D. Designated Project Coordinators. The project coordinators for Ecology are:

Dean D. Yasuda
Department of Ecology
3190 160th Ave. SE, MS-NB81
Bellevue, Washington 98008-5452 (206) 649-7264

and

Robin D. Harrover
Department of Ecology
3190 160th Ave. SE, MS-NB81
Bellevue, Washington 98008-5452 (206) 649-7232

The project coordinators for GACO Western are:

James P. Hazard, President (206) 575-0450
GACO Western, Inc.
Post Office Box 88698
Seattle, Washington 98138-2698

and

Adrian L. Jenkins, (206) 575-0450
International Sales Manager Services
GACO Western, Inc.
Post Office Box 88698
Seattle, Washington 98138-2698

The project coordinators shall be responsible for overseeing the implementation of this Order. To the maximum extent possible, communications between Ecology and GACO Western, and all documents, including reports, approvals, and other correspondence concerning the activities performed pursuant to the terms and conditions of this Order, shall be directed through the project coordinators. Should Ecology or GACO Western change project coordinator(s), written notification shall be provided to Ecology or GACO Western at least ten (10) calendar days prior to the change. The project coordinators may make modifications to the Workplan, provided there is mutual agreement of the parties evidenced by written documentation.

E. Performance. All work performed pursuant to this Order shall be under the direction and supervision, as necessary, of a professional engineer or hydrogeologist, or similar expert, with appropriate training, experience and expertise in hazardous waste site investigation and cleanup. GACO Western shall notify Ecology as to the identity of such engineer(s) or hydrogeologist(s), and of any contractors and subcontractors to be used in carrying out the terms of this Order, in advance of their involvement at the Site. WAC 173-340-400(7)(b)(i) requires that "construction" performed on the Site shall be under the supervision of a professional engineer registered in Washington.

Except where necessary to abate an emergency situation, GACO Western shall not perform any remedial actions at GACO Western, Inc. outside that required by this Order unless Ecology concurs, in writing, with such additional remedial actions.

F. Access. Ecology or any Ecology authorized representative shall have the authority to enter and freely move about the Site at all reasonable times for the purposes of, inter alia: inspecting records, operation logs, and contracts related to the work being performed pursuant to this Order; reviewing the progress in carrying out the terms of this Order; conducting such tests or collecting samples as Ecology or the project coordinator may deem necessary; using a camera, sound recording, or other documentary type equipment to record work done pursuant to this Order; and verifying the data submitted to Ecology by GACO Western. Ecology and its authorized representatives agree to comply with applicable health and safety standards when entering the Site. By signing this Agreed Order, GACO Western agrees that this Order constitutes reasonable notice of access, and agrees to allow access to the Site during regular business hours, 8:00 a.m. to 5:00 p.m. Monday through Friday, or at any time at which remedial actions pursuant to this Order are underway, or by appointment. Ecology shall allow split or replicate samples to be taken by GACO Western during an inspection, provided GACO Western has personnel readily available on-site to perform such sampling. GACO Western shall allow split or replicate samples to be taken by Ecology. Both Ecology and GACO Western shall make

best efforts to provide at least five (5) working days' advance notice to each other before any sampling activity.

G. Public Participation Plan. GACO Western shall prepare and/or update a public participation plan for the Site. Ecology shall maintain the responsibility for public participation at the Site. GACO Western shall help coordinate and implement public participation for the Site.

H. Retention of Records. GACO Western shall preserve in a readily retrievable fashion, during the pendency of this Order and for ten (10) years from the date of completion of the work performed pursuant to this Order, all records, reports, documents, and underlying data in its possession relevant to this Order. Should any portion of the work performed hereunder be undertaken through contractors or agents of GACO Western, then GACO Western agrees to include in their contract with such contractors or agents a provision requiring submittal of applicable records, reports, documents and underlying data to GACO Western for record retention.

I. Dispute Resolution record retention requirement meeting the terms of this paragraph. GACO Western may request Ecology to resolve disputes which may arise during the implementation of this Order. Such request shall be in writing and directed to the signatory to this Order. Ecology resolution of the dispute shall be binding and final. GACO Western is not relieved of any requirement of this Order during the pendency of the dispute and

remains responsible for timely compliance with the terms of the Order unless otherwise provided by Ecology in writing.

J. Reservation of Rights/No Settlement. This Agreed Order is not a settlement under ch. 70.105D RCW. Ecology's signature on this Order in no way constitutes a covenant not to sue or a compromise of any Ecology rights or authority. Ecology will not, however, bring an action against GACO Western to recover remedial action costs paid to and received by Ecology under this Agreed Order. In addition, Ecology will not take additional enforcement actions against GACO Western to require those remedial actions required by this Agreed Order, provided GACO Western complies with this Agreed Order.

Ecology reserves the right, however, to require additional remedial actions at the Site should it deem such actions necessary.

Ecology also reserves all rights regarding the injury to, destruction of, or loss of natural resources resulting from the releases or threatened releases of hazardous substances from GACO Western.

In the event Ecology determines that conditions at the Site are creating or have the potential to create a danger to the health or welfare of the people on the Site or in the surrounding area or to the environment, Ecology may order GACO Western to stop further implementation of this Order for such period of time as needed to abate the danger.

K. Transference of Property. No voluntary or involuntary conveyance or relinquishment of title, easement, leasehold, or other interest in any portion of the Site shall be consummated by GACO Western without provision for continued implementation of all requirements of this Order and implementation of any remedial actions found to be necessary as a result of this Order.

Prior to transfer of any legal or equitable interest GACO Western may have in the Site or any portions thereof, GACO Western shall serve a copy of this Order upon any prospective purchaser, lessee, transferee, assignee, or other successor in such interest. At least thirty (30) days prior to finalization of any transfer, GACO Western shall notify Ecology of the contemplated transfer.

L. Compliance with Other Applicable Laws. All actions carried out by GACO Western pursuant to this Order shall be done in accordance with all applicable federal, state, and local requirements.

M. Modification. Ecology and GACO Western may modify this Order by mutual written agreement. Substantial modification may require additional public notice and opportunity to comment.

VI.

Satisfaction of this Order

The provisions of this Order shall be deemed satisfied upon GACO Western's receipt of written notification from Ecology that GACO Western has completed the remedial activity required by this

Order, as amended by any modifications, and that all other provisions of this Agreed Order have been completed.

VII.

Enforcement

A. Pursuant to RCW 70.105D.050, this Order may be enforced as follows:

1. The Attorney General may bring an action to enforce this Order in a state or federal court.

2. The Attorney General may seek, by filing an action, if necessary, to recover amounts spent by Ecology for investigative and remedial actions and orders related to the Site.

3. In the event GACO Western refuses, without sufficient cause, to comply with any term of this Order, GACO Western will be liable for:

a. up to three times the amount of any costs incurred by the state of Washington as a result of its refusal to comply; and

(1) civil penalties of up to $25,000 per day for each day it refuses to comply.

4. This Order is not appealable to the Washington Pollution Control Hearings Board. This Order may be reviewed only as provided under Section 6 of ch. 70.105D RCW.

Effective date of this Order: November 16, 1992

GACO WESTERN, INC.

James P. Hazard
President

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

Julie Sellick
Section Supervisor
Solid & Hazardous Waste Section
Northwest Regional Office

115\gaco-fin ago

1993 Ecology Modified Agreed Order

GACO9
2402

RECEIVED
FEB 11 1993
DEPT. OF ECOLOGY

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

In the Matter of Remedial Action by: GACO Western, Inc 18700 Southcenter Parkway Tukwila, Washington 98188-4636	FIRST MODIFICATION OF AGREED ORDER No. DE 92 HS-N28S

TO: GACO Western, Inc.
18700 Southcenter Parkway
Tukwila, Washington

VIII.

First Modification

All work described in Section IV, Tasks 1 through 5, shall be performed by May 3, 1993 and in accordance with the Work plan attached to the Agreed Order and identified as Exhibit A.

GACO WESTERN, INC.

James P. Hazard
President
GACO Western, Inc.

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

Julie Sellick (2/12/93)
Julie Sellick
Section Supervisor
Solid and Hazardous Waste Sec.
Northwest Regional Office

GACO1.MOD

After recording, mail to:

Gaco Western, Inc.
P.O. Box 88698
Seattle, WA 98138-2698

RESTRICTIVE COVENANT

The undersigned, Gaco Western, Inc. ("Gaco"), is the fee owner of the real property described on Exhibit A in King County, Washington, hereafter referred to as the "Site." There are subsurface areas at the Site where there have been detections of petroleum hydrocarbons and volatile organic compounds including toluene, ethylbenzene, xylenes, MIBK and gasoline and oil range hydrocarbons at levels which exceed the Method A or B Cleanup Level Guidelines (depending on the constituent) as published in the Model Toxics Control Act ("MTCA") Regulations. More detailed information on the location and concentration of the detected substances and on the location of groundwater monitoring wells on the Site is available in reports that have been filed by Gaco with the Washington Department of Ecology or a successor agency ("Ecology"). These reports include the;

Final Report, Soil Vapor Extraction Interim Remedial Action Prepared by Hart Crowser, Febuary 9, 1994

Third Quarter Groundwater Monitoring Report And Long Term Monitoring Proposal, Prepared by Gaco Western, Inc., November 14, 1995

Gaco makes the following declarations as to limitations, restrictions and uses to which the Site may be put. It specifies that such declarations shall constitute covenants to run with the land, as provided by law, and shall be binding on all parties and all persons claiming under it, including all current and future owners of any portion of or interest in the Site.

1. No redevelopment of the property other than for street or industrial use shall hereafter be undertaken unless thirty days prior notice has been given to Ecology. For purposes of this restriction, "industrial use" means and includes any industrial use described or defined in or allowed under MTCA, MTCA regulations or the City of Tukwila's zoning laws.

2. Gaco will be sampling some if the existing groundwater monitoring wells at the Site pursuant to a program approved by Ecology. Any activity on the site that may interfere with such monitoring is prohibited. Gaco expressly reserves the right of access to the Site for

purposes of performing such monitoring or for any other environmental investigations or remediations that it may desire to undertake.

3. No groundwater may be taken for domestic purposes at the Site. No wells for the extraction of groundwater for domestic purposes shall be installed at the Site without Ecology approval.

4. The owner of the Site must be given written notice to Ecology of the owner's intent to convey any fee interest in the Site. No conveyance or title, easement, lease or other interest in the Site shall be consummated by the owner without adequate and complete provision for the continued operation, maintenance and monitoring of groundwater wells by Gaco.

5. The owner must notify and obtain approval from Ecology prior to any use of the Site that is inconsistent with the terms of this Restrictive Covenant. If required by applicable law, Ecology may have to seek public notice and comment prior to approval of the proposed change.

6. The owner shall allow authorized representatives from Ecology the right to enter the Site at reasonable times for the purpose of evaluating compliance with the monitoring of groundwater wells or any other remedial action undertaken by Gaco.

Owner reserves the right to record, with Ecology's prior approval, an instrument terminating this Restrictive Covenant and rendering it null and void and of no further force or effect.

Gaco Western, Inc.,
a Corporation

By
Name:
Title:

STATE OF)
)ss.
COUNTY OF)

On this _____ day of December, 1995, before me, the undersigned, sworn, personally appeared _____ to me known to be the person who signed as _____ of GACO WESTERN, INC., the corporation that executed the within and foregoing instrument, and acknowledged said instrument to be

the free and voluntary act and deed of said corporation for the uses and purposes therein mentioned, and on oath stated that _____ was duly elected, qualified and acting as said officer of the corporation, that _____ was authorized to execute said instrument and that the seal affixed, if any, is the corporate seal of said corporation.

IN WITNESS WHEREOF I have hereunto set my hand and official seal the day and year first above written.

(Signature of Notary)

(Print or stamp name of Notary)

NOTARY PUBLIC in and for the
State of Washington, residing at

My Appointment Expires:

1996 Ecology Restrictive Covenant

Corporate Office
P.O. Box 88698
Seattle, WA 98138
206-575-0450
FAX 575-0587
800-456-4226

Central Region
P.O. Box 646
Waukesha, WI 53187
414-542-8072
FAX 542-1095
800-331-0196

Eastern Region
45 Cedarfield Commons
Rochester, NY 14612
716-227-9700
FAX 227-9684
800-869-0958

February 2, 1996

Mr. Hideo Fujita
Washington State Department of Ecology
3190 160th Avenue SE
Bellevue, WA 98008-5452

RE: RESTRICTIVE COVENANT

Dear Mr. Fujita:

Please find enclosed a copy of the restrictive covenant as filed and recorded in King County.

Sincerely,

GACO WESTERN, INC.

Corinne Dobbins
Regulatory Compliance Officer

February 2, 1996

Mr. Hideo Fujita
Washington State Department of Ecology
3190 160th Avenue SE
Bellevue, WA 98008-5452

RE: RESTRICTIVE COVENANT

Dear Mr. Fujita:

Please find enclosed a copy of the restrictive covenant as filed and recorded in King County.

Sincerely,

GACO WESTERN, INC.

Corinne Dobbins
Regulatory Compliance Officer

cc Kimaki

Dec. 15, 1995

Fidelity National Title Company
1230 S. 336th St., Suite A
Federal Way, WA 98003
Attn: Jeanne Bowie

Dear Jeanne:

You may recall that you processed the financing of our property back in May of this year (your escrow number 03-355477). We have a small item now which I hope that you can handle for us.

We are required by the Washington State Dept. of Ecology (DOE) to attach the enclosed document to our deed as filed with the county. The specific subject property of this document is parcel A of our mortgaged property; I have enclosed a copy of the legal description of this parcel as it was contained in our mortgage file. Would you please see that this document becomes part of the county's recording for this parcel of our land?

Additionally, we will need to submit proof to the DOE that this step has been taken. Can you see that the county sends to us an official copy of the new recording including the appropriate stamp, recording number, etc.?

Someone in your office said that the cost for this process would be $10.00 for three pages, so enclosed is a check for that amount.

Please let me know how long this process will take, and don't hesitate to call if you have any other questions.

Sincerely,

Michael C. O'Leary
Vice President - Finance

After recording, mail to:

Gaco Western, Inc.
P.O. Box 88698
Seattle, WA 98138-2698

RESTRICTIVE COVENANT

The undersigned, Gaco Western, Inc. ("Gaco"), is the fee owner of the real property described on Exhibit A in King County, Washington, hereafter referred to as the "Site." There are subsurface areas at the Site where there have been detections of petroleum hydrocarbons and volatile organic compounds including toluene, ethylbenzene, xylenes, MIBK and gasoline and oil range hydrocarbons at levels which exceed the Method A or B Cleanup Level Guidelines (depending on the constituent) as published in the Model Toxics Control Act ("MTCA") Regulations. More detailed information on the location and concentration of the detected substances and on the location of groundwater monitoring wells on the Site is available in reports that have been filed by Gaco with the Washington Department of Ecology or a successor agency ("Ecology"). These reports include the;

Final Report, Soil Vapor Extraction Interim Remedial Action Prepared by Hart Crowser, Febuary 9, 1994

Third Quarter Groundwater Monitoring Report And Long Term Monitoring Proposal, Prepared by Gaco Western, Inc., November 14, 1995

Gaco makes the following declarations as to limitations, restrictions and uses to which the Site may be put. It specifies that such declarations shall constitute covenants to run with the land, as provided by law, and shall be binding on all parties and all persons claiming under it, including all current and future owners of any portion of or interest in the Site.

1. No redevelopment of the property other than for street or industrial use shall hereafter be undertaken unless thirty days prior notice has been given to Ecology. For purposes of this restriction, "industrial use" means and includes any industrial use described or defined in or allowed under MTCA, MTCA regulations or the City of Tukwila's zoning laws.

2. Gaco will be sampling some if the existing groundwater monitoring wells at the Site pursuant to a program approved by Ecology. Any activity on the site that may interfere with such monitoring is prohibited. Gaco expressly reserves the right of access to the Site for

purposes of performing such monitoring or for any other environmental investigations or remediations that it may desire to undertake.

3. No groundwater may be taken for domestic purposes at the Site. No wells for the extraction of groundwater for domestic purposes shall be installed at the Site without Ecology approval.

4. The owner of the Site must be given written notice to Ecology of the owner's intent to convey any fee interest in the Site. No conveyance or title, easement, lease or other interest in the Site shall be consummated by the owner without adequate and complete provision for the continued operation, maintenance and monitoring of groundwater wells by Gaco.

5. The owner must notify and obtain approval from Ecology prior to any use of the Site that is inconsistent with the terms of this Restrictive Covenant. If required by applicable law, Ecology may have to seek public notice and comment prior to approval of the proposed change.

6. The owner shall allow authorized representatives from Ecology the right to enter the Site at reasonable times for the purpose of evaluating compliance with the monitoring of groundwater wells or any other remedial action undertaken by Gaco.

Owner reserves the right to record, with Ecology's prior approval, an instrument terminating this Restrictive Covenant and rendering it null and void and of no further force or effect.

Gaco Western, Inc.,
a WASHINGTON Corporation

By

Name: MICHAEL C. O'LEARY
Title: VICE-PRESIDENT, FINANCE

STATE OF WASHINGTON)
)ss.
COUNTY OF KING)

On this 15th. day of December, 1995, before me, the undersigned, sworn, personally appeared MICHAEL C. O'LEARY to me known to be the person who signed as V.P.-FINANCE of GACO WESTERN, INC., the corporation that executed the within and foregoing instrument, and acknowledged said instrument to be

the free and voluntary act and deed of said corporation for the uses and purposes therein mentioned, and on oath stated that MICHAEL C. O'LEARY was duly elected, qualified and acting as said officer of the corporation, that MICHAEL C. O'LEARY was authorized to execute said instrument and that the seal affixed, if any, is the corporate seal of said corporation.

IN WITNESS WHEREOF I have hereunto set my hand and official seal the day and year first above written.

Yolanda L Sewell

(Signature of Notary)

(Print or stamp name of Notary).

NOTARY PUBLIC in and for the State of Washington, residing at

Auburn, WA

My Appointment Expires:

DESCRIPTION:

PARCEL A:

THAT PORTION OF GOVERNMENT LOT 6, SECTION 35, TOWNSHIP 23 NORTH, RANGE 4 EAST, W.M., IN KING COUNTY, WASHINGTON, LYING SOUTHEASTERLY OF THE SOUTHEASTERLY MARGIN OF COUNTY ROAD SOUTHCENTER PARKWAY, FORMERLY 57TH AVENUE SOUTH, AND SOUTHWESTERLY OF A LINE DESCRIBED AS FOLLOWS:

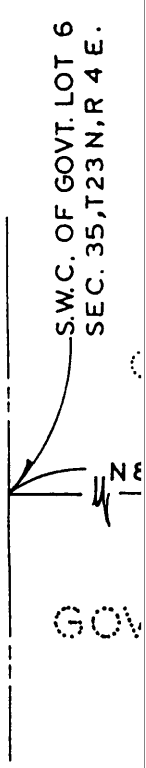
COMMENCING AT A POINT FROM WHICH THE SOUTHWEST CORNER OF SAID GOVERNMENT LOT 6 BEARS SOUTH 0°58'10" WEST 313.17 FEET AND NORTH 89°01'50" WEST 505.54 FEET, SAID DISTANCES BEING MEASURED RESPECTIVELY AT RIGHT ANGLES TO AND ALONG THE SOUTH BOUNDARY LINE OF SAID GOVERNMENT LOT, SAID POINT BEING MARKED BY AN IRON PIPE SET BY R.W. JONES AND ASSOCIATES ON OCTOBER 4, 1966; THENCE NORTH 67°36'00" WEST 1.46 FEET, MORE OR LESS, TO THE SOUTHEASTERLY MARGIN OF SAID COUNTY ROAD AND THE TRUE POINT OF BEGINNING OF THE HEREIN DESCRIBED LINE; THENCE SOUTH 67°36'00" EAST 1.46 FEET, MORE OR LESS, TO SAID IRON PIPE; THENCE CONTINUE SOUTH 67°36'00" EAST 248.63 FEET TO A CONCRETE MONUMENT SET BY R.W. JONES AND ASSOCIATES ON OCTOBER 4, 1966; THENCE CONTINUE SOUTH 67°36'00" EAST TO THE BANK OF THE GREEN RIVER AND THE TERMINUS OF THE HEREIN DESCRIBED LINE.

PARCEL B:

THAT PORTION OF GOVERNMENT LOT 7, SECTION 35, TOWNSHIP 23, RANGE 4 EAST, W.M., LYING SOUTHEASTERLY OF COUNTY ROAD (SOUTHCENTER PARKWAY, FORMERLY 57TH AVENUE SOUTH) AND LYING NORTHEASTERLY OF A LINE ESTABLISHED OF STATUTORY WARRANTY DEED RECORDED AUGUST 3, 1973, UNDER RECORDING NO. 7308030425, SAID LINE BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT FROM WHICH THE NORTHWEST CORNER OF SAID GOVERNMENT LOT 7 BEARS SOUTH 0°58'10" WEST 313.17 FEET AND NORTH 89°01'50" WEST 505.54 FEET, SAID DISTANCES BEING MEASURED RESPECTIVELY AT RIGHT ANGLES TO AND ALONG THE NORTH BOUNDARY LINE OF SAID GOVERNMENT LOT, SAID POINT OF BEGINNING IS MARKED BY A CONCRETE MONUMENT WHICH IS INDICATED AS POINT "A" ON SURVEY DRAWING BY R.W. JONES AND ASSOCIATES, ENGINEERS AND SURVEYORS, DATED OCTOBER 6, 1966 AND ENTITLED BOUNDARY AND TOPOGRAPHIC SURVEY OF A PORTION OF GOVERNMENT LOTS 6, 7, SECTION 35, TOWNSHIP 23 NORTH, RANGE 4 EAST, W.M.; THENCE SOUTH 67°36'00" EAST 248.63 FEET TO A CONCRETE MONUMENT SET BY SAID ENGINEERS AND SURVEYORS ON OCTOBER 4, 1966 AND INDICATED AS POINT "B" ON SAID SURVEY DRAWING; THENCE SOUTH 23°57'22" WEST 208.79 FEET TO A CONCRETE MONUMENT ALSO SET BY SAID ENGINEERS AND SURVEYORS, SAID MONUMENT MARKING THE INTERSECTION WITH A LINE AT RIGHT ANGLES, SAID LINE TO BE REFERRED TO HEREINAFTER IN THIS DESCRIPTION AS THE SOUTHWESTERLY LINE OF THE GACO-WESTERN TRACT; THENCE CONTINUING SOUTH 23°57'22" WEST 138.76 FEET; THENCE NORTH 66°02'38" WEST ALONG A LINE PARALLEL TO SAID SOUTHWESTERLY LINE OF THE GACO-WESTERN TRACT 5.39 FEET TO A CONCRETE MONUMENT; THENCE CONTINUING NORTH 66°02'38" WEST 244.61 FEET, MORE OR LESS, TO AN INTERSECTION WITH THE SOUTHEASTERLY LINE OF 57TH AVENUE SOUTH; THENCE SOUTHWESTERLY ALONG SAID ROAD MARGIN 5.14 FEET, MORE OR LESS, TO AN INTERSECTION WITH THE NORTHWESTERLY EXTENSION OF THE NORTHEASTERLY FACE OF THE ALASKA SEAVAN BUILDING AND THE TRUE POINT OF BEGINNING OF THE LINE HEREIN DESCRIBED; THENCE SOUTH 66°02'38" EAST ALONG SAID EXTENSION AND ALONG SAID NORTHEASTERLY FACE OF SAID BUILDING AND ALONG THE SOUTHEASTERLY EXTENSION OF SAID BUILDING LINE 280 FEET, MORE OR LESS, TO THE BANK OF THE GREEN RIVER AND THE TERMINUS OF THE HEREIN DESCRIBED LINE.

SITUATE IN THE COUNTY OF KING, STATE OF WASHINGTON.



AUDITOR OR RECORDER'S CERTIFICATE

Filed for record this _____day of _____, 19___at _____ M.

in Book _____ of Surveys at page _____ at the request of

SURVEYOR'S CERTIFIC

This map correctly represents a

CONFIDENTIAL

PRIVILEGED

PERKINS COIE - SEATTLE

FAX NUMBER: (206) 583-8500

IF THERE ARE PROBLEMS WITH THIS TRANSMISSION, PLEASE CALL:

☐ CENTRAL FAX ROOM: (206) 583-8575

☑ 41 FLOOR RECEPTION: (206) 583-8888

ADDRESSEE GACO (COMPANY) FAX NO. 575-0587

CORINNE DOBBINS (INDIVIDUAL) Direct Dial 575-0450

FROM DOUG LITTLE Date 12.10.95

Pages (Including Cover Sheet) 4 Client Number 22273-1

Return to DSL NAME , 8511 EXT. , 41-15 OFFICE LOCATION

MESSAGE:

Corinne -

There are 2 items that need to be added to the attached restrictive covenant:

1. Legal Description in Exhibit A.
2. Title of reports filed with Ecology (in the blank at end of the first paragraph).

Call if you have questions.

Doug Little
583-8511

Sent By _____ ☐ Call Addressee to confirm they received this fax

[FAXCOVER.01]

After recording, mail to:

_____

_____

_____

RESTRICTIVE COVENANT

The undersigned, Gaco Western, Inc. ("Gaco"), is the fee owner of the real property described on Exhibit A in King County, Washington, hereafter referred to as the "Site." There are subsurface areas at the Site where there have been detections of petroleum hydrocarbons and volatile organic compounds including toluene, ethylbenzene, xylenes, MIBK and gasoline and oil range hydrocarbons at levels which exceed the Method A or B Cleanup Level Guidelines (depending on the constituent) as published in the Model Toxics Control Act ("MTCA") Regulations. More detailed information on the location and concentration of the detected substances and on the location of groundwater monitoring wells on the Site is available in reports that have been filed by Gaco with the Washington Department of Ecology or a successor agency ("Ecology"). These reports include the "_____[insert title and identifying information on the reports filed with Ecology]."

Gaco makes the following declarations as to limitations, restrictions and uses to which the Site may be put. It specifies that such declarations shall constitute covenants to run with the land, as provided by law, and shall be binding on all parties and all persons claiming under it, including all current and future owners of any portion of or interest in the Site.

1. No redevelopment of the property other than for street or industrial use shall hereafter be undertaken unless thirty days prior notice has been given to Ecology. For purposes of this restriction, "industrial use" means and includes any industrial use described or defined in or allowed under MTCA, MTCA Regulations or the City of Tukwila's zoning laws.

2. Gaco will be sampling some of the existing groundwater monitoring wells at the Site pursuant to a program approved by Ecology. Any activity on the site that may interfere with such monitoring is prohibited. Gaco expressly reserves the right of access to the Site for purposes of performing such monitoring or for any other environmental investigations or remediations that it may desire to undertake.

3. No groundwater may be taken for domestic purposes at the Site. No wells for the extraction of groundwater for domestic purposes shall be installed at the Site without Ecology approval.

4. The owner of the Site must give written notice to Ecology of the owner's intent to convey any fee interest in the Site. No conveyance or title, easement, lease or other interest in the Site shall be consummated by the owner without adequate and complete provision for the continued operation, maintenance and monitoring of groundwater wells by Gaco.

5. The owner must notify and obtain approval from Ecology prior to any use of the Site that is inconsistent with the terms of this Restrictive Covenant. If required by applicable law, Ecology may have to seek public notice and comment prior to approval of the proposed change.

6. The owner shall allow authorized representatives from Ecology the right to enter the Site at reasonable times for the purpose of evaluating compliance with the monitoring of groundwater wells or any other remedial action undertaken by Gaco.

Owner reserves the right to record, with Ecology's prior approval, an instrument terminating this Restrictive Covenant and rendering it null and void and of no further force or effect.

Gaco Western, Inc.,
a _____ corporation

By
Name:
Title:

STATE OF)
) ss.
COUNTY OF)

On this _____ day of _____, 1995, before me, the undersigned, a Notary Public in and for the State of _____, duly commissioned and sworn, personally appeared _____, to me known to be the person who signed as _____ of

GACO WESTERN, INC., the corporation that executed the within and foregoing instrument, and acknowledged said instrument to be the free and voluntary act and deed of said corporation for the uses and purposes therein mentioned, and on oath stated that _____ was duly elected, qualified and acting as said officer of the corporation, that _____ was authorized to execute said instrument and that the seal affixed, if any, is the corporate seal of said corporation.

IN WITNESS WHEREOF I have hereunto set my hand and official seal the day and year first above written.

(Signature of Notary)

(Print or stamp name of Notary)

NOTARY PUBLIC in and for the State of _____, residing at .
My Appointment Expires: .

10

43117

960117-0252 09:47:00 AM KING COUNTY RECORDS 004 LMC 10.00

After recording, mail to:

Gaco Western, Inc.
P.O. Box 88698
Seattle, WA 98138-2698

FIDELITY NATIONAL TITLE

960117 0252

RESTRICTIVE COVENANT

The undersigned, Gaco Western, Inc. ("Gaco"), is the fee owner of the real property described on Exhibit A in King County, Washington, hereafter referred to as the "Site." There are subsurface areas at the Site where there have been detections of petroleum hydrocarbons and volatile organic compounds including toluene, ethylbenzene, xylenes, MIBK and gasoline and oil range hydrocarbons at levels which exceed the Method A or B Cleanup Level Guidelines (depending on the constituent) as published in the Model Toxics Control Act ("MTCA") Regulations. More detailed information on the location and concentration of the detected substances and on the location of groundwater monitoring wells on the Site is available in reports that have been filed by Gaco with the Washington Department of Ecology or a successor agency ("Ecology"). These reports include the;

Final Report, Soil Vapor Extraction Interim Remedial Action Prepared by Hart Crowser, Febuary 9, 1994

Third Quarter Groundwater Monitoring Report And Long Term Monitoring Proposal, Prepared by Gaco Western, Inc., November 14, 1995

Gaco makes the following declarations as to limitations, restrictions and uses to which the Site may be put. It specifies that such declarations shall constitute covenants to run with the land, as provided by law, and shall be binding on all parties and all persons claiming under it, including all current and future owners of any portion of or interest in the Site.

1. No redevelopment of the property other than for street or industrial use shall hereafter be undertaken unless thirty days prior notice has been given to Ecology. For purposes of this restriction, "industrial use" means and includes any industrial use described or defined in or allowed under MTCA, MTCA regulations or the City of Tukwila's zoning laws.

2. Gaco will be sampling some if the existing groundwater monitoring wells at the Site pursuant to a program approved by Ecology. Any activity on the site that may interfere with such monitoring is prohibited. Gaco expressly reserves the right of access to the Site for

purposes of performing such monitoring or for any other environmental investigations or remediations that it may desire to undertake.

3. No groundwater may be taken for domestic purposes at the Site. No wells for the extraction of groundwater for domestic purposes shall be installed at the Site without Ecology approval.

4. The owner of the Site must be given written notice to Ecology of the owner's intent to convey any fee interest in the Site. No conveyance or title, easement, lease or other interest in the Site shall be consummated by the owner without adequate and complete provision for the continued operation, maintenance and monitoring of groundwater wells by Gaco.

5. The owner must notify and obtain approval from Ecology prior to any use of the Site that is inconsistent with the terms of this Restrictive Covenant. If required by applicable law, Ecology may have to seek public notice and comment prior to approval of the proposed change.

6. The owner shall allow authorized representatives from Ecology the right to enter the Site at reasonable times for the purpose of evaluating compliance with the monitoring of groundwater wells or any other remedial action undertaken by Gaco.

9601170252

Owner reserves the right to record, with Ecology's prior approval, an instrument terminating this Restrictive Covenant and rendering it null and void and of no further force or effect.

Gaco Western, Inc.,
a WASHINGTON Corporation

By

Name: MICHAEL C. O'LEARY
Title: VICE-PRESIDENT, FINANCE

STATE OF WASHINGTON)
)ss.
COUNTY OF KING)

On this 15th. day of December, 1995, before me, the undersigned, sworn, personally appeared MICHAEL C. O'LEARY to me known to be the person who signed as V.P.-FINANCE of GACO WESTERN, INC., the corporation that executed the within and foregoing instrument, and acknowledged said instrument to be

the free and voluntary act and deed of said corporation for the uses and purposes therein mentioned, and on oath stated that MICHAEL C. O'LEARY was duly elected, qualified and acting as said officer of the corporation, that MICHAEL C. O'LEARY was authorized to execute said instrument and that the seal affixed, if any, is the corporate seal of said corporation.

IN WITNESS WHEREOF I have hereunto set my hand and official seal the day and year first above written.

Yolanda L Sewell

(Signature of Notary)

(Print or stamp name of Notary)

NOTARY PUBLIC in and for the State of Washington, residing at Auburn, WA

My Appointment Expires:

9601170252

DESCRIPTION:

PARCEL A:

THAT PORTION OF GOVERNMENT LOT 6, SECTION 35, TOWNSHIP 23 NORTH, RANGE 4 EAST, W.M., IN KING COUNTY, WASHINGTON, LYING SOUTHEASTERLY OF THE SOUTHEASTERLY MARGIN OF COUNTY ROAD SOUTHCENTER PARKWAY, FORMERLY 57TH AVENUE SOUTH, AND SOUTHWESTERLY OF A LINE DESCRIBED AS FOLLOWS:

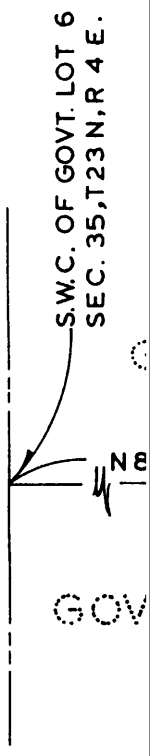
COMMENCING AT A POINT FROM WHICH THE SOUTHWEST CORNER OF SAID GOVERNMENT LOT 6 BEARS SOUTH 0°58'10" WEST 313.17 FEET AND NORTH 89°01'50" WEST 505.54 FEET, SAID DISTANCES BEING MEASURED RESPECTIVELY AT RIGHT ANGLES TO AND ALONG THE SOUTH BOUNDARY LINE OF SAID GOVERNMENT LOT, SAID POINT BEING MARKED BY AN IRON PIPE SET BY R.W. JONES AND ASSOCIATES ON OCTOBER 4, 1966; THENCE NORTH 67°36'00" WEST 1.46 FEET, MORE OR LESS, TO THE SOUTHEASTERLY MARGIN OF SAID COUNTY ROAD AND THE TRUE POINT OF BEGINNING OF THE HEREIN DESCRIBED LINE; THENCE SOUTH 67°36'00" EAST 1.46 FEET, MORE OR LESS, TO SAID IRON PIPE; THENCE CONTINUE SOUTH 67°36'00" EAST 248.63 FEET TO A CONCRETE MONUMENT SET BY R.W. JONES AND ASSOCIATES ON OCTOBER 4, 1966; THENCE CONTINUE SOUTH 67°36'00" EAST TO THE BANK OF THE GREEN RIVER AND THE TERMINUS OF THE HEREIN DESCRIBED LINE.

PARCEL B:

THAT PORTION OF GOVERNMENT LOT 7, SECTION 35, TOWNSHIP 23, RANGE 4 EAST, W.M., LYING SOUTHEASTERLY OF COUNTY ROAD (SOUTHCENTER PARKWAY, FORMERLY 57TH AVENUE SOUTH) AND LYING NORTHEASTERLY OF A LINE ESTABLISHED OF STATUTORY WARRANTY DEED RECORDED AUGUST 3, 1973, UNDER RECORDING NO. 7308030425, SAID LINE BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT FROM WHICH THE NORTHWEST CORNER OF SAID GOVERNMENT LOT 7 BEARS SOUTH 0°58'10" WEST 313.17 FEET AND NORTH 89°01'50" WEST 505.54 FEET, SAID DISTANCES BEING MEASURED RESPECTIVELY AT RIGHT ANGLES TO AND ALONG THE NORTH BOUNDARY LINE OF SAID GOVERNMENT LOT, SAID POINT OF BEGINNING IS MARKED BY A CONCRETE MONUMENT WHICH IS INDICATED AS POINT "A" ON SURVEY DRAWING BY R.W. JONES AND ASSOCIATES, ENGINEERS AND SURVEYORS, DATED OCTOBER 6, 1966 AND ENTITLED BOUNDARY AND TOPOGRAPHIC SURVEY OF A PORTION OF GOVERNMENT LOTS 6, 7, SECTION 35, TOWNSHIP 23 NORTH, RANGE 4 EAST, W.M.; THENCE SOUTH 67°36'00" EAST 248.63 FEET TO A CONCRETE MONUMENT SET BY SAID ENGINEERS AND SURVEYORS ON OCTOBER 4, 1966 AND INDICATED AS POINT "B" ON SAID SURVEY DRAWING; THENCE SOUTH 23°57'22" WEST 208.79 FEET TO A CONCRETE MONUMENT ALSO SET BY SAID ENGINEERS AND SURVEYORS, SAID MONUMENT MARKING THE INTERSECTION WITH A LINE AT RIGHT ANGLES, SAID LINE TO BE REFERRED TO HEREINAFTER IN THIS DESCRIPTION AS THE SOUTHWESTERLY LINE OF THE GACO-WESTERN TRACT; THENCE CONTINUING SOUTH 23°57'22" WEST 138.76 FEET; THENCE NORTH 66°02'38" WEST ALONG A LINE PARALLEL TO SAID SOUTHWESTERLY LINE OF THE GACO-WESTERN TRACT 5.39 FEET TO A CONCRETE MONUMENT; THENCE CONTINUING NORTH 66°02'38" WEST 244.61 FEET, MORE OR LESS, TO AN INTERSECTION WITH THE SOUTHEASTERLY LINE OF 57TH AVENUE SOUTH; THENCE SOUTHWESTERLY ALONG SAID ROAD MARGIN 5.14 FEET, MORE OR LESS, TO AN INTERSECTION WITH THE NORTHWESTERLY EXTENSION OF THE NORTHEASTERLY FACE OF THE ALASKA SEAVAN BUILDING AND THE TRUE POINT OF BEGINNING OF THE LINE HEREIN DESCRIBED; THENCE SOUTH 66°02'38" EAST ALONG SAID EXTENSION AND ALONG SAID NORTHEASTERLY FACE OF SAID BUILDING AND ALONG THE SOUTHEASTERLY EXTENSION OF SAID BUILDING LINE 280 FEET, MORE OR LESS, TO THE BANK OF THE GREEN RIVER AND THE TERMINUS OF THE HEREIN DESCRIBED LINE.

SITUATE IN THE COUNTY OF KING, STATE OF WASHINGTON.



9601170252

AUDITOR OR RECORDER'S CERTIFICATE

Filed for record this _____day of _____, 19___at _____ M.

in Book _____of Surveys at page _____ at the request of

SURVEYOR'S CERTIFIC

This map correctly represents a
my direction in conformance with

2009 Ecology Periodic Review

PERIODIC REVIEW

Gaco Western
FS ID#: 2402

18700 Southcenter Parkway
Tukwila, Washington 98138

Northwest Region Office

TOXICS CLEANUP PROGRAM

May 2009

1.0 INTRODUCTION

This document is a review by the Washington State Department of Ecology (Ecology) of post-cleanup site conditions and monitoring data to ensure that human health and the environment are being protected at the Gaco Western facility (Site). Cleanup at this Site was regulated by the Model Toxics Control Act (MTCA), Chapter 173-340 Washington Administrative Code (WAC).

Cleanup activities at this Site were regulated by MTCA Agreed Order No. DE 92 HS-N28S. The scope of the order was "field investigative work", not the entire cleanup. The cleanup actions resulted in residual concentrations of total petroleum hydrocarbons (TPH), volatile organic compounds (VOCs), benzene, toluene, ethylbenzene, xylenes and methyl isobutyl ketone (MIBK) exceeding MTCA Method A cleanup levels for soil and groundwater. The cleanup levels for soil were established under WAC 173-340-740(2). The MTCA Method A cleanup levels for groundwater are established under WAC 173-340-720(3). WAC 173-340-420 (2) requires that Ecology conduct a periodic review of a site every five years under the following conditions:

(a) Whenever the department conducts a cleanup action
(b) Whenever the department approves a cleanup action under an order, agreed order or consent decree
(c) Or, as resources permit, whenever the department issues a no further action opinion
(d) And one of the following conditions exists:

1. Institutional controls or financial assurance are required as part of the cleanup
2. Where the cleanup level is based on a practical quantitation limit
3. Where, in the department's judgment, modifications to the default equations or assumptions using site-specific information would significantly increase the concentration of hazardous substances remaining at the site after cleanup or the uncertainty in the ecological evaluation or the reliability of the cleanup action is such that additional review is necessary to assure long-term protection of human health and the environment.

When evaluating whether human health and the environment are being protected, the factors the department shall consider include [WAC 173-340-420(4)]:

(a) The effectiveness of ongoing or completed cleanup actions, including the effectiveness of engineered controls and institutional controls in limiting exposure to hazardous substances remaining at the site;
(b) New scientific information for individual hazardous substances of mixtures present at the site;
(c) New applicable state and federal laws for hazardous substances present at the Site;
(d) Current and projected site use;
(e) Availability and practicability of higher preference technologies; and
(f) The availability of improved analytical techniques to evaluate compliance with cleanup levels.

The department shall publish a notice of all periodic reviews in the Site Register and provide an opportunity for public comment.

2.0 SUMMARY OF SITE CONDITIONS

2.1 Site History

The Gaco Western Facility is located in an industrial area of south Seattle in King County, Washington (Vicinity Map - Appendix 6.1). Following remedial activities, a Restrictive Covenant was recorded for the property in 1996. The Site received a 'No Further Action' (NFA) determination in 1996 by Ecology's Hazardous Waste and Toxics Reduction Program for compliance with MTCA Agreed Order No. DE 92 HS-N28S. An NFA has not been issued by Ecology's Toxics Cleanup Program. The Site continues to be used for industrial purposes.

The Gaco Western facility has been in commercial operation in Tukwila, Washington since 1968. Gaco Western's dangerous waste identification number is WAD 009241027, and Gaco Western is an active Medium Quantity Generator of dangerous wastes (less than 2,200 pounds per year and greater than 220 pounds per year). The company manufactures liquid rubber coatings used for industrial tank liners, roof coatings, and general waterproofing. There is approximately 33,000 square feet of manufacturing area and approximately 13,000 square feet of office space at the facility. The Site occupies an area of approximately three acres. North of the Site is the Segale Asphalt Plant and south of the Site is the Mitchell Moving/Storage Warehouse. A residential property is located west of the Site; however, none of the surrounding area is zoned residential for a radius of approximately one-half mile. The Green River is approximately 70 feet east of the Gaco facility and 150 feet from any production areas of the plant. The Gaco Western property eastern boundary is the high-water mark of the Green River.

Gaco Western operated 14 underground storage tanks (USTs) until September 1991, which were located on the west side of the Site. These USTs were organized in two groups: three USTs were clustered on the southwest side of the facility and 11 USTs were clustered on the northwest side of the facility. The two UST groups were approximately 50 feet apart. These USTs contained xylenes, toluene, methyl-ethyl ketone, and ethylbenzene, chlorinated paraffins, cyclolube, trimethyl benzene, propanol, and naphtha. These products were pumped through an underground piping system into the facility building for manufacturing processes.

A site plan is available as Appendix 6.2.

2.2 Site Investigations and Cleanup

Gaco Western decided to have the 14 USTs removed and convert to a "just-in-time" system of production materials delivery in mid-1991. Northwest EnviroService, as a subcontractor to Envirocon, Inc., removed and disposed of the 14 USTs in September 1991. Two pits were opened to remove the 14 USTs and associated piping. Solvents were detected under some of the tanks upon removal. Approximately seven yards of soil were removed from the excavated pits

during UST removal and stockpiled near the excavation. Confirmation samples were collected from the limits of the excavation.

Envirocon installed four resource protection wells in 1991, located on the west side of the Gaco Western facility. According to Gaco Western records, these resource protection wells were screened across a clay-silt layer separating two water-bearing zones. Ground water samples taken from the four resource protection wells confirmed the presence of benzene, ethyl benzene, xylenes, and toluene in the ground water. Gaco Western personnel detected approximately 3/8"-1/2" of free product on top of the ground water table in February 1992, in resource protection well MW-3, while making water level measurements in the four resource protection wells. Subsequent laboratory analysis identified this product as gasoline or a gasoline-like substance.

Gaco Western recommended and was given permission by Ecology on February 19, 1992 to abandon the four existing resource protection wells to eliminate the possible threat of cross-contamination of the lower water-bearing zone. These wells were abandoned and five resource protection wells were installed in the upper water-bearing zone. Two resource protection wells were installed in the lower water-bearing zone in April 1992.

Based on the chemical analyses of soil samples taken at the bottom of the two UST excavations and from soil borings, data indicated the following hazardous substances are present in the soils at the site:

- Methyl-Ethyl Ketone
- Ethylbenzene
- Xylenes
- Toluene

Data from these samples is available in Appendix 6.3.

Groundwater monitoring data indicated the following hazardous substances present in groundwater:

- Benzene
- Ethyl Benzene
- MIBK
- Methylene Chloride
- Toluene
- Xylene
- Chloroform
- 1-1-2-2-Tetrachloroethane
- Tetrachloroethene
- Trichloroethene
- 1-2 Dichloroethene
- 1-1-1 Trichloroethane

2.3 Cleanup Levels

MTCA Method A and Method B cleanup levels were used for the Site. Some of the key contaminants of concern (COC) and their cleanup levels before and after MTCA changes in 2001 are listed in the table below:

Analyte	1991 MTCA Soil Cleanup Level (ppm)	2001 MTCA Method A Soil Cleanup Level (ppm)	1991 MTCA Method A Groundwater Cleanup level (ppb)	2001 MTCA Method A Groundwater Cleanup Level (ppb)
Arsenic	20	20	5	5
Benzene	0.5	0.03	5	5
Ethylbenzene	20	6	30	NL
Lead	250	250	5	15
Methyl Ethyl Ketone	NL	48000*	NL	4800*
Tetrachloroethylene	0.5	0.03	5	5
Toluene	40	7	40	1000
Total Xylenes	20	9	20	1000
TPH	NL	NL	1000	NL
TPH-Gas	100	100/30	NL	1000/800
TPH-Diesel	200	2000	NL	500
TPH-Oil	200	2000	NL	500
1,1,1 Trichloroethane	20	2	200	200

NL = None listed
ND = Not detected
*** = Method B level**

2.4 Groundwater Monitoring

Groundwater monitoring conducted at the Site between 1992 and 1996. At the time of the final groundwater monitoring event in 1996, groundwater samples collected from HC-1D and HC-2D exceeded MTCA Method A cleanup standards for benzene, ethylbenzene and total xylenes. The groundwater monitoring was ceased after the 1996 event, except for some voluntary sampling in 2007. The September 1996 sampling apparently provided completion to a groundwater sampling plan that was approved by Ecology's Hazardous Waste and Toxics Reduction Program (HWTRP). A letter from Ecology's HWTRP in 1995 indicated that the need for additional groundwater monitoring would be evaluated following the 1996 sampling event. There is no evidence that this evaluation took place, even though the data was sent to Ecology. Groundwater monitoring data from the 1992-1996 is available in Appendix 6.4.

2.5 Restrictive Covenant

The Restrictive Covenant was recorded in 1996 and is available as Appendix 6.5. The following limitations are found in the current Restrictive Covenant:

1. No redevelopment of the property other than for street or industrial use shall hereafter be undertaken unless thirty days prior notice has been given to Ecology. For purposes of this restriction, "industrial use" means and includes any industrial use described or defined in or allowed under MTCA, MTCA regulations or the City of Tukwila's zoning laws.
2. Gaco will be sampling some of the existing groundwater monitoring wells at the Site pursuant to a program approved by Ecology. Any activity on the Site that may interfere with such monitoring is prohibited. Gaco expressly reserves the right of access to the Site for purposes of performing such monitoring or for any other environmental investigations or remediations that it may desire to undertake.
3. No groundwater may be taken for domestic purposes at the Site. No wells for the extraction of groundwater for domestic purposes shall be installed at the Site without Ecology approval.
4. The owner of the Site must give written notice to Ecology of the owner's intent to convey any fee interest in the Site. No conveyance or title, easement, lease or other interest in the Site shall be consummated by the owner without adequate and complete provision for the continued operation, maintenance, and monitoring of groundwater wells by Gaco.
5. The owner must notify and obtain approval from Ecology prior to any use of the Site that is inconsistent with the terms of this Restrictive Covenant. If required by applicable law, Ecology may have to seek public notice and comment prior to approval of the proposed change.
6. The owner shall allow authorized representatives from Ecology the right to enter the site at reasonable times for the purpose of evaluating compliance with the monitoring of groundwater wells or any other remedial action undertaken by Gaco.

A 'No Further Action' determination was issued by Ecology's Hazardous Waste and Toxics Reduction Program in 1996. This determination stated that groundwater monitoring should continue for an additional quarter, after which the need for further monitoring would be evaluated. There is no indication that this evaluation took place.

3.0 PERIODIC REVIEW

3.1 Effectiveness of completed cleanup actions

Based upon the site visit conducted on January 8, 2009, the building and asphalt cover at the Site continue to eliminate exposure to contaminated soils by ingestion and direct contact. The asphalt in some locations appears moderately degraded, but it likely continues to prevent direct human contact to contaminated soils; however, it is unknown if it prevents surface water infiltration, carrying additional contaminants remaining in the soil to the groundwater. The Site continues to operate as a commercial facility. A photo log is available as Appendix 6.6.

The Restrictive Covenant for the Site was recorded and is in place. This Restrictive Covenant prohibits activities that could result in the release of contaminants contained as part of the cleanup, unless Ecology approves of the activity, and prohibits any use of the property that is inconsistent with the Covenant. This Restrictive Covenant if adhered to ensures the long term integrity of the asphalt cap.

Soils with VOC concentrations higher than MTCA Method A cleanup levels are still present at the Site. However, the structures and asphalt surface prevent human exposure to this contamination by ingestion and direct contact with soils and the Restrictive Covenant will prevent future exposure of these soils to the environment. Groundwater with benzene, ethylbenzene and total xylene concentrations exceeding MTCA Method A cleanup levels are also still be present at the Site, though groundwater use restrictions may prevent human exposure to contaminated groundwater. Groundwater does not appear to be actively isolated, contained, or controlled, but natural attenuation appears to prevent groundwater contamination from leaving the site or entering surface water. This is considered a conditional point of compliance for groundwater. It is unclear from the record that proper steps were taken to properly establish a conditional point of compliance. If this was not done, until groundwater standards are met, a conditional point of compliance for the contaminated groundwater should be established as close as practicable to the source of contamination. A feasibility study which includes a cost/benefit analysis is necessary to show that all practicable methods of treatment have been utilized. Additional groundwater monitoring should be conducted to ensure that groundwater cleanup levels are met at the conditional point of compliance, and contamination remains contained within the property boundaries.

3.2 New scientific information for individual hazardous substances for mixtures present at the Site

There is no new scientific information for the petroleum contaminants related to the Site.

3.3 New applicable state and federal laws for hazardous substances present at the Site

The cleanup at the site was governed by Chapter 173-340 WAC (1996 ed.). WAC 173-340-702(12) (c) [2001 ed.] provides that,

"A release cleaned up under the cleanup levels determined in (a) or (b) of this subsection shall not be subject to further cleanup action due solely to subsequent amendments to the provision in this chapter on cleanup levels, unless the department determines, on a case-by-case basis, that the previous cleanup action is no longer sufficiently protective of human health and the environment."

Although cleanup levels changed for some COCs at the Site as a result of modifications to MTCA in 2001, contamination remains at the site above MTCA Method A cleanup levels.

3.4 Current and projected site use

The site is currently used for industrial purposes. There have been no changes in current or projected future site or resource uses.

3.5 Availability and practicability of higher preference technologies

The remedy implemented included containment of hazardous substances and is likely to be protective of human health and the environment. While higher preference cleanup technologies may be available, they are still not practicable at this Site.

3.6 Availability of improved analytical techniques to evaluate compliance with cleanup levels

The analytical methods used at the time of the remedial action were capable of detection below MTCA Method A cleanup levels. The presence of improved analytical techniques would not effect decisions or recommendations made for the site.

4.0 CONCLUSIONS

The following conclusions have been made as a result of this periodic review:

- Soil and groundwater cleanup levels have not been met at the Site. The cleanup action complies with cleanup standards under WAC 173-340-740(6)(d) for soil and could comply WAC 173-340-720(6)(c) or (d) for groundwater if the groundwater meets requirements at a conditional point of compliance. It is not clear from the records that the requirements for establishing a conditional point of compliance for groundwater have been met. The long-term integrity of the asphalt cap is unpredictable because moderate degradation appears in some locations. The requirements for isolation and containment technologies in WAC 173-340-360(8) may not be met if the degradation continues. Please note these citations are from the MTCA regulations in effect at the time the remedy was implemented, and are incorrect if applied to the current regulations.

- The cleanup actions completed at the Site appear to be protective of human health for direct contact; groundwater remains contaminated on the property but does not appear to be affecting the abutting surface water.

- The Restrictive Covenant for the property is in place and continues to be effective in protecting humans from direct contact to hazardous substances.

- Groundwater monitoring occurred at the Site since 1996 in 2007. The results show groundwater contamination remaining in one well. This periodic review recommends until groundwater standards are met, a conditional point of compliance for the contaminated groundwater be established if one has not already been established. Additional groundwater monitoring should be conducted to ensure that groundwater cleanup levels are met at the conditional point of compliance, and contamination remains contained within the property boundaries and not entering surface water.

Based on this periodic review, the Department of Ecology has determined that the requirements of the Restrictive Covenant continue to be satisfactorily met, with the potential noted for degradation of the asphalt surface. It is the property owner's responsibility to continue to inspect the Site to ensure that the integrity of the Site surfaces is maintained. Remedial actions at the Site continue to be protective of human health and the environment, but it should be noted that there appear to be deficiencies in the record regarding establishing a conditional point of compliance for groundwater. It should also be noted that the March 26, 1996 'No Further Action' (NFA) letter from Ecology's Hazardous Waste and Toxics Reduction Program is not the equivalent of an NFA letter from Ecology's Voluntary Cleanup Program (VCP). The 1996 NFA letter only applies to the conclusion of "…field investigative work set forth in MTCA Agreed Order (DE 92HS-N28S)…", not completion of the entire cleanup action. It seems advisable for Gaco Western to enter the VCP to obtain a current NFA letter if such a letter is warranted.

4.1 Next Review

The next review for the site will be scheduled five years from the date of this periodic review. In the event that additional cleanup actions or institutional controls are required, the next periodic review will be scheduled five years from the completion of those activities.

5.0 REFERENCES

EnviroCon, Inc. 1991. Findings from UST Assessment.

Gaco Western, Inc. 1995. Third Quarter Ground Water Monitoring Report and Long Term Groundwater Monitoring Proposal.

Gaco Western, Inc. 1996. September 1996 Groundwater Monitoring Report.

Ecology. Restrictive Covenant, 1996.

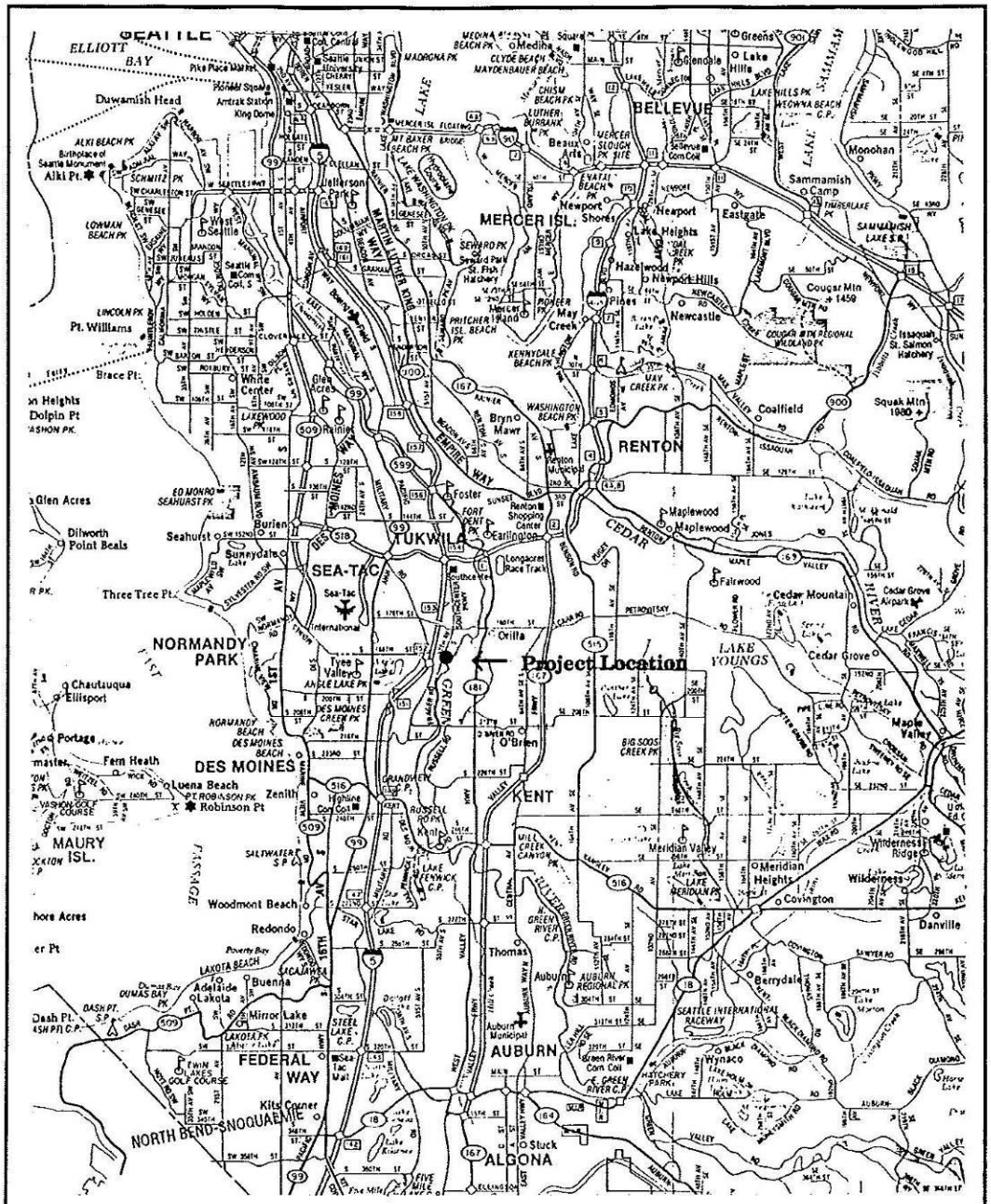
Ecology HW/TR. No Further Action letter. 1996.

2007 Groundwater Sampling Data provided by Gaco Western April 2, 2009.

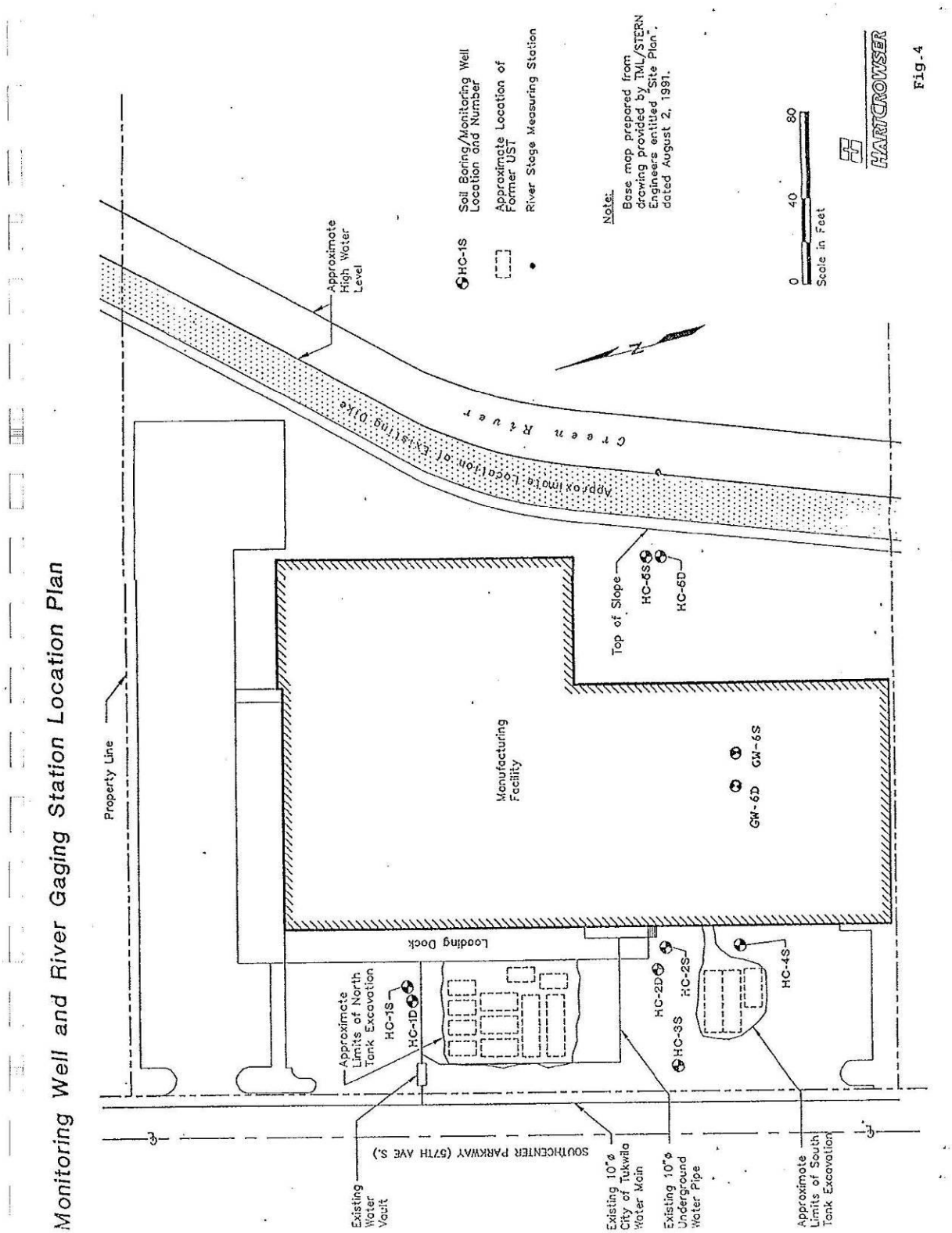
Ecology. Site Visit. 2009.

6.0 APPENDICES

6.1 Vicinity Map



6.2 Site Plan


Monitoring Well and River Gaging Station Location Plan
Soil Boring/Monitoring Well Location and Number
Approximate Location of Former UST
River Stage Measuring Station
Note:
Base map prepared from drawing provided by TML/STERN Engineers entitled "Site Plan", dated August 2, 1991.
HARTCROWSER
Fig.4
Scale in Feet
0
40
80
N
Approximate High Water Level
Approximate Location of Existing Dike
Green River
Property Line
Manufacturing Facility
Loading Dock
Top of Slope
HC-6S
HC-6D
GW-6S
GW-6D
HC-4S
HC-2D
HC-2S
HC-3S
HC-1S
HC-1D
Approximate Limits of North Tank Excavation
SOUTHCENTER PARKWAY (57TH AVE S.)
Existing Water Vault
Existing 10"ø City of Tukwila Water Main
Existing 10"ø Underground Water Pipe
Approximate Limits of South Tank Excavation

6.3 Soil Sampling Data

Table 1. A Summary of Results for Volatile Organics in Soils - EPA Test Method 8240

Sample Number	Sample Depth in Feet	MICRO TIP* (ppm)	TCA (ppm)	PCE (ppm)	MEK (ppm)	Toluene (ppm)	Ethyl benzene (ppm)	Total Xylene (ppm)
A-1B	12 to 13		-	-	-	19	160	1,600
A-2SE	7 to 8		-	0.120	-	-	-	0.092
A-3W	7 to 8		-	-	-	-	22	310
B-1B	12 to 13	1,023	-	-	-	4	26	260
B-2E	7		-	-	-	-	0.350	7.4
D-1B[1]	NA		-	-	-	-	16	120
D-1[2]	NA		-	-	-	12	97	900
E-1	2	11	0.06	-	-	-	0.130	0.870
4-1B	12 to 13	1,476	-	-	1,300	38	-	300
9-1B	12 to 13	8,013	-	-	-	6,500	870	870
10-1B	13	3,317	-	-	-	640	97	74
11-1B	12 to 13		-	-	-	400	71	130
11-2E	7 to 8		-	-	-	1.9	1.2	4.7
12-1B[3]	NA		-	-	-	15,000	1,700	1,700
MTCA			NA	0.5	NA	40	20	20

1 = Field Duplicate of B-1B
2 = Stockpile Soil Sample (composite)
3 = Field Duplicate of 9-1B
* = Field Screening Gas Analyzer - Photoionization Detector
Photovac MICROTIP
TCA = Tetrachloroethane
PCE = Tetrachloroethene
MEK = Methyl Ethyl Ketone (2-Butanone)
ppm = parts per million (mg/Kg)
- = below detection limit
MTCA = WA. State Models Toxics Control Act (Method A industrial soils)
NA = Not Applicable

Table 2. - A Summary of Results for Volatile Organics and Total Petroleum Hydrocarbons in Soils - EPA Test Methods 8020 and 418.1

Sample Number	Sample Depth in Feet	MICRO TIP* (ppm)	Toluene (ppm)	Ethyl benzene (ppm)	Total xylenes (ppm)	TPH (ppm)
C-1B	12	-	NA	NA	NA	-
C-2E	5	-	NA	NA	NA	-
D-1[a]						190
1-1B	10 to 12	3,900	12	17	77	330
1-2W	5 to 6	50	-	-	0.55	NA
2-1B	12 to 13		120	230	860	NA
2-2E	2		-	0.050	0.21	NA
3-1BE	12 to 13	4,800	330	120	560	NA
5-1B	12 to 13	2,120	2,500	100	410	NA
6-1B	12 to 13	5,500	840	90	260	NA
7-1B	12 to 13	8,176	NA	NA	NA	1,600
7-2E	4 to 5	6,676	18	84	460	NA
8-1B	13 to 14	1,700	40	-	13	NA
8-2E	12 to 13	76	0.070	-	0.36	NA
MTCA			40	20	20	200

a = See Table 1 for volatile organic results
* = Field Screening Gas Analyzer - Photoionization Detector
ppm = parts per million (mg/Kg)
- = below detection limit
MTCA = WA. State Models Toxics Control Act (Method A industrial soils)
NA = Not Analyzed

6.4 Groundwater Monitoring Data

Table 2 - Summary of Detected Chemical Constituents in Groundwater

Well	Acetone	Benzene	2-Butanone (MEK)	Total 1,2-Dichloro-ethene	Ethyl-benzene	4-Methyl-2-Pentanone (MIBK)	Tetrachloro-ethene	Toluene	Total Xylenes	TPH Quantified as Gasoline	TPH Quantified as Diesel
	Concentration in ug/L									Concentration in mg/L	
HC-1D											
12/9/92	10 U	39	88		670 D4	10 U	1 U	2,800 D4	2,000 D4	8	5 U
3/22/93	50 U	30	50 U		360	50 U	5 U	880	1,400	3	1 U
6/10/93	50 U	22	50 U		220	50 U	5 U	570	970	2	1 U
9/23/93	10 U	8	10 U		180	10 U	1 U	480 D3	920 D3	2	1 U
8/11/94	100 U	50 U	200 U		410 D4	200 U	50 U	3200 D4	900 D4	8.6 D4	NA
3/23/95	NA	36	NA		340	NA	NA	340	2100	NA	NA
6/30/95	NA	13 F	NA		100 E,F	NA	NA	78 E,F	710 E,F	NA	NA
10/3/95	20 U	25	20 U	1 U	460 E	1 U	1 U	1500 E,F	1510 E	NA	NA
9/29/96	400 U	27 D5	400 U	100 U	360 D5	100 U	100 U	980 D5	1400 D5	NA	NA
HC-2D											
12/9/92	140 B	240	100 U		6,400 D7	4,000 D7	10 U	2,200	28,000 D7	62	5 U
3/22/93	100 U	250	100 U		9,000 D7	630	10 U	2,200	36,000 D7	59	1 U
6/10/93	200 U	200	200 U		5,300	800	20 U	1,900	28,000 D7	44	1 U
9/23/93	500 U	250	500 U		6,700	1,100	50 U	1,400	29,000	51	1 U
8/11/94	1000 U	260 D8	1000 U		7,300 D8	1000 U	200 U	710 D8	18,000 D8	20 D4	NA
3/23/95	NA	210	NA		9,500	NA	NA	3,300	40,000	NA	NA
6/30/95	NA	320 D7,F	NA		10,000 D7,E,F	NA	NA	3,000 D7,E,F	42,000 D7,E,F	NA	NA
10/3/95	20 U	220	20 U	3.8	3,500	120 F	1 U	700 F, E	21,000	NA	NA
9/29/96	20 U	290 J	20 U	4.7 J	1,200 J	83 J	5 U	830 J	5,600 J	NA	NA

Notes:
D3 = Value from a five-fold diluted analysis
D4 = Value from a ten-fold diluted analysis
D5 = Value from a 20-fold diluted analysis
D7 = Value from a 100-fold diluted analysis
D8 = Value from a 50-fold diluted analysis
NA = Not Analyzed

J = Estimated value
U = Not detected at the method detection limit indicated
B = Constituent also detected in laboratory reagent blank; Laboratory contamination indicated
E = Constituent also detected in equipment blank
F = Constituent also detected in field blank

Table 2 - Summary of Detected Chemical Constituents in Groundwater (cont.)

Well	Acetone	Benzene	2-Butanone (MEK)	Total 1,2-Dichloro-ethene	Ethyl-benzene	4-Methyl-2-Pentanone (MIBK)	Tetrachloro-ethene	Toluene	Total Xylenes	TPH Quantified as Gasoline	TPH Quantified as Diesel
	Concentration in ug/L									Concentration in mg/L	
HC-5D											
12/9/92	10 U	1 U	10 U		1 U	10 U	1 U	1 U	2	1 U	5 U
3/22/93	10 U	1 U	10 U		2	10 U	1 U	1 U	3	1 U	1 U
6/10/93	10 U	1 U	10 U		1 U	10 U	1 U	1 U	1 U	1 U	1 U
9/23/93	10 U	1 U	10 U		1 U	10 U	1 U	1 U	2	1 U	1 U
8/11/94	20 U	5 U	20 U		5 U	20 U	5 U	5 U	5 U	0.05 U	NA
3/23/95	NA	0.74	NA		0.5 U	NA	NA	0.5 U	5.3	NA	NA
6/30/95	NA	0.5 U	NA		0.5 U	NA	NA	0.5 U	2.3 E,F	NA	NA
10/3/95	72 E,F	1 U	20 U	1 U	1 U	1 U	1 U	1 U	6 E	NA	NA
9/29/96	20 U	5 U	20 U	5 U	5 U	5 U	5 U	5 U	8.8	NA	NA
GW-6D											
8/11/94	20 U	5 U	20 U	7	5 U	20 U	5 U	5 U	5 U	0.05 U	NA
3/23/95	NA	1	NA	NA	0.5 U	NA	NA	0.5 U	0.5 U	NA	NA
6/30/95	NA	0.82 F	NA	NA	0.5 U	NA	NA	8.3 E,F	0.5 U	NA	NA
10/3/95	20 U	1 U	29 E,F	20	1 U	1 U	1 U	1 U	1 U	NA	NA
9/29/96	20 U	5 U	20 U	31	5 U	5 U	5 U	5 U	5 U	NA	NA
FIELD BLANK											
6/30/95	NA	0.5 U	NA		1.7	NA	NA	2.7	8	NA	NA
10/3/95	26	1 U	23	1 U	1 U	1.4	1 U	1.1	1 U	NA	NA

Notes:

D3 = Value from a five-fold diluted analysis
D4 = Value from a ten-fold diluted analysis
D5 = Value from a 20-fold diluted analysis
D7 = Value from a 100-fold diluted analysis
D8 = Value from a 50-fold diluted analysis
NA = Not Analyzed

J = Estimated value
U = Not detected at the method detection limit indicated
B = Constituent also detected in laboratory reagent blank; Laboratory contamination indicated
E = Constituent also detected in equipment blank
F = Constituent also detected in field blank

6.5 Environmental Covenant

10

L-3117

9601170252 01:47:00 PM KING COUNTY RECORDS 004 LRE 10.00

FIDELITY NATIONAL TITLE

9601170252

After recording, mail to:

Gaco Western, Inc.
P.O. Box 88698
Seattle, WA 98138-2698

RESTRICTIVE COVENANT

The undersigned, Gaco Western, Inc. ("Gaco"), is the fee owner of the real property described on Exhibit A in King County, Washington, hereafter referred to as the "Site." There are subsurface areas at the Site where there have been detections of petroleum hydrocarbons and volatile organic compounds including toluene, ethylbenzene, xylenes, MIBK and gasoline and oil range hydrocarbons at levels which exceed the Method A or B Cleanup Level Guidelines (depending on the constituent) as published in the Model Toxics Control Act ("MTCA") Regulations. More detailed information on the location and concentration of the detected substances and on the location of groundwater monitoring wells on the Site is available in reports that have been filed by Gaco with the Washington Department of Ecology or a successor agency ("Ecology"). These reports include the;

Final Report, Soil Vapor Extraction Interim Remedial Action Prepared by Hart Crowser, Febuary 9, 1994

Third Quarter Groundwater Monitoring Report And Long Term Monitoring Proposal, Prepared by Gaco Western, Inc., November 14, 1995

Gaco makes the following declarations as to limitations, restrictions and uses to which the Site may be put. It specifies that such declarations shall constitute covenants to run with the land, as provided by law, and shall be binding on all parties and all persons claiming under it, including all current and future owners of any portion of or interest in the Site.

1. No redevelopment of the property other than for street or industrial use shall hereafter be undertaken unless thirty days prior notice has been given to Ecology. For purposes of this restriction, "industrial use" means and includes any industrial use described or defined in or allowed under MTCA, MTCA regulations or the City of Tukwila's zoning laws.

2. Gaco will be sampling some if the existing groundwater monitoring wells at the Site pursuant to a program approved by Ecology. Any activity on the site that may interfere with such monitoring is prohibited. Gaco expressly reserves the right of access to the Site for

"This document filed for record by Fidelity National Title Insurance as an accommodation only. It has not been examined as to its effect upon the title."

purposes of performing such monitoring or for any other environmental investigations or remediations that it may desire to undertake.

3. No groundwater may be taken for domestic purposes at the Site. No wells for the extraction of groundwater for domestic purposes shall be installed at the Site without Ecology approval.

4. The owner of the Site must be given written notice to Ecology of the owner's intent to convey any fee interest in the Site. No conveyance or title, easement, lease or other interest in the Site shall be consummated by the owner without adequate and complete provision for the continued operation, maintenance and monitoring of groundwater wells by Gaco.

5. The owner must notify and obtain approval from Ecology prior to any use of the Site that is inconsistent with the terms of this Restrictive Covenant. If required by applicable law, Ecology may have to seek public notice and comment prior to approval of the proposed change.

6. The owner shall allow authorized representatives from Ecology the right to enter the Site at reasonable times for the purpose of evaluating compliance with the monitoring of groundwater wells or any other remedial action undertaken by Gaco.

9601170252

Owner reserves the right to record, with Ecology's prior approval, an instrument terminating this Restrictive Covenant and rendering it null and void and of no further force or effect.

Gaco Western, Inc.,
a WASHINGTON Corporation

By _____

Name: MICHAEL C. O'LEARY
Title: VICE-PRESIDENT, FINANCE

STATE OF WASHINGTON)
) ss.
COUNTY OF KING)

On this 15th day of December, 1995, before me, the undersigned, sworn, personally appeared MICHAEL C. O'LEARY to me known to be the person who signed as V.P.-FINANCE of GACO WESTERN, INC., the corporation that executed the within and foregoing instrument, and acknowledged said instrument to be

the free and voluntary act and deed of said corporation for the uses and purposes therein mentioned, and on oath stated that MICHAEL C. O'LEARY was duly elected, qualified and acting as said officer of the corporation, that MICHAEL C. O'LEARY was authorized to execute said instrument and that the seal affixed, if any, is the corporate seal of said corporation.

IN WITNESS WHEREOF I have hereunto set my hand and official seal the day and year first above written.

Yolanda L Sewell
(Signature of Notary)

(Print or stamp name of Notary)

NOTARY PUBLIC in and for the State of Washington, residing at Auburn, WA

My Appointment Expires:

9601170252

DESCRIPTION:

PARCEL A:

THAT PORTION OF GOVERNMENT LOT 6, SECTION 35, TOWNSHIP 23 NORTH, RANGE 4 EAST, W.M., IN KING COUNTY, WASHINGTON, LYING SOUTHEASTERLY OF THE SOUTHEASTERLY MARGIN OF COUNTY ROAD SOUTHCENTER PARKWAY, FORMERLY 57TH AVENUE SOUTH, AND SOUTHWESTERLY OF A LINE DESCRIBED AS FOLLOWS:

COMMENCING AT A POINT FROM WHICH THE SOUTHWEST CORNER OF SAID GOVERNMENT LOT 6 BEARS SOUTH 0°58'10" WEST 313.17 FEET AND NORTH 89°01'50" WEST 505.54 FEET, SAID DISTANCES BEING MEASURED RESPECTIVELY AT RIGHT ANGLES TO AND ALONG THE SOUTH BOUNDARY LINE OF SAID GOVERNMENT LOT, SAID POINT BEING MARKED BY AN IRON PIPE SET BY R.W. JONES AND ASSOCIATES ON OCTOBER 4, 1966; THENCE NORTH 67°36'00" WEST 1.46 FEET, MORE OR LESS, TO THE SOUTHEASTERLY MARGIN OF SAID COUNTY ROAD AND THE TRUE POINT OF BEGINNING OF THE HEREIN DESCRIBED LINE; THENCE SOUTH 67°36'00" EAST 1.46 FEET, MORE OR LESS, TO SAID IRON PIPE; THENCE CONTINUE SOUTH 67°36'00" EAST 248.63 FEET TO A CONCRETE MONUMENT SET BY R.W. JONES AND ASSOCIATES ON OCTOBER 4, 1966; THENCE CONTINUE SOUTH 67°36'00" EAST TO THE BANK OF THE GREEN RIVER AND THE TERMINUS OF THE HEREIN DESCRIBED LINE.

PARCEL B:

THAT PORTION OF GOVERNMENT LOT 7, SECTION 35, TOWNSHIP 23, RANGE 4 EAST, W.M., LYING SOUTHEASTERLY OF COUNTY ROAD (SOUTHCENTER PARKWAY, FORMERLY 57TH AVENUE SOUTH) AND LYING NORTHEASTERLY OF A LINE ESTABLISHED OF STATUTORY WARRANTY DEED RECORDED AUGUST 3, 1973, UNDER RECORDING NO. 7308030425, SAID LINE BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT FROM WHICH THE NORTHWEST CORNER OF SAID GOVERNMENT LOT 7 BEARS SOUTH 0°58'10" WEST 313.17 FEET AND NORTH 89°01'50" WEST 505.54 FEET, SAID DISTANCES BEING MEASURED RESPECTIVELY AT RIGHT ANGLES TO AND ALONG THE NORTH BOUNDARY LINE OF SAID GOVERNMENT LOT, SAID POINT OF BEGINNING IS MARKED BY A CONCRETE MONUMENT WHICH IS INDICATED AS POINT "A" ON SURVEY DRAWING BY R.W. JONES AND ASSOCIATES, ENGINEERS AND SURVEYORS, DATED OCTOBER 6, 1966 AND ENTITLED BOUNDARY AND TOPOGRAPHIC SURVEY OF A PORTION OF GOVERNMENT LOTS 6, 7, SECTION 35, TOWNSHIP 23 NORTH, RANGE 4 EAST, W.M.; THENCE SOUTH 67°36'00" EAST 248.63 FEET TO A CONCRETE MONUMENT SET BY SAID ENGINEERS AND SURVEYORS ON OCTOBER 4, 1966 AND INDICATED AS POINT "B" ON SAID SURVEY DRAWING; THENCE SOUTH 23°57'22" WEST 208.79 FEET TO A CONCRETE MONUMENT ALSO SET BY SAID ENGINEERS AND SURVEYORS, SAID MONUMENT MARKING THE INTERSECTION WITH A LINE AT RIGHT ANGLES, SAID LINE TO BE REFERRED TO HEREINAFTER IN THIS DESCRIPTION AS THE SOUTHWESTERLY LINE OF THE GACO-WESTERN TRACT; THENCE CONTINUING SOUTH 23°57'22" WEST 138.76 FEET; THENCE NORTH 66°02'38" WEST ALONG A LINE PARALLEL TO SAID SOUTHWESTERLY LINE OF THE GACO-WESTERN TRACT 5.39 FEET TO A CONCRETE MONUMENT; THENCE CONTINUING NORTH 66°02'38" WEST 244.61 FEET, MORE OR LESS, TO AN INTERSECTION WITH THE SOUTHEASTERLY LINE OF 57TH AVENUE SOUTH; THENCE SOUTHWESTERLY ALONG SAID ROAD MARGIN 5.14 FEET, MORE OR LESS, TO AN INTERSECTION WITH THE NORTHWESTERLY EXTENSION OF THE NORTHEASTERLY FACE OF THE ALASKA SEAVAN BUILDING AND THE TRUE POINT OF BEGINNING OF THE LINE HEREIN DESCRIBED; THENCE SOUTH 66°02'38" EAST ALONG SAID EXTENSION AND ALONG SAID NORTHEASTERLY FACE OF SAID BUILDING AND ALONG THE SOUTHEASTERLY EXTENSION OF SAID BUILDING LINE 280 FEET, MORE OR LESS, TO THE BANK OF THE GREEN RIVER AND THE TERMINUS OF THE HEREIN DESCRIBED LINE.

SITUATE IN THE COUNTY OF KING, STATE OF WASHINGTON.

9601170252

S.W.C. OF GOVT. LOT 6
SEC. 35, T23N, R4E.

N8

GOV

AUDITOR OR RECORDER'S CERTIFICATE

Filed for record this _____day of _____, 19____at _____ M.

in Book _____of Surveys at page _____ at the request of

SURVEYOR'S CERTIFIC.

This map correctly represents a s
my direction in conformance with

6.6 Photo log

Photo 1: Southwest Side of Building - from the southwest

Photo 2: North Side of Building – from the west

Photo 3: Former Tank Area – from the north.

Photo 4: Former Tank Area – from the south

2010 Ecology Further Action Letter

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
Northwest Regional Office • 3190 160th Ave SE • Bellevue, WA 98008-5452 • 425-649-7000
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

May 10, 2010

Corinne Dobbins,
Regulatory Compliance Manager
Gaco Western LLC
18700 Southcenter Parkway
Tukwila, Washington 98188

Re: Further Action at the following Site:

- **Site Name:** Gaco Western LLC
- **Site Address:** 18700 Southcenter Parkway
- **Facility/Site No.:** 2402
- **VCP Project No.:** NW2217

Dear Ms. Dobbins:

The Washington State Department of Ecology (Ecology) received your request for a No-Further-Action opinion on your independent cleanup of the Gaco Western LLC facility (Site). This letter provides our opinion. We are providing this opinion under the authority of the Model Toxics Control Act (MTCA), Chapter 70.105D RCW.

Issue Presented and Opinion

Is further remedial action necessary to clean up contamination at the Site?

YES. Ecology has determined that further remedial action is necessary to clean up contamination at the Site.

This opinion is based on an analysis of whether the remedial action meets the substantive requirements of MTCA, Chapter 70.105D RCW, and its implementing regulations, Chapter 173-340 WAC (collectively "substantive requirements of MTCA"). The analysis is provided below.

Description of the Site

This opinion applies only to the Site described below. The Site is defined by the nature and extent of contamination associated with the following releases:

- Volatile organic compounds (VOCs) into the Soil and Groundwater.

Please note a parcel of real property can be affected by multiple sites. At this time, we have no information that the parcel(s) associated with this site are affected by other sites.

Basis for the Opinion

This opinion is based on the information contained in the following documents:

1. Envirocon, Inc., Findings from the UST Site Assessment Performed at the GACO Western Facility, November 26, 1991.

2. WA State Dept. of Ecology, Agreed Order No. DE 92 HS – N28S, November 16, 1992.

3. WA State Dept. of Ecology, Periodic Review, Gaco Western FS ID#: 2402, May, 2009.

4. Farallon Consulting, Summary of Subsurface Investigation and Preliminary Remedial Alternatives, Gaco Western, Inc. Facility, January 26, 2010.

5. Gaco Western, Summary of Detected Chemical Constituents in Groundwater, February 9, 2010.

Those documents are kept in the Central Files of the Northwest Regional Office of Ecology (NWRO) for review by appointment only. You can make an appointment by calling the NWRO resource contact at (425) 649-7190.

This opinion is void if any of the information contained in those documents is materially false or misleading.

Analysis of the Cleanup

Ecology has concluded that **further remedial action** is necessary to clean up contamination at the Site. That conclusion is based on the following analysis:

1. Characterization of the Site.

Ecology has determined characterization of the Site is not sufficient to establish cleanup standards and select a cleanup action.

Soil and groundwater data acquired at the Site during November 2009 by ten direct-push borings and by sampling four existing monitoring wells indicated that concentrations of VOCs currently persist in the soil and groundwater above established cleanup levels. Concentrations in groundwater were found to be particularly high in the former north tank excavation, and to extend an unknown distance from there beneath the building.

The presence of contaminated groundwater and soil beneath the building implies a potential for vapor intrusion. Furthermore, levels of benzene above or near the Method A cleanup level were detected near the eastern and southern property boundaries.

Given the recent data, additional characterization of the Site is warranted. The extent of high concentrations in soil and groundwater and also concentrations in soil gas beneath the building should be determined as possible. Installation of additional monitoring wells would be appropriate at the southern and eastern property boundaries, and also (as possible) in the north central part of the building to determine accurate, long-term contaminant levels and trends in groundwater.

2. Establishment of cleanup standards.

Ecology has determined the cleanup standards (cleanup levels and points of compliance) for the Site do not meet the substantive requirements of MTCA.

Method A and Method B cleanup levels for soil and groundwater were used for the Site. There was an apparent conditional point of compliance for groundwater at the property boundary. A feasibility study (FS) which includes a cost/benefit analysis is needed to evaluate cleanup action alternatives for the Site. The FS should consider the additional data recommended for acquisition in the above Section 1. Whether or not a conditional point of compliance (in lieu of the standard point of compliance) for soil and groundwater at the Site is appropriate will have to be demonstrated in a FS.

3. Selection of cleanup action.

Ecology has determined the cleanup actions selected for the Site do not meet the substantive requirements of MTCA.

Cleanup actions that have been accomplished at the Site include: Contaminated soil (~7 cyds.) was removed from the Site along with the removal of 14 underground storage tanks (USTs). A soil-vapor-extraction system covering the two areas where former USTs were located operated for about four months during 1993. Ostensibly natural attenuation was also considered a part of the remedy for the Site. Ten monitoring wells (6 shallow and 4 deeper) were installed and monitored regularly during 1992 – 1996, and once again during 2007. The Site is paved outside the building, which occupies much of the property, and a Restrictive Covenant was recorded on the property.

These cleanup actions may have reduced contaminant levels at the site, but recent data indicate significant levels of contamination persist in soil and groundwater and that vapor intrusion into the building is a possible issue.

A feasibility study (FS) which includes a cost/benefit analysis is needed to evaluate cleanup action alternatives and select a cleanup action for the Site. The FS should consider the additional data recommended for acquisition in the above Section 1. Cleanup actions must achieve cleanup of the Site to the maximum extent practicable. The extent that the cleanup actions accomplished to date have achieved that end, and the need for possible additional cleanup actions to achieve that end will have to be evaluated and demonstrated in a FS.

In summary, Ecology opines that: (1) data is needed regarding soil gas beneath the building, along with additional data for soil and groundwater, and (2) a FS must be completed. These actions are needed for now to ultimately receive a No-Further Action determination for the Site from Ecology through the VCP.

Limitations of the Opinion

1. Opinion does not settle liability with the state.

Liable persons are strictly liable, jointly and severally, for all remedial action costs and for all natural resource damages resulting from the release or releases of hazardous substances at the Site. This opinion **does not**:

- Resolve or alter a person's liability to the state.
- Protect liable persons from contribution claims by third parties.

To settle liability with the state and obtain protection from contribution claims, a person must enter into a consent decree with Ecology under RCW 70.105D.040(4).

2. Opinion does not constitute a determination of substantial equivalence.

To recover remedial action costs from other liable persons under MTCA, one must demonstrate that the action is the substantial equivalent of an Ecology-conducted or Ecology-supervised action. This opinion does not determine whether the action you performed is substantially equivalent. Courts make that determination. *See* RCW 70.105D.080 and WAC 173-340-545.

3. State is immune from liability.

The state, Ecology, and its officers and employees are immune from all liability, and no cause of action of any nature may arise from any act or omission in providing this opinion. *See* RCW 70.105D.030(1)(i).

Contact Information

Thank you for choosing to clean up the Site under the Voluntary Cleanup Program (VCP). After you have addressed our concerns, you may request another review of your cleanup. Please do not hesitate to request additional services as your cleanup progresses. We look forward to working with you.

For more information about the VCP and the cleanup process, please visit our web site: www.ecy.wa.gov/programs/tcp/vcp/vcpmain.htm. If you have any questions about this opinion, please contact me by phone at (425) 649-7251 or e-mail at rnye461@ecy.wa.gov.

Sincerely,

Roger K. Nye

Roger K. Nye
Site Manager, NWRO Toxics Cleanup Program

2011 Landau Remedial Investigation

Remedial Investigation Report
Gaco Western Facility
18700 Southcenter Parkway
Tukwila, Washington

August 2, 2011

Prepared for

Gaco Western, Inc.
18700 Southcenter Parkway
Tukwila, Washington 98188

LANDAU ASSOCIATES
130 2nd Avenue South
Edmonds, WA 98020
(425) 778-0907

TABLE OF CONTENTS

FIGURES

TABLES

APPENDICES

1.0 INTRODUCTION

Landau Associates conducted a remedial investigation (RI) for the Gaco Western facility located at 18700 Southcenter Parkway, Tukwila, Washington (Site). The location of the Site is shown on Figure 1. The Site was used for the manufacturing of liquid rubber coatings used for industrial tank liners, roof coating, and general waterproofing. Investigations following the removal of several on-Site underground storage tanks (USTs) identified volatile organic compounds (VOCs) in soil and groundwater at concentrations greater than the Washington State Department of Ecology (Ecology) Model Toxics Control Act (MTCA) Method A and B cleanup levels (Farallon 2010).

The RI was conducted to document the nature and extent of VOC contamination at the Site and provide data to support establishment of cleanup standards and selection of a cleanup action for the Site in a Feasibility Study (FS) per the MTCA Cleanup Regulation [Chapter 173-340 Washington Administrative Code (WAC)].

The RI scope of work was presented in the RI work plan prepared by Landau Associates (2010). The RI included additional groundwater sampling at the existing Site monitoring wells, and collection and laboratory analysis of soil and groundwater samples from locations across the Site to supplement the data collected during previous investigations and further characterize subsurface conditions (Figure 2).

2.0 SITE DESCRIPTION

This section describes the physical setting and operational history of the Site, and summarizes the previous investigative work conducted.

2.1 SITE SETTING

Gaco Western began operations, including the manufacturing of liquid rubber coatings used for industrial tank liners, roof coating, and general waterproofing, at the Site in Tukwila, Washington in 1968, and ceased operations in the summer of 2010. The approximately 2.6-acre site includes one building that consists of an approximately 33,000 square foot (ft^2) manufacturing area and approximately 13,000 ft^2 of office space. The on-Site building has a paved area to the north that serves as the main parking lot, and a paved area to the west that was used as a loading/unloading area. To the east of the building is a grass and landscaped area and flood-control levee adjacent to the Green River, which is located approximately 70 feet (ft) east of the building and 150 ft from the former production areas of the Site. The Site is bordered on the north by commercial industrial property occupied by an Enterprise truck facility, on the west by Southcenter Parkway then commercial property occupied by SouthCenter Golf, on the south by commercial property occupied by Mitchell Moving and Storage, and on the east by the Green River. The Mitchell Moving and Storage building is immediately adjacent to the southwest wall of the building on the Site.

2.2 SITE HISTORY

Historical information indicates that the Site was undeveloped until construction of the northern portion of the on-Site building began in 1968. The building was expanded southward in about 1973 and further south in 1983 to reach the current configuration (EAI 2009).

Two UST areas were located in the western portion of the on-Site building near and to the south of the loading docks. The two areas included 14 USTs that contained xylenes, toluene, methyl ethyl ketone (MEK), ethylbenzene, chlorinated paraffins, cyclolube, trimethylbenzene, propanol, and naphtha. The chemicals were pumped from the USTs via an underground piping system to the manufacturing areas within the on-Site building (Figure 2). The 14 USTs were removed in September 1991, and approximately 7 cubic yards of soil were removed from the two areas (i.e., the North and South Tank Excavation areas; Figure 2) and disposed of off site. The piping associated with the USTs was left in place beneath the western portion of the building. Releases to soil and groundwater were discovered during the UST removal work (Envirocon 1991).

Following removal of the USTs, an investigation was conducted to characterize the nature and extent of contamination in soil and groundwater at the Site. A series of shallow (perched groundwater) monitoring wells, and deeper (semi-confined groundwater-bearing zone) monitoring wells were installed at the Site. Interim cleanup activities were conducted in the tank excavation areas from July to December 1993 to address VOC contamination associated with the former USTs, including soil removal and operation of a soil vapor extraction system, and groundwater monitoring was conducted at the on-Site wells between 1992 and 1996 (Hart Crowser 1994). Following the cleanup activities, a Restrictive Covenant was recorded for the property in 1996. Additional groundwater monitoring conducted by Gaco Western in 2007 indicated concentrations of VOCs including toluene, ethylbenzene, and xylenes (Gaco Western 2010a).

The cleanup activities at the Site were regulated by MTCA Agreed Order No. DE 92 HS-N28S between Ecology and Gaco Western. The scope of the order required "field investigative work," but not complete cleanup of the Site. In March 1996, the Ecology Hazardous Waste and Toxics Reduction Program issued a No Further Action (NFA) determination for the completion of the "field investigative work" identified in the order (Ecology 2009a).

In July 2009, Ecology provided Gaco Western with the results of its periodic review, which is required every 5 years under MTCA for sites with institutional controls, including Restrictive Covenants, and concluded that applicable MTCA soil and groundwater cleanup levels had not been met at the Site. Ecology stated that the cleanup actions previously conducted at the Site comply with cleanup standards under WAC 173-340-740(6)(d) for soil, and could comply with requirements for groundwater at a conditional point of compliance. However, Ecology was unclear based on the available information if the requirements for establishing a conditional point of compliance had been met. Therefore, the Ecology review recommended that a conditional point of compliance for the contaminated groundwater be established and that additional groundwater monitoring be conducted. The review also concluded that the previous cleanup actions at the Site appear to be protective of human health for direct contact, that contamination in groundwater remains on the Site, but does not appear to be affecting the Green River, and that the Restrictive Covenant in place continues to be effective. The letter also stated, as noted above, that the 1996 NFA letter from Ecology's Hazardous Waste and Toxics Reduction Program was applicable only to the investigative work set forth in the Agreed Order, and not to completion of the entire cleanup action for the Site. Ecology advised Gaco Western to enter the Voluntary Cleanup Program (VCP) if an NFA determination is desired for cleanup of the Site (Ecology 2009a).

In November 2009, Ecology acknowledged Gaco Western's application for the VCP and issued the Site Toxic Cleanup Program identification number NW2217 (Ecology 2009b). In February 2010,

Gaco Western submitted information from the 2009 Subsurface Investigation Report (see below) and a summary of groundwater monitoring results to the VCP for review (Gaco Western 2010b).

Ecology provided Gaco Western with an opinion letter dated May 10, 2010 stating that "further remedial action is necessary to clean up contamination at the Site." The Ecology letter stated that "cleanup actions may have reduced contaminant levels at the Site, but recent data indicate significant levels of contamination persist in soil and groundwater and that vapor intrusion into the building is a possible issue." Ecology stated that: "1) data is needed regarding soil gas beneath the building, along with additional data for soil and groundwater, and 2) an FS must be completed." The letter stated that those two actions were needed to ultimately receive an NFA determination for the Site through the VCP.

2.3 2009 PHASE I ENVIRONMENTAL SITE ASSESSMENT

A Phase I Environmental Site Assessment (ESA) was completed for the Site in 2009 (EAI 2009). The Phase I ESA identified two *recognized environmental conditions* per the ASTM International (ASTM) E 1527-05 standard in connection with the Site as follows:

- Non-halogenated solvents have been detected in soil and groundwater at the Site at concentrations greater than the MTCA Method A cleanup levels due to the past use and storage of solvents in 14 former USTs. The USTs were removed from two separate excavations in the western portion of the Site in 1991. The Site is listed on Ecology's Confirmed and Suspected Contaminated Sites List (CSCSL) and Ecology is aware of previous investigations and remedial activities that have been completed at the Site.
- The adjacent property to the south (Mitchell Moving and Storage) is listed in Ecology databases as a leaking underground storage tank (LUST) site. Approximately 200 cubic yards of petroleum-impacted soil was excavated from this site in 1990. Confirmation soil samples collected from the base and sidewalls of the excavation contained no detectable concentrations of diesel-range or gasoline-range petroleum hydrocarbons or benzene, toluene, ethylbenzene, and xylenes (BTEX) constituents. The excavation was more than 20 ft deep. Groundwater seepage was observed at the time of the excavation; however, groundwater samples were not collected. The adjacent property to the south is located upgradient or crossgradient of the Site. There is no documented contamination on the Site resulting from releases from the adjacent property to the south; however, there is potential for impacted groundwater from this property, if present, to migrate onto the Site.

2.4 2009 INVESTIGATION

In November 2009, a Phase II ESA was conducted at the Site on behalf of a potential purchaser to evaluate the nature and extent of VOCs in Site soils and groundwater from confirmed and potential source areas at the Site. Soil and groundwater sampling was conducted using direct-push drilling techniques at 10 boring locations (B1 through B10; Figure 2) and the existing on-Site monitoring wells (Farallon 2010). The Phase II ESA report stated that BTEX and vinyl chloride were detected at concentrations greater than laboratory reporting limits primarily in locations adjacent to and downgradient of the two former UST

areas. The Phase II ESA included groundwater monitoring only at the deeper monitoring wells. The report stated that perched groundwater was not present in the accessible shallow monitoring wells. The conclusions provided in the report are as follows:

- Soil and groundwater data confirm the presence of VOC sources near the former UST system areas in the western portion of the Site. VOCs exceeding MTCA cleanup levels in soil and/or groundwater include benzene, toluene, ethylbenzene, xylenes, and vinyl chloride. Other VOCs detected at low concentrations include isopropyl benzene; n-propylbenzene; 1,3,5,-trimethylbenznene; 1,2,4,-trimethylbenzene; acetone; MEK; chloroform; p-isopropyl benzene; sec butyl benzene; n-butyl benzene; 1,2-dichloroethane; carbon disulfide; methyl isobutyl ketone; tetrachloroethene (PCE); and cis-1,2-dichloroethene (cis-1,2-DCE).
- BTEX was detected at concentrations greater than MTCA Method A cleanup levels in soil samples collected from boring location B2 within the North Tank Excavation area, and at downgradient locations B4 and B6.
- BTEX was detected at concentrations greater than MTCA Method A cleanup levels in groundwater samples collected near the North and South Tank Excavation areas. The areal extent of VOC-impacted groundwater is across the Site from the tank excavation areas to the Green River.
- Halogenated VOCs (HVOCs) including PCE, trichloroethene (TCE), cis-1,2-DCE, and vinyl chloride, were detected in 5 of the 14 groundwater sampling locations along the southern portion of the Site, and their presence suggests that these compounds extend from the South Tank Excavation area east toward the Green River.
- The southern and eastern extents of Site VOCs in soils and groundwater are not fully delineated.
- Additional remedial investigation was recommended including soil and groundwater sampling in areas south of boring B7 and near monitoring well HC-5D to bound the extent of VOCs in groundwater on the southern and eastern portions of the Site.
- Sub-slab vapor sampling was recommended to assess potential vapor intrusion into the on-Site building.

Based on a review of the results of the November 2009 investigation, the following data gaps were identified:

- Samples were collected from boring locations somewhat crossgradient of the former tank excavation areas. Although these samples indicate elevated concentrations of VOCs, samples were not collected at locations directly downgradient of the former USTs, along the underground pipelines used to transfer chemicals from the USTs to the operations area, or to assess the vertical extent of contamination.
- The underground pipelines that historically transferred materials from the USTs on the western side of the Site to the manufacturing process areas may be a continuing source of VOC contamination. Additional investigation was need along the underground piping to assess the lateral and vertical extents of contamination due to possible conveyance piping leaks.
- Chlorinated solvents such as PCE and vinyl chloride are heavier than water, and migrate vertically. Trace detections of these compounds in shallow soil suggest that additional sampling is needed to evaluate the vertical extent of contamination.

- The nature, extent, and sources for the benzene detected at the Site need to be further evaluated. Benzene is reported to not have been used in Gaco Western operations.
- Points of compliance need to be established for the Site per MTCA requirements.

3.0 FIELD INVESTIGATION AND ACTIVITIES

The RI field activities were planned to collect additional soil and groundwater data to supplement the previous investigative data. The field investigation included the collection and laboratory analysis of groundwater samples from the existing monitoring wells and investigation of subsurface soil and groundwater conditions using direct-push drilling and sampling techniques as discussed below.

3.1 GROUNDWATER MONITORING WELL SAMPLING

Groundwater samples were collected from the existing monitoring wells and analyzed for VOCs, and aquifer redox parameters. Some parameters were measured in the field and others were analyzed by an off-Site laboratory. Groundwater samples collected from each monitoring well were submitted for laboratory analysis for VOCs by U.S. Environmental Protection Agency (EPA) Method 8260. Ferrous iron (iron II) was tested in the field using a colorimetric field testing kit (Hach™ kit). Laboratory samples for nitrate and sulfate were collected to evaluate redox conditions and the development of the sulfate-reducing to methanogenic conditions necessary for the dechlorination of PCE and its breakdown products. Various parameters [dissolved oxygen (DO), oxidation-reduction potential (ORP), pH, temperature, and conductivity] were collected in the field using a multi-parameter water quality meter. Table 1 summarizes the analyses conducted by location. Groundwater levels were measured at each monitoring well prior to sampling.

Groundwater samples were collected from monitoring wells HC-1S, HC-1D, HC-2S, HC-2D, HC-3S, HC-4S, HC-5D, and GW-6D on June 22, 2010. Wells HC-5S and GW-6S were dry, and were therefore not sampled. Groundwater samples were collected using dedicated polyethylene tubing and a peristaltic pump. Low-flow purging was performed by maintaining a purging rate of less than 1 liter per minute, or a purging rate at which less than 1 ft of water level drawdown was observed in the monitoring well. During purging, pH, conductivity, DO, and ORP were measured using a flow-through cell. Pumping rates were controlled to maintain the flow rate at less than 1.0 liter per minute and to limit the water level drawdown to less than 0.5 ft. Purging was considered complete and samples collected when subsequent measurements of these parameters agreed within 10 percent. Samples were then collected directly from the sampling equipment into laboratory-prepared sample containers. Samples were submitted to ALS Laboratories in Everett, Washington for VOC, nitrate, and sulfate analysis. Copies of laboratory analytical reports are provided in Appendix A.

3.2 DIRECT-PUSH BORINGS

Soil and/or groundwater samples were collected at 16 direct-push boring locations across the Site (Figure 2). Borings were advanced to a depth of 30 ft BGS to assess the vertical extent of contamination in the deeper water-bearing zone. This depth was selected to be slightly deeper than previously explored to further evaluate the vertical extent of contamination directly downgradient of the former tank excavation areas, and along property boundaries to assess potential off-Site sources of contamination. Cascade Drilling, under the supervision of Landau Associates, advanced 16 borings on Site using direct-push drilling methods. Soil samples were collected at the depth where the highest photoionization detector (PID) readings were measured during drilling at each sampling location. If visual or instrument field screening did not identify such an interval, a soil sample was collected from the interval immediately above the observed elevation of the groundwater table. Groundwater grab samples were collected from the terminus of the boring at each location.

The borings at locations DP-11 and DP-12 were extended to 45 ft BGS to further investigate the extent of the chlorinated VOCs detected during the 2009 investigation. A groundwater sample could not be collected at DP-12 at 45 ft BGS due to access limitations for the drilling rig inside the building. Continuous soil logging was conducted at each boring to record soil lithology. Copies of boring logs are provided in Appendix B. Samples were placed in an ice chest cooled with ice immediately after collection for transport to the laboratory. Downhole drilling equipment was decontaminated with phosphate-free detergent, clean water, and a de-ionized water rinse between each sampling location. All groundwater sampling was conducted using dedicated tubing.

Following sample collection, each borehole was sealed with bentonite and the surface patched with asphalt or concrete to match the existing grade. Due to the use of direct-push sampling techniques, the amount of soil and groundwater generated during drilling and sample collection was minimal. Soil and groundwater generated during the field activities were contained in labeled drums and stored on Site for appropriate off-Site disposal based on the analytical results for the soil and groundwater samples.

4.0 GEOLOGY AND HYDROGEOLOGY

The Site is located in the western portion of the Duwamish Valley, which is a north-south-trending valley bounded on the west and east by glacial upland areas. The valley walls are relatively steep-sided and rise about 350 to 400 ft above the valley floor. The Duwamish/Green River Valley is part of a relict subglacial meltwater trough eroded during the retreat of the Puget lobe about 14,000 years ago (Dragovich et al. 1994). As the glacial ice retreated, meltwater streams issuing from the receding ice front laid down extensive deposits of stratified sand and gravel drift in the area. With the retreat of the glacial ice north of the Strait of Juan de Fuca, and rapid rise of sea level due to deglaciation, marine waters entered the Duwamish/Green River trough (Dragovich et al. 1994). During this time, the valley was being filled by marine, deltaic, and alluvial deposits from the ancestral Puyallup and Green rivers.

About 5,000 years ago, Mount Rainier erupted and a large volcanic mudflow, known as the Osceola Mudflow, swept down both the White River and Puyallup River valleys. The mudflow displaced the ancestral White River from its ancient channel northward to its present location near present-day Auburn, approximately 10 miles south of the subject property. After the mudflow, rapid incision and erosion of the mudflow sediment within the White River Valley resulted in increased sediment loads and rapid delta formation. Where the White River joined the Duwamish/Green River trough, coarser-grained sediments were deposited in an alluvial fan that extends well out into the valley. The post-Osceola Mudflow river aggradation and delta progradation eventually filled the valley to near its present-day contours.

As the sediment load carried by the White River decreased, finer-grained deposits of silt, sandy silt, silty fine sand, and occasional layers of peat and organic silt were laid down by the White and Green rivers. These deposits are characteristic of the current near-surface depositional environment in the valley. The Green River, located adjacent to the east of the Site, currently flows northward through the valley to Puget Sound approximately 15 miles to the north-northwest.

Based on the borings drilled to date, the shallow subsurface at the Site consists of interbedded silt, silty sand, and sand to a depth of at least 45 ft BGS, which is consistent with the alluvial sediments present within the valley. The logs for the borings advanced during the RI are included in Appendix B.

Historical drilling and sampling at the Site encountered a seasonal perched groundwater zone. The six existing "S" monitoring wells were constructed with total depths from about 8 to 12 ft BGS to target this water-bearing zone. As discussed in previous reports (Ecology 2009a; Farallon 2010), these wells have mostly been dry during the recent rounds of groundwater monitoring and sampling. The first continuous groundwater-bearing zone has been encountered during drilling at depths between about 12 and 18 ft BGS. The four existing "D" wells were constructed with total depths from about 28 to 32 ft

BGS. Previous investigations have indicated that the shallow perched and deeper groundwater-bearing zones are separated by an 8- to 10-ft-thick silt horizon (Farallon 2010). During monitoring well sampling, groundwater elevations were recorded (Table 2). The groundwater elevation data collected from the monitoring wells were inconsistent and did not indicate a consistent groundwater flow direction across the Site, so a groundwater elevation contour map was not produced. Based on previous assessments and the proximity to the Green River, groundwater flow at the Site is considered to be to the east-northeast toward the river.

5.0 NATURE AND EXTENT OF CONTAMINATION

The RI field activities provided additional data to document the presence of VOCs in soil and groundwater at the Site. These data along with the data from the 2009 investigation are discussed below to describe the nature and extent of VOCs at the Site.

During previous investigations, the analytical data for the primary contaminants detected, including BTEX, were compared to the MTCA Method A cleanup levels. There are MTCA Method A cleanup levels for some of the secondary VOCs detected at the Site such as PCE; however, Method A cleanup levels have not been established for many of the secondary VOCs detected at the Site including TCE, cis-1,2-DCE, and vinyl chloride. Therefore, for the RI, MTCA Method B formula values were developed for comparison with the VOC concentrations detected in soil and groundwater at the Site, and are used as screening levels (i.e., MTCA Method B screening levels) to evaluate the nature and extent of contamination at the Site. For most of the VOCs, the MTCA Method B screening levels for soil are based on protection of groundwater and are the same as the MTCA Method C cleanup levels calculated based on industrial use. The MTCA Method B screening levels for groundwater are based on protection of drinking water.

5.1 SOIL QUALITY

The soil analytical results indicate that the samples collected from 12 of the 16 locations contained concentrations of VOCs greater than the MTCA Method B screening levels (Table 3 and Figure 3). The VOCs that were detected in soil at concentrations greater than the MTCA Method B screening levels include primarily toluene, ethylbenzene, and xylenes. Benzene, though not identified as a compound contained in Site USTs or used in Site operations, was detected at concentrations greater than the MTCA Method B screening level in samples DP-2, DP-7, DP-8, DP-15, and DP-16. Methylene chloride was detected in only two soil samples (DP-11 and DP-15), and because no additional VOCs were detected in these samples, the detections are likely due to laboratory contamination. In addition, PCE was detected in a single soil sample collected along the southern property boundary (DP-13) at a concentration of 0.22 milligrams per kilogram (mg/kg), which is greater than the MTCA Method B screening level of 0.00086 mg/kg. Copies of the laboratory analytical reports are provided in Appendix A.

In general, the RI soil analytical results are similar to those detected in 2009 (Farallon 2010). The detected concentrations are highest in the vicinity of former Site operations areas (i.e., the locations downgradient of the former USTs and along the underground piping system) and decrease laterally with distance from these areas. The analytical results for the soil samples collected during the 2009 investigation and during the RI are summarized on Figure 3. Figure 3 shows the detections greater than

the laboratory reporting limits, greater than the MTCA Method B screening levels, and those concentrations greater than 1,000 mg/kg to illustrate the locations with the highest detected concentrations.

Based on analytical results and field screening, the maximum concentrations of VOCs in soils were observed in soil samples collected from about 13 to 20 ft BGS. The analytical results indicate that the vertical extent of soil with VOC concentrations greater than the MTCA Method B screening level locally extends to at least 30 ft BGS, and in one instance (DP-11) to 45 ft BGS. Based on soil analytical results from the RI and previous investigations, there appear to be two areas with the highest VOC concentrations in soil:

- Within and directly downgradient of the former USTs
- Along and beneath the underground pipelines beneath the warehouse.

These locations are areas where VOC concentrations in soil exceed 1,000 mg/kg and are anticipated to be source areas for VOC contamination. The lateral extent of contamination observed across the Site is likely due to a combination of the following factors and transport mechanisms:

- Horizontal migration of liquid-phase and dissolved-phase VOCs through preferential flow paths in the subsurface materials, associated with the underground piping system and conveyance corridors.
- Transport (by advection and dispersion) of dissolved-phase VOCs in the shallow (perched) water-bearing zone.

There is also localized VOC contamination in soil, including the presence of PCE at concentrations greater than the MTCA Method B screening levels, at DP-13 along the southern property boundary. The source of these contaminants is not known, but they may be due to off-Site sources. Further investigation is necessary to identify possible sources of these secondary contaminants.

5.2 GROUNDWATER QUALITY

The groundwater analytical results for the samples collected from the borings and the monitoring wells are summarized in Table 4. Figure 4 provides a summary of the VOCs detected in groundwater and illustrates the areal extent of the groundwater contamination. The VOCs that were detected in groundwater at concentrations greater than the MTCA Method B screening levels include vinyl chloride, cis-1,2-DCE, benzene, toluene, ethylbenzene, and xylenes. Copies of the laboratory analytical reports are provided in Appendix A.

As shown on Figure 4, the locations with the highest concentrations of VOCs in groundwater correlate with the areas with the highest detected concentrations of VOCs in soil. The RI data document the lateral extent of the groundwater contamination, but only provide limited information (i.e., data for groundwater samples collected at 45 ft BGS from DP-11) on the vertical extent of the contamination in

groundwater. Concentrations of VOCs in groundwater were detected at all but two locations (upgradient location DP-1 and downgradient location DP-14).

5.3 DATA ANALYSIS

As discussed above, the Site soil and groundwater analytical data are presented on Figures 3 and 4, respectively, to show the lateral extent of contamination. Color coding has been used to identify locations with elevated VOC concentrations on an order-of-magnitude-basis. The locations highlighted with orange indicate the VOC concentrations in both soil and groundwater in excess of 1,000 mg/kg and 1,000 micrograms per liter (µg/L), respectively. These highest concentrations of the primary VOCs (i.e., toluene, ethylbenzene, and xylenes) are evident in and directly downgradient of the former tank excavation areas. The lateral extent of other secondary VOCs (i.e., benzene and HVOCs) is less apparent as these analytes are more widespread.

Groundwater samples from nearly all locations (with two exceptions at DP-1 and DP-14) had detections of at least one VOC. Areas directly downgradient of the former USTs and beneath the underground piping system indicated the highest concentrations of the VOCs associated with Site operations (i.e., toluene, ethylbenzene, and xylenes). Contaminants that were not reported to have been used at the Site, such as benzene and specific chlorinated solvents such as PCE and its breakdown products TCE, cis-1,2-DCE, and vinyl chloride, have been detected at locations across the Site, particularly in the southern portion. Though concentrations of these compounds are relatively low compared to the primary VOCs toluene, ethylbenzene, and xylenes, they are present at concentrations greater than the MTCA Method B screening levels (Tables 3 and 4). These secondary VOCs were detected across the Site, including at upgradient locations, along the southern property boundary, and at downgradient locations adjacent to the Green River. The source(s) of these secondary VOCs have not been identified, but may be attributed to the Southern Tank Excavation Area (solvent tank with unspecified contents), but may also be attributed to off-Site areas including the former gasoline USTs located on the adjacent property to the south, which were identified in the 2009 Phase I ESA. Cleanup of soil was reportedly completed on the adjacent property to the south, but there was limited information regarding potential impacts to groundwater due to these off-Site USTs.

5.4 GEOCHEMICAL ANALYSIS

As noted above, during groundwater sampling at both the monitoring wells and the temporary borings, groundwater quality data were collected to evaluate *in situ* geochemical conditions and to aid in the evaluation of potential remedial alternatives for Site cleanup. Ferrous iron (iron II) was tested in the field using a colorimetric test kit (Hach™ kit). Samples were collected and submitted for laboratory

analysis for nitrate and sulfate to evaluate oxidation-reduction (redox) conditions, and to assess potential sulfate-reducing to methanogenic conditions that are necessary for the dechlorination of PCE and its breakdown products. Various parameters (DO, ORP, pH, temperature, and conductivity) were also measured in the field using a multi-parameter water quality meter.

Based on field-measured parameters (Table 4), including dissolved oxygen concentrations well below 1 milligrams per liter (mg/L), the groundwater in the deeper aquifer across the Site appears to be anaerobic (i.e., lacking oxygen). In addition, the presence of ferrous iron and the depletion of nitrate and sulfate are also indicative of geochemical conditions conducive to reductive dechlorination. The reducing conditions are supported by the presence at the Site of both PCE and its associated breakdown products TCE, cis-1,2-DCE, and vinyl chloride, which suggests that reductive dechlorination is occurring.

Conditions favorable for reductive dechlorination of chlorinated organic compounds are typically not favorable for bioremediation of compounds such as the primary Site VOCs toluene, ethylbenzene, and xylenes; these compounds typically biodegrade more readily in aerobic, oxygen-rich environments.

The data suggest that bioremediation may be occurring for some of the secondary VOCs at the Site, but that modification of the aquifer conditions would be needed to implement bioremediation for the primary VOCs present.

5.5 CONCEPTUAL SITE MODEL

The Site investigations to date have identified various VOCs at concentrations greater than the MTCA Method B screening levels in both soil and groundwater. The primary VOCs detected include toluene, ethylbenzene, and xylenes that appear to be associated with the former USTs and remaining underground pipelines. In addition, secondary VOCs including benzene, PCE and its associated breakdown products TCE, cis-1,2-DCE, and vinyl chloride have been detected at relatively lower concentrations, but still above the MTCA Method B screening levels. These secondary VOCs do not appear to be related to Site operations based on available Site information.

Based on Site geology, depths to groundwater, the current configuration of the Site, including the presence of paving or structures over most of the property, and the commercial/industrial uses of the surrounding properties, the potential pathways for contaminant migration at the Site include:

1. Leaching of contaminants from soil to groundwater
2. Migration of contaminants in groundwater to the nearby surface water of the Green River
3. Volatilization of contaminants from soil and groundwater to indoor air
4. Volatilization of contaminants from soil and groundwater to outdoor air.

Based on these potential migration pathways, the Site media of potential concern consist of soil, groundwater, and indoor/outdoor air.

6.0 SUMMARY

This section summarizes the nature and extent of contamination at the Site, and outlines data gaps that will need to be addressed to support preparation of a Feasibility Study (FS) to develop and evaluate cleanup alternatives and select a preferred remedial action alternative for the Site.

6.1 DATA SUMMARY

The data collected to date indicate the following regarding the nature and extent of contamination at the Site:

- The primary contaminants detected at concentrations greater than the MTCA Method B screening levels at the Site are VOCs associated with former operations and consist of toluene, ethylbenzene, and xylenes.
- The highest concentrations of these analytes in soil were detected within and downgradient of the former UST areas and beneath the former underground piping system. The highest concentrations of toluene, ethylbenzene, and xylenes in groundwater were detected within and hydraulically downgradient of the North Tank Excavation Area and underground pipeline areas.
- Secondary VOCs including benzene and chlorinated solvents were also detected in Site soil and groundwater at concentrations greater than the MTCA Method B screening levels. These contaminants were not identified as being associated with on-Site operations based on the available information. Due to their presence upgradient of former Site USTs and Site operations, and along the southernmost property boundary at concentrations greater than found in the central areas of the Site, off-Site sources for these contaminants need to be considered. As noted above, leaking gasoline USTs were previously removed from the adjacent property to the south of the Site, and there is limited information regarding the impact of the USTs from that property on groundwater.
- The chlorinated solvent PCE was detected in only one soil sample at a concentration greater than the MTCA Method B screening level [DP-13 (25-26), which was collected along the southern property boundary]; however, the laboratory reporting limit for PCE was elevated for many samples from the central portion of the Site due to the high concentrations of the primary VOCs discussed above. Chlorinated solvent concentrations in groundwater, including breakdown products of PCE, also appear to be the highest in samples collected from locations in the southern third of the Site. Other secondary VOCs, including benzene, were detected both upgradient and downgradient of Site operation areas and in both soil and groundwater samples collected at locations along the Green River. While the concentrations of VOCs detected at locations along the river in both soil and groundwater are relatively lower than in the central portion of the Site, the detected concentrations of various VOCs in samples collected at downgradient boring locations DP-15 and DP-16 are greater than the MTCA Method B screening levels.
- The VOC concentrations in soil and groundwater samples collected from locations on the northern side of the Site are generally less than the MTCA Method B screening levels or below laboratory reporting limits.

- The groundwater grab samples collected from 30 and 45 ft BGS at DP-11 and at 30 ft BGS at DP-12 indicated VOC concentrations greater than the MTCA Method B screening levels at depths below those explored during previous investigations.
- Geochemical parameters indicate anaerobic and reducing conditions in the deeper aquifer, which are favorable for the bioremediation of chlorinated VOCs, but not favorable for bioremediation of the primary Site VOCs toluene, ethylbenzene, and xylenes.

6.2 DATA GAPS

Based on the results of this RI and the previous investigations, remedial action will be required to address the VOCs detected in soil and groundwater. The data collected to date provide adequate information regarding Site geology and hydrogeology, the nature of the primary contaminants, and the overall lateral extent of the contamination. The data also suggest that secondary VOCs including benzene and chlorinated solvents may be attributed to the contents of the Southern Tanks (unspecified "solvent"), and may be partially attributed to off-Site sources (benzene). Additional investigation would be needed to further evaluate potential sources of contamination on the adjacent properties to the west and south, and additional groundwater monitoring wells are needed along the western and southern margins of the Site to further evaluate contaminant concentrations in groundwater and the potential for contaminant migration onto the Site. Additional wells are also warranted along the eastern property boundary to further evaluate the potential for migration of VOCs to the Green River.

The available deeper soil data are limited to sample results from 30 and 45 ft BGS at two locations (DP-11 and DP-12). The available data indicate concentrations of benzene and vinyl chloride above the MTCA Method B screening levels are present in deeper soil. Additional focused soil and groundwater sampling will be required to further assess the vertical extent of the VOCs. As noted in Section 5.5, the presence of VOC contamination in soil and groundwater poses a potential threat to receptors through the volatilization of contaminants to indoor or outdoor air. Soil gas and indoor air sampling and analysis are needed to evaluate the potential for impacts to indoor or outdoor air due to the contaminants detected in soil and groundwater during the RI.

The additional investigative data will be needed to complete characterization of the Site and allow for preparation of an FS to establish cleanup standards and evaluate remedial alternatives for Site cleanup in accordance with the MTCA regulations.

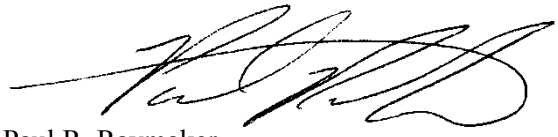
7.0 USE OF THIS REPORT

The information presented herein is based on our understanding of conditions at the Gaco Western Site in Tukwila, Washington. Within the limitations of scope, schedule, and budget, the findings presented in this report were prepared in accordance with generally accepted hydrogeological and engineering principles and practices in this locality at the time the report was prepared. We make no other warranty, either express or implied.

This report was prepared for the use of Gaco Western, Inc. and applicable regulatory agencies. No other party is entitled to rely on the information and recommendations included in this document without the express written consent of Landau Associates. Further, the reuse of information and recommendations provided herein for extensions of the project or for any other project, without review and authorization by Landau Associates, shall be at the user's sole risk.

This document has been prepared under the supervision and direction of the following key staff.

LANDAU ASSOCIATES, INC.



Paul R. Raymaker
Senior Staff Geologist

Tim Syverson, L.G.
Senior Associate

PRR/TLS/ccy

8.0 REFERENCES

Dragovich, J.D., P.T. Pringle, and T.J. Walsh. 1994. "Extent and Geometry of the mid-Holocene Osceola Mudflow in the Puget Lowlands-Implications for Holocene Sedimentation and Paleogeography." *Washington Geology*. Vol. 22, No. 3, pp. 3-26.

EAI. 2009. Report: *Phase I Environmental Site Assessment, Gaco Western (Parcel Nos. 352304-9014 & -9081), 18700 Southcenter Parkway, Tukwila, Washington 98188*. Environmental Associates, Inc. April 20.

Ecology. 2009a. *Notice of Periodic Review Conducted at the following Hazardous Waste Site: Gaco Western, Inc., 18700 Southcenter Parkway, Tukwila, Washington, Facility/Site No.: 2402.* Submitted to Corrine Dobbins, Gaco Western, Inc.. Washington State Department of Ecology. July 14.

Ecology. 2009b. Letter: *Re: Request for Review: Independent Remedial Action, Gaco Western LLC, 18700 Southcenter Parkway, Tukwila, Washington 98188*. From Sara Nied, Washington State Department of Ecology, to Corinne Dobbins, Gaco Western. November 16.

Envirocon. 1991. Letter Report: *Findings from the UST Site Assessment Performed at the GACO Western Facility, Tukwila, Washington*. From Thomas Cammarata and William Shearer, Envirocon, Inc., to Adrian L. Jenkins, Gaco Western, Inc. November 26.

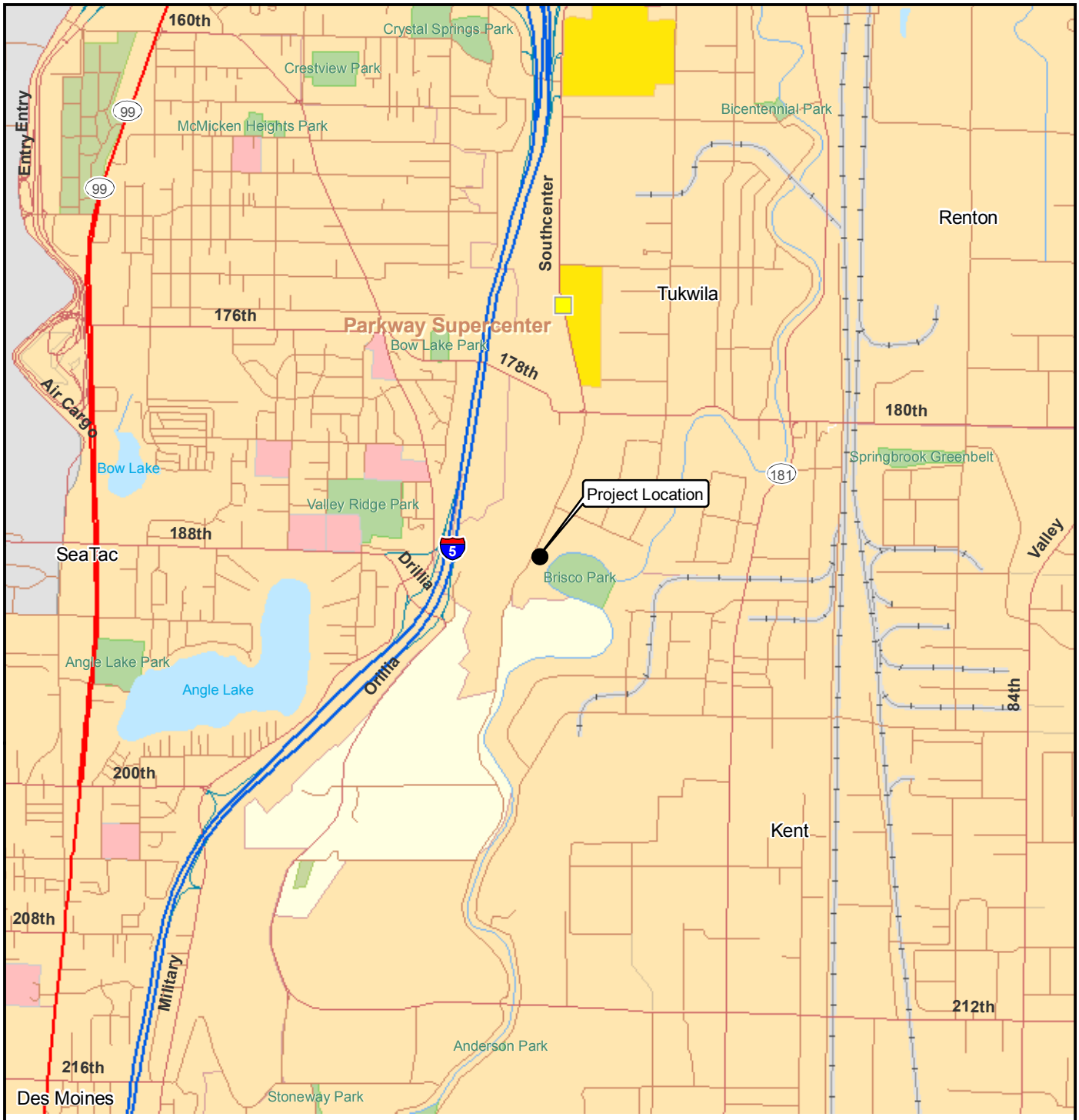
Farallon. 2010. *Summary of Subsurface Investigation and Preliminary Remedial Alternatives, Gaco Western, Inc. Facility, 18700 Southcenter Parkway, Tukwila, Washington, Farallon PN: 841-003*. Farallon Consulting. Prepared for Segale Properties. January 26.

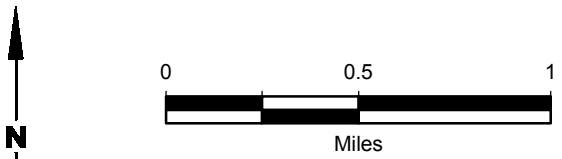
Gaco Western. 2010a. Table: *Summary of Detected Chemical Constituents in Groundwater*. (Attachment to e-mail message from Corinne Dobbins, EH&S and Regulatory Compliance Manager, Gaco Western, to Jessica Kruczek, Senior Project Engineer, Landau Associates. May 17.

Gaco Western. 2010b. Letter with Subsurface Investigation Report Enclosure. From Corinne Dobbins, Gaco Western, to Roger Nye, Voluntary Cleanup Program, Washington State Department of Ecology. February 5.

Hart Crowser. 1994. Final Report: *Soil Vapor Extraction, Interim Remedial Action, Gaco Western, Inc, Tukwila, Washington*. Prepared for Gaco Western, Inc. February 9.

Landau Associates. 2010. Draft Letter: *Work Plan for Remedial Investigation, Gaco Western, Inc. Facility, 18700 Southcenter Parkway, Tukwila, Washington*. From Timothy L. Syverson, Senior Associate Geologist, to Corinne Dobbins, EH&S and Regulatory Compliance Manager, Gaco Western, Inc. June 17.



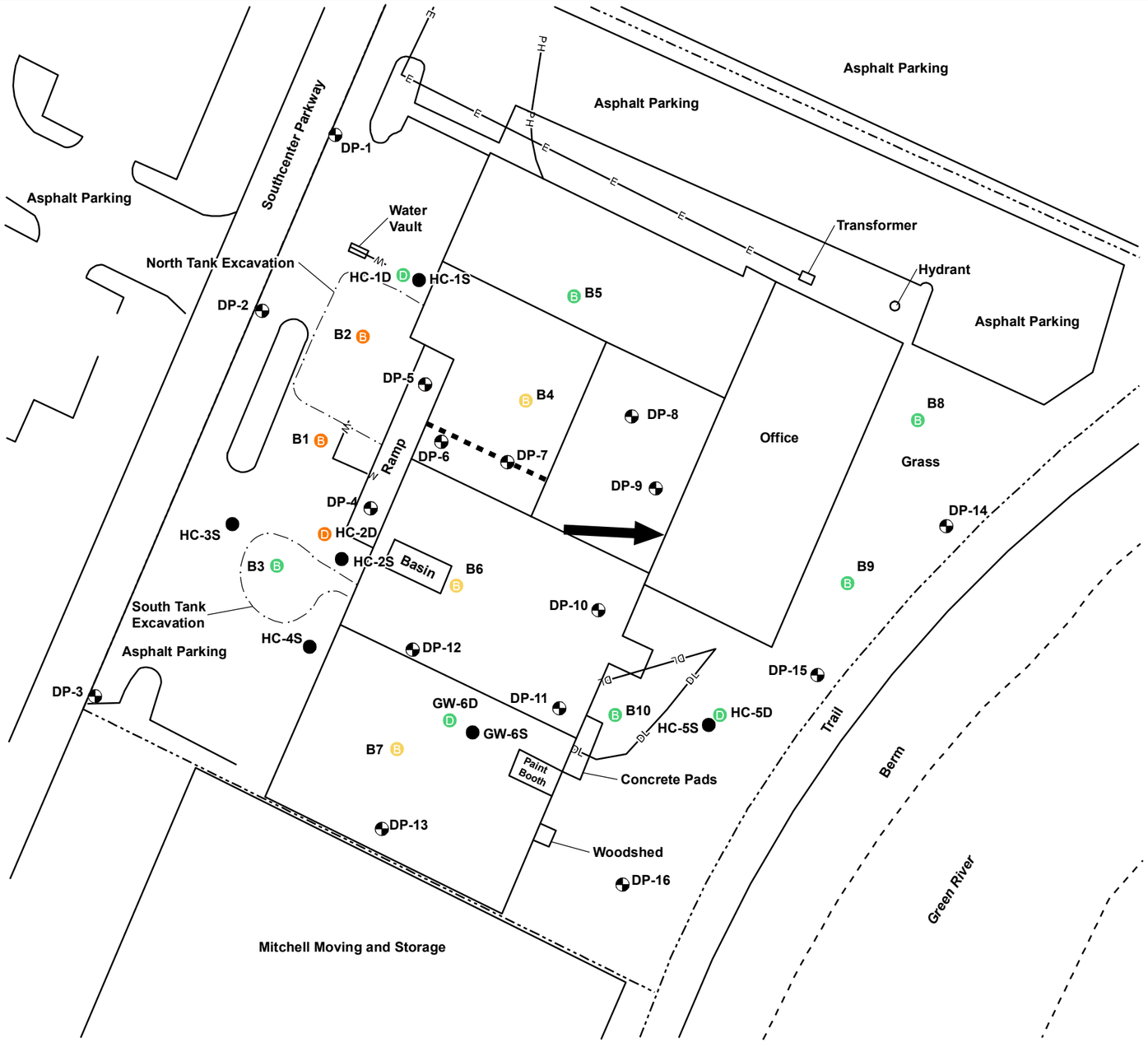


Data Source: ESRI 2008

Y:\Projects\1226001\Mapdocs\Fig1.mxd 6/18/2010

LANDAU ASSOCIATES

Gaco Western, Inc. Tukwila, Washington	**Vicinity Map**	Figure 1



Legend

- HC-1S — Monitoring Well Location Shallow
- HC-1D — Monitoring Well Location Deep
- B1 — Reconnaissance Boring 2009
- DP-1 — Boring
- Property Boundary
- Approximate Location of Product Distribution Line
- Approximate Underground Storage Tank Excavation Limits
- DL — Drain Line
- E — Electrical Line
- PH — Telecommunications Line
- W — Water Line
- Approximate Groundwater Flow Direction (11/20/2009)
- Detections of VOCs > 1,000 PPB (part per billion)
- Detections of VOCs > 100 PPB (part per billion)
- Detections of VOCs > 10 PPB (part per billion)

Note

1. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.
2. All locations are approximate.
3. Locations without color are below 10ppb of site constituents.
4. Boring locations B1-B10 were investigated by Farallon Consulting in November 2009.
5. VOCs = Volatile Organic Compounds

Y:\Projects\1226001\Mapdocs\BoringLocations.mxd 5/10/2011 NAD 1983 StatePlane Washington North FIPS 4601 Feet

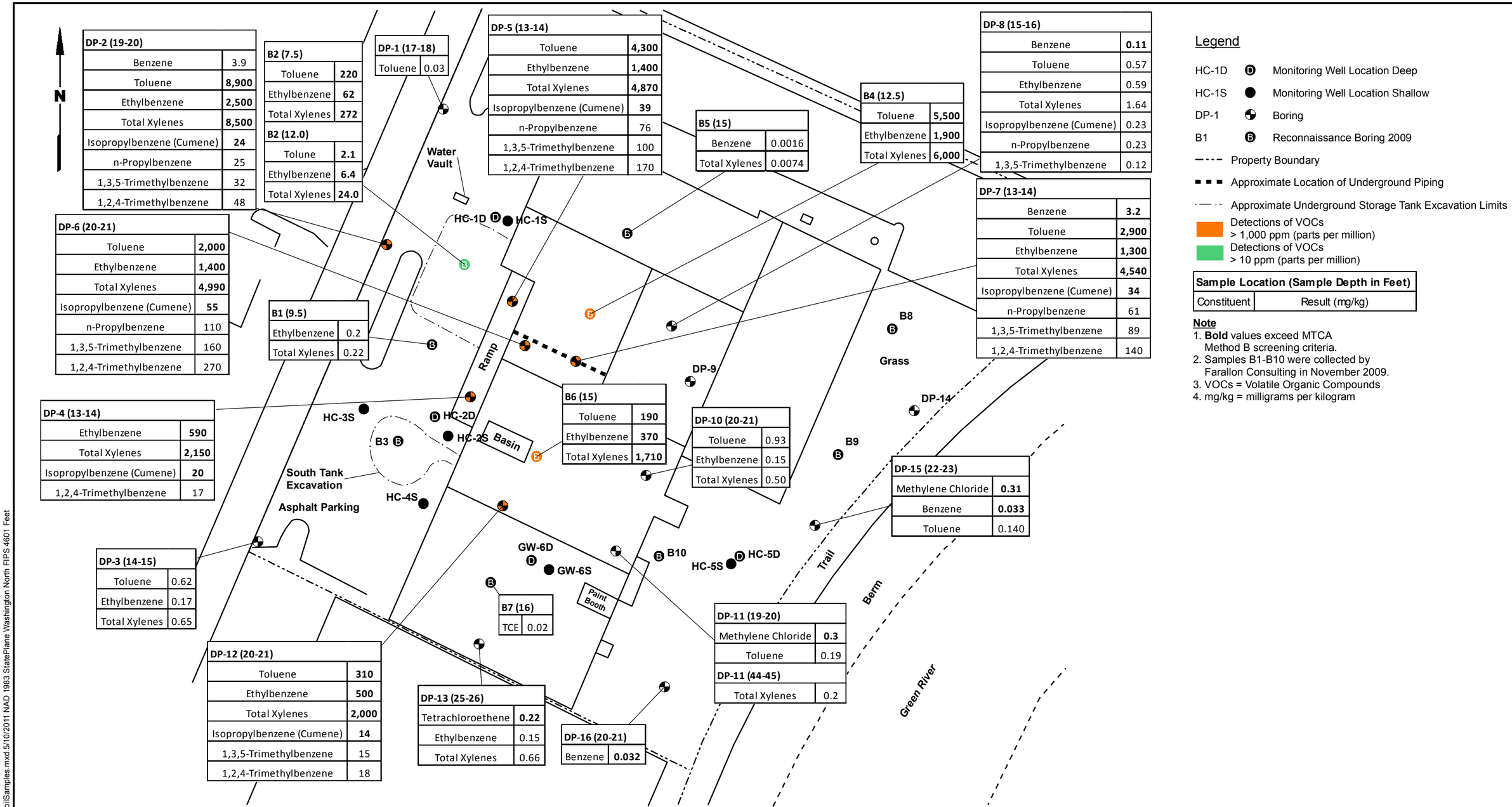
0 50 100

Scale in Feet

Adapted from: Farallon Consulting 2010; Segale Properties 2009

LANDAU ASSOCIATES

Gaco Western, Inc. Tukwila, Washington	**Investigative Boring Locations**	Figure 2



Legend

- HC-1D — Monitoring Well Location Deep
- HC-1S — Monitoring Well Location Shallow
- DP-1 — Boring
- B1 — Reconnaissance Boring 2009
- Property Boundary
- Approximate Location of Underground Piping
- Approximate Underground Storage Tank Excavation Limits
- Detections of VOCs > 1,000 ppm (parts per million)
- Detections of VOCs > 10 ppm (parts per million)

Sample Location (Sample Depth in Feet)	
Constituent	Result (mg/kg)

Note

1. **Bold** values exceed MTCA Method B screening criteria.
2. Samples B1-B10 were collected by Farallon Consulting in November 2009.
3. VOCs = Volatile Organic Compounds
4. mg/kg = milligrams per kilogram

Adapted from: Farallon Consulting 2010

0 50 100

Scale in Feet

Y:\Projects\1226001\Mapdocs\SoilSamples.mxd 5/10/2011 NAD 1983 StatePlane Washington North FIPS 4601 Feet

LANDAU ASSOCIATES

Gaco Western, Inc. Tukwila, Washington	**Volatile Organic Compounds Detected in Soil**	Figure 3

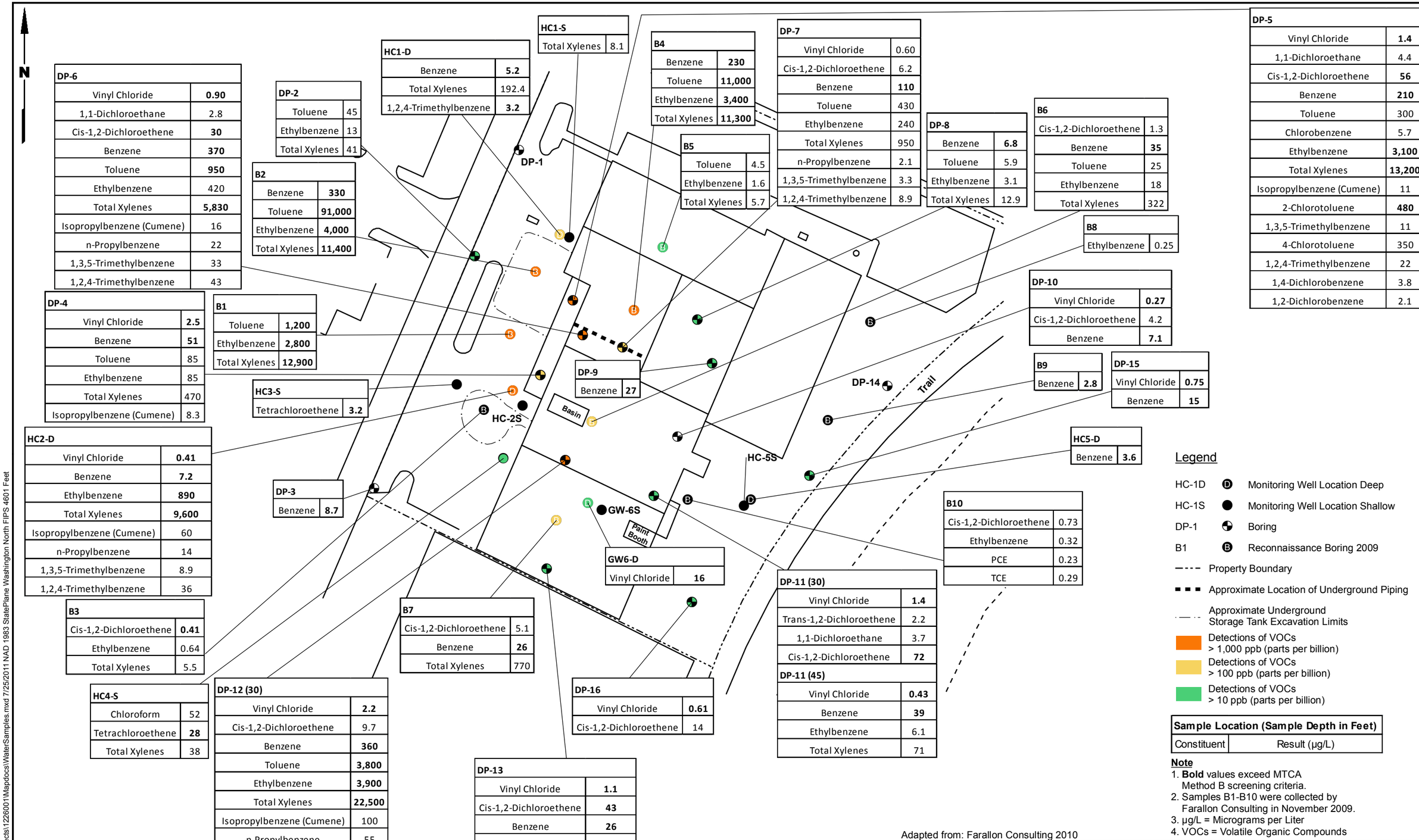

N
DP-6
Vinyl Chloride 0.90
1,1-Dichloroethane 2.8
Cis-1,2-Dichloroethene 30
Benzene 370
Toluene 950
Ethylbenzene 420
Total Xylenes 5,830
Isopropylbenzene (Cumene) 16
n-Propylbenzene 22
1,3,5-Trimethylbenzene 33
1,2,4-Trimethylbenzene 43
DP-4
Vinyl Chloride 2.5
Benzene 51
Toluene 85
Ethylbenzene 85
Total Xylenes 470
Isopropylbenzene (Cumene) 8.3
HC2-D
Vinyl Chloride 0.41
Benzene 7.2
Ethylbenzene 890
Total Xylenes 9,600
Isopropylbenzene (Cumene) 60
n-Propylbenzene 14
1,3,5-Trimethylbenzene 8.9
1,2,4-Trimethylbenzene 36
B3
Cis-1,2-Dichloroethene 0.41
Ethylbenzene 0.64
Total Xylenes 5.5
HC4-S
Chloroform 52
Tetrachloroethene 28
Total Xylenes 38
DP-2
Toluene 45
Ethylbenzene 13
Total Xylenes 41
B2
Benzene 330
Toluene 91,000
Ethylbenzene 4,000
Total Xylenes 11,400
B1
Toluene 1,200
Ethylbenzene 2,800
Total Xylenes 12,900
HC3-S
Tetrachloroethene 3.2
DP-3
Benzene 8.7
HC1-D
Benzene 5.2
Total Xylenes 192.4
1,2,4-Trimethylbenzene 3.2
HC1-S
Total Xylenes 8.1
DP-1
HC-2S
Basin
DP-9
Benzene 27
GW-6S
Paint Booth
GW6-D
Vinyl Chloride 16
B7
Cis-1,2-Dichloroethene 5.1
Benzene 26
Total Xylenes 770
DP-12 (30)
Vinyl Chloride 2.2
Cis-1,2-Dichloroethene 9.7
Benzene 360
Toluene 3,800
Ethylbenzene 3,900
Total Xylenes 22,500
Isopropylbenzene (Cumene) 100
n-Propylbenzene 55
1,3,5-Trimethylbenzene 62
1,2,4-Trimethylbenzene 120
DP-16
Vinyl Chloride 0.61
Cis-1,2-Dichloroethene 14
DP-13
Vinyl Chloride 1.1
Cis-1,2-Dichloroethene 43
Benzene 26
Ethylbenzene 2.1
Total Xylenes 31.2
B4
Benzene 230
Toluene 11,000
Ethylbenzene 3,400
Total Xylenes 11,300
B5
Toluene 4.5
Ethylbenzene 1.6
Total Xylenes 5.7
DP-7
Vinyl Chloride 0.60
Cis-1,2-Dichloroethene 6.2
Benzene 110
Toluene 430
Ethylbenzene 240
Total Xylenes 950
n-Propylbenzene 2.1
1,3,5-Trimethylbenzene 3.3
1,2,4-Trimethylbenzene 8.9
DP-8
Benzene 6.8
Toluene 5.9
Ethylbenzene 3.1
Total Xylenes 12.9
DP-14
Trail
HC-5S
DP-11 (30)
Vinyl Chloride 1.4
Trans-1,2-Dichloroethene 2.2
1,1-Dichloroethane 3.7
Cis-1,2-Dichloroethene 72
DP-11 (45)
Vinyl Chloride 0.43
Benzene 39
Ethylbenzene 6.1
Total Xylenes 71
B10
Cis-1,2-Dichloroethene 0.73
Ethylbenzene 0.32
PCE 0.23
TCE 0.29
B6
Cis-1,2-Dichloroethene 1.3
Benzene 35
Toluene 25
Ethylbenzene 18
Total Xylenes 322
B8
Ethylbenzene 0.25
DP-10
Vinyl Chloride 0.27
Cis-1,2-Dichloroethene 4.2
Benzene 7.1
B9
Benzene 2.8
DP-15
Vinyl Chloride 0.75
Benzene 15
HC5-D
Benzene 3.6
DP-5
Vinyl Chloride 1.4
1,1-Dichloroethane 4.4
Cis-1,2-Dichloroethene 56
Benzene 210
Toluene 300
Chlorobenzene 5.7
Ethylbenzene 3,100
Total Xylenes 13,200
Isopropylbenzene (Cumene) 11
2-Chlorotoluene 480
1,3,5-Trimethylbenzene 11
4-Chlorotoluene 350
1,2,4-Trimethylbenzene 22
1,4-Dichlorobenzene 3.8
1,2-Dichlorobenzene 2.1
Legend
HC-1D Monitoring Well Location Deep
HC-1S Monitoring Well Location Shallow
DP-1 Boring
B1 Reconnaissance Boring 2009
Property Boundary
Approximate Location of Underground Piping
Approximate Underground Storage Tank Excavation Limits
Detections of VOCs > 1,000 ppb (parts per billion)
Detections of VOCs > 100 ppb (parts per billion)
Detections of VOCs > 10 ppb (parts per billion)
Sample Location (Sample Depth in Feet)
Constituent Result (µg/L)
Note
1. Bold values exceed MTCA Method B screening criteria.
2. Samples B1-B10 were collected by Farallon Consulting in November 2009.
3. µg/L = Micrograms per Liter
4. VOCs = Volatile Organic Compounds
0 60 120
Scale in Feet
Adapted from: Farallon Consulting 2010
Y:\Projects\1226001\Mapdocs\WaterSamples.mxd 7/25/2011 NAD 1983 StatePlane Washington North FIPS 4601 Feet
LANDAU ASSOCIATES
Gaco Western, Inc.
Tukwila, Washington
Volatile Organic Compounds Detected in Groundwater
Figure 4

TABLE 1
SUMMARY OF INVESTIGATIVE BORING LOCATIONS
GACO WESTERN, INC.
TUKWILA, WASHINGTON

Sample ID	Reason for Collection	Media for Collection (Approximate Depth) (a)	VOCs (b)	Nitrate (c)	Sulfate (c)	Field Parameters					
						pH	Temperature	Conductivity	Dissolved Oxygen	ORP	Ferrous Iron
HC-1S (e)	To attain a comprehensive round of groundwater monitoring data from existing site monitoring wells.	Groundwater (Screened interval - 3-8 ft BGS)	✓	✓	✓	✓	✓	✓	✓	✓	✓
HC-1D (d)	To attain a comprehensive round of groundwater monitoring data from existing site monitoring wells.	Groundwater (Screened interval - 26-31 ft BGS)	✓	✓	✓	✓	✓	✓	✓	✓	✓
HC-2S (e)	To attain a comprehensive round of groundwater monitoring data from existing site monitoring wells.	Groundwater (Screened interval - 3-8 ft BGS)	✓	✓	✓	✓	✓	✓	✓	✓	✓
HC-2D (d)	To attain a comprehensive round of groundwater monitoring data from existing site monitoring wells.	Groundwater (Screened interval - 23-28 ft BGS)	✓	✓	✓	✓	✓	✓	✓	✓	✓
HC-3S (e)	To attain a comprehensive round of groundwater monitoring data from existing site monitoring wells.	Groundwater (Screened interval - Unknown)	✓	✓	✓	✓	✓	✓	✓	✓	✓
HC-4S (e)	To attain a comprehensive round of groundwater monitoring data from existing site monitoring wells.	Groundwater (Screened interval - Unknown)	✓	✓	✓	✓	✓	✓	✓	✓	✓
HC-5S (e)	To attain a comprehensive round of groundwater monitoring data from existing site monitoring wells.	Groundwater (Screened interval - 7-12 ft BGS)	✓	✓	✓	✓	✓	✓	✓	✓	✓
HC-5D (d)	To attain a comprehensive round of groundwater monitoring data from existing site monitoring wells.	Groundwater (Screened interval - 27-32 ft BGS)	✓	✓	✓	✓	✓	✓	✓	✓	✓
GW-6S (e)	To attain a comprehensive round of groundwater monitoring data from existing site monitoring wells.	Groundwater (Screened interval 6 - 6-11 ft BGS)	✓	✓	✓	✓	✓	✓	✓	✓	✓
GW-6D (d)	To attain a comprehensive round of groundwater monitoring data from existing site monitoring wells.	Groundwater (Screened interval 20.5 - 27-32 ft BGS)	✓	✓	✓	✓	✓	✓	✓	✓	✓
DP-1	Upgradient location to represent background conditions, or identify possible upgradient offsite sources.	Soil (Interval of Highest PID reading or 25 ft BGS)	✓								
		Groundwater (25 ft BGS)	✓	✓	✓	✓	✓	✓	✓	✓	✓
DP-2	Upgradient location to represent background conditions (directly upgradient of highest known benzene detections to date), or identify possible upgradient offsite sources.	Soil (Interval of Highest PID reading or 25 ft BGS)	✓								
		Groundwater (25 ft BGS)	✓	✓	✓	✓	✓	✓	✓	✓	✓
DP-3	Upgradient location to represent background conditions, or identify possible upgradient offsite sources.	Soil (Interval of Highest PID reading or 25 ft BGS)	✓								
		Groundwater (25 ft BGS)	✓	✓	✓	✓	✓	✓	✓	✓	✓
DP-4	Downgradient location between samples B1 (Farallon) and HC-2D, both of which exhibited the highest concentrations in groundwater at the site. Intended to quantify downgradient contaminant concentrations.	Soil (Interval of Highest PID reading or 30 ft BGS)	✓								
		Groundwater (30 ft BGS)	✓	✓	✓	✓	✓	✓	✓	✓	✓
DP-5	Location directly downgradient of the former Northern Tank Area. To quantify downgradient concentrations.	Soil (Interval of Highest PID reading or 30 ft BGS)	✓								
		Groundwater (30 ft BGS)	✓	✓	✓	✓	✓	✓	✓	✓	✓
DP-6	Sampling location to assess contaminant concentrations along product lines.	Soil (Interval of Highest PID reading or 30 ft BGS)	✓								
		Groundwater (30 ft BGS)	✓	✓	✓	✓	✓	✓	✓	✓	✓
DP-7	Sampling location to assess contaminant concentrations along product lines.	Soil (Interval of Highest PID reading or 30 ft BGS)	✓								
		Groundwater (30 ft BGS)	✓	✓	✓	✓	✓	✓	✓	✓	✓
DP-8	Sampling location to assess downgradient concentrations and evaluate horizontal extent of groundwater contamination.	Soil (Interval of Highest PID reading or 30 ft BGS)	✓								
		Groundwater (30 ft BGS)	✓	✓	✓	✓	✓	✓	✓	✓	✓

TABLE 1
SUMMARY OF INVESTIGATIVE BORING LOCATIONS
GACO WESTERN, INC.
TUKWILA, WASHINGTON

Sample ID	Reason for Collection	Media for Collection (Approximate Depth) (a)	VOCs (b)	Nitrate (c)	Sulfate (c)	Field Parameters					
						pH	Temperature	Conductivity	Dissolved Oxygen	ORP	Ferrous Iron
DP-9	Sampling location to assess downgradient concentrations and evaluate horizontal extent of groundwater contamination.	Soil (Interval of Highest PID reading or 30 ft BGS)	✓								
		Groundwater (30 ft BGS)	✓	✓	✓	✓	✓	✓	✓	✓	✓
DP-10	Sampling location to assess downgradient concentrations and evaluate horizontal extent of groundwater contamination.	Soil (Interval of Highest PID reading or 30 ft BGS)	✓								
		Groundwater (30 ft BGS)	✓	✓	✓	✓	✓	✓	✓	✓	✓
DP-11	Sampling location to assess downgradient concentrations and evaluate horizontal extent of groundwater contamination. Additionally, this location has been selected to address the possible presence of chlorinated solvents at depth.	Soil (Interval of Highest PID reading or 30 ft BGS) Contingency Soil (Interval of Highest PID reading or 45 ft BGS)	✓								
		Groundwater (30 ft BGS) Contingency Groundwater (45 ft BGS)	✓	✓	✓	✓	✓	✓	✓	✓	✓
DP-12	Sample to assess range of contaminant concentrations. Additionally, this location has been selected to address the possible presence of chlorinated solvents at depth.	Soil (Interval of Highest PID reading or 30 ft BGS) Contingency Soil (Interval of Highest PID reading or 45 ft BGS)	✓								
		Groundwater (30 ft BGS) Contingency Groundwater (45 ft BGS)	✓	✓	✓	✓	✓	✓	✓	✓	✓
DP-13	Sample to assess southern extent of contamination.	Soil (Interval of Highest PID reading or 30 ft BGS)	✓								
		Groundwater (30 ft BGS)	✓	✓	✓	✓	✓	✓	✓	✓	✓
DP-14	Sampling location intended to assess downgradient concentration gradients and evaluate horizontal extents of groundwater contamination along the northern extents of the site. This sampling location may be identified as a future compliance point.	Soil (Interval of Highest PID reading or 30 ft BGS)	✓								
		Groundwater (30 ft BGS)	✓	✓	✓	✓	✓	✓	✓	✓	✓
DP-15	Sampling location to assess downgradient concentrations and evaluate horizontal extent of groundwater contamination along the southern extent of the site. This sampling location may be identified as a future compliance point.	Soil (Interval of Highest PID reading or 30 ft BGS)	✓								
		Groundwater (30 ft BGS)	✓	✓	✓	✓	✓	✓	✓	✓	✓
DP-16	Sampling location to assess downgradient concentrations and evaluate horizontal extent of groundwater contamination along the southern extent of the site. This sampling location may be identified as a future compliance point.	Soil (Interval of Highest PID reading or 30 ft BGS)	✓								
		Groundwater (30 ft BGS)	✓	✓	✓	✓	✓	✓	✓	✓	✓

Notes:

(a) Sample intervals have been selected to remain consistent with or slightly deeper than previous investigations. Upgradient sampling locations have been modified to reflect the elevation differences between sampling outside and inside the building (approx. 5 ft). Screened intervals shown for monitoring wells are based on measured depths of well, and the assumption that a 5-foot screen has been installed. Well construction records were not provided. Monitoring wells HC-3S and HC-4S were not accessible.

(b) Volatile Organic Compounds (VOCs) will be analyzed by Method 8260B for both soils and groundwater. VOC soil samples will be collected by Method 5035.

(c) Nitrates and sulfates will be analyzed by Method 300 for groundwater.

(d) Existing groundwater monitoring wells to be sampled from least contaminated to most contaminated based on historical results. This order follows: HC-5D, HC-6D, HC-1D, HC-2D.

(e) Existing shallow monitoring wells are anticipated to be dry based on historical and recent groundwater elevation measurements. If water is present, a sample should be collected for the parameters listed.

ORP = Oxidation-Reduction Potential

TABLE 2
SUMMARY OF GROUNDWATER ELEVATIONS
GACO WESTERN, INC.
TUKWILA, WASHINGTON

Monitoring Well	Well Casing Elevation (ft)	Date Measured	Depth to Groundwater (ft)	Groundwater Elevation (ft)
HC-1S	27.67	06/18/2010	5.91	21.76
HC-1D	27.53	06/18/2010	12.47	15.06
HC-2S	27.87	06/18/2010	5.42	22.45
HC-2D	27.88	06/18/2010	12.75	15.13
HC-3S	27.20	06/18/2010	Not Measured	---
HC-4S	27.98	06/18/2010	Not Measured	---
HC-5S	28.95	06/18/2010	Dry	---
HC-5D	29.03	06/18/2010	16.41	12.62
GW-6S	31.63	06/18/2010	Dry	---
GW-6D	31.21	06/18/2010	14.41	16.80

Note:
Wells HC-3S and HC-4S were inaccessible at the time of groundwater elevation measurements and monitoring.

TABLE 3
SUMMARY OF SOIL ANALYTICAL RESULTS
GACO WESTERN, INC.
TUKWILA, WASHINGTON

Sample Location:	MTCA Method B and C	DP-1 (17-18)	DP-2 (19-20)	DP-3 (14-15)	DP-4 (13-14)	DP-5 (13-14)	DP-6 (20-21)	DP-7 (13-14)	DP-8 (15-16)	DP-10 (20-21)	DP-11 (19-20)	DP-12 (20-21)	DP-13 (25-26)
Lab ID:	Screening Levels	1006160-18A	1006160-19A	1006160-20A	1006160-21A	1006160-22A	1006160-23A	1006160-24A	1006160-25A	1006160-26A	1006160-27A	1006160-28A	1006160-29A
Event:	(a)	6/21/2010	6/21/2010	6/21/2010	6/21/2010	6/21/2010	6/22/2010	6/22/2010	6/22/2010	6/22/2010	6/22/2010	6/23/2010	6/23/2010
Date Collected:													
Volatiles (mg/kg)													
Method SW8260B													
CFC-12	Not Available	0.01 U	16 U	0.18 U	23 U	19 U	19 U	20 U	0.2 U	0.22 U	0.2 U	19 U	0.21 U
Chloromethane	Not Available	0.01 U	9.8 U	0.11 U	14 U	11 U	12 U	12 U	0.12 U	0.13 U	0.12 U	11 U	0.13 U
Vinyl Chloride	0.0004	0.01 U	1 U	0.01 U	1 U	1 U	1 U	1 U	0.01 U	0.01 U	0.01 U	1 U	0.01 U
Bromomethane	0.052	0.01 U	8.2 U	0.089 U	12 U	9.4 U	9.7 U	10 U	0.98 U	0.11 U	0.1 U	9.4 U	0.11 U
Chloroethane	Not Available	0.01 U	9.8 U	0.11 U	14 U	11 U	12 U	12 U	0.12 U	0.13 U	0.12 U	11 U	0.13 U
CFC-11	Not Available	0.01 U	8.6 U	0.094 U	12 U	9.9 U	10 U	11 U	0.1 U	0.12 U	0.11 U	9.9 U	0.11 U
Acetone	28.9	0.12 U	19 U	0.21 U	27 U	22 U	23 U	23 U	0.23 U	0.25 U	0.24 U	22 U	0.25 U
1,1-Dichloroethene	0.05	0.01 U	1 U	0.01 U	1 U	1 U	1 U	1 U	0.01 U	0.01 U	0.01 U	1 U	0.01 U
Methylene Chloride	0.022	0.02 U	20 U	0.22 U	29 U	23 U	24 U	25 U	0.24 U	0.27 U	**0.3**	23 U	0.27 U
Acrylonitrile	0.00033	0.05 U	10 U	0.11 U	15 U	12 U	13 U	13 U	0.13 U	0.14 U	0.13 U	12 U	0.14 U
Methyl t-butyl ether	0.1 (a)	0.01 U	10 U	0.11 U	14 U	12 U	12 U	13 U	0.12 U	0.14 U	0.13 U	12 U	0.13 U
Trans-1,2-Dichloroethene	0.54	0.01 U	9.7 U	0.11 U	14 U	11 U	12 U	12 U	0.12 U	0.13 U	0.12 U	11 U	0.13 U
1,1-Dichloroethane	8.73	0.01 U	9.8 U	0.11 U	14 U	11 U	12 U	12 U	0.12 U	0.13 U	0.12 U	11 U	0.13 U
2-Butanone	19.6	0.05 U	14 U	0.16 U	20 U	17 U	17 U	18 U	0.17 U	0.19 U	0.18 U	17 U	0.19 U
Cis-1,2-Dichloroethene	0.08	0.01 U	11 U	0.12 U	15 U	12 U	13 U	13 U	0.13 U	0.14 U	0.13 U	12 U	0.14 U
2,2-Dichloropropane	Not Available	0.01 U	10 U	0.11 U	14 U	12 U	12 U	12 U	0.12 U	0.13 U	0.13 U	12 U	0.13 U
Bromochloromethane	Not Available	0.01 U	17 U	0.19 U	25 U	20 U	21 U	22 U	0.21 U	0.23 U	0.22 U	20 U	0.23 U
Chloroform	0.426	0.01 U	10 U	0.11 U	14 U	12 U	12 U	12 U	0.12 U	0.13 U	0.13 U	12 U	0.13 U
1,1,1-Trichloroethane	1.58	0.01 U	9.1 U	0.099 U	13 U	10 U	11 U	11 U	0.11 U	0.12 U	0.11 U	10 U	0.12 U
1,1-Dichloropropene	Not Available	0.01 U	9.1 U	0.099 U	13 U	10 U	11 U	11 U	0.11 U	0.12 U	0.11 U	10 U	0.12 U
Carbon Tetrachloride	0.006	0.01 U	10 U	0.11 U	15 U	12 U	12 U	13 U	0.12 U	0.14 U	0.13 U	12 U	0.13 U
1,2-Dichloroethane	0.002	0.01 U	1 U	0.01 U	1 U	1 U	1 U	1 U	0.01 U	0.01 U	0.01 U	1 U	0.01 U
Benzene	0.005	0.005 U	**3.9**	0.005 U	0.5 U	0.5 U	0.5 U	**3.2**	**0.11**	0.005 U	0.005 U	0.5 U	0.005 U
Trichloroethene	0.016	0.01 U	1 U	0.01 U	1 U	1 U	1 U	1 U	0.01 U	0.01 U	0.01 U	1 U	0.01 U
1,2-Dichloropropane	0.03	0.01 U	9.1 U	0.099 U	13 U	10 U	11 U	11 U	0.11 U	0.12 U	0.11 U	10 U	0.12 U
Dibromomethane	Not Available	0.01 U	12 U	0.13 U	16 U	13 U	14 U	14 U	0.14 U	0.15 U	0.15 U	13 U	0.15 U
Dichlorobromomethane	0.0037	0.01 U	10 U	0.11 U	14 U	12 U	12 U	13 U	0.12 U	0.14 U	0.13 U	12 U	0.13 U
Trans-1,3-Dichloropropene	0.00259 (b)	0.01 U	11 U	0.12 U	15 U	12 U	13 U	13 U	0.13 U	0.14 U	0.14 U	12 U	0.14 U
Methyl isobutyl ketone	4.23	0.05 U	10 U	0.11 U	14 U	12 U	12 U	12 U	0.12 U	0.13 U	0.13 U	12 U	0.13 U
Toluene	4.65	**0.03**	**8,900**	**0.62**	15 U	**4,300**	**2,000**	**2,900**	**0.57**	**0.93**	**0.19**	**310**	0.14 U
Cis-1,3-Dichloropropene	0.0025 (b)	0.01 U	10 U	0.11 U	15 U	12 U	13 U	13 U	0.13 U	0.14 U	0.13 U	12 U	0.14 U
1,1,2-Trichloroethane	0.04	0.01 U	11 U	0.12 U	15 U	12 U	13 U	13 U	0.13 U	0.15 U	0.14 U	12 U	0.14 U
2-Hexanone	Not Available	0.05 U	7 U	0.076 U	9.9 U	8.1 U	8.3 U	8.6 U	0.084 U	0.094 U	0.088 U	8.1 U	0.091 U
1,3-Dichloropropane	Not Available	0.01 U	11 U	0.11 U	15 U	12 U	13 U	13 U	0.13 U	0.14 U	0.13 U	12 U	0.14 U
Tetrachloroethene	0.00086	0.01 U	1 U	0.01 U	1 U	1 U	1 U	1 U	0.01 U	0.01 U	0.01 U	1 U	**0.22**
Dibromochloromethane	0.007	0.01 U	16 U	0.17 U	22 U	18 U	19 U	19 U	0.19 U	0.21 U	0.2 U	18 U	0.2 U
Ethylene dibromide	0.00012	0.005 U	0.5 U	0.005 U	0.5 U	0.5 U	0.5 U	0.5 U	0.005 U	0.005 U	0.005 U	0.5 U	0.005 U
Chlorobenzene	0.87	0.01 U	11 U	0.12 U	15 U	12 U	13 U	13 U	0.13 U	0.15 U	0.14 U	12 U	0.14 U
1,1,1,2-Tetrachloroethane	0.01	0.01 U	8.4 U	0.092 U	12 U	9.7 U	10 U	10 U	0.01 U	0.11 U	0.11 U	9.7 U	0.11 U
Ethylbenzene	6.05	0.01 U	**2,500**	**0.17**	**590**	**1,400**	**1,400**	**1,300**	**0.59**	**0.15**	0.13 U	**500**	**0.15**
m, p-Xylene	See Total Xylenes	0.02 U	**5,900**	**0.46**	**1,500**	**4,000**	**4,000**	**3,600**	**1.3**	**0.35**	0.24 U	**1,300**	**0.44**
o-Xylene	See Total Xylenes	0.01 U	**2,600**	**0.19**	**650**	**870**	**990**	**940**	**0.34**	**0.15**	0.12 U	**700**	**0.22**
Total Xylenes	14.6	0.01 U	**8,500**	**0.65**	**2,150**	**4,870**	**4,990**	**4,540**	**1.64**	**0.50**	0.12 U	**2,000**	**0.66**
Styrene	2.24	0.01 U	8.2 U	0.089 U	12 U	9.5 U	9.8 U	10 U	0.099 U	0.11 U	0.1 U	9.5 U	0.11 U
Bromoform	0.036	0.01 U	12 U	0.13 U	17 U	13 U	14 U	14 U	0.14 U	0.16 U	0.15 U	13 U	0.15 U
Isopropylbenzene (Cumene)	7.4	0.01 U	**24**	0.097 U	**20**	**39**	**55**	**34**	**0.23**	0.12 U	0.11 U	**14**	0.12 U
1,1,2,2-Tetrachloroethane	0.0012	0.01 U	11 U	0.12 U	16 U	13 U	13 U	14 U	0.14 U	0.15 U	0.14 U	13 U	0.15 U
1,2,3-Trichloropropane	0.000010	0.01 U	12 U	0.13 U	17 U	14 U	14 U	15 U	0.14 U	0.16 U	0.15 U	14 U	0.15 U
Bromobenzene	Not Available	0.01 U	11 U	0.12 U	16 U	13 U	13 U	14 U	0.14 U	0.15 U	0.14 U	13 U	0.15 U
n-Propylbenzene	Not Available	0.01 U	**25**	0.12 U	15 U	**76**	**110**	**61**	**0.23**	0.15 U	0.14 U	12 U	0.14 U
2-Chlorotoluene	1.19	0.01 U	11 U	0.12 U	16 U	13 U	13 U	14 U	0.14 U	0.15 U	0.14 U	13 U	0.15 U
1,3,5-Trimethylbenzene	800	0.01 U	**32**	0.088 U	12 U	**100**	**160**	**89**	**0.12**	0.11 U	0.1 U	**15**	0.11 U
4-Chlorotoluene	Not Available	0.01 U	16 U	0.18 U	23 U	19 U	19 U	20 U	0.2 U	0.22 U	0.2 U	19 U	0.21 U
Tert-Butylbenzene	Not Available	0.01 U	10 U	0.11 U	15 U	12 U	12 U	13 U	0.13 U	0.14 U	0.13 U	12 U	0.14 U
1,2,4-Trimethylbenzene	800	0.01 U	**48**	0.095 U	**17**	**170**	**270**	**140**	0.11 U	0.12 U	0.11 U	**18**	0.11 U
Sec-Butylbenzene	Not Available	0.01 U	9.5 U	0.1 U	14 U	11 U	11 U	12 U	0.11 U	0.13 U	0.12 U	11 U	0.12 U
p-Isopropyltoluene	Not Available	0.01 U	7.8 U	0.085 U	11 U	9 U	9.3 U	9.7 U	0.094 U	0.1 U	0.099 U	9 U	0.1 U
1,3-Dichlorobenzene	Not Available	0.01 U	11 U	0.12 U	16 U	13 U	14 U	14 U	0.14 U	0.15 U	0.14 U	13 U	0.15 U

TABLE 3
SUMMARY OF SOIL ANALYTICAL RESULTS
GACO WESTERN, INC.
TUKWILA, WASHINGTON

Sample Location:	MTCA Method B and C											
Lab ID:	Screening Levels	DP-1 (17-18)	DP-2 (19-20)	DP-3 (14-15)	DP-4 (13-14)	DP-5 (13-14)	DP-6 (20-21)	DP-7 (13-14)	DP-8 (15-16)	DP-10 (20-21)	DP-11 (19-20)	DP-12 (20-21)	DP-13 (25-26)
Event:	(a)	1006160-18A	1006160-19A	1006160-20A	1006160-21A	1006160-22A	1006160-23A	1006160-24A	1006160-25A	1006160-26A	1006160-27A	1006160-28A	1006160-29A
Date Collected:		6/21/2010	6/21/2010	6/21/2010	6/21/2010	6/21/2010	6/22/2010	6/22/2010	6/22/2010	6/22/2010	6/22/2010	6/23/2010	6/23/2010
1,4-Dichlorobenzene	1.24	0.01 U	11 U	0.12 U	15 U	12 U	13 U	13 U	0.13 U	0.14 U	0.13 U	12 U	0.14 U
n-Butylbenzene	Not Available	0.01 U	8.5 U	0.092 U	12 U	9.7 U	10 U	10 U	0.1 U	0.11 U	0.11 U	9.7 U	0.11 U
1,2-Dichlorobenzene	7.03	0.01 U	11 U	0.12 U	16 U	13 U	14 U	14 U	0.14 U	0.15 U	0.14 U	13 U	0.15 U
1,2-Dibromo-3-Chloropropane	0.0003	0.05 U	13 U	0.15 U	19 U	15 U	16 U	17 U	0.16 U	0.18 U	0.17 U	15 U	0.18 U
1,2,4-Trichlorobenzene	0.06	0.01 U	9.9 U	0.11 U	14 U	11 U	12 U	12 U	0.12 U	0.13 U	0.13 U	11 U	0.13 U
Hexachlorobutadiene	0.6	0.01 U	12 U	0.13 U	17 U	14 U	14 U	15 U	0.14 U	0.16 U	0.15 U	14 U	0.15 U
Naphthalene	4.46	0.01 U	11 U	0.12 U	16 U	13 U	13 U	14 U	0.14 U	0.15 U	0.14 U	13 U	0.15 U
1,2,3-Trichlorobenzene	Not Available	0.01 U	11 U	0.12 U	15 U	12 U	13 U	13 U	0.13 U	0.14 U	0.13 U	12 U	0.14 U

TABLE 3
SUMMARY OF SOIL ANALYTICAL RESULTS
GACO WESTERN, INC.
TUKWILA, WASHINGTON

Sample Location:	MTCA Method B and C	DP-14 (17-18)	DP-15 (22-23)	DP-16 (20-21)	DP-11 (44-45)
Lab ID:	Screening Levels	1006160-30A	1006160-31A	1006160-32A	1006160-33A
Event:	(a)	6/23/2010	6/23/2010	6/23/2010	6/22/2010
Date Collected:					
Volatiles (mg/kg)					
Method SW8260B					
CFC-12	Not Available	0.2 U	0.19 U	0.19 U	0.16 U
Chloromethane	Not Available	0.12 U	0.12 U	0.11 U	0.097 U
Vinyl Chloride	0.0004	0.01 U	0.01 U	0.01 U	0.01 U
Bromomethane	0.052	0.1 U	0.097 U	0.095 U	0.081 U
Chloroethane	Not Available	0.12 U	0.12 U	0.11 U	0.097 U
CFC-11	Not Available	0.11 U	0.1 U	0.1 U	0.085 U
Acetone	28.9	0.24 U	0.22 U	0.22 U	0.19 U
1,1-Dichloroethene	0.05	0.01 U	0.01 U	0.01 U	0.01 U
Methylene Chloride	0.022	0.26 U	**0.31**	0.24 U	0.2 U
Acrylonitrile	0.00033	0.13 U	0.12 U	0.12 U	0.1 U
Methyl t-butyl ether	0.1 (a)	0.13 U	0.12 U	0.12 U	0.1 U
Trans-1,2-Dichloroethene	0.54	0.12 U	0.11 U	0.11 U	0.096 U
1,1-Dichloroethane	8.73	0.12 U	0.12 U	0.11 U	0.097 U
2-Butanone	19.6	0.18 U	0.17 U	0.17 U	0.14 U
Cis-1,2-Dichloroethene	0.08	0.13 U	0.13 U	0.12 U	0.1 U
2,2-Dichloropropane	Not Available	0.13 U	0.12 U	0.12 U	0.099 U
Bromochloromethane	Not Available	0.22 U	0.21 U	0.2 U	0.17 U
Chloroform	0.426	0.13 U	0.12 U	0.12 U	0.099 U
1,1,1-Trichloroethane	1.58	0.11 U	0.11 U	0.11 U	0.089 U
1,1-Dichloropropene	Not Available	0.11 U	0.11 U	0.11 U	0.089 U
Carbon Tetrachloride	0.006	0.13 U	0.12 U	0.12 U	0.1 U
1,2-Dichloroethane	0.002	0.01 U	0.01 U	0.01 U	0.01 U
Benzene	0.005	0.005 U	**0.033**	**0.032**	0.005 U
Trichloroethene	0.016	0.01 U	0.01 U	0.01 U	0.01 U
1,2-Dichloropropane	0.03	0.11 U	0.11 U	0.11 U	0.09 U
Dibromomethane	Not Available	0.14 U	0.14 U	0.13 U	0.11 U
Dichlorobromomethane	0.0037	0.13 U	0.12 U	0.12 U	0.1 U
Trans-1,3-Dichloropropene	0.00259 (b)	0.14 U	0.13 U	0.13 U	0.11 U
Methyl isobutyl ketone	4.23	0.13 U	0.12 U	0.12 U	0.099 U
Toluene	4.65	0.13 U	**0.14**	0.12 U	0.1 U
Cis-1,3-Dichloropropene	0.0025 (b)	0.13 U	0.12 U	0.12 U	0.1 U
1,1,2-Trichloroethane	0.04	0.14 U	0.13 U	0.13 U	0.11 U
2-Hexanone	Not Available	0.088 U	0.083 U	0.081 U	0.069 U
1,3-Dichloropropane	Not Available	0.13 U	0.12 U	0.12 U	0.1 U
Tetrachloroethene	0.00086	0.01 U	0.01 U	0.01 U	0.01 U
Dibromochloromethane	0.007	0.2 U	0.19 U	0.18 U	0.15 U
Ethylene dibromide	0.00012	0.005 U	0.005 U	0.005 U	0.005 U
Chlorobenzene	0.87	0.14 U	0.13 U	0.13 U	0.11 U
1,1,1,2-Tetrachloroethane	0.01	0.11 U	0.1 U	0.098 U	0.083 U
Ethylbenzene	6.05	0.13 U	0.13 U	0.12 U	0.1 U
m, p-Xylene	See Total Xylenes	0.24 U	0.23 U	0.22 U	**0.2**
o-Xylene	See Total Xylenes	0.12 U	0.11 U	0.11 U	0.09 U
Total Xylenes	14.6	0.12 U	0.11 U	0.11 U	**0.2**
Styrene	2.24	0.1 U	0.097 U	0.095 U	0.081 U
Bromoform	0.036	0.15 U	0.14 U	0.14 U	0.12 U
Isopropylbenzene (Cumene)	7.4	0.11 U	0.11 U	0.1 U	0.088 U
1,1,2,2-Tetrachloroethane	0.0012	0.14 U	0.13 U	0.13 U	0.11 U
1,2,3-Trichloropropane	0.000010	0.15 U	0.14 U	0.14 U	0.12 U
Bromobenzene	Not Available	0.14 U	0.13 U	0.13 U	0.11 U
n-Propylbenzene	Not Available	0.14 U	0.13 U	0.13 U	0.11 U
2-Chlorotoluene	1.19	0.14 U	0.13 U	0.13 U	0.11 U
1,3,5-Trimethylbenzene	800	0.1 U	0.096 U	0.094 U	0.08 U
4-Chlorotoluene	Not Available	0.2 U	0.19 U	0.19 U	0.16 U
Tert-Butylbenzene	Not Available	0.13 U	0.12 U	0.12 U	0.1 U
1,2,4-Trimethylbenzene	800	0.11 U	0.1 U	0.1 U	0.087 U
Sec-Butylbenzene	Not Available	0.12 U	0.11 U	0.11 U	0.094 U
p-Isopropyltoluene	Not Available	0.098 U	0.092 U	0.091 U	0.077 U
1,3-Dichlorobenzene	Not Available	0.14 U	0.14 U	0.13 U	0.11 U

TABLE 3
SUMMARY OF SOIL ANALYTICAL RESULTS
GACO WESTERN, INC.
TUKWILA, WASHINGTON

Sample Location:	MTCA Method B and C				
Lab ID:	Screening Levels	DP-14 (17-18)	DP-15 (22-23)	DP-16 (20-21)	DP-11 (44-45)
Event:	(a)	1006160-30A	1006160-31A	1006160-32A	1006160-33A
Date Collected:		6/23/2010	6/23/2010	6/23/2010	6/22/2010
1,4-Dichlorobenzene	1.24	0.13 U	0.13 U	0.12 U	0.1 U
n-Butylbenzene	Not Available	0.11 U	0.1 U	0.098 U	0.084 U
1,2-Dichlorobenzene	7.03	0.14 U	0.13 U	0.13 U	0.11 U
1,2-Dibromo-3-Chloropropane	0.0003	0.17 U	0.16 U	0.16 U	0.13 U
1,2,4-Trichlorobenzene	0.06	0.12 U	0.12 U	0.12 U	0.098 U
Hexachlorobutadiene	0.6	0.15 U	0.14 U	0.14 U	0.12 U
Naphthalene	4.46	0.14 U	0.13 U	0.13 U	0.11 U
1,2,3-Trichlorobenzene	Not Available	0.13 U	0.13 U	0.12 U	0.1 U

Bold = Detected compound.
A boxed value indicates the detected compound is above the respective cleanup level.
(a) MTCA Method B and C screening levels protective of groundwater and direct human contact.
(b) Screening level shown is for 1,3-dichloropropene.
U = Indicates compound was analyzed for, but was not detected at the given reporting limit.
J = Indicates the analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ = Indicates the compound was not detected; the given reporting limit is an estimate.

TABLE 4
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
GACO WESTERN, INC.
TUKWILA, WASHINGTON

Sample Location:	MTCA Method B	DP-1	DP-2	DP-3	DP-4	DP-5	DP-6	DP-7	DP-8	DP-9	DP-10	DP-11 (30)	DP-11 (45)	DP-12 (30)
Lab ID:	Screening	1006160-01A	1006160-02A	1006160-03A	1006160-04A	1006160-05A	1006160-06A	1006160-07A	1006160-08A	1006160-09A	1006160-10A	1006160-11A	1006160-17A	1006160-12A
Event:	Level													
Date Collected:	(a)	6/21/2010	6/21/2010	6/21/2010	6/21/2010	6/21/2010	6/21/2010	6/22/2010	6/22/2010	6/22/2010	6/22/2010	6/22/2010	6/22/2010	6/23/2010
VOLATILES (µg/L)														
Method SW8260B														
CFC-12	Not Available	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Chloromethane	Not Available	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Vinyl Chloride	0.061	0.20 U	0.20 U	0.20 U	**2.5**	**1.4**	**0.90**	**0.60**	0.20 U	0.20 U	**0.27**	**1.4**	**0.43**	**2.2**
Bromomethane	11.2	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Chloroethane	Not Available	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
CFC-11	Not Available	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Acetone	7200	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Carbon Disulfide	800	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,1-Dichloroethene	7	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Methylene Chloride	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acrylonitrile	0.081	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl t-butyl ether	20	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
trans-1,2-Dichloroethene	100	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	**2.2**	2.0 U	2.0 U
1,1-Dichloroethane	1,600	2.0 U	2.0 U	2.0 U	2.0 U	**4.4**	**2.8**	2.0 U	2.0 U	2.0 U	2.0 U	**3.7**	2.0 U	2.0 U
2-Butanone	4,800	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
cis-1,2-Dichloroethene	16	2.0 U	2.0 U	2.0 U	2.0 U	**56**	**30**	**6.2**	2.0 U	2.0 U	**4.2**	**72**	2.0 U	**9.7**
2,2-Dichloropropane	Not Available	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Bromochloromethane	Not Available	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Chloroform	80	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,1,1-Trichloroethane	200	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,1-Dichloropropene	Not Available	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Carbon Tetrachloride	0.63	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,2-Dichloroethane	0.481	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Benzene	0.8	2.0 U	2.0 U	**8.7**	**51**	**210**	**370**	**110**	**6.8**	**27**	**7.1**	2.0 U	**39**	**360**
Trichloroethene	2.4	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,2-Dichloropropane	5	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Dibromomethane	Not Available	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Dichlorobromomethane	0.71	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Trans-1,3-Dichloropropene	0.438 (b)	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Methyl isobutyl ketone	640	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Toluene	640	2.0 U	**45**	2.0 U	**85**	**300**	**950**	**430**	**5.9**	2.0 U	2.0 U	2.0 U	2.0 U	**3,800**
Cis-1,3-Dichloropropene	0.438 (b)	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,1,2-Trichloroethane	0.77	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
2-Hexanone	Not Available	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,3-Dichloropropane	Not Available	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Tetrachloroethene	0.081	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Dibromochloromethane	0.521	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Ethylene dibromide	0.022	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Chlorobenzene	100	2.0 U	2.0 U	2.0 U	2.0 U	**5.7**	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,1,1,2-Tetrachloroethane	1.68	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Ethylbenzene	700	2.0 U	**13**	2.0 U	**85**	**3,100**	**420**	**240**	**3.1**	2.0 U	2.0 U	2.0 U	**6.1**	**3,900**
m, p-Xylene	See Total Xylenes	4.0 U	**29**	4.0 U	**350**	**7,600**	**5,500**	**650**	**9.6**	4.0 U	4.0 U	4.0 U	**71**	**13,000**
o-Xylene	See Total Xylenes	2.0 U	**12**	2.0 U	**120**	**5,600**	**330**	**300**	**3.3**	2.0 U	2.0 U	2.0 U	2.0 U	**9,500**
Total Xylenes	1,600	2.0 U	**41**	2.0 U	**470**	**13,200**	**5,830**	**950**	**12.9**	2.0 U	2.0 U	2.0 U	**71**	**22,500**
Styrene	100	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Bromoform	5.54	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Isopropylbenzene (Cumene)	800	2.0 U	2.0 U	2.0 U	**8.3**	**11.0**	**16**	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	**100**
1,1,2,2-Tetrachloroethane	0.219	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,2,3-Trichloropropane	0.00146	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Bromobenzene	Not Available	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
n-Propylbenzene	Not Available	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	**22**	**2.1**	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	**55**
2-Chlorotoluene	160	2.0 U	2.0 U	2.0 U	2.0 U	**480**	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,3,5-Trimethylbenzene	80	2.0 U	2.0 U	2.0 U	2.0 U	**11**	**33**	**3.3**	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	**62**
4-Chlorotoluene	Not Available	2.0 U	2.0 U	2.0 U	2.0 U	**350**	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Tert-Butylbenzene	Not Available	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,2,4-Trimethylbenzene	80	2.0 U	2.0 U	2.0 U	2.0 U	**22**	**43**	**8.9**	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	**120**
Sec-Butylbenzene	Not Available	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
p-Isopropyltoluene	Not Available	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,3-Dichlorobenzene	Not Available	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,4-Dichlorobenzene	75	2.0 U	2.0 U	2.0 U	2.0 U	**3.8**	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
n-Butylbenzene	Not Available	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,2-Dichlorobenzene	600	2.0 U	2.0 U	2.0 U	2.0 U	**2.1**	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,2-Dibromo-3-Chloropropane	0.05	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene	1.51	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U

TABLE 4
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
GACO WESTERN, INC.
TUKWILA, WASHINGTON

Sample Location: / Lab ID: / Event: / Date Collected:	MTCA Method B Screening Level (a)	DP-1 1006160-01A 6/21/2010	DP-2 1006160-02A 6/21/2010	DP-3 1006160-03A 6/21/2010	DP-4 1006160-04A 6/21/2010	DP-5 1006160-05A 6/21/2010	DP-6 1006160-06A 6/21/2010	DP-7 1006160-07A 6/22/2010	DP-8 1006160-08A 6/22/2010	DP-9 1006160-09A 6/22/2010	DP-10 1006160-10A 6/22/2010	DP-11 (30) 1006160-11A 6/22/2010	DP-11 (45) 1006160-17A 6/22/2010	DP-12 (30) 1006160-12A 6/23/2010
Hexachlorobutadiene	0.561	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Naphthalene	160	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,2,3-Trichlorobenzene	Not Available	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
CONVENTIONALS (mg/L)														
Method EPA 300.0														
Nitrate	10	0.15 UJ	0.15 UJ	0.15 UJ	0.15 UJ	0.15 UJ	**0.26**	**1.0**	**0.38**	0.15 U	**0.23**	**0.23**	**0.19**	0.15 U
Sulfate	250	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	**1.2**	0.26 U	0.26 U	**0.38**	**0.36**	**0.34**	0.26 U
FIELD PARAMETERS														
pH	Not Applicable	6.15	6.37	6.19	6.18	6.07	6.32	6.38	6.44	6.46	6.51	6.35	6.29	6.27
Temperature (degrees C)	Not Applicable	13.9	14.71	13.71	15.9	17.25	NA	16.2	16.86	12.54	16.89	16.85	18.15	16.2
Dissolved Oxygen (mg/L)	Not Applicable	0.04	0.05	0.05	0.04	0.05	0.05	0.04	0.03	0.05	0.05	0.04	0.03	0.04
Specific Conductance (uS/cm)	Not Applicable	318	326	270	496	428	917	872	616	698	429	382	366	661
Oxidation-Reduction Potential (mV)	Not Applicable	-32.9	-30.9	-32.2	-33.3	-55.4	-33.3	-142.1	-160.5	-166.2	-151.2	-133.9	-139.7	-113.6
Ferrous Iron (mg/L)	Not Applicable	3.1	3.2	3.6	4.8	3.9	3.6	2.2	2.7	3.2	2.6	2.9	3.7	NA

TABLE 4
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
GACO WESTERN, INC.
TUKWILA, WASHINGTON

Sample Location:	MTCA Method B	DP-13	DP-14	DP-15	DP-16	GW6-D	HC1-S	HC1-D	HC2-S	HC2-D	HC3-S	HC4-S	HC5-D
Lab ID:	Screening	1006160-13A	1006160-14A	1006160-15A	1006160-16A	1006149-08A	1006149-01A	1006149-02A	1006149-04A	1006149-05A	1006149-03A	1006149-06A	1006149-07A
Event:	Level	6/23/2010	6/23/2010	6/23/2010	6/23/2010	6/22/2010	6/22/2010	6/22/2010	6/22/2010	6/22/2010	6/22/2010	6/22/2010	6/22/2010
Date Collected:	(a)												
VOLATILES (µg/L)													
Method SW8260B													
CFC-12	Not Available	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Chloromethane	Not Available	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Vinyl Chloride	0.061	**1.1**	0.20 U	**0.75**	**0.61**	**16**	0.20 U	0.20 U	0.20 U	**0.41**	0.20 U	0.20 U	0.20 U
Bromomethane	11.2	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Chloroethane	Not Available	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
CFC-11	Not Available	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Acetone	7200	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Carbon Disulfide	800	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,1-Dichloroethene	7	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Methylene Chloride	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acrylonitrile	0.081	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl t-butyl ether	20	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
trans-1,2-Dichloroethene	100	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,1-Dichloroethane	1,600	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
2-Butanone	4,800	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
cis-1,2-Dichloroethene	16	**43**	2.0 U	2.0 U	**14**	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
2,2-Dichloropropane	Not Available	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Bromochloromethane	Not Available	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Chloroform	80	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	**52**	2.0 U
1,1,1-Trichloroethane	200	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,1-Dichloropropene	Not Available	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Carbon Tetrachloride	0.63	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,2-Dichloroethane	0.481	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Benzene	0.8	**26**	2.0 U	**15**	2.0 U	2.0 U	2.0 U	**5.2**	2.0 U	**7.2**	2.0 U	2.0 U	**3.6**
Trichloroethene	2.4	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,2-Dichloropropane	5	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Dibromomethane	Not Available	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Dichlorobromomethane	0.71	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Trans-1,3-Dichloropropene	0.438 (b)	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Methyl isobutyl ketone	640	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Toluene	640	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Cis-1,3-Dichloropropene	0.438 (b)	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,1,2-Trichloroethane	0.77	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
2-Hexanone	Not Available	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,3-Dichloropropane	Not Available	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Tetrachloroethene	0.081	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	**3.2**	**28**	2.0 U
Dibromochloromethane	0.521	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Ethylene dibromide	0.022	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Chlorobenzene	100	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,1,1,2-Tetrachloroethane	1.68	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Ethylbenzene	700	**2.1**	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	**890**	2.0 U	2.0 U	2.0 U
m, p-Xylene	See Total Xylenes	**28**	4.0 U	4.0 U	4.0 U	4.0 U	**6.1**	**190**	4.0 U	**9,600**	4.0 U	**38**	4.0 U
o-Xylene	See Total Xylenes	**3.2**	2.0 U	2.0 U	2.0 U	2.0 U	**2**	**2.4**	2.0 U	200 U	2.0 U	2.0 U	2.0 U
Total Xylenes	1,600	**31.2**	2.0 U	2.0 U	2.0 U	2.0 U	**8.1**	**192.4**	2.0 U	**9,600**	2.0 U	**38**	2.0 U
Styrene	100	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Bromoform	5.54	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Isopropylbenzene (Cumene)	800	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	**60**	2.0 U	2.0 U	2.0 U
1,1,2,2-Tetrachloroethane	0.219	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,2,3-Trichloropropane	0.00146	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Bromobenzene	Not Available	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
n-Propylbenzene	Not Available	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	**14**	2.0 U	2.0 U	2.0 U
2-Chlorotoluene	160	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,3,5-Trimethylbenzene	80	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	**8.9**	2.0 U	2.0 U	2.0 U
4-Chlorotoluene	Not Available	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Tert-Butylbenzene	Not Available	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,2,4-Trimethylbenzene	80	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	**3.2**	2.0 U	**36**	2.0 U	2.0 U	2.0 U
Sec-Butylbenzene	Not Available	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
p-Isopropyltoluene	Not Available	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,3-Dichlorobenzene	Not Available	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,4-Dichlorobenzene	75	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
n-Butylbenzene	Not Available	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,2-Dichlorobenzene	600	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,2-Dibromo-3-Chloropropane	0.05	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene	1.51	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U

TABLE 4
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
GACO WESTERN, INC.
TUKWILA, WASHINGTON

Sample Location: / Lab ID: / Event: / Date Collected:	MTCA Method B Screening Level (a)	DP-13 1006160-13A 6/23/2010	DP-14 1006160-14A 6/23/2010	DP-15 1006160-15A 6/23/2010	DP-16 1006160-16A 6/23/2010	GW6-D 1006149-08A 6/22/2010	HC1-S 1006149-01A 6/22/2010	HC1-D 1006149-02A 6/22/2010	HC2-S 1006149-04A 6/22/2010	HC2-D 1006149-05A 6/22/2010	HC3-S 1006149-03A 6/22/2010	HC4-S 1006149-06A 6/22/2010	HC5-D 1006149-07A 6/22/2010
Hexachlorobutadiene	0.561	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Naphthalene	160	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,2,3-Trichlorobenzene	Not Available	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
CONVENTIONALS (mg/L)													
Method EPA 300.0													
Nitrate	10	**0.34**	**0.38**	0.15 U	**0.43**	**0.32**	0.15 U	0.15 U	**7.9**	**0.26**	**1.5**	**7.1**	**0.21**
Sulfate	250	**0.81**	0.26 U	0.26 U	**3.6**	0.26 U	0.26 U	0.26 U	**8.3**	0.26 U	**5**	**6.4**	0.26 U
FIELD PARAMETERS													
pH	Not Applicable	6.21	6.42	6.39	NA	7.18	7.88	7.3	6.31	7.25	6.41	5.04	7.21
Temperature (degrees C)	Not Applicable	15.59	14.62	17.29	NA	16.02	15.59	14.05	14.65	14.39	15.8	14.65	14.55
Dissolved Oxygen (mg/L)	Not Applicable	0.03	0.03	0.03	NA	2.85	0.04	0.44	1.42	1.05	0.43	4.52	1.62
Specific Conductance (uS/cm)	Not Applicable	407	433	503	NA	252	970	424	211	104	132	5	441
Oxidation-Reduction Potential (mV)	Not Applicable	-125.1	-125.1	-128.1	NA	-54.1	-105.5	-63.9	97.2	-72.5	68	161.2	-20.2
Ferrous Iron (mg/L)	Not Applicable	2.2	3.8	4.8	NA	2.1	2.4	1.6	1.6	0.08	1.8	1.1	NA

Bold = Detected compound.
Boxed cell indicates an exceedance of the MTCA Method A cleanup level.
U = Indicates compound was analyzed for, but was not detected at the given reporting limit.
J = Indicates the analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ = Indicates the compound was not detected; the given reporting limit is an estimate.
M = Indicates an estimated value of analyte found and confirmed by analyst, but with low spectral match.
NA = Not analyzed.
B = Cleanup Level shown is for a total value of Naphthalene, 1-Methylnaphthalene, and 2-Methylnaphthalene.
(b) Indicated screening level is for 1,3-dichloropropene.

APPENDIX A

Laboratory Analytical Reports

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

July 6, 2010

Mr. Tim Syverson
Landau Associates
130-2nd Ave. South
Edmonds, WA 98020

Dear Mr. Syverson,

On June 23rd, 9 water samples were received by our laboratory and assigned our laboratory project number 1006149. The project was identified as your project #1226001.010. The sample identification and requested analyses are outlined on the attached chain of custody record.

No abnormalities or nonconformances were observed during the analyses of the project samples.

Please do not hesitate to call me if you have any questions or if I can be of further assistance.

Sincerely,

ALS Laboratory Group

Rick Bagan
Laboratory Director

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006149
DATE RECEIVED: 6/23/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: 1226001.010
CLIENT SAMPLE ID: 6/22/2010 HC1-S
ALS SAMPLE #: -01

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Vinyl Chloride	EPA-8260	ND	0.20	1	UG/L	6/24/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	6/24/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	6/24/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Chloroform	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Benzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
Toluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Tetrachloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006149
DATE RECEIVED: 6/23/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: 1226001.010
CLIENT SAMPLE ID: 6/22/2010 HC1-S
ALS SAMPLE #: -01

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Ethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
m, p-Xylene	EPA-8260	**6.1**	4.0	1	UG/L	6/24/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
o-Xylene	EPA-8260	**2.0**	2.0	1	UG/L	6/24/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
n-Propylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
4-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Nitrate	EPA-300.0	ND	0.15	1	MG/L	6/23/2010	GAP
Sulfate	EPA-300.0	ND	0.26	1	MG/L	6/23/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006149
DATE RECEIVED: 6/23/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: 1226001.010
CLIENT SAMPLE ID: 6/22/2010 HC1-D
ALS SAMPLE #: -02

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Vinyl Chloride	EPA-8260	ND	0.20	1	UG/L	6/24/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	6/24/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	6/24/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Chloroform	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Benzene	EPA-8260	**5.2**	2.0	1	UG/L	6/24/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
Toluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Tetrachloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006149
DATE RECEIVED: 6/23/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: 1226001.010
CLIENT SAMPLE ID: 6/22/2010 HC1-D
ALS SAMPLE #: -02

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Ethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
m, p-Xylene	EPA-8260	**190**	40	10	UG/L	6/28/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
o-Xylene	EPA-8260	**2.4**	2.0	1	UG/L	6/24/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
n-Propylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
4-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	**3.2**	2.0	1	UG/L	6/24/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Nitrate	EPA-300.0	ND	0.15	1	MG/L	6/23/2010	GAP
Sulfate	EPA-300.0	ND	0.26	1	MG/L	6/23/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006149
DATE RECEIVED: 6/23/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: 1226001.010
CLIENT SAMPLE ID: 6/22/2010 HC3-S
ALS SAMPLE #: -03

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Vinyl Chloride	EPA-8260	ND	0.20	1	UG/L	6/24/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	6/24/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	6/24/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Chloroform	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Benzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
Toluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Tetrachloroethene	EPA-8260	**3.2**	2.0	1	UG/L	6/24/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006149
DATE RECEIVED: 6/23/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: 1226001.010
CLIENT SAMPLE ID: 6/22/2010 HC3-S
ALS SAMPLE #: -03

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Ethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
m, p-Xylene	EPA-8260	ND	4.0	1	UG/L	6/24/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
o-Xylene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
n-Propylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
4-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Nitrate	EPA-300.0	**1.5**	0.15	1	MG/L	6/23/2010	GAP
Sulfate	EPA-300.0	**5.0**	0.26	1	MG/L	6/23/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006149
DATE RECEIVED: 6/23/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: 1226001.010
CLIENT SAMPLE ID: 6/22/2010 HC2-S
ALS SAMPLE #: -04

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Vinyl Chloride	EPA-8260	ND	0.20	1	UG/L	6/24/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	6/24/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	6/24/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Chloroform	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Benzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
Toluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Tetrachloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006149
DATE RECEIVED: 6/23/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: 1226001.010
CLIENT SAMPLE ID: 6/22/2010 HC2-S
ALS SAMPLE #: -04

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Ethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
m, p-Xylene	EPA-8260	ND	4.0	1	UG/L	6/24/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
o-Xylene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
n-Propylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
4-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Nitrate	EPA-300.0	**7.9**	0.15	1	MG/L	6/23/2010	GAP
Sulfate	EPA-300.0	**8.3**	0.26	1	MG/L	6/23/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006149
DATE RECEIVED: 6/23/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: 1226001.010
CLIENT SAMPLE ID: 6/22/2010 HC2-D
ALS SAMPLE #: -05

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Vinyl Chloride	EPA-8260	**0.41**	0.20	1	UG/L	6/24/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	6/24/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	6/24/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Chloroform	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Benzene	EPA-8260	**7.2**	2.0	1	UG/L	6/24/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
Toluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Tetrachloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006149
DATE RECEIVED: 6/23/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: 1226001.010
CLIENT SAMPLE ID: 6/22/2010 HC2-D
ALS SAMPLE #: -05

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Ethylbenzene	EPA-8260	**890**	200	100	UG/L	6/28/2010	GAP
m, p-Xylene	EPA-8260	**9,600**	1,600	400	UG/L	7/1/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
o-Xylene	EPA-8260	ND	200	100	UG/L	6/28/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	**60**	20	100	UG/L	6/28/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
n-Propylbenzene	EPA-8260	**14**	2.0	1	UG/L	6/24/2010	GAP
2-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	**8.9**	2.0	1	UG/L	6/24/2010	GAP
4-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	**36**	2.0	1	UG/L	6/24/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Nitrate	EPA-300.0	**0.26**	0.15	1	MG/L	6/23/2010	GAP
Sulfate	EPA-300.0	ND	0.26	1	MG/L	6/23/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006149
DATE RECEIVED: 6/23/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: 1226001.010
CLIENT SAMPLE ID: 6/22/2010 HC4-S
ALS SAMPLE #: -06

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Vinyl Chloride	EPA-8260	ND	0.20	1	UG/L	6/24/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	6/24/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	6/24/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Chloroform	EPA-8260	**52**	8.0	4	UG/L	6/28/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Benzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
Toluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Tetrachloroethene	EPA-8260	**28**	2.0	1	UG/L	6/24/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006149
DATE RECEIVED: 6/23/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: 1226001.010
CLIENT SAMPLE ID: 6/22/2010 HC4-S
ALS SAMPLE #: -06

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Ethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
m, p-Xylene	EPA-8260	**38**	4.0	1	UG/L	6/24/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
o-Xylene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
n-Propylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
4-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Nitrate	EPA-300.0	**7.1**	1.5	10	MG/L	6/23/2010	GAP
Sulfate	EPA-300.0	**6.4**	2.6	10	MG/L	6/23/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006149
DATE RECEIVED: 6/23/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: 1226001.010
CLIENT SAMPLE ID: 6/22/2010 HC5-D
ALS SAMPLE #: -07

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Vinyl Chloride	EPA-8260	ND	0.20	1	UG/L	6/28/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	6/28/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	6/28/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Chloroform	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Benzene	EPA-8260	**3.6**	2.0	1	UG/L	6/28/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
Toluene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Tetrachloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006149
DATE RECEIVED: 6/23/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: 1226001.010
CLIENT SAMPLE ID: 6/22/2010 HC5-D
ALS SAMPLE #: -07

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Ethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
m, p-Xylene	EPA-8260	ND	4.0	1	UG/L	6/28/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
o-Xylene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
n-Propylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
2-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
4-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Nitrate	EPA-300.0	**0.21**	0.15	1	MG/L	6/23/2010	GAP
Sulfate	EPA-300.0	ND	0.26	1	MG/L	6/23/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006149
DATE RECEIVED: 6/23/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: 1226001.010
CLIENT SAMPLE ID: 6/22/2010 GW6-D
ALS SAMPLE #: -08

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Vinyl Chloride	EPA-8260	**16**	0.20	1	UG/L	6/24/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	6/24/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	6/24/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Chloroform	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Benzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
Toluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Tetrachloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006149
DATE RECEIVED: 6/23/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: 1226001.010
CLIENT SAMPLE ID: 6/22/2010 GW6-D
ALS SAMPLE #: -08

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Ethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
m, p-Xylene	EPA-8260	ND	4.0	1	UG/L	6/24/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
o-Xylene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
n-Propylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
4-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Nitrate	EPA-300.0	**0.32**	0.15	1	MG/L	6/23/2010	GAP
Sulfate	EPA-300.0	ND	0.26	1	MG/L	6/23/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006149
DATE RECEIVED: 6/23/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: 1226001.010
CLIENT SAMPLE ID: 6/22/2010 TB
ALS SAMPLE #: -09

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Vinyl Chloride	EPA-8260	ND	0.20	1	UG/L	6/24/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	6/24/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	6/24/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Chloroform	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Benzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
Toluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Tetrachloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006149
DATE RECEIVED: 6/23/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: 1226001.010
CLIENT SAMPLE ID: 6/22/2010 TB
ALS SAMPLE #: -09

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Ethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
m, p-Xylene	EPA-8260	ND	4.0	1	UG/L	6/24/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
o-Xylene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
n-Propylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
4-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006149
DATE RECEIVED: 6/23/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: 1226001.010

QUALITY CONTROL RESULTS

SURROGATE RECOVERY

ALS SAMPLE ID	METHOD	SUR ID	% RECV
1006149-01	EPA-8260	1,2-Dichloroethane-d4	104%
1006149-01	EPA-8260	Toluene-d8	102%
1006149-01	EPA-8260	4-Bromofluorobenzene	95%
1006149-02	EPA-8260	1,2-Dichloroethane-d4	104%
1006149-02	EPA-8260	Toluene-d8	94%
1006149-02	EPA-8260	4-Bromofluorobenzene	93%
1006149-02 10X Dilution	EPA-8260	1,2-Dichloroethane-d4	115%
1006149-02 10X Dilution	EPA-8260	Toluene-d8	101%
1006149-02 10X Dilution	EPA-8260	4-Bromofluorobenzene	96%
1006149-03	EPA-8260	1,2-Dichloroethane-d4	106%
1006149-03	EPA-8260	Toluene-d8	101%
1006149-03	EPA-8260	4-Bromofluorobenzene	91%
1006149-04	EPA-8260	1,2-Dichloroethane-d4	107%
1006149-04	EPA-8260	Toluene-d8	100%
1006149-04	EPA-8260	4-Bromofluorobenzene	91%
1006149-05	EPA-8260	1,2-Dichloroethane-d4	106%
1006149-05	EPA-8260	Toluene-d8	98%
1006149-05	EPA-8260	4-Bromofluorobenzene	103%
1006149-05 100X Dilution	EPA-8260	1,2-Dichloroethane-d4	115%
1006149-05 100X Dilution	EPA-8260	Toluene-d8	100%
1006149-05 100X Dilution	EPA-8260	4-Bromofluorobenzene	97%
1006149-05 400X Dilution	EPA-8260	1,2-Dichloroethane-d4	106%
1006149-05 400X Dilution	EPA-8260	Toluene-d8	98%
1006149-05 400X Dilution	EPA-8260	4-Bromofluorobenzene	98%
1006149-06	EPA-8260	1,2-Dichloroethane-d4	105%
1006149-06	EPA-8260	Toluene-d8	101%
1006149-06	EPA-8260	4-Bromofluorobenzene	93%
1006149-06 4X Dilution	EPA-8260	1,2-Dichloroethane-d4	115%
1006149-06 4X Dilution	EPA-8260	Toluene-d8	101%
1006149-06 4X Dilution	EPA-8260	4-Bromofluorobenzene	94%
1006149-07	EPA-8260	1,2-Dichloroethane-d4	116%
1006149-07	EPA-8260	Toluene-d8	102%
1006149-07	EPA-8260	4-Bromofluorobenzene	93%
1006149-08	EPA-8260	1,2-Dichloroethane-d4	109%
1006149-08	EPA-8260	Toluene-d8	99%

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006149
DATE RECEIVED: 6/23/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: 1226001.010

QUALITY CONTROL RESULTS

SURROGATE RECOVERY

ALS SAMPLE ID	METHOD	SUR ID	% RECV
1006149-08	EPA-8260	4-Bromofluorobenzene	91%
1006149-09	EPA-8260	1,2-Dichloroethane-d4	111%
1006149-09	EPA-8260	Toluene-d8	99%
1006149-09	EPA-8260	4-Bromofluorobenzene	90%

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006149
DATE RECEIVED: 6/23/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: 1226001.010

QUALITY CONTROL RESULTS

BLANK RESULTS

QC SAMPLE ID	MATRIX	METHOD	ANALYTE	RESULT	UNITS
MB-062210W	Water	EPA-8260	CFC-12	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	Chloromethane	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	Vinyl Chloride	ND(<0.20)	UG/L
MB-062210W	Water	EPA-8260	Bromomethane	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	Chloroethane	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	CFC-11	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	Carbon Tetrachloride	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	Acetone	ND(<25)	UG/L
MB-062210W	Water	EPA-8260	Carbon Disulfide	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	1,1-Dichloroethene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	Methylene Chloride	ND(<5.0)	UG/L
MB-062210W	Water	EPA-8260	Acrylonitrile	ND(<10)	UG/L
MB-062210W	Water	EPA-8260	Methyl t-butyl ether	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	Trans-1,2-Dichloroethene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	1,1-Dichloroethane	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	2-Butanone	ND(<10)	UG/L
MB-062210W	Water	EPA-8260	Cis-1,2-Dichloroethene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	2,2-Dichloropropane	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	Bromochloromethane	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	Chloroform	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	1,1,1-Trichloroethane	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	1,1-Dichloropropene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	1,2-Dichloroethane	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	Benzene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	Trichloroethene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	1,2-Dichloropropane	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	Dibromomethane	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	Dichlorobromomethane	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	Trans-1,3-Dichloropropene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	Methyl isobutyl ketone	ND(<10)	UG/L
MB-062210W	Water	EPA-8260	Toluene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	Cis-1,3-Dichloropropene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	1,1,2-Trichloroethane	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	2-Hexanone	ND(<10)	UG/L
MB-062210W	Water	EPA-8260	1,3-Dichloropropane	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	Tetrachloroethene	ND(<2.0)	UG/L

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006149
DATE RECEIVED: 6/23/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: 1226001.010

QUALITY CONTROL RESULTS

BLANK RESULTS

QC SAMPLE ID	MATRIX	METHOD	ANALYTE	RESULT	UNITS
MB-062210W	Water	EPA-8260	Dibromochloromethane	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	Ethylene dibromide	ND(<0.010)	UG/L
MB-062210W	Water	EPA-8260	Chlorobenzene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	1,1,1,2-Tetrachloroethane	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	Ethylbenzene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	m, p-Xylene	ND(<4.0)	UG/L
MB-062210W	Water	EPA-8260	Styrene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	o-Xylene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	Bromoform	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	Isopropylbenzene (Cumene)	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	1,1,2,2-Tetrachloroethane	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	1,2,3-Trichloropropane	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	Bromobenzene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	n-Propylbenzene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	2-Chlorotoluene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	1,3,5-Trimethylbenzene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	4-Chlorotoluene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	Tert-Butylbenzene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	1,2,4-Trimethylbenzene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	Sec-Butylbenzene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	p-Isopropyltoluene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	1,3-Dichlorobenzene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	1,4-Dichlorobenzene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	n-Butylbenzene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	1,2-Dichlorobenzene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	1,2-Dibromo-3-Chloropropane	ND(<10)	UG/L
MB-062210W	Water	EPA-8260	1,2,4-Trichlorobenzene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	Hexachlorobutadiene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	Naphthalene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	1,2,3-Trichlorobenzene	ND(<2.0)	UG/L
MBLK-6232010	Water	EPA-300.0	Nitrate	ND(<0.15)	MG/L
MBLK-6232010	Water	EPA-300.0	Sulfate	ND(<0.26)	MG/L

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006149
DATE RECEIVED: 6/23/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: 1226001.010

QUALITY CONTROL RESULTS

BLANK SPIKE/BLANK SPIKE DUPLICATE RESULTS

QC BATCH ID	MATRIX	METHOD	ANALYTE	SPIKE AMOUNT	BLANK SPIKE RECOVERY	BLANK SPIKE DUPLICATE RECOVERY	RPD
836	Water	EPA-8260	1,1-Dichloroethene	10	112%	101%	10
836	Water	EPA-8260	Benzene	10	105%	96%	9
836	Water	EPA-8260	Trichloroethene	10	99%	91%	8
836	Water	EPA-8260	Toluene	10	104%	96%	8
836	Water	EPA-8260	Chlorobenzene	10	103%	96%	8
R69515	Water	EPA-300.0	Nitrate	100	100%	106%	6
R69515	Water	EPA-300.0	Sulfate	100	102%	107%	5

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

ALS Laboratory Group
8620 Holly Drive, Suite 100
Everett, WA 98208
Phone (425) 356-2600
(206) 292-9059 Seattle
(425) 356-2626 Fax
http://www.alsenviro.com

Chain Of Custody/ Laboratory Analysis Request

ALS Job# (Laboratory Use Only): 1006149

Date 6/22/10 Page 1 Of 1

PROJECT ID: 1226001.010
REPORT TO COMPANY: Landau Associates Inc
PROJECT MANAGER: Tim Syverson cc: Jessica Kruczek
ADDRESS: 130 2nd ave, Edmonds WA 98020
PHONE: 425 778 0907 FAX: jkruczek@landauinc.com
P.O. NUMBER: E-MAIL: TSYVERSON@LANDAU.COM
INVOICE TO COMPANY: Same as Above
ATTENTION:
ADDRESS:

ANALYSIS REQUESTED

SAMPLE I.D.	DATE	TIME	TYPE	LAB#	NWTPH-HCID	NWTPH-DX	NWTPH-GX	BTEX by EPA-8021	MTBE by EPA-8021 ☐ EPA-8260 ☐	Halogenated Volatiles by EPA 8260	Volatile Organic Compounds by EPA 8260	EDB / EDC by EPA 8260 SIM (water)	EDB / EDC by EPA 8260 (soil)	Semivolatile Organic Compounds by EPA 8270	Polycyclic Aromatic Hydrocarbons (PAH) by EPA-8270 SIM ☐	PCB ☐ Pesticides ☐ by EPA 8081/8082	Metals-MTCA-5 ☐ RCRA-8 ☐ Pri Pol ☐ TAL ☐	Metals Other (Specify)	TCLP-Metals ☐ VOA ☐ Semi-Vol ☐ Pest ☐ Herbs ☐	OTHER (Specify) Sulfate / Nitrate	NUMBER OF CONTAINERS	RECEIVED IN GOOD CONDITION?
1. HC1-S	6-22-10	1325	W	1							X									X	4	
2. HC1-D	6-22-10	1350	W	2							X									X	4	
3. HC3-S	6-22-10	1420	W	3							X									X	4	
4. HC2-S	6-22-10	1450	W	4							X									X	4	
5. HC2-D	6-22-10	1525	W	5							X									X	4	
6. HC4-S	6-22-10	1600	W	6							X									X	4	
7. HC5-D	6-22-10	1630	W	7							X									X	4	
8. GW6-D	6-22-10	1700	W	8							X									X	4	
9. TB	6/22-10	2359	W	9							X											
10.																						

LABORATORY COPY

SPECIAL INSTRUCTIONS Please send report to Tim and also Jessica in Portland

SIGNATURES (Name, Company, Date, Time):

1. Relinquished By: Alan Starr Landau Associates 6/23/2010 0935
   Received By: Shawn Roburn ALS 6/23/10 0935
2. Relinquished By:
   Received By:

TURNAROUND REQUESTED in Business Days*

Organic, Metals & Inorganic Analysis: ~~10~~ Standard | 5 | 3 | 2 | 1 | SAME DAY

Fuels & Hydrocarbon Analysis: ~~X~~ Standard | 3 | 1 | SAME DAY

OTHER: Specify:

* Turnaround request less than standard may incur Rush Charges

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

July 2, 2010

Mr. Tim Syverson
Landau Associates
130-2nd Ave. South
Edmonds, WA 98020

Dear Mr. Syverson,

On June 21st, 18 water and 16 soil samples were received by our laboratory and assigned our laboratory project number 1006160. The project was identified as your Gaco Western project #1226001. The sample identification and requested analyses are outlined on the attached chain of custody record.

Samples DP-1 through DP-5 were received and analysed outside the 48 hour holding time for nitrates. No other abnormalities or nonconformances were observed during the analyses of the project samples.

Please do not hesitate to call me if you have any questions or if I can be of further assistance.

Sincerely,

ALS Laboratory Group

Rick Bagan
Laboratory Director

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/21/2010 DP-1
ALS SAMPLE #: -01

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Vinyl Chloride	EPA-8260	ND	0.20	1	UG/L	6/28/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	6/28/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	6/28/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Chloroform	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Benzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
Toluene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Tetrachloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/21/2010 DP-1
ALS SAMPLE #: -01

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Ethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
m, p-Xylene	EPA-8260	ND	4.0	1	UG/L	6/28/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
o-Xylene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
n-Propylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
2-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
4-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Nitrate	EPA-300.0	ND	0.15	1	MG/L	6/24/2010	GAP
Sulfate	EPA-300.0	ND	0.26	1	MG/L	6/24/2010	GAP

* Sample received outside of hold time for Nitrate analysis.

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.

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

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/21/2010 DP-2
ALS SAMPLE #: -02

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Vinyl Chloride	EPA-8260	ND	0.20	1	UG/L	6/28/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	6/28/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	6/28/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Chloroform	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Benzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
Toluene	EPA-8260	45	8.0	4	UG/L	7/1/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Tetrachloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/21/2010 DP-2
ALS SAMPLE #: -02

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Ethylbenzene	EPA-8260	13	2.0	1	UG/L	6/28/2010	GAP
m, p-Xylene	EPA-8260	29	4.0	1	UG/L	6/28/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
o-Xylene	EPA-8260	12	2.0	1	UG/L	6/28/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
n-Propylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
2-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
4-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Nitrate	EPA-300.0	ND	0.15	1	MG/L	6/24/2010	GAP
Sulfate	EPA-300.0	ND	0.26	1	MG/L	6/24/2010	GAP

* Sample received outside of hold time for Nitrate analysis.

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.

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

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/21/2010 DP-3
ALS SAMPLE #: -03

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Vinyl Chloride	EPA-8260	ND	0.20	1	UG/L	6/28/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	6/28/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	6/28/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Chloroform	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Benzene	EPA-8260	8.7	2.0	1	UG/L	6/28/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
Toluene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Tetrachloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/21/2010 DP-3
ALS SAMPLE #: -03

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Ethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
m, p-Xylene	EPA-8260	ND	4.0	1	UG/L	6/28/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
o-Xylene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
n-Propylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
2-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
4-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Nitrate	EPA-300.0	ND	0.15	1	MG/L	6/24/2010	GAP
Sulfate	EPA-300.0	ND	0.26	1	MG/L	6/24/2010	GAP

* Sample received outside of hold time for Nitrate analysis.

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.

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

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/21/2010 DP-4
ALS SAMPLE #: -04

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Vinyl Chloride	EPA-8260	2.5	0.20	1	UG/L	6/28/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	6/28/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	6/28/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Chloroform	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Benzene	EPA-8260	51	40	20	UG/L	7/1/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
Toluene	EPA-8260	85	40	20	UG/L	7/1/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Tetrachloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/21/2010 DP-4
ALS SAMPLE #: -04

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Ethylbenzene	EPA-8260	85	40	20	UG/L	7/1/2010	GAP
m, p-Xylene	EPA-8260	350	80	20	UG/L	7/1/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
o-Xylene	EPA-8260	120	40	20	UG/L	7/1/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	8.3	2.0	1	UG/L	6/28/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
n-Propylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
2-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
4-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Nitrate	EPA-300.0	ND	0.15	1	MG/L	6/24/2010	GAP
Sulfate	EPA-300.0	ND	0.26	1	MG/L	6/24/2010	GAP

* Sample received outside of hold time for Nitrate analysis.

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.

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

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/21/2010 DP-5
ALS SAMPLE #: -05

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Vinyl Chloride	EPA-8260	1.4	0.20	1	UG/L	6/28/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	6/28/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	6/28/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1-Dichloroethane	EPA-8260	4.4	2.0	1	UG/L	6/28/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	56	20	10	UG/L	7/1/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Chloroform	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Benzene	EPA-8260	210	20	10	UG/L	7/1/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
Toluene	EPA-8260	300	20	10	UG/L	7/1/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Tetrachloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/21/2010 DP-5
ALS SAMPLE #: -05

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	5.7	2.0	1	UG/L	6/28/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Ethylbenzene	EPA-8260	3,100	200	100	UG/L	7/1/2010	GAP
m, p-Xylene	EPA-8260	7,600	400	100	UG/L	7/1/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
o-Xylene	EPA-8260	5,600	800	400	UG/L	7/1/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	11	2.0	1	UG/L	6/28/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
n-Propylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
2-Chlorotoluene	EPA-8260	480	200	100	UG/L	7/1/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	11	2.0	1	UG/L	6/28/2010	GAP
4-Chlorotoluene	EPA-8260	350	20	10	UG/L	7/1/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	22	2.0	1	UG/L	6/28/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,4-Dichlorobenzene	EPA-8260	3.8	2.0	1	UG/L	6/28/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2-Dichlorobenzene	EPA-8260	2.1	2.0	1	UG/L	6/28/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Nitrate	EPA-300.0	ND	0.15	1	MG/L	6/24/2010	GAP
Sulfate	EPA-300.0	ND	0.26	1	MG/L	6/24/2010	GAP

* Sample received outside of hold time for Nitrate analysis.

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.

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

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/21/2010 DP-6
ALS SAMPLE #: -06

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Vinyl Chloride	EPA-8260	0.90	0.20	1	UG/L	6/29/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	6/29/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	6/29/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloroethane	EPA-8260	2.8	2.0	1	UG/L	6/29/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	30	2.0	1	UG/L	6/29/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloroform	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Benzene	EPA-8260	370	20	10	UG/L	7/1/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Toluene	EPA-8260	950	200	100	UG/L	7/1/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Tetrachloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/21/2010 DP-6
ALS SAMPLE #: -06

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Ethylbenzene	EPA-8260	420	200	100	UG/L	7/1/2010	GAP
m, p-Xylene	EPA-8260	5,500	400	100	UG/L	7/1/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
o-Xylene	EPA-8260	330	200	100	UG/L	7/1/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	16	2.0	1	UG/L	6/29/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
n-Propylbenzene	EPA-8260	22	2.0	1	UG/L	6/29/2010	GAP
2-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	33	2.0	1	UG/L	6/29/2010	GAP
4-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	43	20	10	UG/L	7/1/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Nitrate	EPA-300.0	0.26	0.15	1	MG/L	6/24/2010	GAP
Sulfate	EPA-300.0	ND	0.26	1	MG/L	6/24/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/22/2010 DP-7
ALS SAMPLE #: -07

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Vinyl Chloride	EPA-8260	0.60	0.20	1	UG/L	6/29/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	6/29/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	6/29/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	6.2	2.0	1	UG/L	6/29/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloroform	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Benzene	EPA-8260	110	20	10	UG/L	7/1/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Toluene	EPA-8260	430	200	100	UG/L	6/29/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Tetrachloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/22/2010 DP-7
ALS SAMPLE #: -07

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Ethylbenzene	EPA-8260	240	20	10	UG/L	7/1/2010	GAP
m, p-Xylene	EPA-8260	650	400	100	UG/L	6/29/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
o-Xylene	EPA-8260	300	200	100	UG/L	6/29/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
n-Propylbenzene	EPA-8260	2.1	2.0	1	UG/L	6/29/2010	GAP
2-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	3.3	2.0	1	UG/L	6/29/2010	GAP
4-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	8.9	2.0	1	UG/L	6/29/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Nitrate	EPA-300.0	1.0	0.15	1	MG/L	6/24/2010	GAP
Sulfate	EPA-300.0	1.2	0.26	1	MG/L	6/24/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/22/2010 DP-8
ALS SAMPLE #: -08

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Vinyl Chloride	EPA-8260	ND	0.20	1	UG/L	6/29/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	6/29/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	6/29/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloroform	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Benzene	EPA-8260	6.8	2.0	1	UG/L	6/29/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Toluene	EPA-8260	5.9	2.0	1	UG/L	6/29/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Tetrachloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/22/2010 DP-8
ALS SAMPLE #: -08

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Ethylbenzene	EPA-8260	3.1	2.0	1	UG/L	6/29/2010	GAP
m, p-Xylene	EPA-8260	9.6	4.0	1	UG/L	6/29/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
o-Xylene	EPA-8260	3.3	2.0	1	UG/L	6/29/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
n-Propylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
4-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Nitrate	EPA-300.0	0.38	0.15	1	MG/L	6/24/2010	GAP
Sulfate	EPA-300.0	ND	0.26	1	MG/L	6/24/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/22/2010 DP-9
ALS SAMPLE #: -09

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Vinyl Chloride	EPA-8260	ND	0.20	1	UG/L	6/29/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	6/29/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	6/29/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloroform	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Benzene	EPA-8260	27	2.0	1	UG/L	6/29/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Toluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Tetrachloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/22/2010 DP-9
ALS SAMPLE #: -09

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Ethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
m, p-Xylene	EPA-8260	ND	4.0	1	UG/L	6/29/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
o-Xylene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
n-Propylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
4-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Nitrate	EPA-300.0	ND	0.15	1	MG/L	6/24/2010	GAP
Sulfate	EPA-300.0	ND	0.26	1	MG/L	6/24/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/22/2010 DP-10
ALS SAMPLE #: -10

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Vinyl Chloride	EPA-8260	0.27	0.20	1	UG/L	6/29/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	6/29/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	6/29/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	4.2	2.0	1	UG/L	6/29/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloroform	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Benzene	EPA-8260	7.1	2.0	1	UG/L	6/29/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Toluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Tetrachloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/22/2010 DP-10
ALS SAMPLE #: -10

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Ethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
m, p-Xylene	EPA-8260	ND	4.0	1	UG/L	6/29/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
o-Xylene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
n-Propylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
4-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Nitrate	EPA-300.0	0.23	0.15	1	MG/L	6/24/2010	GAP
Sulfate	EPA-300.0	0.38	0.26	1	MG/L	6/24/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/22/2010 DP-11 (30)
ALS SAMPLE #: -11

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Vinyl Chloride	EPA-8260	1.4	0.20	1	UG/L	6/29/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	6/29/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	6/29/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	2.2	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloroethane	EPA-8260	3.7	2.0	1	UG/L	6/29/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	72	8.0	4	UG/L	6/29/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloroform	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Benzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Toluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Tetrachloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/22/2010 DP-11 (30)
ALS SAMPLE #: -11

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Ethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
m, p-Xylene	EPA-8260	ND	4.0	1	UG/L	6/29/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
o-Xylene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
n-Propylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
4-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Nitrate	EPA-300.0	0.23	0.15	1	MG/L	6/24/2010	GAP
Sulfate	EPA-300.0	0.36	0.26	1	MG/L	6/24/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/23/2010 DP-12 (30)
ALS SAMPLE #: -12

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Vinyl Chloride	EPA-8260	2.2	0.20	1	UG/L	6/29/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	6/29/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	6/29/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	9.7	2.0	1	UG/L	6/29/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloroform	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Benzene	EPA-8260	360	200	100	UG/L	6/29/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Toluene	EPA-8260	3,800	2,000	1000	UG/L	7/1/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Tetrachloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/23/2010 DP-12 (30)
ALS SAMPLE #: -12

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Ethylbenzene	EPA-8260	3,900	2,000	1000	UG/L	7/1/2010	GAP
m, p-Xylene	EPA-8260	13,000	4,000	1000	UG/L	7/1/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
o-Xylene	EPA-8260	9,500	2,000	1000	UG/L	7/1/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	100	20	10	UG/L	6/29/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
n-Propylbenzene	EPA-8260	55	20	10	UG/L	6/29/2010	GAP
2-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	62	20	10	UG/L	6/29/2010	GAP
4-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	120	20	10	UG/L	6/29/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Nitrate	EPA-300.0	ND	0.15	1	MG/L	6/24/2010	GAP
Sulfate	EPA-300.0	ND	0.26	1	MG/L	6/24/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/23/2010 DP-13
ALS SAMPLE #: -13

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Vinyl Chloride	EPA-8260	1.1	0.20	1	UG/L	6/29/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	6/29/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	6/29/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	43	8.0	4	UG/L	7/1/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloroform	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Benzene	EPA-8260	26	2.0	1	UG/L	6/29/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Toluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Tetrachloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/23/2010 DP-13
ALS SAMPLE #: -13

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Ethylbenzene	EPA-8260	2.1	2.0	1	UG/L	6/29/2010	GAP
m, p-Xylene	EPA-8260	28	4.0	1	UG/L	6/29/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
o-Xylene	EPA-8260	3.2	2.0	1	UG/L	6/29/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
n-Propylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
4-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Nitrate	EPA-300.0	0.34	0.15	1	MG/L	6/24/2010	GAP
Sulfate	EPA-300.0	0.81	0.26	1	MG/L	6/24/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/23/2010 DP-14
ALS SAMPLE #: -14

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Vinyl Chloride	EPA-8260	ND	0.20	1	UG/L	6/29/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	6/29/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	6/29/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloroform	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Benzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Toluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Tetrachloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/23/2010 DP-14
ALS SAMPLE #: -14

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Ethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
m, p-Xylene	EPA-8260	ND	4.0	1	UG/L	6/29/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
o-Xylene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
n-Propylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
4-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Nitrate	EPA-300.0	0.38	0.15	1	MG/L	6/24/2010	GAP
Sulfate	EPA-300.0	ND	0.26	1	MG/L	6/24/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/23/2010 DP-15
ALS SAMPLE #: -15

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Vinyl Chloride	EPA-8260	0.75	0.20	1	UG/L	6/29/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	6/29/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	6/29/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloroform	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Benzene	EPA-8260	15	2.0	1	UG/L	6/29/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Toluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Tetrachloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/23/2010 DP-15
ALS SAMPLE #: -15

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Ethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
m, p-Xylene	EPA-8260	ND	4.0	1	UG/L	6/29/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
o-Xylene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
n-Propylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
4-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Nitrate	EPA-300.0	ND	0.15	1	MG/L	6/24/2010	GAP
Sulfate	EPA-300.0	ND	0.26	1	MG/L	6/24/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/23/2010 DP-16
ALS SAMPLE #: -16

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Vinyl Chloride	EPA-8260	0.61	0.20	1	UG/L	7/1/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	7/1/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	7/1/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	7/1/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	7/1/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	14	2.0	1	UG/L	7/1/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Chloroform	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Benzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	7/1/2010	GAP
Toluene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	7/1/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Tetrachloroethene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/23/2010 DP-16
ALS SAMPLE #: -16

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Ethylbenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
m, p-Xylene	EPA-8260	ND	4.0	1	UG/L	7/1/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
o-Xylene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
n-Propylbenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
2-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
4-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	7/1/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Nitrate	EPA-300.0	0.43	0.15	1	MG/L	6/24/2010	GAP
Sulfate	EPA-300.0	3.6	0.26	1	MG/L	6/24/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/22/2010 DP-11 (45)
ALS SAMPLE #: -17

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Vinyl Chloride	EPA-8260	0.43	0.20	1	UG/L	7/1/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	7/1/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	7/1/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	7/1/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	7/1/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Chloroform	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Benzene	EPA-8260	39	2.0	1	UG/L	7/1/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	7/1/2010	GAP
Toluene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	7/1/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Tetrachloroethene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/22/2010 DP-11 (45)
ALS SAMPLE #: -17

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Ethylbenzene	EPA-8260	6.1	2.0	1	UG/L	7/1/2010	GAP
m, p-Xylene	EPA-8260	71	4.0	1	UG/L	7/1/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
o-Xylene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
n-Propylbenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
2-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
4-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	7/1/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Nitrate	EPA-300.0	0.19	0.15	1	MG/L	6/24/2010	GAP
Sulfate	EPA-300.0	0.34	0.26	1	MG/L	6/24/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/21/2010 DP-1 (17-18)
ALS SAMPLE #: -18

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Chloromethane	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Vinyl Chloride	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Bromomethane	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Chloroethane	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
CFC-11	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Acetone	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Methylene Chloride	EPA-8260	ND	20	1	UG/KG	6/29/2010	GAP
Acrylonitrile	EPA-8260	ND	50	1	UG/KG	6/29/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
2-Butanone	EPA-8260	ND	50	1	UG/KG	6/29/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Bromochloromethane	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Chloroform	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Benzene	EPA-8260	ND	5.0	1	UG/KG	6/29/2010	GAP
Trichloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Dibromomethane	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Dichlorobromomethane	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	50	1	UG/KG	6/29/2010	GAP
Toluene	EPA-8260	30	10	1	UG/KG	6/29/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
2-Hexanone	EPA-8260	ND	50	1	UG/KG	6/29/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Tetrachloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Dibromochloromethane	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Ethylene dibromide	EPA-8260	ND	5.0	1	UG/KG	6/29/2010	GAP
Chlorobenzene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/21/2010 DP-1 (17-18)
ALS SAMPLE #: -18

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
1,1,1,2-Tetrachloroethane	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Ethylbenzene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
m, p-Xylene	EPA-8260	ND	20	1	UG/KG	6/29/2010	GAP
Styrene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
o-Xylene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Bromoform	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Bromobenzene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
n-Propylbenzene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
2-Chlorotoluene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
4-Chlorotoluene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
n-Butylbenzene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	50	1	UG/KG	6/29/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Naphthalene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/21/2010 DP-2 (19-20)
ALS SAMPLE #: -19

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	16,000	100	UG/KG	6/29/2010	GAP
Chloromethane	EPA-8260	ND	9,800	100	UG/KG	6/29/2010	GAP
Vinyl Chloride	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
Bromomethane	EPA-8260	ND	8,200	100	UG/KG	6/29/2010	GAP
Chloroethane	EPA-8260	ND	9,800	100	UG/KG	6/29/2010	GAP
CFC-11	EPA-8260	ND	8,600	100	UG/KG	6/29/2010	GAP
Acetone	EPA-8260	ND	19,000	100	UG/KG	6/29/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
Methylene Chloride	EPA-8260	ND	20,000	100	UG/KG	6/29/2010	GAP
Acrylonitrile	EPA-8260	ND	10,000	100	UG/KG	6/29/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	10,000	100	UG/KG	6/29/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	9,700	100	UG/KG	6/29/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	9,800	100	UG/KG	6/29/2010	GAP
2-Butanone	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	10,000	100	UG/KG	6/29/2010	GAP
Bromochloromethane	EPA-8260	ND	17,000	100	UG/KG	6/29/2010	GAP
Chloroform	EPA-8260	ND	10,000	100	UG/KG	6/29/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	9,100	100	UG/KG	6/29/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	9,100	100	UG/KG	6/29/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	10,000	100	UG/KG	6/29/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
Benzene	EPA-8260	3,900	500	100	UG/KG	6/29/2010	GAP
Trichloroethene	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	9,100	100	UG/KG	6/29/2010	GAP
Dibromomethane	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Dichlorobromomethane	EPA-8260	ND	10,000	100	UG/KG	6/29/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10,000	100	UG/KG	6/29/2010	GAP
Toluene	EPA-8260	8,900,000	210,000	2000	UG/KG	6/30/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	10,000	100	UG/KG	6/29/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
2-Hexanone	EPA-8260	ND	7,000	100	UG/KG	6/29/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
Tetrachloroethene	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
Dibromochloromethane	EPA-8260	ND	16,000	100	UG/KG	6/29/2010	GAP
Ethylene dibromide	EPA-8260	ND	500	100	UG/KG	6/29/2010	GAP
Chlorobenzene	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/21/2010 DP-2 (19-20)
ALS SAMPLE #: -19

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
1,1,1,2-Tetrachloroethane	EPA-8260	ND	8,400	100	UG/KG	6/29/2010	GAP
Ethylbenzene	EPA-8260	2,500,000	210,000	2000	UG/KG	6/30/2010	GAP
m, p-Xylene	EPA-8260	5,900,000	380,000	2000	UG/KG	6/30/2010	GAP
Styrene	EPA-8260	ND	8,200	100	UG/KG	6/29/2010	GAP
o-Xylene	EPA-8260	2,600,000	180,000	2000	UG/KG	6/30/2010	GAP
Bromoform	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	24,000	8,900	100	UG/KG	6/29/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Bromobenzene	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
n-Propylbenzene	EPA-8260	25,000	11,000	100	UG/KG	6/29/2010	GAP
2-Chlorotoluene	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	32,000	8,100	100	UG/KG	6/29/2010	GAP
4-Chlorotoluene	EPA-8260	ND	16,000	100	UG/KG	6/29/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	10,000	100	UG/KG	6/29/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	48,000	8,800	100	UG/KG	6/29/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	9,500	100	UG/KG	6/29/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	7,800	100	UG/KG	6/29/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
n-Butylbenzene	EPA-8260	ND	8,500	100	UG/KG	6/29/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	9,900	100	UG/KG	6/29/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Naphthalene	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/21/2010 DP-3 (14-15)
ALS SAMPLE #: -20

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	180	1	UG/KG	6/29/2010	GAP
Chloromethane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Vinyl Chloride	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Bromomethane	EPA-8260	ND	89	1	UG/KG	6/29/2010	GAP
Chloroethane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
CFC-11	EPA-8260	ND	94	1	UG/KG	6/29/2010	GAP
Acetone	EPA-8260	ND	210	1	UG/KG	6/29/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Methylene Chloride	EPA-8260	ND	220	1	UG/KG	6/29/2010	GAP
Acrylonitrile	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
2-Butanone	EPA-8260	ND	160	1	UG/KG	6/29/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Bromochloromethane	EPA-8260	ND	190	1	UG/KG	6/29/2010	GAP
Chloroform	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	99	1	UG/KG	6/29/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	99	1	UG/KG	6/29/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Benzene	EPA-8260	ND	5.0	1	UG/KG	6/29/2010	GAP
Trichloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	99	1	UG/KG	6/29/2010	GAP
Dibromomethane	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Dichlorobromomethane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Toluene	EPA-8260	620	110	1	UG/KG	6/29/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
2-Hexanone	EPA-8260	ND	76	1	UG/KG	6/29/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Tetrachloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Dibromochloromethane	EPA-8260	ND	170	1	UG/KG	6/29/2010	GAP
Ethylene dibromide	EPA-8260	ND	5.0	1	UG/KG	6/29/2010	GAP
Chlorobenzene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/21/2010 DP-3 (14-15)
ALS SAMPLE #: -20

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
1,1,1,2-Tetrachloroethane	EPA-8260	ND	92	1	UG/KG	6/29/2010	GAP
Ethylbenzene	EPA-8260	170	120	1	UG/KG	6/29/2010	GAP
m, p-Xylene	EPA-8260	460	210	1	UG/KG	6/29/2010	GAP
Styrene	EPA-8260	ND	89	1	UG/KG	6/29/2010	GAP
o-Xylene	EPA-8260	190	100	1	UG/KG	6/29/2010	GAP
Bromoform	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	97	1	UG/KG	6/29/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Bromobenzene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
n-Propylbenzene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
2-Chlorotoluene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	88	1	UG/KG	6/29/2010	GAP
4-Chlorotoluene	EPA-8260	ND	180	1	UG/KG	6/29/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	95	1	UG/KG	6/29/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	85	1	UG/KG	6/29/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
n-Butylbenzene	EPA-8260	ND	92	1	UG/KG	6/29/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Naphthalene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/21/2010 DP-4 (13-14)
ALS SAMPLE #: -21

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	23,000	100	UG/KG	6/29/2010	GAP
Chloromethane	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
Vinyl Chloride	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
Bromomethane	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Chloroethane	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
CFC-11	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Acetone	EPA-8260	ND	27,000	100	UG/KG	6/29/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
Methylene Chloride	EPA-8260	ND	29,000	100	UG/KG	6/29/2010	GAP
Acrylonitrile	EPA-8260	ND	15,000	100	UG/KG	6/29/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
2-Butanone	EPA-8260	ND	20,000	100	UG/KG	6/29/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	15,000	100	UG/KG	6/29/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
Bromochloromethane	EPA-8260	ND	25,000	100	UG/KG	6/29/2010	GAP
Chloroform	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	15,000	100	UG/KG	6/29/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
Benzene	EPA-8260	ND	500	100	UG/KG	6/29/2010	GAP
Trichloroethene	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
Dibromomethane	EPA-8260	ND	16,000	100	UG/KG	6/29/2010	GAP
Dichlorobromomethane	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	15,000	100	UG/KG	6/29/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
Toluene	EPA-8260	ND	15,000	100	UG/KG	6/29/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	15,000	100	UG/KG	6/29/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	15,000	100	UG/KG	6/29/2010	GAP
2-Hexanone	EPA-8260	ND	9,900	100	UG/KG	6/29/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	15,000	100	UG/KG	6/29/2010	GAP
Tetrachloroethene	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
Dibromochloromethane	EPA-8260	ND	22,000	100	UG/KG	6/29/2010	GAP
Ethylene dibromide	EPA-8260	ND	500	100	UG/KG	6/29/2010	GAP
Chlorobenzene	EPA-8260	ND	15,000	100	UG/KG	6/29/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/21/2010 DP-4 (13-14)
ALS SAMPLE #: -21

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
1,1,1,2-Tetrachloroethane	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Ethylbenzene	EPA-8260	590,000	15,000	100	UG/KG	6/29/2010	GAP
m, p-Xylene	EPA-8260	1,500,000	54,000	200	UG/KG	6/30/2010	GAP
Styrene	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
o-Xylene	EPA-8260	650,000	13,000	100	UG/KG	6/29/2010	GAP
Bromoform	EPA-8260	ND	17,000	100	UG/KG	6/29/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	20,000	13,000	100	UG/KG	6/29/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	16,000	100	UG/KG	6/29/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	17,000	100	UG/KG	6/29/2010	GAP
Bromobenzene	EPA-8260	ND	16,000	100	UG/KG	6/29/2010	GAP
n-Propylbenzene	EPA-8260	ND	15,000	100	UG/KG	6/29/2010	GAP
2-Chlorotoluene	EPA-8260	ND	16,000	100	UG/KG	6/29/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
4-Chlorotoluene	EPA-8260	ND	23,000	100	UG/KG	6/29/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	15,000	100	UG/KG	6/29/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	17,000	12,000	100	UG/KG	6/29/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	16,000	100	UG/KG	6/29/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	15,000	100	UG/KG	6/29/2010	GAP
n-Butylbenzene	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	16,000	100	UG/KG	6/29/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	19,000	100	UG/KG	6/29/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	17,000	100	UG/KG	6/29/2010	GAP
Naphthalene	EPA-8260	ND	16,000	100	UG/KG	6/29/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	15,000	100	UG/KG	6/29/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/21/2010 DP-5 (13-14)
ALS SAMPLE #: -22

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	19,000	100	UG/KG	6/29/2010	GAP
Chloromethane	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
Vinyl Chloride	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
Bromomethane	EPA-8260	ND	9,400	100	UG/KG	6/29/2010	GAP
Chloroethane	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
CFC-11	EPA-8260	ND	9,900	100	UG/KG	6/29/2010	GAP
Acetone	EPA-8260	ND	22,000	100	UG/KG	6/29/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
Methylene Chloride	EPA-8260	ND	23,000	100	UG/KG	6/29/2010	GAP
Acrylonitrile	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
2-Butanone	EPA-8260	ND	17,000	100	UG/KG	6/29/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Bromochloromethane	EPA-8260	ND	20,000	100	UG/KG	6/29/2010	GAP
Chloroform	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	10,000	100	UG/KG	6/29/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	10,000	100	UG/KG	6/29/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
Benzene	EPA-8260	ND	500	100	UG/KG	6/29/2010	GAP
Trichloroethene	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	10,000	100	UG/KG	6/29/2010	GAP
Dibromomethane	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
Dichlorobromomethane	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Toluene	EPA-8260	4,300,000	120,000	1000	UG/KG	6/30/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
2-Hexanone	EPA-8260	ND	8,100	100	UG/KG	6/29/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Tetrachloroethene	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
Dibromochloromethane	EPA-8260	ND	18,000	100	UG/KG	6/29/2010	GAP
Ethylene dibromide	EPA-8260	ND	500	100	UG/KG	6/29/2010	GAP
Chlorobenzene	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/21/2010 DP-5 (13-14)
ALS SAMPLE #: -22

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
1,1,1,2-Tetrachloroethane	EPA-8260	ND	9,700	100	UG/KG	6/29/2010	GAP
Ethylbenzene	EPA-8260	1,400,000	120,000	1000	UG/KG	6/30/2010	GAP
m, p-Xylene	EPA-8260	4,000,000	220,000	1000	UG/KG	6/30/2010	GAP
Styrene	EPA-8260	ND	9,500	100	UG/KG	6/29/2010	GAP
o-Xylene	EPA-8260	870,000	110,000	1000	UG/KG	6/30/2010	GAP
Bromoform	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	39,000	10,000	100	UG/KG	6/29/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
Bromobenzene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
n-Propylbenzene	EPA-8260	76,000	12,000	100	UG/KG	6/29/2010	GAP
2-Chlorotoluene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	100,000	9,400	100	UG/KG	6/29/2010	GAP
4-Chlorotoluene	EPA-8260	ND	19,000	100	UG/KG	6/29/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	170,000	10,000	100	UG/KG	6/29/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	9,000	100	UG/KG	6/29/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
n-Butylbenzene	EPA-8260	ND	9,700	100	UG/KG	6/29/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	15,000	100	UG/KG	6/29/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
Naphthalene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/22/2010 DP-6 (20-21)
ALS SAMPLE #: -23

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	19,000	100	UG/KG	6/29/2010	GAP
Chloromethane	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Vinyl Chloride	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
Bromomethane	EPA-8260	ND	9,700	100	UG/KG	6/29/2010	GAP
Chloroethane	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
CFC-11	EPA-8260	ND	10,000	100	UG/KG	6/29/2010	GAP
Acetone	EPA-8260	ND	23,000	100	UG/KG	6/29/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
Methylene Chloride	EPA-8260	ND	24,000	100	UG/KG	6/29/2010	GAP
Acrylonitrile	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
2-Butanone	EPA-8260	ND	17,000	100	UG/KG	6/29/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Bromochloromethane	EPA-8260	ND	21,000	100	UG/KG	6/29/2010	GAP
Chloroform	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
Benzene	EPA-8260	ND	500	100	UG/KG	6/29/2010	GAP
Trichloroethene	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
Dibromomethane	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
Dichlorobromomethane	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Toluene	EPA-8260	2,000,000	120,000	1000	UG/KG	6/30/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
2-Hexanone	EPA-8260	ND	8,300	100	UG/KG	6/29/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
Tetrachloroethene	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
Dibromochloromethane	EPA-8260	ND	19,000	100	UG/KG	6/29/2010	GAP
Ethylene dibromide	EPA-8260	ND	500	100	UG/KG	6/29/2010	GAP
Chlorobenzene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/22/2010 DP-6 (20-21)
ALS SAMPLE #: -23

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
1,1,1,2-Tetrachloroethane	EPA-8260	ND	10,000	100	UG/KG	6/29/2010	GAP
Ethylbenzene	EPA-8260	1,400,000	130,000	1000	UG/KG	6/30/2010	GAP
m, p-Xylene	EPA-8260	4,000,000	230,000	1000	UG/KG	6/30/2010	GAP
Styrene	EPA-8260	ND	9,800	100	UG/KG	6/29/2010	GAP
o-Xylene	EPA-8260	990,000	110,000	1000	UG/KG	6/30/2010	GAP
Bromoform	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	55,000	11,000	100	UG/KG	6/29/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
Bromobenzene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
n-Propylbenzene	EPA-8260	110,000	13,000	100	UG/KG	6/29/2010	GAP
2-Chlorotoluene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	160,000	9,700	100	UG/KG	6/29/2010	GAP
4-Chlorotoluene	EPA-8260	ND	19,000	100	UG/KG	6/29/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	270,000	10,000	100	UG/KG	6/29/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	9,300	100	UG/KG	6/29/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
n-Butylbenzene	EPA-8260	ND	10,000	100	UG/KG	6/29/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	16,000	100	UG/KG	6/29/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
Naphthalene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/22/2010 DP-7 (13-14)
ALS SAMPLE #: -24

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	20,000	100	UG/KG	6/29/2010	GAP
Chloromethane	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Vinyl Chloride	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
Bromomethane	EPA-8260	ND	10,000	100	UG/KG	6/29/2010	GAP
Chloroethane	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
CFC-11	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
Acetone	EPA-8260	ND	23,000	100	UG/KG	6/29/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
Methylene Chloride	EPA-8260	ND	25,000	100	UG/KG	6/29/2010	GAP
Acrylonitrile	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
2-Butanone	EPA-8260	ND	18,000	100	UG/KG	6/29/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Bromochloromethane	EPA-8260	ND	22,000	100	UG/KG	6/29/2010	GAP
Chloroform	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
Benzene	EPA-8260	3,200	500	100	UG/KG	6/29/2010	GAP
Trichloroethene	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
Dibromomethane	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
Dichlorobromomethane	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Toluene	EPA-8260	2,900,000	130,000	1000	UG/KG	6/30/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
2-Hexanone	EPA-8260	ND	8,600	100	UG/KG	6/29/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
Tetrachloroethene	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
Dibromochloromethane	EPA-8260	ND	19,000	100	UG/KG	6/29/2010	GAP
Ethylene dibromide	EPA-8260	ND	500	100	UG/KG	6/29/2010	GAP
Chlorobenzene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/22/2010 DP-7 (13-14)
ALS SAMPLE #: -24

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
1,1,1,2-Tetrachloroethane	EPA-8260	ND	10,000	100	UG/KG	6/29/2010	GAP
Ethylbenzene	EPA-8260	1,300,000	130,000	1000	UG/KG	6/30/2010	GAP
m, p-Xylene	EPA-8260	3,600,000	240,000	1000	UG/KG	6/30/2010	GAP
Styrene	EPA-8260	ND	10,000	100	UG/KG	6/29/2010	GAP
o-Xylene	EPA-8260	940,000	110,000	1000	UG/KG	6/30/2010	GAP
Bromoform	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	34,000	11,000	100	UG/KG	6/29/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	15,000	100	UG/KG	6/29/2010	GAP
Bromobenzene	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
n-Propylbenzene	EPA-8260	61,000	13,000	100	UG/KG	6/29/2010	GAP
2-Chlorotoluene	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	89,000	10,000	100	UG/KG	6/29/2010	GAP
4-Chlorotoluene	EPA-8260	ND	20,000	100	UG/KG	6/29/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	140,000	11,000	100	UG/KG	6/29/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	9,700	100	UG/KG	6/29/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
n-Butylbenzene	EPA-8260	ND	10,000	100	UG/KG	6/29/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	17,000	100	UG/KG	6/29/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	15,000	100	UG/KG	6/29/2010	GAP
Naphthalene	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/22/2010 DP-8 (15-16)
ALS SAMPLE #: -25

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	200	1	UG/KG	6/29/2010	GAP
Chloromethane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Vinyl Chloride	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Bromomethane	EPA-8260	ND	98	1	UG/KG	6/29/2010	GAP
Chloroethane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
CFC-11	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
Acetone	EPA-8260	ND	230	1	UG/KG	6/29/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Methylene Chloride	EPA-8260	ND	240	1	UG/KG	6/29/2010	GAP
Acrylonitrile	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
2-Butanone	EPA-8260	ND	170	1	UG/KG	6/29/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Bromochloromethane	EPA-8260	ND	210	1	UG/KG	6/29/2010	GAP
Chloroform	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Benzene	EPA-8260	110	5.0	1	UG/KG	6/29/2010	GAP
Trichloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Dibromomethane	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
Dichlorobromomethane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Toluene	EPA-8260	570	130	1	UG/KG	6/29/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
2-Hexanone	EPA-8260	ND	84	1	UG/KG	6/29/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Tetrachloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Dibromochloromethane	EPA-8260	ND	190	1	UG/KG	6/29/2010	GAP
Ethylene dibromide	EPA-8260	ND	5.0	1	UG/KG	6/29/2010	GAP
Chlorobenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/22/2010 DP-8 (15-16)
ALS SAMPLE #: -25

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
1,1,1,2-Tetrachloroethane	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
Ethylbenzene	EPA-8260	590	130	1	UG/KG	6/29/2010	GAP
m, p-Xylene	EPA-8260	1,300	230	1	UG/KG	6/29/2010	GAP
Styrene	EPA-8260	ND	99	1	UG/KG	6/29/2010	GAP
o-Xylene	EPA-8260	340	110	1	UG/KG	6/29/2010	GAP
Bromoform	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	230	110	1	UG/KG	6/29/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
Bromobenzene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
n-Propylbenzene	EPA-8260	230	130	1	UG/KG	6/29/2010	GAP
2-Chlorotoluene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	120	98	1	UG/KG	6/29/2010	GAP
4-Chlorotoluene	EPA-8260	ND	200	1	UG/KG	6/29/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	94	1	UG/KG	6/29/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
n-Butylbenzene	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	160	1	UG/KG	6/29/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
Naphthalene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/22/2010 DP-10 (20-21)
ALS SAMPLE #: -26

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	220	1	UG/KG	6/29/2010	GAP
Chloromethane	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Vinyl Chloride	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Bromomethane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Chloroethane	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
CFC-11	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Acetone	EPA-8260	ND	250	1	UG/KG	6/29/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Methylene Chloride	EPA-8260	ND	270	1	UG/KG	6/29/2010	GAP
Acrylonitrile	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
2-Butanone	EPA-8260	ND	190	1	UG/KG	6/29/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Bromochloromethane	EPA-8260	ND	230	1	UG/KG	6/29/2010	GAP
Chloroform	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Benzene	EPA-8260	ND	5.0	1	UG/KG	6/29/2010	GAP
Trichloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Dibromomethane	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
Dichlorobromomethane	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Toluene	EPA-8260	930	140	1	UG/KG	6/29/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
2-Hexanone	EPA-8260	ND	94	1	UG/KG	6/29/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
Tetrachloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Dibromochloromethane	EPA-8260	ND	210	1	UG/KG	6/29/2010	GAP
Ethylene dibromide	EPA-8260	ND	5.0	1	UG/KG	6/29/2010	GAP
Chlorobenzene	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/22/2010 DP-10 (20-21)
ALS SAMPLE #: -26

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
1,1,1,2-Tetrachloroethane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Ethylbenzene	EPA-8260	150	140	1	UG/KG	6/29/2010	GAP
m, p-Xylene	EPA-8260	350	260	1	UG/KG	6/29/2010	GAP
Styrene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
o-Xylene	EPA-8260	150	120	1	UG/KG	6/29/2010	GAP
Bromoform	EPA-8260	ND	160	1	UG/KG	6/29/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	160	1	UG/KG	6/29/2010	GAP
Bromobenzene	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
n-Propylbenzene	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
2-Chlorotoluene	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
4-Chlorotoluene	EPA-8260	ND	220	1	UG/KG	6/29/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
n-Butylbenzene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	180	1	UG/KG	6/29/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	160	1	UG/KG	6/29/2010	GAP
Naphthalene	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/22/2010 DP-11 (19-20)
ALS SAMPLE #: -27

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	200	1	UG/KG	6/29/2010	GAP
Chloromethane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Vinyl Chloride	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Bromomethane	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
Chloroethane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
CFC-11	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Acetone	EPA-8260	ND	240	1	UG/KG	6/29/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Methylene Chloride	EPA-8260	300	260	1	UG/KG	6/29/2010	GAP
Acrylonitrile	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
2-Butanone	EPA-8260	ND	180	1	UG/KG	6/29/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Bromochloromethane	EPA-8260	ND	220	1	UG/KG	6/29/2010	GAP
Chloroform	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Benzene	EPA-8260	ND	5.0	1	UG/KG	6/29/2010	GAP
Trichloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Dibromomethane	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
Dichlorobromomethane	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Toluene	EPA-8260	190	130	1	UG/KG	6/29/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
2-Hexanone	EPA-8260	ND	88	1	UG/KG	6/29/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Tetrachloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Dibromochloromethane	EPA-8260	ND	200	1	UG/KG	6/29/2010	GAP
Ethylene dibromide	EPA-8260	ND	5.0	1	UG/KG	6/29/2010	GAP
Chlorobenzene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/22/2010 DP-11 (19-20)
ALS SAMPLE #: -27

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
1,1,1,2-Tetrachloroethane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Ethylbenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
m, p-Xylene	EPA-8260	ND	240	1	UG/KG	6/29/2010	GAP
Styrene	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
o-Xylene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Bromoform	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
Bromobenzene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
n-Propylbenzene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
2-Chlorotoluene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
4-Chlorotoluene	EPA-8260	ND	200	1	UG/KG	6/29/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	99	1	UG/KG	6/29/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
n-Butylbenzene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	170	1	UG/KG	6/29/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
Naphthalene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/23/2010 DP-12 (20-21)
ALS SAMPLE #: -28

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	19,000	100	UG/KG	6/29/2010	GAP
Chloromethane	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
Vinyl Chloride	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
Bromomethane	EPA-8260	ND	9,400	100	UG/KG	6/29/2010	GAP
Chloroethane	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
CFC-11	EPA-8260	ND	9,900	100	UG/KG	6/29/2010	GAP
Acetone	EPA-8260	ND	22,000	100	UG/KG	6/29/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
Methylene Chloride	EPA-8260	ND	23,000	100	UG/KG	6/29/2010	GAP
Acrylonitrile	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
2-Butanone	EPA-8260	ND	17,000	100	UG/KG	6/29/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Bromochloromethane	EPA-8260	ND	20,000	100	UG/KG	6/29/2010	GAP
Chloroform	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	10,000	100	UG/KG	6/29/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	10,000	100	UG/KG	6/29/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
Benzene	EPA-8260	ND	500	100	UG/KG	6/29/2010	GAP
Trichloroethene	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	10,000	100	UG/KG	6/29/2010	GAP
Dibromomethane	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
Dichlorobromomethane	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Toluene	EPA-8260	310,000	12,000	100	UG/KG	6/29/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
2-Hexanone	EPA-8260	ND	8,100	100	UG/KG	6/29/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Tetrachloroethene	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
Dibromochloromethane	EPA-8260	ND	18,000	100	UG/KG	6/29/2010	GAP
Ethylene dibromide	EPA-8260	ND	500	100	UG/KG	6/29/2010	GAP
Chlorobenzene	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/23/2010 DP-12 (20-21)
ALS SAMPLE #: -28

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
1,1,1,2-Tetrachloroethane	EPA-8260	ND	9,700	100	UG/KG	6/29/2010	GAP
Ethylbenzene	EPA-8260	500,000	12,000	100	UG/KG	6/29/2010	GAP
m, p-Xylene	EPA-8260	1,300,000	220,000	1000	UG/KG	6/30/2010	GAP
Styrene	EPA-8260	ND	9,500	100	UG/KG	6/29/2010	GAP
o-Xylene	EPA-8260	700,000	110,000	1000	UG/KG	6/30/2010	GAP
Bromoform	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	14,000	10,000	100	UG/KG	6/29/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
Bromobenzene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
n-Propylbenzene	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
2-Chlorotoluene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	15,000	9,400	100	UG/KG	6/29/2010	GAP
4-Chlorotoluene	EPA-8260	ND	19,000	100	UG/KG	6/29/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	18,000	10,000	100	UG/KG	6/29/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	9,000	100	UG/KG	6/29/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
n-Butylbenzene	EPA-8260	ND	9,700	100	UG/KG	6/29/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	15,000	100	UG/KG	6/29/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
Naphthalene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/23/2010 DP-13 (25-26)
ALS SAMPLE #: -29

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	210	1	UG/KG	6/29/2010	GAP
Chloromethane	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Vinyl Chloride	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Bromomethane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Chloroethane	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
CFC-11	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Acetone	EPA-8260	ND	250	1	UG/KG	6/29/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Methylene Chloride	EPA-8260	ND	270	1	UG/KG	6/29/2010	GAP
Acrylonitrile	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
2-Butanone	EPA-8260	ND	190	1	UG/KG	6/29/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Bromochloromethane	EPA-8260	ND	230	1	UG/KG	6/29/2010	GAP
Chloroform	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Benzene	EPA-8260	ND	5.0	1	UG/KG	6/29/2010	GAP
Trichloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Dibromomethane	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
Dichlorobromomethane	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Toluene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
2-Hexanone	EPA-8260	ND	91	1	UG/KG	6/29/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
Tetrachloroethene	EPA-8260	220	10	1	UG/KG	6/29/2010	GAP
Dibromochloromethane	EPA-8260	ND	200	1	UG/KG	6/29/2010	GAP
Ethylene dibromide	EPA-8260	ND	5.0	1	UG/KG	6/29/2010	GAP
Chlorobenzene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/23/2010 DP-13 (25-26)
ALS SAMPLE #: -29

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
1,1,1,2-Tetrachloroethane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Ethylbenzene	EPA-8260	150	140	1	UG/KG	6/29/2010	GAP
m, p-Xylene	EPA-8260	440	250	1	UG/KG	6/29/2010	GAP
Styrene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
o-Xylene	EPA-8260	220	120	1	UG/KG	6/29/2010	GAP
Bromoform	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
Bromobenzene	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
n-Propylbenzene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
2-Chlorotoluene	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
4-Chlorotoluene	EPA-8260	ND	210	1	UG/KG	6/29/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
n-Butylbenzene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	180	1	UG/KG	6/29/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
Naphthalene	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/23/2010 DP-14 (17-18)
ALS SAMPLE #: -30

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	200	1	UG/KG	6/29/2010	GAP
Chloromethane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Vinyl Chloride	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Bromomethane	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
Chloroethane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
CFC-11	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Acetone	EPA-8260	ND	240	1	UG/KG	6/29/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Methylene Chloride	EPA-8260	ND	260	1	UG/KG	6/29/2010	GAP
Acrylonitrile	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
2-Butanone	EPA-8260	ND	180	1	UG/KG	6/29/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Bromochloromethane	EPA-8260	ND	220	1	UG/KG	6/29/2010	GAP
Chloroform	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Benzene	EPA-8260	ND	5.0	1	UG/KG	6/29/2010	GAP
Trichloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Dibromomethane	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
Dichlorobromomethane	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Toluene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
2-Hexanone	EPA-8260	ND	88	1	UG/KG	6/29/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Tetrachloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Dibromochloromethane	EPA-8260	ND	200	1	UG/KG	6/29/2010	GAP
Ethylene dibromide	EPA-8260	ND	5.0	1	UG/KG	6/29/2010	GAP
Chlorobenzene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/23/2010 DP-14 (17-18)
ALS SAMPLE #: -30

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
1,1,1,2-Tetrachloroethane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Ethylbenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
m, p-Xylene	EPA-8260	ND	240	1	UG/KG	6/29/2010	GAP
Styrene	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
o-Xylene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Bromoform	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
Bromobenzene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
n-Propylbenzene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
2-Chlorotoluene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
4-Chlorotoluene	EPA-8260	ND	200	1	UG/KG	6/29/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	98	1	UG/KG	6/29/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
n-Butylbenzene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	170	1	UG/KG	6/29/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
Naphthalene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/23/2010 DP-15 (22-23)
ALS SAMPLE #: -31

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	190	1	UG/KG	6/29/2010	GAP
Chloromethane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Vinyl Chloride	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Bromomethane	EPA-8260	ND	97	1	UG/KG	6/29/2010	GAP
Chloroethane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
CFC-11	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
Acetone	EPA-8260	ND	220	1	UG/KG	6/29/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Methylene Chloride	EPA-8260	310	240	1	UG/KG	6/29/2010	GAP
Acrylonitrile	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
2-Butanone	EPA-8260	ND	170	1	UG/KG	6/29/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Bromochloromethane	EPA-8260	ND	210	1	UG/KG	6/29/2010	GAP
Chloroform	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Benzene	EPA-8260	33	5.0	1	UG/KG	6/29/2010	GAP
Trichloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Dibromomethane	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
Dichlorobromomethane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Toluene	EPA-8260	140	120	1	UG/KG	6/29/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
2-Hexanone	EPA-8260	ND	83	1	UG/KG	6/29/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Tetrachloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Dibromochloromethane	EPA-8260	ND	190	1	UG/KG	6/29/2010	GAP
Ethylene dibromide	EPA-8260	ND	5.0	1	UG/KG	6/29/2010	GAP
Chlorobenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/23/2010 DP-15 (22-23)
ALS SAMPLE #: -31

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
1,1,1,2-Tetrachloroethane	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
Ethylbenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
m, p-Xylene	EPA-8260	ND	230	1	UG/KG	6/29/2010	GAP
Styrene	EPA-8260	ND	97	1	UG/KG	6/29/2010	GAP
o-Xylene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Bromoform	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
Bromobenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
n-Propylbenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
2-Chlorotoluene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	96	1	UG/KG	6/29/2010	GAP
4-Chlorotoluene	EPA-8260	ND	190	1	UG/KG	6/29/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	92	1	UG/KG	6/29/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
n-Butylbenzene	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	160	1	UG/KG	6/29/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
Naphthalene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/23/2010 DP-16 (20-21)
ALS SAMPLE #: -32

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	190	1	UG/KG	6/29/2010	GAP
Chloromethane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Vinyl Chloride	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Bromomethane	EPA-8260	ND	95	1	UG/KG	6/29/2010	GAP
Chloroethane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
CFC-11	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
Acetone	EPA-8260	ND	220	1	UG/KG	6/29/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Methylene Chloride	EPA-8260	ND	240	1	UG/KG	6/29/2010	GAP
Acrylonitrile	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
2-Butanone	EPA-8260	ND	170	1	UG/KG	6/29/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Bromochloromethane	EPA-8260	ND	200	1	UG/KG	6/29/2010	GAP
Chloroform	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Benzene	EPA-8260	32	5.0	1	UG/KG	6/29/2010	GAP
Trichloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Dibromomethane	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Dichlorobromomethane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Toluene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
2-Hexanone	EPA-8260	ND	81	1	UG/KG	6/29/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Tetrachloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Dibromochloromethane	EPA-8260	ND	180	1	UG/KG	6/29/2010	GAP
Ethylene dibromide	EPA-8260	ND	5.0	1	UG/KG	6/29/2010	GAP
Chlorobenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/23/2010 DP-16 (20-21)
ALS SAMPLE #: -32

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
1,1,1,2-Tetrachloroethane	EPA-8260	ND	98	1	UG/KG	6/29/2010	GAP
Ethylbenzene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
m, p-Xylene	EPA-8260	ND	220	1	UG/KG	6/29/2010	GAP
Styrene	EPA-8260	ND	95	1	UG/KG	6/29/2010	GAP
o-Xylene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Bromoform	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
Bromobenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
n-Propylbenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
2-Chlorotoluene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	94	1	UG/KG	6/29/2010	GAP
4-Chlorotoluene	EPA-8260	ND	190	1	UG/KG	6/29/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	91	1	UG/KG	6/29/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
n-Butylbenzene	EPA-8260	ND	98	1	UG/KG	6/29/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	160	1	UG/KG	6/29/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
Naphthalene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/22/2010 DP-11 (44-45)
ALS SAMPLE #: -33

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	160	1	UG/KG	6/29/2010	GAP
Chloromethane	EPA-8260	ND	97	1	UG/KG	6/29/2010	GAP
Vinyl Chloride	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Bromomethane	EPA-8260	ND	81	1	UG/KG	6/29/2010	GAP
Chloroethane	EPA-8260	ND	97	1	UG/KG	6/29/2010	GAP
CFC-11	EPA-8260	ND	85	1	UG/KG	6/29/2010	GAP
Acetone	EPA-8260	ND	190	1	UG/KG	6/29/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Methylene Chloride	EPA-8260	ND	200	1	UG/KG	6/29/2010	GAP
Acrylonitrile	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	96	1	UG/KG	6/29/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	97	1	UG/KG	6/29/2010	GAP
2-Butanone	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	99	1	UG/KG	6/29/2010	GAP
Bromochloromethane	EPA-8260	ND	170	1	UG/KG	6/29/2010	GAP
Chloroform	EPA-8260	ND	99	1	UG/KG	6/29/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	89	1	UG/KG	6/29/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	89	1	UG/KG	6/29/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Benzene	EPA-8260	ND	5.0	1	UG/KG	6/29/2010	GAP
Trichloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	90	1	UG/KG	6/29/2010	GAP
Dibromomethane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Dichlorobromomethane	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	99	1	UG/KG	6/29/2010	GAP
Toluene	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
2-Hexanone	EPA-8260	ND	69	1	UG/KG	6/29/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
Tetrachloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Dibromochloromethane	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
Ethylene dibromide	EPA-8260	ND	5.0	1	UG/KG	6/29/2010	GAP
Chlorobenzene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/22/2010 DP-11 (44-45)
ALS SAMPLE #: -33

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
1,1,1,2-Tetrachloroethane	EPA-8260	ND	83	1	UG/KG	6/29/2010	GAP
Ethylbenzene	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
m, p-Xylene	EPA-8260	200	190	1	UG/KG	6/29/2010	GAP
Styrene	EPA-8260	ND	81	1	UG/KG	6/29/2010	GAP
o-Xylene	EPA-8260	ND	90	1	UG/KG	6/29/2010	GAP
Bromoform	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	88	1	UG/KG	6/29/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Bromobenzene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
n-Propylbenzene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
2-Chlorotoluene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	80	1	UG/KG	6/29/2010	GAP
4-Chlorotoluene	EPA-8260	ND	160	1	UG/KG	6/29/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	87	1	UG/KG	6/29/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	94	1	UG/KG	6/29/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	77	1	UG/KG	6/29/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
n-Butylbenzene	EPA-8260	ND	84	1	UG/KG	6/29/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	98	1	UG/KG	6/29/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Naphthalene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/22/2010 Trip Blank
ALS SAMPLE #: -34

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Vinyl Chloride	EPA-8260	ND	0.20	1	UG/L	7/1/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	7/1/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	7/1/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	7/1/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	7/1/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Chloroform	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Benzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	7/1/2010	GAP
Toluene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	7/1/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Tetrachloroethene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/22/2010 Trip Blank
ALS SAMPLE #: -34

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Ethylbenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
m, p-Xylene	EPA-8260	ND	4.0	1	UG/L	7/1/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
o-Xylene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
n-Propylbenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
2-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
4-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	7/1/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001

QUALITY CONTROL RESULTS

SURROGATE RECOVERY

ALS SAMPLE ID	METHOD	SUR ID	% RECV
1006160-01	EPA-8260	1,2-Dichloroethane-d4	116%
1006160-01	EPA-8260	Toluene-d8	102%
1006160-01	EPA-8260	4-Bromofluorobenzene	91%
1006160-02	EPA-8260	1,2-Dichloroethane-d4	115%
1006160-02	EPA-8260	Toluene-d8	102%
1006160-02	EPA-8260	4-Bromofluorobenzene	92%
1006160-02 4X Dilution	EPA-8260	1,2-Dichloroethane-d4	102%
1006160-02 4X Dilution	EPA-8260	Toluene-d8	98%
1006160-02 4X Dilution	EPA-8260	4-Bromofluorobenzene	101%
1006160-03	EPA-8260	1,2-Dichloroethane-d4	115%
1006160-03	EPA-8260	Toluene-d8	102%
1006160-03	EPA-8260	4-Bromofluorobenzene	90%
1006160-04	EPA-8260	1,2-Dichloroethane-d4	113%
1006160-04	EPA-8260	Toluene-d8	101%
1006160-04	EPA-8260	4-Bromofluorobenzene	96%
1006160-04 20X Dilution	EPA-8260	1,2-Dichloroethane-d4	104%
1006160-04 20X Dilution	EPA-8260	Toluene-d8	98%
1006160-04 20X Dilution	EPA-8260	4-Bromofluorobenzene	100%
1006160-05	EPA-8260	1,2-Dichloroethane-d4	111%
1006160-05	EPA-8260	Toluene-d8	100%
1006160-05	EPA-8260	4-Bromofluorobenzene	106%
1006160-05 100X Dilution	EPA-8260	1,2-Dichloroethane-d4	104%
1006160-05 100X Dilution	EPA-8260	Toluene-d8	98%
1006160-05 100X Dilution	EPA-8260	4-Bromofluorobenzene	104%
1006160-05 10X Dilution	EPA-8260	1,2-Dichloroethane-d4	102%
1006160-05 10X Dilution	EPA-8260	Toluene-d8	97%
1006160-05 10X Dilution	EPA-8260	4-Bromofluorobenzene	103%
1006160-05 400X Dilution	EPA-8260	1,2-Dichloroethane-d4	109%
1006160-05 400X Dilution	EPA-8260	Toluene-d8	97%
1006160-05 400X Dilution	EPA-8260	4-Bromofluorobenzene	97%
1006160-06	EPA-8260	1,2-Dichloroethane-d4	112%
1006160-06	EPA-8260	Toluene-d8	103%
1006160-06	EPA-8260	4-Bromofluorobenzene	106%
1006160-06 100X Dilution	EPA-8260	1,2-Dichloroethane-d4	104%
1006160-06 100X Dilution	EPA-8260	Toluene-d8	99%

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001

QUALITY CONTROL RESULTS

SURROGATE RECOVERY

ALS SAMPLE ID	METHOD	SUR ID	% RECV
1006160-06 100X Dilution	EPA-8260	4-Bromofluorobenzene	101%
1006160-06 10X Dilution	EPA-8260	1,2-Dichloroethane-d4	99%
1006160-06 10X Dilution	EPA-8260	Toluene-d8	96%
1006160-06 10X Dilution	EPA-8260	4-Bromofluorobenzene	104%
1006160-07	EPA-8260	1,2-Dichloroethane-d4	111%
1006160-07	EPA-8260	Toluene-d8	102%
1006160-07	EPA-8260	4-Bromofluorobenzene	99%
1006160-07 100X Dilution	EPA-8260	1,2-Dichloroethane-d4	120%
1006160-07 100X Dilution	EPA-8260	Toluene-d8	103%
1006160-07 100X Dilution	EPA-8260	4-Bromofluorobenzene	85%
1006160-07 10X Dilution	EPA-8260	1,2-Dichloroethane-d4	103%
1006160-07 10X Dilution	EPA-8260	Toluene-d8	99%
1006160-07 10X Dilution	EPA-8260	4-Bromofluorobenzene	102%
1006160-08	EPA-8260	1,2-Dichloroethane-d4	120%
1006160-08	EPA-8260	Toluene-d8	104%
1006160-08	EPA-8260	4-Bromofluorobenzene	84%
1006160-09	EPA-8260	1,2-Dichloroethane-d4	117%
1006160-09	EPA-8260	Toluene-d8	103%
1006160-09	EPA-8260	4-Bromofluorobenzene	89%
1006160-10	EPA-8260	1,2-Dichloroethane-d4	119%
1006160-10	EPA-8260	Toluene-d8	101%
1006160-10	EPA-8260	4-Bromofluorobenzene	88%
1006160-11	EPA-8260	1,2-Dichloroethane-d4	120%
1006160-11	EPA-8260	Toluene-d8	102%
1006160-11	EPA-8260	4-Bromofluorobenzene	87%
1006160-11 4X Dilution	EPA-8260	1,2-Dichloroethane-d4	122%
1006160-11 4X Dilution	EPA-8260	Toluene-d8	102%
1006160-11 4X Dilution	EPA-8260	4-Bromofluorobenzene	83%
1006160-12	EPA-8260	1,2-Dichloroethane-d4	124%
1006160-12	EPA-8260	Toluene-d8	105%
1006160-12	EPA-8260	4-Bromofluorobenzene	107%
1006160-12 1000X Dilution	EPA-8260	1,2-Dichloroethane-d4	106%
1006160-12 1000X Dilution	EPA-8260	Toluene-d8	98%
1006160-12 1000X Dilution	EPA-8260	4-Bromofluorobenzene	99%
1006160-12 100X Dilution	EPA-8260	1,2-Dichloroethane-d4	120%

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001

QUALITY CONTROL RESULTS

SURROGATE RECOVERY

ALS SAMPLE ID	METHOD	SUR ID	% RECV
1006160-12 100X Dilution	EPA-8260	Toluene-d8	103%
1006160-12 100X Dilution	EPA-8260	4-Bromofluorobenzene	89%
1006160-12 10X Dilution	EPA-8260	1,2-Dichloroethane-d4	116%
1006160-12 10X Dilution	EPA-8260	Toluene-d8	107%
1006160-12 10X Dilution	EPA-8260	4-Bromofluorobenzene	92%
1006160-13	EPA-8260	1,2-Dichloroethane-d4	119%
1006160-13	EPA-8260	Toluene-d8	102%
1006160-13	EPA-8260	4-Bromofluorobenzene	83%
1006160-13 4X Dilution	EPA-8260	1,2-Dichloroethane-d4	108%
1006160-13 4X Dilution	EPA-8260	Toluene-d8	97%
1006160-13 4X Dilution	EPA-8260	4-Bromofluorobenzene	96%
1006160-14	EPA-8260	1,2-Dichloroethane-d4	124%
1006160-14	EPA-8260	Toluene-d8	103%
1006160-14	EPA-8260	4-Bromofluorobenzene	81%
1006160-15	EPA-8260	1,2-Dichloroethane-d4	122%
1006160-15	EPA-8260	Toluene-d8	102%
1006160-15	EPA-8260	4-Bromofluorobenzene	80%
1006160-16	EPA-8260	1,2-Dichloroethane-d4	111%
1006160-16	EPA-8260	Toluene-d8	96%
1006160-16	EPA-8260	4-Bromofluorobenzene	93%
1006160-17	EPA-8260	1,2-Dichloroethane-d4	106%
1006160-17	EPA-8260	Toluene-d8	88%
1006160-17	EPA-8260	4-Bromofluorobenzene	96%
1006160-18	EPA-8260	1,2-Dichloroethane-d4	98%
1006160-18	EPA-8260	Toluene-d8	104%
1006160-18	EPA-8260	4-Bromofluorobenzene	103%
1006160-19 100X Dilution	EPA-8260	1,2-Dichloroethane-d4	96%
1006160-19 100X Dilution	EPA-8260	Toluene-d8	102%
1006160-19 100X Dilution	EPA-8260	4-Bromofluorobenzene	103%
1006160-19 2000X Dilution	EPA-8260	1,2-Dichloroethane-d4	107%
1006160-19 2000X Dilution	EPA-8260	Toluene-d8	101%
1006160-19 2000X Dilution	EPA-8260	4-Bromofluorobenzene	99%
1006160-20	EPA-8260	1,2-Dichloroethane-d4	105%
1006160-20	EPA-8260	Toluene-d8	101%

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001

QUALITY CONTROL RESULTS

SURROGATE RECOVERY

ALS SAMPLE ID	METHOD	SUR ID	% RECV
1006160-20	EPA-8260	4-Bromofluorobenzene	102%
1006160-21 100X Dilution	EPA-8260	1,2-Dichloroethane-d4	106%
1006160-21 100X Dilution	EPA-8260	Toluene-d8	101%
1006160-21 100X Dilution	EPA-8260	4-Bromofluorobenzene	101%
1006160-21 200X Dilution	EPA-8260	1,2-Dichloroethane-d4	121%
1006160-21 200X Dilution	EPA-8260	Toluene-d8	99%
1006160-21 200X Dilution	EPA-8260	4-Bromofluorobenzene	99%
1006160-22 1000X Dilution	EPA-8260	1,2-Dichloroethane-d4	120%
1006160-22 1000X Dilution	EPA-8260	Toluene-d8	98%
1006160-22 1000X Dilution	EPA-8260	4-Bromofluorobenzene	98%
1006160-22 100X Dilution	EPA-8260	1,2-Dichloroethane-d4	103%
1006160-22 100X Dilution	EPA-8260	Toluene-d8	98%
1006160-22 100X Dilution	EPA-8260	4-Bromofluorobenzene	98%
1006160-23 1000X Dilution	EPA-8260	1,2-Dichloroethane-d4	121%
1006160-23 1000X Dilution	EPA-8260	Toluene-d8	96%
1006160-23 1000X Dilution	EPA-8260	4-Bromofluorobenzene	95%
1006160-23 100X Dilution	EPA-8260	1,2-Dichloroethane-d4	110%
1006160-23 100X Dilution	EPA-8260	Toluene-d8	98%
1006160-23 100X Dilution	EPA-8260	4-Bromofluorobenzene	102%
1006160-24 1000X Dilution	EPA-8260	1,2-Dichloroethane-d4	121%
1006160-24 1000X Dilution	EPA-8260	Toluene-d8	97%
1006160-24 1000X Dilution	EPA-8260	4-Bromofluorobenzene	95%
1006160-24 100X Dilution	EPA-8260	1,2-Dichloroethane-d4	110%
1006160-24 100X Dilution	EPA-8260	Toluene-d8	100%
1006160-24 100X Dilution	EPA-8260	4-Bromofluorobenzene	101%
1006160-25	EPA-8260	1,2-Dichloroethane-d4	112%
1006160-25	EPA-8260	Toluene-d8	99%
1006160-25	EPA-8260	4-Bromofluorobenzene	99%
1006160-26	EPA-8260	1,2-Dichloroethane-d4	111%
1006160-26	EPA-8260	Toluene-d8	99%
1006160-26	EPA-8260	4-Bromofluorobenzene	99%
1006160-27	EPA-8260	1,2-Dichloroethane-d4	115%
1006160-27	EPA-8260	Toluene-d8	100%
1006160-27	EPA-8260	4-Bromofluorobenzene	99%

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001

QUALITY CONTROL RESULTS

SURROGATE RECOVERY

ALS SAMPLE ID	METHOD	SUR ID	% RECV
1006160-28 1000X Dilution	EPA-8260	1,2-Dichloroethane-d4	125%
1006160-28 1000X Dilution	EPA-8260	Toluene-d8	98%
1006160-28 1000X Dilution	EPA-8260	4-Bromofluorobenzene	94%
1006160-28 100X Dilution	EPA-8260	1,2-Dichloroethane-d4	114%
1006160-28 100X Dilution	EPA-8260	Toluene-d8	101%
1006160-28 100X Dilution	EPA-8260	4-Bromofluorobenzene	100%
1006160-29	EPA-8260	1,2-Dichloroethane-d4	118%
1006160-29	EPA-8260	Toluene-d8	100%
1006160-29	EPA-8260	4-Bromofluorobenzene	98%
1006160-30	EPA-8260	1,2-Dichloroethane-d4	115%
1006160-30	EPA-8260	Toluene-d8	98%
1006160-30	EPA-8260	4-Bromofluorobenzene	95%
1006160-31	EPA-8260	1,2-Dichloroethane-d4	123%
1006160-31	EPA-8260	Toluene-d8	98%
1006160-31	EPA-8260	4-Bromofluorobenzene	99%
1006160-32	EPA-8260	1,2-Dichloroethane-d4	119%
1006160-32	EPA-8260	Toluene-d8	97%
1006160-32	EPA-8260	4-Bromofluorobenzene	96%
1006160-33	EPA-8260	1,2-Dichloroethane-d4	124%
1006160-33	EPA-8260	Toluene-d8	97%
1006160-33	EPA-8260	4-Bromofluorobenzene	94%
1006160-34	EPA-8260	1,2-Dichloroethane-d4	112%
1006160-34	EPA-8260	Toluene-d8	97%
1006160-34	EPA-8260	4-Bromofluorobenzene	94%

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001

QUALITY CONTROL RESULTS

BLANK RESULTS

QC SAMPLE ID	MATRIX	METHOD	ANALYTE	RESULT	UNITS
MB-062910S	Soil	EPA-8260	CFC-12	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	Chloromethane	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	Vinyl Chloride	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	Bromomethane	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	Chloroethane	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	Carbon Tetrachloride	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	CFC-11	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	Acetone	ND(<50)	UG/KG
MB-062910S	Soil	EPA-8260	1,1-Dichloroethene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	Methylene Chloride	ND(<20)	UG/KG
MB-062910S	Soil	EPA-8260	Acrylonitrile	ND(<50)	UG/KG
MB-062910S	Soil	EPA-8260	Methyl t-butyl ether	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	Trans-1,2-Dichloroethene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	1,1-Dichloroethane	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	2-Butanone	ND(<50)	UG/KG
MB-062910S	Soil	EPA-8260	Cis-1,2-Dichloroethene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	2,2-Dichloropropane	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	Bromochloromethane	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	Chloroform	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	1,1,1-Trichloroethane	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	1,1-Dichloropropene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	1,2-Dichloroethane	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	Benzene	ND(<5.0)	UG/KG
MB-062910S	Soil	EPA-8260	Trichloroethene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	1,2-Dichloropropane	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	Dibromomethane	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	Dichlorobromomethane	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	Trans-1,3-Dichloropropene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	Methyl isobutyl ketone	ND(<50)	UG/KG
MB-062910S	Soil	EPA-8260	Toluene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	Cis-1,3-Dichloropropene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	1,1,2-Trichloroethane	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	2-Hexanone	ND(<50)	UG/KG
MB-062910S	Soil	EPA-8260	1,3-Dichloropropane	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	Tetrachloroethene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	Dibromochloromethane	ND(<10)	UG/KG

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001

QUALITY CONTROL RESULTS

BLANK RESULTS

QC SAMPLE ID	MATRIX	METHOD	ANALYTE	RESULT	UNITS
MB-062910S	Soil	EPA-8260	Ethylene dibromide	ND(<5.0)	UG/KG
MB-062910S	Soil	EPA-8260	Chlorobenzene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	1,1,1,2-Tetrachloroethane	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	Ethylbenzene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	m, p-Xylene	ND(<20)	UG/KG
MB-062910S	Soil	EPA-8260	Styrene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	o-Xylene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	Bromoform	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	Isopropylbenzene (Cumene)	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	1,1,2,2-Tetrachloroethane	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	1,2,3-Trichloropropane	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	Bromobenzene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	n-Propylbenzene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	2-Chlorotoluene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	1,3,5-Trimethylbenzene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	4-Chlorotoluene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	Tert-Butylbenzene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	1,2,4-Trimethylbenzene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	Sec-Butylbenzene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	p-Isopropyltoluene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	1,3-Dichlorobenzene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	1,4-Dichlorobenzene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	n-Butylbenzene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	1,2-Dichlorobenzene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	1,2-Dibromo-3-Chloropropane	ND(<50)	UG/KG
MB-062910S	Soil	EPA-8260	1,2,4-Trichlorobenzene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	Hexachlorobutadiene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	Naphthalene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	1,2,3-Trichlorobenzene	ND(<10)	UG/KG
MB-062810W	Water	EPA-8260	CFC-12	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Chloromethane	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Vinyl Chloride	ND(<0.20)	UG/L
MB-062810W	Water	EPA-8260	Bromomethane	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Chloroethane	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	CFC-11	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Carbon Tetrachloride	ND(<2.0)	UG/L

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001

QUALITY CONTROL RESULTS

BLANK RESULTS

QC SAMPLE ID	MATRIX	METHOD	ANALYTE	RESULT	UNITS
MB-062810W	Water	EPA-8260	Carbon Disulfide	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Acetone	ND(<25)	UG/L
MB-062810W	Water	EPA-8260	1,1-Dichloroethene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Methylene Chloride	ND(<5.0)	UG/L
MB-062810W	Water	EPA-8260	Acrylonitrile	ND(<10)	UG/L
MB-062810W	Water	EPA-8260	Methyl t-butyl ether	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Trans-1,2-Dichloroethene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	1,1-Dichloroethane	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	2-Butanone	ND(<10)	UG/L
MB-062810W	Water	EPA-8260	Cis-1,2-Dichloroethene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	2,2-Dichloropropane	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Bromochloromethane	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Chloroform	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	1,1,1-Trichloroethane	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	1,1-Dichloropropene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	1,2-Dichloroethane	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Benzene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Trichloroethene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	1,2-Dichloropropane	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Dibromomethane	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Dichlorobromomethane	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Trans-1,3-Dichloropropene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Methyl isobutyl ketone	ND(<10)	UG/L
MB-062810W	Water	EPA-8260	Toluene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Cis-1,3-Dichloropropene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	1,1,2-Trichloroethane	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	2-Hexanone	ND(<10)	UG/L
MB-062810W	Water	EPA-8260	1,3-Dichloropropane	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Tetrachloroethene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Dibromochloromethane	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Ethylene dibromide	ND(<0.010)	UG/L
MB-062810W	Water	EPA-8260	Chlorobenzene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	1,1,1,2-Tetrachloroethane	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Ethylbenzene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	m, p-Xylene	ND(<4.0)	UG/L
MB-062810W	Water	EPA-8260	Styrene	ND(<2.0)	UG/L

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001

QUALITY CONTROL RESULTS

BLANK RESULTS

QC SAMPLE ID	MATRIX	METHOD	ANALYTE	RESULT	UNITS
MB-062810W	Water	EPA-8260	o-Xylene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Bromoform	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Isopropylbenzene (Cumene)	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	1,1,2,2-Tetrachloroethane	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	1,2,3-Trichloropropane	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Bromobenzene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	n-Propylbenzene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	2-Chlorotoluene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	1,3,5-Trimethylbenzene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	4-Chlorotoluene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Tert-Butylbenzene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	1,2,4-Trimethylbenzene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Sec-Butylbenzene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	p-Isopropyltoluene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	1,3-Dichlorobenzene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	1,4-Dichlorobenzene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	n-Butylbenzene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	1,2-Dichlorobenzene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	1,2-Dibromo-3-Chloropropane	ND(<10)	UG/L
MB-062810W	Water	EPA-8260	1,2,4-Trichlorobenzene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Hexachlorobutadiene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Naphthalene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	1,2,3-Trichlorobenzene	ND(<2.0)	UG/L
MBLK-6242010	Water	EPA-300.0	Nitrate	ND(<0.15)	MG/L
MBLK-6242010	Water	EPA-300.0	Sulfate	ND(<0.26)	MG/L

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001

QUALITY CONTROL RESULTS

BLANK SPIKE/BLANK SPIKE DUPLICATE RESULTS

QC BATCH ID	MATRIX	METHOD	ANALYTE	SPIKE AMOUNT	BLANK SPIKE RECOVERY	BLANK SPIKE DUPLICATE RECOVERY	RPD
832	Soil	EPA-8260	1,1-Dichloroethene	10	91%	85%	7
832	Soil	EPA-8260	Benzene	10	93%	91%	2
832	Soil	EPA-8260	Trichloroethene	10	92%	89%	3
832	Soil	EPA-8260	Toluene	10	92%	89%	4
832	Soil	EPA-8260	Chlorobenzene	10	101%	99%	1
837	Water	EPA-8260	1,1-Dichloroethene	10	93%	92%	2
837	Water	EPA-8260	Benzene	10	93%	90%	4
837	Water	EPA-8260	Trichloroethene	10	94%	89%	5
837	Water	EPA-8260	Toluene	10	95%	92%	3
837	Water	EPA-8260	Chlorobenzene	10	92%	88%	4
R69509	Water	EPA-300.0	Nitrate	100	100%	106%	6
R69509	Water	EPA-300.0	Sulfate	100	102%	107%	5

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

1006160

LANDAU ASSOCIATES

☒ **Seattle/Edmonds** (425) 778-0907
☐ **Tacoma** (253) 926-2493
☐ **Spokane** (509) 327-9737
☐ **Portland** (503) 542-1080
☐ _____

Chain-of-Custody Record

Date 6/24/10
Page 1 of 2

Project Name Gaco Western Project No. 122C001
Project Location/Event
Sampler's Name Paul Raymaker
Project Contact Tim Syverson / Jessica Kruczek
Send Results To Tim Syverson / Jessica Kruczek

Testing Parameters

Turnaround Time
☒ Standard
☐ Accelerated
☐ _____

	Sample I.D.	Date	Time	Matrix	No. of Containers	VOCs 8260B	Nitrates/Sulfates 300	Observations/Comments
1	DP-1	6/21/10	905	Water	4	X	X	
2	DP-2	6/21/10	1036	water	4	X	X	
3	DP-3	6/21/10	1141	Water	4	X	X	
4	DP-4	6/21/10	1349	Water	4	X	X	
5	DP-5	6/21/10	1509	water	4	X	X	
6	DP-6	6/22/10	841	Water	4	X	X	
7	DP-7	6/22/10	951	Water	4	X	X	
8	DP-8	6/22/10	1129	Water	4	X	X	
9	DP-9	6/22/10	1306	Water	4	X	X	
10	DP-10	6/22/10	1426	Water	4	X	X	
11	DP-11 (30)	6/22/10	1542	Water	4	X	X	
12	DP-12 (30)	6/23/10	821	Water	4	X	X	
13	DP-13	6/23/10	958	Water	4	X	X	
14	DP-14	6/23/10	1058	Water	4	X	X	
15	DP-15	6/23/10	1406	Water	4	X	X	
16	DP-16	6/23/10	1530	Water	4	X	X	
17	DP-11 (45)	6/22/10	1456	Water	4	X	X	

X Allow water samples to settle, collect aliquot from clear portion
X NWTPH-Dx - run acid wash/silica gel cleanup
___ run samples standardized to _____ product
___ Analyze for EPH if no specific product identified
VOC/BTEX/VPH (soil):
___ non-preserved
___ preserved w/methanol
___ preserved w/sodium bisulfate
___ Freeze upon receipt
___ Dissolved metal water samples field filtered
Other

Special Shipment/Handling or Storage Requirements 2 Coolers on Ice

Method of Shipment Courier

Relinquished by	Received by	Relinquished by	Received by
Signature	Signature	Signature	Signature
Printed Name Paul Raymaker	Printed Name Rick Bagan	Printed Name	Printed Name
Company Landau Assoc Inc.	Company ACS	Company	Company
Date 6/24/10 Time 10:00	Date 6/24/10 Time 11:45	Date _____ Time _____	Date _____ Time _____

WHITE COPY - Project File YELLOW COPY - Laboratory PINK COPY - Client Representative Rev 8/09

LANDAU ASSOCIATES

☒ Seattle/Edmonds (425) 778-0907
☐ Tacoma (253) 926-2493
☐ Spokane (509) 327-9737
☐ Portland (503) 542-1080
☐ _____

1006160

Date 6/24/10
Page 2 of 2

Chain-of-Custody Record

Project Name Graco Western Project No. 1226001
Project Location/Event
Sampler's Name Paul Raymaker
Project Contact Tim Syverson / Jessica Kruczek
Send Results To Tim Syverson / Jessica Kruczek

Turnaround Time
☒ Standard
☐ Accelerated
☐ _____

	Sample I.D.	Date	Time	Matrix	No. of Containers	Testing Parameters: VOCs 8260B	Observations/Comments
18	DP-1 (17-18)	6/21/10	8:35	Soil	4	X	
19	DP-2 (19-20)	6/21/10	10:05	Soil	4	X	
20	DP-3 (14-15)	6/21/10	11:20	Soil	4	X	
21	DP-4 (13-14)	6/21/10	13:30	Soil	4	X	
22	DP-5 (13-14)	6/21/10	14:45	Soil	4	X	
23	DP-6 (20-21)	6/22/10	8:15	Soil	4	X	
24	DP-7 (13-14)	6/22/10	9:30	Soil	4	X	
25	DP-8 (15-16)	6/22/10	11:10	Soil	4	X	
26	DP-10 (20-21)	6/22/10	14:00	Soil	4	X	
27	DP-11 (19-20)	6/22/10	1515	Soil	4	X	
28	DP-12 (20-21)	6/23/10	805	Soil	4	X	
29	DP-13 (25-26)	6/23/10	940	Soil	4	X	
30	DP-14 (17-18)	6/23/10	1130	Soil	4	X	
31	DP-15 (22-23)	6/23/10	1340	Soil	4	X	
32	DP-16 (20-21)	6/23/10	1505	Soil	4	X	
33	DP-11 (44-45)	6/22/10	1645	Soil	4	X	
34	Trip Blank			Water	8	X	

X Allow water samples to settle, collect aliquot from clear portion
X NWTPH-Dx - run acid wash/silica gel cleanup
___ run samples standardized to _____ product
___ Analyze for EPH if no specific product identified
VOC/BTEX/VPH (soil):
X non-preserved
X preserved w/methanol
___ preserved w/sodium bisulfate
___ Freeze upon receipt
___ Dissolved metal water samples field filtered
Other

Special Shipment/Handling or Storage Requirements 2 Coolers on Ice

Method of Shipment Courier

Relinquished by	Received by	Relinquished by	Received by
Signature	Signature	Signature	Signature
Printed Name Paul Raymaker	Printed Name Rick Bagan	Printed Name	Printed Name
Company Landau Assoc Inc	Company RLS	Company	Company
Date 6/24/10 Time 10:00	Date 6/24/10 Time 11:45	Date ____ Time ____	Date ____ Time ____

WHITE COPY - Project File YELLOW COPY - Laboratory PINK COPY - Client Representative Rev 8/09

APPENDIX B

Boring Logs

Soil Classification System

MAJOR DIVISIONS			GRAPHIC SYMBOL	USCS LETTER SYMBOL[1]	TYPICAL DESCRIPTIONS [2][3]
COARSE-GRAINED SOIL (More than 50% of material is larger than No. 200 sieve size)	GRAVEL AND GRAVELLY SOIL (More than 50% of coarse fraction retained on No. 4 sieve)	CLEAN GRAVEL (Little or no fines)		GW	Well-graded gravel; gravel/sand mixture(s); little or no fines
				GP	Poorly graded gravel; gravel/sand mixture(s); little or no fines
		GRAVEL WITH FINES (Appreciable amount of fines)		GM	Silty gravel; gravel/sand/silt mixture(s)
				GC	Clayey gravel; gravel/sand/clay mixture(s)
	SAND AND SANDY SOIL (More than 50% of coarse fraction passed through No. 4 sieve)	CLEAN SAND (Little or no fines)		SW	Well-graded sand; gravelly sand; little or no fines
				SP	Poorly graded sand; gravelly sand; little or no fines
		SAND WITH FINES (Appreciable amount of fines)		SM	Silty sand; sand/silt mixture(s)
				SC	Clayey sand; sand/clay mixture(s)
FINE-GRAINED SOIL (More than 50% of material is smaller than No. 200 sieve size)	SILT AND CLAY (Liquid limit less than 50)			ML	Inorganic silt and very fine sand; rock flour; silty or clayey fine sand or clayey silt with slight plasticity
				CL	Inorganic clay of low to medium plasticity; gravelly clay; sandy clay; silty clay; lean clay
				OL	Organic silt; organic, silty clay of low plasticity
	SILT AND CLAY (Liquid limit greater than 50)			MH	Inorganic silt; micaceous or diatomaceous fine sand
				CH	Inorganic clay of high plasticity; fat clay
				OH	Organic clay of medium to high plasticity; organic silt
	HIGHLY ORGANIC SOIL			PT	Peat; humus; swamp soil with high organic content

OTHER MATERIALS	GRAPHIC SYMBOL	LETTER SYMBOL	TYPICAL DESCRIPTIONS
PAVEMENT		AC or PC	Asphalt concrete pavement or Portland cement pavement
ROCK		RK	Rock (See Rock Classification)
WOOD		WD	Wood, lumber, wood chips
DEBRIS		DB	Construction debris, garbage

Notes:
1. USCS letter symbols correspond to symbols used by the Unified Soil Classification System and ASTM classification methods. Dual letter symbols (e.g., SP-SM for sand or gravel) indicate soil with an estimated 5-15% fines. Multiple letter symbols (e.g., ML/CL) indicate borderline or multiple soil classifications.
2. Soil descriptions are based on the general approach presented in the Standard Practice for Description and Identification of Soils (Visual-Manual Procedure), outlined in ASTM D 2488. Where laboratory index testing has been conducted, soil classifications are based on the Standard Test Method for Classification of Soils for Engineering Purposes, as outlined in ASTM D 2487.
3. Soil description terminology is based on visual estimates (in the absence of laboratory test data) of the percentages of each soil type and is defined as follows:

Primary Constituent:	> 50% - "GRAVEL," "SAND," "SILT," "CLAY," etc.
Secondary Constituents:	> 30% and ≤ 50% - "very gravelly," "very sandy," "very silty," etc.
	> 15% and ≤ 30% - "gravelly," "sandy," "silty," etc.
Additional Constituents:	> 5% and ≤ 15% - "with gravel," "with sand," "with silt," etc.
	≤ 5% - "with trace gravel," "with trace sand," "with trace silt," etc., or not noted.

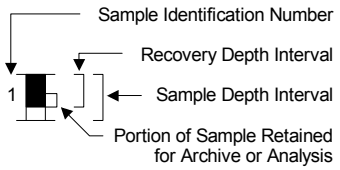
4. Soil density or consistency descriptions are based on judgement using a combination of sampler penetration blow counts, drilling or excavating conditions, field tests, and laboratory tests, as appropriate.

Drilling and Sampling Key

SAMPLER TYPE

Code	Description
a	3.25-inch O.D., 2.42-inch I.D. Split Spoon
b	2.00-inch O.D., 1.50-inch I.D. Split Spoon
c	Shelby Tube
d	Grab Sample
e	Single-Tube Core Barrel
f	Double-Tube Core Barrel
g	2.50-inch O.D., 2.00-inch I.D. WSDOT
h	3.00-inch O.D., 2.375-inch I.D. Mod. California
i	Other - See text if applicable
1	300-lb Hammer, 30-inch Drop
2	140-lb Hammer, 30-inch Drop
3	Pushed
4	Vibrocore (Rotosonic/Geoprobe)
5	Other - See text if applicable

SAMPLE NUMBER & INTERVAL



Field and Lab Test Data

Code	Description
PP = 1.0	Pocket Penetrometer, tsf
TV = 0.5	Torvane, tsf
PID = 100	Photoionization Detector VOC screening, ppm
W = 10	Moisture Content, %
D = 120	Dry Density, pcf
-200 = 60	Material smaller than No. 200 sieve, %
GS	Grain Size - See separate figure for data
AL	Atterberg Limits - See separate figure for data
GT	Other Geotechnical Testing
CA	Chemical Analysis

Groundwater

▽ Approximate water level at time of drilling (ATD)

▼ Approximate water level at time other than ATD

LANDAU ASSOCIATES

Gaco Western Remedial Investigation
Tukwila, Washington

Soil Classification System and Key

Figure B-1

DP-01

SAMPLE DATA						SOIL PROFILE			GROUNDWATER
Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft): 28.46	Water Level
0							AC	Asphalt	
			d3		0.5		SP/ SM SP	Light brown, silty, gravelly, fine to medium SAND (dense, damp)(fill)	
							SP	Mottled brown, fine to medium SAND, trace roots (medium dense, damp to moist)(native)	
			d3		0.4			Gray, fine to medium SAND, with silty lenses (medium dense, wet)	ATD
	20								
10			d3		0.3		ML	Gray, sandy, SILT (stiff, wet)	
					1.3				ATD
		DP-1 (17-18)	d3				SP	Gray, medium SAND (medium dense, wet)	
	10								
20							SP	Gray, medium to coarse SAND, wood debris at 27 ft, silty lenses (medium dense, wet)(native)	
			d3		1.0				
			d3		0.0				
	0								
30									
40									
50									

Boring Completed 06/21/10
Total Depth of Boring = 30.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

1226001.01 7/29/11 N:\PROJECTS\1226001.010.GPJ SOIL BORING LOG W/ ELEV

LANDAU ASSOCIATES

Gaco Western Remedial Investigation
Tukwila, Washington

Log of Soil Boring DP-01

Figure
B-2

DP-02

SAMPLE DATA | **SOIL PROFILE** | **GROUNDWATER**

Drilling Method: Geoprobe™

Ground Elevation (ft): 29.11

Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Soil Profile	Water Level
0							AC	Asphalt	
							SP		
			d3		1.0		SP	Light brown, gravelly, coarse SAND (medium dense, moist)(fil)	
							SP	Gray, fine SAND (very dense, damp)(fill)	
								Gray, fine SAND with silt, wood fragments, silt lenses, (medium dense, moist to wet)(native)	
			d3		0.8				
10	20								
			d3		1.2		SM/ ML	Gray, sandy SILT/silty fine SAND (solvent odors)(medium dense, moist)	
					9999				▽ ATD
		DP-2 (19-20)	d3				SP	Gray, medium to coarse SAND trace silt (medium dense to dense, moist to wet)	
20	10								
			d3		5.6				
			d3		4.1				
30	0								

Boring Completed 06/21/10
Total Depth of Boring = 30.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

1226001.01 7/29/11 N:\PROJECTS\1226001.010.GPJ SOIL BORING LOG W/ ELEV

LANDAU ASSOCIATES

Gaco Western Remedial Investigation
Tukwila, Washington

Log of Soil Boring DP-02

Figure
B-3

DP-03

SAMPLE DATA						SOIL PROFILE			GROUNDWATER
Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft): 32.23	Water Level
0							AC	Asphalt	
							SP		
	30		d3		0.0		SP	Brown, gravelly, coarse SAND (dense, damp)(fill)	
								Brown, fine to medium SAND with silt (medium dense, damp to moist)(native)	
			d3		0.0		SM	Mottled brown, silty, fine SAND (medium dense, wet)	
10					4.8		ML	Gray, sandy, SILT, trace mottling (medium stiff, moist to wet)	
	20	DP-3 (14-15)	d3						▽ ATD
							SP	Gray, fine to medium SAND with silt, silty lenses (medium dense, wet)	
			d3		2.1				
20									
	10		d3		0.0				
			d3		0.0		SP	Gray, medium to coarse SAND trace silt (medium dense, wet)	
30									
40									
50									

Boring Completed 06/21/10
Total Depth of Boring = 30.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

1226001.01 7/29/11 N:\PROJECTS\1226001.010.GPJ SOIL BORING LOG W/ ELEV

LANDAU ASSOCIATES

Gaco Western Remedial Investigation
Tukwila, Washington

Log of Soil Boring DP-03

Figure
B-4

DP-04

SAMPLE DATA						SOIL PROFILE			GROUNDWATER
Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft): 31.53	Water Level
0	30		d3		0.0		SP	Brown, gravelly, coarse SAND (loose to medium dense, damp)(fill)	
			d3		0.0		SP	Gray, fine SAND with silt (medium dense, damp to moist)(native)	▽ ATD
10					7		ML	Brown, sandy, SILT, (medium stiff, wet)	
					136		SP		
	20	DP-4 (13-14)	d3				ML	Gray, coarse SAND (solvent odors)(loose, wet)	
								Gray, sandy, SILT (solvent odors)(medium stiff, moist)	
			d3		403		SP	Gray, fine to medium SAND with silt (solvent odors)(medium dense, wet)	▽ ATD
20							SM	Gray, silty, fine SAND (solvent odors)(medium dense, wet)	
	10		d3		932				
							SP	Dark gray, fine to medium SAND with varying amounts of silt (solvent odors)(medium dense to loose, wet)	
			d3		58.2				
30									

Boring Completed 06/21/10
Total Depth of Boring = 30.0 ft.

40

50

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

1226001.01 7/29/11 N:\PROJECTS\1226001.010.GPJ SOIL BORING LOG W/ ELEV

LANDAU ASSOCIATES

Gaco Western Remedial Investigation
Tukwila, Washington

Log of Soil Boring DP-04

Figure
B-5

DP-05

SAMPLE DATA						SOIL PROFILE			GROUNDWATER
Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft): 32.04	Water Level
0							SP	Brown, gravelly, coarse SAND, concrete fragments (loose, damp)(fill)	
	30		d3		1.5				
							SP	Gray, fine to medium SAND trace silt (medium dense to loose, moist)(native)	
			d3		17.1		SP		
10					3862			Gray, fine to mediume SAND with silt (solvent odors)(medium dense to dense, moist)	
	20	DP-5 (13-14)	d3						▽ ATD
							SM/ ML	Gray, silty fine SAND/sandy SILT (solvent odors)(medium stiff, wet)	
			d3		25.5				
20									▽ ATD
	10		d3		1310		SP	Gray, fine to medium SAND with silt (medium dense, wet)	
			d3		143				
30							SP	Dark gray, medium to coarse SAND (solvent odors)(loose, wet)	
40									
50									

Boring Completed 06/21/10
Total Depth of Boring = 30.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

1226001.01 7/29/11 N:\PROJECTS\1226001.010.GPJ SOIL BORING LOG W/ ELEV

LANDAU ASSOCIATES

Gaco Western Remedial Investigation
Tukwila, Washington

Log of Soil Boring DP-05

Figure
B-6

DP-06

SAMPLE DATA						SOIL PROFILE			GROUNDWATER
Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft): 31.98	Water Level
0	30		d3		52.0		SP	Brown, gravelly, silty, medium to coarse SAND, concrete debris (loose to medium dense, damp)(fill)	
			d3		2901		SP	Gray, fine SAND with silt (solvent odors)(medium dense, damp)(native)	
10	20		d3		3509		SM	Gray, silty, fine SAND (solvent odors)(loose, wet)	▽ ATD
			d3		993		SM/ ML	Gray, alternating layers of sandy, SILT and silty, fine SAND, up to two feet thick (solvent odors)(medium stiff, moist to wet)	
20	10				5407				▽ ATD
		DP-6 (20-21)	d3						
			d3		1887		SP	Gray, fine to medium SAND with silt (solvent odors)(medium dense, wet)	
30									
40									
50									

Boring Completed 06/22/10
Total Depth of Boring = 30.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

1226001.01 7/29/11 N:\PROJECTS\1226001.010.GPJ SOIL BORING LOG W/ ELEV

LANDAU ASSOCIATES

Gaco Western Remedial Investigation
Tukwila, Washington

Log of Soil Boring DP-06

Figure
B-7

DP-07

SAMPLE DATA						SOIL PROFILE			GROUNDWATER
Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft): 31.53	Water Level
0	30		d3		0.0		SP	Grayish Brown, coarse SAND (loose, damp)(fill)	
			d3					No recovery	
10					8721		SM	Gray, silty, fine SAND, roots, lenses of medium sand, trace wood fragments (solvent odors)(medium dense, moist)(native)	▽ ATD
	20	DP-7 (13-14)	d3						
			d3		7267		ML	Gray, sandy, SILT, trace mottling, wood fragments (solvent odors)(stiff, moist)	
20	10		d3		1132		SP	Gray, silty, fine to medium SAND, wood fragments, silt lenses (solvent odors)(medium dense, wet)	▽ ATD
			d3		68.7				
30									

Boring Completed 06/22/10
Total Depth of Boring = 30.0 ft.

40

50

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

1226001.01 7/29/11 N:\PROJECTS\1226001.010.GPJ SOIL BORING LOG W/ ELEV

LANDAU ASSOCIATES

Gaco Western Remedial Investigation
Tukwila, Washington

Log of Soil Boring DP-07

Figure
B-8

DP-08

SAMPLE DATA					SOIL PROFILE			GROUNDWATER
Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft): 31.48	Water Level
0	30		d3		1.3		SP	Light brown, medium to coarse SAND with silt (loose, damp)(fill)	
							SP	Gray, fine to medium SAND with silt (dense, damp)(fill)	
							SM	Gray, silty, fine SAND, medium sand lenses (medium dense, moist to wet)(native)	
			d3		3.0				
10	20		d3		4.2				
					6.8				▽ ATD
		DP-8 (15-16)	d3				ML	Gray, sandy, SILT, wood fragments (dense, moist)	
20	10						SM	Gray, silty, fine to medium SAND, lenses of silt (medium dense, moist to wet)	▽ ATD
			d3		4.3				
							SP	Gray, fine to medium SAND with silt (medium dense, wet)	
			d3		0.6				
30									
40									
50									

Boring Completed 06/22/10
Total Depth of Boring = 30.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

1226001.01 7/29/11 N:\PROJECTS\1226001.010.GPJ SOIL BORING LOG W/ ELEV

LANDAU ASSOCIATES

Gaco Western Remedial Investigation
Tukwila, Washington

Log of Soil Boring DP-08

Figure
B-9

DP-10

SAMPLE DATA						SOIL PROFILE			GROUNDWATER
Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft): 31.56	
0	30		d3		0.0		SP	Brown, gravelly, medium to coarse SAND with silt, concrete debris, (loose to dense, damp)(fill)	Groundwater not encountered.
			d3		0.0		SP	Brown, fine SAND with silt, trace mottling (medium dense, damp)(native)	
10	20		d3		0.0		SM	Gray, silty, fine SAND, mottled (moist to wet)	
							SP	Gray, medium SAND, trace silt, mottled (medium dense, wet)	
			d3		0.0		SM/ML	Brown, silty fine SAND/sandy SILT, trace gravel (loose to medium dense, moist to wet)	
							ML	Gray, sandy, SILT (stiff, moist)	
20	10	DP-10 (20-21)	d3		0.0		SP	Gray, silty, fine to medium SAND, varying amounts of silt (medium dense, wet)	
			d3		0.0				
30									
40									
50									

Boring Completed 06/22/10
Total Depth of Boring = 30.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

1226001.01 7/29/11 N:\PROJECTS\1226001.010.GPJ SOIL BORING LOG W/ ELEV

LANDAU ASSOCIATES

Gaco Western Remedial Investigation
Tukwila, Washington

Log of Soil Boring DP-10

Figure
B-10

DP-11

SAMPLE DATA						SOIL PROFILE			GROUNDWATER
Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft): 31.77	Water Level
0	30		d3		0.0		SP	Brown, gravelly, medium to coarse SAND with silt, concrete debris, cobble fragments (no odors)(loose, damp)(fill)	
			d3		0.0		SP	Mottled brown, fine SAND with silt (medium dense, damp to moist)(native)	
10	20		d3		0.0		ML	Brown, sandy, SILT, mottled (no odors)(medium dense, moist)	▽ ATD
					0.0		SP	Gray, medium SAND wiht silt, trace gravel (no odors)(medium dense, wet)	
		DP-11 (19-20)	d3				ML	Gray, sandy, SILT (no odors)(stiff, moist)	
20	10		d3		0.0		SP	Gray, fine to medium SAND with silt (no odors)(medium dense to dense, wet)	▽ ATD
			d3		0.0				
30	0		d3		0.0		SP	Dark gray, medium to coarse SAND, trace silt (no odors)(medium dense, wet)	
			d3		0.0				
40	-10	DP-11 (44-45)	d3		0.0				
50									

Boring Completed 06/22/10
Total Depth of Boring = 45.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

1226001.01 7/29/11 N:\PROJECTS\1226001.010.GPJ SOIL BORING LOG W/ ELEV

LANDAU ASSOCIATES

Gaco Western Remedial Investigation
Tukwila, Washington

Log of Soil Boring DP-11

Figure
B-11

DP-12

SAMPLE DATA						SOIL PROFILE			GROUNDWATER
Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft): 32.49	Water Level
0							SP	Brown, gravelly, medium to coarse SAND with silt (loose to dense, damp)(fill)	
	30		d3		0.0				
			d3		22.9		SP	Brown, medium SAND (medium dense, damp)(native)	
10							SP	Gray, fine to medium SAND with silt (medium dense, damp to wet)	▽ ATD
	20		d3		286		SM	Gray, silty, fine SAND (solvent odors)(medium dense to dense, wet)	
			d3		2046		SP	Gray, medium SAND with silt (solvent odors)(medium dense, wet)	
							SM	Gray, silty, fine SAND (solvent odors)(medium dense, moist)	
20	10	DP-12 (20-21)	d3		9999		SP/ SM	Gray, fine to medium SAND with silt, varying amounts of silt (solvent odors)(medium dense, moist)	▽ ATD
			d3		9999				
30							SP	Gray, medium to coarse SAND, trace silt (solvent odors)(medium dense, wet)	

Boring Completed 06/23/10
Total Depth of Boring = 30.0 ft.

40

50

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

1226001.01 7/29/11 N:\PROJECTS\1226001.010.GPJ SOIL BORING LOG W/ ELEV

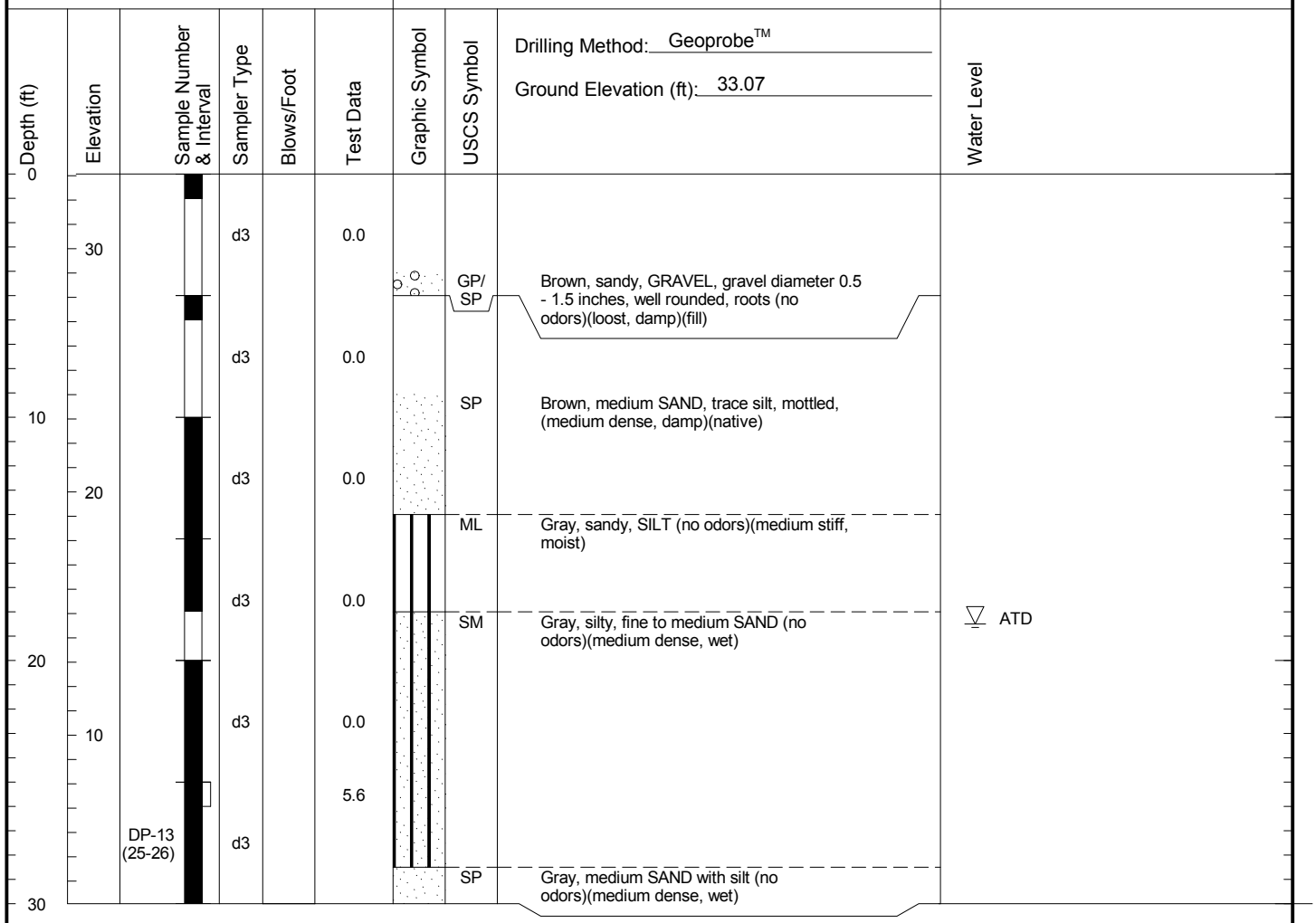
LANDAU ASSOCIATES

Gaco Western Remedial Investigation
Tukwila, Washington

Log of Soil Boring DP-12

Figure
B-12

DP-13



Boring Completed 06/23/10
Total Depth of Boring = 30.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

1226001.01 7/29/11 N:\PROJECTS\1226001.010.GPJ SOIL BORING LOG W/ ELEV

LANDAU ASSOCIATES

Gaco Western Remedial Investigation
Tukwila, Washington

Log of Soil Boring DP-13

Figure
B-13

DP-14

SAMPLE DATA						SOIL PROFILE			GROUNDWATER
Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft): 27.51	Water Level
0							SM	Brown, silty, fine to medium SAND, with mulch (loose, damp)(fill)	
			d3		0.0				
	20		d3		0.0		SP	Brown, fine SAND with silt, abundant roots (no odors)(medium dense, moist)(native)	
10									ATD
			d3		0.0				
							ML	Gray, sandy, SILT, mottled, wood fragments at 22 feet (no odors)(medium stiff, moist)	
					0.0				
	10	DP-14 (17-18)	d3						ATD
20									
			d3		0.0		SP	Gray, fine to medium SAND with silt (no odors)(medium dense, wet)	
	0		d3		0.0				
30									

Boring Completed 06/23/10
Total Depth of Boring = 30.0 ft.

40

50

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

1226001.01 7/29/11 N:\PROJECTS\1226001.010.GPJ SOIL BORING LOG W/ ELEV

LANDAU ASSOCIATES

Gaco Western Remedial Investigation
Tukwila, Washington

Log of Soil Boring DP-14

Figure
B-14

DP-15

SAMPLE DATA						SOIL PROFILE			GROUNDWATER
Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft): 27.12	Water Level
0			d3		0.0		SM	Brown, silty, fine SAND, poor sample recovery (loose, damp)(native)	
	20		d3				SM	Dark brown, silty, fine SAND, trace gravel, roots, poor sample recovery (no odors)(loose, damp)(native)	
10			d3		0.0		SM	Brown, silty, fine SAND(no odors) (medium dense, damp to wet)	ATD
							ML	Gray, sandy, SILT, trace clay (no odors)(medium stiff, moist)	
	10		d3		0.0		SM	Gray, silty, fine SAND (no odors)(medium dense, moist)	
20					0.0		ML	Gray, sandy, SILT (no odors)(medium stiff, moist)	
		DP-15 (22-23)	d3				SP	Gray, fine to medium SAND with silt (no odors)(medium dense to dense, wet)	ATD
	0		d3		0.0				
30									

Boring Completed 06/23/10
Total Depth of Boring = 30.0 ft.

40

50

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

1226001.01 7/29/11 N:\PROJECTS\1226001.010.GPJ SOIL BORING LOG W/ ELEV

LANDAU ASSOCIATES

Gaco Western Remedial Investigation
Tukwila, Washington

Log of Soil Boring DP-15

Figure
B-15

DP-16

SAMPLE DATA						SOIL PROFILE			GROUNDWATER
Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft): 27.71	Water Level
0			d3		0.0		AC	Concrete debris, gravel and sand (no odors)(loose, dry)(fill)	
	20		d3		0.0		SP	Brown, fine to medium SAND with silty, mottled (no odors)(medium dense, wet)(native)	
10							ML	Brown, sandy, SILT, mottled (no odors)(stiff, moist)	
			d3		0.0		SP	Brown, medium SAND with silt (no odors)(medium dense, moist to wet)	
							SM	Gray, silty, fine SAND (no odors)(dense, moist)	
	10		d3		0.0		SM	Gray, silty, fine to medium SAND, trace gravel (no odors)(medium dense, wet)	
20					0.0				▽ ATD
		DP-16 (20-21)	d3				SM	Gray, silty, fine to medium SAND (no odors)(medium dense, moist to wet)	
	0		d3		0.0				
30									
40									
50									

Boring Completed 06/23/10
Total Depth of Boring = 30.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

1226001.01 7/29/11 N:\PROJECTS\1226001.010.GPJ SOIL BORING LOG W/ ELEV

LANDAU ASSOCIATES

Gaco Western Remedial Investigation
Tukwila, Washington

Log of Soil Boring DP-16

Figure
B-16

2011 Landau Follow-on Environmental Investigation Report

Report
Follow-On Environmental Investigation
Gaco Western Facility
18700 Southcenter Parkway
Tukwila, Washington

September 20, 2011

Prepared for

Gaco Western, Inc.
18700 Southcenter Parkway
Tukwila, Washington 98188

LANDAU ASSOCIATES
130 2nd Avenue South
Edmonds, WA 98020
(425) 778-0907

TABLE OF CONTENTS

FIGURES

TABLES

APPENDICES

LIST OF ABBREVIATIONS AND ACRONYMS

$\mu g/m^3$	Micrograms per Cubic Meter
AAQ	Ambient Air Quality
BGS	Below Ground Surface
CAP	Cleanup Action Plan
Ecology	Washington State Department of Ecology
EPA	U.S. Environmental Protection Agency
FS	Feasibility Study
ft	Feet
ft^2	Square Feet
Hg	Mercury
IAQ	Indoor Air Quality
MTCA	Washington State Model Toxics Control Act
NFA	No Further Action
PCE	Tetrachloroethene
RI	Remedial Investigation
Site	Gaco Western Facility
SSAQ	Sub-Slab Air Quality
TCE	Trichloroethene
UST	Underground Storage Tank
VCP	Volunteer Cleanup Program
VOC	Volatile Organic Compound
WAC	Washington Administrative Code

This page intentionally left blank.

1.0 INTRODUCTION

Landau Associates conducted a follow-on environmental investigation (follow-on investigation) for the Gaco Western facility located at 18700 Southcenter Parkway, Tukwila, Washington (Site), the location of which is shown on Figure 1. The Site was used for the manufacturing of liquid rubber coatings used for industrial tank liners, roof coating, and general waterproofing. Investigations following the removal of several onsite underground storage tanks (USTs) and during the remedial investigation (RI) identified volatile organic compounds (VOCs) in soil and groundwater at concentrations greater than the Washington State Department of Ecology (Ecology) Model Toxics Control Act (MTCA) Method A and B cleanup levels (Farallon 2010; Landau Associates 2011).

The follow-on investigation was conducted to assess whether contaminants are present in indoor air within the onsite building at concentrations greater than regulatory levels established under MTCA, and to evaluate if remedial action is warranted to protect the health of future users of the onsite building. Results of the follow-on investigation will be used to support Gaco Western's evaluation of options for future use of the property, and to support selection of a cleanup action for the Site per the MTCA Cleanup Regulation [Chapter 173-340 Washington Administrative Code (WAC)].

The scope of work for the follow-on investigation was presented in the follow-on environmental investigation work plan (Landau Associates 2010). The follow-on investigation included the collection of seven indoor air quality (IAQ) samples, one ambient air quality (AAQ) sample, and two sub-slab soil gas samples [designated as sub-slab air quality (SSAQ) samples] for laboratory analysis from locations throughout the Site to assess vapor intrusion and overall air quality within the onsite building (Figure 2). As noted above, the scope of the follow-on investigation was developed to collect data to support decisions regarding future use of the Site, to develop and evaluate cleanup alternatives, and identify a preferred remedial action alternative for the Site in accordance with WAC 173-340-350(8).

2.0 SITE DESCRIPTION

This section describes the physical, geologic, and hydrogeologic setting of the Site, as well as its operational history, and summarizes the previous investigative work conducted.

2.1 SITE SETTING

Gaco Western began operations, including the manufacturing of liquid rubber coatings used for industrial tank liners, roof coating, and general waterproofing, at the Site in Tukwila, Washington in 1968, and ceased operations in January 2010. The approximately 2.6-acre site includes one building that consists of approximately 33,000 square feet (ft^2) of manufacturing area and approximately 13,000 ft^2 of office space. The onsite building has a paved area to the north that serves as the main parking lot, and a paved area to the west that was used as a loading/unloading area. Approximately 70 feet (ft) east of the building and 150 ft from the former production areas of the site is a landscaped area and flood-control levee located adjacent to the Green River.

The Site is bordered on the north by commercial/industrial property occupied by an Enterprise truck facility. The Site is bordered on the south by commercial property occupied by Mitchell Moving and Storage, which is located immediately adjacent to the southwest wall of the building on the Site. The Green River is adjacent to the property to the east, and Southcenter Parkway bounds the Site to the west; beyond that is property currently under development for commercial, retail, and residential use.

2.2 GEOLOGY AND HYDROGEOLOGY

The Site is located in the west portion of the Duwamish Valley, which is a north-south-trending valley bounded on the west and east by glacial upland areas. The valley walls are relatively steep and rise about 350 to 400 ft above the valley floor. Based on the borings drilled at the Site to date, soil located directly beneath the building foundation is considered to be imported fill consisting of gravelly medium to coarse sand with silt and concrete debris to a depth of approximately 5 ft below ground surface (BGS). The shallow subsurface at the Site consists of interbedded silt, silty sand, and sand to a depth of at least 45 ft BGS, which is consistent with the alluvial sediments encountered at other locations within the valley. Based on previous assessments and the proximity to the Green River, groundwater flow at the Site is to the east-northeast toward the river. For a more detailed description of regional and site geology and hydrogeology, refer to the RI report (Landau Associates 2011).

2.3 SITE HISTORY

Historical information indicates that the Site was undeveloped until construction of the northern portion of the building in 1968. The building was expanded southward in about 1973 and farther south in 1983 to reach the current configuration (EAI 2009).

Gaco Western stored many chemicals (including xylenes, toluene, methyl ethyl ketone, ethylbenzene, chlorinated paraffins, cyclolube, trimethylbenzene, propanol, and naphtha) in onsite USTs as part of historical operations at the Site. In September 1991, 14 USTs were removed from two UST areas located beneath the west portion of the onsite building near and to the south of the loading docks. Evidence of releases to soil and groundwater was discovered during the UST removal work (Envirocon 1991). Following removal of the USTs, an investigation was conducted to characterize the nature and extent of contamination in soil and groundwater. An interim cleanup action was completed to address VOC contamination in soil and soil gas (Hart Crowser 1994). Following the cleanup action, a Restrictive Covenant was recorded for the Site in 1996 (Ecology 2009a).

In July 2009, Ecology provided Gaco Western with the results of its periodic review, recommending that a conditional point of compliance for the contaminated groundwater be established and that additional groundwater monitoring be conducted. The review concluded that conditions at the Site appear to be protective of human health for direct contact. Ecology also determined that contamination in groundwater remains at the Site and does not appear to be affecting the Green River. Ecology advised Gaco Western to enter the VCP if an NFA determination is desired for cleanup of the Site (Ecology 2009a).

In November 2009, Ecology acknowledged Gaco Western's application for the VCP and issued Toxic Cleanup Program identification number NW2217 for the Site (Ecology 2009b). In February 2010, Gaco Western submitted information from the *2009 Subsurface Investigation Report* (see below) and a summary of groundwater monitoring results to Ecology for review (Gaco Western 2010a).

Ecology provided Gaco Western with an opinion letter dated May 10, 2010 stating that "further remedial action is necessary to clean up contamination at the Site," and that "cleanup actions may have reduced contaminant levels at the Site, but recent data indicate significant levels of contamination persist in soil and groundwater and that vapor intrusion into the building is a possible issue." Ecology stated that: "1) data is needed regarding sub-slab soil gas beneath the building, along with additional data for soil and groundwater, and 2) a FS must be completed." The letter stated that those two actions were needed to ultimately receive an NFA determination for the Site through the VCP.

In June 2010, Landau Associates collected additional soil and groundwater data to supplement the previous investigative data including the collection and laboratory analysis of groundwater and soil

samples from the existing monitoring wells and from additional soil borings. Results of that investigation are discussed in Section 2.4.

2.4 2010 REMEDIAL INVESTIGATION

An RI was completed for the Site in June 2010 (Landau Associates 2011). The RI included sampling of existing groundwater monitoring wells and soil and/or groundwater in 16 direct-push borings. Boring depths were selected to be slightly deeper than previous borings to further evaluate the vertical extent of contamination. The locations chosen were directly downgradient of the former tank excavation areas, and along property boundaries to assess potential offsite sources of contamination. The conclusions in the RI report are as follows:

- Chemicals detected at the Site were defined as "primary" or "secondary" contaminants based on whether the contaminants are associated with former operations at the Site. Primary contaminants included toluene, ethylbenzene, and xylenes, which were used at the Site for production. Secondary contaminants included benzene and chlorinated solvents and/or their breakdown products including tetrachloroethene (PCE), trichloroethene (TCE), dichloroethene, and vinyl chloride. Though there is no record that the secondary contaminants were used at the Site in large quantities, it is possible that these compounds may have been mixed with various solvents used during production or machine maintenance.
- Primary contaminants toluene, ethylbenzene, and xylenes were present in soil and groundwater at concentrations greater than the MTCA Method B screening levels.
- The highest concentrations of the primary contaminants in soil were detected within and downgradient of the former UST areas and beneath the former underground piping system in Bay 2. The highest contaminant concentrations in groundwater were detected within and hydraulically downgradient of the North Tank Excavation Area and underground pipeline areas.
- Of the secondary contaminants detected at the Site, only benzene and chlorinated solvents were present in soil and groundwater at concentrations greater than the MTCA Method B screening levels. Benzene and chlorinated solvents were not used to support operations at the Site, nor is there any record of gasoline being stored on the property to account for the Site-wide detections of benzene. The highest detected concentrations of chlorinated solvents have been observed in soil and groundwater along the southernmost property boundary, and crossgradient of the South Tank Excavation Area.
- During the RI, PCE was detected in only one soil sample at a concentration greater than the MTCA Method B screening level [DP-13 (25-26), which was collected along the southern property boundary]; however, the laboratory reporting limit for PCE was elevated for many of the samples collected from the central portion of the Site due to the presence of high concentrations of the primary VOCs discussed above. The elevated reporting limits may have masked the presence of PCE in those areas.
- Chlorinated solvent concentrations in groundwater, including PCE, are highest in samples collected from locations in the southern third of the Site. Other secondary VOCs, including benzene, were detected both upgradient and downgradient of Site operation areas and in both soil and groundwater samples collected at locations along the Green River. While the concentrations of VOCs detected at locations along the river in both soil and groundwater are

relatively lower than in the central portion of the Site, the detected concentrations of various VOCs in samples collected at downgradient boring locations DP-15 and DP-16 are greater than the MTCA Method B screening levels.

- The VOC concentrations in soil and groundwater samples collected from locations on the northern side of the Site are generally less than the MTCA Method B screening levels or below laboratory reporting limits.
- The groundwater grab samples collected from 30 and 45 ft BGS at DP-11 and at 30 ft BGS at DP-12 indicated VOC concentrations greater than the MTCA Method B screening levels at depths below those explored during previous investigations.
- Geochemical parameters indicate anaerobic and reducing conditions in the deeper aquifer, which are favorable for the bioremediation of chlorinated VOCs, but not favorable for bioremediation of the primary Site VOCs toluene, ethylbenzene, and xylenes.

Based on the results from the RI, a follow-on investigation was conducted to evaluate the potential for the existing contamination in soil and groundwater at the Site to impact users of the building on Site in anticipation of future leasing or occupancy of the building. Indoor air sampling and analysis were conducted to evaluate the potential vapor intrusion risk to users of the building. The indoor air data are used in this document to assess the potential threat to users of the building on Site under an industrial scenario, which is consistent with current Site use and conditions, and assess whether additional controls or mitigation are needed to support occupancy. In addition, due to the anticipated long-term plan for Site redevelopment and change in Site use(s), the sample concentrations have also been compared to regulatory levels based on unrestricted land uses.

3.0 AIR QUALITY SAMPLING

The follow-on investigation field activities were conducted to collect air quality data to assess whether contaminants are present in indoor air at concentrations greater than regulatory levels, and to evaluate if remedial action is warranted to protect the health of future users of the onsite building. The field investigation included the collection and laboratory analysis of indoor, ambient, and sub-slab air samples from in and around the onsite building, as discussed below.

3.1 INDOOR AIR AND AMBIENT AIR SAMPLING

Sampling was conducted at seven interior locations to document indoor air quality within the onsite building, as shown on Figure 2. Concurrent sub-slab soil gas samples were collected from two locations where elevated concentrations of VOCs were detected in soil and groundwater samples collected during the RI. In addition, an ambient air sample was collected at a selected outdoor location on the Site for background comparison purposes.

The indoor air investigation consisted of collecting seven IAQ samples inside the onsite building. One AAQ sample was collected in the northwest corner of the Site to adjust detected concentrations in the IAQ samples for ambient contributions per Ecology's *Draft Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action* (Ecology 2009c). The sampling locations are shown on Figure 2. The AAQ sample location was dependent on onsite wind conditions and was chosen due to the northwesterly wind on the day of sampling.

Eight-hour, time-weighted average samples were collected using integrated, passive air samplers consisting of a laboratory-certified, evacuated Summa canister equipped with a pressure gauge and a calibrated critical orifice air flow controller. Initial canister vacuum pressures ranged from 28 to 32 inches of mercury (Hg). Sample collection was completed when the canister vacuum pressures reached 4 to 9 inches Hg. The IAQ and AAQ sampling was conducted as follows:

- One 6-liter Summa vacuum canister with an air flow controller was placed approximately 3 to 5 ft above the building floor (or at ground surface for the AAQ sample) at each sample location to collect representative air samples from the estimated breathing zone.
- The air samples were collected over an approximate 8-hour period.
- Barometric readings were collected at each location at the beginning and end of the sampling event to assess ambient and indoor air pressure conditions. Barometric data were obtained from stations monitored at the nearby Seattle-Tacoma International Airport for comparison to the site-specific data.

The air samples were submitted to Columbia Analytical Services in Simi Valley, California for analysis. Air samples were analyzed for VOCs by U.S. Environmental Protection Agency (EPA) Method TO-15 on a standard 10 business day turnaround time. Copies of laboratory analytical reports are

provided in Appendix A. A full summary of the indoor and sub-slab air quality data is provided in Table 1. Background concentrations were accounted for by subtracting the value of concentrations detected in the AAQ sample from the concentrations detected in each IAQ sample. Laboratory analytical results for the constituents detected in indoor air, and adjusted for ambient conditions for the IAQ and AAQ samples, are presented in Table 2. In addition, the detected analyte concentrations are shown with their respective sampling locations on Figure 2.

3.2 SUB-SLAB SOIL GAS SAMPLING

SSAQ samples were collected in areas where elevated concentrations of VOCs were detected in soil and groundwater samples collected during the RI. The day before the indoor sampling event, sub-slab soil gas sample collection points were installed immediately below the concrete slab-on-grade floors. The following procedures were used to install the sub-slab soil gas sample points:

- A hole was drilled through the slab using a roto-hammer or concrete coring tool.
- The sampling point, which consisted of a porous vapor implant constructed of stainless steel, ¼-inch outside diameter Teflon® tubing, and a polypropylene ball valve, was placed at a depth of 6 inches below grade with the tubing and valve extending above the floor. The top end of the tubing was fitted with a valve to prevent ambient air from flowing into the tubing prior to sampling and after purging was completed. Modeling clay was used to seal the 1-inch diameter annular space around the tubing.

On the day of sampling, and directly following the completion of IAQ and AAQ sampling, the sub-slab soil gas samples were collected using the following procedures:

- Sample collection information was recorded on an Air/Soil Vapor Sample Collection Form (Appendix B).
- A leak test was performed, ensuring that the hole was adequately sealed using helium tracer test procedures, as follows:
  - The sealed hole was covered with a gas shroud (bucket) fitted with a notch to allow the end of the sample tubing to remain outside the shroud and be connected to a helium gas detector.
  - Helium gas was pumped into the shroud through a hose barb fitting and valve. A helium gas concentration reading was then taken from the air within the shroud to establish a baseline helium concentration.
  - The helium detector was then connected to the sample implant tubing.
  - A leak of less than 10 percent was observed and considered to be acceptable.
- At the time of sampling, a minimum of two sample point purge volumes (including the volume of the sampling point and tubing) was purged with a peristaltic pump. Upon completing the purge, the tubing valve was closed, and then the purging device was disconnected from the tubing.
- A sample was collected by connecting a Summa vacuum canister to the sample tubing, opening the tubing valve, then opening the canister valve, then the flow control valve. The

flow control valve was calibrated to a flow rate not to exceed 200 milliliters per minute. The vacuum gauge on the flow control valve was monitored and the canister valve was closed when the vacuum reached 4 to 9 inches Hg.

- Upon completion of the sampling activities, the sample implant was removed and the hole backfilled to the surface level with concrete.

The sub-slab soil gas samples were submitted to Columbia Analytical Services for analysis. Air samples were analyzed for VOCs by EPA Method TO-15. Samples were analyzed on a standard 10 business day turnaround time. Laboratory analytical results for the constituents detected in the sub-slab soil gas samples are presented in Table 3 and Figure 2.

4.0 ANALYTICAL RESULTS

The follow-on field activities provided additional data to document the presence of VOCs in indoor air and sub-slab soil gas at the Site. These data are discussed below to describe the IAQ and sub-slab soil gas conditions at the Site.

Based on the planned immediate use of the Site and onsite building for industrial purposes, the analytical data were compared to modified MTCA Method C formula values derived for an industrial exposure scenario (i.e., 8 hours per day, 250 days per year, for 20 years; MTCA Method C screening levels) for screening purposes. As noted above, due to the anticipated long-term plan for Site redevelopment and change in Site use(s), the sample concentrations have also been compared to MTCA Method B standard formula values developed based on continuous exposure assumptions (i.e., 24 hours per day, 365 days per year, for 30 years) consistent with unrestricted land uses (MTCA Method B screening levels).

Sub-slab soil gas screening levels were developed using the Ecology generic sub-slab soil gas vapor intrusion screening level equation (Ecology 2009c) and used to provide a conservative evaluation of potential vapor intrusion influence on IAQ. The coincident indoor air sampling provides an empirical demonstration of whether indoor air quality is protective of building occupants.

4.1 INDOOR AIR QUALITY

The IAQ analytical results indicate that the samples collected from all seven locations contained concentrations of VOCs greater than the MTCA Method B screening levels after correcting analytical results for background concentrations. None of the IAQ samples contained chemicals at concentrations exceeding the MTCA Method C screening levels. The analytical results for the IAQ samples are provided in Table 2, and Figure 2 provides a summary of the VOCs detected in IAQ samples and above Method B and or C screening levels. Key observations from review of the data are summarized as follows:

- 1,2-dichloroethane was detected in all of the IAQ samples at concentrations greater than the MTCA Method B screening level [0.096 micrograms per cubic meter ($\mu g/m^3$)], but below the MTCA Method C screening level (6.3 $\mu g/m^3$).
- Benzene was detected in LAI-IAQ-1 (0.44 $\mu g/m^3$) at a concentration greater than the MTCA Method B screening level (0.32 $\mu g/m^3$), but below the MTCA Method C screening level (21 $\mu g/m^3$).
- PCE was detected in all of the air samples collected at concentrations greater than the MTCA Method B screening level (0.42 $\mu g/m^3$), but below the MTCA Method C screening level (28 $\mu g/m^3$). Detected concentrations ranged between 3 and 15 $\mu g/m^3$.

- TCE was detected in all of the air samples collected at concentrations greater than the MTCA Method B screening level (0.10 $\mu g/m^3$), but below the MTCA Method C screening level (6.6 $\mu g/m^3$). Detected concentrations ranged between 0.12 and 0.16 $\mu g/m^3$.

A comparison is made in Section 4.3 to assess whether the chemical concentrations detected in indoor air may be attributable to sub-slab soil gas contamination, or whether they may be attributable to other unidentified sources that may interfere with sample results.

4.2 SUB-SLAB AIR QUALITY

The SSAQ results indicate that the samples collected from both sample locations contained concentrations of VOCs greater than the screening levels developed per Ecology guidance (Ecology 2009c). Analytical results are provided in Table 3 and are summarized below.

- Within the sample collected at location LAI-SSAQ-1, nine VOC compounds were detected at concentrations greater than the MTCA Method B screening levels; seven of those also exceeded the MTCA Method C screening levels. Also, nine compounds in LAI-SSAQ-1 were not detected at concentrations above laboratory reporting limits; however, the reporting limits for these compounds were above sub-slab soil gas screening levels. Therefore, it cannot be determined whether concentrations of these compounds are above or below the screening levels.
- At LAI-SSAQ-2, five VOC compounds were detected at concentrations greater than the MTCA Method B screening levels; three of those also exceeded the MTCA Method C screening levels. Also, eight compounds in LAI-SSAQ-2 were not detected at concentrations above laboratory reporting limits; however, reporting limits for these compounds were above sub-slab soil gas screening levels. Therefore, it cannot be determined whether concentrations of these compounds are above or below the screening levels.

SSAQ results indicate that Site contaminants of concern are present in sub-slab soil gas at concentrations greater than screening levels. Contaminants exceeding sub-slab soil gas screening levels in these locations include those known to be contained in former USTs plus benzene and n-hexane.

4.3 DATA ANALYSIS

Three chemicals were detected in indoor air at concentrations exceeding MTCA Method B screening levels: 1,2-dichloroethane, benzene, and PCE. None of these chemicals were detected at concentrations exceeding the MTCA Method C screening levels. This section provides an interpretation of the observed chemical concentrations in indoor air and sub-slab soil gas.

Sub-slab soil gas samples may be used as one of several indices to help evaluate whether vapor intrusion is a significant pathway for chemical migration at a contaminated site. An environmental investigation of a site usually begins with the collection of soil or groundwater samples to evaluate the impacts of a known or suspected release of chemicals to the environment. If VOCs are detected in soil and groundwater samples, and if the site is (or is expected to be) developed with buildings that may be

occupied by human receptors, then soil gas samples and indoor air samples can be collected to evaluate whether VOCs are migrating from soil or groundwater into buildings at concentrations that may be of concern to human health.

When soil gas and indoor air sampling are warranted at a site, it is best to interpret those data in an integrated manner. If soil gas data are considered alone, the strongly conservative attenuation factors (which are based on assumptions designed to be protective of the users of residential buildings and assume the presence of highly volatile chemicals) used to predict associated contaminant concentrations in indoor air may suggest "conclusions" that do not reflect the actual ability of a chemical to migrate into indoor air at a specific site. If indoor air data are considered alone, it is possible to attribute observed chemical concentrations to vapor intrusion when the true source may, in fact, be something other than the subsurface contamination (e.g., storage or use of chemicals in the building, off-gassing from building supplies, an emission source near the HVAC inlet, etc.). The following table provides a helpful framework for interpreting soil gas and indoor air sampling data.

	Indoor Air < Screening Level	**Indoor Air > Screening Level**
Soil Gas < Screening Level	Vapor intrusion does not appear to be a complete and significant pathway for the exposure scenario considered. No further evaluation is warranted.	Contaminant concentrations in indoor air may present an unacceptable level of risk to building occupants. However, the observed chemical concentrations in indoor air may not be directly associated with the vapor intrusion pathway. Additional investigation may be warranted to evaluate whether contaminant concentrations in indoor air are associated with another source.
Soil Gas > Screening Level	Contaminant concentrations in indoor air are protective of human health for the exposure scenario considered. However, contaminant concentrations in soil gas suggest that the vapor intrusion pathway could be complete and a significant pathway for other building configurations at the Site. Confirmation sampling of indoor air in other buildings, remedial actions, engineering controls, or institutional controls may be warranted to protect building occupants.	Vapor intrusion appears to be a complete and significant pathway for the exposure scenario considered. Remedial actions, engineering controls, or institutional controls may be warranted to protect building occupants.

The above table was used as a basis for evaluating the data in the context of current and planned Site use as an industrial facility and for potential future redevelopment for unrestricted land use.

4.3.1 CURRENT AND PLANNED INDUSTRIAL SITE USE

Although several chemicals were detected in sub-slab soil gas (SSAQ) samples at concentrations greater than the MTCA Method C screening levels for soil gas, none of the seven indoor air (IAQ) samples contained any chemicals at concentrations exceeding the MTCA Method C indoor air screening levels. The indoor air samples provide an empirical demonstration that vapor intrusion does not yield an unacceptable level of risk for industrial use of the existing building. The data collected in this investigation indicate that existing conditions at the Site are protective of current and planned industrial use with the existing building configuration.

However, in the event that the Site is redeveloped or new buildings are constructed to supplement the existing facilities, then the Site owner should evaluate options for reducing the potential for vapor intrusion impacts to the new buildings. Those options may include remedial actions (e.g., removal or treatment of subsurface contamination) or engineering controls (e.g., use of a vapor barrier or soil vapor capture system). To the extent that contamination still remains at concentrations that may be of concern for vapor intrusion at the time of any additional Site development, confirmation sampling of indoor air in any new buildings may be warranted to evaluate whether conditions are protective of the health of building occupants.

4.3.2 POTENTIAL FUTURE UNRESTRICTED SITE USE

Several chemicals were detected in sub-slab soil gas at concentrations that represent a potential risk for vapor intrusion. Chemicals exceeding the MTCA Method B soil gas screening levels included both primary contaminants (ethylbenzene, toluene, and xylenes) and secondary contaminants (e.g., benzene and chlorinated solvents). Although only three chemicals were detected in indoor air at concentrations exceeding MTCA Method B screening levels for unrestricted land use, any of the chemicals exceeding MTCA Method B screening levels for either indoor air or sub-slab soil gas could potentially present unacceptable levels of risk if the Site were to be redeveloped for unrestricted land use.

In the event that the Site is redeveloped for non-industrial use, then the Site owner should evaluate options for reducing the potential for vapor intrusion impacts to the new buildings. Those options may include remedial actions (e.g., removal or treatment of subsurface contamination) or engineering controls (e.g., use of a vapor barrier or vapor soil vapor capture system). To the extent that contamination still remains at concentrations that may be of concern for vapor intrusion at the time of any additional Site development, confirmation sampling of indoor air in any new buildings may be warranted to evaluate whether conditions are protective of the health of building occupants.

5.0 SUMMARY AND RECOMMENDATIONS

The data collected in this investigation support the conclusion that existing site conditions are protective of use of the Site and its associated building for industrial purposes. However, if the Site is to be redeveloped for non-industrial use or to accommodate alternative building configurations, then remedial actions or engineering controls may be warranted to ensure protection of human health for future building occupants at the Site.

6.0 USE OF THIS REPORT

The information presented herein is based on our understanding of conditions at the Gaco Western Site in Tukwila, Washington. Within the limitations of scope, schedule, and budget, the findings presented in this report were prepared in accordance with generally accepted hydrogeological and engineering principles and practices in this locality at the time the report was prepared. We make no other warranty, either express or implied.

This report was prepared for the use of Gaco Western, Inc. and applicable regulatory agencies. No other party is entitled to rely on the information and recommendations included in this document without the express written consent of Landau Associates. Further, the reuse of information and recommendations provided herein for extensions of the project or for any other project, without review and authorization by Landau Associates, shall be at the user's sole risk.

This document has been prepared under the supervision and direction of the following key staff.

LANDAU ASSOCIATES, INC.

Timothy L. Syverson, L.G.
Senior Associate Geologist

Charles P. Halbert, P.E.
Senior Associate Engineer

TLS/CPH/ccy

7.0 REFERENCES

Ecology website. 2011. *Cleanup Levels and Risk Calculations*. https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx. Accessed July 15.

Ecology. 2009a. *Notice of Periodic Review Conducted at the following Hazardous Waste Site: Gaco Western, Inc., 18700 Southcenter Parkway, Tukwila, Washington, Facility/Site No.: 2402.* Submitted to Corrine Dobbins, Gaco Western, Inc. Washington State Department of Ecology. July 14.

Ecology. 2009b. Letter: *Re: Request for Review: Independent Remedial Action, Gaco Western LLC, 18700 Southcenter Parkway, Tukwila, Washington 98188*. From Sara Nied, Washington State Department of Ecology, to Corinne Dobbins, Gaco Western. November 16.

Ecology. 2009c. *Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remediation*. Publication No. 09-09-047. Washington State Department of Ecology. July 14.

EAI. 2009. Report: *Phase I Environmental Site Assessment, Gaco Western (Parcel Nos. 352304-9014 & -9081), 18700 Southcenter Parkway, Tukwila, Washington 98188*. Environmental Associates. April 20.

Envirocon. 1991. Letter Report: *Findings from the UST Site Assessment Performed at the GACO Western Facility, Tukwila, Washington*. From Thomas Cammarata and William Shearer, to Adrian L. Jenkins, GACO Western, Inc. November 26.

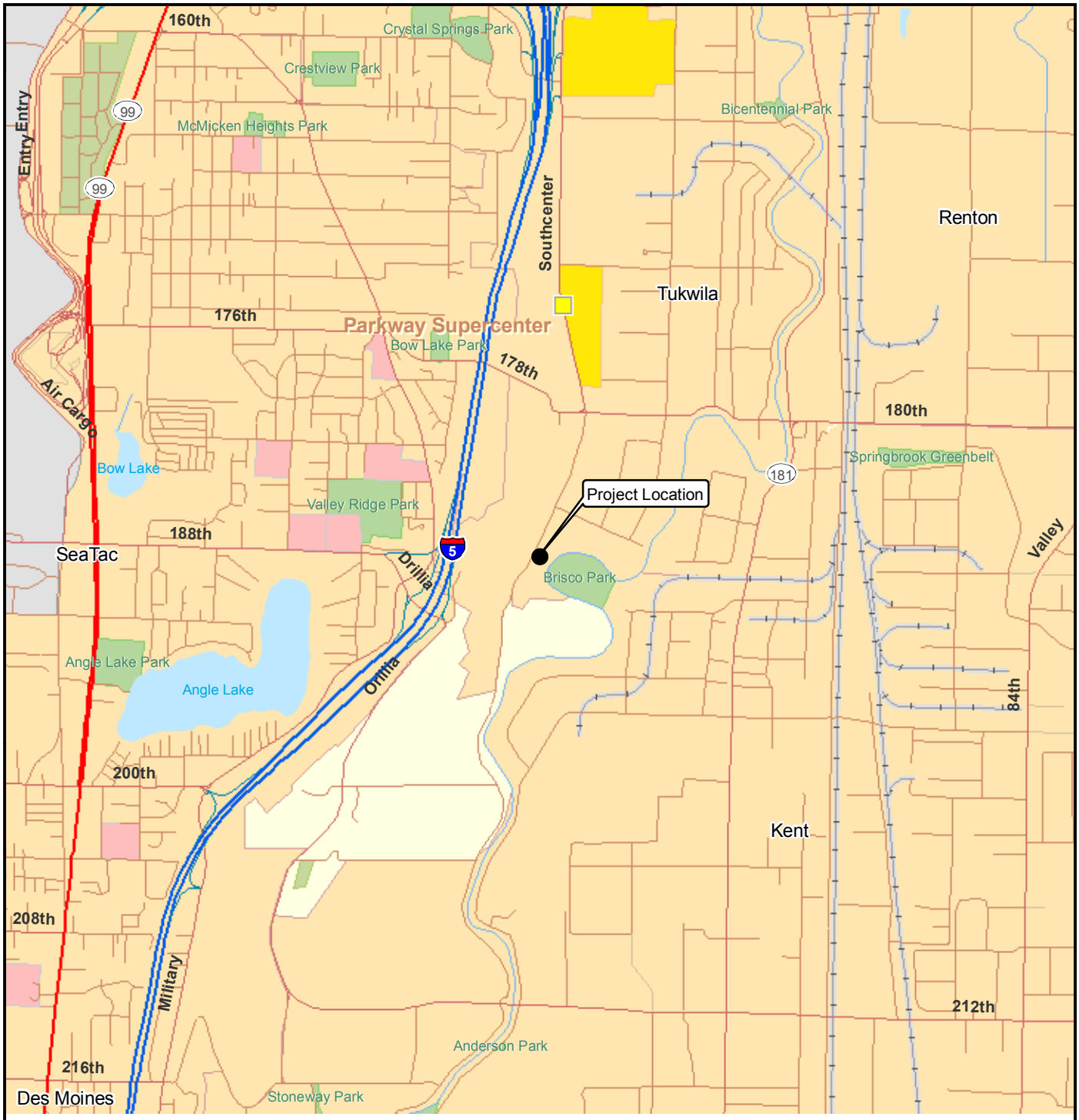
Farallon. 2010. *Summary of Subsurface Investigation and Preliminary Remedial Alternatives, Gaco Western, Inc. Facility, 18700 Southcenter Parkway, Tukwila, Washington, Farallon PN: 841-003*. Farallon Consulting. Prepared for Segale Properties. January 26.

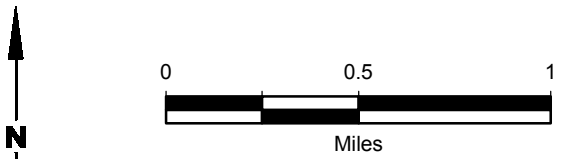
Gaco Western. 2010a. Table: *Summary of Detected Chemical Constituents in Groundwater*. (Attachment to e-mail message from Corinne Dobbins, EH&S and Regulatory Compliance Manager, Gaco Western, to Jessica Kruczek, Senior Project Engineer, Landau Associates. May 17.

Hart Crowser. 1994. Final Report: *Soil Vapor Extraction, Interim Remedial Action, Gaco Western, Inc, Tukwila, Washington*. Prepared for Gaco Western, Inc. February 9.

Landau Associates. 2011. *Remedial Investigation, Gaco Western Facility, 18700 Southcenter Parkway, Tukwila, Washington*. Prepared for Gaco Western, Inc. July 29.

Landau Associates. 2010. Draft Letter: *Work Plan for Remedial Investigation, Gaco Western, Inc. Facility, 18700 Southcenter Parkway, Tukwila, Washington*. From Timothy L. Syverson, Senior Associate Geologist, to Corinne Dobbins, EH&S and Regulatory Compliance Manager, Gaco Western, Inc. June 17.



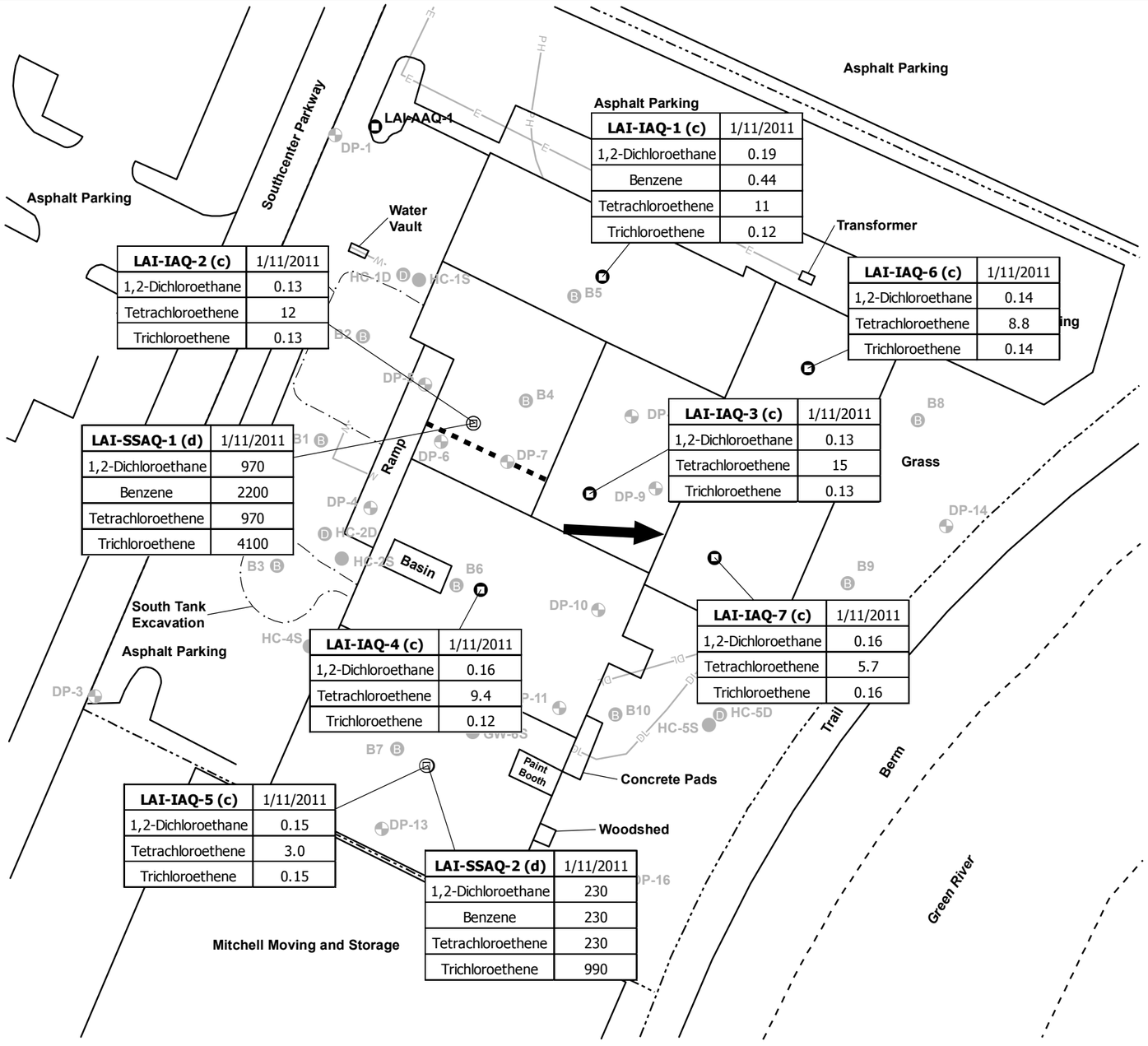


Data Source: ESRI 2008

Y:\Projects\1226001\Mapdocs\Fig1.mxd 6/18/2010

LANDAU ASSOCIATES

Gaco Western, Inc. Tukwila, Washington	**Vicinity Map**	Figure 1



Legend

- Indoor Air Quality Sampling Location
- Concurrent Sub-Slab Soil Gas Sampling Location
- HC-1S — Monitoring Well Location Shallow
- HC-1D — Monitoring Well Location Deep
- B1 — Reconnaissance Boring 2009
- DP-1 — Boring
- Property Boundary
- Approximate Location of Product Distribution Line
- Approximate Underground Storage Tank Excavation Limits
- Drain Line
- Electrical Line
- Telecommunications Line
- Water Line
- Approximate Groundwater Flow Direction (11/20/2009)

Constituent	Indoor Air Screening Level (µg/m^3) (c)	Soil Gas Screening Level (d)
1,2-Dichloroethane	0.096/6.3	0.96/63
Benzene	0.32/21	3.2/210
Tetrachloroethene	0.42/28	4.2/280
Trichloroethene	0.10/6.6	1.0/66

Note

a. All locations are approximate.
b. Boring locations B1-B10 were investigated by Farallon Consulting in November 2009.
c. Indoor air screening levels are shown for unrestricted site use (second value, MTCA Method C). Refer to Table 2 for additional information.
d. Soil gas screening levels are shown for unrestricted site use (first value, MTCA Method B) and industrial site use (second value, MTCA Method C). Refer to Table 3 for additional information.

Adapted from: Farallon Consulting 2010; Segale Properties 2009

Y:\Projects\1226001\Mapdocs\IndoorAirSampling.mxd 7/25/2011 NAD 1983 StatePlane Washington North FIPS 4601 Feet

LANDAU ASSOCIATES

Gaco Western, Inc. Tukwila, Washington	**Indoor Air Sampling Locations and Results Above Screening Levels**	Figure 2

TABLE 1
AIR ANALYTICAL DATA
GACO WESTERN FACILITY
TUKWILA, WASHINGTON

	LAI-IAQ-1 P1100170-001 1/11/2011	LAI-IAQ-2 P1100170-002 1/11/2011	LAI-IAQ-3 P1100170-003 1/11/2011	LAI-IAQ-4 P1100170-004 1/11/2011	LAI-IAQ-5 P1100170-005 1/11/2011	LAI-IAQ-6 P1100170-006 1/11/2011	LAI-IAQ-7 P1100170-007 1/11/2011	LAI-AAQ-1 P1100170-008 1/11/2011	LAI-SSAQ-1 P1100170-009 1/11/2011	LAI-SSAQ-2 P1100170-010 1/11/2011
VOLATILES (ppbv)										
EPA TO-15										
Propene	**0.59**	0.38 U	0.37 U	**0.48**	0.43 U	0.42 U	0.47 U	0.38 U	2,800 U	680 U
Dichlorodifluoromethane (CFC 12)	**0.47**	**0.44**	**0.46**	**0.47**	**0.46**	**0.47**	**0.47**	**0.47**	980 U	240 U
Chloromethane	**0.15**	0.13 U	**0.15**	**0.15**	**0.15**	**0.15**	0.16 U	**0.15**	940 U	230 U
1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	0.089 U	0.094 U	0.091 U	0.087 U	0.11 U	0.10 U	0.11 U	0.094 U	690 U	170 U
Vinyl Chloride	0.049 U	0.052 U	0.050 U	0.047 U	0.058 U	0.056 U	0.063 U	0.051 U	380 U	92 U
1,3-Butadiene	0.11 U	0.12 U	0.11 U	0.11 U	0.13 U	0.13 U	0.14 U	0.12 U	880 U	210 U
Bromomethane	0.032 U	0.034 U	0.033 U	0.031 U	0.038 U	0.037 U	0.041 U	0.034 U	250 U	60 U
Chloroethane	0.047 U	0.050 U	0.048 U	0.046 U	0.056 U	0.054 U	0.061 U	0.050 U	370 U	89 U
Ethanol	**14**	**4.9**	**5.3**	**7.1**	**13**	**5.7**	**5.8**	3.5 U	26,000 U	6,200 U
Acetonitrile	0.37 U	0.39 U	0.38 U	0.36 U	0.44 U	0.43 U	0.48 U	0.39 U	2,900 U	700 U
Acrolein	1.1 U	1.2 U	1.1 U	1.1 U	1.3 U	1.2 U	1.4 U	1.1 U	8,500 U	2,000 U
Acetone	**5.2**	**4.2**	**3.1**	**5.3**	**4.6**	**3.1**	**3.9**	2.8 U	**49,000**	4,900 U
Trichlorofluoromethane	**1.1**	**0.91**	**0.91**	**1.0**	**0.44**	**0.78**	**0.56**	**0.22**	170 U	42 U
2-Propanol (Isopropyl Alcohol)	**0.87**	0.54 U	0.52 U	**0.62**	0.61 U	0.58 U	0.65 U	0.53 U	3,900 U	950 U
Acrylonitrile	0.29 U	0.30 U	0.29 U	0.28 U	0.34 U	0.33 U	0.37 U	0.30 U	2,200 U	540 U
1,1-Dichloroethene	0.031 U	0.033 U	0.032 U	0.031 U	0.038 U	0.036 U	0.040 U	0.033 U	240 U	59 U
Methylene Chloride	**0.23**	0.19 U	0.18 U	0.17 U	**0.27**	0.21 U	0.23 U	0.19 U	1,400 U	340 U
3-Chloro-1-propene (Allyl Chloride)	0.040 U	0.042 U	0.041 U	0.039 U	0.048 U	0.046 U	0.051 U	0.042 U	310 U	75 U
Trichlorotrifluoroethane	**0.069**	**0.063**	**0.067**	**0.069**	**0.068**	**0.069**	**0.067**	**0.068**	**320**	**88**
Carbon Disulfide	2.0 U	2.1 U	2.0 U	1.9 U	2.4 U	2.3 U	2.6 U	2.1 U	16,000 U	3,800 U
trans-1,2-Dichloroethene	**0.095**	**0.089**	**0.13**	**0.17**	**0.23**	**0.075**	**0.049**	0.033 U	240 U	59 U
1,1-Dichloroethane	0.031 U	0.033 U	0.031 U	0.030 U	0.037 U	0.035 U	0.040 U	0.032 U	240 U	58 U
Methyl tert-Butyl Ether	0.034 U	0.037 U	0.035 U	0.034 U	0.041 U	0.040 U	0.044 U	0.036 U	270 U	65 U
Vinyl Acetate	1.8 U	1.9 U	1.8 U	1.7 U	2.1 U	2.0 U	2.3 U	1.9 U	14,000 U	3,300 U
2-Butanone (MEK)	**3.7**	**3.4**	**3.7**	**4.7**	**2.7**	**4.2**	**4.0**	2.2 U	**140,000**	4,000 U
cis-1,2-Dichloroethene	0.031 U	0.033 U	0.032 U	0.031 U	0.038 U	0.036 U	0.040 U	0.033 U	240 U	59 U
Ethyl Acetate	**1.0**	0.18 U	0.18 U	0.17 U	**0.56**	0.20 U	**0.23**	0.18 U	1,300 U	330 U
n-Hexane	**0.99** J	**0.97**	**1.4** J	**2.0** J	**4.7** J	**0.73** J	**0.58**	0.19 U	**3,900** J	330 U
Chloroform	0.025 U	0.027 U	0.026 U	0.025 U	0.031 U	0.029 U	0.033 U	0.027 U	200 U	48 U
Tetrahydrofuran (THF)	**2.2**	0.22 U	0.22 U	0.21 U	0.25 U	0.24 U	0.27 U	0.22 U	1,600 U	400 U
1,2-Dichloroethane	**0.046**	0.033 U	**0.032**	**0.040**	0.037 U	0.035 U	0.040 U	0.032 U	240 U	58 U
1,1,1-Trichloroethane	**0.049**	**0.047**	**0.061**	**0.088**	0.027 U	**0.045**	**0.031**	0.024 U	180 U	43 U
Benzene	**0.33**	**0.16**	**0.16**	**0.17**	**0.19**	**0.15**	**0.16**	**0.18**	**700**	73 U
Carbon Tetrachloride	**0.069**	**0.068**	**0.049**	**0.066**	**0.055**	**0.046**	**0.064**	**0.066**	150 U	37 U
Cyclohexane	**9.7**	**12**	**18**	**26**	**69**	**8.4**	**6.6**	0.19 U	**18,000**	**1,000**
1,2-Dichloropropane	0.027 U	0.029 U	0.027 U	0.026 U	0.032 U	0.031 U	0.035 U	0.028 U	210 U	51 U
Bromodichloromethane	0.019 U	0.020 U	0.019 U	0.018 U	0.022 U	0.021 U	0.024 U	0.020 U	140 U	35 U
Trichloroethene	0.023 U	0.025 U	0.024 U	0.023 U	0.028 U	0.027 U	0.030 U	0.024 U	**750**	**180**
1,4-Dioxane	0.17 U	0.18 U	0.18 U	0.17 U	0.21 U	0.20 U	0.22 U	0.18 U	1,300 U	330 U
Methyl Methacrylate	0.15 U	0.16 U	0.16 U	0.15 U	0.18 U	0.17 U	0.20 U	0.16 U	1,200 U	290 U
n-Heptane	**6.9**	**8.4**	**13**	**19**	**46**	**5.9**	**4.6**	0.16 U	**51,000**	**6,500**
cis-1,3-Dichloropropene	0.14 U	0.15 U	0.14 U	0.13 U	0.16 U	0.16 U	0.18 U	0.14 U	1,100 U	260 U
4-Methyl-2-pentanone	**2.5**	**3.1**	**4.2**	**5.8**	**2.0**	**3.3**	**1.9**	0.16 U	1,200 U	290 U
trans-1,3-Dichloropropene	0.14 U	0.15 U	0.14 U	0.13 U	0.16 U	0.16 U	0.18 U	0.14 U	1,100 U	260 U
1,1,2-Trichloroethane	0.023 U	0.024 U	0.023 U	0.022 U	0.027 U	0.026 U	0.029 U	0.024 U	180 U	43 U
Toluene	**5.5**	**2.0**	**2.0**	**2.0**	**1.4**	**1.8**	**1.9**	**0.34**	**210,000**	**48,000**
2-Hexanone	0.15 U	0.16 U	0.16 U	0.15 U	0.18 U	0.17 U	0.20 U	0.16 U	**6,400**	**1,200**
Dibromochloromethane	0.015 U	0.016 U	0.015 U	0.014 U	0.017 U	0.017 U	0.019 U	0.015 U	110 U	28 U
1,2-Dibromoethane	0.016 U	0.017 U	0.017 U	0.016 U	0.019 U	0.019 U	0.021 U	0.017 U	130 U	30 U
n-Butyl Acetate	0.13 U	0.14 U	0.13 U	0.13 U	0.16 U	0.15 U	0.17 U	0.14 U	1,000 U	250 U
n-Octane	**3.1**	**3.8**	**5.9**	**8.6**	**24**	**2.7**	**2.1**	0.14 U	**2,000**	**710**
Tetrachloroethene	**1.6**	**1.8**	**2.2**	**1.4**	**0.44**	**1.3**	**0.83**	0.019 U	140 U	35 U
Chlorobenzene	0.027 U	0.029 U	0.028 U	0.026 U	0.032 U	0.031 U	0.035 U	0.028 U	210 U	51 U

TABLE 1
AIR ANALYTICAL DATA
GACO WESTERN FACILITY
TUKWILA, WASHINGTON

	LAI-IAQ-1 P1100170-001 1/11/2011	LAI-IAQ-2 P1100170-002 1/11/2011	LAI-IAQ-3 P1100170-003 1/11/2011	LAI-IAQ-4 P1100170-004 1/11/2011	LAI-IAQ-5 P1100170-005 1/11/2011	LAI-IAQ-6 P1100170-006 1/11/2011	LAI-IAQ-7 P1100170-007 1/11/2011	LAI-AAQ-1 P1100170-008 1/11/2011	LAI-SSAQ-1 P1100170-009 1/11/2011	LAI-SSAQ-2 P1100170-010 1/11/2011
Ethylbenzene	**1.3**	**1.5**	**1.4**	**1.3**	**1.1**	**1.1**	**0.71**	0.15 U	**12,000**	**5,300**
m,p-Xylenes	**5.4**	**6.4**	**5.8**	**5.6**	**4.1**	**4.6**	**2.9**	0.15 U	**20,000**	**9,800**
Bromoform	0.060 U	0.064 U	0.061 U	0.059 U	0.072 U	0.069 U	0.077 U	0.063 U	470 U	110 U
Styrene	0.15 U	0.16 U	0.15 U	0.14 U	**0.31**	0.17 U	0.19 U	0.15 U	1,100 U	280 U
o-Xylene	**1.6**	**1.8**	**1.7**	**1.7**	**1.1**	**1.4**	**0.90**	0.15 U	**2,500**	**1,200**
n-Nonane	**0.78**	**0.90**	**1.3**	**2.0**	**4.6**	**0.86**	**1.1**	0.12 U	920 U	220 U
1,1,2,2-Tetrachloroethane	0.018 U	0.019 U	0.019 U	0.018 U	0.022 U	0.021 U	0.023 U	0.019 U	140 U	34 U
Cumene	0.13 U	0.13 U	0.13 U	0.12 U	0.15 U	0.15 U	0.16 U	0.13 U	990 U	240 U
alpha-Pinene	0.11 U	0.12 U	0.11 U	0.11 U	**0.20**	0.13 U	0.14 U	0.12 U	870 U	210 U
n-Propylbenzene	0.13 U	0.13 U	0.13 U	0.12 U	0.15 U	0.15 U	0.16 U	0.13 U	990 U	240 U
4-Ethyltoluene	0.13 U	0.13 U	0.13 U	0.12 U	0.15 U	0.15 U	0.16 U	0.13 U	990 U	240 U
1,3,5-Trimethylbenzene	0.13 U	0.13 U	0.13 U	0.12 U	0.15 U	0.15 U	0.16 U	0.13 U	990 U	240 U
1,2,4-Trimethylbenzene	**0.18**	**0.14**	**0.15**	**0.17**	**0.19**	**0.16**	0.16 U	0.13 U	990 U	240 U
Benzyl Chloride	0.12 U	0.13 U	0.12 U	0.12 U	0.14 U	0.14 U	0.15 U	0.13 U	940 U	230 U
1,3-Dichlorobenzene	**0.053**	0.022 U	0.021 U	0.020 U	0.025 U	0.024 U	0.027 U	0.022 U	160 U	39 U
1,4-Dichlorobenzene	0.021 U	0.022 U	0.021 U	0.020 U	0.025 U	0.024 U	0.027 U	0.022 U	160 U	39 U
1,2-Dichlorobenzene	0.021 U	0.022 U	0.021 U	0.020 U	0.025 U	0.024 U	0.027 U	0.022 U	160 U	39 U
d-Limonene	0.11 U	0.12 U	0.11 U	0.11 U	0.13 U	0.13 U	0.14 U	0.12 U	870 U	210 U
1,2-Dibromo-3-chloropropane	0.064 U	0.068 U	0.066 U	0.063 U	0.077 U	0.074 U	0.083 U	0.068 U	500 U	120 U
1,2,4-Trichlorobenzene	0.084 U	0.089 U	0.086 U	0.082 U	0.10 U	0.096 U	0.11 U	0.088 U	650 U	160 U
Naphthalene	0.12 U	0.13 U	0.12 U	0.12 U	0.14 U	0.14 U	0.15 U	0.13 U	930 U	220 U
Hexachlorobutadiene	0.058 U	0.062 U	0.060 U	0.057 U	0.070 U	0.067 U	0.075 U	0.061 U	450 U	110 U
VOLATILES (µg/m^3)										
EPA TO-15										
Propene	**1.0**	0.66 U	0.64 U	**0.82**	0.75 U	0.72 U	0.80 U	0.66 U	4,900 U	1,200 U
Dichlorodifluoromethane (CFC 12)	**2.3**	**2.2**	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	4,900 U	1,200 U
Chloromethane	**0.30**	0.26 U	**0.31**	**0.32**	**0.30**	**0.30**	0.32 U	**0.31**	1,900 U	470 U
1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	0.62 U	0.66 U	0.64 U	0.61 U	0.75 U	0.72 U	0.80 U	0.66 U	4,900 U	1,200 U
Vinyl Chloride	0.12 U	0.13 U	0.13 U	0.12 U	0.15 U	0.14 U	0.16 U	0.13 U	970 U	230 U
1,3-Butadiene	0.25 U	0.26 U	0.25 U	0.24 U	0.30 U	0.29 U	0.32 U	0.26 U	1,900 U	470 U
Bromomethane	0.12 U	0.13 U	0.13 U	0.12 U	0.15 U	0.14 U	0.16 U	0.13 U	970 U	230 U
Chloroethane	0.12 U	0.13 U	0.13 U	0.12 U	0.15 U	0.14 U	0.16 U	0.13 U	970 U	230 U
Ethanol	**26**	**9.1**	**10**	**13**	**25**	**11**	**11**	6.6 U	49,000 U	12,000 U
Acetonitrile	0.62 U	0.66 U	0.64 U	0.61 U	0.75 U	0.72 U	0.80 U	0.66 U	4,900 U	1,200 U
Acrolein	2.5 U	2.6 U	2.5 U	2.4 U	3.0 U	2.9 U	3.2 U	2.6 U	19,000 U	4,700 U
Acetone	**12**	**9.9**	**7.3**	**13**	**11**	**7.5**	**9.1**	6.6 U	**120,000**	12,000 U
Trichlorofluoromethane	**5.9**	**5.1**	**5.1**	**5.6**	**2.5**	**4.4**	**3.1**	**1.2**	970 U	230 U
2-Propanol (Isopropyl Alcohol)	**2.1**	1.3 U	1.3 U	**1.5**	1.5 U	1.4 U	1.6 U	1.3 U	9,700 U	2,300 U
Acrylonitrile	0.62 U	0.66 U	0.64 U	0.61 U	0.75 U	0.72 U	0.80 U	0.66 U	4,900 U	1,200 U
1,1-Dichloroethene	0.12 U	0.13 U	0.13 U	0.12 U	0.15 U	0.14 U	0.16 U	0.13 U	970 U	230 U
Methylene Chloride	**0.79**	0.66 U	0.64 U	0.61 U	**0.92**	0.72 U	0.80 U	0.66 U	4,900 U	1,200 U
3-Chloro-1-propene (Allyl Chloride)	0.12 U	0.13 U	0.13 U	0.12 U	0.15 U	0.14 U	0.16 U	0.13 U	970 U	230 U
Trichlorotrifluoroethane	**0.53**	**0.48**	**0.51**	**0.53**	**0.52**	**0.52**	**0.52**	**0.52**	**2,500**	**670**
Carbon Disulfide	6.2 U	6.6 U	6.4 U	6.1 U	7.5 U	7.2 U	8.0 U	6.6 U	49,000 U	12,000 U
trans-1,2-Dichloroethene	**0.38**	**0.35**	**0.50**	**0.69**	**0.91**	**0.30**	**0.20**	0.13 U	970 U	230 U
1,1-Dichloroethane	0.12 U	0.13 U	0.13 U	0.12 U	0.15 U	0.14 U	0.16 U	0.13 U	970 U	230 U
Methyl tert-Butyl Ether	0.12 U	0.13 U	0.13 U	0.12 U	0.15 U	0.14 U	0.16 U	0.13 U	970 U	230 U
Vinyl Acetate	6.2 U	6.6 U	6.4 U	6.1 U	7.5 U	7.2 U	8.0 U	6.6 U	49,000 U	12,000 U
2-Butanone (MEK)	**11**	**9.9**	**11**	**14**	**7.9**	**12**	**12**	6.6 U	**400,000**	12,000 U
cis-1,2-Dichloroethene	0.12 U	0.13 U	0.13 U	0.12 U	0.15 U	0.14 U	0.16 U	0.13 U	970 U	230 U
Ethyl Acetate	**3.7**	0.66 U	0.64 U	0.61 U	**2.0**	0.72 U	**0.85**	0.66 U	4,900 U	1,200 U
n-Hexane	**3.5** J	**3.4**	**4.9** J	**6.9** J	**17** J	**2.6** J	**2.1**	0.66 U	**14,000** J	1,200 U
Chloroform	0.12 U	0.13 U	0.13 U	0.12 U	0.15 U	0.14 U	0.16 U	0.13 U	970 U	230 U
Tetrahydrofuran (THF)	**6.5**	0.66 U	0.64 U	0.61 U	0.75 U	0.72 U	0.80 U	0.66 U	4,900 U	1,200 U

TABLE 1
AIR ANALYTICAL DATA
GACO WESTERN FACILITY
TUKWILA, WASHINGTON

	LAI-IAQ-1 P1100170-001 1/11/2011	LAI-IAQ-2 P1100170-002 1/11/2011	LAI-IAQ-3 P1100170-003 1/11/2011	LAI-IAQ-4 P1100170-004 1/11/2011	LAI-IAQ-5 P1100170-005 1/11/2011	LAI-IAQ-6 P1100170-006 1/11/2011	LAI-IAQ-7 P1100170-007 1/11/2011	LAI-AAQ-1 P1100170-008 1/11/2011	LAI-SSAQ-1 P1100170-009 1/11/2011	LAI-SSAQ-2 P1100170-010 1/11/2011
1,2-Dichloroethane	**0.19**	0.13 U	**0.13**	**0.16**	0.15 U	0.14 U	0.16 U	0.13 U	970 U	230 U
1,1,1-Trichloroethane	**0.27**	**0.26**	**0.33**	**0.48**	0.15 U	**0.25**	**0.17**	0.13 U	970 U	230 U
Benzene	**1.0**	**0.50**	**0.52**	**0.53**	**0.61**	**0.49**	**0.51**	**0.56**	**2,200**	230 U
Carbon Tetrachloride	**0.43**	**0.43**	**0.31**	**0.41**	**0.35**	**0.29**	**0.40**	**0.41**	970 U	230 U
Cyclohexane	**33**	**40**	**61**	**88**	**240**	**29**	**23**	0.66 U	**61,000**	**3,500**
1,2-Dichloropropane	0.12 U	0.13 U	0.13 U	0.12 U	0.15 U	0.14 U	0.16 U	0.13 U	970 U	230 U
Bromodichloromethane	0.12 U	0.13 U	0.13 U	0.12 U	0.15 U	0.14 U	0.16 U	0.13 U	970 U	230 U
Trichloroethene	0.12 U	0.13 U	0.13 U	0.12 U	0.15 U	0.14 U	0.16 U	0.13 U	**4,100**	**990**
1,4-Dioxane	0.62 U	0.66 U	0.64 U	0.61 U	0.75 U	0.72 U	0.80 U	0.66 U	4,900 U	1,200 U
Methyl Methacrylate	0.62 U	0.66 U	0.64 U	0.61 U	0.75 U	0.72 U	0.80 U	0.66 U	4,900 U	1,200 U
n-Heptane	**28**	**34**	**53**	**78**	**190**	**24**	**19**	0.66 U	**210,000**	**27,000**
cis-1,3-Dichloropropene	0.62 U	0.66 U	0.64 U	0.61 U	0.75 U	0.72 U	0.80 U	0.66 U	4,900 U	1,200 U
4-Methyl-2-pentanone	**10**	**13**	**17**	**24**	**8.3**	**14**	**8.0**	0.66 U	4,900 U	1,200 U
trans-1,3-Dichloropropene	0.62 U	0.66 U	0.64 U	0.61 U	0.75 U	0.72 U	0.80 U	0.66 U	4,900 U	1,200 U
1,1,2-Trichloroethane	0.12 U	0.13 U	0.13 U	0.12 U	0.15 U	0.14 U	0.16 U	0.13 U	970 U	230 U
Toluene	**21**	**7.4**	**7.5**	**7.5**	**5.2**	**6.9**	**7.2**	**1.3**	**810,000**	**180,000**
2-Hexanone	0.62 U	0.66 U	0.64 U	0.61 U	0.75 U	0.72 U	0.80 U	0.66 U	**26,000**	**4,900**
Dibromochloromethane	0.12 U	0.13 U	0.13 U	0.12 U	0.15 U	0.14 U	0.16 U	0.13 U	970 U	230 U
1,2-Dibromoethane	0.12 U	0.13 U	0.13 U	0.12 U	0.15 U	0.14 U	0.16 U	0.13 U	970 U	230 U
n-Butyl Acetate	0.62 U	0.66 U	0.64 U	0.61 U	0.75 U	0.72 U	0.80 U	0.66 U	4,900 U	1,200 U
n-Octane	**15**	**18**	**28**	**40**	**110**	**13**	**9.8**	0.66 U	**9,600**	**3,300**
Tetrachloroethene	**11**	**12**	**15**	**9.4**	**3.0**	**8.8**	**5.7**	0.13 U	970 U	230 U
Chlorobenzene	0.12 U	0.13 U	0.13 U	0.12 U	0.15 U	0.14 U	0.16 U	0.13 U	970 U	230 U
Ethylbenzene	**5.6**	**6.5**	**5.9**	**5.8**	**4.7**	**4.7**	**3.1**	0.66 U	**51,000**	**23,000**
m,p-Xylenes	**23**	**28**	**25**	**24**	**18**	**20**	**13**	0.66 U	**88,000**	**42,000**
Bromoform	0.62 U	0.66 U	0.64 U	0.61 U	0.75 U	0.72 U	0.80 U	0.66 U	4,900 U	1,200 U
Styrene	0.62 U	0.66 U	0.64 U	0.61 U	**1.3**	0.72 U	0.80 U	0.66 U	4,900 U	1,200 U
o-Xylene	**6.8**	**7.9**	**7.4**	**7.3**	**4.9**	**6.0**	**3.9**	0.66 U	**11,000**	**5,400**
n-Nonane	**4.1**	**4.7**	**7.0**	**10**	**24**	**4.5**	**5.7**	0.66 U	4,900 U	1,200 U
1,1,2,2-Tetrachloroethane	0.12 U	0.13 U	0.13 U	0.12 U	0.15 U	0.14 U	0.16 U	0.13 U	970 U	230 U
Cumene	0.62 U	0.66 U	0.64 U	0.61 U	0.75 U	0.72 U	0.80 U	0.66 U	4,900 U	1,200 U
alpha-Pinene	0.62 U	0.66 U	0.64 U	0.61 U	**1.1**	0.72 U	0.80 U	0.66 U	4,900 U	1,200 U
n-Propylbenzene	0.62 U	0.66 U	0.64 U	0.61 U	0.75 U	0.72 U	0.80 U	0.66 U	4,900 U	1,200 U
4-Ethyltoluene	0.62 U	0.66 U	0.64 U	0.61 U	0.75 U	0.72 U	0.80 U	0.66 U	4,900 U	1,200 U
1,3,5-Trimethylbenzene	0.62 U	0.66 U	0.64 U	0.61 U	0.75 U	0.72 U	0.80 U	0.66 U	4,900 U	1,200 U
1,2,4-Trimethylbenzene	**0.90**	**0.71**	**0.72**	**0.82**	**0.96**	**0.80**	0.80 U	0.66 U	4,900 U	1,200 U
Benzyl Chloride	0.62 U	0.66 U	0.64 U	0.61 U	0.75 U	0.72 U	0.80 U	0.66 U	4,900 U	1,200 U
1,3-Dichlorobenzene	**0.32**	0.13 U	0.13 U	0.12 U	0.15 U	0.14 U	0.16 U	0.13 U	970 U	230 U
1,4-Dichlorobenzene	0.12 U	0.13 U	0.13 U	0.12 U	0.15 U	0.14 U	0.16 U	0.13 U	970 U	230 U
1,2-Dichlorobenzene	0.12 U	0.13 U	0.13 U	0.12 U	0.15 U	0.14 U	0.16 U	0.13 U	970 U	230 U
d-Limonene	0.62 U	0.66 U	0.64 U	0.61 U	0.75 U	0.72 U	0.80 U	0.66 U	4,900 U	1,200 U
1,2-Dibromo-3-chloropropane	0.62 U	0.66 U	0.64 U	0.61 U	0.75 U	0.72 U	0.80 U	0.66 U	4,900 U	1,200 U
1,2,4-Trichlorobenzene	0.62 U	0.66 U	0.64 U	0.61 U	0.75 U	0.72 U	0.80 U	0.66 U	4,900 U	1,200 U
Naphthalene	0.62 U	0.66 U	0.64 U	0.61 U	0.75 U	0.72 U	0.80 U	0.66 U	4,900 U	1,200 U
Hexachlorobutadiene	0.62 U	0.66 U	0.64 U	0.61 U	0.75 U	0.72 U	0.80 U	0.66 U	4,900 U	1,200 U

U = Indicates the compound was undetected at the reported concentration.
J = Indicates an estimated concentration when the value is less than the calculated reporting limit.
Bold = Detected compound.

TABLE 2
INDOOR AIR QUALITY ANALYTICAL DATA
GACO WESTERN FACILITY
TUKWILA, WASHINGTON

Chemical (a)	Indoor Air, Method B Standard Formula Value ($\mu g/m^3$) (b)	Indoor Air, Method C Modified Formula Value ($\mu g/m^3$) (c)	Indoor Air: LAI-IAQ-1 P1100170-001 1/11/2011	LAI-IAQ-2 P1100170-002 1/11/2011	LAI-IAQ-3 P1100170-003 1/11/2011	LAI-IAQ-4 P1100170-004 1/11/2011	LAI-IAQ-5 P1100170-005 1/11/2011	LAI-IAQ-6 P1100170-006 1/11/2011	LAI-IAQ-7 P1100170-007 1/11/2011	Ambient Air (d) LAI-AAQ-1 P1100170-008 1/11/2011
1,1,1-Trichloroethane	2,300	21,901	**0.27**	**0.26**	**0.33**	**0.48**	0.15 U	**0.25**	**0.17**	0.13 U
1,2,4-Trimethylbenzene	3.2	30.7	**0.9**	**0.71**	**0.72**	**0.82**	**0.96**	**0.80**	0.80 U	0.66 U
1,2-Dichloroethane	0.096	6.31	**0.19**	**0.13** U	**0.13**	**0.16**	**0.15** U	**0.14** U	**0.16** U	**0.13** U
1,3-Dichlorobenzene	--	--	**0.32**	0.13 U	0.13 U	0.12 U	0.15 U	0.14 U	0.16 U	0.13 U
2-Butanone (MEK)	2,300	21,901	**11**	**9.9**	**11**	**14**	**7.9**	**12**	**12**	6.6 U
2-Hexanone	--	--	0.62 U	0.66 U	0.64 U	0.61 U	0.75 U	0.72 U	0.80 U	0.66 U
2-Propanol (Isopropyl Alcohol)	--	--	**2.1**	1.3 U	1.3 U	**1.5**	1.5 U	1.4 U	1.6 U	1.3 U
4-Methyl-2-pentanone (MIBK)	1,400	13,141	**10**	**13**	**17**	**24**	**8.3**	**14**	**8.0**	0.66 U
Acetone	--	--	**12**	**9.9**	**7.3**	**13**	**11**	**7.5**	**9.1**	6.6 U
alpha-Pinene	--	--	0.62 U	0.66 U	0.64 U	0.61 U	**1.1**	0.72 U	0.80 U	0.66 U
Benzene	0.32	21.0	**0.44**	**0.0**	**0.0**	**0.0**	**0.05**	**0.0**	**0.0**	**0.56**
Carbon Tetrachloride	0.42	27.6	**0.02**	**0.02**	**0.0**	**0.0**	**0.0**	**0.0**	**0.00**	**0.41**
Chloromethane	41	394	**0.0**	0.26 U	**0.0**	**0.01**	**0.0**	**0.0**	0.32 U	**0.31**
Cyclohexane	2,700	26,281	**33**	**40**	**61**	**88**	**240**	**29**	**23**	0.66 U
Dichlorodifluoromethane (CFC 12)	91	876	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**2.3**
Ethanol	--	--	**26**	**9.1**	**10**	**13**	**25**	**11**	**11**	6.6 U
Ethyl Acetate	--	--	**3.7**	0.66 U	0.64 U	0.61 U	**2.0**	0.72 U	**0.85**	0.66 U
Ethylbenzene	460	4,380	**5.6**	**6.5**	**5.9**	**5.8**	**4.7**	**4.7**	**3.1**	0.66 U
m,p-Xylenes	46	438	**23**	**28**	**25**	**24**	**18**	**20**	**13**	0.66 U
Methylene Chloride	5.3	348	**0.79**	0.66 U	0.64 U	0.61 U	**0.92**	0.72 U	0.80 U	0.66 U
n-Heptane	--	--	**28**	**34**	**53**	**78**	**190**	**24**	**19**	0.66 U
n-Hexane	320	3,066	**3.5** J	**3.4**	**4.9** J	**6.9** J	**17** J	**2.6** J	**2.1**	0.66 U
n-Nonane	--	--	**4.1**	**4.7**	**7.0**	**10**	**24**	**4.5**	**5.7**	0.66 U
n-Octane	--	--	**15**	**18**	**28**	**40**	**110**	**13**	**9.8**	0.66 U
o-Xylene	46	438	**6.8**	**7.9**	**7.4**	**7.3**	**4.9**	**6.0**	**3.9**	0.66 U
Propene	--	--	**1**	0.66 U	0.64 U	**0.82**	0.75 U	0.72 U	0.80 U	0.66 U
Styrene	460	4,380	0.62 U	0.66 U	0.64 U	0.61 U	**1.3**	0.72 U	0.80 U	0.66 U
Tetrachloroethene	0.42	27.6	**11**	**12**	**15**	**9.4**	**3.0**	**8.8**	**5.7**	0.13 U
Tetrahydrofuran (THF)	--	--	**6.5**	0.66 U	0.64 U	0.61 U	0.75 U	0.72 U	0.80 U	0.66 U
Toluene	2,300	21,901	**19.7**	**6.1**	**6.2**	**6.2**	**3.9**	**5.6**	**5.90**	**1.3**
trans-1,2-Dichloroethene	27	263	**0.38**	**0.35**	**0.50**	**0.69**	**0.91**	**0.30**	**0.20**	0.13 U
Trichloroethene	0.1	6.57	**0.12** U	**0.13** U	**0.13** U	**0.12** U	**0.15** U	**0.14** U	**0.16** U	**0.13** U
Trichlorofluoromethane	320	3,066	**4.7**	**3.9**	**3.9**	**4.4**	**1.3**	**3.2**	**1.90**	**1.2**
Trichlorotrifluoroethane	14,000	131,406	**0.01**	**0.0**	**0.0**	**0.01**	**0.0**	**0.0**	**0.00**	**0.52**

Notes:

(a) The chemical list has been reduced to show only those chemicals which were detected above the method reporting limit in at least one sample (including both indoor air and subslab gas samples). All concentrations are shown in micrograms per cubic meter ($\mu g/m^3$).

(b) MTCA Method B standard air cleanup levels are protective of the continuous residential exposure scenario. Standard formula values were obtained from the *Cleanup Levels and Risk Calculation* (CLARC) database (Ecology website 2011). The values presented in this table are the more restrictive of those based on carcinogenic and non-carcinogenic risks.

(c) MTCA Method C modified air cleanup levels are protective of an occupational industrial exposure scenario. Standard formula values from the CLARC database (Ecology website 2011) were modified using Equations 750-1 and 750-2 and accounting for a shorter exposure duration (20 years) and a reduced exposure frequency (0.2283, based on an 8 hr/day, 250 days/yr exposure scenario).

(d) Concentrations of chemicals detected in the ambient air sample were used to normalize detected indoor air values by subtracting ambient values from indoor air values. Negative corrected indoor air values replaced with a value of 0.0 $\mu g/m^3$.

Symbols and Abbreviations:

-- = Cleanup level not established under MTCA.

U = Indicates the compound was not detected above the reported concentration.

J = Indicates an estimated concentration when the value is less than the calculated reporting limit or is considered an estimated value.

Bold = Chemical was detected at the listed concentration.

Outlined Values = Detected concentration and/or the laboratory reporting limit is greater than the standard MTCA Method B air cleanup level protective of residential exposure.

TABLE 3
SUB-SLAB SOIL GAS ANALYTICAL DATA
GACO WESTERN FACILITY
TUKWILA, WASHINGTON

Chemical (a)	Soil Gas, Method B Screening Level (b)	Soil Gas, Method C Screening Level (c)	LAI-SSAQ-1 P1100170-009 1/11/2011	LAI-SSAQ-2 P1100170-010 1/11/2011
1,1,1-Trichloroethane	23,000	219,010	970 U	230 U
1,2,4-Trimethylbenzene (d)	32	307	4,900 U	1,200 U
1,2-Dichloroethane (d)	0.96	63.1	970 U	230 U
1,3-Dichlorobenzene	--	--	970 U	230 U
2-Butanone (MEK)(d)	23,000	219,010	**400,000**	12,000 U
2-Hexanone	--	--	**26,000**	**4,900**
2-Propanol (Isopropyl Alcohol)	--	--	9,700 U	2,300 U
4-Methyl-2-pentanone (MIBK) (d)	14,000	131,406	4,900 U	1,200 U
Acetone	--	--	**120,000**	12,000 U
alpha-Pinene	--	--	4,900 U	1,200 U
Benzene	3.2	210	**2,200**	230 U
Carbon Tetrachloride (d)	4.2	276	970 U	230 U
Chloromethane (d)	410	3942	1,900 U	470 U
Cyclohexane	27,000	262,812	**61,000**	**3,500**
Dichlorodifluoromethane (CFC 12) (d)	910	8760	4,900 U	1,200 U
Ethanol	--	--	49,000 U	12,000 U
Ethyl Acetate	--	--	4,900 U	1,200 U
Ethylbenzene	4,600	43,802	**51,000**	**23,000**
m,p-Xylenes	460	4,380	**88,000**	**42,000**
Methylene Chloride	53	3,482	4,900 U	1,200 U
n-Heptane	--	--	**210,000**	**27,000**
n-Hexane	3,200	30,661	**14,000** J	1,200 U
n-Nonane	--	--	4,900 U	1,200 U
n-Octane	--	--	**9,600**	**3,300**
o-Xylene	460	4,380	**11,000**	**5,400**
Propene	--	--	4,900 U	1,200 U
Styrene (d)	4,600	43,802	4,900 U	1,200 U
Tetrachloroethene (d)	4.2	276	970 U	230 U
Tetrahydrofuran (THF)	--	--	4,900 U	1,200 U
Toluene	23,000	219,010	**810,000**	**180,000**
trans-1,2-Dichloroethene (d)	270	2,628	970 U	230 U
Trichloroethene	1	65.7	**4,100**	**990**
Trichlorofluoromethane	3,200	30,661	970 U	230 U
Trichlorotrifluoroethane	140,000	1,314,060	**2,500**	**670**

Notes:

(a) The chemical list has been reduced to show only those chemicals that were detected above the method reporting limit in at least one sample (including both indoor air and subslab gas samples). All concentrations are shown in micrograms per cubic meter ($\mu g/m^3$).

(b) Soil gas screening levels are based on the equations presented in *Draft Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remediation* (Washington State Department of Ecology Publication No. 09-09-047). MTCA Method B screening levels are protective of the continuous residential exposure scenario where the "Indoor Air CUL" is the Method B standard formula value from Table 2. Equation: Soil Gas SL = [Indoor Air CUL]/[α], where α = 0.1 for subslab samples.

(c) Soil gas screening levels are based on the equations presented in *Draft Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remediation* (Washington State Department of Ecology Publication No. 09-09-047). MTCA Method C screening levels are protective of the continuous residential exposure scenario where the "Indoor Air CUL" is the Method C modified formula value from Table 2. Equation: Soil Gas SL = [Indoor Air CUL]/[α], where α = 0.1 for subslab samples.

(d) Method reporting limits for this compound are greater than the relevant screening criteria.

Symbols and Abbreviations:

-- = Cleanup level not established under MTCA.

U = Indicates the compound was undetected at the reported concentration.

J = Indicates an estimated concentration when the value is less than the calculated reporting limit or is considered an estimated value.

Bold = Chemical was detected at the listed concentration.

Outlined Values = Detected concentration and/or the laboratory reporting limit is greater than the standard MTCA Method B air cleanup level protective of residential exposure.

Shaded Values = Detected concentration and/or the laboratory reporting limit is greater than the modified MTCA Method C air cleanup level protective of industrial exposure.

APPENDIX A

Laboratory Analytical Report

LABORATORY REPORT

January 31, 2011

Jessica Kruczek
Landau Associates,Inc.
333 SW 5th Ave.
Portland, OR 97204

RE: Gaco Western Air Sampling / 1226001.020.023

Dear Jessica:

Enclosed are the results of the samples submitted to our laboratory on January 17, 2011. For your reference, these analyses have been assigned our service request number P1100170.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.caslab.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

Columbia Analytical Services, Inc. is certified by the California Department of Health Services, NELAP Laboratory Certificate No. 02115CA; Arizona Department of Health Services, Certificate No. AZ0694; Florida Department of Health, NELAP Certification E871020; New Jersey Department of Environmental Protection, NELAP Laboratory Certification ID #CA009; New York State Department of Health, NELAP NY Lab ID No: 11221; Oregon Environmental Laboratory Accreditation Program, NELAP ID: CA20007; The American Industrial Hygiene Association, Laboratory #101661; United States Department of Defense Environmental Laboratory Accreditation Program (DoD-ELAP), Certificate No. L10-3; Pennsylvania Registration No. 68-03307; TX Commission of Environmental Quality, NELAP ID T104704413-09-TX; Minnesota Department of Health, Certificate No. 11495AA; Washington State Department of Ecology, ELAP Lab ID: C946. Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact me for information corresponding to a particular certification.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

Columbia Analytical Services, Inc.

Sue Anderson
Project Manager

Client: Landau Associates,Inc. CAS Project No: P1100170
Project: Gaco Western Air Sampling / 1226001.020.023

CASE NARRATIVE

The samples were received intact under chain of custody on January 17, 2011 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. The analytical system was comprised of a gas chromatograph/mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator.

The spike recoveries of d-limonene for the Laboratory Control Sample (LCS) analyzed on January 25, 2011 and January 26, 2011 were outside the Laboratory generated control criterion. The recovery errors equate to a potential high bias. However, the spike recovery of the analyte in question was within the method criteria; and the reported sample result associated with the LCS analyzed on January 26, 2011 was for dilutions of other compounds; therefore, the results were not affected and the data quality is not significantly affected. No corrective action was taken.

The Laboratory Control Sample percent recovery is verified and accepted based on the on-column results. The percent recovery of on-column results met acceptance limits for n-hexane on January 25, 2011. After calculating the on-column results into concentration units, the percent recovery fell outside of acceptance criteria; therefore the data has been flagged accordingly.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for utilization of less than the complete report.

DETAIL SUMMARY REPORT

Client: Landau Associates,Inc. Service Request: P1100170
Project ID: Gaco Western Air Sampling / 1226001.020.023

Date Received: 1/17/2011
Time Received: 10:10

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	TO-15 - VOC Cans
LAI-IAQ-1	P1100170-001	Air	1/11/2011	09:03	AC01710	0.0	3.5	X
LAI-IAQ-2	P1100170-002	Air	1/11/2011	09:04	AC01565	-0.9	3.5	X
LAI-IAQ-3	P1100170-003	Air	1/11/2011	09:05	AC00536	-0.4	3.5	X
LAI-IAQ-4	P1100170-004	Air	1/11/2011	09:06	AC01605	0.4	3.5	X
LAI-IAQ-5	P1100170-005	Air	1/11/2011	09:07	AC00702	-2.5	3.5	X
LAI-IAQ-6	P1100170-006	Air	1/11/2011	09:08	AC00596	-2.0	3.5	X
LAI-IAQ-7	P1100170-007	Air	1/11/2011	09:09	AC00868	-3.3	3.5	X
LAI-AAQ-1	P1100170-008	Air	1/11/2011	09:10	AC01275	-0.8	3.5	X
LAI-SSAQ-1	P1100170-009	Air	1/11/2011	17:45	1SC00491	-2.1	9.8	X
LAI-SSAQ-2	P1100170-010	Air	1/11/2011	18:05	1SC00468	-2.7	5.0	X

Columbia Analytical Services

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

Air - Chain of Custody Record & Analytical Service Request

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day-Standard

CAS Project No. P1100170

CAS Contact:

Company Name & Address (Reporting Information)
Landau Associates
130 2nd Ave S
Edmonds, WA 98020

Project Name: Gaco Western Air Sampling
Project Number: 1226001.020.023
P.O. # / Billing Information: 1226001.020.023

Project Manager: Jessica Kruczek
Phone: 503.542.1083
Fax:
Email Address for Result Reporting: jkruczek@landauinc.com
Sampler (Print & Sign): Paul Raymakers

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code #- FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg/psig	Sample Volume	Analysis Method: TO-15 low level		Comments e.g. Actual Preservative or specific instructions
LAI-IAQ-1	1-0.0	1/11/11	0903	AC01710	FC00018	28	4.0	6L	X		
LAI-IAQ-2	2-0.8	1/11/11	0904	AC01565	FC00242	32	6.5	6L	X		
LAI-IAQ-3	3-0.4	1/11/11	0905	AC00536	FC00605	28	4.5	6L	X		
LAI-IAQ-4	4-0.4	1/11/11	0906	AC01605	FC00555	32	4.5	6L	X		
LAI-IAQ-5	5-2.5	1/11/11	0907	AC00702	FC00311	30	9.0	6L	X		
LAI-IAQ-6	6-2.0	1/11/11	0908	AC00596	FC00786	31	7.5	6L	X		
LAI-IAQ-7	7-3.3	1/11/11	0909	AC00868	FC00540	29.5	8.0	6L	X		
LAI-AAQ-1	8-0.8	1/11/11	0910	AC01275	FC00548	32	7.5	6L	X		
LAI-SSAQ-1	9-2.0	1/11/11	1745	ISC00491	OA00473	30	8.0	1L	X		
LAI-SSAQ-2	10-2.1	1/11/11	1805	ISC00468	OA00383	29	7	1L	X		
	-14.3										
	-13.7										
	-11.9										
	-14.1										

4 of 58

Report Tier Levels - please select
Tier I - (Results/Default if not specified) ____
Tier II (Results + QC) X
Tier III (Data Validation Package) 10% Surcharge ____
Tier V (client specified) ____
EDD required Yes / No
Type: ____

Project Requirements (MRLs, QAPP)

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Time:
	1/13/11	1900	1/17/11	1010
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Time:

Cooler / Blank Temperature ____°C

Columbia Analytical Services™ 2655 Park Center Drive, Suite A, Simi Valley, CA 93065 | 805.526.7161 | www.caslab.com

Sample Acceptance Check Form

Client: Landau Associates,Inc. Work order: P1100170

Project: Gaco Western Air Sampling / 1226001.020.023

Sample(s) received on: 01/17/11 Date opened: 01/17/11 by: MZAMORA

Note: This form is used for all samples received by CAS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Container(s) **supplied by CAS**?	☒	☐	☐
3	Did **sample containers** arrive in good condition?	☒	☐	☐
4	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
5	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
6	Was **sample volume** received adequate for analysis?	☒	☐	☐
7	Are samples within specified holding times?	☒	☐	☐
8	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
	Cooler Temperature _____ °C Blank Temperature _____ °C			
9	Was a **trip blank** received?	☐	☒	☐
10	Were **custody seals** on outside of cooler/Box?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
	Were custody seals on outside of sample container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
11	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
12	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
	Do they contain moisture?	☐	☐	☒
13	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1100170-001.01	6.0 L Ambient Can					
P1100170-002.01	6.0 L Ambient Can					
P1100170-003.01	6.0 L Ambient Can					
P1100170-004.01	6.0 L Ambient Can					
P1100170-005.01	6.0 L Ambient Can					
P1100170-006.01	6.0 L Ambient Can					
P1100170-007.01	6.0 L Ambient Can					
P1100170-008.01	6.0 L Ambient Can					

Explain any discrepancies: (include lab sample ID numbers): _____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

Columbia Analytical Services™ 2655 Park Center Drive, Suite A, Simi Valley, CA 93065 | 805.526.7161 | www.caslab.com

Sample Acceptance Check Form

Client: Landau Associates,Inc. Work order: P1100170

Project: Gaco Western Air Sampling / 1226001.020.023

Sample(s) received on: 01/17/11 Date opened: 01/17/11 by: MZAMORA

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1100170-009.01	1.0 L Source Can					
P1100170-010.01	1.0 L Source Can					
P1100170-011.01	6.0 L Ambient Can					Returned Can
P1100170-012.01	6.0 L Ambient Can					Returned Can
P1100170-013.01	6.0 L Ambient Can					Returned Can
P1100170-014.01	1.0 L Source Can					Returned Can

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

RESULTS OF ANALYSIS

Client: **Landau Associates,Inc.**
Client Sample ID: **LAI-IAQ-1**
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023**

CAS Project ID: P1100170
CAS Sample ID: P1100170-001

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Wida Ang
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: AC01710

Date Collected: 1/11/11
Date Received: 1/17/11
Date Analyzed: 1/25/11
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): 0.0 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.24

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	**1.0**	0.62	**0.59**	0.36	
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.3**	0.62	**0.47**	0.13	
74-87-3	Chloromethane	**0.30**	0.25	**0.15**	0.12	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.62	ND	0.089	
75-01-4	Vinyl Chloride	ND	0.12	ND	0.049	
106-99-0	1,3-Butadiene	ND	0.25	ND	0.11	
74-83-9	Bromomethane	ND	0.12	ND	0.032	
75-00-3	Chloroethane	ND	0.12	ND	0.047	
64-17-5	Ethanol	**26**	6.2	**14**	3.3	
75-05-8	Acetonitrile	ND	0.62	ND	0.37	
107-02-8	Acrolein	ND	2.5	ND	1.1	
67-64-1	Acetone	**12**	6.2	**5.2**	2.6	
75-69-4	Trichlorofluoromethane	**5.9**	0.12	**1.1**	0.022	
67-63-0	2-Propanol (Isopropyl Alcohol)	**2.1**	1.2	**0.87**	0.50	
107-13-1	Acrylonitrile	ND	0.62	ND	0.29	
75-35-4	1,1-Dichloroethene	ND	0.12	ND	0.031	
75-09-2	Methylene Chloride	**0.79**	0.62	**0.23**	0.18	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.12	ND	0.040	
76-13-1	Trichlorotrifluoroethane	**0.53**	0.12	**0.069**	0.016	
75-15-0	Carbon Disulfide	ND	6.2	ND	2.0	
156-60-5	trans-1,2-Dichloroethene	**0.38**	0.12	**0.095**	0.031	
75-34-3	1,1-Dichloroethane	ND	0.12	ND	0.031	
1634-04-4	Methyl tert-Butyl Ether	ND	0.12	ND	0.034	
108-05-4	Vinyl Acetate	ND	6.2	ND	1.8	
78-93-3	2-Butanone (MEK)	**11**	6.2	**3.7**	2.1	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Landau Associates,Inc.**
Client Sample ID: **LAI-IAQ-1** CAS Project ID: P1100170
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023** CAS Sample ID: P1100170-001

Test Code: EPA TO-15 Date Collected: 1/11/11
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/17/11
Analyst: Wida Ang Date Analyzed: 1/25/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01710

Initial Pressure (psig): 0.0 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.24

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.12	ND	0.031	
141-78-6	Ethyl Acetate	**3.7**	0.62	**1.0**	0.17	
110-54-3	n-Hexane	**3.5**	0.62	**0.99**	0.18	
67-66-3	Chloroform	ND	0.12	ND	0.025	
109-99-9	Tetrahydrofuran (THF)	**6.5**	0.62	**2.2**	0.21	
107-06-2	1,2-Dichloroethane	**0.19**	0.12	**0.046**	0.031	
71-55-6	1,1,1-Trichloroethane	**0.27**	0.12	**0.049**	0.023	
71-43-2	Benzene	**1.0**	0.12	**0.33**	0.039	
56-23-5	Carbon Tetrachloride	**0.43**	0.12	**0.069**	0.020	
110-82-7	Cyclohexane	**33**	0.62	**9.7**	0.18	
78-87-5	1,2-Dichloropropane	ND	0.12	ND	0.027	
75-27-4	Bromodichloromethane	ND	0.12	ND	0.019	
79-01-6	Trichloroethene	ND	0.12	ND	0.023	
123-91-1	1,4-Dioxane	ND	0.62	ND	0.17	
80-62-6	Methyl Methacrylate	ND	0.62	ND	0.15	
142-82-5	n-Heptane	**28**	0.62	**6.9**	0.15	
10061-01-5	cis-1,3-Dichloropropene	ND	0.62	ND	0.14	
108-10-1	4-Methyl-2-pentanone	**10**	0.62	**2.5**	0.15	
10061-02-6	trans-1,3-Dichloropropene	ND	0.62	ND	0.14	
79-00-5	1,1,2-Trichloroethane	ND	0.12	ND	0.023	
108-88-3	Toluene	**21**	0.62	**5.5**	0.16	
591-78-6	2-Hexanone	ND	0.62	ND	0.15	
124-48-1	Dibromochloromethane	ND	0.12	ND	0.015	
106-93-4	1,2-Dibromoethane	ND	0.12	ND	0.016	
123-86-4	n-Butyl Acetate	ND	0.62	ND	0.13	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Client: **Landau Associates,Inc.** CAS Project ID: P1100170
Client Sample ID: **LAI-IAQ-1** CAS Sample ID: P1100170-001
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023**

Test Code: EPA TO-15 Date Collected: 1/11/11
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/17/11
Analyst: Wida Ang Date Analyzed: 1/25/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01710

Initial Pressure (psig): 0.0 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.24

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	**15**	0.62	**3.1**	0.13	
127-18-4	Tetrachloroethene	**11**	0.12	**1.6**	0.018	
108-90-7	Chlorobenzene	ND	0.12	ND	0.027	
100-41-4	Ethylbenzene	**5.6**	0.62	**1.3**	0.14	
179601-23-1	m,p-Xylenes	**23**	0.62	**5.4**	0.14	
75-25-2	Bromoform	ND	0.62	ND	0.060	
100-42-5	Styrene	ND	0.62	ND	0.15	
95-47-6	o-Xylene	**6.8**	0.62	**1.6**	0.14	
111-84-2	n-Nonane	**4.1**	0.62	**0.78**	0.12	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.12	ND	0.018	
98-82-8	Cumene	ND	0.62	ND	0.13	
80-56-8	alpha-Pinene	ND	0.62	ND	0.11	
103-65-1	n-Propylbenzene	ND	0.62	ND	0.13	
622-96-8	4-Ethyltoluene	ND	0.62	ND	0.13	
108-67-8	1,3,5-Trimethylbenzene	ND	0.62	ND	0.13	
95-63-6	1,2,4-Trimethylbenzene	**0.90**	0.62	**0.18**	0.13	
100-44-7	Benzyl Chloride	ND	0.62	ND	0.12	
541-73-1	1,3-Dichlorobenzene	**0.32**	0.12	**0.053**	0.021	
106-46-7	1,4-Dichlorobenzene	ND	0.12	ND	0.021	
95-50-1	1,2-Dichlorobenzene	ND	0.12	ND	0.021	
5989-27-5	d-Limonene	ND	0.62	ND	0.11	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.62	ND	0.064	
120-82-1	1,2,4-Trichlorobenzene	ND	0.62	ND	0.084	
91-20-3	Naphthalene	ND	0.62	ND	0.12	
87-68-3	Hexachlorobutadiene	ND	0.62	ND	0.058	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Client: **Landau Associates,Inc.**
Client Sample ID: **LAI-IAQ-2** CAS Project ID: P1100170
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023** CAS Sample ID: P1100170-002

Test Code: EPA TO-15 Date Collected: 1/11/11
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/17/11
Analyst: Wida Ang Date Analyzed: 1/26/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01565

Initial Pressure (psig): -0.9 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.32

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.66	ND	0.38	
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.2**	0.66	**0.44**	0.13	
74-87-3	Chloromethane	ND	0.26	ND	0.13	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.66	ND	0.094	
75-01-4	Vinyl Chloride	ND	0.13	ND	0.052	
106-99-0	1,3-Butadiene	ND	0.26	ND	0.12	
74-83-9	Bromomethane	ND	0.13	ND	0.034	
75-00-3	Chloroethane	ND	0.13	ND	0.050	
64-17-5	Ethanol	**9.1**	6.6	**4.9**	3.5	
75-05-8	Acetonitrile	ND	0.66	ND	0.39	
107-02-8	Acrolein	ND	2.6	ND	1.2	
67-64-1	Acetone	**9.9**	6.6	**4.2**	2.8	
75-69-4	Trichlorofluoromethane	**5.1**	0.13	**0.91**	0.023	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.3	ND	0.54	
107-13-1	Acrylonitrile	ND	0.66	ND	0.30	
75-35-4	1,1-Dichloroethene	ND	0.13	ND	0.033	
75-09-2	Methylene Chloride	ND	0.66	ND	0.19	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.13	ND	0.042	
76-13-1	Trichlorotrifluoroethane	**0.48**	0.13	**0.063**	0.017	
75-15-0	Carbon Disulfide	ND	6.6	ND	2.1	
156-60-5	trans-1,2-Dichloroethene	**0.35**	0.13	**0.089**	0.033	
75-34-3	1,1-Dichloroethane	ND	0.13	ND	0.033	
1634-04-4	Methyl tert-Butyl Ether	ND	0.13	ND	0.037	
108-05-4	Vinyl Acetate	ND	6.6	ND	1.9	
78-93-3	2-Butanone (MEK)	**9.9**	6.6	**3.4**	2.2	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Client: **Landau Associates,Inc.**
Client Sample ID: **LAI-IAQ-2** CAS Project ID: P1100170
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023** CAS Sample ID: P1100170-002

Test Code: EPA TO-15 Date Collected: 1/11/11
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/17/11
Analyst: Wida Ang Date Analyzed: 1/26/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01565

Initial Pressure (psig): -0.9 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.32

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.13	ND	0.033	
141-78-6	Ethyl Acetate	ND	0.66	ND	0.18	
110-54-3	n-Hexane	**3.4**	0.66	**0.97**	0.19	
67-66-3	Chloroform	ND	0.13	ND	0.027	
109-99-9	Tetrahydrofuran (THF)	ND	0.66	ND	0.22	
107-06-2	1,2-Dichloroethane	ND	0.13	ND	0.033	
71-55-6	1,1,1-Trichloroethane	**0.26**	0.13	**0.047**	0.024	
71-43-2	Benzene	**0.50**	0.13	**0.16**	0.041	
56-23-5	Carbon Tetrachloride	**0.43**	0.13	**0.068**	0.021	
110-82-7	Cyclohexane	**40**	0.66	**12**	0.19	
78-87-5	1,2-Dichloropropane	ND	0.13	ND	0.029	
75-27-4	Bromodichloromethane	ND	0.13	ND	0.020	
79-01-6	Trichloroethene	ND	0.13	ND	0.025	
123-91-1	1,4-Dioxane	ND	0.66	ND	0.18	
80-62-6	Methyl Methacrylate	ND	0.66	ND	0.16	
142-82-5	n-Heptane	**34**	0.66	**8.4**	0.16	
10061-01-5	cis-1,3-Dichloropropene	ND	0.66	ND	0.15	
108-10-1	4-Methyl-2-pentanone	**13**	0.66	**3.1**	0.16	
10061-02-6	trans-1,3-Dichloropropene	ND	0.66	ND	0.15	
79-00-5	1,1,2-Trichloroethane	ND	0.13	ND	0.024	
108-88-3	Toluene	**7.4**	0.66	**2.0**	0.18	
591-78-6	2-Hexanone	ND	0.66	ND	0.16	
124-48-1	Dibromochloromethane	ND	0.13	ND	0.016	
106-93-4	1,2-Dibromoethane	ND	0.13	ND	0.017	
123-86-4	n-Butyl Acetate	ND	0.66	ND	0.14	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Client: **Landau Associates,Inc.** CAS Project ID: P1100170
Client Sample ID: **LAI-IAQ-2** CAS Sample ID: P1100170-002
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023**

Test Code: EPA TO-15 Date Collected: 1/11/11
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/17/11
Analyst: Wida Ang Date Analyzed: 1/26/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01565

Initial Pressure (psig): -0.9 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.32

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	**18**	0.66	**3.8**	0.14	
127-18-4	Tetrachloroethene	**12**	0.13	**1.8**	0.019	
108-90-7	Chlorobenzene	ND	0.13	ND	0.029	
100-41-4	Ethylbenzene	**6.5**	0.66	**1.5**	0.15	
179601-23-1	m,p-Xylenes	**28**	0.66	**6.4**	0.15	
75-25-2	Bromoform	ND	0.66	ND	0.064	
100-42-5	Styrene	ND	0.66	ND	0.16	
95-47-6	o-Xylene	**7.9**	0.66	**1.8**	0.15	
111-84-2	n-Nonane	**4.7**	0.66	**0.90**	0.13	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.13	ND	0.019	
98-82-8	Cumene	ND	0.66	ND	0.13	
80-56-8	alpha-Pinene	ND	0.66	ND	0.12	
103-65-1	n-Propylbenzene	ND	0.66	ND	0.13	
622-96-8	4-Ethyltoluene	ND	0.66	ND	0.13	
108-67-8	1,3,5-Trimethylbenzene	ND	0.66	ND	0.13	
95-63-6	1,2,4-Trimethylbenzene	**0.71**	0.66	**0.14**	0.13	
100-44-7	Benzyl Chloride	ND	0.66	ND	0.13	
541-73-1	1,3-Dichlorobenzene	ND	0.13	ND	0.022	
106-46-7	1,4-Dichlorobenzene	ND	0.13	ND	0.022	
95-50-1	1,2-Dichlorobenzene	ND	0.13	ND	0.022	
5989-27-5	d-Limonene	ND	0.66	ND	0.12	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.66	ND	0.068	
120-82-1	1,2,4-Trichlorobenzene	ND	0.66	ND	0.089	
91-20-3	Naphthalene	ND	0.66	ND	0.13	
87-68-3	Hexachlorobutadiene	ND	0.66	ND	0.062	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Client: **Landau Associates,Inc.**
Client Sample ID: **LAI-IAQ-3**
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023**

CAS Project ID: P1100170
CAS Sample ID: P1100170-003

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Wida Ang
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: AC00536

Date Collected: 1/11/11
Date Received: 1/17/11
Date Analyzed: 1/25/11
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -0.4 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.27

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.64	ND	0.37	
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.3**	0.64	**0.46**	0.13	
74-87-3	Chloromethane	**0.31**	0.25	**0.15**	0.12	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.64	ND	0.091	
75-01-4	Vinyl Chloride	ND	0.13	ND	0.050	
106-99-0	1,3-Butadiene	ND	0.25	ND	0.11	
74-83-9	Bromomethane	ND	0.13	ND	0.033	
75-00-3	Chloroethane	ND	0.13	ND	0.048	
64-17-5	Ethanol	**10**	6.4	**5.3**	3.4	
75-05-8	Acetonitrile	ND	0.64	ND	0.38	
107-02-8	Acrolein	ND	2.5	ND	1.1	
67-64-1	Acetone	**7.3**	6.4	**3.1**	2.7	
75-69-4	Trichlorofluoromethane	**5.1**	0.13	**0.91**	0.023	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.3	ND	0.52	
107-13-1	Acrylonitrile	ND	0.64	ND	0.29	
75-35-4	1,1-Dichloroethene	ND	0.13	ND	0.032	
75-09-2	Methylene Chloride	ND	0.64	ND	0.18	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.13	ND	0.041	
76-13-1	Trichlorotrifluoroethane	**0.51**	0.13	**0.067**	0.017	
75-15-0	Carbon Disulfide	ND	6.4	ND	2.0	
156-60-5	trans-1,2-Dichloroethene	**0.50**	0.13	**0.13**	0.032	
75-34-3	1,1-Dichloroethane	ND	0.13	ND	0.031	
1634-04-4	Methyl tert-Butyl Ether	ND	0.13	ND	0.035	
108-05-4	Vinyl Acetate	ND	6.4	ND	1.8	
78-93-3	2-Butanone (MEK)	**11**	6.4	**3.7**	2.2	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Client: **Landau Associates,Inc.**
Client Sample ID: **LAI-IAQ-3** CAS Project ID: P1100170
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023** CAS Sample ID: P1100170-003

Test Code: EPA TO-15 Date Collected: 1/11/11
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/17/11
Analyst: Wida Ang Date Analyzed: 1/25/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC00536

Initial Pressure (psig): -0.4 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.27

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.13	ND	0.032	
141-78-6	Ethyl Acetate	ND	0.64	ND	0.18	
110-54-3	n-Hexane	**4.9**	0.64	**1.4**	0.18	
67-66-3	Chloroform	ND	0.13	ND	0.026	
109-99-9	Tetrahydrofuran (THF)	ND	0.64	ND	0.22	
107-06-2	1,2-Dichloroethane	**0.13**	0.13	**0.032**	0.031	
71-55-6	1,1,1-Trichloroethane	**0.33**	0.13	**0.061**	0.023	
71-43-2	Benzene	**0.52**	0.13	**0.16**	0.040	
56-23-5	Carbon Tetrachloride	**0.31**	0.13	**0.049**	0.020	
110-82-7	Cyclohexane	**61**	0.64	**18**	0.18	
78-87-5	1,2-Dichloropropane	ND	0.13	ND	0.027	
75-27-4	Bromodichloromethane	ND	0.13	ND	0.019	
79-01-6	Trichloroethene	ND	0.13	ND	0.024	
123-91-1	1,4-Dioxane	ND	0.64	ND	0.18	
80-62-6	Methyl Methacrylate	ND	0.64	ND	0.16	
142-82-5	n-Heptane	**53**	0.64	**13**	0.16	
10061-01-5	cis-1,3-Dichloropropene	ND	0.64	ND	0.14	
108-10-1	4-Methyl-2-pentanone	**17**	0.64	**4.2**	0.16	
10061-02-6	trans-1,3-Dichloropropene	ND	0.64	ND	0.14	
79-00-5	1,1,2-Trichloroethane	ND	0.13	ND	0.023	
108-88-3	Toluene	**7.5**	0.64	**2.0**	0.17	
591-78-6	2-Hexanone	ND	0.64	ND	0.16	
124-48-1	Dibromochloromethane	ND	0.13	ND	0.015	
106-93-4	1,2-Dibromoethane	ND	0.13	ND	0.017	
123-86-4	n-Butyl Acetate	ND	0.64	ND	0.13	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Client: **Landau Associates,Inc.** CAS Project ID: P1100170
Client Sample ID: **LAI-IAQ-3** CAS Sample ID: P1100170-003
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023**

Test Code: EPA TO-15 Date Collected: 1/11/11
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/17/11
Analyst: Wida Ang Date Analyzed: 1/25/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC00536

Initial Pressure (psig): -0.4 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.27

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	**28**	0.64	**5.9**	0.14	
127-18-4	Tetrachloroethene	**15**	0.13	**2.2**	0.019	
108-90-7	Chlorobenzene	ND	0.13	ND	0.028	
100-41-4	Ethylbenzene	**5.9**	0.64	**1.4**	0.15	
179601-23-1	m,p-Xylenes	**25**	0.64	**5.8**	0.15	
75-25-2	Bromoform	ND	0.64	ND	0.061	
100-42-5	Styrene	ND	0.64	ND	0.15	
95-47-6	o-Xylene	**7.4**	0.64	**1.7**	0.15	
111-84-2	n-Nonane	**7.0**	0.64	**1.3**	0.12	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.13	ND	0.019	
98-82-8	Cumene	ND	0.64	ND	0.13	
80-56-8	alpha-Pinene	ND	0.64	ND	0.11	
103-65-1	n-Propylbenzene	ND	0.64	ND	0.13	
622-96-8	4-Ethyltoluene	ND	0.64	ND	0.13	
108-67-8	1,3,5-Trimethylbenzene	ND	0.64	ND	0.13	
95-63-6	1,2,4-Trimethylbenzene	**0.72**	0.64	**0.15**	0.13	
100-44-7	Benzyl Chloride	ND	0.64	ND	0.12	
541-73-1	1,3-Dichlorobenzene	ND	0.13	ND	0.021	
106-46-7	1,4-Dichlorobenzene	ND	0.13	ND	0.021	
95-50-1	1,2-Dichlorobenzene	ND	0.13	ND	0.021	
5989-27-5	d-Limonene	ND	0.64	ND	0.11	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.64	ND	0.066	
120-82-1	1,2,4-Trichlorobenzene	ND	0.64	ND	0.086	
91-20-3	Naphthalene	ND	0.64	ND	0.12	
87-68-3	Hexachlorobutadiene	ND	0.64	ND	0.060	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Client: **Landau Associates,Inc.**
Client Sample ID: **LAI-IAQ-4**
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023**

CAS Project ID: P1100170
CAS Sample ID: P1100170-004

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Wida Ang
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: AC01605

Date Collected: 1/11/11
Date Received: 1/17/11
Date Analyzed: 1/25/11
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): 0.4 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.21

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	**0.82**	0.61	**0.48**	0.35	
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.3**	0.61	**0.47**	0.12	
74-87-3	Chloromethane	**0.32**	0.24	**0.15**	0.12	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.61	ND	0.087	
75-01-4	Vinyl Chloride	ND	0.12	ND	0.047	
106-99-0	1,3-Butadiene	ND	0.24	ND	0.11	
74-83-9	Bromomethane	ND	0.12	ND	0.031	
75-00-3	Chloroethane	ND	0.12	ND	0.046	
64-17-5	Ethanol	**13**	6.1	**7.1**	3.2	
75-05-8	Acetonitrile	ND	0.61	ND	0.36	
107-02-8	Acrolein	ND	2.4	ND	1.1	
67-64-1	Acetone	**13**	6.1	**5.3**	2.5	
75-69-4	Trichlorofluoromethane	**5.6**	0.12	**1.0**	0.022	
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.5**	1.2	**0.62**	0.49	
107-13-1	Acrylonitrile	ND	0.61	ND	0.28	
75-35-4	1,1-Dichloroethene	ND	0.12	ND	0.031	
75-09-2	Methylene Chloride	ND	0.61	ND	0.17	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.12	ND	0.039	
76-13-1	Trichlorotrifluoroethane	**0.53**	0.12	**0.069**	0.016	
75-15-0	Carbon Disulfide	ND	6.1	ND	1.9	
156-60-5	trans-1,2-Dichloroethene	**0.69**	0.12	**0.17**	0.031	
75-34-3	1,1-Dichloroethane	ND	0.12	ND	0.030	
1634-04-4	Methyl tert-Butyl Ether	ND	0.12	ND	0.034	
108-05-4	Vinyl Acetate	ND	6.1	ND	1.7	
78-93-3	2-Butanone (MEK)	**14**	6.1	**4.7**	2.1	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Client: **Landau Associates,Inc.**
Client Sample ID: **LAI-IAQ-4** CAS Project ID: P1100170
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023** CAS Sample ID: P1100170-004

Test Code: EPA TO-15 Date Collected: 1/11/11
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/17/11
Analyst: Wida Ang Date Analyzed: 1/25/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01605

Initial Pressure (psig): 0.4 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.21

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.12	ND	0.031	
141-78-6	Ethyl Acetate	ND	0.61	ND	0.17	
110-54-3	n-Hexane	**6.9**	0.61	**2.0**	0.17	
67-66-3	Chloroform	ND	0.12	ND	0.025	
109-99-9	Tetrahydrofuran (THF)	ND	0.61	ND	0.21	
107-06-2	1,2-Dichloroethane	**0.16**	0.12	**0.040**	0.030	
71-55-6	1,1,1-Trichloroethane	**0.48**	0.12	**0.088**	0.022	
71-43-2	Benzene	**0.53**	0.12	**0.17**	0.038	
56-23-5	Carbon Tetrachloride	**0.41**	0.12	**0.066**	0.019	
110-82-7	Cyclohexane	**88**	0.61	**26**	0.18	
78-87-5	1,2-Dichloropropane	ND	0.12	ND	0.026	
75-27-4	Bromodichloromethane	ND	0.12	ND	0.018	
79-01-6	Trichloroethene	ND	0.12	ND	0.023	
123-91-1	1,4-Dioxane	ND	0.61	ND	0.17	
80-62-6	Methyl Methacrylate	ND	0.61	ND	0.15	
142-82-5	n-Heptane	**78**	0.61	**19**	0.15	
10061-01-5	cis-1,3-Dichloropropene	ND	0.61	ND	0.13	
108-10-1	4-Methyl-2-pentanone	**24**	0.61	**5.8**	0.15	
10061-02-6	trans-1,3-Dichloropropene	ND	0.61	ND	0.13	
79-00-5	1,1,2-Trichloroethane	ND	0.12	ND	0.022	
108-88-3	Toluene	**7.5**	0.61	**2.0**	0.16	
591-78-6	2-Hexanone	ND	0.61	ND	0.15	
124-48-1	Dibromochloromethane	ND	0.12	ND	0.014	
106-93-4	1,2-Dibromoethane	ND	0.12	ND	0.016	
123-86-4	n-Butyl Acetate	ND	0.61	ND	0.13	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Client: **Landau Associates,Inc.** CAS Project ID: P1100170
Client Sample ID: **LAI-IAQ-4** CAS Sample ID: P1100170-004
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023**

Test Code: EPA TO-15 Date Collected: 1/11/11
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/17/11
Analyst: Wida Ang Date Analyzed: 1/25/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01605

Initial Pressure (psig): 0.4 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.21

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	**40**	0.61	**8.6**	0.13	
127-18-4	Tetrachloroethene	**9.4**	0.12	**1.4**	0.018	
108-90-7	Chlorobenzene	ND	0.12	ND	0.026	
100-41-4	Ethylbenzene	**5.8**	0.61	**1.3**	0.14	
179601-23-1	m,p-Xylenes	**24**	0.61	**5.6**	0.14	
75-25-2	Bromoform	ND	0.61	ND	0.059	
100-42-5	Styrene	ND	0.61	ND	0.14	
95-47-6	o-Xylene	**7.3**	0.61	**1.7**	0.14	
111-84-2	n-Nonane	**10**	0.61	**2.0**	0.12	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.12	ND	0.018	
98-82-8	Cumene	ND	0.61	ND	0.12	
80-56-8	alpha-Pinene	ND	0.61	ND	0.11	
103-65-1	n-Propylbenzene	ND	0.61	ND	0.12	
622-96-8	4-Ethyltoluene	ND	0.61	ND	0.12	
108-67-8	1,3,5-Trimethylbenzene	ND	0.61	ND	0.12	
95-63-6	1,2,4-Trimethylbenzene	**0.82**	0.61	**0.17**	0.12	
100-44-7	Benzyl Chloride	ND	0.61	ND	0.12	
541-73-1	1,3-Dichlorobenzene	ND	0.12	ND	0.020	
106-46-7	1,4-Dichlorobenzene	ND	0.12	ND	0.020	
95-50-1	1,2-Dichlorobenzene	ND	0.12	ND	0.020	
5989-27-5	d-Limonene	ND	0.61	ND	0.11	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.61	ND	0.063	
120-82-1	1,2,4-Trichlorobenzene	ND	0.61	ND	0.082	
91-20-3	Naphthalene	ND	0.61	ND	0.12	
87-68-3	Hexachlorobutadiene	ND	0.61	ND	0.057	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Client: **Landau Associates,Inc.**
Client Sample ID: **LAI-IAQ-5**
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023**

CAS Project ID: P1100170
CAS Sample ID: P1100170-005

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Wida Ang
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: AC00702

Date Collected: 1/11/11
Date Received: 1/17/11
Date Analyzed: 1/25 - 1/26/11
Volume(s) Analyzed: 1.00 Liter(s)
0.20 Liter(s)

Initial Pressure (psig): -2.5 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.49

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.75	ND	0.43	
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.3**	0.75	**0.46**	0.15	
74-87-3	Chloromethane	**0.30**	0.30	**0.15**	0.14	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.75	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.15	ND	0.058	
106-99-0	1,3-Butadiene	ND	0.30	ND	0.13	
74-83-9	Bromomethane	ND	0.15	ND	0.038	
75-00-3	Chloroethane	ND	0.15	ND	0.056	
64-17-5	Ethanol	**25**	7.5	**13**	4.0	
75-05-8	Acetonitrile	ND	0.75	ND	0.44	
107-02-8	Acrolein	ND	3.0	ND	1.3	
67-64-1	Acetone	**11**	7.5	**4.6**	3.1	
75-69-4	Trichlorofluoromethane	**2.5**	0.15	**0.44**	0.027	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.5	ND	0.61	
107-13-1	Acrylonitrile	ND	0.75	ND	0.34	
75-35-4	1,1-Dichloroethene	ND	0.15	ND	0.038	
75-09-2	Methylene Chloride	**0.92**	0.75	**0.27**	0.21	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.15	ND	0.048	
76-13-1	Trichlorotrifluoroethane	**0.52**	0.15	**0.068**	0.019	
75-15-0	Carbon Disulfide	ND	7.5	ND	2.4	
156-60-5	trans-1,2-Dichloroethene	**0.91**	0.15	**0.23**	0.038	
75-34-3	1,1-Dichloroethane	ND	0.15	ND	0.037	
1634-04-4	Methyl tert-Butyl Ether	ND	0.15	ND	0.041	
108-05-4	Vinyl Acetate	ND	7.5	ND	2.1	
78-93-3	2-Butanone (MEK)	**7.9**	7.5	**2.7**	2.5	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Landau Associates,Inc.**
Client Sample ID: **LAI-IAQ-5** CAS Project ID: P1100170
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023** CAS Sample ID: P1100170-005

Test Code: EPA TO-15 Date Collected: 1/11/11
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/17/11
Analyst: Wida Ang Date Analyzed: 1/25 - 1/26/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes: 0.20 Liter(s)
Container ID: AC00702

Initial Pressure (psig): -2.5 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.49

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.15	ND	0.038	
141-78-6	Ethyl Acetate	**2.0**	0.75	**0.56**	0.21	
110-54-3	n-Hexane	**17**	0.75	**4.7**	0.21	
67-66-3	Chloroform	ND	0.15	ND	0.031	
109-99-9	Tetrahydrofuran (THF)	ND	0.75	ND	0.25	
107-06-2	1,2-Dichloroethane	ND	0.15	ND	0.037	
71-55-6	1,1,1-Trichloroethane	ND	0.15	ND	0.027	
71-43-2	Benzene	**0.61**	0.15	**0.19**	0.047	
56-23-5	Carbon Tetrachloride	**0.35**	0.15	**0.055**	0.024	
110-82-7	Cyclohexane	**240**	0.75	**69**	0.22	
78-87-5	1,2-Dichloropropane	ND	0.15	ND	0.032	
75-27-4	Bromodichloromethane	ND	0.15	ND	0.022	
79-01-6	Trichloroethene	ND	0.15	ND	0.028	
123-91-1	1,4-Dioxane	ND	0.75	ND	0.21	
80-62-6	Methyl Methacrylate	ND	0.75	ND	0.18	
142-82-5	n-Heptane	**190**	3.7	**46**	0.91	**D**
10061-01-5	cis-1,3-Dichloropropene	ND	0.75	ND	0.16	
108-10-1	4-Methyl-2-pentanone	**8.3**	0.75	**2.0**	0.18	
10061-02-6	trans-1,3-Dichloropropene	ND	0.75	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.15	ND	0.027	
108-88-3	Toluene	**5.2**	0.75	**1.4**	0.20	
591-78-6	2-Hexanone	ND	0.75	ND	0.18	
124-48-1	Dibromochloromethane	ND	0.15	ND	0.017	
106-93-4	1,2-Dibromoethane	ND	0.15	ND	0.019	
123-86-4	n-Butyl Acetate	ND	0.75	ND	0.16	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
D = The reported result is from a dilution.

RESULTS OF ANALYSIS

Client: **Landau Associates,Inc.** CAS Project ID: P1100170
Client Sample ID: **LAI-IAQ-5** CAS Sample ID: P1100170-005
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023**

Test Code: EPA TO-15 Date Collected: 1/11/11
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/17/11
Analyst: Wida Ang Date Analyzed: 1/25 - 1/26/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes: 0.20 Liter(s)
Container ID: AC00702

Initial Pressure (psig): -2.5 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.49

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	**110**	0.75	**24**	0.16	
127-18-4	Tetrachloroethene	**3.0**	0.15	**0.44**	0.022	
108-90-7	Chlorobenzene	ND	0.15	ND	0.032	
100-41-4	Ethylbenzene	**4.7**	0.75	**1.1**	0.17	
179601-23-1	m,p-Xylenes	**18**	0.75	**4.1**	0.17	
75-25-2	Bromoform	ND	0.75	ND	0.072	
100-42-5	Styrene	**1.3**	0.75	**0.31**	0.18	
95-47-6	o-Xylene	**4.9**	0.75	**1.1**	0.17	
111-84-2	n-Nonane	**24**	0.75	**4.6**	0.14	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.15	ND	0.022	
98-82-8	Cumene	ND	0.75	ND	0.15	
80-56-8	alpha-Pinene	**1.1**	0.75	**0.20**	0.13	
103-65-1	n-Propylbenzene	ND	0.75	ND	0.15	
622-96-8	4-Ethyltoluene	ND	0.75	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.75	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	**0.96**	0.75	**0.19**	0.15	
100-44-7	Benzyl Chloride	ND	0.75	ND	0.14	
541-73-1	1,3-Dichlorobenzene	ND	0.15	ND	0.025	
106-46-7	1,4-Dichlorobenzene	ND	0.15	ND	0.025	
95-50-1	1,2-Dichlorobenzene	ND	0.15	ND	0.025	
5989-27-5	d-Limonene	ND	0.75	ND	0.13	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.75	ND	0.077	
120-82-1	1,2,4-Trichlorobenzene	ND	0.75	ND	0.10	
91-20-3	Naphthalene	ND	0.75	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.75	ND	0.070	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Client: **Landau Associates,Inc.**
Client Sample ID: **LAI-IAQ-6** CAS Project ID: P1100170
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023** CAS Sample ID: P1100170-006

Test Code: EPA TO-15 Date Collected: 1/11/11
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/17/11
Analyst: Wida Ang Date Analyzed: 1/25/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC00596

Initial Pressure (psig): -2.0 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.72	ND	0.42	
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.3**	0.72	**0.47**	0.14	
74-87-3	Chloromethane	**0.30**	0.29	**0.15**	0.14	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.72	ND	0.10	
75-01-4	Vinyl Chloride	ND	0.14	ND	0.056	
106-99-0	1,3-Butadiene	ND	0.29	ND	0.13	
74-83-9	Bromomethane	ND	0.14	ND	0.037	
75-00-3	Chloroethane	ND	0.14	ND	0.054	
64-17-5	Ethanol	**11**	7.2	**5.7**	3.8	
75-05-8	Acetonitrile	ND	0.72	ND	0.43	
107-02-8	Acrolein	ND	2.9	ND	1.2	
67-64-1	Acetone	**7.5**	7.2	**3.1**	3.0	
75-69-4	Trichlorofluoromethane	**4.4**	0.14	**0.78**	0.025	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.4	ND	0.58	
107-13-1	Acrylonitrile	ND	0.72	ND	0.33	
75-35-4	1,1-Dichloroethene	ND	0.14	ND	0.036	
75-09-2	Methylene Chloride	ND	0.72	ND	0.21	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.14	ND	0.046	
76-13-1	Trichlorotrifluoroethane	**0.52**	0.14	**0.069**	0.019	
75-15-0	Carbon Disulfide	ND	7.2	ND	2.3	
156-60-5	trans-1,2-Dichloroethene	**0.30**	0.14	**0.075**	0.036	
75-34-3	1,1-Dichloroethane	ND	0.14	ND	0.035	
1634-04-4	Methyl tert-Butyl Ether	ND	0.14	ND	0.040	
108-05-4	Vinyl Acetate	ND	7.2	ND	2.0	
78-93-3	2-Butanone (MEK)	**12**	7.2	**4.2**	2.4	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Landau Associates,Inc.**
Client Sample ID: **LAI-IAQ-6**
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023**

CAS Project ID: P1100170
CAS Sample ID: P1100170-006

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Wida Ang
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: AC00596

Date Collected: 1/11/11
Date Received: 1/17/11
Date Analyzed: 1/25/11
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.0 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.14	ND	0.036	
141-78-6	Ethyl Acetate	ND	0.72	ND	0.20	
110-54-3	n-Hexane	**2.6**	0.72	**0.73**	0.20	
67-66-3	Chloroform	ND	0.14	ND	0.029	
109-99-9	Tetrahydrofuran (THF)	ND	0.72	ND	0.24	
107-06-2	1,2-Dichloroethane	ND	0.14	ND	0.035	
71-55-6	1,1,1-Trichloroethane	**0.25**	0.14	**0.045**	0.026	
71-43-2	Benzene	**0.49**	0.14	**0.15**	0.045	
56-23-5	Carbon Tetrachloride	**0.29**	0.14	**0.046**	0.023	
110-82-7	Cyclohexane	**29**	0.72	**8.4**	0.21	
78-87-5	1,2-Dichloropropane	ND	0.14	ND	0.031	
75-27-4	Bromodichloromethane	ND	0.14	ND	0.021	
79-01-6	Trichloroethene	ND	0.14	ND	0.027	
123-91-1	1,4-Dioxane	ND	0.72	ND	0.20	
80-62-6	Methyl Methacrylate	ND	0.72	ND	0.17	
142-82-5	n-Heptane	**24**	0.72	**5.9**	0.17	
10061-01-5	cis-1,3-Dichloropropene	ND	0.72	ND	0.16	
108-10-1	4-Methyl-2-pentanone	**14**	0.72	**3.3**	0.17	
10061-02-6	trans-1,3-Dichloropropene	ND	0.72	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.14	ND	0.026	
108-88-3	Toluene	**6.9**	0.72	**1.8**	0.19	
591-78-6	2-Hexanone	ND	0.72	ND	0.17	
124-48-1	Dibromochloromethane	ND	0.14	ND	0.017	
106-93-4	1,2-Dibromoethane	ND	0.14	ND	0.019	
123-86-4	n-Butyl Acetate	ND	0.72	ND	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Client: **Landau Associates,Inc.** CAS Project ID: P1100170
Client Sample ID: **LAI-IAQ-6** CAS Sample ID: P1100170-006
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023**

Test Code: EPA TO-15 Date Collected: 1/11/11
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/17/11
Analyst: Wida Ang Date Analyzed: 1/25/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC00596

Initial Pressure (psig): -2.0 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	**13**	0.72	**2.7**	0.15	
127-18-4	Tetrachloroethene	**8.8**	0.14	**1.3**	0.021	
108-90-7	Chlorobenzene	ND	0.14	ND	0.031	
100-41-4	Ethylbenzene	**4.7**	0.72	**1.1**	0.16	
179601-23-1	m,p-Xylenes	**20**	0.72	**4.6**	0.16	
75-25-2	Bromoform	ND	0.72	ND	0.069	
100-42-5	Styrene	ND	0.72	ND	0.17	
95-47-6	o-Xylene	**6.0**	0.72	**1.4**	0.16	
111-84-2	n-Nonane	**4.5**	0.72	**0.86**	0.14	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.14	ND	0.021	
98-82-8	Cumene	ND	0.72	ND	0.15	
80-56-8	alpha-Pinene	ND	0.72	ND	0.13	
103-65-1	n-Propylbenzene	ND	0.72	ND	0.15	
622-96-8	4-Ethyltoluene	ND	0.72	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.72	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	**0.80**	0.72	**0.16**	0.15	
100-44-7	Benzyl Chloride	ND	0.72	ND	0.14	
541-73-1	1,3-Dichlorobenzene	ND	0.14	ND	0.024	
106-46-7	1,4-Dichlorobenzene	ND	0.14	ND	0.024	
95-50-1	1,2-Dichlorobenzene	ND	0.14	ND	0.024	
5989-27-5	d-Limonene	ND	0.72	ND	0.13	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.72	ND	0.074	
120-82-1	1,2,4-Trichlorobenzene	ND	0.72	ND	0.096	
91-20-3	Naphthalene	ND	0.72	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.72	ND	0.067	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Client: **Landau Associates,Inc.**
Client Sample ID: **LAI-IAQ-7**
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023**

CAS Project ID: P1100170
CAS Sample ID: P1100170-007

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Wida Ang
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: AC00868

Date Collected: 1/11/11
Date Received: 1/17/11
Date Analyzed: 1/26/11
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -3.3 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.60

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.80	ND	0.47	
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.3**	0.80	**0.47**	0.16	
74-87-3	Chloromethane	ND	0.32	ND	0.16	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.80	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.16	ND	0.063	
106-99-0	1,3-Butadiene	ND	0.32	ND	0.14	
74-83-9	Bromomethane	ND	0.16	ND	0.041	
75-00-3	Chloroethane	ND	0.16	ND	0.061	
64-17-5	Ethanol	**11**	8.0	**5.8**	4.2	
75-05-8	Acetonitrile	ND	0.80	ND	0.48	
107-02-8	Acrolein	ND	3.2	ND	1.4	
67-64-1	Acetone	**9.1**	8.0	**3.9**	3.4	
75-69-4	Trichlorofluoromethane	**3.1**	0.16	**0.56**	0.028	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.6	ND	0.65	
107-13-1	Acrylonitrile	ND	0.80	ND	0.37	
75-35-4	1,1-Dichloroethene	ND	0.16	ND	0.040	
75-09-2	Methylene Chloride	ND	0.80	ND	0.23	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.16	ND	0.051	
76-13-1	Trichlorotrifluoroethane	**0.52**	0.16	**0.067**	0.021	
75-15-0	Carbon Disulfide	ND	8.0	ND	2.6	
156-60-5	trans-1,2-Dichloroethene	**0.20**	0.16	**0.049**	0.040	
75-34-3	1,1-Dichloroethane	ND	0.16	ND	0.040	
1634-04-4	Methyl tert-Butyl Ether	ND	0.16	ND	0.044	
108-05-4	Vinyl Acetate	ND	8.0	ND	2.3	
78-93-3	2-Butanone (MEK)	**12**	8.0	**4.0**	2.7	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Client: **Landau Associates,Inc.**
Client Sample ID: **LAI-IAQ-7** CAS Project ID: P1100170
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023** CAS Sample ID: P1100170-007

Test Code: EPA TO-15 Date Collected: 1/11/11
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/17/11
Analyst: Wida Ang Date Analyzed: 1/26/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC00868

Initial Pressure (psig): -3.3 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.60

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.16	ND	0.040	
141-78-6	Ethyl Acetate	**0.85**	0.80	**0.23**	0.22	
110-54-3	n-Hexane	**2.1**	0.80	**0.58**	0.23	
67-66-3	Chloroform	ND	0.16	ND	0.033	
109-99-9	Tetrahydrofuran (THF)	ND	0.80	ND	0.27	
107-06-2	1,2-Dichloroethane	ND	0.16	ND	0.040	
71-55-6	1,1,1-Trichloroethane	**0.17**	0.16	**0.031**	0.029	
71-43-2	Benzene	**0.51**	0.16	**0.16**	0.050	
56-23-5	Carbon Tetrachloride	**0.40**	0.16	**0.064**	0.025	
110-82-7	Cyclohexane	**23**	0.80	**6.6**	0.23	
78-87-5	1,2-Dichloropropane	ND	0.16	ND	0.035	
75-27-4	Bromodichloromethane	ND	0.16	ND	0.024	
79-01-6	Trichloroethene	ND	0.16	ND	0.030	
123-91-1	1,4-Dioxane	ND	0.80	ND	0.22	
80-62-6	Methyl Methacrylate	ND	0.80	ND	0.20	
142-82-5	n-Heptane	**19**	0.80	**4.6**	0.20	
10061-01-5	cis-1,3-Dichloropropene	ND	0.80	ND	0.18	
108-10-1	4-Methyl-2-pentanone	**8.0**	0.80	**1.9**	0.20	
10061-02-6	trans-1,3-Dichloropropene	ND	0.80	ND	0.18	
79-00-5	1,1,2-Trichloroethane	ND	0.16	ND	0.029	
108-88-3	Toluene	**7.2**	0.80	**1.9**	0.21	
591-78-6	2-Hexanone	ND	0.80	ND	0.20	
124-48-1	Dibromochloromethane	ND	0.16	ND	0.019	
106-93-4	1,2-Dibromoethane	ND	0.16	ND	0.021	
123-86-4	n-Butyl Acetate	ND	0.80	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Client: **Landau Associates,Inc.** CAS Project ID: P1100170
Client Sample ID: **LAI-IAQ-7** CAS Sample ID: P1100170-007
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023**

Test Code: EPA TO-15 Date Collected: 1/11/11
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/17/11
Analyst: Wida Ang Date Analyzed: 1/26/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC00868

Initial Pressure (psig): -3.3 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.60

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	**9.8**	0.80	**2.1**	0.17	
127-18-4	Tetrachloroethene	**5.7**	0.16	**0.83**	0.024	
108-90-7	Chlorobenzene	ND	0.16	ND	0.035	
100-41-4	Ethylbenzene	**3.1**	0.80	**0.71**	0.18	
179601-23-1	m,p-Xylenes	**13**	0.80	**2.9**	0.18	
75-25-2	Bromoform	ND	0.80	ND	0.077	
100-42-5	Styrene	ND	0.80	ND	0.19	
95-47-6	o-Xylene	**3.9**	0.80	**0.90**	0.18	
111-84-2	n-Nonane	**5.7**	0.80	**1.1**	0.15	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.16	ND	0.023	
98-82-8	Cumene	ND	0.80	ND	0.16	
80-56-8	alpha-Pinene	ND	0.80	ND	0.14	
103-65-1	n-Propylbenzene	ND	0.80	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.80	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.80	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	ND	0.80	ND	0.16	
100-44-7	Benzyl Chloride	ND	0.80	ND	0.15	
541-73-1	1,3-Dichlorobenzene	ND	0.16	ND	0.027	
106-46-7	1,4-Dichlorobenzene	ND	0.16	ND	0.027	
95-50-1	1,2-Dichlorobenzene	ND	0.16	ND	0.027	
5989-27-5	d-Limonene	ND	0.80	ND	0.14	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.80	ND	0.083	
120-82-1	1,2,4-Trichlorobenzene	ND	0.80	ND	0.11	
91-20-3	Naphthalene	ND	0.80	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.80	ND	0.075	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Client: **Landau Associates,Inc.**
Client Sample ID: **LAI-AAQ-1**
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023**

CAS Project ID: P1100170
CAS Sample ID: P1100170-008

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Wida Ang
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: AC01275

Date Collected: 1/11/11
Date Received: 1/17/11
Date Analyzed: 1/26/11
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -0.8 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.31

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.66	ND	0.38	
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.3**	0.66	**0.47**	0.13	
74-87-3	Chloromethane	**0.31**	0.26	**0.15**	0.13	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.66	ND	0.094	
75-01-4	Vinyl Chloride	ND	0.13	ND	0.051	
106-99-0	1,3-Butadiene	ND	0.26	ND	0.12	
74-83-9	Bromomethane	ND	0.13	ND	0.034	
75-00-3	Chloroethane	ND	0.13	ND	0.050	
64-17-5	Ethanol	ND	6.6	ND	3.5	
75-05-8	Acetonitrile	ND	0.66	ND	0.39	
107-02-8	Acrolein	ND	2.6	ND	1.1	
67-64-1	Acetone	ND	6.6	ND	2.8	
75-69-4	Trichlorofluoromethane	**1.2**	0.13	**0.22**	0.023	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.3	ND	0.53	
107-13-1	Acrylonitrile	ND	0.66	ND	0.30	
75-35-4	1,1-Dichloroethene	ND	0.13	ND	0.033	
75-09-2	Methylene Chloride	ND	0.66	ND	0.19	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.13	ND	0.042	
76-13-1	Trichlorotrifluoroethane	**0.52**	0.13	**0.068**	0.017	
75-15-0	Carbon Disulfide	ND	6.6	ND	2.1	
156-60-5	trans-1,2-Dichloroethene	ND	0.13	ND	0.033	
75-34-3	1,1-Dichloroethane	ND	0.13	ND	0.032	
1634-04-4	Methyl tert-Butyl Ether	ND	0.13	ND	0.036	
108-05-4	Vinyl Acetate	ND	6.6	ND	1.9	
78-93-3	2-Butanone (MEK)	ND	6.6	ND	2.2	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Landau Associates,Inc.**
Client Sample ID: **LAI-AAQ-1**
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023**

CAS Project ID: P1100170
CAS Sample ID: P1100170-008

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Wida Ang
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: AC01275

Date Collected: 1/11/11
Date Received: 1/17/11
Date Analyzed: 1/26/11
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -0.8 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.31

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.13	ND	0.033	
141-78-6	Ethyl Acetate	ND	0.66	ND	0.18	
110-54-3	n-Hexane	ND	0.66	ND	0.19	
67-66-3	Chloroform	ND	0.13	ND	0.027	
109-99-9	Tetrahydrofuran (THF)	ND	0.66	ND	0.22	
107-06-2	1,2-Dichloroethane	ND	0.13	ND	0.032	
71-55-6	1,1,1-Trichloroethane	ND	0.13	ND	0.024	
71-43-2	Benzene	**0.56**	0.13	**0.18**	0.041	
56-23-5	Carbon Tetrachloride	**0.41**	0.13	**0.066**	0.021	
110-82-7	Cyclohexane	ND	0.66	ND	0.19	
78-87-5	1,2-Dichloropropane	ND	0.13	ND	0.028	
75-27-4	Bromodichloromethane	ND	0.13	ND	0.020	
79-01-6	Trichloroethene	ND	0.13	ND	0.024	
123-91-1	1,4-Dioxane	ND	0.66	ND	0.18	
80-62-6	Methyl Methacrylate	ND	0.66	ND	0.16	
142-82-5	n-Heptane	ND	0.66	ND	0.16	
10061-01-5	cis-1,3-Dichloropropene	ND	0.66	ND	0.14	
108-10-1	4-Methyl-2-pentanone	ND	0.66	ND	0.16	
10061-02-6	trans-1,3-Dichloropropene	ND	0.66	ND	0.14	
79-00-5	1,1,2-Trichloroethane	ND	0.13	ND	0.024	
108-88-3	Toluene	**1.3**	0.66	**0.34**	0.17	
591-78-6	2-Hexanone	ND	0.66	ND	0.16	
124-48-1	Dibromochloromethane	ND	0.13	ND	0.015	
106-93-4	1,2-Dibromoethane	ND	0.13	ND	0.017	
123-86-4	n-Butyl Acetate	ND	0.66	ND	0.14	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Client: **Landau Associates,Inc.** CAS Project ID: P1100170
Client Sample ID: **LAI-AAQ-1** CAS Sample ID: P1100170-008
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023**

Test Code: EPA TO-15 Date Collected: 1/11/11
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/17/11
Analyst: Wida Ang Date Analyzed: 1/26/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01275

Initial Pressure (psig): -0.8 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.31

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.66	ND	0.14	
127-18-4	Tetrachloroethene	ND	0.13	ND	0.019	
108-90-7	Chlorobenzene	ND	0.13	ND	0.028	
100-41-4	Ethylbenzene	ND	0.66	ND	0.15	
179601-23-1	m,p-Xylenes	ND	0.66	ND	0.15	
75-25-2	Bromoform	ND	0.66	ND	0.063	
100-42-5	Styrene	ND	0.66	ND	0.15	
95-47-6	o-Xylene	ND	0.66	ND	0.15	
111-84-2	n-Nonane	ND	0.66	ND	0.12	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.13	ND	0.019	
98-82-8	Cumene	ND	0.66	ND	0.13	
80-56-8	alpha-Pinene	ND	0.66	ND	0.12	
103-65-1	n-Propylbenzene	ND	0.66	ND	0.13	
622-96-8	4-Ethyltoluene	ND	0.66	ND	0.13	
108-67-8	1,3,5-Trimethylbenzene	ND	0.66	ND	0.13	
95-63-6	1,2,4-Trimethylbenzene	ND	0.66	ND	0.13	
100-44-7	Benzyl Chloride	ND	0.66	ND	0.13	
541-73-1	1,3-Dichlorobenzene	ND	0.13	ND	0.022	
106-46-7	1,4-Dichlorobenzene	ND	0.13	ND	0.022	
95-50-1	1,2-Dichlorobenzene	ND	0.13	ND	0.022	
5989-27-5	d-Limonene	ND	0.66	ND	0.12	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.66	ND	0.068	
120-82-1	1,2,4-Trichlorobenzene	ND	0.66	ND	0.088	
91-20-3	Naphthalene	ND	0.66	ND	0.13	
87-68-3	Hexachlorobutadiene	ND	0.66	ND	0.061	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Client: **Landau Associates,Inc.**
Client Sample ID: **LAI-SSAQ-1**
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023**

CAS Project ID: P1100170
CAS Sample ID: P1100170-009

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Wida Ang
Sampling Media: 1.0 L Summa Canister
Test Notes:
Container ID: 1SC00491

Date Collected: 1/11/11
Date Received: 1/17/11
Date Analyzed: 1/25/11
Volume(s) Analyzed: 0.00020 Liter(s)

Initial Pressure (psig): -2.1 Final Pressure (psig): 9.8

Canister Dilution Factor: 1.94

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	4,900	ND	2,800	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	4,900	ND	980	
74-87-3	Chloromethane	ND	1,900	ND	940	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	4,900	ND	690	
75-01-4	Vinyl Chloride	ND	970	ND	380	
106-99-0	1,3-Butadiene	ND	1,900	ND	880	
74-83-9	Bromomethane	ND	970	ND	250	
75-00-3	Chloroethane	ND	970	ND	370	
64-17-5	Ethanol	ND	49,000	ND	26,000	
75-05-8	Acetonitrile	ND	4,900	ND	2,900	
107-02-8	Acrolein	ND	19,000	ND	8,500	
67-64-1	Acetone	**120,000**	49,000	**49,000**	20,000	
75-69-4	Trichlorofluoromethane	ND	970	ND	170	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	9,700	ND	3,900	
107-13-1	Acrylonitrile	ND	4,900	ND	2,200	
75-35-4	1,1-Dichloroethene	ND	970	ND	240	
75-09-2	Methylene Chloride	ND	4,900	ND	1,400	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	970	ND	310	
76-13-1	Trichlorotrifluoroethane	**2,500**	970	**320**	130	
75-15-0	Carbon Disulfide	ND	49,000	ND	16,000	
156-60-5	trans-1,2-Dichloroethene	ND	970	ND	240	
75-34-3	1,1-Dichloroethane	ND	970	ND	240	
1634-04-4	Methyl tert-Butyl Ether	ND	970	ND	270	
108-05-4	Vinyl Acetate	ND	49,000	ND	14,000	
78-93-3	2-Butanone (MEK)	**400,000**	49,000	**140,000**	16,000	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Landau Associates,Inc.**
Client Sample ID: **LAI-SSAQ-1** CAS Project ID: P1100170
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023** CAS Sample ID: P1100170-009

Test Code: EPA TO-15 Date Collected: 1/11/11
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/17/11
Analyst: Wida Ang Date Analyzed: 1/25/11
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00020 Liter(s)
Test Notes:
Container ID: 1SC00491

Initial Pressure (psig): -2.1 Final Pressure (psig): 9.8

Canister Dilution Factor: 1.94

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	970	ND	240	
141-78-6	Ethyl Acetate	ND	4,900	ND	1,300	
110-54-3	n-Hexane	**14,000**	4,900	**3,900**	1,400	
67-66-3	Chloroform	ND	970	ND	200	
109-99-9	Tetrahydrofuran (THF)	ND	4,900	ND	1,600	
107-06-2	1,2-Dichloroethane	ND	970	ND	240	
71-55-6	1,1,1-Trichloroethane	ND	970	ND	180	
71-43-2	Benzene	**2,200**	970	**700**	300	
56-23-5	Carbon Tetrachloride	ND	970	ND	150	
110-82-7	Cyclohexane	**61,000**	4,900	**18,000**	1,400	
78-87-5	1,2-Dichloropropane	ND	970	ND	210	
75-27-4	Bromodichloromethane	ND	970	ND	140	
79-01-6	Trichloroethene	**4,100**	970	**750**	180	
123-91-1	1,4-Dioxane	ND	4,900	ND	1,300	
80-62-6	Methyl Methacrylate	ND	4,900	ND	1,200	
142-82-5	n-Heptane	**210,000**	4,900	**51,000**	1,200	
10061-01-5	cis-1,3-Dichloropropene	ND	4,900	ND	1,100	
108-10-1	4-Methyl-2-pentanone	ND	4,900	ND	1,200	
10061-02-6	trans-1,3-Dichloropropene	ND	4,900	ND	1,100	
79-00-5	1,1,2-Trichloroethane	ND	970	ND	180	
108-88-3	Toluene	**810,000**	4,900	**210,000**	1,300	
591-78-6	2-Hexanone	**26,000**	4,900	**6,400**	1,200	
124-48-1	Dibromochloromethane	ND	970	ND	110	
106-93-4	1,2-Dibromoethane	ND	970	ND	130	
123-86-4	n-Butyl Acetate	ND	4,900	ND	1,000	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Client: **Landau Associates,Inc.** CAS Project ID: P1100170
Client Sample ID: **LAI-SSAQ-1** CAS Sample ID: P1100170-009
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023**

Test Code: EPA TO-15 Date Collected: 1/11/11
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/17/11
Analyst: Wida Ang Date Analyzed: 1/25/11
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00020 Liter(s)
Test Notes:
Container ID: 1SC00491

Initial Pressure (psig): -2.1 Final Pressure (psig): 9.8

Canister Dilution Factor: 1.94

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	**9,600**	4,900	**2,000**	1,000	
127-18-4	Tetrachloroethene	ND	970	ND	140	
108-90-7	Chlorobenzene	ND	970	ND	210	
100-41-4	Ethylbenzene	**51,000**	4,900	**12,000**	1,100	
179601-23-1	m,p-Xylenes	**88,000**	4,900	**20,000**	1,100	
75-25-2	Bromoform	ND	4,900	ND	470	
100-42-5	Styrene	ND	4,900	ND	1,100	
95-47-6	o-Xylene	**11,000**	4,900	**2,500**	1,100	
111-84-2	n-Nonane	ND	4,900	ND	920	
79-34-5	1,1,2,2-Tetrachloroethane	ND	970	ND	140	
98-82-8	Cumene	ND	4,900	ND	990	
80-56-8	alpha-Pinene	ND	4,900	ND	870	
103-65-1	n-Propylbenzene	ND	4,900	ND	990	
622-96-8	4-Ethyltoluene	ND	4,900	ND	990	
108-67-8	1,3,5-Trimethylbenzene	ND	4,900	ND	990	
95-63-6	1,2,4-Trimethylbenzene	ND	4,900	ND	990	
100-44-7	Benzyl Chloride	ND	4,900	ND	940	
541-73-1	1,3-Dichlorobenzene	ND	970	ND	160	
106-46-7	1,4-Dichlorobenzene	ND	970	ND	160	
95-50-1	1,2-Dichlorobenzene	ND	970	ND	160	
5989-27-5	d-Limonene	ND	4,900	ND	870	
96-12-8	1,2-Dibromo-3-chloropropane	ND	4,900	ND	500	
120-82-1	1,2,4-Trichlorobenzene	ND	4,900	ND	650	
91-20-3	Naphthalene	ND	4,900	ND	930	
87-68-3	Hexachlorobutadiene	ND	4,900	ND	450	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Client: **Landau Associates,Inc.**
Client Sample ID: **LAI-SSAQ-2**
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023**

CAS Project ID: P1100170
CAS Sample ID: P1100170-010

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Wida Ang
Sampling Media: 1.0 L Summa Canister
Test Notes:
Container ID: 1SC00468

Date Collected: 1/11/11
Date Received: 1/17/11
Date Analyzed: 1/25/11
Volume(s) Analyzed: 0.00070 Liter(s)

Initial Pressure (psig): -2.7 Final Pressure (psig): 5.0

Canister Dilution Factor: 1.64

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	1,200	ND	680	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	1,200	ND	240	
74-87-3	Chloromethane	ND	470	ND	230	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	1,200	ND	170	
75-01-4	Vinyl Chloride	ND	230	ND	92	
106-99-0	1,3-Butadiene	ND	470	ND	210	
74-83-9	Bromomethane	ND	230	ND	60	
75-00-3	Chloroethane	ND	230	ND	89	
64-17-5	Ethanol	ND	12,000	ND	6,200	
75-05-8	Acetonitrile	ND	1,200	ND	700	
107-02-8	Acrolein	ND	4,700	ND	2,000	
67-64-1	Acetone	ND	12,000	ND	4,900	
75-69-4	Trichlorofluoromethane	ND	230	ND	42	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	2,300	ND	950	
107-13-1	Acrylonitrile	ND	1,200	ND	540	
75-35-4	1,1-Dichloroethene	ND	230	ND	59	
75-09-2	Methylene Chloride	ND	1,200	ND	340	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	230	ND	75	
76-13-1	Trichlorotrifluoroethane	**670**	230	**88**	31	
75-15-0	Carbon Disulfide	ND	12,000	ND	3,800	
156-60-5	trans-1,2-Dichloroethene	ND	230	ND	59	
75-34-3	1,1-Dichloroethane	ND	230	ND	58	
1634-04-4	Methyl tert-Butyl Ether	ND	230	ND	65	
108-05-4	Vinyl Acetate	ND	12,000	ND	3,300	
78-93-3	2-Butanone (MEK)	ND	12,000	ND	4,000	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Landau Associates,Inc.**
Client Sample ID: **LAI-SSAQ-2** CAS Project ID: P1100170
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023** CAS Sample ID: P1100170-010

Test Code: EPA TO-15 Date Collected: 1/11/11
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/17/11
Analyst: Wida Ang Date Analyzed: 1/25/11
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00070 Liter(s)
Test Notes:
Container ID: 1SC00468

Initial Pressure (psig): -2.7 Final Pressure (psig): 5.0

Canister Dilution Factor: 1.64

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	230	ND	59	
141-78-6	Ethyl Acetate	ND	1,200	ND	330	
110-54-3	n-Hexane	ND	1,200	ND	330	
67-66-3	Chloroform	ND	230	ND	48	
109-99-9	Tetrahydrofuran (THF)	ND	1,200	ND	400	
107-06-2	1,2-Dichloroethane	ND	230	ND	58	
71-55-6	1,1,1-Trichloroethane	ND	230	ND	43	
71-43-2	Benzene	ND	230	ND	73	
56-23-5	Carbon Tetrachloride	ND	230	ND	37	
110-82-7	Cyclohexane	**3,500**	1,200	**1,000**	340	
78-87-5	1,2-Dichloropropane	ND	230	ND	51	
75-27-4	Bromodichloromethane	ND	230	ND	35	
79-01-6	Trichloroethene	**990**	230	**180**	44	
123-91-1	1,4-Dioxane	ND	1,200	ND	330	
80-62-6	Methyl Methacrylate	ND	1,200	ND	290	
142-82-5	n-Heptane	**27,000**	1,200	**6,500**	290	
10061-01-5	cis-1,3-Dichloropropene	ND	1,200	ND	260	
108-10-1	4-Methyl-2-pentanone	ND	1,200	ND	290	
10061-02-6	trans-1,3-Dichloropropene	ND	1,200	ND	260	
79-00-5	1,1,2-Trichloroethane	ND	230	ND	43	
108-88-3	Toluene	**180,000**	1,200	**48,000**	310	
591-78-6	2-Hexanone	**4,900**	1,200	**1,200**	290	
124-48-1	Dibromochloromethane	ND	230	ND	28	
106-93-4	1,2-Dibromoethane	ND	230	ND	30	
123-86-4	n-Butyl Acetate	ND	1,200	ND	250	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Client: **Landau Associates,Inc.** CAS Project ID: P1100170
Client Sample ID: **LAI-SSAQ-2** CAS Sample ID: P1100170-010
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023**

Test Code: EPA TO-15 Date Collected: 1/11/11
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/17/11
Analyst: Wida Ang Date Analyzed: 1/25/11
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00070 Liter(s)
Test Notes:
Container ID: 1SC00468

Initial Pressure (psig): -2.7 Final Pressure (psig): 5.0

Canister Dilution Factor: 1.64

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	**3,300**	1,200	**710**	250	
127-18-4	Tetrachloroethene	ND	230	ND	35	
108-90-7	Chlorobenzene	ND	230	ND	51	
100-41-4	Ethylbenzene	**23,000**	1,200	**5,300**	270	
179601-23-1	m,p-Xylenes	**42,000**	1,200	**9,800**	270	
75-25-2	Bromoform	ND	1,200	ND	110	
100-42-5	Styrene	ND	1,200	ND	280	
95-47-6	o-Xylene	**5,400**	1,200	**1,200**	270	
111-84-2	n-Nonane	ND	1,200	ND	220	
79-34-5	1,1,2,2-Tetrachloroethane	ND	230	ND	34	
98-82-8	Cumene	ND	1,200	ND	240	
80-56-8	alpha-Pinene	ND	1,200	ND	210	
103-65-1	n-Propylbenzene	ND	1,200	ND	240	
622-96-8	4-Ethyltoluene	ND	1,200	ND	240	
108-67-8	1,3,5-Trimethylbenzene	ND	1,200	ND	240	
95-63-6	1,2,4-Trimethylbenzene	ND	1,200	ND	240	
100-44-7	Benzyl Chloride	ND	1,200	ND	230	
541-73-1	1,3-Dichlorobenzene	ND	230	ND	39	
106-46-7	1,4-Dichlorobenzene	ND	230	ND	39	
95-50-1	1,2-Dichlorobenzene	ND	230	ND	39	
5989-27-5	d-Limonene	ND	1,200	ND	210	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1,200	ND	120	
120-82-1	1,2,4-Trichlorobenzene	ND	1,200	ND	160	
91-20-3	Naphthalene	ND	1,200	ND	220	
87-68-3	Hexachlorobutadiene	ND	1,200	ND	110	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Landau Associates,Inc.**
Client Sample ID: **Method Blank** CAS Project ID: P1100170
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023** CAS Sample ID: P110124-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Wida Ang Date Analyzed: 1/24/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.50	ND	0.29	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.50	ND	0.10	
74-87-3	Chloromethane	ND	0.20	ND	0.097	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.50	ND	0.072	
75-01-4	Vinyl Chloride	ND	0.10	ND	0.039	
106-99-0	1,3-Butadiene	ND	0.20	ND	0.090	
74-83-9	Bromomethane	ND	0.10	ND	0.026	
75-00-3	Chloroethane	ND	0.10	ND	0.038	
64-17-5	Ethanol	ND	5.0	ND	2.7	
75-05-8	Acetonitrile	ND	0.50	ND	0.30	
107-02-8	Acrolein	ND	2.0	ND	0.87	
67-64-1	Acetone	ND	5.0	ND	2.1	
75-69-4	Trichlorofluoromethane	ND	0.10	ND	0.018	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.0	ND	0.41	
107-13-1	Acrylonitrile	ND	0.50	ND	0.23	
75-35-4	1,1-Dichloroethene	ND	0.10	ND	0.025	
75-09-2	Methylene Chloride	ND	0.50	ND	0.14	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.10	ND	0.032	
76-13-1	Trichlorotrifluoroethane	ND	0.10	ND	0.013	
75-15-0	Carbon Disulfide	ND	5.0	ND	1.6	
156-60-5	trans-1,2-Dichloroethene	ND	0.10	ND	0.025	
75-34-3	1,1-Dichloroethane	ND	0.10	ND	0.025	
1634-04-4	Methyl tert-Butyl Ether	ND	0.10	ND	0.028	
108-05-4	Vinyl Acetate	ND	5.0	ND	1.4	
78-93-3	2-Butanone (MEK)	ND	5.0	ND	1.7	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Landau Associates,Inc.**
Client Sample ID: **Method Blank** CAS Project ID: P1100170
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023** CAS Sample ID: P110124-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Wida Ang Date Analyzed: 1/24/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.10	ND	0.025	
141-78-6	Ethyl Acetate	ND	0.50	ND	0.14	
110-54-3	n-Hexane	ND	0.50	ND	0.14	
67-66-3	Chloroform	ND	0.10	ND	0.020	
109-99-9	Tetrahydrofuran (THF)	ND	0.50	ND	0.17	
107-06-2	1,2-Dichloroethane	ND	0.10	ND	0.025	
71-55-6	1,1,1-Trichloroethane	ND	0.10	ND	0.018	
71-43-2	Benzene	ND	0.10	ND	0.031	
56-23-5	Carbon Tetrachloride	ND	0.10	ND	0.016	
110-82-7	Cyclohexane	ND	0.50	ND	0.15	
78-87-5	1,2-Dichloropropane	ND	0.10	ND	0.022	
75-27-4	Bromodichloromethane	ND	0.10	ND	0.015	
79-01-6	Trichloroethene	ND	0.10	ND	0.019	
123-91-1	1,4-Dioxane	ND	0.50	ND	0.14	
80-62-6	Methyl Methacrylate	ND	0.50	ND	0.12	
142-82-5	n-Heptane	ND	0.50	ND	0.12	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ND	0.11	
108-10-1	4-Methyl-2-pentanone	ND	0.50	ND	0.12	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ND	0.11	
79-00-5	1,1,2-Trichloroethane	ND	0.10	ND	0.018	
108-88-3	Toluene	ND	0.50	ND	0.13	
591-78-6	2-Hexanone	ND	0.50	ND	0.12	
124-48-1	Dibromochloromethane	ND	0.10	ND	0.012	
106-93-4	1,2-Dibromoethane	ND	0.10	ND	0.013	
123-86-4	n-Butyl Acetate	ND	0.50	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Landau Associates,Inc.** CAS Project ID: P1100170
Client Sample ID: **Method Blank** CAS Sample ID: P110124-MB
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023**

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Wida Ang Date Analyzed: 1/24/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.50	ND	0.11	
127-18-4	Tetrachloroethene	ND	0.10	ND	0.015	
108-90-7	Chlorobenzene	ND	0.10	ND	0.022	
100-41-4	Ethylbenzene	ND	0.50	ND	0.12	
179601-23-1	m,p-Xylenes	ND	0.50	ND	0.12	
75-25-2	Bromoform	ND	0.50	ND	0.048	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	o-Xylene	ND	0.50	ND	0.12	
111-84-2	n-Nonane	ND	0.50	ND	0.095	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.10	ND	0.015	
98-82-8	Cumene	ND	0.50	ND	0.10	
80-56-8	alpha-Pinene	ND	0.50	ND	0.090	
103-65-1	n-Propylbenzene	ND	0.50	ND	0.10	
622-96-8	4-Ethyltoluene	ND	0.50	ND	0.10	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	ND	0.10	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	ND	0.10	
100-44-7	Benzyl Chloride	ND	0.50	ND	0.097	
541-73-1	1,3-Dichlorobenzene	ND	0.10	ND	0.017	
106-46-7	1,4-Dichlorobenzene	ND	0.10	ND	0.017	
95-50-1	1,2-Dichlorobenzene	ND	0.10	ND	0.017	
5989-27-5	d-Limonene	ND	0.50	ND	0.090	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	ND	0.052	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	ND	0.067	
91-20-3	Naphthalene	ND	0.50	ND	0.095	
87-68-3	Hexachlorobutadiene	ND	0.50	ND	0.047	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Client: **Landau Associates,Inc.**
Client Sample ID: **Method Blank** CAS Project ID: P1100170
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023** CAS Sample ID: P110125-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Wida Ang Date Analyzed: 1/25/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.50	ND	0.29	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.50	ND	0.10	
74-87-3	Chloromethane	ND	0.20	ND	0.097	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.50	ND	0.072	
75-01-4	Vinyl Chloride	ND	0.10	ND	0.039	
106-99-0	1,3-Butadiene	ND	0.20	ND	0.090	
74-83-9	Bromomethane	ND	0.10	ND	0.026	
75-00-3	Chloroethane	ND	0.10	ND	0.038	
64-17-5	Ethanol	ND	5.0	ND	2.7	
75-05-8	Acetonitrile	ND	0.50	ND	0.30	
107-02-8	Acrolein	ND	2.0	ND	0.87	
67-64-1	Acetone	ND	5.0	ND	2.1	
75-69-4	Trichlorofluoromethane	ND	0.10	ND	0.018	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.0	ND	0.41	
107-13-1	Acrylonitrile	ND	0.50	ND	0.23	
75-35-4	1,1-Dichloroethene	ND	0.10	ND	0.025	
75-09-2	Methylene Chloride	ND	0.50	ND	0.14	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.10	ND	0.032	
76-13-1	Trichlorotrifluoroethane	ND	0.10	ND	0.013	
75-15-0	Carbon Disulfide	ND	5.0	ND	1.6	
156-60-5	trans-1,2-Dichloroethene	ND	0.10	ND	0.025	
75-34-3	1,1-Dichloroethane	ND	0.10	ND	0.025	
1634-04-4	Methyl tert-Butyl Ether	ND	0.10	ND	0.028	
108-05-4	Vinyl Acetate	ND	5.0	ND	1.4	
78-93-3	2-Butanone (MEK)	ND	5.0	ND	1.7	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Landau Associates,Inc.**
Client Sample ID: **Method Blank** CAS Project ID: P1100170
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023** CAS Sample ID: P110125-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Wida Ang Date Analyzed: 1/25/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.10	ND	0.025	
141-78-6	Ethyl Acetate	ND	0.50	ND	0.14	
110-54-3	n-Hexane	ND	0.50	ND	0.14	
67-66-3	Chloroform	ND	0.10	ND	0.020	
109-99-9	Tetrahydrofuran (THF)	ND	0.50	ND	0.17	
107-06-2	1,2-Dichloroethane	ND	0.10	ND	0.025	
71-55-6	1,1,1-Trichloroethane	ND	0.10	ND	0.018	
71-43-2	Benzene	ND	0.10	ND	0.031	
56-23-5	Carbon Tetrachloride	ND	0.10	ND	0.016	
110-82-7	Cyclohexane	ND	0.50	ND	0.15	
78-87-5	1,2-Dichloropropane	ND	0.10	ND	0.022	
75-27-4	Bromodichloromethane	ND	0.10	ND	0.015	
79-01-6	Trichloroethene	ND	0.10	ND	0.019	
123-91-1	1,4-Dioxane	ND	0.50	ND	0.14	
80-62-6	Methyl Methacrylate	ND	0.50	ND	0.12	
142-82-5	n-Heptane	ND	0.50	ND	0.12	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ND	0.11	
108-10-1	4-Methyl-2-pentanone	ND	0.50	ND	0.12	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ND	0.11	
79-00-5	1,1,2-Trichloroethane	ND	0.10	ND	0.018	
108-88-3	Toluene	ND	0.50	ND	0.13	
591-78-6	2-Hexanone	ND	0.50	ND	0.12	
124-48-1	Dibromochloromethane	ND	0.10	ND	0.012	
106-93-4	1,2-Dibromoethane	ND	0.10	ND	0.013	
123-86-4	n-Butyl Acetate	ND	0.50	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Landau Associates,Inc.** CAS Project ID: P1100170
Client Sample ID: **Method Blank** CAS Sample ID: P110125-MB
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023**

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Wida Ang Date Analyzed: 1/25/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.50	ND	0.11	
127-18-4	Tetrachloroethene	ND	0.10	ND	0.015	
108-90-7	Chlorobenzene	ND	0.10	ND	0.022	
100-41-4	Ethylbenzene	ND	0.50	ND	0.12	
179601-23-1	m,p-Xylenes	ND	0.50	ND	0.12	
75-25-2	Bromoform	ND	0.50	ND	0.048	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	o-Xylene	ND	0.50	ND	0.12	
111-84-2	n-Nonane	ND	0.50	ND	0.095	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.10	ND	0.015	
98-82-8	Cumene	ND	0.50	ND	0.10	
80-56-8	alpha-Pinene	ND	0.50	ND	0.090	
103-65-1	n-Propylbenzene	ND	0.50	ND	0.10	
622-96-8	4-Ethyltoluene	ND	0.50	ND	0.10	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	ND	0.10	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	ND	0.10	
100-44-7	Benzyl Chloride	ND	0.50	ND	0.097	
541-73-1	1,3-Dichlorobenzene	ND	0.10	ND	0.017	
106-46-7	1,4-Dichlorobenzene	ND	0.10	ND	0.017	
95-50-1	1,2-Dichlorobenzene	ND	0.10	ND	0.017	
5989-27-5	d-Limonene	ND	0.50	ND	0.090	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	ND	0.052	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	ND	0.067	
91-20-3	Naphthalene	ND	0.50	ND	0.095	
87-68-3	Hexachlorobutadiene	ND	0.50	ND	0.047	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Client: **Landau Associates,Inc.**
Client Sample ID: **Method Blank** CAS Project ID: P1100170
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023** CAS Sample ID: P110126-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Wida Ang Date Analyzed: 1/26/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.50	ND	0.29	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.50	ND	0.10	
74-87-3	Chloromethane	ND	0.20	ND	0.097	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.50	ND	0.072	
75-01-4	Vinyl Chloride	ND	0.10	ND	0.039	
106-99-0	1,3-Butadiene	ND	0.20	ND	0.090	
74-83-9	Bromomethane	ND	0.10	ND	0.026	
75-00-3	Chloroethane	ND	0.10	ND	0.038	
64-17-5	Ethanol	ND	5.0	ND	2.7	
75-05-8	Acetonitrile	ND	0.50	ND	0.30	
107-02-8	Acrolein	ND	2.0	ND	0.87	
67-64-1	Acetone	ND	5.0	ND	2.1	
75-69-4	Trichlorofluoromethane	ND	0.10	ND	0.018	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.0	ND	0.41	
107-13-1	Acrylonitrile	ND	0.50	ND	0.23	
75-35-4	1,1-Dichloroethene	ND	0.10	ND	0.025	
75-09-2	Methylene Chloride	ND	0.50	ND	0.14	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.10	ND	0.032	
76-13-1	Trichlorotrifluoroethane	ND	0.10	ND	0.013	
75-15-0	Carbon Disulfide	ND	5.0	ND	1.6	
156-60-5	trans-1,2-Dichloroethene	ND	0.10	ND	0.025	
75-34-3	1,1-Dichloroethane	ND	0.10	ND	0.025	
1634-04-4	Methyl tert-Butyl Ether	ND	0.10	ND	0.028	
108-05-4	Vinyl Acetate	ND	5.0	ND	1.4	
78-93-3	2-Butanone (MEK)	ND	5.0	ND	1.7	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Landau Associates,Inc.**
Client Sample ID: **Method Blank** CAS Project ID: P1100170
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023** CAS Sample ID: P110126-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Wida Ang Date Analyzed: 1/26/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.10	ND	0.025	
141-78-6	Ethyl Acetate	ND	0.50	ND	0.14	
110-54-3	n-Hexane	ND	0.50	ND	0.14	
67-66-3	Chloroform	ND	0.10	ND	0.020	
109-99-9	Tetrahydrofuran (THF)	ND	0.50	ND	0.17	
107-06-2	1,2-Dichloroethane	ND	0.10	ND	0.025	
71-55-6	1,1,1-Trichloroethane	ND	0.10	ND	0.018	
71-43-2	Benzene	ND	0.10	ND	0.031	
56-23-5	Carbon Tetrachloride	ND	0.10	ND	0.016	
110-82-7	Cyclohexane	ND	0.50	ND	0.15	
78-87-5	1,2-Dichloropropane	ND	0.10	ND	0.022	
75-27-4	Bromodichloromethane	ND	0.10	ND	0.015	
79-01-6	Trichloroethene	ND	0.10	ND	0.019	
123-91-1	1,4-Dioxane	ND	0.50	ND	0.14	
80-62-6	Methyl Methacrylate	ND	0.50	ND	0.12	
142-82-5	n-Heptane	ND	0.50	ND	0.12	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ND	0.11	
108-10-1	4-Methyl-2-pentanone	ND	0.50	ND	0.12	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ND	0.11	
79-00-5	1,1,2-Trichloroethane	ND	0.10	ND	0.018	
108-88-3	Toluene	ND	0.50	ND	0.13	
591-78-6	2-Hexanone	ND	0.50	ND	0.12	
124-48-1	Dibromochloromethane	ND	0.10	ND	0.012	
106-93-4	1,2-Dibromoethane	ND	0.10	ND	0.013	
123-86-4	n-Butyl Acetate	ND	0.50	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Landau Associates,Inc.** CAS Project ID: P1100170
Client Sample ID: **Method Blank** CAS Sample ID: P110126-MB
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023**

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Wida Ang Date Analyzed: 1/26/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.50	ND	0.11	
127-18-4	Tetrachloroethene	ND	0.10	ND	0.015	
108-90-7	Chlorobenzene	ND	0.10	ND	0.022	
100-41-4	Ethylbenzene	ND	0.50	ND	0.12	
179601-23-1	m,p-Xylenes	ND	0.50	ND	0.12	
75-25-2	Bromoform	ND	0.50	ND	0.048	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	o-Xylene	ND	0.50	ND	0.12	
111-84-2	n-Nonane	ND	0.50	ND	0.095	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.10	ND	0.015	
98-82-8	Cumene	ND	0.50	ND	0.10	
80-56-8	alpha-Pinene	ND	0.50	ND	0.090	
103-65-1	n-Propylbenzene	ND	0.50	ND	0.10	
622-96-8	4-Ethyltoluene	ND	0.50	ND	0.10	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	ND	0.10	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	ND	0.10	
100-44-7	Benzyl Chloride	ND	0.50	ND	0.097	
541-73-1	1,3-Dichlorobenzene	ND	0.10	ND	0.017	
106-46-7	1,4-Dichlorobenzene	ND	0.10	ND	0.017	
95-50-1	1,2-Dichlorobenzene	ND	0.10	ND	0.017	
5989-27-5	d-Limonene	ND	0.50	ND	0.090	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	ND	0.052	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	ND	0.067	
91-20-3	Naphthalene	ND	0.50	ND	0.095	
87-68-3	Hexachlorobutadiene	ND	0.50	ND	0.047	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

SURROGATE SPIKE RECOVERY RESULTS

Client: **Landau Associates,Inc.**
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023** CAS Project ID: P1100170

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date(s) Collected: 1/11/11
Analyst: Wida Ang Date(s) Received: 1/17/11
Sampling Media: 6.0 L Summa Canister(s) Date(s) Analyzed: 1/24 - 1/26/11
Test Notes:

Client Sample ID	CAS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P110124-MB	**102**	**99**	**95**	70-130	
Method Blank	P110125-MB	**100**	**99**	**96**	70-130	
Method Blank	P110126-MB	**100**	**99**	**96**	70-130	
Lab Control Sample	P110124-LCS	**101**	**97**	**99**	70-130	
Lab Control Sample	P110125-LCS	**101**	**96**	**101**	70-130	
Lab Control Sample	P110126-LCS	**100**	**97**	**101**	70-130	
LAI-IAQ-1	P1100170-001	**99**	**97**	**98**	70-130	
LAI-IAQ-2	P1100170-002	**100**	**98**	**98**	70-130	
LAI-IAQ-3	P1100170-003	**99**	**96**	**98**	70-130	
LAI-IAQ-4	P1100170-004	**100**	**95**	**98**	70-130	
LAI-IAQ-5	P1100170-005	**100**	**93**	**97**	70-130	
LAI-IAQ-6	P1100170-006	**99**	**97**	**99**	70-130	
LAI-IAQ-7	P1100170-007	**100**	**97**	**98**	70-130	
LAI-AAQ-1	P1100170-008	**100**	**99**	**97**	70-130	
LAI-SSAQ-1	P1100170-009	**99**	**100**	**97**	70-130	
LAI-SSAQ-2	P1100170-010	**99**	**99**	**98**	70-130	
LAI-SSAQ-2	P1100170-010DUP	**99**	**99**	**98**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Landau Associates,Inc.**
Client Sample ID: **Lab Control Sample** CAS Project ID: P1100170
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023** CAS Sample ID: P110124-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Wida Ang Date Analyzed: 1/24/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	CAS Acceptance Limits	Data Qualifier
115-07-1	Propene	216	**275**	**127**	54-137	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	**199**	**95**	55-112	
74-87-3	Chloromethane	204	**200**	**98**	66-122	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	214	**197**	**92**	64-113	
75-01-4	Vinyl Chloride	206	**201**	**98**	68-115	
106-99-0	1,3-Butadiene	240	**296**	**123**	74-142	
74-83-9	Bromomethane	206	**217**	**105**	72-124	
75-00-3	Chloroethane	208	**202**	**97**	69-115	
64-17-5	Ethanol	1,060	**1060**	**100**	67-127	
75-05-8	Acetonitrile	214	**213**	**100**	63-126	
107-02-8	Acrolein	218	**236**	**108**	62-127	
67-64-1	Acetone	1,110	**1040**	**94**	67-106	
75-69-4	Trichlorofluoromethane	210	**218**	**104**	66-121	
67-63-0	2-Propanol (Isopropyl Alcohol)	390	**304**	**78**	56-112	
107-13-1	Acrylonitrile	214	**236**	**110**	78-128	
75-35-4	1,1-Dichloroethene	220	**231**	**105**	74-116	
75-09-2	Methylene Chloride	216	**199**	**92**	69-103	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	218	**277**	**127**	76-142	
76-13-1	Trichlorotrifluoroethane	220	**214**	**97**	69-118	
75-15-0	Carbon Disulfide	214	**216**	**101**	71-112	
156-60-5	trans-1,2-Dichloroethene	216	**235**	**109**	73-121	
75-34-3	1,1-Dichloroethane	216	**226**	**105**	71-118	
1634-04-4	Methyl tert-Butyl Ether	220	**235**	**107**	72-115	
108-05-4	Vinyl Acetate	1,020	**1210**	**119**	51-150	
78-93-3	2-Butanone (MEK)	220	**256**	**116**	80-130	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Landau Associates,Inc.**
Client Sample ID: **Lab Control Sample** CAS Project ID: P1100170
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023** CAS Sample ID: P110124-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Wida Ang Date Analyzed: 1/24/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	CAS Acceptance Limits	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	220	**236**	**107**	73-117	
141-78-6	Ethyl Acetate	432	**494**	**114**	79-126	
110-54-3	n-Hexane	220	**225**	**102**	68-109	
67-66-3	Chloroform	220	**227**	**103**	67-118	
109-99-9	Tetrahydrofuran (THF)	220	**225**	**102**	57-130	
107-06-2	1,2-Dichloroethane	216	**220**	**102**	62-121	
71-55-6	1,1,1-Trichloroethane	214	**223**	**104**	70-116	
71-43-2	Benzene	216	**211**	**98**	66-103	
56-23-5	Carbon Tetrachloride	218	**239**	**110**	68-123	
110-82-7	Cyclohexane	434	**453**	**104**	73-111	
78-87-5	1,2-Dichloropropane	214	**222**	**104**	74-114	
75-27-4	Bromodichloromethane	220	**243**	**110**	75-120	
79-01-6	Trichloroethene	214	**208**	**97**	65-109	
123-91-1	1,4-Dioxane	218	**240**	**110**	74-120	
80-62-6	Methyl Methacrylate	434	**496**	**114**	80-124	
142-82-5	n-Heptane	218	**233**	**107**	75-114	
10061-01-5	cis-1,3-Dichloropropene	204	**232**	**114**	79-120	
108-10-1	4-Methyl-2-pentanone	220	**265**	**120**	79-128	
10061-02-6	trans-1,3-Dichloropropene	220	**272**	**124**	83-131	
79-00-5	1,1,2-Trichloroethane	212	**221**	**104**	76-116	
108-88-3	Toluene	218	**206**	**94**	64-115	
591-78-6	2-Hexanone	230	**254**	**110**	73-120	
124-48-1	Dibromochloromethane	220	**248**	**113**	72-137	
106-93-4	1,2-Dibromoethane	216	**226**	**105**	70-126	
123-86-4	n-Butyl Acetate	230	**264**	**115**	65-127	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Landau Associates,Inc.**
Client Sample ID: **Lab Control Sample** CAS Project ID: P1100170
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023** CAS Sample ID: P110124-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Wida Ang Date Analyzed: 1/24/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	CAS Acceptance Limits	Data Qualifier
111-65-9	n-Octane	216	**226**	**105**	72-118	
127-18-4	Tetrachloroethene	206	**201**	**98**	63-123	
108-90-7	Chlorobenzene	218	**214**	**98**	65-117	
100-41-4	Ethylbenzene	214	**220**	**103**	69-118	
179601-23-1	m,p-Xylenes	424	**442**	**104**	68-119	
75-25-2	Bromoform	210	**264**	**126**	79-150	
100-42-5	Styrene	216	**238**	**110**	74-127	
95-47-6	o-Xylene	210	**219**	**104**	68-118	
111-84-2	n-Nonane	214	**225**	**105**	72-116	
79-34-5	1,1,2,2-Tetrachloroethane	200	**218**	**109**	72-135	
98-82-8	Cumene	208	**214**	**103**	68-119	
80-56-8	alpha-Pinene	198	**216**	**109**	70-123	
103-65-1	n-Propylbenzene	210	**219**	**104**	69-119	
622-96-8	4-Ethyltoluene	220	**230**	**105**	68-121	
108-67-8	1,3,5-Trimethylbenzene	220	**231**	**105**	67-118	
95-63-6	1,2,4-Trimethylbenzene	216	**234**	**108**	66-122	
100-44-7	Benzyl Chloride	220	**285**	**130**	73-144	
541-73-1	1,3-Dichlorobenzene	220	**224**	**102**	64-122	
106-46-7	1,4-Dichlorobenzene	218	**228**	**105**	65-125	
95-50-1	1,2-Dichlorobenzene	214	**231**	**108**	63-128	
5989-27-5	d-Limonene	218	**257**	**118**	72-126	
96-12-8	1,2-Dibromo-3-chloropropane	220	**280**	**127**	72-139	
120-82-1	1,2,4-Trichlorobenzene	220	**257**	**117**	65-139	
91-20-3	Naphthalene	220	**240**	**109**	60-142	
87-68-3	Hexachlorobutadiene	220	**242**	**110**	58-137	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Landau Associates,Inc.**
Client Sample ID: **Lab Control Sample** CAS Project ID: P1100170
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023** CAS Sample ID: P110125-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Wida Ang Date Analyzed: 1/25/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	CAS Acceptance Limits	Data Qualifier
115-07-1	Propene	216	**289**	**134**	54-137	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	**202**	**96**	55-112	
74-87-3	Chloromethane	204	**213**	**104**	66-122	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	214	**206**	**96**	64-113	
75-01-4	Vinyl Chloride	206	**215**	**104**	68-115	
106-99-0	1,3-Butadiene	240	**321**	**134**	74-142	
74-83-9	Bromomethane	206	**231**	**112**	72-124	
75-00-3	Chloroethane	208	**212**	**102**	69-115	
64-17-5	Ethanol	1,060	**1120**	**106**	67-127	
75-05-8	Acetonitrile	214	**221**	**103**	63-126	
107-02-8	Acrolein	218	**240**	**110**	62-127	
67-64-1	Acetone	1,110	**1100**	**99**	67-106	
75-69-4	Trichlorofluoromethane	210	**221**	**105**	66-121	
67-63-0	2-Propanol (Isopropyl Alcohol)	390	**307**	**79**	56-112	
107-13-1	Acrylonitrile	214	**247**	**115**	78-128	
75-35-4	1,1-Dichloroethene	220	**238**	**108**	74-116	
75-09-2	Methylene Chloride	216	**204**	**94**	69-103	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	218	**284**	**130**	76-142	
76-13-1	Trichlorotrifluoroethane	220	**219**	**100**	69-118	
75-15-0	Carbon Disulfide	214	**224**	**105**	71-112	
156-60-5	trans-1,2-Dichloroethene	216	**237**	**110**	73-121	
75-34-3	1,1-Dichloroethane	216	**231**	**107**	71-118	
1634-04-4	Methyl tert-Butyl Ether	220	**236**	**107**	72-115	
108-05-4	Vinyl Acetate	1,020	**1260**	**124**	51-150	
78-93-3	2-Butanone (MEK)	220	**269**	**122**	80-130	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Landau Associates,Inc.**
Client Sample ID: **Lab Control Sample** CAS Project ID: P1100170
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023** CAS Sample ID: P110125-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Wida Ang Date Analyzed: 1/25/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	CAS Acceptance Limits	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	220	**240**	**109**	73-117	
141-78-6	Ethyl Acetate	432	**526**	**122**	79-126	
110-54-3	n-Hexane	220	**241**	**110**	68-109	**X**
67-66-3	Chloroform	220	**233**	**106**	67-118	
109-99-9	Tetrahydrofuran (THF)	220	**228**	**104**	57-130	
107-06-2	1,2-Dichloroethane	216	**223**	**103**	62-121	
71-55-6	1,1,1-Trichloroethane	214	**224**	**105**	70-116	
71-43-2	Benzene	216	**218**	**101**	66-103	
56-23-5	Carbon Tetrachloride	218	**241**	**111**	68-123	
110-82-7	Cyclohexane	434	**465**	**107**	73-111	
78-87-5	1,2-Dichloropropane	214	**229**	**107**	74-114	
75-27-4	Bromodichloromethane	220	**248**	**113**	75-120	
79-01-6	Trichloroethene	214	**213**	**100**	65-109	
123-91-1	1,4-Dioxane	218	**246**	**113**	74-120	
80-62-6	Methyl Methacrylate	434	**511**	**118**	80-124	
142-82-5	n-Heptane	218	**242**	**111**	75-114	
10061-01-5	cis-1,3-Dichloropropene	204	**238**	**117**	79-120	
108-10-1	4-Methyl-2-pentanone	220	**277**	**126**	79-128	
10061-02-6	trans-1,3-Dichloropropene	220	**276**	**125**	83-131	
79-00-5	1,1,2-Trichloroethane	212	**225**	**106**	76-116	
108-88-3	Toluene	218	**210**	**96**	64-115	
591-78-6	2-Hexanone	230	**267**	**116**	73-120	
124-48-1	Dibromochloromethane	220	**248**	**113**	72-137	
106-93-4	1,2-Dibromoethane	216	**227**	**105**	70-126	
123-86-4	n-Butyl Acetate	230	**273**	**119**	65-127	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.
X = See case narrative.

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Landau Associates,Inc.**
Client Sample ID: **Lab Control Sample** CAS Project ID: P1100170
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023** CAS Sample ID: P110125-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Wida Ang Date Analyzed: 1/25/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	CAS Acceptance Limits	Data Qualifier
111-65-9	n-Octane	216	**234**	**108**	72-118	
127-18-4	Tetrachloroethene	206	**202**	**98**	63-123	
108-90-7	Chlorobenzene	218	**216**	**99**	65-117	
100-41-4	Ethylbenzene	214	**224**	**105**	69-118	
179601-23-1	m,p-Xylenes	424	**453**	**107**	68-119	
75-25-2	Bromoform	210	**268**	**128**	79-150	
100-42-5	Styrene	216	**245**	**113**	74-127	
95-47-6	o-Xylene	210	**225**	**107**	68-118	
111-84-2	n-Nonane	214	**236**	**110**	72-116	
79-34-5	1,1,2,2-Tetrachloroethane	200	**225**	**113**	72-135	
98-82-8	Cumene	208	**219**	**105**	68-119	
80-56-8	alpha-Pinene	198	**220**	**111**	70-123	
103-65-1	n-Propylbenzene	210	**227**	**108**	69-119	
622-96-8	4-Ethyltoluene	220	**238**	**108**	68-121	
108-67-8	1,3,5-Trimethylbenzene	220	**240**	**109**	67-118	
95-63-6	1,2,4-Trimethylbenzene	216	**250**	**116**	66-122	
100-44-7	Benzyl Chloride	220	**297**	**135**	73-144	
541-73-1	1,3-Dichlorobenzene	220	**238**	**108**	64-122	
106-46-7	1,4-Dichlorobenzene	218	**241**	**111**	65-125	
95-50-1	1,2-Dichlorobenzene	214	**249**	**116**	63-128	
5989-27-5	d-Limonene	218	**277**	**127**	72-126	**L**
96-12-8	1,2-Dibromo-3-chloropropane	220	**293**	**133**	72-139	
120-82-1	1,2,4-Trichlorobenzene	220	**267**	**121**	65-139	
91-20-3	Naphthalene	220	**254**	**115**	60-142	
87-68-3	Hexachlorobutadiene	220	**255**	**116**	58-137	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.
L = Laboratory control sample recovery outside the specified limits, results may be biased high.

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Landau Associates,Inc.**
Client Sample ID: **Lab Control Sample** CAS Project ID: P1100170
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023** CAS Sample ID: P110126-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Wida Ang Date Analyzed: 1/26/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	CAS Acceptance Limits	Data Qualifier
115-07-1	Propene	216	**287**	**133**	54-137	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	**202**	**96**	55-112	
74-87-3	Chloromethane	204	**211**	**103**	66-122	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	214	**207**	**97**	64-113	
75-01-4	Vinyl Chloride	206	**213**	**103**	68-115	
106-99-0	1,3-Butadiene	240	**312**	**130**	74-142	
74-83-9	Bromomethane	206	**227**	**110**	72-124	
75-00-3	Chloroethane	208	**207**	**100**	69-115	
64-17-5	Ethanol	1,060	**1090**	**103**	67-127	
75-05-8	Acetonitrile	214	**217**	**101**	63-126	
107-02-8	Acrolein	218	**236**	**108**	62-127	
67-64-1	Acetone	1,110	**1060**	**95**	67-106	
75-69-4	Trichlorofluoromethane	210	**220**	**105**	66-121	
67-63-0	2-Propanol (Isopropyl Alcohol)	390	**303**	**78**	56-112	
107-13-1	Acrylonitrile	214	**242**	**113**	78-128	
75-35-4	1,1-Dichloroethene	220	**234**	**106**	74-116	
75-09-2	Methylene Chloride	216	**202**	**94**	69-103	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	218	**281**	**129**	76-142	
76-13-1	Trichlorotrifluoroethane	220	**219**	**100**	69-118	
75-15-0	Carbon Disulfide	214	**220**	**103**	71-112	
156-60-5	trans-1,2-Dichloroethene	216	**234**	**108**	73-121	
75-34-3	1,1-Dichloroethane	216	**228**	**106**	71-118	
1634-04-4	Methyl tert-Butyl Ether	220	**236**	**107**	72-115	
108-05-4	Vinyl Acetate	1,020	**1240**	**122**	51-150	
78-93-3	2-Butanone (MEK)	220	**264**	**120**	80-130	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Landau Associates,Inc.**
Client Sample ID: **Lab Control Sample** CAS Project ID: P1100170
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023** CAS Sample ID: P110126-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Wida Ang Date Analyzed: 1/26/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	CAS Acceptance Limits	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	220	**237**	**108**	73-117	
141-78-6	Ethyl Acetate	432	**510**	**118**	79-126	
110-54-3	n-Hexane	220	**233**	**106**	68-109	
67-66-3	Chloroform	220	**230**	**105**	67-118	
109-99-9	Tetrahydrofuran (THF)	220	**225**	**102**	57-130	
107-06-2	1,2-Dichloroethane	216	**221**	**102**	62-121	
71-55-6	1,1,1-Trichloroethane	214	**224**	**105**	70-116	
71-43-2	Benzene	216	**215**	**100**	66-103	
56-23-5	Carbon Tetrachloride	218	**240**	**110**	68-123	
110-82-7	Cyclohexane	434	**460**	**106**	73-111	
78-87-5	1,2-Dichloropropane	214	**224**	**105**	74-114	
75-27-4	Bromodichloromethane	220	**245**	**111**	75-120	
79-01-6	Trichloroethene	214	**212**	**99**	65-109	
123-91-1	1,4-Dioxane	218	**244**	**112**	74-120	
80-62-6	Methyl Methacrylate	434	**503**	**116**	80-124	
142-82-5	n-Heptane	218	**238**	**109**	75-114	
10061-01-5	cis-1,3-Dichloropropene	204	**236**	**116**	79-120	
108-10-1	4-Methyl-2-pentanone	220	**272**	**124**	79-128	
10061-02-6	trans-1,3-Dichloropropene	220	**274**	**125**	83-131	
79-00-5	1,1,2-Trichloroethane	212	**224**	**106**	76-116	
108-88-3	Toluene	218	**210**	**96**	64-115	
591-78-6	2-Hexanone	230	**263**	**114**	73-120	
124-48-1	Dibromochloromethane	220	**251**	**114**	72-137	
106-93-4	1,2-Dibromoethane	216	**229**	**106**	70-126	
123-86-4	n-Butyl Acetate	230	**273**	**119**	65-127	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Landau Associates,Inc.**
Client Sample ID: **Lab Control Sample** CAS Project ID: P1100170
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023** CAS Sample ID: P110126-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Wida Ang Date Analyzed: 1/26/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	CAS Acceptance Limits	Data Qualifier
111-65-9	n-Octane	216	**232**	**107**	72-118	
127-18-4	Tetrachloroethene	206	**204**	**99**	63-123	
108-90-7	Chlorobenzene	218	**218**	**100**	65-117	
100-41-4	Ethylbenzene	214	**225**	**105**	69-118	
179601-23-1	m,p-Xylenes	424	**454**	**107**	68-119	
75-25-2	Bromoform	210	**271**	**129**	79-150	
100-42-5	Styrene	216	**246**	**114**	74-127	
95-47-6	o-Xylene	210	**227**	**108**	68-118	
111-84-2	n-Nonane	214	**236**	**110**	72-116	
79-34-5	1,1,2,2-Tetrachloroethane	200	**226**	**113**	72-135	
98-82-8	Cumene	208	**221**	**106**	68-119	
80-56-8	alpha-Pinene	198	**222**	**112**	70-123	
103-65-1	n-Propylbenzene	210	**231**	**110**	69-119	
622-96-8	4-Ethyltoluene	220	**244**	**111**	68-121	
108-67-8	1,3,5-Trimethylbenzene	220	**244**	**111**	67-118	
95-63-6	1,2,4-Trimethylbenzene	216	**250**	**116**	66-122	
100-44-7	Benzyl Chloride	220	**302**	**137**	73-144	
541-73-1	1,3-Dichlorobenzene	220	**240**	**109**	64-122	
106-46-7	1,4-Dichlorobenzene	218	**244**	**112**	65-125	
95-50-1	1,2-Dichlorobenzene	214	**249**	**116**	63-128	
5989-27-5	d-Limonene	218	**277**	**127**	72-126	**L**
96-12-8	1,2-Dibromo-3-chloropropane	220	**300**	**136**	72-139	
120-82-1	1,2,4-Trichlorobenzene	220	**278**	**126**	65-139	
91-20-3	Naphthalene	220	**260**	**118**	60-142	
87-68-3	Hexachlorobutadiene	220	**263**	**120**	58-137	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.
L = Laboratory control sample recovery outside the specified limits, results may be biased high.

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **Landau Associates,Inc.**
Client Sample ID: **LAI-SSAQ-2**
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023**

CAS Project ID: P1100170
CAS Sample ID: P1100170-010DUP

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Wida Ang
Sampling Media: 1.0 L Summa Canister
Test Notes:
Container ID: 1SC00468

Date Collected: 1/11/11
Date Received: 1/17/11
Date Analyzed: 1/25/11
Volume(s) Analyzed: 0.00070 Liter(s)

Initial Pressure (psig): -2.7 Final Pressure (psig): 5.0

Canister Dilution Factor: 1.64

Compound	Sample Result µg/m³	Sample Result ppbV	Duplicate Sample Result µg/m³	Duplicate Sample Result ppbV	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Propene	ND	ND	ND	ND	-	-	25	
Dichlorodifluoromethane (CFC 12)	ND	ND	ND	ND	-	-	25	
Chloromethane	ND	ND	ND	ND	-	-	25	
1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	ND	ND	ND	-	-	25	
Vinyl Chloride	ND	ND	ND	ND	-	-	25	
1,3-Butadiene	ND	ND	ND	ND	-	-	25	
Bromomethane	ND	ND	ND	ND	-	-	25	
Chloroethane	ND	ND	ND	ND	-	-	25	
Ethanol	ND	ND	ND	ND	-	-	25	
Acetonitrile	ND	ND	ND	ND	-	-	25	
Acrolein	ND	ND	ND	ND	-	-	25	
Acetone	ND	ND	ND	ND	-	-	25	
Trichlorofluoromethane	ND	ND	ND	ND	-	-	25	
2-Propanol (Isopropyl Alcohol)	ND	ND	ND	ND	-	-	25	
Acrylonitrile	ND	ND	ND	ND	-	-	25	
1,1-Dichloroethene	ND	ND	ND	ND	-	-	25	
Methylene Chloride	ND	ND	ND	ND	-	-	25	
3-Chloro-1-propene (Allyl Chloride)	ND	ND	ND	ND	-	-	25	
Trichlorotrifluoroethane	672	87.8	745	97.3	708.5	**10**	25	
Carbon Disulfide	ND	ND	ND	ND	-	-	25	
trans-1,2-Dichloroethene	ND	ND	ND	ND	-	-	25	
1,1-Dichloroethane	ND	ND	ND	ND	-	-	25	
Methyl tert-Butyl Ether	ND	ND	ND	ND	-	-	25	
Vinyl Acetate	ND	ND	ND	ND	-	-	25	
2-Butanone (MEK)	ND	ND	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **Landau Associates,Inc.**
Client Sample ID: **LAI-SSAQ-2**
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023**

CAS Project ID: P1100170
CAS Sample ID: P1100170-010DUP

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Wida Ang
Sampling Media: 1.0 L Summa Canister
Test Notes:
Container ID: 1SC00468

Date Collected: 1/11/11
Date Received: 1/17/11
Date Analyzed: 1/25/11
Volume(s) Analyzed: 0.00070 Liter(s)

Initial Pressure (psig): -2.7 Final Pressure (psig): 5.0

Canister Dilution Factor: 1.64

Compound	Sample Result µg/m³	Sample Result ppbV	Duplicate Sample Result µg/m³	Duplicate Sample Result ppbV	Average µg/m³	% RPD	RPD Limit	Data Qualifier
cis-1,2-Dichloroethene	ND	ND	ND	ND	-	-	25	
Ethyl Acetate	ND	ND	ND	ND	-	-	25	
n-Hexane	ND	ND	ND	ND	-	-	25	
Chloroform	ND	ND	ND	ND	-	-	25	
Tetrahydrofuran (THF)	ND	ND	ND	ND	-	-	25	
1,2-Dichloroethane	ND	ND	ND	ND	-	-	25	
1,1,1-Trichloroethane	ND	ND	ND	ND	-	-	25	
Benzene	ND	ND	ND	ND	-	-	25	
Carbon Tetrachloride	ND	ND	ND	ND	-	-	25	
Cyclohexane	3,550	1,030	3,220	935	3385	**10**	25	
1,2-Dichloropropane	ND	ND	ND	ND	-	-	25	
Bromodichloromethane	ND	ND	ND	ND	-	-	25	
Trichloroethene	986	184	1,050	196	1018	**6**	25	
1,4-Dioxane	ND	ND	ND	ND	-	-	25	
Methyl Methacrylate	ND	ND	ND	ND	-	-	25	
n-Heptane	26,500	6,480	23,700	5,790	25100	**11**	25	
cis-1,3-Dichloropropene	ND	ND	ND	ND	-	-	25	
4-Methyl-2-pentanone	ND	ND	ND	ND	-	-	25	
trans-1,3-Dichloropropene	ND	ND	ND	ND	-	-	25	
1,1,2-Trichloroethane	ND	ND	ND	ND	-	-	25	
Toluene	181,000	48,000	156,000	41,300	168500	**15**	25	
2-Hexanone	4,950	1,210	4,150	1,010	4550	**18**	25	
Dibromochloromethane	ND	ND	ND	ND	-	-	25	
1,2-Dibromoethane	ND	ND	ND	ND	-	-	25	
n-Butyl Acetate	ND	ND	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **Landau Associates,Inc.**
Client Sample ID: **LAI-SSAQ-2**
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023**

CAS Project ID: P1100170
CAS Sample ID: P1100170-010DUP

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Wida Ang
Sampling Media: 1.0 L Summa Canister
Test Notes:
Container ID: 1SC00468

Date Collected: 1/11/11
Date Received: 1/17/11
Date Analyzed: 1/25/11
Volume(s) Analyzed: 0.00070 Liter(s)

Initial Pressure (psig): -2.7 Final Pressure (psig): 5.0

Canister Dilution Factor: 1.64

Compound	Sample Result µg/m³	Sample Result ppbV	Duplicate Sample Result µg/m³	Duplicate Sample Result ppbV	Average µg/m³	% RPD	RPD Limit	Data Qualifier
n-Octane	3,320	712	2,810	603	3065	**17**	25	
Tetrachloroethene	ND	ND	ND	ND	-	-	25	
Chlorobenzene	ND	ND	ND	ND	-	-	25	
Ethylbenzene	23,200	5,340	19,300	4,460	21250	**18**	25	
m,p-Xylenes	42,400	9,770	35,300	8,120	38850	**18**	25	
Bromoform	ND	ND	ND	ND	-	-	25	
Styrene	ND	ND	ND	ND	-	-	25	
o-Xylene	5,430	1,250	4,450	1,030	4940	**20**	25	
n-Nonane	ND	ND	ND	ND	-	-	25	
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	-	-	25	
Cumene	ND	ND	ND	ND	-	-	25	
alpha-Pinene	ND	ND	ND	ND	-	-	25	
n-Propylbenzene	ND	ND	ND	ND	-	-	25	
4-Ethyltoluene	ND	ND	ND	ND	-	-	25	
1,3,5-Trimethylbenzene	ND	ND	ND	ND	-	-	25	
1,2,4-Trimethylbenzene	ND	ND	ND	ND	-	-	25	
Benzyl Chloride	ND	ND	ND	ND	-	-	25	
1,3-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
1,4-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
1,2-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
d-Limonene	ND	ND	ND	ND	-	-	25	
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND	-	-	25	
1,2,4-Trichlorobenzene	ND	ND	ND	ND	-	-	25	
Naphthalene	ND	ND	ND	ND	-	-	25	
Hexachlorobutadiene	ND	ND	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

APPENDIX B

Air/Soil Vapor Collection Forms

LANDAU ASSOCIATES

Air/Soil-Vapor Sample Collection Form

Project Name Graco Western Air Sampling
Project Number 122C001.020.023
Client Graco Western
Sample Number LAI-IAQ-1
Landau Representative PRR
Date/Time Collected 1/11/11 @0903
Location Northern-most Room in Warehouse area
Weather Partly Cloudy Mid 30s F

WELL AND PURGE DATA

Sample Type ☐ Soil Gas Monitoring Wel ☐ SVE System ☒ Ambient Air Other

Sample Location

Well Secure? (YES or NO) Damaged (YES o NO) Describe: NA

Monitoring Well/Probe: ☐ PVC Pipe ☐ Stainless Stee ☐ Nylon or Polyethylene Tubin ☐ Other: NA

Vacuum/Pressure of source (in. H_2O): Time:

Well Diameter: (inches) Total Depth of Well (feet):

Purge Volume Calculation

Begin Purge: Time Casing Volume (cubic ft):

End Purge: Time Volume Purged (cubic ft)

VOLUME OF SCHEDULE 40 PVC PIPE

Diameter (inch)	O.D. (inch)	I.D. (inch)	Volume (ft^3/ln ft)
0.25 (tubing)	0.250	0.170	0.00016
1	1.315	1.029	0.006
1.25	1.660	1.380	0.010
2	2.375	2.067	0.020
4	4.500	4.026	0.088
6	6.625	6.031	0.201

Vol. Purged (cubic feet)	Temp. (°F/°C)	PID (ppm)	Other

Comments/Observations

SAMPLE COLLECTION DATA

Sample Container ☒ Summa Canister, Size (liters) 6L ☐ Tedlar Bag, Size (liters): ☐ Other:
Canister number: 004566

Sample Type ☐ Grab ☒ Integrated (composite sample over time

Sample Collection/Purge Pump (if used): NA

Summa Canister, Pre-Sampling and Post-Samplin

Initial Vacuum (inches of mercury): 28 Vacuum After Sample Collection (specify units): 4.0

LABORATORY ANALYSES: TO-15

Duplicate Sample Number(s):

Comments: End time: 15:15

Signature: Date: 1/11/11

LANDAU ASSOCIATES

Air/Soil-Vapor Sample Collection Form

Project Name Baco Western Air Sampling
Project Number 1226.001.020.023
Client Baco Western
Sample Number LAI-IAQ-2
Landau Representative PRR
Date/Time Collected
Location South of location LAI-IAQ-1, Western room with loading dock and ramp entrance
Weather Partly Cloudy, 30's F

WELL AND PURGE DATA

Sample Type ☐ Soil Gas Monitoring Wel ☐ SVE System ☐ Ambient Air Other ___

Sample Location ___

Well Secure? (YES or NO) Damaged (YES or NO) Describe: ___

Monitoring Well/Probe: ☐ PVC Pipe ☐ Stainless Stee ☐ Nylon or Polyethylene Tubin ☐ Other: ___

Vacuum/Pressure of source (in. H_2O): ___ Time: ___

Well Diameter: ___ (inches) Total Depth of Well (feet): ___

Purge Volume Calculation ___

Begin Purge: Time ___ Casing Volume (cubic ft): ___

End Purge: Time ___ Volume Purged (cubic ft) ___

VOLUME OF SCHEDULE 40 PVC PIPE

Diameter (inch)	O.D. (inch)	I.D. (inch)	Volume (ft^3/ln ft)
0.25 (tubing)	0.250	0.170	0.00016
1	1.315	1.029	0.006
1.25	1.660	1.380	0.010
2	2.375	2.067	0.020
4	4.500	4.026	0.088
6	6.625	6.031	0.201

Vol. Purged (cubic feet)	Temp. (°F/°C)	PID (ppm)	Other	Comments/Observations

SAMPLE COLLECTION DATA

Sample Container ☒ Summa Canister, Size (liters) 6L ☐ Tedlar Bag, Size (liters): ___ ☐ Other: ___
Canister number: 004762

Sample Type ☐ Grab ☒ Integrated (composite sample over time

Sample Collection/Purge Pump (if used): ___

Summa Canister, Pre-Sampling and Post-Samplin
Initial Vacuum (inches of mercury): 32 Vacuum After Sample Collection (specify units): 6.5

LABORATORY ANALYSES: TO-15

Duplicate Sample Number(s): ___

Comments: ___

Signature: ___ Date: 1/11/11

LANDAU ASSOCIATES

Air/Soil-Vapor Sample Collection Form

Project Name Exco Western Air Sampling
Project Number 1226001.020.023
Client Exco Western
Sample Number LAI-IAQ-3
Landau Representative PRR
Date/Time Collected 1/11/11 @ 0905
Location Between Room with ramp/loading doc and offices

Weather Partly Cloudy 30s

WELL AND PURGE DATA

Sample Type ☐ Soil Gas Monitoring Wel ☐ SVE System ☐ Ambient Air Other ___

Sample Location ___

Well Secure? (YES or NO) Damaged (YES o NO) Describe: ___

Monitoring Well/Probe: ☐ PVC Pipe ☐ Stainless Stee ☐ Nylon or Polyethylene Tubin ☐ Other: ___

Vacuum/Pressure of source (in. H_2O): ___ Time: ___

Well Diameter: ___ (inches) Total Depth of Well (feet): ___

Purge Volume Calculation ___

Begin Purge: Time ___ Casing Volume (cubic ft): ___

End Purge: Time ___ Volume Purged (cubic ft) ___

VOLUME OF SCHEDULE 40 PVC PIPE

Diameter (inch)	O.D. (inch)	I.D. (inch)	Volume (ft^3/ln ft)
0.25 (tubing)	0.250	0.170	0.00016
1	1.315	1.029	0.006
1.25	1.660	1.380	0.010
2	2.375	2.067	0.020
4	4.500	4.026	0.088
6	6.625	6.031	0.201

Vol. Purged (cubic feet)	Temp. (°F/°C)	PID (ppm)	Other	Comments/Observations

SAMPLE COLLECTION DATA

Sample Container ☒ Summa Canister, Size (liters) 6L ☐ Tedlar Bag, Size (liters): ___ ☐ Other: ___
Canister number: ___

Sample Type ☐ Grab ☒ Integrated (composite sample over time

Sample Collection/Purge Pump (if used): ___

Summa Canister, Pre-Sampling and Post-Samplin
Initial Vacuum (inches of mercury): 28 Vacuum After Sample Collection (specify units): 9.5

LABORATORY ANALYSES: TO-15

Duplicate Sample Number(s): ___

Comments: ___

Signature: ___ Date: 1/11/11

LANDAU ASSOCIATES

Air/Soil-Vapor Sample Collection Form

Project Name: Garo Western Air Sample
Project Number: 1226001.020.023
Client: Garo Western
Sample Number: LAI-IAQ-4
Landau Representative: PRP
Date/Time Collected: 1/11/11 @ 0906
Location: Room South of location LAI-IAQ-2 and LAI-IAQ-3

Weather: Partly Cloudy, 30's F

WELL AND PURGE DATA

Sample Type: ☐ Soil Gas Monitoring Wel ☐ SVE System ☐ Ambient Air Other ____

Sample Location ____

Well Secure? (YES or NO) Damaged (YES or NO) Describe: ____

Monitoring Well/Probe: ☐ PVC Pipe ☐ Stainless Stee ☐ Nylon or Polyethylene Tubin ☐ Other: ____

Vacuum/Pressure of source (in. H_2O): ____ Time: ____

Well Diameter: ____ (inches) Total Depth of Well (feet): ____

Purge Volume Calculation ____

Begin Purge: Time ____ Casing Volume (cubic ft): ____

End Purge: Time ____ Volume Purged (cubic ft) ____

VOLUME OF SCHEDULE 40 PVC PIPE

Diameter (inch)	O.D. (inch)	I.D. (inch)	Volume (ft^3/ln ft)
0.25 (tubing)	0.250	0.170	0.00016
1	1.315	1.029	0.006
1.25	1.660	1.380	0.010
2	2.375	2.067	0.020
4	4.500	4.026	0.088
6	6.625	6.031	0.201

Vol. Purged (cubic feet)	Temp. (°F/°C)	PID (ppm)	Other	Comments/Observations

SAMPLE COLLECTION DATA

Sample Container: ☒ Summa Canister, Size (liters) 6L ☐ Tedlar Bag, Size (liters): ____ ☐ Other: ____
Canister number: ____

Sample Type ☐ Grab ☐ Integrated (composite sample over time

Sample Collection/Purge Pump (if used): ____

Summa Canister, Pre-Sampling and Post-Samplin
Initial Vacuum (inches of mercury): 32 Vacuum After Sample Collection (specify units): 4.5

LABORATORY ANALYSES: TO-15

Duplicate Sample Number(s): ____

Comments: ____

Signature: [signature] Date: 1/11/11

LANDAU ASSOCIATES

Air/Soil-Vapor Sample Collection Form

Project Name Gro Western Air Sampling
Project Number 122G001-020.023
Client Gro Western
Sample Number LAI-IAQ-5
Landau Representative PRR
Date/Time Collected 1/11/11 0907
Location Southern most room in Warehouse area

Weather Cloudy 30°F

WELL AND PURGE DATA

Sample Type ☐ Soil Gas Monitoring Wel ☐ SVE System ☐ Ambient Air Other ____

Sample Location ____

Well Secure? (YES or NO) Damaged (YES o NO) Describe: ____

Monitoring Well/Probe: ☐ PVC Pipe ☐ Stainless Stee ☐ Nylon or Polyethylene Tubin ☐ Other: ____

Vacuum/Pressure of source (in. H_2O): ____ Time: ____

Well Diameter: ____ (inches) Total Depth of Well (feet): ____

Purge Volume Calculation ____

Begin Purge: Time ____ Casing Volume (cubic ft): ____

End Purge: Time ____ Volume Purged (cubic ft) ____

VOLUME OF SCHEDULE 40 PVC PIPE

Diameter (inch)	O.D. (inch)	I.D. (inch)	Volume (ft^3/ln ft)
0.25 (tubing)	0.250	0.170	0.00016
1	1.315	1.029	0.006
1.25	1.660	1.380	0.010
2	2.375	2.067	0.020
4	4.500	4.026	0.088
6	6.625	6.031	0.201

Vol. Purged (cubic feet)	Temp. (°F/°C)	PID (ppm)	Other	Comments/Observations

SAMPLE COLLECTION DATA

Sample Container ☒ Summa Canister, Size (liters) 6 L ☐ Tedlar Bag, Size (liters): ____ ☐ Other: ____
Canister number: ____

Sample Type ☐ Grab ☐ Integrated (composite sample over time

Sample Collection/Purge Pump (if used): ____

Summa Canister, Pre-Sampling and Post-Samplin
Initial Vacuum (inches of mercury): 30 Vacuum After Sample Collection (specify units): 9.0

LABORATORY ANALYSES: TO-15

Duplicate Sample Number(s): ____

Comments: ____

Signature: ____ Date: 1/11/11

LANDAU ASSOCIATES

Air/Soil-Vapor Sample Collection Form

Project Name: Gaco Western Air Sampling
Project Number: 122601-020.023
Client: Gaco Western
Sample Number: LAI-IAQ-6
Landau Representative: PRR
Date/Time Collected: 1/11/11 @ 0908
Location: Northern location in office area
Weather: Cloudy 30's F

WELL AND PURGE DATA

Sample Type: ☐ Soil Gas Monitoring Wel ☐ SVE System ☐ Ambient Air Other ____

Sample Location ____

Well Secure? (YES or NO) Damaged (YES or NO) Describe: ____

Monitoring Well/Probe: ☐ PVC Pipe ☐ Stainless Stee ☐ Nylon or Polyethylene Tubin ☐ Other: ____

Vacuum/Pressure of source (in. H_2O): ____ Time: ____

Well Diameter: ____ (inches) Total Depth of Well (feet): ____

Purge Volume Calculation ____

Begin Purge: Time ____ Casing Volume (cubic ft): ____

End Purge: Time ____ Volume Purged (cubic ft) ____

VOLUME OF SCHEDULE 40 PVC PIPE

Diameter (inch)	O.D. (inch)	I.D. (inch)	Volume (ft^3/ln ft)
0.25 (tubing)	0.250	0.170	0.00016
1	1.315	1.029	0.006
1.25	1.660	1.380	0.010
2	2.375	2.067	0.020
4	4.500	4.026	0.088
6	6.625	6.031	0.201

Vol. Purged (cubic feet)	Temp. (°F/°C)	PID (ppm)	Other	Comments/Observations

SAMPLE COLLECTION DATA

Sample Container: ☒ Summa Canister, Size (liters) 6L ☐ Tedlar Bag, Size (liters): ____ ☐ Other: ____
Canister number: ____

Sample Type: ☐ Grab ☐ Integrated (composite sample over time

Sample Collection/Purge Pump (if used): ____

Summa Canister, Pre-Sampling and Post-Samplin
Initial Vacuum (inches of mercury): 31 Vacuum After Sample Collection (specify units): 7.5

LABORATORY ANALYSES: TO-15

Duplicate Sample Number(s): ____

Comments: ____

Signature: [signature] Date: 1/11/11

LANDAU ASSOCIATES

Air/Soil-Vapor Sample Collection Form

Project Name Geo Western Air Sampling
Project Number 122601.020.023
Client Geo Western
Sample Number LAI-IAQ-7
Landau Representative PRA
Date/Time Collected 1/11/11 @ 0909
Location Southern location in ~~front~~ office area/lab room
Weather Cloudy 30°F

WELL AND PURGE DATA

Sample Type ☐ Soil Gas Monitoring Wel ☐ SVE System ☐ Ambient Air Other ___

Sample Location ___

Well Secure? (YES or NO) Damaged (YES or NO) Describe: ___

Monitoring Well/Probe: ☐ PVC Pipe ☐ Stainless Stee ☐ Nylon or Polyethylene Tubin ☐ Other: ___

Vacuum/Pressure of source (in. H_2O): ___ Time: ___

Well Diameter: ___ (inches) Total Depth of Well (feet): ___

Purge Volume Calculation ___

Begin Purge: Time ___ Casing Volume (cubic ft): ___

End Purge: Time ___ Volume Purged (cubic ft) ___

VOLUME OF SCHEDULE 40 PVC PIPE

Diameter (inch)	O.D. (inch)	I.D. (inch)	Volume (ft^3/ln ft)
0.25 (tubing)	0.250	0.170	0.00016
1	1.315	1.029	0.006
1.25	1.660	1.380	0.010
2	2.375	2.067	0.020
4	4.500	4.026	0.088
6	6.625	6.031	0.201

Vol. Purged (cubic feet)	Temp. (°F/°C)	PID (ppm)	Other	Comments/Observations

SAMPLE COLLECTION DATA

Sample Container ☒ Summa Canister, Size (liters) 6L ☐ Tedlar Bag, Size (liters): ___ ☐ Other: ___
Canister number: ___

Sample Type ☐ Grab ☐ Integrated (composite sample over time

Sample Collection/Purge Pump (if used): ___

Summa Canister, Pre-Sampling and Post-Samplin
Initial Vacuum (inches of mercury): 29.5 Vacuum After Sample Collection (specify units): 8.0

LABORATORY ANALYSES: TO-15

Duplicate Sample Number(s): ___

Comments: ___

Signature: ___ Date: 1/11/11

Page ____ of ____

LANDAU ASSOCIATES

Air/Soil-Vapor Sample Collection Form

Project Name: Gaco Western Air Sampling
Project Number: 1226001.020.023
Client: Gaco Western
Sample Number: LAI-AAQ-1
Landau Representative: PRQ
Date/Time Collected: 1/11/11 @ 0910
Location: ~~Adjacent to LAI-IAQ-2~~ Collected outdoors, on Northwest corner of property
Weather: Cloudy, 30's F

WELL AND PURGE DATA

Sample Type: ☐ Soil Gas Monitoring Wel ☐ SVE System ☐ Ambient Air Other: Sub Slab

Sample Location: ____________

Well Secure? (YES or NO) Damaged (YES or NO) Describe: ____________

Monitoring Well/Probe: ☐ PVC Pipe ☐ Stainless Stee ☐ Nylon or Polyethylene Tubin ☐ Other: ________

Vacuum/Pressure of source (in. H_2O): ________ Time: ________

Well Diameter: ____ (inches) Total Depth of Well (feet): ________

Purge Volume Calculation ____________

Begin Purge: Time ______ Casing Volume (cubic ft): ________

End Purge: Time ______ Volume Purged (cubic ft) ________

VOLUME OF SCHEDULE 40 PVC PIPE

Diameter (inch)	O.D. (inch)	I.D. (inch)	Volume (ft^3/ln ft)
0.25 (tubing)	0.250	0.170	0.00016
1	1.315	1.029	0.006
1.25	1.660	1.380	0.010
2	2.375	2.067	0.020
4	4.500	4.026	0.088
6	6.625	6.031	0.201

Vol. Purged (cubic feet)	Temp. (°F/°C)	PID (ppm)	Other	Comments/Observations

SAMPLE COLLECTION DATA

Sample Container: ☒ Summa Canister, Size (liters) 6L ☐ Tedlar Bag, Size (liters): ________ ☐ Other: ________
Canister number: ________

Sample Type: ☐ Grab ☐ Integrated (composite sample over time

Sample Collection/Purge Pump (if used): ____________

Summa Canister, Pre-Sampling and Post-Samplin
Initial Vacuum (inches of mercury): 32 Vacuum After Sample Collection (specify units): 7.5

LABORATORY ANALYSES: TO-15

Duplicate Sample Number(s): ____________

Comments: ____________

Signature: [signature] Date: 1/11/11

LANDAU ASSOCIATES

Air/Soil-Vapor Sample Collection Form

Project Name ~~LAI~~ Cisco Western Air Sampling
Project Number 126001.020.023
Client Cisco Western
Sample Number LAI-SSAQ-1
Landau Representative PRL
Date/Time Collected
Location ~~PRL~~ Adjacent to LAI-IAQ-2
Weather Cloudy, 30's F

WELL AND PURGE DATA

Sample Type ☐ Soil Gas Monitoring Wel ☐ SVE System ☐ Ambient Air Other Sub Slab
Sample Location
Well Secure? (YES or NO) Damaged (YES or NO) Describe:
Monitoring Well/Probe: ☐ PVC Pipe ☐ Stainless Stee ☐ Nylon or Polyethylene Tubin ☐ Other:
Vacuum/Pressure of source (in. H_2O): Time:
Well Diameter: (inches) Total Depth of Well (feet):
Purge Volume Calculation
Begin Purge: Time Casing Volume (cubic ft):
End Purge: Time Volume Purged (cubic ft)

VOLUME OF SCHEDULE 40 PVC PIPE

Diameter (inch)	O.D. (inch)	I.D. (inch)	Volume (ft^3/ln ft)
0.25 (tubing)	0.250	0.170	0.00016
1	1.315	1.029	0.006
1.25	1.660	1.380	0.010
2	2.375	2.067	0.020
4	4.500	4.026	0.088
6	6.625	6.031	0.201

Vol. Purged (cubic feet)	Temp. (°F/°C)	PID (ppm)	Other	Comments/Observations

SAMPLE COLLECTION DATA

Sample Container ☒ Summa Canister, Size (liters) 1L ☐ Tedlar Bag, Size (liters): ☐ Other:
Canister number:
Sample Type ☒ Grab ☐ Integrated (composite sample over time
Sample Collection/Purge Pump (if used):
Summa Canister, Pre-Sampling and Post-Samplin
Initial Vacuum (inches of mercury): 30 Vacuum After Sample Collection (specify units): 8
LABORATORY ANALYSES: TO-15

Duplicate Sample Number(s):
Comments:

Signature: Date: 11/11/11

LANDAU ASSOCIATES

Air/Soil-Vapor Sample Collection Form

Project Name Geo Western Air Sampling Project Number 122601.020.023
Client Geo Western Sample Number CAI-SSAQ-2
Landau Representative PRR Date/Time Collected 1/11/11
Location Collected sub slab, adjacent to CAI-IAQ-5
Weather Cloudy, 30's F

WELL AND PURGE DATA

Sample Type ☐ Soil Gas Monitoring Wel ☐ SVE System ☐ Ambient Air Other ___
Sample Location ___
Well Secure? (YES or NO) Damaged (YES o NO) Describe: ___
Monitoring Well/Probe: ☐ PVC Pipe ☐ Stainless Stee ☐ Nylon or Polyethylene Tubin ☐ Other: ___
Vacuum/Pressure of source (in. H_2O): ___ Time: ___
Well Diameter: ___ (inches) Total Depth of Well (feet): ___
Purge Volume Calculation ___
Begin Purge: Time ___ Casing Volume (cubic ft): ___
End Purge: Time ___ Volume Purged (cubic ft) ___

VOLUME OF SCHEDULE 40 PVC PIPE

Diameter (inch)	O.D. (inch)	I.D. (inch)	Volume (ft^3/ln ft)
0.25 (tubing)	0.250	0.170	0.00016
1	1.315	1.029	0.006
1.25	1.660	1.380	0.010
2	2.375	2.067	0.020
4	4.500	4.026	0.088
6	6.625	6.031	0.201

Vol. Purged (cubic feet)	Temp. (°F/°C)	PID (ppm)	Other	Comments/Observations

SAMPLE COLLECTION DATA

Sample Container ☒ Summa Canister, Size (liters) 1L ☐ Tedlar Bag, Size (liters): ___ ☐ Other: ___
Canister number: ___
Sample Type ☑ Grab ☐ Integrated (composite sample over time
Sample Collection/Purge Pump (if used): ___
Summa Canister, Pre-Sampling and Post-Samplin
Initial Vacuum (inches of mercury): 29 Vacuum After Sample Collection (specify units): 7
LABORATORY ANALYSES: TO-15
Duplicate Sample Number(s): ___
Comments: ___

Signature: ___ Date: 1/11/11

2016 Ecology Periodic Review

PERIODIC REVIEW

Gaco Western
FS ID#: 2402

18700 Southcenter Parkway
Tukwila, Washington 98138

Northwest Region Office

TOXICS CLEANUP PROGRAM

February 2016

1.0 INTRODUCTION

This document is a review by the Washington State Department of Ecology (Ecology) of post-cleanup site conditions and monitoring data to ensure that human health and the environment are being protected at the Gaco Western facility (Site). Cleanup at this Site was implemented under the Model Toxics Control Act (MTCA), Chapter 173-340 Washington Administrative Code (WAC).

Cleanup activities at this Site were completed under Agreed Order No. DE 92 HS-N28S. The cleanup actions resulted in residual concentrations of total petroleum hydrocarbons (TPH), volatile organic compounds (VOCs), benzene, toluene, ethylbenzene, xylenes and methyl isobutyl ketone (MIBK) exceeding MTCA Method A cleanup levels for soil and groundwater. The cleanup levels for soil were established under WAC 173-340-740(2). The MTCA Method A cleanup levels for groundwater are established under WAC 173-340-720(3). WAC 173-340-420 (2) requires that Ecology conduct a periodic review of a site every five years under the following conditions:

(a) Whenever the department conducts a cleanup action
(b) Whenever the department approves a cleanup action under an order, agreed order or consent decree
(c) Or, as resources permit, whenever the department issues a no further action opinion
(d) And one of the following conditions exists:

    1. Institutional controls or financial assurance are required as part of the cleanup
    2. Where the cleanup level is based on a practical quantitation limit
    3. Where, in the department's judgment, modifications to the default equations or assumptions using site-specific information would significantly increase the concentration of hazardous substances remaining at the site after cleanup or the uncertainty in the ecological evaluation or the reliability of the cleanup action is such that additional review is necessary to assure long-term protection of human health and the environment.

When evaluating whether human health and the environment are being protected, the factors the department shall consider include [WAC 173-340-420(4)]:

(a) The effectiveness of ongoing or completed cleanup actions, including the effectiveness of engineered controls and institutional controls in limiting exposure to hazardous substances remaining at the site;
(b) New scientific information for individual hazardous substances of mixtures present at the site;
(c) New applicable state and federal laws for hazardous substances present at the Site;
(d) Current and projected site use;
(e) Availability and practicability of higher preference technologies; and
(f) The availability of improved analytical techniques to evaluate compliance with cleanup levels.

The department shall publish a notice of all periodic reviews in the site register and provide an opportunity for public comment.

2.0 SUMMARY OF SITE CONDITIONS

2.1 Site History

The Gaco Western Facility is located in an industrial area of south Seattle in King County, Washington (Vicinity Map - Appendix 6.1). Following remedial activities, a Restrictive Covenant was recorded for the property in 1996. The Site received a 'No Further Action' (NFA) determination in 1996 by Ecology's Hazardous Waste and Toxics Reduction Program. A NFA has not been issued by Ecology's Toxics Cleanup Program. The Site continues to be used for industrial purposes.

The Gaco Western facility has been in commercial operation in Tukwila, Washington since 1968. Gaco Western's dangerous waste identification number is: WAD 009241027, and Gaco Western is an active Medium Quantity Generator of dangerous wastes (less than 2,200 pounds per year and greater than 220 pounds per year). The company manufactures liquid rubber coatings used for industrial tank liners, roof coatings, and general waterproofing. There is approximately 33,000 square feet of manufacturing area and approximately 13,000 square feet of office space at the facility. The Site occupies an area of approximately three acres. North of the Site is the Segale Asphalt Plant and south of the Site is the Mitchell Moving/storage Warehouse. A residential property is located west of the Site; however, none of the surrounding area is zoned residential for a radius of approximately one-half mile. The Green River is approximately 70 feet east of the Gaco facility and 150 feet from any production areas of the plant. The Gaco Western property eastern boundary is the high-water mark of the Green River.

Until September 1991, Gaco Western operated 14 underground storage tanks (USTs), located on the west side of the Site. These USTs were organized in two groups: three USTs were clustered on the southwest side of the facility and 11 USTs were clustered on the northwest side of the facility. The two UST groups were approximately 50 feet apart. These USTs contained xylenes, toluene, methyl-ethyl ketone, and ethylbenzene, chlorinated paraffins, cyclolube, trimethyl benzene, propanol, and naphtha. These products were pumped through an underground piping system into the facility building for manufacturing processes.

A site plan is available as Appendix 6.2.

2.2 Site Investigations and Cleanup

Gaco Western decided to have the 14 USTs removed and convert to a "just-in-time" system of production materials delivery in mid-1991. Northwest EnviroService, as a subcontractor to Envirocon, Inc., removed and disposed of the 14 USTs in September 1991. Two pits were opened to remove the 14 USTs and associated piping. Solvents were detected under some of the tanks upon removal. Approximately seven yards of soil were removed from the excavated pits

during UST removal and stockpiled near the excavation. Confirmation samples were collected from the limits of the excavation.

Envirocon installed four resource protection wells in 1991, located on the west side of the Gaco Western facility. According to Gaco Western records, these resource protection wells were screened across a clay-silt layer separating two water-bearing zones. Ground water samples taken from the four resource protection wells confirmed the presence of benzene, ethyl benzene, xylenes, and toluene in the ground water. Gaco Western personnel detected approximately 3/8"-1/2" of free product on top of the ground water table in February 1992, while making water level measurements in the four resource protection wells, in resource protection well MW-3. Subsequent laboratory analysis identified this product as gasoline or a gasoline-like substance.

Gaco Western recommended and was given permission by Ecology on February 19, 1992 to abandon the four existing resource protection wells to eliminate the possible threat of cross-contamination of the lower water-bearing zone. These wells were abandoned and five resource protection wells were installed in the upper water-bearing zone. Two resource protection wells were installed in the lower water-bearing zone in April 1992.

Based on the chemical analyses of soil samples taken at the bottom of the two UST excavations and from soil borings, data indicated the following hazardous substances are present in the soils at the site:

- Methyl-Ethyl Ketone
- Ethylbenzene
- Xylenes
- Toluene

Data from these samples is available in Appendix 6.3.

Groundwater monitoring data indicated the following hazardous substances present in groundwater:

- Benzene
- Ethyl Benzene
- MIBK
- Methylene Chloride
- Toluene
- Xylene
- Chloroform
- 1-1-2-2-Tetrachloroethane
- Tetrachloroethene
- Trichloroethene
- 1-2 Dichloroethene
- 1-1-1 Trichloroethane

2.3 Cleanup Levels

MTCA Method A and Method B cleanup levels were used for the Site. Some of the key contaminants of concern (COC) and their cleanup levels before and after MTCA changes in 2001 are listed in the table below:

Analyte	1991 MTCA Soil Cleanup Level (ppm)	2001 MTCA Method A Soil Cleanup Level (ppm)	1991 MTCA Method A Groundwater Cleanup level (ppb)	2001 MTCA Method A Groundwater Cleanup Level (ppb)
Arsenic	20	20	5	5
Benzene	0.5	0.03	5	5
Ethylbenzene	20	6	30	NL
Lead	250	250	5	15
Methyl Ethyl Ketone	NL	48000*	NL	4800*
Tetrachloroethylene	0.5	0.03	5	5
Toluene	40	7	40	1000
Total Xylenes	20	9	20	1000
TPH	NL	NL	1000	NL
TPH-Gas	100	100/30	NL	1000/800
TPH-Diesel	200	2000	NL	500
TPH-Oil	200	2000	NL	500
1,1,1 Trichloroethane	20	2	200	200

NL = None listed
ND = Not detected
*** = Method B level**

2.4 Groundwater Monitoring

Groundwater monitoring conducted at the Site between 1992 and 1996. At the time of the final groundwater monitoring event in 1996, groundwater samples collected from HC-1D and HC-2D exceeded MTCA Method A cleanup standards for benzene, ethylbenzene and total xylenes. It is not known why groundwater monitoring was ceased after the 1996 event. A letter from Ecology's Hazardous Waste and Toxics Reduction division in 1995 indicated that the need for additional groundwater monitoring would be evaluated following the 1996 sampling event. There is no evidence that this evaluation took place, though no additional groundwater monitoring has been conducted at the Site. Groundwater monitoring data is available in Appendix 6.4.

2.5 Restrictive Covenant

The Restrictive Covenant was recorded in 1996 and is available as Appendix 6.5. The following limitations are found in the current Restrictive Covenant:

1. The site may only be used for industrial purposes.
2. Any activity that will interfere with groundwater monitoring at the Site is prohibited.
3. No groundwater may be taken for domestic purposes from the Site.
4. The owner or successor owner of the Site must give written notice of intent to convey any interest in the Site.
5. The owner or successor owner must notify and obtain approval from Ecology prior to any use of the Site that is inconsistent with the terms of the Covenant.
6. The owner or successor owner shall grant Ecology the right to enter the site at reasonable times.
7. The owner or successor owner reserves the right to remove this Covenant with Ecology's approval.

A 'No Further Action' determination was issued by Ecology's Hazardous Waste and Toxics Reduction division in 1996. This determination stated that groundwater monitoring should continue for an additional quarter, after which the need for further monitoring would be evaluated. There is no indication that this evaluation took place.

3.0 PERIODIC REVIEW

3.1 Effectiveness of completed cleanup actions

Based upon the site visit conducted on February 18, 2016, the building and asphalt cover at the Site continue to eliminate exposure to contaminated soils by ingestion and direct contact. The asphalt appears cracked and degraded, but it still serves to prevent direct human contact to contaminated soils. The Site continues to operate as a commercial facility. A photo log is available as Appendix 6.6.

The Restrictive Covenant for the Site was recorded and is in place. This Restrictive Covenant prohibits activities that will result in the release of contaminants contained as part of the cleanup without Ecology's approval, and prohibits any use of the property that is inconsistent with the Covenant. This Restrictive Covenant serves to assure the long term integrity of the asphalt cap.

Soils with VOC concentrations higher than MTCA Method A cleanup levels are still present at the Site. However, the structures and asphalt surface prevent human exposure to this contamination by ingestion and direct contact with soils and the Restrictive Covenant will prevent future exposure of these soils to the environment. Groundwater with benzene, ethylbenzene and total xylene concentrations exceeding MTCA Method A cleanup levels are also still be present at the Site, though groundwater use restrictions likely prevent human exposure to contaminated groundwater. Additional groundwater monitoring should be conducted to assure that groundwater contamination remains contained at the Site.

3.2 New scientific information for individual hazardous substances for mixtures present at the Site

There is no new scientific information for the petroleum contaminants related to the Site.

3.3 New applicable state and federal laws for hazardous substances present at the Site

The cleanup at the site was governed by Chapter 173-340 WAC (1996 ed.). WAC 173-340-702(12) (c) [2001 ed.] provides that,

"A release cleaned up under the cleanup levels determined in (a) or (b) of this subsection shall not be subject to further cleanup action due solely to subsequent amendments to the provision in this chapter on cleanup levels, unless the department determines, on a case-by-case basis, that the previous cleanup action is no longer sufficiently protective of human health and the environment."

Although cleanup levels changed for some COCs at the Site as a result of modifications to MTCA in 2001, contamination remains at the site above MTCA Method A cleanup levels; however, the cleanup action is still likely protective of human health and the environment.

3.4 Current and projected site use

The site is currently used for industrial purposes. There have been no changes in current or projected future site or resource uses.

3.5 Availability and practicability of higher preference technologies

The remedy implemented included containment of hazardous substances and is likely to be protective of human health and the environment. While higher preference cleanup technologies may be available, they are still not practicable at this Site.

3.6 Availability of improved analytical techniques to evaluate compliance with cleanup levels

The analytical methods used at the time of the remedial action were capable of detection below MTCA Method A cleanup levels. The presence of improved analytical techniques would not effect decisions or recommendations made for the site.

4.0 CONCLUSIONS

- Soil and groundwater cleanup levels have not been met at the Site; however, under WAC 173-340-740(6)(d), the cleanup action is determined to comply with cleanup standards, since the long-term integrity of the containment system is ensured and the requirements for containment technologies in WAC 173-340-360(8) are being met. Please note these citations are from the MTCA regulations in effect at the time the remedy was implemented, and are incorrect if applied to the current regulations.

- The cleanup actions completed at the Site appear to be protective of human health and the environment.

- The Restrictive Covenant for the property is in place and continues to be effective in protecting public health and the environment from exposure to hazardous substances and protecting the integrity of the cleanup action.

- Groundwater monitoring has not been conducted the Site since 1996. Ecology recommends that a groundwater monitoring event be conducted at the Site to evaluate the current status of residual groundwater contamination.

Based on this periodic review, the Department of Ecology has determined that the requirements of the Restrictive Covenant continue to be satisfactorily met. It is the property owner's responsibility to continue to inspect the site to assure that the integrity of the site surfaces is maintained. Remedial actions at the Site fail to be protective of human health and the environment due to the unknown status of groundwater contamination that was still present during the last groundwater monitoring event in 1996.

4.1 Next Review

The next review for the site will be scheduled five years from the date of this periodic review. In the event that additional cleanup actions or institutional controls are required, the next periodic review will be scheduled five years from the completion of those activities.

5.0 REFERENCES

EnviroCon, Inc. 1991. Findings from UST Assessment.

Gaco Western, Inc. 1995. Third Quarter Ground Water Monitoring Report and Long Term Groundwater Monitoring Proposal.

Gaco Western, Inc. 1996. September 1996 Groundwater Monitoring Report.

Ecology. Restrictive Covenant, 1996.

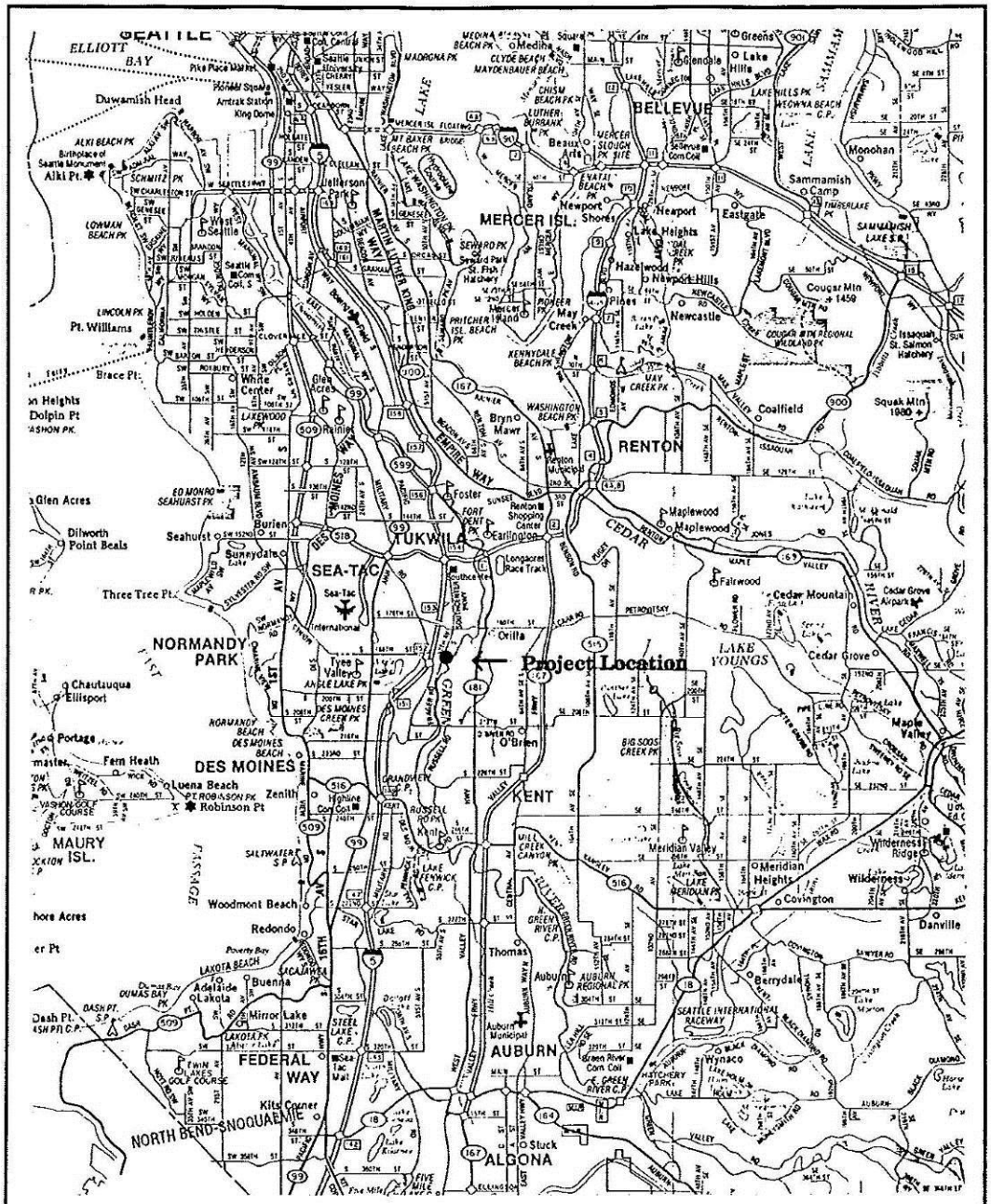
Ecology HW/TR. No Further Action letter. 1996.

Ecology, 2009, Site Visit.

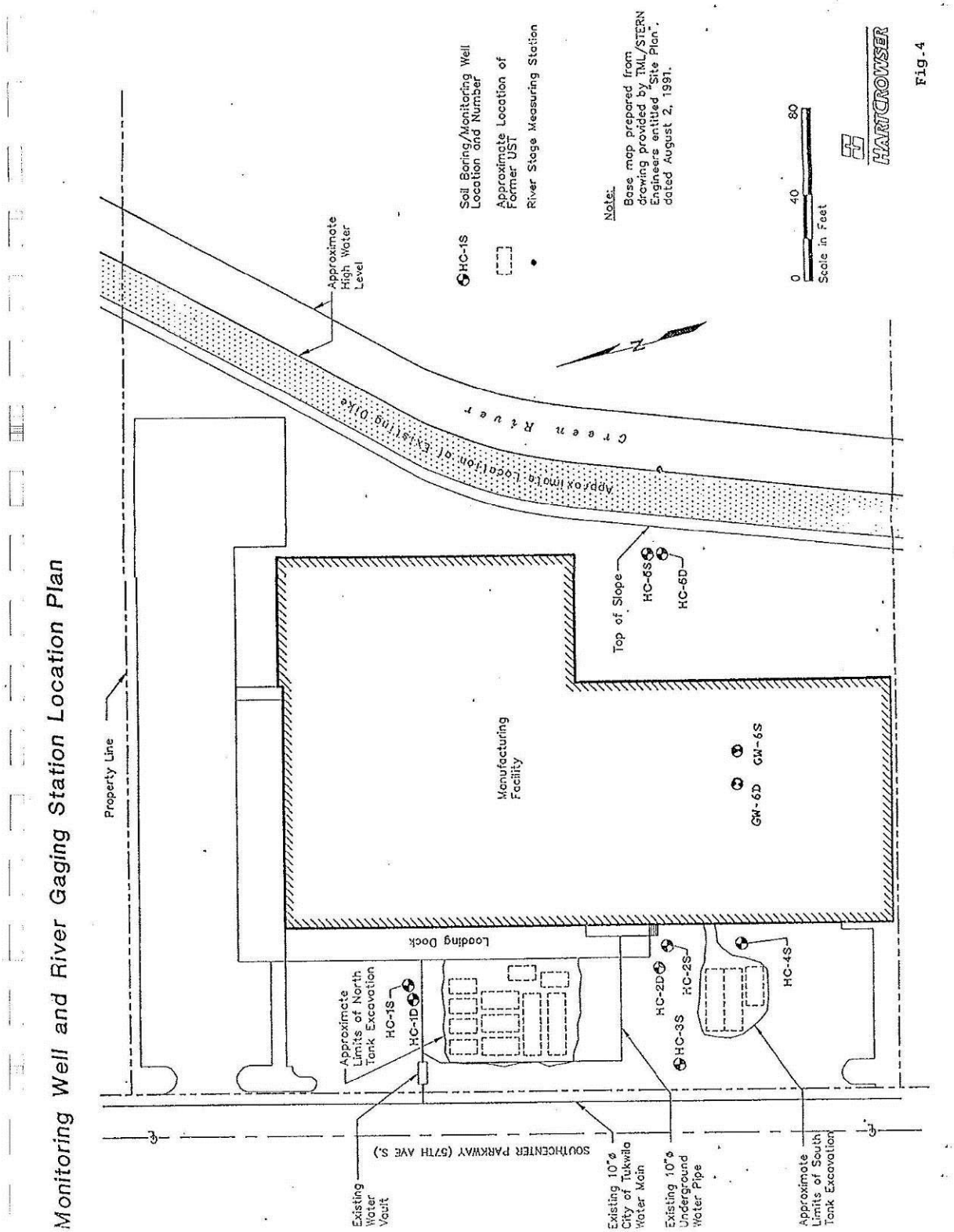
Ecology, 2016, Site Visit.

6.0 APPENDICES

6.1 Vicinity Map



6.2 Site Plan


Monitoring Well and River Gaging Station Location Plan
Soil Boring/Monitoring Well Location and Number
Approximate Location of Former UST
River Stage Measuring Station
Note:
Base map prepared from drawing provided by TML/STERN Engineers entitled "Site Plan", dated August 2, 1991.
Scale in Feet
HARTCROWSER
Fig.4
Approximate High Water Level
Approx imate Location of Existing Dike
Green River
Property Line
Manufacturing Facility
Top of Slope
HC-6S
HC-6D
GW-6S
GW-6D
Loading Dock
Approximate Limits of North Tank Excavation
HC-1S
HC-1D
HC-2D
HC-2S
HC-3S
HC-4S
SOUTHCENTER PARKWAY (57TH AVE S.)
Existing Water Vault
Existing 10"ø City of Tukwila Water Main
Existing 10"ø Underground Water Pipe
Approximate Limits of South Tank Excavation

6.3 Soil Sampling Data

Table 1. A Summary of Results for Volatile Organics in Soils - EPA Test Method 8240

Sample Number	Sample Depth in Feet	MICRO TIP* (ppm)	TCA (ppm)	PCE (ppm)	MEK (ppm)	Toluene (ppm)	Ethyl benzene (ppm)	Total Xylene (ppm)
A-1B	12 to 13		-	-	-	19	160	1,600
A-2SE	7 to 8		-	0.120	-	-	-	0.092
A-3W	7 to 8		-	-	-	-	22	310
B-1B	12 to 13	1,023	-	-	-	4	26	260
B-2E	7		-	-	-	-	0.350	7.4
D-1B[1]	NA		-	-	-	-	16	120
D-1[2]	NA		-	-	-	12	97	900
E-1	2	11	0.06	-	-	-	0.130	0.870
4-1B	12 to 13	1,476	-	-	1,300	38	-	300
9-1B	12 to 13	8,013	-	-	-	6,500	870	870
10-1B	13	3,317	-	-	-	640	97	74
11-1B	12 to 13		-	-	-	400	71	130
11-2E	7 to 8		-	-	-	1.9	1.2	4.7
12-1B[3]	NA		-	-	-	15,000	1,700	1,700
MTCA			NA	0.5	NA	40	20	20

1 = Field Duplicate of B-1B
2 = Stockpile Soil Sample (composite)
3 = Field Duplicate of 9-1B
* = Field Screening Gas Analyzer - Photoionization Detector
Photovac MICROTIP
TCA = Tetrachloroethane
PCE = Tetrachloroethene
MEK = Methyl Ethyl Ketone (2-Butanone)
ppm = parts per million (mg/Kg)
- = below detection limit
MTCA = WA. State Models Toxics Control Act (Method A industrial soils)
NA = Not Applicable

Table 2. - A Summary of Results for Volatile Organics and Total Petroleum Hydrocarbons in Soils - EPA Test Methods 8020 and 418.1

Sample Number	Sample Depth in Feet	MICRO TIP* (ppm)	Toluene (ppm)	Ethyl benzene (ppm)	Total xylenes (ppm)	TPH (ppm)
C-1B	12	-	NA	NA	NA	-
C-2E	5	-	NA	NA	NA	-
D-1[a]						190
1-1B	10 to 12	3,900	12	17	77	330
1-2W	5 to 6	50	-	-	0.55	NA
2-1B	12 to 13		120	230	860	NA
2-2E	2		-	0.050	0.21	NA
3-1BE	12 to 13	4,800	330	120	560	NA
5-1B	12 to 13	2,120	2,500	100	410	NA
6-1B	12 to 13	5,500	840	90	260	NA
7-1B	12 to 13	8,176	NA	NA	NA	1,600
7-2E	4 to 5	6,676	18	84	460	NA
8-1B	13 to 14	1,700	40	-	13	NA
8-2E	12 to 13	76	0.070	-	0.36	NA
MTCA			40	20	20	200

a = See Table 1 for volatile organic results
* = Field Screening Gas Analyzer - Photoionization Detector
ppm = parts per million (mg/Kg)
- = below detection limit
MTCA = WA. State Models Toxics Control Act (Method A industrial soils)
NA = Not Analyzed

6.4 Groundwater Monitoring Data

Table 2 - Summary of Detected Chemical Constituents in Groundwater

Well	Acetone	Benzene	2-Butanone (MEK)	Total 1,2-Dichloro-ethene	Ethyl-benzene	4-Methyl-2-Pentanone (MIBK)	Tetrachloro-ethene	Toluene	Total Xylenes	TPH Quantified as Gasoline	TPH Quantified as Diesel
	Concentration in ug/L									Concentration in mg/L	
HC-1D											
12/9/92	10 U	39	88		670 D4	10 U	1 U	2,800 D4	2,000 D4	8	5 U
3/22/93	50 U	30	50 U		360	50 U	5 U	880	1,400	3	1 U
6/10/93	50 U	22	50 U		220	50 U	5 U	570	970	2	1 U
9/23/93	10 U	8	10 U		180	10 U	1 U	480 D3	920 D3	2	1 U
8/11/94	100 U	50 U	200 U		410 D4	200 U	50 U	3200 D4	900 D4	8.6 D4	NA
3/23/95	NA	36	NA		340	NA	NA	340	2100	NA	NA
6/30/95	NA	13 F	NA		100 E,F	NA	NA	78 E,F	710 E,F	NA	NA
10/3/95	20 U	25	20 U	1 U	460 E	1 U	1 U	1500 E,F	1510 E	NA	NA
9/29/96	400 U	27 D5	400 U	100 U	360 D5	100 U	100 U	980 D5	1400 D5	NA	NA
HC-2D											
12/9/92	140 B	240	100 U		6,400 D7	4,000 D7	10 U	2,200	28,000 D7	62	5 U
3/22/93	100 U	250	100 U		9,000 D7	630	10 U	2,200	36,000 D7	59	1 U
6/10/93	200 U	200	200 U		5,300	800	20 U	1,900	28,000 D7	44	1 U
9/23/93	500 U	250	500 U		6,700	1,100	50 U	1,400	29,000	51	1 U
8/11/94	1000 U	260 D8	1000 U		7,300 D8	1000 U	200 U	710 D8	18,000 D8	20 D4	NA
3/23/95	NA	210	NA		9,500	NA	NA	3,300	40,000	NA	NA
6/30/95	NA	320 D7,F	NA		10,000 D7,E,F	NA	NA	3,000 D7,E,F	42,000 D7,E,F	NA	NA
10/3/95	20 U	220	20 U	3.8	3,500	120 F	1 U	700 F, E	21,000	NA	NA
9/29/96	20 U	290 J	20 U	4.7 J	1,200 J	83 J	5 U	830 J	5,600 J	NA	NA

Notes:
D3 = Value from a five-fold diluted analysis
D4 = Value from a ten-fold diluted analysis
D5 = Value from a 20-fold diluted analysis
D7 = Value from a 100-fold diluted analysis
D8 = Value from a 50-fold diluted analysis
NA = Not Analyzed

J = Estimated value
U = Not detected at the method detection limit indicated
B = Constituent also detected in laboratory reagent blank; Laboratory contamination indicated
E = Constituent also detected in equipment blank
F = Constituent also detected in field blank

Table 2 - Summary of Detected Chemical Constituents in Groundwater (cont.)

Well	Acetone	Benzene	2-Butanone (MEK)	Total 1,2-Dichloro-ethene	Ethyl-benzene	4-Methyl-2-Pentanone (MIBK)	Tetrachloro-ethene	Toluene	Total Xylenes	TPH Quantified as Gasoline	TPH Quantified as Diesel
	Concentration in ug/L									Concentration in mg/L	
HC-5D											
12/9/92	10 U	1 U	10 U		1 U	10 U	1 U	1 U	2	1 U	5 U
3/22/93	10 U	1 U	10 U		2	10 U	1 U	1 U	3	1 U	1 U
6/10/93	10 U	1 U	10 U		1 U	10 U	1 U	1 U	1 U	1 U	1 U
9/23/93	10 U	1 U	10 U		1 U	10 U	1 U	1 U	2	1 U	1 U
8/11/94	20 U	5 U	20 U		5 U	20 U	5 U	5 U	5 U	0.05 U	NA
3/23/95	NA	0.74	NA		0.5 U	NA	NA	0.5 U	5.3	NA	NA
6/30/95	NA	0.5 U	NA		0.5 U	NA	NA	0.5 U	2.3 E,F	NA	NA
10/3/95	72 E,F	1 U	20 U	1 U	1 U	1 U	1 U	1 U	6 E	NA	NA
9/29/96	20 U	5 U	20 U	5 U	5 U	5 U	5 U	5 U	8.8	NA	NA
GW-6D											
8/11/94	20 U	5 U	20 U	7	5 U	20 U	5 U	5 U	5 U	0.05 U	NA
3/23/95	NA	1	NA	NA	0.5 U	NA	NA	0.5 U	0.5 U	NA	NA
6/30/95	NA	0.82 F	NA	NA	0.5 U	NA	NA	8.3 E,F	0.5 U	NA	NA
10/3/95	20 U	1 U	29 E,F	20	1 U	1 U	1 U	1 U	1 U	NA	NA
9/29/96	20 U	5 U	20 U	31	5 U	5 U	5 U	5 U	5 U	NA	NA
FIELD BLANK											
6/30/95	NA	0.5 U	NA		1.7	NA	NA	2.7	8	NA	NA
10/3/95	26	1 U	23	1 U	1 U	1.4	1 U	1.1	1 U	NA	NA

Notes:

D3 = Value from a five-fold diluted analysis
D4 = Value from a ten-fold diluted analysis
D5 = Value from a 20-fold diluted analysis
D7 = Value from a 100-fold diluted analysis
D8 = Value from a 50-fold diluted analysis
NA = Not Analyzed

J = Estimated value
U = Not detected at the method detection limit indicated
B = Constituent also detected in laboratory reagent blank; Laboratory contamination indicated
E = Constituent also detected in equipment blank
F = Constituent also detected in field blank

6.5 Environmental Covenant

10

L-3117

After recording, mail to:

Gaco Western, Inc.
P.O. Box 88698
Seattle, WA 98138-2698

RESTRICTIVE COVENANT

The undersigned, Gaco Western, Inc. ("Gaco"), is the fee owner of the real property described on Exhibit A in King County, Washington, hereafter referred to as the "Site." There are subsurface areas at the Site where there have been detections of petroleum hydrocarbons and volatile organic compounds including toluene, ethylbenzene, xylenes, MIBK and gasoline and oil range hydrocarbons at levels which exceed the Method A or B Cleanup Level Guidelines (depending on the constituent) as published in the Model Toxics Control Act ("MTCA") Regulations. More detailed information on the location and concentration of the detected substances and on the location of groundwater monitoring wells on the Site is available in reports that have been filed by Gaco with the Washington Department of Ecology or a successor agency ("Ecology"). These reports include the;

Final Report, Soil Vapor Extraction Interim Remedial Action Prepared by Hart Crowser, Febuary 9, 1994

Third Quarter Groundwater Monitoring Report And Long Term Monitoring Proposal, Prepared by Gaco Western, Inc., November 14, 1995

Gaco makes the following declarations as to limitations, restrictions and uses to which the Site may be put. It specifies that such declarations shall constitute covenants to run with the land, as provided by law, and shall be binding on all parties and all persons claiming under it, including all current and future owners of any portion of or interest in the Site.

1. No redevelopment of the property other than for street or industrial use shall hereafter be undertaken unless thirty days prior notice has been given to Ecology. For purposes of this restriction, "industrial use" means and includes any industrial use described or defined in or allowed under MTCA, MTCA regulations or the City of Tukwila's zoning laws.

2. Gaco will be sampling some if the existing groundwater monitoring wells at the Site pursuant to a program approved by Ecology. Any activity on the site that may interfere with such monitoring is prohibited. Gaco expressly reserves the right of access to the Site for

purposes of performing such monitoring or for any other environmental investigations or remediations that it may desire to undertake.

3. No groundwater may be taken for domestic purposes at the Site. No wells for the extraction of groundwater for domestic purposes shall be installed at the Site without Ecology approval.

4. The owner of the Site must be given written notice to Ecology of the owner's intent to convey any fee interest in the Site. No conveyance or title, easement, lease or other interest in the Site shall be consummated by the owner without adequate and complete provision for the continued operation, maintenance and monitoring of groundwater wells by Gaco.

5. The owner must notify and obtain approval from Ecology prior to any use of the Site that is inconsistent with the terms of this Restrictive Covenant. If required by applicable law, Ecology may have to seek public notice and comment prior to approval of the proposed change.

6. The owner shall allow authorized representatives from Ecology the right to enter the Site at reasonable times for the purpose of evaluating compliance with the monitoring of groundwater wells or any other remedial action undertaken by Gaco.

9601170252

Owner reserves the right to record, with Ecology's prior approval, an instrument terminating this Restrictive Covenant and rendering it null and void and of no further force or effect.

Gaco Western, Inc.,
a WASHINGTON Corporation

By _____

Name: MICHAEL C. O'LEARY
Title: VICE-PRESIDENT, FINANCE

STATE OF WASHINGTON)
) ss.
COUNTY OF KING)

On this 15th day of December, 1995, before me, the undersigned, sworn, personally appeared MICHAEL C. O'LEARY to me known to be the person who signed as V.P.-FINANCE of GACO WESTERN, INC., the corporation that executed the within and foregoing instrument, and acknowledged said instrument to be

the free and voluntary act and deed of said corporation for the uses and purposes therein mentioned, and on oath stated that MICHAEL C. O'LEARY was duly elected, qualified and acting as said officer of the corporation, that MICHAEL C. O'LEARY was authorized to execute said instrument and that the seal affixed, if any, is the corporate seal of said corporation.

IN WITNESS WHEREOF I have hereunto set my hand and official seal the day and year first above written.

Yolanda L Sewell
(Signature of Notary)

(Print or stamp name of Notary)

NOTARY PUBLIC in and for the State of Washington, residing at Auburn, WA

My Appointment Expires:

9601170252

DESCRIPTION:

PARCEL A:

THAT PORTION OF GOVERNMENT LOT 6, SECTION 35, TOWNSHIP 23 NORTH, RANGE 4 EAST, W.M., IN KING COUNTY, WASHINGTON, LYING SOUTHEASTERLY OF THE SOUTHEASTERLY MARGIN OF COUNTY ROAD SOUTHCENTER PARKWAY, FORMERLY 57TH AVENUE SOUTH, AND SOUTHWESTERLY OF A LINE DESCRIBED AS FOLLOWS:

COMMENCING AT A POINT FROM WHICH THE SOUTHWEST CORNER OF SAID GOVERNMENT LOT 6 BEARS SOUTH 0°58'10" WEST 313.17 FEET AND NORTH 89°01'50" WEST 505.54 FEET, SAID DISTANCES BEING MEASURED RESPECTIVELY AT RIGHT ANGLES TO AND ALONG THE SOUTH BOUNDARY LINE OF SAID GOVERNMENT LOT, SAID POINT BEING MARKED BY AN IRON PIPE SET BY R.W. JONES AND ASSOCIATES ON OCTOBER 4, 1966; THENCE NORTH 67°36'00" WEST 1.46 FEET, MORE OR LESS, TO THE SOUTHEASTERLY MARGIN OF SAID COUNTY ROAD AND THE TRUE POINT OF BEGINNING OF THE HEREIN DESCRIBED LINE; THENCE SOUTH 67°36'00" EAST 1.46 FEET, MORE OR LESS, TO SAID IRON PIPE; THENCE CONTINUE SOUTH 67°36'00" EAST 248.63 FEET TO A CONCRETE MONUMENT SET BY R.W. JONES AND ASSOCIATES ON OCTOBER 4, 1966; THENCE CONTINUE SOUTH 67°36'00" EAST TO THE BANK OF THE GREEN RIVER AND THE TERMINUS OF THE HEREIN DESCRIBED LINE.

PARCEL B:

THAT PORTION OF GOVERNMENT LOT 7, SECTION 35, TOWNSHIP 23, RANGE 4 EAST, W.M., LYING SOUTHEASTERLY OF COUNTY ROAD (SOUTHCENTER PARKWAY, FORMERLY 57TH AVENUE SOUTH) AND LYING NORTHEASTERLY OF A LINE ESTABLISHED OF STATUTORY WARRANTY DEED RECORDED AUGUST 3, 1973, UNDER RECORDING NO. 7308030425, SAID LINE BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT FROM WHICH THE NORTHWEST CORNER OF SAID GOVERNMENT LOT 7 BEARS SOUTH 0°58'10" WEST 313.17 FEET AND NORTH 89°01'50" WEST 505.54 FEET, SAID DISTANCES BEING MEASURED RESPECTIVELY AT RIGHT ANGLES TO AND ALONG THE NORTH BOUNDARY LINE OF SAID GOVERNMENT LOT, SAID POINT OF BEGINNING IS MARKED BY A CONCRETE MONUMENT WHICH IS INDICATED AS POINT "A" ON SURVEY DRAWING BY R.W. JONES AND ASSOCIATES, ENGINEERS AND SURVEYORS, DATED OCTOBER 6, 1966 AND ENTITLED BOUNDARY AND TOPOGRAPHIC SURVEY OF A PORTION OF GOVERNMENT LOTS 6, 7, SECTION 35, TOWNSHIP 23 NORTH, RANGE 4 EAST, W.M.; THENCE SOUTH 67°36'00" EAST 248.63 FEET TO A CONCRETE MONUMENT SET BY SAID ENGINEERS AND SURVEYORS ON OCTOBER 4, 1966 AND INDICATED AS POINT "B" ON SAID SURVEY DRAWING; THENCE SOUTH 23°57'22" WEST 208.79 FEET TO A CONCRETE MONUMENT ALSO SET BY SAID ENGINEERS AND SURVEYORS, SAID MONUMENT MARKING THE INTERSECTION WITH A LINE AT RIGHT ANGLES, SAID LINE TO BE REFERRED TO HEREINAFTER IN THIS DESCRIPTION AS THE SOUTHWESTERLY LINE OF THE GACO-WESTERN TRACT; THENCE CONTINUING SOUTH 23°57'22" WEST 138.76 FEET; THENCE NORTH 66°02'38" WEST ALONG A LINE PARALLEL TO SAID SOUTHWESTERLY LINE OF THE GACO-WESTERN TRACT 5.39 FEET TO A CONCRETE MONUMENT; THENCE CONTINUING NORTH 66°02'38" WEST 244.61 FEET, MORE OR LESS, TO AN INTERSECTION WITH THE SOUTHEASTERLY LINE OF 57TH AVENUE SOUTH; THENCE SOUTHWESTERLY ALONG SAID ROAD MARGIN 5.14 FEET, MORE OR LESS, TO AN INTERSECTION WITH THE NORTHWESTERLY EXTENSION OF THE NORTHEASTERLY FACE OF THE ALASKA SEAVAN BUILDING AND THE TRUE POINT OF BEGINNING OF THE LINE HEREIN DESCRIBED; THENCE SOUTH 66°02'38" EAST ALONG SAID EXTENSION AND ALONG SAID NORTHEASTERLY FACE OF SAID BUILDING AND ALONG THE SOUTHEASTERLY EXTENSION OF SAID BUILDING LINE 280 FEET, MORE OR LESS, TO THE BANK OF THE GREEN RIVER AND THE TERMINUS OF THE HEREIN DESCRIBED LINE.

SITUATE IN THE COUNTY OF KING, STATE OF WASHINGTON.

9601170252

S.W.C. OF GOVT. LOT 6
SEC. 35,T23N,R4E.

N8

GOV

AUDITOR OR RECORDER'S CERTIFICATE

Filed for record this _____day of _____, 19____at _____ M.

in Book _____of Surveys at page _____ at the request of

SURVEYOR'S CERTIFIC.

This map correctly represents a s
my direction in conformance with

6.6 Photo log

Photo 1: Southwest Side of Building - from the southwest

Photo 2: Northeast Corner of Building – from the Northeast

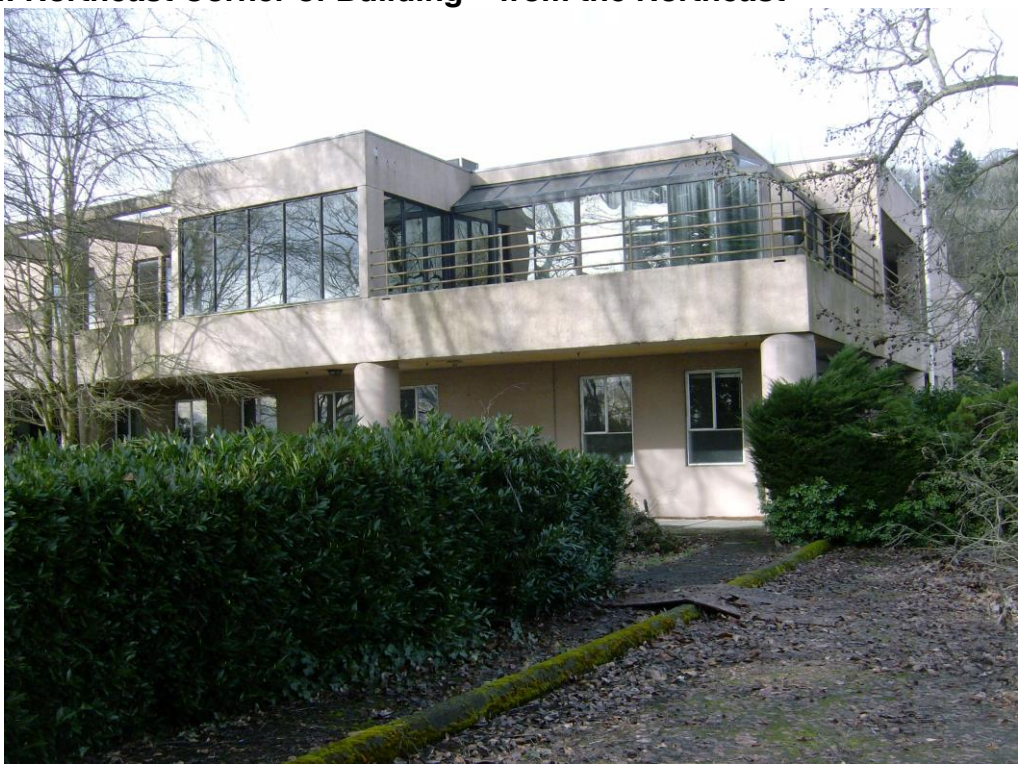


Photo 3: Former Tank Area – from the north.

Photo 4: West Side – from the southwest

2016 Ecology VCP
Termination Letter

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
Northwest Regional Office • 3190 160th Ave SE • Bellevue, WA 98008-5452 • 425-649-7000
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

May 16, 2016

Ms. Corinne Dobbins
Regulatory Compliance Manager
Gaco Western, LLC.
200 West Mercer Street, Suite 202
Seattle, WA 98119

Re: Termination of VCP Agreement for the following Site:

- **Site Name:** Gaco Western LLC
- **Site Address:** 18700 Southcenter Parkway, Tukwila, WA 98188
- **Facility/Site No.:** 2402
- **Cleanup Site ID No.:** 2979
- **VCP Project No.:** NW2217

Dear Ms. Dobbins:

The Department of Ecology (Ecology) is terminating the VCP Agreement governing Project No. **NW2217**. The project involved the cleanup of the Gaco Western LLC facility (Site). The effective date of termination is the date of this letter. We are providing this notice in accordance with the terms of the Agreement.

Reason

Ecology is terminating the Agreement because we understand that you are not actively cleaning up the Site. Our records indicate that you have not conducted any remedial actions at the Site since 2009. Since we have not heard from you since 2009, we have decided to terminate the Agreement.

Next Steps

Based on this decision, Ecology may take one or more of the following steps:

1. Conduct a site hazard assessment (SHA) and rank the Site for further action.

2. Identify those persons we find potentially liable for cleanup of the Site.

3. Initiate discussions for an agreed order or consent decree that will govern further action at the Site.

You may apply to reenter the VCP if you decide to conduct further action at the Site.

Contact Information

Ecology is committed to working with you to accomplish the prompt and effective cleanup of the Site. If you have any questions about this notice, please contact me at (425) 649-7209 or by e-mail at lbar461@ecy.wa.gov.

Sincerely,

Louise Bardy

Louise Bardy
VCP Unit Supervisor
Toxics Cleanup Program, NWRO

By certified mail 7011 0470 0003 3682 8071

cc: Sonia Fernández, VCP Coordinator, Ecology

Appendix C

Laboratory Analytical Reports

- Aspect Analytical Reports
- Farallon Analytical Reports
- Gaco Analytical Reports
- Landau Analytical Reports

Aspect Analytical Reports

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

February 16, 2017

Carla Brock
Aspect Consulting
401 2nd Avenue South, Suite 201
Seattle, WA 98104

Re: Analytical Data for Project 150201
Laboratory Reference No. 1702-104

Dear Carla:

Enclosed are the analytical results and associated quality control data for samples submitted on February 10, 2017.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: February 16, 2017
Samples Submitted: February 10, 2017
Laboratory Reference: 1702-104
Project: 150201

Case Narrative

Samples were collected on February 10, 2017 and received by the laboratory on February 10, 2017. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Volatiles EPA 8260C Analysis

Per EPA Method 5035A, samples were received by the laboratory in pre-weighed 40 mL VOA vials within 48 hours of sample collection. They were stored in a freezer at between -7°C and -20°C until extraction or analysis.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Date of Report: February 16, 2017
Samples Submitted: February 10, 2017
Laboratory Reference: 1702-104
Project: 150201

VOLATILES EPA 8260C
page 1 of 2

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AB-3-6**					
Laboratory ID:	02-104-01					
Dichlorodifluoromethane	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
Chloromethane	ND	0.0051	EPA 8260C	2-13-17	2-13-17	
Vinyl Chloride	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
Bromomethane	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
Chloroethane	ND	0.0051	EPA 8260C	2-13-17	2-13-17	
Trichlorofluoromethane	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
Acetone	0.68	0.51	EPA 8260C	2-14-17	2-15-17	Y
Iodomethane	ND	0.0051	EPA 8260C	2-13-17	2-13-17	
Carbon Disulfide	0.0015	0.0010	EPA 8260C	2-13-17	2-13-17	Y
Methylene Chloride	ND	0.013	EPA 8260C	2-13-17	2-13-17	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
Methyl t-Butyl Ether	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
1,1-Dichloroethane	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
Vinyl Acetate	ND	0.0051	EPA 8260C	2-13-17	2-13-17	
2,2-Dichloropropane	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
2-Butanone	0.13	0.0051	EPA 8260C	2-13-17	2-13-17	
Bromochloromethane	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
Chloroform	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
1,1,1-Trichloroethane	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
Carbon Tetrachloride	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
1,1-Dichloropropene	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
Benzene	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
1,2-Dichloroethane	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
Trichloroethene	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
1,2-Dichloropropane	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
Dibromomethane	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
Bromodichloromethane	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
2-Chloroethyl Vinyl Ether	ND	0.0051	EPA 8260C	2-13-17	2-13-17	
(cis) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
Methyl Isobutyl Ketone	ND	0.0051	EPA 8260C	2-13-17	2-13-17	
Toluene	0.0066	0.0051	EPA 8260C	2-13-17	2-13-17	
(trans) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	2-13-17	2-13-17	

Date of Report: February 16, 2017
Samples Submitted: February 10, 2017
Laboratory Reference: 1702-104
Project: 150201

VOLATILES EPA 8260C
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AB-3-6**					
Laboratory ID:	02-104-01					
1,1,2-Trichloroethane	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
Tetrachloroethene	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
1,3-Dichloropropane	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
2-Hexanone	ND	0.0051	EPA 8260C	2-13-17	2-13-17	
Dibromochloromethane	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
1,2-Dibromoethane	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
Chlorobenzene	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
Ethylbenzene	0.011	0.0010	EPA 8260C	2-13-17	2-13-17	
m,p-Xylene	0.025	0.0020	EPA 8260C	2-13-17	2-13-17	
o-Xylene	0.0028	0.0010	EPA 8260C	2-13-17	2-13-17	
Styrene	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
Bromoform	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
Isopropylbenzene	0.0037	0.0010	EPA 8260C	2-13-17	2-13-17	
Bromobenzene	ND	0.051	EPA 8260C	2-14-17	2-15-17	
1,1,2,2-Tetrachloroethane	ND	0.051	EPA 8260C	2-14-17	2-15-17	
1,2,3-Trichloropropane	ND	0.051	EPA 8260C	2-14-17	2-15-17	
n-Propylbenzene	ND	0.051	EPA 8260C	2-14-17	2-15-17	
2-Chlorotoluene	ND	0.051	EPA 8260C	2-14-17	2-15-17	
4-Chlorotoluene	ND	0.051	EPA 8260C	2-14-17	2-15-17	
1,3,5-Trimethylbenzene	ND	0.051	EPA 8260C	2-14-17	2-15-17	
tert-Butylbenzene	ND	0.051	EPA 8260C	2-14-17	2-15-17	
1,2,4-Trimethylbenzene	0.13	0.051	EPA 8260C	2-14-17	2-15-17	
sec-Butylbenzene	ND	0.051	EPA 8260C	2-14-17	2-15-17	
1,3-Dichlorobenzene	ND	0.051	EPA 8260C	2-14-17	2-15-17	
p-Isopropyltoluene	ND	0.051	EPA 8260C	2-14-17	2-15-17	
1,4-Dichlorobenzene	ND	0.051	EPA 8260C	2-14-17	2-15-17	
1,2-Dichlorobenzene	ND	0.051	EPA 8260C	2-14-17	2-15-17	
n-Butylbenzene	ND	0.051	EPA 8260C	2-14-17	2-15-17	
1,2-Dibromo-3-chloropropane	ND	0.26	EPA 8260C	2-14-17	2-15-17	
1,2,4-Trichlorobenzene	ND	0.051	EPA 8260C	2-14-17	2-15-17	
Hexachlorobutadiene	ND	0.26	EPA 8260C	2-14-17	2-15-17	
Naphthalene	ND	0.051	EPA 8260C	2-14-17	2-15-17	
1,2,3-Trichlorobenzene	ND	0.051	EPA 8260C	2-14-17	2-15-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*120*	*73-134*				
Toluene-d8	*101*	*81-124*				
4-Bromofluorobenzene	*91*	*80-131*				

Date of Report: February 16, 2017
Samples Submitted: February 10, 2017
Laboratory Reference: 1702-104
Project: 150201

VOLATILES EPA 8260C
page 1 of 2

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AB-3-10**					
Laboratory ID:	02-104-02					
Dichlorodifluoromethane	ND	0.0012	EPA 8260C	2-13-17	2-14-17	
Chloromethane	ND	0.0062	EPA 8260C	2-13-17	2-14-17	
Vinyl Chloride	ND	0.0012	EPA 8260C	2-13-17	2-14-17	
Bromomethane	ND	0.0012	EPA 8260C	2-13-17	2-14-17	
Chloroethane	ND	0.0062	EPA 8260C	2-13-17	2-14-17	
Trichlorofluoromethane	ND	0.0012	EPA 8260C	2-13-17	2-14-17	
1,1-Dichloroethene	ND	0.0012	EPA 8260C	2-13-17	2-14-17	
Acetone	0.095	0.012	EPA 8260C	2-13-17	2-14-17	
Iodomethane	ND	0.0062	EPA 8260C	2-13-17	2-14-17	
Carbon Disulfide	0.0016	0.0012	EPA 8260C	2-13-17	2-14-17	
Methylene Chloride	ND	0.015	EPA 8260C	2-13-17	2-14-17	
(trans) 1,2-Dichloroethene	ND	0.0012	EPA 8260C	2-13-17	2-14-17	
Methyl t-Butyl Ether	ND	0.0012	EPA 8260C	2-13-17	2-14-17	
1,1-Dichloroethane	ND	0.0012	EPA 8260C	2-13-17	2-14-17	
Vinyl Acetate	ND	0.0062	EPA 8260C	2-13-17	2-14-17	
2,2-Dichloropropane	ND	0.0012	EPA 8260C	2-13-17	2-14-17	
(cis) 1,2-Dichloroethene	ND	0.0012	EPA 8260C	2-13-17	2-14-17	
2-Butanone	0.026	0.0062	EPA 8260C	2-13-17	2-14-17	
Bromochloromethane	ND	0.0012	EPA 8260C	2-13-17	2-14-17	
Chloroform	ND	0.0012	EPA 8260C	2-13-17	2-14-17	
1,1,1-Trichloroethane	ND	0.0012	EPA 8260C	2-13-17	2-14-17	
Carbon Tetrachloride	ND	0.0012	EPA 8260C	2-13-17	2-14-17	
1,1-Dichloropropene	ND	0.0012	EPA 8260C	2-13-17	2-14-17	
Benzene	0.0012	0.0012	EPA 8260C	2-13-17	2-14-17	
1,2-Dichloroethane	ND	0.0012	EPA 8260C	2-13-17	2-14-17	
Trichloroethene	ND	0.0012	EPA 8260C	2-13-17	2-14-17	
1,2-Dichloropropane	ND	0.0012	EPA 8260C	2-13-17	2-14-17	
Dibromomethane	ND	0.0012	EPA 8260C	2-13-17	2-14-17	
Bromodichloromethane	ND	0.0012	EPA 8260C	2-13-17	2-14-17	
2-Chloroethyl Vinyl Ether	ND	0.0062	EPA 8260C	2-13-17	2-14-17	
(cis) 1,3-Dichloropropene	ND	0.0012	EPA 8260C	2-13-17	2-14-17	
Methyl Isobutyl Ketone	ND	0.0062	EPA 8260C	2-13-17	2-14-17	
Toluene	ND	0.0062	EPA 8260C	2-13-17	2-14-17	
(trans) 1,3-Dichloropropene	ND	0.0012	EPA 8260C	2-13-17	2-14-17	

Date of Report: February 16, 2017
Samples Submitted: February 10, 2017
Laboratory Reference: 1702-104
Project: 150201

VOLATILES EPA 8260C
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AB-3-10**					
Laboratory ID:	02-104-02					
1,1,2-Trichloroethane	ND	0.0012	EPA 8260C	2-13-17	2-14-17	
Tetrachloroethene	ND	0.0012	EPA 8260C	2-13-17	2-14-17	
1,3-Dichloropropane	ND	0.0012	EPA 8260C	2-13-17	2-14-17	
2-Hexanone	ND	0.0062	EPA 8260C	2-13-17	2-14-17	
Dibromochloromethane	ND	0.0012	EPA 8260C	2-13-17	2-14-17	
1,2-Dibromoethane	ND	0.0012	EPA 8260C	2-13-17	2-14-17	
Chlorobenzene	ND	0.0012	EPA 8260C	2-13-17	2-14-17	
1,1,1,2-Tetrachloroethane	ND	0.0012	EPA 8260C	2-13-17	2-14-17	
Ethylbenzene	0.0026	0.0012	EPA 8260C	2-13-17	2-14-17	
m,p-Xylene	0.0098	0.0025	EPA 8260C	2-13-17	2-14-17	
o-Xylene	0.0030	0.0012	EPA 8260C	2-13-17	2-14-17	
Styrene	ND	0.0012	EPA 8260C	2-13-17	2-14-17	
Bromoform	ND	0.0012	EPA 8260C	2-13-17	2-14-17	
Isopropylbenzene	ND	0.0012	EPA 8260C	2-13-17	2-14-17	
Bromobenzene	ND	0.0012	EPA 8260C	2-13-17	2-14-17	
1,1,2,2-Tetrachloroethane	ND	0.0012	EPA 8260C	2-13-17	2-14-17	
1,2,3-Trichloropropane	ND	0.0012	EPA 8260C	2-13-17	2-14-17	
n-Propylbenzene	ND	0.0012	EPA 8260C	2-13-17	2-14-17	
2-Chlorotoluene	ND	0.0012	EPA 8260C	2-13-17	2-14-17	
4-Chlorotoluene	ND	0.0012	EPA 8260C	2-13-17	2-14-17	
1,3,5-Trimethylbenzene	ND	0.0012	EPA 8260C	2-13-17	2-14-17	
tert-Butylbenzene	ND	0.0012	EPA 8260C	2-13-17	2-14-17	
1,2,4-Trimethylbenzene	0.0097	0.0012	EPA 8260C	2-13-17	2-14-17	
sec-Butylbenzene	ND	0.0012	EPA 8260C	2-13-17	2-14-17	
1,3-Dichlorobenzene	ND	0.0012	EPA 8260C	2-13-17	2-14-17	
p-Isopropyltoluene	ND	0.0012	EPA 8260C	2-13-17	2-14-17	
1,4-Dichlorobenzene	ND	0.0012	EPA 8260C	2-13-17	2-14-17	
1,2-Dichlorobenzene	ND	0.0012	EPA 8260C	2-13-17	2-14-17	
n-Butylbenzene	ND	0.0012	EPA 8260C	2-13-17	2-14-17	
1,2-Dibromo-3-chloropropane	ND	0.0062	EPA 8260C	2-13-17	2-14-17	
1,2,4-Trichlorobenzene	ND	0.0012	EPA 8260C	2-13-17	2-14-17	
Hexachlorobutadiene	ND	0.0062	EPA 8260C	2-13-17	2-14-17	
Naphthalene	ND	0.0012	EPA 8260C	2-13-17	2-14-17	
1,2,3-Trichlorobenzene	ND	0.0012	EPA 8260C	2-13-17	2-14-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*117*	*73-134*				
Toluene-d8	*111*	*81-124*				
4-Bromofluorobenzene	*100*	*80-131*				

Date of Report: February 16, 2017
Samples Submitted: February 10, 2017
Laboratory Reference: 1702-104
Project: 150201

VOLATILES EPA 8260C
page 1 of 2

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AB-3-14**					
Laboratory ID:	02-104-03					
Dichlorodifluoromethane	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
Chloromethane	ND	0.0067	EPA 8260C	2-13-17	2-14-17	
Vinyl Chloride	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
Bromomethane	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
Chloroethane	ND	0.0067	EPA 8260C	2-13-17	2-14-17	
Trichlorofluoromethane	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
1,1-Dichloroethene	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
Acetone	0.19	0.013	EPA 8260C	2-13-17	2-14-17	
Iodomethane	ND	0.0067	EPA 8260C	2-13-17	2-14-17	
Carbon Disulfide	0.0080	0.0013	EPA 8260C	2-13-17	2-14-17	
Methylene Chloride	ND	0.017	EPA 8260C	2-13-17	2-14-17	
(trans) 1,2-Dichloroethene	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
Methyl t-Butyl Ether	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
1,1-Dichloroethane	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
Vinyl Acetate	ND	0.0067	EPA 8260C	2-13-17	2-14-17	
2,2-Dichloropropane	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
(cis) 1,2-Dichloroethene	0.0070	0.0013	EPA 8260C	2-13-17	2-14-17	
2-Butanone	0.012	0.0067	EPA 8260C	2-13-17	2-14-17	
Bromochloromethane	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
Chloroform	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
1,1,1-Trichloroethane	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
Carbon Tetrachloride	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
1,1-Dichloropropene	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
Benzene	0.046	0.0013	EPA 8260C	2-13-17	2-14-17	
1,2-Dichloroethane	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
Trichloroethene	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
1,2-Dichloropropane	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
Dibromomethane	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
Bromodichloromethane	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
2-Chloroethyl Vinyl Ether	ND	0.0067	EPA 8260C	2-13-17	2-14-17	
(cis) 1,3-Dichloropropene	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
Methyl Isobutyl Ketone	ND	0.0067	EPA 8260C	2-13-17	2-14-17	
Toluene	ND	0.0067	EPA 8260C	2-13-17	2-14-17	
(trans) 1,3-Dichloropropene	ND	0.0013	EPA 8260C	2-13-17	2-14-17	

Date of Report: February 16, 2017
Samples Submitted: February 10, 2017
Laboratory Reference: 1702-104
Project: 150201

VOLATILES EPA 8260C
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AB-3-14**					
Laboratory ID:	02-104-03					
1,1,2-Trichloroethane	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
Tetrachloroethene	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
1,3-Dichloropropane	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
2-Hexanone	ND	0.0067	EPA 8260C	2-13-17	2-14-17	
Dibromochloromethane	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
1,2-Dibromoethane	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
Chlorobenzene	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
1,1,1,2-Tetrachloroethane	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
Ethylbenzene	0.0024	0.0013	EPA 8260C	2-13-17	2-14-17	
m,p-Xylene	0.0058	0.0027	EPA 8260C	2-13-17	2-14-17	
o-Xylene	0.0027	0.0013	EPA 8260C	2-13-17	2-14-17	
Styrene	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
Bromoform	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
Isopropylbenzene	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
Bromobenzene	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
1,1,2,2-Tetrachloroethane	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
1,2,3-Trichloropropane	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
n-Propylbenzene	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
2-Chlorotoluene	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
4-Chlorotoluene	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
1,3,5-Trimethylbenzene	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
tert-Butylbenzene	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
1,2,4-Trimethylbenzene	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
sec-Butylbenzene	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
1,3-Dichlorobenzene	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
p-Isopropyltoluene	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
1,4-Dichlorobenzene	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
1,2-Dichlorobenzene	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
n-Butylbenzene	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
1,2-Dibromo-3-chloropropane	ND	0.0067	EPA 8260C	2-13-17	2-14-17	
1,2,4-Trichlorobenzene	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
Hexachlorobutadiene	ND	0.0067	EPA 8260C	2-13-17	2-14-17	
Naphthalene	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
1,2,3-Trichlorobenzene	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*117*	*73-134*				
Toluene-d8	*107*	*81-124*				
4-Bromofluorobenzene	*107*	*80-131*				

Date of Report: February 16, 2017
Samples Submitted: February 10, 2017
Laboratory Reference: 1702-104
Project: 150201

VOLATILES EPA 8260C
page 1 of 2

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AB-3-18**					
Laboratory ID:	02-104-04					
Dichlorodifluoromethane	ND	0.0016	EPA 8260C	2-13-17	2-14-17	
Chloromethane	ND	0.0080	EPA 8260C	2-13-17	2-14-17	
Vinyl Chloride	ND	0.0016	EPA 8260C	2-13-17	2-14-17	
Bromomethane	ND	0.0016	EPA 8260C	2-13-17	2-14-17	
Chloroethane	ND	0.0080	EPA 8260C	2-13-17	2-14-17	
Trichlorofluoromethane	ND	0.0016	EPA 8260C	2-13-17	2-14-17	
1,1-Dichloroethene	ND	0.0016	EPA 8260C	2-13-17	2-14-17	
Acetone	0.93	0.88	EPA 8260C	2-14-17	2-15-17	Y
Iodomethane	ND	0.0080	EPA 8260C	2-13-17	2-14-17	
Carbon Disulfide	0.0021	0.0016	EPA 8260C	2-13-17	2-14-17	
Methylene Chloride	ND	0.020	EPA 8260C	2-13-17	2-14-17	
(trans) 1,2-Dichloroethene	ND	0.0016	EPA 8260C	2-13-17	2-14-17	
Methyl t-Butyl Ether	ND	0.0016	EPA 8260C	2-13-17	2-14-17	
1,1-Dichloroethane	ND	0.0016	EPA 8260C	2-13-17	2-14-17	
Vinyl Acetate	ND	0.0080	EPA 8260C	2-13-17	2-14-17	
2,2-Dichloropropane	ND	0.0016	EPA 8260C	2-13-17	2-14-17	
(cis) 1,2-Dichloroethene	0.0042	0.0016	EPA 8260C	2-13-17	2-14-17	
2-Butanone	0.029	0.0080	EPA 8260C	2-13-17	2-14-17	
Bromochloromethane	ND	0.0016	EPA 8260C	2-13-17	2-14-17	
Chloroform	ND	0.0016	EPA 8260C	2-13-17	2-14-17	
1,1,1-Trichloroethane	ND	0.0016	EPA 8260C	2-13-17	2-14-17	
Carbon Tetrachloride	ND	0.0016	EPA 8260C	2-13-17	2-14-17	
1,1-Dichloropropene	ND	0.0016	EPA 8260C	2-13-17	2-14-17	
Benzene	0.034	0.0016	EPA 8260C	2-13-17	2-14-17	
1,2-Dichloroethane	ND	0.0016	EPA 8260C	2-13-17	2-14-17	
Trichloroethene	ND	0.0016	EPA 8260C	2-13-17	2-14-17	
1,2-Dichloropropane	ND	0.0016	EPA 8260C	2-13-17	2-14-17	
Dibromomethane	ND	0.0016	EPA 8260C	2-13-17	2-14-17	
Bromodichloromethane	ND	0.0016	EPA 8260C	2-13-17	2-14-17	
2-Chloroethyl Vinyl Ether	ND	0.0080	EPA 8260C	2-13-17	2-14-17	
(cis) 1,3-Dichloropropene	ND	0.0016	EPA 8260C	2-13-17	2-14-17	
Methyl Isobutyl Ketone	ND	0.0080	EPA 8260C	2-13-17	2-14-17	
Toluene	ND	0.0080	EPA 8260C	2-13-17	2-14-17	
(trans) 1,3-Dichloropropene	ND	0.0016	EPA 8260C	2-13-17	2-14-17	

Date of Report: February 16, 2017
Samples Submitted: February 10, 2017
Laboratory Reference: 1702-104
Project: 150201

VOLATILES EPA 8260C
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AB-3-18**					
Laboratory ID:	02-104-04					
1,1,2-Trichloroethane	ND	0.0016	EPA 8260C	2-13-17	2-14-17	
Tetrachloroethene	ND	0.0016	EPA 8260C	2-13-17	2-14-17	
1,3-Dichloropropane	ND	0.0016	EPA 8260C	2-13-17	2-14-17	
2-Hexanone	ND	0.0080	EPA 8260C	2-13-17	2-14-17	
Dibromochloromethane	ND	0.0016	EPA 8260C	2-13-17	2-14-17	
1,2-Dibromoethane	ND	0.0016	EPA 8260C	2-13-17	2-14-17	
Chlorobenzene	ND	0.0016	EPA 8260C	2-13-17	2-14-17	
1,1,1,2-Tetrachloroethane	ND	0.0016	EPA 8260C	2-13-17	2-14-17	
Ethylbenzene	0.0045	0.0016	EPA 8260C	2-13-17	2-14-17	
m,p-Xylene	0.074	0.0032	EPA 8260C	2-13-17	2-14-17	
o-Xylene	0.0039	0.0016	EPA 8260C	2-13-17	2-14-17	
Styrene	ND	0.0016	EPA 8260C	2-13-17	2-14-17	
Bromoform	ND	0.0016	EPA 8260C	2-13-17	2-14-17	
Isopropylbenzene	0.0019	0.0016	EPA 8260C	2-13-17	2-14-17	
Bromobenzene	ND	0.0016	EPA 8260C	2-13-17	2-14-17	
1,1,2,2-Tetrachloroethane	ND	0.0016	EPA 8260C	2-13-17	2-14-17	
1,2,3-Trichloropropane	ND	0.0016	EPA 8260C	2-13-17	2-14-17	
n-Propylbenzene	ND	0.0016	EPA 8260C	2-13-17	2-14-17	
2-Chlorotoluene	ND	0.0016	EPA 8260C	2-13-17	2-14-17	
4-Chlorotoluene	ND	0.0016	EPA 8260C	2-13-17	2-14-17	
1,3,5-Trimethylbenzene	ND	0.0016	EPA 8260C	2-13-17	2-14-17	
tert-Butylbenzene	ND	0.0016	EPA 8260C	2-13-17	2-14-17	
1,2,4-Trimethylbenzene	0.0059	0.0016	EPA 8260C	2-13-17	2-14-17	
sec-Butylbenzene	ND	0.0016	EPA 8260C	2-13-17	2-14-17	
1,3-Dichlorobenzene	ND	0.0016	EPA 8260C	2-13-17	2-14-17	
p-Isopropyltoluene	ND	0.0016	EPA 8260C	2-13-17	2-14-17	
1,4-Dichlorobenzene	ND	0.0016	EPA 8260C	2-13-17	2-14-17	
1,2-Dichlorobenzene	ND	0.0016	EPA 8260C	2-13-17	2-14-17	
n-Butylbenzene	ND	0.0016	EPA 8260C	2-13-17	2-14-17	
1,2-Dibromo-3-chloropropane	ND	0.0080	EPA 8260C	2-13-17	2-14-17	
1,2,4-Trichlorobenzene	ND	0.0016	EPA 8260C	2-13-17	2-14-17	
Hexachlorobutadiene	ND	0.0080	EPA 8260C	2-13-17	2-14-17	
Naphthalene	ND	0.0016	EPA 8260C	2-13-17	2-14-17	
1,2,3-Trichlorobenzene	ND	0.0016	EPA 8260C	2-13-17	2-14-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*112*	*73-134*				
Toluene-d8	*103*	*81-124*				
4-Bromofluorobenzene	*97*	*80-131*				

Date of Report: February 16, 2017
Samples Submitted: February 10, 2017
Laboratory Reference: 1702-104
Project: 150201

VOLATILES EPA 8260C
page 1 of 2

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AB-5-5**					
Laboratory ID:	02-104-05					
Dichlorodifluoromethane	ND	0.0011	EPA 8260C	2-13-17	2-14-17	
Chloromethane	ND	0.0054	EPA 8260C	2-13-17	2-14-17	
Vinyl Chloride	ND	0.0011	EPA 8260C	2-13-17	2-14-17	
Bromomethane	ND	0.0011	EPA 8260C	2-13-17	2-14-17	
Chloroethane	ND	0.0054	EPA 8260C	2-13-17	2-14-17	
Trichlorofluoromethane	ND	0.0011	EPA 8260C	2-13-17	2-14-17	
1,1-Dichloroethene	ND	0.0011	EPA 8260C	2-13-17	2-14-17	
Acetone	0.012	0.011	EPA 8260C	2-13-17	2-14-17	
Iodomethane	ND	0.0054	EPA 8260C	2-13-17	2-14-17	
Carbon Disulfide	0.0020	0.0011	EPA 8260C	2-13-17	2-14-17	
Methylene Chloride	ND	0.014	EPA 8260C	2-13-17	2-14-17	
(trans) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	2-13-17	2-14-17	
Methyl t-Butyl Ether	ND	0.0011	EPA 8260C	2-13-17	2-14-17	
1,1-Dichloroethane	ND	0.0011	EPA 8260C	2-13-17	2-14-17	
Vinyl Acetate	ND	0.0054	EPA 8260C	2-13-17	2-14-17	
2,2-Dichloropropane	ND	0.0011	EPA 8260C	2-13-17	2-14-17	
(cis) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	2-13-17	2-14-17	
2-Butanone	ND	0.0054	EPA 8260C	2-13-17	2-14-17	
Bromochloromethane	ND	0.0011	EPA 8260C	2-13-17	2-14-17	
Chloroform	ND	0.0011	EPA 8260C	2-13-17	2-14-17	
1,1,1-Trichloroethane	ND	0.0011	EPA 8260C	2-13-17	2-14-17	
Carbon Tetrachloride	ND	0.0011	EPA 8260C	2-13-17	2-14-17	
1,1-Dichloropropene	ND	0.0011	EPA 8260C	2-13-17	2-14-17	
Benzene	ND	0.0011	EPA 8260C	2-13-17	2-14-17	
1,2-Dichloroethane	ND	0.0011	EPA 8260C	2-13-17	2-14-17	
Trichloroethene	ND	0.0011	EPA 8260C	2-13-17	2-14-17	
1,2-Dichloropropane	ND	0.0011	EPA 8260C	2-13-17	2-14-17	
Dibromomethane	ND	0.0011	EPA 8260C	2-13-17	2-14-17	
Bromodichloromethane	ND	0.0011	EPA 8260C	2-13-17	2-14-17	
2-Chloroethyl Vinyl Ether	ND	0.0054	EPA 8260C	2-13-17	2-14-17	
(cis) 1,3-Dichloropropene	ND	0.0011	EPA 8260C	2-13-17	2-14-17	
Methyl Isobutyl Ketone	ND	0.0054	EPA 8260C	2-13-17	2-14-17	
Toluene	ND	0.0054	EPA 8260C	2-13-17	2-14-17	
(trans) 1,3-Dichloropropene	ND	0.0011	EPA 8260C	2-13-17	2-14-17	

Date of Report: February 16, 2017
Samples Submitted: February 10, 2017
Laboratory Reference: 1702-104
Project: 150201

VOLATILES EPA 8260C
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AB-5-5**					
Laboratory ID:	02-104-05					
1,1,2-Trichloroethane	ND	0.0011	EPA 8260C	2-13-17	2-14-17	
Tetrachloroethene	0.0017	0.0011	EPA 8260C	2-13-17	2-14-17	
1,3-Dichloropropane	ND	0.0011	EPA 8260C	2-13-17	2-14-17	
2-Hexanone	ND	0.0054	EPA 8260C	2-13-17	2-14-17	
Dibromochloromethane	ND	0.0011	EPA 8260C	2-13-17	2-14-17	
1,2-Dibromoethane	ND	0.0011	EPA 8260C	2-13-17	2-14-17	
Chlorobenzene	ND	0.0011	EPA 8260C	2-13-17	2-14-17	
1,1,1,2-Tetrachloroethane	ND	0.0011	EPA 8260C	2-13-17	2-14-17	
Ethylbenzene	ND	0.0011	EPA 8260C	2-13-17	2-14-17	
m,p-Xylene	0.0026	0.0022	EPA 8260C	2-13-17	2-14-17	
o-Xylene	0.0012	0.0011	EPA 8260C	2-13-17	2-14-17	
Styrene	ND	0.0011	EPA 8260C	2-13-17	2-14-17	
Bromoform	ND	0.0011	EPA 8260C	2-13-17	2-14-17	
Isopropylbenzene	ND	0.0011	EPA 8260C	2-13-17	2-14-17	
Bromobenzene	ND	0.0011	EPA 8260C	2-13-17	2-14-17	
1,1,2,2-Tetrachloroethane	ND	0.0011	EPA 8260C	2-13-17	2-14-17	
1,2,3-Trichloropropane	ND	0.0011	EPA 8260C	2-13-17	2-14-17	
n-Propylbenzene	ND	0.0011	EPA 8260C	2-13-17	2-14-17	
2-Chlorotoluene	ND	0.0011	EPA 8260C	2-13-17	2-14-17	
4-Chlorotoluene	ND	0.0011	EPA 8260C	2-13-17	2-14-17	
1,3,5-Trimethylbenzene	ND	0.0011	EPA 8260C	2-13-17	2-14-17	
tert-Butylbenzene	ND	0.0011	EPA 8260C	2-13-17	2-14-17	
1,2,4-Trimethylbenzene	ND	0.0011	EPA 8260C	2-13-17	2-14-17	
sec-Butylbenzene	ND	0.0011	EPA 8260C	2-13-17	2-14-17	
1,3-Dichlorobenzene	ND	0.0011	EPA 8260C	2-13-17	2-14-17	
p-Isopropyltoluene	ND	0.0011	EPA 8260C	2-13-17	2-14-17	
1,4-Dichlorobenzene	ND	0.0011	EPA 8260C	2-13-17	2-14-17	
1,2-Dichlorobenzene	ND	0.0011	EPA 8260C	2-13-17	2-14-17	
n-Butylbenzene	ND	0.0011	EPA 8260C	2-13-17	2-14-17	
1,2-Dibromo-3-chloropropane	ND	0.0054	EPA 8260C	2-13-17	2-14-17	
1,2,4-Trichlorobenzene	ND	0.0011	EPA 8260C	2-13-17	2-14-17	
Hexachlorobutadiene	ND	0.0054	EPA 8260C	2-13-17	2-14-17	
Naphthalene	ND	0.0011	EPA 8260C	2-13-17	2-14-17	
1,2,3-Trichlorobenzene	ND	0.0011	EPA 8260C	2-13-17	2-14-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*124*	*73-134*				
Toluene-d8	*111*	*81-124*				
4-Bromofluorobenzene	*108*	*80-131*				

Date of Report: February 16, 2017
Samples Submitted: February 10, 2017
Laboratory Reference: 1702-104
Project: 150201

VOLATILES EPA 8260C
page 1 of 2

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AB-5-9**					
Laboratory ID:	02-104-06					
Dichlorodifluoromethane	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
Chloromethane	ND	0.0069	EPA 8260C	2-13-17	2-14-17	
Vinyl Chloride	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
Bromomethane	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
Chloroethane	ND	0.0069	EPA 8260C	2-13-17	2-14-17	
Trichlorofluoromethane	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
1,1-Dichloroethene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
Acetone	ND	0.014	EPA 8260C	2-13-17	2-14-17	
Iodomethane	ND	0.0069	EPA 8260C	2-13-17	2-14-17	
Carbon Disulfide	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
Methylene Chloride	ND	0.017	EPA 8260C	2-13-17	2-14-17	
(trans) 1,2-Dichloroethene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
Methyl t-Butyl Ether	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
1,1-Dichloroethane	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
Vinyl Acetate	ND	0.0069	EPA 8260C	2-13-17	2-14-17	
2,2-Dichloropropane	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
(cis) 1,2-Dichloroethene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
2-Butanone	ND	0.0069	EPA 8260C	2-13-17	2-14-17	
Bromochloromethane	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
Chloroform	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
1,1,1-Trichloroethane	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
Carbon Tetrachloride	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
1,1-Dichloropropene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
Benzene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
1,2-Dichloroethane	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
Trichloroethene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
1,2-Dichloropropane	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
Dibromomethane	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
Bromodichloromethane	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
2-Chloroethyl Vinyl Ether	ND	0.0069	EPA 8260C	2-13-17	2-14-17	
(cis) 1,3-Dichloropropene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
Methyl Isobutyl Ketone	ND	0.0069	EPA 8260C	2-13-17	2-14-17	
Toluene	ND	0.0069	EPA 8260C	2-13-17	2-14-17	
(trans) 1,3-Dichloropropene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	

Date of Report: February 16, 2017
Samples Submitted: February 10, 2017
Laboratory Reference: 1702-104
Project: 150201

VOLATILES EPA 8260C
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AB-5-9**					
Laboratory ID:	02-104-06					
1,1,2-Trichloroethane	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
Tetrachloroethene	0.0027	0.0014	EPA 8260C	2-13-17	2-14-17	
1,3-Dichloropropane	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
2-Hexanone	ND	0.0069	EPA 8260C	2-13-17	2-14-17	
Dibromochloromethane	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
1,2-Dibromoethane	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
Chlorobenzene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
1,1,1,2-Tetrachloroethane	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
Ethylbenzene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
m,p-Xylene	ND	0.0028	EPA 8260C	2-13-17	2-14-17	
o-Xylene	0.0014	0.0014	EPA 8260C	2-13-17	2-14-17	
Styrene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
Bromoform	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
Isopropylbenzene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
Bromobenzene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
1,1,2,2-Tetrachloroethane	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
1,2,3-Trichloropropane	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
n-Propylbenzene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
2-Chlorotoluene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
4-Chlorotoluene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
1,3,5-Trimethylbenzene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
tert-Butylbenzene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
1,2,4-Trimethylbenzene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
sec-Butylbenzene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
1,3-Dichlorobenzene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
p-Isopropyltoluene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
1,4-Dichlorobenzene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
1,2-Dichlorobenzene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
n-Butylbenzene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
1,2-Dibromo-3-chloropropane	ND	0.0069	EPA 8260C	2-13-17	2-14-17	
1,2,4-Trichlorobenzene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
Hexachlorobutadiene	ND	0.0069	EPA 8260C	2-13-17	2-14-17	
Naphthalene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
1,2,3-Trichlorobenzene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*111*	*73-134*				
Toluene-d8	*103*	*81-124*				
4-Bromofluorobenzene	*97*	*80-131*				

Date of Report: February 16, 2017
Samples Submitted: February 10, 2017
Laboratory Reference: 1702-104
Project: 150201

VOLATILES EPA 8260C
page 1 of 2

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AB-5-13**					
Laboratory ID:	02-104-07					
Dichlorodifluoromethane	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
Chloromethane	ND	0.0065	EPA 8260C	2-13-17	2-14-17	
Vinyl Chloride	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
Bromomethane	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
Chloroethane	ND	0.0065	EPA 8260C	2-13-17	2-14-17	
Trichlorofluoromethane	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
1,1-Dichloroethene	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
Acetone	0.19	0.013	EPA 8260C	2-13-17	2-14-17	
Iodomethane	ND	0.0065	EPA 8260C	2-13-17	2-14-17	
Carbon Disulfide	0.0013	0.0013	EPA 8260C	2-13-17	2-14-17	
Methylene Chloride	ND	0.016	EPA 8260C	2-13-17	2-14-17	
(trans) 1,2-Dichloroethene	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
Methyl t-Butyl Ether	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
1,1-Dichloroethane	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
Vinyl Acetate	ND	0.0065	EPA 8260C	2-13-17	2-14-17	
2,2-Dichloropropane	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
(cis) 1,2-Dichloroethene	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
2-Butanone	ND	0.0065	EPA 8260C	2-13-17	2-14-17	
Bromochloromethane	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
Chloroform	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
1,1,1-Trichloroethane	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
Carbon Tetrachloride	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
1,1-Dichloropropene	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
Benzene	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
1,2-Dichloroethane	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
Trichloroethene	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
1,2-Dichloropropane	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
Dibromomethane	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
Bromodichloromethane	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
2-Chloroethyl Vinyl Ether	ND	0.0065	EPA 8260C	2-13-17	2-14-17	
(cis) 1,3-Dichloropropene	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
Methyl Isobutyl Ketone	ND	0.0065	EPA 8260C	2-13-17	2-14-17	
Toluene	ND	0.0065	EPA 8260C	2-13-17	2-14-17	
(trans) 1,3-Dichloropropene	ND	0.0013	EPA 8260C	2-13-17	2-14-17	

Date of Report: February 16, 2017
Samples Submitted: February 10, 2017
Laboratory Reference: 1702-104
Project: 150201

VOLATILES EPA 8260C
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AB-5-13**					
Laboratory ID:	02-104-07					
1,1,2-Trichloroethane	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
Tetrachloroethene	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
1,3-Dichloropropane	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
2-Hexanone	ND	0.0065	EPA 8260C	2-13-17	2-14-17	
Dibromochloromethane	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
1,2-Dibromoethane	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
Chlorobenzene	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
1,1,1,2-Tetrachloroethane	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
Ethylbenzene	0.74	0.092	EPA 8260C	2-14-17	2-15-17	
m,p-Xylene	1.4	0.18	EPA 8260C	2-14-17	2-15-17	
o-Xylene	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
Styrene	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
Bromoform	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
Isopropylbenzene	0.018	0.0013	EPA 8260C	2-13-17	2-14-17	
Bromobenzene	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
1,1,2,2-Tetrachloroethane	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
1,2,3-Trichloropropane	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
n-Propylbenzene	0.025	0.0013	EPA 8260C	2-13-17	2-14-17	
2-Chlorotoluene	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
4-Chlorotoluene	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
1,3,5-Trimethylbenzene	0.0022	0.0013	EPA 8260C	2-13-17	2-14-17	
tert-Butylbenzene	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
1,2,4-Trimethylbenzene	0.062	0.0013	EPA 8260C	2-13-17	2-14-17	
sec-Butylbenzene	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
1,3-Dichlorobenzene	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
p-Isopropyltoluene	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
1,4-Dichlorobenzene	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
1,2-Dichlorobenzene	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
n-Butylbenzene	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
1,2-Dibromo-3-chloropropane	ND	0.0065	EPA 8260C	2-13-17	2-14-17	
1,2,4-Trichlorobenzene	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
Hexachlorobutadiene	ND	0.0065	EPA 8260C	2-13-17	2-14-17	
Naphthalene	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
1,2,3-Trichlorobenzene	ND	0.0013	EPA 8260C	2-13-17	2-14-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*112*	*73-134*				
Toluene-d8	*105*	*81-124*				
4-Bromofluorobenzene	*104*	*80-131*				

Date of Report: February 16, 2017
Samples Submitted: February 10, 2017
Laboratory Reference: 1702-104
Project: 150201

VOLATILES EPA 8260C
page 1 of 2

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AB-5-18**					
Laboratory ID:	02-104-08					
Dichlorodifluoromethane	ND	0.75	EPA 8260C	2-13-17	2-15-17	
Chloromethane	ND	3.7	EPA 8260C	2-13-17	2-15-17	
Vinyl Chloride	ND	0.75	EPA 8260C	2-13-17	2-15-17	
Bromomethane	ND	0.75	EPA 8260C	2-13-17	2-15-17	
Chloroethane	ND	3.7	EPA 8260C	2-13-17	2-15-17	
Trichlorofluoromethane	ND	0.75	EPA 8260C	2-13-17	2-15-17	
1,1-Dichloroethene	ND	0.75	EPA 8260C	2-13-17	2-15-17	
Acetone	ND	7.5	EPA 8260C	2-13-17	2-15-17	
Iodomethane	ND	3.7	EPA 8260C	2-13-17	2-15-17	
Carbon Disulfide	ND	0.75	EPA 8260C	2-13-17	2-15-17	
Methylene Chloride	ND	9.3	EPA 8260C	2-13-17	2-15-17	
(trans) 1,2-Dichloroethene	ND	0.75	EPA 8260C	2-13-17	2-15-17	
Methyl t-Butyl Ether	ND	0.75	EPA 8260C	2-13-17	2-15-17	
1,1-Dichloroethane	ND	0.75	EPA 8260C	2-13-17	2-15-17	
Vinyl Acetate	ND	3.7	EPA 8260C	2-13-17	2-15-17	
2,2-Dichloropropane	ND	0.75	EPA 8260C	2-13-17	2-15-17	
(cis) 1,2-Dichloroethene	ND	0.75	EPA 8260C	2-13-17	2-15-17	
2-Butanone	ND	3.7	EPA 8260C	2-13-17	2-15-17	
Bromochloromethane	ND	0.75	EPA 8260C	2-13-17	2-15-17	
Chloroform	ND	0.75	EPA 8260C	2-13-17	2-15-17	
1,1,1-Trichloroethane	ND	0.75	EPA 8260C	2-13-17	2-15-17	
Carbon Tetrachloride	ND	0.75	EPA 8260C	2-13-17	2-15-17	
1,1-Dichloropropene	ND	0.75	EPA 8260C	2-13-17	2-15-17	
Benzene	ND	0.75	EPA 8260C	2-13-17	2-15-17	
1,2-Dichloroethane	ND	0.75	EPA 8260C	2-13-17	2-15-17	
Trichloroethene	ND	0.75	EPA 8260C	2-13-17	2-15-17	
1,2-Dichloropropane	ND	0.75	EPA 8260C	2-13-17	2-15-17	
Dibromomethane	ND	0.75	EPA 8260C	2-13-17	2-15-17	
Bromodichloromethane	ND	0.75	EPA 8260C	2-13-17	2-15-17	
2-Chloroethyl Vinyl Ether	ND	3.7	EPA 8260C	2-13-17	2-15-17	
(cis) 1,3-Dichloropropene	ND	0.75	EPA 8260C	2-13-17	2-15-17	
Methyl Isobutyl Ketone	ND	3.7	EPA 8260C	2-13-17	2-15-17	
Toluene	5.7	3.7	EPA 8260C	2-13-17	2-15-17	
(trans) 1,3-Dichloropropene	ND	0.75	EPA 8260C	2-13-17	2-15-17	

Date of Report: February 16, 2017
Samples Submitted: February 10, 2017
Laboratory Reference: 1702-104
Project: 150201

VOLATILES EPA 8260C
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AB-5-18**					
Laboratory ID:	02-104-08					
1,1,2-Trichloroethane	ND	0.75	EPA 8260C	2-13-17	2-15-17	
Tetrachloroethene	ND	0.75	EPA 8260C	2-13-17	2-15-17	
1,3-Dichloropropane	ND	0.75	EPA 8260C	2-13-17	2-15-17	
2-Hexanone	ND	3.7	EPA 8260C	2-13-17	2-15-17	
Dibromochloromethane	ND	0.75	EPA 8260C	2-13-17	2-15-17	
1,2-Dibromoethane	ND	0.75	EPA 8260C	2-13-17	2-15-17	
Chlorobenzene	ND	0.75	EPA 8260C	2-13-17	2-15-17	
1,1,1,2-Tetrachloroethane	ND	0.75	EPA 8260C	2-13-17	2-15-17	
Ethylbenzene	85	0.75	EPA 8260C	2-13-17	2-15-17	
m,p-Xylene	260	1.5	EPA 8260C	2-13-17	2-15-17	
o-Xylene	130	3.0	EPA 8260C	2-13-17	2-14-17	
Styrene	ND	0.75	EPA 8260C	2-13-17	2-15-17	
Bromoform	ND	0.75	EPA 8260C	2-13-17	2-15-17	
Isopropylbenzene	1.5	0.75	EPA 8260C	2-13-17	2-15-17	
Bromobenzene	ND	0.75	EPA 8260C	2-13-17	2-15-17	
1,1,2,2-Tetrachloroethane	ND	0.75	EPA 8260C	2-13-17	2-15-17	
1,2,3-Trichloropropane	ND	0.75	EPA 8260C	2-13-17	2-15-17	
n-Propylbenzene	1.4	0.75	EPA 8260C	2-13-17	2-15-17	
2-Chlorotoluene	ND	0.75	EPA 8260C	2-13-17	2-15-17	
4-Chlorotoluene	ND	0.75	EPA 8260C	2-13-17	2-15-17	
1,3,5-Trimethylbenzene	1.9	0.75	EPA 8260C	2-13-17	2-15-17	
tert-Butylbenzene	ND	0.75	EPA 8260C	2-13-17	2-15-17	
1,2,4-Trimethylbenzene	3.3	0.75	EPA 8260C	2-13-17	2-15-17	
sec-Butylbenzene	ND	0.75	EPA 8260C	2-13-17	2-15-17	
1,3-Dichlorobenzene	ND	0.75	EPA 8260C	2-13-17	2-15-17	
p-Isopropyltoluene	ND	0.75	EPA 8260C	2-13-17	2-15-17	
1,4-Dichlorobenzene	ND	0.75	EPA 8260C	2-13-17	2-15-17	
1,2-Dichlorobenzene	ND	0.75	EPA 8260C	2-13-17	2-15-17	
n-Butylbenzene	ND	0.75	EPA 8260C	2-13-17	2-15-17	
1,2-Dibromo-3-chloropropane	ND	3.7	EPA 8260C	2-13-17	2-15-17	
1,2,4-Trichlorobenzene	ND	0.75	EPA 8260C	2-13-17	2-15-17	
Hexachlorobutadiene	ND	3.7	EPA 8260C	2-13-17	2-15-17	
Naphthalene	ND	0.75	EPA 8260C	2-13-17	2-15-17	
1,2,3-Trichlorobenzene	ND	0.75	EPA 8260C	2-13-17	2-15-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*118*	*73-134*				
Toluene-d8	*110*	*81-124*				
4-Bromofluorobenzene	*109*	*80-131*				

Date of Report: February 16, 2017
Samples Submitted: February 10, 2017
Laboratory Reference: 1702-104
Project: 150201

VOLATILES EPA 8260C
page 1 of 2

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AB-4-6**					
Laboratory ID:	02-104-09					
Dichlorodifluoromethane	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
Chloromethane	ND	0.0069	EPA 8260C	2-13-17	2-14-17	
Vinyl Chloride	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
Bromomethane	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
Chloroethane	ND	0.0069	EPA 8260C	2-13-17	2-14-17	
Trichlorofluoromethane	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
1,1-Dichloroethene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
Acetone	ND	0.014	EPA 8260C	2-13-17	2-14-17	
Iodomethane	ND	0.0069	EPA 8260C	2-13-17	2-14-17	
Carbon Disulfide	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
Methylene Chloride	ND	0.017	EPA 8260C	2-13-17	2-14-17	
(trans) 1,2-Dichloroethene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
Methyl t-Butyl Ether	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
1,1-Dichloroethane	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
Vinyl Acetate	ND	0.0069	EPA 8260C	2-13-17	2-14-17	
2,2-Dichloropropane	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
(cis) 1,2-Dichloroethene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
2-Butanone	ND	0.0069	EPA 8260C	2-13-17	2-14-17	
Bromochloromethane	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
Chloroform	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
1,1,1-Trichloroethane	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
Carbon Tetrachloride	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
1,1-Dichloropropene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
Benzene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
1,2-Dichloroethane	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
Trichloroethene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
1,2-Dichloropropane	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
Dibromomethane	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
Bromodichloromethane	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
2-Chloroethyl Vinyl Ether	ND	0.0069	EPA 8260C	2-13-17	2-14-17	
(cis) 1,3-Dichloropropene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
Methyl Isobutyl Ketone	ND	0.0069	EPA 8260C	2-13-17	2-14-17	
Toluene	ND	0.0069	EPA 8260C	2-13-17	2-14-17	
(trans) 1,3-Dichloropropene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	

Date of Report: February 16, 2017
Samples Submitted: February 10, 2017
Laboratory Reference: 1702-104
Project: 150201

VOLATILES EPA 8260C
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AB-4-6**					
Laboratory ID:	02-104-09					
1,1,2-Trichloroethane	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
Tetrachloroethene	0.0047	0.0014	EPA 8260C	2-13-17	2-14-17	
1,3-Dichloropropane	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
2-Hexanone	ND	0.0069	EPA 8260C	2-13-17	2-14-17	
Dibromochloromethane	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
1,2-Dibromoethane	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
Chlorobenzene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
1,1,1,2-Tetrachloroethane	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
Ethylbenzene	0.0049	0.0014	EPA 8260C	2-13-17	2-14-17	
m,p-Xylene	0.013	0.0028	EPA 8260C	2-13-17	2-14-17	
o-Xylene	0.0093	0.0014	EPA 8260C	2-13-17	2-14-17	
Styrene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
Bromoform	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
Isopropylbenzene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
Bromobenzene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
1,1,2,2-Tetrachloroethane	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
1,2,3-Trichloropropane	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
n-Propylbenzene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
2-Chlorotoluene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
4-Chlorotoluene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
1,3,5-Trimethylbenzene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
tert-Butylbenzene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
1,2,4-Trimethylbenzene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
sec-Butylbenzene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
1,3-Dichlorobenzene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
p-Isopropyltoluene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
1,4-Dichlorobenzene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
1,2-Dichlorobenzene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
n-Butylbenzene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
1,2-Dibromo-3-chloropropane	ND	0.0069	EPA 8260C	2-13-17	2-14-17	
1,2,4-Trichlorobenzene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
Hexachlorobutadiene	ND	0.0069	EPA 8260C	2-13-17	2-14-17	
Naphthalene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
1,2,3-Trichlorobenzene	ND	0.0014	EPA 8260C	2-13-17	2-14-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*119*	*73-134*				
Toluene-d8	*106*	*81-124*				
4-Bromofluorobenzene	*103*	*80-131*				

Date of Report: February 16, 2017
Samples Submitted: February 10, 2017
Laboratory Reference: 1702-104
Project: 150201

VOLATILES EPA 8260C
page 1 of 2

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AB-4-11**					
Laboratory ID:	02-104-10					
Dichlorodifluoromethane	ND	1.4	EPA 8260C	2-13-17	2-14-17	
Chloromethane	ND	7.2	EPA 8260C	2-13-17	2-14-17	
Vinyl Chloride	ND	1.4	EPA 8260C	2-13-17	2-14-17	
Bromomethane	ND	1.4	EPA 8260C	2-13-17	2-14-17	
Chloroethane	ND	7.2	EPA 8260C	2-13-17	2-14-17	
Trichlorofluoromethane	ND	1.4	EPA 8260C	2-13-17	2-14-17	
1,1-Dichloroethene	ND	1.4	EPA 8260C	2-13-17	2-14-17	
Acetone	ND	14	EPA 8260C	2-13-17	2-14-17	
Iodomethane	ND	7.2	EPA 8260C	2-13-17	2-14-17	
Carbon Disulfide	ND	1.4	EPA 8260C	2-13-17	2-14-17	
Methylene Chloride	ND	36	EPA 8260C	2-13-17	2-15-17	
(trans) 1,2-Dichloroethene	ND	1.4	EPA 8260C	2-13-17	2-14-17	
Methyl t-Butyl Ether	ND	1.4	EPA 8260C	2-13-17	2-14-17	
1,1-Dichloroethane	ND	1.4	EPA 8260C	2-13-17	2-14-17	
Vinyl Acetate	ND	7.2	EPA 8260C	2-13-17	2-14-17	
2,2-Dichloropropane	ND	1.4	EPA 8260C	2-13-17	2-14-17	
(cis) 1,2-Dichloroethene	ND	1.4	EPA 8260C	2-13-17	2-14-17	
2-Butanone	ND	7.2	EPA 8260C	2-13-17	2-14-17	
Bromochloromethane	ND	1.4	EPA 8260C	2-13-17	2-14-17	
Chloroform	ND	1.4	EPA 8260C	2-13-17	2-14-17	
1,1,1-Trichloroethane	ND	1.4	EPA 8260C	2-13-17	2-14-17	
Carbon Tetrachloride	ND	1.4	EPA 8260C	2-13-17	2-14-17	
1,1-Dichloropropene	ND	1.4	EPA 8260C	2-13-17	2-14-17	
Benzene	ND	1.4	EPA 8260C	2-13-17	2-14-17	
1,2-Dichloroethane	ND	1.4	EPA 8260C	2-13-17	2-14-17	
Trichloroethene	ND	1.4	EPA 8260C	2-13-17	2-14-17	
1,2-Dichloropropane	ND	1.4	EPA 8260C	2-13-17	2-14-17	
Dibromomethane	ND	1.4	EPA 8260C	2-13-17	2-14-17	
Bromodichloromethane	ND	1.4	EPA 8260C	2-13-17	2-14-17	
2-Chloroethyl Vinyl Ether	ND	7.2	EPA 8260C	2-13-17	2-14-17	
(cis) 1,3-Dichloropropene	ND	1.4	EPA 8260C	2-13-17	2-14-17	
Methyl Isobutyl Ketone	ND	7.2	EPA 8260C	2-13-17	2-14-17	
Toluene	50	7.2	EPA 8260C	2-13-17	2-14-17	
(trans) 1,3-Dichloropropene	ND	1.4	EPA 8260C	2-13-17	2-14-17	

Date of Report: February 16, 2017
Samples Submitted: February 10, 2017
Laboratory Reference: 1702-104
Project: 150201

VOLATILES EPA 8260C
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AB-4-11**					
Laboratory ID:	02-104-10					
1,1,2-Trichloroethane	ND	1.4	EPA 8260C	2-13-17	2-14-17	
Tetrachloroethene	ND	1.4	EPA 8260C	2-13-17	2-14-17	
1,3-Dichloropropane	ND	1.4	EPA 8260C	2-13-17	2-14-17	
2-Hexanone	ND	7.2	EPA 8260C	2-13-17	2-14-17	
Dibromochloromethane	ND	1.4	EPA 8260C	2-13-17	2-14-17	
1,2-Dibromoethane	ND	1.4	EPA 8260C	2-13-17	2-14-17	
Chlorobenzene	ND	1.4	EPA 8260C	2-13-17	2-14-17	
1,1,1,2-Tetrachloroethane	ND	1.4	EPA 8260C	2-13-17	2-14-17	
Ethylbenzene	370	7.2	EPA 8260C	2-13-17	2-15-17	
m,p-Xylene	1100	14	EPA 8260C	2-13-17	2-15-17	
o-Xylene	660	7.2	EPA 8260C	2-13-17	2-15-17	
Styrene	ND	1.4	EPA 8260C	2-13-17	2-14-17	
Bromoform	ND	1.4	EPA 8260C	2-13-17	2-14-17	
Isopropylbenzene	6.6	1.4	EPA 8260C	2-13-17	2-14-17	
Bromobenzene	ND	1.4	EPA 8260C	2-13-17	2-14-17	
1,1,2,2-Tetrachloroethane	ND	1.4	EPA 8260C	2-13-17	2-14-17	
1,2,3-Trichloropropane	ND	1.4	EPA 8260C	2-13-17	2-14-17	
n-Propylbenzene	6.1	1.4	EPA 8260C	2-13-17	2-14-17	
2-Chlorotoluene	ND	1.4	EPA 8260C	2-13-17	2-14-17	
4-Chlorotoluene	ND	1.4	EPA 8260C	2-13-17	2-14-17	
1,3,5-Trimethylbenzene	8.6	1.4	EPA 8260C	2-13-17	2-14-17	
tert-Butylbenzene	ND	1.4	EPA 8260C	2-13-17	2-14-17	
1,2,4-Trimethylbenzene	14	1.4	EPA 8260C	2-13-17	2-14-17	
sec-Butylbenzene	ND	1.4	EPA 8260C	2-13-17	2-14-17	
1,3-Dichlorobenzene	ND	1.4	EPA 8260C	2-13-17	2-14-17	
p-Isopropyltoluene	ND	1.4	EPA 8260C	2-13-17	2-14-17	
1,4-Dichlorobenzene	ND	1.4	EPA 8260C	2-13-17	2-14-17	
1,2-Dichlorobenzene	ND	1.4	EPA 8260C	2-13-17	2-14-17	
n-Butylbenzene	ND	1.4	EPA 8260C	2-13-17	2-14-17	
1,2-Dibromo-3-chloropropane	ND	7.2	EPA 8260C	2-13-17	2-14-17	
1,2,4-Trichlorobenzene	ND	1.4	EPA 8260C	2-13-17	2-14-17	
Hexachlorobutadiene	ND	7.2	EPA 8260C	2-13-17	2-14-17	
Naphthalene	ND	1.4	EPA 8260C	2-13-17	2-14-17	
1,2,3-Trichlorobenzene	ND	1.4	EPA 8260C	2-13-17	2-14-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*106*	*73-134*				
Toluene-d8	*104*	*81-124*				
4-Bromofluorobenzene	*103*	*80-131*				

Date of Report: February 16, 2017
Samples Submitted: February 10, 2017
Laboratory Reference: 1702-104
Project: 150201

VOLATILES EPA 8260C
page 1 of 2

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AB-4-15**					
Laboratory ID:	02-104-11					
Dichlorodifluoromethane	ND	1.3	EPA 8260C	2-13-17	2-15-17	
Chloromethane	ND	6.7	EPA 8260C	2-13-17	2-15-17	
Vinyl Chloride	ND	1.3	EPA 8260C	2-13-17	2-15-17	
Bromomethane	ND	1.3	EPA 8260C	2-13-17	2-15-17	
Chloroethane	ND	6.7	EPA 8260C	2-13-17	2-15-17	
Trichlorofluoromethane	ND	1.3	EPA 8260C	2-13-17	2-15-17	
1,1-Dichloroethene	ND	1.3	EPA 8260C	2-13-17	2-15-17	
Acetone	ND	13	EPA 8260C	2-13-17	2-15-17	
Iodomethane	ND	6.7	EPA 8260C	2-13-17	2-15-17	
Carbon Disulfide	ND	1.3	EPA 8260C	2-13-17	2-15-17	
Methylene Chloride	ND	67	EPA 8260C	2-13-17	2-15-17	
(trans) 1,2-Dichloroethene	ND	1.3	EPA 8260C	2-13-17	2-15-17	
Methyl t-Butyl Ether	ND	1.3	EPA 8260C	2-13-17	2-15-17	
1,1-Dichloroethane	ND	1.3	EPA 8260C	2-13-17	2-15-17	
Vinyl Acetate	ND	6.7	EPA 8260C	2-13-17	2-15-17	
2,2-Dichloropropane	ND	1.3	EPA 8260C	2-13-17	2-15-17	
(cis) 1,2-Dichloroethene	ND	1.3	EPA 8260C	2-13-17	2-15-17	
2-Butanone	ND	6.7	EPA 8260C	2-13-17	2-15-17	
Bromochloromethane	ND	1.3	EPA 8260C	2-13-17	2-15-17	
Chloroform	ND	1.3	EPA 8260C	2-13-17	2-15-17	
1,1,1-Trichloroethane	ND	1.3	EPA 8260C	2-13-17	2-15-17	
Carbon Tetrachloride	ND	1.3	EPA 8260C	2-13-17	2-15-17	
1,1-Dichloropropene	ND	1.3	EPA 8260C	2-13-17	2-15-17	
Benzene	ND	1.3	EPA 8260C	2-13-17	2-15-17	
1,2-Dichloroethane	ND	1.3	EPA 8260C	2-13-17	2-15-17	
Trichloroethene	ND	1.3	EPA 8260C	2-13-17	2-15-17	
1,2-Dichloropropane	ND	1.3	EPA 8260C	2-13-17	2-15-17	
Dibromomethane	ND	1.3	EPA 8260C	2-13-17	2-15-17	
Bromodichloromethane	ND	1.3	EPA 8260C	2-13-17	2-15-17	
2-Chloroethyl Vinyl Ether	ND	6.7	EPA 8260C	2-13-17	2-15-17	
(cis) 1,3-Dichloropropene	ND	1.3	EPA 8260C	2-13-17	2-15-17	
Methyl Isobutyl Ketone	ND	6.7	EPA 8260C	2-13-17	2-15-17	
Toluene	870	67	EPA 8260C	2-13-17	2-15-17	
(trans) 1,3-Dichloropropene	ND	1.3	EPA 8260C	2-13-17	2-15-17	

Date of Report: February 16, 2017
Samples Submitted: February 10, 2017
Laboratory Reference: 1702-104
Project: 150201

VOLATILES EPA 8260C
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AB-4-15**					
Laboratory ID:	02-104-11					
1,1,2-Trichloroethane	ND	1.3	EPA 8260C	2-13-17	2-15-17	
Tetrachloroethene	ND	1.3	EPA 8260C	2-13-17	2-15-17	
1,3-Dichloropropane	ND	1.3	EPA 8260C	2-13-17	2-15-17	
2-Hexanone	ND	6.7	EPA 8260C	2-13-17	2-15-17	
Dibromochloromethane	ND	1.3	EPA 8260C	2-13-17	2-15-17	
1,2-Dibromoethane	ND	1.3	EPA 8260C	2-13-17	2-15-17	
Chlorobenzene	ND	1.3	EPA 8260C	2-13-17	2-15-17	
1,1,1,2-Tetrachloroethane	ND	1.3	EPA 8260C	2-13-17	2-15-17	
Ethylbenzene	1100	13	EPA 8260C	2-13-17	2-15-17	
m,p-Xylene	3200	27	EPA 8260C	2-13-17	2-15-17	
o-Xylene	2000	13	EPA 8260C	2-13-17	2-15-17	
Styrene	ND	1.3	EPA 8260C	2-13-17	2-15-17	
Bromoform	ND	1.3	EPA 8260C	2-13-17	2-15-17	
Isopropylbenzene	14	1.3	EPA 8260C	2-13-17	2-15-17	
Bromobenzene	ND	1.3	EPA 8260C	2-13-17	2-15-17	
1,1,2,2-Tetrachloroethane	ND	1.3	EPA 8260C	2-13-17	2-15-17	
1,2,3-Trichloropropane	ND	1.3	EPA 8260C	2-13-17	2-15-17	
n-Propylbenzene	10	1.3	EPA 8260C	2-13-17	2-15-17	
2-Chlorotoluene	ND	1.3	EPA 8260C	2-13-17	2-15-17	
4-Chlorotoluene	ND	1.3	EPA 8260C	2-13-17	2-15-17	
1,3,5-Trimethylbenzene	13	1.3	EPA 8260C	2-13-17	2-15-17	
tert-Butylbenzene	ND	1.3	EPA 8260C	2-13-17	2-15-17	
1,2,4-Trimethylbenzene	20	1.3	EPA 8260C	2-13-17	2-15-17	
sec-Butylbenzene	ND	1.3	EPA 8260C	2-13-17	2-15-17	
1,3-Dichlorobenzene	ND	1.3	EPA 8260C	2-13-17	2-15-17	
p-Isopropyltoluene	ND	1.3	EPA 8260C	2-13-17	2-15-17	
1,4-Dichlorobenzene	ND	1.3	EPA 8260C	2-13-17	2-15-17	
1,2-Dichlorobenzene	ND	1.3	EPA 8260C	2-13-17	2-15-17	
n-Butylbenzene	ND	1.3	EPA 8260C	2-13-17	2-15-17	
1,2-Dibromo-3-chloropropane	ND	6.7	EPA 8260C	2-13-17	2-15-17	
1,2,4-Trichlorobenzene	ND	1.3	EPA 8260C	2-13-17	2-15-17	
Hexachlorobutadiene	ND	6.7	EPA 8260C	2-13-17	2-15-17	
Naphthalene	ND	1.3	EPA 8260C	2-13-17	2-15-17	
1,2,3-Trichlorobenzene	ND	1.3	EPA 8260C	2-13-17	2-15-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*112*	*73-134*				
Toluene-d8	*115*	*81-124*				
4-Bromofluorobenzene	*113*	*80-131*				

Date of Report: February 16, 2017
Samples Submitted: February 10, 2017
Laboratory Reference: 1702-104
Project: 150201

VOLATILES EPA 8260C
page 1 of 2

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AB-4-19**					
Laboratory ID:	02-104-12					
Dichlorodifluoromethane	ND	0.17	EPA 8260C	2-13-17	2-15-17	
Chloromethane	ND	0.83	EPA 8260C	2-13-17	2-15-17	
Vinyl Chloride	ND	0.17	EPA 8260C	2-13-17	2-15-17	
Bromomethane	ND	0.17	EPA 8260C	2-13-17	2-15-17	
Chloroethane	ND	0.83	EPA 8260C	2-13-17	2-15-17	
Trichlorofluoromethane	ND	0.17	EPA 8260C	2-13-17	2-15-17	
1,1-Dichloroethene	ND	0.17	EPA 8260C	2-13-17	2-15-17	
Acetone	ND	1.7	EPA 8260C	2-13-17	2-15-17	
Iodomethane	ND	0.83	EPA 8260C	2-13-17	2-15-17	
Carbon Disulfide	ND	0.17	EPA 8260C	2-13-17	2-15-17	
Methylene Chloride	ND	2.1	EPA 8260C	2-13-17	2-15-17	
(trans) 1,2-Dichloroethene	ND	0.17	EPA 8260C	2-13-17	2-15-17	
Methyl t-Butyl Ether	ND	0.17	EPA 8260C	2-13-17	2-15-17	
1,1-Dichloroethane	ND	0.17	EPA 8260C	2-13-17	2-15-17	
Vinyl Acetate	ND	0.83	EPA 8260C	2-13-17	2-15-17	
2,2-Dichloropropane	ND	0.17	EPA 8260C	2-13-17	2-15-17	
(cis) 1,2-Dichloroethene	ND	0.17	EPA 8260C	2-13-17	2-15-17	
2-Butanone	ND	0.83	EPA 8260C	2-13-17	2-15-17	
Bromochloromethane	ND	0.17	EPA 8260C	2-13-17	2-15-17	
Chloroform	ND	0.17	EPA 8260C	2-13-17	2-15-17	
1,1,1-Trichloroethane	ND	0.17	EPA 8260C	2-13-17	2-15-17	
Carbon Tetrachloride	ND	0.17	EPA 8260C	2-13-17	2-15-17	
1,1-Dichloropropene	ND	0.17	EPA 8260C	2-13-17	2-15-17	
Benzene	ND	0.17	EPA 8260C	2-13-17	2-15-17	
1,2-Dichloroethane	ND	0.17	EPA 8260C	2-13-17	2-15-17	
Trichloroethene	ND	0.17	EPA 8260C	2-13-17	2-15-17	
1,2-Dichloropropane	ND	0.17	EPA 8260C	2-13-17	2-15-17	
Dibromomethane	ND	0.17	EPA 8260C	2-13-17	2-15-17	
Bromodichloromethane	ND	0.17	EPA 8260C	2-13-17	2-15-17	
2-Chloroethyl Vinyl Ether	ND	0.83	EPA 8260C	2-13-17	2-15-17	
(cis) 1,3-Dichloropropene	ND	0.17	EPA 8260C	2-13-17	2-15-17	
Methyl Isobutyl Ketone	ND	0.83	EPA 8260C	2-13-17	2-15-17	
Toluene	18	0.83	EPA 8260C	2-13-17	2-15-17	
(trans) 1,3-Dichloropropene	ND	0.17	EPA 8260C	2-13-17	2-15-17	

Date of Report: February 16, 2017
Samples Submitted: February 10, 2017
Laboratory Reference: 1702-104
Project: 150201

VOLATILES EPA 8260C
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AB-4-19**					
Laboratory ID:	02-104-12					
1,1,2-Trichloroethane	ND	0.17	EPA 8260C	2-13-17	2-15-17	
Tetrachloroethene	ND	0.17	EPA 8260C	2-13-17	2-15-17	
1,3-Dichloropropane	ND	0.17	EPA 8260C	2-13-17	2-15-17	
2-Hexanone	ND	0.83	EPA 8260C	2-13-17	2-15-17	
Dibromochloromethane	ND	0.17	EPA 8260C	2-13-17	2-15-17	
1,2-Dibromoethane	ND	0.17	EPA 8260C	2-13-17	2-15-17	
Chlorobenzene	ND	0.17	EPA 8260C	2-13-17	2-15-17	
1,1,1,2-Tetrachloroethane	ND	0.17	EPA 8260C	2-13-17	2-15-17	
Ethylbenzene	9.7	0.17	EPA 8260C	2-13-17	2-15-17	
m,p-Xylene	28	0.33	EPA 8260C	2-13-17	2-15-17	
o-Xylene	19	0.17	EPA 8260C	2-13-17	2-15-17	
Styrene	ND	0.17	EPA 8260C	2-13-17	2-15-17	
Bromoform	ND	0.17	EPA 8260C	2-13-17	2-15-17	
Isopropylbenzene	ND	0.17	EPA 8260C	2-13-17	2-15-17	
Bromobenzene	ND	0.17	EPA 8260C	2-13-17	2-15-17	
1,1,2,2-Tetrachloroethane	ND	0.17	EPA 8260C	2-13-17	2-15-17	
1,2,3-Trichloropropane	ND	0.17	EPA 8260C	2-13-17	2-15-17	
n-Propylbenzene	ND	0.17	EPA 8260C	2-13-17	2-15-17	
2-Chlorotoluene	ND	0.17	EPA 8260C	2-13-17	2-15-17	
4-Chlorotoluene	ND	0.17	EPA 8260C	2-13-17	2-15-17	
1,3,5-Trimethylbenzene	ND	0.17	EPA 8260C	2-13-17	2-15-17	
tert-Butylbenzene	ND	0.17	EPA 8260C	2-13-17	2-15-17	
1,2,4-Trimethylbenzene	ND	0.17	EPA 8260C	2-13-17	2-15-17	
sec-Butylbenzene	ND	0.17	EPA 8260C	2-13-17	2-15-17	
1,3-Dichlorobenzene	ND	0.17	EPA 8260C	2-13-17	2-15-17	
p-Isopropyltoluene	ND	0.17	EPA 8260C	2-13-17	2-15-17	
1,4-Dichlorobenzene	ND	0.17	EPA 8260C	2-13-17	2-15-17	
1,2-Dichlorobenzene	ND	0.17	EPA 8260C	2-13-17	2-15-17	
n-Butylbenzene	ND	0.17	EPA 8260C	2-13-17	2-15-17	
1,2-Dibromo-3-chloropropane	ND	0.83	EPA 8260C	2-13-17	2-15-17	
1,2,4-Trichlorobenzene	ND	0.17	EPA 8260C	2-13-17	2-15-17	
Hexachlorobutadiene	ND	0.83	EPA 8260C	2-13-17	2-15-17	
Naphthalene	ND	0.17	EPA 8260C	2-13-17	2-15-17	
1,2,3-Trichlorobenzene	ND	0.17	EPA 8260C	2-13-17	2-15-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*108*	*73-134*				
Toluene-d8	*100*	*81-124*				
4-Bromofluorobenzene	*100*	*80-131*				

Date of Report: February 16, 2017
Samples Submitted: February 10, 2017
Laboratory Reference: 1702-104
Project: 150201

VOLATILES by EPA 8260C
METHOD BLANK QUALITY CONTROL
page 1 of 2

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0213S2					
Dichlorodifluoromethane	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
Chloromethane	ND	0.0050	EPA 8260C	2-13-17	2-13-17	
Vinyl Chloride	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
Bromomethane	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
Chloroethane	ND	0.0050	EPA 8260C	2-13-17	2-13-17	
Trichlorofluoromethane	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
Acetone	ND	0.010	EPA 8260C	2-13-17	2-13-17	
Iodomethane	ND	0.0050	EPA 8260C	2-13-17	2-13-17	
Carbon Disulfide	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
Methylene Chloride	ND	0.013	EPA 8260C	2-13-17	2-13-17	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
Methyl t-Butyl Ether	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
1,1-Dichloroethane	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
Vinyl Acetate	ND	0.0050	EPA 8260C	2-13-17	2-13-17	
2,2-Dichloropropane	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
2-Butanone	ND	0.0050	EPA 8260C	2-13-17	2-13-17	
Bromochloromethane	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
Chloroform	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
1,1,1-Trichloroethane	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
Carbon Tetrachloride	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
1,1-Dichloropropene	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
Benzene	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
1,2-Dichloroethane	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
Trichloroethene	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
1,2-Dichloropropane	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
Dibromomethane	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
Bromodichloromethane	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
2-Chloroethyl Vinyl Ether	ND	0.0050	EPA 8260C	2-13-17	2-13-17	
(cis) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
Methyl Isobutyl Ketone	ND	0.0050	EPA 8260C	2-13-17	2-13-17	
Toluene	ND	0.0050	EPA 8260C	2-13-17	2-13-17	
(trans) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	2-13-17	2-13-17	

Date of Report: February 16, 2017
Samples Submitted: February 10, 2017
Laboratory Reference: 1702-104
Project: 150201

VOLATILES by EPA 8260C
METHOD BLANK QUALITY CONTROL
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0213S2					
1,1,2-Trichloroethane	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
Tetrachloroethene	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
1,3-Dichloropropane	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
2-Hexanone	ND	0.0050	EPA 8260C	2-13-17	2-13-17	
Dibromochloromethane	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
1,2-Dibromoethane	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
Chlorobenzene	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
Ethylbenzene	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
m,p-Xylene	ND	0.0020	EPA 8260C	2-13-17	2-13-17	
o-Xylene	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
Styrene	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
Bromoform	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
Isopropylbenzene	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
Bromobenzene	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
1,1,2,2-Tetrachloroethane	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
1,2,3-Trichloropropane	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
n-Propylbenzene	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
2-Chlorotoluene	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
4-Chlorotoluene	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
1,3,5-Trimethylbenzene	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
tert-Butylbenzene	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
1,2,4-Trimethylbenzene	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
sec-Butylbenzene	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
1,3-Dichlorobenzene	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
p-Isopropyltoluene	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
1,4-Dichlorobenzene	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
1,2-Dichlorobenzene	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
n-Butylbenzene	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
1,2-Dibromo-3-chloropropane	ND	0.0050	EPA 8260C	2-13-17	2-13-17	
1,2,4-Trichlorobenzene	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
Hexachlorobutadiene	ND	0.0050	EPA 8260C	2-13-17	2-13-17	
Naphthalene	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
1,2,3-Trichlorobenzene	ND	0.0010	EPA 8260C	2-13-17	2-13-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*117*	*73-134*				
Toluene-d8	*112*	*81-124*				
4-Bromofluorobenzene	*111*	*80-131*				

Date of Report: February 16, 2017
Samples Submitted: February 10, 2017
Laboratory Reference: 1702-104
Project: 150201

VOLATILES by EPA 8260C
METHOD BLANK QUALITY CONTROL
page 1 of 2

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0214S3					
Dichlorodifluoromethane	ND	0.0010	EPA 8260C	2-14-17	2-14-17	
Chloromethane	ND	0.0050	EPA 8260C	2-14-17	2-14-17	
Vinyl Chloride	ND	0.0010	EPA 8260C	2-14-17	2-14-17	
Bromomethane	ND	0.0010	EPA 8260C	2-14-17	2-14-17	
Chloroethane	ND	0.0050	EPA 8260C	2-14-17	2-14-17	
Trichlorofluoromethane	ND	0.0010	EPA 8260C	2-14-17	2-14-17	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	2-14-17	2-14-17	
Acetone	ND	0.010	EPA 8260C	2-14-17	2-14-17	
Iodomethane	ND	0.0050	EPA 8260C	2-14-17	2-14-17	
Carbon Disulfide	ND	0.0010	EPA 8260C	2-14-17	2-14-17	
Methylene Chloride	ND	0.013	EPA 8260C	2-14-17	2-14-17	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	2-14-17	2-14-17	
Methyl t-Butyl Ether	ND	0.0010	EPA 8260C	2-14-17	2-14-17	
1,1-Dichloroethane	ND	0.0010	EPA 8260C	2-14-17	2-14-17	
Vinyl Acetate	ND	0.0050	EPA 8260C	2-14-17	2-14-17	
2,2-Dichloropropane	ND	0.0010	EPA 8260C	2-14-17	2-14-17	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	2-14-17	2-14-17	
2-Butanone	ND	0.0050	EPA 8260C	2-14-17	2-14-17	
Bromochloromethane	ND	0.0010	EPA 8260C	2-14-17	2-14-17	
Chloroform	ND	0.0010	EPA 8260C	2-14-17	2-14-17	
1,1,1-Trichloroethane	ND	0.0010	EPA 8260C	2-14-17	2-14-17	
Carbon Tetrachloride	ND	0.0010	EPA 8260C	2-14-17	2-14-17	
1,1-Dichloropropene	ND	0.0010	EPA 8260C	2-14-17	2-14-17	
Benzene	ND	0.0010	EPA 8260C	2-14-17	2-14-17	
1,2-Dichloroethane	ND	0.0010	EPA 8260C	2-14-17	2-14-17	
Trichloroethene	ND	0.0010	EPA 8260C	2-14-17	2-14-17	
1,2-Dichloropropane	ND	0.0010	EPA 8260C	2-14-17	2-14-17	
Dibromomethane	ND	0.0010	EPA 8260C	2-14-17	2-14-17	
Bromodichloromethane	ND	0.0010	EPA 8260C	2-14-17	2-14-17	
2-Chloroethyl Vinyl Ether	ND	0.0050	EPA 8260C	2-14-17	2-14-17	
(cis) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	2-14-17	2-14-17	
Methyl Isobutyl Ketone	ND	0.0050	EPA 8260C	2-14-17	2-14-17	
Toluene	ND	0.0050	EPA 8260C	2-14-17	2-14-17	
(trans) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	2-14-17	2-14-17	

Date of Report: February 16, 2017
Samples Submitted: February 10, 2017
Laboratory Reference: 1702-104
Project: 150201

VOLATILES by EPA 8260C
METHOD BLANK QUALITY CONTROL
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0214S3					
1,1,2-Trichloroethane	ND	0.0010	EPA 8260C	2-14-17	2-14-17	
Tetrachloroethene	ND	0.0010	EPA 8260C	2-14-17	2-14-17	
1,3-Dichloropropane	ND	0.0010	EPA 8260C	2-14-17	2-14-17	
2-Hexanone	ND	0.0050	EPA 8260C	2-14-17	2-14-17	
Dibromochloromethane	ND	0.0010	EPA 8260C	2-14-17	2-14-17	
1,2-Dibromoethane	ND	0.0010	EPA 8260C	2-14-17	2-14-17	
Chlorobenzene	ND	0.0010	EPA 8260C	2-14-17	2-14-17	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260C	2-14-17	2-14-17	
Ethylbenzene	ND	0.0010	EPA 8260C	2-14-17	2-14-17	
m,p-Xylene	ND	0.0020	EPA 8260C	2-14-17	2-14-17	
o-Xylene	ND	0.0010	EPA 8260C	2-14-17	2-14-17	
Styrene	ND	0.0010	EPA 8260C	2-14-17	2-14-17	
Bromoform	ND	0.0010	EPA 8260C	2-14-17	2-14-17	
Isopropylbenzene	ND	0.0010	EPA 8260C	2-14-17	2-14-17	
Bromobenzene	ND	0.0010	EPA 8260C	2-14-17	2-14-17	
1,1,2,2-Tetrachloroethane	ND	0.0010	EPA 8260C	2-14-17	2-14-17	
1,2,3-Trichloropropane	ND	0.0010	EPA 8260C	2-14-17	2-14-17	
n-Propylbenzene	ND	0.0010	EPA 8260C	2-14-17	2-14-17	
2-Chlorotoluene	ND	0.0010	EPA 8260C	2-14-17	2-14-17	
4-Chlorotoluene	ND	0.0010	EPA 8260C	2-14-17	2-14-17	
1,3,5-Trimethylbenzene	ND	0.0010	EPA 8260C	2-14-17	2-14-17	
tert-Butylbenzene	ND	0.0010	EPA 8260C	2-14-17	2-14-17	
1,2,4-Trimethylbenzene	ND	0.0010	EPA 8260C	2-14-17	2-14-17	
sec-Butylbenzene	ND	0.0010	EPA 8260C	2-14-17	2-14-17	
1,3-Dichlorobenzene	ND	0.0010	EPA 8260C	2-14-17	2-14-17	
p-Isopropyltoluene	ND	0.0010	EPA 8260C	2-14-17	2-14-17	
1,4-Dichlorobenzene	ND	0.0010	EPA 8260C	2-14-17	2-14-17	
1,2-Dichlorobenzene	ND	0.0010	EPA 8260C	2-14-17	2-14-17	
n-Butylbenzene	ND	0.0010	EPA 8260C	2-14-17	2-14-17	
1,2-Dibromo-3-chloropropane	ND	0.0050	EPA 8260C	2-14-17	2-14-17	
1,2,4-Trichlorobenzene	ND	0.0010	EPA 8260C	2-14-17	2-14-17	
Hexachlorobutadiene	ND	0.0050	EPA 8260C	2-14-17	2-14-17	
Naphthalene	ND	0.0010	EPA 8260C	2-14-17	2-14-17	
1,2,3-Trichlorobenzene	ND	0.0010	EPA 8260C	2-14-17	2-14-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*127*	*73-134*				
Toluene-d8	*116*	*81-124*				
4-Bromofluorobenzene	*116*	*80-131*				

Date of Report: February 16, 2017
Samples Submitted: February 10, 2017
Laboratory Reference: 1702-104
Project: 150201

VOLATILES by EPA 8260C
SB/SBD QUALITY CONTROL

Matrix: Soil
Units: mg/kg

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0213S2									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**0.0510**	**0.0549**	0.0500	0.0500	102	110	66-127	7	15	
Benzene	**0.0528**	**0.0540**	0.0500	0.0500	106	108	76-122	2	15	
Trichloroethene	**0.0483**	**0.0494**	0.0500	0.0500	97	99	78-120	2	15	
Toluene	**0.0501**	**0.0505**	0.0500	0.0500	100	101	83-120	1	15	
Chlorobenzene	**0.0504**	**0.0494**	0.0500	0.0500	101	99	81-120	2	15	
Surrogate:										
Dibromofluoromethane					*103*	*103*	*73-134*			
Toluene-d8					*95*	*96*	*81-124*			
4-Bromofluorobenzene					*96*	*96*	*80-131*			

Date of Report: February 16, 2017
Samples Submitted: February 10, 2017
Laboratory Reference: 1702-104
Project: 150201

VOLATILES by EPA 8260C
SB/SBD QUALITY CONTROL

Matrix: Soil
Units: mg/kg

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0214S2									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**0.0561**	**0.0545**	0.0500	0.0500	112	109	66-127	3	15	
Benzene	**0.0544**	**0.0536**	0.0500	0.0500	109	107	76-122	1	15	
Trichloroethene	**0.0511**	**0.0515**	0.0500	0.0500	102	103	78-120	1	15	
Toluene	**0.0516**	**0.0520**	0.0500	0.0500	103	104	83-120	1	15	
Chlorobenzene	**0.0500**	**0.0515**	0.0500	0.0500	100	103	81-120	3	15	
Surrogate:										
Dibromofluoromethane					*112*	*100*	*73-134*			
Toluene-d8					*104*	*98*	*81-124*			
4-Bromofluorobenzene					*103*	*100*	*80-131*			

Date of Report: February 16, 2017
Samples Submitted: February 10, 2017
Laboratory Reference: 1702-104
Project: 150201

% MOISTURE

Date Analyzed: 2-13-17

Client ID	Lab ID	% Moisture
AB-3-6	02-104-01	19
AB-3-10	02-104-02	25
AB-3-14	02-104-03	26
AB-3-18	02-104-04	29
AB-5-5	02-104-05	8
AB-5-9	02-104-06	25
AB-5-13	02-104-07	30
AB-5-18	02-104-08	36
AB-4-6	02-104-09	14
AB-4-11	02-104-10	31
AB-4-15	02-104-11	25
AB-4-19	02-104-12	27

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: Aspect
Project Number: 150201
Project Name: Gaco West
Project Manager: Carla Brock
Sampled by: Matthew Lewis

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 02-104

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A					% Moisture
1	AB-3-6	2/10/17	1015	Soil	4					X																	X
2	AB-3-10	↓	1020	↓	↓					↓																	↓
3	AB-3-14		1025																								
4	AB-3-18		1030																								
5	AB-5-5		1110																								
6	AB-5-9		1115																								
7	AB-5-13		1120																								
8	AB-5-18		1125																								
9	AB-4-6		1210																								
10	AB-4-11	↓	1215	↓	↓					↓																	↓

	Signature	Company	Date	Time
Relinquished	Matt McSeni	Aspect	2/10/17	1530
Received		ALPHA	2/10/17	4:43PM
Relinquished		ALPHA	2/10/17	5:31 PM
Received		ORE	2/10/17	1731
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

Chain of Custody

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: Aspect
Project Number: 150201
Project Name: Gaco West
Project Manager: Carla Brock
Sampled by: Matthew M. Lewis

Turnaround Request (in working days)

(Check One)

- ☐ Same Day
- ☐ 1 Day
- ☐ 2 Days
- ☐ 3 Days
- ☒ Standard (7 Days) (TPH analysis 5 Days)
- ☐ _____ (other)

Laboratory Number: 02-104

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	% Moisture
11	AB-4-15	2/10/17	1220	Soil	4					X													
12	AB-4-19	1	1225	1	1					1													

	Signature	Company	Date	Time
Relinquished		Aspect	2/10/17	1530
Received		ALPHA	2/10/17	4:43 PM
Relinquished		ALPHA	2/10/17	5:31 PM
Received		ONE	2/10/17	1731
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

February 24, 2017

Carla Brock
Aspect Consulting
401 2nd Avenue South, Suite 201
Seattle, WA 98104

Re: Analytical Data for Project 150201
Laboratory Reference No. 1702-119

Dear Carla:

Enclosed are the analytical results and associated quality control data for samples submitted on February 14, 2017.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: February 24, 2017
Samples Submitted: February 14, 2017
Laboratory Reference: 1702-119
Project: 150201

Case Narrative

Samples were collected on February 13, 2017 and received by the laboratory on February 14, 2017. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Volatiles EPA 8260C Analysis

Per EPA Method 5035A, samples were received by the laboratory in pre-weighed 40 mL VOA vials within 48 hours of sample collection. They were stored in a freezer at between -7°C and -20°C until extraction or analysis.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Date of Report: February 24, 2017
Samples Submitted: February 14, 2017
Laboratory Reference: 1702-119
Project: 150201

VOLATILES EPA 8260C
Page 1 of 2

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**GW-7-9**					
Laboratory ID:	02-119-02					
Dichlorodifluoromethane	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
Chloromethane	ND	0.0066	EPA 8260C	2-17-17	2-17-17	
Vinyl Chloride	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
Bromomethane	ND	0.0038	EPA 8260C	2-17-17	2-17-17	
Chloroethane	ND	0.0066	EPA 8260C	2-17-17	2-17-17	
Trichlorofluoromethane	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
1,1-Dichloroethene	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
Acetone	0.21	0.013	EPA 8260C	2-17-17	2-17-17	Y
Iodomethane	ND	0.0066	EPA 8260C	2-17-17	2-17-17	
Carbon Disulfide	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
Methylene Chloride	ND	0.0066	EPA 8260C	2-17-17	2-17-17	
(trans) 1,2-Dichloroethene	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
Methyl t-Butyl Ether	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
1,1-Dichloroethane	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
Vinyl Acetate	ND	0.0066	EPA 8260C	2-17-17	2-17-17	
2,2-Dichloropropane	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
(cis) 1,2-Dichloroethene	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
2-Butanone	0.039	0.0066	EPA 8260C	2-17-17	2-17-17	
Bromochloromethane	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
Chloroform	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
1,1,1-Trichloroethane	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
Carbon Tetrachloride	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
1,1-Dichloropropene	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
Benzene	0.030	0.0013	EPA 8260C	2-17-17	2-17-17	
1,2-Dichloroethane	ND	0.0066	EPA 8260C	2-17-17	2-17-17	
Trichloroethene	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
1,2-Dichloropropane	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
Dibromomethane	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
Bromodichloromethane	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
2-Chloroethyl Vinyl Ether	ND	0.0066	EPA 8260C	2-17-17	2-17-17	
(cis) 1,3-Dichloropropene	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
Methyl Isobutyl Ketone	ND	0.0066	EPA 8260C	2-17-17	2-17-17	
Toluene	ND	0.0066	EPA 8260C	2-17-17	2-17-17	
(trans) 1,3-Dichloropropene	ND	0.0013	EPA 8260C	2-17-17	2-17-17	

Date of Report: February 24, 2017
Samples Submitted: February 14, 2017
Laboratory Reference: 1702-119
Project: 150201

VOLATILES EPA 8260C
Page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**GW-7-9**					
Laboratory ID:	02-119-02					
1,1,2-Trichloroethane	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
Tetrachloroethene	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
1,3-Dichloropropane	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
2-Hexanone	ND	0.0066	EPA 8260C	2-17-17	2-17-17	
Dibromochloromethane	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
1,2-Dibromoethane	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
Chlorobenzene	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
1,1,1,2-Tetrachloroethane	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
Ethylbenzene	0.0064	0.0013	EPA 8260C	2-17-17	2-17-17	
m,p-Xylene	0.0032	0.0026	EPA 8260C	2-17-17	2-17-17	
o-Xylene	0.0020	0.0013	EPA 8260C	2-17-17	2-17-17	
Styrene	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
Bromoform	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
Isopropylbenzene	0.15	0.0013	EPA 8260C	2-17-17	2-17-17	
Bromobenzene	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
1,1,2,2-Tetrachloroethane	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
1,2,3-Trichloropropane	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
n-Propylbenzene	0.70	0.085	EPA 8260C	2-17-17	2-17-17	
2-Chlorotoluene	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
4-Chlorotoluene	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
1,3,5-Trimethylbenzene	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
tert-Butylbenzene	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
1,2,4-Trimethylbenzene	0.062	0.0013	EPA 8260C	2-17-17	2-17-17	
sec-Butylbenzene	0.0050	0.0013	EPA 8260C	2-17-17	2-17-17	
1,3-Dichlorobenzene	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
p-Isopropyltoluene	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
1,4-Dichlorobenzene	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
1,2-Dichlorobenzene	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
n-Butylbenzene	0.0028	0.0013	EPA 8260C	2-17-17	2-17-17	
1,2-Dibromo-3-chloropropane	ND	0.0066	EPA 8260C	2-17-17	2-17-17	
1,2,4-Trichlorobenzene	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
Hexachlorobutadiene	ND	0.0066	EPA 8260C	2-17-17	2-17-17	
Naphthalene	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
1,2,3-Trichlorobenzene	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*119*	*73-134*				
Toluene-d8	*122*	*81-124*				
4-Bromofluorobenzene	*104*	*80-131*				

Date of Report: February 24, 2017
Samples Submitted: February 14, 2017
Laboratory Reference: 1702-119
Project: 150201

VOLATILES EPA 8260C
Page 1 of 2

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**GW-7-13**					
Laboratory ID:	02-119-03					
Dichlorodifluoromethane	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
Chloromethane	ND	0.0065	EPA 8260C	2-17-17	2-17-17	
Vinyl Chloride	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
Bromomethane	ND	0.0038	EPA 8260C	2-17-17	2-17-17	
Chloroethane	ND	0.0065	EPA 8260C	2-17-17	2-17-17	
Trichlorofluoromethane	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
1,1-Dichloroethene	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
Acetone	0.054	0.013	EPA 8260C	2-17-17	2-17-17	Y
Iodomethane	ND	0.0065	EPA 8260C	2-17-17	2-17-17	
Carbon Disulfide	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
Methylene Chloride	ND	0.0065	EPA 8260C	2-17-17	2-17-17	
(trans) 1,2-Dichloroethene	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
Methyl t-Butyl Ether	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
1,1-Dichloroethane	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
Vinyl Acetate	ND	0.0065	EPA 8260C	2-17-17	2-17-17	
2,2-Dichloropropane	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
(cis) 1,2-Dichloroethene	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
2-Butanone	0.0086	0.0065	EPA 8260C	2-17-17	2-17-17	
Bromochloromethane	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
Chloroform	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
1,1,1-Trichloroethane	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
Carbon Tetrachloride	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
1,1-Dichloropropene	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
Benzene	0.029	0.0013	EPA 8260C	2-17-17	2-17-17	
1,2-Dichloroethane	ND	0.0065	EPA 8260C	2-17-17	2-17-17	
Trichloroethene	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
1,2-Dichloropropane	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
Dibromomethane	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
Bromodichloromethane	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
2-Chloroethyl Vinyl Ether	ND	0.0065	EPA 8260C	2-17-17	2-17-17	
(cis) 1,3-Dichloropropene	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
Methyl Isobutyl Ketone	ND	0.0065	EPA 8260C	2-17-17	2-17-17	
Toluene	ND	0.0065	EPA 8260C	2-17-17	2-17-17	
(trans) 1,3-Dichloropropene	ND	0.0013	EPA 8260C	2-17-17	2-17-17	

Date of Report: February 24, 2017
Samples Submitted: February 14, 2017
Laboratory Reference: 1702-119
Project: 150201

VOLATILES EPA 8260C
Page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**GW-7-13**					
Laboratory ID:	02-119-03					
1,1,2-Trichloroethane	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
Tetrachloroethene	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
1,3-Dichloropropane	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
2-Hexanone	ND	0.0065	EPA 8260C	2-17-17	2-17-17	
Dibromochloromethane	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
1,2-Dibromoethane	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
Chlorobenzene	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
1,1,1,2-Tetrachloroethane	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
Ethylbenzene	0.018	0.0013	EPA 8260C	2-17-17	2-17-17	
m,p-Xylene	7.9	0.34	EPA 8260C	2-17-17	2-17-17	
o-Xylene	0.0045	0.0013	EPA 8260C	2-17-17	2-17-17	
Styrene	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
Bromoform	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
Isopropylbenzene	0.084	0.0013	EPA 8260C	2-17-17	2-17-17	
Bromobenzene	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
1,1,2,2-Tetrachloroethane	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
1,2,3-Trichloropropane	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
n-Propylbenzene	0.11	0.0013	EPA 8260C	2-17-17	2-17-17	
2-Chlorotoluene	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
4-Chlorotoluene	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
1,3,5-Trimethylbenzene	0.11	0.0013	EPA 8260C	2-17-17	2-17-17	
tert-Butylbenzene	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
1,2,4-Trimethylbenzene	0.81	0.17	EPA 8260C	2-17-17	2-17-17	
sec-Butylbenzene	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
1,3-Dichlorobenzene	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
p-Isopropyltoluene	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
1,4-Dichlorobenzene	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
1,2-Dichlorobenzene	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
n-Butylbenzene	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
1,2-Dibromo-3-chloropropane	ND	0.0065	EPA 8260C	2-17-17	2-17-17	
1,2,4-Trichlorobenzene	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
Hexachlorobutadiene	ND	0.0065	EPA 8260C	2-17-17	2-17-17	
Naphthalene	0.0016	0.0013	EPA 8260C	2-17-17	2-17-17	
1,2,3-Trichlorobenzene	ND	0.0013	EPA 8260C	2-17-17	2-17-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*126*	*73-134*				
Toluene-d8	*115*	*81-124*				
4-Bromofluorobenzene	*111*	*80-131*				

Date of Report: February 24, 2017
Samples Submitted: February 14, 2017
Laboratory Reference: 1702-119
Project: 150201

VOLATILES EPA 8260C
Page 1 of 2

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**GW-7-17**					
Laboratory ID:	02-119-04					
Dichlorodifluoromethane	ND	0.0015	EPA 8260C	2-17-17	2-17-17	
Chloromethane	ND	0.0075	EPA 8260C	2-17-17	2-17-17	
Vinyl Chloride	ND	0.0015	EPA 8260C	2-17-17	2-17-17	
Bromomethane	ND	0.0044	EPA 8260C	2-17-17	2-17-17	
Chloroethane	ND	0.0075	EPA 8260C	2-17-17	2-17-17	
Trichlorofluoromethane	ND	0.0015	EPA 8260C	2-17-17	2-17-17	
1,1-Dichloroethene	ND	0.0015	EPA 8260C	2-17-17	2-17-17	
Acetone	0.16	0.015	EPA 8260C	2-17-17	2-17-17	Y
Iodomethane	ND	0.0075	EPA 8260C	2-17-17	2-17-17	
Carbon Disulfide	0.0016	0.0015	EPA 8260C	2-17-17	2-17-17	
Methylene Chloride	ND	0.0075	EPA 8260C	2-17-17	2-17-17	
(trans) 1,2-Dichloroethene	ND	0.0015	EPA 8260C	2-17-17	2-17-17	
Methyl t-Butyl Ether	ND	0.0015	EPA 8260C	2-17-17	2-17-17	
1,1-Dichloroethane	ND	0.0015	EPA 8260C	2-17-17	2-17-17	
Vinyl Acetate	ND	0.0075	EPA 8260C	2-17-17	2-17-17	
2,2-Dichloropropane	ND	0.0015	EPA 8260C	2-17-17	2-17-17	
(cis) 1,2-Dichloroethene	0.0029	0.0015	EPA 8260C	2-17-17	2-17-17	
2-Butanone	0.025	0.0075	EPA 8260C	2-17-17	2-17-17	
Bromochloromethane	ND	0.0015	EPA 8260C	2-17-17	2-17-17	
Chloroform	ND	0.0015	EPA 8260C	2-17-17	2-17-17	
1,1,1-Trichloroethane	ND	0.0015	EPA 8260C	2-17-17	2-17-17	
Carbon Tetrachloride	ND	0.0015	EPA 8260C	2-17-17	2-17-17	
1,1-Dichloropropene	ND	0.0015	EPA 8260C	2-17-17	2-17-17	
Benzene	0.034	0.0015	EPA 8260C	2-17-17	2-17-17	
1,2-Dichloroethane	ND	0.0075	EPA 8260C	2-17-17	2-17-17	
Trichloroethene	ND	0.0015	EPA 8260C	2-17-17	2-17-17	
1,2-Dichloropropane	ND	0.0015	EPA 8260C	2-17-17	2-17-17	
Dibromomethane	ND	0.0015	EPA 8260C	2-17-17	2-17-17	
Bromodichloromethane	ND	0.0015	EPA 8260C	2-17-17	2-17-17	
2-Chloroethyl Vinyl Ether	ND	0.0075	EPA 8260C	2-17-17	2-17-17	
(cis) 1,3-Dichloropropene	ND	0.0015	EPA 8260C	2-17-17	2-17-17	
Methyl Isobutyl Ketone	ND	0.0075	EPA 8260C	2-17-17	2-17-17	
Toluene	ND	0.0075	EPA 8260C	2-17-17	2-17-17	
(trans) 1,3-Dichloropropene	ND	0.0015	EPA 8260C	2-17-17	2-17-17	

Date of Report: February 24, 2017
Samples Submitted: February 14, 2017
Laboratory Reference: 1702-119
Project: 150201

VOLATILES EPA 8260C
Page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**GW-7-17**					
Laboratory ID:	02-119-04					
1,1,2-Trichloroethane	ND	0.0015	EPA 8260C	2-17-17	2-17-17	
Tetrachloroethene	ND	0.0015	EPA 8260C	2-17-17	2-17-17	
1,3-Dichloropropane	ND	0.0015	EPA 8260C	2-17-17	2-17-17	
2-Hexanone	ND	0.0075	EPA 8260C	2-17-17	2-17-17	
Dibromochloromethane	ND	0.0015	EPA 8260C	2-17-17	2-17-17	
1,2-Dibromoethane	ND	0.0015	EPA 8260C	2-17-17	2-17-17	
Chlorobenzene	ND	0.0015	EPA 8260C	2-17-17	2-17-17	
1,1,1,2-Tetrachloroethane	ND	0.0015	EPA 8260C	2-17-17	2-17-17	
Ethylbenzene	ND	0.0015	EPA 8260C	2-17-17	2-17-17	
m,p-Xylene	0.27	0.20	EPA 8260C	2-21-17	2-21-17	
o-Xylene	0.0022	0.0015	EPA 8260C	2-17-17	2-17-17	
Styrene	ND	0.0015	EPA 8260C	2-17-17	2-17-17	
Bromoform	ND	0.0015	EPA 8260C	2-17-17	2-17-17	
Isopropylbenzene	ND	0.0015	EPA 8260C	2-17-17	2-17-17	
Bromobenzene	ND	0.098	EPA 8260C	2-21-17	2-21-17	
1,1,2,2-Tetrachloroethane	ND	0.098	EPA 8260C	2-21-17	2-21-17	
1,2,3-Trichloropropane	ND	0.098	EPA 8260C	2-21-17	2-21-17	
n-Propylbenzene	ND	0.098	EPA 8260C	2-21-17	2-21-17	
2-Chlorotoluene	ND	0.098	EPA 8260C	2-21-17	2-21-17	
4-Chlorotoluene	ND	0.098	EPA 8260C	2-21-17	2-21-17	
1,3,5-Trimethylbenzene	ND	0.098	EPA 8260C	2-21-17	2-21-17	
tert-Butylbenzene	ND	0.098	EPA 8260C	2-21-17	2-21-17	
1,2,4-Trimethylbenzene	0.22	0.098	EPA 8260C	2-21-17	2-21-17	
sec-Butylbenzene	ND	0.098	EPA 8260C	2-21-17	2-21-17	
1,3-Dichlorobenzene	ND	0.098	EPA 8260C	2-21-17	2-21-17	
p-Isopropyltoluene	ND	0.098	EPA 8260C	2-21-17	2-21-17	
1,4-Dichlorobenzene	ND	0.098	EPA 8260C	2-21-17	2-21-17	
1,2-Dichlorobenzene	ND	0.098	EPA 8260C	2-21-17	2-21-17	
n-Butylbenzene	ND	0.098	EPA 8260C	2-21-17	2-21-17	
1,2-Dibromo-3-chloropropane	ND	0.49	EPA 8260C	2-21-17	2-21-17	
1,2,4-Trichlorobenzene	ND	0.098	EPA 8260C	2-21-17	2-21-17	
Hexachlorobutadiene	ND	0.49	EPA 8260C	2-21-17	2-21-17	
Naphthalene	ND	0.098	EPA 8260C	2-21-17	2-21-17	
1,2,3-Trichlorobenzene	ND	0.098	EPA 8260C	2-21-17	2-21-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*120*	*73-134*				
Toluene-d8	*103*	*81-124*				
4-Bromofluorobenzene	*90*	*80-131*				

Date of Report: February 24, 2017
Samples Submitted: February 14, 2017
Laboratory Reference: 1702-119
Project: 150201

VOLATILES EPA 8260C
Page 1 of 2

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AB-1-8.5**					
Laboratory ID:	02-119-09					
Dichlorodifluoromethane	ND	0.0016	EPA 8260C	2-17-17	2-17-17	
Chloromethane	ND	0.0078	EPA 8260C	2-17-17	2-17-17	
Vinyl Chloride	ND	0.0016	EPA 8260C	2-17-17	2-17-17	
Bromomethane	ND	0.0045	EPA 8260C	2-17-17	2-17-17	
Chloroethane	ND	0.0078	EPA 8260C	2-17-17	2-17-17	
Trichlorofluoromethane	ND	0.0016	EPA 8260C	2-17-17	2-17-17	
1,1-Dichloroethene	ND	0.0016	EPA 8260C	2-17-17	2-17-17	
Acetone	0.16	0.016	EPA 8260C	2-17-17	2-17-17	Y
Iodomethane	ND	0.0078	EPA 8260C	2-17-17	2-17-17	
Carbon Disulfide	ND	0.0016	EPA 8260C	2-17-17	2-17-17	
Methylene Chloride	ND	0.0078	EPA 8260C	2-17-17	2-17-17	
(trans) 1,2-Dichloroethene	ND	0.0016	EPA 8260C	2-17-17	2-17-17	
Methyl t-Butyl Ether	ND	0.0016	EPA 8260C	2-17-17	2-17-17	
1,1-Dichloroethane	ND	0.0016	EPA 8260C	2-17-17	2-17-17	
Vinyl Acetate	ND	0.0078	EPA 8260C	2-17-17	2-17-17	
2,2-Dichloropropane	ND	0.0016	EPA 8260C	2-17-17	2-17-17	
(cis) 1,2-Dichloroethene	ND	0.0016	EPA 8260C	2-17-17	2-17-17	
2-Butanone	0.035	0.0078	EPA 8260C	2-17-17	2-17-17	
Bromochloromethane	ND	0.0016	EPA 8260C	2-17-17	2-17-17	
Chloroform	ND	0.0016	EPA 8260C	2-17-17	2-17-17	
1,1,1-Trichloroethane	ND	0.0016	EPA 8260C	2-17-17	2-17-17	
Carbon Tetrachloride	ND	0.0016	EPA 8260C	2-17-17	2-17-17	
1,1-Dichloropropene	ND	0.0016	EPA 8260C	2-17-17	2-17-17	
Benzene	0.018	0.0016	EPA 8260C	2-17-17	2-17-17	
1,2-Dichloroethane	ND	0.0078	EPA 8260C	2-17-17	2-17-17	
Trichloroethene	ND	0.0016	EPA 8260C	2-17-17	2-17-17	
1,2-Dichloropropane	ND	0.0016	EPA 8260C	2-17-17	2-17-17	
Dibromomethane	ND	0.0016	EPA 8260C	2-17-17	2-17-17	
Bromodichloromethane	ND	0.0016	EPA 8260C	2-17-17	2-17-17	
2-Chloroethyl Vinyl Ether	ND	0.0078	EPA 8260C	2-17-17	2-17-17	
(cis) 1,3-Dichloropropene	ND	0.0016	EPA 8260C	2-17-17	2-17-17	
Methyl Isobutyl Ketone	ND	0.0078	EPA 8260C	2-17-17	2-17-17	
Toluene	ND	0.0078	EPA 8260C	2-17-17	2-17-17	
(trans) 1,3-Dichloropropene	ND	0.0016	EPA 8260C	2-17-17	2-17-17	

Date of Report: February 24, 2017
Samples Submitted: February 14, 2017
Laboratory Reference: 1702-119
Project: 150201

VOLATILES EPA 8260C
Page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AB-1-8.5**					
Laboratory ID:	02-119-09					
1,1,2-Trichloroethane	ND	0.0016	EPA 8260C	2-17-17	2-17-17	
Tetrachloroethene	ND	0.0016	EPA 8260C	2-17-17	2-17-17	
1,3-Dichloropropane	ND	0.0016	EPA 8260C	2-17-17	2-17-17	
2-Hexanone	ND	0.0078	EPA 8260C	2-17-17	2-17-17	
Dibromochloromethane	ND	0.0016	EPA 8260C	2-17-17	2-17-17	
1,2-Dibromoethane	ND	0.0016	EPA 8260C	2-17-17	2-17-17	
Chlorobenzene	ND	0.0016	EPA 8260C	2-17-17	2-17-17	
1,1,1,2-Tetrachloroethane	ND	0.0016	EPA 8260C	2-17-17	2-17-17	
Ethylbenzene	ND	0.0016	EPA 8260C	2-17-17	2-17-17	
m,p-Xylene	0.0041	0.0031	EPA 8260C	2-17-17	2-17-17	
o-Xylene	ND	0.0016	EPA 8260C	2-17-17	2-17-17	
Styrene	ND	0.0016	EPA 8260C	2-17-17	2-17-17	
Bromoform	ND	0.0016	EPA 8260C	2-17-17	2-17-17	
Isopropylbenzene	ND	0.0016	EPA 8260C	2-17-17	2-17-17	
Bromobenzene	ND	0.0016	EPA 8260C	2-17-17	2-17-17	
1,1,2,2-Tetrachloroethane	ND	0.0016	EPA 8260C	2-17-17	2-17-17	
1,2,3-Trichloropropane	ND	0.0016	EPA 8260C	2-17-17	2-17-17	
n-Propylbenzene	ND	0.0016	EPA 8260C	2-17-17	2-17-17	
2-Chlorotoluene	ND	0.0016	EPA 8260C	2-17-17	2-17-17	
4-Chlorotoluene	ND	0.0016	EPA 8260C	2-17-17	2-17-17	
1,3,5-Trimethylbenzene	ND	0.0016	EPA 8260C	2-17-17	2-17-17	
tert-Butylbenzene	ND	0.0016	EPA 8260C	2-17-17	2-17-17	
1,2,4-Trimethylbenzene	ND	0.0016	EPA 8260C	2-17-17	2-17-17	
sec-Butylbenzene	ND	0.0016	EPA 8260C	2-17-17	2-17-17	
1,3-Dichlorobenzene	ND	0.0016	EPA 8260C	2-17-17	2-17-17	
p-Isopropyltoluene	ND	0.0016	EPA 8260C	2-17-17	2-17-17	
1,4-Dichlorobenzene	ND	0.0016	EPA 8260C	2-17-17	2-17-17	
1,2-Dichlorobenzene	ND	0.0016	EPA 8260C	2-17-17	2-17-17	
n-Butylbenzene	ND	0.0016	EPA 8260C	2-17-17	2-17-17	
1,2-Dibromo-3-chloropropane	ND	0.0078	EPA 8260C	2-17-17	2-17-17	
1,2,4-Trichlorobenzene	ND	0.0016	EPA 8260C	2-17-17	2-17-17	
Hexachlorobutadiene	ND	0.0078	EPA 8260C	2-17-17	2-17-17	
Naphthalene	ND	0.0016	EPA 8260C	2-17-17	2-17-17	
1,2,3-Trichlorobenzene	ND	0.0016	EPA 8260C	2-17-17	2-17-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*104*	*73-134*				
Toluene-d8	*100*	*81-124*				
4-Bromofluorobenzene	*88*	*80-131*				

Date of Report: February 24, 2017
Samples Submitted: February 14, 2017
Laboratory Reference: 1702-119
Project: 150201

VOLATILES EPA 8260C
Page 1 of 2

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AB-1-13**					
Laboratory ID:	02-119-10					
Dichlorodifluoromethane	ND	0.0011	EPA 8260C	2-17-17	2-17-17	
Chloromethane	ND	0.0056	EPA 8260C	2-17-17	2-17-17	
Vinyl Chloride	ND	0.0011	EPA 8260C	2-17-17	2-17-17	
Bromomethane	ND	0.0033	EPA 8260C	2-17-17	2-17-17	
Chloroethane	ND	0.0056	EPA 8260C	2-17-17	2-17-17	
Trichlorofluoromethane	ND	0.0011	EPA 8260C	2-17-17	2-17-17	
1,1-Dichloroethene	ND	0.0011	EPA 8260C	2-17-17	2-17-17	
Acetone	0.051	0.011	EPA 8260C	2-17-17	2-17-17	Y
Iodomethane	ND	0.0056	EPA 8260C	2-17-17	2-17-17	
Carbon Disulfide	ND	0.0011	EPA 8260C	2-17-17	2-17-17	
Methylene Chloride	ND	0.0056	EPA 8260C	2-17-17	2-17-17	
(trans) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	2-17-17	2-17-17	
Methyl t-Butyl Ether	ND	0.0011	EPA 8260C	2-17-17	2-17-17	
1,1-Dichloroethane	ND	0.0011	EPA 8260C	2-17-17	2-17-17	
Vinyl Acetate	ND	0.0056	EPA 8260C	2-17-17	2-17-17	
2,2-Dichloropropane	ND	0.0011	EPA 8260C	2-17-17	2-17-17	
(cis) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	2-17-17	2-17-17	
2-Butanone	0.012	0.0056	EPA 8260C	2-17-17	2-17-17	
Bromochloromethane	ND	0.0011	EPA 8260C	2-17-17	2-17-17	
Chloroform	ND	0.0011	EPA 8260C	2-17-17	2-17-17	
1,1,1-Trichloroethane	ND	0.0011	EPA 8260C	2-17-17	2-17-17	
Carbon Tetrachloride	ND	0.0011	EPA 8260C	2-17-17	2-17-17	
1,1-Dichloropropene	ND	0.0011	EPA 8260C	2-17-17	2-17-17	
Benzene	0.0024	0.0011	EPA 8260C	2-17-17	2-17-17	
1,2-Dichloroethane	ND	0.0056	EPA 8260C	2-17-17	2-17-17	
Trichloroethene	ND	0.0011	EPA 8260C	2-17-17	2-17-17	
1,2-Dichloropropane	ND	0.0011	EPA 8260C	2-17-17	2-17-17	
Dibromomethane	ND	0.0011	EPA 8260C	2-17-17	2-17-17	
Bromodichloromethane	ND	0.0011	EPA 8260C	2-17-17	2-17-17	
2-Chloroethyl Vinyl Ether	ND	0.0056	EPA 8260C	2-17-17	2-17-17	
(cis) 1,3-Dichloropropene	ND	0.0011	EPA 8260C	2-17-17	2-17-17	
Methyl Isobutyl Ketone	ND	0.0056	EPA 8260C	2-17-17	2-17-17	
Toluene	ND	0.0056	EPA 8260C	2-17-17	2-17-17	
(trans) 1,3-Dichloropropene	ND	0.0011	EPA 8260C	2-17-17	2-17-17	

Date of Report: February 24, 2017
Samples Submitted: February 14, 2017
Laboratory Reference: 1702-119
Project: 150201

VOLATILES EPA 8260C
Page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AB-1-13**					
Laboratory ID:	02-119-10					
1,1,2-Trichloroethane	ND	0.0011	EPA 8260C	2-17-17	2-17-17	
Tetrachloroethene	ND	0.0011	EPA 8260C	2-17-17	2-17-17	
1,3-Dichloropropane	ND	0.0011	EPA 8260C	2-17-17	2-17-17	
2-Hexanone	ND	0.0056	EPA 8260C	2-17-17	2-17-17	
Dibromochloromethane	ND	0.0011	EPA 8260C	2-17-17	2-17-17	
1,2-Dibromoethane	ND	0.0011	EPA 8260C	2-17-17	2-17-17	
Chlorobenzene	ND	0.0011	EPA 8260C	2-17-17	2-17-17	
1,1,1,2-Tetrachloroethane	ND	0.0011	EPA 8260C	2-17-17	2-17-17	
Ethylbenzene	ND	0.0011	EPA 8260C	2-17-17	2-17-17	
m,p-Xylene	ND	0.0023	EPA 8260C	2-17-17	2-17-17	
o-Xylene	ND	0.0011	EPA 8260C	2-17-17	2-17-17	
Styrene	ND	0.0011	EPA 8260C	2-17-17	2-17-17	
Bromoform	ND	0.0011	EPA 8260C	2-17-17	2-17-17	
Isopropylbenzene	ND	0.0011	EPA 8260C	2-17-17	2-17-17	
Bromobenzene	ND	0.0011	EPA 8260C	2-17-17	2-17-17	
1,1,2,2-Tetrachloroethane	ND	0.0011	EPA 8260C	2-17-17	2-17-17	
1,2,3-Trichloropropane	ND	0.0011	EPA 8260C	2-17-17	2-17-17	
n-Propylbenzene	ND	0.0011	EPA 8260C	2-17-17	2-17-17	
2-Chlorotoluene	ND	0.0011	EPA 8260C	2-17-17	2-17-17	
4-Chlorotoluene	ND	0.0011	EPA 8260C	2-17-17	2-17-17	
1,3,5-Trimethylbenzene	ND	0.0011	EPA 8260C	2-17-17	2-17-17	
tert-Butylbenzene	ND	0.0011	EPA 8260C	2-17-17	2-17-17	
1,2,4-Trimethylbenzene	ND	0.0011	EPA 8260C	2-17-17	2-17-17	
sec-Butylbenzene	ND	0.0011	EPA 8260C	2-17-17	2-17-17	
1,3-Dichlorobenzene	ND	0.0011	EPA 8260C	2-17-17	2-17-17	
p-Isopropyltoluene	ND	0.0011	EPA 8260C	2-17-17	2-17-17	
1,4-Dichlorobenzene	ND	0.0011	EPA 8260C	2-17-17	2-17-17	
1,2-Dichlorobenzene	ND	0.0011	EPA 8260C	2-17-17	2-17-17	
n-Butylbenzene	ND	0.0011	EPA 8260C	2-17-17	2-17-17	
1,2-Dibromo-3-chloropropane	ND	0.0056	EPA 8260C	2-17-17	2-17-17	
1,2,4-Trichlorobenzene	ND	0.0011	EPA 8260C	2-17-17	2-17-17	
Hexachlorobutadiene	ND	0.0056	EPA 8260C	2-17-17	2-17-17	
Naphthalene	ND	0.0011	EPA 8260C	2-17-17	2-17-17	
1,2,3-Trichlorobenzene	ND	0.0011	EPA 8260C	2-17-17	2-17-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*113*	*73-134*				
Toluene-d8	*99*	*81-124*				
4-Bromofluorobenzene	*96*	*80-131*				

Date of Report: February 24, 2017
Samples Submitted: February 14, 2017
Laboratory Reference: 1702-119
Project: 150201

VOLATILES EPA 8260C
Page 1 of 2

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AB-1-18**					
Laboratory ID:	02-119-11					
Dichlorodifluoromethane	ND	0.0017	EPA 8260C	2-17-17	2-17-17	
Chloromethane	ND	0.0087	EPA 8260C	2-17-17	2-17-17	
Vinyl Chloride	ND	0.0017	EPA 8260C	2-17-17	2-17-17	
Bromomethane	ND	0.0051	EPA 8260C	2-17-17	2-17-17	
Chloroethane	ND	0.0087	EPA 8260C	2-17-17	2-17-17	
Trichlorofluoromethane	ND	0.0017	EPA 8260C	2-17-17	2-17-17	
1,1-Dichloroethene	ND	0.0017	EPA 8260C	2-17-17	2-17-17	
Acetone	0.49	0.017	EPA 8260C	2-17-17	2-17-17	Y
Iodomethane	ND	0.0087	EPA 8260C	2-17-17	2-17-17	
Carbon Disulfide	0.0070	0.0017	EPA 8260C	2-17-17	2-17-17	
Methylene Chloride	ND	0.0087	EPA 8260C	2-17-17	2-17-17	
(trans) 1,2-Dichloroethene	ND	0.0017	EPA 8260C	2-17-17	2-17-17	
Methyl t-Butyl Ether	ND	0.0017	EPA 8260C	2-17-17	2-17-17	
1,1-Dichloroethane	ND	0.0017	EPA 8260C	2-17-17	2-17-17	
Vinyl Acetate	ND	0.0087	EPA 8260C	2-17-17	2-17-17	
2,2-Dichloropropane	ND	0.0017	EPA 8260C	2-17-17	2-17-17	
(cis) 1,2-Dichloroethene	0.0022	0.0017	EPA 8260C	2-17-17	2-17-17	
2-Butanone	0.093	0.0087	EPA 8260C	2-17-17	2-17-17	
Bromochloromethane	ND	0.0017	EPA 8260C	2-17-17	2-17-17	
Chloroform	ND	0.0017	EPA 8260C	2-17-17	2-17-17	
1,1,1-Trichloroethane	ND	0.0017	EPA 8260C	2-17-17	2-17-17	
Carbon Tetrachloride	ND	0.0017	EPA 8260C	2-17-17	2-17-17	
1,1-Dichloropropene	ND	0.0017	EPA 8260C	2-17-17	2-17-17	
Benzene	0.0074	0.0017	EPA 8260C	2-17-17	2-17-17	
1,2-Dichloroethane	ND	0.0087	EPA 8260C	2-17-17	2-17-17	
Trichloroethene	ND	0.0017	EPA 8260C	2-17-17	2-17-17	
1,2-Dichloropropane	ND	0.0017	EPA 8260C	2-17-17	2-17-17	
Dibromomethane	ND	0.0017	EPA 8260C	2-17-17	2-17-17	
Bromodichloromethane	ND	0.0017	EPA 8260C	2-17-17	2-17-17	
2-Chloroethyl Vinyl Ether	ND	0.0087	EPA 8260C	2-17-17	2-17-17	
(cis) 1,3-Dichloropropene	ND	0.0017	EPA 8260C	2-17-17	2-17-17	
Methyl Isobutyl Ketone	ND	0.0087	EPA 8260C	2-17-17	2-17-17	
Toluene	ND	0.0087	EPA 8260C	2-17-17	2-17-17	
(trans) 1,3-Dichloropropene	ND	0.0017	EPA 8260C	2-17-17	2-17-17	

Date of Report: February 24, 2017
Samples Submitted: February 14, 2017
Laboratory Reference: 1702-119
Project: 150201

VOLATILES EPA 8260C
Page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AB-1-18**					
Laboratory ID:	02-119-11					
1,1,2-Trichloroethane	ND	0.0017	EPA 8260C	2-17-17	2-17-17	
Tetrachloroethene	ND	0.0017	EPA 8260C	2-17-17	2-17-17	
1,3-Dichloropropane	ND	0.0017	EPA 8260C	2-17-17	2-17-17	
2-Hexanone	ND	0.0087	EPA 8260C	2-17-17	2-17-17	
Dibromochloromethane	ND	0.0017	EPA 8260C	2-17-17	2-17-17	
1,2-Dibromoethane	ND	0.0017	EPA 8260C	2-17-17	2-17-17	
Chlorobenzene	ND	0.0017	EPA 8260C	2-17-17	2-17-17	
1,1,1,2-Tetrachloroethane	ND	0.0017	EPA 8260C	2-17-17	2-17-17	
Ethylbenzene	0.0069	0.0017	EPA 8260C	2-17-17	2-17-17	
m,p-Xylene	0.023	0.0035	EPA 8260C	2-17-17	2-17-17	
o-Xylene	0.0052	0.0017	EPA 8260C	2-17-17	2-17-17	
Styrene	ND	0.0017	EPA 8260C	2-17-17	2-17-17	
Bromoform	ND	0.0017	EPA 8260C	2-17-17	2-17-17	
Isopropylbenzene	ND	0.0017	EPA 8260C	2-17-17	2-17-17	
Bromobenzene	ND	0.10	EPA 8260C	2-21-17	2-21-17	
1,1,2,2-Tetrachloroethane	ND	0.10	EPA 8260C	2-21-17	2-21-17	
1,2,3-Trichloropropane	ND	0.10	EPA 8260C	2-21-17	2-21-17	
n-Propylbenzene	ND	0.10	EPA 8260C	2-21-17	2-21-17	
2-Chlorotoluene	ND	0.10	EPA 8260C	2-21-17	2-21-17	
4-Chlorotoluene	ND	0.10	EPA 8260C	2-21-17	2-21-17	
1,3,5-Trimethylbenzene	ND	0.10	EPA 8260C	2-21-17	2-21-17	
tert-Butylbenzene	ND	0.10	EPA 8260C	2-21-17	2-21-17	
1,2,4-Trimethylbenzene	ND	0.10	EPA 8260C	2-21-17	2-21-17	
sec-Butylbenzene	ND	0.10	EPA 8260C	2-21-17	2-21-17	
1,3-Dichlorobenzene	ND	0.10	EPA 8260C	2-21-17	2-21-17	
p-Isopropyltoluene	ND	0.10	EPA 8260C	2-21-17	2-21-17	
1,4-Dichlorobenzene	ND	0.10	EPA 8260C	2-21-17	2-21-17	
1,2-Dichlorobenzene	ND	0.10	EPA 8260C	2-21-17	2-21-17	
n-Butylbenzene	ND	0.10	EPA 8260C	2-21-17	2-21-17	
1,2-Dibromo-3-chloropropane	ND	0.50	EPA 8260C	2-21-17	2-21-17	
1,2,4-Trichlorobenzene	ND	0.10	EPA 8260C	2-21-17	2-21-17	
Hexachlorobutadiene	ND	0.50	EPA 8260C	2-21-17	2-21-17	
Naphthalene	ND	0.10	EPA 8260C	2-21-17	2-21-17	
1,2,3-Trichlorobenzene	ND	0.10	EPA 8260C	2-21-17	2-21-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*130*	*73-134*				
Toluene-d8	*112*	*81-124*				
4-Bromofluorobenzene	*98*	*80-131*				

Date of Report: February 24, 2017
Samples Submitted: February 14, 2017
Laboratory Reference: 1702-119
Project: 150201

VOLATILES EPA 8260C
Page 1 of 2

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**GW-8-9**					
Laboratory ID:	02-119-13					
Dichlorodifluoromethane	ND	0.0012	EPA 8260C	2-17-17	2-17-17	
Chloromethane	ND	0.0061	EPA 8260C	2-17-17	2-17-17	
Vinyl Chloride	ND	0.0012	EPA 8260C	2-17-17	2-17-17	
Bromomethane	ND	0.0036	EPA 8260C	2-17-17	2-17-17	
Chloroethane	ND	0.0061	EPA 8260C	2-17-17	2-17-17	
Trichlorofluoromethane	ND	0.0012	EPA 8260C	2-17-17	2-17-17	
1,1-Dichloroethene	ND	0.0012	EPA 8260C	2-17-17	2-17-17	
Acetone	ND	0.012	EPA 8260C	2-17-17	2-17-17	
Iodomethane	ND	0.0061	EPA 8260C	2-17-17	2-17-17	
Carbon Disulfide	ND	0.0012	EPA 8260C	2-17-17	2-17-17	
Methylene Chloride	ND	0.0061	EPA 8260C	2-17-17	2-17-17	
(trans) 1,2-Dichloroethene	ND	0.0012	EPA 8260C	2-17-17	2-17-17	
Methyl t-Butyl Ether	ND	0.0012	EPA 8260C	2-17-17	2-17-17	
1,1-Dichloroethane	ND	0.0012	EPA 8260C	2-17-17	2-17-17	
Vinyl Acetate	ND	0.0061	EPA 8260C	2-17-17	2-17-17	
2,2-Dichloropropane	ND	0.0012	EPA 8260C	2-17-17	2-17-17	
(cis) 1,2-Dichloroethene	ND	0.0012	EPA 8260C	2-17-17	2-17-17	
2-Butanone	ND	0.0061	EPA 8260C	2-17-17	2-17-17	
Bromochloromethane	ND	0.0012	EPA 8260C	2-17-17	2-17-17	
Chloroform	ND	0.0012	EPA 8260C	2-17-17	2-17-17	
1,1,1-Trichloroethane	ND	0.0012	EPA 8260C	2-17-17	2-17-17	
Carbon Tetrachloride	ND	0.0012	EPA 8260C	2-17-17	2-17-17	
1,1-Dichloropropene	ND	0.0012	EPA 8260C	2-17-17	2-17-17	
Benzene	ND	0.0012	EPA 8260C	2-17-17	2-17-17	
1,2-Dichloroethane	ND	0.0061	EPA 8260C	2-17-17	2-17-17	
Trichloroethene	ND	0.0012	EPA 8260C	2-17-17	2-17-17	
1,2-Dichloropropane	ND	0.0012	EPA 8260C	2-17-17	2-17-17	
Dibromomethane	ND	0.0012	EPA 8260C	2-17-17	2-17-17	
Bromodichloromethane	ND	0.0012	EPA 8260C	2-17-17	2-17-17	
2-Chloroethyl Vinyl Ether	ND	0.0061	EPA 8260C	2-17-17	2-17-17	
(cis) 1,3-Dichloropropene	ND	0.0012	EPA 8260C	2-17-17	2-17-17	
Methyl Isobutyl Ketone	ND	0.0061	EPA 8260C	2-17-17	2-17-17	
Toluene	ND	0.0061	EPA 8260C	2-17-17	2-17-17	
(trans) 1,3-Dichloropropene	ND	0.0012	EPA 8260C	2-17-17	2-17-17	

Date of Report: February 24, 2017
Samples Submitted: February 14, 2017
Laboratory Reference: 1702-119
Project: 150201

VOLATILES EPA 8260C
Page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**GW-8-9**					
Laboratory ID:	02-119-13					
1,1,2-Trichloroethane	ND	0.0012	EPA 8260C	2-17-17	2-17-17	
Tetrachloroethene	0.012	0.0012	EPA 8260C	2-17-17	2-17-17	
1,3-Dichloropropane	ND	0.0012	EPA 8260C	2-17-17	2-17-17	
2-Hexanone	ND	0.0061	EPA 8260C	2-17-17	2-17-17	
Dibromochloromethane	ND	0.0012	EPA 8260C	2-17-17	2-17-17	
1,2-Dibromoethane	ND	0.0012	EPA 8260C	2-17-17	2-17-17	
Chlorobenzene	ND	0.0012	EPA 8260C	2-17-17	2-17-17	
1,1,1,2-Tetrachloroethane	ND	0.0012	EPA 8260C	2-17-17	2-17-17	
Ethylbenzene	ND	0.0012	EPA 8260C	2-17-17	2-17-17	
m,p-Xylene	ND	0.0025	EPA 8260C	2-17-17	2-17-17	
o-Xylene	ND	0.0012	EPA 8260C	2-17-17	2-17-17	
Styrene	ND	0.0012	EPA 8260C	2-17-17	2-17-17	
Bromoform	ND	0.0012	EPA 8260C	2-17-17	2-17-17	
Isopropylbenzene	ND	0.0012	EPA 8260C	2-17-17	2-17-17	
Bromobenzene	ND	0.0012	EPA 8260C	2-17-17	2-17-17	
1,1,2,2-Tetrachloroethane	ND	0.0012	EPA 8260C	2-17-17	2-17-17	
1,2,3-Trichloropropane	ND	0.0012	EPA 8260C	2-17-17	2-17-17	
n-Propylbenzene	ND	0.0012	EPA 8260C	2-17-17	2-17-17	
2-Chlorotoluene	ND	0.0012	EPA 8260C	2-17-17	2-17-17	
4-Chlorotoluene	ND	0.0012	EPA 8260C	2-17-17	2-17-17	
1,3,5-Trimethylbenzene	ND	0.0012	EPA 8260C	2-17-17	2-17-17	
tert-Butylbenzene	ND	0.0012	EPA 8260C	2-17-17	2-17-17	
1,2,4-Trimethylbenzene	ND	0.0012	EPA 8260C	2-17-17	2-17-17	
sec-Butylbenzene	ND	0.0012	EPA 8260C	2-17-17	2-17-17	
1,3-Dichlorobenzene	ND	0.0012	EPA 8260C	2-17-17	2-17-17	
p-Isopropyltoluene	ND	0.0012	EPA 8260C	2-17-17	2-17-17	
1,4-Dichlorobenzene	ND	0.0012	EPA 8260C	2-17-17	2-17-17	
1,2-Dichlorobenzene	ND	0.0012	EPA 8260C	2-17-17	2-17-17	
n-Butylbenzene	ND	0.0012	EPA 8260C	2-17-17	2-17-17	
1,2-Dibromo-3-chloropropane	ND	0.0061	EPA 8260C	2-17-17	2-17-17	
1,2,4-Trichlorobenzene	ND	0.0012	EPA 8260C	2-17-17	2-17-17	
Hexachlorobutadiene	ND	0.0061	EPA 8260C	2-17-17	2-17-17	
Naphthalene	ND	0.0012	EPA 8260C	2-17-17	2-17-17	
1,2,3-Trichlorobenzene	ND	0.0012	EPA 8260C	2-17-17	2-17-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*130*	*73-134*				
Toluene-d8	*112*	*81-124*				
4-Bromofluorobenzene	*104*	*80-131*				

Date of Report: February 24, 2017
Samples Submitted: February 14, 2017
Laboratory Reference: 1702-119
Project: 150201

VOLATILES EPA 8260C
Page 1 of 2

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**GW-8-13**					
Laboratory ID:	02-119-14					
Dichlorodifluoromethane	ND	0.0014	EPA 8260C	2-17-17	2-17-17	
Chloromethane	ND	0.0069	EPA 8260C	2-17-17	2-17-17	
Vinyl Chloride	ND	0.0014	EPA 8260C	2-17-17	2-17-17	
Bromomethane	ND	0.0040	EPA 8260C	2-17-17	2-17-17	
Chloroethane	ND	0.0069	EPA 8260C	2-17-17	2-17-17	
Trichlorofluoromethane	ND	0.0014	EPA 8260C	2-17-17	2-17-17	
1,1-Dichloroethene	ND	0.0014	EPA 8260C	2-17-17	2-17-17	
Acetone	0.37	0.014	EPA 8260C	2-17-17	2-17-17	Y
Iodomethane	ND	0.0069	EPA 8260C	2-17-17	2-17-17	
Carbon Disulfide	0.0014	0.0014	EPA 8260C	2-17-17	2-17-17	
Methylene Chloride	ND	0.0069	EPA 8260C	2-17-17	2-17-17	
(trans) 1,2-Dichloroethene	ND	0.0014	EPA 8260C	2-17-17	2-17-17	
Methyl t-Butyl Ether	ND	0.0014	EPA 8260C	2-17-17	2-17-17	
1,1-Dichloroethane	ND	0.0014	EPA 8260C	2-17-17	2-17-17	
Vinyl Acetate	ND	0.0069	EPA 8260C	2-17-17	2-17-17	
2,2-Dichloropropane	ND	0.0014	EPA 8260C	2-17-17	2-17-17	
(cis) 1,2-Dichloroethene	0.0015	0.0014	EPA 8260C	2-17-17	2-17-17	
2-Butanone	0.067	0.0069	EPA 8260C	2-17-17	2-17-17	
Bromochloromethane	ND	0.0014	EPA 8260C	2-17-17	2-17-17	
Chloroform	ND	0.0014	EPA 8260C	2-17-17	2-17-17	
1,1,1-Trichloroethane	ND	0.0014	EPA 8260C	2-17-17	2-17-17	
Carbon Tetrachloride	ND	0.0014	EPA 8260C	2-17-17	2-17-17	
1,1-Dichloropropene	ND	0.0014	EPA 8260C	2-17-17	2-17-17	
Benzene	ND	0.0014	EPA 8260C	2-17-17	2-17-17	
1,2-Dichloroethane	ND	0.0069	EPA 8260C	2-17-17	2-17-17	
Trichloroethene	ND	0.0014	EPA 8260C	2-17-17	2-17-17	
1,2-Dichloropropane	ND	0.0014	EPA 8260C	2-17-17	2-17-17	
Dibromomethane	ND	0.0014	EPA 8260C	2-17-17	2-17-17	
Bromodichloromethane	ND	0.0014	EPA 8260C	2-17-17	2-17-17	
2-Chloroethyl Vinyl Ether	ND	0.0069	EPA 8260C	2-17-17	2-17-17	
(cis) 1,3-Dichloropropene	ND	0.0014	EPA 8260C	2-17-17	2-17-17	
Methyl Isobutyl Ketone	ND	0.0069	EPA 8260C	2-17-17	2-17-17	
Toluene	ND	0.0069	EPA 8260C	2-17-17	2-17-17	
(trans) 1,3-Dichloropropene	ND	0.0014	EPA 8260C	2-17-17	2-17-17	

Date of Report: February 24, 2017
Samples Submitted: February 14, 2017
Laboratory Reference: 1702-119
Project: 150201

VOLATILES EPA 8260C
Page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**GW-8-13**					
Laboratory ID:	02-119-14					
1,1,2-Trichloroethane	ND	0.0014	EPA 8260C	2-17-17	2-17-17	
Tetrachloroethene	ND	0.0014	EPA 8260C	2-17-17	2-17-17	
1,3-Dichloropropane	ND	0.0014	EPA 8260C	2-17-17	2-17-17	
2-Hexanone	ND	0.0069	EPA 8260C	2-17-17	2-17-17	
Dibromochloromethane	ND	0.0014	EPA 8260C	2-17-17	2-17-17	
1,2-Dibromoethane	ND	0.0014	EPA 8260C	2-17-17	2-17-17	
Chlorobenzene	ND	0.0014	EPA 8260C	2-17-17	2-17-17	
1,1,1,2-Tetrachloroethane	ND	0.0014	EPA 8260C	2-17-17	2-17-17	
Ethylbenzene	ND	0.0014	EPA 8260C	2-17-17	2-17-17	
m,p-Xylene	ND	0.0027	EPA 8260C	2-17-17	2-17-17	
o-Xylene	ND	0.0014	EPA 8260C	2-17-17	2-17-17	
Styrene	ND	0.0014	EPA 8260C	2-17-17	2-17-17	
Bromoform	ND	0.0014	EPA 8260C	2-17-17	2-17-17	
Isopropylbenzene	ND	0.0014	EPA 8260C	2-17-17	2-17-17	
Bromobenzene	ND	0.0014	EPA 8260C	2-17-17	2-17-17	
1,1,2,2-Tetrachloroethane	ND	0.0014	EPA 8260C	2-17-17	2-17-17	
1,2,3-Trichloropropane	ND	0.0014	EPA 8260C	2-17-17	2-17-17	
n-Propylbenzene	ND	0.0014	EPA 8260C	2-17-17	2-17-17	
2-Chlorotoluene	ND	0.0014	EPA 8260C	2-17-17	2-17-17	
4-Chlorotoluene	ND	0.0014	EPA 8260C	2-17-17	2-17-17	
1,3,5-Trimethylbenzene	ND	0.0014	EPA 8260C	2-17-17	2-17-17	
tert-Butylbenzene	ND	0.0014	EPA 8260C	2-17-17	2-17-17	
1,2,4-Trimethylbenzene	ND	0.0014	EPA 8260C	2-17-17	2-17-17	
sec-Butylbenzene	ND	0.0014	EPA 8260C	2-17-17	2-17-17	
1,3-Dichlorobenzene	ND	0.0014	EPA 8260C	2-17-17	2-17-17	
p-Isopropyltoluene	ND	0.0014	EPA 8260C	2-17-17	2-17-17	
1,4-Dichlorobenzene	ND	0.0014	EPA 8260C	2-17-17	2-17-17	
1,2-Dichlorobenzene	ND	0.0014	EPA 8260C	2-17-17	2-17-17	
n-Butylbenzene	ND	0.0014	EPA 8260C	2-17-17	2-17-17	
1,2-Dibromo-3-chloropropane	ND	0.0069	EPA 8260C	2-17-17	2-17-17	
1,2,4-Trichlorobenzene	ND	0.0014	EPA 8260C	2-17-17	2-17-17	
Hexachlorobutadiene	ND	0.0069	EPA 8260C	2-17-17	2-17-17	
Naphthalene	ND	0.0014	EPA 8260C	2-17-17	2-17-17	
1,2,3-Trichlorobenzene	ND	0.0014	EPA 8260C	2-17-17	2-17-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*127*	*73-134*				
Toluene-d8	*106*	*81-124*				
4-Bromofluorobenzene	*103*	*80-131*				

Date of Report: February 24, 2017
Samples Submitted: February 14, 2017
Laboratory Reference: 1702-119
Project: 150201

VOLATILES EPA 8260C
Page 1 of 2

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**GW-8-17**					
Laboratory ID:	02-119-15					
Dichlorodifluoromethane	ND	0.00093	EPA 8260C	2-17-17	2-17-17	
Chloromethane	ND	0.0046	EPA 8260C	2-17-17	2-17-17	
Vinyl Chloride	ND	0.00093	EPA 8260C	2-17-17	2-17-17	
Bromomethane	ND	0.0027	EPA 8260C	2-17-17	2-17-17	
Chloroethane	ND	0.0046	EPA 8260C	2-17-17	2-17-17	
Trichlorofluoromethane	ND	0.00093	EPA 8260C	2-17-17	2-17-17	
1,1-Dichloroethene	ND	0.00093	EPA 8260C	2-17-17	2-17-17	
Acetone	0.15	0.0093	EPA 8260C	2-17-17	2-17-17	Y
Iodomethane	ND	0.0046	EPA 8260C	2-17-17	2-17-17	
Carbon Disulfide	0.0017	0.00093	EPA 8260C	2-17-17	2-17-17	
Methylene Chloride	ND	0.0046	EPA 8260C	2-17-17	2-17-17	
(trans) 1,2-Dichloroethene	ND	0.00093	EPA 8260C	2-17-17	2-17-17	
Methyl t-Butyl Ether	ND	0.00093	EPA 8260C	2-17-17	2-17-17	
1,1-Dichloroethane	ND	0.00093	EPA 8260C	2-17-17	2-17-17	
Vinyl Acetate	ND	0.0046	EPA 8260C	2-17-17	2-17-17	
2,2-Dichloropropane	ND	0.00093	EPA 8260C	2-17-17	2-17-17	
(cis) 1,2-Dichloroethene	0.0013	0.00093	EPA 8260C	2-17-17	2-17-17	
2-Butanone	0.023	0.0046	EPA 8260C	2-17-17	2-17-17	
Bromochloromethane	ND	0.00093	EPA 8260C	2-17-17	2-17-17	
Chloroform	ND	0.00093	EPA 8260C	2-17-17	2-17-17	
1,1,1-Trichloroethane	ND	0.00093	EPA 8260C	2-17-17	2-17-17	
Carbon Tetrachloride	ND	0.00093	EPA 8260C	2-17-17	2-17-17	
1,1-Dichloropropene	ND	0.00093	EPA 8260C	2-17-17	2-17-17	
Benzene	0.0063	0.00093	EPA 8260C	2-17-17	2-17-17	
1,2-Dichloroethane	ND	0.0046	EPA 8260C	2-17-17	2-17-17	
Trichloroethene	ND	0.00093	EPA 8260C	2-17-17	2-17-17	
1,2-Dichloropropane	ND	0.00093	EPA 8260C	2-17-17	2-17-17	
Dibromomethane	ND	0.00093	EPA 8260C	2-17-17	2-17-17	
Bromodichloromethane	ND	0.00093	EPA 8260C	2-17-17	2-17-17	
2-Chloroethyl Vinyl Ether	ND	0.0046	EPA 8260C	2-17-17	2-17-17	
(cis) 1,3-Dichloropropene	ND	0.00093	EPA 8260C	2-17-17	2-17-17	
Methyl Isobutyl Ketone	ND	0.0046	EPA 8260C	2-17-17	2-17-17	
Toluene	ND	0.0046	EPA 8260C	2-17-17	2-17-17	
(trans) 1,3-Dichloropropene	ND	0.00093	EPA 8260C	2-17-17	2-17-17	

Date of Report: February 24, 2017
Samples Submitted: February 14, 2017
Laboratory Reference: 1702-119
Project: 150201

VOLATILES EPA 8260C
Page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**GW-8-17**					
Laboratory ID:	02-119-15					
1,1,2-Trichloroethane	ND	0.00093	EPA 8260C	2-17-17	2-17-17	
Tetrachloroethene	ND	0.00093	EPA 8260C	2-17-17	2-17-17	
1,3-Dichloropropane	ND	0.00093	EPA 8260C	2-17-17	2-17-17	
2-Hexanone	ND	0.0046	EPA 8260C	2-17-17	2-17-17	
Dibromochloromethane	ND	0.00093	EPA 8260C	2-17-17	2-17-17	
1,2-Dibromoethane	ND	0.00093	EPA 8260C	2-17-17	2-17-17	
Chlorobenzene	ND	0.00093	EPA 8260C	2-17-17	2-17-17	
1,1,1,2-Tetrachloroethane	ND	0.00093	EPA 8260C	2-17-17	2-17-17	
Ethylbenzene	ND	0.00093	EPA 8260C	2-17-17	2-17-17	
m,p-Xylene	0.024	0.0019	EPA 8260C	2-17-17	2-17-17	
o-Xylene	ND	0.00093	EPA 8260C	2-17-17	2-17-17	
Styrene	ND	0.00093	EPA 8260C	2-17-17	2-17-17	
Bromoform	ND	0.00093	EPA 8260C	2-17-17	2-17-17	
Isopropylbenzene	ND	0.00093	EPA 8260C	2-17-17	2-17-17	
Bromobenzene	ND	0.00093	EPA 8260C	2-17-17	2-17-17	
1,1,2,2-Tetrachloroethane	ND	0.00093	EPA 8260C	2-17-17	2-17-17	
1,2,3-Trichloropropane	ND	0.00093	EPA 8260C	2-17-17	2-17-17	
n-Propylbenzene	ND	0.00093	EPA 8260C	2-17-17	2-17-17	
2-Chlorotoluene	ND	0.00093	EPA 8260C	2-17-17	2-17-17	
4-Chlorotoluene	ND	0.00093	EPA 8260C	2-17-17	2-17-17	
1,3,5-Trimethylbenzene	ND	0.00093	EPA 8260C	2-17-17	2-17-17	
tert-Butylbenzene	ND	0.00093	EPA 8260C	2-17-17	2-17-17	
1,2,4-Trimethylbenzene	ND	0.00093	EPA 8260C	2-17-17	2-17-17	
sec-Butylbenzene	ND	0.00093	EPA 8260C	2-17-17	2-17-17	
1,3-Dichlorobenzene	ND	0.00093	EPA 8260C	2-17-17	2-17-17	
p-Isopropyltoluene	ND	0.00093	EPA 8260C	2-17-17	2-17-17	
1,4-Dichlorobenzene	ND	0.00093	EPA 8260C	2-17-17	2-17-17	
1,2-Dichlorobenzene	ND	0.00093	EPA 8260C	2-17-17	2-17-17	
n-Butylbenzene	ND	0.00093	EPA 8260C	2-17-17	2-17-17	
1,2-Dibromo-3-chloropropane	ND	0.0046	EPA 8260C	2-17-17	2-17-17	
1,2,4-Trichlorobenzene	ND	0.00093	EPA 8260C	2-17-17	2-17-17	
Hexachlorobutadiene	ND	0.0046	EPA 8260C	2-17-17	2-17-17	
Naphthalene	ND	0.00093	EPA 8260C	2-17-17	2-17-17	
1,2,3-Trichlorobenzene	ND	0.00093	EPA 8260C	2-17-17	2-17-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*114*	*73-134*				
Toluene-d8	*101*	*81-124*				
4-Bromofluorobenzene	*92*	*80-131*				

Date of Report: February 24, 2017
Samples Submitted: February 14, 2017
Laboratory Reference: 1702-119
Project: 150201

VOLATILES EPA 8260C
Page 1 of 2

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**GW-9-10**					
Laboratory ID:	02-119-21					
Dichlorodifluoromethane	ND	0.92	EPA 8260C	2-17-17	2-17-17	
Chloromethane	ND	4.6	EPA 8260C	2-17-17	2-17-17	
Vinyl Chloride	ND	0.92	EPA 8260C	2-17-17	2-17-17	
Bromomethane	ND	2.7	EPA 8260C	2-17-17	2-17-17	
Chloroethane	ND	4.6	EPA 8260C	2-17-17	2-17-17	
Trichlorofluoromethane	ND	0.92	EPA 8260C	2-17-17	2-17-17	
1,1-Dichloroethene	ND	0.92	EPA 8260C	2-17-17	2-17-17	
Acetone	ND	9.2	EPA 8260C	2-17-17	2-17-17	
Iodomethane	ND	4.6	EPA 8260C	2-17-17	2-17-17	
Carbon Disulfide	ND	0.92	EPA 8260C	2-17-17	2-17-17	
Methylene Chloride	ND	4.6	EPA 8260C	2-17-17	2-17-17	
(trans) 1,2-Dichloroethene	ND	0.92	EPA 8260C	2-17-17	2-17-17	
Methyl t-Butyl Ether	ND	0.92	EPA 8260C	2-17-17	2-17-17	
1,1-Dichloroethane	ND	0.92	EPA 8260C	2-17-17	2-17-17	
Vinyl Acetate	ND	4.6	EPA 8260C	2-17-17	2-17-17	
2,2-Dichloropropane	ND	0.92	EPA 8260C	2-17-17	2-17-17	
(cis) 1,2-Dichloroethene	ND	0.92	EPA 8260C	2-17-17	2-17-17	
2-Butanone	ND	4.6	EPA 8260C	2-17-17	2-17-17	
Bromochloromethane	ND	0.92	EPA 8260C	2-17-17	2-17-17	
Chloroform	ND	0.92	EPA 8260C	2-17-17	2-17-17	
1,1,1-Trichloroethane	ND	0.92	EPA 8260C	2-17-17	2-17-17	
Carbon Tetrachloride	ND	0.92	EPA 8260C	2-17-17	2-17-17	
1,1-Dichloropropene	ND	0.92	EPA 8260C	2-17-17	2-17-17	
Benzene	ND	0.92	EPA 8260C	2-17-17	2-17-17	
1,2-Dichloroethane	ND	4.6	EPA 8260C	2-17-17	2-17-17	
Trichloroethene	ND	0.92	EPA 8260C	2-17-17	2-17-17	
1,2-Dichloropropane	ND	0.92	EPA 8260C	2-17-17	2-17-17	
Dibromomethane	ND	0.92	EPA 8260C	2-17-17	2-17-17	
Bromodichloromethane	ND	0.92	EPA 8260C	2-17-17	2-17-17	
2-Chloroethyl Vinyl Ether	ND	4.6	EPA 8260C	2-17-17	2-17-17	
(cis) 1,3-Dichloropropene	ND	0.92	EPA 8260C	2-17-17	2-17-17	
Methyl Isobutyl Ketone	ND	4.6	EPA 8260C	2-17-17	2-17-17	
Toluene	11	4.6	EPA 8260C	2-17-17	2-17-17	
(trans) 1,3-Dichloropropene	ND	0.92	EPA 8260C	2-17-17	2-17-17	

Date of Report: February 24, 2017
Samples Submitted: February 14, 2017
Laboratory Reference: 1702-119
Project: 150201

VOLATILES EPA 8260C
Page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**GW-9-10**					
Laboratory ID:	02-119-21					
1,1,2-Trichloroethane	ND	0.92	EPA 8260C	2-17-17	2-17-17	
Tetrachloroethene	ND	0.92	EPA 8260C	2-17-17	2-17-17	
1,3-Dichloropropane	ND	0.92	EPA 8260C	2-17-17	2-17-17	
2-Hexanone	ND	4.6	EPA 8260C	2-17-17	2-17-17	
Dibromochloromethane	ND	0.92	EPA 8260C	2-17-17	2-17-17	
1,2-Dibromoethane	ND	0.92	EPA 8260C	2-17-17	2-17-17	
Chlorobenzene	ND	0.92	EPA 8260C	2-17-17	2-17-17	
1,1,1,2-Tetrachloroethane	ND	0.92	EPA 8260C	2-17-17	2-17-17	
Ethylbenzene	53	0.92	EPA 8260C	2-17-17	2-17-17	
m,p-Xylene	170	1.8	EPA 8260C	2-17-17	2-17-17	
o-Xylene	110	0.92	EPA 8260C	2-17-17	2-17-17	
Styrene	ND	0.92	EPA 8260C	2-17-17	2-17-17	
Bromoform	ND	0.92	EPA 8260C	2-17-17	2-17-17	
Isopropylbenzene	1.5	0.92	EPA 8260C	2-17-17	2-17-17	
Bromobenzene	ND	0.92	EPA 8260C	2-17-17	2-17-17	
1,1,2,2-Tetrachloroethane	ND	0.92	EPA 8260C	2-17-17	2-17-17	
1,2,3-Trichloropropane	ND	0.92	EPA 8260C	2-17-17	2-17-17	
n-Propylbenzene	2.2	0.92	EPA 8260C	2-17-17	2-17-17	
2-Chlorotoluene	ND	0.92	EPA 8260C	2-17-17	2-17-17	
4-Chlorotoluene	ND	0.92	EPA 8260C	2-17-17	2-17-17	
1,3,5-Trimethylbenzene	3.6	0.92	EPA 8260C	2-17-17	2-17-17	
tert-Butylbenzene	ND	0.92	EPA 8260C	2-17-17	2-17-17	
1,2,4-Trimethylbenzene	6.6	0.92	EPA 8260C	2-17-17	2-17-17	
sec-Butylbenzene	ND	0.92	EPA 8260C	2-17-17	2-17-17	
1,3-Dichlorobenzene	ND	0.92	EPA 8260C	2-17-17	2-17-17	
p-Isopropyltoluene	ND	0.92	EPA 8260C	2-17-17	2-17-17	
1,4-Dichlorobenzene	ND	0.92	EPA 8260C	2-17-17	2-17-17	
1,2-Dichlorobenzene	ND	0.92	EPA 8260C	2-17-17	2-17-17	
n-Butylbenzene	ND	0.92	EPA 8260C	2-17-17	2-17-17	
1,2-Dibromo-3-chloropropane	ND	4.6	EPA 8260C	2-17-17	2-17-17	
1,2,4-Trichlorobenzene	ND	0.92	EPA 8260C	2-17-17	2-17-17	
Hexachlorobutadiene	ND	4.6	EPA 8260C	2-17-17	2-17-17	
Naphthalene	ND	0.92	EPA 8260C	2-17-17	2-17-17	
1,2,3-Trichlorobenzene	ND	0.92	EPA 8260C	2-17-17	2-17-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*111*	*73-134*				
Toluene-d8	*105*	*81-124*				
4-Bromofluorobenzene	*104*	*80-131*				

Date of Report: February 24, 2017
Samples Submitted: February 14, 2017
Laboratory Reference: 1702-119
Project: 150201

VOLATILES EPA 8260C
Page 1 of 2

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**GW-9-13.5**					
Laboratory ID:	02-119-22					
Dichlorodifluoromethane	ND	0.068	EPA 8260C	2-17-17	2-17-17	
Chloromethane	ND	0.34	EPA 8260C	2-17-17	2-17-17	
Vinyl Chloride	ND	0.068	EPA 8260C	2-17-17	2-17-17	
Bromomethane	ND	0.20	EPA 8260C	2-17-17	2-17-17	
Chloroethane	ND	0.34	EPA 8260C	2-17-17	2-17-17	
Trichlorofluoromethane	ND	0.068	EPA 8260C	2-17-17	2-17-17	
1,1-Dichloroethene	ND	0.068	EPA 8260C	2-17-17	2-17-17	
Acetone	ND	0.68	EPA 8260C	2-17-17	2-17-17	
Iodomethane	ND	0.34	EPA 8260C	2-17-17	2-17-17	
Carbon Disulfide	ND	0.068	EPA 8260C	2-17-17	2-17-17	
Methylene Chloride	ND	0.34	EPA 8260C	2-17-17	2-17-17	
(trans) 1,2-Dichloroethene	ND	0.068	EPA 8260C	2-17-17	2-17-17	
Methyl t-Butyl Ether	ND	0.068	EPA 8260C	2-17-17	2-17-17	
1,1-Dichloroethane	ND	0.068	EPA 8260C	2-17-17	2-17-17	
Vinyl Acetate	ND	0.34	EPA 8260C	2-17-17	2-17-17	
2,2-Dichloropropane	ND	0.068	EPA 8260C	2-17-17	2-17-17	
(cis) 1,2-Dichloroethene	ND	0.068	EPA 8260C	2-17-17	2-17-17	
2-Butanone	ND	0.34	EPA 8260C	2-17-17	2-17-17	
Bromochloromethane	ND	0.068	EPA 8260C	2-17-17	2-17-17	
Chloroform	ND	0.068	EPA 8260C	2-17-17	2-17-17	
1,1,1-Trichloroethane	ND	0.068	EPA 8260C	2-17-17	2-17-17	
Carbon Tetrachloride	ND	0.068	EPA 8260C	2-17-17	2-17-17	
1,1-Dichloropropene	ND	0.068	EPA 8260C	2-17-17	2-17-17	
Benzene	ND	0.068	EPA 8260C	2-17-17	2-17-17	
1,2-Dichloroethane	ND	0.34	EPA 8260C	2-17-17	2-17-17	
Trichloroethene	ND	0.068	EPA 8260C	2-17-17	2-17-17	
1,2-Dichloropropane	ND	0.068	EPA 8260C	2-17-17	2-17-17	
Dibromomethane	ND	0.068	EPA 8260C	2-17-17	2-17-17	
Bromodichloromethane	ND	0.068	EPA 8260C	2-17-17	2-17-17	
2-Chloroethyl Vinyl Ether	ND	0.34	EPA 8260C	2-17-17	2-17-17	
(cis) 1,3-Dichloropropene	ND	0.068	EPA 8260C	2-17-17	2-17-17	
Methyl Isobutyl Ketone	ND	0.34	EPA 8260C	2-17-17	2-17-17	
Toluene	ND	0.34	EPA 8260C	2-17-17	2-17-17	
(trans) 1,3-Dichloropropene	ND	0.068	EPA 8260C	2-17-17	2-17-17	

Date of Report: February 24, 2017
Samples Submitted: February 14, 2017
Laboratory Reference: 1702-119
Project: 150201

VOLATILES EPA 8260C
Page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**GW-9-13.5**					
Laboratory ID:	02-119-22					
1,1,2-Trichloroethane	ND	0.068	EPA 8260C	2-17-17	2-17-17	
Tetrachloroethene	ND	0.068	EPA 8260C	2-17-17	2-17-17	
1,3-Dichloropropane	ND	0.068	EPA 8260C	2-17-17	2-17-17	
2-Hexanone	ND	0.34	EPA 8260C	2-17-17	2-17-17	
Dibromochloromethane	ND	0.068	EPA 8260C	2-17-17	2-17-17	
1,2-Dibromoethane	ND	0.068	EPA 8260C	2-17-17	2-17-17	
Chlorobenzene	ND	0.068	EPA 8260C	2-17-17	2-17-17	
1,1,1,2-Tetrachloroethane	ND	0.068	EPA 8260C	2-17-17	2-17-17	
Ethylbenzene	0.20	0.068	EPA 8260C	2-17-17	2-17-17	
m,p-Xylene	4.5	0.14	EPA 8260C	2-17-17	2-17-17	
o-Xylene	0.089	0.068	EPA 8260C	2-17-17	2-17-17	
Styrene	ND	0.068	EPA 8260C	2-17-17	2-17-17	
Bromoform	ND	0.068	EPA 8260C	2-17-17	2-17-17	
Isopropylbenzene	0.38	0.068	EPA 8260C	2-17-17	2-17-17	
Bromobenzene	ND	0.068	EPA 8260C	2-17-17	2-17-17	
1,1,2,2-Tetrachloroethane	ND	0.068	EPA 8260C	2-17-17	2-17-17	
1,2,3-Trichloropropane	ND	0.068	EPA 8260C	2-17-17	2-17-17	
n-Propylbenzene	0.53	0.068	EPA 8260C	2-17-17	2-17-17	
2-Chlorotoluene	ND	0.068	EPA 8260C	2-17-17	2-17-17	
4-Chlorotoluene	ND	0.068	EPA 8260C	2-17-17	2-17-17	
1,3,5-Trimethylbenzene	ND	0.068	EPA 8260C	2-17-17	2-17-17	
tert-Butylbenzene	ND	0.068	EPA 8260C	2-17-17	2-17-17	
1,2,4-Trimethylbenzene	0.66	0.068	EPA 8260C	2-17-17	2-17-17	
sec-Butylbenzene	ND	0.068	EPA 8260C	2-17-17	2-17-17	
1,3-Dichlorobenzene	ND	0.068	EPA 8260C	2-17-17	2-17-17	
p-Isopropyltoluene	ND	0.068	EPA 8260C	2-17-17	2-17-17	
1,4-Dichlorobenzene	ND	0.068	EPA 8260C	2-17-17	2-17-17	
1,2-Dichlorobenzene	ND	0.068	EPA 8260C	2-17-17	2-17-17	
n-Butylbenzene	0.071	0.068	EPA 8260C	2-17-17	2-17-17	
1,2-Dibromo-3-chloropropane	ND	0.34	EPA 8260C	2-17-17	2-17-17	
1,2,4-Trichlorobenzene	ND	0.068	EPA 8260C	2-17-17	2-17-17	
Hexachlorobutadiene	ND	0.34	EPA 8260C	2-17-17	2-17-17	
Naphthalene	ND	0.068	EPA 8260C	2-17-17	2-17-17	
1,2,3-Trichlorobenzene	ND	0.068	EPA 8260C	2-17-17	2-17-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*106*	*73-134*				
Toluene-d8	*111*	*81-124*				
4-Bromofluorobenzene	*105*	*80-131*				

Date of Report: February 24, 2017
Samples Submitted: February 14, 2017
Laboratory Reference: 1702-119
Project: 150201

VOLATILES EPA 8260C
Page 1 of 2

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AB-2-8**					
Laboratory ID:	02-119-29					
Dichlorodifluoromethane	ND	1.4	EPA 8260C	2-17-17	2-17-17	
Chloromethane	ND	7.0	EPA 8260C	2-17-17	2-17-17	
Vinyl Chloride	ND	1.4	EPA 8260C	2-17-17	2-17-17	
Bromomethane	ND	4.1	EPA 8260C	2-17-17	2-17-17	
Chloroethane	ND	7.0	EPA 8260C	2-17-17	2-17-17	
Trichlorofluoromethane	ND	1.4	EPA 8260C	2-17-17	2-17-17	
1,1-Dichloroethene	ND	1.4	EPA 8260C	2-17-17	2-17-17	
Acetone	ND	14	EPA 8260C	2-17-17	2-17-17	
Iodomethane	ND	7.0	EPA 8260C	2-17-17	2-17-17	
Carbon Disulfide	ND	1.4	EPA 8260C	2-17-17	2-17-17	
Methylene Chloride	ND	7.0	EPA 8260C	2-17-17	2-17-17	
(trans) 1,2-Dichloroethene	ND	1.4	EPA 8260C	2-17-17	2-17-17	
Methyl t-Butyl Ether	ND	1.4	EPA 8260C	2-17-17	2-17-17	
1,1-Dichloroethane	ND	1.4	EPA 8260C	2-17-17	2-17-17	
Vinyl Acetate	ND	7.0	EPA 8260C	2-17-17	2-17-17	
2,2-Dichloropropane	ND	1.4	EPA 8260C	2-17-17	2-17-17	
(cis) 1,2-Dichloroethene	ND	1.4	EPA 8260C	2-17-17	2-17-17	
2-Butanone	ND	7.0	EPA 8260C	2-17-17	2-17-17	
Bromochloromethane	ND	1.4	EPA 8260C	2-17-17	2-17-17	
Chloroform	ND	1.4	EPA 8260C	2-17-17	2-17-17	
1,1,1-Trichloroethane	ND	1.4	EPA 8260C	2-17-17	2-17-17	
Carbon Tetrachloride	ND	1.4	EPA 8260C	2-17-17	2-17-17	
1,1-Dichloropropene	ND	1.4	EPA 8260C	2-17-17	2-17-17	
Benzene	ND	1.4	EPA 8260C	2-17-17	2-17-17	
1,2-Dichloroethane	ND	7.0	EPA 8260C	2-17-17	2-17-17	
Trichloroethene	ND	1.4	EPA 8260C	2-17-17	2-17-17	
1,2-Dichloropropane	ND	1.4	EPA 8260C	2-17-17	2-17-17	
Dibromomethane	ND	1.4	EPA 8260C	2-17-17	2-17-17	
Bromodichloromethane	ND	1.4	EPA 8260C	2-17-17	2-17-17	
2-Chloroethyl Vinyl Ether	ND	7.0	EPA 8260C	2-17-17	2-17-17	
(cis) 1,3-Dichloropropene	ND	1.4	EPA 8260C	2-17-17	2-17-17	
Methyl Isobutyl Ketone	ND	7.0	EPA 8260C	2-17-17	2-17-17	
Toluene	160	7.0	EPA 8260C	2-17-17	2-17-17	
(trans) 1,3-Dichloropropene	ND	1.4	EPA 8260C	2-17-17	2-17-17	

Date of Report: February 24, 2017
Samples Submitted: February 14, 2017
Laboratory Reference: 1702-119
Project: 150201

VOLATILES EPA 8260C
Page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AB-2-8**					
Laboratory ID:	02-119-29					
1,1,2-Trichloroethane	ND	1.4	EPA 8260C	2-17-17	2-17-17	
Tetrachloroethene	ND	1.4	EPA 8260C	2-17-17	2-17-17	
1,3-Dichloropropane	ND	1.4	EPA 8260C	2-17-17	2-17-17	
2-Hexanone	ND	7.0	EPA 8260C	2-17-17	2-17-17	
Dibromochloromethane	ND	1.4	EPA 8260C	2-17-17	2-17-17	
1,2-Dibromoethane	ND	1.4	EPA 8260C	2-17-17	2-17-17	
Chlorobenzene	ND	1.4	EPA 8260C	2-17-17	2-17-17	
1,1,1,2-Tetrachloroethane	ND	1.4	EPA 8260C	2-17-17	2-17-17	
Ethylbenzene	200	1.4	EPA 8260C	2-17-17	2-17-17	
m,p-Xylene	520	2.8	EPA 8260C	2-17-17	2-17-17	
o-Xylene	110	1.4	EPA 8260C	2-17-17	2-17-17	
Styrene	ND	1.4	EPA 8260C	2-17-17	2-17-17	
Bromoform	ND	1.4	EPA 8260C	2-17-17	2-17-17	
Isopropylbenzene	6.7	1.4	EPA 8260C	2-17-17	2-17-17	
Bromobenzene	ND	1.4	EPA 8260C	2-17-17	2-17-17	
1,1,2,2-Tetrachloroethane	ND	1.4	EPA 8260C	2-17-17	2-17-17	
1,2,3-Trichloropropane	ND	1.4	EPA 8260C	2-17-17	2-17-17	
n-Propylbenzene	14	1.4	EPA 8260C	2-17-17	2-17-17	
2-Chlorotoluene	ND	1.4	EPA 8260C	2-17-17	2-17-17	
4-Chlorotoluene	ND	1.4	EPA 8260C	2-17-17	2-17-17	
1,3,5-Trimethylbenzene	21	1.4	EPA 8260C	2-17-17	2-17-17	
tert-Butylbenzene	ND	1.4	EPA 8260C	2-17-17	2-17-17	
1,2,4-Trimethylbenzene	37	1.4	EPA 8260C	2-17-17	2-17-17	
sec-Butylbenzene	ND	1.4	EPA 8260C	2-17-17	2-17-17	
1,3-Dichlorobenzene	ND	1.4	EPA 8260C	2-17-17	2-17-17	
p-Isopropyltoluene	ND	1.4	EPA 8260C	2-17-17	2-17-17	
1,4-Dichlorobenzene	ND	1.4	EPA 8260C	2-17-17	2-17-17	
1,2-Dichlorobenzene	ND	1.4	EPA 8260C	2-17-17	2-17-17	
n-Butylbenzene	ND	1.4	EPA 8260C	2-17-17	2-17-17	
1,2-Dibromo-3-chloropropane	ND	7.0	EPA 8260C	2-17-17	2-17-17	
1,2,4-Trichlorobenzene	ND	1.4	EPA 8260C	2-17-17	2-17-17	
Hexachlorobutadiene	ND	7.0	EPA 8260C	2-17-17	2-17-17	
Naphthalene	ND	1.4	EPA 8260C	2-17-17	2-17-17	
1,2,3-Trichlorobenzene	ND	1.4	EPA 8260C	2-17-17	2-17-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*109*	*73-134*				
Toluene-d8	*117*	*81-124*				
4-Bromofluorobenzene	*107*	*80-131*				

Date of Report: February 24, 2017
Samples Submitted: February 14, 2017
Laboratory Reference: 1702-119
Project: 150201

VOLATILES EPA 8260C
METHOD BLANK QUALITY CONTROL
Page 1 of 2

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0217S1					
Dichlorodifluoromethane	ND	0.0010	EPA 8260C	2-17-17	2-17-17	
Chloromethane	ND	0.0050	EPA 8260C	2-17-17	2-17-17	
Vinyl Chloride	ND	0.0010	EPA 8260C	2-17-17	2-17-17	
Bromomethane	ND	0.0029	EPA 8260C	2-17-17	2-17-17	
Chloroethane	ND	0.0050	EPA 8260C	2-17-17	2-17-17	
Trichlorofluoromethane	ND	0.0010	EPA 8260C	2-17-17	2-17-17	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	2-17-17	2-17-17	
Acetone	ND	0.010	EPA 8260C	2-17-17	2-17-17	
Iodomethane	ND	0.0050	EPA 8260C	2-17-17	2-17-17	
Carbon Disulfide	ND	0.0010	EPA 8260C	2-17-17	2-17-17	
Methylene Chloride	ND	0.0050	EPA 8260C	2-17-17	2-17-17	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	2-17-17	2-17-17	
Methyl t-Butyl Ether	ND	0.0010	EPA 8260C	2-17-17	2-17-17	
1,1-Dichloroethane	ND	0.0010	EPA 8260C	2-17-17	2-17-17	
Vinyl Acetate	ND	0.0050	EPA 8260C	2-17-17	2-17-17	
2,2-Dichloropropane	ND	0.0010	EPA 8260C	2-17-17	2-17-17	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	2-17-17	2-17-17	
2-Butanone	ND	0.0050	EPA 8260C	2-17-17	2-17-17	
Bromochloromethane	ND	0.0010	EPA 8260C	2-17-17	2-17-17	
Chloroform	ND	0.0010	EPA 8260C	2-17-17	2-17-17	
1,1,1-Trichloroethane	ND	0.0010	EPA 8260C	2-17-17	2-17-17	
Carbon Tetrachloride	ND	0.0010	EPA 8260C	2-17-17	2-17-17	
1,1-Dichloropropene	ND	0.0010	EPA 8260C	2-17-17	2-17-17	
Benzene	ND	0.0010	EPA 8260C	2-17-17	2-17-17	
1,2-Dichloroethane	ND	0.0050	EPA 8260C	2-17-17	2-17-17	
Trichloroethene	ND	0.0010	EPA 8260C	2-17-17	2-17-17	
1,2-Dichloropropane	ND	0.0010	EPA 8260C	2-17-17	2-17-17	
Dibromomethane	ND	0.0010	EPA 8260C	2-17-17	2-17-17	
Bromodichloromethane	ND	0.0010	EPA 8260C	2-17-17	2-17-17	
2-Chloroethyl Vinyl Ether	ND	0.0050	EPA 8260C	2-17-17	2-17-17	
(cis) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	2-17-17	2-17-17	
Methyl Isobutyl Ketone	ND	0.0050	EPA 8260C	2-17-17	2-17-17	
Toluene	ND	0.0050	EPA 8260C	2-17-17	2-17-17	
(trans) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	2-17-17	2-17-17	

Date of Report: February 24, 2017
Samples Submitted: February 14, 2017
Laboratory Reference: 1702-119
Project: 150201

VOLATILES EPA 8260C
METHOD BLANK QUALITY CONTROL
Page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0217S1					
1,1,2-Trichloroethane	ND	0.0010	EPA 8260C	2-17-17	2-17-17	
Tetrachloroethene	ND	0.0010	EPA 8260C	2-17-17	2-17-17	
1,3-Dichloropropane	ND	0.0010	EPA 8260C	2-17-17	2-17-17	
2-Hexanone	ND	0.0050	EPA 8260C	2-17-17	2-17-17	
Dibromochloromethane	ND	0.0010	EPA 8260C	2-17-17	2-17-17	
1,2-Dibromoethane	ND	0.0010	EPA 8260C	2-17-17	2-17-17	
Chlorobenzene	ND	0.0010	EPA 8260C	2-17-17	2-17-17	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260C	2-17-17	2-17-17	
Ethylbenzene	ND	0.0010	EPA 8260C	2-17-17	2-17-17	
m,p-Xylene	ND	0.0020	EPA 8260C	2-17-17	2-17-17	
o-Xylene	ND	0.0010	EPA 8260C	2-17-17	2-17-17	
Styrene	ND	0.0010	EPA 8260C	2-17-17	2-17-17	
Bromoform	ND	0.0010	EPA 8260C	2-17-17	2-17-17	
Isopropylbenzene	ND	0.0010	EPA 8260C	2-17-17	2-17-17	
Bromobenzene	ND	0.0010	EPA 8260C	2-17-17	2-17-17	
1,1,2,2-Tetrachloroethane	ND	0.0010	EPA 8260C	2-17-17	2-17-17	
1,2,3-Trichloropropane	ND	0.0010	EPA 8260C	2-17-17	2-17-17	
n-Propylbenzene	ND	0.0010	EPA 8260C	2-17-17	2-17-17	
2-Chlorotoluene	ND	0.0010	EPA 8260C	2-17-17	2-17-17	
4-Chlorotoluene	ND	0.0010	EPA 8260C	2-17-17	2-17-17	
1,3,5-Trimethylbenzene	ND	0.0010	EPA 8260C	2-17-17	2-17-17	
tert-Butylbenzene	ND	0.0010	EPA 8260C	2-17-17	2-17-17	
1,2,4-Trimethylbenzene	ND	0.0010	EPA 8260C	2-17-17	2-17-17	
sec-Butylbenzene	ND	0.0010	EPA 8260C	2-17-17	2-17-17	
1,3-Dichlorobenzene	ND	0.0010	EPA 8260C	2-17-17	2-17-17	
p-Isopropyltoluene	ND	0.0010	EPA 8260C	2-17-17	2-17-17	
1,4-Dichlorobenzene	ND	0.0010	EPA 8260C	2-17-17	2-17-17	
1,2-Dichlorobenzene	ND	0.0010	EPA 8260C	2-17-17	2-17-17	
n-Butylbenzene	ND	0.0010	EPA 8260C	2-17-17	2-17-17	
1,2-Dibromo-3-chloropropane	ND	0.0050	EPA 8260C	2-17-17	2-17-17	
1,2,4-Trichlorobenzene	ND	0.0010	EPA 8260C	2-17-17	2-17-17	
Hexachlorobutadiene	ND	0.0050	EPA 8260C	2-17-17	2-17-17	
Naphthalene	ND	0.0010	EPA 8260C	2-17-17	2-17-17	
1,2,3-Trichlorobenzene	ND	0.0010	EPA 8260C	2-17-17	2-17-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*127*	*73-134*				
Toluene-d8	*114*	*81-124*				
4-Bromofluorobenzene	*116*	*80-131*				

Date of Report: February 24, 2017
Samples Submitted: February 14, 2017
Laboratory Reference: 1702-119
Project: 150201

VOLATILES EPA 8260C
METHOD BLANK QUALITY CONTROL
Page 1 of 2

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0221S1					
Dichlorodifluoromethane	ND	0.0010	EPA 8260C	2-21-17	2-21-17	
Chloromethane	ND	0.0050	EPA 8260C	2-21-17	2-21-17	
Vinyl Chloride	ND	0.0010	EPA 8260C	2-21-17	2-21-17	
Bromomethane	ND	0.0010	EPA 8260C	2-21-17	2-21-17	
Chloroethane	ND	0.0050	EPA 8260C	2-21-17	2-21-17	
Trichlorofluoromethane	ND	0.0010	EPA 8260C	2-21-17	2-21-17	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	2-21-17	2-21-17	
Acetone	ND	0.010	EPA 8260C	2-21-17	2-21-17	
Iodomethane	ND	0.0050	EPA 8260C	2-21-17	2-21-17	
Carbon Disulfide	ND	0.0010	EPA 8260C	2-21-17	2-21-17	
Methylene Chloride	ND	0.0050	EPA 8260C	2-21-17	2-21-17	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	2-21-17	2-21-17	
Methyl t-Butyl Ether	ND	0.0010	EPA 8260C	2-21-17	2-21-17	
1,1-Dichloroethane	ND	0.0010	EPA 8260C	2-21-17	2-21-17	
Vinyl Acetate	ND	0.0050	EPA 8260C	2-21-17	2-21-17	
2,2-Dichloropropane	ND	0.0010	EPA 8260C	2-21-17	2-21-17	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	2-21-17	2-21-17	
2-Butanone	ND	0.0050	EPA 8260C	2-21-17	2-21-17	
Bromochloromethane	ND	0.0010	EPA 8260C	2-21-17	2-21-17	
Chloroform	ND	0.0010	EPA 8260C	2-21-17	2-21-17	
1,1,1-Trichloroethane	ND	0.0010	EPA 8260C	2-21-17	2-21-17	
Carbon Tetrachloride	ND	0.0010	EPA 8260C	2-21-17	2-21-17	
1,1-Dichloropropene	ND	0.0010	EPA 8260C	2-21-17	2-21-17	
Benzene	ND	0.0010	EPA 8260C	2-21-17	2-21-17	
1,2-Dichloroethane	ND	0.0050	EPA 8260C	2-21-17	2-21-17	
Trichloroethene	ND	0.0010	EPA 8260C	2-21-17	2-21-17	
1,2-Dichloropropane	ND	0.0010	EPA 8260C	2-21-17	2-21-17	
Dibromomethane	ND	0.0010	EPA 8260C	2-21-17	2-21-17	
Bromodichloromethane	ND	0.0010	EPA 8260C	2-21-17	2-21-17	
2-Chloroethyl Vinyl Ether	ND	0.0050	EPA 8260C	2-21-17	2-21-17	
(cis) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	2-21-17	2-21-17	
Methyl Isobutyl Ketone	ND	0.0050	EPA 8260C	2-21-17	2-21-17	
Toluene	ND	0.0050	EPA 8260C	2-21-17	2-21-17	
(trans) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	2-21-17	2-21-17	

Date of Report: February 24, 2017
Samples Submitted: February 14, 2017
Laboratory Reference: 1702-119
Project: 150201

VOLATILES EPA 8260C
METHOD BLANK QUALITY CONTROL
Page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0221S1					
1,1,2-Trichloroethane	ND	0.0010	EPA 8260C	2-21-17	2-21-17	
Tetrachloroethene	ND	0.0010	EPA 8260C	2-21-17	2-21-17	
1,3-Dichloropropane	ND	0.0010	EPA 8260C	2-21-17	2-21-17	
2-Hexanone	ND	0.0050	EPA 8260C	2-21-17	2-21-17	
Dibromochloromethane	ND	0.0010	EPA 8260C	2-21-17	2-21-17	
1,2-Dibromoethane	ND	0.0010	EPA 8260C	2-21-17	2-21-17	
Chlorobenzene	ND	0.0010	EPA 8260C	2-21-17	2-21-17	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260C	2-21-17	2-21-17	
Ethylbenzene	ND	0.0010	EPA 8260C	2-21-17	2-21-17	
m,p-Xylene	ND	0.0020	EPA 8260C	2-21-17	2-21-17	
o-Xylene	ND	0.0010	EPA 8260C	2-21-17	2-21-17	
Styrene	ND	0.0010	EPA 8260C	2-21-17	2-21-17	
Bromoform	ND	0.0010	EPA 8260C	2-21-17	2-21-17	
Isopropylbenzene	ND	0.0010	EPA 8260C	2-21-17	2-21-17	
Bromobenzene	ND	0.0010	EPA 8260C	2-21-17	2-21-17	
1,1,2,2-Tetrachloroethane	ND	0.0010	EPA 8260C	2-21-17	2-21-17	
1,2,3-Trichloropropane	ND	0.0010	EPA 8260C	2-21-17	2-21-17	
n-Propylbenzene	ND	0.0010	EPA 8260C	2-21-17	2-21-17	
2-Chlorotoluene	ND	0.0010	EPA 8260C	2-21-17	2-21-17	
4-Chlorotoluene	ND	0.0010	EPA 8260C	2-21-17	2-21-17	
1,3,5-Trimethylbenzene	ND	0.0010	EPA 8260C	2-21-17	2-21-17	
tert-Butylbenzene	ND	0.0010	EPA 8260C	2-21-17	2-21-17	
1,2,4-Trimethylbenzene	ND	0.0010	EPA 8260C	2-21-17	2-21-17	
sec-Butylbenzene	ND	0.0010	EPA 8260C	2-21-17	2-21-17	
1,3-Dichlorobenzene	ND	0.0010	EPA 8260C	2-21-17	2-21-17	
p-Isopropyltoluene	ND	0.0010	EPA 8260C	2-21-17	2-21-17	
1,4-Dichlorobenzene	ND	0.0010	EPA 8260C	2-21-17	2-21-17	
1,2-Dichlorobenzene	ND	0.0010	EPA 8260C	2-21-17	2-21-17	
n-Butylbenzene	ND	0.0010	EPA 8260C	2-21-17	2-21-17	
1,2-Dibromo-3-chloropropane	ND	0.0050	EPA 8260C	2-21-17	2-21-17	
1,2,4-Trichlorobenzene	ND	0.0010	EPA 8260C	2-21-17	2-21-17	
Hexachlorobutadiene	ND	0.0050	EPA 8260C	2-21-17	2-21-17	
Naphthalene	ND	0.0010	EPA 8260C	2-21-17	2-21-17	
1,2,3-Trichlorobenzene	ND	0.0010	EPA 8260C	2-21-17	2-21-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*123*	*73-134*				
Toluene-d8	*112*	*81-124*				
4-Bromofluorobenzene	*115*	*80-131*				

Date of Report: February 24, 2017
Samples Submitted: February 14, 2017
Laboratory Reference: 1702-119
Project: 150201

VOLATILES EPA 8260C
SB/SBD QUALITY CONTROL

Matrix: Soil
Units: mg/kg

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0217S1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**0.0584**	**0.0631**	0.0500	0.0500	117	126	66-127	8	15	
Benzene	**0.0533**	**0.0556**	0.0500	0.0500	107	111	76-122	4	15	
Trichloroethene	**0.0515**	**0.0527**	0.0500	0.0500	103	105	78-120	2	15	
Toluene	**0.0518**	**0.0525**	0.0500	0.0500	104	105	83-120	1	15	
Chlorobenzene	**0.0501**	**0.0508**	0.0500	0.0500	100	102	81-120	1	15	
Surrogate:										
Dibromofluoromethane					*114*	*123*	*73-134*			
Toluene-d8					*103*	*107*	*81-124*			
4-Bromofluorobenzene					*101*	*108*	*80-131*			

Date of Report: February 24, 2017
Samples Submitted: February 14, 2017
Laboratory Reference: 1702-119
Project: 150201

VOLATILES EPA 8260C
SB/SBD QUALITY CONTROL

Matrix: Soil
Units: mg/kg

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0221S1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**0.0574**	**0.0568**	0.0500	0.0500	115	114	66-127	1	15	
Benzene	**0.0521**	**0.0513**	0.0500	0.0500	104	103	76-122	2	15	
Trichloroethene	**0.0489**	**0.0505**	0.0500	0.0500	98	101	78-120	3	15	
Toluene	**0.0490**	**0.0512**	0.0500	0.0500	98	102	83-120	4	15	
Chlorobenzene	**0.0480**	**0.0486**	0.0500	0.0500	96	97	81-120	1	15	
Surrogate:										
Dibromofluoromethane					*114*	*110*	*73-134*			
Toluene-d8					*100*	*101*	*81-124*			
4-Bromofluorobenzene					*99*	*100*	*80-131*			

Date of Report: February 24, 2017
Samples Submitted: February 14, 2017
Laboratory Reference: 1702-119
Project: 150201

% MOISTURE

Date Analyzed: 2-17-17

Client ID	Lab ID	% Moisture
GW-7-9	02-119-02	26
GW-7-13	02-119-03	27
GW-7-17	02-119-04	32
AB-1-8.5	02-119-09	24
AB-1-13	02-119-10	24
AB-1-18	02-119-11	33
GW-8-9	02-119-13	27
GW-8-13	02-119-14	30
GW-8-17	02-119-15	26
GW-9-10	02-119-21	23
GW-9-13.5	02-119-22	24
AB-2-8	02-119-29	21

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

Page 1 of 4

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: Aspect
Project Number: 150201
Project Name: Graco West
Project Manager: Carla Bock
Sampled by: Matthew M. Beem

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 02-119

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A					% Moisture
1	GW-7-5	2/13/17	0840	S, T	4																						
2	GW-7-9		0845							X																	X
3	GW-7-13		0850							X																	X
4	GW-7-17		0855							X																	X
5	GW-7-21		0900																								
6	GW-7-25		0905																								
7	GW-7-29		0900																								
8	AB-1-5		1045																								
9	AB-1-8.5		1050							X																	X
10	AB-1-13		1055							X																	X

	Signature	Company	Date	Time
Relinquished	Matthew M Beem	Aspect	2/14/17	1100
Received	Diane Njaleti	SPEEDY	2-14-17	11AM
Relinquished	Diane Njaleti	SPEEDY	2-14-17	11:55A
Received			2/14/17	1155
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
~~will call with analyses~~ DB
☒ Added 2/16/17. DB (STA)

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

Chain of Custody

Page 2 of 4

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: Aspect
Project Number: 150201
Project Name: Gaco West
Project Manager: Carla Brock
Sampled by: Matthew M Senn

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 02-119

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A					% Moisture
11	AB-1-18	2/13/17	1100	Soil	4					X																	X
12	GW-8-5		1220																								
13	GW-8-9		1225							X																	X
14	GW-8-13		1230							X																	X
15	GW-8-17		1235							X																	X
16	GW-8-21		1240																								
17	GW-8-25		1245																								
18	GW-8-29		1250																								
19	GW-8-32		1300																								
20	GW-9-5	↓	1425	↓	↓																						

	Signature	Company	Date	Time
Relinquished	Matthew M Senn	Aspect	2/14/17	1100
Received	Diane Hjalmarson	SPEEDY	2-14-17	11 AM
Relinquished	Diane Hjalmarson	SPEEDY	2-14-17	11:55A
Received		COC	2/14/17	1155
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
~~Will call w/ analyses~~
DB

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

Chain of Custody

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: Aspect
Project Number: 150201
Project Name: Gaco West
Project Manager: Carla Bock
Sampled by: Martha M. Sewis

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 02-119

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers
21	GW-9-10	2/13/17	1430	Soil	4
22	GW-9-13.5		1435		
23	GW-9-18		1440		
24	GW-9-22		1445		
25	GW-9-26		1450		
26	GW-9-29		1455		
27	GW-9-32		1500		
28	AB-2-5		1640		
29	AB-2-8		1645		
30	AB-2-13		1650		

Lab ID	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	% Moisture
21					X													X
22					X													X
23																		
24																		
25																		
26																		
27																		
28																		
29					X													X
30																		

	Signature	Company	Date	Time
Relinquished	Martha M Sewis	Aspect	2/14/17	1100
Received	Diane Wyatt	SPEEDY	2-14-17	11 AM
Relinquished	Diane Wyatt	SPEEDY	2-14-17	11:55A
Received		OSE	2/14/17	1155
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

Chain of Custody

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: Aspect
Project Number: 150201
Project Name: Gaco West
Project Manager: Carla Bock
Sampled by: Matt Mseni

Turnaround Request (in working days)

(Check One)

☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☐ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 02-119

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers
31	AB-2-17	2/15/17	1655	Soil	4

NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	% Moisture

	Signature	Company	Date	Time
Relinquished		Aspect	2/16/17	1100
Received		SPEEDY	2-14-17	11 AM
Relinquished		SPEEDY	2-14-17	11:55A
Received		OSE	2/14/17	1155
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

February 24, 2017

Carla Brock
Aspect Consulting
401 2nd Avenue South, Suite 201
Seattle, WA 98104

Re: Analytical Data for Project 150201
Laboratory Reference No. 1702-205

Dear Carla:

Enclosed are the analytical results and associated quality control data for samples submitted on February 22, 2017.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: February 24, 2017
Samples Submitted: February 22, 2017
Laboratory Reference: 1702-205
Project: 150201

Case Narrative

Samples were collected on February 21, 2017 and received by the laboratory on February 22, 2017. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Date of Report: February 24, 2017
Samples Submitted: February 22, 2017
Laboratory Reference: 1702-205
Project: 150201

VOLATILES EPA 8260C
page 1 of 2

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**HC-1D-022117**					
Laboratory ID:	02-205-01					
Dichlorodifluoromethane	ND	0.36	EPA 8260C	2-23-17	2-23-17	
Chloromethane	ND	1.3	EPA 8260C	2-23-17	2-23-17	
Vinyl Chloride	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Bromomethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Chloroethane	ND	1.0	EPA 8260C	2-23-17	2-23-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Acetone	ND	5.0	EPA 8260C	2-23-17	2-23-17	
Iodomethane	ND	1.0	EPA 8260C	2-23-17	2-23-17	
Carbon Disulfide	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Methylene Chloride	ND	1.0	EPA 8260C	2-23-17	2-23-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Vinyl Acetate	ND	1.0	EPA 8260C	2-23-17	2-23-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
2-Butanone	ND	5.0	EPA 8260C	2-23-17	2-23-17	
Bromochloromethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Chloroform	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Benzene	0.38	0.20	EPA 8260C	2-23-17	2-23-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Trichloroethene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Dibromomethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Bromodichloromethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
2-Chloroethyl Vinyl Ether	ND	2.8	EPA 8260C	2-23-17	2-23-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	2-23-17	2-23-17	
Toluene	ND	1.0	EPA 8260C	2-23-17	2-23-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	2-23-17	2-23-17	

Date of Report: February 24, 2017
Samples Submitted: February 22, 2017
Laboratory Reference: 1702-205
Project: 150201

VOLATILES EPA 8260C
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**HC-1D-022117**					
Laboratory ID:	02-205-01					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Tetrachloroethene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
2-Hexanone	ND	2.0	EPA 8260C	2-23-17	2-23-17	
Dibromochloromethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Chlorobenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Ethylbenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
m,p-Xylene	ND	0.40	EPA 8260C	2-23-17	2-23-17	
o-Xylene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Styrene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Bromoform	ND	1.0	EPA 8260C	2-23-17	2-23-17	
Isopropylbenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Bromobenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
n-Propylbenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
tert-Butylbenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
sec-Butylbenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
p-Isopropyltoluene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
n-Butylbenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	2-23-17	2-23-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Naphthalene	ND	1.0	EPA 8260C	2-23-17	2-23-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*107*	*77-129*				
Toluene-d8	*104*	*80-127*				
4-Bromofluorobenzene	*94*	*80-125*				

Date of Report: February 24, 2017
Samples Submitted: February 22, 2017
Laboratory Reference: 1702-205
Project: 150201

VOLATILES EPA 8260C
page 1 of 2

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**HC-2D-022117**					
Laboratory ID:	02-205-02					
Dichlorodifluoromethane	ND	3.6	EPA 8260C	2-23-17	2-23-17	
Chloromethane	ND	13	EPA 8260C	2-23-17	2-23-17	
Vinyl Chloride	ND	2.0	EPA 8260C	2-23-17	2-23-17	
Bromomethane	ND	2.0	EPA 8260C	2-23-17	2-23-17	
Chloroethane	ND	10	EPA 8260C	2-23-17	2-23-17	
Trichlorofluoromethane	ND	2.0	EPA 8260C	2-23-17	2-23-17	
1,1-Dichloroethene	ND	2.0	EPA 8260C	2-23-17	2-23-17	
Acetone	ND	50	EPA 8260C	2-23-17	2-23-17	
Iodomethane	ND	10	EPA 8260C	2-23-17	2-23-17	
Carbon Disulfide	ND	2.0	EPA 8260C	2-23-17	2-23-17	
Methylene Chloride	ND	10	EPA 8260C	2-23-17	2-23-17	
(trans) 1,2-Dichloroethene	ND	2.0	EPA 8260C	2-23-17	2-23-17	
Methyl t-Butyl Ether	ND	2.0	EPA 8260C	2-23-17	2-23-17	
1,1-Dichloroethane	ND	2.0	EPA 8260C	2-23-17	2-23-17	
Vinyl Acetate	ND	10	EPA 8260C	2-23-17	2-23-17	
2,2-Dichloropropane	ND	2.0	EPA 8260C	2-23-17	2-23-17	
(cis) 1,2-Dichloroethene	ND	2.0	EPA 8260C	2-23-17	2-23-17	
2-Butanone	ND	50	EPA 8260C	2-23-17	2-23-17	
Bromochloromethane	ND	2.0	EPA 8260C	2-23-17	2-23-17	
Chloroform	ND	2.0	EPA 8260C	2-23-17	2-23-17	
1,1,1-Trichloroethane	ND	2.0	EPA 8260C	2-23-17	2-23-17	
Carbon Tetrachloride	ND	2.0	EPA 8260C	2-23-17	2-23-17	
1,1-Dichloropropene	ND	2.0	EPA 8260C	2-23-17	2-23-17	
Benzene	ND	2.0	EPA 8260C	2-23-17	2-23-17	
1,2-Dichloroethane	ND	2.0	EPA 8260C	2-23-17	2-23-17	
Trichloroethene	ND	2.0	EPA 8260C	2-23-17	2-23-17	
1,2-Dichloropropane	ND	2.0	EPA 8260C	2-23-17	2-23-17	
Dibromomethane	ND	2.0	EPA 8260C	2-23-17	2-23-17	
Bromodichloromethane	ND	2.0	EPA 8260C	2-23-17	2-23-17	
2-Chloroethyl Vinyl Ether	ND	28	EPA 8260C	2-23-17	2-23-17	
(cis) 1,3-Dichloropropene	ND	2.0	EPA 8260C	2-23-17	2-23-17	
Methyl Isobutyl Ketone	ND	20	EPA 8260C	2-23-17	2-23-17	
Toluene	ND	10	EPA 8260C	2-23-17	2-23-17	
(trans) 1,3-Dichloropropene	ND	2.0	EPA 8260C	2-23-17	2-23-17	

Date of Report: February 24, 2017
Samples Submitted: February 22, 2017
Laboratory Reference: 1702-205
Project: 150201

VOLATILES EPA 8260C
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**HC-2D-022117**					
Laboratory ID:	02-205-02					
1,1,2-Trichloroethane	ND	2.0	EPA 8260C	2-23-17	2-23-17	
Tetrachloroethene	ND	2.0	EPA 8260C	2-23-17	2-23-17	
1,3-Dichloropropane	ND	2.0	EPA 8260C	2-23-17	2-23-17	
2-Hexanone	ND	20	EPA 8260C	2-23-17	2-23-17	
Dibromochloromethane	ND	2.0	EPA 8260C	2-23-17	2-23-17	
1,2-Dibromoethane	ND	2.0	EPA 8260C	2-23-17	2-23-17	
Chlorobenzene	ND	2.0	EPA 8260C	2-23-17	2-23-17	
1,1,1,2-Tetrachloroethane	ND	2.0	EPA 8260C	2-23-17	2-23-17	
Ethylbenzene	9.1	2.0	EPA 8260C	2-23-17	2-23-17	
m,p-Xylene	510	4.0	EPA 8260C	2-23-17	2-23-17	
o-Xylene	24	2.0	EPA 8260C	2-23-17	2-23-17	
Styrene	ND	2.0	EPA 8260C	2-23-17	2-23-17	
Bromoform	ND	10	EPA 8260C	2-23-17	2-23-17	
Isopropylbenzene	14	2.0	EPA 8260C	2-23-17	2-23-17	
Bromobenzene	ND	2.0	EPA 8260C	2-23-17	2-23-17	
1,1,2,2-Tetrachloroethane	ND	2.0	EPA 8260C	2-23-17	2-23-17	
1,2,3-Trichloropropane	ND	2.0	EPA 8260C	2-23-17	2-23-17	
n-Propylbenzene	2.7	2.0	EPA 8260C	2-23-17	2-23-17	
2-Chlorotoluene	ND	2.0	EPA 8260C	2-23-17	2-23-17	
4-Chlorotoluene	ND	2.0	EPA 8260C	2-23-17	2-23-17	
1,3,5-Trimethylbenzene	ND	2.0	EPA 8260C	2-23-17	2-23-17	
tert-Butylbenzene	ND	2.0	EPA 8260C	2-23-17	2-23-17	
1,2,4-Trimethylbenzene	3.6	2.0	EPA 8260C	2-23-17	2-23-17	
sec-Butylbenzene	ND	2.0	EPA 8260C	2-23-17	2-23-17	
1,3-Dichlorobenzene	ND	2.0	EPA 8260C	2-23-17	2-23-17	
p-Isopropyltoluene	ND	2.0	EPA 8260C	2-23-17	2-23-17	
1,4-Dichlorobenzene	ND	2.0	EPA 8260C	2-23-17	2-23-17	
1,2-Dichlorobenzene	ND	2.0	EPA 8260C	2-23-17	2-23-17	
n-Butylbenzene	ND	2.0	EPA 8260C	2-23-17	2-23-17	
1,2-Dibromo-3-chloropropane	ND	10	EPA 8260C	2-23-17	2-23-17	
1,2,4-Trichlorobenzene	ND	2.0	EPA 8260C	2-23-17	2-23-17	
Hexachlorobutadiene	ND	2.0	EPA 8260C	2-23-17	2-23-17	
Naphthalene	ND	10	EPA 8260C	2-23-17	2-23-17	
1,2,3-Trichlorobenzene	ND	2.0	EPA 8260C	2-23-17	2-23-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*104*	*77-129*				
Toluene-d8	*101*	*80-127*				
4-Bromofluorobenzene	*100*	*80-125*				

Date of Report: February 24, 2017
Samples Submitted: February 22, 2017
Laboratory Reference: 1702-205
Project: 150201

VOLATILES EPA 8260C
page 1 of 2

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**HC-5D-022117**					
Laboratory ID:	02-205-03					
Dichlorodifluoromethane	ND	0.36	EPA 8260C	2-23-17	2-23-17	
Chloromethane	ND	1.3	EPA 8260C	2-23-17	2-23-17	
Vinyl Chloride	0.56	0.20	EPA 8260C	2-23-17	2-23-17	
Bromomethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Chloroethane	ND	1.0	EPA 8260C	2-23-17	2-23-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Acetone	ND	5.0	EPA 8260C	2-23-17	2-23-17	
Iodomethane	ND	1.0	EPA 8260C	2-23-17	2-23-17	
Carbon Disulfide	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Methylene Chloride	ND	1.0	EPA 8260C	2-23-17	2-23-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Vinyl Acetate	ND	1.0	EPA 8260C	2-23-17	2-23-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
(cis) 1,2-Dichloroethene	3.0	0.20	EPA 8260C	2-23-17	2-23-17	
2-Butanone	ND	5.0	EPA 8260C	2-23-17	2-23-17	
Bromochloromethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Chloroform	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Benzene	6.9	0.20	EPA 8260C	2-23-17	2-23-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Trichloroethene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Dibromomethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Bromodichloromethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
2-Chloroethyl Vinyl Ether	ND	2.8	EPA 8260C	2-23-17	2-23-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	2-23-17	2-23-17	
Toluene	ND	1.0	EPA 8260C	2-23-17	2-23-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	2-23-17	2-23-17	

Date of Report: February 24, 2017
Samples Submitted: February 22, 2017
Laboratory Reference: 1702-205
Project: 150201

VOLATILES EPA 8260C
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**HC-5D-022117**					
Laboratory ID:	02-205-03					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Tetrachloroethene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
2-Hexanone	ND	2.0	EPA 8260C	2-23-17	2-23-17	
Dibromochloromethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Chlorobenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Ethylbenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
m,p-Xylene	0.72	0.40	EPA 8260C	2-23-17	2-23-17	
o-Xylene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Styrene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Bromoform	ND	1.0	EPA 8260C	2-23-17	2-23-17	
Isopropylbenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Bromobenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
n-Propylbenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
tert-Butylbenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
sec-Butylbenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
p-Isopropyltoluene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
n-Butylbenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	2-23-17	2-23-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Naphthalene	ND	1.0	EPA 8260C	2-23-17	2-23-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*112*	*77-129*				
Toluene-d8	*103*	*80-127*				
4-Bromofluorobenzene	*97*	*80-125*				

Date of Report: February 24, 2017
Samples Submitted: February 22, 2017
Laboratory Reference: 1702-205
Project: 150201

VOLATILES EPA 8260C
page 1 of 2

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**GW-7-022117**					
Laboratory ID:	02-205-04					
Dichlorodifluoromethane	ND	0.36	EPA 8260C	2-23-17	2-23-17	
Chloromethane	ND	1.3	EPA 8260C	2-23-17	2-23-17	
Vinyl Chloride	1.0	0.20	EPA 8260C	2-23-17	2-23-17	
Bromomethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Chloroethane	ND	1.0	EPA 8260C	2-23-17	2-23-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Acetone	ND	5.0	EPA 8260C	2-23-17	2-23-17	
Iodomethane	ND	1.0	EPA 8260C	2-23-17	2-23-17	
Carbon Disulfide	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Methylene Chloride	ND	1.0	EPA 8260C	2-23-17	2-23-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Vinyl Acetate	ND	1.0	EPA 8260C	2-23-17	2-23-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
(cis) 1,2-Dichloroethene	8.4	0.20	EPA 8260C	2-23-17	2-23-17	
2-Butanone	ND	5.0	EPA 8260C	2-23-17	2-23-17	
Bromochloromethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Chloroform	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Benzene	42	0.20	EPA 8260C	2-23-17	2-23-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Trichloroethene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Dibromomethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Bromodichloromethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
2-Chloroethyl Vinyl Ether	ND	2.8	EPA 8260C	2-23-17	2-23-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	2-23-17	2-23-17	
Toluene	ND	1.0	EPA 8260C	2-23-17	2-23-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	2-23-17	2-23-17	

Date of Report: February 24, 2017
Samples Submitted: February 22, 2017
Laboratory Reference: 1702-205
Project: 150201

VOLATILES EPA 8260C
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**GW-7-022117**					
Laboratory ID:	02-205-04					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Tetrachloroethene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
2-Hexanone	ND	2.0	EPA 8260C	2-23-17	2-23-17	
Dibromochloromethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Chlorobenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Ethylbenzene	0.86	0.20	EPA 8260C	2-23-17	2-23-17	
m,p-Xylene	48	0.40	EPA 8260C	2-23-17	2-23-17	
o-Xylene	0.72	0.20	EPA 8260C	2-23-17	2-23-17	
Styrene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Bromoform	ND	1.0	EPA 8260C	2-23-17	2-23-17	
Isopropylbenzene	1.6	0.20	EPA 8260C	2-23-17	2-23-17	
Bromobenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
n-Propylbenzene	1.1	0.20	EPA 8260C	2-23-17	2-23-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
tert-Butylbenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,2,4-Trimethylbenzene	4.0	0.20	EPA 8260C	2-23-17	2-23-17	
sec-Butylbenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
p-Isopropyltoluene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
n-Butylbenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	2-23-17	2-23-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Naphthalene	ND	1.0	EPA 8260C	2-23-17	2-23-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*105*	*77-129*				
Toluene-d8	*104*	*80-127*				
4-Bromofluorobenzene	*100*	*80-125*				

Date of Report: February 24, 2017
Samples Submitted: February 22, 2017
Laboratory Reference: 1702-205
Project: 150201

VOLATILES EPA 8260C
page 1 of 2

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**GW-8-022117**					
Laboratory ID:	02-205-05					
Dichlorodifluoromethane	ND	0.36	EPA 8260C	2-23-17	2-23-17	
Chloromethane	ND	1.3	EPA 8260C	2-23-17	2-23-17	
Vinyl Chloride	0.32	0.20	EPA 8260C	2-23-17	2-23-17	
Bromomethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Chloroethane	ND	1.0	EPA 8260C	2-23-17	2-23-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Acetone	24	5.0	EPA 8260C	2-23-17	2-23-17	
Iodomethane	ND	1.0	EPA 8260C	2-23-17	2-23-17	
Carbon Disulfide	0.45	0.20	EPA 8260C	2-23-17	2-23-17	
Methylene Chloride	ND	1.0	EPA 8260C	2-23-17	2-23-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,1-Dichloroethane	0.55	0.20	EPA 8260C	2-23-17	2-23-17	
Vinyl Acetate	ND	1.0	EPA 8260C	2-23-17	2-23-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
(cis) 1,2-Dichloroethene	2.3	0.20	EPA 8260C	2-23-17	2-23-17	
2-Butanone	ND	5.0	EPA 8260C	2-23-17	2-23-17	
Bromochloromethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Chloroform	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Benzene	16	0.20	EPA 8260C	2-23-17	2-23-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Trichloroethene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Dibromomethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Bromodichloromethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
2-Chloroethyl Vinyl Ether	ND	2.8	EPA 8260C	2-23-17	2-23-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	2-23-17	2-23-17	
Toluene	ND	1.0	EPA 8260C	2-23-17	2-23-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	2-23-17	2-23-17	

Date of Report: February 24, 2017
Samples Submitted: February 22, 2017
Laboratory Reference: 1702-205
Project: 150201

VOLATILES EPA 8260C
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**GW-8-022117**					
Laboratory ID:	02-205-05					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Tetrachloroethene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
2-Hexanone	ND	2.0	EPA 8260C	2-23-17	2-23-17	
Dibromochloromethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Chlorobenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Ethylbenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
m,p-Xylene	8.0	0.40	EPA 8260C	2-23-17	2-23-17	
o-Xylene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Styrene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Bromoform	ND	1.0	EPA 8260C	2-23-17	2-23-17	
Isopropylbenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Bromobenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
n-Propylbenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
tert-Butylbenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
sec-Butylbenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
p-Isopropyltoluene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
n-Butylbenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	2-23-17	2-23-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Naphthalene	ND	1.0	EPA 8260C	2-23-17	2-23-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*107*	*77-129*				
Toluene-d8	*103*	*80-127*				
4-Bromofluorobenzene	*99*	*80-125*				

Date of Report: February 24, 2017
Samples Submitted: February 22, 2017
Laboratory Reference: 1702-205
Project: 150201

VOLATILES EPA 8260C
page 1 of 2

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**GW-9-022117**					
Laboratory ID:	02-205-06					
Dichlorodifluoromethane	ND	90	EPA 8260C	2-23-17	2-23-17	
Chloromethane	ND	330	EPA 8260C	2-23-17	2-23-17	
Vinyl Chloride	ND	50	EPA 8260C	2-23-17	2-23-17	
Bromomethane	ND	50	EPA 8260C	2-23-17	2-23-17	
Chloroethane	ND	250	EPA 8260C	2-23-17	2-23-17	
Trichlorofluoromethane	ND	50	EPA 8260C	2-23-17	2-23-17	
1,1-Dichloroethene	ND	50	EPA 8260C	2-23-17	2-23-17	
Acetone	ND	1300	EPA 8260C	2-23-17	2-23-17	
Iodomethane	ND	250	EPA 8260C	2-23-17	2-23-17	
Carbon Disulfide	ND	50	EPA 8260C	2-23-17	2-23-17	
Methylene Chloride	ND	250	EPA 8260C	2-23-17	2-23-17	
(trans) 1,2-Dichloroethene	ND	50	EPA 8260C	2-23-17	2-23-17	
Methyl t-Butyl Ether	ND	50	EPA 8260C	2-23-17	2-23-17	
1,1-Dichloroethane	ND	50	EPA 8260C	2-23-17	2-23-17	
Vinyl Acetate	ND	250	EPA 8260C	2-23-17	2-23-17	
2,2-Dichloropropane	ND	50	EPA 8260C	2-23-17	2-23-17	
(cis) 1,2-Dichloroethene	ND	50	EPA 8260C	2-23-17	2-23-17	
2-Butanone	ND	1300	EPA 8260C	2-23-17	2-23-17	
Bromochloromethane	ND	50	EPA 8260C	2-23-17	2-23-17	
Chloroform	ND	50	EPA 8260C	2-23-17	2-23-17	
1,1,1-Trichloroethane	ND	50	EPA 8260C	2-23-17	2-23-17	
Carbon Tetrachloride	ND	50	EPA 8260C	2-23-17	2-23-17	
1,1-Dichloropropene	ND	50	EPA 8260C	2-23-17	2-23-17	
Benzene	99	50	EPA 8260C	2-23-17	2-23-17	
1,2-Dichloroethane	ND	50	EPA 8260C	2-23-17	2-23-17	
Trichloroethene	ND	50	EPA 8260C	2-23-17	2-23-17	
1,2-Dichloropropane	ND	50	EPA 8260C	2-23-17	2-23-17	
Dibromomethane	ND	50	EPA 8260C	2-23-17	2-23-17	
Bromodichloromethane	ND	50	EPA 8260C	2-23-17	2-23-17	
2-Chloroethyl Vinyl Ether	ND	700	EPA 8260C	2-23-17	2-23-17	
(cis) 1,3-Dichloropropene	ND	50	EPA 8260C	2-23-17	2-23-17	
Methyl Isobutyl Ketone	ND	500	EPA 8260C	2-23-17	2-23-17	
Toluene	2400	250	EPA 8260C	2-23-17	2-23-17	
(trans) 1,3-Dichloropropene	ND	50	EPA 8260C	2-23-17	2-23-17	

Date of Report: February 24, 2017
Samples Submitted: February 22, 2017
Laboratory Reference: 1702-205
Project: 150201

VOLATILES EPA 8260C
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**GW-9-022117**					
Laboratory ID:	02-205-06					
1,1,2-Trichloroethane	ND	50	EPA 8260C	2-23-17	2-23-17	
Tetrachloroethene	ND	50	EPA 8260C	2-23-17	2-23-17	
1,3-Dichloropropane	ND	50	EPA 8260C	2-23-17	2-23-17	
2-Hexanone	ND	500	EPA 8260C	2-23-17	2-23-17	
Dibromochloromethane	ND	50	EPA 8260C	2-23-17	2-23-17	
1,2-Dibromoethane	ND	50	EPA 8260C	2-23-17	2-23-17	
Chlorobenzene	ND	50	EPA 8260C	2-23-17	2-23-17	
1,1,1,2-Tetrachloroethane	ND	50	EPA 8260C	2-23-17	2-23-17	
Ethylbenzene	2900	50	EPA 8260C	2-23-17	2-23-17	
m,p-Xylene	7800	100	EPA 8260C	2-23-17	2-23-17	
o-Xylene	5200	50	EPA 8260C	2-23-17	2-23-17	
Styrene	ND	50	EPA 8260C	2-23-17	2-23-17	
Bromoform	ND	250	EPA 8260C	2-23-17	2-23-17	
Isopropylbenzene	ND	50	EPA 8260C	2-23-17	2-23-17	
Bromobenzene	ND	50	EPA 8260C	2-23-17	2-23-17	
1,1,2,2-Tetrachloroethane	ND	50	EPA 8260C	2-23-17	2-23-17	
1,2,3-Trichloropropane	ND	50	EPA 8260C	2-23-17	2-23-17	
n-Propylbenzene	ND	50	EPA 8260C	2-23-17	2-23-17	
2-Chlorotoluene	ND	50	EPA 8260C	2-23-17	2-23-17	
4-Chlorotoluene	ND	50	EPA 8260C	2-23-17	2-23-17	
1,3,5-Trimethylbenzene	ND	50	EPA 8260C	2-23-17	2-23-17	
tert-Butylbenzene	ND	50	EPA 8260C	2-23-17	2-23-17	
1,2,4-Trimethylbenzene	ND	50	EPA 8260C	2-23-17	2-23-17	
sec-Butylbenzene	ND	50	EPA 8260C	2-23-17	2-23-17	
1,3-Dichlorobenzene	ND	50	EPA 8260C	2-23-17	2-23-17	
p-Isopropyltoluene	ND	50	EPA 8260C	2-23-17	2-23-17	
1,4-Dichlorobenzene	ND	50	EPA 8260C	2-23-17	2-23-17	
1,2-Dichlorobenzene	ND	50	EPA 8260C	2-23-17	2-23-17	
n-Butylbenzene	ND	50	EPA 8260C	2-23-17	2-23-17	
1,2-Dibromo-3-chloropropane	ND	250	EPA 8260C	2-23-17	2-23-17	
1,2,4-Trichlorobenzene	ND	50	EPA 8260C	2-23-17	2-23-17	
Hexachlorobutadiene	ND	50	EPA 8260C	2-23-17	2-23-17	
Naphthalene	ND	250	EPA 8260C	2-23-17	2-23-17	
1,2,3-Trichlorobenzene	ND	50	EPA 8260C	2-23-17	2-23-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*110*	*77-129*				
Toluene-d8	*105*	*80-127*				
4-Bromofluorobenzene	*102*	*80-125*				

Date of Report: February 24, 2017
Samples Submitted: February 22, 2017
Laboratory Reference: 1702-205
Project: 150201

VOLATILES EPA 8260C
page 1 of 2

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**GW-6D-022117**					
Laboratory ID:	02-205-07					
Dichlorodifluoromethane	ND	0.36	EPA 8260C	2-23-17	2-23-17	
Chloromethane	ND	1.3	EPA 8260C	2-23-17	2-23-17	
Vinyl Chloride	8.0	0.20	EPA 8260C	2-23-17	2-23-17	
Bromomethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Chloroethane	ND	1.0	EPA 8260C	2-23-17	2-23-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Acetone	ND	5.0	EPA 8260C	2-23-17	2-23-17	
Iodomethane	ND	1.0	EPA 8260C	2-23-17	2-23-17	
Carbon Disulfide	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Methylene Chloride	ND	1.0	EPA 8260C	2-23-17	2-23-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,1-Dichloroethane	0.22	0.20	EPA 8260C	2-23-17	2-23-17	
Vinyl Acetate	ND	1.0	EPA 8260C	2-23-17	2-23-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
2-Butanone	ND	5.0	EPA 8260C	2-23-17	2-23-17	
Bromochloromethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Chloroform	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Benzene	2.6	0.20	EPA 8260C	2-23-17	2-23-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Trichloroethene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Dibromomethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Bromodichloromethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
2-Chloroethyl Vinyl Ether	ND	2.8	EPA 8260C	2-23-17	2-23-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	2-23-17	2-23-17	
Toluene	ND	1.0	EPA 8260C	2-23-17	2-23-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	2-23-17	2-23-17	

Date of Report: February 24, 2017
Samples Submitted: February 22, 2017
Laboratory Reference: 1702-205
Project: 150201

VOLATILES EPA 8260C
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**GW-6D-022117**					
Laboratory ID:	02-205-07					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Tetrachloroethene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
2-Hexanone	ND	2.0	EPA 8260C	2-23-17	2-23-17	
Dibromochloromethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Chlorobenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Ethylbenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
m,p-Xylene	ND	0.40	EPA 8260C	2-23-17	2-23-17	
o-Xylene	0.21	0.20	EPA 8260C	2-23-17	2-23-17	
Styrene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Bromoform	ND	1.0	EPA 8260C	2-23-17	2-23-17	
Isopropylbenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Bromobenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
n-Propylbenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
tert-Butylbenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
sec-Butylbenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
p-Isopropyltoluene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
n-Butylbenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	2-23-17	2-23-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Naphthalene	ND	1.0	EPA 8260C	2-23-17	2-23-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*108*	*77-129*				
Toluene-d8	*105*	*80-127*				
4-Bromofluorobenzene	*95*	*80-125*				

Date of Report: February 24, 2017
Samples Submitted: February 22, 2017
Laboratory Reference: 1702-205
Project: 150201

VOLATILES by EPA 8260C
METHOD BLANK QUALITY CONTROL
page 1 of 2

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0223W1					
Dichlorodifluoromethane	ND	0.36	EPA 8260C	2-23-17	2-23-17	
Chloromethane	ND	1.3	EPA 8260C	2-23-17	2-23-17	
Vinyl Chloride	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Bromomethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Chloroethane	ND	1.0	EPA 8260C	2-23-17	2-23-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Acetone	ND	5.0	EPA 8260C	2-23-17	2-23-17	
Iodomethane	ND	1.0	EPA 8260C	2-23-17	2-23-17	
Carbon Disulfide	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Methylene Chloride	ND	1.0	EPA 8260C	2-23-17	2-23-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Vinyl Acetate	ND	1.0	EPA 8260C	2-23-17	2-23-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
2-Butanone	ND	5.0	EPA 8260C	2-23-17	2-23-17	
Bromochloromethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Chloroform	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Benzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Trichloroethene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Dibromomethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Bromodichloromethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
2-Chloroethyl Vinyl Ether	ND	2.8	EPA 8260C	2-23-17	2-23-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	2-23-17	2-23-17	
Toluene	ND	1.0	EPA 8260C	2-23-17	2-23-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	2-23-17	2-23-17	

Date of Report: February 24, 2017
Samples Submitted: February 22, 2017
Laboratory Reference: 1702-205
Project: 150201

VOLATILES by EPA 8260C
METHOD BLANK QUALITY CONTROL
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0223W1					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Tetrachloroethene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
2-Hexanone	ND	2.0	EPA 8260C	2-23-17	2-23-17	
Dibromochloromethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Chlorobenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Ethylbenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
m,p-Xylene	ND	0.40	EPA 8260C	2-23-17	2-23-17	
o-Xylene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Styrene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Bromoform	ND	1.0	EPA 8260C	2-23-17	2-23-17	
Isopropylbenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Bromobenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	2-23-17	2-23-17	
n-Propylbenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
tert-Butylbenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
sec-Butylbenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
p-Isopropyltoluene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
n-Butylbenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	2-23-17	2-23-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Naphthalene	ND	1.0	EPA 8260C	2-23-17	2-23-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	2-23-17	2-23-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*108*	*77-129*				
Toluene-d8	*103*	*80-127*				
4-Bromofluorobenzene	*99*	*80-125*				

Date of Report: February 24, 2017
Samples Submitted: February 22, 2017
Laboratory Reference: 1702-205
Project: 150201

VOLATILES by EPA 8260C
SB/SBD QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0223W1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**9.38**	**10.1**	10.0	10.0	94	101	63-127	7	17	
Benzene	**10.5**	**11.4**	10.0	10.0	105	114	76-121	8	12	
Trichloroethene	**9.93**	**10.4**	10.0	10.0	99	104	64-114	5	15	
Toluene	**10.5**	**11.3**	10.0	10.0	105	113	82-115	7	13	
Chlorobenzene	**10.0**	**10.6**	10.0	10.0	100	106	80-115	6	14	
Surrogate:										
Dibromofluoromethane					*102*	*106*	*77-129*			
Toluene-d8					*100*	*102*	*80-127*			
4-Bromofluorobenzene					*95*	*97*	*80-125*			

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: Aspect
Project Number: 150201
Project Name: Gaco West
Project Manager: Carla Brock
Sampled by: Kristin Beck

Turnaround Request (in working days)

(Check One)

- ☐ Same Day
- ☐ 1 Day
- ☒ 2 Days
- ☐ 3 Days
- ☐ Standard (7 Days) (TPH analysis 5 Days)
- ☐ _____ (other)

Laboratory Number: 02-205

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A					% Moisture
1	HC-1D-022117	2/21	1020	water	3					X																	
2	HC-2D-022117	↓	1100	↓	3					X																	
3	HC-5D-022117		1230		3					X																	
4	GW-7-022117		1325		3					X																	
5	GW-8-022117		1420		3					X																	
6	GW-9-022117		1455		3					X																	
7	GW-6D-022117	↓	1550	↓	3					X																	

	Signature	Company	Date	Time	Comments/Special Instructions
Relinquished	Kat Beck	Aspect	2/22	245	
Received	Van	spdy	2/22/17	245	
Relinquished	Van	spdy	2/22/17	1520	
Received		COBC	2/22/17	1520	
Relinquished					
Received					Data Package: Standard ☐ Level III ☐ Level IV ☐
Reviewed/Date		Reviewed/Date			Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

Farallon Analytical Reports

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

November 30, 2009

Ken Scott
Farallon Consulting, LLC
975 5th Avenue NW
Issaquah, WA 98027

Re: Analytical Data for Project 841-003
Laboratory Reference No. 0911-165

Dear Ken:

Enclosed are the analytical results and associated quality control data for samples submitted on November 20, 2009.

The standard policy of OnSite Environmental Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: November 30, 2009
Samples Submitted: November 20, 2009
Laboratory Reference: 0911-165
Project: 841-003

Case Narrative

Samples were collected on November 20, 2009, and received by the laboratory on November 20, 2009. They were maintained at the laboratory at a temperature of 2°C to 6°C except as noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Date of Report: November 30, 2009
Samples Submitted: November 20, 2009
Laboratory Reference: 0911-165
Project: 841-003

VOLATILES by EPA 8260B
Page 1 of 2

Date Extracted:	11-24-09
Date Analyzed:	11-24-09
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	11-165-01
Client ID:	**HC-5D-112009**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.20
Chloromethane	ND		1.0
Vinyl Chloride	ND		0.20
Bromomethane	ND		0.20
Chloroethane	ND		1.0
Trichlorofluoromethane	ND		0.20
1,1-Dichloroethene	ND		0.20
Acetone	ND		5.0
Iodomethane	ND		1.0
Carbon Disulfide	ND		0.20
Methylene Chloride	ND		1.0
(trans) 1,2-dichloroethene	ND		0.20
Methyl t-Butyl Ether	ND		0.20
1,1-Dichloroethane	ND		0.20
Vinyl Acetate	ND		2.0
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	0.54		0.20
2-Butanone	ND		5.0
Bromochloromethane	ND		0.20
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
Benzene	6.9		0.20
1,2-Dichloroethane	ND		0.20
Trichloroethene	ND		0.20
1,2-Dichloropropane	ND		0.20
Dibromomethane	ND		0.20
Bromodichloromethane	ND		0.20
2-Chloroethyl Vinyl Ether	ND		1.0
(cis) 1,3-Dichloropropene	ND		0.20
Methyl Isobutyl Ketone	ND		2.0
Toluene	ND		1.0
(trans) 1,3-Dichloropropene	ND		0.20

Date of Report: November 30, 2009
Samples Submitted: November 20, 2009
Laboratory Reference: 0911-165
Project: 841-003

VOLATILES by EPA 8260B
Page 2 of 2

Lab ID: 11-165-01
Client ID: HC-5D-112009

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	ND		0.20
1,3-Dichloropropane	ND		0.20
2-Hexanone	ND		2.0
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Ethylbenzene	ND		0.20
m,p-Xylene	ND		0.40
o-Xylene	ND		0.20
Styrene	ND		0.20
Bromoform	ND		1.0
Isopropylbenzene	ND		0.20
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
n-Propylbenzene	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3,5-Trimethylbenzene	ND		0.20
tert-Butylbenzene	ND		0.20
1,2,4-Trimethylbenzene	ND		0.20
sec-Butylbenzene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
p-Isopropyltoluene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
n-Butylbenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
Naphthalene	ND		1.0
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	82	71-126
Toluene-d8	86	76-116
4-Bromofluorobenzene	91	70-123

Date of Report: November 30, 2009
Samples Submitted: November 20, 2009
Laboratory Reference: 0911-165
Project: 841-003

VOLATILES by EPA 8260B
Page 1 of 2

Date Extracted:	11-24&25-09
Date Analyzed:	11-24&25-09
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	11-165-02
Client ID:	**HC-1D-112009**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.40
Chloromethane	ND		2.0
Vinyl Chloride	ND		0.40
Bromomethane	ND		0.40
Chloroethane	ND		2.0
Trichlorofluoromethane	ND		0.40
1,1-Dichloroethene	ND		0.40
Acetone	ND		10
Iodomethane	ND		2.0
Carbon Disulfide	ND		0.40
Methylene Chloride	ND		2.0
(trans) 1,2-dichloroethene	ND		0.40
Methyl t-Butyl Ether	ND		0.40
1,1-Dichloroethane	ND		0.40
Vinyl Acetate	ND		4.0
2,2-Dichloropropane	ND		0.40
(cis) 1,2-Dichloroethene	ND		0.40
2-Butanone	ND		10
Bromochloromethane	ND		0.40
Chloroform	ND		0.40
1,1,1-Trichloroethane	ND		0.40
Carbon Tetrachloride	ND		0.40
1,1-Dichloropropene	ND		0.40
Benzene	1.6		0.40
1,2-Dichloroethane	ND		0.40
Trichloroethene	ND		0.40
1,2-Dichloropropane	ND		0.40
Dibromomethane	ND		0.40
Bromodichloromethane	ND		0.40
2-Chloroethyl Vinyl Ether	ND		2.0
(cis) 1,3-Dichloropropene	ND		0.40
Methyl Isobutyl Ketone	ND		4.0
Toluene	ND		2.0
(trans) 1,3-Dichloropropene	ND		0.40

Date of Report: November 30, 2009
Samples Submitted: November 20, 2009
Laboratory Reference: 0911-165
Project: 841-003

VOLATILES by EPA 8260B
Page 2 of 2

Lab ID: 11-165-02
Client ID: HC-1D-112009

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.40
Tetrachloroethene	ND		0.40
1,3-Dichloropropane	ND		0.40
2-Hexanone	ND		4.0
Dibromochloromethane	ND		0.40
1,2-Dibromoethane	ND		0.40
Chlorobenzene	ND		0.40
1,1,1,2-Tetrachloroethane	ND		0.40
Ethylbenzene	0.51		0.40
m,p-Xylene	91		4.0
o-Xylene	0.94		0.40
Styrene	ND		0.40
Bromoform	ND		2.0
Isopropylbenzene	1.2		0.40
Bromobenzene	ND		0.40
1,1,2,2-Tetrachloroethane	ND		0.40
1,2,3-Trichloropropane	ND		0.40
n-Propylbenzene	0.63		0.40
2-Chlorotoluene	ND		0.40
4-Chlorotoluene	ND		0.40
1,3,5-Trimethylbenzene	ND		0.40
tert-Butylbenzene	ND		0.40
1,2,4-Trimethylbenzene	1.8		0.40
sec-Butylbenzene	ND		0.40
1,3-Dichlorobenzene	ND		0.40
p-Isopropyltoluene	ND		0.40
1,4-Dichlorobenzene	ND		0.40
1,2-Dichlorobenzene	ND		0.40
n-Butylbenzene	ND		0.40
1,2-Dibromo-3-chloropropane	ND		2.0
1,2,4-Trichlorobenzene	ND		0.40
Hexachlorobutadiene	ND		0.40
Naphthalene	ND		2.0
1,2,3-Trichlorobenzene	ND		0.40

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	80	71-126
Toluene-d8	85	76-116
4-Bromofluorobenzene	90	70-123

Date of Report: November 30, 2009
Samples Submitted: November 20, 2009
Laboratory Reference: 0911-165
Project: 841-003

VOLATILES by EPA 8260B
Page 1 of 2

Date Extracted:	11-20&24-09
Date Analyzed:	11-20&24-09
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	11-165-03
Client ID:	**HC-2D-112009**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		20
Chloromethane	ND		100
Vinyl Chloride	ND		20
Bromomethane	ND		20
Chloroethane	ND		100
Trichlorofluoromethane	ND		20
1,1-Dichloroethene	ND		20
Acetone	ND		500
Iodomethane	ND		100
Carbon Disulfide	ND		20
Methylene Chloride	ND		100
(trans) 1,2-dichloroethene	ND		20
Methyl t-Butyl Ether	ND		20
1,1-Dichloroethane	ND		20
Vinyl Acetate	ND		200
2,2-Dichloropropane	ND		20
(cis) 1,2-Dichloroethene	ND		20
2-Butanone	ND		500
Bromochloromethane	ND		20
Chloroform	ND		20
1,1,1-Trichloroethane	ND		20
Carbon Tetrachloride	ND		20
1,1-Dichloropropene	ND		20
Benzene	23		20
1,2-Dichloroethane	ND		20
Trichloroethene	ND		20
1,2-Dichloropropane	ND		20
Dibromomethane	ND		20
Bromodichloromethane	ND		20
2-Chloroethyl Vinyl Ether	ND		100
(cis) 1,3-Dichloropropene	ND		20
Methyl Isobutyl Ketone	ND		200
Toluene	1000		100
(trans) 1,3-Dichloropropene	ND		20

Date of Report: November 30, 2009
Samples Submitted: November 20, 2009
Laboratory Reference: 0911-165
Project: 841-003

VOLATILES by EPA 8260B
Page 2 of 2

Lab ID: 11-165-03
Client ID: HC-2D-112009

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		20
Tetrachloroethene	ND		20
1,3-Dichloropropane	ND		20
2-Hexanone	ND		200
Dibromochloromethane	ND		20
1,2-Dibromoethane	ND		20
Chlorobenzene	ND		20
1,1,1,2-Tetrachloroethane	ND		20
Ethylbenzene	2300		20
m,p-Xylene	8000		40
o-Xylene	7300		50
Styrene	ND		20
Bromoform	ND		100
Isopropylbenzene	67		20
Bromobenzene	ND		20
1,1,2,2-Tetrachloroethane	ND		20
1,2,3-Trichloropropane	ND		20
n-Propylbenzene	ND		20
2-Chlorotoluene	ND		20
4-Chlorotoluene	ND		20
1,3,5-Trimethylbenzene	ND		20
tert-Butylbenzene	ND		20
1,2,4-Trimethylbenzene	ND		20
sec-Butylbenzene	ND		20
1,3-Dichlorobenzene	ND		20
p-Isopropyltoluene	ND		20
1,4-Dichlorobenzene	ND		20
1,2-Dichlorobenzene	ND		20
n-Butylbenzene	ND		20
1,2-Dibromo-3-chloropropane	ND		100
1,2,4-Trichlorobenzene	ND		20
Hexachlorobutadiene	ND		20
Naphthalene	ND		100
1,2,3-Trichlorobenzene	ND		20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	87	71-126
Toluene-d8	88	76-116
4-Bromofluorobenzene	90	70-123

Date of Report: November 30, 2009
Samples Submitted: November 20, 2009
Laboratory Reference: 0911-165
Project: 841-003

VOLATILES by EPA 8260B
Page 1 of 2

Date Extracted:	11-24-09
Date Analyzed:	11-24-09
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	11-165-04
Client ID:	**GW-6D-112009**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.40
Chloromethane	ND		2.0
Vinyl Chloride	10		0.40
Bromomethane	ND		0.40
Chloroethane	ND		2.0
Trichlorofluoromethane	ND		0.40
1,1-Dichloroethene	ND		0.40
Acetone	ND		10
Iodomethane	ND		2.0
Carbon Disulfide	ND		0.40
Methylene Chloride	ND		2.0
(trans) 1,2-dichloroethene	ND		0.40
Methyl t-Butyl Ether	ND		0.40
1,1-Dichloroethane	0.54		0.40
Vinyl Acetate	ND		4.0
2,2-Dichloropropane	ND		0.40
(cis) 1,2-Dichloroethene	0.43		0.40
2-Butanone	ND		10
Bromochloromethane	ND		0.40
Chloroform	ND		0.40
1,1,1-Trichloroethane	ND		0.40
Carbon Tetrachloride	ND		0.40
1,1-Dichloropropene	ND		0.40
Benzene	3.2		0.40
1,2-Dichloroethane	ND		0.40
Trichloroethene	ND		0.40
1,2-Dichloropropane	ND		0.40
Dibromomethane	ND		0.40
Bromodichloromethane	ND		0.40
2-Chloroethyl Vinyl Ether	ND		2.0
(cis) 1,3-Dichloropropene	ND		0.40
Methyl Isobutyl Ketone	ND		4.0
Toluene	ND		2.0
(trans) 1,3-Dichloropropene	ND		0.40

Date of Report: November 30, 2009
Samples Submitted: November 20, 2009
Laboratory Reference: 0911-165
Project: 841-003

VOLATILES by EPA 8260B
Page 2 of 2

Lab ID: 11-165-04
Client ID: GW-6D-112009

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.40
Tetrachloroethene	ND		0.40
1,3-Dichloropropane	ND		0.40
2-Hexanone	ND		4.0
Dibromochloromethane	ND		0.40
1,2-Dibromoethane	ND		0.40
Chlorobenzene	ND		0.40
1,1,1,2-Tetrachloroethane	ND		0.40
Ethylbenzene	ND		0.40
m,p-Xylene	ND		0.80
o-Xylene	ND		0.40
Styrene	ND		0.40
Bromoform	ND		2.0
Isopropylbenzene	ND		0.40
Bromobenzene	ND		0.40
1,1,2,2-Tetrachloroethane	ND		0.40
1,2,3-Trichloropropane	ND		0.40
n-Propylbenzene	ND		0.40
2-Chlorotoluene	ND		0.40
4-Chlorotoluene	ND		0.40
1,3,5-Trimethylbenzene	ND		0.40
tert-Butylbenzene	ND		0.40
1,2,4-Trimethylbenzene	ND		0.40
sec-Butylbenzene	ND		0.40
1,3-Dichlorobenzene	ND		0.40
p-Isopropyltoluene	ND		0.40
1,4-Dichlorobenzene	ND		0.40
1,2-Dichlorobenzene	ND		0.40
n-Butylbenzene	ND		0.40
1,2-Dibromo-3-chloropropane	ND		2.0
1,2,4-Trichlorobenzene	ND		0.40
Hexachlorobutadiene	ND		0.40
Naphthalene	ND		2.0
1,2,3-Trichlorobenzene	ND		0.40

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	81	71-126
Toluene-d8	84	76-116
4-Bromofluorobenzene	86	70-123

Date of Report: November 30, 2009
Samples Submitted: November 20, 2009
Laboratory Reference: 0911-165
Project: 841-003

VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
Page 1 of 2

Date Extracted: 11-20-09
Date Analyzed: 11-20-09

Matrix: Water
Units: ug/L (ppb)

Lab ID: MB1120W1

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.20
Chloromethane	ND		1.0
Vinyl Chloride	ND		0.20
Bromomethane	ND		0.20
Chloroethane	ND		1.0
Trichlorofluoromethane	ND		0.20
1,1-Dichloroethene	ND		0.20
Acetone	ND		5.0
Iodomethane	ND		1.0
Carbon Disulfide	ND		0.20
Methylene Chloride	ND		1.0
(trans) 1,2-dichloroethene	ND		0.20
Methyl t-Butyl Ether	ND		0.20
1,1-Dichloroethane	ND		0.20
Vinyl Acetate	ND		2.0
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
2-Butanone	ND		5.0
Bromochloromethane	ND		0.20
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
Benzene	ND		0.20
1,2-Dichloroethane	ND		0.20
Trichloroethene	ND		0.20
1,2-Dichloropropane	ND		0.20
Dibromomethane	ND		0.20
Bromodichloromethane	ND		0.20
2-Chloroethyl Vinyl Ether	ND		1.0
(cis) 1,3-Dichloropropene	ND		0.20
Methyl Isobutyl Ketone	ND		2.0
Toluene	ND		1.0
(trans) 1,3-Dichloropropene	ND		0.20

Date of Report: November 30, 2009
Samples Submitted: November 20, 2009
Laboratory Reference: 0911-165
Project: 841-003

VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
Page 2 of 2

Lab ID: MB1120W1

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	ND		0.20
1,3-Dichloropropane	ND		0.20
2-Hexanone	ND		2.0
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Ethylbenzene	ND		0.20
m,p-Xylene	ND		0.40
o-Xylene	ND		0.20
Styrene	ND		0.20
Bromoform	ND		1.0
Isopropylbenzene	ND		0.20
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
n-Propylbenzene	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3,5-Trimethylbenzene	ND		0.20
tert-Butylbenzene	ND		0.20
1,2,4-Trimethylbenzene	ND		0.20
sec-Butylbenzene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
p-Isopropyltoluene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
n-Butylbenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
Naphthalene	ND		1.0
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	93	71-126
Toluene-d8	89	76-116
4-Bromofluorobenzene	84	70-123

Date of Report: November 30, 2009
Samples Submitted: November 20, 2009
Laboratory Reference: 0911-165
Project: 841-003

VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
Page 1 of 2

Date Extracted:	11-24-09
Date Analyzed:	11-24-09
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	MB1124W1

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.20
Chloromethane	ND		1.0
Vinyl Chloride	ND		0.20
Bromomethane	ND		0.20
Chloroethane	ND		1.0
Trichlorofluoromethane	ND		0.20
1,1-Dichloroethene	ND		0.20
Acetone	ND		5.0
Iodomethane	ND		1.0
Carbon Disulfide	ND		0.20
Methylene Chloride	ND		1.0
(trans) 1,2-dichloroethene	ND		0.20
Methyl t-Butyl Ether	ND		0.20
1,1-Dichloroethane	ND		0.20
Vinyl Acetate	ND		2.0
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
2-Butanone	ND		5.0
Bromochloromethane	ND		0.20
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
Benzene	ND		0.20
1,2-Dichloroethane	ND		0.20
Trichloroethene	ND		0.20
1,2-Dichloropropane	ND		0.20
Dibromomethane	ND		0.20
Bromodichloromethane	ND		0.20
2-Chloroethyl Vinyl Ether	ND		1.0
(cis) 1,3-Dichloropropene	ND		0.20
Methyl Isobutyl Ketone	ND		2.0
Toluene	ND		1.0
(trans) 1,3-Dichloropropene	ND		0.20

Date of Report: November 30, 2009
Samples Submitted: November 20, 2009
Laboratory Reference: 0911-165
Project: 841-003

VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
Page 2 of 2

Lab ID: MB1124W1

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	ND		0.20
1,3-Dichloropropane	ND		0.20
2-Hexanone	ND		2.0
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Ethylbenzene	ND		0.20
m,p-Xylene	ND		0.40
o-Xylene	ND		0.20
Styrene	ND		0.20
Bromoform	ND		1.0
Isopropylbenzene	ND		0.20
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
n-Propylbenzene	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3,5-Trimethylbenzene	ND		0.20
tert-Butylbenzene	ND		0.20
1,2,4-Trimethylbenzene	ND		0.20
sec-Butylbenzene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
p-Isopropyltoluene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
n-Butylbenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
Naphthalene	ND		1.0
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	80	71-126
Toluene-d8	87	76-116
4-Bromofluorobenzene	82	70-123

Date of Report: November 30, 2009
Samples Submitted: November 20, 2009
Laboratory Reference: 0911-165
Project: 841-003

VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
Page 1 of 2

Date Extracted:	11-25-09
Date Analyzed:	11-25-09
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	MB1125W1

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.20
Chloromethane	ND		1.0
Vinyl Chloride	ND		0.20
Bromomethane	ND		0.20
Chloroethane	ND		1.0
Trichlorofluoromethane	ND		0.20
1,1-Dichloroethene	ND		0.20
Acetone	ND		5.0
Iodomethane	ND		1.0
Carbon Disulfide	ND		0.20
Methylene Chloride	ND		1.0
(trans) 1,2-dichloroethene	ND		0.20
Methyl t-Butyl Ether	ND		0.20
1,1-Dichloroethane	ND		0.20
Vinyl Acetate	ND		2.0
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
2-Butanone	ND		5.0
Bromochloromethane	ND		0.20
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
Benzene	ND		0.20
1,2-Dichloroethane	ND		0.20
Trichloroethene	ND		0.20
1,2-Dichloropropane	ND		0.20
Dibromomethane	ND		0.20
Bromodichloromethane	ND		0.20
2-Chloroethyl Vinyl Ether	ND		1.0
(cis) 1,3-Dichloropropene	ND		0.20
Methyl Isobutyl Ketone	ND		2.0
Toluene	ND		1.0
(trans) 1,3-Dichloropropene	ND		0.20

Date of Report: November 30, 2009
Samples Submitted: November 20, 2009
Laboratory Reference: 0911-165
Project: 841-003

VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
Page 2 of 2

Lab ID: MB1125W1

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	ND		0.20
1,3-Dichloropropane	ND		0.20
2-Hexanone	ND		2.0
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Ethylbenzene	ND		0.20
m,p-Xylene	ND		0.40
o-Xylene	ND		0.20
Styrene	ND		0.20
Bromoform	ND		1.0
Isopropylbenzene	ND		0.20
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
n-Propylbenzene	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3,5-Trimethylbenzene	ND		0.20
tert-Butylbenzene	ND		0.20
1,2,4-Trimethylbenzene	ND		0.20
sec-Butylbenzene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
p-Isopropyltoluene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
n-Butylbenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
Naphthalene	ND		1.0
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	87	71-126
Toluene-d8	87	76-116
4-Bromofluorobenzene	92	70-123

Date of Report: November 30, 2009
Samples Submitted: November 20, 2009
Laboratory Reference: 0911-165
Project: 841-003

VOLATILES by EPA 8260B
SB/SBD QUALITY CONTROL

Date Extracted: 11-20-09
Date Analyzed: 11-20-09

Matrix: Water
Units: ug/L (ppb)

Lab ID: SB1120W1

Compound	Spike Amount	SB	Percent Recovery	SBD	Percent Recovery	Recovery Limits	Flags
1,1-Dichloroethene	10.0	10.3	103	10.7	107	70-130	
Benzene	10.0	9.66	97	9.92	99	70-130	
Trichloroethene	10.0	10.1	101	10.2	102	70-123	
Toluene	10.0	9.96	100	10.1	101	77-120	
Chlorobenzene	10.0	10.2	102	10.6	106	73-115	

	RPD	RPD Limit	Flags
1,1-Dichloroethene	4	21	
Benzene	3	18	
Trichloroethene	1	18	
Toluene	1	17	
Chlorobenzene	4	18	

Date of Report: November 30, 2009
Samples Submitted: November 20, 2009
Laboratory Reference: 0911-165
Project: 841-003

VOLATILES by EPA 8260B
SB/SBD QUALITY CONTROL

Date Extracted: 11-25-09
Date Analyzed: 11-25-09

Matrix: Water
Units: ug/L (ppb)

Lab ID: SB1125W1

Compound	Spike Amount	SB	Percent Recovery	SBD	Percent Recovery	Recovery Limits	Flags
1,1-Dichloroethene	10.0	10.7	107	9.80	98	70-130	
Benzene	10.0	10.1	101	9.34	93	70-130	
Trichloroethene	10.0	9.79	98	9.11	91	70-123	
Toluene	10.0	9.86	99	9.41	94	77-120	
Chlorobenzene	10.0	9.76	98	9.44	94	73-115	

	RPD	RPD Limit	Flags
1,1-Dichloroethene	9	21	
Benzene	7	18	
Trichloroethene	7	18	
Toluene	5	17	
Chlorobenzene	3	18	

Date of Report: November 30, 2009
Samples Submitted: November 20, 2009
Laboratory Reference: 0911-165
Project: 841-003

VOLATILES by EPA 8260B
MS/MSD QUALITY CONTROL

Date Extracted: 11-24-09
Date Analyzed: 11-24-09

Matrix: Water
Units: ug/L (ppb)

Lab ID: 11-166-03

Compound	Sample Amount	Spike Amount	MS	Percent Recovery	MSD	Percent Recovery	Recovery Limits	Flags
1,1-Dichloroethene	ND	10.0	10.3	103	10.1	101	70-130	
Benzene	ND	10.0	9.94	99	10.0	100	81-125	
Trichloroethene	ND	10.0	9.24	92	9.55	96	79-116	
Toluene	ND	10.0	9.69	97	10.2	102	88-118	
Chlorobenzene	ND	10.0	10.1	101	9.91	99	75-121	

	RPD	RPD Limit	Flags
1,1-Dichloroethene	2	22	
Benzene	1	11	
Trichloroethene	3	11	
Toluene	5	14	
Chlorobenzene	2	14	

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in the diesel range are impacting the lube oil range result.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

Y - Sample extract treated with an acid/silica gel cleanup procedure.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

OnSite Environmental Inc.
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: FARALLON
Project Number: 841-003
Project Name: GACO WESTERN
Project Manager: KEN SCOTT
Sampled by: Ken Scott

Turnaround Request (in working days)

(Check One)

- ☐ Same Day
- ☐ 1 Day
- ☐ 2 Day
- ☐ 3 Day
- ☒ Standard (7 working days)
  (TPH analysis 5 working days)
- ☐ _____ (other)

Laboratory Number: 11-165

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8260B	Halogenated Volatiles by 8260B	Semivolatiles by 8270D / SIM	PAHs by 8270D / SIM	PCBs by 8082	Pesticides by 8081A	Herbicides by 8151A	Total RCRA Metals (8)	TCLP Metals	HEM by 1664	% Moisture
1	HC-5D-112009	11/20/09	1205	W	3				X										
2	HC-1D-112009		1305	W	3				X										
3	HC-2D-112009		1340	W	3				X										
4	GW-6D-112009	↓	1445	W	3				X										

	Signature	Company	Date	Time	Comments/Special Instructions
Relinquished by	Ken Scott	FARALLON	11/20/09	1615	
Received by			11/20/09	1615	
Relinquished by					
Received by					
Relinquished by					
Received by					
Reviewed by/Date		Reviewed by/Date			Chromatograms with final report ☐

DISTRIBUTION LEGEND: White - OnSite Copy Yellow - Client Copy

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

December 3, 2009

Ken Scott
Farallon Consulting, LLC
975 5th Avenue NW
Issaquah, WA 98027

Re: Analytical Data for Project 841-003
Laboratory Reference No. 0911-191

Dear Ken:

Enclosed are the analytical results and associated quality control data for samples submitted on November 24, 2009.

The standard policy of OnSite Environmental Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: December 3, 2009
Samples Submitted: November 24, 2009
Laboratory Reference: 0911-191
Project: 841-003

Case Narrative

Samples were collected on November 24, 2009, and received by the laboratory on November 24, 2009. They were maintained at the laboratory at a temperature of 2°C to 6°C except as noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Volatiles EPA 8260B (soil) Analysis

Per EPA Method 5035A, samples were received by the laboratory in pre-weighed 40 mL VOA vials within 48 hours of sample collection. They were stored in a freezer at between -7°C and -20°C until extraction or analysis.

Some MTCA Method A cleanup levels are non-achievable for samples B1-9.5, B2-7.5, and B2-12.0 due to the necessary dilutions of the samples.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Date of Report: December 3, 2009
Samples Submitted: November 24, 2009
Laboratory Reference: 0911-191
Project: 841-003

VOLATILES by EPA 8260B
Page 1 of 2

Date Extracted:	11-25-09
Date Analyzed:	11-25-09
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	11-191-02
Client ID:	**B1-9.5**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.075
Chloromethane	ND		0.38
Vinyl Chloride	ND		0.075
Bromomethane	ND		0.075
Chloroethane	ND		0.38
Trichlorofluoromethane	ND		0.075
1,1-Dichloroethene	ND		0.075
Acetone	ND		0.38
Iodomethane	ND		0.38
Carbon Disulfide	ND		0.075
Methylene Chloride	ND		0.38
(trans) 1,2-Dichloroethene	ND		0.075
Methyl t-Butyl Ether	ND		0.075
1,1-Dichloroethane	ND		0.075
Vinyl Acetate	ND		0.38
2,2-Dichloropropane	ND		0.075
(cis) 1,2-Dichloroethene	ND		0.075
2-Butanone	ND		0.38
Bromochloromethane	ND		0.075
Chloroform	ND		0.075
1,1,1-Trichloroethane	ND		0.075
Carbon Tetrachloride	ND		0.075
1,1-Dichloropropene	ND		0.075
Benzene	ND		0.075
1,2-Dichloroethane	ND		0.075
Trichloroethene	ND		0.075
1,2-Dichloropropane	ND		0.075
Dibromomethane	ND		0.075
Bromodichloromethane	ND		0.075
2-Chloroethyl Vinyl Ether	ND		0.38
(cis) 1,3-Dichloropropene	ND		0.075
Methyl Isobutyl Ketone	ND		0.38
Toluene	ND		0.38
(trans) 1,3-Dichloropropene	ND		0.075

Date of Report: December 3, 2009
Samples Submitted: November 24, 2009
Laboratory Reference: 0911-191
Project: 841-003

VOLATILES by EPA 8260B
Page 2 of 2

Lab ID: 11-191-02
Client ID: B1-9.5

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.075
Tetrachloroethene	ND		0.075
1,3-Dichloropropane	ND		0.075
2-Hexanone	ND		0.38
Dibromochloromethane	ND		0.075
1,2-Dibromoethane	ND		0.075
Chlorobenzene	ND		0.075
1,1,1,2-Tetrachloroethane	ND		0.075
Ethylbenzene	0.20		0.075
m,p-Xylene	0.22		0.15
o-Xylene	ND		0.075
Styrene	ND		0.075
Bromoform	ND		0.075
Isopropylbenzene	0.26		0.075
Bromobenzene	ND		0.075
1,1,2,2-Tetrachloroethane	ND		0.075
1,2,3-Trichloropropane	ND		0.075
n-Propylbenzene	0.25		0.075
2-Chlorotoluene	ND		0.075
4-Chlorotoluene	ND		0.075
1,3,5-Trimethylbenzene	ND		0.075
tert-Butylbenzene	ND		0.075
1,2,4-Trimethylbenzene	ND		0.075
sec-Butylbenzene	ND		0.075
1,3-Dichlorobenzene	ND		0.075
p-Isopropyltoluene	ND		0.075
1,4-Dichlorobenzene	ND		0.075
1,2-Dichlorobenzene	ND		0.075
n-Butylbenzene	ND		0.075
1,2-Dibromo-3-chloropropane	ND		0.38
1,2,4-Trichlorobenzene	ND		0.075
Hexachlorobutadiene	ND		0.38
Naphthalene	ND		0.075
1,2,3-Trichlorobenzene	ND		0.075

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	88	55-125
Toluene-d8	89	56-127
4-Bromofluorobenzene	91	54-130

Date of Report: December 3, 2009
Samples Submitted: November 24, 2009
Laboratory Reference: 0911-191
Project: 841-003

VOLATILES by EPA 8260B
Page 1 of 2

Date Extracted:	11-25-09
Date Analyzed:	11-25-09
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	11-191-05
Client ID:	**B2-7.5**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		1.2
Chloromethane	ND		6.1
Vinyl Chloride	ND		1.2
Bromomethane	ND		1.2
Chloroethane	ND		6.1
Trichlorofluoromethane	ND		1.2
1,1-Dichloroethene	ND		1.2
Acetone	ND		6.1
Iodomethane	ND		6.1
Carbon Disulfide	ND		1.2
Methylene Chloride	ND		6.1
(trans) 1,2-Dichloroethene	ND		1.2
Methyl t-Butyl Ether	ND		1.2
1,1-Dichloroethane	ND		1.2
Vinyl Acetate	ND		6.1
2,2-Dichloropropane	ND		1.2
(cis) 1,2-Dichloroethene	ND		1.2
2-Butanone	ND		6.1
Bromochloromethane	ND		1.2
Chloroform	ND		1.2
1,1,1-Trichloroethane	ND		1.2
Carbon Tetrachloride	ND		1.2
1,1-Dichloropropene	ND		1.2
Benzene	ND		1.2
1,2-Dichloroethane	ND		1.2
Trichloroethene	ND		1.2
1,2-Dichloropropane	ND		1.2
Dibromomethane	ND		1.2
Bromodichloromethane	ND		1.2
2-Chloroethyl Vinyl Ether	ND		6.1
(cis) 1,3-Dichloropropene	ND		1.2
Methyl Isobutyl Ketone	ND		6.1
Toluene	220		30
(trans) 1,3-Dichloropropene	ND		1.2

Date of Report: December 3, 2009
Samples Submitted: November 24, 2009
Laboratory Reference: 0911-191
Project: 841-003

VOLATILES by EPA 8260B
Page 2 of 2

Lab ID: 11-191-05
Client ID: B2-7.5

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		1.2
Tetrachloroethene	ND		1.2
1,3-Dichloropropane	ND		1.2
2-Hexanone	ND		6.1
Dibromochloromethane	ND		1.2
1,2-Dibromoethane	ND		1.2
Chlorobenzene	ND		1.2
1,1,1,2-Tetrachloroethane	ND		1.2
Ethylbenzene	62		1.2
m,p-Xylene	210		12
o-Xylene	62		1.2
Styrene	ND		1.2
Bromoform	ND		1.2
Isopropylbenzene	2.4		1.2
Bromobenzene	ND		1.2
1,1,2,2-Tetrachloroethane	ND		1.2
1,2,3-Trichloropropane	ND		1.2
n-Propylbenzene	3.7		1.2
2-Chlorotoluene	ND		1.2
4-Chlorotoluene	ND		1.2
1,3,5-Trimethylbenzene	9.0		1.2
tert-Butylbenzene	ND		1.2
1,2,4-Trimethylbenzene	18		1.2
sec-Butylbenzene	ND		1.2
1,3-Dichlorobenzene	ND		1.2
p-Isopropyltoluene	1.5		1.2
1,4-Dichlorobenzene	ND		1.2
1,2-Dichlorobenzene	ND		1.2
n-Butylbenzene	ND		1.2
1,2-Dibromo-3-chloropropane	ND		6.1
1,2,4-Trichlorobenzene	ND		1.2
Hexachlorobutadiene	ND		6.1
Naphthalene	ND		1.2
1,2,3-Trichlorobenzene	ND		1.2

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	91	55-125
Toluene-d8	101	56-127
4-Bromofluorobenzene	88	54-130

Date of Report: December 3, 2009
Samples Submitted: November 24, 2009
Laboratory Reference: 0911-191
Project: 841-003

VOLATILES by EPA 8260B
Page 1 of 2

Date Extracted:	11-25-09
Date Analyzed:	11-25-09
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	11-191-06
Client ID:	**B2-12.0**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.052
Chloromethane	ND		0.26
Vinyl Chloride	ND		0.052
Bromomethane	ND		0.052
Chloroethane	ND		0.26
Trichlorofluoromethane	ND		0.052
1,1-Dichloroethene	ND		0.052
Acetone	ND		0.26
Iodomethane	ND		0.26
Carbon Disulfide	ND		0.052
Methylene Chloride	ND		0.26
(trans) 1,2-Dichloroethene	ND		0.052
Methyl t-Butyl Ether	ND		0.052
1,1-Dichloroethane	ND		0.052
Vinyl Acetate	ND		0.26
2,2-Dichloropropane	ND		0.052
(cis) 1,2-Dichloroethene	ND		0.052
2-Butanone	ND		0.26
Bromochloromethane	ND		0.052
Chloroform	ND		0.052
1,1,1-Trichloroethane	ND		0.052
Carbon Tetrachloride	ND		0.052
1,1-Dichloropropene	ND		0.052
Benzene	ND		0.052
1,2-Dichloroethane	ND		0.052
Trichloroethene	ND		0.052
1,2-Dichloropropane	ND		0.052
Dibromomethane	ND		0.052
Bromodichloromethane	ND		0.052
2-Chloroethyl Vinyl Ether	ND		0.26
(cis) 1,3-Dichloropropene	ND		0.052
Methyl Isobutyl Ketone	ND		0.26
Toluene	2.1		0.26
(trans) 1,3-Dichloropropene	ND		0.052

Date of Report: December 3, 2009
Samples Submitted: November 24, 2009
Laboratory Reference: 0911-191
Project: 841-003

VOLATILES by EPA 8260B
Page 2 of 2

Lab ID: 11-191-06
Client ID: B2-12.0

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.052
Tetrachloroethene	ND		0.052
1,3-Dichloropropane	ND		0.052
2-Hexanone	ND		0.26
Dibromochloromethane	ND		0.052
1,2-Dibromoethane	ND		0.052
Chlorobenzene	ND		0.052
1,1,1,2-Tetrachloroethane	ND		0.052
Ethylbenzene	6.4		0.52
m,p-Xylene	19		1.0
o-Xylene	5.0		0.052
Styrene	ND		0.052
Bromoform	ND		0.052
Isopropylbenzene	0.53		0.052
Bromobenzene	ND		0.052
1,1,2,2-Tetrachloroethane	ND		0.052
1,2,3-Trichloropropane	ND		0.052
n-Propylbenzene	1.0		0.052
2-Chlorotoluene	ND		0.052
4-Chlorotoluene	ND		0.052
1,3,5-Trimethylbenzene	3.5		0.052
tert-Butylbenzene	ND		0.052
1,2,4-Trimethylbenzene	8.4		0.052
sec-Butylbenzene	0.16		0.052
1,3-Dichlorobenzene	ND		0.052
p-Isopropyltoluene	0.19		0.052
1,4-Dichlorobenzene	ND		0.052
1,2-Dichlorobenzene	ND		0.052
n-Butylbenzene	0.29		0.052
1,2-Dibromo-3-chloropropane	ND		0.26
1,2,4-Trichlorobenzene	ND		0.052
Hexachlorobutadiene	ND		0.26
Naphthalene	ND		0.052
1,2,3-Trichlorobenzene	ND		0.052

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	84	55-125
Toluene-d8	122	56-127
4-Bromofluorobenzene	96	54-130

Date of Report: December 3, 2009
Samples Submitted: November 24, 2009
Laboratory Reference: 0911-191
Project: 841-003

VOLATILES by EPA 8260B
Page 2 of 2

Lab ID: 11-191-05
Client ID: B2-7.5

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		1.2
Tetrachloroethene	ND		1.2
1,3-Dichloropropane	ND		1.2
2-Hexanone	ND		6.1
Dibromochloromethane	ND		1.2
1,2-Dibromoethane	ND		1.2
Chlorobenzene	ND		1.2
1,1,1,2-Tetrachloroethane	ND		1.2
Ethylbenzene	62		1.2
m,p-Xylene	210		12
o-Xylene	62		1.2
Styrene	ND		1.2
Bromoform	ND		1.2
Isopropylbenzene	2.4		1.2
Bromobenzene	ND		1.2
1,1,2,2-Tetrachloroethane	ND		1.2
1,2,3-Trichloropropane	ND		1.2
n-Propylbenzene	3.7		1.2
2-Chlorotoluene	ND		1.2
4-Chlorotoluene	ND		1.2
1,3,5-Trimethylbenzene	9.0		1.2
tert-Butylbenzene	ND		1.2
1,2,4-Trimethylbenzene	18		1.2
sec-Butylbenzene	ND		1.2
1,3-Dichlorobenzene	ND		1.2
p-Isopropyltoluene	1.5		1.2
1,4-Dichlorobenzene	ND		1.2
1,2-Dichlorobenzene	ND		1.2
n-Butylbenzene	ND		1.2
1,2-Dibromo-3-chloropropane	ND		6.1
1,2,4-Trichlorobenzene	ND		1.2
Hexachlorobutadiene	ND		6.1
Naphthalene	ND		1.2
1,2,3-Trichlorobenzene	ND		1.2

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	91	55-125
Toluene-d8	101	56-127
4-Bromofluorobenzene	88	54-130

Date of Report: December 3, 2009
Samples Submitted: November 24, 2009
Laboratory Reference: 0911-191
Project: 841-003

VOLATILES by EPA 8260B
Page 1 of 2

Date Extracted:	11-25-09
Date Analyzed:	11-25-09
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	11-191-06
Client ID:	**B2-12.0**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.052
Chloromethane	ND		0.26
Vinyl Chloride	ND		0.052
Bromomethane	ND		0.052
Chloroethane	ND		0.26
Trichlorofluoromethane	ND		0.052
1,1-Dichloroethene	ND		0.052
Acetone	ND		0.26
Iodomethane	ND		0.26
Carbon Disulfide	ND		0.052
Methylene Chloride	ND		0.26
(trans) 1,2-Dichloroethene	ND		0.052
Methyl t-Butyl Ether	ND		0.052
1,1-Dichloroethane	ND		0.052
Vinyl Acetate	ND		0.26
2,2-Dichloropropane	ND		0.052
(cis) 1,2-Dichloroethene	ND		0.052
2-Butanone	ND		0.26
Bromochloromethane	ND		0.052
Chloroform	ND		0.052
1,1,1-Trichloroethane	ND		0.052
Carbon Tetrachloride	ND		0.052
1,1-Dichloropropene	ND		0.052
Benzene	ND		0.052
1,2-Dichloroethane	ND		0.052
Trichloroethene	ND		0.052
1,2-Dichloropropane	ND		0.052
Dibromomethane	ND		0.052
Bromodichloromethane	ND		0.052
2-Chloroethyl Vinyl Ether	ND		0.26
(cis) 1,3-Dichloropropene	ND		0.052
Methyl Isobutyl Ketone	ND		0.26
Toluene	2.1		0.26
(trans) 1,3-Dichloropropene	ND		0.052

Date of Report: December 3, 2009
Samples Submitted: November 24, 2009
Laboratory Reference: 0911-191
Project: 841-003

VOLATILES by EPA 8260B
Page 2 of 2

Lab ID: 11-191-06
Client ID: B2-12.0

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.052
Tetrachloroethene	ND		0.052
1,3-Dichloropropane	ND		0.052
2-Hexanone	ND		0.26
Dibromochloromethane	ND		0.052
1,2-Dibromoethane	ND		0.052
Chlorobenzene	ND		0.052
1,1,1,2-Tetrachloroethane	ND		0.052
Ethylbenzene	6.4		0.52
m,p-Xylene	19		1.0
o-Xylene	5.0		0.052
Styrene	ND		0.052
Bromoform	ND		0.052
Isopropylbenzene	0.53		0.052
Bromobenzene	ND		0.052
1,1,2,2-Tetrachloroethane	ND		0.052
1,2,3-Trichloropropane	ND		0.052
n-Propylbenzene	1.0		0.052
2-Chlorotoluene	ND		0.052
4-Chlorotoluene	ND		0.052
1,3,5-Trimethylbenzene	3.5		0.052
tert-Butylbenzene	ND		0.052
1,2,4-Trimethylbenzene	8.4		0.052
sec-Butylbenzene	0.16		0.052
1,3-Dichlorobenzene	ND		0.052
p-Isopropyltoluene	0.19		0.052
1,4-Dichlorobenzene	ND		0.052
1,2-Dichlorobenzene	ND		0.052
n-Butylbenzene	0.29		0.052
1,2-Dibromo-3-chloropropane	ND		0.26
1,2,4-Trichlorobenzene	ND		0.052
Hexachlorobutadiene	ND		0.26
Naphthalene	ND		0.052
1,2,3-Trichlorobenzene	ND		0.052

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	84	55-125
Toluene-d8	122	56-127
4-Bromofluorobenzene	96	54-130

Date of Report: December 3, 2009
Samples Submitted: November 24, 2009
Laboratory Reference: 0911-191
Project: 841-003

VOLATILES by EPA 8260B
Page 1 of 2

Date Extracted:	11-25-09
Date Analyzed:	11-25-09
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	11-191-10
Client ID:	**B3-7.5**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0011
Chloromethane	ND		0.0056
Vinyl Chloride	ND		0.0011
Bromomethane	ND		0.0011
Chloroethane	ND		0.0056
Trichlorofluoromethane	ND		0.0011
1,1-Dichloroethene	ND		0.0011
Acetone	0.014		0.0056
Iodomethane	ND		0.0056
Carbon Disulfide	ND		0.0011
Methylene Chloride	ND		0.0056
(trans) 1,2-Dichloroethene	ND		0.0011
Methyl t-Butyl Ether	ND		0.0011
1,1-Dichloroethane	ND		0.0011
Vinyl Acetate	ND		0.0056
2,2-Dichloropropane	ND		0.0011
(cis) 1,2-Dichloroethene	ND		0.0011
2-Butanone	ND		0.0056
Bromochloromethane	ND		0.0011
Chloroform	ND		0.0011
1,1,1-Trichloroethane	ND		0.0011
Carbon Tetrachloride	ND		0.0011
1,1-Dichloropropene	ND		0.0011
Benzene	ND		0.0011
1,2-Dichloroethane	ND		0.0011
Trichloroethene	ND		0.0011
1,2-Dichloropropane	ND		0.0011
Dibromomethane	ND		0.0011
Bromodichloromethane	ND		0.0011
2-Chloroethyl Vinyl Ether	ND		0.0056
(cis) 1,3-Dichloropropene	ND		0.0011
Methyl Isobutyl Ketone	ND		0.0056
Toluene	ND		0.0056
(trans) 1,3-Dichloropropene	ND		0.0011

Date of Report: December 3, 2009
Samples Submitted: November 24, 2009
Laboratory Reference: 0911-191
Project: 841-003

VOLATILES by EPA 8260B
Page 2 of 2

Lab ID: 11-191-10
Client ID: B3-7.5

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0011
Tetrachloroethene	ND		0.0011
1,3-Dichloropropane	ND		0.0011
2-Hexanone	ND		0.0056
Dibromochloromethane	ND		0.0011
1,2-Dibromoethane	ND		0.0011
Chlorobenzene	ND		0.0011
1,1,1,2-Tetrachloroethane	ND		0.0011
Ethylbenzene	ND		0.0011
m,p-Xylene	ND		0.0022
o-Xylene	ND		0.0011
Styrene	ND		0.0011
Bromoform	ND		0.0011
Isopropylbenzene	ND		0.0011
Bromobenzene	ND		0.0011
1,1,2,2-Tetrachloroethane	ND		0.0011
1,2,3-Trichloropropane	ND		0.0011
n-Propylbenzene	ND		0.0011
2-Chlorotoluene	ND		0.0011
4-Chlorotoluene	ND		0.0011
1,3,5-Trimethylbenzene	ND		0.0011
tert-Butylbenzene	ND		0.0011
1,2,4-Trimethylbenzene	ND		0.0011
sec-Butylbenzene	ND		0.0011
1,3-Dichlorobenzene	ND		0.0011
p-Isopropyltoluene	ND		0.0011
1,4-Dichlorobenzene	ND		0.0011
1,2-Dichlorobenzene	ND		0.0011
n-Butylbenzene	ND		0.0011
1,2-Dibromo-3-chloropropane	ND		0.0056
1,2,4-Trichlorobenzene	ND		0.0011
Hexachlorobutadiene	ND		0.0056
Naphthalene	ND		0.0011
1,2,3-Trichlorobenzene	ND		0.0011

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	92	55-125
Toluene-d8	89	56-127
4-Bromofluorobenzene	93	54-130

Date of Report: December 3, 2009
Samples Submitted: November 24, 2009
Laboratory Reference: 0911-191
Project: 841-003

VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
Page 1 of 2

Date Extracted:	11-25-09
Date Analyzed:	11-25-09
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	MB1125S1

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0010
Chloromethane	ND		0.0050
Vinyl Chloride	ND		0.0010
Bromomethane	ND		0.0010
Chloroethane	ND		0.0050
Trichlorofluoromethane	ND		0.0010
1,1-Dichloroethene	ND		0.0010
Acetone	ND		0.0050
Iodomethane	ND		0.0050
Carbon Disulfide	ND		0.0010
Methylene Chloride	ND		0.0050
(trans) 1,2-Dichloroethene	ND		0.0010
Methyl t-Butyl Ether	ND		0.0010
1,1-Dichloroethane	ND		0.0010
Vinyl Acetate	ND		0.0050
2,2-Dichloropropane	ND		0.0010
(cis) 1,2-Dichloroethene	ND		0.0010
2-Butanone	ND		0.0050
Bromochloromethane	ND		0.0010
Chloroform	ND		0.0010
1,1,1-Trichloroethane	ND		0.0010
Carbon Tetrachloride	ND		0.0010
1,1-Dichloropropene	ND		0.0010
Benzene	ND		0.0010
1,2-Dichloroethane	ND		0.0010
Trichloroethene	ND		0.0010
1,2-Dichloropropane	ND		0.0010
Dibromomethane	ND		0.0010
Bromodichloromethane	ND		0.0010
2-Chloroethyl Vinyl Ether	ND		0.0050
(cis) 1,3-Dichloropropene	ND		0.0010
Methyl Isobutyl Ketone	ND		0.0050
Toluene	ND		0.0050
(trans) 1,3-Dichloropropene	ND		0.0010

Date of Report: December 3, 2009
Samples Submitted: November 24, 2009
Laboratory Reference: 0911-191
Project: 841-003

VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
Page 2 of 2

Lab ID: MB1125S1

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0010
Tetrachloroethene	ND		0.0010
1,3-Dichloropropane	ND		0.0010
2-Hexanone	ND		0.0050
Dibromochloromethane	ND		0.0010
1,2-Dibromoethane	ND		0.0010
Chlorobenzene	ND		0.0010
1,1,1,2-Tetrachloroethane	ND		0.0010
Ethylbenzene	ND		0.0010
m,p-Xylene	ND		0.0020
o-Xylene	ND		0.0010
Styrene	ND		0.0010
Bromoform	ND		0.0010
Isopropylbenzene	ND		0.0010
Bromobenzene	ND		0.0010
1,1,2,2-Tetrachloroethane	ND		0.0010
1,2,3-Trichloropropane	ND		0.0010
n-Propylbenzene	ND		0.0010
2-Chlorotoluene	ND		0.0010
4-Chlorotoluene	ND		0.0010
1,3,5-Trimethylbenzene	ND		0.0010
tert-Butylbenzene	ND		0.0010
1,2,4-Trimethylbenzene	ND		0.0010
sec-Butylbenzene	ND		0.0010
1,3-Dichlorobenzene	ND		0.0010
p-Isopropyltoluene	ND		0.0010
1,4-Dichlorobenzene	ND		0.0010
1,2-Dichlorobenzene	ND		0.0010
n-Butylbenzene	ND		0.0010
1,2-Dibromo-3-chloropropane	ND		0.0050
1,2,4-Trichlorobenzene	ND		0.0010
Hexachlorobutadiene	ND		0.0050
Naphthalene	ND		0.0010
1,2,3-Trichlorobenzene	ND		0.0010

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	92	55-125
Toluene-d8	89	56-127
4-Bromofluorobenzene	95	54-130

Date of Report: December 3, 2009
Samples Submitted: November 24, 2009
Laboratory Reference: 0911-191
Project: 841-003

VOLATILES by EPA 8260B
SB/SBD QUALITY CONTROL

Date Extracted: 11-25-09
Date Analyzed: 11-25-09

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: SB1125S1

Compound	Spike Amount	SB	Percent Recovery	SBD	Percent Recovery	Recovery Limits	Flags
1,1-Dichloroethene	0.0500	0.0401	80	0.0456	91	70-130	
Benzene	0.0500	0.0420	84	0.0450	90	70-128	
Trichloroethene	0.0500	0.0464	93	0.0435	87	70-124	
Toluene	0.0500	0.0452	90	0.0405	81	73-123	
Chlorobenzene	0.0500	0.0525	105	0.0509	102	73-115	

	RPD	RPD Limit	Flags
1,1-Dichloroethene	13	16	
Benzene	7	15	
Trichloroethene	7	14	
Toluene	11	14	
Chlorobenzene	3	13	

Date of Report: December 3, 2009
Samples Submitted: November 24, 2009
Laboratory Reference: 0911-191
Project: 841-003

VOLATILES by EPA 8260B
Page 1 of 2

Date Extracted:	11-25&12-1-09
Date Analyzed:	11-25&12-1-09
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	11-191-03
Client ID:	**B1-112409-GW**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		20
Chloromethane	ND		100
Vinyl Chloride	ND		20
Bromomethane	ND		20
Chloroethane	ND		100
Trichlorofluoromethane	ND		20
1,1-Dichloroethene	ND		20
Acetone	ND		500
Iodomethane	ND		100
Carbon Disulfide	ND		20
Methylene Chloride	ND		100
(trans) 1,2-dichloroethene	ND		20
Methyl t-Butyl Ether	ND		20
1,1-Dichloroethane	ND		20
Vinyl Acetate	ND		200
2,2-Dichloropropane	ND		20
(cis) 1,2-Dichloroethene	ND		20
2-Butanone	ND		500
Bromochloromethane	ND		20
Chloroform	ND		20
1,1,1-Trichloroethane	ND		20
Carbon Tetrachloride	ND		20
1,1-Dichloropropene	ND		20
Benzene	ND		20
1,2-Dichloroethane	ND		20
Trichloroethene	ND		20
1,2-Dichloropropane	ND		20
Dibromomethane	ND		20
Bromodichloromethane	ND		20
2-Chloroethyl Vinyl Ether	ND		100
(cis) 1,3-Dichloropropene	ND		20
Methyl Isobutyl Ketone	ND		200
Toluene	1200		100
(trans) 1,3-Dichloropropene	ND		20

Date of Report: December 3, 2009
Samples Submitted: November 24, 2009
Laboratory Reference: 0911-191
Project: 841-003

VOLATILES by EPA 8260B
Page 2 of 2

Lab ID: 11-191-03
Client ID: B1-112409-GW

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		20
Tetrachloroethene	ND		20
1,3-Dichloropropane	ND		20
2-Hexanone	ND		200
Dibromochloromethane	ND		20
1,2-Dibromoethane	ND		20
Chlorobenzene	ND		20
1,1,1,2-Tetrachloroethane	ND		20
Ethylbenzene	2800		20
m,p-Xylene	7100		100
o-Xylene	5800		50
Styrene	ND		20
Bromoform	ND		100
Isopropylbenzene	200		20
Bromobenzene	ND		20
1,1,2,2-Tetrachloroethane	ND		20
1,2,3-Trichloropropane	ND		20
n-Propylbenzene	110		20
2-Chlorotoluene	ND		20
4-Chlorotoluene	ND		20
1,3,5-Trimethylbenzene	21		20
tert-Butylbenzene	ND		20
1,2,4-Trimethylbenzene	44		20
sec-Butylbenzene	ND		20
1,3-Dichlorobenzene	ND		20
p-Isopropyltoluene	ND		20
1,4-Dichlorobenzene	ND		20
1,2-Dichlorobenzene	ND		20
n-Butylbenzene	ND		20
1,2-Dibromo-3-chloropropane	ND		100
1,2,4-Trichlorobenzene	ND		20
Hexachlorobutadiene	ND		20
Naphthalene	ND		100
1,2,3-Trichlorobenzene	ND		20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	79	71-126
Toluene-d8	85	76-116
4-Bromofluorobenzene	90	70-123

Date of Report: December 3, 2009
Samples Submitted: November 24, 2009
Laboratory Reference: 0911-191
Project: 841-003

VOLATILES by EPA 8260B
Page 1 of 2

Date Extracted:	11-25&12-1-09
Date Analyzed:	11-25&12-1-09
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	11-191-08
Client ID:	**B2-112409-GW**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		20
Chloromethane	ND		100
Vinyl Chloride	ND		20
Bromomethane	ND		20
Chloroethane	ND		100
Trichlorofluoromethane	ND		20
1,1-Dichloroethene	ND		20
Acetone	ND		500
Iodomethane	ND		100
Carbon Disulfide	ND		20
Methylene Chloride	ND		100
(trans) 1,2-dichloroethene	ND		20
Methyl t-Butyl Ether	ND		20
1,1-Dichloroethane	ND		20
Vinyl Acetate	ND		200
2,2-Dichloropropane	ND		20
(cis) 1,2-Dichloroethene	ND		20
2-Butanone	ND		500
Bromochloromethane	ND		20
Chloroform	ND		20
1,1,1-Trichloroethane	ND		20
Carbon Tetrachloride	ND		20
1,1-Dichloropropene	ND		20
Benzene	330		20
1,2-Dichloroethane	ND		20
Trichloroethene	ND		20
1,2-Dichloropropane	ND		20
Dibromomethane	ND		20
Bromodichloromethane	ND		20
2-Chloroethyl Vinyl Ether	ND		100
(cis) 1,3-Dichloropropene	ND		20
Methyl Isobutyl Ketone	240		200
Toluene	91000		5000
(trans) 1,3-Dichloropropene	ND		20

Date of Report: December 3, 2009
Samples Submitted: November 24, 2009
Laboratory Reference: 0911-191
Project: 841-003

VOLATILES by EPA 8260B
Page 2 of 2

Lab ID: 11-191-08
Client ID: B2-112409-GW

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		20
Tetrachloroethene	ND		20
1,3-Dichloropropane	ND		20
2-Hexanone	ND		200
Dibromochloromethane	ND		20
1,2-Dibromoethane	ND		20
Chlorobenzene	ND		20
1,1,1,2-Tetrachloroethane	ND		20
Ethylbenzene	4000		200
m,p-Xylene	7600		400
o-Xylene	3800		200
Styrene	ND		20
Bromoform	ND		100
Isopropylbenzene	39		20
Bromobenzene	ND		20
1,1,2,2-Tetrachloroethane	ND		20
1,2,3-Trichloropropane	ND		20
n-Propylbenzene	37		20
2-Chlorotoluene	ND		20
4-Chlorotoluene	ND		20
1,3,5-Trimethylbenzene	53		20
tert-Butylbenzene	ND		20
1,2,4-Trimethylbenzene	130		20
sec-Butylbenzene	ND		20
1,3-Dichlorobenzene	ND		20
p-Isopropyltoluene	ND		20
1,4-Dichlorobenzene	ND		20
1,2-Dichlorobenzene	ND		20
n-Butylbenzene	ND		20
1,2-Dibromo-3-chloropropane	ND		100
1,2,4-Trichlorobenzene	ND		20
Hexachlorobutadiene	ND		20
Naphthalene	ND		100
1,2,3-Trichlorobenzene	ND		20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	78	71-126
Toluene-d8	86	76-116
4-Bromofluorobenzene	100	70-123

Date of Report: December 3, 2009
Samples Submitted: November 24, 2009
Laboratory Reference: 0911-191
Project: 841-003

VOLATILES by EPA 8260B
Page 1 of 2

Date Extracted:	12-1-09
Date Analyzed:	12-1-09
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	11-191-13
Client ID:	**B3-112409-GW**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.20
Chloromethane	ND		1.0
Vinyl Chloride	ND		0.20
Bromomethane	ND		0.20
Chloroethane	ND		1.0
Trichlorofluoromethane	ND		0.20
1,1-Dichloroethene	ND		0.20
Acetone	ND		5.0
Iodomethane	ND		1.0
Carbon Disulfide	ND		0.20
Methylene Chloride	ND		1.0
(trans) 1,2-dichloroethene	ND		0.20
Methyl t-Butyl Ether	ND		0.20
1,1-Dichloroethane	ND		0.20
Vinyl Acetate	ND		2.0
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	0.41		0.20
2-Butanone	ND		5.0
Bromochloromethane	ND		0.20
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
Benzene	ND		0.20
1,2-Dichloroethane	ND		0.20
Trichloroethene	ND		0.20
1,2-Dichloropropane	ND		0.20
Dibromomethane	ND		0.20
Bromodichloromethane	ND		0.20
2-Chloroethyl Vinyl Ether	ND		1.0
(cis) 1,3-Dichloropropene	ND		0.20
Methyl Isobutyl Ketone	ND		2.0
Toluene	ND		5.0
(trans) 1,3-Dichloropropene	ND		0.20

Date of Report: December 3, 2009
Samples Submitted: November 24, 2009
Laboratory Reference: 0911-191
Project: 841-003

VOLATILES by EPA 8260B
Page 2 of 2

Lab ID: 11-191-13
Client ID: B3-112409-GW

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	ND		0.20
1,3-Dichloropropane	ND		0.20
2-Hexanone	ND		2.0
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Ethylbenzene	0.64		0.20
m,p-Xylene	3.5		0.40
o-Xylene	2.0		0.20
Styrene	ND		0.20
Bromoform	ND		1.0
Isopropylbenzene	0.44		0.20
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
n-Propylbenzene	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3,5-Trimethylbenzene	ND		0.20
tert-Butylbenzene	ND		0.20
1,2,4-Trimethylbenzene	ND		0.20
sec-Butylbenzene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
p-Isopropyltoluene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
n-Butylbenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
Naphthalene	ND		1.0
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	79	71-126
Toluene-d8	81	76-116
4-Bromofluorobenzene	77	70-123

Date of Report: December 3, 2009
Samples Submitted: November 24, 2009
Laboratory Reference: 0911-191
Project: 841-003

VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
Page 1 of 2

Date Extracted:	11-25-09
Date Analyzed:	11-25-09
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	MB1125W1

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.20
Chloromethane	ND		1.0
Vinyl Chloride	ND		0.20
Bromomethane	ND		0.20
Chloroethane	ND		1.0
Trichlorofluoromethane	ND		0.20
1,1-Dichloroethene	ND		0.20
Acetone	ND		5.0
Iodomethane	ND		1.0
Carbon Disulfide	ND		0.20
Methylene Chloride	ND		1.0
(trans) 1,2-dichloroethene	ND		0.20
Methyl t-Butyl Ether	ND		0.20
1,1-Dichloroethane	ND		0.20
Vinyl Acetate	ND		2.0
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
2-Butanone	ND		5.0
Bromochloromethane	ND		0.20
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
Benzene	ND		0.20
1,2-Dichloroethane	ND		0.20
Trichloroethene	ND		0.20
1,2-Dichloropropane	ND		0.20
Dibromomethane	ND		0.20
Bromodichloromethane	ND		0.20
2-Chloroethyl Vinyl Ether	ND		1.0
(cis) 1,3-Dichloropropene	ND		0.20
Methyl Isobutyl Ketone	ND		2.0
Toluene	ND		1.0
(trans) 1,3-Dichloropropene	ND		0.20

Date of Report: December 3, 2009
Samples Submitted: November 24, 2009
Laboratory Reference: 0911-191
Project: 841-003

VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
Page 2 of 2

Lab ID: MB1125W1

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	ND		0.20
1,3-Dichloropropane	ND		0.20
2-Hexanone	ND		2.0
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Ethylbenzene	ND		0.20
m,p-Xylene	ND		0.40
o-Xylene	ND		0.20
Styrene	ND		0.20
Bromoform	ND		1.0
Isopropylbenzene	ND		0.20
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
n-Propylbenzene	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3,5-Trimethylbenzene	ND		0.20
tert-Butylbenzene	ND		0.20
1,2,4-Trimethylbenzene	ND		0.20
sec-Butylbenzene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
p-Isopropyltoluene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
n-Butylbenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
Naphthalene	ND		1.0
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	87	71-126
Toluene-d8	87	76-116
4-Bromofluorobenzene	92	70-123

Date of Report: December 3, 2009
Samples Submitted: November 24, 2009
Laboratory Reference: 0911-191
Project: 841-003

VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
Page 1 of 2

Date Extracted:	12-1-09
Date Analyzed:	12-1-09
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	MB1201W1

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.20
Chloromethane	ND		1.0
Vinyl Chloride	ND		0.20
Bromomethane	ND		0.20
Chloroethane	ND		1.0
Trichlorofluoromethane	ND		0.20
1,1-Dichloroethene	ND		0.20
Acetone	ND		5.0
Iodomethane	ND		1.0
Carbon Disulfide	ND		0.20
Methylene Chloride	ND		1.0
(trans) 1,2-dichloroethene	ND		0.20
Methyl t-Butyl Ether	ND		0.20
1,1-Dichloroethane	ND		0.20
Vinyl Acetate	ND		2.0
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
2-Butanone	ND		5.0
Bromochloromethane	ND		0.20
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
Benzene	ND		0.20
1,2-Dichloroethane	ND		0.20
Trichloroethene	ND		0.20
1,2-Dichloropropane	ND		0.20
Dibromomethane	ND		0.20
Bromodichloromethane	ND		0.20
2-Chloroethyl Vinyl Ether	ND		1.0
(cis) 1,3-Dichloropropene	ND		0.20
Methyl Isobutyl Ketone	ND		2.0
Toluene	ND		1.0
(trans) 1,3-Dichloropropene	ND		0.20

Date of Report: December 3, 2009
Samples Submitted: November 24, 2009
Laboratory Reference: 0911-191
Project: 841-003

VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
Page 2 of 2

Lab ID: MB1201W1

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	ND		0.20
1,3-Dichloropropane	ND		0.20
2-Hexanone	ND		2.0
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Ethylbenzene	ND		0.20
m,p-Xylene	ND		0.40
o-Xylene	ND		0.20
Styrene	ND		0.20
Bromoform	ND		1.0
Isopropylbenzene	ND		0.20
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
n-Propylbenzene	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3,5-Trimethylbenzene	ND		0.20
tert-Butylbenzene	ND		0.20
1,2,4-Trimethylbenzene	ND		0.20
sec-Butylbenzene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
p-Isopropyltoluene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
n-Butylbenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
Naphthalene	ND		1.0
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	78	71-126
Toluene-d8	82	76-116
4-Bromofluorobenzene	78	70-123

Date of Report: December 3, 2009
Samples Submitted: November 24, 2009
Laboratory Reference: 0911-191
Project: 841-003

VOLATILES by EPA 8260B
SB/SBD QUALITY CONTROL

Date Extracted: 11-25-09
Date Analyzed: 11-25-09

Matrix: Water
Units: ug/L (ppb)

Lab ID: SB1125W1

Compound	Spike Amount	SB	Percent Recovery	SBD	Percent Recovery	Recovery Limits	Flags
1,1-Dichloroethene	10.0	10.7	107	9.80	98	70-130	
Benzene	10.0	10.1	101	9.34	93	70-130	
Trichloroethene	10.0	9.79	98	9.11	91	70-123	
Toluene	10.0	9.86	99	9.41	94	77-120	
Chlorobenzene	10.0	9.76	98	9.44	94	73-115	

	RPD	RPD Limit	Flags
1,1-Dichloroethene	9	21	
Benzene	7	18	
Trichloroethene	7	18	
Toluene	5	17	
Chlorobenzene	3	18	

Date of Report: December 3, 2009
Samples Submitted: November 24, 2009
Laboratory Reference: 0911-191
Project: 841-003

VOLATILES by EPA 8260B
SB/SBD QUALITY CONTROL

Date Extracted: 12-1-09
Date Analyzed: 12-1-09

Matrix: Water
Units: ug/L (ppb)

Lab ID: SB1201W1

Compound	Spike Amount	SB	Percent Recovery	SBD	Percent Recovery	Recovery Limits	Flags
1,1-Dichloroethene	10.0	11.5	115	12.5	125	70-130	
Benzene	10.0	9.08	91	9.29	93	70-130	
Trichloroethene	10.0	9.72	97	9.38	94	70-123	
Toluene	10.0	8.61	86	8.59	86	77-120	
Chlorobenzene	10.0	10.1	101	9.76	98	73-115	

	RPD	RPD Limit	Flags
1,1-Dichloroethene	8	21	
Benzene	2	18	
Trichloroethene	4	18	
Toluene	0	17	
Chlorobenzene	4	18	

Date of Report: December 3, 2009
Samples Submitted: November 24, 2009
Laboratory Reference: 0911-191
Project: 841-003

% MOISTURE

Date Analyzed: 11-25-09

Client ID	Lab ID	% Moisture
B1-9.5	11-191-02	22
B2-7.5	11-191-05	13
B2-12.0	11-191-06	12
B3-7.5	11-191-10	13

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in the diesel range are impacting the lube oil range result.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

Y - Sample extract treated with an acid/silica gel cleanup procedure.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

OnSite Environmental Inc.
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Page 1 of 2

Company: FARALLON
Project Number: 841-003
Project Name: GACO WESTERN
Project Manager: KEN SCOTT
Sampled by: Ken Scott

Turnaround Request (in working days)

(Check One)

- ☐ Same Day
- ☐ 1 Day
- ☐ 2 Day
- ☐ 3 Day
- ⊗ Standard (7 working days) (TPH analysis 5 working days)
- ☐ _____ (other)

Laboratory Number: 11-191

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8260B	Halogenated Volatiles by 8260B	Semivolatiles by 8270D / SIM	PAHs by 8270D / SIM	PCBs by 8082	Pesticides by 8081A	Herbicides by 8151A	Total RCRA Metals (8)	TCLP Metals	HEM by 1664	% Moisture
1	B1-2.5	11/24/09	930	S	4														
2	B1-9.5		945	S	4				⊗										⊗
3	B1-112409-GW		1030	W	3				⊗										
4	B2-2.5		1130	S	4														
5	B2-7.5		1150	S	4				⊗										⊗
6	B2-12.0		1215	S	4				⊗										⊗
7	B2-16.0		1230	S	4														
8	B2-112409-GW		1245	W	3				⊗										
9	B3-2.5		1330	S	4														
10	B3-7.5	↓	1350	S	4				⊗										⊗

	Signature	Company	Date	Time
Relinquished by	Ken Scott	FARALLON	11/24/09	1450
Received by	Brian Fuller	Speedy	11/24/09	1450
Relinquished by	Brian Fuller	Speedy	11/24/09	1530
Received by		OSE	11/24/09	1530
Relinquished by				
Received by				
Reviewed by/Date		Reviewed by/Date		

Comments/Special Instructions:
Hold samples, RC will call@ analysis.
⊗ Requested 11/25/09. DJ

Chromatograms with final report ☐

DISTRIBUTION LEGEND: White - OnSite Copy Yellow - Client Copy

Chain of Custody

OnSite Environmental Inc.
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Laboratory Number: 11-191

Company: FARALLON
Project Number: 841-003
Project Name: GACO WESTERN
Project Manager: KEN SCOTT
Sampled by: Ken Scott

Turnaround Request (in working days)

(Check One)

- ☐ Same Day ☐ 1 Day
- ☐ 2 Day ☐ 3 Day
- ☒ Standard (7 working days) (TPH analysis 5 working days)
- ☐ _____ (other)

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8260B	Halogenated Volatiles by 8260B	Semivolatiles by 8270D / SIM	PAHs by 8270D / SIM	PCBs by 8082	Pesticides by 8081A	Herbicides by 8151A	Total RCRA Metals (8)	TCLP Metals	HEM by 1664	% Moisture
11	B3-12.5	11/24/09	1410	S	4														
12	B3-16.5	↓	1420	S	4														
13	B3-112409-GW	↓	1430	W	3				☒										

	Signature	Company	Date	Time
Relinquished by	Ken Scott	FARALLON	11/24/09	1450
Received by	Brian Fouth	Speedy	11/24/09	1450
Relinquished by	Brian Fouth	Speedy	11/24/09	1530
Received by		LOE	11/24/09	1530
Relinquished by				
Received by				
Reviewed by/Date		Reviewed by/Date		

Comments/Special Instructions:
Hold samples, RC will call w ANALYSIS.
☒ Requested 11/25/09. DB

Chromatograms with final report ☐

DISTRIBUTION LEGEND: White - OnSite Copy Yellow - Client Copy

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

December 8, 2009

Ken Scott
Farallon Consulting, LLC
975 5th Avenue NW
Issaquah, WA 98027

Re: Analytical Data for Project 841-003
Laboratory Reference No. 0911-215

Dear Ken:

Enclosed are the analytical results and associated quality control data for samples submitted on November 25, 2009.

The standard policy of OnSite Environmental Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

Case Narrative

Samples were collected on November 24 and 25, 2009, and received by the laboratory on November 25, 2009. They were maintained at the laboratory at a temperature of 2°C to 6°C except as noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Volatiles (soil) EPA 8260B Analysis

Per EPA Method 5035A, samples were received by the laboratory in pre-weighed 40 mL VOA vials within 48 hours of sample collection. They were stored in a freezer at between -7°C and -20°C until extraction or analysis.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

VOLATILES by EPA 8260B
Page 1 of 2

Date Extracted:	12-2-09
Date Analyzed:	12-2&3-09
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	11-215-03
Client ID:	**B4-12.5**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		16
Chloromethane	ND		80
Vinyl Chloride	ND		16
Bromomethane	ND		16
Chloroethane	ND		80
Trichlorofluoromethane	ND		16
1,1-Dichloroethene	ND		16
Acetone	ND		80
Iodomethane	ND		80
Carbon Disulfide	ND		16
Methylene Chloride	ND		80
(trans) 1,2-Dichloroethene	ND		16
Methyl t-Butyl Ether	ND		16
1,1-Dichloroethane	ND		16
Vinyl Acetate	ND		80
2,2-Dichloropropane	ND		16
(cis) 1,2-Dichloroethene	ND		16
2-Butanone	ND		80
Bromochloromethane	ND		16
Chloroform	ND		16
1,1,1-Trichloroethane	ND		16
Carbon Tetrachloride	ND		16
1,1-Dichloropropene	ND		16
Benzene	ND		16
1,2-Dichloroethane	ND		16
Trichloroethene	ND		16
1,2-Dichloropropane	ND		16
Dibromomethane	ND		16
Bromodichloromethane	ND		16
2-Chloroethyl Vinyl Ether	ND		80
(cis) 1,3-Dichloropropene	ND		16
Methyl Isobutyl Ketone	ND		80
Toluene	5500		400
(trans) 1,3-Dichloropropene	ND		16

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

VOLATILES by EPA 8260B
Page 2 of 2

Lab ID: 11-215-03
Client ID: B4-12.5

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		16
Tetrachloroethene	ND		16
1,3-Dichloropropane	ND		16
2-Hexanone	ND		80
Dibromochloromethane	ND		16
1,2-Dibromoethane	ND		16
Chlorobenzene	ND		16
1,1,1,2-Tetrachloroethane	ND		16
Ethylbenzene	1900		80
m,p-Xylene	4700		160
o-Xylene	1300		16
Styrene	ND		16
Bromoform	ND		16
Isopropylbenzene	52		16
Bromobenzene	ND		16
1,1,2,2-Tetrachloroethane	ND		16
1,2,3-Trichloropropane	ND		16
n-Propylbenzene	88		16
2-Chlorotoluene	ND		16
4-Chlorotoluene	ND		16
1,3,5-Trimethylbenzene	120		16
tert-Butylbenzene	ND		16
1,2,4-Trimethylbenzene	200		16
sec-Butylbenzene	ND		16
1,3-Dichlorobenzene	ND		16
p-Isopropyltoluene	ND		16
1,4-Dichlorobenzene	ND		16
1,2-Dichlorobenzene	ND		16
n-Butylbenzene	ND		16
1,2-Dibromo-3-chloropropane	ND		80
1,2,4-Trichlorobenzene	ND		16
Hexachlorobutadiene	ND		80
Naphthalene	ND		16
1,2,3-Trichlorobenzene	ND		16

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	96	55-125
Toluene-d8	90	56-127
4-Bromofluorobenzene	89	54-130

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

VOLATILES by EPA 8260B
Page 1 of 2

Date Extracted:	12-2-09
Date Analyzed:	12-2-09
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	11-215-08
Client ID:	**B5-15.0**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0011
Chloromethane	ND		0.0056
Vinyl Chloride	ND		0.0011
Bromomethane	ND		0.0011
Chloroethane	ND		0.0056
Trichlorofluoromethane	ND		0.0011
1,1-Dichloroethene	ND		0.0011
Acetone	0.12		0.0056
Iodomethane	ND		0.0056
Carbon Disulfide	ND		0.0011
Methylene Chloride	ND		0.0056
(trans) 1,2-Dichloroethene	ND		0.0011
Methyl t-Butyl Ether	ND		0.0011
1,1-Dichloroethane	ND		0.0011
Vinyl Acetate	ND		0.0056
2,2-Dichloropropane	ND		0.0011
(cis) 1,2-Dichloroethene	ND		0.0011
2-Butanone	0.022		0.0056
Bromochloromethane	ND		0.0011
Chloroform	ND		0.0011
1,1,1-Trichloroethane	ND		0.0011
Carbon Tetrachloride	ND		0.0011
1,1-Dichloropropene	ND		0.0011
Benzene	0.0016		0.0011
1,2-Dichloroethane	ND		0.0011
Trichloroethene	ND		0.0011
1,2-Dichloropropane	ND		0.0011
Dibromomethane	ND		0.0011
Bromodichloromethane	ND		0.0011
2-Chloroethyl Vinyl Ether	ND		0.0056
(cis) 1,3-Dichloropropene	ND		0.0011
Methyl Isobutyl Ketone	ND		0.0056
Toluene	ND		0.0056
(trans) 1,3-Dichloropropene	ND		0.0011

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

VOLATILES by EPA 8260B
Page 2 of 2

Lab ID: 11-215-08
Client ID: B5-15.0

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0011
Tetrachloroethene	ND		0.0011
1,3-Dichloropropane	ND		0.0011
2-Hexanone	ND		0.0056
Dibromochloromethane	ND		0.0011
1,2-Dibromoethane	ND		0.0011
Chlorobenzene	ND		0.0011
1,1,1,2-Tetrachloroethane	ND		0.0011
Ethylbenzene	ND		0.0011
m,p-Xylene	0.0074		0.0023
o-Xylene	ND		0.0011
Styrene	ND		0.0011
Bromoform	ND		0.0011
Isopropylbenzene	0.0016		0.0011
Bromobenzene	ND		0.0011
1,1,2,2-Tetrachloroethane	ND		0.0011
1,2,3-Trichloropropane	ND		0.0011
n-Propylbenzene	0.0019		0.0011
2-Chlorotoluene	ND		0.0011
4-Chlorotoluene	ND		0.0011
1,3,5-Trimethylbenzene	ND		0.0011
tert-Butylbenzene	ND		0.0011
1,2,4-Trimethylbenzene	0.0016		0.0011
sec-Butylbenzene	ND		0.0011
1,3-Dichlorobenzene	ND		0.0011
p-Isopropyltoluene	ND		0.0011
1,4-Dichlorobenzene	ND		0.0011
1,2-Dichlorobenzene	ND		0.0011
n-Butylbenzene	ND		0.0011
1,2-Dibromo-3-chloropropane	ND		0.0056
1,2,4-Trichlorobenzene	ND		0.0011
Hexachlorobutadiene	ND		0.0056
Naphthalene	ND		0.0011
1,2,3-Trichlorobenzene	ND		0.0011

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	94	55-125
Toluene-d8	92	56-127
4-Bromofluorobenzene	88	54-130

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

VOLATILES by EPA 8260B
Page 1 of 2

Date Extracted:	12-2-09
Date Analyzed:	12-3-09
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	11-215-11
Client ID:	**B6-15.0**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		8.7
Chloromethane	ND		43
Vinyl Chloride	ND		8.7
Bromomethane	ND		8.7
Chloroethane	ND		43
Trichlorofluoromethane	ND		8.7
1,1-Dichloroethene	ND		8.7
Acetone	ND		43
Iodomethane	ND		43
Carbon Disulfide	ND		8.7
Methylene Chloride	ND		43
(trans) 1,2-Dichloroethene	ND		8.7
Methyl t-Butyl Ether	ND		8.7
1,1-Dichloroethane	ND		8.7
Vinyl Acetate	ND		43
2,2-Dichloropropane	ND		8.7
(cis) 1,2-Dichloroethene	ND		8.7
2-Butanone	ND		43
Bromochloromethane	ND		8.7
Chloroform	ND		8.7
1,1,1-Trichloroethane	ND		8.7
Carbon Tetrachloride	ND		8.7
1,1-Dichloropropene	ND		8.7
Benzene	ND		8.7
1,2-Dichloroethane	ND		8.7
Trichloroethene	ND		8.7
1,2-Dichloropropane	ND		8.7
Dibromomethane	ND		8.7
Bromodichloromethane	ND		8.7
2-Chloroethyl Vinyl Ether	ND		43
(cis) 1,3-Dichloropropene	ND		8.7
Methyl Isobutyl Ketone	ND		43
Toluene	190		43
(trans) 1,3-Dichloropropene	ND		8.7

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

VOLATILES by EPA 8260B
Page 2 of 2

Lab ID: 11-215-11
Client ID: B6-15.0

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		8.7
Tetrachloroethene	ND		8.7
1,3-Dichloropropane	ND		8.7
2-Hexanone	ND		43
Dibromochloromethane	ND		8.7
1,2-Dibromoethane	ND		8.7
Chlorobenzene	ND		8.7
1,1,1,2-Tetrachloroethane	ND		8.7
Ethylbenzene	370		8.7
m,p-Xylene	1100		17
o-Xylene	610		8.7
Styrene	ND		8.7
Bromoform	ND		8.7
Isopropylbenzene	12		8.7
Bromobenzene	ND		8.7
1,1,2,2-Tetrachloroethane	ND		8.7
1,2,3-Trichloropropane	ND		8.7
n-Propylbenzene	10		8.7
2-Chlorotoluene	ND		8.7
4-Chlorotoluene	ND		8.7
1,3,5-Trimethylbenzene	12		8.7
tert-Butylbenzene	ND		8.7
1,2,4-Trimethylbenzene	20		8.7
sec-Butylbenzene	ND		8.7
1,3-Dichlorobenzene	ND		8.7
p-Isopropyltoluene	ND		8.7
1,4-Dichlorobenzene	ND		8.7
1,2-Dichlorobenzene	ND		8.7
n-Butylbenzene	ND		8.7
1,2-Dibromo-3-chloropropane	ND		43
1,2,4-Trichlorobenzene	ND		8.7
Hexachlorobutadiene	ND		43
Naphthalene	ND		8.7
1,2,3-Trichlorobenzene	ND		8.7

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	94	55-125
Toluene-d8	86	56-127
4-Bromofluorobenzene	85	54-130

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

VOLATILES by EPA 8260B
Page 1 of 2

Date Extracted:	12-3-09
Date Analyzed:	12-3-09
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	11-215-16
Client ID:	**B7-16.0**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0011
Chloromethane	ND		0.0053
Vinyl Chloride	ND		0.0011
Bromomethane	ND		0.0011
Chloroethane	ND		0.0053
Trichlorofluoromethane	ND		0.0011
1,1-Dichloroethene	ND		0.0011
Acetone	ND		0.0053
Iodomethane	ND		0.0053
Carbon Disulfide	ND		0.0011
Methylene Chloride	ND		0.0053
(trans) 1,2-Dichloroethene	ND		0.0011
Methyl t-Butyl Ether	ND		0.0011
1,1-Dichloroethane	ND		0.0011
Vinyl Acetate	ND		0.0053
2,2-Dichloropropane	ND		0.0011
(cis) 1,2-Dichloroethene	ND		0.0011
2-Butanone	ND		0.0053
Bromochloromethane	ND		0.0011
Chloroform	ND		0.0011
1,1,1-Trichloroethane	ND		0.0011
Carbon Tetrachloride	ND		0.0011
1,1-Dichloropropene	ND		0.0011
Benzene	ND		0.0011
1,2-Dichloroethane	ND		0.0011
Trichloroethene	ND		0.0011
1,2-Dichloropropane	ND		0.0011
Dibromomethane	ND		0.0011
Bromodichloromethane	ND		0.0011
2-Chloroethyl Vinyl Ether	ND		0.0053
(cis) 1,3-Dichloropropene	ND		0.0011
Methyl Isobutyl Ketone	ND		0.0053
Toluene	ND		0.0053
(trans) 1,3-Dichloropropene	ND		0.0011

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

VOLATILES by EPA 8260B
Page 2 of 2

Lab ID: 11-215-16
Client ID: B7-16.0

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0011
Tetrachloroethene	0.020		0.0011
1,3-Dichloropropane	ND		0.0011
2-Hexanone	ND		0.0053
Dibromochloromethane	ND		0.0011
1,2-Dibromoethane	ND		0.0011
Chlorobenzene	ND		0.0011
1,1,1,2-Tetrachloroethane	ND		0.0011
Ethylbenzene	ND		0.0011
m,p-Xylene	ND		0.0021
o-Xylene	ND		0.0011
Styrene	ND		0.0011
Bromoform	ND		0.0011
Isopropylbenzene	ND		0.0011
Bromobenzene	ND		0.0011
1,1,2,2-Tetrachloroethane	ND		0.0011
1,2,3-Trichloropropane	ND		0.0011
n-Propylbenzene	ND		0.0011
2-Chlorotoluene	ND		0.0011
4-Chlorotoluene	ND		0.0011
1,3,5-Trimethylbenzene	ND		0.0011
tert-Butylbenzene	ND		0.0011
1,2,4-Trimethylbenzene	ND		0.0011
sec-Butylbenzene	ND		0.0011
1,3-Dichlorobenzene	ND		0.0011
p-Isopropyltoluene	ND		0.0011
1,4-Dichlorobenzene	ND		0.0011
1,2-Dichlorobenzene	ND		0.0011
n-Butylbenzene	ND		0.0011
1,2-Dibromo-3-chloropropane	ND		0.0053
1,2,4-Trichlorobenzene	ND		0.0011
Hexachlorobutadiene	ND		0.0053
Naphthalene	ND		0.0011
1,2,3-Trichlorobenzene	ND		0.0011

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	103	55-125
Toluene-d8	86	56-127
4-Bromofluorobenzene	81	54-130

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

VOLATILES by EPA 8260B
Page 1 of 2

Date Extracted:	12-2-09
Date Analyzed:	12-2-09
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	11-215-21
Client ID:	**B8-16.0**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0013
Chloromethane	ND		0.0065
Vinyl Chloride	ND		0.0013
Bromomethane	ND		0.0013
Chloroethane	ND		0.0065
Trichlorofluoromethane	ND		0.0013
1,1-Dichloroethene	ND		0.0013
Acetone	0.071		0.0065
Iodomethane	ND		0.0065
Carbon Disulfide	ND		0.0013
Methylene Chloride	ND		0.0065
(trans) 1,2-Dichloroethene	ND		0.0013
Methyl t-Butyl Ether	ND		0.0013
1,1-Dichloroethane	ND		0.0013
Vinyl Acetate	ND		0.0065
2,2-Dichloropropane	ND		0.0013
(cis) 1,2-Dichloroethene	ND		0.0013
2-Butanone	0.011		0.0065
Bromochloromethane	ND		0.0013
Chloroform	ND		0.0013
1,1,1-Trichloroethane	ND		0.0013
Carbon Tetrachloride	ND		0.0013
1,1-Dichloropropene	ND		0.0013
Benzene	ND		0.0013
1,2-Dichloroethane	ND		0.0013
Trichloroethene	ND		0.0013
1,2-Dichloropropane	ND		0.0013
Dibromomethane	ND		0.0013
Bromodichloromethane	ND		0.0013
2-Chloroethyl Vinyl Ether	ND		0.0065
(cis) 1,3-Dichloropropene	ND		0.0013
Methyl Isobutyl Ketone	ND		0.0065
Toluene	ND		0.0065
(trans) 1,3-Dichloropropene	ND		0.0013

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

VOLATILES by EPA 8260B
Page 2 of 2

Lab ID: 11-215-21
Client ID: B8-16.0

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0013
Tetrachloroethene	ND		0.0013
1,3-Dichloropropane	ND		0.0013
2-Hexanone	ND		0.0065
Dibromochloromethane	ND		0.0013
1,2-Dibromoethane	ND		0.0013
Chlorobenzene	ND		0.0013
1,1,1,2-Tetrachloroethane	ND		0.0013
Ethylbenzene	ND		0.0013
m,p-Xylene	ND		0.0026
o-Xylene	ND		0.0013
Styrene	ND		0.0013
Bromoform	ND		0.0013
Isopropylbenzene	ND		0.0013
Bromobenzene	ND		0.0013
1,1,2,2-Tetrachloroethane	ND		0.0013
1,2,3-Trichloropropane	ND		0.0013
n-Propylbenzene	ND		0.0013
2-Chlorotoluene	ND		0.0013
4-Chlorotoluene	ND		0.0013
1,3,5-Trimethylbenzene	ND		0.0013
tert-Butylbenzene	ND		0.0013
1,2,4-Trimethylbenzene	ND		0.0013
sec-Butylbenzene	ND		0.0013
1,3-Dichlorobenzene	ND		0.0013
p-Isopropyltoluene	ND		0.0013
1,4-Dichlorobenzene	ND		0.0013
1,2-Dichlorobenzene	ND		0.0013
n-Butylbenzene	ND		0.0013
1,2-Dibromo-3-chloropropane	ND		0.0065
1,2,4-Trichlorobenzene	ND		0.0013
Hexachlorobutadiene	ND		0.0065
Naphthalene	ND		0.0013
1,2,3-Trichlorobenzene	ND		0.0013

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	95	55-125
Toluene-d8	84	56-127
4-Bromofluorobenzene	83	54-130

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

VOLATILES by EPA 8260B
Page 1 of 2

Date Extracted:	12-2-09
Date Analyzed:	12-2-09
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	11-215-26
Client ID:	**B9-16.0**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0017
Chloromethane	ND		0.0085
Vinyl Chloride	ND		0.0017
Bromomethane	ND		0.0017
Chloroethane	ND		0.0085
Trichlorofluoromethane	ND		0.0017
1,1-Dichloroethene	ND		0.0017
Acetone	0.15		0.0085
Iodomethane	ND		0.0085
Carbon Disulfide	ND		0.0017
Methylene Chloride	ND		0.0085
(trans) 1,2-Dichloroethene	ND		0.0017
Methyl t-Butyl Ether	ND		0.0017
1,1-Dichloroethane	ND		0.0017
Vinyl Acetate	ND		0.0085
2,2-Dichloropropane	ND		0.0017
(cis) 1,2-Dichloroethene	ND		0.0017
2-Butanone	0.032		0.0085
Bromochloromethane	ND		0.0017
Chloroform	ND		0.0017
1,1,1-Trichloroethane	ND		0.0017
Carbon Tetrachloride	ND		0.0017
1,1-Dichloropropene	ND		0.0017
Benzene	ND		0.0017
1,2-Dichloroethane	ND		0.0017
Trichloroethene	ND		0.0017
1,2-Dichloropropane	ND		0.0017
Dibromomethane	ND		0.0017
Bromodichloromethane	ND		0.0017
2-Chloroethyl Vinyl Ether	ND		0.0085
(cis) 1,3-Dichloropropene	ND		0.0017
Methyl Isobutyl Ketone	ND		0.0085
Toluene	ND		0.0085
(trans) 1,3-Dichloropropene	ND		0.0017

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

VOLATILES by EPA 8260B
Page 2 of 2

Lab ID: 11-215-26
Client ID: B9-16.0

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0017
Tetrachloroethene	ND		0.0017
1,3-Dichloropropane	ND		0.0017
2-Hexanone	ND		0.0085
Dibromochloromethane	ND		0.0017
1,2-Dibromoethane	ND		0.0017
Chlorobenzene	ND		0.0017
1,1,1,2-Tetrachloroethane	ND		0.0017
Ethylbenzene	ND		0.0017
m,p-Xylene	ND		0.0034
o-Xylene	ND		0.0017
Styrene	ND		0.0017
Bromoform	ND		0.0017
Isopropylbenzene	ND		0.0017
Bromobenzene	ND		0.0017
1,1,2,2-Tetrachloroethane	ND		0.0017
1,2,3-Trichloropropane	ND		0.0017
n-Propylbenzene	ND		0.0017
2-Chlorotoluene	ND		0.0017
4-Chlorotoluene	ND		0.0017
1,3,5-Trimethylbenzene	ND		0.0017
tert-Butylbenzene	ND		0.0017
1,2,4-Trimethylbenzene	ND		0.0017
sec-Butylbenzene	ND		0.0017
1,3-Dichlorobenzene	ND		0.0017
p-Isopropyltoluene	ND		0.0017
1,4-Dichlorobenzene	ND		0.0017
1,2-Dichlorobenzene	ND		0.0017
n-Butylbenzene	ND		0.0017
1,2-Dibromo-3-chloropropane	ND		0.0085
1,2,4-Trichlorobenzene	ND		0.0017
Hexachlorobutadiene	ND		0.0085
Naphthalene	ND		0.0017
1,2,3-Trichlorobenzene	ND		0.0017

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	107	55-125
Toluene-d8	88	56-127
4-Bromofluorobenzene	85	54-130

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

VOLATILES by EPA 8260B
Page 1 of 2

Date Extracted:	12-2-09
Date Analyzed:	12-2-09
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	11-215-31
Client ID:	**B10-15.5**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0019
Chloromethane	ND		0.0097
Vinyl Chloride	ND		0.0019
Bromomethane	ND		0.0019
Chloroethane	ND		0.0097
Trichlorofluoromethane	ND		0.0019
1,1-Dichloroethene	ND		0.0019
Acetone	ND		0.0097
Iodomethane	ND		0.0097
Carbon Disulfide	ND		0.0019
Methylene Chloride	ND		0.0097
(trans) 1,2-Dichloroethene	ND		0.0019
Methyl t-Butyl Ether	ND		0.0019
1,1-Dichloroethane	ND		0.0019
Vinyl Acetate	ND		0.0097
2,2-Dichloropropane	ND		0.0019
(cis) 1,2-Dichloroethene	ND		0.0019
2-Butanone	ND		0.0097
Bromochloromethane	ND		0.0019
Chloroform	0.0037		0.0019
1,1,1-Trichloroethane	ND		0.0019
Carbon Tetrachloride	ND		0.0019
1,1-Dichloropropene	ND		0.0019
Benzene	ND		0.0019
1,2-Dichloroethane	ND		0.0019
Trichloroethene	ND		0.0019
1,2-Dichloropropane	ND		0.0019
Dibromomethane	ND		0.0019
Bromodichloromethane	ND		0.0019
2-Chloroethyl Vinyl Ether	ND		0.0097
(cis) 1,3-Dichloropropene	ND		0.0019
Methyl Isobutyl Ketone	ND		0.0097
Toluene	ND		0.0097
(trans) 1,3-Dichloropropene	ND		0.0019

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

VOLATILES by EPA 8260B
Page 2 of 2

Lab ID: 11-215-31
Client ID: B10-15.5

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0019
Tetrachloroethene	ND		0.0019
1,3-Dichloropropane	ND		0.0019
2-Hexanone	ND		0.0097
Dibromochloromethane	ND		0.0019
1,2-Dibromoethane	ND		0.0019
Chlorobenzene	ND		0.0019
1,1,1,2-Tetrachloroethane	ND		0.0019
Ethylbenzene	ND		0.0019
m,p-Xylene	ND		0.0039
o-Xylene	ND		0.0019
Styrene	ND		0.0019
Bromoform	ND		0.0019
Isopropylbenzene	ND		0.0019
Bromobenzene	ND		0.0019
1,1,2,2-Tetrachloroethane	ND		0.0019
1,2,3-Trichloropropane	ND		0.0019
n-Propylbenzene	ND		0.0019
2-Chlorotoluene	ND		0.0019
4-Chlorotoluene	ND		0.0019
1,3,5-Trimethylbenzene	ND		0.0019
tert-Butylbenzene	ND		0.0019
1,2,4-Trimethylbenzene	ND		0.0019
sec-Butylbenzene	ND		0.0019
1,3-Dichlorobenzene	ND		0.0019
p-Isopropyltoluene	ND		0.0019
1,4-Dichlorobenzene	ND		0.0019
1,2-Dichlorobenzene	ND		0.0019
n-Butylbenzene	ND		0.0019
1,2-Dibromo-3-chloropropane	ND		0.0097
1,2,4-Trichlorobenzene	ND		0.0019
Hexachlorobutadiene	ND		0.0097
Naphthalene	ND		0.0019
1,2,3-Trichlorobenzene	ND		0.0019

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	95	55-125
Toluene-d8	85	56-127
4-Bromofluorobenzene	81	54-130

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
Page 1 of 2

Date Extracted: 12-2-09
Date Analyzed: 12-2-09

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: MB1202S1

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0010
Chloromethane	ND		0.0050
Vinyl Chloride	ND		0.0010
Bromomethane	ND		0.0010
Chloroethane	ND		0.0050
Trichlorofluoromethane	ND		0.0010
1,1-Dichloroethene	ND		0.0010
Acetone	ND		0.0050
Iodomethane	ND		0.0050
Carbon Disulfide	ND		0.0010
Methylene Chloride	ND		0.0050
(trans) 1,2-Dichloroethene	ND		0.0010
Methyl t-Butyl Ether	ND		0.0010
1,1-Dichloroethane	ND		0.0010
Vinyl Acetate	ND		0.0050
2,2-Dichloropropane	ND		0.0010
(cis) 1,2-Dichloroethene	ND		0.0010
2-Butanone	ND		0.0050
Bromochloromethane	ND		0.0010
Chloroform	ND		0.0010
1,1,1-Trichloroethane	ND		0.0010
Carbon Tetrachloride	ND		0.0010
1,1-Dichloropropene	ND		0.0010
Benzene	ND		0.0010
1,2-Dichloroethane	ND		0.0010
Trichloroethene	ND		0.0010
1,2-Dichloropropane	ND		0.0010
Dibromomethane	ND		0.0010
Bromodichloromethane	ND		0.0010
2-Chloroethyl Vinyl Ether	ND		0.0050
(cis) 1,3-Dichloropropene	ND		0.0010
Methyl Isobutyl Ketone	ND		0.0050
Toluene	ND		0.0050
(trans) 1,3-Dichloropropene	ND		0.0010

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
Page 2 of 2

Lab ID: MB1202S1

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0010
Tetrachloroethene	ND		0.0010
1,3-Dichloropropane	ND		0.0010
2-Hexanone	ND		0.0050
Dibromochloromethane	ND		0.0010
1,2-Dibromoethane	ND		0.0010
Chlorobenzene	ND		0.0010
1,1,1,2-Tetrachloroethane	ND		0.0010
Ethylbenzene	ND		0.0010
m,p-Xylene	ND		0.0020
o-Xylene	ND		0.0010
Styrene	ND		0.0010
Bromoform	ND		0.0010
Isopropylbenzene	ND		0.0010
Bromobenzene	ND		0.0010
1,1,2,2-Tetrachloroethane	ND		0.0010
1,2,3-Trichloropropane	ND		0.0010
n-Propylbenzene	ND		0.0010
2-Chlorotoluene	ND		0.0010
4-Chlorotoluene	ND		0.0010
1,3,5-Trimethylbenzene	ND		0.0010
tert-Butylbenzene	ND		0.0010
1,2,4-Trimethylbenzene	ND		0.0010
sec-Butylbenzene	ND		0.0010
1,3-Dichlorobenzene	ND		0.0010
p-Isopropyltoluene	ND		0.0010
1,4-Dichlorobenzene	ND		0.0010
1,2-Dichlorobenzene	ND		0.0010
n-Butylbenzene	ND		0.0010
1,2-Dibromo-3-chloropropane	ND		0.0050
1,2,4-Trichlorobenzene	ND		0.0010
Hexachlorobutadiene	ND		0.0050
Naphthalene	ND		0.0010
1,2,3-Trichlorobenzene	ND		0.0010

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	92	55-125
Toluene-d8	88	56-127
4-Bromofluorobenzene	88	54-130

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
Page 1 of 2

Date Extracted:	12-3-09
Date Analyzed:	12-3-09
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	MB1203S1

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0010
Chloromethane	ND		0.0050
Vinyl Chloride	ND		0.0010
Bromomethane	ND		0.0010
Chloroethane	ND		0.0050
Trichlorofluoromethane	ND		0.0010
1,1-Dichloroethene	ND		0.0010
Acetone	ND		0.0050
Iodomethane	ND		0.0050
Carbon Disulfide	ND		0.0010
Methylene Chloride	ND		0.0050
(trans) 1,2-Dichloroethene	ND		0.0010
Methyl t-Butyl Ether	ND		0.0010
1,1-Dichloroethane	ND		0.0010
Vinyl Acetate	ND		0.0050
2,2-Dichloropropane	ND		0.0010
(cis) 1,2-Dichloroethene	ND		0.0010
2-Butanone	ND		0.0050
Bromochloromethane	ND		0.0010
Chloroform	ND		0.0010
1,1,1-Trichloroethane	ND		0.0010
Carbon Tetrachloride	ND		0.0010
1,1-Dichloropropene	ND		0.0010
Benzene	ND		0.0010
1,2-Dichloroethane	ND		0.0010
Trichloroethene	ND		0.0010
1,2-Dichloropropane	ND		0.0010
Dibromomethane	ND		0.0010
Bromodichloromethane	ND		0.0010
2-Chloroethyl Vinyl Ether	ND		0.0050
(cis) 1,3-Dichloropropene	ND		0.0010
Methyl Isobutyl Ketone	ND		0.0050
Toluene	ND		0.0050
(trans) 1,3-Dichloropropene	ND		0.0010

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
Page 2 of 2

Lab ID: MB1203S1

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0010
Tetrachloroethene	ND		0.0010
1,3-Dichloropropane	ND		0.0010
2-Hexanone	ND		0.0050
Dibromochloromethane	ND		0.0010
1,2-Dibromoethane	ND		0.0010
Chlorobenzene	ND		0.0010
1,1,1,2-Tetrachloroethane	ND		0.0010
Ethylbenzene	ND		0.0010
m,p-Xylene	ND		0.0020
o-Xylene	ND		0.0010
Styrene	ND		0.0010
Bromoform	ND		0.0010
Isopropylbenzene	ND		0.0010
Bromobenzene	ND		0.0010
1,1,2,2-Tetrachloroethane	ND		0.0010
1,2,3-Trichloropropane	ND		0.0010
n-Propylbenzene	ND		0.0010
2-Chlorotoluene	ND		0.0010
4-Chlorotoluene	ND		0.0010
1,3,5-Trimethylbenzene	ND		0.0010
tert-Butylbenzene	ND		0.0010
1,2,4-Trimethylbenzene	ND		0.0010
sec-Butylbenzene	ND		0.0010
1,3-Dichlorobenzene	ND		0.0010
p-Isopropyltoluene	ND		0.0010
1,4-Dichlorobenzene	ND		0.0010
1,2-Dichlorobenzene	ND		0.0010
n-Butylbenzene	ND		0.0010
1,2-Dibromo-3-chloropropane	ND		0.0050
1,2,4-Trichlorobenzene	ND		0.0010
Hexachlorobutadiene	ND		0.0050
Naphthalene	ND		0.0010
1,2,3-Trichlorobenzene	ND		0.0010

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	96	55-125
Toluene-d8	92	56-127
4-Bromofluorobenzene	89	54-130

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

VOLATILES by EPA 8260B
SB/SBD QUALITY CONTROL

Date Extracted: 12-2-09
Date Analyzed: 12-2-09

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: SB1202S1

Compound	Spike Amount	SB	Percent Recovery	SBD	Percent Recovery	Recovery Limits	Flags
1,1-Dichloroethene	0.0500	0.0484	97	0.0489	98	70-130	
Benzene	0.0500	0.0479	96	0.0475	95	70-128	
Trichloroethene	0.0500	0.0408	82	0.0410	82	70-124	
Toluene	0.0500	0.0505	101	0.0499	100	73-123	
Chlorobenzene	0.0500	0.0500	100	0.0495	99	73-115	

	RPD	RPD Limit	Flags
1,1-Dichloroethene	1	16	
Benzene	1	15	
Trichloroethene	1	14	
Toluene	1	14	
Chlorobenzene	1	13	

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

VOLATILES by EPA 8260B
SB/SBD QUALITY CONTROL

Date Extracted: 12-3-09
Date Analyzed: 12-3-09

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: SB1203S1

Compound	Spike Amount	SB	Percent Recovery	SBD	Percent Recovery	Recovery Limits	Flags
1,1-Dichloroethene	0.0500	0.0456	91	0.0451	90	70-130	
Benzene	0.0500	0.0484	97	0.0460	92	70-128	
Trichloroethene	0.0500	0.0408	82	0.0410	82	70-124	
Toluene	0.0500	0.0528	106	0.0510	102	73-123	
Chlorobenzene	0.0500	0.0517	103	0.0474	95	73-115	

	RPD	RPD Limit	Flags
1,1-Dichloroethene	1	16	
Benzene	5	15	
Trichloroethene	1	14	
Toluene	4	14	
Chlorobenzene	9	13	

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

VOLATILES by EPA 8260B
Page 1 of 2

Date Extracted:	12-2-09
Date Analyzed:	12-2-09
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	11-215-04
Client ID:	**B4-112409-GW**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		50
Chloromethane	ND		250
Vinyl Chloride	ND		50
Bromomethane	ND		50
Chloroethane	ND		250
Trichlorofluoromethane	ND		50
1,1-Dichloroethene	ND		50
Acetone	ND		1300
Iodomethane	ND		250
Carbon Disulfide	ND		50
Methylene Chloride	ND		250
(trans) 1,2-dichloroethene	ND		50
Methyl t-Butyl Ether	ND		50
1,1-Dichloroethane	ND		50
Vinyl Acetate	ND		500
2,2-Dichloropropane	ND		50
(cis) 1,2-Dichloroethene	ND		50
2-Butanone	ND		1300
Bromochloromethane	ND		50
Chloroform	ND		50
1,1,1-Trichloroethane	ND		50
Carbon Tetrachloride	ND		50
1,1-Dichloropropene	ND		50
Benzene	230		50
1,2-Dichloroethane	ND		50
Trichloroethene	ND		50
1,2-Dichloropropane	ND		50
Dibromomethane	ND		50
Bromodichloromethane	ND		50
2-Chloroethyl Vinyl Ether	ND		250
(cis) 1,3-Dichloropropene	ND		50
Methyl Isobutyl Ketone	ND		500
Toluene	11000		250
(trans) 1,3-Dichloropropene	ND		50

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

VOLATILES by EPA 8260B
Page 2 of 2

Lab ID: 11-215-04
Client ID: B4-112409-GW

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		50
Tetrachloroethene	ND		50
1,3-Dichloropropane	ND		50
2-Hexanone	ND		500
Dibromochloromethane	ND		50
1,2-Dibromoethane	ND		50
Chlorobenzene	ND		50
1,1,1,2-Tetrachloroethane	ND		50
Ethylbenzene	3400		50
m,p-Xylene	9600		100
o-Xylene	1700		50
Styrene	ND		50
Bromoform	ND		250
Isopropylbenzene	71		50
Bromobenzene	ND		50
1,1,2,2-Tetrachloroethane	ND		50
1,2,3-Trichloropropane	ND		50
n-Propylbenzene	ND		50
2-Chlorotoluene	ND		50
4-Chlorotoluene	ND		50
1,3,5-Trimethylbenzene	ND		50
tert-Butylbenzene	ND		50
1,2,4-Trimethylbenzene	130		50
sec-Butylbenzene	ND		50
1,3-Dichlorobenzene	ND		50
p-Isopropyltoluene	ND		50
1,4-Dichlorobenzene	ND		50
1,2-Dichlorobenzene	ND		50
n-Butylbenzene	ND		50
1,2-Dibromo-3-chloropropane	ND		250
1,2,4-Trichlorobenzene	ND		50
Hexachlorobutadiene	ND		50
Naphthalene	ND		250
1,2,3-Trichlorobenzene	ND		50

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	84	71-126
Toluene-d8	84	76-116
4-Bromofluorobenzene	83	70-123

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

VOLATILES by EPA 8260B
Page 1 of 2

Date Extracted:	12-7-09
Date Analyzed:	12-7-09
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	11-215-09
Client ID:	**B5-112509-GW**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.20
Chloromethane	ND		1.0
Vinyl Chloride	ND		0.20
Bromomethane	ND		0.20
Chloroethane	ND		1.0
Trichlorofluoromethane	ND		0.20
1,1-Dichloroethene	ND		0.20
Acetone	18		5.0
Iodomethane	ND		1.0
Carbon Disulfide	ND		0.20
Methylene Chloride	ND		1.0
(trans) 1,2-dichloroethene	ND		0.20
Methyl t-Butyl Ether	ND		0.20
1,1-Dichloroethane	ND		0.20
Vinyl Acetate	ND		2.0
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
2-Butanone	ND		5.0
Bromochloromethane	ND		0.20
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
Benzene	ND		0.20
1,2-Dichloroethane	ND		0.20
Trichloroethene	ND		0.20
1,2-Dichloropropane	ND		0.20
Dibromomethane	ND		0.20
Bromodichloromethane	ND		0.20
2-Chloroethyl Vinyl Ether	ND		1.0
(cis) 1,3-Dichloropropene	ND		0.20
Methyl Isobutyl Ketone	ND		2.0
Toluene	4.5		1.0
(trans) 1,3-Dichloropropene	ND		0.20

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

VOLATILES by EPA 8260B
Page 2 of 2

Lab ID: 11-215-09
Client ID: B5-112509-GW

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	ND		0.20
1,3-Dichloropropane	ND		0.20
2-Hexanone	ND		2.0
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Ethylbenzene	1.6		0.20
m,p-Xylene	4.2		0.40
o-Xylene	1.5		0.20
Styrene	ND		0.20
Bromoform	ND		1.0
Isopropylbenzene	ND		0.20
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
n-Propylbenzene	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3,5-Trimethylbenzene	ND		0.20
tert-Butylbenzene	ND		0.20
1,2,4-Trimethylbenzene	ND		0.20
sec-Butylbenzene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
p-Isopropyltoluene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
n-Butylbenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
Naphthalene	ND		1.0
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	86	71-126
Toluene-d8	87	76-116
4-Bromofluorobenzene	90	70-123

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

VOLATILES by EPA 8260B
Page 1 of 2

Date Extracted:	12-7-09
Date Analyzed:	12-7-09
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	11-215-12
Client ID:	**B6-112509-GW**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		1.0
Chloromethane	ND		5.0
Vinyl Chloride	ND		1.0
Bromomethane	ND		1.0
Chloroethane	ND		5.0
Trichlorofluoromethane	ND		1.0
1,1-Dichloroethene	ND		1.0
Acetone	29		25
Iodomethane	ND		5.0
Carbon Disulfide	ND		1.0
Methylene Chloride	ND		5.0
(trans) 1,2-dichloroethene	ND		1.0
Methyl t-Butyl Ether	ND		1.0
1,1-Dichloroethane	ND		1.0
Vinyl Acetate	ND		10
2,2-Dichloropropane	ND		1.0
(cis) 1,2-Dichloroethene	1.3		1.0
2-Butanone	ND		25
Bromochloromethane	ND		1.0
Chloroform	ND		1.0
1,1,1-Trichloroethane	ND		1.0
Carbon Tetrachloride	ND		1.0
1,1-Dichloropropene	ND		1.0
Benzene	35		1.0
1,2-Dichloroethane	ND		1.0
Trichloroethene	ND		1.0
1,2-Dichloropropane	ND		1.0
Dibromomethane	ND		1.0
Bromodichloromethane	ND		1.0
2-Chloroethyl Vinyl Ether	ND		5.0
(cis) 1,3-Dichloropropene	ND		1.0
Methyl Isobutyl Ketone	ND		10
Toluene	25		5.0
(trans) 1,3-Dichloropropene	ND		1.0

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

VOLATILES by EPA 8260B
Page 2 of 2

Lab ID: 11-215-12
Client ID: B6-112509-GW

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		1.0
Tetrachloroethene	ND		1.0
1,3-Dichloropropane	ND		1.0
2-Hexanone	ND		10
Dibromochloromethane	ND		1.0
1,2-Dibromoethane	ND		1.0
Chlorobenzene	ND		1.0
1,1,1,2-Tetrachloroethane	ND		1.0
Ethylbenzene	18		1.0
m,p-Xylene	300		2.0
o-Xylene	22		1.0
Styrene	ND		1.0
Bromoform	ND		5.0
Isopropylbenzene	2.9		1.0
Bromobenzene	ND		1.0
1,1,2,2-Tetrachloroethane	ND		1.0
1,2,3-Trichloropropane	ND		1.0
n-Propylbenzene	ND		1.0
2-Chlorotoluene	ND		1.0
4-Chlorotoluene	ND		1.0
1,3,5-Trimethylbenzene	ND		1.0
tert-Butylbenzene	ND		1.0
1,2,4-Trimethylbenzene	3.8		1.0
sec-Butylbenzene	ND		1.0
1,3-Dichlorobenzene	ND		1.0
p-Isopropyltoluene	ND		1.0
1,4-Dichlorobenzene	ND		1.0
1,2-Dichlorobenzene	ND		1.0
n-Butylbenzene	ND		1.0
1,2-Dibromo-3-chloropropane	ND		5.0
1,2,4-Trichlorobenzene	ND		1.0
Hexachlorobutadiene	ND		1.0
Naphthalene	ND		5.0
1,2,3-Trichlorobenzene	ND		1.0

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	82	71-126
Toluene-d8	80	76-116
4-Bromofluorobenzene	88	70-123

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

VOLATILES by EPA 8260B
Page 1 of 2

Date Extracted:	12-2-09
Date Analyzed:	12-2-09
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	11-215-17
Client ID:	**B7-112509-GW**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		4.0
Chloromethane	ND		20
Vinyl Chloride	ND		4.0
Bromomethane	ND		4.0
Chloroethane	ND		20
Trichlorofluoromethane	ND		4.0
1,1-Dichloroethene	ND		4.0
Acetone	ND		100
Iodomethane	ND		20
Carbon Disulfide	ND		4.0
Methylene Chloride	ND		20
(trans) 1,2-dichloroethene	ND		4.0
Methyl t-Butyl Ether	ND		4.0
1,1-Dichloroethane	ND		4.0
Vinyl Acetate	ND		40
2,2-Dichloropropane	ND		4.0
(cis) 1,2-Dichloroethene	5.1		4.0
2-Butanone	ND		100
Bromochloromethane	ND		4.0
Chloroform	ND		4.0
1,1,1-Trichloroethane	ND		4.0
Carbon Tetrachloride	ND		4.0
1,1-Dichloropropene	ND		4.0
Benzene	26		4.0
1,2-Dichloroethane	ND		4.0
Trichloroethene	ND		4.0
1,2-Dichloropropane	ND		4.0
Dibromomethane	ND		4.0
Bromodichloromethane	ND		4.0
2-Chloroethyl Vinyl Ether	ND		20
(cis) 1,3-Dichloropropene	ND		4.0
Methyl Isobutyl Ketone	ND		40
Toluene	ND		20
(trans) 1,3-Dichloropropene	ND		4.0

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

VOLATILES by EPA 8260B
Page 2 of 2

Lab ID: 11-215-17
Client ID: B7-112509-GW

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		4.0
Tetrachloroethene	ND		4.0
1,3-Dichloropropane	ND		4.0
2-Hexanone	ND		40
Dibromochloromethane	ND		4.0
1,2-Dibromoethane	ND		4.0
Chlorobenzene	ND		4.0
1,1,1,2-Tetrachloroethane	ND		4.0
Ethylbenzene	ND		4.0
m,p-Xylene	770		8.0
o-Xylene	ND		40
Styrene	ND		4.0
Bromoform	ND		20
Isopropylbenzene	ND		4.0
Bromobenzene	ND		4.0
1,1,2,2-Tetrachloroethane	ND		4.0
1,2,3-Trichloropropane	ND		4.0
n-Propylbenzene	ND		4.0
2-Chlorotoluene	ND		4.0
4-Chlorotoluene	ND		4.0
1,3,5-Trimethylbenzene	ND		4.0
tert-Butylbenzene	ND		4.0
1,2,4-Trimethylbenzene	ND		4.0
sec-Butylbenzene	ND		4.0
1,3-Dichlorobenzene	ND		4.0
p-Isopropyltoluene	ND		4.0
1,4-Dichlorobenzene	ND		4.0
1,2-Dichlorobenzene	ND		4.0
n-Butylbenzene	ND		4.0
1,2-Dibromo-3-chloropropane	ND		20
1,2,4-Trichlorobenzene	ND		4.0
Hexachlorobutadiene	ND		4.0
Naphthalene	ND		20
1,2,3-Trichlorobenzene	ND		4.0

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	78	71-126
Toluene-d8	83	76-116
4-Bromofluorobenzene	78	70-123

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

VOLATILES by EPA 8260B
Page 1 of 2

Date Extracted:	12-2-09
Date Analyzed:	12-2-09
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	11-215-22
Client ID:	**B8-112509-GW**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.20
Chloromethane	ND		1.0
Vinyl Chloride	ND		0.20
Bromomethane	ND		0.20
Chloroethane	ND		1.0
Trichlorofluoromethane	ND		0.20
1,1-Dichloroethene	ND		0.20
Acetone	ND		5.0
Iodomethane	ND		1.0
Carbon Disulfide	0.41		0.20
Methylene Chloride	ND		1.0
(trans) 1,2-dichloroethene	ND		0.20
Methyl t-Butyl Ether	ND		0.20
1,1-Dichloroethane	ND		0.20
Vinyl Acetate	ND		2.0
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
2-Butanone	ND		5.0
Bromochloromethane	ND		0.20
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
Benzene	ND		0.20
1,2-Dichloroethane	ND		0.20
Trichloroethene	ND		0.20
1,2-Dichloropropane	ND		0.20
Dibromomethane	ND		0.20
Bromodichloromethane	ND		0.20
2-Chloroethyl Vinyl Ether	ND		1.0
(cis) 1,3-Dichloropropene	ND		0.20
Methyl Isobutyl Ketone	ND		2.0
Toluene	ND		1.0
(trans) 1,3-Dichloropropene	ND		0.20

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

VOLATILES by EPA 8260B
Page 2 of 2

Lab ID: 11-215-22
Client ID: B8-112509-GW

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	ND		0.20
1,3-Dichloropropane	ND		0.20
2-Hexanone	ND		2.0
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Ethylbenzene	0.25		0.20
m,p-Xylene	ND		3.0
o-Xylene	ND		2.0
Styrene	ND		0.20
Bromoform	ND		1.0
Isopropylbenzene	ND		0.20
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
n-Propylbenzene	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3,5-Trimethylbenzene	ND		0.20
tert-Butylbenzene	ND		0.20
1,2,4-Trimethylbenzene	ND		0.20
sec-Butylbenzene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
p-Isopropyltoluene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
n-Butylbenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
Naphthalene	ND		1.0
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	79	71-126
Toluene-d8	81	76-116
4-Bromofluorobenzene	78	70-123

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

VOLATILES by EPA 8260B
Page 1 of 2

Date Extracted:	12-2-09
Date Analyzed:	12-2-09
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	11-215-27
Client ID:	**B9-112509-GW**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.20
Chloromethane	ND		1.0
Vinyl Chloride	ND		0.20
Bromomethane	ND		0.20
Chloroethane	ND		1.0
Trichlorofluoromethane	ND		0.20
1,1-Dichloroethene	ND		0.20
Acetone	ND		5.0
Iodomethane	ND		1.0
Carbon Disulfide	0.23		0.20
Methylene Chloride	ND		1.0
(trans) 1,2-dichloroethene	ND		0.20
Methyl t-Butyl Ether	ND		0.20
1,1-Dichloroethane	ND		0.20
Vinyl Acetate	ND		2.0
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
2-Butanone	ND		5.0
Bromochloromethane	ND		0.20
Chloroform	0.64		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
Benzene	2.8		0.20
1,2-Dichloroethane	ND		0.20
Trichloroethene	ND		0.20
1,2-Dichloropropane	ND		0.20
Dibromomethane	ND		0.20
Bromodichloromethane	ND		0.20
2-Chloroethyl Vinyl Ether	ND		1.0
(cis) 1,3-Dichloropropene	ND		0.20
Methyl Isobutyl Ketone	ND		2.0
Toluene	ND		1.0
(trans) 1,3-Dichloropropene	ND		0.20

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

VOLATILES by EPA 8260B
Page 2 of 2

Lab ID: 11-215-27
Client ID: B9-112509-GW

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	ND		0.20
1,3-Dichloropropane	ND		0.20
2-Hexanone	ND		2.0
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Ethylbenzene	ND		0.20
m,p-Xylene	ND		3.0
o-Xylene	ND		2.0
Styrene	ND		0.20
Bromoform	ND		1.0
Isopropylbenzene	ND		0.20
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
n-Propylbenzene	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3,5-Trimethylbenzene	ND		0.20
tert-Butylbenzene	ND		0.20
1,2,4-Trimethylbenzene	ND		0.20
sec-Butylbenzene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
p-Isopropyltoluene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
n-Butylbenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
Naphthalene	ND		1.0
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	82	71-126
Toluene-d8	82	76-116
4-Bromofluorobenzene	77	70-123

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

VOLATILES by EPA 8260B
Page 1 of 2

Date Extracted:	12-2-09
Date Analyzed:	12-2-09
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	11-215-32
Client ID:	**B10-112509-GW**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.20
Chloromethane	ND		1.0
Vinyl Chloride	ND		0.20
Bromomethane	ND		0.20
Chloroethane	ND		1.0
Trichlorofluoromethane	ND		0.20
1,1-Dichloroethene	ND		0.20
Acetone	22		5.0
Iodomethane	ND		1.0
Carbon Disulfide	ND		0.20
Methylene Chloride	ND		1.0
(trans) 1,2-dichloroethene	ND		0.20
Methyl t-Butyl Ether	ND		0.20
1,1-Dichloroethane	ND		0.20
Vinyl Acetate	ND		2.0
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	0.73		0.20
2-Butanone	ND		5.0
Bromochloromethane	ND		0.20
Chloroform	0.71		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
Benzene	ND		0.20
1,2-Dichloroethane	ND		0.20
Trichloroethene	0.32		0.20
1,2-Dichloropropane	ND		0.20
Dibromomethane	ND		0.20
Bromodichloromethane	ND		0.20
2-Chloroethyl Vinyl Ether	ND		1.0
(cis) 1,3-Dichloropropene	ND		0.20
Methyl Isobutyl Ketone	ND		2.0
Toluene	ND		1.0
(trans) 1,3-Dichloropropene	ND		0.20

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

VOLATILES by EPA 8260B
Page 2 of 2

Lab ID: 11-215-32
Client ID: B10-112509-GW

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	0.23		0.20
1,3-Dichloropropane	ND		0.20
2-Hexanone	ND		2.0
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Ethylbenzene	0.29		0.20
m,p-Xylene	ND		3.0
o-Xylene	ND		2.0
Styrene	ND		0.20
Bromoform	ND		1.0
Isopropylbenzene	ND		0.20
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
n-Propylbenzene	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3,5-Trimethylbenzene	ND		0.20
tert-Butylbenzene	ND		0.20
1,2,4-Trimethylbenzene	ND		0.20
sec-Butylbenzene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
p-Isopropyltoluene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
n-Butylbenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
Naphthalene	ND		1.0
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	79	71-126
Toluene-d8	79	76-116
4-Bromofluorobenzene	76	70-123

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
Page 1 of 2

Date Extracted: 12-2-09
Date Analyzed: 12-2-09

Matrix: Water
Units: ug/L (ppb)

Lab ID: MB1202W1

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.20
Chloromethane	ND		1.0
Vinyl Chloride	ND		0.20
Bromomethane	ND		0.20
Chloroethane	ND		1.0
Trichlorofluoromethane	ND		0.20
1,1-Dichloroethene	ND		0.20
Acetone	ND		5.0
Iodomethane	ND		1.0
Carbon Disulfide	ND		0.20
Methylene Chloride	ND		1.0
(trans) 1,2-dichloroethene	ND		0.20
Methyl t-Butyl Ether	ND		0.20
1,1-Dichloroethane	ND		0.20
Vinyl Acetate	ND		2.0
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
2-Butanone	ND		5.0
Bromochloromethane	ND		0.20
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
Benzene	ND		0.20
1,2-Dichloroethane	ND		0.20
Trichloroethene	ND		0.20
1,2-Dichloropropane	ND		0.20
Dibromomethane	ND		0.20
Bromodichloromethane	ND		0.20
2-Chloroethyl Vinyl Ether	ND		1.0
(cis) 1,3-Dichloropropene	ND		0.20
Methyl Isobutyl Ketone	ND		2.0
Toluene	ND		1.0
(trans) 1,3-Dichloropropene	ND		0.20

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
Page 2 of 2

Lab ID: MB1202W1

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	ND		0.20
1,3-Dichloropropane	ND		0.20
2-Hexanone	ND		2.0
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Ethylbenzene	ND		0.20
m,p-Xylene	ND		0.40
o-Xylene	ND		0.20
Styrene	ND		0.20
Bromoform	ND		1.0
Isopropylbenzene	ND		0.20
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
n-Propylbenzene	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3,5-Trimethylbenzene	ND		0.20
tert-Butylbenzene	ND		0.20
1,2,4-Trimethylbenzene	ND		0.20
sec-Butylbenzene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
p-Isopropyltoluene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
n-Butylbenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
Naphthalene	ND		1.0
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	71	71-126
Toluene-d8	80	76-116
4-Bromofluorobenzene	74	70-123

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

VOLATILES by EPA 8260B
SB/SBD QUALITY CONTROL

Date Extracted: 12-2-09
Date Analyzed: 12-2-09

Matrix: Water
Units: ug/L (ppb)

Lab ID: SB1202W1

Compound	Spike Amount	SB	Percent Recovery	SBD	Percent Recovery	Recovery Limits	Flags
1,1-Dichloroethene	10.0	7.99	80	8.93	89	70-130	
Benzene	10.0	9.13	91	9.10	91	70-130	
Trichloroethene	10.0	9.61	96	9.31	93	70-123	
Toluene	10.0	8.50	85	8.39	84	77-120	
Chlorobenzene	10.0	10.1	101	10.1	101	73-115	

	RPD	RPD Limit	Flags
1,1-Dichloroethene	11	21	
Benzene	0	18	
Trichloroethene	3	18	
Toluene	1	17	
Chlorobenzene	0	18	

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

% MOISTURE

Date Analyzed: 11-30-09

Client ID	Lab ID	% Moisture
B-4-12.5	11-215-03	23
B5-15.0	11-215-08	16
B6-15.0	11-215-11	25
B7-16.0	11-215-16	9
B8-16.0	11-215-21	23
B9-16.0	11-215-26	29
B10-15.5	11-215-31	22

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in the diesel range are impacting the lube oil range result.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

Y - Sample extract treated with an acid/silica gel cleanup procedure.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

OnSite Environmental Inc.
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: FARALLON
Project Number: 841-003
Project Name: GACO WESTERN
Project Manager: KEN Scott
Sampled by: Ken Scott

Turnaround Request (in working days)

(Check One)

- ☐ Same Day
- ☐ 1 Day
- ☐ 2 Day
- ☐ 3 Day
- ☒ Standard (7 working days) (TPH analysis 5 working days)
- ☐ _____ (other)

Laboratory Number: 11-215

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8260B	Halogenated Volatiles by 8260B	Semivolatiles by 8270D / SIM	PAHs by 8270D / SIM	PCBs by 8082	Pesticides by 8081A	Herbicides by 8151A	Total RCRA Metals (8)	TCLP Metals	HEM by 1664	% Moisture
1	B4-2.5	11/24/09	1535	S	4														
2	B4-7.0		1550	S	4														
3	B4-12.5		1605	S	4				X										X
4	B4-112409-GW	↓	1630	W	3				X										
5	B5-2.5	11/25/09	825	S	4														
6	B5-7.0		830	S	4														
7	B5-12.0		840	S	4														
8	B5-15.0		850	S	4				X										X
9	B5-112509-GW		900	W	3				X										
10	B6-2.5	↓	1010	S	4														

	Signature	Company	Date	Time	Comments/Special Instructions
Relinquished by	Ken Scott	FARALLON	11/25/09	18:05	~~Hold 5 samples, RC with OA4~~ ~~ANALYSIS~~
Received by		OnSite Env	11/25/09	1805	E-MAIL Riley CONFIRM RESULTS
Relinquished by					
Received by					
Relinquished by					
Received by					

Reviewed by/Date

Reviewed by/Date

Chromatograms with final report ☐

DISTRIBUTION LEGEND: White - OnSite Copy Yellow - Client Copy

Chain of Custody

OnSite Environmental Inc.
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: FARALLON
Project Number: 841-003
Project Name: GACO WESTERN
Project Manager: KEN SCOTT
Sampled by: Ken Scott

Turnaround Request (in working days)

(Check One)

- ☐ Same Day ☐ 1 Day
- ☐ 2 Day ☐ 3 Day
- ☒ Standard (7 working days) (TPH analysis 5 working days)
- ☐ _____ (other)

Laboratory Number: 11-215

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8260B	Halogenated Volatiles by 8260B	Semivolatiles by 8270D / SIM	PAHs by 8270D / SIM	PCBs by 8082	Pesticides by 8081A	Herbicides by 8151A	Total RCRA Metals (8)	TCLP Metals	HEM by 1664	% Moisture
11	B6-15.0	11/25/09	1030	S	4				X										X
12	B6-112509-GW		1045	W	3				X										
13	B7-2.5		1125	S	4														
14	B7-7.0		1135	S	4														
15	B7-12.0		1145	S	4														
16	B7-16.0		1155	S	4				X										X
17	B7-112509-GW		1205	W	3				X										
18	B8-2.5		~~1355~~ 1340	S	4														
19	B8-7.0		~~1405~~ 1355	S	4														
20	B8-11.0	↓	~~1415~~ 1405	S	4														

	Signature	Company	Date	Time	Comments/Special Instructions
Relinquished by		FARALLON	11/25/09	1805	EMAIL Riley Conkin results
Received by		OnSite Env	11/25/09	1805	
Relinquished by					
Received by					
Relinquished by					
Received by					
Reviewed by/Date		Reviewed by/Date			Chromatograms with final report ☐

DISTRIBUTION LEGEND: White - OnSite Copy Yellow - Client Copy

Chain of Custody

OnSite Environmental Inc.
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: FARALLON
Project Number: 841-003
Project Name: GACO WESTERN
Project Manager: KEN SCOTT
Sampled by: Ken Scott

Turnaround Request (in working days)

(Check One)

- ☐ Same Day ☐ 1 Day
- ☐ 2 Day ☐ 3 Day
- ☒ Standard (7 working days)
  (TPH analysis 5 working days)
- ☐ _____ (other)

Laboratory Number: 11-215

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8260B	Halogenated Volatiles by 8260B	Semivolatiles by 8270D / SIM	PAHs by 8270D / SIM	PCBs by 8082	Pesticides by 8081A	Herbicides by 8151A	Total RCRA Metals (8)	TCLP Metals	HEM by 1664	% Moisture
21	B8-16.0	11/25/09	1415	S	4				X										X
22	B8-112509-GW		1425	W	3				X										
23	B9-2.5		1455	S	4														
24	B9-7.5		1505	S	4														
25	B9-11.0		1515	S	4														
26	B9-16.0		1530	S	4				X										X
27	B9-112509-GW		1540	W	3				X										
28	B10-2.5		1610	S	4														
29	B10-7.5		1620	S	4														
30	B10-12.5	↓	1630	S	4														

	Signature	Company	Date	Time	Comments/Special Instructions
Relinquished by	Ken Scott	FARALLON	11/25/09	1805	EMAIL RICK CONKIN RESULTS.
Received by		ONSITE ENV	11/25/09	1805	
Relinquished by					
Received by					
Relinquished by					
Received by					
Reviewed by/Date		Reviewed by/Date			Chromatograms with final report ☐

DISTRIBUTION LEGEND: White - OnSite Copy Yellow - Client Copy

Chain of Custody

OnSite Environmental Inc.
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: FARALLON
Project Number: 841-003
Project Name: GACO WESTERN
Project Manager: KEN SCOTT
Sampled by: Ken Scott

Turnaround Request (in working days)

(Check One)

- ☐ Same Day
- ☐ 1 Day
- ☐ 2 Day
- ☐ 3 Day
- ☒ Standard (7 working days) (TPH analysis 5 working days)
- ☐ _____ (other)

Laboratory Number: 11-215

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8260B	Halogenated Volatiles by 8260B	Semivolatiles by 8270D / SIM	PAHs by 8270D / SIM	PCBs by 8082	Pesticides by 8081A	Herbicides by 8151A	Total RCRA Metals (8)	TCLP Metals	HEM by 1664	% Moisture
31	B10-15.5	11/25/07	1640	S	4				X										X
32	B10-112509-GW	↓	1650	W	3				X										

	Signature	Company	Date	Time
Relinquished by	Ken Scott	FARALLON	11/25/07	1805
Received by		GeoEng	11/26/07	1805
Relinquished by				
Received by				
Relinquished by				
Received by				

Comments/Special Instructions: E-MAIL RILEY CONKIN RESULTS.

Reviewed by/Date

Reviewed by/Date

Chromatograms with final report ☐

DISTRIBUTION LEGEND: White - OnSite Copy Yellow - Client Copy

Gaco Analytical Reports

Analytical Resources, Incorporated
Analytical Chemists and Consultants

7 May 2007

Analysis for wells HC-15 & HC-50

Corinne Dobbins
Gaco Western
18700 Southcenter Parkway
Tukwila, WA 98188

RE: Project No: Monitoring Wells
ARI Job No: KX42

Dear Corinne,

Please find enclosed the original chain-of-custody (COC) record and analytical results for the sample from the project referenced above. Analytical Resources (ARI) accepted two water samples and one trip blank in good condition on May 2, 2007. There were no discrepancies between the COC and the sample containers' labels.

The samples were analyzed for volatiles by 8260B as specified on the reports.

No analytical complications were noted.

A copy of this report and the supporting data will remain on file with ARI. Please feel free to call me at any time, if you require any additional information.

Sincerely,

ANALYTICAL RESOURCES, INC.

Elysebet Joshi

Elysebeth Joshi
Project Assistant
206-695-6214
ejoshi@arilabs.com

Enclosures

cc: file KX42

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: KX42	Turn-around Requested:	Page: 1 of 1	
ARI Client Company: Gaco Western	Phone: 206-357-2729	Date: 5-2-07	Ice Present? No
Client Contact: Corinne Dobbins		No. of Coolers: 1	Cooler Temps: 10.2
Client Project Name: Monitoring Wells			
Client Project #:	Samplers: CWD		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

Sample ID	Date	Time	Matrix	No. Containers	VOA/BETX ~~TPH-Gas~~								Notes/Comments
HC-1S	5-1	6:00 pm	H_2O	3	✓								
HC-5D	5-1	6:00 pm	H_2O	3	✓								

Analysis Requested

Comments/Special Instructions	Relinquished by:	Received by:	Relinquished by:	Received by:
	(Signature) Corinne Dobbins	(Signature) E Joshi	(Signature)	(Signature)
	Printed Name: Corinne Dobbins	Printed Name: E Joshi	Printed Name:	Printed Name:
	Company: Gaco Western	Company: ARI	Company:	Company:
	Date & Time: 5-2 2:45 pm	Date & Time: 5/2/07 1445	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260B Sample ID: MC-1S
  SAMPLE

Lab Sample ID: KX42A QC Report No: KX42-Gaco Western, LLC
LIMS ID: 07-8158 Project: Monitoring Wells
Matrix: Water
Data Release Authorized: Date Sampled: 05/01/07
Reported: 05/07/07 Date Received: 05/02/07

Instrument/Analyst: NT3/AAR Sample Amount: 5.00 mL
Date Analyzed: 05/04/07 20:13 Purge Volume: 5.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	1.0	< 1.0	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	1.0	< 1.0	U
75-00-3	Chloroethane	1.0	< 1.0	U
75-09-2	Methylene Chloride	2.0	< 2.0	U
67-64-1	**Acetone**	**5.0**	**94**	
75-15-0	Carbon Disulfide	1.0	< 1.0	U
75-35-4	1,1-Dichloroethene	1.0	< 1.0	U
75-34-3	1,1-Dichloroethane	1.0	< 1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	< 1.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	< 1.0	U
67-66-3	Chloroform	1.0	< 1.0	U
107-06-2	1,2-Dichloroethane	1.0	< 1.0	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	1.0	< 1.0	U
56-23-5	Carbon Tetrachloride	1.0	< 1.0	U
108-05-4	Vinyl Acetate	5.0	< 5.0	U
75-27-4	Bromodichloromethane	1.0	< 1.0	U
78-87-5	1,2-Dichloropropane	1.0	< 1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	< 1.0	U
79-01-6	Trichloroethene	1.0	< 1.0	U
124-48-1	Dibromochloromethane	1.0	< 1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	< 1.0	U
71-43-2	Benzene	1.0	< 1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	< 1.0	U
110-75-8	2-Chloroethylvinylether	5.0	< 5.0	U
75-25-2	Bromoform	1.0	< 1.0	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	1.0	< 1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	< 1.0	U
108-88-3	Toluene	1.0	< 1.0	U
108-90-7	Chlorobenzene	1.0	< 1.0	U
100-41-4	Ethylbenzene	1.0	< 1.0	U
100-42-5	Styrene	1.0	< 1.0	U
75-69-4	Trichlorofluoromethane	1.0	< 1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	2.0	< 2.0	U
1330-20-7	**m,p-Xylene**	**1.0**	**4.6**	
95-47-6	**o-Xylene**	**1.0**	**1.7**	
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	< 1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0	U
107-02-8	Acrolein	50	< 50	U
74-88-4	Methyl Iodide	1.0	< 1.0	U
74-96-4	Bromoethane	2.0	< 2.0	U
107-13-1	Acrylonitrile	5.0	< 5.0	U
563-58-6	1,1-Dichloropropene	1.0	< 1.0	U
74-95-3	Dibromomethane	1.0	< 1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	< 1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	< 5.0	U
96-18-4	1,2,3-Trichloropropane	2.0	< 2.0	U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260B Sample ID: MC-1S
 SAMPLE

Lab Sample ID: KX42A QC Report No: KX42-Gaco Western, LLC
LIMS ID: 07-8158 Project: Monitoring Wells
Matrix: Water
Date Analyzed: 05/04/07 20:13

CAS Number	Analyte	RL	Result	Q
110-57-6	trans-1,4-Dichloro-2-butene	5.0	< 5.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	< 1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	< 1.0	U
87-68-3	Hexachlorobutadiene	5.0	< 5.0	U
106-93-4	Ethylene Dibromide	1.0	< 1.0	U
74-97-5	Bromochloromethane	1.0	< 1.0	U
594-20-7	2,2-Dichloropropane	1.0	< 1.0	U
142-28-9	1,3-Dichloropropane	1.0	< 1.0	U
98-82-8	Isopropylbenzene	1.0	< 1.0	U
103-65-1	n-Propylbenzene	1.0	< 1.0	U
108-86-1	Bromobenzene	1.0	< 1.0	U
95-49-8	2-Chlorotoluene	1.0	< 1.0	U
106-43-4	4-Chlorotoluene	1.0	< 1.0	U
98-06-6	tert-Butylbenzene	1.0	< 1.0	U
135-98-8	sec-Butylbenzene	1.0	< 1.0	U
99-87-6	4-Isopropyltoluene	1.0	< 1.0	U
104-51-8	n-Butylbenzene	1.0	< 1.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	< 5.0	U
91-20-3	Naphthalene	5.0	< 5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	< 5.0	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	114%
d8-Toluene	118%
Bromofluorobenzene	116%
d4-1,2-Dichlorobenzene	100%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260B Sample ID: MC-5D
  SAMPLE

Lab Sample ID: KX42B QC Report No: KX42-Gaco Western, LLC
LIMS ID: 07-8159 Project: Monitoring Wells
Matrix: Water
Data Release Authorized:
Reported: 05/07/07 Date Sampled: 05/01/07
Date Received: 05/02/07

Instrument/Analyst: NT3/AAR Sample Amount: 5.00 mL
Date Analyzed: 05/04/07 20:38 Purge Volume: 5.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	1.0	< 1.0	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	1.0	< 1.0	U
75-00-3	Chloroethane	1.0	< 1.0	U
75-09-2	Methylene Chloride	2.0	< 2.0	U
67-64-1	Acetone	5.0	< 5.0	U
75-15-0	Carbon Disulfide	1.0	< 1.0	U
75-35-4	1,1-Dichloroethene	1.0	< 1.0	U
75-34-3	1,1-Dichloroethane	1.0	< 1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	< 1.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	< 1.0	U
67-66-3	Chloroform	1.0	< 1.0	U
107-06-2	1,2-Dichloroethane	1.0	< 1.0	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	1.0	< 1.0	U
56-23-5	Carbon Tetrachloride	1.0	< 1.0	U
108-05-4	Vinyl Acetate	5.0	< 5.0	U
75-27-4	Bromodichloromethane	1.0	< 1.0	U
78-87-5	1,2-Dichloropropane	1.0	< 1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	< 1.0	U
79-01-6	Trichloroethene	1.0	< 1.0	U
124-48-1	Dibromochloromethane	1.0	< 1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	< 1.0	U
71-43-2	Benzene	1.0	< 1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	< 1.0	U
110-75-8	2-Chloroethylvinylether	5.0	< 5.0	U
75-25-2	Bromoform	1.0	< 1.0	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	1.0	< 1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	< 1.0	U
108-88-3	Toluene	1.0	< 1.0	U
108-90-7	Chlorobenzene	1.0	< 1.0	U
100-41-4	Ethylbenzene	1.0	< 1.0	U
100-42-5	Styrene	1.0	< 1.0	U
75-69-4	Trichlorofluoromethane	1.0	< 1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	2.0	< 2.0	U
1330-20-7	m,p-Xylene	1.0	< 1.0	U
95-47-6	o-Xylene	1.0	< 1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	< 1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0	U
107-02-8	Acrolein	50	< 50	U
74-88-4	Methyl Iodide	1.0	< 1.0	U
74-96-4	Bromoethane	2.0	< 2.0	U
107-13-1	Acrylonitrile	5.0	< 5.0	U
563-58-6	1,1-Dichloropropene	1.0	< 1.0	U
74-95-3	Dibromomethane	1.0	< 1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	< 1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	< 5.0	U
96-18-4	1,2,3-Trichloropropane	2.0	< 2.0	U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260B Sample ID: MC-5D
 SAMPLE

Lab Sample ID: KX42B QC Report No: KX42-Gaco Western, LLC
LIMS ID: 07-8159 Project: Monitoring Wells
Matrix: Water
Date Analyzed: 05/04/07 20:38

CAS Number	Analyte	RL	Result	Q
110-57-6	trans-1,4-Dichloro-2-butene	5.0	< 5.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	< 1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	< 1.0	U
87-68-3	Hexachlorobutadiene	5.0	< 5.0	U
106-93-4	Ethylene Dibromide	1.0	< 1.0	U
74-97-5	Bromochloromethane	1.0	< 1.0	U
594-20-7	2,2-Dichloropropane	1.0	< 1.0	U
142-28-9	1,3-Dichloropropane	1.0	< 1.0	U
98-82-8	Isopropylbenzene	1.0	< 1.0	U
103-65-1	n-Propylbenzene	1.0	< 1.0	U
108-86-1	Bromobenzene	1.0	< 1.0	U
95-49-8	2-Chlorotoluene	1.0	< 1.0	U
106-43-4	4-Chlorotoluene	1.0	< 1.0	U
98-06-6	tert-Butylbenzene	1.0	< 1.0	U
135-98-8	sec-Butylbenzene	1.0	< 1.0	U
99-87-6	4-Isopropyltoluene	1.0	< 1.0	U
104-51-8	n-Butylbenzene	1.0	< 1.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	< 5.0	U
91-20-3	Naphthalene	5.0	< 5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	< 5.0	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	118%
d8-Toluene	107%
Bromofluorobenzene	107%
d4-1,2-Dichlorobenzene	104%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260B
Page 1 of 2

Sample ID: TRIP BLANK SAMPLE

Lab Sample ID: KX42C
LIMS ID: 07-8160
Matrix: Water
Data Release Authorized:
Reported: 05/07/07

QC Report No: KX42-Gaco Western, LLC
Project: Monitoring Wells
Date Sampled: 05/01/07
Date Received: 05/02/07

Instrument/Analyst: NT3/AAR
Date Analyzed: 05/04/07 14:21

Sample Amount: 5.00 mL
Purge Volume: 5.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	1.0	< 1.0	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	1.0	< 1.0	U
75-00-3	Chloroethane	1.0	< 1.0	U
75-09-2	Methylene Chloride	2.0	< 2.0	U
67-64-1	Acetone	5.0	< 5.0	U
75-15-0	Carbon Disulfide	1.0	< 1.0	U
75-35-4	1,1-Dichloroethene	1.0	< 1.0	U
75-34-3	1,1-Dichloroethane	1.0	< 1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	< 1.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	< 1.0	U
67-66-3	Chloroform	1.0	< 1.0	U
107-06-2	1,2-Dichloroethane	1.0	< 1.0	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	1.0	< 1.0	U
56-23-5	Carbon Tetrachloride	1.0	< 1.0	U
108-05-4	Vinyl Acetate	5.0	< 5.0	U
75-27-4	Bromodichloromethane	1.0	< 1.0	U
78-87-5	1,2-Dichloropropane	1.0	< 1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	< 1.0	U
79-01-6	Trichloroethene	1.0	< 1.0	U
124-48-1	Dibromochloromethane	1.0	< 1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	< 1.0	U
71-43-2	Benzene	1.0	< 1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	< 1.0	U
110-75-8	2-Chloroethylvinylether	5.0	< 5.0	U
75-25-2	Bromoform	1.0	< 1.0	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	1.0	< 1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	< 1.0	U
108-88-3	Toluene	1.0	< 1.0	U
108-90-7	Chlorobenzene	1.0	< 1.0	U
100-41-4	Ethylbenzene	1.0	< 1.0	U
100-42-5	Styrene	1.0	< 1.0	U
75-69-4	Trichlorofluoromethane	1.0	< 1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	2.0	< 2.0	U
1330-20-7	m,p-Xylene	1.0	< 1.0	U
95-47-6	o-Xylene	1.0	< 1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	< 1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0	U
107-02-8	Acrolein	50	< 50	U
74-88-4	Methyl Iodide	1.0	< 1.0	U
74-96-4	Bromoethane	2.0	< 2.0	U
107-13-1	Acrylonitrile	5.0	< 5.0	U
563-58-6	1,1-Dichloropropene	1.0	< 1.0	U
74-95-3	Dibromomethane	1.0	< 1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	< 1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	< 5.0	U
96-18-4	1,2,3-Trichloropropane	2.0	< 2.0	U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260B
Page 2 of 2

Sample ID: TRIP BLANK SAMPLE

Lab Sample ID: KX42C
LIMS ID: 07-8160
Matrix: Water
Date Analyzed: 05/04/07 14:21

QC Report No: KX42-Gaco Western, LLC
Project: Monitoring Wells

CAS Number	Analyte	RL	Result	Q
110-57-6	trans-1,4-Dichloro-2-butene	5.0	< 5.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	< 1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	< 1.0	U
87-68-3	Hexachlorobutadiene	5.0	< 5.0	U
106-93-4	Ethylene Dibromide	1.0	< 1.0	U
74-97-5	Bromochloromethane	1.0	< 1.0	U
594-20-7	2,2-Dichloropropane	1.0	< 1.0	U
142-28-9	1,3-Dichloropropane	1.0	< 1.0	U
98-82-8	Isopropylbenzene	1.0	< 1.0	U
103-65-1	n-Propylbenzene	1.0	< 1.0	U
108-86-1	Bromobenzene	1.0	< 1.0	U
95-49-8	2-Chlorotoluene	1.0	< 1.0	U
106-43-4	4-Chlorotoluene	1.0	< 1.0	U
98-06-6	tert-Butylbenzene	1.0	< 1.0	U
135-98-8	sec-Butylbenzene	1.0	< 1.0	U
99-87-6	4-Isopropyltoluene	1.0	< 1.0	U
104-51-8	n-Butylbenzene	1.0	< 1.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	< 5.0	U
91-20-3	Naphthalene	5.0	< 5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	< 5.0	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	117%
d8-Toluene	110%
Bromofluorobenzene	107%
d4-1,2-Dichlorobenzene	103%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260B Sample ID: MB-050407
  METHOD BLANK

Lab Sample ID: MB-050407 QC Report No: KX42-Gaco Western, LLC
LIMS ID: 07-8158 Project: Monitoring Wells
Matrix: Water
Data Release Authorized: Date Sampled: NA
Reported: 05/07/07 Date Received: NA

Instrument/Analyst: NT3/AAR Sample Amount: 5.00 mL
Date Analyzed: 05/04/07 12:06 Purge Volume: 5.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	1.0	< 1.0	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	1.0	< 1.0	U
75-00-3	Chloroethane	1.0	< 1.0	U
75-09-2	Methylene Chloride	2.0	< 2.0	U
67-64-1	Acetone	5.0	< 5.0	U
75-15-0	Carbon Disulfide	1.0	< 1.0	U
75-35-4	1,1-Dichloroethene	1.0	< 1.0	U
75-34-3	1,1-Dichloroethane	1.0	< 1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	< 1.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	< 1.0	U
67-66-3	Chloroform	1.0	< 1.0	U
107-06-2	1,2-Dichloroethane	1.0	< 1.0	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	1.0	< 1.0	U
56-23-5	Carbon Tetrachloride	1.0	< 1.0	U
108-05-4	Vinyl Acetate	5.0	< 5.0	U
75-27-4	Bromodichloromethane	1.0	< 1.0	U
78-87-5	1,2-Dichloropropane	1.0	< 1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	< 1.0	U
79-01-6	Trichloroethene	1.0	< 1.0	U
124-48-1	Dibromochloromethane	1.0	< 1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	< 1.0	U
71-43-2	Benzene	1.0	< 1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	< 1.0	U
110-75-8	2-Chloroethylvinylether	5.0	< 5.0	U
75-25-2	Bromoform	1.0	< 1.0	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	1.0	< 1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	< 1.0	U
108-88-3	Toluene	1.0	< 1.0	U
108-90-7	Chlorobenzene	1.0	< 1.0	U
100-41-4	Ethylbenzene	1.0	< 1.0	U
100-42-5	Styrene	1.0	< 1.0	U
75-69-4	Trichlorofluoromethane	1.0	< 1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	2.0	< 2.0	U
1330-20-7	m,p-Xylene	1.0	< 1.0	U
95-47-6	o-Xylene	1.0	< 1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	< 1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0	U
107-02-8	Acrolein	50	< 50	U
74-88-4	Methyl Iodide	1.0	< 1.0	U
74-96-4	Bromoethane	2.0	< 2.0	U
107-13-1	Acrylonitrile	5.0	< 5.0	U
563-58-6	1,1-Dichloropropene	1.0	< 1.0	U
74-95-3	Dibromomethane	1.0	< 1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	< 1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	< 5.0	U
96-18-4	1,2,3-Trichloropropane	2.0	< 2.0	U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260B
Page 2 of 2

Sample ID: MB-050407
METHOD BLANK

Lab Sample ID: MB-050407
LIMS ID: 07-8158
Matrix: Water
Date Analyzed: 05/04/07 12:06

QC Report No: KX42-Gaco Western, LLC
Project: Monitoring Wells

CAS Number	Analyte	RL	Result	Q
110-57-6	trans-1,4-Dichloro-2-butene	5.0	< 5.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	< 1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	< 1.0	U
87-68-3	Hexachlorobutadiene	5.0	< 5.0	U
106-93-4	Ethylene Dibromide	1.0	< 1.0	U
74-97-5	Bromochloromethane	1.0	< 1.0	U
594-20-7	2,2-Dichloropropane	1.0	< 1.0	U
142-28-9	1,3-Dichloropropane	1.0	< 1.0	U
98-82-8	Isopropylbenzene	1.0	< 1.0	U
103-65-1	n-Propylbenzene	1.0	< 1.0	U
108-86-1	Bromobenzene	1.0	< 1.0	U
95-49-8	2-Chlorotoluene	1.0	< 1.0	U
106-43-4	4-Chlorotoluene	1.0	< 1.0	U
98-06-6	tert-Butylbenzene	1.0	< 1.0	U
135-98-8	sec-Butylbenzene	1.0	< 1.0	U
99-87-6	4-Isopropyltoluene	1.0	< 1.0	U
104-51-8	n-Butylbenzene	1.0	< 1.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	< 5.0	U
91-20-3	Naphthalene	5.0	< 5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	< 5.0	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	88.9%
d8-Toluene	85.6%
Bromofluorobenzene	80.2%
d4-1,2-Dichlorobenzene	97.1%

ANALYTICAL RESOURCES INCORPORATED

VOA SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: KX42-Gaco Western, LLC
Project: Monitoring Wells

ARI ID	Client ID	PV	DCE	TOL	BFB	DCB	TOT OUT
MB-050407	Method Blank	5	88.9%	85.6%	80.2%	97.1%	0
LCS-050407	Lab Control	5	93.4%	95.7%	101%	95.9%	0
LCSD-050407	Lab Control Dup	5	91.7%	91.1%	96.2%	93.2%	0
KX42A	MC-1S	5	114%	118%	116%	100%	0
KX42B	MC-5D	5	118%	107%	107%	104%	0
KX42C	TRIP BLANK	5	117%	110%	107%	103%	0

	LCS/MB LIMITS		QC LIMITS	
SW8260B	5mL Purge	20mL Purge	5mL Purge	20mL Purge
(DCE) = d4-1,2-Dichloroethane	67-134	68-133	66-136	70-138
(TOL) = d8-Toluene	84-122	79-116	83-124	81-118
(BFB) = Bromofluorobenzene	77-123	68-119	72-120	65-117
(DCB) = d4-1,2-Dichlorobenzene	83-121	79-115	80-131	85-123

Prep Method: SW5030B
Log Number Range: 07-8158 to 07-8160

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260B
Sample ID: LCS-050407
LAB CONTROL SAMPLE

Lab Sample ID: LCS-050407
LIMS ID: 07-8158
Matrix: Water
Data Release Authorized:
Reported: 05/07/07

QC Report No: KX42-Gaco Western, LLC
Project: Monitoring Wells
Date Sampled: NA
Date Received: NA

Instrument/Analyst LCS: NT3/AAR
LCSD: NT3/AAR
Date Analyzed LCS: 05/04/07 11:15
LCSD: 05/04/07 11:41

Sample Amount LCS: 5.00 mL
LCSD: 5.00 mL
Purge Volume LCS: 5.0 mL
LCSD: 5.0 mL

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Chloromethane	37.7	50.0	75.4%	34.8	50.0	69.6%	8.0%
Bromomethane	39.3	50.0	78.6%	36.6	50.0	73.2%	7.1%
Vinyl Chloride	40.0	50.0	80.0%	37.6	50.0	75.2%	6.2%
Chloroethane	46.6	50.0	93.2%	44.8	50.0	89.6%	3.9%
Methylene Chloride	48.0	50.0	96.0%	46.0	50.0	92.0%	4.3%
Acetone	250	250	100%	242	250	96.8%	3.3%
Carbon Disulfide	44.1	50.0	88.2%	42.1	50.0	84.2%	4.6%
1,1-Dichloroethene	46.8	50.0	93.6%	45.7	50.0	91.4%	2.4%
1,1-Dichloroethane	47.1	50.0	94.2%	45.8	50.0	91.6%	2.8%
trans-1,2-Dichloroethene	46.8	50.0	93.6%	45.4	50.0	90.8%	3.0%
cis-1,2-Dichloroethene	47.3	50.0	94.6%	46.0	50.0	92.0%	2.8%
Chloroform	48.8	50.0	97.6%	46.5	50.0	93.0%	4.8%
1,2-Dichloroethane	48.5	50.0	97.0%	47.0	50.0	94.0%	3.1%
2-Butanone	236	250	94.4%	231	250	92.4%	2.1%
1,1,1-Trichloroethane	47.6	50.0	95.2%	45.9	50.0	91.8%	3.6%
Carbon Tetrachloride	50.8	50.0	102%	47.6	50.0	95.2%	6.5%
Vinyl Acetate	43.5	50.0	87.0%	43.9	50.0	87.8%	0.9%
Bromodichloromethane	48.2	50.0	96.4%	47.6	50.0	95.2%	1.3%
1,2-Dichloropropane	46.6	50.0	93.2%	47.0	50.0	94.0%	0.9%
cis-1,3-Dichloropropene	46.8	50.0	93.6%	45.3	50.0	90.6%	3.3%
Trichloroethene	46.9	50.0	93.8%	46.5	50.0	93.0%	0.9%
Dibromochloromethane	53.1	50.0	106%	50.4	50.0	101%	5.2%
1,1,2-Trichloroethane	49.0	50.0	98.0%	46.9	50.0	93.8%	4.4%
Benzene	48.2	50.0	96.4%	46.7	50.0	93.4%	3.2%
trans-1,3-Dichloropropene	47.9	50.0	95.8%	46.2	50.0	92.4%	3.6%
2-Chloroethylvinylether	44.5	50.0	89.0%	44.7	50.0	89.4%	0.4%
Bromoform	50.0	50.0	100%	47.8	50.0	95.6%	4.5%
4-Methyl-2-Pentanone (MIBK)	230	250	92.0%	226	250	90.4%	1.8%
2-Hexanone	243	250	97.2%	237	250	94.8%	2.5%
Tetrachloroethene	52.9	50.0	106%	50.3	50.0	101%	5.0%
1,1,2,2-Tetrachloroethane	45.1	50.0	90.2%	44.8	50.0	89.6%	0.7%
Toluene	49.0	50.0	98.0%	46.4	50.0	92.8%	5.5%
Chlorobenzene	51.6	50.0	103%	49.5	50.0	99.0%	4.2%
Ethylbenzene	51.6	50.0	103%	49.6	50.0	99.2%	4.0%
Styrene	54.5	50.0	109%	52.2	50.0	104%	4.3%
Trichlorofluoromethane	46.9	50.0	93.8%	44.8	50.0	89.6%	4.6%
1,1,2-Trichloro-1,2,2-trifluoroetha	46.8	50.0	93.6%	44.2	50.0	88.4%	5.7%
m,p-Xylene	107	100	107%	102	100	102%	4.8%
o-Xylene	51.2	50.0	102%	49.2	50.0	98.4%	4.0%
1,2-Dichlorobenzene	49.2	50.0	98.4%	48.0	50.0	96.0%	2.5%
1,3-Dichlorobenzene	48.9	50.0	97.8%	47.2	50.0	94.4%	3.5%
1,4-Dichlorobenzene	48.3	50.0	96.6%	46.7	50.0	93.4%	3.4%
Acrolein	258	250	103%	259	250	104%	0.4%
Methyl Iodide	41.4	50.0	82.8%	42.2	50.0	84.4%	1.9%
Bromoethane	47.4	50.0	94.8%	45.2	50.0	90.4%	4.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260B
Page 2 of 2

Sample ID: LCS-050407
LAB CONTROL SAMPLE

Lab Sample ID: LCS-050407
LIMS ID: 07-8158
Matrix: Water

QC Report No: KX42-Gaco Western, LLC
Project: Monitoring Wells

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Acrylonitrile	47.3	50.0	94.6%	47.1	50.0	94.2%	0.4%
1,1-Dichloropropene	47.4	50.0	94.8%	46.4	50.0	92.8%	2.1%
Dibromomethane	47.4	50.0	94.8%	47.5	50.0	95.0%	0.2%
1,1,1,2-Tetrachloroethane	52.9	50.0	106%	50.6	50.0	101%	4.4%
1,2-Dibromo-3-chloropropane	46.2	50.0	92.4%	44.1	50.0	88.2%	4.7%
1,2,3-Trichloropropane	48.2	50.0	96.4%	47.6	50.0	95.2%	1.3%
trans-1,4-Dichloro-2-butene	47.7	50.0	95.4%	46.8	50.0	93.6%	1.9%
1,3,5-Trimethylbenzene	50.0	50.0	100%	48.4	50.0	96.8%	3.3%
1,2,4-Trimethylbenzene	50.7	50.0	101%	49.0	50.0	98.0%	3.4%
Hexachlorobutadiene	49.2	50.0	98.4%	45.7	50.0	91.4%	7.4%
Ethylene Dibromide	48.0	50.0	96.0%	45.9	50.0	91.8%	4.5%
Bromochloromethane	51.2	50.0	102%	48.2	50.0	96.4%	6.0%
2,2-Dichloropropane	46.3	50.0	92.6%	44.7	50.0	89.4%	3.5%
1,3-Dichloropropane	49.8	50.0	99.6%	47.9	50.0	95.8%	3.9%
Isopropylbenzene	47.4	50.0	94.8%	46.6	50.0	93.2%	1.7%
n-Propylbenzene	49.6	50.0	99.2%	48.2	50.0	96.4%	2.9%
Bromobenzene	49.2	50.0	98.4%	47.9	50.0	95.8%	2.7%
2-Chlorotoluene	48.6	50.0	97.2%	47.3	50.0	94.6%	2.7%
4-Chlorotoluene	48.3	50.0	96.6%	46.4	50.0	92.8%	4.0%
tert-Butylbenzene	48.7	50.0	97.4%	47.0	50.0	94.0%	3.6%
sec-Butylbenzene	49.5	50.0	99.0%	47.5	50.0	95.0%	4.1%
4-Isopropyltoluene	51.2	50.0	102%	49.5	50.0	99.0%	3.4%
n-Butylbenzene	50.7	50.0	101%	48.6	50.0	97.2%	4.2%
1,2,4-Trichlorobenzene	45.3	50.0	90.6%	46.4	50.0	92.8%	2.4%
Naphthalene	40.2	50.0	80.4%	43.1	50.0	86.2%	7.0%
1,2,3-Trichlorobenzene	48.7	50.0	97.4%	49.2	50.0	98.4%	1.0%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

Volatile Surrogate Recovery

	LCS	LCSD
d4-1,2-Dichloroethane	93.4%	91.7%
d8-Toluene	95.7%	91.1%
Bromofluorobenzene	101%	96.2%
d4-1,2-Dichlorobenzene	95.9%	93.2%

Landau Analytical Reports

LABORATORY REPORT

January 31, 2011

Jessica Kruczek
Landau Associates,Inc.
333 SW 5th Ave.
Portland, OR 97204

RE: Gaco Western Air Sampling / 1226001.020.023

Dear Jessica:

Enclosed are the results of the samples submitted to our laboratory on January 17, 2011. For your reference, these analyses have been assigned our service request number P1100170.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.caslab.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

Columbia Analytical Services, Inc. is certified by the California Department of Health Services, NELAP Laboratory Certificate No. 02115CA; Arizona Department of Health Services, Certificate No. AZ0694; Florida Department of Health, NELAP Certification E871020; New Jersey Department of Environmental Protection, NELAP Laboratory Certification ID #CA009; New York State Department of Health, NELAP NY Lab ID No: 11221; Oregon Environmental Laboratory Accreditation Program, NELAP ID: CA20007; The American Industrial Hygiene Association, Laboratory #101661; United States Department of Defense Environmental Laboratory Accreditation Program (DoD-ELAP), Certificate No. L10-3; Pennsylvania Registration No. 68-03307; TX Commission of Environmental Quality, NELAP ID T104704413-09-TX; Minnesota Department of Health, Certificate No. 11495AA; Washington State Department of Ecology, ELAP Lab ID: C946. Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact me for information corresponding to a particular certification.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

Columbia Analytical Services, Inc.

Sue Anderson
Project Manager

Client: Landau Associates,Inc. CAS Project No: P1100170
Project: Gaco Western Air Sampling / 1226001.020.023

CASE NARRATIVE

The samples were received intact under chain of custody on January 17, 2011 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. The analytical system was comprised of a gas chromatograph/mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator.

The spike recoveries of d-limonene for the Laboratory Control Sample (LCS) analyzed on January 25, 2011 and January 26, 2011 were outside the Laboratory generated control criterion. The recovery errors equate to a potential high bias. However, the spike recovery of the analyte in question was within the method criteria; and the reported sample result associated with the LCS analyzed on January 26, 2011 was for dilutions of other compounds; therefore, the results were not affected and the data quality is not significantly affected. No corrective action was taken.

The Laboratory Control Sample percent recovery is verified and accepted based on the on-column results. The percent recovery of on-column results met acceptance limits for n-hexane on January 25, 2011. After calculating the on-column results into concentration units, the percent recovery fell outside of acceptance criteria; therefore the data has been flagged accordingly.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for utilization of less than the complete report.

DETAIL SUMMARY REPORT

Client: Landau Associates,Inc. Service Request: P1100170
Project ID: Gaco Western Air Sampling / 1226001.020.023

Date Received: 1/17/2011
Time Received: 10:10

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	TO-15 - VOC Cans
LAI-IAQ-1	P1100170-001	Air	1/11/2011	09:03	AC01710	0.0	3.5	X
LAI-IAQ-2	P1100170-002	Air	1/11/2011	09:04	AC01565	-0.9	3.5	X
LAI-IAQ-3	P1100170-003	Air	1/11/2011	09:05	AC00536	-0.4	3.5	X
LAI-IAQ-4	P1100170-004	Air	1/11/2011	09:06	AC01605	0.4	3.5	X
LAI-IAQ-5	P1100170-005	Air	1/11/2011	09:07	AC00702	-2.5	3.5	X
LAI-IAQ-6	P1100170-006	Air	1/11/2011	09:08	AC00596	-2.0	3.5	X
LAI-IAQ-7	P1100170-007	Air	1/11/2011	09:09	AC00868	-3.3	3.5	X
LAI-AAQ-1	P1100170-008	Air	1/11/2011	09:10	AC01275	-0.8	3.5	X
LAI-SSAQ-1	P1100170-009	Air	1/11/2011	17:45	1SC00491	-2.1	9.8	X
LAI-SSAQ-2	P1100170-010	Air	1/11/2011	18:05	1SC00468	-2.7	5.0	X

Columbia Analytical Services

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

Air - Chain of Custody Record & Analytical Service Request

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day-Standard

CAS Project No. P1100170

CAS Contact:

Company Name & Address (Reporting Information)
Landau Associates
130 2nd Ave S
Edmonds, WA 98020

Project Name: Gaco Western Air Sampling
Project Number: 1226001.020.023
P.O. # / Billing Information: 1226001.020.023

Project Manager: Jessica Kruczek
Phone: 503.542.1083
Fax:
Email Address for Result Reporting: jkruczek@landauinc.com
Sampler (Print & Sign): Paul Raymakers

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code #- FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg/psig	Sample Volume	Analysis Method: TO-15 low level		Comments e.g. Actual Preservative or specific instructions
LAI-IAQ-1	1-0.0	1/11/11	0903	AC01710	FC00018	28	4.0	6L	X		
LAI-IAQ-2	2-0.8	1/11/11	0904	AC01565	FC00242	32	6.5	6L	X		
LAI-IAQ-3	3-0.4	1/11/11	0905	AC00536	FC00605	28	4.5	6L	X		
LAI-IAQ-4	4-0.4	1/11/11	0906	AC01605	FC00555	32	4.5	6L	X		
LAI-IAQ-5	5-2.5	1/11/11	0907	AC00702	FC00311	30	9.0	6L	X		
LAI-IAQ-6	6-2.0	1/11/11	0908	AC00596	FC00786	31	7.5	6L	X		
LAI-IAQ-7	7-3.3	1/11/11	0909	AC00868	FC00540	29.5	8.0	6L	X		
LAI-AAQ-1	8-0.8	1/11/11	0910	AC01275	FC00548	32	7.5	6L	X		
LAI-SSAQ-1	9-2.0	1/11/11	1745	ISC00491	OA00473	30	8.0	1L	X		
LAI-SSAQ-2	10-2.1	1/11/11	1805	ISC00468	OA00383	29	7	1L	X		
	-14.3										
	-13.7										
	-11.9										
	-14.1										

4 of 58

Report Tier Levels - please select
Tier I - (Results/Default if not specified) ____
Tier II (Results + QC) X
Tier III (Data Validation Package) 10% Surcharge ____
Tier V (client specified) ____
EDD required Yes / No
Type: ____

Project Requirements (MRLs, QAPP)

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Time:
	1/13/11	1900	1/17/11	1010
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Time:

Cooler / Blank Temperature ____°C

Columbia Analytical Services™ 2655 Park Center Drive, Suite A, Simi Valley, CA 93065 | 805.526.7161 | www.caslab.com

Sample Acceptance Check Form

Client: Landau Associates,Inc. Work order: P1100170

Project: Gaco Western Air Sampling / 1226001.020.023

Sample(s) received on: 01/17/11 Date opened: 01/17/11 by: MZAMORA

Note: This form is used for all samples received by CAS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Container(s) **supplied by CAS**?	☒	☐	☐
3	Did **sample containers** arrive in good condition?	☒	☐	☐
4	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
5	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
6	Was **sample volume** received adequate for analysis?	☒	☐	☐
7	Are samples within specified holding times?	☒	☐	☐
8	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
	Cooler Temperature _____ °C Blank Temperature _____ °C			
9	Was a **trip blank** received?	☐	☒	☐
10	Were **custody seals** on outside of cooler/Box?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
	Were custody seals on outside of sample container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
11	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
12	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
	Do they contain moisture?	☐	☐	☒
13	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1100170-001.01	6.0 L Ambient Can					
P1100170-002.01	6.0 L Ambient Can					
P1100170-003.01	6.0 L Ambient Can					
P1100170-004.01	6.0 L Ambient Can					
P1100170-005.01	6.0 L Ambient Can					
P1100170-006.01	6.0 L Ambient Can					
P1100170-007.01	6.0 L Ambient Can					
P1100170-008.01	6.0 L Ambient Can					

Explain any discrepancies: (include lab sample ID numbers): _____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

Columbia Analytical Services™ 2655 Park Center Drive, Suite A, Simi Valley, CA 93065 | 805.526.7161 | www.caslab.com

Sample Acceptance Check Form

Client: Landau Associates,Inc. Work order: P1100170

Project: Gaco Western Air Sampling / 1226001.020.023

Sample(s) received on: 01/17/11 Date opened: 01/17/11 by: MZAMORA

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1100170-009.01	1.0 L Source Can					
P1100170-010.01	1.0 L Source Can					
P1100170-011.01	6.0 L Ambient Can					Returned Can
P1100170-012.01	6.0 L Ambient Can					Returned Can
P1100170-013.01	6.0 L Ambient Can					Returned Can
P1100170-014.01	1.0 L Source Can					Returned Can

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

RESULTS OF ANALYSIS

Client: **Landau Associates,Inc.**
Client Sample ID: **LAI-IAQ-1**
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023**

CAS Project ID: P1100170
CAS Sample ID: P1100170-001

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Wida Ang
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: AC01710

Date Collected: 1/11/11
Date Received: 1/17/11
Date Analyzed: 1/25/11
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): 0.0 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.24

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	**1.0**	0.62	**0.59**	0.36	
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.3**	0.62	**0.47**	0.13	
74-87-3	Chloromethane	**0.30**	0.25	**0.15**	0.12	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.62	ND	0.089	
75-01-4	Vinyl Chloride	ND	0.12	ND	0.049	
106-99-0	1,3-Butadiene	ND	0.25	ND	0.11	
74-83-9	Bromomethane	ND	0.12	ND	0.032	
75-00-3	Chloroethane	ND	0.12	ND	0.047	
64-17-5	Ethanol	**26**	6.2	**14**	3.3	
75-05-8	Acetonitrile	ND	0.62	ND	0.37	
107-02-8	Acrolein	ND	2.5	ND	1.1	
67-64-1	Acetone	**12**	6.2	**5.2**	2.6	
75-69-4	Trichlorofluoromethane	**5.9**	0.12	**1.1**	0.022	
67-63-0	2-Propanol (Isopropyl Alcohol)	**2.1**	1.2	**0.87**	0.50	
107-13-1	Acrylonitrile	ND	0.62	ND	0.29	
75-35-4	1,1-Dichloroethene	ND	0.12	ND	0.031	
75-09-2	Methylene Chloride	**0.79**	0.62	**0.23**	0.18	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.12	ND	0.040	
76-13-1	Trichlorotrifluoroethane	**0.53**	0.12	**0.069**	0.016	
75-15-0	Carbon Disulfide	ND	6.2	ND	2.0	
156-60-5	trans-1,2-Dichloroethene	**0.38**	0.12	**0.095**	0.031	
75-34-3	1,1-Dichloroethane	ND	0.12	ND	0.031	
1634-04-4	Methyl tert-Butyl Ether	ND	0.12	ND	0.034	
108-05-4	Vinyl Acetate	ND	6.2	ND	1.8	
78-93-3	2-Butanone (MEK)	**11**	6.2	**3.7**	2.1	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Landau Associates,Inc.**
Client Sample ID: **LAI-IAQ-1** CAS Project ID: P1100170
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023** CAS Sample ID: P1100170-001

Test Code: EPA TO-15 Date Collected: 1/11/11
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/17/11
Analyst: Wida Ang Date Analyzed: 1/25/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01710

Initial Pressure (psig): 0.0 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.24

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.12	ND	0.031	
141-78-6	Ethyl Acetate	**3.7**	0.62	**1.0**	0.17	
110-54-3	n-Hexane	**3.5**	0.62	**0.99**	0.18	
67-66-3	Chloroform	ND	0.12	ND	0.025	
109-99-9	Tetrahydrofuran (THF)	**6.5**	0.62	**2.2**	0.21	
107-06-2	1,2-Dichloroethane	**0.19**	0.12	**0.046**	0.031	
71-55-6	1,1,1-Trichloroethane	**0.27**	0.12	**0.049**	0.023	
71-43-2	Benzene	**1.0**	0.12	**0.33**	0.039	
56-23-5	Carbon Tetrachloride	**0.43**	0.12	**0.069**	0.020	
110-82-7	Cyclohexane	**33**	0.62	**9.7**	0.18	
78-87-5	1,2-Dichloropropane	ND	0.12	ND	0.027	
75-27-4	Bromodichloromethane	ND	0.12	ND	0.019	
79-01-6	Trichloroethene	ND	0.12	ND	0.023	
123-91-1	1,4-Dioxane	ND	0.62	ND	0.17	
80-62-6	Methyl Methacrylate	ND	0.62	ND	0.15	
142-82-5	n-Heptane	**28**	0.62	**6.9**	0.15	
10061-01-5	cis-1,3-Dichloropropene	ND	0.62	ND	0.14	
108-10-1	4-Methyl-2-pentanone	**10**	0.62	**2.5**	0.15	
10061-02-6	trans-1,3-Dichloropropene	ND	0.62	ND	0.14	
79-00-5	1,1,2-Trichloroethane	ND	0.12	ND	0.023	
108-88-3	Toluene	**21**	0.62	**5.5**	0.16	
591-78-6	2-Hexanone	ND	0.62	ND	0.15	
124-48-1	Dibromochloromethane	ND	0.12	ND	0.015	
106-93-4	1,2-Dibromoethane	ND	0.12	ND	0.016	
123-86-4	n-Butyl Acetate	ND	0.62	ND	0.13	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Client: **Landau Associates,Inc.** CAS Project ID: P1100170
Client Sample ID: **LAI-IAQ-1** CAS Sample ID: P1100170-001
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023**

Test Code: EPA TO-15 Date Collected: 1/11/11
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/17/11
Analyst: Wida Ang Date Analyzed: 1/25/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01710

Initial Pressure (psig): 0.0 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.24

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	**15**	0.62	**3.1**	0.13	
127-18-4	Tetrachloroethene	**11**	0.12	**1.6**	0.018	
108-90-7	Chlorobenzene	ND	0.12	ND	0.027	
100-41-4	Ethylbenzene	**5.6**	0.62	**1.3**	0.14	
179601-23-1	m,p-Xylenes	**23**	0.62	**5.4**	0.14	
75-25-2	Bromoform	ND	0.62	ND	0.060	
100-42-5	Styrene	ND	0.62	ND	0.15	
95-47-6	o-Xylene	**6.8**	0.62	**1.6**	0.14	
111-84-2	n-Nonane	**4.1**	0.62	**0.78**	0.12	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.12	ND	0.018	
98-82-8	Cumene	ND	0.62	ND	0.13	
80-56-8	alpha-Pinene	ND	0.62	ND	0.11	
103-65-1	n-Propylbenzene	ND	0.62	ND	0.13	
622-96-8	4-Ethyltoluene	ND	0.62	ND	0.13	
108-67-8	1,3,5-Trimethylbenzene	ND	0.62	ND	0.13	
95-63-6	1,2,4-Trimethylbenzene	**0.90**	0.62	**0.18**	0.13	
100-44-7	Benzyl Chloride	ND	0.62	ND	0.12	
541-73-1	1,3-Dichlorobenzene	**0.32**	0.12	**0.053**	0.021	
106-46-7	1,4-Dichlorobenzene	ND	0.12	ND	0.021	
95-50-1	1,2-Dichlorobenzene	ND	0.12	ND	0.021	
5989-27-5	d-Limonene	ND	0.62	ND	0.11	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.62	ND	0.064	
120-82-1	1,2,4-Trichlorobenzene	ND	0.62	ND	0.084	
91-20-3	Naphthalene	ND	0.62	ND	0.12	
87-68-3	Hexachlorobutadiene	ND	0.62	ND	0.058	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Client: **Landau Associates,Inc.**
Client Sample ID: **LAI-IAQ-2** CAS Project ID: P1100170
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023** CAS Sample ID: P1100170-002

Test Code: EPA TO-15 Date Collected: 1/11/11
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/17/11
Analyst: Wida Ang Date Analyzed: 1/26/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01565

Initial Pressure (psig): -0.9 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.32

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.66	ND	0.38	
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.2**	0.66	**0.44**	0.13	
74-87-3	Chloromethane	ND	0.26	ND	0.13	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.66	ND	0.094	
75-01-4	Vinyl Chloride	ND	0.13	ND	0.052	
106-99-0	1,3-Butadiene	ND	0.26	ND	0.12	
74-83-9	Bromomethane	ND	0.13	ND	0.034	
75-00-3	Chloroethane	ND	0.13	ND	0.050	
64-17-5	Ethanol	**9.1**	6.6	**4.9**	3.5	
75-05-8	Acetonitrile	ND	0.66	ND	0.39	
107-02-8	Acrolein	ND	2.6	ND	1.2	
67-64-1	Acetone	**9.9**	6.6	**4.2**	2.8	
75-69-4	Trichlorofluoromethane	**5.1**	0.13	**0.91**	0.023	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.3	ND	0.54	
107-13-1	Acrylonitrile	ND	0.66	ND	0.30	
75-35-4	1,1-Dichloroethene	ND	0.13	ND	0.033	
75-09-2	Methylene Chloride	ND	0.66	ND	0.19	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.13	ND	0.042	
76-13-1	Trichlorotrifluoroethane	**0.48**	0.13	**0.063**	0.017	
75-15-0	Carbon Disulfide	ND	6.6	ND	2.1	
156-60-5	trans-1,2-Dichloroethene	**0.35**	0.13	**0.089**	0.033	
75-34-3	1,1-Dichloroethane	ND	0.13	ND	0.033	
1634-04-4	Methyl tert-Butyl Ether	ND	0.13	ND	0.037	
108-05-4	Vinyl Acetate	ND	6.6	ND	1.9	
78-93-3	2-Butanone (MEK)	**9.9**	6.6	**3.4**	2.2	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Client: **Landau Associates,Inc.**
Client Sample ID: **LAI-IAQ-2** CAS Project ID: P1100170
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023** CAS Sample ID: P1100170-002

Test Code: EPA TO-15 Date Collected: 1/11/11
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/17/11
Analyst: Wida Ang Date Analyzed: 1/26/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01565

Initial Pressure (psig): -0.9 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.32

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.13	ND	0.033	
141-78-6	Ethyl Acetate	ND	0.66	ND	0.18	
110-54-3	n-Hexane	**3.4**	0.66	**0.97**	0.19	
67-66-3	Chloroform	ND	0.13	ND	0.027	
109-99-9	Tetrahydrofuran (THF)	ND	0.66	ND	0.22	
107-06-2	1,2-Dichloroethane	ND	0.13	ND	0.033	
71-55-6	1,1,1-Trichloroethane	**0.26**	0.13	**0.047**	0.024	
71-43-2	Benzene	**0.50**	0.13	**0.16**	0.041	
56-23-5	Carbon Tetrachloride	**0.43**	0.13	**0.068**	0.021	
110-82-7	Cyclohexane	**40**	0.66	**12**	0.19	
78-87-5	1,2-Dichloropropane	ND	0.13	ND	0.029	
75-27-4	Bromodichloromethane	ND	0.13	ND	0.020	
79-01-6	Trichloroethene	ND	0.13	ND	0.025	
123-91-1	1,4-Dioxane	ND	0.66	ND	0.18	
80-62-6	Methyl Methacrylate	ND	0.66	ND	0.16	
142-82-5	n-Heptane	**34**	0.66	**8.4**	0.16	
10061-01-5	cis-1,3-Dichloropropene	ND	0.66	ND	0.15	
108-10-1	4-Methyl-2-pentanone	**13**	0.66	**3.1**	0.16	
10061-02-6	trans-1,3-Dichloropropene	ND	0.66	ND	0.15	
79-00-5	1,1,2-Trichloroethane	ND	0.13	ND	0.024	
108-88-3	Toluene	**7.4**	0.66	**2.0**	0.18	
591-78-6	2-Hexanone	ND	0.66	ND	0.16	
124-48-1	Dibromochloromethane	ND	0.13	ND	0.016	
106-93-4	1,2-Dibromoethane	ND	0.13	ND	0.017	
123-86-4	n-Butyl Acetate	ND	0.66	ND	0.14	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Client: **Landau Associates,Inc.** CAS Project ID: P1100170
Client Sample ID: **LAI-IAQ-2** CAS Sample ID: P1100170-002
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023**

Test Code: EPA TO-15 Date Collected: 1/11/11
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/17/11
Analyst: Wida Ang Date Analyzed: 1/26/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01565

Initial Pressure (psig): -0.9 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.32

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	**18**	0.66	**3.8**	0.14	
127-18-4	Tetrachloroethene	**12**	0.13	**1.8**	0.019	
108-90-7	Chlorobenzene	ND	0.13	ND	0.029	
100-41-4	Ethylbenzene	**6.5**	0.66	**1.5**	0.15	
179601-23-1	m,p-Xylenes	**28**	0.66	**6.4**	0.15	
75-25-2	Bromoform	ND	0.66	ND	0.064	
100-42-5	Styrene	ND	0.66	ND	0.16	
95-47-6	o-Xylene	**7.9**	0.66	**1.8**	0.15	
111-84-2	n-Nonane	**4.7**	0.66	**0.90**	0.13	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.13	ND	0.019	
98-82-8	Cumene	ND	0.66	ND	0.13	
80-56-8	alpha-Pinene	ND	0.66	ND	0.12	
103-65-1	n-Propylbenzene	ND	0.66	ND	0.13	
622-96-8	4-Ethyltoluene	ND	0.66	ND	0.13	
108-67-8	1,3,5-Trimethylbenzene	ND	0.66	ND	0.13	
95-63-6	1,2,4-Trimethylbenzene	**0.71**	0.66	**0.14**	0.13	
100-44-7	Benzyl Chloride	ND	0.66	ND	0.13	
541-73-1	1,3-Dichlorobenzene	ND	0.13	ND	0.022	
106-46-7	1,4-Dichlorobenzene	ND	0.13	ND	0.022	
95-50-1	1,2-Dichlorobenzene	ND	0.13	ND	0.022	
5989-27-5	d-Limonene	ND	0.66	ND	0.12	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.66	ND	0.068	
120-82-1	1,2,4-Trichlorobenzene	ND	0.66	ND	0.089	
91-20-3	Naphthalene	ND	0.66	ND	0.13	
87-68-3	Hexachlorobutadiene	ND	0.66	ND	0.062	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Client: **Landau Associates,Inc.**
Client Sample ID: **LAI-IAQ-3**
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023**

CAS Project ID: P1100170
CAS Sample ID: P1100170-003

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Wida Ang
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: AC00536

Date Collected: 1/11/11
Date Received: 1/17/11
Date Analyzed: 1/25/11
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -0.4 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.27

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.64	ND	0.37	
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.3**	0.64	**0.46**	0.13	
74-87-3	Chloromethane	**0.31**	0.25	**0.15**	0.12	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.64	ND	0.091	
75-01-4	Vinyl Chloride	ND	0.13	ND	0.050	
106-99-0	1,3-Butadiene	ND	0.25	ND	0.11	
74-83-9	Bromomethane	ND	0.13	ND	0.033	
75-00-3	Chloroethane	ND	0.13	ND	0.048	
64-17-5	Ethanol	**10**	6.4	**5.3**	3.4	
75-05-8	Acetonitrile	ND	0.64	ND	0.38	
107-02-8	Acrolein	ND	2.5	ND	1.1	
67-64-1	Acetone	**7.3**	6.4	**3.1**	2.7	
75-69-4	Trichlorofluoromethane	**5.1**	0.13	**0.91**	0.023	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.3	ND	0.52	
107-13-1	Acrylonitrile	ND	0.64	ND	0.29	
75-35-4	1,1-Dichloroethene	ND	0.13	ND	0.032	
75-09-2	Methylene Chloride	ND	0.64	ND	0.18	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.13	ND	0.041	
76-13-1	Trichlorotrifluoroethane	**0.51**	0.13	**0.067**	0.017	
75-15-0	Carbon Disulfide	ND	6.4	ND	2.0	
156-60-5	trans-1,2-Dichloroethene	**0.50**	0.13	**0.13**	0.032	
75-34-3	1,1-Dichloroethane	ND	0.13	ND	0.031	
1634-04-4	Methyl tert-Butyl Ether	ND	0.13	ND	0.035	
108-05-4	Vinyl Acetate	ND	6.4	ND	1.8	
78-93-3	2-Butanone (MEK)	**11**	6.4	**3.7**	2.2	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Client: **Landau Associates,Inc.**
Client Sample ID: **LAI-IAQ-3** CAS Project ID: P1100170
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023** CAS Sample ID: P1100170-003

Test Code: EPA TO-15 Date Collected: 1/11/11
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/17/11
Analyst: Wida Ang Date Analyzed: 1/25/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC00536

Initial Pressure (psig): -0.4 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.27

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.13	ND	0.032	
141-78-6	Ethyl Acetate	ND	0.64	ND	0.18	
110-54-3	n-Hexane	**4.9**	0.64	**1.4**	0.18	
67-66-3	Chloroform	ND	0.13	ND	0.026	
109-99-9	Tetrahydrofuran (THF)	ND	0.64	ND	0.22	
107-06-2	1,2-Dichloroethane	**0.13**	0.13	**0.032**	0.031	
71-55-6	1,1,1-Trichloroethane	**0.33**	0.13	**0.061**	0.023	
71-43-2	Benzene	**0.52**	0.13	**0.16**	0.040	
56-23-5	Carbon Tetrachloride	**0.31**	0.13	**0.049**	0.020	
110-82-7	Cyclohexane	**61**	0.64	**18**	0.18	
78-87-5	1,2-Dichloropropane	ND	0.13	ND	0.027	
75-27-4	Bromodichloromethane	ND	0.13	ND	0.019	
79-01-6	Trichloroethene	ND	0.13	ND	0.024	
123-91-1	1,4-Dioxane	ND	0.64	ND	0.18	
80-62-6	Methyl Methacrylate	ND	0.64	ND	0.16	
142-82-5	n-Heptane	**53**	0.64	**13**	0.16	
10061-01-5	cis-1,3-Dichloropropene	ND	0.64	ND	0.14	
108-10-1	4-Methyl-2-pentanone	**17**	0.64	**4.2**	0.16	
10061-02-6	trans-1,3-Dichloropropene	ND	0.64	ND	0.14	
79-00-5	1,1,2-Trichloroethane	ND	0.13	ND	0.023	
108-88-3	Toluene	**7.5**	0.64	**2.0**	0.17	
591-78-6	2-Hexanone	ND	0.64	ND	0.16	
124-48-1	Dibromochloromethane	ND	0.13	ND	0.015	
106-93-4	1,2-Dibromoethane	ND	0.13	ND	0.017	
123-86-4	n-Butyl Acetate	ND	0.64	ND	0.13	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Client: **Landau Associates,Inc.** CAS Project ID: P1100170
Client Sample ID: **LAI-IAQ-3** CAS Sample ID: P1100170-003
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023**

Test Code: EPA TO-15 Date Collected: 1/11/11
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/17/11
Analyst: Wida Ang Date Analyzed: 1/25/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC00536

Initial Pressure (psig): -0.4 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.27

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	**28**	0.64	**5.9**	0.14	
127-18-4	Tetrachloroethene	**15**	0.13	**2.2**	0.019	
108-90-7	Chlorobenzene	ND	0.13	ND	0.028	
100-41-4	Ethylbenzene	**5.9**	0.64	**1.4**	0.15	
179601-23-1	m,p-Xylenes	**25**	0.64	**5.8**	0.15	
75-25-2	Bromoform	ND	0.64	ND	0.061	
100-42-5	Styrene	ND	0.64	ND	0.15	
95-47-6	o-Xylene	**7.4**	0.64	**1.7**	0.15	
111-84-2	n-Nonane	**7.0**	0.64	**1.3**	0.12	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.13	ND	0.019	
98-82-8	Cumene	ND	0.64	ND	0.13	
80-56-8	alpha-Pinene	ND	0.64	ND	0.11	
103-65-1	n-Propylbenzene	ND	0.64	ND	0.13	
622-96-8	4-Ethyltoluene	ND	0.64	ND	0.13	
108-67-8	1,3,5-Trimethylbenzene	ND	0.64	ND	0.13	
95-63-6	1,2,4-Trimethylbenzene	**0.72**	0.64	**0.15**	0.13	
100-44-7	Benzyl Chloride	ND	0.64	ND	0.12	
541-73-1	1,3-Dichlorobenzene	ND	0.13	ND	0.021	
106-46-7	1,4-Dichlorobenzene	ND	0.13	ND	0.021	
95-50-1	1,2-Dichlorobenzene	ND	0.13	ND	0.021	
5989-27-5	d-Limonene	ND	0.64	ND	0.11	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.64	ND	0.066	
120-82-1	1,2,4-Trichlorobenzene	ND	0.64	ND	0.086	
91-20-3	Naphthalene	ND	0.64	ND	0.12	
87-68-3	Hexachlorobutadiene	ND	0.64	ND	0.060	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Client: **Landau Associates,Inc.**
Client Sample ID: **LAI-IAQ-4**
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023**

CAS Project ID: P1100170
CAS Sample ID: P1100170-004

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Wida Ang
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: AC01605

Date Collected: 1/11/11
Date Received: 1/17/11
Date Analyzed: 1/25/11
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): 0.4 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.21

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	**0.82**	0.61	**0.48**	0.35	
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.3**	0.61	**0.47**	0.12	
74-87-3	Chloromethane	**0.32**	0.24	**0.15**	0.12	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.61	ND	0.087	
75-01-4	Vinyl Chloride	ND	0.12	ND	0.047	
106-99-0	1,3-Butadiene	ND	0.24	ND	0.11	
74-83-9	Bromomethane	ND	0.12	ND	0.031	
75-00-3	Chloroethane	ND	0.12	ND	0.046	
64-17-5	Ethanol	**13**	6.1	**7.1**	3.2	
75-05-8	Acetonitrile	ND	0.61	ND	0.36	
107-02-8	Acrolein	ND	2.4	ND	1.1	
67-64-1	Acetone	**13**	6.1	**5.3**	2.5	
75-69-4	Trichlorofluoromethane	**5.6**	0.12	**1.0**	0.022	
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.5**	1.2	**0.62**	0.49	
107-13-1	Acrylonitrile	ND	0.61	ND	0.28	
75-35-4	1,1-Dichloroethene	ND	0.12	ND	0.031	
75-09-2	Methylene Chloride	ND	0.61	ND	0.17	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.12	ND	0.039	
76-13-1	Trichlorotrifluoroethane	**0.53**	0.12	**0.069**	0.016	
75-15-0	Carbon Disulfide	ND	6.1	ND	1.9	
156-60-5	trans-1,2-Dichloroethene	**0.69**	0.12	**0.17**	0.031	
75-34-3	1,1-Dichloroethane	ND	0.12	ND	0.030	
1634-04-4	Methyl tert-Butyl Ether	ND	0.12	ND	0.034	
108-05-4	Vinyl Acetate	ND	6.1	ND	1.7	
78-93-3	2-Butanone (MEK)	**14**	6.1	**4.7**	2.1	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Client: **Landau Associates,Inc.**
Client Sample ID: **LAI-IAQ-4** CAS Project ID: P1100170
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023** CAS Sample ID: P1100170-004

Test Code: EPA TO-15 Date Collected: 1/11/11
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/17/11
Analyst: Wida Ang Date Analyzed: 1/25/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01605

Initial Pressure (psig): 0.4 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.21

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.12	ND	0.031	
141-78-6	Ethyl Acetate	ND	0.61	ND	0.17	
110-54-3	n-Hexane	**6.9**	0.61	**2.0**	0.17	
67-66-3	Chloroform	ND	0.12	ND	0.025	
109-99-9	Tetrahydrofuran (THF)	ND	0.61	ND	0.21	
107-06-2	1,2-Dichloroethane	**0.16**	0.12	**0.040**	0.030	
71-55-6	1,1,1-Trichloroethane	**0.48**	0.12	**0.088**	0.022	
71-43-2	Benzene	**0.53**	0.12	**0.17**	0.038	
56-23-5	Carbon Tetrachloride	**0.41**	0.12	**0.066**	0.019	
110-82-7	Cyclohexane	**88**	0.61	**26**	0.18	
78-87-5	1,2-Dichloropropane	ND	0.12	ND	0.026	
75-27-4	Bromodichloromethane	ND	0.12	ND	0.018	
79-01-6	Trichloroethene	ND	0.12	ND	0.023	
123-91-1	1,4-Dioxane	ND	0.61	ND	0.17	
80-62-6	Methyl Methacrylate	ND	0.61	ND	0.15	
142-82-5	n-Heptane	**78**	0.61	**19**	0.15	
10061-01-5	cis-1,3-Dichloropropene	ND	0.61	ND	0.13	
108-10-1	4-Methyl-2-pentanone	**24**	0.61	**5.8**	0.15	
10061-02-6	trans-1,3-Dichloropropene	ND	0.61	ND	0.13	
79-00-5	1,1,2-Trichloroethane	ND	0.12	ND	0.022	
108-88-3	Toluene	**7.5**	0.61	**2.0**	0.16	
591-78-6	2-Hexanone	ND	0.61	ND	0.15	
124-48-1	Dibromochloromethane	ND	0.12	ND	0.014	
106-93-4	1,2-Dibromoethane	ND	0.12	ND	0.016	
123-86-4	n-Butyl Acetate	ND	0.61	ND	0.13	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Client: **Landau Associates,Inc.** CAS Project ID: P1100170
Client Sample ID: **LAI-IAQ-4** CAS Sample ID: P1100170-004
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023**

Test Code: EPA TO-15 Date Collected: 1/11/11
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/17/11
Analyst: Wida Ang Date Analyzed: 1/25/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01605

Initial Pressure (psig): 0.4 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.21

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	**40**	0.61	**8.6**	0.13	
127-18-4	Tetrachloroethene	**9.4**	0.12	**1.4**	0.018	
108-90-7	Chlorobenzene	ND	0.12	ND	0.026	
100-41-4	Ethylbenzene	**5.8**	0.61	**1.3**	0.14	
179601-23-1	m,p-Xylenes	**24**	0.61	**5.6**	0.14	
75-25-2	Bromoform	ND	0.61	ND	0.059	
100-42-5	Styrene	ND	0.61	ND	0.14	
95-47-6	o-Xylene	**7.3**	0.61	**1.7**	0.14	
111-84-2	n-Nonane	**10**	0.61	**2.0**	0.12	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.12	ND	0.018	
98-82-8	Cumene	ND	0.61	ND	0.12	
80-56-8	alpha-Pinene	ND	0.61	ND	0.11	
103-65-1	n-Propylbenzene	ND	0.61	ND	0.12	
622-96-8	4-Ethyltoluene	ND	0.61	ND	0.12	
108-67-8	1,3,5-Trimethylbenzene	ND	0.61	ND	0.12	
95-63-6	1,2,4-Trimethylbenzene	**0.82**	0.61	**0.17**	0.12	
100-44-7	Benzyl Chloride	ND	0.61	ND	0.12	
541-73-1	1,3-Dichlorobenzene	ND	0.12	ND	0.020	
106-46-7	1,4-Dichlorobenzene	ND	0.12	ND	0.020	
95-50-1	1,2-Dichlorobenzene	ND	0.12	ND	0.020	
5989-27-5	d-Limonene	ND	0.61	ND	0.11	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.61	ND	0.063	
120-82-1	1,2,4-Trichlorobenzene	ND	0.61	ND	0.082	
91-20-3	Naphthalene	ND	0.61	ND	0.12	
87-68-3	Hexachlorobutadiene	ND	0.61	ND	0.057	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Client: **Landau Associates,Inc.**
Client Sample ID: **LAI-IAQ-5**
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023**

CAS Project ID: P1100170
CAS Sample ID: P1100170-005

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Wida Ang
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: AC00702

Date Collected: 1/11/11
Date Received: 1/17/11
Date Analyzed: 1/25 - 1/26/11
Volume(s) Analyzed: 1.00 Liter(s)
0.20 Liter(s)

Initial Pressure (psig): -2.5 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.49

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.75	ND	0.43	
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.3**	0.75	**0.46**	0.15	
74-87-3	Chloromethane	**0.30**	0.30	**0.15**	0.14	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.75	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.15	ND	0.058	
106-99-0	1,3-Butadiene	ND	0.30	ND	0.13	
74-83-9	Bromomethane	ND	0.15	ND	0.038	
75-00-3	Chloroethane	ND	0.15	ND	0.056	
64-17-5	Ethanol	**25**	7.5	**13**	4.0	
75-05-8	Acetonitrile	ND	0.75	ND	0.44	
107-02-8	Acrolein	ND	3.0	ND	1.3	
67-64-1	Acetone	**11**	7.5	**4.6**	3.1	
75-69-4	Trichlorofluoromethane	**2.5**	0.15	**0.44**	0.027	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.5	ND	0.61	
107-13-1	Acrylonitrile	ND	0.75	ND	0.34	
75-35-4	1,1-Dichloroethene	ND	0.15	ND	0.038	
75-09-2	Methylene Chloride	**0.92**	0.75	**0.27**	0.21	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.15	ND	0.048	
76-13-1	Trichlorotrifluoroethane	**0.52**	0.15	**0.068**	0.019	
75-15-0	Carbon Disulfide	ND	7.5	ND	2.4	
156-60-5	trans-1,2-Dichloroethene	**0.91**	0.15	**0.23**	0.038	
75-34-3	1,1-Dichloroethane	ND	0.15	ND	0.037	
1634-04-4	Methyl tert-Butyl Ether	ND	0.15	ND	0.041	
108-05-4	Vinyl Acetate	ND	7.5	ND	2.1	
78-93-3	2-Butanone (MEK)	**7.9**	7.5	**2.7**	2.5	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Landau Associates,Inc.**
Client Sample ID: **LAI-IAQ-5** CAS Project ID: P1100170
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023** CAS Sample ID: P1100170-005

Test Code: EPA TO-15 Date Collected: 1/11/11
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/17/11
Analyst: Wida Ang Date Analyzed: 1/25 - 1/26/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes: 0.20 Liter(s)
Container ID: AC00702

Initial Pressure (psig): -2.5 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.49

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.15	ND	0.038	
141-78-6	Ethyl Acetate	**2.0**	0.75	**0.56**	0.21	
110-54-3	n-Hexane	**17**	0.75	**4.7**	0.21	
67-66-3	Chloroform	ND	0.15	ND	0.031	
109-99-9	Tetrahydrofuran (THF)	ND	0.75	ND	0.25	
107-06-2	1,2-Dichloroethane	ND	0.15	ND	0.037	
71-55-6	1,1,1-Trichloroethane	ND	0.15	ND	0.027	
71-43-2	Benzene	**0.61**	0.15	**0.19**	0.047	
56-23-5	Carbon Tetrachloride	**0.35**	0.15	**0.055**	0.024	
110-82-7	Cyclohexane	**240**	0.75	**69**	0.22	
78-87-5	1,2-Dichloropropane	ND	0.15	ND	0.032	
75-27-4	Bromodichloromethane	ND	0.15	ND	0.022	
79-01-6	Trichloroethene	ND	0.15	ND	0.028	
123-91-1	1,4-Dioxane	ND	0.75	ND	0.21	
80-62-6	Methyl Methacrylate	ND	0.75	ND	0.18	
142-82-5	n-Heptane	**190**	3.7	**46**	0.91	**D**
10061-01-5	cis-1,3-Dichloropropene	ND	0.75	ND	0.16	
108-10-1	4-Methyl-2-pentanone	**8.3**	0.75	**2.0**	0.18	
10061-02-6	trans-1,3-Dichloropropene	ND	0.75	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.15	ND	0.027	
108-88-3	Toluene	**5.2**	0.75	**1.4**	0.20	
591-78-6	2-Hexanone	ND	0.75	ND	0.18	
124-48-1	Dibromochloromethane	ND	0.15	ND	0.017	
106-93-4	1,2-Dibromoethane	ND	0.15	ND	0.019	
123-86-4	n-Butyl Acetate	ND	0.75	ND	0.16	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
D = The reported result is from a dilution.

RESULTS OF ANALYSIS

Client: **Landau Associates,Inc.** CAS Project ID: P1100170
Client Sample ID: **LAI-IAQ-5** CAS Sample ID: P1100170-005
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023**

Test Code: EPA TO-15 Date Collected: 1/11/11
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/17/11
Analyst: Wida Ang Date Analyzed: 1/25 - 1/26/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes: 0.20 Liter(s)
Container ID: AC00702

Initial Pressure (psig): -2.5 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.49

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	**110**	0.75	**24**	0.16	
127-18-4	Tetrachloroethene	**3.0**	0.15	**0.44**	0.022	
108-90-7	Chlorobenzene	ND	0.15	ND	0.032	
100-41-4	Ethylbenzene	**4.7**	0.75	**1.1**	0.17	
179601-23-1	m,p-Xylenes	**18**	0.75	**4.1**	0.17	
75-25-2	Bromoform	ND	0.75	ND	0.072	
100-42-5	Styrene	**1.3**	0.75	**0.31**	0.18	
95-47-6	o-Xylene	**4.9**	0.75	**1.1**	0.17	
111-84-2	n-Nonane	**24**	0.75	**4.6**	0.14	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.15	ND	0.022	
98-82-8	Cumene	ND	0.75	ND	0.15	
80-56-8	alpha-Pinene	**1.1**	0.75	**0.20**	0.13	
103-65-1	n-Propylbenzene	ND	0.75	ND	0.15	
622-96-8	4-Ethyltoluene	ND	0.75	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.75	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	**0.96**	0.75	**0.19**	0.15	
100-44-7	Benzyl Chloride	ND	0.75	ND	0.14	
541-73-1	1,3-Dichlorobenzene	ND	0.15	ND	0.025	
106-46-7	1,4-Dichlorobenzene	ND	0.15	ND	0.025	
95-50-1	1,2-Dichlorobenzene	ND	0.15	ND	0.025	
5989-27-5	d-Limonene	ND	0.75	ND	0.13	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.75	ND	0.077	
120-82-1	1,2,4-Trichlorobenzene	ND	0.75	ND	0.10	
91-20-3	Naphthalene	ND	0.75	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.75	ND	0.070	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Client: **Landau Associates,Inc.**
Client Sample ID: **LAI-IAQ-6** CAS Project ID: P1100170
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023** CAS Sample ID: P1100170-006

Test Code: EPA TO-15 Date Collected: 1/11/11
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/17/11
Analyst: Wida Ang Date Analyzed: 1/25/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC00596

Initial Pressure (psig): -2.0 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.72	ND	0.42	
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.3**	0.72	**0.47**	0.14	
74-87-3	Chloromethane	**0.30**	0.29	**0.15**	0.14	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.72	ND	0.10	
75-01-4	Vinyl Chloride	ND	0.14	ND	0.056	
106-99-0	1,3-Butadiene	ND	0.29	ND	0.13	
74-83-9	Bromomethane	ND	0.14	ND	0.037	
75-00-3	Chloroethane	ND	0.14	ND	0.054	
64-17-5	Ethanol	**11**	7.2	**5.7**	3.8	
75-05-8	Acetonitrile	ND	0.72	ND	0.43	
107-02-8	Acrolein	ND	2.9	ND	1.2	
67-64-1	Acetone	**7.5**	7.2	**3.1**	3.0	
75-69-4	Trichlorofluoromethane	**4.4**	0.14	**0.78**	0.025	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.4	ND	0.58	
107-13-1	Acrylonitrile	ND	0.72	ND	0.33	
75-35-4	1,1-Dichloroethene	ND	0.14	ND	0.036	
75-09-2	Methylene Chloride	ND	0.72	ND	0.21	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.14	ND	0.046	
76-13-1	Trichlorotrifluoroethane	**0.52**	0.14	**0.069**	0.019	
75-15-0	Carbon Disulfide	ND	7.2	ND	2.3	
156-60-5	trans-1,2-Dichloroethene	**0.30**	0.14	**0.075**	0.036	
75-34-3	1,1-Dichloroethane	ND	0.14	ND	0.035	
1634-04-4	Methyl tert-Butyl Ether	ND	0.14	ND	0.040	
108-05-4	Vinyl Acetate	ND	7.2	ND	2.0	
78-93-3	2-Butanone (MEK)	**12**	7.2	**4.2**	2.4	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Landau Associates,Inc.**
Client Sample ID: **LAI-IAQ-6**
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023**

CAS Project ID: P1100170
CAS Sample ID: P1100170-006

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Wida Ang
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: AC00596

Date Collected: 1/11/11
Date Received: 1/17/11
Date Analyzed: 1/25/11
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.0 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.14	ND	0.036	
141-78-6	Ethyl Acetate	ND	0.72	ND	0.20	
110-54-3	n-Hexane	**2.6**	0.72	**0.73**	0.20	
67-66-3	Chloroform	ND	0.14	ND	0.029	
109-99-9	Tetrahydrofuran (THF)	ND	0.72	ND	0.24	
107-06-2	1,2-Dichloroethane	ND	0.14	ND	0.035	
71-55-6	1,1,1-Trichloroethane	**0.25**	0.14	**0.045**	0.026	
71-43-2	Benzene	**0.49**	0.14	**0.15**	0.045	
56-23-5	Carbon Tetrachloride	**0.29**	0.14	**0.046**	0.023	
110-82-7	Cyclohexane	**29**	0.72	**8.4**	0.21	
78-87-5	1,2-Dichloropropane	ND	0.14	ND	0.031	
75-27-4	Bromodichloromethane	ND	0.14	ND	0.021	
79-01-6	Trichloroethene	ND	0.14	ND	0.027	
123-91-1	1,4-Dioxane	ND	0.72	ND	0.20	
80-62-6	Methyl Methacrylate	ND	0.72	ND	0.17	
142-82-5	n-Heptane	**24**	0.72	**5.9**	0.17	
10061-01-5	cis-1,3-Dichloropropene	ND	0.72	ND	0.16	
108-10-1	4-Methyl-2-pentanone	**14**	0.72	**3.3**	0.17	
10061-02-6	trans-1,3-Dichloropropene	ND	0.72	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.14	ND	0.026	
108-88-3	Toluene	**6.9**	0.72	**1.8**	0.19	
591-78-6	2-Hexanone	ND	0.72	ND	0.17	
124-48-1	Dibromochloromethane	ND	0.14	ND	0.017	
106-93-4	1,2-Dibromoethane	ND	0.14	ND	0.019	
123-86-4	n-Butyl Acetate	ND	0.72	ND	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Client: **Landau Associates,Inc.** CAS Project ID: P1100170
Client Sample ID: **LAI-IAQ-6** CAS Sample ID: P1100170-006
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023**

Test Code: EPA TO-15 Date Collected: 1/11/11
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/17/11
Analyst: Wida Ang Date Analyzed: 1/25/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC00596

Initial Pressure (psig): -2.0 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	**13**	0.72	**2.7**	0.15	
127-18-4	Tetrachloroethene	**8.8**	0.14	**1.3**	0.021	
108-90-7	Chlorobenzene	ND	0.14	ND	0.031	
100-41-4	Ethylbenzene	**4.7**	0.72	**1.1**	0.16	
179601-23-1	m,p-Xylenes	**20**	0.72	**4.6**	0.16	
75-25-2	Bromoform	ND	0.72	ND	0.069	
100-42-5	Styrene	ND	0.72	ND	0.17	
95-47-6	o-Xylene	**6.0**	0.72	**1.4**	0.16	
111-84-2	n-Nonane	**4.5**	0.72	**0.86**	0.14	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.14	ND	0.021	
98-82-8	Cumene	ND	0.72	ND	0.15	
80-56-8	alpha-Pinene	ND	0.72	ND	0.13	
103-65-1	n-Propylbenzene	ND	0.72	ND	0.15	
622-96-8	4-Ethyltoluene	ND	0.72	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.72	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	**0.80**	0.72	**0.16**	0.15	
100-44-7	Benzyl Chloride	ND	0.72	ND	0.14	
541-73-1	1,3-Dichlorobenzene	ND	0.14	ND	0.024	
106-46-7	1,4-Dichlorobenzene	ND	0.14	ND	0.024	
95-50-1	1,2-Dichlorobenzene	ND	0.14	ND	0.024	
5989-27-5	d-Limonene	ND	0.72	ND	0.13	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.72	ND	0.074	
120-82-1	1,2,4-Trichlorobenzene	ND	0.72	ND	0.096	
91-20-3	Naphthalene	ND	0.72	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.72	ND	0.067	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Client: **Landau Associates,Inc.**
Client Sample ID: **LAI-IAQ-7**
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023**

CAS Project ID: P1100170
CAS Sample ID: P1100170-007

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Wida Ang
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: AC00868

Date Collected: 1/11/11
Date Received: 1/17/11
Date Analyzed: 1/26/11
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -3.3 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.60

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.80	ND	0.47	
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.3**	0.80	**0.47**	0.16	
74-87-3	Chloromethane	ND	0.32	ND	0.16	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.80	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.16	ND	0.063	
106-99-0	1,3-Butadiene	ND	0.32	ND	0.14	
74-83-9	Bromomethane	ND	0.16	ND	0.041	
75-00-3	Chloroethane	ND	0.16	ND	0.061	
64-17-5	Ethanol	**11**	8.0	**5.8**	4.2	
75-05-8	Acetonitrile	ND	0.80	ND	0.48	
107-02-8	Acrolein	ND	3.2	ND	1.4	
67-64-1	Acetone	**9.1**	8.0	**3.9**	3.4	
75-69-4	Trichlorofluoromethane	**3.1**	0.16	**0.56**	0.028	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.6	ND	0.65	
107-13-1	Acrylonitrile	ND	0.80	ND	0.37	
75-35-4	1,1-Dichloroethene	ND	0.16	ND	0.040	
75-09-2	Methylene Chloride	ND	0.80	ND	0.23	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.16	ND	0.051	
76-13-1	Trichlorotrifluoroethane	**0.52**	0.16	**0.067**	0.021	
75-15-0	Carbon Disulfide	ND	8.0	ND	2.6	
156-60-5	trans-1,2-Dichloroethene	**0.20**	0.16	**0.049**	0.040	
75-34-3	1,1-Dichloroethane	ND	0.16	ND	0.040	
1634-04-4	Methyl tert-Butyl Ether	ND	0.16	ND	0.044	
108-05-4	Vinyl Acetate	ND	8.0	ND	2.3	
78-93-3	2-Butanone (MEK)	**12**	8.0	**4.0**	2.7	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Client: **Landau Associates,Inc.**
Client Sample ID: **LAI-IAQ-7** CAS Project ID: P1100170
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023** CAS Sample ID: P1100170-007

Test Code: EPA TO-15 Date Collected: 1/11/11
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/17/11
Analyst: Wida Ang Date Analyzed: 1/26/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC00868

Initial Pressure (psig): -3.3 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.60

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.16	ND	0.040	
141-78-6	Ethyl Acetate	**0.85**	0.80	**0.23**	0.22	
110-54-3	n-Hexane	**2.1**	0.80	**0.58**	0.23	
67-66-3	Chloroform	ND	0.16	ND	0.033	
109-99-9	Tetrahydrofuran (THF)	ND	0.80	ND	0.27	
107-06-2	1,2-Dichloroethane	ND	0.16	ND	0.040	
71-55-6	1,1,1-Trichloroethane	**0.17**	0.16	**0.031**	0.029	
71-43-2	Benzene	**0.51**	0.16	**0.16**	0.050	
56-23-5	Carbon Tetrachloride	**0.40**	0.16	**0.064**	0.025	
110-82-7	Cyclohexane	**23**	0.80	**6.6**	0.23	
78-87-5	1,2-Dichloropropane	ND	0.16	ND	0.035	
75-27-4	Bromodichloromethane	ND	0.16	ND	0.024	
79-01-6	Trichloroethene	ND	0.16	ND	0.030	
123-91-1	1,4-Dioxane	ND	0.80	ND	0.22	
80-62-6	Methyl Methacrylate	ND	0.80	ND	0.20	
142-82-5	n-Heptane	**19**	0.80	**4.6**	0.20	
10061-01-5	cis-1,3-Dichloropropene	ND	0.80	ND	0.18	
108-10-1	4-Methyl-2-pentanone	**8.0**	0.80	**1.9**	0.20	
10061-02-6	trans-1,3-Dichloropropene	ND	0.80	ND	0.18	
79-00-5	1,1,2-Trichloroethane	ND	0.16	ND	0.029	
108-88-3	Toluene	**7.2**	0.80	**1.9**	0.21	
591-78-6	2-Hexanone	ND	0.80	ND	0.20	
124-48-1	Dibromochloromethane	ND	0.16	ND	0.019	
106-93-4	1,2-Dibromoethane	ND	0.16	ND	0.021	
123-86-4	n-Butyl Acetate	ND	0.80	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Client: **Landau Associates,Inc.** CAS Project ID: P1100170
Client Sample ID: **LAI-IAQ-7** CAS Sample ID: P1100170-007
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023**

Test Code: EPA TO-15 Date Collected: 1/11/11
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/17/11
Analyst: Wida Ang Date Analyzed: 1/26/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC00868

Initial Pressure (psig): -3.3 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.60

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	**9.8**	0.80	**2.1**	0.17	
127-18-4	Tetrachloroethene	**5.7**	0.16	**0.83**	0.024	
108-90-7	Chlorobenzene	ND	0.16	ND	0.035	
100-41-4	Ethylbenzene	**3.1**	0.80	**0.71**	0.18	
179601-23-1	m,p-Xylenes	**13**	0.80	**2.9**	0.18	
75-25-2	Bromoform	ND	0.80	ND	0.077	
100-42-5	Styrene	ND	0.80	ND	0.19	
95-47-6	o-Xylene	**3.9**	0.80	**0.90**	0.18	
111-84-2	n-Nonane	**5.7**	0.80	**1.1**	0.15	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.16	ND	0.023	
98-82-8	Cumene	ND	0.80	ND	0.16	
80-56-8	alpha-Pinene	ND	0.80	ND	0.14	
103-65-1	n-Propylbenzene	ND	0.80	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.80	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.80	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	ND	0.80	ND	0.16	
100-44-7	Benzyl Chloride	ND	0.80	ND	0.15	
541-73-1	1,3-Dichlorobenzene	ND	0.16	ND	0.027	
106-46-7	1,4-Dichlorobenzene	ND	0.16	ND	0.027	
95-50-1	1,2-Dichlorobenzene	ND	0.16	ND	0.027	
5989-27-5	d-Limonene	ND	0.80	ND	0.14	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.80	ND	0.083	
120-82-1	1,2,4-Trichlorobenzene	ND	0.80	ND	0.11	
91-20-3	Naphthalene	ND	0.80	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.80	ND	0.075	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Client: **Landau Associates,Inc.**
Client Sample ID: **LAI-AAQ-1**
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023**

CAS Project ID: P1100170
CAS Sample ID: P1100170-008

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Wida Ang
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: AC01275

Date Collected: 1/11/11
Date Received: 1/17/11
Date Analyzed: 1/26/11
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -0.8 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.31

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.66	ND	0.38	
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.3**	0.66	**0.47**	0.13	
74-87-3	Chloromethane	**0.31**	0.26	**0.15**	0.13	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.66	ND	0.094	
75-01-4	Vinyl Chloride	ND	0.13	ND	0.051	
106-99-0	1,3-Butadiene	ND	0.26	ND	0.12	
74-83-9	Bromomethane	ND	0.13	ND	0.034	
75-00-3	Chloroethane	ND	0.13	ND	0.050	
64-17-5	Ethanol	ND	6.6	ND	3.5	
75-05-8	Acetonitrile	ND	0.66	ND	0.39	
107-02-8	Acrolein	ND	2.6	ND	1.1	
67-64-1	Acetone	ND	6.6	ND	2.8	
75-69-4	Trichlorofluoromethane	**1.2**	0.13	**0.22**	0.023	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.3	ND	0.53	
107-13-1	Acrylonitrile	ND	0.66	ND	0.30	
75-35-4	1,1-Dichloroethene	ND	0.13	ND	0.033	
75-09-2	Methylene Chloride	ND	0.66	ND	0.19	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.13	ND	0.042	
76-13-1	Trichlorotrifluoroethane	**0.52**	0.13	**0.068**	0.017	
75-15-0	Carbon Disulfide	ND	6.6	ND	2.1	
156-60-5	trans-1,2-Dichloroethene	ND	0.13	ND	0.033	
75-34-3	1,1-Dichloroethane	ND	0.13	ND	0.032	
1634-04-4	Methyl tert-Butyl Ether	ND	0.13	ND	0.036	
108-05-4	Vinyl Acetate	ND	6.6	ND	1.9	
78-93-3	2-Butanone (MEK)	ND	6.6	ND	2.2	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Landau Associates,Inc.**
Client Sample ID: **LAI-AAQ-1**
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023**

CAS Project ID: P1100170
CAS Sample ID: P1100170-008

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Wida Ang
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: AC01275

Date Collected: 1/11/11
Date Received: 1/17/11
Date Analyzed: 1/26/11
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -0.8 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.31

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.13	ND	0.033	
141-78-6	Ethyl Acetate	ND	0.66	ND	0.18	
110-54-3	n-Hexane	ND	0.66	ND	0.19	
67-66-3	Chloroform	ND	0.13	ND	0.027	
109-99-9	Tetrahydrofuran (THF)	ND	0.66	ND	0.22	
107-06-2	1,2-Dichloroethane	ND	0.13	ND	0.032	
71-55-6	1,1,1-Trichloroethane	ND	0.13	ND	0.024	
71-43-2	Benzene	**0.56**	0.13	**0.18**	0.041	
56-23-5	Carbon Tetrachloride	**0.41**	0.13	**0.066**	0.021	
110-82-7	Cyclohexane	ND	0.66	ND	0.19	
78-87-5	1,2-Dichloropropane	ND	0.13	ND	0.028	
75-27-4	Bromodichloromethane	ND	0.13	ND	0.020	
79-01-6	Trichloroethene	ND	0.13	ND	0.024	
123-91-1	1,4-Dioxane	ND	0.66	ND	0.18	
80-62-6	Methyl Methacrylate	ND	0.66	ND	0.16	
142-82-5	n-Heptane	ND	0.66	ND	0.16	
10061-01-5	cis-1,3-Dichloropropene	ND	0.66	ND	0.14	
108-10-1	4-Methyl-2-pentanone	ND	0.66	ND	0.16	
10061-02-6	trans-1,3-Dichloropropene	ND	0.66	ND	0.14	
79-00-5	1,1,2-Trichloroethane	ND	0.13	ND	0.024	
108-88-3	Toluene	**1.3**	0.66	**0.34**	0.17	
591-78-6	2-Hexanone	ND	0.66	ND	0.16	
124-48-1	Dibromochloromethane	ND	0.13	ND	0.015	
106-93-4	1,2-Dibromoethane	ND	0.13	ND	0.017	
123-86-4	n-Butyl Acetate	ND	0.66	ND	0.14	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Client: **Landau Associates,Inc.** CAS Project ID: P1100170
Client Sample ID: **LAI-AAQ-1** CAS Sample ID: P1100170-008
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023**

Test Code: EPA TO-15 Date Collected: 1/11/11
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/17/11
Analyst: Wida Ang Date Analyzed: 1/26/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01275

Initial Pressure (psig): -0.8 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.31

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.66	ND	0.14	
127-18-4	Tetrachloroethene	ND	0.13	ND	0.019	
108-90-7	Chlorobenzene	ND	0.13	ND	0.028	
100-41-4	Ethylbenzene	ND	0.66	ND	0.15	
179601-23-1	m,p-Xylenes	ND	0.66	ND	0.15	
75-25-2	Bromoform	ND	0.66	ND	0.063	
100-42-5	Styrene	ND	0.66	ND	0.15	
95-47-6	o-Xylene	ND	0.66	ND	0.15	
111-84-2	n-Nonane	ND	0.66	ND	0.12	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.13	ND	0.019	
98-82-8	Cumene	ND	0.66	ND	0.13	
80-56-8	alpha-Pinene	ND	0.66	ND	0.12	
103-65-1	n-Propylbenzene	ND	0.66	ND	0.13	
622-96-8	4-Ethyltoluene	ND	0.66	ND	0.13	
108-67-8	1,3,5-Trimethylbenzene	ND	0.66	ND	0.13	
95-63-6	1,2,4-Trimethylbenzene	ND	0.66	ND	0.13	
100-44-7	Benzyl Chloride	ND	0.66	ND	0.13	
541-73-1	1,3-Dichlorobenzene	ND	0.13	ND	0.022	
106-46-7	1,4-Dichlorobenzene	ND	0.13	ND	0.022	
95-50-1	1,2-Dichlorobenzene	ND	0.13	ND	0.022	
5989-27-5	d-Limonene	ND	0.66	ND	0.12	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.66	ND	0.068	
120-82-1	1,2,4-Trichlorobenzene	ND	0.66	ND	0.088	
91-20-3	Naphthalene	ND	0.66	ND	0.13	
87-68-3	Hexachlorobutadiene	ND	0.66	ND	0.061	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Client: **Landau Associates,Inc.**
Client Sample ID: **LAI-SSAQ-1**
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023**

CAS Project ID: P1100170
CAS Sample ID: P1100170-009

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Wida Ang
Sampling Media: 1.0 L Summa Canister
Test Notes:
Container ID: 1SC00491

Date Collected: 1/11/11
Date Received: 1/17/11
Date Analyzed: 1/25/11
Volume(s) Analyzed: 0.00020 Liter(s)

Initial Pressure (psig): -2.1 Final Pressure (psig): 9.8

Canister Dilution Factor: 1.94

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	4,900	ND	2,800	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	4,900	ND	980	
74-87-3	Chloromethane	ND	1,900	ND	940	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	4,900	ND	690	
75-01-4	Vinyl Chloride	ND	970	ND	380	
106-99-0	1,3-Butadiene	ND	1,900	ND	880	
74-83-9	Bromomethane	ND	970	ND	250	
75-00-3	Chloroethane	ND	970	ND	370	
64-17-5	Ethanol	ND	49,000	ND	26,000	
75-05-8	Acetonitrile	ND	4,900	ND	2,900	
107-02-8	Acrolein	ND	19,000	ND	8,500	
67-64-1	Acetone	**120,000**	49,000	**49,000**	20,000	
75-69-4	Trichlorofluoromethane	ND	970	ND	170	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	9,700	ND	3,900	
107-13-1	Acrylonitrile	ND	4,900	ND	2,200	
75-35-4	1,1-Dichloroethene	ND	970	ND	240	
75-09-2	Methylene Chloride	ND	4,900	ND	1,400	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	970	ND	310	
76-13-1	Trichlorotrifluoroethane	**2,500**	970	**320**	130	
75-15-0	Carbon Disulfide	ND	49,000	ND	16,000	
156-60-5	trans-1,2-Dichloroethene	ND	970	ND	240	
75-34-3	1,1-Dichloroethane	ND	970	ND	240	
1634-04-4	Methyl tert-Butyl Ether	ND	970	ND	270	
108-05-4	Vinyl Acetate	ND	49,000	ND	14,000	
78-93-3	2-Butanone (MEK)	**400,000**	49,000	**140,000**	16,000	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Landau Associates,Inc.**
Client Sample ID: **LAI-SSAQ-1** CAS Project ID: P1100170
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023** CAS Sample ID: P1100170-009

Test Code: EPA TO-15 Date Collected: 1/11/11
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/17/11
Analyst: Wida Ang Date Analyzed: 1/25/11
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00020 Liter(s)
Test Notes:
Container ID: 1SC00491

Initial Pressure (psig): -2.1 Final Pressure (psig): 9.8

Canister Dilution Factor: 1.94

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	970	ND	240	
141-78-6	Ethyl Acetate	ND	4,900	ND	1,300	
110-54-3	n-Hexane	**14,000**	4,900	**3,900**	1,400	
67-66-3	Chloroform	ND	970	ND	200	
109-99-9	Tetrahydrofuran (THF)	ND	4,900	ND	1,600	
107-06-2	1,2-Dichloroethane	ND	970	ND	240	
71-55-6	1,1,1-Trichloroethane	ND	970	ND	180	
71-43-2	Benzene	**2,200**	970	**700**	300	
56-23-5	Carbon Tetrachloride	ND	970	ND	150	
110-82-7	Cyclohexane	**61,000**	4,900	**18,000**	1,400	
78-87-5	1,2-Dichloropropane	ND	970	ND	210	
75-27-4	Bromodichloromethane	ND	970	ND	140	
79-01-6	Trichloroethene	**4,100**	970	**750**	180	
123-91-1	1,4-Dioxane	ND	4,900	ND	1,300	
80-62-6	Methyl Methacrylate	ND	4,900	ND	1,200	
142-82-5	n-Heptane	**210,000**	4,900	**51,000**	1,200	
10061-01-5	cis-1,3-Dichloropropene	ND	4,900	ND	1,100	
108-10-1	4-Methyl-2-pentanone	ND	4,900	ND	1,200	
10061-02-6	trans-1,3-Dichloropropene	ND	4,900	ND	1,100	
79-00-5	1,1,2-Trichloroethane	ND	970	ND	180	
108-88-3	Toluene	**810,000**	4,900	**210,000**	1,300	
591-78-6	2-Hexanone	**26,000**	4,900	**6,400**	1,200	
124-48-1	Dibromochloromethane	ND	970	ND	110	
106-93-4	1,2-Dibromoethane	ND	970	ND	130	
123-86-4	n-Butyl Acetate	ND	4,900	ND	1,000	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Client: **Landau Associates,Inc.** CAS Project ID: P1100170
Client Sample ID: **LAI-SSAQ-1** CAS Sample ID: P1100170-009
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023**

Test Code: EPA TO-15 Date Collected: 1/11/11
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/17/11
Analyst: Wida Ang Date Analyzed: 1/25/11
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00020 Liter(s)
Test Notes:
Container ID: 1SC00491

Initial Pressure (psig): -2.1 Final Pressure (psig): 9.8

Canister Dilution Factor: 1.94

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	**9,600**	4,900	**2,000**	1,000	
127-18-4	Tetrachloroethene	ND	970	ND	140	
108-90-7	Chlorobenzene	ND	970	ND	210	
100-41-4	Ethylbenzene	**51,000**	4,900	**12,000**	1,100	
179601-23-1	m,p-Xylenes	**88,000**	4,900	**20,000**	1,100	
75-25-2	Bromoform	ND	4,900	ND	470	
100-42-5	Styrene	ND	4,900	ND	1,100	
95-47-6	o-Xylene	**11,000**	4,900	**2,500**	1,100	
111-84-2	n-Nonane	ND	4,900	ND	920	
79-34-5	1,1,2,2-Tetrachloroethane	ND	970	ND	140	
98-82-8	Cumene	ND	4,900	ND	990	
80-56-8	alpha-Pinene	ND	4,900	ND	870	
103-65-1	n-Propylbenzene	ND	4,900	ND	990	
622-96-8	4-Ethyltoluene	ND	4,900	ND	990	
108-67-8	1,3,5-Trimethylbenzene	ND	4,900	ND	990	
95-63-6	1,2,4-Trimethylbenzene	ND	4,900	ND	990	
100-44-7	Benzyl Chloride	ND	4,900	ND	940	
541-73-1	1,3-Dichlorobenzene	ND	970	ND	160	
106-46-7	1,4-Dichlorobenzene	ND	970	ND	160	
95-50-1	1,2-Dichlorobenzene	ND	970	ND	160	
5989-27-5	d-Limonene	ND	4,900	ND	870	
96-12-8	1,2-Dibromo-3-chloropropane	ND	4,900	ND	500	
120-82-1	1,2,4-Trichlorobenzene	ND	4,900	ND	650	
91-20-3	Naphthalene	ND	4,900	ND	930	
87-68-3	Hexachlorobutadiene	ND	4,900	ND	450	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Client: **Landau Associates,Inc.**
Client Sample ID: **LAI-SSAQ-2**
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023**

CAS Project ID: P1100170
CAS Sample ID: P1100170-010

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Wida Ang
Sampling Media: 1.0 L Summa Canister
Test Notes:
Container ID: 1SC00468

Date Collected: 1/11/11
Date Received: 1/17/11
Date Analyzed: 1/25/11
Volume(s) Analyzed: 0.00070 Liter(s)

Initial Pressure (psig): -2.7 Final Pressure (psig): 5.0

Canister Dilution Factor: 1.64

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	1,200	ND	680	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	1,200	ND	240	
74-87-3	Chloromethane	ND	470	ND	230	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	1,200	ND	170	
75-01-4	Vinyl Chloride	ND	230	ND	92	
106-99-0	1,3-Butadiene	ND	470	ND	210	
74-83-9	Bromomethane	ND	230	ND	60	
75-00-3	Chloroethane	ND	230	ND	89	
64-17-5	Ethanol	ND	12,000	ND	6,200	
75-05-8	Acetonitrile	ND	1,200	ND	700	
107-02-8	Acrolein	ND	4,700	ND	2,000	
67-64-1	Acetone	ND	12,000	ND	4,900	
75-69-4	Trichlorofluoromethane	ND	230	ND	42	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	2,300	ND	950	
107-13-1	Acrylonitrile	ND	1,200	ND	540	
75-35-4	1,1-Dichloroethene	ND	230	ND	59	
75-09-2	Methylene Chloride	ND	1,200	ND	340	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	230	ND	75	
76-13-1	Trichlorotrifluoroethane	**670**	230	**88**	31	
75-15-0	Carbon Disulfide	ND	12,000	ND	3,800	
156-60-5	trans-1,2-Dichloroethene	ND	230	ND	59	
75-34-3	1,1-Dichloroethane	ND	230	ND	58	
1634-04-4	Methyl tert-Butyl Ether	ND	230	ND	65	
108-05-4	Vinyl Acetate	ND	12,000	ND	3,300	
78-93-3	2-Butanone (MEK)	ND	12,000	ND	4,000	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Landau Associates,Inc.**
Client Sample ID: **LAI-SSAQ-2** CAS Project ID: P1100170
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023** CAS Sample ID: P1100170-010

Test Code: EPA TO-15 Date Collected: 1/11/11
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/17/11
Analyst: Wida Ang Date Analyzed: 1/25/11
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00070 Liter(s)
Test Notes:
Container ID: 1SC00468

Initial Pressure (psig): -2.7 Final Pressure (psig): 5.0

Canister Dilution Factor: 1.64

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	230	ND	59	
141-78-6	Ethyl Acetate	ND	1,200	ND	330	
110-54-3	n-Hexane	ND	1,200	ND	330	
67-66-3	Chloroform	ND	230	ND	48	
109-99-9	Tetrahydrofuran (THF)	ND	1,200	ND	400	
107-06-2	1,2-Dichloroethane	ND	230	ND	58	
71-55-6	1,1,1-Trichloroethane	ND	230	ND	43	
71-43-2	Benzene	ND	230	ND	73	
56-23-5	Carbon Tetrachloride	ND	230	ND	37	
110-82-7	Cyclohexane	**3,500**	1,200	**1,000**	340	
78-87-5	1,2-Dichloropropane	ND	230	ND	51	
75-27-4	Bromodichloromethane	ND	230	ND	35	
79-01-6	Trichloroethene	**990**	230	**180**	44	
123-91-1	1,4-Dioxane	ND	1,200	ND	330	
80-62-6	Methyl Methacrylate	ND	1,200	ND	290	
142-82-5	n-Heptane	**27,000**	1,200	**6,500**	290	
10061-01-5	cis-1,3-Dichloropropene	ND	1,200	ND	260	
108-10-1	4-Methyl-2-pentanone	ND	1,200	ND	290	
10061-02-6	trans-1,3-Dichloropropene	ND	1,200	ND	260	
79-00-5	1,1,2-Trichloroethane	ND	230	ND	43	
108-88-3	Toluene	**180,000**	1,200	**48,000**	310	
591-78-6	2-Hexanone	**4,900**	1,200	**1,200**	290	
124-48-1	Dibromochloromethane	ND	230	ND	28	
106-93-4	1,2-Dibromoethane	ND	230	ND	30	
123-86-4	n-Butyl Acetate	ND	1,200	ND	250	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Client: **Landau Associates,Inc.** CAS Project ID: P1100170
Client Sample ID: **LAI-SSAQ-2** CAS Sample ID: P1100170-010
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023**

Test Code: EPA TO-15 Date Collected: 1/11/11
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 1/17/11
Analyst: Wida Ang Date Analyzed: 1/25/11
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00070 Liter(s)
Test Notes:
Container ID: 1SC00468

Initial Pressure (psig): -2.7 Final Pressure (psig): 5.0

Canister Dilution Factor: 1.64

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	**3,300**	1,200	**710**	250	
127-18-4	Tetrachloroethene	ND	230	ND	35	
108-90-7	Chlorobenzene	ND	230	ND	51	
100-41-4	Ethylbenzene	**23,000**	1,200	**5,300**	270	
179601-23-1	m,p-Xylenes	**42,000**	1,200	**9,800**	270	
75-25-2	Bromoform	ND	1,200	ND	110	
100-42-5	Styrene	ND	1,200	ND	280	
95-47-6	o-Xylene	**5,400**	1,200	**1,200**	270	
111-84-2	n-Nonane	ND	1,200	ND	220	
79-34-5	1,1,2,2-Tetrachloroethane	ND	230	ND	34	
98-82-8	Cumene	ND	1,200	ND	240	
80-56-8	alpha-Pinene	ND	1,200	ND	210	
103-65-1	n-Propylbenzene	ND	1,200	ND	240	
622-96-8	4-Ethyltoluene	ND	1,200	ND	240	
108-67-8	1,3,5-Trimethylbenzene	ND	1,200	ND	240	
95-63-6	1,2,4-Trimethylbenzene	ND	1,200	ND	240	
100-44-7	Benzyl Chloride	ND	1,200	ND	230	
541-73-1	1,3-Dichlorobenzene	ND	230	ND	39	
106-46-7	1,4-Dichlorobenzene	ND	230	ND	39	
95-50-1	1,2-Dichlorobenzene	ND	230	ND	39	
5989-27-5	d-Limonene	ND	1,200	ND	210	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1,200	ND	120	
120-82-1	1,2,4-Trichlorobenzene	ND	1,200	ND	160	
91-20-3	Naphthalene	ND	1,200	ND	220	
87-68-3	Hexachlorobutadiene	ND	1,200	ND	110	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Landau Associates,Inc.**
Client Sample ID: **Method Blank** CAS Project ID: P1100170
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023** CAS Sample ID: P110124-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Wida Ang Date Analyzed: 1/24/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.50	ND	0.29	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.50	ND	0.10	
74-87-3	Chloromethane	ND	0.20	ND	0.097	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.50	ND	0.072	
75-01-4	Vinyl Chloride	ND	0.10	ND	0.039	
106-99-0	1,3-Butadiene	ND	0.20	ND	0.090	
74-83-9	Bromomethane	ND	0.10	ND	0.026	
75-00-3	Chloroethane	ND	0.10	ND	0.038	
64-17-5	Ethanol	ND	5.0	ND	2.7	
75-05-8	Acetonitrile	ND	0.50	ND	0.30	
107-02-8	Acrolein	ND	2.0	ND	0.87	
67-64-1	Acetone	ND	5.0	ND	2.1	
75-69-4	Trichlorofluoromethane	ND	0.10	ND	0.018	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.0	ND	0.41	
107-13-1	Acrylonitrile	ND	0.50	ND	0.23	
75-35-4	1,1-Dichloroethene	ND	0.10	ND	0.025	
75-09-2	Methylene Chloride	ND	0.50	ND	0.14	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.10	ND	0.032	
76-13-1	Trichlorotrifluoroethane	ND	0.10	ND	0.013	
75-15-0	Carbon Disulfide	ND	5.0	ND	1.6	
156-60-5	trans-1,2-Dichloroethene	ND	0.10	ND	0.025	
75-34-3	1,1-Dichloroethane	ND	0.10	ND	0.025	
1634-04-4	Methyl tert-Butyl Ether	ND	0.10	ND	0.028	
108-05-4	Vinyl Acetate	ND	5.0	ND	1.4	
78-93-3	2-Butanone (MEK)	ND	5.0	ND	1.7	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Landau Associates,Inc.**
Client Sample ID: **Method Blank** CAS Project ID: P1100170
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023** CAS Sample ID: P110124-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Wida Ang Date Analyzed: 1/24/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.10	ND	0.025	
141-78-6	Ethyl Acetate	ND	0.50	ND	0.14	
110-54-3	n-Hexane	ND	0.50	ND	0.14	
67-66-3	Chloroform	ND	0.10	ND	0.020	
109-99-9	Tetrahydrofuran (THF)	ND	0.50	ND	0.17	
107-06-2	1,2-Dichloroethane	ND	0.10	ND	0.025	
71-55-6	1,1,1-Trichloroethane	ND	0.10	ND	0.018	
71-43-2	Benzene	ND	0.10	ND	0.031	
56-23-5	Carbon Tetrachloride	ND	0.10	ND	0.016	
110-82-7	Cyclohexane	ND	0.50	ND	0.15	
78-87-5	1,2-Dichloropropane	ND	0.10	ND	0.022	
75-27-4	Bromodichloromethane	ND	0.10	ND	0.015	
79-01-6	Trichloroethene	ND	0.10	ND	0.019	
123-91-1	1,4-Dioxane	ND	0.50	ND	0.14	
80-62-6	Methyl Methacrylate	ND	0.50	ND	0.12	
142-82-5	n-Heptane	ND	0.50	ND	0.12	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ND	0.11	
108-10-1	4-Methyl-2-pentanone	ND	0.50	ND	0.12	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ND	0.11	
79-00-5	1,1,2-Trichloroethane	ND	0.10	ND	0.018	
108-88-3	Toluene	ND	0.50	ND	0.13	
591-78-6	2-Hexanone	ND	0.50	ND	0.12	
124-48-1	Dibromochloromethane	ND	0.10	ND	0.012	
106-93-4	1,2-Dibromoethane	ND	0.10	ND	0.013	
123-86-4	n-Butyl Acetate	ND	0.50	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Landau Associates,Inc.** CAS Project ID: P1100170
Client Sample ID: **Method Blank** CAS Sample ID: P110124-MB
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023**

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Wida Ang Date Analyzed: 1/24/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.50	ND	0.11	
127-18-4	Tetrachloroethene	ND	0.10	ND	0.015	
108-90-7	Chlorobenzene	ND	0.10	ND	0.022	
100-41-4	Ethylbenzene	ND	0.50	ND	0.12	
179601-23-1	m,p-Xylenes	ND	0.50	ND	0.12	
75-25-2	Bromoform	ND	0.50	ND	0.048	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	o-Xylene	ND	0.50	ND	0.12	
111-84-2	n-Nonane	ND	0.50	ND	0.095	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.10	ND	0.015	
98-82-8	Cumene	ND	0.50	ND	0.10	
80-56-8	alpha-Pinene	ND	0.50	ND	0.090	
103-65-1	n-Propylbenzene	ND	0.50	ND	0.10	
622-96-8	4-Ethyltoluene	ND	0.50	ND	0.10	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	ND	0.10	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	ND	0.10	
100-44-7	Benzyl Chloride	ND	0.50	ND	0.097	
541-73-1	1,3-Dichlorobenzene	ND	0.10	ND	0.017	
106-46-7	1,4-Dichlorobenzene	ND	0.10	ND	0.017	
95-50-1	1,2-Dichlorobenzene	ND	0.10	ND	0.017	
5989-27-5	d-Limonene	ND	0.50	ND	0.090	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	ND	0.052	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	ND	0.067	
91-20-3	Naphthalene	ND	0.50	ND	0.095	
87-68-3	Hexachlorobutadiene	ND	0.50	ND	0.047	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Client: **Landau Associates,Inc.**
Client Sample ID: **Method Blank** CAS Project ID: P1100170
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023** CAS Sample ID: P110125-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Wida Ang Date Analyzed: 1/25/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.50	ND	0.29	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.50	ND	0.10	
74-87-3	Chloromethane	ND	0.20	ND	0.097	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.50	ND	0.072	
75-01-4	Vinyl Chloride	ND	0.10	ND	0.039	
106-99-0	1,3-Butadiene	ND	0.20	ND	0.090	
74-83-9	Bromomethane	ND	0.10	ND	0.026	
75-00-3	Chloroethane	ND	0.10	ND	0.038	
64-17-5	Ethanol	ND	5.0	ND	2.7	
75-05-8	Acetonitrile	ND	0.50	ND	0.30	
107-02-8	Acrolein	ND	2.0	ND	0.87	
67-64-1	Acetone	ND	5.0	ND	2.1	
75-69-4	Trichlorofluoromethane	ND	0.10	ND	0.018	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.0	ND	0.41	
107-13-1	Acrylonitrile	ND	0.50	ND	0.23	
75-35-4	1,1-Dichloroethene	ND	0.10	ND	0.025	
75-09-2	Methylene Chloride	ND	0.50	ND	0.14	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.10	ND	0.032	
76-13-1	Trichlorotrifluoroethane	ND	0.10	ND	0.013	
75-15-0	Carbon Disulfide	ND	5.0	ND	1.6	
156-60-5	trans-1,2-Dichloroethene	ND	0.10	ND	0.025	
75-34-3	1,1-Dichloroethane	ND	0.10	ND	0.025	
1634-04-4	Methyl tert-Butyl Ether	ND	0.10	ND	0.028	
108-05-4	Vinyl Acetate	ND	5.0	ND	1.4	
78-93-3	2-Butanone (MEK)	ND	5.0	ND	1.7	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Landau Associates,Inc.**
Client Sample ID: **Method Blank** CAS Project ID: P1100170
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023** CAS Sample ID: P110125-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Wida Ang Date Analyzed: 1/25/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.10	ND	0.025	
141-78-6	Ethyl Acetate	ND	0.50	ND	0.14	
110-54-3	n-Hexane	ND	0.50	ND	0.14	
67-66-3	Chloroform	ND	0.10	ND	0.020	
109-99-9	Tetrahydrofuran (THF)	ND	0.50	ND	0.17	
107-06-2	1,2-Dichloroethane	ND	0.10	ND	0.025	
71-55-6	1,1,1-Trichloroethane	ND	0.10	ND	0.018	
71-43-2	Benzene	ND	0.10	ND	0.031	
56-23-5	Carbon Tetrachloride	ND	0.10	ND	0.016	
110-82-7	Cyclohexane	ND	0.50	ND	0.15	
78-87-5	1,2-Dichloropropane	ND	0.10	ND	0.022	
75-27-4	Bromodichloromethane	ND	0.10	ND	0.015	
79-01-6	Trichloroethene	ND	0.10	ND	0.019	
123-91-1	1,4-Dioxane	ND	0.50	ND	0.14	
80-62-6	Methyl Methacrylate	ND	0.50	ND	0.12	
142-82-5	n-Heptane	ND	0.50	ND	0.12	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ND	0.11	
108-10-1	4-Methyl-2-pentanone	ND	0.50	ND	0.12	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ND	0.11	
79-00-5	1,1,2-Trichloroethane	ND	0.10	ND	0.018	
108-88-3	Toluene	ND	0.50	ND	0.13	
591-78-6	2-Hexanone	ND	0.50	ND	0.12	
124-48-1	Dibromochloromethane	ND	0.10	ND	0.012	
106-93-4	1,2-Dibromoethane	ND	0.10	ND	0.013	
123-86-4	n-Butyl Acetate	ND	0.50	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Landau Associates,Inc.** CAS Project ID: P1100170
Client Sample ID: **Method Blank** CAS Sample ID: P110125-MB
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023**

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Wida Ang Date Analyzed: 1/25/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.50	ND	0.11	
127-18-4	Tetrachloroethene	ND	0.10	ND	0.015	
108-90-7	Chlorobenzene	ND	0.10	ND	0.022	
100-41-4	Ethylbenzene	ND	0.50	ND	0.12	
179601-23-1	m,p-Xylenes	ND	0.50	ND	0.12	
75-25-2	Bromoform	ND	0.50	ND	0.048	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	o-Xylene	ND	0.50	ND	0.12	
111-84-2	n-Nonane	ND	0.50	ND	0.095	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.10	ND	0.015	
98-82-8	Cumene	ND	0.50	ND	0.10	
80-56-8	alpha-Pinene	ND	0.50	ND	0.090	
103-65-1	n-Propylbenzene	ND	0.50	ND	0.10	
622-96-8	4-Ethyltoluene	ND	0.50	ND	0.10	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	ND	0.10	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	ND	0.10	
100-44-7	Benzyl Chloride	ND	0.50	ND	0.097	
541-73-1	1,3-Dichlorobenzene	ND	0.10	ND	0.017	
106-46-7	1,4-Dichlorobenzene	ND	0.10	ND	0.017	
95-50-1	1,2-Dichlorobenzene	ND	0.10	ND	0.017	
5989-27-5	d-Limonene	ND	0.50	ND	0.090	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	ND	0.052	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	ND	0.067	
91-20-3	Naphthalene	ND	0.50	ND	0.095	
87-68-3	Hexachlorobutadiene	ND	0.50	ND	0.047	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Client: **Landau Associates,Inc.**
Client Sample ID: **Method Blank** CAS Project ID: P1100170
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023** CAS Sample ID: P110126-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Wida Ang Date Analyzed: 1/26/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.50	ND	0.29	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.50	ND	0.10	
74-87-3	Chloromethane	ND	0.20	ND	0.097	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.50	ND	0.072	
75-01-4	Vinyl Chloride	ND	0.10	ND	0.039	
106-99-0	1,3-Butadiene	ND	0.20	ND	0.090	
74-83-9	Bromomethane	ND	0.10	ND	0.026	
75-00-3	Chloroethane	ND	0.10	ND	0.038	
64-17-5	Ethanol	ND	5.0	ND	2.7	
75-05-8	Acetonitrile	ND	0.50	ND	0.30	
107-02-8	Acrolein	ND	2.0	ND	0.87	
67-64-1	Acetone	ND	5.0	ND	2.1	
75-69-4	Trichlorofluoromethane	ND	0.10	ND	0.018	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.0	ND	0.41	
107-13-1	Acrylonitrile	ND	0.50	ND	0.23	
75-35-4	1,1-Dichloroethene	ND	0.10	ND	0.025	
75-09-2	Methylene Chloride	ND	0.50	ND	0.14	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.10	ND	0.032	
76-13-1	Trichlorotrifluoroethane	ND	0.10	ND	0.013	
75-15-0	Carbon Disulfide	ND	5.0	ND	1.6	
156-60-5	trans-1,2-Dichloroethene	ND	0.10	ND	0.025	
75-34-3	1,1-Dichloroethane	ND	0.10	ND	0.025	
1634-04-4	Methyl tert-Butyl Ether	ND	0.10	ND	0.028	
108-05-4	Vinyl Acetate	ND	5.0	ND	1.4	
78-93-3	2-Butanone (MEK)	ND	5.0	ND	1.7	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Landau Associates,Inc.**
Client Sample ID: **Method Blank** CAS Project ID: P1100170
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023** CAS Sample ID: P110126-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Wida Ang Date Analyzed: 1/26/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.10	ND	0.025	
141-78-6	Ethyl Acetate	ND	0.50	ND	0.14	
110-54-3	n-Hexane	ND	0.50	ND	0.14	
67-66-3	Chloroform	ND	0.10	ND	0.020	
109-99-9	Tetrahydrofuran (THF)	ND	0.50	ND	0.17	
107-06-2	1,2-Dichloroethane	ND	0.10	ND	0.025	
71-55-6	1,1,1-Trichloroethane	ND	0.10	ND	0.018	
71-43-2	Benzene	ND	0.10	ND	0.031	
56-23-5	Carbon Tetrachloride	ND	0.10	ND	0.016	
110-82-7	Cyclohexane	ND	0.50	ND	0.15	
78-87-5	1,2-Dichloropropane	ND	0.10	ND	0.022	
75-27-4	Bromodichloromethane	ND	0.10	ND	0.015	
79-01-6	Trichloroethene	ND	0.10	ND	0.019	
123-91-1	1,4-Dioxane	ND	0.50	ND	0.14	
80-62-6	Methyl Methacrylate	ND	0.50	ND	0.12	
142-82-5	n-Heptane	ND	0.50	ND	0.12	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ND	0.11	
108-10-1	4-Methyl-2-pentanone	ND	0.50	ND	0.12	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ND	0.11	
79-00-5	1,1,2-Trichloroethane	ND	0.10	ND	0.018	
108-88-3	Toluene	ND	0.50	ND	0.13	
591-78-6	2-Hexanone	ND	0.50	ND	0.12	
124-48-1	Dibromochloromethane	ND	0.10	ND	0.012	
106-93-4	1,2-Dibromoethane	ND	0.10	ND	0.013	
123-86-4	n-Butyl Acetate	ND	0.50	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Landau Associates,Inc.** CAS Project ID: P1100170
Client Sample ID: **Method Blank** CAS Sample ID: P110126-MB
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023**

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Wida Ang Date Analyzed: 1/26/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.50	ND	0.11	
127-18-4	Tetrachloroethene	ND	0.10	ND	0.015	
108-90-7	Chlorobenzene	ND	0.10	ND	0.022	
100-41-4	Ethylbenzene	ND	0.50	ND	0.12	
179601-23-1	m,p-Xylenes	ND	0.50	ND	0.12	
75-25-2	Bromoform	ND	0.50	ND	0.048	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	o-Xylene	ND	0.50	ND	0.12	
111-84-2	n-Nonane	ND	0.50	ND	0.095	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.10	ND	0.015	
98-82-8	Cumene	ND	0.50	ND	0.10	
80-56-8	alpha-Pinene	ND	0.50	ND	0.090	
103-65-1	n-Propylbenzene	ND	0.50	ND	0.10	
622-96-8	4-Ethyltoluene	ND	0.50	ND	0.10	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	ND	0.10	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	ND	0.10	
100-44-7	Benzyl Chloride	ND	0.50	ND	0.097	
541-73-1	1,3-Dichlorobenzene	ND	0.10	ND	0.017	
106-46-7	1,4-Dichlorobenzene	ND	0.10	ND	0.017	
95-50-1	1,2-Dichlorobenzene	ND	0.10	ND	0.017	
5989-27-5	d-Limonene	ND	0.50	ND	0.090	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	ND	0.052	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	ND	0.067	
91-20-3	Naphthalene	ND	0.50	ND	0.095	
87-68-3	Hexachlorobutadiene	ND	0.50	ND	0.047	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

SURROGATE SPIKE RECOVERY RESULTS

Client: **Landau Associates,Inc.**
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023** CAS Project ID: P1100170

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date(s) Collected: 1/11/11
Analyst: Wida Ang Date(s) Received: 1/17/11
Sampling Media: 6.0 L Summa Canister(s) Date(s) Analyzed: 1/24 - 1/26/11
Test Notes:

Client Sample ID	CAS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P110124-MB	**102**	**99**	**95**	70-130	
Method Blank	P110125-MB	**100**	**99**	**96**	70-130	
Method Blank	P110126-MB	**100**	**99**	**96**	70-130	
Lab Control Sample	P110124-LCS	**101**	**97**	**99**	70-130	
Lab Control Sample	P110125-LCS	**101**	**96**	**101**	70-130	
Lab Control Sample	P110126-LCS	**100**	**97**	**101**	70-130	
LAI-IAQ-1	P1100170-001	**99**	**97**	**98**	70-130	
LAI-IAQ-2	P1100170-002	**100**	**98**	**98**	70-130	
LAI-IAQ-3	P1100170-003	**99**	**96**	**98**	70-130	
LAI-IAQ-4	P1100170-004	**100**	**95**	**98**	70-130	
LAI-IAQ-5	P1100170-005	**100**	**93**	**97**	70-130	
LAI-IAQ-6	P1100170-006	**99**	**97**	**99**	70-130	
LAI-IAQ-7	P1100170-007	**100**	**97**	**98**	70-130	
LAI-AAQ-1	P1100170-008	**100**	**99**	**97**	70-130	
LAI-SSAQ-1	P1100170-009	**99**	**100**	**97**	70-130	
LAI-SSAQ-2	P1100170-010	**99**	**99**	**98**	70-130	
LAI-SSAQ-2	P1100170-010DUP	**99**	**99**	**98**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Landau Associates,Inc.**
Client Sample ID: **Lab Control Sample** CAS Project ID: P1100170
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023** CAS Sample ID: P110124-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Wida Ang Date Analyzed: 1/24/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	CAS Acceptance Limits	Data Qualifier
115-07-1	Propene	216	**275**	**127**	54-137	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	**199**	**95**	55-112	
74-87-3	Chloromethane	204	**200**	**98**	66-122	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	214	**197**	**92**	64-113	
75-01-4	Vinyl Chloride	206	**201**	**98**	68-115	
106-99-0	1,3-Butadiene	240	**296**	**123**	74-142	
74-83-9	Bromomethane	206	**217**	**105**	72-124	
75-00-3	Chloroethane	208	**202**	**97**	69-115	
64-17-5	Ethanol	1,060	**1060**	**100**	67-127	
75-05-8	Acetonitrile	214	**213**	**100**	63-126	
107-02-8	Acrolein	218	**236**	**108**	62-127	
67-64-1	Acetone	1,110	**1040**	**94**	67-106	
75-69-4	Trichlorofluoromethane	210	**218**	**104**	66-121	
67-63-0	2-Propanol (Isopropyl Alcohol)	390	**304**	**78**	56-112	
107-13-1	Acrylonitrile	214	**236**	**110**	78-128	
75-35-4	1,1-Dichloroethene	220	**231**	**105**	74-116	
75-09-2	Methylene Chloride	216	**199**	**92**	69-103	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	218	**277**	**127**	76-142	
76-13-1	Trichlorotrifluoroethane	220	**214**	**97**	69-118	
75-15-0	Carbon Disulfide	214	**216**	**101**	71-112	
156-60-5	trans-1,2-Dichloroethene	216	**235**	**109**	73-121	
75-34-3	1,1-Dichloroethane	216	**226**	**105**	71-118	
1634-04-4	Methyl tert-Butyl Ether	220	**235**	**107**	72-115	
108-05-4	Vinyl Acetate	1,020	**1210**	**119**	51-150	
78-93-3	2-Butanone (MEK)	220	**256**	**116**	80-130	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Landau Associates,Inc.**
Client Sample ID: **Lab Control Sample** CAS Project ID: P1100170
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023** CAS Sample ID: P110124-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Wida Ang Date Analyzed: 1/24/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	CAS Acceptance Limits	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	220	**236**	**107**	73-117	
141-78-6	Ethyl Acetate	432	**494**	**114**	79-126	
110-54-3	n-Hexane	220	**225**	**102**	68-109	
67-66-3	Chloroform	220	**227**	**103**	67-118	
109-99-9	Tetrahydrofuran (THF)	220	**225**	**102**	57-130	
107-06-2	1,2-Dichloroethane	216	**220**	**102**	62-121	
71-55-6	1,1,1-Trichloroethane	214	**223**	**104**	70-116	
71-43-2	Benzene	216	**211**	**98**	66-103	
56-23-5	Carbon Tetrachloride	218	**239**	**110**	68-123	
110-82-7	Cyclohexane	434	**453**	**104**	73-111	
78-87-5	1,2-Dichloropropane	214	**222**	**104**	74-114	
75-27-4	Bromodichloromethane	220	**243**	**110**	75-120	
79-01-6	Trichloroethene	214	**208**	**97**	65-109	
123-91-1	1,4-Dioxane	218	**240**	**110**	74-120	
80-62-6	Methyl Methacrylate	434	**496**	**114**	80-124	
142-82-5	n-Heptane	218	**233**	**107**	75-114	
10061-01-5	cis-1,3-Dichloropropene	204	**232**	**114**	79-120	
108-10-1	4-Methyl-2-pentanone	220	**265**	**120**	79-128	
10061-02-6	trans-1,3-Dichloropropene	220	**272**	**124**	83-131	
79-00-5	1,1,2-Trichloroethane	212	**221**	**104**	76-116	
108-88-3	Toluene	218	**206**	**94**	64-115	
591-78-6	2-Hexanone	230	**254**	**110**	73-120	
124-48-1	Dibromochloromethane	220	**248**	**113**	72-137	
106-93-4	1,2-Dibromoethane	216	**226**	**105**	70-126	
123-86-4	n-Butyl Acetate	230	**264**	**115**	65-127	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Landau Associates,Inc.**
Client Sample ID: **Lab Control Sample** CAS Project ID: P1100170
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023** CAS Sample ID: P110124-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Wida Ang Date Analyzed: 1/24/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	CAS Acceptance Limits	Data Qualifier
111-65-9	n-Octane	216	**226**	**105**	72-118	
127-18-4	Tetrachloroethene	206	**201**	**98**	63-123	
108-90-7	Chlorobenzene	218	**214**	**98**	65-117	
100-41-4	Ethylbenzene	214	**220**	**103**	69-118	
179601-23-1	m,p-Xylenes	424	**442**	**104**	68-119	
75-25-2	Bromoform	210	**264**	**126**	79-150	
100-42-5	Styrene	216	**238**	**110**	74-127	
95-47-6	o-Xylene	210	**219**	**104**	68-118	
111-84-2	n-Nonane	214	**225**	**105**	72-116	
79-34-5	1,1,2,2-Tetrachloroethane	200	**218**	**109**	72-135	
98-82-8	Cumene	208	**214**	**103**	68-119	
80-56-8	alpha-Pinene	198	**216**	**109**	70-123	
103-65-1	n-Propylbenzene	210	**219**	**104**	69-119	
622-96-8	4-Ethyltoluene	220	**230**	**105**	68-121	
108-67-8	1,3,5-Trimethylbenzene	220	**231**	**105**	67-118	
95-63-6	1,2,4-Trimethylbenzene	216	**234**	**108**	66-122	
100-44-7	Benzyl Chloride	220	**285**	**130**	73-144	
541-73-1	1,3-Dichlorobenzene	220	**224**	**102**	64-122	
106-46-7	1,4-Dichlorobenzene	218	**228**	**105**	65-125	
95-50-1	1,2-Dichlorobenzene	214	**231**	**108**	63-128	
5989-27-5	d-Limonene	218	**257**	**118**	72-126	
96-12-8	1,2-Dibromo-3-chloropropane	220	**280**	**127**	72-139	
120-82-1	1,2,4-Trichlorobenzene	220	**257**	**117**	65-139	
91-20-3	Naphthalene	220	**240**	**109**	60-142	
87-68-3	Hexachlorobutadiene	220	**242**	**110**	58-137	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Landau Associates,Inc.**
Client Sample ID: **Lab Control Sample** CAS Project ID: P1100170
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023** CAS Sample ID: P110125-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Wida Ang Date Analyzed: 1/25/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	CAS Acceptance Limits	Data Qualifier
115-07-1	Propene	216	**289**	**134**	54-137	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	**202**	**96**	55-112	
74-87-3	Chloromethane	204	**213**	**104**	66-122	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	214	**206**	**96**	64-113	
75-01-4	Vinyl Chloride	206	**215**	**104**	68-115	
106-99-0	1,3-Butadiene	240	**321**	**134**	74-142	
74-83-9	Bromomethane	206	**231**	**112**	72-124	
75-00-3	Chloroethane	208	**212**	**102**	69-115	
64-17-5	Ethanol	1,060	**1120**	**106**	67-127	
75-05-8	Acetonitrile	214	**221**	**103**	63-126	
107-02-8	Acrolein	218	**240**	**110**	62-127	
67-64-1	Acetone	1,110	**1100**	**99**	67-106	
75-69-4	Trichlorofluoromethane	210	**221**	**105**	66-121	
67-63-0	2-Propanol (Isopropyl Alcohol)	390	**307**	**79**	56-112	
107-13-1	Acrylonitrile	214	**247**	**115**	78-128	
75-35-4	1,1-Dichloroethene	220	**238**	**108**	74-116	
75-09-2	Methylene Chloride	216	**204**	**94**	69-103	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	218	**284**	**130**	76-142	
76-13-1	Trichlorotrifluoroethane	220	**219**	**100**	69-118	
75-15-0	Carbon Disulfide	214	**224**	**105**	71-112	
156-60-5	trans-1,2-Dichloroethene	216	**237**	**110**	73-121	
75-34-3	1,1-Dichloroethane	216	**231**	**107**	71-118	
1634-04-4	Methyl tert-Butyl Ether	220	**236**	**107**	72-115	
108-05-4	Vinyl Acetate	1,020	**1260**	**124**	51-150	
78-93-3	2-Butanone (MEK)	220	**269**	**122**	80-130	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Landau Associates,Inc.**
Client Sample ID: **Lab Control Sample** CAS Project ID: P1100170
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023** CAS Sample ID: P110125-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Wida Ang Date Analyzed: 1/25/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	CAS Acceptance Limits	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	220	**240**	**109**	73-117	
141-78-6	Ethyl Acetate	432	**526**	**122**	79-126	
110-54-3	n-Hexane	220	**241**	**110**	68-109	**X**
67-66-3	Chloroform	220	**233**	**106**	67-118	
109-99-9	Tetrahydrofuran (THF)	220	**228**	**104**	57-130	
107-06-2	1,2-Dichloroethane	216	**223**	**103**	62-121	
71-55-6	1,1,1-Trichloroethane	214	**224**	**105**	70-116	
71-43-2	Benzene	216	**218**	**101**	66-103	
56-23-5	Carbon Tetrachloride	218	**241**	**111**	68-123	
110-82-7	Cyclohexane	434	**465**	**107**	73-111	
78-87-5	1,2-Dichloropropane	214	**229**	**107**	74-114	
75-27-4	Bromodichloromethane	220	**248**	**113**	75-120	
79-01-6	Trichloroethene	214	**213**	**100**	65-109	
123-91-1	1,4-Dioxane	218	**246**	**113**	74-120	
80-62-6	Methyl Methacrylate	434	**511**	**118**	80-124	
142-82-5	n-Heptane	218	**242**	**111**	75-114	
10061-01-5	cis-1,3-Dichloropropene	204	**238**	**117**	79-120	
108-10-1	4-Methyl-2-pentanone	220	**277**	**126**	79-128	
10061-02-6	trans-1,3-Dichloropropene	220	**276**	**125**	83-131	
79-00-5	1,1,2-Trichloroethane	212	**225**	**106**	76-116	
108-88-3	Toluene	218	**210**	**96**	64-115	
591-78-6	2-Hexanone	230	**267**	**116**	73-120	
124-48-1	Dibromochloromethane	220	**248**	**113**	72-137	
106-93-4	1,2-Dibromoethane	216	**227**	**105**	70-126	
123-86-4	n-Butyl Acetate	230	**273**	**119**	65-127	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.
X = See case narrative.

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Landau Associates,Inc.**
Client Sample ID: **Lab Control Sample** CAS Project ID: P1100170
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023** CAS Sample ID: P110125-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Wida Ang Date Analyzed: 1/25/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	CAS Acceptance Limits	Data Qualifier
111-65-9	n-Octane	216	**234**	**108**	72-118	
127-18-4	Tetrachloroethene	206	**202**	**98**	63-123	
108-90-7	Chlorobenzene	218	**216**	**99**	65-117	
100-41-4	Ethylbenzene	214	**224**	**105**	69-118	
179601-23-1	m,p-Xylenes	424	**453**	**107**	68-119	
75-25-2	Bromoform	210	**268**	**128**	79-150	
100-42-5	Styrene	216	**245**	**113**	74-127	
95-47-6	o-Xylene	210	**225**	**107**	68-118	
111-84-2	n-Nonane	214	**236**	**110**	72-116	
79-34-5	1,1,2,2-Tetrachloroethane	200	**225**	**113**	72-135	
98-82-8	Cumene	208	**219**	**105**	68-119	
80-56-8	alpha-Pinene	198	**220**	**111**	70-123	
103-65-1	n-Propylbenzene	210	**227**	**108**	69-119	
622-96-8	4-Ethyltoluene	220	**238**	**108**	68-121	
108-67-8	1,3,5-Trimethylbenzene	220	**240**	**109**	67-118	
95-63-6	1,2,4-Trimethylbenzene	216	**250**	**116**	66-122	
100-44-7	Benzyl Chloride	220	**297**	**135**	73-144	
541-73-1	1,3-Dichlorobenzene	220	**238**	**108**	64-122	
106-46-7	1,4-Dichlorobenzene	218	**241**	**111**	65-125	
95-50-1	1,2-Dichlorobenzene	214	**249**	**116**	63-128	
5989-27-5	d-Limonene	218	**277**	**127**	72-126	**L**
96-12-8	1,2-Dibromo-3-chloropropane	220	**293**	**133**	72-139	
120-82-1	1,2,4-Trichlorobenzene	220	**267**	**121**	65-139	
91-20-3	Naphthalene	220	**254**	**115**	60-142	
87-68-3	Hexachlorobutadiene	220	**255**	**116**	58-137	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.
L = Laboratory control sample recovery outside the specified limits, results may be biased high.

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Landau Associates,Inc.**
Client Sample ID: **Lab Control Sample** CAS Project ID: P1100170
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023** CAS Sample ID: P110126-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Wida Ang Date Analyzed: 1/26/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	CAS Acceptance Limits	Data Qualifier
115-07-1	Propene	216	**287**	**133**	54-137	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	**202**	**96**	55-112	
74-87-3	Chloromethane	204	**211**	**103**	66-122	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	214	**207**	**97**	64-113	
75-01-4	Vinyl Chloride	206	**213**	**103**	68-115	
106-99-0	1,3-Butadiene	240	**312**	**130**	74-142	
74-83-9	Bromomethane	206	**227**	**110**	72-124	
75-00-3	Chloroethane	208	**207**	**100**	69-115	
64-17-5	Ethanol	1,060	**1090**	**103**	67-127	
75-05-8	Acetonitrile	214	**217**	**101**	63-126	
107-02-8	Acrolein	218	**236**	**108**	62-127	
67-64-1	Acetone	1,110	**1060**	**95**	67-106	
75-69-4	Trichlorofluoromethane	210	**220**	**105**	66-121	
67-63-0	2-Propanol (Isopropyl Alcohol)	390	**303**	**78**	56-112	
107-13-1	Acrylonitrile	214	**242**	**113**	78-128	
75-35-4	1,1-Dichloroethene	220	**234**	**106**	74-116	
75-09-2	Methylene Chloride	216	**202**	**94**	69-103	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	218	**281**	**129**	76-142	
76-13-1	Trichlorotrifluoroethane	220	**219**	**100**	69-118	
75-15-0	Carbon Disulfide	214	**220**	**103**	71-112	
156-60-5	trans-1,2-Dichloroethene	216	**234**	**108**	73-121	
75-34-3	1,1-Dichloroethane	216	**228**	**106**	71-118	
1634-04-4	Methyl tert-Butyl Ether	220	**236**	**107**	72-115	
108-05-4	Vinyl Acetate	1,020	**1240**	**122**	51-150	
78-93-3	2-Butanone (MEK)	220	**264**	**120**	80-130	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Landau Associates,Inc.**
Client Sample ID: **Lab Control Sample** CAS Project ID: P1100170
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023** CAS Sample ID: P110126-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Wida Ang Date Analyzed: 1/26/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	CAS Acceptance Limits	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	220	**237**	**108**	73-117	
141-78-6	Ethyl Acetate	432	**510**	**118**	79-126	
110-54-3	n-Hexane	220	**233**	**106**	68-109	
67-66-3	Chloroform	220	**230**	**105**	67-118	
109-99-9	Tetrahydrofuran (THF)	220	**225**	**102**	57-130	
107-06-2	1,2-Dichloroethane	216	**221**	**102**	62-121	
71-55-6	1,1,1-Trichloroethane	214	**224**	**105**	70-116	
71-43-2	Benzene	216	**215**	**100**	66-103	
56-23-5	Carbon Tetrachloride	218	**240**	**110**	68-123	
110-82-7	Cyclohexane	434	**460**	**106**	73-111	
78-87-5	1,2-Dichloropropane	214	**224**	**105**	74-114	
75-27-4	Bromodichloromethane	220	**245**	**111**	75-120	
79-01-6	Trichloroethene	214	**212**	**99**	65-109	
123-91-1	1,4-Dioxane	218	**244**	**112**	74-120	
80-62-6	Methyl Methacrylate	434	**503**	**116**	80-124	
142-82-5	n-Heptane	218	**238**	**109**	75-114	
10061-01-5	cis-1,3-Dichloropropene	204	**236**	**116**	79-120	
108-10-1	4-Methyl-2-pentanone	220	**272**	**124**	79-128	
10061-02-6	trans-1,3-Dichloropropene	220	**274**	**125**	83-131	
79-00-5	1,1,2-Trichloroethane	212	**224**	**106**	76-116	
108-88-3	Toluene	218	**210**	**96**	64-115	
591-78-6	2-Hexanone	230	**263**	**114**	73-120	
124-48-1	Dibromochloromethane	220	**251**	**114**	72-137	
106-93-4	1,2-Dibromoethane	216	**229**	**106**	70-126	
123-86-4	n-Butyl Acetate	230	**273**	**119**	65-127	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Landau Associates,Inc.**
Client Sample ID: **Lab Control Sample** CAS Project ID: P1100170
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023** CAS Sample ID: P110126-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Wida Ang Date Analyzed: 1/26/11
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	CAS Acceptance Limits	Data Qualifier
111-65-9	n-Octane	216	**232**	**107**	72-118	
127-18-4	Tetrachloroethene	206	**204**	**99**	63-123	
108-90-7	Chlorobenzene	218	**218**	**100**	65-117	
100-41-4	Ethylbenzene	214	**225**	**105**	69-118	
179601-23-1	m,p-Xylenes	424	**454**	**107**	68-119	
75-25-2	Bromoform	210	**271**	**129**	79-150	
100-42-5	Styrene	216	**246**	**114**	74-127	
95-47-6	o-Xylene	210	**227**	**108**	68-118	
111-84-2	n-Nonane	214	**236**	**110**	72-116	
79-34-5	1,1,2,2-Tetrachloroethane	200	**226**	**113**	72-135	
98-82-8	Cumene	208	**221**	**106**	68-119	
80-56-8	alpha-Pinene	198	**222**	**112**	70-123	
103-65-1	n-Propylbenzene	210	**231**	**110**	69-119	
622-96-8	4-Ethyltoluene	220	**244**	**111**	68-121	
108-67-8	1,3,5-Trimethylbenzene	220	**244**	**111**	67-118	
95-63-6	1,2,4-Trimethylbenzene	216	**250**	**116**	66-122	
100-44-7	Benzyl Chloride	220	**302**	**137**	73-144	
541-73-1	1,3-Dichlorobenzene	220	**240**	**109**	64-122	
106-46-7	1,4-Dichlorobenzene	218	**244**	**112**	65-125	
95-50-1	1,2-Dichlorobenzene	214	**249**	**116**	63-128	
5989-27-5	d-Limonene	218	**277**	**127**	72-126	**L**
96-12-8	1,2-Dibromo-3-chloropropane	220	**300**	**136**	72-139	
120-82-1	1,2,4-Trichlorobenzene	220	**278**	**126**	65-139	
91-20-3	Naphthalene	220	**260**	**118**	60-142	
87-68-3	Hexachlorobutadiene	220	**263**	**120**	58-137	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.
L = Laboratory control sample recovery outside the specified limits, results may be biased high.

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **Landau Associates,Inc.**
Client Sample ID: **LAI-SSAQ-2**
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023**

CAS Project ID: P1100170
CAS Sample ID: P1100170-010DUP

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Wida Ang
Sampling Media: 1.0 L Summa Canister
Test Notes:
Container ID: 1SC00468

Date Collected: 1/11/11
Date Received: 1/17/11
Date Analyzed: 1/25/11
Volume(s) Analyzed: 0.00070 Liter(s)

Initial Pressure (psig): -2.7 Final Pressure (psig): 5.0

Canister Dilution Factor: 1.64

Compound	Sample Result µg/m³	Sample Result ppbV	Duplicate Sample Result µg/m³	Duplicate Sample Result ppbV	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Propene	ND	ND	ND	ND	-	-	25	
Dichlorodifluoromethane (CFC 12)	ND	ND	ND	ND	-	-	25	
Chloromethane	ND	ND	ND	ND	-	-	25	
1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	ND	ND	ND	-	-	25	
Vinyl Chloride	ND	ND	ND	ND	-	-	25	
1,3-Butadiene	ND	ND	ND	ND	-	-	25	
Bromomethane	ND	ND	ND	ND	-	-	25	
Chloroethane	ND	ND	ND	ND	-	-	25	
Ethanol	ND	ND	ND	ND	-	-	25	
Acetonitrile	ND	ND	ND	ND	-	-	25	
Acrolein	ND	ND	ND	ND	-	-	25	
Acetone	ND	ND	ND	ND	-	-	25	
Trichlorofluoromethane	ND	ND	ND	ND	-	-	25	
2-Propanol (Isopropyl Alcohol)	ND	ND	ND	ND	-	-	25	
Acrylonitrile	ND	ND	ND	ND	-	-	25	
1,1-Dichloroethene	ND	ND	ND	ND	-	-	25	
Methylene Chloride	ND	ND	ND	ND	-	-	25	
3-Chloro-1-propene (Allyl Chloride)	ND	ND	ND	ND	-	-	25	
Trichlorotrifluoroethane	672	87.8	745	97.3	708.5	**10**	25	
Carbon Disulfide	ND	ND	ND	ND	-	-	25	
trans-1,2-Dichloroethene	ND	ND	ND	ND	-	-	25	
1,1-Dichloroethane	ND	ND	ND	ND	-	-	25	
Methyl tert-Butyl Ether	ND	ND	ND	ND	-	-	25	
Vinyl Acetate	ND	ND	ND	ND	-	-	25	
2-Butanone (MEK)	ND	ND	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **Landau Associates,Inc.**
Client Sample ID: **LAI-SSAQ-2**
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023**

CAS Project ID: P1100170
CAS Sample ID: P1100170-010DUP

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Wida Ang
Sampling Media: 1.0 L Summa Canister
Test Notes:
Container ID: 1SC00468

Date Collected: 1/11/11
Date Received: 1/17/11
Date Analyzed: 1/25/11
Volume(s) Analyzed: 0.00070 Liter(s)

Initial Pressure (psig): -2.7 Final Pressure (psig): 5.0

Canister Dilution Factor: 1.64

Compound	Sample Result µg/m³	Sample Result ppbV	Duplicate Sample Result µg/m³	Duplicate Sample Result ppbV	Average µg/m³	% RPD	RPD Limit	Data Qualifier
cis-1,2-Dichloroethene	ND	ND	ND	ND	-	-	25	
Ethyl Acetate	ND	ND	ND	ND	-	-	25	
n-Hexane	ND	ND	ND	ND	-	-	25	
Chloroform	ND	ND	ND	ND	-	-	25	
Tetrahydrofuran (THF)	ND	ND	ND	ND	-	-	25	
1,2-Dichloroethane	ND	ND	ND	ND	-	-	25	
1,1,1-Trichloroethane	ND	ND	ND	ND	-	-	25	
Benzene	ND	ND	ND	ND	-	-	25	
Carbon Tetrachloride	ND	ND	ND	ND	-	-	25	
Cyclohexane	3,550	1,030	3,220	935	3385	**10**	25	
1,2-Dichloropropane	ND	ND	ND	ND	-	-	25	
Bromodichloromethane	ND	ND	ND	ND	-	-	25	
Trichloroethene	986	184	1,050	196	1018	**6**	25	
1,4-Dioxane	ND	ND	ND	ND	-	-	25	
Methyl Methacrylate	ND	ND	ND	ND	-	-	25	
n-Heptane	26,500	6,480	23,700	5,790	25100	**11**	25	
cis-1,3-Dichloropropene	ND	ND	ND	ND	-	-	25	
4-Methyl-2-pentanone	ND	ND	ND	ND	-	-	25	
trans-1,3-Dichloropropene	ND	ND	ND	ND	-	-	25	
1,1,2-Trichloroethane	ND	ND	ND	ND	-	-	25	
Toluene	181,000	48,000	156,000	41,300	168500	**15**	25	
2-Hexanone	4,950	1,210	4,150	1,010	4550	**18**	25	
Dibromochloromethane	ND	ND	ND	ND	-	-	25	
1,2-Dibromoethane	ND	ND	ND	ND	-	-	25	
n-Butyl Acetate	ND	ND	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **Landau Associates,Inc.**
Client Sample ID: **LAI-SSAQ-2**
Client Project ID: **Gaco Western Air Sampling / 1226001.020.023**

CAS Project ID: P1100170
CAS Sample ID: P1100170-010DUP

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Wida Ang
Sampling Media: 1.0 L Summa Canister
Test Notes:
Container ID: 1SC00468

Date Collected: 1/11/11
Date Received: 1/17/11
Date Analyzed: 1/25/11
Volume(s) Analyzed: 0.00070 Liter(s)

Initial Pressure (psig): -2.7 Final Pressure (psig): 5.0

Canister Dilution Factor: 1.64

Compound	Sample Result µg/m³	Sample Result ppbV	Duplicate Sample Result µg/m³	Duplicate Sample Result ppbV	Average µg/m³	% RPD	RPD Limit	Data Qualifier
n-Octane	3,320	712	2,810	603	3065	**17**	25	
Tetrachloroethene	ND	ND	ND	ND	-	-	25	
Chlorobenzene	ND	ND	ND	ND	-	-	25	
Ethylbenzene	23,200	5,340	19,300	4,460	21250	**18**	25	
m,p-Xylenes	42,400	9,770	35,300	8,120	38850	**18**	25	
Bromoform	ND	ND	ND	ND	-	-	25	
Styrene	ND	ND	ND	ND	-	-	25	
o-Xylene	5,430	1,250	4,450	1,030	4940	**20**	25	
n-Nonane	ND	ND	ND	ND	-	-	25	
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	-	-	25	
Cumene	ND	ND	ND	ND	-	-	25	
alpha-Pinene	ND	ND	ND	ND	-	-	25	
n-Propylbenzene	ND	ND	ND	ND	-	-	25	
4-Ethyltoluene	ND	ND	ND	ND	-	-	25	
1,3,5-Trimethylbenzene	ND	ND	ND	ND	-	-	25	
1,2,4-Trimethylbenzene	ND	ND	ND	ND	-	-	25	
Benzyl Chloride	ND	ND	ND	ND	-	-	25	
1,3-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
1,4-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
1,2-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
d-Limonene	ND	ND	ND	ND	-	-	25	
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND	-	-	25	
1,2,4-Trichlorobenzene	ND	ND	ND	ND	-	-	25	
Naphthalene	ND	ND	ND	ND	-	-	25	
Hexachlorobutadiene	ND	ND	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

July 6, 2010

Mr. Tim Syverson
Landau Associates
130-2nd Ave. South
Edmonds, WA 98020

Dear Mr. Syverson,

On June 23rd, 9 water samples were received by our laboratory and assigned our laboratory project number 1006149. The project was identified as your project #1226001.010. The sample identification and requested analyses are outlined on the attached chain of custody record.

No abnormalities or nonconformances were observed during the analyses of the project samples.

Please do not hesitate to call me if you have any questions or if I can be of further assistance.

Sincerely,

ALS Laboratory Group

Rick Bagan
Laboratory Director

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006149
DATE RECEIVED: 6/23/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: 1226001.010
CLIENT SAMPLE ID: 6/22/2010 HC1-S
ALS SAMPLE #: -01

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Vinyl Chloride	EPA-8260	ND	0.20	1	UG/L	6/24/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	6/24/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	6/24/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Chloroform	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Benzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
Toluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Tetrachloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006149
DATE RECEIVED: 6/23/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: 1226001.010
CLIENT SAMPLE ID: 6/22/2010 HC1-S
ALS SAMPLE #: -01

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Ethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
m, p-Xylene	EPA-8260	**6.1**	4.0	1	UG/L	6/24/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
o-Xylene	EPA-8260	**2.0**	2.0	1	UG/L	6/24/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
n-Propylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
4-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Nitrate	EPA-300.0	ND	0.15	1	MG/L	6/23/2010	GAP
Sulfate	EPA-300.0	ND	0.26	1	MG/L	6/23/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006149
DATE RECEIVED: 6/23/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: 1226001.010
CLIENT SAMPLE ID: 6/22/2010 HC1-D
ALS SAMPLE #: -02

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Vinyl Chloride	EPA-8260	ND	0.20	1	UG/L	6/24/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	6/24/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	6/24/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Chloroform	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Benzene	EPA-8260	**5.2**	2.0	1	UG/L	6/24/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
Toluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Tetrachloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006149
DATE RECEIVED: 6/23/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: 1226001.010
CLIENT SAMPLE ID: 6/22/2010 HC1-D
ALS SAMPLE #: -02

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Ethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
m, p-Xylene	EPA-8260	**190**	40	10	UG/L	6/28/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
o-Xylene	EPA-8260	**2.4**	2.0	1	UG/L	6/24/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
n-Propylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
4-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	**3.2**	2.0	1	UG/L	6/24/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Nitrate	EPA-300.0	ND	0.15	1	MG/L	6/23/2010	GAP
Sulfate	EPA-300.0	ND	0.26	1	MG/L	6/23/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006149
DATE RECEIVED: 6/23/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: 1226001.010
CLIENT SAMPLE ID: 6/22/2010 HC3-S
ALS SAMPLE #: -03

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Vinyl Chloride	EPA-8260	ND	0.20	1	UG/L	6/24/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	6/24/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	6/24/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Chloroform	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Benzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
Toluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Tetrachloroethene	EPA-8260	**3.2**	2.0	1	UG/L	6/24/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006149
DATE RECEIVED: 6/23/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: 1226001.010
CLIENT SAMPLE ID: 6/22/2010 HC3-S
ALS SAMPLE #: -03

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Ethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
m, p-Xylene	EPA-8260	ND	4.0	1	UG/L	6/24/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
o-Xylene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
n-Propylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
4-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Nitrate	EPA-300.0	**1.5**	0.15	1	MG/L	6/23/2010	GAP
Sulfate	EPA-300.0	**5.0**	0.26	1	MG/L	6/23/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006149
DATE RECEIVED: 6/23/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: 1226001.010
CLIENT SAMPLE ID: 6/22/2010 HC2-S
ALS SAMPLE #: -04

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Vinyl Chloride	EPA-8260	ND	0.20	1	UG/L	6/24/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	6/24/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	6/24/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Chloroform	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Benzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
Toluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Tetrachloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006149
DATE RECEIVED: 6/23/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: 1226001.010
CLIENT SAMPLE ID: 6/22/2010 HC2-S
ALS SAMPLE #: -04

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Ethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
m, p-Xylene	EPA-8260	ND	4.0	1	UG/L	6/24/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
o-Xylene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
n-Propylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
4-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Nitrate	EPA-300.0	**7.9**	0.15	1	MG/L	6/23/2010	GAP
Sulfate	EPA-300.0	**8.3**	0.26	1	MG/L	6/23/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006149
DATE RECEIVED: 6/23/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: 1226001.010
CLIENT SAMPLE ID: 6/22/2010 HC2-D
ALS SAMPLE #: -05

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Vinyl Chloride	EPA-8260	**0.41**	0.20	1	UG/L	6/24/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	6/24/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	6/24/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Chloroform	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Benzene	EPA-8260	**7.2**	2.0	1	UG/L	6/24/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
Toluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Tetrachloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006149
DATE RECEIVED: 6/23/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: 1226001.010
CLIENT SAMPLE ID: 6/22/2010 HC2-D
ALS SAMPLE #: -05

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Ethylbenzene	EPA-8260	**890**	200	100	UG/L	6/28/2010	GAP
m, p-Xylene	EPA-8260	**9,600**	1,600	400	UG/L	7/1/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
o-Xylene	EPA-8260	ND	200	100	UG/L	6/28/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	**60**	20	100	UG/L	6/28/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
n-Propylbenzene	EPA-8260	**14**	2.0	1	UG/L	6/24/2010	GAP
2-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	**8.9**	2.0	1	UG/L	6/24/2010	GAP
4-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	**36**	2.0	1	UG/L	6/24/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Nitrate	EPA-300.0	**0.26**	0.15	1	MG/L	6/23/2010	GAP
Sulfate	EPA-300.0	ND	0.26	1	MG/L	6/23/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006149
DATE RECEIVED: 6/23/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: 1226001.010
CLIENT SAMPLE ID: 6/22/2010 HC4-S
ALS SAMPLE #: -06

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Vinyl Chloride	EPA-8260	ND	0.20	1	UG/L	6/24/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	6/24/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	6/24/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Chloroform	EPA-8260	**52**	8.0	4	UG/L	6/28/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Benzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
Toluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Tetrachloroethene	EPA-8260	**28**	2.0	1	UG/L	6/24/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006149
DATE RECEIVED: 6/23/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: 1226001.010
CLIENT SAMPLE ID: 6/22/2010 HC4-S
ALS SAMPLE #: -06

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Ethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
m, p-Xylene	EPA-8260	**38**	4.0	1	UG/L	6/24/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
o-Xylene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
n-Propylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
4-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Nitrate	EPA-300.0	**7.1**	1.5	10	MG/L	6/23/2010	GAP
Sulfate	EPA-300.0	**6.4**	2.6	10	MG/L	6/23/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006149
DATE RECEIVED: 6/23/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: 1226001.010
CLIENT SAMPLE ID: 6/22/2010 HC5-D
ALS SAMPLE #: -07

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Vinyl Chloride	EPA-8260	ND	0.20	1	UG/L	6/28/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	6/28/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	6/28/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Chloroform	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Benzene	EPA-8260	**3.6**	2.0	1	UG/L	6/28/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
Toluene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Tetrachloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006149
DATE RECEIVED: 6/23/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: 1226001.010
CLIENT SAMPLE ID: 6/22/2010 HC5-D
ALS SAMPLE #: -07

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Ethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
m, p-Xylene	EPA-8260	ND	4.0	1	UG/L	6/28/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
o-Xylene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
n-Propylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
2-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
4-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Nitrate	EPA-300.0	**0.21**	0.15	1	MG/L	6/23/2010	GAP
Sulfate	EPA-300.0	ND	0.26	1	MG/L	6/23/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006149
DATE RECEIVED: 6/23/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: 1226001.010
CLIENT SAMPLE ID: 6/22/2010 GW6-D
ALS SAMPLE #: -08

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Vinyl Chloride	EPA-8260	**16**	0.20	1	UG/L	6/24/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	6/24/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	6/24/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Chloroform	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Benzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
Toluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Tetrachloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006149
DATE RECEIVED: 6/23/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: 1226001.010
CLIENT SAMPLE ID: 6/22/2010 GW6-D
ALS SAMPLE #: -08

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Ethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
m, p-Xylene	EPA-8260	ND	4.0	1	UG/L	6/24/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
o-Xylene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
n-Propylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
4-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Nitrate	EPA-300.0	**0.32**	0.15	1	MG/L	6/23/2010	GAP
Sulfate	EPA-300.0	ND	0.26	1	MG/L	6/23/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006149
DATE RECEIVED: 6/23/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: 1226001.010
CLIENT SAMPLE ID: 6/22/2010 TB
ALS SAMPLE #: -09

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Vinyl Chloride	EPA-8260	ND	0.20	1	UG/L	6/24/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	6/24/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	6/24/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Chloroform	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Benzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
Toluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Tetrachloroethene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006149
DATE RECEIVED: 6/23/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: 1226001.010
CLIENT SAMPLE ID: 6/22/2010 TB
ALS SAMPLE #: -09

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Ethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
m, p-Xylene	EPA-8260	ND	4.0	1	UG/L	6/24/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
o-Xylene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
n-Propylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
2-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
4-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	6/24/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/24/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006149
DATE RECEIVED: 6/23/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: 1226001.010

QUALITY CONTROL RESULTS

SURROGATE RECOVERY

ALS SAMPLE ID	METHOD	SUR ID	% RECV
1006149-01	EPA-8260	1,2-Dichloroethane-d4	104%
1006149-01	EPA-8260	Toluene-d8	102%
1006149-01	EPA-8260	4-Bromofluorobenzene	95%
1006149-02	EPA-8260	1,2-Dichloroethane-d4	104%
1006149-02	EPA-8260	Toluene-d8	94%
1006149-02	EPA-8260	4-Bromofluorobenzene	93%
1006149-02 10X Dilution	EPA-8260	1,2-Dichloroethane-d4	115%
1006149-02 10X Dilution	EPA-8260	Toluene-d8	101%
1006149-02 10X Dilution	EPA-8260	4-Bromofluorobenzene	96%
1006149-03	EPA-8260	1,2-Dichloroethane-d4	106%
1006149-03	EPA-8260	Toluene-d8	101%
1006149-03	EPA-8260	4-Bromofluorobenzene	91%
1006149-04	EPA-8260	1,2-Dichloroethane-d4	107%
1006149-04	EPA-8260	Toluene-d8	100%
1006149-04	EPA-8260	4-Bromofluorobenzene	91%
1006149-05	EPA-8260	1,2-Dichloroethane-d4	106%
1006149-05	EPA-8260	Toluene-d8	98%
1006149-05	EPA-8260	4-Bromofluorobenzene	103%
1006149-05 100X Dilution	EPA-8260	1,2-Dichloroethane-d4	115%
1006149-05 100X Dilution	EPA-8260	Toluene-d8	100%
1006149-05 100X Dilution	EPA-8260	4-Bromofluorobenzene	97%
1006149-05 400X Dilution	EPA-8260	1,2-Dichloroethane-d4	106%
1006149-05 400X Dilution	EPA-8260	Toluene-d8	98%
1006149-05 400X Dilution	EPA-8260	4-Bromofluorobenzene	98%
1006149-06	EPA-8260	1,2-Dichloroethane-d4	105%
1006149-06	EPA-8260	Toluene-d8	101%
1006149-06	EPA-8260	4-Bromofluorobenzene	93%
1006149-06 4X Dilution	EPA-8260	1,2-Dichloroethane-d4	115%
1006149-06 4X Dilution	EPA-8260	Toluene-d8	101%
1006149-06 4X Dilution	EPA-8260	4-Bromofluorobenzene	94%
1006149-07	EPA-8260	1,2-Dichloroethane-d4	116%
1006149-07	EPA-8260	Toluene-d8	102%
1006149-07	EPA-8260	4-Bromofluorobenzene	93%
1006149-08	EPA-8260	1,2-Dichloroethane-d4	109%
1006149-08	EPA-8260	Toluene-d8	99%

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006149
DATE RECEIVED: 6/23/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: 1226001.010

QUALITY CONTROL RESULTS

SURROGATE RECOVERY

ALS SAMPLE ID	METHOD	SUR ID	% RECV
1006149-08	EPA-8260	4-Bromofluorobenzene	91%
1006149-09	EPA-8260	1,2-Dichloroethane-d4	111%
1006149-09	EPA-8260	Toluene-d8	99%
1006149-09	EPA-8260	4-Bromofluorobenzene	90%

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006149
DATE RECEIVED: 6/23/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: 1226001.010

QUALITY CONTROL RESULTS

BLANK RESULTS

QC SAMPLE ID	MATRIX	METHOD	ANALYTE	RESULT	UNITS
MB-062210W	Water	EPA-8260	CFC-12	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	Chloromethane	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	Vinyl Chloride	ND(<0.20)	UG/L
MB-062210W	Water	EPA-8260	Bromomethane	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	Chloroethane	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	CFC-11	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	Carbon Tetrachloride	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	Acetone	ND(<25)	UG/L
MB-062210W	Water	EPA-8260	Carbon Disulfide	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	1,1-Dichloroethene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	Methylene Chloride	ND(<5.0)	UG/L
MB-062210W	Water	EPA-8260	Acrylonitrile	ND(<10)	UG/L
MB-062210W	Water	EPA-8260	Methyl t-butyl ether	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	Trans-1,2-Dichloroethene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	1,1-Dichloroethane	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	2-Butanone	ND(<10)	UG/L
MB-062210W	Water	EPA-8260	Cis-1,2-Dichloroethene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	2,2-Dichloropropane	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	Bromochloromethane	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	Chloroform	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	1,1,1-Trichloroethane	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	1,1-Dichloropropene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	1,2-Dichloroethane	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	Benzene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	Trichloroethene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	1,2-Dichloropropane	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	Dibromomethane	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	Dichlorobromomethane	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	Trans-1,3-Dichloropropene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	Methyl isobutyl ketone	ND(<10)	UG/L
MB-062210W	Water	EPA-8260	Toluene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	Cis-1,3-Dichloropropene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	1,1,2-Trichloroethane	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	2-Hexanone	ND(<10)	UG/L
MB-062210W	Water	EPA-8260	1,3-Dichloropropane	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	Tetrachloroethene	ND(<2.0)	UG/L

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006149
DATE RECEIVED: 6/23/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: 1226001.010

QUALITY CONTROL RESULTS

BLANK RESULTS

QC SAMPLE ID	MATRIX	METHOD	ANALYTE	RESULT	UNITS
MB-062210W	Water	EPA-8260	Dibromochloromethane	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	Ethylene dibromide	ND(<0.010)	UG/L
MB-062210W	Water	EPA-8260	Chlorobenzene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	1,1,1,2-Tetrachloroethane	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	Ethylbenzene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	m, p-Xylene	ND(<4.0)	UG/L
MB-062210W	Water	EPA-8260	Styrene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	o-Xylene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	Bromoform	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	Isopropylbenzene (Cumene)	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	1,1,2,2-Tetrachloroethane	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	1,2,3-Trichloropropane	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	Bromobenzene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	n-Propylbenzene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	2-Chlorotoluene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	1,3,5-Trimethylbenzene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	4-Chlorotoluene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	Tert-Butylbenzene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	1,2,4-Trimethylbenzene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	Sec-Butylbenzene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	p-Isopropyltoluene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	1,3-Dichlorobenzene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	1,4-Dichlorobenzene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	n-Butylbenzene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	1,2-Dichlorobenzene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	1,2-Dibromo-3-Chloropropane	ND(<10)	UG/L
MB-062210W	Water	EPA-8260	1,2,4-Trichlorobenzene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	Hexachlorobutadiene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	Naphthalene	ND(<2.0)	UG/L
MB-062210W	Water	EPA-8260	1,2,3-Trichlorobenzene	ND(<2.0)	UG/L
MBLK-6232010	Water	EPA-300.0	Nitrate	ND(<0.15)	MG/L
MBLK-6232010	Water	EPA-300.0	Sulfate	ND(<0.26)	MG/L

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006149
DATE RECEIVED: 6/23/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: 1226001.010

QUALITY CONTROL RESULTS

BLANK SPIKE/BLANK SPIKE DUPLICATE RESULTS

QC BATCH ID	MATRIX	METHOD	ANALYTE	SPIKE AMOUNT	BLANK SPIKE RECOVERY	BLANK SPIKE DUPLICATE RECOVERY	RPD
836	Water	EPA-8260	1,1-Dichloroethene	10	112%	101%	10
836	Water	EPA-8260	Benzene	10	105%	96%	9
836	Water	EPA-8260	Trichloroethene	10	99%	91%	8
836	Water	EPA-8260	Toluene	10	104%	96%	8
836	Water	EPA-8260	Chlorobenzene	10	103%	96%	8
R69515	Water	EPA-300.0	Nitrate	100	100%	106%	6
R69515	Water	EPA-300.0	Sulfate	100	102%	107%	5

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

ALS Laboratory Group
8620 Holly Drive, Suite 100
Everett, WA 98208
Phone (425) 356-2600
(206) 292-9059 Seattle
(425) 356-2626 Fax
http://www.alsenviro.com

Chain Of Custody/ Laboratory Analysis Request

ALS Job# (Laboratory Use Only): 1006149

Date 6/22/10 Page 1 Of 1

PROJECT ID: 1226001.010
REPORT TO COMPANY: Landau Associates Inc
PROJECT MANAGER: Tim Syverson cc: Jessica Kruczek
ADDRESS: 130 2nd ave, Edmonds WA 98020
PHONE: 425 778 0907 FAX: jkruczek@landauinc.com
P.O. NUMBER: E-MAIL: TSYVERSON@LANDAU.COM
INVOICE TO COMPANY: Same as Above
ATTENTION:
ADDRESS:

ANALYSIS REQUESTED

SAMPLE I.D.	DATE	TIME	TYPE	LAB#	NWTPH-HCID	NWTPH-DX	NWTPH-GX	BTEX by EPA-8021	MTBE by EPA-8021 ☐ EPA-8260 ☐	Halogenated Volatiles by EPA 8260	Volatile Organic Compounds by EPA 8260	EDB / EDC by EPA 8260 SIM (water)	EDB / EDC by EPA 8260 (soil)	Semivolatile Organic Compounds by EPA 8270	Polycyclic Aromatic Hydrocarbons (PAH) by EPA-8270 SIM ☐	PCB ☐ Pesticides ☐ by EPA 8081/8082	Metals-MTCA-5 ☐ RCRA-8 ☐ Pri Pol ☐ TAL ☐	Metals Other (Specify)	TCLP-Metals ☐ VOA ☐ Semi-Vol ☐ Pest ☐ Herbs ☐	OTHER (Specify) Sulfate / Nitrate	NUMBER OF CONTAINERS	RECEIVED IN GOOD CONDITION?
1. HC1-S	6-22-10	1325	W	1							X									X	4	
2. HC1-D	6-22-10	1350	W	2							X									X	4	
3. HC3-S	6-22-10	1420	W	3							X									X	4	
4. HC2-S	6-22-10	1450	W	4							X									X	4	
5. HC2-D	6-22-10	1525	W	5							X									X	4	
6. HC4-S	6-22-10	1600	W	6							X									X	4	
7. HC5-D	6-22-10	1630	W	7							X									X	4	
8. GW6-D	6-22-10	1700	W	8							X									X	4	
9. TB	6/22-10	2359	W	9							X											
10.																						

LABORATORY COPY

SPECIAL INSTRUCTIONS Please send report to Tim and also Jessica in Portland

SIGNATURES (Name, Company, Date, Time):

1. Relinquished By: Alan Starr Landau Associates 6/23/2010 0935
   Received By: Shawn Roburn ALS 6/23/10 0935
2. Relinquished By:
   Received By:

TURNAROUND REQUESTED in Business Days*

Organic, Metals & Inorganic Analysis: ~~10~~ Standard | 5 | 3 | 2 | 1 | SAME DAY

Fuels & Hydrocarbon Analysis: ~~X~~ Standard | 3 | 1 | SAME DAY

OTHER: Specify:

* Turnaround request less than standard may incur Rush Charges

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

July 2, 2010

Mr. Tim Syverson
Landau Associates
130-2nd Ave. South
Edmonds, WA 98020

Dear Mr. Syverson,

On June 21st, 18 water and 16 soil samples were received by our laboratory and assigned our laboratory project number 1006160. The project was identified as your Gaco Western project #1226001. The sample identification and requested analyses are outlined on the attached chain of custody record.

Samples DP-1 through DP-5 were received and analysed outside the 48 hour holding time for nitrates. No other abnormalities or nonconformances were observed during the analyses of the project samples.

Please do not hesitate to call me if you have any questions or if I can be of further assistance.

Sincerely,

ALS Laboratory Group

Rick Bagan
Laboratory Director

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/21/2010 DP-1
ALS SAMPLE #: -01

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Vinyl Chloride	EPA-8260	ND	0.20	1	UG/L	6/28/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	6/28/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	6/28/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Chloroform	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Benzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
Toluene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Tetrachloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/21/2010 DP-1
ALS SAMPLE #: -01

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Ethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
m, p-Xylene	EPA-8260	ND	4.0	1	UG/L	6/28/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
o-Xylene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
n-Propylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
2-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
4-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Nitrate	EPA-300.0	ND	0.15	1	MG/L	6/24/2010	GAP
Sulfate	EPA-300.0	ND	0.26	1	MG/L	6/24/2010	GAP

* Sample received outside of hold time for Nitrate analysis.

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.

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

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/21/2010 DP-2
ALS SAMPLE #: -02

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Vinyl Chloride	EPA-8260	ND	0.20	1	UG/L	6/28/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	6/28/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	6/28/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Chloroform	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Benzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
Toluene	EPA-8260	45	8.0	4	UG/L	7/1/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Tetrachloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/21/2010 DP-2
ALS SAMPLE #: -02

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Ethylbenzene	EPA-8260	13	2.0	1	UG/L	6/28/2010	GAP
m, p-Xylene	EPA-8260	29	4.0	1	UG/L	6/28/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
o-Xylene	EPA-8260	12	2.0	1	UG/L	6/28/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
n-Propylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
2-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
4-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Nitrate	EPA-300.0	ND	0.15	1	MG/L	6/24/2010	GAP
Sulfate	EPA-300.0	ND	0.26	1	MG/L	6/24/2010	GAP

* Sample received outside of hold time for Nitrate analysis.

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.

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

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/21/2010 DP-3
ALS SAMPLE #: -03

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Vinyl Chloride	EPA-8260	ND	0.20	1	UG/L	6/28/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	6/28/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	6/28/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Chloroform	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Benzene	EPA-8260	8.7	2.0	1	UG/L	6/28/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
Toluene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Tetrachloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/21/2010 DP-3
ALS SAMPLE #: -03

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Ethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
m, p-Xylene	EPA-8260	ND	4.0	1	UG/L	6/28/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
o-Xylene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
n-Propylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
2-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
4-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Nitrate	EPA-300.0	ND	0.15	1	MG/L	6/24/2010	GAP
Sulfate	EPA-300.0	ND	0.26	1	MG/L	6/24/2010	GAP

* Sample received outside of hold time for Nitrate analysis.

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.

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

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/21/2010 DP-4
ALS SAMPLE #: -04

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Vinyl Chloride	EPA-8260	2.5	0.20	1	UG/L	6/28/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	6/28/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	6/28/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Chloroform	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Benzene	EPA-8260	51	40	20	UG/L	7/1/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
Toluene	EPA-8260	85	40	20	UG/L	7/1/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Tetrachloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/21/2010 DP-4
ALS SAMPLE #: -04

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Ethylbenzene	EPA-8260	85	40	20	UG/L	7/1/2010	GAP
m, p-Xylene	EPA-8260	350	80	20	UG/L	7/1/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
o-Xylene	EPA-8260	120	40	20	UG/L	7/1/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	8.3	2.0	1	UG/L	6/28/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
n-Propylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
2-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
4-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Nitrate	EPA-300.0	ND	0.15	1	MG/L	6/24/2010	GAP
Sulfate	EPA-300.0	ND	0.26	1	MG/L	6/24/2010	GAP

* Sample received outside of hold time for Nitrate analysis.

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.

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

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/21/2010 DP-5
ALS SAMPLE #: -05

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Vinyl Chloride	EPA-8260	1.4	0.20	1	UG/L	6/28/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	6/28/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	6/28/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1-Dichloroethane	EPA-8260	4.4	2.0	1	UG/L	6/28/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	56	20	10	UG/L	7/1/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Chloroform	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Benzene	EPA-8260	210	20	10	UG/L	7/1/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
Toluene	EPA-8260	300	20	10	UG/L	7/1/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Tetrachloroethene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/21/2010 DP-5
ALS SAMPLE #: -05

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	5.7	2.0	1	UG/L	6/28/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Ethylbenzene	EPA-8260	3,100	200	100	UG/L	7/1/2010	GAP
m, p-Xylene	EPA-8260	7,600	400	100	UG/L	7/1/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
o-Xylene	EPA-8260	5,600	800	400	UG/L	7/1/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	11	2.0	1	UG/L	6/28/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
n-Propylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
2-Chlorotoluene	EPA-8260	480	200	100	UG/L	7/1/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	11	2.0	1	UG/L	6/28/2010	GAP
4-Chlorotoluene	EPA-8260	350	20	10	UG/L	7/1/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	22	2.0	1	UG/L	6/28/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,4-Dichlorobenzene	EPA-8260	3.8	2.0	1	UG/L	6/28/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2-Dichlorobenzene	EPA-8260	2.1	2.0	1	UG/L	6/28/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	6/28/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/28/2010	GAP
Nitrate	EPA-300.0	ND	0.15	1	MG/L	6/24/2010	GAP
Sulfate	EPA-300.0	ND	0.26	1	MG/L	6/24/2010	GAP

* Sample received outside of hold time for Nitrate analysis.

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.

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

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/21/2010 DP-6
ALS SAMPLE #: -06

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Vinyl Chloride	EPA-8260	0.90	0.20	1	UG/L	6/29/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	6/29/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	6/29/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloroethane	EPA-8260	2.8	2.0	1	UG/L	6/29/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	30	2.0	1	UG/L	6/29/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloroform	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Benzene	EPA-8260	370	20	10	UG/L	7/1/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Toluene	EPA-8260	950	200	100	UG/L	7/1/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Tetrachloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/21/2010 DP-6
ALS SAMPLE #: -06

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Ethylbenzene	EPA-8260	420	200	100	UG/L	7/1/2010	GAP
m, p-Xylene	EPA-8260	5,500	400	100	UG/L	7/1/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
o-Xylene	EPA-8260	330	200	100	UG/L	7/1/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	16	2.0	1	UG/L	6/29/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
n-Propylbenzene	EPA-8260	22	2.0	1	UG/L	6/29/2010	GAP
2-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	33	2.0	1	UG/L	6/29/2010	GAP
4-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	43	20	10	UG/L	7/1/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Nitrate	EPA-300.0	0.26	0.15	1	MG/L	6/24/2010	GAP
Sulfate	EPA-300.0	ND	0.26	1	MG/L	6/24/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/22/2010 DP-7
ALS SAMPLE #: -07

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Vinyl Chloride	EPA-8260	0.60	0.20	1	UG/L	6/29/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	6/29/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	6/29/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	6.2	2.0	1	UG/L	6/29/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloroform	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Benzene	EPA-8260	110	20	10	UG/L	7/1/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Toluene	EPA-8260	430	200	100	UG/L	6/29/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Tetrachloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/22/2010 DP-7
ALS SAMPLE #: -07

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Ethylbenzene	EPA-8260	240	20	10	UG/L	7/1/2010	GAP
m, p-Xylene	EPA-8260	650	400	100	UG/L	6/29/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
o-Xylene	EPA-8260	300	200	100	UG/L	6/29/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
n-Propylbenzene	EPA-8260	2.1	2.0	1	UG/L	6/29/2010	GAP
2-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	3.3	2.0	1	UG/L	6/29/2010	GAP
4-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	8.9	2.0	1	UG/L	6/29/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Nitrate	EPA-300.0	1.0	0.15	1	MG/L	6/24/2010	GAP
Sulfate	EPA-300.0	1.2	0.26	1	MG/L	6/24/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/22/2010 DP-8
ALS SAMPLE #: -08

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Vinyl Chloride	EPA-8260	ND	0.20	1	UG/L	6/29/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	6/29/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	6/29/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloroform	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Benzene	EPA-8260	6.8	2.0	1	UG/L	6/29/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Toluene	EPA-8260	5.9	2.0	1	UG/L	6/29/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Tetrachloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/22/2010 DP-8
ALS SAMPLE #: -08

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Ethylbenzene	EPA-8260	3.1	2.0	1	UG/L	6/29/2010	GAP
m, p-Xylene	EPA-8260	9.6	4.0	1	UG/L	6/29/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
o-Xylene	EPA-8260	3.3	2.0	1	UG/L	6/29/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
n-Propylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
4-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Nitrate	EPA-300.0	0.38	0.15	1	MG/L	6/24/2010	GAP
Sulfate	EPA-300.0	ND	0.26	1	MG/L	6/24/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/22/2010 DP-9
ALS SAMPLE #: -09

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Vinyl Chloride	EPA-8260	ND	0.20	1	UG/L	6/29/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	6/29/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	6/29/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloroform	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Benzene	EPA-8260	27	2.0	1	UG/L	6/29/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Toluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Tetrachloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/22/2010 DP-9
ALS SAMPLE #: -09

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Ethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
m, p-Xylene	EPA-8260	ND	4.0	1	UG/L	6/29/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
o-Xylene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
n-Propylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
4-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Nitrate	EPA-300.0	ND	0.15	1	MG/L	6/24/2010	GAP
Sulfate	EPA-300.0	ND	0.26	1	MG/L	6/24/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/22/2010 DP-10
ALS SAMPLE #: -10

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Vinyl Chloride	EPA-8260	0.27	0.20	1	UG/L	6/29/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	6/29/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	6/29/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	4.2	2.0	1	UG/L	6/29/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloroform	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Benzene	EPA-8260	7.1	2.0	1	UG/L	6/29/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Toluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Tetrachloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/22/2010 DP-10
ALS SAMPLE #: -10

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Ethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
m, p-Xylene	EPA-8260	ND	4.0	1	UG/L	6/29/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
o-Xylene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
n-Propylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
4-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Nitrate	EPA-300.0	0.23	0.15	1	MG/L	6/24/2010	GAP
Sulfate	EPA-300.0	0.38	0.26	1	MG/L	6/24/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/22/2010 DP-11 (30)
ALS SAMPLE #: -11

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Vinyl Chloride	EPA-8260	1.4	0.20	1	UG/L	6/29/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	6/29/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	6/29/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	2.2	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloroethane	EPA-8260	3.7	2.0	1	UG/L	6/29/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	72	8.0	4	UG/L	6/29/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloroform	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Benzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Toluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Tetrachloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/22/2010 DP-11 (30)
ALS SAMPLE #: -11

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Ethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
m, p-Xylene	EPA-8260	ND	4.0	1	UG/L	6/29/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
o-Xylene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
n-Propylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
4-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Nitrate	EPA-300.0	0.23	0.15	1	MG/L	6/24/2010	GAP
Sulfate	EPA-300.0	0.36	0.26	1	MG/L	6/24/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/23/2010 DP-12 (30)
ALS SAMPLE #: -12

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Vinyl Chloride	EPA-8260	2.2	0.20	1	UG/L	6/29/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	6/29/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	6/29/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	9.7	2.0	1	UG/L	6/29/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloroform	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Benzene	EPA-8260	360	200	100	UG/L	6/29/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Toluene	EPA-8260	3,800	2,000	1000	UG/L	7/1/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Tetrachloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/23/2010 DP-12 (30)
ALS SAMPLE #: -12

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Ethylbenzene	EPA-8260	3,900	2,000	1000	UG/L	7/1/2010	GAP
m, p-Xylene	EPA-8260	13,000	4,000	1000	UG/L	7/1/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
o-Xylene	EPA-8260	9,500	2,000	1000	UG/L	7/1/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	100	20	10	UG/L	6/29/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
n-Propylbenzene	EPA-8260	55	20	10	UG/L	6/29/2010	GAP
2-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	62	20	10	UG/L	6/29/2010	GAP
4-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	120	20	10	UG/L	6/29/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Nitrate	EPA-300.0	ND	0.15	1	MG/L	6/24/2010	GAP
Sulfate	EPA-300.0	ND	0.26	1	MG/L	6/24/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/23/2010 DP-13
ALS SAMPLE #: -13

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Vinyl Chloride	EPA-8260	1.1	0.20	1	UG/L	6/29/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	6/29/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	6/29/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	43	8.0	4	UG/L	7/1/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloroform	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Benzene	EPA-8260	26	2.0	1	UG/L	6/29/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Toluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Tetrachloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/23/2010 DP-13
ALS SAMPLE #: -13

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Ethylbenzene	EPA-8260	2.1	2.0	1	UG/L	6/29/2010	GAP
m, p-Xylene	EPA-8260	28	4.0	1	UG/L	6/29/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
o-Xylene	EPA-8260	3.2	2.0	1	UG/L	6/29/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
n-Propylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
4-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Nitrate	EPA-300.0	0.34	0.15	1	MG/L	6/24/2010	GAP
Sulfate	EPA-300.0	0.81	0.26	1	MG/L	6/24/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/23/2010 DP-14
ALS SAMPLE #: -14

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Vinyl Chloride	EPA-8260	ND	0.20	1	UG/L	6/29/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	6/29/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	6/29/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloroform	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Benzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Toluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Tetrachloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/23/2010 DP-14
ALS SAMPLE #: -14

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Ethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
m, p-Xylene	EPA-8260	ND	4.0	1	UG/L	6/29/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
o-Xylene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
n-Propylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
4-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Nitrate	EPA-300.0	0.38	0.15	1	MG/L	6/24/2010	GAP
Sulfate	EPA-300.0	ND	0.26	1	MG/L	6/24/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/23/2010 DP-15
ALS SAMPLE #: -15

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Vinyl Chloride	EPA-8260	0.75	0.20	1	UG/L	6/29/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	6/29/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	6/29/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Chloroform	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Benzene	EPA-8260	15	2.0	1	UG/L	6/29/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
Toluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Tetrachloroethene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/23/2010 DP-15
ALS SAMPLE #: -15

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Ethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
m, p-Xylene	EPA-8260	ND	4.0	1	UG/L	6/29/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
o-Xylene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
n-Propylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
2-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
4-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	6/29/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	6/29/2010	GAP
Nitrate	EPA-300.0	ND	0.15	1	MG/L	6/24/2010	GAP
Sulfate	EPA-300.0	ND	0.26	1	MG/L	6/24/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/23/2010 DP-16
ALS SAMPLE #: -16

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Vinyl Chloride	EPA-8260	0.61	0.20	1	UG/L	7/1/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	7/1/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	7/1/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	7/1/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	7/1/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	14	2.0	1	UG/L	7/1/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Chloroform	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Benzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	7/1/2010	GAP
Toluene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	7/1/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Tetrachloroethene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/23/2010 DP-16
ALS SAMPLE #: -16

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Ethylbenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
m, p-Xylene	EPA-8260	ND	4.0	1	UG/L	7/1/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
o-Xylene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
n-Propylbenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
2-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
4-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	7/1/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Nitrate	EPA-300.0	0.43	0.15	1	MG/L	6/24/2010	GAP
Sulfate	EPA-300.0	3.6	0.26	1	MG/L	6/24/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/22/2010 DP-11 (45)
ALS SAMPLE #: -17

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Vinyl Chloride	EPA-8260	0.43	0.20	1	UG/L	7/1/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	7/1/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	7/1/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	7/1/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	7/1/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Chloroform	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Benzene	EPA-8260	39	2.0	1	UG/L	7/1/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	7/1/2010	GAP
Toluene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	7/1/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Tetrachloroethene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/22/2010 DP-11 (45)
ALS SAMPLE #: -17

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Ethylbenzene	EPA-8260	6.1	2.0	1	UG/L	7/1/2010	GAP
m, p-Xylene	EPA-8260	71	4.0	1	UG/L	7/1/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
o-Xylene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
n-Propylbenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
2-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
4-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	7/1/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Nitrate	EPA-300.0	0.19	0.15	1	MG/L	6/24/2010	GAP
Sulfate	EPA-300.0	0.34	0.26	1	MG/L	6/24/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/21/2010 DP-1 (17-18)
ALS SAMPLE #: -18

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Chloromethane	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Vinyl Chloride	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Bromomethane	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Chloroethane	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
CFC-11	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Acetone	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Methylene Chloride	EPA-8260	ND	20	1	UG/KG	6/29/2010	GAP
Acrylonitrile	EPA-8260	ND	50	1	UG/KG	6/29/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
2-Butanone	EPA-8260	ND	50	1	UG/KG	6/29/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Bromochloromethane	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Chloroform	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Benzene	EPA-8260	ND	5.0	1	UG/KG	6/29/2010	GAP
Trichloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Dibromomethane	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Dichlorobromomethane	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	50	1	UG/KG	6/29/2010	GAP
Toluene	EPA-8260	30	10	1	UG/KG	6/29/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
2-Hexanone	EPA-8260	ND	50	1	UG/KG	6/29/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Tetrachloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Dibromochloromethane	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Ethylene dibromide	EPA-8260	ND	5.0	1	UG/KG	6/29/2010	GAP
Chlorobenzene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/21/2010 DP-1 (17-18)
ALS SAMPLE #: -18

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
1,1,1,2-Tetrachloroethane	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Ethylbenzene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
m, p-Xylene	EPA-8260	ND	20	1	UG/KG	6/29/2010	GAP
Styrene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
o-Xylene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Bromoform	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Bromobenzene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
n-Propylbenzene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
2-Chlorotoluene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
4-Chlorotoluene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
n-Butylbenzene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	50	1	UG/KG	6/29/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Naphthalene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/21/2010 DP-2 (19-20)
ALS SAMPLE #: -19

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	16,000	100	UG/KG	6/29/2010	GAP
Chloromethane	EPA-8260	ND	9,800	100	UG/KG	6/29/2010	GAP
Vinyl Chloride	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
Bromomethane	EPA-8260	ND	8,200	100	UG/KG	6/29/2010	GAP
Chloroethane	EPA-8260	ND	9,800	100	UG/KG	6/29/2010	GAP
CFC-11	EPA-8260	ND	8,600	100	UG/KG	6/29/2010	GAP
Acetone	EPA-8260	ND	19,000	100	UG/KG	6/29/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
Methylene Chloride	EPA-8260	ND	20,000	100	UG/KG	6/29/2010	GAP
Acrylonitrile	EPA-8260	ND	10,000	100	UG/KG	6/29/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	10,000	100	UG/KG	6/29/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	9,700	100	UG/KG	6/29/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	9,800	100	UG/KG	6/29/2010	GAP
2-Butanone	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	10,000	100	UG/KG	6/29/2010	GAP
Bromochloromethane	EPA-8260	ND	17,000	100	UG/KG	6/29/2010	GAP
Chloroform	EPA-8260	ND	10,000	100	UG/KG	6/29/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	9,100	100	UG/KG	6/29/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	9,100	100	UG/KG	6/29/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	10,000	100	UG/KG	6/29/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
Benzene	EPA-8260	3,900	500	100	UG/KG	6/29/2010	GAP
Trichloroethene	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	9,100	100	UG/KG	6/29/2010	GAP
Dibromomethane	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Dichlorobromomethane	EPA-8260	ND	10,000	100	UG/KG	6/29/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10,000	100	UG/KG	6/29/2010	GAP
Toluene	EPA-8260	8,900,000	210,000	2000	UG/KG	6/30/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	10,000	100	UG/KG	6/29/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
2-Hexanone	EPA-8260	ND	7,000	100	UG/KG	6/29/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
Tetrachloroethene	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
Dibromochloromethane	EPA-8260	ND	16,000	100	UG/KG	6/29/2010	GAP
Ethylene dibromide	EPA-8260	ND	500	100	UG/KG	6/29/2010	GAP
Chlorobenzene	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/21/2010 DP-2 (19-20)
ALS SAMPLE #: -19

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
1,1,1,2-Tetrachloroethane	EPA-8260	ND	8,400	100	UG/KG	6/29/2010	GAP
Ethylbenzene	EPA-8260	2,500,000	210,000	2000	UG/KG	6/30/2010	GAP
m, p-Xylene	EPA-8260	5,900,000	380,000	2000	UG/KG	6/30/2010	GAP
Styrene	EPA-8260	ND	8,200	100	UG/KG	6/29/2010	GAP
o-Xylene	EPA-8260	2,600,000	180,000	2000	UG/KG	6/30/2010	GAP
Bromoform	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	24,000	8,900	100	UG/KG	6/29/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Bromobenzene	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
n-Propylbenzene	EPA-8260	25,000	11,000	100	UG/KG	6/29/2010	GAP
2-Chlorotoluene	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	32,000	8,100	100	UG/KG	6/29/2010	GAP
4-Chlorotoluene	EPA-8260	ND	16,000	100	UG/KG	6/29/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	10,000	100	UG/KG	6/29/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	48,000	8,800	100	UG/KG	6/29/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	9,500	100	UG/KG	6/29/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	7,800	100	UG/KG	6/29/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
n-Butylbenzene	EPA-8260	ND	8,500	100	UG/KG	6/29/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	9,900	100	UG/KG	6/29/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Naphthalene	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/21/2010 DP-3 (14-15)
ALS SAMPLE #: -20

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	180	1	UG/KG	6/29/2010	GAP
Chloromethane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Vinyl Chloride	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Bromomethane	EPA-8260	ND	89	1	UG/KG	6/29/2010	GAP
Chloroethane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
CFC-11	EPA-8260	ND	94	1	UG/KG	6/29/2010	GAP
Acetone	EPA-8260	ND	210	1	UG/KG	6/29/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Methylene Chloride	EPA-8260	ND	220	1	UG/KG	6/29/2010	GAP
Acrylonitrile	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
2-Butanone	EPA-8260	ND	160	1	UG/KG	6/29/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Bromochloromethane	EPA-8260	ND	190	1	UG/KG	6/29/2010	GAP
Chloroform	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	99	1	UG/KG	6/29/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	99	1	UG/KG	6/29/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Benzene	EPA-8260	ND	5.0	1	UG/KG	6/29/2010	GAP
Trichloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	99	1	UG/KG	6/29/2010	GAP
Dibromomethane	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Dichlorobromomethane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Toluene	EPA-8260	620	110	1	UG/KG	6/29/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
2-Hexanone	EPA-8260	ND	76	1	UG/KG	6/29/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Tetrachloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Dibromochloromethane	EPA-8260	ND	170	1	UG/KG	6/29/2010	GAP
Ethylene dibromide	EPA-8260	ND	5.0	1	UG/KG	6/29/2010	GAP
Chlorobenzene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/21/2010 DP-3 (14-15)
ALS SAMPLE #: -20

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
1,1,1,2-Tetrachloroethane	EPA-8260	ND	92	1	UG/KG	6/29/2010	GAP
Ethylbenzene	EPA-8260	170	120	1	UG/KG	6/29/2010	GAP
m, p-Xylene	EPA-8260	460	210	1	UG/KG	6/29/2010	GAP
Styrene	EPA-8260	ND	89	1	UG/KG	6/29/2010	GAP
o-Xylene	EPA-8260	190	100	1	UG/KG	6/29/2010	GAP
Bromoform	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	97	1	UG/KG	6/29/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Bromobenzene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
n-Propylbenzene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
2-Chlorotoluene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	88	1	UG/KG	6/29/2010	GAP
4-Chlorotoluene	EPA-8260	ND	180	1	UG/KG	6/29/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	95	1	UG/KG	6/29/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	85	1	UG/KG	6/29/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
n-Butylbenzene	EPA-8260	ND	92	1	UG/KG	6/29/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Naphthalene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/21/2010 DP-4 (13-14)
ALS SAMPLE #: -21

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	23,000	100	UG/KG	6/29/2010	GAP
Chloromethane	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
Vinyl Chloride	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
Bromomethane	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Chloroethane	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
CFC-11	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Acetone	EPA-8260	ND	27,000	100	UG/KG	6/29/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
Methylene Chloride	EPA-8260	ND	29,000	100	UG/KG	6/29/2010	GAP
Acrylonitrile	EPA-8260	ND	15,000	100	UG/KG	6/29/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
2-Butanone	EPA-8260	ND	20,000	100	UG/KG	6/29/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	15,000	100	UG/KG	6/29/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
Bromochloromethane	EPA-8260	ND	25,000	100	UG/KG	6/29/2010	GAP
Chloroform	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	15,000	100	UG/KG	6/29/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
Benzene	EPA-8260	ND	500	100	UG/KG	6/29/2010	GAP
Trichloroethene	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
Dibromomethane	EPA-8260	ND	16,000	100	UG/KG	6/29/2010	GAP
Dichlorobromomethane	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	15,000	100	UG/KG	6/29/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
Toluene	EPA-8260	ND	15,000	100	UG/KG	6/29/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	15,000	100	UG/KG	6/29/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	15,000	100	UG/KG	6/29/2010	GAP
2-Hexanone	EPA-8260	ND	9,900	100	UG/KG	6/29/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	15,000	100	UG/KG	6/29/2010	GAP
Tetrachloroethene	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
Dibromochloromethane	EPA-8260	ND	22,000	100	UG/KG	6/29/2010	GAP
Ethylene dibromide	EPA-8260	ND	500	100	UG/KG	6/29/2010	GAP
Chlorobenzene	EPA-8260	ND	15,000	100	UG/KG	6/29/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/21/2010 DP-4 (13-14)
ALS SAMPLE #: -21

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
1,1,1,2-Tetrachloroethane	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Ethylbenzene	EPA-8260	590,000	15,000	100	UG/KG	6/29/2010	GAP
m, p-Xylene	EPA-8260	1,500,000	54,000	200	UG/KG	6/30/2010	GAP
Styrene	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
o-Xylene	EPA-8260	650,000	13,000	100	UG/KG	6/29/2010	GAP
Bromoform	EPA-8260	ND	17,000	100	UG/KG	6/29/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	20,000	13,000	100	UG/KG	6/29/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	16,000	100	UG/KG	6/29/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	17,000	100	UG/KG	6/29/2010	GAP
Bromobenzene	EPA-8260	ND	16,000	100	UG/KG	6/29/2010	GAP
n-Propylbenzene	EPA-8260	ND	15,000	100	UG/KG	6/29/2010	GAP
2-Chlorotoluene	EPA-8260	ND	16,000	100	UG/KG	6/29/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
4-Chlorotoluene	EPA-8260	ND	23,000	100	UG/KG	6/29/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	15,000	100	UG/KG	6/29/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	17,000	12,000	100	UG/KG	6/29/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	16,000	100	UG/KG	6/29/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	15,000	100	UG/KG	6/29/2010	GAP
n-Butylbenzene	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	16,000	100	UG/KG	6/29/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	19,000	100	UG/KG	6/29/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	17,000	100	UG/KG	6/29/2010	GAP
Naphthalene	EPA-8260	ND	16,000	100	UG/KG	6/29/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	15,000	100	UG/KG	6/29/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/21/2010 DP-5 (13-14)
ALS SAMPLE #: -22

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	19,000	100	UG/KG	6/29/2010	GAP
Chloromethane	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
Vinyl Chloride	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
Bromomethane	EPA-8260	ND	9,400	100	UG/KG	6/29/2010	GAP
Chloroethane	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
CFC-11	EPA-8260	ND	9,900	100	UG/KG	6/29/2010	GAP
Acetone	EPA-8260	ND	22,000	100	UG/KG	6/29/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
Methylene Chloride	EPA-8260	ND	23,000	100	UG/KG	6/29/2010	GAP
Acrylonitrile	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
2-Butanone	EPA-8260	ND	17,000	100	UG/KG	6/29/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Bromochloromethane	EPA-8260	ND	20,000	100	UG/KG	6/29/2010	GAP
Chloroform	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	10,000	100	UG/KG	6/29/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	10,000	100	UG/KG	6/29/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
Benzene	EPA-8260	ND	500	100	UG/KG	6/29/2010	GAP
Trichloroethene	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	10,000	100	UG/KG	6/29/2010	GAP
Dibromomethane	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
Dichlorobromomethane	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Toluene	EPA-8260	4,300,000	120,000	1000	UG/KG	6/30/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
2-Hexanone	EPA-8260	ND	8,100	100	UG/KG	6/29/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Tetrachloroethene	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
Dibromochloromethane	EPA-8260	ND	18,000	100	UG/KG	6/29/2010	GAP
Ethylene dibromide	EPA-8260	ND	500	100	UG/KG	6/29/2010	GAP
Chlorobenzene	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/21/2010 DP-5 (13-14)
ALS SAMPLE #: -22

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
1,1,1,2-Tetrachloroethane	EPA-8260	ND	9,700	100	UG/KG	6/29/2010	GAP
Ethylbenzene	EPA-8260	1,400,000	120,000	1000	UG/KG	6/30/2010	GAP
m, p-Xylene	EPA-8260	4,000,000	220,000	1000	UG/KG	6/30/2010	GAP
Styrene	EPA-8260	ND	9,500	100	UG/KG	6/29/2010	GAP
o-Xylene	EPA-8260	870,000	110,000	1000	UG/KG	6/30/2010	GAP
Bromoform	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	39,000	10,000	100	UG/KG	6/29/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
Bromobenzene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
n-Propylbenzene	EPA-8260	76,000	12,000	100	UG/KG	6/29/2010	GAP
2-Chlorotoluene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	100,000	9,400	100	UG/KG	6/29/2010	GAP
4-Chlorotoluene	EPA-8260	ND	19,000	100	UG/KG	6/29/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	170,000	10,000	100	UG/KG	6/29/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	9,000	100	UG/KG	6/29/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
n-Butylbenzene	EPA-8260	ND	9,700	100	UG/KG	6/29/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	15,000	100	UG/KG	6/29/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
Naphthalene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/22/2010 DP-6 (20-21)
ALS SAMPLE #: -23

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	19,000	100	UG/KG	6/29/2010	GAP
Chloromethane	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Vinyl Chloride	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
Bromomethane	EPA-8260	ND	9,700	100	UG/KG	6/29/2010	GAP
Chloroethane	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
CFC-11	EPA-8260	ND	10,000	100	UG/KG	6/29/2010	GAP
Acetone	EPA-8260	ND	23,000	100	UG/KG	6/29/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
Methylene Chloride	EPA-8260	ND	24,000	100	UG/KG	6/29/2010	GAP
Acrylonitrile	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
2-Butanone	EPA-8260	ND	17,000	100	UG/KG	6/29/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Bromochloromethane	EPA-8260	ND	21,000	100	UG/KG	6/29/2010	GAP
Chloroform	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
Benzene	EPA-8260	ND	500	100	UG/KG	6/29/2010	GAP
Trichloroethene	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
Dibromomethane	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
Dichlorobromomethane	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Toluene	EPA-8260	2,000,000	120,000	1000	UG/KG	6/30/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
2-Hexanone	EPA-8260	ND	8,300	100	UG/KG	6/29/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
Tetrachloroethene	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
Dibromochloromethane	EPA-8260	ND	19,000	100	UG/KG	6/29/2010	GAP
Ethylene dibromide	EPA-8260	ND	500	100	UG/KG	6/29/2010	GAP
Chlorobenzene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/22/2010 DP-6 (20-21)
ALS SAMPLE #: -23

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
1,1,1,2-Tetrachloroethane	EPA-8260	ND	10,000	100	UG/KG	6/29/2010	GAP
Ethylbenzene	EPA-8260	1,400,000	130,000	1000	UG/KG	6/30/2010	GAP
m, p-Xylene	EPA-8260	4,000,000	230,000	1000	UG/KG	6/30/2010	GAP
Styrene	EPA-8260	ND	9,800	100	UG/KG	6/29/2010	GAP
o-Xylene	EPA-8260	990,000	110,000	1000	UG/KG	6/30/2010	GAP
Bromoform	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	55,000	11,000	100	UG/KG	6/29/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
Bromobenzene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
n-Propylbenzene	EPA-8260	110,000	13,000	100	UG/KG	6/29/2010	GAP
2-Chlorotoluene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	160,000	9,700	100	UG/KG	6/29/2010	GAP
4-Chlorotoluene	EPA-8260	ND	19,000	100	UG/KG	6/29/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	270,000	10,000	100	UG/KG	6/29/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	9,300	100	UG/KG	6/29/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
n-Butylbenzene	EPA-8260	ND	10,000	100	UG/KG	6/29/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	16,000	100	UG/KG	6/29/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
Naphthalene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/22/2010 DP-7 (13-14)
ALS SAMPLE #: -24

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	20,000	100	UG/KG	6/29/2010	GAP
Chloromethane	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Vinyl Chloride	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
Bromomethane	EPA-8260	ND	10,000	100	UG/KG	6/29/2010	GAP
Chloroethane	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
CFC-11	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
Acetone	EPA-8260	ND	23,000	100	UG/KG	6/29/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
Methylene Chloride	EPA-8260	ND	25,000	100	UG/KG	6/29/2010	GAP
Acrylonitrile	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
2-Butanone	EPA-8260	ND	18,000	100	UG/KG	6/29/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Bromochloromethane	EPA-8260	ND	22,000	100	UG/KG	6/29/2010	GAP
Chloroform	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
Benzene	EPA-8260	3,200	500	100	UG/KG	6/29/2010	GAP
Trichloroethene	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
Dibromomethane	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
Dichlorobromomethane	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Toluene	EPA-8260	2,900,000	130,000	1000	UG/KG	6/30/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
2-Hexanone	EPA-8260	ND	8,600	100	UG/KG	6/29/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
Tetrachloroethene	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
Dibromochloromethane	EPA-8260	ND	19,000	100	UG/KG	6/29/2010	GAP
Ethylene dibromide	EPA-8260	ND	500	100	UG/KG	6/29/2010	GAP
Chlorobenzene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/22/2010 DP-7 (13-14)
ALS SAMPLE #: -24

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
1,1,1,2-Tetrachloroethane	EPA-8260	ND	10,000	100	UG/KG	6/29/2010	GAP
Ethylbenzene	EPA-8260	1,300,000	130,000	1000	UG/KG	6/30/2010	GAP
m, p-Xylene	EPA-8260	3,600,000	240,000	1000	UG/KG	6/30/2010	GAP
Styrene	EPA-8260	ND	10,000	100	UG/KG	6/29/2010	GAP
o-Xylene	EPA-8260	940,000	110,000	1000	UG/KG	6/30/2010	GAP
Bromoform	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	34,000	11,000	100	UG/KG	6/29/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	15,000	100	UG/KG	6/29/2010	GAP
Bromobenzene	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
n-Propylbenzene	EPA-8260	61,000	13,000	100	UG/KG	6/29/2010	GAP
2-Chlorotoluene	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	89,000	10,000	100	UG/KG	6/29/2010	GAP
4-Chlorotoluene	EPA-8260	ND	20,000	100	UG/KG	6/29/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	140,000	11,000	100	UG/KG	6/29/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	9,700	100	UG/KG	6/29/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
n-Butylbenzene	EPA-8260	ND	10,000	100	UG/KG	6/29/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	17,000	100	UG/KG	6/29/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	15,000	100	UG/KG	6/29/2010	GAP
Naphthalene	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/22/2010 DP-8 (15-16)
ALS SAMPLE #: -25

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	200	1	UG/KG	6/29/2010	GAP
Chloromethane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Vinyl Chloride	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Bromomethane	EPA-8260	ND	98	1	UG/KG	6/29/2010	GAP
Chloroethane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
CFC-11	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
Acetone	EPA-8260	ND	230	1	UG/KG	6/29/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Methylene Chloride	EPA-8260	ND	240	1	UG/KG	6/29/2010	GAP
Acrylonitrile	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
2-Butanone	EPA-8260	ND	170	1	UG/KG	6/29/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Bromochloromethane	EPA-8260	ND	210	1	UG/KG	6/29/2010	GAP
Chloroform	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Benzene	EPA-8260	110	5.0	1	UG/KG	6/29/2010	GAP
Trichloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Dibromomethane	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
Dichlorobromomethane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Toluene	EPA-8260	570	130	1	UG/KG	6/29/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
2-Hexanone	EPA-8260	ND	84	1	UG/KG	6/29/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Tetrachloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Dibromochloromethane	EPA-8260	ND	190	1	UG/KG	6/29/2010	GAP
Ethylene dibromide	EPA-8260	ND	5.0	1	UG/KG	6/29/2010	GAP
Chlorobenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/22/2010 DP-8 (15-16)
ALS SAMPLE #: -25

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
1,1,1,2-Tetrachloroethane	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
Ethylbenzene	EPA-8260	590	130	1	UG/KG	6/29/2010	GAP
m, p-Xylene	EPA-8260	1,300	230	1	UG/KG	6/29/2010	GAP
Styrene	EPA-8260	ND	99	1	UG/KG	6/29/2010	GAP
o-Xylene	EPA-8260	340	110	1	UG/KG	6/29/2010	GAP
Bromoform	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	230	110	1	UG/KG	6/29/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
Bromobenzene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
n-Propylbenzene	EPA-8260	230	130	1	UG/KG	6/29/2010	GAP
2-Chlorotoluene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	120	98	1	UG/KG	6/29/2010	GAP
4-Chlorotoluene	EPA-8260	ND	200	1	UG/KG	6/29/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	94	1	UG/KG	6/29/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
n-Butylbenzene	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	160	1	UG/KG	6/29/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
Naphthalene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/22/2010 DP-10 (20-21)
ALS SAMPLE #: -26

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	220	1	UG/KG	6/29/2010	GAP
Chloromethane	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Vinyl Chloride	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Bromomethane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Chloroethane	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
CFC-11	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Acetone	EPA-8260	ND	250	1	UG/KG	6/29/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Methylene Chloride	EPA-8260	ND	270	1	UG/KG	6/29/2010	GAP
Acrylonitrile	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
2-Butanone	EPA-8260	ND	190	1	UG/KG	6/29/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Bromochloromethane	EPA-8260	ND	230	1	UG/KG	6/29/2010	GAP
Chloroform	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Benzene	EPA-8260	ND	5.0	1	UG/KG	6/29/2010	GAP
Trichloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Dibromomethane	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
Dichlorobromomethane	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Toluene	EPA-8260	930	140	1	UG/KG	6/29/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
2-Hexanone	EPA-8260	ND	94	1	UG/KG	6/29/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
Tetrachloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Dibromochloromethane	EPA-8260	ND	210	1	UG/KG	6/29/2010	GAP
Ethylene dibromide	EPA-8260	ND	5.0	1	UG/KG	6/29/2010	GAP
Chlorobenzene	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/22/2010 DP-10 (20-21)
ALS SAMPLE #: -26

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
1,1,1,2-Tetrachloroethane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Ethylbenzene	EPA-8260	150	140	1	UG/KG	6/29/2010	GAP
m, p-Xylene	EPA-8260	350	260	1	UG/KG	6/29/2010	GAP
Styrene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
o-Xylene	EPA-8260	150	120	1	UG/KG	6/29/2010	GAP
Bromoform	EPA-8260	ND	160	1	UG/KG	6/29/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	160	1	UG/KG	6/29/2010	GAP
Bromobenzene	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
n-Propylbenzene	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
2-Chlorotoluene	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
4-Chlorotoluene	EPA-8260	ND	220	1	UG/KG	6/29/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
n-Butylbenzene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	180	1	UG/KG	6/29/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	160	1	UG/KG	6/29/2010	GAP
Naphthalene	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/22/2010 DP-11 (19-20)
ALS SAMPLE #: -27

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	200	1	UG/KG	6/29/2010	GAP
Chloromethane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Vinyl Chloride	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Bromomethane	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
Chloroethane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
CFC-11	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Acetone	EPA-8260	ND	240	1	UG/KG	6/29/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Methylene Chloride	EPA-8260	300	260	1	UG/KG	6/29/2010	GAP
Acrylonitrile	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
2-Butanone	EPA-8260	ND	180	1	UG/KG	6/29/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Bromochloromethane	EPA-8260	ND	220	1	UG/KG	6/29/2010	GAP
Chloroform	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Benzene	EPA-8260	ND	5.0	1	UG/KG	6/29/2010	GAP
Trichloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Dibromomethane	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
Dichlorobromomethane	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Toluene	EPA-8260	190	130	1	UG/KG	6/29/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
2-Hexanone	EPA-8260	ND	88	1	UG/KG	6/29/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Tetrachloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Dibromochloromethane	EPA-8260	ND	200	1	UG/KG	6/29/2010	GAP
Ethylene dibromide	EPA-8260	ND	5.0	1	UG/KG	6/29/2010	GAP
Chlorobenzene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/22/2010 DP-11 (19-20)
ALS SAMPLE #: -27

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
1,1,1,2-Tetrachloroethane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Ethylbenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
m, p-Xylene	EPA-8260	ND	240	1	UG/KG	6/29/2010	GAP
Styrene	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
o-Xylene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Bromoform	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
Bromobenzene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
n-Propylbenzene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
2-Chlorotoluene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
4-Chlorotoluene	EPA-8260	ND	200	1	UG/KG	6/29/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	99	1	UG/KG	6/29/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
n-Butylbenzene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	170	1	UG/KG	6/29/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
Naphthalene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/23/2010 DP-12 (20-21)
ALS SAMPLE #: -28

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	19,000	100	UG/KG	6/29/2010	GAP
Chloromethane	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
Vinyl Chloride	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
Bromomethane	EPA-8260	ND	9,400	100	UG/KG	6/29/2010	GAP
Chloroethane	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
CFC-11	EPA-8260	ND	9,900	100	UG/KG	6/29/2010	GAP
Acetone	EPA-8260	ND	22,000	100	UG/KG	6/29/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
Methylene Chloride	EPA-8260	ND	23,000	100	UG/KG	6/29/2010	GAP
Acrylonitrile	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
2-Butanone	EPA-8260	ND	17,000	100	UG/KG	6/29/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Bromochloromethane	EPA-8260	ND	20,000	100	UG/KG	6/29/2010	GAP
Chloroform	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	10,000	100	UG/KG	6/29/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	10,000	100	UG/KG	6/29/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
Benzene	EPA-8260	ND	500	100	UG/KG	6/29/2010	GAP
Trichloroethene	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	10,000	100	UG/KG	6/29/2010	GAP
Dibromomethane	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
Dichlorobromomethane	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Toluene	EPA-8260	310,000	12,000	100	UG/KG	6/29/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
2-Hexanone	EPA-8260	ND	8,100	100	UG/KG	6/29/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
Tetrachloroethene	EPA-8260	ND	1,000	100	UG/KG	6/29/2010	GAP
Dibromochloromethane	EPA-8260	ND	18,000	100	UG/KG	6/29/2010	GAP
Ethylene dibromide	EPA-8260	ND	500	100	UG/KG	6/29/2010	GAP
Chlorobenzene	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/23/2010 DP-12 (20-21)
ALS SAMPLE #: -28

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
1,1,1,2-Tetrachloroethane	EPA-8260	ND	9,700	100	UG/KG	6/29/2010	GAP
Ethylbenzene	EPA-8260	500,000	12,000	100	UG/KG	6/29/2010	GAP
m, p-Xylene	EPA-8260	1,300,000	220,000	1000	UG/KG	6/30/2010	GAP
Styrene	EPA-8260	ND	9,500	100	UG/KG	6/29/2010	GAP
o-Xylene	EPA-8260	700,000	110,000	1000	UG/KG	6/30/2010	GAP
Bromoform	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	14,000	10,000	100	UG/KG	6/29/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
Bromobenzene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
n-Propylbenzene	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
2-Chlorotoluene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	15,000	9,400	100	UG/KG	6/29/2010	GAP
4-Chlorotoluene	EPA-8260	ND	19,000	100	UG/KG	6/29/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	18,000	10,000	100	UG/KG	6/29/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	9,000	100	UG/KG	6/29/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP
n-Butylbenzene	EPA-8260	ND	9,700	100	UG/KG	6/29/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	15,000	100	UG/KG	6/29/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	11,000	100	UG/KG	6/29/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	14,000	100	UG/KG	6/29/2010	GAP
Naphthalene	EPA-8260	ND	13,000	100	UG/KG	6/29/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	12,000	100	UG/KG	6/29/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/23/2010 DP-13 (25-26)
ALS SAMPLE #: -29

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	210	1	UG/KG	6/29/2010	GAP
Chloromethane	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Vinyl Chloride	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Bromomethane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Chloroethane	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
CFC-11	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Acetone	EPA-8260	ND	250	1	UG/KG	6/29/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Methylene Chloride	EPA-8260	ND	270	1	UG/KG	6/29/2010	GAP
Acrylonitrile	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
2-Butanone	EPA-8260	ND	190	1	UG/KG	6/29/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Bromochloromethane	EPA-8260	ND	230	1	UG/KG	6/29/2010	GAP
Chloroform	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Benzene	EPA-8260	ND	5.0	1	UG/KG	6/29/2010	GAP
Trichloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Dibromomethane	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
Dichlorobromomethane	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Toluene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
2-Hexanone	EPA-8260	ND	91	1	UG/KG	6/29/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
Tetrachloroethene	EPA-8260	220	10	1	UG/KG	6/29/2010	GAP
Dibromochloromethane	EPA-8260	ND	200	1	UG/KG	6/29/2010	GAP
Ethylene dibromide	EPA-8260	ND	5.0	1	UG/KG	6/29/2010	GAP
Chlorobenzene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/23/2010 DP-13 (25-26)
ALS SAMPLE #: -29

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
1,1,1,2-Tetrachloroethane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Ethylbenzene	EPA-8260	150	140	1	UG/KG	6/29/2010	GAP
m, p-Xylene	EPA-8260	440	250	1	UG/KG	6/29/2010	GAP
Styrene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
o-Xylene	EPA-8260	220	120	1	UG/KG	6/29/2010	GAP
Bromoform	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
Bromobenzene	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
n-Propylbenzene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
2-Chlorotoluene	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
4-Chlorotoluene	EPA-8260	ND	210	1	UG/KG	6/29/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
n-Butylbenzene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	180	1	UG/KG	6/29/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
Naphthalene	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/23/2010 DP-14 (17-18)
ALS SAMPLE #: -30

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	200	1	UG/KG	6/29/2010	GAP
Chloromethane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Vinyl Chloride	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Bromomethane	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
Chloroethane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
CFC-11	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Acetone	EPA-8260	ND	240	1	UG/KG	6/29/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Methylene Chloride	EPA-8260	ND	260	1	UG/KG	6/29/2010	GAP
Acrylonitrile	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
2-Butanone	EPA-8260	ND	180	1	UG/KG	6/29/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Bromochloromethane	EPA-8260	ND	220	1	UG/KG	6/29/2010	GAP
Chloroform	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Benzene	EPA-8260	ND	5.0	1	UG/KG	6/29/2010	GAP
Trichloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Dibromomethane	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
Dichlorobromomethane	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Toluene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
2-Hexanone	EPA-8260	ND	88	1	UG/KG	6/29/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Tetrachloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Dibromochloromethane	EPA-8260	ND	200	1	UG/KG	6/29/2010	GAP
Ethylene dibromide	EPA-8260	ND	5.0	1	UG/KG	6/29/2010	GAP
Chlorobenzene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/23/2010 DP-14 (17-18)
ALS SAMPLE #: -30

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
1,1,1,2-Tetrachloroethane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Ethylbenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
m, p-Xylene	EPA-8260	ND	240	1	UG/KG	6/29/2010	GAP
Styrene	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
o-Xylene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Bromoform	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
Bromobenzene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
n-Propylbenzene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
2-Chlorotoluene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
4-Chlorotoluene	EPA-8260	ND	200	1	UG/KG	6/29/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	98	1	UG/KG	6/29/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
n-Butylbenzene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	170	1	UG/KG	6/29/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
Naphthalene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/23/2010 DP-15 (22-23)
ALS SAMPLE #: -31

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	190	1	UG/KG	6/29/2010	GAP
Chloromethane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Vinyl Chloride	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Bromomethane	EPA-8260	ND	97	1	UG/KG	6/29/2010	GAP
Chloroethane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
CFC-11	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
Acetone	EPA-8260	ND	220	1	UG/KG	6/29/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Methylene Chloride	EPA-8260	310	240	1	UG/KG	6/29/2010	GAP
Acrylonitrile	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
2-Butanone	EPA-8260	ND	170	1	UG/KG	6/29/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Bromochloromethane	EPA-8260	ND	210	1	UG/KG	6/29/2010	GAP
Chloroform	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Benzene	EPA-8260	33	5.0	1	UG/KG	6/29/2010	GAP
Trichloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Dibromomethane	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
Dichlorobromomethane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Toluene	EPA-8260	140	120	1	UG/KG	6/29/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
2-Hexanone	EPA-8260	ND	83	1	UG/KG	6/29/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Tetrachloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Dibromochloromethane	EPA-8260	ND	190	1	UG/KG	6/29/2010	GAP
Ethylene dibromide	EPA-8260	ND	5.0	1	UG/KG	6/29/2010	GAP
Chlorobenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/23/2010 DP-15 (22-23)
ALS SAMPLE #: -31

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
1,1,1,2-Tetrachloroethane	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
Ethylbenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
m, p-Xylene	EPA-8260	ND	230	1	UG/KG	6/29/2010	GAP
Styrene	EPA-8260	ND	97	1	UG/KG	6/29/2010	GAP
o-Xylene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Bromoform	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
Bromobenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
n-Propylbenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
2-Chlorotoluene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	96	1	UG/KG	6/29/2010	GAP
4-Chlorotoluene	EPA-8260	ND	190	1	UG/KG	6/29/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	92	1	UG/KG	6/29/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
n-Butylbenzene	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	160	1	UG/KG	6/29/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
Naphthalene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/23/2010 DP-16 (20-21)
ALS SAMPLE #: -32

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	190	1	UG/KG	6/29/2010	GAP
Chloromethane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Vinyl Chloride	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Bromomethane	EPA-8260	ND	95	1	UG/KG	6/29/2010	GAP
Chloroethane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
CFC-11	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
Acetone	EPA-8260	ND	220	1	UG/KG	6/29/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Methylene Chloride	EPA-8260	ND	240	1	UG/KG	6/29/2010	GAP
Acrylonitrile	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
2-Butanone	EPA-8260	ND	170	1	UG/KG	6/29/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Bromochloromethane	EPA-8260	ND	200	1	UG/KG	6/29/2010	GAP
Chloroform	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Benzene	EPA-8260	32	5.0	1	UG/KG	6/29/2010	GAP
Trichloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Dibromomethane	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Dichlorobromomethane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Toluene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
2-Hexanone	EPA-8260	ND	81	1	UG/KG	6/29/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Tetrachloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Dibromochloromethane	EPA-8260	ND	180	1	UG/KG	6/29/2010	GAP
Ethylene dibromide	EPA-8260	ND	5.0	1	UG/KG	6/29/2010	GAP
Chlorobenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/23/2010 DP-16 (20-21)
ALS SAMPLE #: -32

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
1,1,1,2-Tetrachloroethane	EPA-8260	ND	98	1	UG/KG	6/29/2010	GAP
Ethylbenzene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
m, p-Xylene	EPA-8260	ND	220	1	UG/KG	6/29/2010	GAP
Styrene	EPA-8260	ND	95	1	UG/KG	6/29/2010	GAP
o-Xylene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Bromoform	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
Bromobenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
n-Propylbenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
2-Chlorotoluene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	94	1	UG/KG	6/29/2010	GAP
4-Chlorotoluene	EPA-8260	ND	190	1	UG/KG	6/29/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	91	1	UG/KG	6/29/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
n-Butylbenzene	EPA-8260	ND	98	1	UG/KG	6/29/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	160	1	UG/KG	6/29/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
Naphthalene	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/22/2010 DP-11 (44-45)
ALS SAMPLE #: -33

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	160	1	UG/KG	6/29/2010	GAP
Chloromethane	EPA-8260	ND	97	1	UG/KG	6/29/2010	GAP
Vinyl Chloride	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Bromomethane	EPA-8260	ND	81	1	UG/KG	6/29/2010	GAP
Chloroethane	EPA-8260	ND	97	1	UG/KG	6/29/2010	GAP
CFC-11	EPA-8260	ND	85	1	UG/KG	6/29/2010	GAP
Acetone	EPA-8260	ND	190	1	UG/KG	6/29/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Methylene Chloride	EPA-8260	ND	200	1	UG/KG	6/29/2010	GAP
Acrylonitrile	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	96	1	UG/KG	6/29/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	97	1	UG/KG	6/29/2010	GAP
2-Butanone	EPA-8260	ND	140	1	UG/KG	6/29/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	99	1	UG/KG	6/29/2010	GAP
Bromochloromethane	EPA-8260	ND	170	1	UG/KG	6/29/2010	GAP
Chloroform	EPA-8260	ND	99	1	UG/KG	6/29/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	89	1	UG/KG	6/29/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	89	1	UG/KG	6/29/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Benzene	EPA-8260	ND	5.0	1	UG/KG	6/29/2010	GAP
Trichloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	90	1	UG/KG	6/29/2010	GAP
Dibromomethane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Dichlorobromomethane	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	99	1	UG/KG	6/29/2010	GAP
Toluene	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
2-Hexanone	EPA-8260	ND	69	1	UG/KG	6/29/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
Tetrachloroethene	EPA-8260	ND	10	1	UG/KG	6/29/2010	GAP
Dibromochloromethane	EPA-8260	ND	150	1	UG/KG	6/29/2010	GAP
Ethylene dibromide	EPA-8260	ND	5.0	1	UG/KG	6/29/2010	GAP
Chlorobenzene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/22/2010 DP-11 (44-45)
ALS SAMPLE #: -33

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
1,1,1,2-Tetrachloroethane	EPA-8260	ND	83	1	UG/KG	6/29/2010	GAP
Ethylbenzene	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
m, p-Xylene	EPA-8260	200	190	1	UG/KG	6/29/2010	GAP
Styrene	EPA-8260	ND	81	1	UG/KG	6/29/2010	GAP
o-Xylene	EPA-8260	ND	90	1	UG/KG	6/29/2010	GAP
Bromoform	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	88	1	UG/KG	6/29/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Bromobenzene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
n-Propylbenzene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
2-Chlorotoluene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	80	1	UG/KG	6/29/2010	GAP
4-Chlorotoluene	EPA-8260	ND	160	1	UG/KG	6/29/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	87	1	UG/KG	6/29/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	94	1	UG/KG	6/29/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	77	1	UG/KG	6/29/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP
n-Butylbenzene	EPA-8260	ND	84	1	UG/KG	6/29/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	130	1	UG/KG	6/29/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	98	1	UG/KG	6/29/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	120	1	UG/KG	6/29/2010	GAP
Naphthalene	EPA-8260	ND	110	1	UG/KG	6/29/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	100	1	UG/KG	6/29/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/22/2010 Trip Blank
ALS SAMPLE #: -34

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
CFC-12	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Chloromethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Vinyl Chloride	EPA-8260	ND	0.20	1	UG/L	7/1/2010	GAP
Bromomethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Chloroethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
CFC-11	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Acetone	EPA-8260	ND	25	1	UG/L	7/1/2010	GAP
Carbon Disulfide	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,1-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Methylene Chloride	EPA-8260	ND	5.0	1	UG/L	7/1/2010	GAP
Acrylonitrile	EPA-8260	ND	10	1	UG/L	7/1/2010	GAP
Methyl t-butyl ether	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Trans-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,1-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
2-Butanone	EPA-8260	ND	10	1	UG/L	7/1/2010	GAP
Cis-1,2-Dichloroethene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
2,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Bromochloromethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Chloroform	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,1,1-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,1-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Carbon Tetrachloride	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,2-Dichloroethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Benzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Trichloroethene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,2-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Dibromomethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Dichlorobromomethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Trans-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Methyl isobutyl ketone	EPA-8260	ND	10	1	UG/L	7/1/2010	GAP
Toluene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Cis-1,3-Dichloropropene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,1,2-Trichloroethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
2-Hexanone	EPA-8260	ND	10	1	UG/L	7/1/2010	GAP
1,3-Dichloropropane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Tetrachloroethene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Dibromochloromethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Ethylene dibromide	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001
CLIENT SAMPLE ID: 6/22/2010 Trip Blank
ALS SAMPLE #: -34

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Ethylbenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
m, p-Xylene	EPA-8260	ND	4.0	1	UG/L	7/1/2010	GAP
Styrene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
o-Xylene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Bromoform	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Isopropylbenzene (Cumene)	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,2,3-Trichloropropane	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Bromobenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
n-Propylbenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
2-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,3,5-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
4-Chlorotoluene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Tert-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,2,4-Trimethylbenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Sec-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
p-Isopropyltoluene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,3-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,4-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
n-Butylbenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,2-Dichlorobenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,2-Dibromo-3-Chloropropane	EPA-8260	ND	10	1	UG/L	7/1/2010	GAP
1,2,4-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Hexachlorobutadiene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
Naphthalene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP
1,2,3-Trichlorobenzene	EPA-8260	ND	2.0	1	UG/L	7/1/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001

QUALITY CONTROL RESULTS

SURROGATE RECOVERY

ALS SAMPLE ID	METHOD	SUR ID	% RECV
1006160-01	EPA-8260	1,2-Dichloroethane-d4	116%
1006160-01	EPA-8260	Toluene-d8	102%
1006160-01	EPA-8260	4-Bromofluorobenzene	91%
1006160-02	EPA-8260	1,2-Dichloroethane-d4	115%
1006160-02	EPA-8260	Toluene-d8	102%
1006160-02	EPA-8260	4-Bromofluorobenzene	92%
1006160-02 4X Dilution	EPA-8260	1,2-Dichloroethane-d4	102%
1006160-02 4X Dilution	EPA-8260	Toluene-d8	98%
1006160-02 4X Dilution	EPA-8260	4-Bromofluorobenzene	101%
1006160-03	EPA-8260	1,2-Dichloroethane-d4	115%
1006160-03	EPA-8260	Toluene-d8	102%
1006160-03	EPA-8260	4-Bromofluorobenzene	90%
1006160-04	EPA-8260	1,2-Dichloroethane-d4	113%
1006160-04	EPA-8260	Toluene-d8	101%
1006160-04	EPA-8260	4-Bromofluorobenzene	96%
1006160-04 20X Dilution	EPA-8260	1,2-Dichloroethane-d4	104%
1006160-04 20X Dilution	EPA-8260	Toluene-d8	98%
1006160-04 20X Dilution	EPA-8260	4-Bromofluorobenzene	100%
1006160-05	EPA-8260	1,2-Dichloroethane-d4	111%
1006160-05	EPA-8260	Toluene-d8	100%
1006160-05	EPA-8260	4-Bromofluorobenzene	106%
1006160-05 100X Dilution	EPA-8260	1,2-Dichloroethane-d4	104%
1006160-05 100X Dilution	EPA-8260	Toluene-d8	98%
1006160-05 100X Dilution	EPA-8260	4-Bromofluorobenzene	104%
1006160-05 10X Dilution	EPA-8260	1,2-Dichloroethane-d4	102%
1006160-05 10X Dilution	EPA-8260	Toluene-d8	97%
1006160-05 10X Dilution	EPA-8260	4-Bromofluorobenzene	103%
1006160-05 400X Dilution	EPA-8260	1,2-Dichloroethane-d4	109%
1006160-05 400X Dilution	EPA-8260	Toluene-d8	97%
1006160-05 400X Dilution	EPA-8260	4-Bromofluorobenzene	97%
1006160-06	EPA-8260	1,2-Dichloroethane-d4	112%
1006160-06	EPA-8260	Toluene-d8	103%
1006160-06	EPA-8260	4-Bromofluorobenzene	106%
1006160-06 100X Dilution	EPA-8260	1,2-Dichloroethane-d4	104%
1006160-06 100X Dilution	EPA-8260	Toluene-d8	99%

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001

QUALITY CONTROL RESULTS

SURROGATE RECOVERY

ALS SAMPLE ID	METHOD	SUR ID	% RECV
1006160-06 100X Dilution	EPA-8260	4-Bromofluorobenzene	101%
1006160-06 10X Dilution	EPA-8260	1,2-Dichloroethane-d4	99%
1006160-06 10X Dilution	EPA-8260	Toluene-d8	96%
1006160-06 10X Dilution	EPA-8260	4-Bromofluorobenzene	104%
1006160-07	EPA-8260	1,2-Dichloroethane-d4	111%
1006160-07	EPA-8260	Toluene-d8	102%
1006160-07	EPA-8260	4-Bromofluorobenzene	99%
1006160-07 100X Dilution	EPA-8260	1,2-Dichloroethane-d4	120%
1006160-07 100X Dilution	EPA-8260	Toluene-d8	103%
1006160-07 100X Dilution	EPA-8260	4-Bromofluorobenzene	85%
1006160-07 10X Dilution	EPA-8260	1,2-Dichloroethane-d4	103%
1006160-07 10X Dilution	EPA-8260	Toluene-d8	99%
1006160-07 10X Dilution	EPA-8260	4-Bromofluorobenzene	102%
1006160-08	EPA-8260	1,2-Dichloroethane-d4	120%
1006160-08	EPA-8260	Toluene-d8	104%
1006160-08	EPA-8260	4-Bromofluorobenzene	84%
1006160-09	EPA-8260	1,2-Dichloroethane-d4	117%
1006160-09	EPA-8260	Toluene-d8	103%
1006160-09	EPA-8260	4-Bromofluorobenzene	89%
1006160-10	EPA-8260	1,2-Dichloroethane-d4	119%
1006160-10	EPA-8260	Toluene-d8	101%
1006160-10	EPA-8260	4-Bromofluorobenzene	88%
1006160-11	EPA-8260	1,2-Dichloroethane-d4	120%
1006160-11	EPA-8260	Toluene-d8	102%
1006160-11	EPA-8260	4-Bromofluorobenzene	87%
1006160-11 4X Dilution	EPA-8260	1,2-Dichloroethane-d4	122%
1006160-11 4X Dilution	EPA-8260	Toluene-d8	102%
1006160-11 4X Dilution	EPA-8260	4-Bromofluorobenzene	83%
1006160-12	EPA-8260	1,2-Dichloroethane-d4	124%
1006160-12	EPA-8260	Toluene-d8	105%
1006160-12	EPA-8260	4-Bromofluorobenzene	107%
1006160-12 1000X Dilution	EPA-8260	1,2-Dichloroethane-d4	106%
1006160-12 1000X Dilution	EPA-8260	Toluene-d8	98%
1006160-12 1000X Dilution	EPA-8260	4-Bromofluorobenzene	99%
1006160-12 100X Dilution	EPA-8260	1,2-Dichloroethane-d4	120%

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001

QUALITY CONTROL RESULTS

SURROGATE RECOVERY

ALS SAMPLE ID	METHOD	SUR ID	% RECV
1006160-12 100X Dilution	EPA-8260	Toluene-d8	103%
1006160-12 100X Dilution	EPA-8260	4-Bromofluorobenzene	89%
1006160-12 10X Dilution	EPA-8260	1,2-Dichloroethane-d4	116%
1006160-12 10X Dilution	EPA-8260	Toluene-d8	107%
1006160-12 10X Dilution	EPA-8260	4-Bromofluorobenzene	92%
1006160-13	EPA-8260	1,2-Dichloroethane-d4	119%
1006160-13	EPA-8260	Toluene-d8	102%
1006160-13	EPA-8260	4-Bromofluorobenzene	83%
1006160-13 4X Dilution	EPA-8260	1,2-Dichloroethane-d4	108%
1006160-13 4X Dilution	EPA-8260	Toluene-d8	97%
1006160-13 4X Dilution	EPA-8260	4-Bromofluorobenzene	96%
1006160-14	EPA-8260	1,2-Dichloroethane-d4	124%
1006160-14	EPA-8260	Toluene-d8	103%
1006160-14	EPA-8260	4-Bromofluorobenzene	81%
1006160-15	EPA-8260	1,2-Dichloroethane-d4	122%
1006160-15	EPA-8260	Toluene-d8	102%
1006160-15	EPA-8260	4-Bromofluorobenzene	80%
1006160-16	EPA-8260	1,2-Dichloroethane-d4	111%
1006160-16	EPA-8260	Toluene-d8	96%
1006160-16	EPA-8260	4-Bromofluorobenzene	93%
1006160-17	EPA-8260	1,2-Dichloroethane-d4	106%
1006160-17	EPA-8260	Toluene-d8	88%
1006160-17	EPA-8260	4-Bromofluorobenzene	96%
1006160-18	EPA-8260	1,2-Dichloroethane-d4	98%
1006160-18	EPA-8260	Toluene-d8	104%
1006160-18	EPA-8260	4-Bromofluorobenzene	103%
1006160-19 100X Dilution	EPA-8260	1,2-Dichloroethane-d4	96%
1006160-19 100X Dilution	EPA-8260	Toluene-d8	102%
1006160-19 100X Dilution	EPA-8260	4-Bromofluorobenzene	103%
1006160-19 2000X Dilution	EPA-8260	1,2-Dichloroethane-d4	107%
1006160-19 2000X Dilution	EPA-8260	Toluene-d8	101%
1006160-19 2000X Dilution	EPA-8260	4-Bromofluorobenzene	99%
1006160-20	EPA-8260	1,2-Dichloroethane-d4	105%
1006160-20	EPA-8260	Toluene-d8	101%

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001

QUALITY CONTROL RESULTS

SURROGATE RECOVERY

ALS SAMPLE ID	METHOD	SUR ID	% RECV
1006160-20	EPA-8260	4-Bromofluorobenzene	102%
1006160-21 100X Dilution	EPA-8260	1,2-Dichloroethane-d4	106%
1006160-21 100X Dilution	EPA-8260	Toluene-d8	101%
1006160-21 100X Dilution	EPA-8260	4-Bromofluorobenzene	101%
1006160-21 200X Dilution	EPA-8260	1,2-Dichloroethane-d4	121%
1006160-21 200X Dilution	EPA-8260	Toluene-d8	99%
1006160-21 200X Dilution	EPA-8260	4-Bromofluorobenzene	99%
1006160-22 1000X Dilution	EPA-8260	1,2-Dichloroethane-d4	120%
1006160-22 1000X Dilution	EPA-8260	Toluene-d8	98%
1006160-22 1000X Dilution	EPA-8260	4-Bromofluorobenzene	98%
1006160-22 100X Dilution	EPA-8260	1,2-Dichloroethane-d4	103%
1006160-22 100X Dilution	EPA-8260	Toluene-d8	98%
1006160-22 100X Dilution	EPA-8260	4-Bromofluorobenzene	98%
1006160-23 1000X Dilution	EPA-8260	1,2-Dichloroethane-d4	121%
1006160-23 1000X Dilution	EPA-8260	Toluene-d8	96%
1006160-23 1000X Dilution	EPA-8260	4-Bromofluorobenzene	95%
1006160-23 100X Dilution	EPA-8260	1,2-Dichloroethane-d4	110%
1006160-23 100X Dilution	EPA-8260	Toluene-d8	98%
1006160-23 100X Dilution	EPA-8260	4-Bromofluorobenzene	102%
1006160-24 1000X Dilution	EPA-8260	1,2-Dichloroethane-d4	121%
1006160-24 1000X Dilution	EPA-8260	Toluene-d8	97%
1006160-24 1000X Dilution	EPA-8260	4-Bromofluorobenzene	95%
1006160-24 100X Dilution	EPA-8260	1,2-Dichloroethane-d4	110%
1006160-24 100X Dilution	EPA-8260	Toluene-d8	100%
1006160-24 100X Dilution	EPA-8260	4-Bromofluorobenzene	101%
1006160-25	EPA-8260	1,2-Dichloroethane-d4	112%
1006160-25	EPA-8260	Toluene-d8	99%
1006160-25	EPA-8260	4-Bromofluorobenzene	99%
1006160-26	EPA-8260	1,2-Dichloroethane-d4	111%
1006160-26	EPA-8260	Toluene-d8	99%
1006160-26	EPA-8260	4-Bromofluorobenzene	99%
1006160-27	EPA-8260	1,2-Dichloroethane-d4	115%
1006160-27	EPA-8260	Toluene-d8	100%
1006160-27	EPA-8260	4-Bromofluorobenzene	99%

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001

QUALITY CONTROL RESULTS

SURROGATE RECOVERY

ALS SAMPLE ID	METHOD	SUR ID	% RECV
1006160-28 1000X Dilution	EPA-8260	1,2-Dichloroethane-d4	125%
1006160-28 1000X Dilution	EPA-8260	Toluene-d8	98%
1006160-28 1000X Dilution	EPA-8260	4-Bromofluorobenzene	94%
1006160-28 100X Dilution	EPA-8260	1,2-Dichloroethane-d4	114%
1006160-28 100X Dilution	EPA-8260	Toluene-d8	101%
1006160-28 100X Dilution	EPA-8260	4-Bromofluorobenzene	100%
1006160-29	EPA-8260	1,2-Dichloroethane-d4	118%
1006160-29	EPA-8260	Toluene-d8	100%
1006160-29	EPA-8260	4-Bromofluorobenzene	98%
1006160-30	EPA-8260	1,2-Dichloroethane-d4	115%
1006160-30	EPA-8260	Toluene-d8	98%
1006160-30	EPA-8260	4-Bromofluorobenzene	95%
1006160-31	EPA-8260	1,2-Dichloroethane-d4	123%
1006160-31	EPA-8260	Toluene-d8	98%
1006160-31	EPA-8260	4-Bromofluorobenzene	99%
1006160-32	EPA-8260	1,2-Dichloroethane-d4	119%
1006160-32	EPA-8260	Toluene-d8	97%
1006160-32	EPA-8260	4-Bromofluorobenzene	96%
1006160-33	EPA-8260	1,2-Dichloroethane-d4	124%
1006160-33	EPA-8260	Toluene-d8	97%
1006160-33	EPA-8260	4-Bromofluorobenzene	94%
1006160-34	EPA-8260	1,2-Dichloroethane-d4	112%
1006160-34	EPA-8260	Toluene-d8	97%
1006160-34	EPA-8260	4-Bromofluorobenzene	94%

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001

QUALITY CONTROL RESULTS

BLANK RESULTS

QC SAMPLE ID	MATRIX	METHOD	ANALYTE	RESULT	UNITS
MB-062910S	Soil	EPA-8260	CFC-12	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	Chloromethane	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	Vinyl Chloride	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	Bromomethane	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	Chloroethane	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	Carbon Tetrachloride	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	CFC-11	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	Acetone	ND(<50)	UG/KG
MB-062910S	Soil	EPA-8260	1,1-Dichloroethene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	Methylene Chloride	ND(<20)	UG/KG
MB-062910S	Soil	EPA-8260	Acrylonitrile	ND(<50)	UG/KG
MB-062910S	Soil	EPA-8260	Methyl t-butyl ether	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	Trans-1,2-Dichloroethene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	1,1-Dichloroethane	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	2-Butanone	ND(<50)	UG/KG
MB-062910S	Soil	EPA-8260	Cis-1,2-Dichloroethene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	2,2-Dichloropropane	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	Bromochloromethane	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	Chloroform	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	1,1,1-Trichloroethane	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	1,1-Dichloropropene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	1,2-Dichloroethane	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	Benzene	ND(<5.0)	UG/KG
MB-062910S	Soil	EPA-8260	Trichloroethene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	1,2-Dichloropropane	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	Dibromomethane	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	Dichlorobromomethane	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	Trans-1,3-Dichloropropene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	Methyl isobutyl ketone	ND(<50)	UG/KG
MB-062910S	Soil	EPA-8260	Toluene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	Cis-1,3-Dichloropropene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	1,1,2-Trichloroethane	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	2-Hexanone	ND(<50)	UG/KG
MB-062910S	Soil	EPA-8260	1,3-Dichloropropane	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	Tetrachloroethene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	Dibromochloromethane	ND(<10)	UG/KG

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001

QUALITY CONTROL RESULTS

BLANK RESULTS

QC SAMPLE ID	MATRIX	METHOD	ANALYTE	RESULT	UNITS
MB-062910S	Soil	EPA-8260	Ethylene dibromide	ND(<5.0)	UG/KG
MB-062910S	Soil	EPA-8260	Chlorobenzene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	1,1,1,2-Tetrachloroethane	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	Ethylbenzene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	m, p-Xylene	ND(<20)	UG/KG
MB-062910S	Soil	EPA-8260	Styrene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	o-Xylene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	Bromoform	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	Isopropylbenzene (Cumene)	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	1,1,2,2-Tetrachloroethane	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	1,2,3-Trichloropropane	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	Bromobenzene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	n-Propylbenzene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	2-Chlorotoluene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	1,3,5-Trimethylbenzene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	4-Chlorotoluene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	Tert-Butylbenzene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	1,2,4-Trimethylbenzene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	Sec-Butylbenzene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	p-Isopropyltoluene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	1,3-Dichlorobenzene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	1,4-Dichlorobenzene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	n-Butylbenzene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	1,2-Dichlorobenzene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	1,2-Dibromo-3-Chloropropane	ND(<50)	UG/KG
MB-062910S	Soil	EPA-8260	1,2,4-Trichlorobenzene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	Hexachlorobutadiene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	Naphthalene	ND(<10)	UG/KG
MB-062910S	Soil	EPA-8260	1,2,3-Trichlorobenzene	ND(<10)	UG/KG
MB-062810W	Water	EPA-8260	CFC-12	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Chloromethane	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Vinyl Chloride	ND(<0.20)	UG/L
MB-062810W	Water	EPA-8260	Bromomethane	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Chloroethane	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	CFC-11	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Carbon Tetrachloride	ND(<2.0)	UG/L

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001

QUALITY CONTROL RESULTS

BLANK RESULTS

QC SAMPLE ID	MATRIX	METHOD	ANALYTE	RESULT	UNITS
MB-062810W	Water	EPA-8260	Carbon Disulfide	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Acetone	ND(<25)	UG/L
MB-062810W	Water	EPA-8260	1,1-Dichloroethene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Methylene Chloride	ND(<5.0)	UG/L
MB-062810W	Water	EPA-8260	Acrylonitrile	ND(<10)	UG/L
MB-062810W	Water	EPA-8260	Methyl t-butyl ether	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Trans-1,2-Dichloroethene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	1,1-Dichloroethane	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	2-Butanone	ND(<10)	UG/L
MB-062810W	Water	EPA-8260	Cis-1,2-Dichloroethene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	2,2-Dichloropropane	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Bromochloromethane	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Chloroform	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	1,1,1-Trichloroethane	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	1,1-Dichloropropene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	1,2-Dichloroethane	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Benzene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Trichloroethene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	1,2-Dichloropropane	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Dibromomethane	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Dichlorobromomethane	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Trans-1,3-Dichloropropene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Methyl isobutyl ketone	ND(<10)	UG/L
MB-062810W	Water	EPA-8260	Toluene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Cis-1,3-Dichloropropene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	1,1,2-Trichloroethane	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	2-Hexanone	ND(<10)	UG/L
MB-062810W	Water	EPA-8260	1,3-Dichloropropane	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Tetrachloroethene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Dibromochloromethane	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Ethylene dibromide	ND(<0.010)	UG/L
MB-062810W	Water	EPA-8260	Chlorobenzene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	1,1,1,2-Tetrachloroethane	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Ethylbenzene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	m, p-Xylene	ND(<4.0)	UG/L
MB-062810W	Water	EPA-8260	Styrene	ND(<2.0)	UG/L

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001

QUALITY CONTROL RESULTS

BLANK RESULTS

QC SAMPLE ID	MATRIX	METHOD	ANALYTE	RESULT	UNITS
MB-062810W	Water	EPA-8260	o-Xylene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Bromoform	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Isopropylbenzene (Cumene)	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	1,1,2,2-Tetrachloroethane	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	1,2,3-Trichloropropane	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Bromobenzene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	n-Propylbenzene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	2-Chlorotoluene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	1,3,5-Trimethylbenzene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	4-Chlorotoluene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Tert-Butylbenzene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	1,2,4-Trimethylbenzene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Sec-Butylbenzene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	p-Isopropyltoluene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	1,3-Dichlorobenzene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	1,4-Dichlorobenzene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	n-Butylbenzene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	1,2-Dichlorobenzene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	1,2-Dibromo-3-Chloropropane	ND(<10)	UG/L
MB-062810W	Water	EPA-8260	1,2,4-Trichlorobenzene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Hexachlorobutadiene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	Naphthalene	ND(<2.0)	UG/L
MB-062810W	Water	EPA-8260	1,2,3-Trichlorobenzene	ND(<2.0)	UG/L
MBLK-6242010	Water	EPA-300.0	Nitrate	ND(<0.15)	MG/L
MBLK-6242010	Water	EPA-300.0	Sulfate	ND(<0.26)	MG/L

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/2/2010
ALS JOB#: 1006160
DATE RECEIVED: 6/21/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Tim Syverson
CLIENT PROJECT ID: Gaco Western / #1226001

QUALITY CONTROL RESULTS

BLANK SPIKE/BLANK SPIKE DUPLICATE RESULTS

QC BATCH ID	MATRIX	METHOD	ANALYTE	SPIKE AMOUNT	BLANK SPIKE RECOVERY	BLANK SPIKE DUPLICATE RECOVERY	RPD
832	Soil	EPA-8260	1,1-Dichloroethene	10	91%	85%	7
832	Soil	EPA-8260	Benzene	10	93%	91%	2
832	Soil	EPA-8260	Trichloroethene	10	92%	89%	3
832	Soil	EPA-8260	Toluene	10	92%	89%	4
832	Soil	EPA-8260	Chlorobenzene	10	101%	99%	1
837	Water	EPA-8260	1,1-Dichloroethene	10	93%	92%	2
837	Water	EPA-8260	Benzene	10	93%	90%	4
837	Water	EPA-8260	Trichloroethene	10	94%	89%	5
837	Water	EPA-8260	Toluene	10	95%	92%	3
837	Water	EPA-8260	Chlorobenzene	10	92%	88%	4
R69509	Water	EPA-300.0	Nitrate	100	100%	106%	6
R69509	Water	EPA-300.0	Sulfate	100	102%	107%	5

APPROVED BY:

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

1006160

LANDAU ASSOCIATES

☒ **Seattle/Edmonds** (425) 778-0907
☐ **Tacoma** (253) 926-2493
☐ **Spokane** (509) 327-9737
☐ **Portland** (503) 542-1080
☐ _____

Chain-of-Custody Record

Date 6/24/10
Page 1 of 2

Project Name Gaco Western Project No. 122C001
Project Location/Event
Sampler's Name Paul Raymaker
Project Contact Tim Syverson / Jessica Kruczek
Send Results To Tim Syverson / Jessica Kruczek

Testing Parameters

Turnaround Time
☒ Standard
☐ Accelerated
☐ _____

	Sample I.D.	Date	Time	Matrix	No. of Containers	VOCs 8260B	Nitrates/Sulfates 300	Observations/Comments
1	DP-1	6/21/10	905	Water	4	X	X	
2	DP-2	6/21/10	1036	water	4	X	X	
3	DP-3	6/21/10	1141	Water	4	X	X	
4	DP-4	6/21/10	1349	Water	4	X	X	
5	DP-5	6/21/10	1509	water	4	X	X	
6	DP-6	6/22/10	841	Water	4	X	X	
7	DP-7	6/22/10	951	Water	4	X	X	
8	DP-8	6/22/10	1129	Water	4	X	X	
9	DP-9	6/22/10	1306	Water	4	X	X	
10	DP-10	6/22/10	1426	Water	4	X	X	
11	DP-11 (30)	6/22/10	1542	Water	4	X	X	
12	DP-12 (30)	6/23/10	821	Water	4	X	X	
13	DP-13	6/23/10	958	Water	4	X	X	
14	DP-14	6/23/10	1058	Water	4	X	X	
15	DP-15	6/23/10	1406	Water	4	X	X	
16	DP-16	6/23/10	1530	Water	4	X	X	
17	DP-11 (45)	6/22/10	1456	Water	4	X	X	

X Allow water samples to settle, collect aliquot from clear portion
X NWTPH-Dx - run acid wash/silica gel cleanup
___ run samples standardized to _____ product
___ Analyze for EPH if no specific product identified
VOC/BTEX/VPH (soil):
___ non-preserved
___ preserved w/methanol
___ preserved w/sodium bisulfate
___ Freeze upon receipt
___ Dissolved metal water samples field filtered
Other

Special Shipment/Handling or Storage Requirements 2 Coolers on Ice

Method of Shipment Courier

Relinquished by	Received by	Relinquished by	Received by
Signature	Signature	Signature	Signature
Printed Name Paul Raymaker	Printed Name Rick Bagan	Printed Name	Printed Name
Company Landau Assoc Inc.	Company ACS	Company	Company
Date 6/24/10 Time 10:00	Date 6/24/10 Time 11:45	Date _____ Time _____	Date _____ Time _____

WHITE COPY - Project File YELLOW COPY - Laboratory PINK COPY - Client Representative Rev 8/09

LANDAU ASSOCIATES

☒ Seattle/Edmonds (425) 778-0907
☐ Tacoma (253) 926-2493
☐ Spokane (509) 327-9737
☐ Portland (503) 542-1080
☐ _____

1006160

Date 6/24/10
Page 2 of 2

Chain-of-Custody Record

Project Name Graco Western Project No. 1226001
Project Location/Event
Sampler's Name Paul Raymaker
Project Contact Tim Syverson / Jessica Kruczek
Send Results To Tim Syverson / Jessica Kruczek

Turnaround Time
☒ Standard
☐ Accelerated
☐ _____

	Sample I.D.	Date	Time	Matrix	No. of Containers	Testing Parameters: VOCs 8260B	Observations/Comments
18	DP-1 (17-18)	6/21/10	8:35	Soil	4	X	
19	DP-2 (19-20)	6/21/10	10:05	Soil	4	X	
20	DP-3 (14-15)	6/21/10	11:20	Soil	4	X	
21	DP-4 (13-14)	6/21/10	13:30	Soil	4	X	
22	DP-5 (13-14)	6/21/10	14:45	Soil	4	X	
23	DP-6 (20-21)	6/22/10	8:15	Soil	4	X	
24	DP-7 (13-14)	6/22/10	9:30	Soil	4	X	
25	DP-8 (15-16)	6/22/10	11:10	Soil	4	X	
26	DP-10 (20-21)	6/22/10	14:00	Soil	4	X	
27	DP-11 (19-20)	6/22/10	1515	Soil	4	X	
28	DP-12 (20-21)	6/23/10	805	Soil	4	X	
29	DP-13 (25-26)	6/23/10	940	Soil	4	X	
30	DP-14 (17-18)	6/23/10	1130	Soil	4	X	
31	DP-15 (22-23)	6/23/10	1340	Soil	4	X	
32	DP-16 (20-21)	6/23/10	1505	Soil	4	X	
33	DP-11 (44-45)	6/22/10	1645	Soil	4	X	
34	Trip Blank			Water	8	X	

X Allow water samples to settle, collect aliquot from clear portion
X NWTPH-Dx - run acid wash/silica gel cleanup
___ run samples standardized to _____ product
___ Analyze for EPH if no specific product identified
VOC/BTEX/VPH (soil):
X non-preserved
X preserved w/methanol
___ preserved w/sodium bisulfate
___ Freeze upon receipt
___ Dissolved metal water samples field filtered
Other

Special Shipment/Handling or Storage Requirements 2 Coolers on Ice

Method of Shipment Courier

Relinquished by	Received by	Relinquished by	Received by
Signature	Signature	Signature	Signature
Printed Name Paul Raymaker	Printed Name Rick Bagan	Printed Name	Printed Name
Company Landau Assoc Inc	Company RLS	Company	Company
Date 6/24/10 Time 10:00	Date 6/24/10 Time 11:45	Date ____ Time ____	Date ____ Time ____

WHITE COPY - Project File YELLOW COPY - Laboratory PINK COPY - Client Representative Rev 8/09

APPENDIX D

TEE 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 www.ecy.wa.gov/programs/tcp/policies/terrestrial/TEEHome.htm.

Step 1: IDENTIFY HAZARDOUS WASTE SITE	
Please identify below the hazardous waste site for which you are documenting an evaluation.	
Facility/Site Name: GWI Tukwila Property	
Facility/Site Address: 18700 Southcenter Parkway	
Facility/Site No:	VCP Project No.:

Step 2: IDENTIFY EVALUATOR			
Please identify below the person who conducted the evaluation and their contact information.			
Name: Carla Brock		Title: Associate Geologist	
Organization: Aspect Consulting			
Mailing address: 401 Second Ave South, Suite 201			
City:	State: WA	Zip code: 98104	
Phone: 2068386593	Fax:	E-mail: cbrock@aspectconsulting.com	

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 **"YES,"** then answer **Question 2**.*

☐ 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 or 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)

☐ 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.

☐ 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.

* An exclusion based on future land use must have a completion date for future development that is acceptable to Ecology.

[±] "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.

[#] "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.

B. Simplified evaluation.

1. Does the Site qualify for a simplified evaluation?

☐ Yes *If you answered **"YES,"** then answer **Question 2** below.*

☐ No or Unknown *If you answered **"NO"** or **"UNKNOWN,"** then skip to **Step 3C** of this form.*

2. Did you conduct a simplified evaluation?

☐ Yes *If you answered **"YES,"** then answer **Question 3** below.*

☐ No *If you answered **"NO,"** then skip to **Step 3C** of this form.*

3. Was further evaluation necessary?

☐ Yes *If you answered **"YES,"** then answer **Question 4** below.*

☐ No *If you answered **"NO,"** then answer **Question 5** below.*

4. If further evaluation was necessary, what did you do?

☐ Used the concentrations listed in Table 749-2 as cleanup levels. *If so, then skip to **Step 4** of this form.*

☐ Conducted a site-specific evaluation. *If so, then skip to **Step 3C** of this form.*

5. If no further evaluation was necessary, what was the reason? *Check all that apply. Then skip to **Step 4** of 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 Analysis: WAC 173-340-7492(2)(b)

☐ No potential exposure pathways from soil contamination to ecological receptors.

Contaminant 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-specific evaluation. A site-specific evaluation process consists of two parts: (1) formulating the problem, and (2) selecting the methods for addressing the identified problem. Both steps require consultation 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.*

☐ No *If you answered **"NO,"** then identify the reason here and then skip to **Question 5** 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 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 **Question 5** below.*

☐ Used one or more of the methods listed in WAC 173-340-7493(3) to evaluate and address the identified problem. *If so, then answer **Questions 3 and 4** below.*

3. If you conducted further site-specific evaluations, what methods did you use? *Check all that apply. See* 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 already obtained Ecology's approval of both your problem formulation and problem resolution steps?

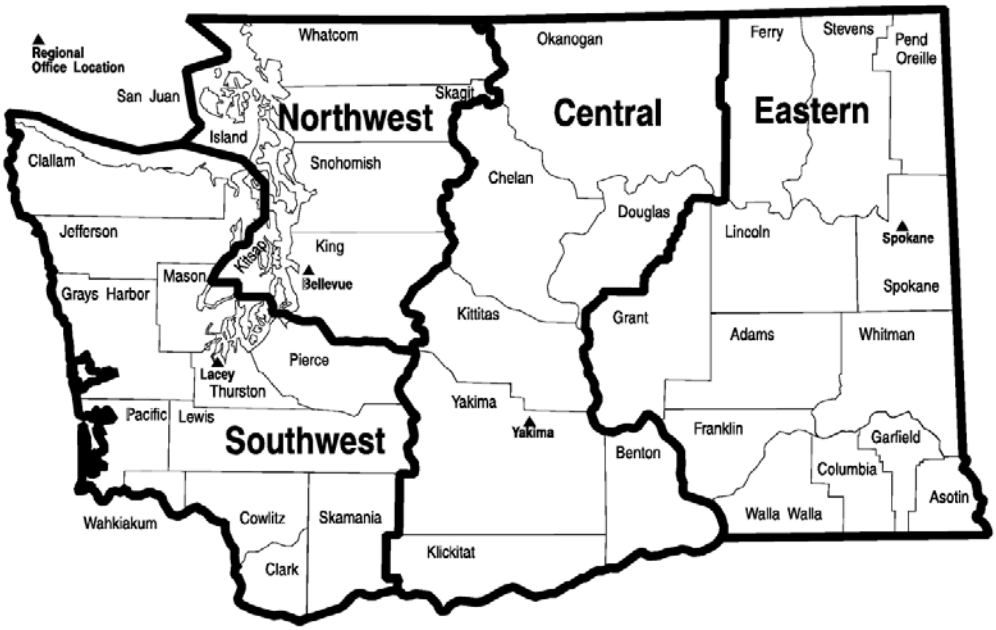
☐ Yes If so, please identify the Ecology staff who approved those steps:

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



APPENDIX E

Remedial Alternatives Quantity Estimates

Aspect CONSULTING

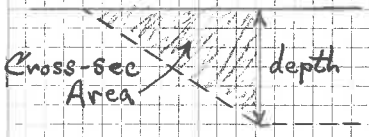
Project: GWI Tukwila | Project No: 160427
Date: 6/6/17 | By: D. Heffner
Subject: FS Remedial Alternatives | Page: 1 of 3
(App. E)

Excavation Bottom Footprint (Refer to RI/FS Figure 13)

- Excavation to average 15-foot depth in Alternatives 1, 2 and 3.
- In situ treatment of soils in 15- to 20-foot depth range in Alternative 2, and additional excavation to average 20-foot depth in Alternative 3.
- Excavation to average 20-foot depth in Alternative 4.

	Area (ft^2)	Perimeter (ft)
	16,689	560
Large Polygon	5,254	330
Small Polygon	1,190	138
	34,004	784

Sideslopes at 1.5 H:1 V



Excav. Depth (ft)	Cross-Sec Area (ft^2)
5	$\frac{1.5 \times 5 \times 5}{2} = 19$
15	$\frac{1.5 \times 15 \times 15}{2} = 169$
20	$\frac{1.5 \times 20 \times 20}{2} = 300$

Alt. 1 Calcs.

Total Excav. Vol. = $\frac{16689\,ft^2 \times 15\,ft + 169\,ft^2 \times 560\,ft}{27\,ft^3/BCY} = 9,272 + 3,505 = 12,777$ BCY (All VZ soils)
↳ round to 12,800 BCY

Reused Vol = $10{,}000\,ft^2 \times 9\,ft\ depth / 27\,ft^3/BCY = 3,333$ BCY (NE portion)

Impacted Soil Vol. = 9272 − 3,333 = 5939 BCY
↳ round up to 6,000 BCY

Disposed Soil Vol. = 12,800 − 3,300 = 9,500 BCY

Avg. contam. conc. in impacted soil = 2,000 mg/kg (0.002 $\frac{lb\ contam.}{lb\ soil}$)

Impacted Soil Wt. = 6,000 BCY × 1.6 $\frac{ton}{BCY}$ × 2000 lb/ton = 19,200,000 lb
(assumed density)

∴ Est. contam. mass removed = 19,200,000 lb soil × 0.002 $\frac{lb\ contam}{lb\ soil}$ = 38,400 lb

Alt. 2 Calcs.

Soil Volumes – Same as Alt. 1.

Add'l. contam. mass removal due to remed. product application:
→ Assume 50% sat. zone mass removal in areas of application.

Add'l mass removal rel. to Alt. 1 = 0.5 × 9,700 lb = 4,850 lb → round to 4,900 lb (in situ treatment)
(see Alt. 3 calcs.)

∴ Est. Contam. Mass Removal = 38,400 + 4,900 lb = 43,300 lb

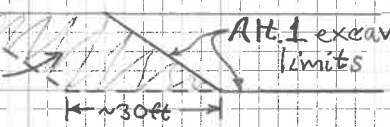
Aspect CONSULTING

Project: GWI Tukwila
Date: 6/6/17
Subject: FS Remedial Alternatives

Project No: 160427
By: D. Heffner
Page: 2 of 3
(App. E)

Alt. 3 Calcs.

E-W cross-sec. in DP-2 area (small polygon)



Add'l. VZ soil excav rel. to Alt. 1 $= \frac{15\,ft \times 30\,ft \times 34\,ft + 60\,ft \times 169\,ft^2}{27\,ft^3/BCY}$

$= 942$ BCY (all reusable)

Sat. zone soil excavation:

Impacted Soils	Large Polygon	$5{,}254\,ft^2 \times 5/27 = 973$ BCY $\times 1.6 \times 2{,}000 =$	3,100,000 lb soil
	Small Polygon	$1{,}190\,ft^2 \times 5/27 = 220$ BCY $\times 1.6 \times 2{,}000 =$	700,000 lb soil

Perimeter SZ soils $\frac{(330+138)\,ft \times 19\,ft^2}{27\,ft^3/BCY} = 330$ BCY

∴ Total SZ soils for offsite disposal $= 973 + 220 + 330 = 1{,}523$ BCY
$+ 9{,}500$ BCY VZ soils
$\sim 11{,}000$ BCY total

Contam. Mass Removal

		Avg. conc. in impacted soils (mg/kg)	(lb contam/lb soil)	lb soil	
Sat. Zone Soils	Large Polygon	2,000	0.002 ×	3,100,000 =	6,200 lb
	Small Polygon	5,000	0.005 ×	700,000 =	3,500 lb
			Total SZ mass removed		9,700 lb

Total contam. mass removed = 38,400 + 9,700 = 48,100 lb

Alt. 4 Calcs.

Total Excav. Vol. = $\frac{34{,}004\ ft^2 \times 20\ ft + 784\ ft \times 300\ ft^2}{27\ ft^3/BCY} = 33{,}900\ BCY$

Vols. for Offsite Disposal

VZ soils = 9,500 BCY

SZ soils $\frac{34{,}004 \times 5 + 784 \times 9}{27} = 6{,}800\ BCY$

} 16,300 BCY

∴ Reused excavated soil vol. = 17,600 BCY

Contam. Mass Removal

Green polygon soil wt to 20-ft depth = $\frac{34{,}004\ ft^2 \times 20\ ft}{27\ ft^3/BCY} \times 1.6\ \frac{ton}{BCY} \times 2{,}000\ \frac{lb}{ton} = 80{,}600{,}000\ lb$

Add'l impacted soil removed relative to Alt. 3 = $(80.6 - 19.2 - 3.1 - 0.7) \cdot 10^6 = 57.6 \cdot 10^6\ lb$

Avg. contam. conc. in this add'l. soil ≈ 1 mg/kg $\left(10^{-6}\ \frac{lb\ contam.}{lb\ soil}\right)$

∴ Add'l. contam. removed relative to Alt. 3 = $57.6 \cdot 10^6 \times 10^{-6} = 57.6\ lb$ ⇒ round to 100 lb

Total contam. mass removed = 48,100 + 100 = 48,200 lb

APPENDIX F

Remedial Alternatives Cost Estimates

Table F-1 - Alternative 1 Cost Estimate

Project No. 160427, GWI Property, 18700 Southcenter Parkway, Tukwila, WA

Remedial Action Description: Removal of All Impacted Vadose Zone Soils

Cleanup Elements	Qty	Unit	Cost	Total	Notes
REMEDY DESIGN AND CONSTRUCTION PREPARATION					
Cleanup Action Plan and engineering design report	1	ls	$ 50,000	$ 50,000	
Regulatory and permitting support	1	ls	$ 25,000	$ 25,000	
Contractor bid package and bidding support	1	ls	$ 25,000	$ 25,000	
Subtotal				$ 100,000	
Contingency[2]	15%			$ 15,000	
Remedy Design and Construction Preparation Total				**$ 115,000**	
REMEDY CONSTRUCTION[3]					
Contractor mobilization/demobilization	1	ls	$ 50,000	$ 50,000	
Excavate, stockpile, and reuse overburden soil	3,300	bcy	$ 15	$ 49,500	Top 8 ft of soil under SW portion of bdg.
Excavate, transport, and dispose of contaminated soil	15,200	ton	$ 80	$ 1,216,000	9,500 BCY @ 1.6 ton/BCY assumed density
Import, place, and compact fill	15,200	ton	$ 25	$ 380,000	
Excavation dewatering and water management/disposal	1	ls	$ 80,000	$ 80,000	No excavation below water table
Construction management, monitoring, and reporting	5%			$ 88,775	Est. as a % of the above construction costs
Subtotal				$ 1,864,275	
Construction Sales Tax[4]	9.8%			$ 173,999	
Contingency[2]	20%			$ 407,655	
Remedy Construction Total				**$ 2,445,929**	
POST-CONSTRUCTION[1]					
Monitoring well installation[5]	8	well	$ 3,500	$ 27,612	
Quarterly groundwater monitoring in Years 2 through 4	3	year	$ 13,000	$ 38,103	Includes annual reports
Semi-annual groundwater monitoring in Years 5 through 30	26	year	$ 8,000	$ 184,349	Includes annual reports
5-Year reviews with Ecology	5	ea	$ 10,000	$ 44,774	Years 6, 11, 16, 21, and 26
Subtotal				$ 294,838	
Sales Tax (Well Installation)	9.8%			$ 2,706	
Contingency[2]	20%			$ 59,509	
Post-Construction Total				**$ 357,053**	
Estimated Project Total				**$ 2,920,000**	(rounded to 3 significant figures)

Notes:

1) All costs are in 2017 dollars. Costs are evaluated over a 30-year period. The net present value (NPV) of future-year costs are estimated using a discount factor of 0.7 percent.
2) Contingency costs include miscellaneous costs not itemized due to the current (preliminary) stage of remedy development, as well as costs to address unanticipated conditions encountered during remedy execution.
3) The cost of building demolition and associated tasks (e.g., hazardous building materials evaluation and abatement) is not included in this estimate.
4) Sales tax is not applied to construction management, monitoring, and reporting.
5) Monitoring well installation is assumed to occur after levee setback construction by the Corps is completed in Year 2.

Table F-2 - Alternative 2 Cost Estimate

Project No. 160427, GWI Property, 18700 Southcenter Parkway, Tukwila, WA

Remedial Action Description: Removal of All Impacted Vadose Zone Soils and *In Situ* Treatment of Highly Impacted Saturated Zone Soils

Cleanup Elements	Qty	Unit	Cost	Total	Notes
REMEDY DESIGN AND CONSTRUCTION PREPARATION					
Cleanup Action Plan and engineering design report	1	ls	$ 60,000	$ 60,000	
Regulatory and permitting support	1	ls	$ 30,000	$ 30,000	
Contractor bid package and bidding support	1	ls	$ 30,000	$ 30,000	
Subtotal				$ 120,000	
Contingency[2]	15%			$ 18,000	
Remedy Design and Construction Preparation Total				**$ 138,000**	
REMEDY CONSTRUCTION[3]					
Contractor mobilization/demobilization	1	ls	$ 50,000	$ 50,000	
Excavate, stockpile, and reuse overburden soil	3,300	bcy	$ 15	$ 49,500	Top 8 ft of soil under SW portion of bdg.
Excavate, transport, and dispose of contaminated soil	15,200	ton	$ 80	$ 1,216,000	9,500 BCY @ 1.6 ton/BCY assumed density
Purchase remediation product[4]	60,800	lb	$ 2.60	$ 158,080	PersulfOx by Regenesis assumed
Apply remediation product to excavation bottom[4]	41,800	lb	$ 0.40	$ 16,720	
Import, place, and compact fill	15,200	ton	$ 25	$ 380,000	
Excavation dewatering and water management/disposal	1	ls	$ 80,000	$ 80,000	No excavation below water table
Inject remediation product via push-probe[4]	15	day	$ 6,000	$ 90,000	19,000 lb of product injected
Construction management, monitoring, and reporting	5%			$ 97,515	Est. as a % of the above construction costs
Subtotal				$ 2,137,815	
Construction Sales Tax[5]	9.8%			$ 199,949	
Contingency[2]	20%			$ 467,553	
Remedy Construction Total				**$ 2,805,317**	
POST-CONSTRUCTION[1]					
Monitoring well installation[6]	8	well	$ 3,500	$ 27,612	
Quarterly groundwater monitoring in Years 2 through 4	3	year	$ 13,000	$ 38,103	Includes annual reports
Semi-annual groundwater monitoring in Years 5 through 30	26	year	$ 8,000	$ 184,349	Includes annual reports
5-Year reviews with Ecology	5	ea	$ 10,000	$ 44,774	Years 6, 11, 16, 21, and 26
Subtotal				$ 294,838	
Sales Tax (Well Installation)	9.8%			$ 2,706	
Contingency[2]	20%			$ 59,509	
Post-Construction Total				**$ 357,053**	
Estimated Project Total				**$ 3,300,000**	(rounded to 3 significant figures)

Notes:

1) All costs are in 2017 dollars. Costs are evaluated over a 30-year period. The net present value (NPV) of future-year costs are estimated using a discount factor of 0.7 percent.
2) Contingency costs include miscellaneous costs not itemized due to the current (preliminary) stage of remedy development, as well as costs to address unanticipated conditions encountered during remedy execution.
3) The cost of building demolition and associated tasks (e.g., hazardous building materials evaluation and abatement) is not included in this estimate.
4) Estimates for *in situ* chemical oxidation of highly impacted saturated zone soils are based on a preliminary design provided by Regenesis. PersulfOx is the assumed remediation product. It is applied directly to the vadose zone soil excavation bottom area, and is push-probe injected to the area around DP-2, outside the excavation footprint.
5) Sales tax is not applied to construction management, monitoring, and reporting.
6) Monitoring well installation is assumed to occur after levee setback construction by the Corps is completed in Year 2.

Table F-3 - Alternative 3 Cost Estimate

Project No. 160427, GWI Property, 18700 Southcenter Parkway, Tukwila, WA

Remedial Action Description: Removal of All Impacted Vadose Zone Soils and Highly Impacted Saturated Zone Soils

Cleanup Elements	Qty	Unit	Cost	Total	Notes
REMEDY DESIGN AND CONSTRUCTION PREPARATION					
Cleanup Action Plan and engineering design report	1	ls	$ 75,000	$ 75,000	
Regulatory and permitting support	1	ls	$ 30,000	$ 30,000	
Contractor bid package and bidding support	1	ls	$ 40,000	$ 40,000	
Subtotal				$ 145,000	
Contingency[2]	15%			$ 21,750	
Remedy Design and Construction Preparation Total				**$ 166,750**	
REMEDY CONSTRUCTION[3]					
Contractor mobilization/demobilization	1	ls	$ 60,000	$ 60,000	
Excavate, stockpile, and reuse overburden soil	4,300	bcy	$ 15	$ 64,500	
Excavate, transport, and dispose of contaminated soil	17,600	ton	$ 80	$ 1,408,000	11,000 BCY @ 1.6 ton/BCY assumed density
Import, place, and compact fill	17,600	ton	$ 25	$ 440,000	
Excavation dewatering and water management/disposal	1	ls	$ 250,000	$ 250,000	Limited excavation below water table
Construction management, monitoring, and reporting	5%			$ 111,125	Est. as a % of the above construction costs
Subtotal				$ 2,333,625	
Construction Sales Tax[4]	9.8%			$ 217,805	
Contingency[2]	20%			$ 510,286	
Remedy Construction Total				**$ 3,061,716**	
POST-CONSTRUCTION[1,6]					
Monitoring well installation[5]	8	well	$ 3,500	$ 27,612	
Quarterly groundwater monitoring in Years 2 through 4	3	year	$ 13,000	$ 38,103	Includes annual reports
Semi-annual groundwater monitoring in Years 5 through 25	21	year	$ 8,000	$ 151,445	Includes annual reports
5-Year reviews with Ecology	4	ea	$ 10,000	$ 44,774	Years 6, 11, 16, and 21
Closure request/regulatory communications	1	ls	$ 10,000	$ 8,400	Year 25
Decommission monitoring wells	1	ls	$ 6,000	$ 5,040	Year 25
Subtotal				$ 275,373	
Sales Tax (Well Install and Decommission)	9.8%			$ 3,200	
Contingency[2]	20%			$ 55,715	
Post-Construction Total				**$ 334,288**	
Estimated Project Total				**$ 3,560,000**	(rounded to 3 significant figures)

Notes:

1) All costs are in 2017 dollars. Costs are evaluated over a 30-year period. The net present value (NPV) of future-year costs are estimated using a discount factor of 0.7 percent.
2) Contingency costs include miscellaneous costs not itemized due to the current (preliminary) stage of remedy development, as well as costs to address unanticipated conditions encountered during remedy execution.
3) The cost of building demolition and associated tasks (e.g., hazardous building materials evaluation and abatement) is not included in this estimate.
4) Sales tax is not applied to construction management, monitoring, and reporting.
5) Monitoring well installation is assumed to occur after levee setback construction by the Corps is completed in Year 2.
6) It is assumed that compliance with MTCA groundwater cleanup levels is achieved (for 4 consecutive quarters) at the 8 monitoring well locations 25 years after remedy construction.

Table F-4 - Alternative 4 Cost Estimate

Project No. 160427, GWI Property, 18700 Southcenter Parkway, Tukwila, WA

Remedial Action Description: Removal of All Impacted Soils

Cleanup Elements	Qty	Unit	Cost	Total	Notes
REMEDY DESIGN AND CONSTRUCTION PREPARATION					
Cleanup Action Plan and engineering design report	1	ls	$ 90,000	$ 90,000	
Regulatory and permitting support	1	ls	$ 30,000	$ 30,000	
Contractor bid package and bidding support	1	ls	$ 50,000	$ 50,000	
Subtotal				$ 170,000	
Contingency[2]	15%			$ 25,500	
Remedy Design and Construction Preparation Total				**$ 195,500**	
REMEDY CONSTRUCTION[3]					
Contractor mobilization/demobilization	1	ls	$ 80,000	$ 80,000	
Excavate, stockpile, and reuse overburden soil	17,600	bcy	$ 15	$ 264,000	
Excavate, transport, and dispose of contaminated soil	26,080	ton	$ 80	$ 2,086,400	16,300 BCY @ 1.6 ton/BCY assumed density
Import, place, and compact fill	26,080	ton	$ 25	$ 652,000	
Excavation dewatering and water management/disposal	1	ls	$ 900,000	$ 900,000	Extensive excavation below water table
Construction management, monitoring, and reporting	5%			$ 199,120	Est. as a % of the above construction costs
Subtotal				$ 4,181,520	
Construction Sales Tax[4]	9.8%			$ 390,275	
Contingency[2]	20%			$ 914,359	
Remedy Construction Total				**$ 5,486,154**	
POST-CONSTRUCTION[1,6]					
Monitoring well installation[5]	8	well	$ 3,500	$ 27,612	
Quarterly groundwater monitoring in Years 2 and 3	2	year	$ 13,000	$ 25,551	Includes annual reports
Closure request/regulatory communications	1	ls	$ 10,000	$ 9,793	Year 3
Decommission monitoring wells	1	ls	$ 6,000	$ 5,876	Year 3
Subtotal				$ 68,831	
Sales Tax (Well Install and Decommission)	9.8%			$ 3,282	
Contingency[2]	20%			$ 14,423	
Post-Construction Total				**$ 86,536**	
Estimated Project Total				**$ 5,770,000**	(rounded to 3 significant figures)

Notes:

1) All costs are in 2017 dollars. Costs are evaluated over a 30-year period. The net present value (NPV) of future-year costs are estimated using a discount factor of 0.7 percent.
2) Contingency costs include miscellaneous costs not itemized due to the current (preliminary) stage of remedy development, as well as costs to address unanticipated conditions encountered during remedy execution.
3) The cost of building demolition and associated tasks (e.g., hazardous building materials evaluation and abatement) is not included in this estimate.
4) Sales tax is not applied to construction management, monitoring, and reporting.
5) Monitoring well installation is assumed to occur after levee setback construction by the Corps is completed in Year 2.
6) It is assumed that compliance with MTCA groundwater cleanup levels is achieved (for 4 consecutive quarters) at the 8 monitoring well locations 3 years after remedy construction.