Remedial Investigation/ Interim Remedial Action Report Beckwith & Kuffel Site Seattle, Washington

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GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

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SEATTLE, WASHINGTON

1.0 INTRODUCTION

This Remedial Investigation/Interim Remedial Action Report has been prepared to summarize the results of soil and groundwater sampling activities and associated interim remedial actions completed to date for the Beckwith & Kuffel (B&K) site (formerly the FMH Materials Handling Solutions [FMH] site) at 1313 S. 96th Street in unincorporated King County, Washington (Figure 1).

The site consists of King County tax parcel number 5624200351, is located in Section 5, Township 23 North, Range 4 East of the Willamette Meridian, and encompasses an area of approximately 2.3 acres. A plan of the site features and adjoining properties is presented in Figure 2.

The site is developed and consists of an approximately 25,000-square foot office/shop building situated at the northeast corner of the site and a paved storage yard and parking lot that occupies the remainder of the site. The site is currently owned and occupied by B&K, a pump distributor. The property is adjoined by a boat repair facility on the south, an asphalt plant on the west, a construction equipment storage yard on the north, and a shopping center on the east.

2.0 PREVIOUS STUDIES

In October 2011, Shannon & Wilson, Inc. was hired by Mr. Lou Kuffel of B&K to conduct a pre-purchase Phase 1 Environmental Site Assessment (ESA) for the subject property (Shannon & Wilson, Inc., 2012).

Research conducted for the Phase 1 ESA indicated that the site appears to have consisted of undeveloped fields prior to 1977; however, standing water was visible across most of the site in a 1969 aerial photograph reviewed for the ESA. This agrees with anecdotal evidence that the site was swampland prior to its current development. Following construction of the current office/shop building and associated paved yards in 1977, the site was reportedly used primarily for forklift maintenance until 2010, when the former occupant, Industrial Materials Handling, which had previously purchased FMH, vacated the site.

Reports uncovered during the Phase 1 ESA research indicated that up to four underground storage tanks (USTs) had been present at the site prior to Shannon & Wilson, Inc.'s involvement with the site in 2011. According to a report prepared by Clayton Group Services (Clayton), one

5,000-gallon gasoline UST and one 1,000-gallon diesel UST located in a common tank bed, and one 2,500-gallon waste oil UST located in a separate tank bed were removed from the south end of the site in 1990 (Clayton, 2003a). Documentation regarding removal of these USTs was reportedly prepared, but apparently not submitted to the Washington State Department of Ecology (Ecology). Clayton subsequently performed environmental explorations to evaluate whether residual contamination associated with these USTs was present at the site. Clayton's explorations consisted of collecting soil and groundwater samples from three geoprobes in the vicinity of the former waste oil UST (B1 through B3), and four in the vicinity of the former gasoline and diesel USTs (B4 through B7), as shown in Figure 3. The results of this sampling found residual diesel-range total petroleum hydrocarbon (TPH-D) and polynuclear aromatic hydrocarbons contamination in the soil, and TPH-D contamination in the groundwater, in the vicinity of the former gasoline and diesel USTs; and TPH-D and gasoline-range total petroleum hydrocarbons (TPH-G) in the soil and naphthalene in the groundwater sample collected near the former waste oil UST. None of the detected contaminant concentrations exceeded Ecology's Model Toxics Control Act (MTCA) Method A cleanup criteria. However, because the groundwater sample near the former gasoline and diesel USTs was collected from the hydraulically upgradient side of the former UST bed, higher levels of contamination than those detected in the samples may have be present downgradient of the former tanks. The level of TPH-D detected in at least one groundwater sample collected from this area was high enough to suspect that groundwater contamination in excess of the MTCA Method A cleanup level was present on the site.

Clayton performed additional explorations at the north end of the site following discovery of a report indicating that petroleum hydrocarbons had been detected in sediment from a drainage ditch formerly located along the property's northern border (Clayton, 2003b). The explorations consisted of three geoprobes, equally spaced along the northern property boundary from which soil and groundwater samples were collected (B8 through B10). The analytical results found TPH-D at concentrations of 9,600 micrograms per liter (µg/l) in the sample from B9 (located at the approximate midway point east-west along the northern boundary) and 1,600-µg/l concentration in B10 (located near the northeastern corner), both of which exceeded the current MTCA Method A cleanup level of 500 µg/l. The sample locations along with detected analytes are shown in Figure 3.

In September 2003, the former site tenant provided information to Clayton indicating that a UST used to collect fluids from the building's floor drains was located in the maintenance yard to the west of the building (Clayton, 2003c). Clayton subsequently advanced and sampled 11 geoprobes (B11 through B22) in the maintenance yard and parking lot on the west side of the

building to evaluate whether contamination associated with this UST was present. The results indicated that groundwater near the western entrance of the building extending into the maintenance yard was contaminated with TPH-D at concentrations exceeding the MTCA Method A cleanup level of 500 µg/l.

In December 2004, Clayton oversaw removal of the UST at the west end of the site (Clayton, 2005). The approximately 4,000-gallon UST was uncovered by an exploratory test pit and subsequently removed following receipt of the appropriate permits. Approximately 96 tons of contaminated soil surrounding the UST was excavated and disposed of offsite. Confirmation soil samples collected from the bottom and east, west, and south sidewalls of the UST excavation were analyzed for TPH-D, TPH-G, and benzene, toluene, ethylbenzene, and xylenes (BTEX). The results indicated that soil contaminated with TPH-D was present at the bottom of the excavation at concentrations below the MTCA Method A cleanup level of 2,000 milligrams per kilogram (mg/kg). The three sidewall samples did not contain detectable levels of contamination. Due to obvious staining, confirmation samples were not collected from the north sidewall. Clayton later advanced three geoprobes to the north of the UST excavation to evaluate the extent of the contamination observed in the north sidewall. Clayton subsequently extended the UST excavation to the north approximately 10 feet and removed an additional 19.8 tons of contaminated soil. Confirmation samples collected from the bottom and north, east, and west sidewalls of the new expanded excavation were each found to contain detectable concentrations of TPH-D and oil-range total petroleum hydrocarbons (TPH-O) at levels that were below the MTCA Method A cleanup level.

The 2005 Clayton report was the final document reviewed for the Phase 1 ESA regarding environmental explorations and/or cleanup actions at the site.

3.0 PHASE 2 ENVIRONMENTAL SITE ASSESSMENT (ESA)

In January 2012, B&K retained Shannon & Wilson, Inc. to conduct a Phase 2 ESA at the site to investigate recognized environmental conditions (RECs) identified in the Phase 1 ESA. The Phase 2 ESA explorations consisted of installation and sampling of three monitoring wells, MW-1, -2, and -3, as shown in Figure 4, under the following rationales:

- MW-1 was located in the parking lot at the northwest end of the building to evaluate whether TPH-D-contaminated groundwater was present in the downgradient direction from the waste oil collection UST formerly located at the west end of the site.

- MW-2 was located in the maintenance yard approximately 20 feet north, and downgradient, of the approximate location of the former diesel and gasoline USTs, to check the groundwater for indications of residual contamination associated with the former USTs.
- MW-3 was located near the northeast corner of the site to screen that area for TPH-D contamination as detected in the 2003 geoprobe sampled near the former drainage ditch.

3.1 Well Installation and Sampling

On January 27, 2012, Boart-Longyear of Fife, Washington, under subcontract to Shannon & Wilson, Inc., conducted Phase 2 ESA fieldwork at the project site under Shannon & Wilson, Inc. direction and observation.

3.1.1 Pre-drilling Activities

Prior to sampling, approximate exploration locations were marked based on site reconnaissance efforts. The Washington One Call/Call-Before-You-Dig service was called to facilitate utility locating. In addition to the One Call service, a private utility locating service was used to verify the presence of utilities in the proposed monitoring well locations.

3.1.2 Soil Boring and Monitoring Well Installation

The soil borings/monitoring wells were installed using sonic core drilling methods. The sonic core drilling method uses high-frequency resonant energy applied to the top of the drill column, along with down-pressure and rotation, to obtain nearly continuous core samples in soil or rock. During drilling, the resonant energy is transferred down the drill string to the bit face at various sonic frequencies, simultaneously rotating the drill string evenly to distribute the energy and impact at the bit face. When the sonic frequency coincides with the natural frequency of the drill string, resonance occurs. This results in the maximum amount of energy being delivered to the face. At the same time, friction of the soil immediately adjacent to the entire drill string is substantially minimized, resulting in very fast penetration.

Soil samples were obtained using a 4-inch outside diameter and 5-foot-long core barrel. As the drill column was advanced into the ground, a core of soil entered the core barrel. After advancing the core barrel approximately 5 feet, the drill column and core barrel were then removed from the borehole and the soil core was extracted into a clear plastic liner using a combination of gravity and vibration. Filled soil core sample liners were then tied off at each end, and placed on plastic sheathing near the drill rig for observation by the Shannon & Wilson, Inc. field personnel who classified the soil based on its geology and screened the soil for

contamination using visual and olfactory observations and a photoionization detector (PID) to screen for volatile organic compounds (VOCs).

Monitoring wells were installed in each soil boring upon completion. The wells consisted of 2-inch outside diameter schedule 40 polyvinyl chloride (PVC) with 10-slot well screens (i.e., 0.010-inch slots). The bottom of each well was placed at approximately 15 feet below ground surface (bgs) and the wells were screened from the bottom to approximately 5 feet bgs. The borehole annulus around each well was filled with a fine-grained silica sand filter pack to approximately 3 feet bgs and capped with a hydrated bentonite well seal. The wells were complete with flush-mounted monuments set in quick-setting cement.

On January 30, 2012, the wells were developed by a Shannon & Wilson, Inc. hydrogeologist to enhance the hydraulic connection with surrounding soils. Development was performed using an electric check-valve pump (Waterra); a 1⅞-inch-diameter surge block was attached to the check valve to facilitate development. Water was pumped from within the well screens, working from top to bottom. Approximately 11 to 20 gallons of water were purged from each well during development and stored in 55-gallon drums onsite. During development, it was discovered that the bottom 2 feet of MW-1 were filled with filter pack silica sand, indicating that the well had likely been damaged during installation.

3.1.3 Subsurface Conditions

Fill soil comprised primarily of silty clay with traces of gravel overlie much of the site, ranging from 4 to 5 feet thick in the probes advanced for the most recent explorations. According to geoprobe logs provided in the June 2003 Clayton report (Clayton, 2003a), this fill material was not encountered at the southeast end of the site near the former waste oil UST excavation. Instead, a poorly sorted medium sand fill was encountered from the below the surface pavement to approximately 6 to 8 feet bgs. At the north end of the site, the silty clay fill was found to overlay a layer of fine, light gray material that appeared to be silt or ash during drilling. This material was observed from approximately 4 to 9 feet bgs in MW-1 and approximately 7.5 to 10 feet bgs in MW-3. Research conducted subsequent to the fieldwork, discussed later in this report, indicates that this material is likely cement kiln dust (CKD). The extent of CKD was unknown at the time, but it was not encountered in the explorations conducted to the south of the building, or in a geoprobe advanced by Clayton at the northwest corner of the site (Clayton, 2003b). An approximately 2- to 5-foot-thick layer of peat was encountered below the CKD at the north end of the site, and below the silty clay fill in the south yard. Light brown, silty clay was present from approximately 10 to 11 feet bgs to the bottom of the borings at 15 feet bgs in each of the explorations advanced for this study.

Groundwater was encountered at approximately 7.5 feet bgs in the borings installed at the north end of the site (MW-1 and MW-2) and 5 feet bgs in MW-2. However, the water levels measured in the wells on January 31, 2012, following well development, were 3.51, 2.70, and 6.08 feet below the top of the well casing.

Geologic logs for each of the monitoring wells installed for this effort are included in Appendix A.

3.2 Soil Sampling and Analytical Results

One composite and one discrete soil sample were collected during the field exploration program. The composite sample was collected for waste characterization of the soil cuttings generated during drilling. This sample was generated by placing approximately equal amounts of soil from each sonic core section in a clean, stainless steel mixing bowl. Once drilling at the three soil boring locations was complete, a composite soil sample consisting of subsamples from the complete length of each sonic core was collected for soil cutting disposal characterization analysis. The discrete sample was collected from approximately 4 feet bgs in MW-1 to characterize the CKD encountered at that location.

The samples were delivered to Fremont Analytical (FA) of Seattle, Washington, under chain-of-custody procedures for analysis. The disposal characterization sample was analyzed for MTCA 5 metals (arsenic, cadmium, chromium, lead, and mercury) by U.S. Environmental Protection Agency Method 6020/7471 and TPH-D by the Northwest Total Petroleum Hydrocarbon Method. The CKD sample was analyzed for MTCA 5 metals only.

The composite sample collected for investigation-derived waste designation was found to contain detectable concentrations of arsenic, cadmium, chromium, and lead, none of which exceeded the MTCA Method A cleanup level.

The discreet sample of CKD collected from MW-1 was found to contain arsenic at 301 mg/kg, cadmium at 10.9 mg/kg, and lead at 3,240 mg/kg, each of which exceeded the MTCA Method A cleanup levels for unrestricted land-use of 20, 2, and 250 mg/kg, respectively. Chromium was also detected in the sample at 17.6 mg/kg, which is below the cleanup level of 2,000 mg/kg. Because the arsenic and lead results exceeded the Dangerous Waste Screening Level of 100 mg/kg for arsenic and lead, the sample was further analyzed using the Toxicity Characteristic Leaching Procedure (TCLP) to determine whether the materials would be characterized as a Dangerous Waste. The sample was found to leach 0.00632 milligrams per liter (mg/l) arsenic, and 1.56 mg/l lead, both of which are below the characteristic Dangerous Waste level of 5 mg/l for arsenic and lead.

3.3 Groundwater Sampling and Analytical Results

On January 31, 2012, a Shannon & Wilson, Inc. hydrogeologist collected one groundwater sample from each well. The samples were collected using a bladder pump and low-flow sampling techniques. The depth to groundwater at each well was measured prior to purging. Prior to sampling, at least one well volume of groundwater was purged from each well. Water quality parameters (temperature, pH, and oxidation-reduction potential) were monitored continuously with a YSI 556 multi-parameter meter fitted in a flow-through cell during purging. The samples were collected by filling one laboratory-supplied, 1-liter amber sample jar preserved with hydrochloric acid (HCl), per well once the parameters had stabilized. The sample was then placed in a cooler with ice packs and maintained at approximately 4 degrees Celsius for transport to FA under chain-of-custody procedures for TPH-Dx (total petroleum hydrocarbons diesel-range extended) analysis. The samples were not found to contain detectable concentrations of TPH-D or TPH-O.

Based on the analytical results for the CKD sample discussed in Section 3.2.1, and the former use of the USTs at the south end of the site for storing waste oil and gasoline, additional groundwater samples were collected from the wells on April 20, 2012. The samples were collected using low-flow techniques in a manner similar to the previous round of samples. The analytes selected for each sample were based on their location relative to the former USTs and the CKD found during monitoring well installation. The rationales for each of the selected analytes and the analytical results are discussed below:

- The sample from MW-1 was analyzed for total and dissolved arsenic and lead to evaluate whether the high concentrations of these metals detected in the CKD sample were indicative of potential groundwater contamination. The sample results found total and dissolved lead at 1,910 and 1,510 µg/l, respectively; and total and dissolved arsenic at 10.8 and 6.67 µg/l, respectively, all of which exceeded the MTCA Method A cleanup levels for lead and arsenic of 15 and 5 µg/l, respectively.
- The sample from MW-2 was analyzed for TPH-G/BTEX to screen for gasoline contamination associated with the former USTs. TPH-G/BTEX were not detected in the samples.
- The sample from MW-3 was analyzed for total and dissolved arsenic and lead because CKD was also encountered during installation of MW-3, and gasoline and VOCs because it was in the approximate downgradient direction from the former waste oil UST at the southeast corner of the site. No VOCs except for p-isopropyltoluene at 11.5 µg/l were detected in the sample. Total lead was detected at 1.54 µg/l. Dissolved lead was not detected. Total and dissolved arsenic were detected in the sample at 5.65 and 2.48 µg/l, respectively.

The analytical results are summarized in Tables 1 and 2 and the laboratory reports are provided in Appendix B.

3.4 Phase 2 Environmental Site Assessment (ESA) Results

The soil and groundwater sampling and analysis conducted for the Phase 2 ESA indicated that the RECs identified in the Phase 1 ESA (i.e., releases from the former USTs and from the drainage ditch along the north end of the site), had apparently not resulted in contamination in excess of the MTCA Method A cleanup levels at the site.

However, the presence of CKD, observed at depths of 5 to 10 feet bgs in borings installed at the north end of the site (MW-1 and MW-3), but not in the boring near the center of the site (MW-2), presented a new environmental issue for the property. A sample of the CKD collected for laboratory analysis found that it contained levels of lead and arsenic exceeding the MTCA Method A cleanup levels and the Dangerous Waste screening criteria. The samples were not found to leach either metal at concentrations that would exceed the Characteristic Dangerous Waste criteria under Washington Administrative Code (WAC) 173-303-090. A sample of groundwater in contact with the CKD found that it also contained high dissolved concentrations of lead and arsenic that exceeded the MTCA Method A cleanup levels.

Based on these results, Shannon & Wilson, Inc. recommended additional explorations to evaluate the extent of the CKD onsite and the extent of the lead groundwater contamination associated with CKD.

Shannon & Wilson, Inc. also recommended that additional contaminants of concern (COCs) associated with waste oil USTs (i.e., VOCs and polychlorinated biphenyls [PCBs]) be assessed in the area immediately downgradient of the former waste oil USTs at the west and southeast ends of the site.

4.0 INTERIM INVESTIGATIONS

Between April 2012 and September 2013, Shannon & Wilson, Inc. conducted multiple soil and/or groundwater sampling events to evaluate the nature and extent of contamination associated with the three remaining potential sources: the CKD, the former west-end waste oil UST, and the former southeast-corner waste oil UST.

Many of the samples were collected using direct-push geoprobe techniques. Geoprobes are the preferred method for conducting shallow soil and groundwater sampling due to their fast installation and lower site impact relative to traditional drilling methods. A geoprobe is a direct-push boring rig with a 2-inch outside diameter casing that is advanced using a percussive force,

rather than using an auger, to remove soils in its path. Analytical soil samples collected from geoprobes can be considered representative; however, the grab groundwater samples collected from these explorations are typically considered estimates due to the high turbidity usually included in the samples. ESN Northwest of Lacey, Washington, installed the geoprobes under subcontract to Shannon & Wilson, Inc.

The soil, groundwater, and CKD samples described in the following sections were collected and submitted to FA for analysis under standard chain-of-custody procedures. The analytical results are discussed below and summarized in Table 1. The analytical laboratory reports are provided in Appendix B.

4.1 Cement Kiln Dust (CKD) Evaluation

CKD was encountered at the north end of the site during installation of MW-1 and MW-3, but not at MW-2. Further explorations were therefore needed to evaluate the extent of the CKD onsite as well as the extent of the lead and arsenic groundwater contamination apparently associated with the CKD detected in MW-1.

Eleven geoprobes (GP-1, GP-2, GP-3, GP-4, GP-5, GP-7, GP-8, GP-9, GP-10, GP-21, and GP-22) were installed on each side of the building to delineate the extent of the CKD, as shown in Figures 5 and 6. Soil samples were collected from GP-8 and GP-10 for analysis of pH, arsenic, and lead based on the CKD contaminant profile. Three geoprobes (GP-11 through GP-13) were located in the public right-of-way (ROW) to the north (hydraulically downgradient) of the property, to assess the potential for off-site migration of the lead contamination detected in MW-1.

4.1.1 Results

CKD was encountered in GP-1, GP-8, GP-10, GP-21, and GP-22. The CKD was encountered at approximately 7.5 feet bgs in GP-1 and GP-10, at approximately 3.8 feet bgs in GP-8, and at 6 and 7 feet bgs in GP-21 and GP-22, respectively. The CKD layer varied in thickness from about 2 feet in GP-21 and GP-22, to 4.2 feet in GP-10, as shown on the geoprobe logs provided in Appendix A.

The CKD samples at GP-8 (GP-8:5) and GP-10 (GP-10:7.5) were found to contain arsenic at 375 and 188 mg/kg, respectively; lead at 3,280 and 1,430 mg/kg, respectively; and had pH values of 12 and 11.5, respectively. The arsenic and lead results at each exceeded their respective MTCA Method A cleanup levels of 20 and 250 mg/kg. The samples were analyzed by TCLP to assess the potential for this material to be considered a characteristic dangerous

waste, should it be excavated. The results indicated that it did not leach arsenic or lead at detectable concentrations.

Total lead was detected in all three samples collected from the probes in the ROW to the north of the site (GP-11, GP-12, and GP-13) at concentrations ranging from 23.2 to 92.7 µg/l, all of which exceed the MTCA Method A cleanup level of 15 µg/l. Dissolved lead was present in these samples at concentrations ranging from1.81 to 2.97 µg/l.

4.1.2 Conclusions

The extent of the CKD fill material appears to be limited to the north end of the site beneath the northwestern end of the main building, as shown in Figures 5 and 6. The high concentrations of arsenic and lead in the CKD would qualify it as a Problem Waste if it should be excavated; however, it did not leach a detectable concentration of either metal by the TCLP method and would, therefore, not be considered a characteristic hazardous waste if excavated. Likewise, while the pH of the material is high, it would not exceed the criteria of pH12.5 requiring disposal as a Dangerous Waste under WAC 173-303-090. The high pH may be increasing the mobility of lead and arsenic; however, leading to the high groundwater concentrations observed in the samples from MW-1.

The lead concentrations detected in the groundwater samples from GP-11, GP-12, and GP-13 exceeded the MTCA Method A cleanup level when run for total lead; however, this is likely due to turbidity in the samples, which were collected from temporary geoprobe well points. The dissolved lead concentrations at these locations were all below the MTCA Method A criteria and at least three orders of magnitude lower than those measured in samples from MW-1, GP-1, GP-8, and GP-10. This is likely due to the high pH of groundwater at those locations, which appears to be influenced by the CKD. At pH greater than 12 and oxidation-reduction potential (ORP) between approximately 500 and -500 millivolts (mV), a soluble lead species (lead hydroxide) is formed. The groundwater pH and ORP measured during sampling of MW-1 were approximately 13.3 and -177 mV, respectively, which would favor the formation of soluble lead. Outside of the area of CKD, the pH drops to more neutral/acidic levels at which low-solubility complexes form, which would explain the lowered lead concentrations downgradient of the site. It appears likely then that the elevated lead concentrations will be isolated to those areas of high pH caused by contact with the CKD and will not extend off site.

4.2 Drain-Collection Underground Storage Tank (UST)

The samples collected in the vicinity of the drain-collection UST during the Phase 2 ESA did not address PCBs and VOCs, which are COCs commonly associated with waste oil USTs.

Additional soil and groundwater hydrocarbons analysis for locations near the former UST were also included to screen for residual contamination in the area associated with the former UST. These samples were collected from geoprobe explorations conducted between April and July 2012.

The soil and groundwater samples collected from at GP-1 were analyzed for TPH-D, TPH-O, TPH-G, VOCs, and PCBs to evaluate the potential for a release to have occurred from the former drain collection UST on the west side of the site building. The samples collected from GP-10 were analyzed for TPH-D, TPH-O, TPH-G, VOCs, total lead and arsenic, and pH to evaluate the potential for release from the UST as well as potential issues associated with the CKD (as discussed in Section 4.1). The groundwater samples collected from GP-11 through GP-13 (see Section 4.1) were subsequently collected and analyzed for TPH-D and PCBs, to assess the potential for off-site migration from this area.

4.2.1 Results

The soil sample collected from 8 feet bgs at GP-1 (sample GP-1:8) was found to contain heavy oil at 330 mg/kg, which is below the MTCA Method A cleanup level of 2,000 mg/kg. TPH-D, TPH-G, PCBs, and VOCs were not detected in this sample. The groundwater sample from this probe (GP-1:GW) was found to contain TPH-D at 538 µg/l, TPH-G at 62.7 µg/l, PCB Aroclor 1254 at 1.87 µg/l, 1,2,4-trimethylbenzene at 1.58 µg/l, and naphthalene at 2.00 µg/l. The TPH-D and PCBs detections both exceeded their respective MTCA Method A cleanup levels of 500 detections of 500 and 0.1 µg/l. The sample was subsequently re-analyzed after filtering to determine the dissolved PCBs fraction, which was not found to be present above the detection level.

The groundwater sample from GP-10 was found to contain TPH-D at 836 µg/l, which exceeds the MTCA Method A cleanup level of 500 µg/l, and toluene at 1.68 µg/l, which is below the MTCA Method A cleanup level of 1,000 µg/l.

The three groundwater samples collected from the probes in the ROW to the north of the site (GP-11, GP-12, and GP-13) were not found to contain detectable concentrations of TPH-D or PCBs.

4.2.1 Conclusions

The groundwater contamination at the north end of the site seems likely to be associated with releases from the former drain-collection UST that was removed in 2005. The TPH-D contamination appears to extend to the northeast at least as far at GP-10, but does not extend

through the ROW to GP-11 though GP-13. Based on the concentrations of TPH-D previously observed in the groundwater at the site, it appears that removal of the source of contamination (i.e., the drain-collection UST and surrounding contaminated soil) has led to a reduction of the TPH-D groundwater plume concentrations through natural attenuation. It should be expected that this trend will continue and that concentrations on site will eventually drop to below MTCA Method A criteria.

The PCBs detected in GP-1 were from an analysis of total PCBs, which included the PCB fraction adsorbed to suspended particles in the sample. As this sample was collected from a temporary geoprobe well point, the sample turbidity was high, likely creating a high bias in the result. PCBs were not detected in the dissolved sample from GP-1 and no PCBs were detected in GP-11 through GP-13. It appears likely that the PCB contamination detected in GP-1 is localized and non-mobile and, therefore, lacks the potential to further impact the site soil and groundwater.

4.3 Southeast-corner Waste Oil Underground Storage Tank (UST)

Previous sampling in the area of the former waste oil UST at the southeast corner of the site was not sufficient to rule out contamination by COCs commonly associated with waste oil USTs, including petroleum hydrocarbons, lead, and VOCs. Additional soil and groundwater samples were therefore collected during additional investigations conducted between April 2012 and September 2013. The initial soil and groundwater samples collected at GP-6 (Figures 5 and 6) were analyzed for TPH-D, TPH-O, TPH-G, VOCs, and lead (total and dissolved) to assess whether residual contamination associated with the former waste oil UST at the southeast end of the site is present in that area. PCBs were excluded because they were not detected during previous sampling conducted by Clayton.

Based on the results of the sampling at GP-6, as discussed below, further samples in the area collected from geoprobes GP-16 through GP-20, and GP-26 through GP-30, were analyzed only for halogenated VOCs (HVOCs).

4.3.1 Initial Results

The soil sample collected from GP-6 (GP-6:8) was not found to contain detectable concentrations of TPH-D, TPH-O, TPH-G, PCBs, or VOCs. Lead was detected in the sample at 5.35 mg/kg, which is below the MTCA Method A cleanup level of 250 mg/kg.

The groundwater sample collected from this location (GP-6:GW) was found to contain TPH-D at 1,170 µg/l, TPH-G at 264 µg/l, total lead at 36.9 µg/l (dissolved lead was not

detected), vinyl chloride (VC) at 7.64 µg/l, 1,1-dichloroethene (DCE) at 2.07 µg/l, trans 1,2-DCE at 1.30 µg/l, cis 1,2-DCE at 57.7µg/l, 1,2-dichloroethane at 145 µg/l; and trichloroethene (TCE) at 96.6 µg/l. MTCA Method A exceedances for these parameters included TPH-D (500 µg/l), 1,2-DCE (5 µg/l), 1,2-dichloroethane (5 µg/l), TCE (5 µg/l), and VC (0.2 µg/l). The detected concentration of cis 1,2-DCE exceeded the MTCA Method B cleanup level of 16 µg/l. The concentration of total lead detected in the groundwater sample exceeded the MTCA Method A cleanup level of 15 µg/l, but since this sample was collected from a temporary geoprobe well point, the sample was turbid and the lead results were likely biased high due to lead in the solids included in the sample. The sample was not found to contain detectable dissolved lead, which is the fraction available for migration. Therefore, lead was ruled out as a COC needing further analysis.

Six additional probes were subsequently advanced and sampled at the southeast end of the site to evaluate the extent of the HVOC contamination as described below:

- Two probes (GP-16 and GP-17) located to the east/northeast (the downgradient direction) of GP-6 to assess the potential for the HVOC plume to be migrating offsite. The sample from GP-17 was also analyzed for PCBs.
- One probe (GP-18) located to the north of the former waste oil tank to better define the northern extent of the groundwater plume.
- Two probes (GP-19 and GP-20) placed along the southern property boundary to the south/southwest of GP-6 to evaluate whether this contamination may originate from off-site.

Two groundwater samples were collected from probe GP-16, which was located to the northeast of GP-6. One sample was collected from approximately 7 feet bgs (GP-16:GW:7.0), and the second was collected from approximately 19 feet bgs (GP-16:GW:19.0).

- The shallow sample was found to contain 1,2 dichloroethane at 5.08 µg/l, cis 1,2-DCE at 7.52 µg/l, and VC at 16.0 µg/l. The results for 1,2 dichloroethane and VC exceeded the MTCA Method A cleanup levels of 5 µg/l for both.
- The deeper sample was found to contain TCE at 39.1 µg/l, 1,2 dichloroethane at 2.55 µg/l, and cis 1,2-DCE at 34.1 µg/l. The detection of TCE exceeded the MTCA Method A cleanup level of 5 µg/l, and the detection of cis 1,2-DCE exceeded the MTCA Method B cleanup level of 16 µg/l.

The groundwater sample collected from GP-17, located to the east/northeast of GP-6, was found to contain VC at 3.48 µg/l, 1,1-DCE at 4.12 µg/l, 1,1-dichloroethane at 1.19 µg/l, cis 1,2-DCE at 42.6 µg/l, 1,2-dichloroethane at 61.1 µg/l, and TCE at 1,050 µg/l. PCBs were not

detected in this sample. MTCA Method A cleanup level exceedances for these parameters included VC (0.2 µg/l), 1,2-dichloroethane (5 µg/l), and TCE (5 µg/l). Additionally, the detected concentration of cis 1,2-DCE exceeded the MTCA Method B cleanup level of 16 µg/l. PCBs were not detected in the sample from GP-17.

The groundwater sample collected from GP-18, located to the west of GP-6, was found to contain VC at 11.8 µg/l, cis 1,2-DCE at 30.2 µg/l, 1,2-dichloroethane at 38.3 µg/l, and TCE at 2.27 µg/l. The VC and 1,2-dichloroethane detections exceeded their respective MTCA Method A cleanup levels of 0. 2 and 5 µg/l, while the cis 1,2-DCE concentration exceeded the MTCA Method B cleanup level of 16 µg/l.

At GP-19 and GP-20, located to the southwest and south, respectively, of GP-6 near the southern property boundary, only TCE at 5.42 and 11.9 µg/l, was detected in the groundwater samples, which both exceed the MTCA Method A cleanup level of 5 µg/l.

4.3.2 Discussion

At least one of the HVOC detections in GP-16 through GP-20 exceeded a MTCA Method A or B cleanup level. TCE was detected in each sample and several of its daughter products (i.e., VC, and the various DCE congeners) were detected in GP-16, GP-17, and GP-18. Tetrachloroethylene (PCE) was not detected in any of the samples. It appears likely that the HVOCs at the site are the result of a TCE release. As TCE was commonly used as a degreaser, it was thought that the release occurred from the waste oil tank, or from the wash pad located at the southeast corner of the site. The contaminant distribution, which showed the highest TCE concentrations to the north (i.e., downgradient) of the wash pad, with much lower concentrations to the south near the former waste oil UST location, seems to indicate that releases from cracks in the wash pad and/or from a catch basin/oil-water separator associated with the wash pad were the most likely source of contamination. However, additional explorations were needed to evaluate the potential source and extent of contamination, as little HVOC soil contamination was encountered in the explorations to date.

4.3.3 Follow-up Exploration Results

Follow-up soil and groundwater sampling was conducted to better evaluate the nature and extent of the HVOC contamination. This included collecting groundwater samples from four downgradient off-site wells (OS-1 through OS-4) to assess the downgradient extent of HVOC contamination, collecting soil samples from seven geoprobes advanced the vicinity of the wash pad (GP-24 through GP-30) to screen the area for a potential source of contamination, and installation of two monitoring wells (MW-4 and MW-5) to collect representative groundwater

samples from the area of contamination as well as to evaluate the vertical extent of contamination.

4.3.3.1 Off-site Well Sampling

In August, 2013, B&K was given permission by the adjacent land owner to sample monitoring wells OS-1 through OS-4 located downgradient to the north/northeast of the wash pad area on the property adjacent to the east as shown in Figure 7. Each of these wells were constructed of 1-inch-diameter PVC, and according to the well logs provided on Ecology's well log database and included in Appendix C, each extended to 10 feet bgs and were screened from 5 to 10 feet bgs.

On August 17, 2013, Shannon & Wilson, Inc. collected groundwater samples from each of the off-site wells. The samples were collected using a peristaltic pump and traditional sample collection methods. The depth to groundwater at each well was measured prior to purging. Prior to sampling, at least three well volumes of groundwater were purged from each well. Water quality parameters (temperature, pH, dissolved oxygen, and ORP) were monitored continuously with a YSI 556 multi-parameter meter fitted in a flow-through cell during purging. The samples were collected by filling three laboratory-supplied, 40-milliliter volatile organic analysis (VOA) vials preserved with HCl, per well once the parameters had stabilized.

HVOCs were not detected in the groundwater samples collected from off-site wells OS-2, OS-3, and OS-4. The sample collected from OS-1 was found to contain VC at 14.6 µg/l, cis-1,2-DCE at 38.0 µg/l, and TCE at 9.05 µg/l. The VC and TCE results both exceed the MTCA Method A cleanup levels of 0.2 and 5 µg/l, respectively. The cis-1,2-DCE result exceeds the MTCA Method B level of 16 µg/l.

4.3.3.2 Soil Sampling

On August 29, 2013, GP-24 through GP-30 were advanced and sampled in the approximate locations shown in Figures 7 and 8. Because the assumed source of contamination was due to degreasers leaking through the wash pad, the sampling was focused on near-surface soil. The probes were sampled continuously to depths of 5 to 10 feet bgs. A Shannon & Wilson, Inc. engineer screened the soil for contamination using visual and olfactory observations and PID measurements. While no obvious evidence of solvent contamination was observed in the soil retrieved from the geoprobe, at least one sample was collected at each location for laboratory analysis to screen for low concentrations of HVOCs in soil that may be contributing

to the groundwater contamination. The samples were delivered to FA under chain-of-custody procedures and analyzed for HVOCs.

HVOCs were not detected in the soil samples collected from geoprobes GP-24, GP-26, GP-27, and GP-30. TCE was detected in the sample collected from approximately 4 feet bgs in GP-25 at 0.0517 mg/kg, which exceeds the MTCA Method A cleanup level of 0.03 mg/kg. Cis-1,2-DCE was also detected in this sample a 0.0179 mg/kg. A MTCA Method A cleanup level has not been established for this chemical; however, this concentration does not exceed the MTCA Method B level of 160 mg/kg. Neither TCE or cis-1,2-DCE was detected in the sample collected from 9.5 feet bgs as this location. Cis-1,2-DCE was also detected in the samples collected at 4 feet bgs from GP-28 (0.0265 mg/kg), and 3 feet bgs from GP-29 (0.0295 mg/kg). No HVOCs were detected in samples collected at deeper intervals in either of these geoprobe locations.

4.3.3.3 Well Installation and Sampling

Two wells (MW-4 and MW-5) were planned to collect representative groundwater samples from the HVOC groundwater plume identified during the third round of sampling and to assess whether a lower aquifer was present at the site that had been affected by the contamination. On September 13, 2013, Shannon & Wilson, Inc. mobilized to the site with Cascade Drilling of Fife, Washington, under subcontract to install the wells. A Shannon & Wilson, Inc. hydrogeologist was onsite at all times during the well installation to oversee the work, screen and log soil removed during installation, and identify potential aquitards.

As shown in Figure 7, both wells were located in the vicinity of GP-6 and GP-17 where the highest HVOC concentrations in groundwater were identified in the previous analytical samples. The wells were installed using hollow-stem auger (HSA) techniques. MW-5 was installed first to a depth of 20 feet bgs and screened from 13.5 to 18.5 feet bgs. MW-4 was installed approximately 5 feet to the north of MW-5. Conductor casing was used from the ground surface to approximately 30 feet bgs, which was approximately 5 feet into a dense silt layer identified as a likely aquitard, to reduce the potential for cross-contamination between the upper and lower aquifers. MW-4 was finished at a depth of approximately 40 feet bgs, which extended approximately 2 feet into an unsaturated clay layer that appeared to be an aquitard for the lower aquifer. The logs for both wells are provided in Appendix A.

On September 15, 2013, the wells were developed by a Shannon & Wilson, Inc. geologist to enhance the hydraulic connection with surrounding soils. Development was performed using an electric check-valve pump (Waterra); a 1⅞-inch-diameter surge block was attached to the check valve to facilitate development. Water was pumped from within the well

screens, working from top to bottom. Approximately 10 to 15 gallons of water were purged from each well during development and stored in 55-gallon drums on-site.

On September 16, 2013, groundwater samples were collected from each well for laboratory analysis. The samples were collected using a bladder pump and low-flow sampling techniques. The depth to groundwater at each well was measured prior to purging. Prior to sampling, at least one well volume of groundwater was purged from each well. Water quality parameters (temperature, pH, dissolved oxygen, and ORP) were monitored continuously with a YSI 556 multi-parameter meter fitted in a flow-through cell during purging. The samples were collected by filling three laboratory-supplied, 40-milliliter VOA vials preserved with HCl, per well once the parameters had stabilized.

The groundwater sample collected from MW-4, the deeper of the two new on-site wells, was not found to contain detectable concentrations of HVOCs. The sample collected from MW-5 contained 1,1-DCE at 3.28 µg/l, trans-1,2-DCE at 1.83 µg/l, cis-1,2-DCE at 55.5 µg/l, and TCE at 1,320 µg/l. The concentrations for cis-1,2-DCE and TCE exceeded the respective MTCA Method A or B cleanup levels.

4.3.4 Conclusions

Based on the results of the initial and follow-up sampling conducted at the southeast corner of the site, it appeared likely that the source of the HVOC contamination was due to releases from the wash pad. The wash pad was used by the former property occupant to clean machinery, including forklifts. Based on anecdotal evidence, spray-can degreasers were occasionally used during cleaning, which would explain the presence of TCE as it is a common degreaser in phosphating processes (application of corrosion protection layers). The concrete of the wash pad had extensive cracking, which would allow product spilled onto the ground to infiltrate into the underlying soil and groundwater. Spilled degreaser would likely have been diluted with wash water such that the lack of high concentrations of HVOCs in the soil samples is likely indicative of prolonged, but diffuse, use of these canned degreasers.

The groundwater samples collected from MW-4 and MW-5 support the supposition that the source of contamination was in the area of the wash pad and immediately downgradient to the north. The HVOC concentrations detected in the sample from MW-5 (the shallower well), were similar to those detected in the samples from GP-6 and GP-17, while the sample from the immediately downgradient well OS-1 were significantly lower and the presence of daughter products (VC and DCE) showed signs of active reductive dechlorination. The result at OS-1 indicates that the groundwater plume extends offsite; however, the results at the other off-site

wells, particularly OS-2, which is approximately 65 feet downgradient of OS-1, indicate that the downgradient extent is limited. Likewise, the lack of detectable HVOCs in the sample collected from MW-4 (the deeper well) indicates that the lower aquifer has likely not been impacted by the HVOC contamination.

5.0 DISCUSSION

As discussed in the previous sections, the following issues have been identified at the site:

- TPH-D, lead, and PCB groundwater contamination at the north end of the site associated with the former drain-collection UST;
- The presence of CKD fill material at the north end of the site; and
- TPH-D and HVOC contamination at the southeast end of the site.

Based on the results of the soil and groundwater sampling conducted for this remedial investigation, it was determined that the TPH-D and lead contamination detected in samples collected in the vicinity of the former drain-collection UST and within the CKD area does not extend off-site to the north end of the 96th Street ROW, and that the high lead levels are associated with elevated pH caused by contact with the CKD. Likewise, the PCB groundwater contamination was found to be associated with particulates entrained in the original sample and not part of a mobile dissolved-phase plume. Remediation is therefore not required for these issues.

It is infeasible to remove the CKD without demolishing the building on the property overlaying. As discussed above, the detrimental effects of the CKD appear to be limited to the immediate vicinity of the material, which is contained on-site. Remediation of this material is therefore unnecessary. We propose that a deed restriction be filed with King County to indicate to future land owners the approximate extent of this material should they wish to renovate the site in a manner that requires excavation of this material.

The HVOC contamination at the southeast end of the site was found to exceed MTCA Method A and B cleanup levels in soil and groundwater, and was found to extend offsite. Remediation of this contamination was, therefore, deemed appropriate. The methods chosen for remediation were excavation and off-site disposal of contaminated soil and enhanced biodegradation for groundwater.

5.1 Soil Excavation

Based on the results of the geoprobe explorations in the vicinity of the wash pad (as discussed in Section 3.5.4), it appeared likely that the source of the HVOC contamination was due to

degreasers used to clean equipment passing through cracks in the cement pad and infiltrating into the underlying soil and groundwater. Removal of the contaminated soil was deemed necessary to improve the quality of the underlying groundwater.

Between November 18 and 21, 2013, Shannon & Wilson, Inc. oversaw excavation of soil from the assumed source area. Prior to conducting the excavation, monitoring wells MW-4 and MW-5, which were in the footprint of the proposed excavation, were decommissioned in accordance with WAC 173-160-381.

The excavation was conducted by B&K personnel under Shannon & Wilson, Inc. oversight. An approximately 20- by 20-foot excavation starting on the south side of the wash pad and extending to the property line on the east was planned. It was assumed that this excavation would be of sufficient size to remove the soil containing HVOCs detected during the geoprobe explorations. The excavation was planned to extend to a silt layer at approximately 18.5 feet bgs, identified during installation of MW-4 as a likely aquitard. During excavation, unmarked utilities were encountered running north-south approximately 7 feet west of the east property line and 4 feet bgs. The excavation continued to the proposed depth to the west, but was not extended to the east, to prevent damage to the utilities. The excavation eventually extended to approximately 18 feet bgs within the area shown in Figure 9. Samples were collected from the excavation sidewalls to confirm that soil containing HVOCs had been removed. As shown in Table 5, the confirmation sample results indicated that soil containing TCE at concentrations exceeding the MTCA Method A cleanup level was still present in the north, south, and east sidewalls. Further excavation to the north and east could not be conducted without damaging utilities or undermining structures. Additional excavation to the south was feasible, but the existing excavation needed to be backfilled to prevent caving underneath the surrounding pavement. The excavation was, therefore, backfilled with pea gravel to approximately 3 feet bgs and then topped with imported clean fill material.

Upon completion of the excavation on the south side of the wash pad, excavation of the wash pad area was conducted to the extents shown in Figure 9. Once the concrete at the surface of the wash pad was removed, soil with obvious staining and strong hydrocarbon odors was encountered. Dark, stained soil with strong hydrocarbon odors was also observed from about 2 to 5 feet bgs at the northeast end of the catch basin located within the wash pad area. The catch basin and stained soil were subsequently removed. The excavation extended to approximately 8.5 feet bgs into an apparently un-impacted silt layer. Confirmation samples were collected from the excavation bottom and sidewalls at this point for HVOC analysis. The samples were not found to contain HVOCs, so the excavation was backfilled. A summary of the confirmation

sample results is included in Table 5 and the approximate sample locations are shown in Figure 9.

Approximately 390 tons of soil were removed during excavation and stockpiled onsite prior to disposal. The stockpiles were placed on 10-millimeter plastic sheeting, bermed around the perimeter with straw hay bales, and covered with plastic sheeting when active excavation was not occurring. Disposal characterization samples were collected from each stockpile in accordance with Ecology guidance (Ecology, 2011). Upon receipt of the analytical results, soil with detectable concentrations of HVOCs (approximately 270 tons) was hauled to Republic Services' transfer station at 3rd and Lander in Seattle, Washington, for ultimate disposal at the Roosevelt Landfill, a Resource Conservation and Recovery Act Subtitle D landfill. Soil without detectable HVOCs (approximately 120 tons) was hauled to Cemex in Everett, Washington, an inert waste landfill. Disposal documentation is included in Appendix D.

5.2 Enhanced Biodegradation Groundwater Remediation

The groundwater sampling results collected from the geoprobes and wells in the area impacted with HVOCs shows that TCE is being broken down into daughter products such as VC and the various DCE congeners. This is likely occurring due to reductive dechlorination being carried out by the naturally occurring bacterial community within the site groundwater. While this community appears capable of breaking down TCE, the rate of contaminant removal appears to be low and may be limited by available substrate. Biodegradation enhancement using Regenesis' 3D Microemulsion (3DME) product was, therefore, selected to speed up removal of TCE and its toxic daughter products.

5.2.1 3D Microemulsion (3DME) Application

According to information provided by Regenesis (included in Appendix E), 3DME has a molecular structure specifically designed for anaerobic treatment of contaminants in subsurface soils and groundwater. The material's molecular structure is composed of free lactic acid, controlled-release lactic acid (polylactate), and certain fatty acid components, which are esterified to a carbon backbone molecule of glycerin. 3DME produces a sequential, staged release of its electron donor components. The immediately available free lactic acid is fermented rapidly while the controlled-release lactic acid is metabolized at a more controlled rate. The fatty acids are converted to hydrogen over a mid- to long-range timeline, giving 3DME an exceptionally long electron donor release profile. This staged fermentation provides an immediate, mid-range and very long-term, controlled-release supply of hydrogen (electron donor) to fuel the reductive dechlorination process. Typical 3DME single application longevity

is rated at periods of up to three to five years, with five years occurring under optimal conditions; e.g., low permeability, low consumption environments.

Based on the existing groundwater contamination data and our understanding of the contaminated aquifer, Regenesis provided a recommended dosage of approximately 1,100 pounds of 3DME product. The 3DME was delivered to the site during remedial excavation and mixed on site with tap water to produce a 10 to 1 volumetric dilution as recommended in the product installation instructions. The 3DME was then pumped directly into the remedial excavation prior to backfilling.

5.2.2 Well Installation and Groundwater Monitoring

Following completion of the remedial excavation effort, four new monitoring wells (MW-6 through MW-9) were installed at the site to monitor the progress of the HVOC groundwater remediation. The wells were installed on February 11, 2014, using HSA drilling methods. Each well was installed to a depth of 15 feet bgs with a 5-foot-long screened section at the well bottom, except for MW-6, which, due to the construction of a new wash pad, was at a higher elevation than the other new wells and was installed to approximately 17 feet bgs. The wells were subsequently developed by a Shannon & Wilson, Inc. hydrogeologist to enhance the hydraulic connection with surrounding soils. Development was performed using an electric check valve pump (Waterra); a 1⅞-inch-diameter surge block was attached to the check valve to facilitate development. Water was pumped from within the well screens, working from top to bottom. Approximately 10 to 15 gallons of water were purged from each well during development and stored in 55-gallon drums onsite.

At least one soil sample was collected from each boring for laboratory analysis. The results, summarized in Table 3, indicate that TCE was present below approximately 14.5 feet bgs in MW-7, MW-8, and MW-9 at concentrations that exceed the MTCA Method A cleanup level.

Each of the four new wells and the four off-site wells were sampled between February 14 and 20 and then again on May 21 and 22, 2014. The samples were collected using a bladder or peristaltic pump. The depth to groundwater at each well was measured prior to purging. Water quality parameters (temperature, pH, and ORP) were monitored continuously with a YSI 556 multi-parameter meter fitted in a flow-through cell during purging. Low-flow sampling techniques were used on wells for which a low enough flow rate could be achieved to keep drawdown within protocol. For the other wells, at least three well volumes were removed and the groundwater parameters allowed to stabilize before the sample was collected. The samples were collected by filling four laboratory-supplied, 40-ml VOA vials preserved with hydrochloric acid, per well. The sample was then placed in a cooler with ice packs and maintained at

approximately 4 degrees Celsius for transport to FA under chain-of-custody procedures for HVOC analysis.

The analytical sample results of the samples are summarized in Table 4 and shown on Figures 10 and 11. At MW-7, which was installed near the former location of MW-5, TCE was detected at 1.94 µg/l in the February sample and was not detectable in the May sample. These concentrations are down from 1,320 µg/l, as detected in the sample collected from in MW-5 during the October 2013 sampling event. At the same time, the concentrations of TCE breakdown products such as cis- and trans-1,2-DCE and VC increased between the October and February events, indicating the reductive dechlorination is likely taking place in the vicinity of MW-7. The concentrations of these breakdown products decreased between the February and May events. This is likely because the TCE in the vicinity of the well has been used up and reductive dechlorination is occurring at a greater rate on the TCE daughter products. The TCE concentrations at MW-6, MW-8, MW-9, and OS-1 decreased between the February and May events (and the October and February events for OS-1), as did the concentration of daughter products. However, this effect may be due to seasonal fluctuations, as detectable levels of TCE were still present in these wells, indicating that additional daughter products are likely to be generated as the 3DME spreads.

6.0 CONCLUSIONS AND RECOMMENDATIONS

The Phase 1 ESA conducted by Shannon & Wilson, Inc. and the subsequent remedial investigations identified the following environmental issues at the B&K site:

- Potential releases from three former USTs at the south end of the site;
- Confirmed releases of TPH-D and PCBs from a UST near the north end of the site;
- The presence of CKD and associated arsenic and lead groundwater contamination at the north end of the site; and
- HVOC groundwater contamination at the southeast corner of the site.

Based on our explorations and laboratory sample analysis, we offer the following conclusions and recommendations regarding each of these issues.

6.1.1 South End Underground Storage Tanks (USTs)

The three USTs at the south end of the site consisted of a diesel and a gasoline UST located near the center (east-west) of the site and a waste oil UST near the southeast corner of the site. According to the documentation available (Clayton, 2003a), all three USTs were removed in 1990 and follow-up confirmation soil and groundwater sampling conducted by Clayton

confirmed that releases had not occurred from these tanks. The additional soil and groundwater sampling conducted by Shannon & Wilson, Inc. to fill in data gaps left following the Clayton sampling confirmed that releases were unlikely to have occurred. We recommend that Ecology consider these USTs closed.

6.1.2 Drain-collection Underground Storage Tank (UST)

The UST near the north end of the site, which, according to anecdotal evidence, was used to collect fluids from the building's interior floor drains, was removed in 2004 (Clayton, 2005). Contaminated soil within the UST excavation was removed, along with additional impacted soil to the north. Confirmation soil samples collected from the UST excavation indicated that soil exceeding the MTCA Method A cleanup criteria was removed. However, groundwater sampling from the north end of the site indicated that TPH-D was present at concentrations exceeding the cleanup criteria. Additionally, PCBs were detected in one groundwater sample from the vicinity of the former UST at a concentration exceeding the MTCA Method A cleanup level. Our explorations indicated that the TPH-D groundwater contamination remains at the site, but is less extensive than had been determined by Clayton and does not appear to extend off site. Likewise, the based on re-analysis of the one sample found to contain detectable PCBs, and unfiltered analysis of four samples collected from downgradient locations, the contamination was found to likely be associated with sample turbidity and not indicative of dissolved-phase contamination. It is therefore unlikely to migrate and was not detected in downgradient groundwater samples.

Based on these results, it appears that the PCBs detected in groundwater are not indicative of a mobile-phase groundwater plume. Likewise, the TPH-D groundwater plume appears to be limited in extent to the site and is shrinking. Based on this finding, and the removal of the source of contamination by Clayton in 2004, we believe that the groundwater contamination plume will continue to shrink, eventually dropping in concentration below the MTCA Method A cleanup levels. We therefore request that Ecology grant No Further Action (NFA) status to this portion of the site.

6.1.3 Cement Kiln Dust (CKD) Area

The CKD encountered at the north end of the site was found to contain arsenic and lead at concentrations exceeding the MTCA Method A cleanup level. It was also found to have a pH of approximately 11.5 to 12 and to elevate the pH in groundwater with which it comes in contact. This in turn appears to increase the solubility of arsenic and lead within the zone of high pH, which leads to arsenic and lead groundwater concentrations above MTCA Method A cleanup levels within the CKD area. These high metals concentrations do not appear to extend outside of the CKD area where the groundwater pH is lower. The contamination associated with the CKD,

therefore, appears to be limited to the site. Apart from a small portion along the northern property boundary, the entirety of the CKD area is covered with impermeable cover, including the paved parking lots and the building. The exposure of the CKD to infiltrating rainwater is, therefore, limited and removal of the CKD would be infeasible without removal of the building. We, therefore, recommend that the site owner file a deed restriction for the site, indicating that the CKD is present with associated metals contamination. Following filing of the deed restriction we request that Ecology grant conditional NFA status to this portion of the site.

6.1.4 Halogenated Volatile Organic Compound (HVOC) Contamination

HVOC contamination, likely due to degreasers spilled during machinery cleaning by the previous property occupant, was detected in soil and groundwater at the southeast end of the site. Remedial excavation was conducted to remove the majority of the source of contamination. Remaining soil containing HVOCs above cleanup levels appears to be limited to below the groundwater interface. 3DME was mixed with the groundwater at the site during remedial excavation to enhance reductive dechlorination of the HVOCs. Based on the results observed at MW-6 through MW-9, this appears to be having a beneficial effect, as the concentrations of TCE has decreased since the 3DME was applied, with the highest effect observed at MW-7 in the immediate vicinity of the 3DME application area. We expect to see further reductions in HVOC concentrations at the other wells within the plume as the 3DME continues to migrate downgradient. We propose to conduct quarterly monitoring of wells MW-6 through MW-9 and OS-1 through OS-4 for at least four more quarters to assess the effectiveness of this remedial effort before attempting any further remediation at the site.

7.0 LIMITATIONS, UNCERTAINTY, AND RISK

The information, our evaluation, and recommendations presented in this report are based on limited site data and include several assumptions regarding the subsurface geology, hydrology, and extent and direction of contaminant migration. Actual site conditions may differ from the assumptions presented herein, which may affect our recommendations and outcomes of our evaluation of various remedial alternative technologies and estimated costs.

Work for this project was performed and this report 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. It is intended for the exclusive use of the Beckwith & Kuffel and its representatives for specific application to the referenced property. This report does not represent a legal opinion. No other warranty, expressed or implied, is made.

This report was prepared for the exclusive use of the B&K and its representatives, and in no way guarantees that any agency or its staff will reach the same conclusions as Shannon & Wilson, Inc. Shannon & Wilson, Inc. has included Appendix F, "Important Information About Your Geotechnical/Environmental Report," to help you and others in understanding our reports.

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Table 1

Analytical Results of Soil Samples - Clayton Group Services Explorations

Sample Location	Sample ID	Petroleum Hydrocarbons			Metals								PCBs	TEF-Modified cPAHs
		TPH-G	TPH-D	TPH-O	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver		
B1	62603-S1	ND	ND	NA	ND	**58**	ND	**30**	**6.0**	ND	ND	ND	ND	ND
B2	62603-S2	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.013**
B3	62603-S3	**2**	**71**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B4	62603-S4	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B5	62603-S5	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B6	62603-S6	ND	**130**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B7	62603-S7	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UST-N	S1	ND	**730**	**1,400**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UST-NW	S2	ND	**63**	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UST-NW2	S3	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UST-NSW	NSW-1	ND	**1,200**	**90**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UST-ESW	ESW-1	ND	**35**	**70**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UST-WSW	WSW-1	ND	**150**	**66**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UST-BASE	BASE-1	ND	**87**	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UST-SSW	S-5	ND	**38**	**93**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UST-ESW	S-7	ND	**380**	**110**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MTCA Method A Cleanup Level		30/100	2,000	2,000	20	NE	2	2,000	250	2	NE	NE	1	0.1

Notes

Bold values indicate a detection

Bold and shaded values indicate a MTCA exceedance

MTCA = Model Toxics Control Act

[1] Sample analyzed for BTEX only

[2] Value is the Dangerous Waste criteria

[3] No VOCs detected in sample. See analytical laboratory report for full list of analytes.

TCLP = Toxicity Characteristic Leaching Procedure

NA = not analyzed for this constiuent

Table 1
Analytical Results of Soil Samples - Clayton Group Services Explorations

Notes (cont.):

ND = not detected

PCBs = polychlorinated biphenyls

TPH-G = gasoline-range total petroleum hydrocarbons

TPH-D = diesel-range total petroleum hydrocarbons

TPH-O = oil-range total petroleum hydrocarbons

TCLP = Toxicity Characteristic Leaching Procedure

PAHs = polynuclear aromatic hydrocarbons

cPAHs = carcinogenic polynuclear aromatic hydrocarbons

VOCs = volatile organic compounds

All units are in milligrams per kilogram except TCLP samples which are in milligrams per liter and pH, which is unitless

Table 2

Analytical Results of Groundwater Samples - - Clayton Group Services Explorations

Sample Location	Sample ID	Petroleum Hydrocarbons			Total Metals							PAHs	VOCs[1]		
		TPH-G	TPH-D	TPH-O	Arsenic	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	TEF-Modified cPAHs	Naphthalene	Toluene	Xylenes
B1	62603-GW1	ND	ND	NA	ND	ND	**1.74**	ND	ND	ND	ND	ND	**0.3**	ND[2]	**1.0**
B6	62603-GW2	ND	**290**	NA	NA	NA	NA	NA	NA	NA	NA	ND	**0.4**	NA	NA
B8	62603-GW3	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND[2]	ND[2]
B9	62603-GW4	ND	**9,900**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**14**	ND[2]
B10	62703-GW5	ND	**1,600**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**7**	ND[2]
B11	090503-GW11	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B12	090503-GW12	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B13	090503-GW13	NA	**1,600**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B14	090503-GW14	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B15	090503-GW15	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B16	090503-GW16	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B16[3]	092603-GW16	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B17	090503-GW17	NA	NA[4]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B18	090503-GW18	NA	NA[4]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B19	090503-GW19	NA	NA[4]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B20	090503-GW20	NA	**420**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B21	090503-GW21	NA	NA[4]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B22	090503-GW22	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MTCA Method A or B Cleanup Level		800/1000	500	500	5	5	50	15	2	NE	NE	0.1	160	1000	1000

Notes:

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Analytical Results of Groundwater Samples - - Clayton Group Services Explorations

Notes (cont.):

[1] Only VOCs detected in one or more samples are shown on this table

[2] Sample analyzed for BTEX only

[3] Two sample locations were given the identifier "B16"

[4] Samples not analyzed, but were assumed to contain contamination based on field screening

MTCA = Model Toxics Control Act

NA = not analyzed for this constiuent

ND = not detected

BTEX = benzene, toluene, ethylbenzene, & xylenes

PAHs = polynuclear aromatic hydrocarbons

PCBs = polychlorinated biphenyls

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TPH-D = diesel-range total petroleum hydrocarbons

TPH-O = oil-range total petroleum hydrocarbons

TCLP = Toxicity Characteristic Leaching Procedure

VOCs = volatile organic compounds

All units are in micrograms per liter

Table 3
Analytical Results of Soil Samples - Shannon Wilson Explorations

Sample Location	Sample ID	Sample Date	Petroleum Hydrocarbons			Metals							PCBs	pH	VOCs[1]	
			TPH-G	TPH-D	TPH-O	Arsenic	Cadmium	Chromium	Lead	Mercury	TCLP Arsenic	TCLP Lead			cis 1,2-Dichloroethene	Trichloroethene
MW-1	MW-1:4	1/27/12	NA	NA	NA	**301**	**10.9**	**17.6**	**3,240**	ND	**0.006**	**1.56**	NA	NA	NA	NA
GP-1	GP-1:8	4/23/12	ND	ND	**330**	NA	NA	NA	NA	NA	NA	NA	ND	NA	ND	ND
GP-6	GP-6:8	4/23/12	ND	ND	ND	NA	NA	NA	**5.35**	NA	NA	NA	NA	NA	ND	ND
GP-8	GP-8:5	4/23/12	NA	NA	NA	**375**	NA	NA	**3,280**	NA	ND	ND	NA	**12.0**	NA	NA
GP-10	GP-10:7.5	4/24/12	NA	NA	NA	**188**	NA	NA	**1,430**	NA	ND	ND	NA	**11.5**	NA	NA
GP-24	GP-24:3	8/29/13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND
GP-25	GP-25:4	8/29/13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.0179**	**0.0517**
	GP-25:9.5	8/29/13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND
GP-26	GP-26:4	8/29/13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND
GP-27	GP-27:4	8/29/13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND
GP-28	GP-28:4	8/29/13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.0265**	ND
	GP-28:8	8/29/13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND
GP-29	GP-29:3	8/29/13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.0295**	ND
	GP-29:6.5	8/29/13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND
GP-30	GP-30:4	8/29/13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND
MW-6	MW-6:11	2/11/14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND
MW-7	MW-7:15	2/11/14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	**0.168**
MW-8	MW-8:9	2/11/14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.0535**	ND
	MW-8:14.5	2/11/14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	**0.282**
MW-9	MW-9:9	2/11/14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND
	MW-9:14.5	2/11/14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	**0.0783**
MTCA Method A Cleanup Level			30/100	2,000	2,000	20	2	2,000	250	2	5[2]	5[2]	1	12.5[2]	160	0.03

Notes:

Bold values indicate a detection

Table 3
Analytical Results of Soil Samples - Shannon Wilson Explorations

Notes (cont.):

Bold and shaded values indicate a MTCA exceedance

MTCA = Model Toxics Control Act

[1] Only VOCs detected in one or more samples are shown on this table

[1] Sample analyzed for BTEX only

[2] Value is the Dangerous Waste criteria

[3] No VOCs detected in sample. See analytical laboratory report for full list of analytes.

NA = not analyzed for this constiuent

ND = not detected

PCBs = polychlorinated biphenyls

TPH-G = gasoline-range total petroleum hydrocarbons

TPH-D = diesel-range total petroleum hydrocarbons

TPH-O = oil-range total petroleum hydrocarbons

TCLP = Toxicity Characteristic Leaching Procedure

VOCs = volatile organic compounds

All units are in milligrams per kilogram except TCLP samples which are in milligrams per liter and pH, which is unitless

Table 4
Analytical Results of Groundwater Samples - Shannon Wilson Explorations

Sample Location	Sample ID	Sample Date	Petroleum Hydrocarbons			Total Metals		Dissolved Metals		PCBs		VOCs[1]											
			TPH-G	TPH-D	TPH-O	Arsenic	Lead	Arsenic	Lead	Total PCBs	Dissolved PCBs	Naphthalene	4-isopropyltoluene	Toluene	Xylenes	Vinyl Chloride	1,2,4-Trimethylbenzene	1,1-Dichloroethene	1,1-Dichloroethane	trans-1,2-Dichloroethene	cis-1,2-Dichloroethene	1,2-Dichloroethane	Trichloroethene (TCE)
On-Site Monitoring Wells																							
MW-1	MW-1	1/31/12	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-1:GW	4/20/12	NA	NA	NA	**10.8**	**1,910**	**6.67**	**1,510**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-2	MW-2	1/31/12	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-2:GW	4/20/12	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND[2]	ND[2]	NA	NA	NA	NA	NA	NA	NA	NA
	MW-2-081413	8/14/13	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-3	MW-3	1/31/12	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-3:GW	4/20/12	ND	NA	NA	**5.65**	**1.54**	**2.48**	ND	NA	NA	ND	**11.5**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-4	092513-MW4:GW	9/25/13	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-5	092513-MW5:GW	9/25/13	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	**3.28**	ND	**1.83**	**55.5**	ND	**1,320**
MW-6	022014MW-6:GW	2/20/14	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	**2.17**	ND	**85**
	52114MW-6:GW	5/21/14	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**18.9**
	82214MW-6:GW	8/22/14	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	**2.99**	ND	**88.6**
MW-7	21414MW-7:GW	2/14/14	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	**95.8**	ND	ND	ND	**3.44**	**297**	**15.7**	**1.94**
	52114MW-7:GW	5/21/14	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	**34.5**	ND	ND	ND	**1.97**	**143**	**2.79**	ND
	82114MW-7:GW	8/21/14	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	**8.19**	ND	ND	ND	ND	**30.0**	**1.76**	ND
MW-8	21414MW-8:GW	2/14/14	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	**1.97**	ND	ND	**32.0**	**7.19**	**878**
	52114MW-8:GW	5/21/14	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	**23.1**	ND	**558**
	82214MW-8:GW	8/22/14	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	**1.05**	ND	ND	**22.1**	**4.87**	**615**
MW-9	21414MW-9:GW	2/14/14	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	**1.28**	ND	ND	**9.62**	ND	**275**
	52114MW-9:GW	5/21/14	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	**1.16**	ND	ND	**6.77**	ND	**137**
	82114MW-9:GW	8/21/14	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	**6.17**	ND	**179**
On-Site Geoprobes																							
GP-1	GP-1-WA	4/23/12	**62.7**	**538**	ND	NA	NA	NA	NA	**1.87**	ND	**2.00**	ND	ND	ND	ND	**1.58**	ND	ND	ND	ND	ND	ND
GP-6	GP-6-WA	4/23/12	**264**	**1,710**	ND	NA	**36.9**	NA	ND	NA	NA	ND	ND	ND	ND	**7.64**	ND	**2.07**	ND	**1.3**	**57.7**	**145**	**96.6**
GP-10	GP-10-WA	4/24/12	ND	**836**	ND	NA	NA	NA	NA	NA	NA	ND	ND	**1.68**	ND	ND	ND	ND	ND	ND	ND	ND	ND
GP-11	GP-11:GW	7/18/12	NA	ND	ND	NA	**92.7**	NA	**2.97**	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GP-12	GP-12:GW	7/19/12	NA	ND	ND	NA	**23.2**	NA	**1.81**	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GP-13	GP-13:GW	7/20/12	NA	ND	ND	NA	**47.8**	NA	**2.48**	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GP-16	GP-16:GW:7.0	7/16/12	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	**16.0**	ND	ND	ND	ND	**7.52**	**5.08**	ND
	GP-16:GW:19.0	7/16/12	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	**34.1**	**2.55**	**39.1**
GP-17	GP-17:GW:12.0	7/16/12	NA	NA	NA	NA	NA	NA	NA	ND	NA	ND	ND	ND	ND	**3.48**	ND	**4.12**	**1.19**	ND	**42.6**	**61.1**	**1,050**
GP-18	GP-18:GW:12.0	7/16/12	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	**11.8**	ND	ND	ND	ND	**30.2**	**38.3**	**2.27**
GP-19	GP-19:GW:12.0	7/16/12	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5.42**
GP-20	GP-20:GW:12.0	7/16/12	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**11.9**
GP-23	GP-23:GW	7/18/12	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	**2.77**	ND	ND

Table 4
Analytical Results of Groundwater Samples - Shannon Wilson Explorations

Sample Location	Sample ID	Sample Date	Petroleum Hydrocarbons			Total Metals		Dissolved Metals		PCBs		VOCs[1]											
			TPH-G	TPH-D	TPH-O	Arsenic	Lead	Arsenic	Lead	Total PCBs	Dissolved PCBs	Naphthalene	4-isopropyltoluene	Toluene	Xylenes	Vinyl Chloride	1,2,4-Trimethylbenzene	1,1-Dichloroethene	1,1-Dichloroethane	trans-1,2-Dichloroethene	cis-1,2-Dichloroethene	1,2-Dichloroethane	Trichloroethene (TCE)
Off-Site Monitoring Wells																							
OS-1	OS-1-81613	8/16/13	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	**14.6**	ND	ND	ND	ND	**38.0**	ND	**9.05**
	21414OS-1:GW	2/14/14	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	**15.3**	ND	**5.31**
	52214OS-1:GW	5/22/14	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	**7.26**	ND	ND	ND	ND	**16.8**	ND	**5.35**
	82114OS-1:GW	8/21/14	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	**6.43**	ND	ND	ND	ND	**31.9**	ND	**7.02**
OS-2	OS-2-81613	8/16/13	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	022014OS-2:GW	2/20/14	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	52214OS-2:GW	5/22/14	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
OS-3	OS-3-81613	8/16/13	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	022014OS-3:GW	2/20/14	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
OS-4	OS-4-81613	8/16/13	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	022014OS-4:GW	2/20/14	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTCA Method A or B Cleanup Level			800/1000	500	500	5	15	5	15	0.1	0.1	160	NE	1000	1000	0.2		400	1600	0.1	16	5	5

Notes

Bold values indicate a detection

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[1] Only VOCs detected in one or more samples are shown on this table

[2] Sample analyzed for BTEX only

[3] Two sample locations were given the identifier "B16"

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TPH-O = oil-range total petroleum hydrocarbons

TCLP = Toxicity Characteristic Leaching Procedure

VOCs = volatile organic compounds

All units are in micrograms per liter

Table 5
Chemical Analytical Results for Soil Samples
Remedial Excavation Confirmation Samples

Sample Location	Sample ID	Sample Depth (feet bgs)	Sample Date	Hydrocarbons		VOCs[1]		
				TPH-D	TPH-O	1,2-Dichloroethane	cis 1,2-Dichloroethene	Trichloroethene
North Side of Excavation								
South sidewall	SSW-1:2	2		ND	317	ND	ND	ND
East sidewall	ESW-1:8	8	11/20/13	NA	NA	ND	ND	**0.157**
South sidewall	SSW-2:10	10	11/20/13	NA	NA	**0.0501**	ND	**0.869**
South sidewall	SSW-4:10	10	11/20/13	NA	NA	ND	ND	ND
West sidewall	WSW-2:14	14	11/20/13	NA	NA	ND	ND	ND
North sidewall	NSW-1:14	14	11/20/13	NA	NA	ND	ND	**0.686**
West sidewall	WSW-1:15	15	11/20/13	NA	NA	ND	ND	ND
South sidewall	SSW-3:18	18	11/20/13	NA	NA	ND	ND	**0.413**
South sidewall	SSW-5:3	3	11/20/13	NA	NA	ND	ND	ND
South Side of Excavation								
West sidewall	WSW2-1:5	5	11/22/13	NA	NA	ND	ND	ND
South sidewall	SSW2-1:6.5	6.5	11/23/13	NA	NA	ND	ND	ND
Bottom	BOT-1:8.5	8.5	11/24/13	NA	NA	ND	ND	ND
Bottom	BOT-2:8.5	8.5	11/25/13	NA	NA	ND	ND	ND
MTCA Method A Cleanup Level				2000	2000	480	160	0.03

Notes

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MTCA = Model Toxics Control Act

[1] Only VOCs detected in one or more samples are shown on this table

[1] Sample analyzed for BTEX only

[2] Value is the Dangerous Waste criteria

[3] No VOCs detected in sample. See analytical laboratory report for full list of analytes.

NA = not analyzed for this constiuent

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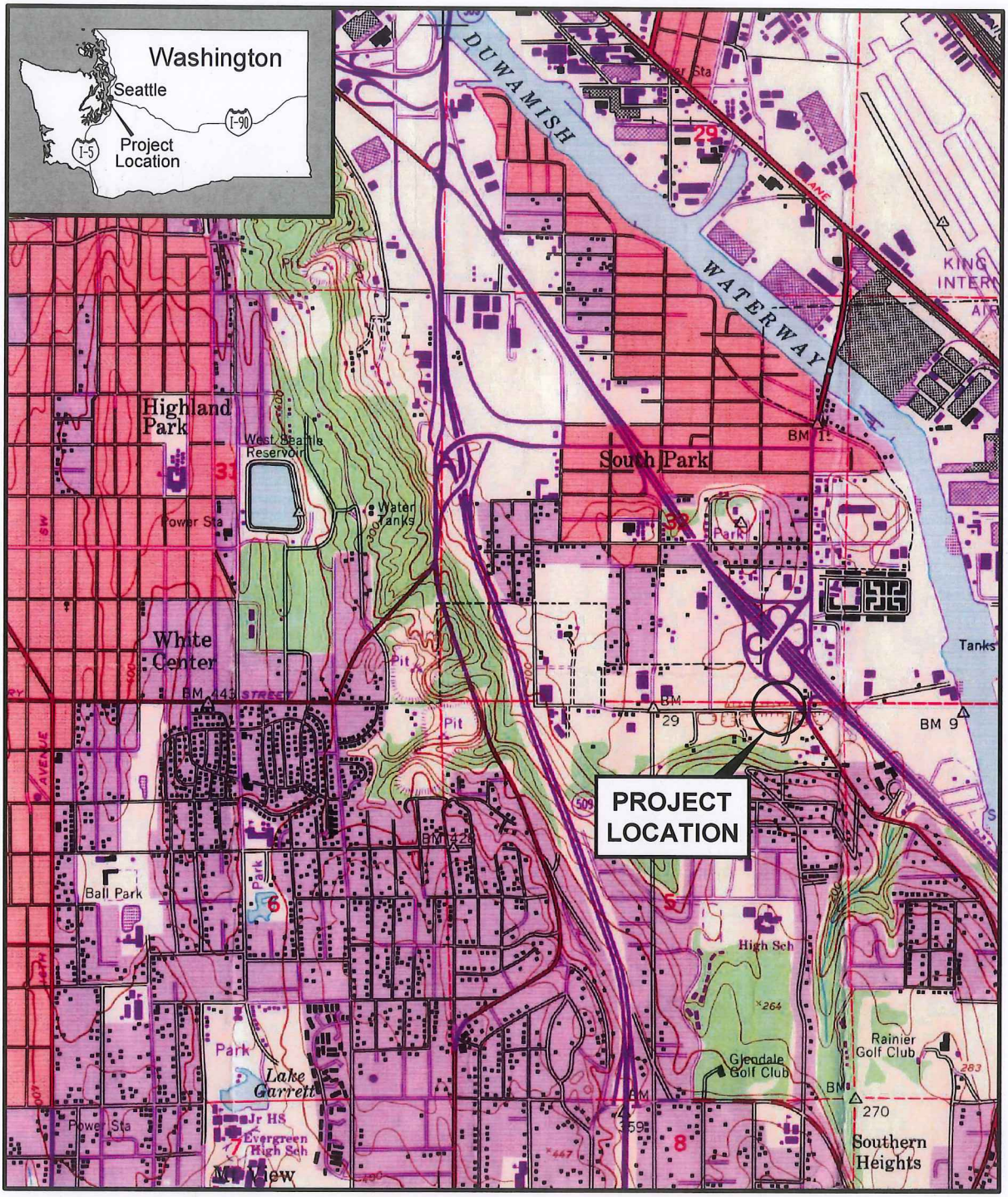
PCBs = polychlorinated biphenyls

TPH-G = gasoline-range total petroleum hydrocarbons

TPH-D = diesel-range total petroleum hydrocarbons



0 1/2 1

Scale in Miles

NOTE

Map adapted from 1:24,000 USGS topographic map of Seattle South, WA quadrangle, dated 1949, photorevised 1968 and 1973.

Beckwith & Kuffel Site
Remedial Investigation and Interim Remedial Action Report
King County, Washington

VICINITY MAP

October 2014 21-1-12357-003

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

FIG. 1

Filename: J:\21\12357-003\21-1-12357-003 Fig 1.dwg Date: 10-07-2014 Login: drtemp

0 150 300

Approximate Scale in Feet

LEGEND

Approximate Parcel Boundary

NOTE

Map adapted from aerial imagery provided by Google Earth Pro, reproduced by permission granted by Google Earth ™ Mapping Service.

Beckwith & Kuffel Site
Remedial Investigation and Interim Remedial Action Report
King County, Washington

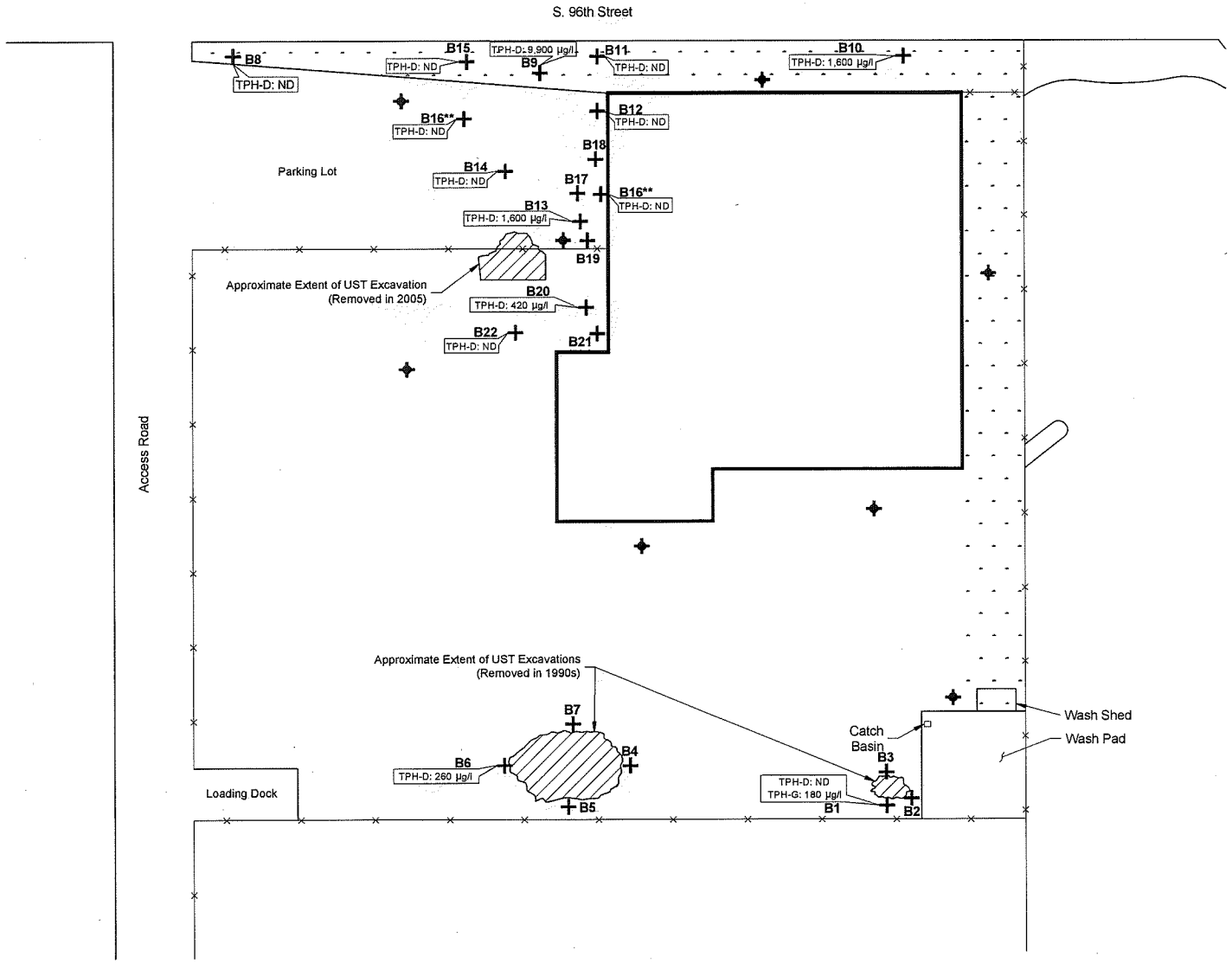
SITE AND SURROUNDING PROPERTIES

October 2014 21-1-12357-003

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

FIG. 2

Filename: J:\21\12357-003\21-1-12357-003 Fig 2.dwg Date: 10-07-2014 Login: drtemp



LEGEND

B1 + Geoprobe Designation and Approximate Location (Clayton, 2003-2004). Locations are from Unscaled Drawings in Clayton Reports (Clayton 2003a, 2003b, and 2005)

**Two Locations were Given the Designation "B16"

GROUNDWATER SAMPLE RESULTS

TPH-G = Total Gasoline Range Petroleum Hydrocarbons

TPH-D = Total Diesel Range Petroleum Hydrocarbons

µg/L = Micrograms per Liter

ND = Not Detected

NOTE

Groundwater samples collected from B17, B18, B19, and B21 were observed to have visible sheens and were therefore assumed to be contaminated above ecology criteria and were therefore not analyzed.

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SITE PLAN WITH PREVIOUS EXPLORATIONS

October 2014 21-1-12357-003

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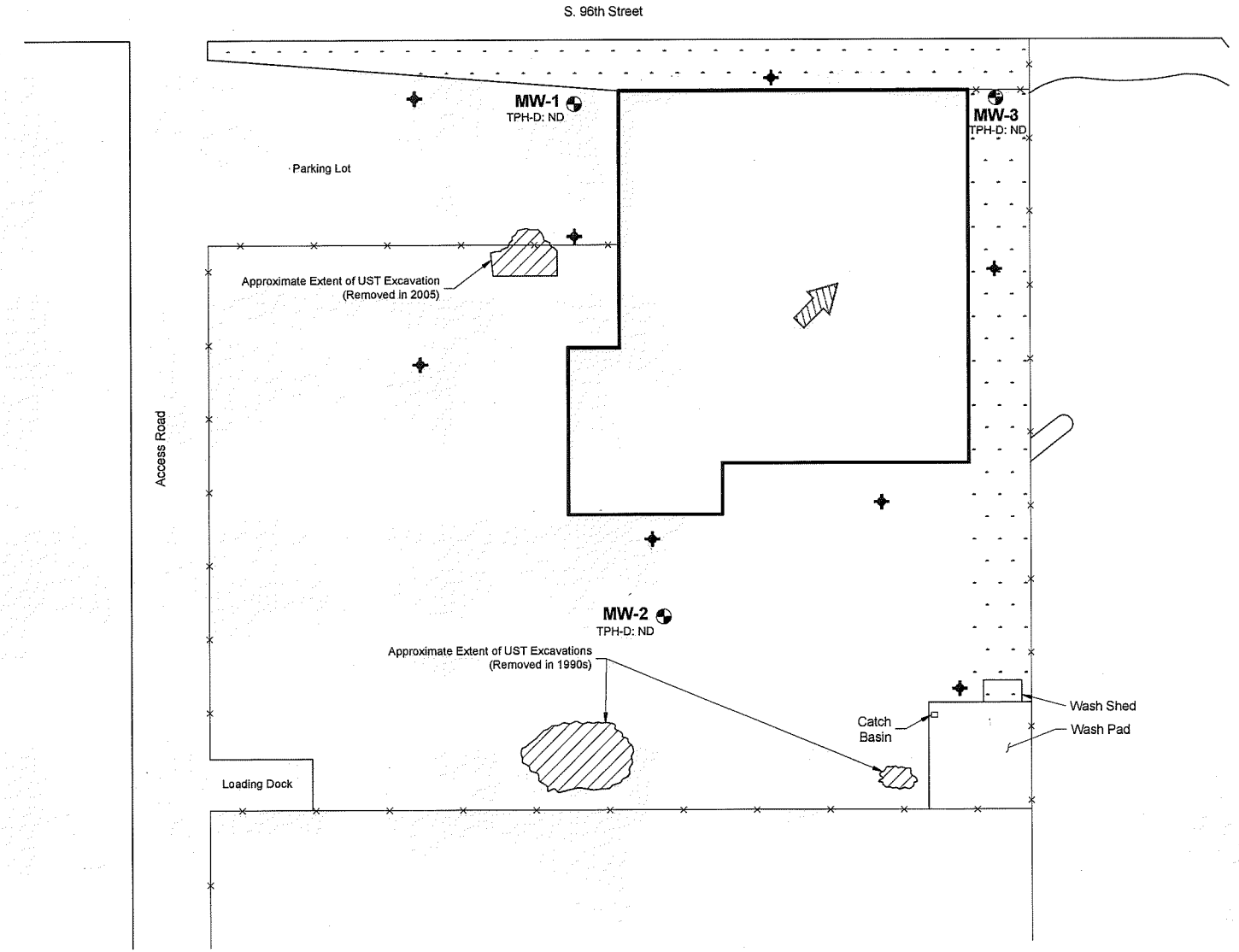
FIG. 3

Filename: J:\21\1\12357-003\21-1-12357-003 Site Plans.dwg Date: 10-07-2014 Login: drtemp



N

0 40 80

Scale in Feet

LEGEND

Approximate Groundwater Flow Direction

MW-1 Monitoring Well Installed by Shannon & Wilson Designation and Approximate Location

GROUNDWATER SAMPLE RESULTS

TPH-D = Total Diesel Range Petroleum Hydrocarbons

ND = Not Detected

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INITIAL MONITORING WELL LOCATIONS

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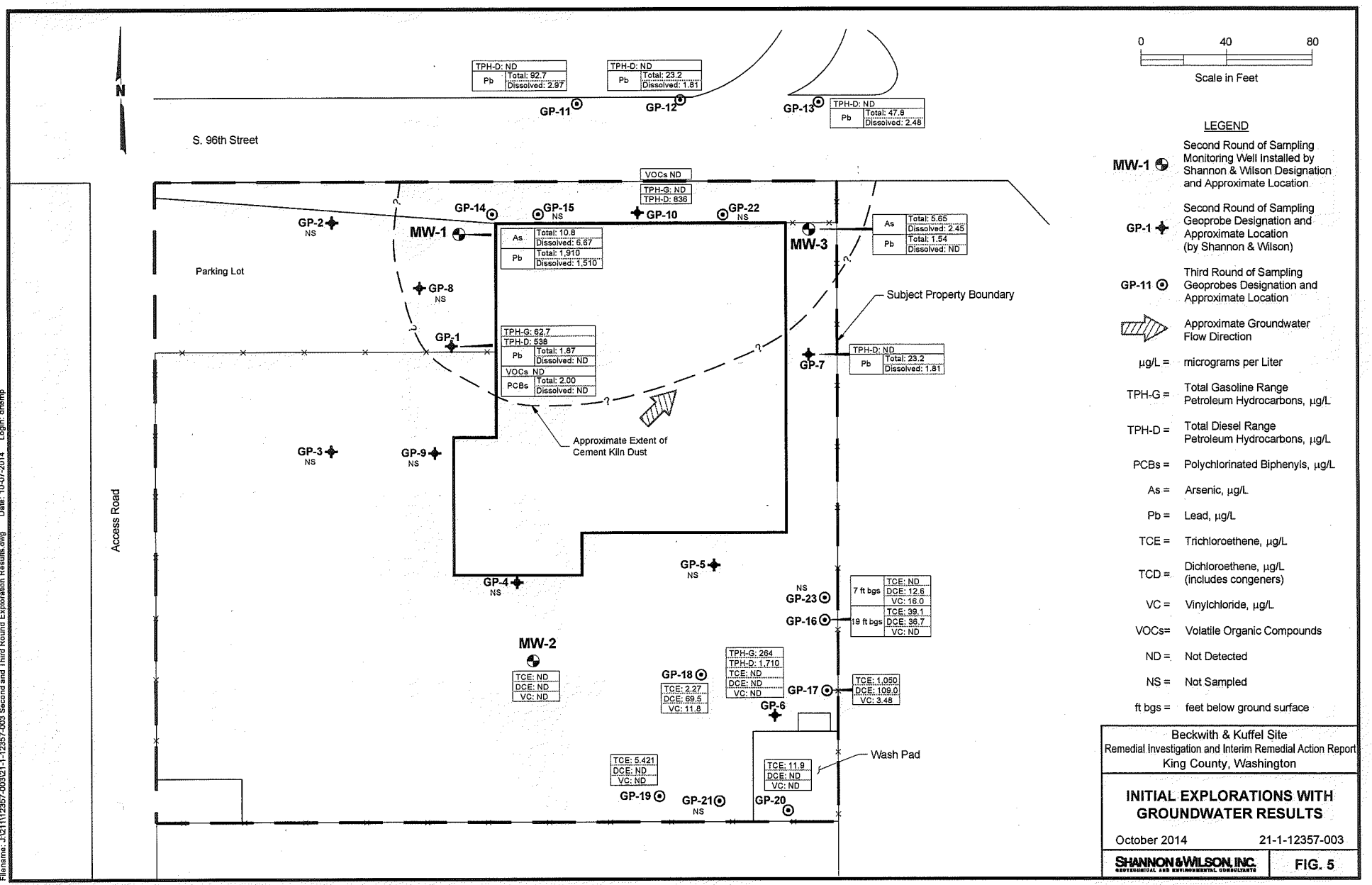
FIG. 4

Filename: J:\21\1\12357-003\21-1-12357-003 Site Plans.dwg Date: 10-07-2014 Login: drtemp



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INITIAL EXPLORATIONS WITH GROUNDWATER RESULTS

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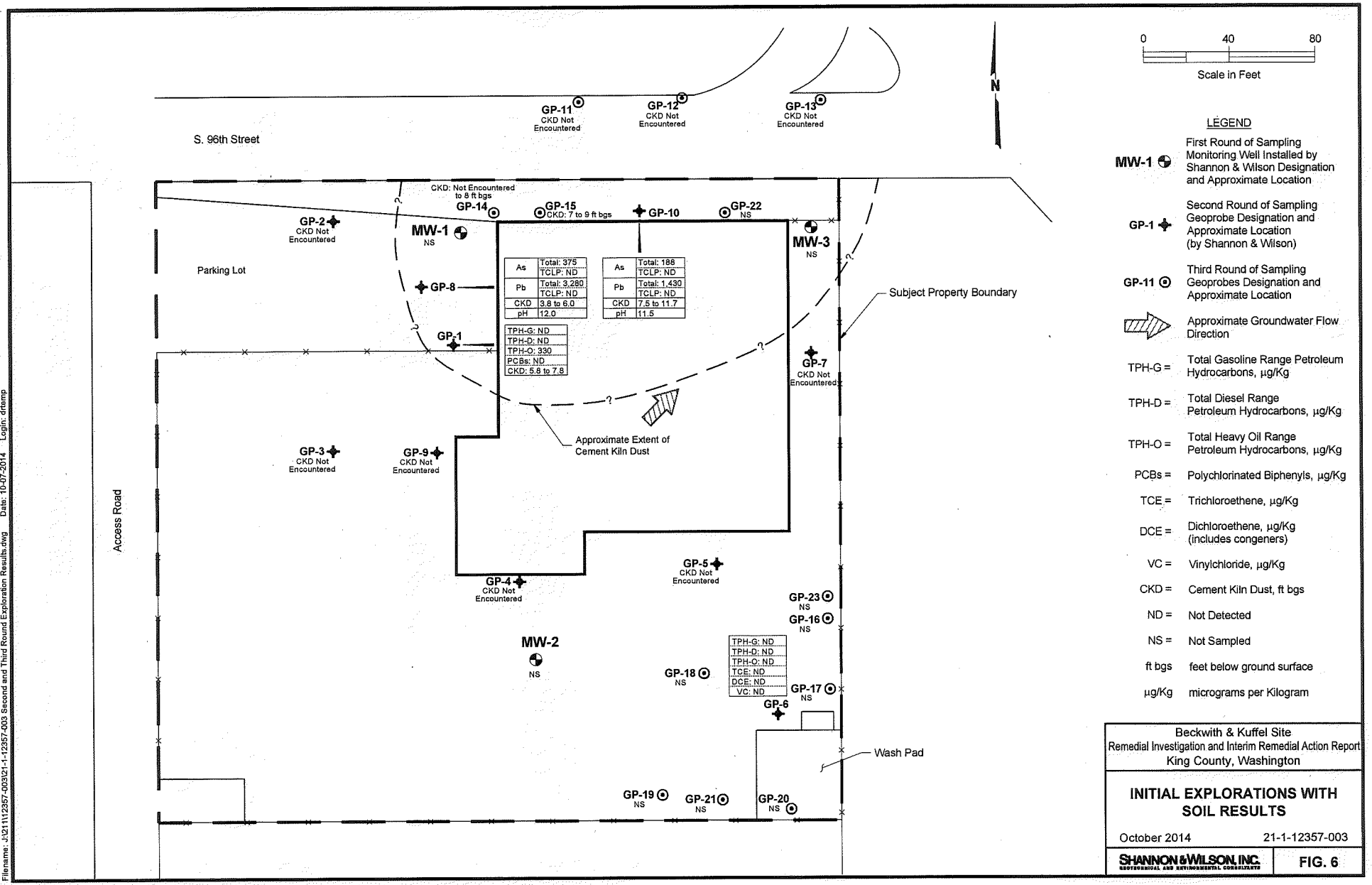
FIG. 5



LEGEND

MW-1	First Round of Sampling Monitoring Well Installed by Shannon & Wilson Designation and Approximate Location
GP-1	Second Round of Sampling Geoprobe Designation and Approximate Location (by Shannon & Wilson)
GP-11	Third Round of Sampling Geoprobes Designation and Approximate Location
	Approximate Groundwater Flow Direction
TPH-G =	Total Gasoline Range Petroleum Hydrocarbons, µg/Kg
TPH-D =	Total Diesel Range Petroleum Hydrocarbons, µg/Kg
TPH-O =	Total Heavy Oil Range Petroleum Hydrocarbons, µg/Kg
PCBs =	Polychlorinated Biphenyls, µg/Kg
TCE =	Trichloroethene, µg/Kg
DCE =	Dichloroethene, µg/Kg (includes congeners)
VC =	Vinylchloride, µg/Kg
CKD =	Cement Kiln Dust, ft bgs
ND =	Not Detected
NS =	Not Sampled
ft bgs	feet below ground surface
µg/Kg	micrograms per Kilogram

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INITIAL EXPLORATIONS WITH SOIL RESULTS

October 2014 21-1-12357-003

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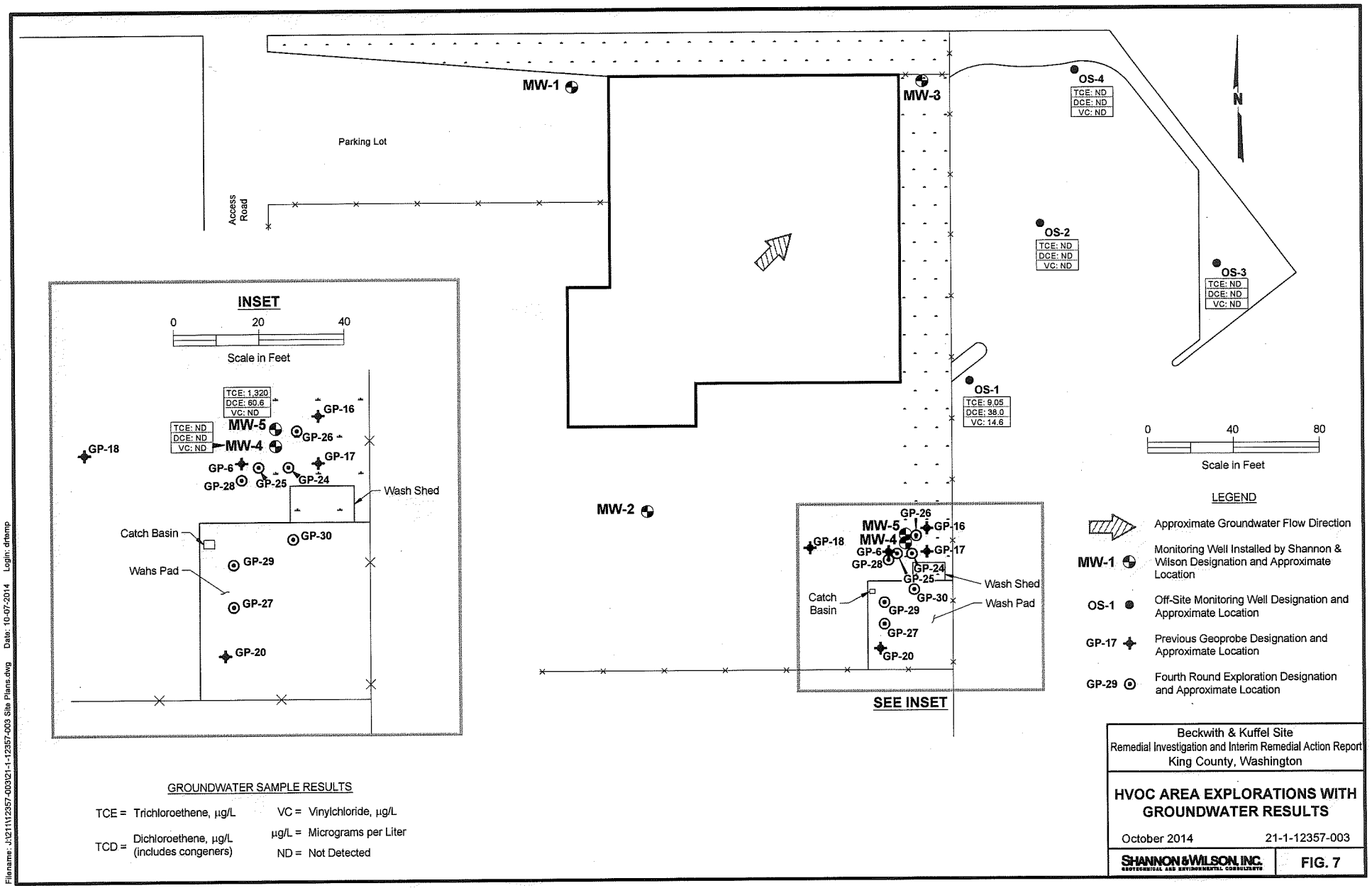
FIG. 6

Filename: J:\21\1\12357-003\21-1-12357-003 Second and Third Round Exploration Results.dwg Date: 10-07-2014 Login: dtamp



GROUNDWATER SAMPLE RESULTS

TCE = Trichloroethene, µg/L
TCD = Dichloroethene, µg/L (includes congeners)
VC = Vinylchloride, µg/L
µg/L = Micrograms per Liter
ND = Not Detected

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HVOC AREA EXPLORATIONS WITH GROUNDWATER RESULTS

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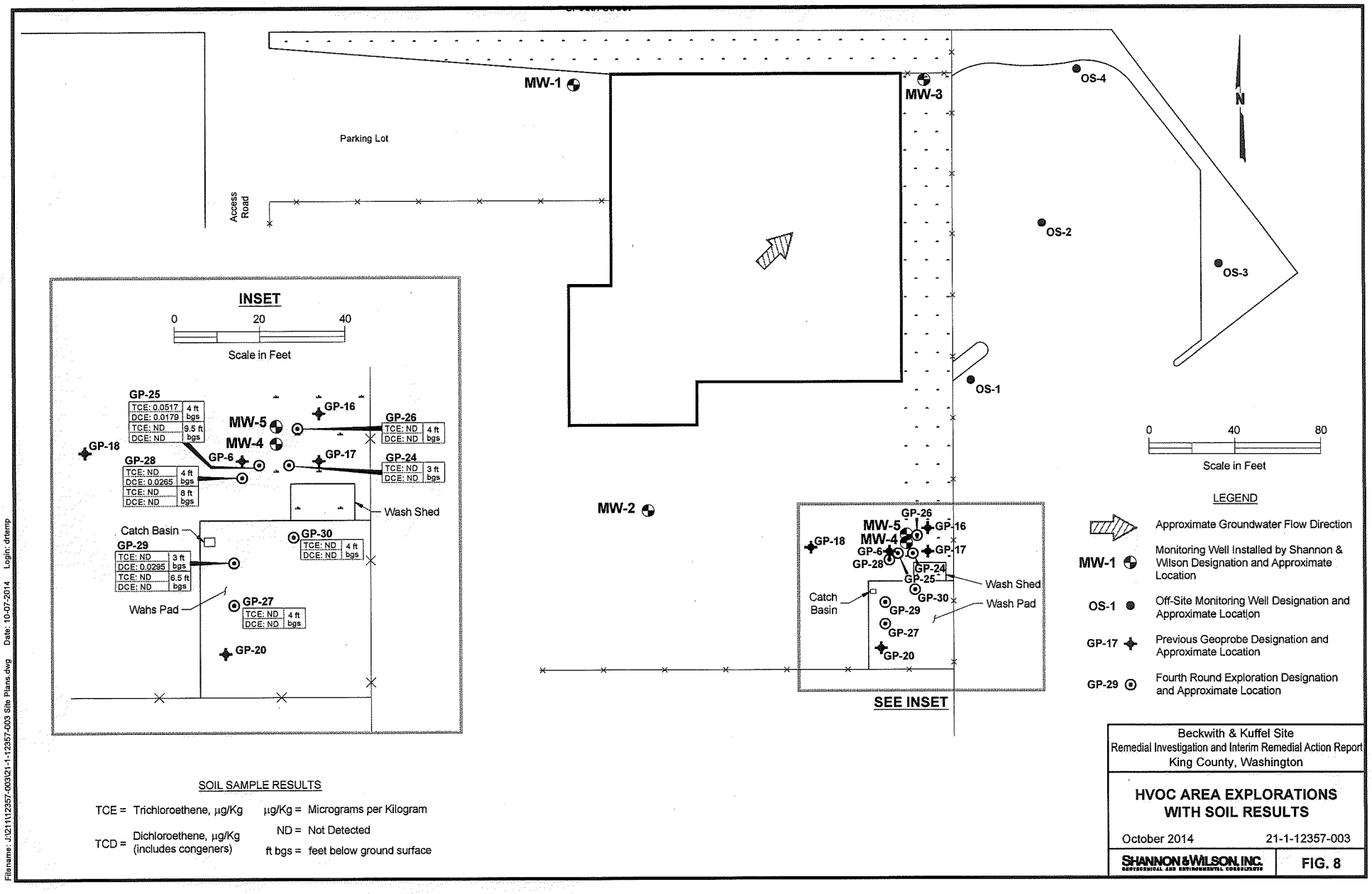
FIG. 7

Filename: J:\21\12357-003\21-1-12357-003 Site Plans.dwg Date: 10-07-2014 Login: drtemp



SOIL SAMPLE RESULTS

TCE = Trichloroethene, µg/Kg
TCD = Dichloroethene, µg/Kg (includes congeners)
µg/Kg = Micrograms per Kilogram
ND = Not Detected
ft bgs = feet below ground surface

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HVOC AREA EXPLORATIONS WITH SOIL RESULTS

October 2014 21-1-12357-003

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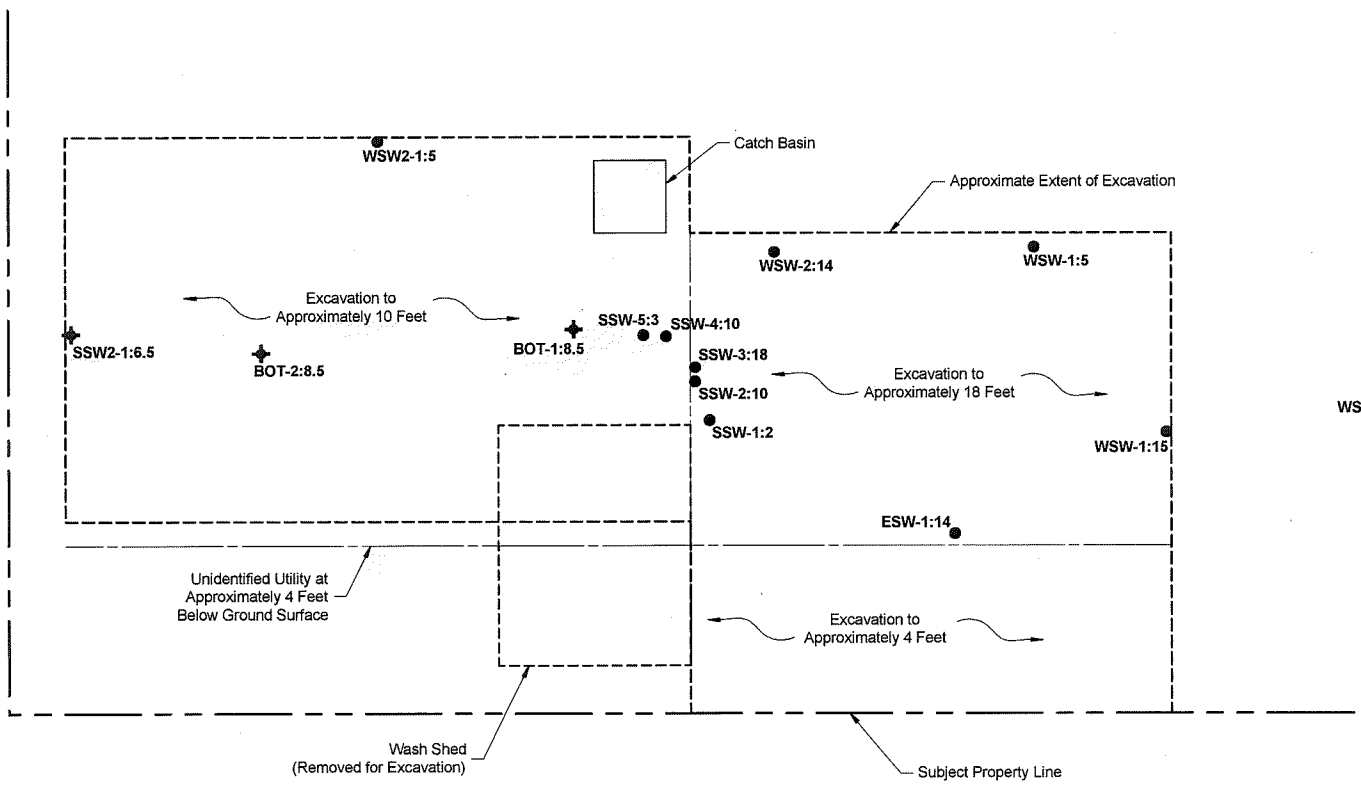
FIG. 8

Filename: J:\21\12357-003\21-1-12357-003 Site Plans.dwg Date: 10-07-2014 Login: drtemp



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REMEDIAL EXCAVATION AREA

October 2014 21-1-12357-003

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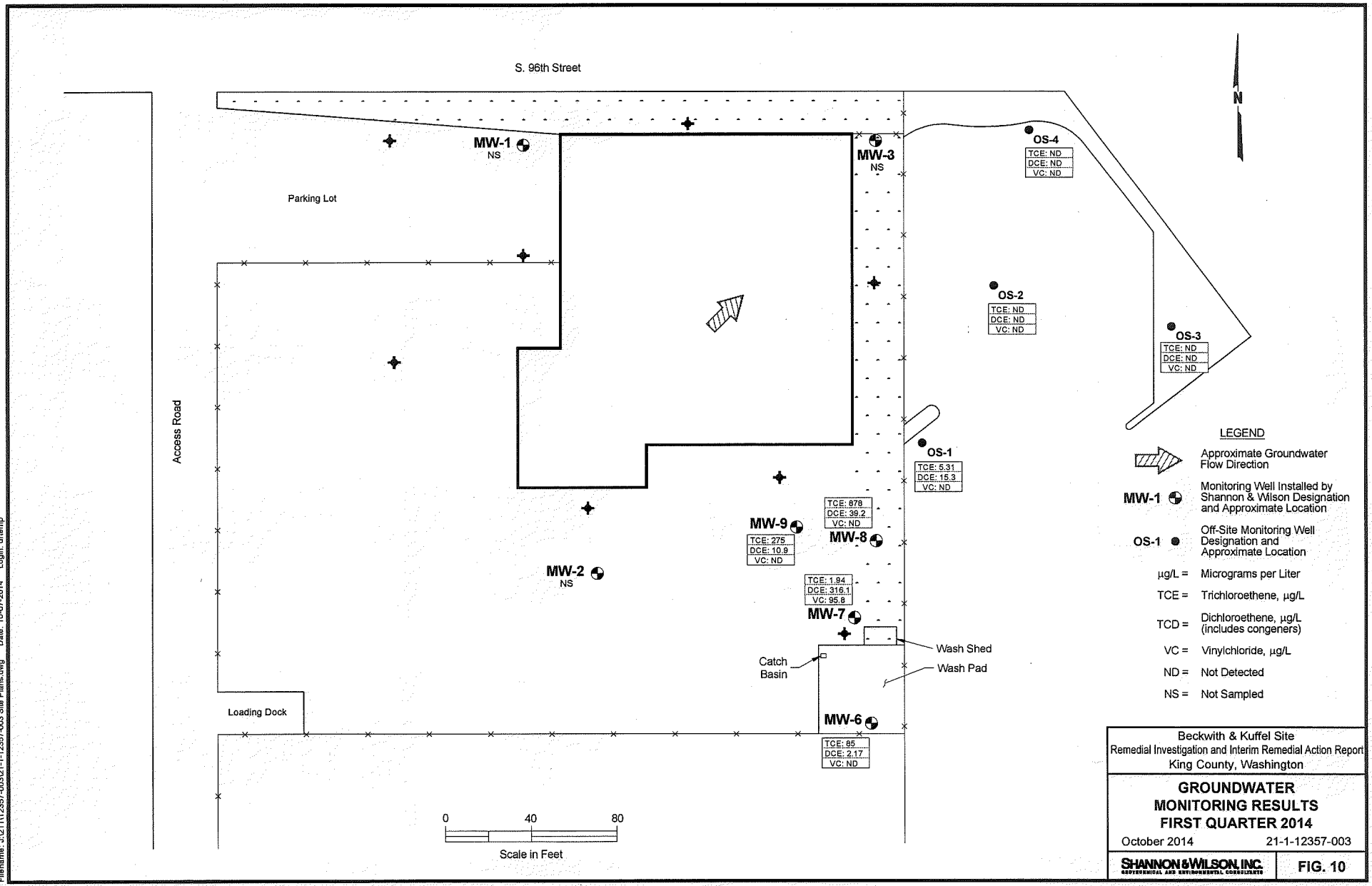
FIG. 9

Filename: J:\21\12357-003\21-1-12357-003 Site Plans.dwg Date: 10-07-2014 Login: drtemp



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GROUNDWATER MONITORING RESULTS FIRST QUARTER 2014

October 2014 21-1-12357-003

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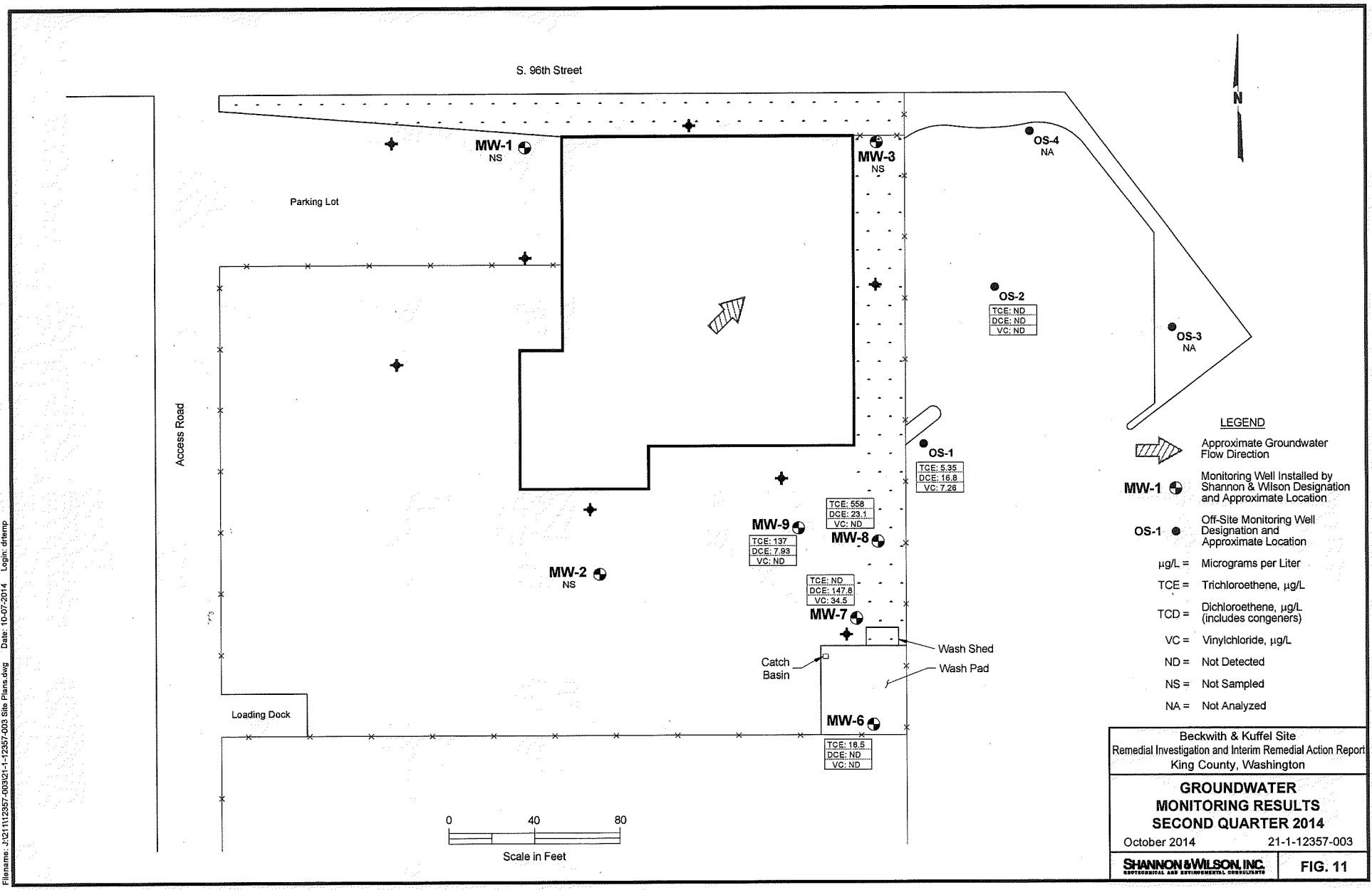
FIG. 10

Filename: J:\21\1\12357-003\21-1-12357-003 Site Plans.dwg Date: 10-07-2014 Login: drtemp



Filename: J:\21\1\12357-003\21-1-12357-003 Site Plans.dwg Date: 10-07-2014 Login: drtemp

APPENDIX A

MONITORING WELL AND GEOPROBE LOGS

Shannon & Wilson, Inc. (S&W), uses a soil classification system modified from the Unified Soil Classification System (USCS). Elements of the USCS and other definitions are provided on this and the following page. Soil descriptions are based on visual-manual procedures (ASTM D2488-93) unless otherwise noted.

S&W CLASSIFICATION OF SOIL CONSTITUENTS

- MAJOR constituents compose more than 50 percent, by weight, of the soil. Major consituents are capitalized (i.e., SAND).
- Minor constituents compose 12 to 50 percent of the soil and precede the major constituents (i.e., silty SAND). Minor constituents preceded by "slightly" compose 5 to 12 percent of the soil (i.e., slightly silty SAND).
- Trace constituents compose 0 to 5 percent of the soil (i.e., slightly silty SAND, trace of gravel).

MOISTURE CONTENT DEFINITIONS

Dry	Absence of moisture, dusty, dry to the touch
Moist	Damp but no visible water
Wet	Visible free water, from below water table

ABBREVIATIONS

ATD	At Time of Drilling
Elev.	Elevation
ft	feet
FeO	Iron Oxide
MgO	Magnesium Oxide
HSA	Hollow Stem Auger
ID	Inside diameter
in	inches
lbs	pounds
Mon.	Monument cover
N	Blows for last two 6-inch increments
NA	Not applicable or not available
NAD	North American Datum (year)
NAVD	North American Vertical Datum (year)
NGVD	National Geodetic Vertical Datum (year)
NP	Non plastic
OD	Outside diameter
OVA	Organic vapor analyzer
PID	Photo-ionization detector
ppm	parts per million
PVC	Polyvinyl Chloride
SS	Split spoon sampler
SPT	Standard penetration test
USC	Unified soil classification
WOH	Weight of hammer
WOR	Weight of drill rods

GRAIN SIZE DEFINITION

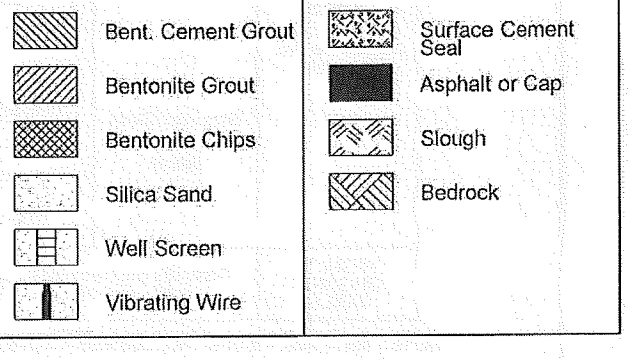
DESCRIPTION	SIEVE NUMBER AND/OR SIZE
FINES	< #200 (0.08 mm)
SAND*	
- Fine	#200 to #40 (0.08 to 0.4 mm)
- Medium	#40 to #10 (0.4 to 2 mm)
- Coarse	#10 to #4 (2 to 5 mm)
GRAVEL*	
- Fine	#4 to 3/4 inch (5 to 19 mm)
- Coarse	3/4 to 3 inches (19 to 76 mm)
COBBLES	3 to 12 inches (76 to 305 mm)
BOULDERS	> 12 inches (305 mm)

* Unless otherwise noted, sand and gravel, when present, range from fine to coarse in grain size.

RELATIVE DENSITY / CONSISTENCY

COARSE-GRAINED SOILS		FINE-GRAINED SOILS	
N, SPT, BLOWS/FT.	RELATIVE DENSITY	N, SPT, BLOWS/FT.	RELATIVE CONSISTENCY
0 - 4	Very loose	Under 2	Very soft
4 - 10	Loose	2 - 4	Soft
10 - 30	Medium dense	4 - 8	Medium stiff
30 - 50	Dense	8 - 15	Stiff
Over 50	Very dense	15 - 30	Very stiff
		Over 30	Hard

WELL AND OTHER SYMBOLS



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SOIL CLASSIFICATION AND LOG KEY

October 2014 21-1-12357-003

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. A-1
Sheet 1 of 2

BORING CLASS1 21-12357.GPJ SWNEW.GDT 10/7/14

UNIFIED SOIL CLASSIFICATION SYSTEM (USCS)
(From USACE Tech Memo 3-357)

MAJOR DIVISIONS			GROUP/GRAPHIC SYMBOL		TYPICAL DESCRIPTION
COARSE-GRAINED SOILS *(more than 50% retained on No. 200 sieve)*	Gravels *(more than 50% of coarse fraction retained on No. 4 sieve)*	Clean Gravels *(less than 5% fines)*	GW		Well-graded gravels, gravels, gravel/sand mixtures, little or no fines.
			GP		Poorly graded gravels, gravel-sand mixtures, little or no fines
		Gravels with Fines *(more than 12% fines)*	GM		Silty gravels, gravel-sand-silt mixtures
			GC		Clayey gravels, gravel-sand-clay mixtures
	Sands *(50% or more of coarse fraction passes the No. 4 sieve)*	Clean Sands *(less than 5% fines)*	SW		Well-graded sands, gravelly sands, little or no fines
			SP		Poorly graded sand, gravelly sands, little or no fines
		Sands with Fines *(more than 12% fines)*	SM		Silty sands, sand-silt mixtures
			SC		Clayey sands, sand-clay mixtures
FINE-GRAINED SOILS *(50% or more passes the No. 200 sieve)*	Silts and Clays *(liquid limit less than 50)*	Inorganic	ML		Inorganic silts of low to medium plasticity, rock flour, sandy silts, gravelly silts, or clayey silts with slight plasticity
			CL		Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
		Organic	OL		Organic silts and organic silty clays of low plasticity
	Silts and Clays *(liquid limit 50 or more)*	Inorganic	MH		Inorganic silts, micaceous or diatomaceous fine sands or silty soils, elastic silt
			CH		Inorganic clays of medium to high plasticity, sandy fat clay, or gravelly fat clay
		Organic	OH		Organic clays of medium to high plasticity, organic silts
HIGHLY-ORGANIC SOILS	Primarily organic matter, dark in color, and organic odor		PT		Peat, humus, swamp soils with high organic content (see ASTM D 4427)

NOTE: No. 4 size = 5 mm; No. 200 size = 0.075 mm

NOTES

1. Dual symbols *(symbols separated by a hyphen, i.e., SP-SM, slightly silty fine SAND)* are used for soils with between 5% and 12% fines or when the liquid limit and plasticity index values plot in the CL-ML area of the plasticity chart.

2. Borderline symbols *(symbols separated by a slash, i.e., CL/ML, silty CLAY/clayey SILT; GW/SW, sandy GRAVEL/gravelly SAND)* indicate that the soil may fall into one of two possible basic groups.

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SOIL CLASSIFICATION AND LOG KEY

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SHANNON & WILSON, INC.
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FIG. A-1
Sheet 2 of 2

BORING CLASS2 21-12357.GPJ SWNEW.GDT 10/7/14

LOG OF GEOPROBE

Date Started 4/23/12	Location	Ground Elevation: Approx. NA feet	
Date Completed 4/23/12		Typical Run Length feet	
Total Depth (ft) 12.0	Drilling Company: ESN Northwest	Hole Diameter: inches	

Depth (ft)	Probe Run	Soil Description	Depth, ft.	Symbol	PID, ppm	Ground Water	Sample Number and Description	Depth (ft)
		Refer to the report text for a proper understanding of the subsurface materials and probing methods. The stratification lines indicated below represent the approximate boundaries between soil types. Actual boundaries may be different if soil shifted inside sample tubes during extraction.						
		ASPHALT.	0.3					
		Brown, gravelly, silty SAND; dry to moist; (Fill) SM.	1.0					
5		Gray to dark gray, slightly gravelly, slightly sandy, silty CLAY/clayey SILT; moist (wet from 5.7 to 5.9 feet); trace of organics; (Fill) ML/CL.	5.9					5
		Light gray cement kiln dust; moist; ML.	7.8					
10	GP-1-WA GP-1:8	Dark gray, slightly gravelly, silty SAND, sand SILT; wet; light hydrocarbon odor; SM/ML.	9.6					10
		Light brown, slightly silty, medium to coarse, sandy GRAVEL; moist; GM.	9.9					
15		Dark reddish-brown, clayey PEAT; PT.	11.2					15
		Brown to light brown, slightly silty, peaty CLAY; moist; CL.	12.0					
20		BOTTOM OF GEOPROBE COMPLETED 4/23/2012						20
25								25
30								30
35								35
40								40
45								45

Typ: CLP
Rev: CMJ
Log: CMJ
GEOPROBE CMJ 21-12357.GPJ 21-16604.GPJ 10/7/14

NOTES

1. In some cases where recovery was low in the upper part of the run, the soil sample may have slid down in the tube prior to removal from the ground.
2. Groundwater level, if indicated above, was estimated during probing and should be considered approximate.
3. Refer to KEY for definitions and explanation of symbols.
4. CT = corrosion test sample; TR = thermal resistivity sample; EN = environmental sample; GE = geotechnical sample; AR = archeological sample.

LEGEND

3 — Run No.
2" Plastic Tube - No Soil Recovery
2" Plastic Tube with Soil Recovery
▽ Estimated Water Level

Beckwith & Kuffel Site
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LOG OF GEOPROBE GP-1

October 2014 21-1-12357-003

SHANNON & WILSON, INC.
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FIG. A-2

LOG OF GEOPROBE

Date Started 4/23/12	Location	Ground Elevation: Approx. NA feet	
Date Completed 4/23/12		Typical Run Length feet	
Total Depth (ft) 12.0	Drilling Company: ESN Northwest	Hole Diameter: inches	

Depth (ft)	Probe Run	Soil Description	Depth, ft.	Symbol	PID, ppm	Ground Water	Sample Number and Description	Depth (ft)
		Refer to the report text for a proper understanding of the subsurface materials and probing methods. The stratification lines indicated below represent the approximate boundaries between soil types. Actual boundaries may be different if soil shifted inside sample tubes during extraction.						
		ASPHALT.	0.4					
		Light brown/light gray, slightly gravelly, slightly silty SAND; dry to moist; (Fill) SM.	1.5					
5		Gray to dark gray, slightly sandy, silty clay to clayey SILT; moist; ML.	5.5					5
		Light gray, slightly gravelly to gravelly, slightly silty sandy, silty CLAY; moist; CL.	7.5					
10		Dark reddish-brown, slightly sandy, clayey PEAT; moist; PT.	8.5					10
		Gray, slightly silty, slightly gravelly SAND; wet; SM.	10.0					
		Brown, slightly sandy, slightly gravelly PEAT; PT.	11.0					
15		Brown, slightly peaty, slightly silty CLAY; moist; CL.	12.0					15
20								20
25								25
30								30
35								35
40								40
45								45

Typ: CLP Rev: CMJ Log: CMJ GEOPROBE_CMJ_21-12357.GPJ 21-16604.GPJ 10/7/14

NOTES

1. In some cases where recovery was low in the upper part of the run, the soil sample may have slid down in the tube prior to removal from the ground.
2. Groundwater level, if indicated above, was estimated during probing and should be considered approximate.
3. Refer to KEY for definitions and explanation of symbols.
4. CT = corrosion test sample; TR = thermal resistivity sample; EN = environmental sample; GE = geotechnical sample; AR = archeological sample.

LEGEND

3 — 2" Plastic Tube - No Soil Recovery
2" Plastic Tube with Soil Recovery — Run No.
▽ Estimated Water Level

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LOG OF GEOPROBE GP-2

October 2014 21-1-12357-003

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FIG. A-3

LOG OF GEOPROBE

Date Started 4/23/12	Location	Ground Elevation: Approx. NA feet	
Date Completed 4/23/12		Typical Run Length 4 feet	
Total Depth (ft) 12.0	Drilling Company: ESN Northwest	Hole Diameter: inches	

Depth (ft)	Probe Run	Soil Description	Depth, ft.	Symbol	PID, ppm	Ground Water	Sample Number and Description	Depth (ft)
		Refer to the report text for a proper understanding of the subsurface materials and probing methods. The stratification lines indicated below represent the approximate boundaries between soil types. Actual boundaries may be different if soil shifted inside sample tubes during extraction.						
		ASPHALT.	0.3					
		Brown, slightly gravelly, slightly silty SAND, slightly sandy SILT; moist; SM-ML.	2.0					
5		Dark gray, slightly gravelly, slightly sandy, clayey SILT, silty CLAY; moist; ML-CL.						5
10		Gray, slightly sandy, silty CLAY to clayey SILT, trace of gravel; moist to wet; ML-CL.	10.5					10
		Reddish-brown, slightly silty PEAT; moist; PT.	11.2					
15		Gray, slightly silty CLAY to silty SAND; moist; SM-CL.	11.8					15
		BOTTOM OF GEOPROBE	12.0					
		COMPLETED 4/23/2012						
20								20
25								25
30								30
35								35
40								40
45								45

Typ: CLP Rev: CMJ Log: CMJ

GEOPROBE CMJ 21-12357.GPJ 21-16604.GPJ 10/7/14

NOTES

1. In some cases where recovery was low in the upper part of the run, the soil sample may have slid down in the tube prior to removal from the ground.
2. Groundwater level, if indicated above, was estimated during probing and should be considered approximate.
3. Refer to KEY for definitions and explanation of symbols.
4. CT = corrosion test sample; TR = thermal resistivity sample; EN = environmental sample; GE = geotechnical sample; AR = archeological sample.

LEGEND

3 — Run No.

2" Plastic Tube - No Soil Recovery

2" Plastic Tube with Soil Recovery

▽ Estimated Water Level

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LOG OF GEOPROBE GP-3

October 2014 21-1-12357-003

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FIG. A-4

LOG OF GEOPROBE

Date Started: 8/29/13	Location: S of wash shed	Ground Elevation: Approx. NA feet	
Date Completed: 8/29/13		Typical Run Length: 5 feet	
Total Depth (ft): 10.0	Drilling Company: ESN Northwest	Hole Diameter: 1.75 inches	

Depth (ft)	Probe Run	Soil Description	Depth, ft.	Symbol	PID, ppm	Ground Water	Sample Number and Description	Depth (ft)
	1	CONCRETE.	0.3					
		Brown, slightly silty, slightly gravelly SAND; moist; SM.	1.0					
5	2	Brown grading to gray at approximately 3.5 feet, silty CLAY to clayey SILT; moist to wet; ML/CL.				During Drilling ▽		5
		Blue-gray/brown mottled, slightly silty, slightly sandy CLAY; moist; CL.	6.8					
10		Gray, slightly sandy, slightly silty GRAVEL; moist to wet; GM.	9.5					10
		BOTTOM OF GEOPROBE COMPLETED 8/29/2013	10.0					
15								15

NOTES

1. In some cases where recovery was low in the upper part of the run, the soil sample may have slid down in the tube prior to removal from the ground.
2. Groundwater level, if indicated above, was estimated during probing and should be considered approximate.
3. Refer to KEY for definitions and explanation of symbols.
4. CT = corrosion test sample; TR = thermal resistivity sample; EN = environmental sample; GE = geotechnical sample; AR = archeological sample.

LEGEND

3 — 2" Plastic Tube - No Soil Recovery
2" Plastic Tube with Soil Recovery — ▽ Estimated Water Level
Run No.

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LOG OF GEOPROBE GP-30

October 2014 — 21-1-12357-003

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FIG. A-31

GEOPROBE CMJ 21-12357.GPJ 21-16604.GPJ 10/7/14 Log: CMJ Rev: CMJ Typ: LKN

LOG OF GEOPROBE

Date Started 4/23/12	Location *Southwest side of building*	Ground Elevation: *Approx. NA feet*	
Date Completed 4/23/12		Typical Run Length *4 feet*	
Total Depth (ft) 12.0	Drilling Company: *ESN Northwest*	Hole Diameter: *2 inches*	

Depth (ft)	Probe Run	Soil Description	Depth, ft.	Symbol	PID, ppm	Ground Water	Sample Number and Description	Depth (ft)
		Refer to the report text for a proper understanding of the subsurface materials and probing methods. The stratification lines indicated below represent the approximate boundaries between soil types. Actual boundaries may be different if soil shifted inside sample tubes during extraction.						
		ASPHALT.	0.3					
		Gray to dark gray, slightly silty, sandy GRAVEL to gravelly SAND; moist; SP-SM/GP-GM.	1.8				GP-4:35 1310	
5		Dark gray, silty CLAY/clayey SILT, trace of gravel and sand, light hydrocarbon odor from approximately 3.5 to 4.0 feet below ground surface; moist; ML/CL.	6.2					5
		Light brown, slightly gravelly SAND, trace of silt; moist; SP.	6.5					
10		Dark brown, slightly gravelly, silty PEAT/peaty SILT; moist to wet (at 8.8 feet); PT-ML.	10.8					10
		Gray, slightly sandy, slightly peaty, silty CLAY; moist; CL.	12.0					
15		BOTTOM OF GEOPROBE COMPLETED 4/23/2012						15
20								20
25								25
30								30
35								35
40								40
45								45

Typ: CLP
Rev: CMJ
Log: CMJ
GEOPROBE CMJ 21-12357.GPJ 21-16604.GPJ 10/7/14

NOTES

1. In some cases where recovery was low in the upper part of the run, the soil sample may have slid down in the tube prior to removal from the ground.
2. Groundwater level, if indicated above, was estimated during probing and should be considered approximate.
3. Refer to KEY for definitions and explanation of symbols.
4. CT = corrosion test sample; TR = thermal resistivity sample; EN = environmental sample; GE = geotechnical sample; AR = archeological sample.

LEGEND

3 — Run No.
2" Plastic Tube - No Soil Recovery
2" Plastic Tube with Soil Recovery
▽ Estimated Water Level

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LOG OF GEOPROBE GP-4

October 2014 21-1-12357-003

SHANNON & WILSON, INC.
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FIG. A-5

LOG OF GEOPROBE

Date Started: 4/23/12	Location: Southeast side of building	Ground Elevation: Approx. NA feet
Date Completed: 4/23/12		Typical Run Length: 4 feet
Total Depth (ft): 12.0	Drilling Company: ESN Northwest	Hole Diameter: 2 inches

Depth (ft)	Probe Run	Soil Description	Depth, ft.	Symbol	PID, ppm	Ground Water	Sample Number and Description	Depth (ft)
		Refer to the report text for a proper understanding of the subsurface materials and probing methods. The stratification lines indicated below represent the approximate boundaries between soil types. Actual boundaries may be different if soil shifted inside sample tubes during extraction.						
		ASPHALT.	0.3					
		Gray, slightly sandy, slightly silty GRAVEL; moist; GP-GM.	1.0					
		Gray to dark gray, slightly gravelly, silty CLAY to clayey SILT, trace of sand; moist; CL/ML.	5.5					
		Light gray and brown, mottled, slightly silty, sandy PEAT; moist; PT.	6.2					
		Brown, slightly peaty, slightly clayey SILT, trace of sand and gravel; moist; ML.	7.7					
		Gray, slightly coarse sandy, slightly clayey SILT; moist; ML.	10.4					
		Gray and brown, slightly silty CLAY, trace of coarse sand/fine gravel, occasional silty sand; lenses; CL.	12.0					
		BOTTOM OF GEOPROBE COMPLETED 4/23/2012						

NOTES

1. In some cases where recovery was low in the upper part of the run, the soil sample may have slid down in the tube prior to removal from the ground.
2. Groundwater level, if indicated above, was estimated during probing and should be considered approximate.
3. Refer to KEY for definitions and explanation of symbols.
4. CT = corrosion test sample; TR = thermal resistivity sample; EN = environmental sample; GE = geotechnical sample; AR = archeological sample.

LEGEND

3 — Run No.

2" Plastic Tube - No Soil Recovery

2" Plastic Tube with Soil Recovery

▽ Estimated Water Level

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King County, Washington

LOG OF GEOPROBE GP-5

October 2014 21-1-12357-003

SHANNON & WILSON, INC.
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FIG. A-6

GEOPROBE CMJ 21-12357.GPJ 21-16604.GPJ 10/7/14 Log: CMJ Rev: CMJ Typ: CLP

LOG OF GEOPROBE

Date Started: 4/23/12	Location: Southeast corner of site	Ground Elevation: Approx. NA feet	
Date Completed: 4/23/12		Typical Run Length: 4 feet	
Total Depth (ft): 12.0	Drilling Company: ESN Northwest	Hole Diameter: 2 inches	

Depth (ft)	Probe Run	Soil Description	Depth, ft.	Symbol	PID, ppm	Ground Water	Sample Number and Description	Depth (ft)
		Refer to the report text for a proper understanding of the subsurface materials and probing methods. The stratification lines indicated below represent the approximate boundaries between soil types. Actual boundaries may be different if soil shifted inside sample tubes during extraction.						
		ASPHALT.	0.3					
		Brown, slightly silty, gravelly SAND; dry to moist; SM-SP.	1.1					
		Dark gray, slightly gravelly, sandy, clayey SILT to silty CLAY; moist; ML/CL.	3.8					
5		Brown, silty PEAT/peaty SILT; moist; ML/PT.	4.2					5
		Light gray, slightly gravelly, slightly sandy, slightly clayey SILT; moist; ML.	7.0				GP-6:8 1115	
10		Brown to light brown, slightly gravelly, slightly clayey to clayey, sandy SILT; moist; wet from 9 to 10 feet; ML-CL/CL.	12.0				GP-6-WA 1120	10
		BOTTOM OF GEOPROBE						
		COMPLETED 4/23/2012						
15								15
20								20
25								25
30								30
35								35
40								40
45								45

Typ: CLP Rev: CMJ Log: CMJ

GEOPROBE CMJ 21-12357.GPJ 21-16604.GPJ 10/7/14

NOTES

1. In some cases where recovery was low in the upper part of the run, the soil sample may have slid down in the tube prior to removal from the ground.
2. Groundwater level, if indicated above, was estimated during probing and should be considered approximate.
3. Refer to KEY for definitions and explanation of symbols.
4. CT = corrosion test sample; TR = thermal resistivity sample; EN = environmental sample; GE = geotechnical sample; AR = archeological sample.

LEGEND

3 — Run No.

2" Plastic Tube - No Soil Recovery

2" Plastic Tube with Soil Recovery ▽ Estimated Water Level

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LOG OF GEOPROBE GP-6

October 2014 21-1-12357-003

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FIG. A-7

LOG OF GEOPROBE

Date Started: 4/23/12	Location: East side of building	Ground Elevation: Approx. NA feet
Date Completed: 4/23/12		Typical Run Length: 4 feet
Total Depth (ft): 16.0	Drilling Company: ESN Northwest	Hole Diameter: 2 inches

Depth (ft)	Probe Run	Soil Description	Depth, ft.	Symbol	PID, ppm	Ground Water	Sample Number and Description	Depth (ft)
		Refer to the report text for a proper understanding of the subsurface materials and probing methods. The stratification lines indicated below represent the approximate boundaries between soil types. Actual boundaries may be different if soil shifted inside sample tubes during extraction.						
		Dark brown, slightly sandy SILT, numerous organics; moist; (Topsoil) ML.	0.3					
		Brown, gravelly to slightly gravelly, silty SAND to sandy SILT, trace of clay; moist; SM/ML.	3.5					
5		Gray, slightly gravelly, clayey SILT, silty CLAY, trace of sand; moist; ML/CL.	6.0					5
		Gray and reddish-brown, slightly sandy, slightly silty PEAT, trace of gravel; wet; PT.	7.2					
10		Dark gray, slightly gravelly, slightly sandy, silty CLAY to clayey SILT; moist (wet from 8.5 to 9.5 feet); CL/ML.	11.0			▽ During Drilling		10
15		Dark gray/reddish-brown, clayey PEAT, grading to PEAT at approximately 11.7 bgs; wet; CL-PT/PT.	16.0					15
		BOTTOM OF GEOPROBE COMPLETED 4/23/2012						
20								20
25								25
30								30
35								35
40								40
45								45

NOTES

1. In some cases where recovery was low in the upper part of the run, the soil sample may have slid down in the tube prior to removal from the ground.
2. Groundwater level, if indicated above, was estimated during probing and should be considered approximate.
3. Refer to KEY for definitions and explanation of symbols.
4. CT = corrosion test sample; TR = thermal resistivity sample; EN = environmental sample; GE = geotechnical sample; AR = archeological sample.

LEGEND

3 — Run No.

2" Plastic Tube - No Soil Recovery

2" Plastic Tube with Soil Recovery

▽ Estimated Water Level

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LOG OF GEOPROBE GP-7

October 2014 21-1-12357-003

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FIG. A-8

GEOPROBE.CMJ 21-12357.GPJ 21-16604.GPJ 10/7/14 Log: CMJ Rev: CMJ Typ: CLP

LOG OF GEOPROBE

Date Started 4/23/12	Location *Parking lot west of building*	Ground Elevation: *Approx. NA feet*	
Date Completed 4/23/12		Typical Run Length *4 feet*	
Total Depth (ft) 6.5	Drilling Company: *ESN Northwest*	Hole Diameter: *2 inches*	

Depth (ft)	Probe Run	Soil Description	Depth, ft.	Symbol	PID, ppm	Ground Water	Sample Number and Description	Depth (ft)
		Refer to the report text for a proper understanding of the subsurface materials and probing methods. The stratification lines indicated below represent the approximate boundaries between soil types. Actual boundaries may be different if soil shifted inside sample tubes during extraction.						
		ASPHALT.	0.3					
		Gray, slightly silty, sightly sandy GRAVEL; moist; GP-GM.	0.9					
5		Dark gray, slightly sandy, slightly gravelly, silty CLAY/clayey SILT; moist; ML/CL.	3.8				GP-8:4	5
		Cement kiln dust.	6.0					
		Brown, slightly sandy, silty CLAY to clayey SILT; moist; ML/CL.	6.5					
10		REFUSAL AT 6.5 FEET COMPLETED 4/23/2012						10
15								15
20								20
25								25
30								30
35								35
40								40
45								45

Typ: CLP
Rev: CMJ
Log: CMJ
GEOPROBE CMJ 21-12357.GPJ 21-16804.GPJ 10/7/14

NOTES

1. In some cases where recovery was low in the upper part of the run, the soil sample may have slid down in the tube prior to removal from the ground.
2. Groundwater level, if indicated above, was estimated during probing and should be considered approximate.
3. Refer to KEY for definitions and explanation of symbols.
4. CT = corrosion test sample; TR = thermal resistivity sample; EN = environmental sample; GE = geotechnical sample; AR = archeological sample.

LEGEND

3 — 2" Plastic Tube - No Soil Recovery
2" Plastic Tube with Soil Recovery — *Run No.*
▽ Estimated Water Level

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LOG OF GEOPROBE GP-8

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FIG. A-9

LOG OF GEOPROBE

Date Started: 4/23/12	Location: West side of building	Ground Elevation: Approx. NA feet
Date Completed: 4/23/12		Typical Run Length: 4 feet
Total Depth (ft): 12.0	Drilling Company: ESN Northwest	Hole Diameter: 2 inches

Depth (ft)	Probe Run	Soil Description	Depth, ft.	Symbol	PID, ppm	Ground Water	Sample Number and Description	Depth (ft)
		Refer to the report text for a proper understanding of the subsurface materials and probing methods. The stratification lines indicated below represent the approximate boundaries between soil types. Actual boundaries may be different if soil shifted inside sample tubes during extraction.						
0		ASPHALT.	0.3					0
		Gray, slightly silty, gravelly sand; dry; SP-SM.	1.2					
5		Dark gray, slightly gravelly, sandy, clayey SILT to silty CLAY; moist to wet; ML/CL.						5
10		Dark reddish-brown, slightly sandy, silty PEAT; moist; PT.	9.8					10
		BOTTOM OF GEOPROBE COMPLETED 4/23/2012	12.0					
15								15
20								20
25								25
30								30
35								35
40								40
45								45

Typ: CLP
Rev: CMJ
Log: CMJ

GEOPROBE .CMJ 21-12357.GPJ 21-1660A.GPJ 10/7/14

NOTES

1. In some cases where recovery was low in the upper part of the run, the soil sample may have slid down in the tube prior to removal from the ground.
2. Groundwater level, if indicated above, was estimated during probing and should be considered approximate.
3. Refer to KEY for definitions and explanation of symbols.
4. CT = corrosion test sample; TR = thermal resistivity sample; EN = environmental sample; GE = geotechnical sample; AR = archeological sample.

LEGEND

3 — Run No.

2" Plastic Tube - No Soil Recovery

2" Plastic Tube with Soil Recovery ▽ Estimated Water Level

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LOG OF GEOPROBE GP-9

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FIG. A-10

LOG OF GEOPROBE

Date Started 4/24/12	Location North end of building	Ground Elevation: Approx. NA feet	
Date Completed 4/24/12		Typical Run Length 4 feet	
Total Depth (ft) 12.0	Drilling Company: ESN Northwest	Hole Diameter: 2 inches	

Depth (ft)	Probe Run	Soil Description	Depth, ft.	Symbol	PID, ppm	Ground Water	Sample Number and Description	Depth (ft)
		Refer to the report text for a proper understanding of the subsurface materials and probing methods. The stratification lines indicated below represent the approximate boundaries between soil types. Actual boundaries may be different if soil shifted inside sample tubes during extraction.						
		Dark brown, slightly sandy SILT, numerous organics; moist; (Topsoil) ML.	0.3					
5		Brown, slightly gravelly, clayey SILT to silty CLAY, trace of sand and organics in top approximately 1 foot); moist; ML/CL.						5
		Dark gray, slightly gravelly, silty CLAY, trace of sand; moist to wet; ML/CL.	6.8				GP-10:7	
			7.5				GP-10:7.5	
10		Cement kiln dust; moist to wet.						10
		Dark reddish-brown, slightly sandy, silty PEAT; moist; PT.	11.7				GP-10-WA	
		BOTTOM OF GEOPROBE	12.0					
15		COMPLETED 4/24/2012						15
20								20
25								25
30								30
35								35
40								40
45								45

Typ: CLP
Rev: CMJ
Log: CMJ

GEOPROBE.CMJ 21-12357.GPJ 21-16804.GPJ 10/7/14

NOTES

1. In some cases where recovery was low in the upper part of the run, the soil sample may have slid down in the tube prior to removal from the ground.
2. Groundwater level, if indicated above, was estimated during probing and should be considered approximate.
3. Refer to KEY for definitions and explanation of symbols.
4. CT = corrosion test sample; TR = thermal resistivity sample; EN = environmental sample; GE = geotechnical sample; AR = archeological sample.

LEGEND

3 — Run No.

2" Plastic Tube - No Soil Recovery

2" Plastic Tube with Soil Recovery

▽ Estimated Water Level

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LOG OF GEOPROBE GP-10

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FIG. A-11

LOG OF GEOPROBE

Date Started 7/18/12	Location S 96th St ROW	Ground Elevation: Approx. NA feet	
Date Completed 7/18/12		Typical Run Length 4 feet	
Total Depth (ft) 20.0	Drilling Company: ESN Northwest	Hole Diameter: 1.75 inches	

Depth (ft)	Probe Run	Soil Description	Depth, ft.	Symbol	PID, ppm	Ground Water	Sample Number and Description	Depth (ft)
		Refer to the report text for a proper understanding of the subsurface materials and probing methods. The stratification lines indicated below represent the approximate boundaries between soil types. Actual boundaries may be different if soil shifted inside sample tubes during extraction.						
		ASPHALT with gravelly sand, sandy gravel subbase.						
		Gray-brown, clayey SILT to silty CLAY with scattered organics; ML/CL.	1.5					
		Gray, silty CLAY with scattered organics; moist to wet; CL.	4.0			▽ During Drilling		
		Gray, slightly sandy, clayey SILT; wet; trace scattered organics; ML.	16.0					
		Gray, slightly silty, fine to medium SAND, trace of gravel; wet; scattered shell fragments; SP-SM.	18.0					
		BOTTOM OF GEOPROBE COMPLETED 7/18/2012	20.0					

NOTES

1. In some cases where recovery was low in the upper part of the run, the soil sample may have slid down in the tube prior to removal from the ground.
2. Groundwater level, if indicated above, was estimated during probing and should be considered approximate.
3. Refer to KEY for definitions and explanation of symbols.
4. CT = corrosion test sample; TR = thermal resistivity sample; EN = environmental sample; GE = geotechnical sample; AR = archeological sample.

LEGEND

3 — 2" Plastic Tube - No Soil Recovery
2" Plastic Tube with Soil Recovery
Run No.
▽ Estimated Water Level

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LOG OF GEOPROBE GP-11

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FIG. A-12

GEOPROBE CMJ 21-12357.GPJ 21-16604.GPJ 10/7/14 Log: EVP Rev: CMJ Typ: LKN

LOG OF GEOPROBE

Date Started: 7/18/12	Location: S 96th St ROW	Ground Elevation:	Approx. NA feet
Date Completed: 7/18/12		Typical Run Length:	4 feet
Total Depth (ft): 27.0	Drilling Company: ESN Northwest	Hole Diameter:	1.75 inches

Depth (ft)	Probe Run	Soil Description	Depth, ft.	Symbol	PID, ppm	Ground Water	Sample Number and Description	Depth (ft)
		Refer to the report text for a proper understanding of the subsurface materials and probing methods. The stratification lines indicated below represent the approximate boundaries between soil types. Actual boundaries may be different if soil shifted inside sample tubes during extraction.						
0		No soil samples collected; hydropunch advanced to 27 feet below ground surface for groundwater sampling.				None Observed During Drilling		0
5								5
10								10
15								15
20								20
25								25
27		BOTTOM OF GEOPROBE COMPLETED 7/18/2012	27.0					27
30								30
35								35
40								40
45								45

NOTES

1. In some cases where recovery was low in the upper part of the run, the soil sample may have slid down in the tube prior to removal from the ground.
2. Groundwater level, if indicated above, was estimated during probing and should be considered approximate.
3. Refer to KEY for definitions and explanation of symbols.
4. CT = corrosion test sample; TR = thermal resistivity sample; EN = environmental sample; GE = geotechnical sample; AR = archeological sample.

LEGEND

3 — Run No.

2" Plastic Tube - No Soil Recovery

2" Plastic Tube with Soil Recovery

▽ Estimated Water Level

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LOG OF GEOPROBE GP-12

October 2014 21-1-12357-003

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FIG. A-13

GEOPROBE.CMJ 21-12357.GPJ 21-16604.GPJ 10/7/14 Log: EVP Rev: CMJ Typ: LKN

LOG OF GEOPROBE

Date Started 7/18/12	Location S 96th St ROW	Ground Elevation: Approx. NA feet	
Date Completed 7/18/12		Typical Run Length 4 feet	
Total Depth (ft) 24.0	Drilling Company: ESN Northwest	Hole Diameter: 1.75 inches	

Depth (ft)	Probe Run	Soil Description	Depth, ft.	Symbol	PID, ppm	Ground Water	Sample Number and Description	Depth (ft)
		Refer to the report text for a proper understanding of the subsurface materials and probing methods. The stratification lines indicated below represent the approximate boundaries between soil types. Actual boundaries may be different if soil shifted inside sample tubes during extraction.						
		No soil samples collected; hydropunch advanced to 24 feet below ground surface for groundwater sampling.						
		BOTTOM OF GEOPROBE COMPLETED 7/18/2012	24.0			None Observed During Drilling		

NOTES

1. In some cases where recovery was low in the upper part of the run, the soil sample may have slid down in the tube prior to removal from the ground.
2. Groundwater level, if indicated above, was estimated during probing and should be considered approximate.
3. Refer to KEY for definitions and explanation of symbols.
4. CT = corrosion test sample; TR = thermal resistivity sample; EN = environmental sample; GE = geotechnical sample; AR = archeological sample.

LEGEND

3 — 2" Plastic Tube - No Soil Recovery
2" Plastic Tube with Soil Recovery — Run No.
▽ Estimated Water Level

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LOG OF GEOPROBE GP-13

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FIG. A-14

GEOPROBE.CMJ 21-12357.GPJ 21-16604.GPJ 10/7/14 Log: EVP Rev: CMJ Typ: LKN

LOG OF GEOPROBE

Date Started 7/18/12	Location N end of building	Ground Elevation:	Approx. NA feet
Date Completed 7/18/12		Typical Run Length	4 feet
Total Depth (ft) 8.0	Drilling Company: ESN Northwest	Hole Diameter:	1.75 inches

Depth (ft)	Probe Run	Soil Description	Depth, ft.	Symbol	PID, ppm	Ground Water	Sample Number and Description	Depth (ft)
	1	Brown, slightly gravelly, slightly clayey SILT; moist to dry; (Fill) ML.						
	2							
	3							
5	4							5
		BOTTOM OF GEOPROBE COMPLETED 7/18/2012	8.0					
10						None Observed During Drilling		10
15								15

Refer to the report text for a proper understanding of the subsurface materials and probing methods. The stratification lines indicated below represent the approximate boundaries between soil types. Actual boundaries may be different if soil shifted inside sample tubes during extraction.

NOTES

1. In some cases where recovery was low in the upper part of the run, the soil sample may have slid down in the tube prior to removal from the ground.
2. Groundwater level, if indicated above, was estimated during probing and should be considered approximate.
3. Refer to KEY for definitions and explanation of symbols.
4. CT = corrosion test sample; TR = thermal resistivity sample; EN = environmental sample; GE = geotechnical sample; AR = archeological sample.

LEGEND

3 — Run No.

2" Plastic Tube - No Soil Recovery

2" Plastic Tube with Soil Recovery

▽ Estimated Water Level

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LOG OF GEOPROBE GP-14

October 2014 21-1-12357-003

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FIG. A-15

GEOPROBE CMJ 21-12357.GPJ 21-16504.GPJ 10/7/14 Log: EVP Rev: CMJ Typ: LKN

LOG OF GEOPROBE

Date Started: 7/18/12	Location: N end of building	Ground Elevation: Approx. NA feet
Date Completed: 7/18/12		Typical Run Length: 4 feet
Total Depth (ft): 16.0	Drilling Company: ESN Northwest	Hole Diameter: 1.75 inches

Depth (ft)	Probe Run	Soil Description	Depth, ft.	Symbol	PID, ppm	Ground Water	Sample Number and Description	Depth (ft)
		Refer to the report text for a proper understanding of the subsurface materials and probing methods. The stratification lines indicated below represent the approximate boundaries between soil types. Actual boundaries may be different if soil shifted inside sample tubes during extraction.						
		Dark brown, slightly sandy SILT; moist; numerous organics; (Topsoil) ML.	0.3					
		Brown, slightly gravelly, clayey SILT to silty CLAY, trace of sand; organics in top 1 foot; ML/CL.						
5								5
		Cement kiln dust.	7.0					
		Dark gray, organic CLAY; moist to wet; CL.	9.0			None Observed During Drilling		
10								10
15								15
		BOTTOM OF GEOPROBE COMPLETED 7/18/2012	16.0					

Typ: LKN Rev: CMJ Log: EVP

GEOPROBE CMJ 21-12357.GPJ 21-16604.GPJ 10/7/14

NOTES

1. In some cases where recovery was low in the upper part of the run, the soil sample may have slid down in the tube prior to removal from the ground.
2. Groundwater level, if indicated above, was estimated during probing and should be considered approximate.
3. Refer to KEY for definitions and explanation of symbols.
4. CT = corrosion test sample; TR = thermal resistivity sample; EN = environmental sample; GE = geotechnical sample; AR = archeological sample.

LEGEND

3 — Run No.

2" Plastic Tube - No Soil Recovery

2" Plastic Tube with Soil Recovery

▽ Estimated Water Level

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LOG OF GEOPROBE GP-15

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FIG. A-16

LOG OF GEOPROBE

Date Started 7/16/12	Location SE corner of site	Ground Elevation:	Approx. NA feet
Date Completed 7/16/12		Typical Run Length	4 feet
Total Depth (ft) 18.0	Drilling Company: ESN Northwest	Hole Diameter:	1.75 inches

Depth (ft)	Probe Run	Soil Description	Depth, ft.	Symbol	PID, ppm	Ground Water	Sample Number and Description	Depth (ft)
		Refer to the report text for a proper understanding of the subsurface materials and probing methods. The stratification lines indicated below represent the approximate boundaries between soil types. Actual boundaries may be different if soil shifted inside sample tubes during extraction.						
0	1	Dark gray, silty, sandy GRAVEL and gravelly, sandy SILT; (Fill) GM/ML.	1.0					0
5	2	Gray/brown, clayey SILT to silty CLAY; moist (wet from 5 to 5.5 feet); trace of organics; layer of gravelly sand from 6.5 to 6.8 feet; organic peat at 7 feet; (Fill) ML/CL.	8.0			▽ During Drilling		5
10	3	Brown/gray, clayey SILT to silty CLAY; moist to wet; thin sand layers from 10 to 12 feet; wet from 10 to 12 feet; ML/CL.	12.0					10
	4	Mottled brown/gray, clayey SILT; wet; trace of organics; ML.	15.0					
15		Gray, silty, fine to medium SAND; wet; SM.	16.0					15
	5	Brown, silty, fine to medium SAND to fine to medium, sandy SILT; moist; SM.	17.0					
20		Gray, slightly silty, fine to medium SAND; wet; SP-SM.	20.0					20
		BOTTOM OF GEOPROBE COMPLETED 7/16/2012						
25								25
30								30
35								35
40								40
45								45

NOTES

1. In some cases where recovery was low in the upper part of the run, the soil sample may have slid down in the tube prior to removal from the ground.
2. Groundwater level, if indicated above, was estimated during probing and should be considered approximate.
3. Refer to KEY for definitions and explanation of symbols.
4. CT = corrosion test sample; TR = thermal resistivity sample; EN = environmental sample; GE = geotechnical sample; AR = archeological sample.

LEGEND

3 — 2" Plastic Tube - No Soil Recovery
2" Plastic Tube with Soil Recovery
Run No.

▽ Estimated Water Level

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LOG OF GEOPROBE GP-16

October 2014 21-1-12357-003

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FIG. A-17

GEOPROBE CMJ 21-12357.GPJ 21-16604.GPJ 10/7/14 Log: EVP Rev: CMJ Typ: LKN

LOG OF GEOPROBE

Date Started 7/16/12	Location SE corner of site	Ground Elevation: Approx. NA feet	
Date Completed 7/16/12		Typical Run Length 4 feet	
Total Depth (ft) 12.0	Drilling Company: ESN Northwest	Hole Diameter: 1.75 inches	

Depth (ft)	Probe Run	Soil Description	Depth, ft.	Symbol	PID, ppm	Ground Water	Sample Number and Description	Depth (ft)
	1	Dark gray, silty GRAVEL; dry; SM.						
		Brown/gray, clayey SILT to silty CLAY, trace of gravel; dry/moist; (Fill) ML/CL.	1.5					
5	2	Brown/gray, slightly sandy, clayey SILT to silty CLAY; moist; trace of organics at 7 feet; gravel and sand layer from 5 to 5.3 feet; (Fill) ML/CL.	4.0					5
	3	Brown/gray, clayey SILT; moist from 11 to 12 feet; gravel and sand layer at 9 feet; ML.	8.0					
10		BOTTOM OF GEOPROBE COMPLETED 7/16/2012	12.0			None Observed During Drilling		10
15								15

Refer to the report text for a proper understanding of the subsurface materials and probing methods. The stratification lines indicated below represent the approximate boundaries between soil types. Actual boundaries may be different if soil shifted inside sample tubes during extraction.

NOTES

1. In some cases where recovery was low in the upper part of the run, the soil sample may have slid down in the tube prior to removal from the ground.
2. Groundwater level, if indicated above, was estimated during probing and should be considered approximate.
3. Refer to KEY for definitions and explanation of symbols.
4. CT = corrosion test sample; TR = thermal resistivity sample; EN = environmental sample; GE = geotechnical sample; AR = archeological sample.

LEGEND

3 — Run No.

2" Plastic Tube - No Soil Recovery

2" Plastic Tube with Soil Recovery

▽ Estimated Water Level

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LOG OF GEOPROBE GP-17

October 2014 21-1-12357-003

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FIG. A-18

GEOPROBE CMJ 21-12357.GPJ 21-16604.GPJ 10/7/14 Log: EVP Rev: CMJ Typ: LKN

LOG OF GEOPROBE

Date Started 7/16/12	Location *SE corner of site*	Ground Elevation: *Approx. NA feet*	
Date Completed 7/16/12		Typical Run Length *4 feet*	
Total Depth (ft) 12.0	Drilling Company: *ESN Northwest*	Hole Diameter: *1.75 inches*	

Depth (ft)	Probe Run	Soil Description	Depth, ft.	Symbol	PID, ppm	Ground Water	Sample Number and Description	Depth (ft)
	1	Dark gray, slightly silty GRAVEL; dry; slight odor in the upper 1 foot; GP-GM.						
		Dark gray, clayey SILT; dry/moist; trace of gravel and organics; (Fill) ML.	1.5					
	2	Dark gray/brown, clayey SILT, trace of gravel; scattered organics; (Fill) ML.	4.0					
5		Brown, slightly clayey, slightly gravelly, fine to medium sand SILT; wet; perched zone; ML.	5.5					5
		Mottled brown and gray, slightly gravelly, clayey SILT; dry/moist; ML.	6.5					
	3	Brown, slightly sandy, slightly gravelly SILT; wet; clayey silt layer from 11 to 12 feet; ML.	8.0					
10								10
		BOTTOM OF GEOPROBE COMPLETED 7/16/2012	12.0			None Observed During Drilling		
15								15

Log: EVP Rev: CMJ Typ: LKN

GEOPROBE CMJ 21-12357.GPJ 21-16604.GPJ 10/7/14

NOTES

1. In some cases where recovery was low in the upper part of the run, the soil sample may have slid down in the tube prior to removal from the ground.
2. Groundwater level, if indicated above, was estimated during probing and should be considered approximate.
3. Refer to KEY for definitions and explanation of symbols.
4. CT = corrosion test sample; TR = thermal resistivity sample; EN = environmental sample; GE = geotechnical sample; AR = archeological sample.

LEGEND

3 — Run No.

2" Plastic Tube - No Soil Recovery

2" Plastic Tube with Soil Recovery

▽ Estimated Water Level

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LOG OF GEOPROBE GP-18

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FIG. A-19

LOG OF GEOPROBE

Date Started: 7/16/12	Location: S end of site	Ground Elevation:	Approx. NA feet
Date Completed: 7/16/12		Typical Run Length:	4 feet
Total Depth (ft): 12.0	Drilling Company: ESN Northwest	Hole Diameter:	1.75 inches

Depth (ft)	Probe Run	Soil Description	Depth, ft.	Symbol	PID, ppm	Ground Water	Sample Number and Description	Depth (ft)
		Refer to the report text for a proper understanding of the subsurface materials and probing methods. The stratification lines indicated below represent the approximate boundaries between soil types. Actual boundaries may be different if soil shifted inside sample tubes during extraction.						
	1	Dark gray, silty GRAVEL and gravelly SILT; dry/moist; GM/ML.						
		Dark gray, clayey SILT, trace of gravel; scattered organics; (Fill) ML.	1.2					
	2	Mottled gray and brown, clayey SILT, trace of gravel; moist; locally sandy; iron-oxide staining from 5 to 6 feet; ML.	4.0					
5								5
	3	Mottled gray and brown, clayey SILT to silty CLAY; trace of gravel; moist; (Fill) ML/CL.	7.0					
10	4	Brown, clayey SILT to silty CLAY, trace of gravel; wet; (Fill) ML/CL.	10.0			None Observed During Drilling		10
		BOTTOM OF GEOPROBE COMPLETED 7/16/2012	12.0					
15								15

Typ: LKN Rev: CMJ Log: EVP

GEOPROBE CMJ 21-12357.GPJ 21-16604.GPJ 10/7/14

NOTES

1. In some cases where recovery was low in the upper part of the run, the soil sample may have slid down in the tube prior to removal from the ground.
2. Groundwater level, if indicated above, was estimated during probing and should be considered approximate.
3. Refer to KEY for definitions and explanation of symbols.
4. CT = corrosion test sample; TR = thermal resistivity sample; EN = environmental sample; GE = geotechnical sample; AR = archeological sample.

LEGEND

3 — 2" Plastic Tube - No Soil Recovery
2" Plastic Tube with Soil Recovery — Run No.
▽ Estimated Water Level

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LOG OF GEOPROBE GP-19

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FIG. A-20

LOG OF GEOPROBE

Date Started 7/16/12	Location S end of site	Ground Elevation: Approx. NA feet	
Date Completed 7/16/12		Typical Run Length 4 feet	
Total Depth (ft) 12.0	Drilling Company: ESN Northwest	Hole Diameter: 1.75 inches	

Depth (ft)	Probe Run	Soil Description	Depth, ft.	Symbol	PID, ppm	Ground Water	Sample Number and Description	Depth (ft)
	1	Brown/gray, silty GRAVEL; dry (moist at 4 feet); (Fill) GM.						
			4.0					
5	2	Brown, silty, slightly sandy GRAVEL; dry/moist; (Fill) GM.						5
			7.0					
		Brown, medium to coarse, sandy GRAVEL and gravelly; medium to coarse SAND; wet; GP/SP.	8.0					
	3	Gray and brown, slightly gravelly, clayey SILT, trace of sand; wet; becoming more sandy from 11 to 12 feet; (Fill) ML.						
10						None Observed During Drilling		10
		BOTTOM OF GEOPROBE COMPLETED 7/16/2012	12.0					
15								15

Typ: LKN Rev: CMJ Log: EVP

GEOPROBE: CMJ 21-12357.GPJ 21-16804.GPJ 10/7/14

NOTES

1. In some cases where recovery was low in the upper part of the run, the soil sample may have slid down in the tube prior to removal from the ground.
2. Groundwater level, if indicated above, was estimated during probing and should be considered approximate.
3. Refer to KEY for definitions and explanation of symbols.
4. CT = corrosion test sample; TR = thermal resistivity sample; EN = environmental sample; GE = geotechnical sample; AR = archeological sample.

LEGEND

3 — Run No.

2" Plastic Tube - No Soil Recovery

2" Plastic Tube with Soil Recovery

▽ Estimated Water Level

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LOG OF GEOPROBE GP-20

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FIG. A-21

LOG OF GEOPROBE

Date Started 7/16/12	Location S end of site	Ground Elevation: Approx. NA feet	
Date Completed 7/16/12		Typical Run Length 4 feet	
Total Depth (ft) 10.0	Drilling Company: ESN Northwest	Hole Diameter: 1.75 inches	

Depth (ft)	Probe Run	Soil Description *Refer to the report text for a proper understanding of the subsurface materials and probing methods. The stratification lines indicated below represent the approximate boundaries between soil types. Actual boundaries may be different if soil shifted inside sample tubes during extraction.*	Depth, ft.	Symbol	PID, ppm	Ground Water	Sample Number and Description	Depth (ft)
	1	Brown/gray, silty GRAVEL and gravelly SILT, trace of sand; dry; ML.						
		Dark gray, clayey SILT and silty CLAY, trace of gravel; moist/dry; thin silt layers, iron-oxide staining throughout; (Fill) ML/CL.	1.0					
	2	Gray, slightly sandy SILT, trace of gravel; moist/dry; (Fill) ML.	4.0					
5								5
	3	Gray/brown, slightly sandy, clayey SILT, trace of gravel; moist; moist to wet at 8.5 feet in more sandy soils; iron-oxide staining throughout; (Fill) ML.	7.0					
10		BOTTOM OF GEOPROBE COMPLETED 7/16/2012	10.0			None Observed During Drilling		10
15								15

NOTES

1. In some cases where recovery was low in the upper part of the run, the soil sample may have slid down in the tube prior to removal from the ground.
2. Groundwater level, if indicated above, was estimated during probing and should be considered approximate.
3. Refer to KEY for definitions and explanation of symbols.
4. CT = corrosion test sample; TR = thermal resistivity sample; EN = environmental sample; GE = geotechnical sample; AR = archeological sample.

LEGEND

3 — Run No.
2" Plastic Tube - No Soil Recovery
2" Plastic Tube with Soil Recovery
▽ Estimated Water Level

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LOG OF GEOPROBE GP-21

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FIG. A-22

GEOPROBE CMJ 21-12357.GPJ 21-16604.GPJ 10/7/14 Log: EVP Rev: CMJ Typ: LKN

LOG OF GEOPROBE

Date Started 7/18/12	Location N end of building	Ground Elevation:	Approx. NA feet
Date Completed 7/18/12		Typical Run Length	4 feet
Total Depth (ft) 16.0	Drilling Company: ESN Northwest	Hole Diameter:	1.75 inches

Depth (ft)	Probe Run	Soil Description	Depth, ft.	Symbol	PID, ppm	Ground Water	Sample Number and Description	Depth (ft)
		Refer to the report text for a proper understanding of the subsurface materials and probing methods. The stratification lines indicated below represent the approximate boundaries between soil types. Actual boundaries may be different if soil shifted inside sample tubes during extraction.						
		Dark brown, slightly sandy SILT; moist; numerous organics; (Topsoil) ML.	0.3					
		Brown, slightly gravelly, clayey SILT to silty CLAY, trace of sand; organics in top 1 foot; ML/CL.						
5								5
		Cement kiln dust.	7.0					
		Dark gray, organic CLAY; CL.	9.0					
10						None Observed During Drilling		10
15								15
		BOTTOM OF GEOPROBE COMPLETED 7/18/2012	16.0					

Typ: LKN Rev: CMJ Log: EVP

GEOPROBE CMJ 21-12357.GPJ 21-16504.GPJ 10/7/14

NOTES

1. In some cases where recovery was low in the upper part of the run, the soil sample may have slid down in the tube prior to removal from the ground.
2. Groundwater level, if indicated above, was estimated during probing and should be considered approximate.
3. Refer to KEY for definitions and explanation of symbols.
4. CT = corrosion test sample; TR = thermal resistivity sample; EN = environmental sample; GE = geotechnical sample; AR = archeological sample.

LEGEND

3 — Run No.

2" Plastic Tube - No Soil Recovery

2" Plastic Tube with Soil Recovery

▽ Estimated Water Level

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LOG OF GEOPROBE GP-22

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FIG. A-23

LOG OF GEOPROBE

Date Started 7/18/12	Location S 96th St	Ground Elevation: Approx. NA feet
Date Completed 7/18/12		Typical Run Length 4 feet
Total Depth (ft) 28.0	Drilling Company: ESN Northwest	Hole Diameter: 1.75 inches

Depth (ft)	Probe Run	Soil Description	Depth, ft.	Symbol	PID, ppm	Ground Water	Sample Number and Description	Depth (ft)
		Refer to the report text for a proper understanding of the subsurface materials and probing methods. The stratification lines indicated below represent the approximate boundaries between soil types. Actual boundaries may be different if soil shifted inside sample tubes during extraction.						
		Advanced down to 16 feet (refer to GP-16 for subsurface information).				▽ During Drilling		
15	1	Gray, slightly silty, fine to medium SAND; wet; silt interbeds at 17 and 19 feet approximately 1 to 2 inches thick; SP-SM.	16.0					15
20	2	Gray, slightly silty, fine to medium SAND; wet; SP-SM.	20.0					20
		Gray, fine sandy SILT; wet; ML.	23.5					
25	3	Gray, slightly fine sandy, slightly clayey SILT; moist; till-like from 26 to 28 feet; ML.	24.0					25
		BOTTOM OF GEOPROBE COMPLETED 7/28/2012	28.0					

NOTES

1. In some cases where recovery was low in the upper part of the run, the soil sample may have slid down in the tube prior to removal from the ground.
2. Groundwater level, if indicated above, was estimated during probing and should be considered approximate.
3. Refer to KEY for definitions and explanation of symbols.
4. CT = corrosion test sample; TR = thermal resistivity sample; EN = environmental sample; GE = geotechnical sample; AR = archeological sample.

LEGEND

3 — 2" Plastic Tube - No Soil Recovery
2" Plastic Tube with Soil Recovery ▽ Estimated Water Level
Run No.

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LOG OF GEOPROBE GP-23

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FIG. A-24

GEOPROBE CMJ 21-12357.GPJ 21-16504.GPJ 10/7/14 Log: EVP Rev: CMJ Typ: LKN

LOG OF GEOPROBE

Date Started 8/29/13	Location NE of wash shack	Ground Elevation: Approx. NA feet	
Date Completed 8/29/13		Typical Run Length 5 feet	
Total Depth (ft) 5.0	Drilling Company: ESN Northwest	Hole Diameter: 2 inches	

Depth (ft)	Probe Run	Soil Description	Depth, ft.	Symbol	PID, ppm	Ground Water	Sample Number and Description	Depth (ft)
		Very dark brown, slightly silty, gravelly SAND; moist; SP-SM.						
		Brown, slightly sandy, gravelly SILT; wet; ML.	3.5					
		Brown, slightly silty CLAY; moist; CL.	4.3					
5		Gray, slightly silty CLAY; numerous organics; CL.	4.8					5
		BOTTOM OF GEOPROBE	5.0					
		COMPLETED 8/29/2013						
10						None Observed During Drilling		10
15								15

Soil Description: *Refer to the report text for a proper understanding of the subsurface materials and probing methods. The stratification lines indicated below represent the approximate boundaries between soil types. Actual boundaries may be different if soil shifted inside sample tubes during extraction.*

NOTES

1. In some cases where recovery was low in the upper part of the run, the soil sample may have slid down in the tube prior to removal from the ground.
2. Groundwater level, if indicated above, was estimated during probing and should be considered approximate.
3. Refer to KEY for definitions and explanation of symbols.
4. CT = corrosion test sample; TR = thermal resistivity sample; EN = environmental sample; GE = geotechnical sample; AR = archeological sample.

LEGEND

3 — 2" Plastic Tube - No Soil Recovery
2" Plastic Tube with Soil Recovery — Run No.
▽ Estimated Water Level

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LOG OF GEOPROBE GP-25

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FIG. A-26

GEOPROBE CMJ 21-12357.GPJ 21-16604.GPJ 10/7/14 Log: CMJ Rev: CMJ Typ: LKN

LOG OF GEOPROBE

Date Started 8/29/13	Location N of GP-24	Ground Elevation:	Approx. NA feet
Date Completed 8/29/13		Typical Run Length	5 feet
Total Depth (ft) 10.0	Drilling Company: ESN Northwest	Hole Diameter:	2 inches

Depth (ft)	Probe Run	Soil Description	Depth, ft.	Symbol	PID, ppm	Ground Water	Sample Number and Description	Depth (ft)
	1	Very dark brown, slightly silty, sandy GRAVEL; moist; GM.						
		Gray and brown mottled, slightly silty CLAY with trace of sand and gravel; moist to wet; occasional sand layers (1-inch); CL.	4.0					
5	2							5
10		BOTTOM OF GEOPROBE COMPLETED 8/29/2013	10.0			None Observed During Drilling		10
15								15

Soil Description

Refer to the report text for a proper understanding of the subsurface materials and probing methods. The stratification lines indicated below represent the approximate boundaries between soil types. Actual boundaries may be different if soil shifted inside sample tubes during extraction.

NOTES

1. In some cases where recovery was low in the upper part of the run, the soil sample may have slid down in the tube prior to removal from the ground.
2. Groundwater level, if indicated above, was estimated during probing and should be considered approximate.
3. Refer to KEY for definitions and explanation of symbols.
4. CT = corrosion test sample; TR = thermal resistivity sample; EN = environmental sample; GE = geotechnical sample; AR = archeological sample.

LEGEND

3 — Run No.

2" Plastic Tube - No Soil Recovery

2" Plastic Tube with Soil Recovery

▽ Estimated Water Level

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LOG OF GEOPROBE GP-26

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FIG. A-27

GEOPROBE CMJ 21-12357.GPJ 21-16504.GPJ 10/7/14 Log: CMJ Rev: CMJ Typ: LKN

LOG OF GEOPROBE

Date Started 8/29/13	Location S of GP-29	Ground Elevation: Approx. NA feet	
Date Completed 8/29/13		Typical Run Length 5 feet	
Total Depth (ft) 8.9	Drilling Company: ESN Northwest	Hole Diameter: 2 inches	

Depth (ft)	Probe Run	Soil Description	Depth, ft.	Symbol	PID, ppm	Ground Water	Sample Number and Description	Depth (ft)
		Refer to the report text for a proper understanding of the subsurface materials and probing methods. The stratification lines indicated below represent the approximate boundaries between soil types. Actual boundaries may be different if soil shifted inside sample tubes during extraction.						
		CONCRETE.	0.3					
		Brown and gray mottled, slightly gravelly, silty CLAY; moist; CL.						
		Brown and gray, slightly sandy, silty CLAY with occasional sand layers and trace of grave; moist; CL.	3.8					
5								5
		BOTTOM OF GEOPROBE COMPLETED 8/29/2013	8.9			None Observed During Drilling		
10								10
15								15

Typ: LKN Rev: CMJ Log: CMJ

GEOPROBE CMJ 21-12357.GPJ 21-16604.GPJ 10/7/14

NOTES

1. In some cases where recovery was low in the upper part of the run, the soil sample may have slid down in the tube prior to removal from the ground.
2. Groundwater level, if indicated above, was estimated during probing and should be considered approximate.
3. Refer to KEY for definitions and explanation of symbols.
4. CT = corrosion test sample; TR = thermal resistivity sample; EN = environmental sample; GE = geotechnical sample; AR = archeological sample.

LEGEND

3 — Run No.

2" Plastic Tube - No Soil Recovery

2" Plastic Tube with Soil Recovery

▽ Estimated Water Level

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LOG OF GEOPROBE GP-27

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FIG. A-28

LOG OF GEOPROBE

Date Started 8/29/13	Location W of wash ___	Ground Elevation:	Approx. NA feet
Date Completed 8/29/13		Typical Run Length	5 feet
Total Depth (ft) 10.0	Drilling Company: ESN Northwest	Hole Diameter:	2 inches

Depth (ft)	Probe Run	Soil Description	Depth, ft.	Symbol	PID, ppm	Ground Water	Sample Number and Description	Depth (ft)
	1	Gray and brown, slightly gravelly, slightly silty, slightly sandy CLAY; moist; CL.						
		Brown, slightly sandy, organic SILT, trace of clay; moist; CL.	3.2					
		Gray and brown with orange oxide stain, slightly silty CLAY, trace of sand and gravel; moist; CL.	4.0					
5								5
10		BOTTOM OF GEOPROBE COMPLETED 8/29/2013	10.0			None Observed During Drilling		10
15								15

Refer to the report text for a proper understanding of the subsurface materials and probing methods. The stratification lines indicated below represent the approximate boundaries between soil types. Actual boundaries may be different if soil shifted inside sample tubes during extraction.

NOTES

1. In some cases where recovery was low in the upper part of the run, the soil sample may have slid down in the tube prior to removal from the ground.
2. Groundwater level, if indicated above, was estimated during probing and should be considered approximate.
3. Refer to KEY for definitions and explanation of symbols.
4. CT = corrosion test sample; TR = thermal resistivity sample; EN = environmental sample; GE = geotechnical sample; AR = archeological sample.

LEGEND

3 — 2" Plastic Tube - No Soil Recovery
2" Plastic Tube with Soil Recovery
Run No.

▽ Estimated Water Level

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LOG OF GEOPROBE GP-28

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FIG. A-29

GEOPROBE CMJ 21-12357.GPJ 21-16604.GPJ 10/7/14 Log: CMJ Rev: CMJ Typ: LKN

LOG OF GEOPROBE

Date Started 8/29/13	Location SW of wash ____	Ground Elevation:	Approx. NA feet
Date Completed 8/29/13		Typical Run Length	5 feet
Total Depth (ft) 10.0	Drilling Company: ESN Northwest	Hole Diameter:	1.75 inches

Depth (ft)	Probe Run	Soil Description *Refer to the report text for a proper understanding of the subsurface materials and probing methods. The stratification lines indicated below represent the approximate boundaries between soil types. Actual boundaries may be different if soil shifted inside sample tubes during extraction.*	Depth, ft.	Symbol	PID, ppm	Ground Water	Sample Number and Description	Depth (ft)
	1	CONCRETE.	0.3					
		Very dark gray, gravelly, slightly silty, slightly sandy CLAY; moist; CL.						
		Very dark gray, slightly silty, slightly gravelly SAND; moist to wet; SM.	3.5 3.9					
5	2	Gray and brown mottled, interbedded with occasional silty sand layers, slightly sandy, slightly silty CLAY; moist; occasional gravel; light hydrocarbon (diesel) odor around 6 to 7 inches; CL.						5
10		BOTTOM OF GEOPROBE COMPLETED 8/29/2013	10.0			None Observed During Drilling		10
15								15

Typ: LKN Rev: CMJ Log: CMJ GEOPROBE CMJ 21-12357.GPJ 21-16604.GPJ 10/7/14

NOTES

1. In some cases where recovery was low in the upper part of the run, the soil sample may have slid down in the tube prior to removal from the ground.
2. Groundwater level, if indicated above, was estimated during probing and should be considered approximate.
3. Refer to KEY for definitions and explanation of symbols.
4. CT = corrosion test sample; TR = thermal resistivity sample; EN = environmental sample; GE = geotechnical sample; AR = archeological sample.

LEGEND

3 — Run No.

2" Plastic Tube - No Soil Recovery

2" Plastic Tube with Soil Recovery ▽ Estimated Water Level

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LOG OF GEOPROBE GP-29

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FIG. A-30

Total Depth:	15 ft.	Northing:		Drilling Method:		Hole Diam.:	
Top Elevation:	~	Easting:		Drilling Company:	Boart Longyear	Rod Diam.:	
Vert. Datum:		Station:		Drill Rig Equipment:	Spider 3	Hammer Type:	
Horiz. Datum:		Offset:		Other Comments:			

SOIL DESCRIPTION *Refer to the report text for a proper understanding of the subsurface materials and drilling methods. The stratification lines represent the approximate boundaries between material types, and the transition may be gradual.*	Depth, ft.	Symbol	PID, ppm	Samples	Ground Water	Depth, ft.
Dark brown, medium dense, silty CLAY; moist; (Fill) OL.			0	1		
Light gray, silty, fine SAND/fine sandy SILT; moist to wet; (cement kiln dust?) SM/ML.	4.0		0	2	1/31/2012 ▽ During Drilling ▽	
Dark brown to black, silty PEAT; wet; occasional wood chips; PT.	9.0		0	3		
Light brown to medium brown, slightly silty CLAY; wet; occasional wood chips; OH.	11.0		0	4		
BOTTOM OF BORING COMPLETED 1/27/2012	15.0					

0 20 40 60

5 10 15 20 25 30 35 40 45

0 20 40 60

◇ % Fines (<0.075mm)
● % Water Content

LEGEND

* Sample Not Recovered
Soil Core (as in Sonic Core Borings)
Piezometer Screen and Sand Filter
Bentonite-Cement Grout
Bentonite Chips/Pellets
Bentonite Grout
▽ Ground Water Level ATD
▼ Ground Water Level in Well

NOTES

1. Refer to KEY for explanation of symbols, codes, abbreviations and definitions.
2. Groundwater level, if indicated above, is for the date specified and may vary.
3. USCS designation is based on visual-manual classification and selected lab testing.

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LOG OF SONIC CORE MW-1

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FIG. A-31

MASTER LOG E 21-1-12357.GPJ SHAN WIL.GDT 10/7/14 Log: JML Rev: CMJ Typ: LKN

Total Depth:	15 ft.	Northing:		Drilling Method:		Hole Diam.:	
Top Elevation:	~	Easting:		Drilling Company:	Boart Longyear	Rod Diam.:	
Vert. Datum:		Station:		Drill Rig Equipment:	Spider 3	Hammer Type:	
Horiz. Datum:		Offset:		Other Comments:			

SOIL DESCRIPTION	Depth, ft.	Symbol	PID, ppm	Samples	Ground Water	Depth, ft.
Refer to the report text for a proper understanding of the subsurface materials and drilling methods. The stratification lines represent the approximate boundaries between material types, and the transition may be gradual.						0 20 40 60
Medium brown, silty CLAY with trace of gravel and trace of sand; moist; (Fill) OL.			10.5	1	1/31/2012	
Black PEAT; wet; occasional wood chips; PT.	5.0		0	2	During Drilling	5
Light gray to light brown, silty CLAY with trace of gravel; wet; occasional wood chips; OH.	10.0		0	3		10
BOTTOM OF BORING COMPLETED 1/27/2012	15.0					15
						20
						25
						30
						35
						40
						45
						0 20 40 60

LEGEND

- * Sample Not Recovered
- Soil Core (as in Sonic Core Borings)
- Piezometer Screen and Sand Filter
- Bentonite-Cement Grout
- Bentonite Chips/Pellets
- Bentonite Grout
- Ground Water Level ATD
- Ground Water Level in Well

◇ % Fines (<0.075mm)
● % Water Content

NOTES

1. Refer to KEY for explanation of symbols, codes, abbreviations and definitions.
2. Groundwater level, if indicated above, is for the date specified and may vary.
3. USCS designation is based on visual-manual classification and selected lab testing.

Beckwith & Kuffel Site
RI and Interim Remedial Action Report
King County, Washington

LOG OF SONIC CORE MW-2

October 2014 21-1-12357-003

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. A-32

Log: JML Rev: CMJ Typ: LKN

MASTER LOG E 21-12357.GPJ SHAN WIL.GDT 10/7/14

Total Depth:	15 ft.	Northing:		Drilling Method:		Hole Diam.:	
Top Elevation:	~	Easting:		Drilling Company:	Boart Longyear	Rod Diam.:	
Vert. Datum:		Station:		Drill Rig Equipment:	Spider 3	Hammer Type:	
Horiz. Datum:		Offset:		Other Comments:			

SOIL DESCRIPTION	Depth, ft.	Symbol	PID, ppm	Samples	Ground Water	Depth, ft.
Refer to the report text for a proper understanding of the subsurface materials and drilling methods. The stratification lines represent the approximate boundaries between material types, and the transition may be gradual.						0 20 40 60
Dark brown, very dense, silty CLAY with trace of gravel; moist to wet; OL.			0	1		5
	5.0					
Dark brown, silty PEAT; moist to wet; occasional wood chips; PT.			0.1	2		10
	7.5					
Light gray, silty, fine SAND/fine sandy SILT; moist to wet; (cement kiln dust?) SM/ML.			0	3	During Drilling ▽	15
	10.0					
Light brown, silty CLAY with trace of gravel; wet; occasional wood chips; OH.			0	4		20
	15.0					25
BOTTOM OF BORING COMPLETED 1/27/2012						30
						35
						40
						45
						0 20 40 60

LEGEND

- * Sample Not Recovered
- Soil Core (as in Sonic Core Borings)
- Piezometer Screen and Sand Filter
- Bentonite-Cement Grout
- Bentonite Chips/Pellets
- Bentonite Grout
- ▽ Ground Water Level ATD
- ▼ Ground Water Level in Well
- ◇ % Fines (<0.075mm)
- ● % Water Content

NOTES

1. Refer to KEY for explanation of symbols, codes, abbreviations and definitions.
2. Groundwater level, if indicated above, is for the date specified and may vary.
3. USCS designation is based on visual-manual classification and selected lab testing.

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LOG OF SONIC CORE MW-3

October 2014 21-1-12357-003

SHANNON & WILSON, INC.
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FIG. A-33

Log: JML Rev: CMJ Typ: LKN

MASTER LOG_E 21-12357.GPJ SHAN WIL.GDT 10/7/14

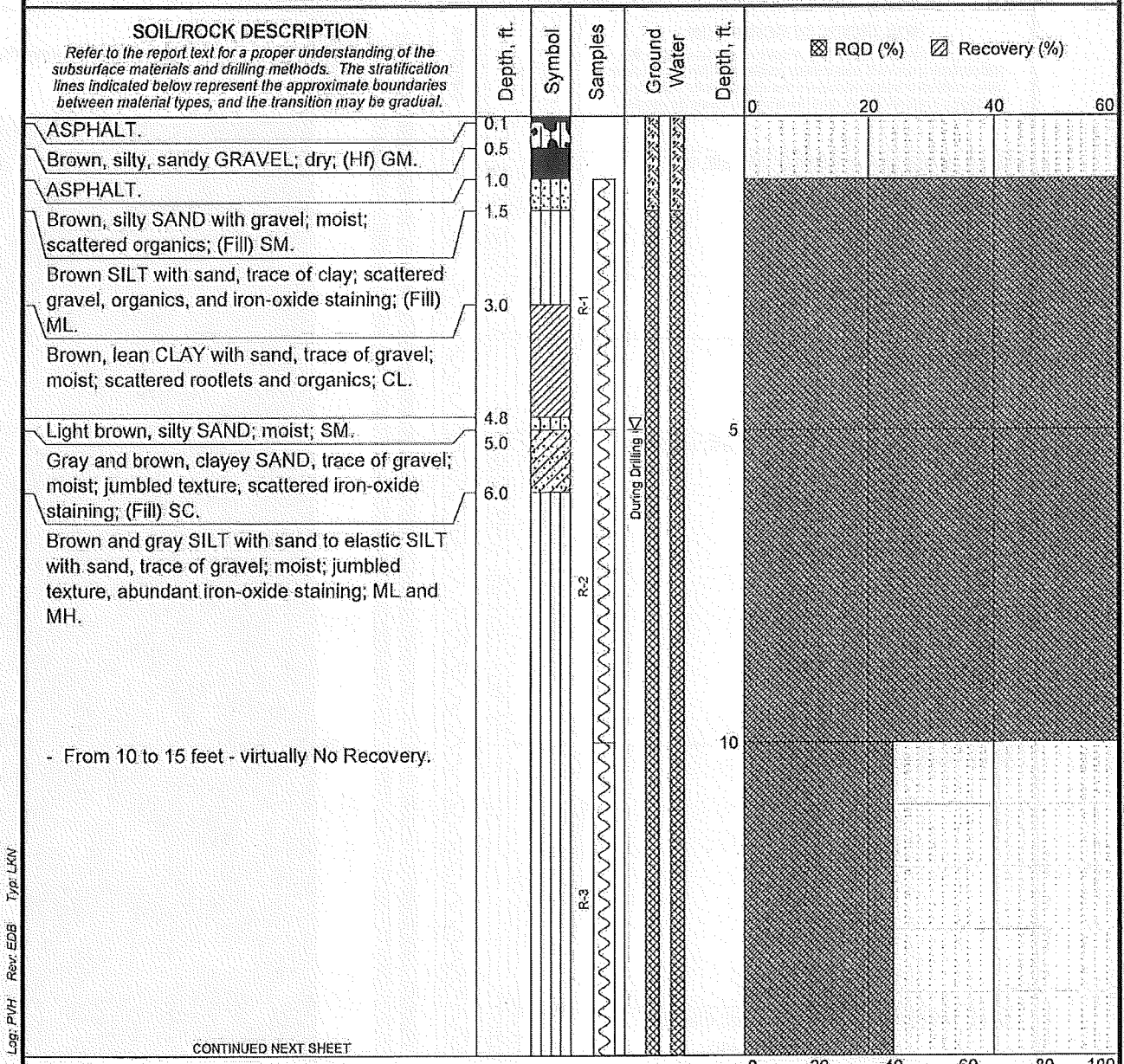
Total Depth:	40 ft.	Northing:		Drilling Method:	Sonic Core	Hole Diam.:	6 in.
Top Elevation:	~	Easting:		Drilling Company:	Boart Longyear	Rod Diam.:	
Vert. Datum:		Station:		Drill Rig Equipment:	Spider 200C Track	Hammer Type:	
Horiz. Datum:		Offset:		Other Comments:			

SOIL/ROCK DESCRIPTION

Refer to the report text for a proper understanding of the subsurface materials and drilling methods. The stratification lines indicated below represent the approximate boundaries between material types, and the transition may be gradual.

Depth, ft.	Soil/Rock Description
0.1	ASPHALT.
0.5	Brown, silty, sandy GRAVEL; dry; (Hf) GM.
1.0	ASPHALT.
1.5	Brown, silty SAND with gravel; moist; scattered organics; (Fill) SM.
3.0	Brown SILT with sand, trace of clay; scattered gravel, organics, and iron-oxide staining; (Fill) ML.
	Brown, lean CLAY with sand, trace of gravel; moist; scattered rootlets and organics; CL.
4.8	Light brown, silty SAND; moist; SM.
5.0	Gray and brown, clayey SAND, trace of gravel; moist; jumbled texture, scattered iron-oxide staining; (Fill) SC.
6.0	Brown and gray SILT with sand to elastic SILT with sand, trace of gravel; moist; jumbled texture, abundant iron-oxide staining; ML and MH.
	- From 10 to 15 feet - virtually No Recovery.

CONTINUED NEXT SHEET



LEGEND

- * Sample Not Recovered
- Soil Core (as in Sonic Core Borings)
- Piezometer Screen and Sand Filter
- Bentonite-Cement Grout
- Bentonite Chips/Pellets
- Bentonite Grout
- Ground Water Level ATD
- Ground Water Level in Well

NOTES

1. Refer to KEY for explanation of symbols, codes, abbreviations and definitions.
2. Groundwater level, if indicated above, is for the date specified and may vary.
3. USCS designation is based on visual-manual classification and selected lab testing.

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LOG OF SONIC CORE MW-4

October 2014 | 21-1-12357-003

SHANNON & WILSON, INC.
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FIG. A-34
Sheet 1 of 3

Log: PVH Rev: EDB Typ: LKN

MASTER LOG IE 21-12357.GPJ SHAN_WIL.GDT 10/7/14

Total Depth:	40 ft.	Northing:		Drilling Method:	Sonic Core	Hole Diam.:	6 in.
Top Elevation:	~	Easting:		Drilling Company:	Boart Longyear	Rod Diam.:	
Vert. Datum:		Station:		Drill Rig Equipment:	Spider 200C Track	Hammer Type:	
Horiz. Datum:		Offset:		Other Comments:			

SOIL/ROCK DESCRIPTION

Refer to the report text for a proper understanding of the subsurface materials and drilling methods. The stratification lines indicated below represent the approximate boundaries between material types, and the transition may be gradual.

Depth, ft. | Symbol | Samples | Ground Water | Depth, ft. | RQD (%) / Recovery (%)

0 20 40 60

15.5 — Gray, poorly graded SAND with silt; wet; SP-SM.

17.5 — Gray, silty SAND; wet; SM. (R-4)

18.5 — Gray SILT; wet; ML.

20.0 — Gray, poorly graded SAND with silt; wet; SP-SM.

20

25.0 — Gray SILT; wet; ML. (R-5)

25

29.2 — Gray, silty SAND with gravel; wet; diamict

CONTINUED NEXT SHEET

0 20 40 60 80 100

RQD (%) Recovery (%)

LEGEND

* Sample Not Recovered

Soil Core (as in Sonic Core Borings)

Piezometer Screen and Sand Filter

Bentonite-Cement Grout

Bentonite Chips/Pellets

Bentonite Grout

Ground Water Level ATD

Ground Water Level in Well

NOTES

1. Refer to KEY for explanation of symbols, codes, abbreviations and definitions.
2. Groundwater level, if indicated above, is for the date specified and may vary.
3. USCS designation is based on visual-manual classification and selected lab testing.

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LOG OF SONIC CORE MW-4

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SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. A-34
Sheet 2 of 3

MASTER LOG E 21-12357.GPJ SHAN WIL.GDT 10/7/14 Log: PVH Rev: EDB Typ: LKN

Total Depth:	40 ft.	Northing:		Drilling Method:	Sonic Core	Hole Diam.:	6 in.
Top Elevation:	~	Easting:		Drilling Company:	Boart Longyear	Rod Diam.:	
Vert. Datum:		Station:		Drill Rig Equipment:	Spider 200C Track	Hammer Type:	
Horiz. Datum:		Offset:		Other Comments:			

SOIL/ROCK DESCRIPTION *Refer to the report text for a proper understanding of the subsurface materials and drilling methods. The stratification lines indicated below represent the approximate boundaries between material types, and the transition may be gradual.*	Depth, ft.
texture (ablation deposit?) to gray, gravelly SILT; wet; diamict texture, scattered cobbles; SM and ML.	
Gray, gravelly SILT; moist; diamict texture, scattered cobbles; ML.	34.0
Gray, lean CLAY; moist; CL.	38.0
BOTTOM OF BORING COMPLETED 9/18/2013 Note: Borehole diameter approximately 8-1/4 inches to 22 feet, 6 inches to 36 feet, and 4-3/4 inches to 40 feet.	40.0

Symbol | Samples (R-6) | Ground Water | Depth, ft. 35, 40

RQD (%) / Recovery (%): 0, 20, 40, 60

RQD (%) / Recovery (%): 0, 20, 40, 60, 80, 100

LEGEND

- * Sample Not Recovered
- Soil Core (as in Sonic Core Borings)
- Piezometer Screen and Sand Filter
- Bentonite-Cement Grout
- Bentonite Chips/Pellets
- Bentonite Grout
- Ground Water Level ATD
- Ground Water Level in Well

NOTES

1. Refer to KEY for explanation of symbols, codes, abbreviations and definitions.
2. Groundwater level, if indicated above, is for the date specified and may vary.
3. USCS designation is based on visual-manual classification and selected lab testing.

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LOG OF SONIC CORE MW-4

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FIG. A-34
Sheet 3 of 3

MASTER LOG E 21-12357.GPJ SHAN WIL.GDT 10/7/14 Log: PVH Rev: EDB Typ: LKW

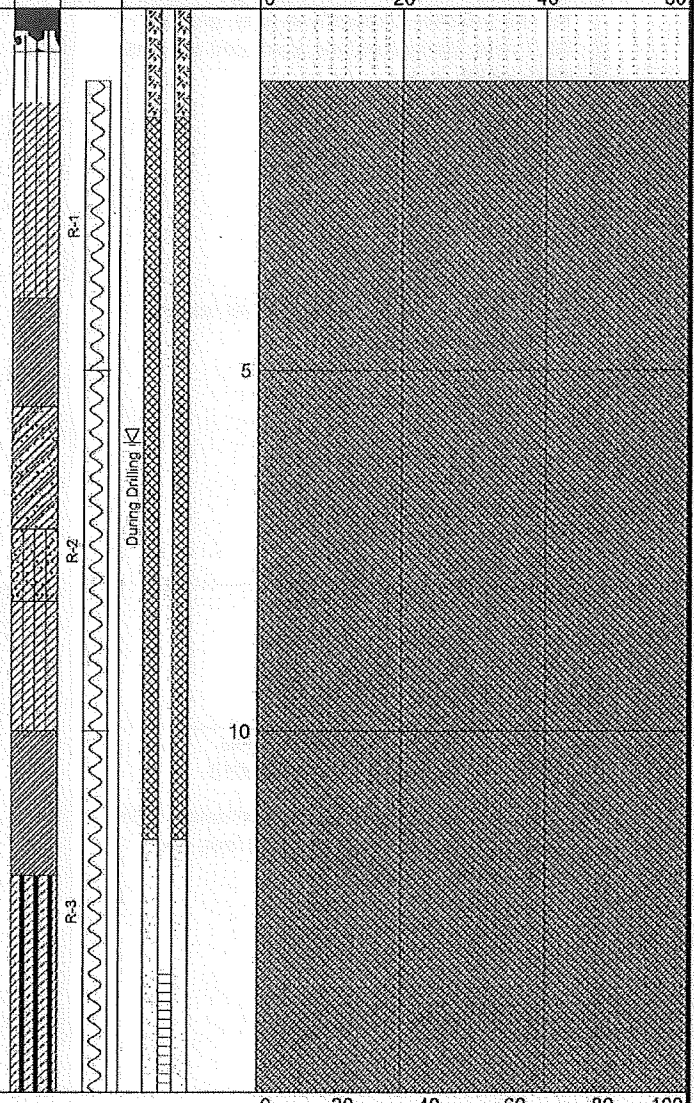
Total Depth:	20 ft.	Northing:		Drilling Method:	Sonic Core	Hole Diam.:	6 in.
Top Elevation:	~	Easting:		Drilling Company:	Boart Longyear	Rod Diam.:	
Vert. Datum:		Station:		Drill Rig Equipment:	Spider 200C Track	Hammer Type:	
Horiz. Datum:		Offset:		Other Comments:			

SOIL/ROCK DESCRIPTION

Refer to the report text for a proper understanding of the subsurface materials and drilling methods. The stratification lines indicated below represent the approximate boundaries between material types, and the transition may be gradual.

Description	Depth, ft.
ASPHALT.	0.3
Brown, silty, sandy GRAVEL; dry; (Hf) GM.	0.6
Dark brown SILT with sand, trace of clay and gravel; moist; clay content increases with depth; (Fill) ML. Gray, lean CLAY; wet; CL.	4.0
Gray and brown, lean CLAY with sand; moist; pockets of silty sand, scattered roots; (Fill) CL.	5.5
Gray, clayey SAND with gravel; wet; SC.	7.2
Brown, silty SAND, trace of gravel; moist; diamict texture; (Fill?) SM.	8.2
Brown SILT with sand; moist; pockets of clay; (Fill?) ML.	10.0
Brown, gray, lean CLAY with sand; CL.	12.0
Brown-gray, elastic SILT; wet; scattered iron-oxide seams; MH.	

CONTINUED NEXT SHEET



LEGEND

* Sample Not Recovered	Piezometer Screen and Sand Filter
Soil Core (as in Sonic Core Borings)	Bentonite-Cement Grout
	Bentonite Chips/Pellets
	Bentonite Grout
	Ground Water Level ATD
	Ground Water Level in Well

NOTES

1. Refer to KEY for explanation of symbols, codes, abbreviations and definitions.
2. Groundwater level, if indicated above, is for the date specified and may vary.
3. USCS designation is based on visual-manual classification and selected lab testing.

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LOG OF SONIC CORE MW-5

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FIG. A-35
Sheet 1 of 2

MASTER LOG E 21-12357.GPJ SHAN WIL.GDT 10/7/14 Log: PVH Rev: EDB Typ: LKN

Total Depth:	20 ft.	Northing:		Drilling Method:	Sonic Core	Hole Diam.:	6 in.
Top Elevation:	~	Easting:		Drilling Company:	Boart Longyear	Rod Diam.:	
Vert. Datum:		Station:		Drill Rig Equipment:	Spider 200C Track	Hammer Type:	
Horiz. Datum:		Offset:		Other Comments:			

SOIL/ROCK DESCRIPTION

Refer to the report text for a proper understanding of the subsurface materials and drilling methods. The stratification lines indicated below represent the approximate boundaries between material types, and the transition may be gradual.

Depth, ft.	Symbol	Samples	Ground Water	Depth, ft.
15.0				
16.0				
16.3		R-4		
17.5				
19.3				
20.0				20
				25

Gray, silty SAND; wet; SM.

Gray, lean CLAY; wet; CL.

Gray, poorly graded SAND with silt; wet; SP-SM.

Gray SILT, trace of fine sand; wet; ML.

Gray, lean CLAY; wet; CL.

BOTTOM OF BORING
COMPLETED 9/18/2013

RQD (%) Recovery (%)

0 20 40 60

0 20 40 60 80 100

RQD (%) Recovery (%)

LEGEND

* Sample Not Recovered
Soil Core (as in Sonic Core Borings)
Piezometer Screen and Sand Filter
Bentonite-Cement Grout
Bentonite Chips/Pellets
Bentonite Grout
Ground Water Level ATD
Ground Water Level in Well

NOTES

1. Refer to KEY for explanation of symbols, codes, abbreviations and definitions.
2. Groundwater level, if indicated above, is for the date specified and may vary.
3. USCS designation is based on visual-manual classification and selected lab testing.

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LOG OF SONIC CORE MW-5

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FIG. A-35
Sheet 2 of 2

MASTER LOG E 21-12357.GPJ SHAN WIL.GDT 10/7/14 Log: PVH Rev: EDB Typ: LKN

Total Depth:	17 ft.	Northing:		Drilling Method:	Hollow Stem Auger	Hole Diam.:	4 in.
Top Elevation:	~	Easting:		Drilling Company:	ESN Northwest	Rod Diam.:	
Vert. Datum:		Station:		Drill Rig Equipment:	Combo Rig	Hammer Type:	
Horiz. Datum:		Offset:		Other Comments:			

SOIL DESCRIPTION	Depth, ft.
Refer to the report text for a proper understanding of the subsurface materials and drilling methods. The stratification lines indicated below represent the approximate boundaries between material types, and the transition may be gradual.	
CONCRETE.	0.8
Brown/gray, silty GRAVEL; dry to moist; GM.	
Gray-brown, silty CLAY to clayey SILT; moist to wet; ML/CL.	5.0
BOTTOM OF BORING COMPLETED 2/11/2014	17.0

Symbol | Samples | Ground Water | Depth, ft.

During Drilling ▽

0 20 40 60

5 10 15 20 25 30 35 40 45

0 20 40 60

LEGEND

* Sample Not Recovered

Piezometer Screen and Sand Filter
Bentonite-Cement Grout
Bentonite Chips/Pellets
Bentonite Grout
▽ Ground Water Level ATD

◇ % Fines (<0.075mm)
● % Water Content

NOTES

1. Refer to KEY for explanation of symbols, codes, abbreviations and definitions.
2. Groundwater level, if indicated above, is for the date specified and may vary.
3. USCS designation is based on visual-manual classification and selected lab testing.

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LOG OF SONIC CORE MW-6

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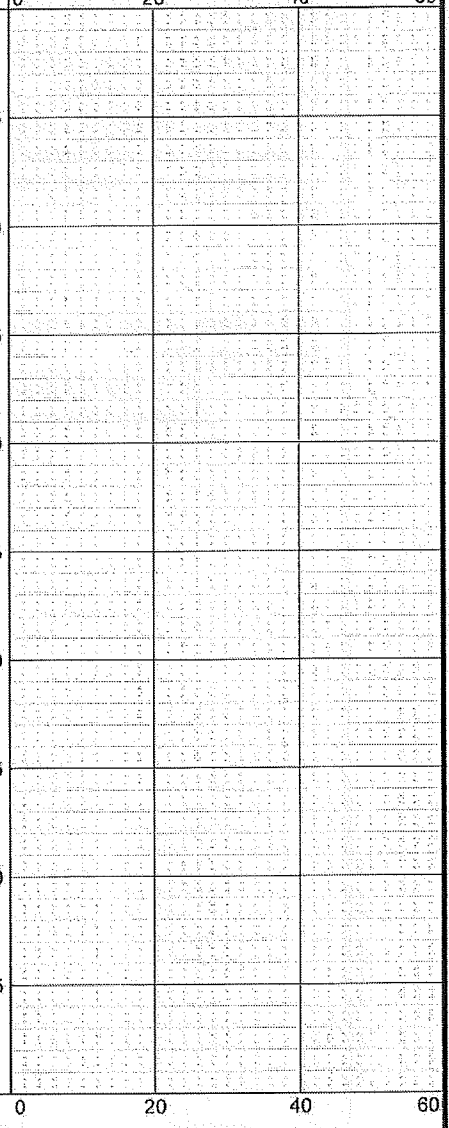
FIG. A-36

MASTER_LOG_E_21-12357.GPJ SHAN_WIL.GDT 10/7/14 Log: CMJ Rev: CMJ Typ: LKN

Total Depth:	16 ft.	Northing:		Drilling Method:	Hollow Stem Auger	Hole Diam.:	4 in.
Top Elevation:	~	Easting:		Drilling Company:	ESN Northwest	Rod Diam.:	
Vert. Datum:		Station:		Drill Rig Equipment:	Combo Rig	Hammer Type:	
Horiz. Datum:		Offset:		Other Comments:			

SOIL DESCRIPTION *Refer to the report text for a proper understanding of the subsurface materials and drilling methods. The stratification lines indicated below represent the approximate boundaries between material types, and the transition may be gradual.*	Depth, ft.	Symbol	Samples	Ground Water	Depth, ft.
Brown, slightly gravelly, silty SAND; moist; SM.					
Pea gravel; moist to wet; GP.	3.5			During Drilling ▽	
Gray, slightly silty SAND; wet; SP-SM.	14.5				
BOTTOM OF BORING COMPLETED 2/11/2014	16.0				



LEGEND

* Sample Not Recovered

Piezometer Screen and Sand Filter
Bentonite-Cement Grout
Bentonite Chips/Pellets
Bentonite Grout
▽ Ground Water Level ATD

◇ % Fines (<0.075mm)
● % Water Content

NOTES

1. Refer to KEY for explanation of symbols, codes, abbreviations and definitions.
2. Groundwater level, if indicated above, is for the date specified and may vary.
3. USCS designation is based on visual-manual classification and selected lab testing.

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LOG OF SONIC CORE MW-7

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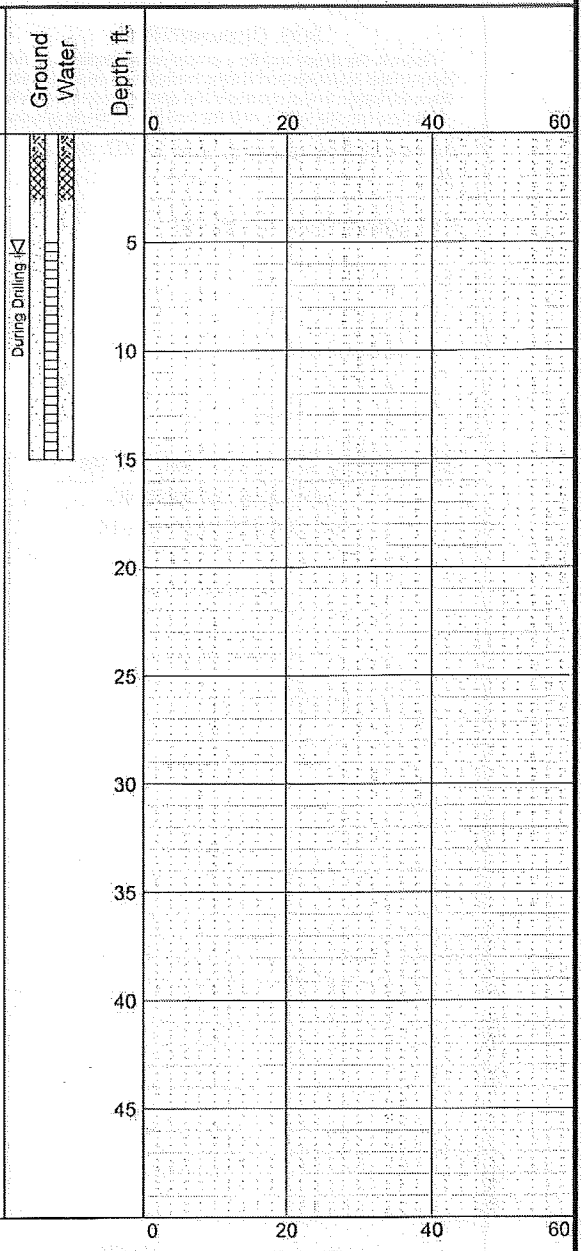
FIG. A-37

Log: CMJ Rev: CMJ Typ: LKN

MASTER LOG E 21-12357.GPJ SHAN WIL.GDT 10/7/14

Total Depth:	16 ft.	Northing:		Drilling Method:	Hollow Stem Auger	Hole Diam.:	4 in.
Top Elevation:	~	Easting:		Drilling Company:	ESN Northwest	Rod Diam.:	
Vert. Datum:		Station:		Drill Rig Equipment:	Combo Rig	Hammer Type:	
Horiz. Datum:		Offset:		Other Comments:			

SOIL DESCRIPTION	Depth, ft.
Refer to the report text for a proper understanding of the subsurface materials and drilling methods. The stratification lines indicated below represent the approximate boundaries between material types, and the transition may be gradual.	
ASPHALT.	0.3
Dark gray, silty, sandy GRAVEL to gravelly, sandy SILT; moist; GM/ML.	1.2
Green/brown, clayey SILT to silty CLAY; trace organics with thin sand layers from 10 to 12 feet below ground surface; moist to wet; ML/CL.	
Gray, slightly silty to silty, fine to medium SAND; wet; SM.	13.8
BOTTOM OF BORING COMPLETED 2/11/2014	16.0



LEGEND

* Sample Not Recovered

Piezometer Screen and Sand Filter
Bentonite-Cement Grout
Bentonite Chips/Pellets
Bentonite Grout
▽ Ground Water Level ATD

NOTES

1. Refer to KEY for explanation of symbols, codes, abbreviations and definitions.
2. Groundwater level, if indicated above, is for the date specified and may vary.
3. USCS designation is based on visual-manual classification and selected lab testing.

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LOG OF SONIC CORE MW-8

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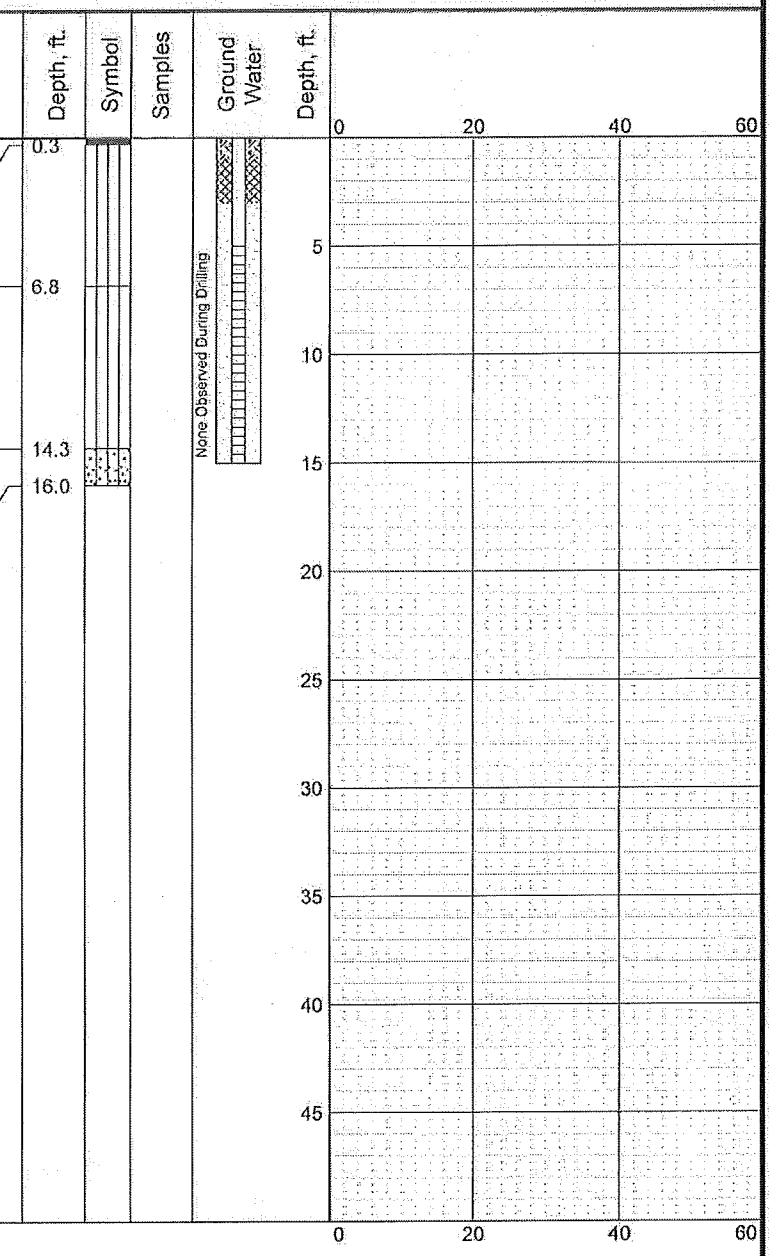
FIG. A-38

MASTER LOG E 21-12357.GPJ SHAN WIL.GDT 10/7/14 Log: CMJ Rev: CMJ Typ: LKN

Total Depth:	16 ft.	Northing:		Drilling Method:	Hollow Stem Auger	Hole Diam.:	4.5 in.
Top Elevation:	~	Easting:		Drilling Company:	ESN Northwest	Rod Diam.:	
Vert. Datum:		Station:		Drill Rig Equipment:	Combo Rig	Hammer Type:	
Horiz. Datum:		Offset:		Other Comments:			

SOIL DESCRIPTION	Depth, ft.
Refer to the report text for a proper understanding of the subsurface materials and drilling methods. The stratification lines indicated below represent the approximate boundaries between material types, and the transition may be gradual.	
ASPHALT.	0.3
Dark gray to brown, silty CLAY to clayey SILT; trace organics and gravel; moist to wet; ML/CL.	
Gray/brown, slightly gravelly, silty CLAY to clayey SILT; wet; ML/CL.	6.8
Gray, slightly silty to silty, medium to fine SAND; wet; SM.	14.3 16.0
BOTTOM OF BORING COMPLETED 2/11/2014	



LEGEND

* Sample Not Recovered

Piezometer Screen and Sand Filter
Bentonite-Cement Grout
Bentonite Chips/Pellets
Bentonite Grout

◇ % Fines (<0.075mm)
● % Water Content

NOTES

1. Refer to KEY for explanation of symbols, codes, abbreviations and definitions.
2. Groundwater level, if indicated above, is for the date specified and may vary.
3. USCS designation is based on visual-manual classification and selected lab testing.

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FIG. A-39

MASTER LOG E 21-12357.GPJ SHAN_WIL.GDT 10/7/14 Log: CMJ Rev: CMJ Typ: LKN

APPENDIX B

ANALYTICAL LABORATORY REPORTS

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

Shannon & Wilson
Cody Johnson
400 N. 34th Street, Suite 100
Seattle, WA 98103

RE: B+K
Lab ID: 1408219

August 29, 2014

Attention Cody Johnson:

Fremont Analytical, Inc. received 9 sample(s) on 8/22/2014 for the analyses presented in the following report.

Volatile Organic Compounds by EPA Method 8260

This report consists of the following:

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

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

Thank you for using Fremont Analytical.

Sincerely,

Mike Ridgeway
President

Fremont Analytical

Date: *08/29/2014*

CLIENT: Shannon & Wilson
Project: B+K
Lab Order: 1408219

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1408219-001	82114-OS-3:GW	08/21/2014 11:15 AM	08/22/2014 4:15 PM
1408219-002	82114-OS-1:GW	08/21/2014 12:15 PM	08/22/2014 4:15 PM
1408219-003	82114-MW-9:GW	08/21/2014 2:10 PM	08/22/2014 4:15 PM
1408219-004	82114-MW-7:GW	08/21/2014 3:20 PM	08/22/2014 4:15 PM
1408219-005	82214-MW-6:GW	08/22/2014 12:40 PM	08/22/2014 4:15 PM
1408219-006	82214-MW-8:GW	08/22/2014 2:40 PM	08/22/2014 4:15 PM
1408219-007	82214-OS-4:GW	08/22/2014 3:15 PM	08/22/2014 4:15 PM
1408219-008	82214-OS-2:GW	08/22/2014 3:45 PM	08/22/2014 4:15 PM
1408219-009	Trip Blank	08/18/2014 10:45 AM	08/22/2014 4:15 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Fremont Analytical

Case Narrative

WO#: **1408219**

Date: **8/29/2014**

CLIENT: Shannon & Wilson
Project: B+K

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

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

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

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

Client: Shannon & Wilson
Collection Date: 8/21/2014 12:15:00 PM
Project: B+K
Lab ID: 1408219-002
Matrix: Water
Client Sample ID: 82114-OS-1:GW

Volatile Organic Compounds by EPA Method 8260

Batch ID: R16353 Analyst: BC

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane	ND	1.00		µg/L	1	8/23/2014 1:07:00 AM
Chloromethane	ND	1.00		µg/L	1	8/23/2014 1:07:00 AM
Vinyl chloride	6.43	0.200		µg/L	1	8/23/2014 1:07:00 AM
Bromomethane	ND	1.00		µg/L	1	8/23/2014 1:07:00 AM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	8/23/2014 1:07:00 AM
Chloroethane	ND	1.00		µg/L	1	8/23/2014 1:07:00 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	8/23/2014 1:07:00 AM
Methylene chloride	ND	1.00		µg/L	1	8/23/2014 1:07:00 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	8/23/2014 1:07:00 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	8/23/2014 1:07:00 AM
2,2-Dichloropropane	ND	2.00		µg/L	1	8/23/2014 1:07:00 AM
cis-1,2-Dichloroethene	31.9	1.00		µg/L	1	8/23/2014 1:07:00 AM
Chloroform	ND	1.00		µg/L	1	8/23/2014 1:07:00 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	8/23/2014 1:07:00 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	8/23/2014 1:07:00 AM
Carbon tetrachloride	ND	1.00		µg/L	1	8/23/2014 1:07:00 AM
1,2-Dichloroethane	ND	1.00		µg/L	1	8/23/2014 1:07:00 AM
Trichloroethene (TCE)	7.02	0.500		µg/L	1	8/23/2014 1:07:00 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	8/23/2014 1:07:00 AM
Bromodichloromethane	ND	1.00		µg/L	1	8/23/2014 1:07:00 AM
Dibromomethane	ND	1.00		µg/L	1	8/23/2014 1:07:00 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	8/23/2014 1:07:00 AM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	8/23/2014 1:07:00 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	8/23/2014 1:07:00 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	8/23/2014 1:07:00 AM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	8/23/2014 1:07:00 AM
Dibromochloromethane	ND	1.00		µg/L	1	8/23/2014 1:07:00 AM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	8/23/2014 1:07:00 AM
Chlorobenzene	ND	1.00		µg/L	1	8/23/2014 1:07:00 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	8/23/2014 1:07:00 AM
Bromoform	ND	1.00		µg/L	1	8/23/2014 1:07:00 AM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	8/23/2014 1:07:00 AM
Bromobenzene	ND	1.00		µg/L	1	8/23/2014 1:07:00 AM
2-Chlorotoluene	ND	1.00		µg/L	1	8/23/2014 1:07:00 AM
4-Chlorotoluene	ND	1.00		µg/L	1	8/23/2014 1:07:00 AM

Qualifiers:

- B Analyte detected in the associated Method Blank
- D Dilution was required
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- ND Not detected at the Reporting Limit
- RL Reporting Limit
- S Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 8/21/2014 12:15:00 PM
Project: B+K
Lab ID: 1408219-002
Matrix: Water
Client Sample ID: 82114-OS-1:GW

Volatile Organic Compounds by EPA Method 8260

Batch ID: R16353 Analyst: BC

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
1,2,3-Trichloropropane	ND	1.00		µg/L	1	8/23/2014 1:07:00 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	8/23/2014 1:07:00 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	8/23/2014 1:07:00 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	8/23/2014 1:07:00 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	8/23/2014 1:07:00 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	8/23/2014 1:07:00 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	8/23/2014 1:07:00 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	8/23/2014 1:07:00 AM
Surr: Dibromofluoromethane	102	61.7-130		%REC	1	8/23/2014 1:07:00 AM
Surr: Toluene-d8	98.4	40.1-139		%REC	1	8/23/2014 1:07:00 AM
Surr: 1-Bromo-4-fluorobenzene	101	68.2-127		%REC	1	8/23/2014 1:07:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 8/21/2014 2:10:00 PM
Project: B+K
Lab ID: 1408219-003
Matrix: Water
Client Sample ID: 82114-MW-9:GW

Volatile Organic Compounds by EPA Method 8260

Batch ID: R16353 Analyst: BC

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane	ND	1.00		µg/L	1	8/23/2014 1:35:00 AM
Chloromethane	ND	1.00		µg/L	1	8/23/2014 1:35:00 AM
Vinyl chloride	ND	0.200		µg/L	1	8/23/2014 1:35:00 AM
Bromomethane	ND	1.00		µg/L	1	8/23/2014 1:35:00 AM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	8/23/2014 1:35:00 AM
Chloroethane	ND	1.00		µg/L	1	8/23/2014 1:35:00 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	8/23/2014 1:35:00 AM
Methylene chloride	ND	1.00		µg/L	1	8/23/2014 1:35:00 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	8/23/2014 1:35:00 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	8/23/2014 1:35:00 AM
2,2-Dichloropropane	ND	2.00		µg/L	1	8/23/2014 1:35:00 AM
cis-1,2-Dichloroethene	6.17	1.00		µg/L	1	8/23/2014 1:35:00 AM
Chloroform	ND	1.00		µg/L	1	8/23/2014 1:35:00 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	8/23/2014 1:35:00 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	8/23/2014 1:35:00 AM
Carbon tetrachloride	ND	1.00		µg/L	1	8/23/2014 1:35:00 AM
1,2-Dichloroethane	ND	1.00		µg/L	1	8/23/2014 1:35:00 AM
Trichloroethene (TCE)	179	5.00	D	µg/L	10	8/25/2014 5:24:00 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	8/23/2014 1:35:00 AM
Bromodichloromethane	ND	1.00		µg/L	1	8/23/2014 1:35:00 AM
Dibromomethane	ND	1.00		µg/L	1	8/23/2014 1:35:00 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	8/23/2014 1:35:00 AM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	8/23/2014 1:35:00 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	8/23/2014 1:35:00 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	8/23/2014 1:35:00 AM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	8/23/2014 1:35:00 AM
Dibromochloromethane	ND	1.00		µg/L	1	8/23/2014 1:35:00 AM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	8/23/2014 1:35:00 AM
Chlorobenzene	ND	1.00		µg/L	1	8/23/2014 1:35:00 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	8/23/2014 1:35:00 AM
Bromoform	ND	1.00		µg/L	1	8/23/2014 1:35:00 AM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	8/23/2014 1:35:00 AM
Bromobenzene	ND	1.00		µg/L	1	8/23/2014 1:35:00 AM
2-Chlorotoluene	ND	1.00		µg/L	1	8/23/2014 1:35:00 AM
4-Chlorotoluene	ND	1.00		µg/L	1	8/23/2014 1:35:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 8/21/2014 2:10:00 PM
Project: B+K
Lab ID: 1408219-003
Matrix: Water
Client Sample ID: 82114-MW-9:GW

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R16353		Analyst: BC
1,2,3-Trichloropropane	ND	1.00		µg/L	1	8/23/2014 1:35:00 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	8/23/2014 1:35:00 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	8/23/2014 1:35:00 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	8/23/2014 1:35:00 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	8/23/2014 1:35:00 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	8/23/2014 1:35:00 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	8/23/2014 1:35:00 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	8/23/2014 1:35:00 AM
Surr: Dibromofluoromethane	98.0	61.7-130		%REC	1	8/23/2014 1:35:00 AM
Surr: Toluene-d8	99.7	40.1-139		%REC	1	8/23/2014 1:35:00 AM
Surr: 1-Bromo-4-fluorobenzene	98.5	68.2-127		%REC	1	8/23/2014 1:35:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 8/21/2014 3:20:00 PM
Project: B+K
Lab ID: 1408219-004
Matrix: Water
Client Sample ID: 82114-MW-7:GW

Volatile Organic Compounds by EPA Method 8260

Batch ID: R16353 Analyst: BC

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane	ND	1.00		µg/L	1	8/23/2014 2:02:00 AM
Chloromethane	ND	1.00		µg/L	1	8/23/2014 2:02:00 AM
Vinyl chloride	8.19	0.200		µg/L	1	8/23/2014 2:02:00 AM
Bromomethane	ND	1.00		µg/L	1	8/23/2014 2:02:00 AM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	8/23/2014 2:02:00 AM
Chloroethane	ND	1.00		µg/L	1	8/23/2014 2:02:00 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	8/23/2014 2:02:00 AM
Methylene chloride	ND	1.00		µg/L	1	8/23/2014 2:02:00 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	8/23/2014 2:02:00 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	8/23/2014 2:02:00 AM
2,2-Dichloropropane	ND	2.00		µg/L	1	8/23/2014 2:02:00 AM
cis-1,2-Dichloroethene	30.0	1.00		µg/L	1	8/23/2014 2:02:00 AM
Chloroform	ND	1.00		µg/L	1	8/23/2014 2:02:00 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	8/23/2014 2:02:00 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	8/23/2014 2:02:00 AM
Carbon tetrachloride	ND	1.00		µg/L	1	8/23/2014 2:02:00 AM
1,2-Dichloroethane	1.76	1.00		µg/L	1	8/23/2014 2:02:00 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	8/23/2014 2:02:00 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	8/23/2014 2:02:00 AM
Bromodichloromethane	ND	1.00		µg/L	1	8/23/2014 2:02:00 AM
Dibromomethane	ND	1.00		µg/L	1	8/23/2014 2:02:00 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	8/23/2014 2:02:00 AM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	8/23/2014 2:02:00 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	8/23/2014 2:02:00 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	8/23/2014 2:02:00 AM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	8/23/2014 2:02:00 AM
Dibromochloromethane	ND	1.00		µg/L	1	8/23/2014 2:02:00 AM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	8/23/2014 2:02:00 AM
Chlorobenzene	ND	1.00		µg/L	1	8/23/2014 2:02:00 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	8/23/2014 2:02:00 AM
Bromoform	ND	1.00		µg/L	1	8/23/2014 2:02:00 AM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	8/23/2014 2:02:00 AM
Bromobenzene	ND	1.00		µg/L	1	8/23/2014 2:02:00 AM
2-Chlorotoluene	ND	1.00		µg/L	1	8/23/2014 2:02:00 AM
4-Chlorotoluene	ND	1.00		µg/L	1	8/23/2014 2:02:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 8/21/2014 3:20:00 PM
Project: B+K
Lab ID: 1408219-004
Matrix: Water
Client Sample ID: 82114-MW-7:GW

Volatile Organic Compounds by EPA Method 8260

Batch ID: R16353 Analyst: BC

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
1,2,3-Trichloropropane	ND	1.00		µg/L	1	8/23/2014 2:02:00 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	8/23/2014 2:02:00 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	8/23/2014 2:02:00 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	8/23/2014 2:02:00 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	8/23/2014 2:02:00 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	8/23/2014 2:02:00 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	8/23/2014 2:02:00 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	8/23/2014 2:02:00 AM
Surr: Dibromofluoromethane	101	61.7-130		%REC	1	8/23/2014 2:02:00 AM
Surr: Toluene-d8	97.1	40.1-139		%REC	1	8/23/2014 2:02:00 AM
Surr: 1-Bromo-4-fluorobenzene	104	68.2-127		%REC	1	8/23/2014 2:02:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 8/22/2014 12:40:00 PM
Project: B+K
Lab ID: 1408219-005
Matrix: Water
Client Sample ID: 82214-MW-6:GW

Volatile Organic Compounds by EPA Method 8260

Batch ID: R16353 Analyst: BC

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane	ND	1.00		µg/L	1	8/23/2014 2:30:00 AM
Chloromethane	ND	1.00		µg/L	1	8/23/2014 2:30:00 AM
Vinyl chloride	ND	0.200		µg/L	1	8/23/2014 2:30:00 AM
Bromomethane	ND	1.00		µg/L	1	8/23/2014 2:30:00 AM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	8/23/2014 2:30:00 AM
Chloroethane	ND	1.00		µg/L	1	8/23/2014 2:30:00 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	8/23/2014 2:30:00 AM
Methylene chloride	ND	1.00		µg/L	1	8/23/2014 2:30:00 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	8/23/2014 2:30:00 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	8/23/2014 2:30:00 AM
2,2-Dichloropropane	ND	2.00		µg/L	1	8/23/2014 2:30:00 AM
cis-1,2-Dichloroethene	2.99	1.00		µg/L	1	8/23/2014 2:30:00 AM
Chloroform	ND	1.00		µg/L	1	8/23/2014 2:30:00 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	8/23/2014 2:30:00 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	8/23/2014 2:30:00 AM
Carbon tetrachloride	ND	1.00		µg/L	1	8/23/2014 2:30:00 AM
1,2-Dichloroethane	ND	1.00		µg/L	1	8/23/2014 2:30:00 AM
Trichloroethene (TCE)	88.6	5.00	D	µg/L	10	8/25/2014 5:53:00 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	8/23/2014 2:30:00 AM
Bromodichloromethane	ND	1.00		µg/L	1	8/23/2014 2:30:00 AM
Dibromomethane	ND	1.00		µg/L	1	8/23/2014 2:30:00 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	8/23/2014 2:30:00 AM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	8/23/2014 2:30:00 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	8/23/2014 2:30:00 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	8/23/2014 2:30:00 AM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	8/23/2014 2:30:00 AM
Dibromochloromethane	ND	1.00		µg/L	1	8/23/2014 2:30:00 AM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	8/23/2014 2:30:00 AM
Chlorobenzene	ND	1.00		µg/L	1	8/23/2014 2:30:00 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	8/23/2014 2:30:00 AM
Bromoform	ND	1.00		µg/L	1	8/23/2014 2:30:00 AM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	8/23/2014 2:30:00 AM
Bromobenzene	ND	1.00		µg/L	1	8/23/2014 2:30:00 AM
2-Chlorotoluene	ND	1.00		µg/L	1	8/23/2014 2:30:00 AM
4-Chlorotoluene	ND	1.00		µg/L	1	8/23/2014 2:30:00 AM

Qualifiers:

- B Analyte detected in the associated Method Blank
- D Dilution was required
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- ND Not detected at the Reporting Limit
- RL Reporting Limit
- S Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 8/22/2014 12:40:00 PM
Project: B+K
Lab ID: 1408219-005
Matrix: Water
Client Sample ID: 82214-MW-6:GW

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R16353		Analyst: BC
1,2,3-Trichloropropane	ND	1.00		µg/L	1	8/23/2014 2:30:00 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	8/23/2014 2:30:00 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	8/23/2014 2:30:00 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	8/23/2014 2:30:00 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	8/23/2014 2:30:00 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	8/23/2014 2:30:00 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	8/23/2014 2:30:00 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	8/23/2014 2:30:00 AM
Surr: Dibromofluoromethane	106	61.7-130		%REC	1	8/23/2014 2:30:00 AM
Surr: Toluene-d8	101	40.1-139		%REC	1	8/23/2014 2:30:00 AM
Surr: 1-Bromo-4-fluorobenzene	103	68.2-127		%REC	1	8/23/2014 2:30:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 8/22/2014 2:40:00 PM
Project: B+K
Lab ID: 1408219-006
Matrix: Water
Client Sample ID: 82214-MW-8:GW

Volatile Organic Compounds by EPA Method 8260

Batch ID: R16353 Analyst: BC

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane	ND	1.00		µg/L	1	8/23/2014 2:58:00 AM
Chloromethane	ND	1.00		µg/L	1	8/23/2014 2:58:00 AM
Vinyl chloride	ND	0.200		µg/L	1	8/23/2014 2:58:00 AM
Bromomethane	ND	1.00		µg/L	1	8/23/2014 2:58:00 AM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	8/23/2014 2:58:00 AM
Chloroethane	ND	1.00		µg/L	1	8/23/2014 2:58:00 AM
1,1-Dichloroethene	1.05	1.00		µg/L	1	8/23/2014 2:58:00 AM
Methylene chloride	ND	1.00		µg/L	1	8/23/2014 2:58:00 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	8/23/2014 2:58:00 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	8/23/2014 2:58:00 AM
2,2-Dichloropropane	ND	2.00		µg/L	1	8/23/2014 2:58:00 AM
cis-1,2-Dichloroethene	22.1	1.00		µg/L	1	8/23/2014 2:58:00 AM
Chloroform	ND	1.00		µg/L	1	8/23/2014 2:58:00 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	8/23/2014 2:58:00 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	8/23/2014 2:58:00 AM
Carbon tetrachloride	ND	1.00		µg/L	1	8/23/2014 2:58:00 AM
1,2-Dichloroethane	4.87	1.00		µg/L	1	8/23/2014 2:58:00 AM
Trichloroethene (TCE)	615	10.0	D	µg/L	20	8/25/2014 4:56:00 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	8/23/2014 2:58:00 AM
Bromodichloromethane	ND	1.00		µg/L	1	8/23/2014 2:58:00 AM
Dibromomethane	ND	1.00		µg/L	1	8/23/2014 2:58:00 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	8/23/2014 2:58:00 AM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	8/23/2014 2:58:00 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	8/23/2014 2:58:00 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	8/23/2014 2:58:00 AM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	8/23/2014 2:58:00 AM
Dibromochloromethane	ND	1.00		µg/L	1	8/23/2014 2:58:00 AM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	8/23/2014 2:58:00 AM
Chlorobenzene	ND	1.00		µg/L	1	8/23/2014 2:58:00 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	8/23/2014 2:58:00 AM
Bromoform	ND	1.00		µg/L	1	8/23/2014 2:58:00 AM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	8/23/2014 2:58:00 AM
Bromobenzene	ND	1.00		µg/L	1	8/23/2014 2:58:00 AM
2-Chlorotoluene	ND	1.00		µg/L	1	8/23/2014 2:58:00 AM
4-Chlorotoluene	ND	1.00		µg/L	1	8/23/2014 2:58:00 AM

Qualifiers:

- B Analyte detected in the associated Method Blank
- D Dilution was required
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- ND Not detected at the Reporting Limit
- RL Reporting Limit
- S Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 8/22/2014 2:40:00 PM
Project: B+K
Lab ID: 1408219-006
Matrix: Water
Client Sample ID: 82214-MW-8:GW

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R16353		Analyst: BC
1,2,3-Trichloropropane	ND	1.00		µg/L	1	8/23/2014 2:58:00 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	8/23/2014 2:58:00 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	8/23/2014 2:58:00 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	8/23/2014 2:58:00 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	8/23/2014 2:58:00 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	8/23/2014 2:58:00 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	8/23/2014 2:58:00 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	8/23/2014 2:58:00 AM
Surr: Dibromofluoromethane	106	61.7-130		%REC	1	8/23/2014 2:58:00 AM
Surr: Toluene-d8	99.0	40.1-139		%REC	1	8/23/2014 2:58:00 AM
Surr: 1-Bromo-4-fluorobenzene	103	68.2-127		%REC	1	8/23/2014 2:58:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *8/29/2014*

Work Order: 1408219
CLIENT: Shannon & Wilson
Project: B+K

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **LCS-R16353**	SampType: **LCS**	Units: **µg/L**	Prep Date: **8/22/2014**	RunNo: **16353**	
Client ID: **LCSW**	Batch ID: **R16353**		Analysis Date: **8/22/2014**	SeqNo: **329009**	

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	16.8	1.00	20.00	0	83.8	43	136				
Chloromethane	18.3	1.00	20.00	0	91.6	43.9	139				
Vinyl chloride	17.5	0.200	20.00	0	87.6	53.6	139				
Bromomethane	15.8	1.00	20.00	0	79.0	44.8	148				
Trichlorofluoromethane (CFC-11)	19.9	1.00	20.00	0	99.7	63.7	133				
Chloroethane	18.6	1.00	20.00	0	92.8	53	141				
1,1-Dichloroethene	19.2	1.00	20.00	0	96.2	65.6	136				
Methylene chloride	17.4	1.00	20.00	0	87.2	67.1	131				
trans-1,2-Dichloroethene	17.8	1.00	20.00	0	88.8	71.7	129				
1,1-Dichloroethane	18.3	1.00	20.00	0	91.7	67.9	134				
2,2-Dichloropropane	18.0	2.00	20.00	0	90.1	33.7	152				
cis-1,2-Dichloroethene	18.2	1.00	20.00	0	91.2	71.1	130				
Chloroform	18.1	1.00	20.00	0	90.7	76.7	124				
1,1,1-Trichloroethane (TCA)	17.8	1.00	20.00	0	89.1	71	131				
1,1-Dichloropropene	18.6	1.00	20.00	0	92.8	74.5	126				
Carbon tetrachloride	17.6	1.00	20.00	0	87.8	66.2	134				
1,2-Dichloroethane	18.3	1.00	20.00	0	91.3	70	129				
Trichloroethene (TCE)	16.6	0.500	20.00	0	83.0	65.2	136				
1,2-Dichloropropane	18.6	1.00	20.00	0	93.2	70.5	130				
Bromodichloromethane	17.7	1.00	20.00	0	88.4	74.6	127				
Dibromomethane	17.9	1.00	20.00	0	89.5	75.5	126				
cis-1,3-Dichloropropene	20.0	1.00	20.00	0	100	62.6	137				
trans-1,3-Dichloropropene	18.5	1.00	20.00	0	92.3	58.5	142				
1,1,2-Trichloroethane	19.2	1.00	20.00	0	96.0	76	124				
1,3-Dichloropropane	18.4	1.00	20.00	0	91.9	73.5	127				
Tetrachloroethene (PCE)	18.8	1.00	20.00	0	93.8	47.5	147				
Dibromochloromethane	18.7	1.00	20.00	0	93.5	67.2	134				
1,2-Dibromoethane (EDB)	18.5	0.0600	20.00	0	92.5	73.6	125				
Chlorobenzene	18.2	1.00	20.00	0	91.2	73.9	126				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1408219
CLIENT: Shannon & Wilson
Project: B+K

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: LCS-R16353	SampType: LCS			Units: µg/L		Prep Date: 8/22/2014		RunNo: 16353		
Client ID: LCSW	Batch ID: R16353					Analysis Date: 8/22/2014		SeqNo: 329009		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	18.5	1.00	20.00	0	92.6	76.8	124				
Bromoform	18.4	1.00	20.00	0	92.0	63.8	135				
1,1,2,2-Tetrachloroethane	19.1	1.00	20.00	0	95.6	62.9	132				
Bromobenzene	18.8	1.00	20.00	0	94.2	71	131				
2-Chlorotoluene	18.7	1.00	20.00	0	93.4	70.8	130				
4-Chlorotoluene	18.8	1.00	20.00	0	94.3	70.1	131				
1,2,3-Trichloropropane	18.1	1.00	20.00	0	90.5	67.7	131				
1,2,4-Trichlorobenzene	16.4	2.00	20.00	0	82.2	72.4	127				
1,3-Dichlorobenzene	19.6	1.00	20.00	0	98.1	72.4	129				
1,4-Dichlorobenzene	18.5	1.00	20.00	0	92.5	70.6	128				
1,2-Dichlorobenzene	18.1	1.00	20.00	0	90.4	74.2	129				
1,2-Dibromo-3-chloropropane	17.7	1.00	20.00	0	88.5	63.1	136				
Hexachloro-1,3-butadiene	18.0	4.00	20.00	0	90.1	58.6	138				
1,2,3-Trichlorobenzene	13.6	4.00	20.00	0	67.8	66.4	132				
Surr: Dibromofluoromethane	48.9		50.00		97.7	61.7	130				
Surr: Toluene-d8	50.3		50.00		101	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	50.2		50.00		100	68.2	127				

Sample ID: MB-R16353	SampType: MBLK			Units: µg/L		Prep Date: 8/22/2014		RunNo: 16353		
Client ID: MBLKW	Batch ID: R16353					Analysis Date: 8/22/2014		SeqNo: 329010		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	ND	1.00									
Chloromethane	ND	1.00									
Vinyl chloride	ND	0.200									
Bromomethane	ND	1.00									
Trichlorofluoromethane (CFC-11)	ND	1.00									
Chloroethane	ND	1.00									

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *8/29/2014*

Work Order: 1408219
CLIENT: Shannon & Wilson
Project: B+K

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **MB-R16353**	SampType: **MBLK**	Units: **µg/L**	Prep Date: **8/22/2014**	RunNo: **16353**	
Client ID: **MBLKW**	Batch ID: **R16353**		Analysis Date: **8/22/2014**	SeqNo: **329010**	

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	ND	1.00									
Methylene chloride	ND	1.00									
trans-1,2-Dichloroethene	ND	1.00									
1,1-Dichloroethane	ND	1.00									
2,2-Dichloropropane	ND	2.00									
cis-1,2-Dichloroethene	ND	1.00									
Chloroform	ND	1.00									
1,1,1-Trichloroethane (TCA)	ND	1.00									
1,1-Dichloropropene	ND	1.00									
Carbon tetrachloride	ND	1.00									
1,2-Dichloroethane	ND	1.00									
Trichloroethene (TCE)	ND	0.500									
1,2-Dichloropropane	ND	1.00									
Bromodichloromethane	ND	1.00									
Dibromomethane	ND	1.00									
cis-1,3-Dichloropropene	ND	1.00									
trans-1,3-Dichloropropene	ND	1.00									
1,1,2-Trichloroethane	ND	1.00									
1,3-Dichloropropane	ND	1.00									
Tetrachloroethene (PCE)	ND	1.00									
Dibromochloromethane	ND	1.00									
1,2-Dibromoethane (EDB)	ND	0.0600									
Chlorobenzene	ND	1.00									
1,1,1,2-Tetrachloroethane	ND	1.00									
Bromoform	ND	1.00									
1,1,2,2-Tetrachloroethane	ND	1.00									
Bromobenzene	ND	1.00									
2-Chlorotoluene	ND	1.00									
4-Chlorotoluene	ND	1.00									

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *8/29/2014*

Work Order: 1408219
CLIENT: Shannon & Wilson
Project: B+K

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **MB-R16353**	SampType: **MBLK**	Units: **µg/L**	Prep Date: **8/22/2014**	RunNo: **16353**
Client ID: **MBLKW**	Batch ID: **R16353**		Analysis Date: **8/22/2014**	SeqNo: **329010**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,3-Trichloropropane	ND	1.00									
1,2,4-Trichlorobenzene	ND	2.00									
1,3-Dichlorobenzene	ND	1.00									
1,4-Dichlorobenzene	ND	1.00									
1,2-Dichlorobenzene	ND	1.00									
1,2-Dibromo-3-chloropropane	ND	1.00									
Hexachloro-1,3-butadiene	ND	4.00									
1,2,3-Trichlorobenzene	ND	4.00									
Surr: Dibromofluoromethane	49.8		50.00		99.6	61.7	130				
Surr: Toluene-d8	49.5		50.00		99.0	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	51.1		50.00		102	68.2	127				

Sample ID: **1408210-003ADUP**	SampType: **DUP**	Units: **µg/L**	Prep Date: **8/22/2014**	RunNo: **16353**
Client ID: **BATCH**	Batch ID: **R16353**		Analysis Date: **8/22/2014**	SeqNo: **329389**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	ND	1.00						0		30	
Chloromethane	ND	1.00						0		30	
Vinyl chloride	ND	0.200						0		30	
Bromomethane	ND	1.00						0		30	
Trichlorofluoromethane (CFC-11)	ND	1.00						0		30	
Chloroethane	ND	1.00						0		30	
1,1-Dichloroethene	ND	1.00						0		30	
Methylene chloride	ND	1.00						0		30	
trans-1,2-Dichloroethene	ND	1.00						0		30	
1,1-Dichloroethane	ND	1.00						0		30	
2,2-Dichloropropane	ND	2.00						0		30	
cis-1,2-Dichloroethene	ND	1.00						0		30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *8/29/2014*

Work Order: 1408219
CLIENT: Shannon & Wilson
Project: B+K

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1408210-003ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **8/22/2014** RunNo: **16353**
Client ID: **BATCH** Batch ID: **R16353** Analysis Date: **8/22/2014** SeqNo: **329389**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloroform	ND	1.00						0		30	
1,1,1-Trichloroethane (TCA)	ND	1.00						0		30	
1,1-Dichloropropene	ND	1.00						0		30	
Carbon tetrachloride	ND	1.00						0		30	
1,2-Dichloroethane	ND	1.00						0		30	
Trichloroethene (TCE)	ND	0.500						0		30	
1,2-Dichloropropane	ND	1.00						0		30	
Bromodichloromethane	ND	1.00						0		30	
Dibromomethane	ND	1.00						0		30	
cis-1,3-Dichloropropene	ND	1.00						0		30	
trans-1,3-Dichloropropene	ND	1.00						0		30	
1,1,2-Trichloroethane	ND	1.00						0		30	
1,3-Dichloropropane	ND	1.00						0		30	
Tetrachloroethene (PCE)	ND	1.00						0		30	
Dibromochloromethane	ND	1.00						0		30	
1,2-Dibromoethane (EDB)	ND	0.0600						0		30	
Chlorobenzene	ND	1.00						0		30	
1,1,1,2-Tetrachloroethane	ND	1.00						0		30	
Bromoform	ND	1.00						0		30	
1,1,2,2-Tetrachloroethane	ND	1.00						0		30	
Bromobenzene	ND	1.00						0		30	
2-Chlorotoluene	ND	1.00						0		30	
4-Chlorotoluene	ND	1.00						0		30	
1,2,3-Trichloropropane	ND	1.00						0		30	
1,2,4-Trichlorobenzene	ND	2.00						0		30	
1,3-Dichlorobenzene	ND	1.00						0		30	
1,4-Dichlorobenzene	ND	1.00						0		30	
1,2-Dichlorobenzene	ND	1.00						0		30	
1,2-Dibromo-3-chloropropane	ND	1.00						0		30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *8/29/2014*

Work Order: 1408219
CLIENT: Shannon & Wilson
Project: B+K

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1408210-003ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **8/22/2014** RunNo: **16353**
Client ID: **BATCH** Batch ID: **R16353** Analysis Date: **8/22/2014** SeqNo: **329389**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexachloro-1,3-butadiene	ND	4.00						0		30	
1,2,3-Trichlorobenzene	ND	4.00						0		30	
Surr: Dibromofluoromethane	49.9		50.00		99.8	61.7	130		0		
Surr: Toluene-d8	50.2		50.00		100	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	50.0		50.00		100	68.2	127		0		

Sample ID: **1408210-005AMS** SampType: **MS** Units: **µg/L** Prep Date: **8/22/2014** RunNo: **16353**
Client ID: **BATCH** Batch ID: **R16353** Analysis Date: **8/22/2014** SeqNo: **329393**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	19.5	1.00	20.00	0	97.4	33.3	122				
Chloromethane	18.1	1.00	20.00	0.4000	88.6	48.2	145				
Vinyl chloride	19.4	0.200	20.00	0	97.2	58.1	158				
Bromomethane	11.3	1.00	20.00	0	56.6	31.5	135				
Trichlorofluoromethane (CFC-11)	22.5	1.00	20.00	0	113	54.7	138				
Chloroethane	19.4	1.00	20.00	0.1100	96.7	49.9	143				
1,1-Dichloroethene	22.8	1.00	20.00	0	114	63	141				
Methylene chloride	18.4	1.00	20.00	0	92.0	61.6	135				
trans-1,2-Dichloroethene	20.1	1.00	20.00	0	101	63.5	138				
1,1-Dichloroethane	19.2	1.00	20.00	0	96.0	67.8	136				
2,2-Dichloropropane	18.9	2.00	20.00	0	94.6	31.5	121				
cis-1,2-Dichloroethene	19.1	1.00	20.00	0	95.4	67.1	123				
Chloroform	19.6	1.00	20.00	0	97.8	66.7	136				
1,1,1-Trichloroethane (TCA)	19.9	1.00	20.00	0.1700	98.8	64.2	146				
1,1-Dichloropropene	20.8	1.00	20.00	0	104	73.8	136				
Carbon tetrachloride	20.4	1.00	20.00	0.2000	101	62.7	146				
1,2-Dichloroethane	19.0	1.00	20.00	0.1500	94.2	63.4	137				
Trichloroethene (TCE)	19.2	0.500	20.00	0	96.0	60.4	134				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *8/29/2014*

Work Order: 1408219
CLIENT: Shannon & Wilson
Project: B+K

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1408210-005AMS**	SampType: **MS**	Units: **µg/L**	Prep Date: **8/22/2014**	RunNo: **16353**	
Client ID: **BATCH**	Batch ID: **R16353**		Analysis Date: **8/22/2014**	SeqNo: **329393**	

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichloropropane	20.2	1.00	20.00	0	101	62.6	138				
Bromodichloromethane	19.9	1.00	20.00	0	99.4	59.4	139				
Dibromomethane	19.4	1.00	20.00	0	96.8	63.6	139				
cis-1,3-Dichloropropene	19.4	1.00	20.00	0	97.0	63.8	132				
trans-1,3-Dichloropropene	19.7	1.00	20.00	0	98.4	57.7	125				
1,1,2-Trichloroethane	19.8	1.00	20.00	0	99.1	59.4	127				
1,3-Dichloropropane	20.5	1.00	20.00	0	103	64.3	135				
Tetrachloroethene (PCE)	20.7	1.00	20.00	0	103	50.3	133				
Dibromochloromethane	20.0	1.00	20.00	0.2900	98.3	61.6	139				
1,2-Dibromoethane (EDB)	20.2	0.0600	20.00	0	101	63.2	134				
Chlorobenzene	19.4	1.00	20.00	0	96.8	65.8	134				
1,1,1,2-Tetrachloroethane	19.3	1.00	20.00	0	96.6	65.4	135				
Bromoform	18.8	1.00	20.00	0	94.0	57.7	139				
1,1,2,2-Tetrachloroethane	20.6	1.00	20.00	0	103	59.8	146				
Bromobenzene	19.4	1.00	20.00	0	97.2	63.6	130				
2-Chlorotoluene	19.0	1.00	20.00	0	95.2	61.7	134				
4-Chlorotoluene	19.2	1.00	20.00	0	96.1	58.4	134				
1,2,3-Trichloropropane	19.7	1.00	20.00	0.4400	96.3	62.4	129				
1,2,4-Trichlorobenzene	17.9	2.00	20.00	5.640	61.2	50.9	133				
1,3-Dichlorobenzene	19.5	1.00	20.00	0.2200	96.2	58.2	128				
1,4-Dichlorobenzene	19.2	1.00	20.00	0.1100	95.4	60.1	123				
1,2-Dichlorobenzene	18.4	1.00	20.00	0.4200	90.2	65.4	133				
1,2-Dibromo-3-chloropropane	22.1	1.00	20.00	1.730	102	51.8	142				
Hexachloro-1,3-butadiene	18.3	4.00	20.00	2.620	78.5	58.1	130				
1,2,3-Trichlorobenzene	14.6	4.00	20.00	10.24	21.6	57	131				S
Surr: Dibromofluoromethane	49.9		50.00		99.7	61.7	130				
Surr: Toluene-d8	50.7		50.00		101	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	51.1		50.00		102	68.2	127				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *8/29/2014*

Work Order: 1408219
CLIENT: Shannon & Wilson
Project: B+K

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1408210-005AMS**	SampType: **MS**			Units: **µg/L**		Prep Date: **8/22/2014**			RunNo: **16353**		
Client ID: **BATCH**	Batch ID: **R16353**					Analysis Date: **8/22/2014**			SeqNo: **329393**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

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

Sample ID: **CCV-R16353B**	SampType: **CCV**			Units: **µg/L**		Prep Date: **8/25/2014**			RunNo: **16353**		
Client ID: **CCV**	Batch ID: **R16353**					Analysis Date: **8/25/2014**			SeqNo: **329863**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichloroethene (TCE)	19.5	0.500	20.00	0	97.7	80	120				
Surr: Dibromofluoromethane	49.4		50.00		98.8	72.1	122				
Surr: Toluene-d8	50.4		50.00		101	62.1	129				
Surr: 1-Bromo-4-fluorobenzene	50.6		50.00		101	66.8	124				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Sample Log-In Check List

Client Name:	**SW**	Work Order Number:	**1408219**
Logged by:	**Erica Silva**	Date Received:	**8/22/2014 4:15:00 PM**

Chain of Custody

1.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐	
2.	How was the sample delivered?	Client			

Log In

3.	Coolers are present?	Yes ☑	No ☐	NA ☐	
4.	Shipping container/cooler in good condition?	Yes ☑	No ☐		
5.	Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Required ☑	
6.	Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐	
7.	Were all coolers received at a temperature of >0°C to 10.0°C	Yes ☑	No ☐	NA ☐	
8.	Sample(s) in proper container(s)?	Yes ☑	No ☐		
9.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐		
10.	Are samples properly preserved?	Yes ☑	No ☐		
11.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐	
12.	Is the headspace in the VOA vials?	Yes ☐	No ☑	NA ☐	
13.	Did all samples containers arrive in good condition(unbroken)?	Yes ☑	No ☐		
14.	Does paperwork match bottle labels?	Yes ☑	No ☐		
15.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐		
16.	Is it clear what analyses were requested?	Yes ☑	No ☐		
17.	Were all holding times able to be met?	Yes ☑	No ☐		

Special Handling (if applicable)

18. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

19. Additional remarks:

Item Information

Item #	Temp °C	Condition
Cooler	7.2	Good
Sample	5.3	Good
Temp Blank	3.2	Good

Fremont Analytical

Chain of Custody Record

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (internal): 140829

Date: 8/22/14

Page: 1 of: 1

Client: STL

Project Name: B+K

Address:

Location:

City, State, Zip

Tel:

Collected by: CMJ

Reports To (PM): CODY JOHNSON

Fax:

Email: CMJ@shannonwilcox.com Project No: 21-1-12357-003

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, WW = Waste Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOC (EPA 8260)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SEMI VOL (EPA 8270)	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Metals** (6020 / 200.8)	Total (T)	Dissolved (D)	Anions (IC)***	EDB (8011)	HVOCs			Comments/Depth
1	82114-05-3:GW	8/21/14	1115	WATER													X					Hold
2	82114-05-1:GW	8/21/14	1215														X					
3	82114-MW-9:GW	8/21/14	1410														X					
4	82114-MW-7:GW	8/21/14	1520														X					
5	82214-MW-6:GW	8/22/14	1240														X					
6	82214-MW-8:GW		1440														X					
	82214-05-4:GW		1515																			Hold
8	82214-05-2:GW		1545																			Hold
9																						
10																						

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL *Individual:* Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Special Remarks:

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Relinquished	Date/Time	Received	Date/Time
x	8/22/14 1615	x	8/22/14 16:15
x		x	

TAT -> SameDay^ NextDay^ 2 Day 3 Day (STD)

^Please coordinate with the lab in advance

Distribution: White - Lab, Yellow - File, Pink - Originator

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

Shannon & Wilson
Cody Johnson
400 N. 34th Street, Suite 100
Seattle, WA 98103

RE: B+K
Lab ID: 1308111

August 22, 2013

Attention Cody Johnson:

Fremont Analytical, Inc. received 5 sample(s) on 8/16/2013 for the analyses presented in the following report.

Volatile Organic Compounds by EPA Method 8260

This report consists of the following:

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

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

Thank you for using Fremont Analytical.

Sincerely,

Michael Dee
Sr. Chemist / Principal

Fremont Analytical

Date: *07/23/2014*

CLIENT: Shannon & Wilson
Project: B+K
Lab Order: 1308111

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1308111-001	OS-1-81613	08/16/2013 2:10 PM	08/16/2013 3:10 PM
1308111-002	OS-2-81613	08/16/2013 1:40 PM	08/16/2013 3:10 PM
1308111-003	OS-3-81613	08/16/2013 2:20 PM	08/16/2013 3:10 PM
1308111-004	OS-4-81613	08/16/2013 12:05 PM	08/16/2013 3:10 PM
1308111-005	Trip Blank	08/16/2013 9:25 AM	08/16/2013 3:08 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Fremont Analytical

Case Narrative

WO#: **1308111**
Date: **8/22/2013**

CLIENT: Shannon & Wilson
Project: B+K

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

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

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

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

Client: Shannon & Wilson
Collection Date: 8/16/2013 2:10:00 PM
Project: B+K
Lab ID: 1308111-001
Matrix: Groundwater
Client Sample ID: OS-1-81613

Volatile Organic Compounds by EPA Method 8260

Batch ID: R9673 Analyst: EM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane	ND	1.00		µg/L	1	8/20/2013 11:01:00 AM
Chloromethane	ND	1.00		µg/L	1	8/20/2013 11:01:00 AM
Vinyl chloride	14.6	0.200		µg/L	1	8/20/2013 11:01:00 AM
Bromomethane	ND	1.00		µg/L	1	8/20/2013 11:01:00 AM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	8/20/2013 11:01:00 AM
Chloroethane	ND	1.00		µg/L	1	8/20/2013 11:01:00 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	8/20/2013 11:01:00 AM
Methylene chloride	ND	1.00		µg/L	1	8/20/2013 11:01:00 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	8/20/2013 11:01:00 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	8/20/2013 11:01:00 AM
2,2-Dichloropropane	ND	2.00		µg/L	1	8/20/2013 11:01:00 AM
cis-1,2-Dichloroethene	38.0	1.00		µg/L	1	8/20/2013 11:01:00 AM
Chloroform	ND	1.00		µg/L	1	8/20/2013 11:01:00 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	8/20/2013 11:01:00 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	8/20/2013 11:01:00 AM
Carbon tetrachloride	ND	1.00		µg/L	1	8/20/2013 11:01:00 AM
1,2-Dichloroethane	ND	1.00		µg/L	1	8/20/2013 11:01:00 AM
Trichloroethene (TCE)	9.05	1.00		µg/L	1	8/20/2013 11:01:00 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	8/20/2013 11:01:00 AM
Bromodichloromethane	ND	1.00		µg/L	1	8/20/2013 11:01:00 AM
Dibromomethane	ND	1.00		µg/L	1	8/20/2013 11:01:00 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	8/20/2013 11:01:00 AM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	8/20/2013 11:01:00 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	8/20/2013 11:01:00 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	8/20/2013 11:01:00 AM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	8/20/2013 11:01:00 AM
Dibromochloromethane	ND	1.00		µg/L	1	8/20/2013 11:01:00 AM
1,2-Dibromoethane (EDB)	ND	0.0100		µg/L	1	8/20/2013 11:01:00 AM
Chlorobenzene	ND	1.00		µg/L	1	8/20/2013 11:01:00 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	8/20/2013 11:01:00 AM
Bromoform	ND	1.00		µg/L	1	8/20/2013 11:01:00 AM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	8/20/2013 11:01:00 AM
Bromobenzene	ND	1.00		µg/L	1	8/20/2013 11:01:00 AM
2-Chlorotoluene	ND	1.00		µg/L	1	8/20/2013 11:01:00 AM
4-Chlorotoluene	ND	1.00		µg/L	1	8/20/2013 11:01:00 AM

Qualifiers:

- B Analyte detected in the associated Method Blank
- D Dilution was required
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- ND Not detected at the Reporting Limit
- RL Reporting Limit
- S Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 8/16/2013 2:10:00 PM
Project: B+K
Lab ID: 1308111-001
Matrix: Groundwater
Client Sample ID: OS-1-81613

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R9673		Analyst: EM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	8/20/2013 11:01:00 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	8/20/2013 11:01:00 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	8/20/2013 11:01:00 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	8/20/2013 11:01:00 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	8/20/2013 11:01:00 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	8/20/2013 11:01:00 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	8/20/2013 11:01:00 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	8/20/2013 11:01:00 AM
Surr: Dibromofluoromethane	101	72.1-122		%REC	1	8/20/2013 11:01:00 AM
Surr: Toluene-d8	109	62.1-129		%REC	1	8/20/2013 11:01:00 AM
Surr: 1-Bromo-4-fluorobenzene	94.8	66.8-124		%REC	1	8/20/2013 11:01:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 8/16/2013 1:40:00 PM
Project: B+K
Lab ID: 1308111-002
Matrix: Groundwater
Client Sample ID: OS-2-81613

Volatile Organic Compounds by EPA Method 8260

Batch ID: R9673 Analyst: EM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane	ND	1.00		µg/L	1	8/20/2013 12:50:00 PM
Chloromethane	ND	1.00		µg/L	1	8/20/2013 12:50:00 PM
Vinyl chloride	ND	0.200		µg/L	1	8/20/2013 12:50:00 PM
Bromomethane	ND	1.00		µg/L	1	8/20/2013 12:50:00 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	8/20/2013 12:50:00 PM
Chloroethane	ND	1.00		µg/L	1	8/20/2013 12:50:00 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	8/20/2013 12:50:00 PM
Methylene chloride	ND	1.00		µg/L	1	8/20/2013 12:50:00 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	8/20/2013 12:50:00 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	8/20/2013 12:50:00 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	8/20/2013 12:50:00 PM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	8/20/2013 12:50:00 PM
Chloroform	ND	1.00		µg/L	1	8/20/2013 12:50:00 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	8/20/2013 12:50:00 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	8/20/2013 12:50:00 PM
Carbon tetrachloride	ND	1.00		µg/L	1	8/20/2013 12:50:00 PM
1,2-Dichloroethane	ND	1.00		µg/L	1	8/20/2013 12:50:00 PM
Trichloroethene (TCE)	ND	1.00		µg/L	1	8/20/2013 12:50:00 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	8/20/2013 12:50:00 PM
Bromodichloromethane	ND	1.00		µg/L	1	8/20/2013 12:50:00 PM
Dibromomethane	ND	1.00		µg/L	1	8/20/2013 12:50:00 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	8/20/2013 12:50:00 PM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	8/20/2013 12:50:00 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	8/20/2013 12:50:00 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	8/20/2013 12:50:00 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	8/20/2013 12:50:00 PM
Dibromochloromethane	ND	1.00		µg/L	1	8/20/2013 12:50:00 PM
1,2-Dibromoethane (EDB)	ND	0.0100		µg/L	1	8/20/2013 12:50:00 PM
Chlorobenzene	ND	1.00		µg/L	1	8/20/2013 12:50:00 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	8/20/2013 12:50:00 PM
Bromoform	ND	1.00		µg/L	1	8/20/2013 12:50:00 PM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	8/20/2013 12:50:00 PM
Bromobenzene	ND	1.00		µg/L	1	8/20/2013 12:50:00 PM
2-Chlorotoluene	ND	1.00		µg/L	1	8/20/2013 12:50:00 PM
4-Chlorotoluene	ND	1.00		µg/L	1	8/20/2013 12:50:00 PM

Qualifiers:

- B Analyte detected in the associated Method Blank
- D Dilution was required
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- ND Not detected at the Reporting Limit
- RL Reporting Limit
- S Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1308111**
Date Reported: **8/22/2013**

Client: Shannon & Wilson
Collection Date: 8/16/2013 1:40:00 PM
Project: B+K
Lab ID: 1308111-002
Matrix: Groundwater
Client Sample ID: OS-2-81613

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R9673		Analyst: EM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	8/20/2013 12:50:00 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	8/20/2013 12:50:00 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	8/20/2013 12:50:00 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	8/20/2013 12:50:00 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	8/20/2013 12:50:00 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	8/20/2013 12:50:00 PM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	8/20/2013 12:50:00 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	8/20/2013 12:50:00 PM
Surr: Dibromofluoromethane	96.9	72.1-122		%REC	1	8/20/2013 12:50:00 PM
Surr: Toluene-d8	84.1	62.1-129		%REC	1	8/20/2013 12:50:00 PM
Surr: 1-Bromo-4-fluorobenzene	94.2	66.8-124		%REC	1	8/20/2013 12:50:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B+K
Lab ID: 1308111-003
Client Sample ID: OS-3-81613

Collection Date: 8/16/2013 2:20:00 PM
Matrix: Groundwater

Volatile Organic Compounds by EPA Method 8260

Batch ID: R9673 Analyst: EM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane	ND	1.00		µg/L	1	8/20/2013 1:17:00 PM
Chloromethane	ND	1.00		µg/L	1	8/20/2013 1:17:00 PM
Vinyl chloride	ND	0.200		µg/L	1	8/20/2013 1:17:00 PM
Bromomethane	ND	1.00		µg/L	1	8/20/2013 1:17:00 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	8/20/2013 1:17:00 PM
Chloroethane	ND	1.00		µg/L	1	8/20/2013 1:17:00 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	8/20/2013 1:17:00 PM
Methylene chloride	ND	1.00		µg/L	1	8/20/2013 1:17:00 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	8/20/2013 1:17:00 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	8/20/2013 1:17:00 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	8/20/2013 1:17:00 PM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	8/20/2013 1:17:00 PM
Chloroform	ND	1.00		µg/L	1	8/20/2013 1:17:00 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	8/20/2013 1:17:00 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	8/20/2013 1:17:00 PM
Carbon tetrachloride	ND	1.00		µg/L	1	8/20/2013 1:17:00 PM
1,2-Dichloroethane	ND	1.00		µg/L	1	8/20/2013 1:17:00 PM
Trichloroethene (TCE)	ND	1.00		µg/L	1	8/20/2013 1:17:00 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	8/20/2013 1:17:00 PM
Bromodichloromethane	ND	1.00		µg/L	1	8/20/2013 1:17:00 PM
Dibromomethane	ND	1.00		µg/L	1	8/20/2013 1:17:00 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	8/20/2013 1:17:00 PM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	8/20/2013 1:17:00 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	8/20/2013 1:17:00 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	8/20/2013 1:17:00 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	8/20/2013 1:17:00 PM
Dibromochloromethane	ND	1.00		µg/L	1	8/20/2013 1:17:00 PM
1,2-Dibromoethane (EDB)	ND	0.0100		µg/L	1	8/20/2013 1:17:00 PM
Chlorobenzene	ND	1.00		µg/L	1	8/20/2013 1:17:00 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	8/20/2013 1:17:00 PM
Bromoform	ND	1.00		µg/L	1	8/20/2013 1:17:00 PM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	8/20/2013 1:17:00 PM
Bromobenzene	ND	1.00		µg/L	1	8/20/2013 1:17:00 PM
2-Chlorotoluene	ND	1.00		µg/L	1	8/20/2013 1:17:00 PM
4-Chlorotoluene	ND	1.00		µg/L	1	8/20/2013 1:17:00 PM

Qualifiers:

- B Analyte detected in the associated Method Blank
- D Dilution was required
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- ND Not detected at the Reporting Limit
- RL Reporting Limit
- S Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B+K
Lab ID: 1308111-003
Client Sample ID: OS-3-81613

Collection Date: 8/16/2013 2:20:00 PM
Matrix: Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R9673		Analyst: EM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	8/20/2013 1:17:00 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	8/20/2013 1:17:00 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	8/20/2013 1:17:00 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	8/20/2013 1:17:00 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	8/20/2013 1:17:00 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	8/20/2013 1:17:00 PM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	8/20/2013 1:17:00 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	8/20/2013 1:17:00 PM
Surr: Dibromofluoromethane	115	72.1-122		%REC	1	8/20/2013 1:17:00 PM
Surr: Toluene-d8	112	62.1-129		%REC	1	8/20/2013 1:17:00 PM
Surr: 1-Bromo-4-fluorobenzene	94.2	66.8-124		%REC	1	8/20/2013 1:17:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 8/16/2013 12:05:00 PM
Project: B+K
Lab ID: 1308111-004
Matrix: Groundwater
Client Sample ID: OS-4-81613

Volatile Organic Compounds by EPA Method 8260

Batch ID: R9673 Analyst: EM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane	ND	1.00		µg/L	1	8/20/2013 1:44:00 PM
Chloromethane	ND	1.00		µg/L	1	8/20/2013 1:44:00 PM
Vinyl chloride	ND	0.200		µg/L	1	8/20/2013 1:44:00 PM
Bromomethane	ND	1.00		µg/L	1	8/20/2013 1:44:00 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	8/20/2013 1:44:00 PM
Chloroethane	ND	1.00		µg/L	1	8/20/2013 1:44:00 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	8/20/2013 1:44:00 PM
Methylene chloride	ND	1.00		µg/L	1	8/20/2013 1:44:00 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	8/20/2013 1:44:00 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	8/20/2013 1:44:00 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	8/20/2013 1:44:00 PM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	8/20/2013 1:44:00 PM
Chloroform	ND	1.00		µg/L	1	8/20/2013 1:44:00 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	8/20/2013 1:44:00 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	8/20/2013 1:44:00 PM
Carbon tetrachloride	ND	1.00		µg/L	1	8/20/2013 1:44:00 PM
1,2-Dichloroethane	ND	1.00		µg/L	1	8/20/2013 1:44:00 PM
Trichloroethene (TCE)	ND	1.00		µg/L	1	8/20/2013 1:44:00 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	8/20/2013 1:44:00 PM
Bromodichloromethane	ND	1.00		µg/L	1	8/20/2013 1:44:00 PM
Dibromomethane	ND	1.00		µg/L	1	8/20/2013 1:44:00 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	8/20/2013 1:44:00 PM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	8/20/2013 1:44:00 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	8/20/2013 1:44:00 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	8/20/2013 1:44:00 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	8/20/2013 1:44:00 PM
Dibromochloromethane	ND	1.00		µg/L	1	8/20/2013 1:44:00 PM
1,2-Dibromoethane (EDB)	ND	0.0100		µg/L	1	8/20/2013 1:44:00 PM
Chlorobenzene	ND	1.00		µg/L	1	8/20/2013 1:44:00 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	8/20/2013 1:44:00 PM
Bromoform	ND	1.00		µg/L	1	8/20/2013 1:44:00 PM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	8/20/2013 1:44:00 PM
Bromobenzene	ND	1.00		µg/L	1	8/20/2013 1:44:00 PM
2-Chlorotoluene	ND	1.00		µg/L	1	8/20/2013 1:44:00 PM
4-Chlorotoluene	ND	1.00		µg/L	1	8/20/2013 1:44:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 8/16/2013 12:05:00 PM
Project: B+K
Lab ID: 1308111-004
Matrix: Groundwater
Client Sample ID: OS-4-81613

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R9673		Analyst: EM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	8/20/2013 1:44:00 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	8/20/2013 1:44:00 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	8/20/2013 1:44:00 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	8/20/2013 1:44:00 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	8/20/2013 1:44:00 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	8/20/2013 1:44:00 PM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	8/20/2013 1:44:00 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	8/20/2013 1:44:00 PM
Surr: Dibromofluoromethane	106	72.1-122		%REC	1	8/20/2013 1:44:00 PM
Surr: Toluene-d8	116	62.1-129		%REC	1	8/20/2013 1:44:00 PM
Surr: 1-Bromo-4-fluorobenzene	97.5	66.8-124		%REC	1	8/20/2013 1:44:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *8/22/2013*

Work Order: 1308111
CLIENT: Shannon & Wilson
Project: B+K

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1308111-001ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **8/20/2013** RunNo: **9673**
Client ID: **OS-1-81613** Batch ID: **R9673** Analysis Date: **8/20/2013** SeqNo: **194680**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	ND	1.00						0		30	
Chloromethane	ND	0.500						0		30	
Vinyl chloride	15.9	0.200						14.57	8.98	30	
Bromomethane	ND	0.500						0		30	
Trichlorofluoromethane (CFC-11)	ND	0.500						0		30	
Chloroethane	ND	0.500						0		30	
1,1-Dichloroethene	ND	0.500						0		30	
Methylene chloride	ND	1.00						0		30	
trans-1,2-Dichloroethene	ND	0.500						0		30	
1,1-Dichloroethane	ND	0.500						0		30	
2,2-Dichloropropane	ND	1.00						0		30	
cis-1,2-Dichloroethene	43.2	0.500						38.04	12.7	30	
Chloroform	ND	1.00						0		30	
1,1,1-Trichloroethane (TCA)	ND	0.500						0		30	
1,1-Dichloropropene	ND	0.500						0		30	
Carbon tetrachloride	ND	0.500						0		30	
1,2-Dichloroethane	0.570	0.500						0.3800	40.0	30	R
Trichloroethene (TCE)	9.39	0.500						9.050	3.69	30	
1,2-Dichloropropane	ND	0.500						0		30	
Bromodichloromethane	ND	0.500						0		30	
Dibromomethane	ND	0.500						0		30	
cis-1,3-Dichloropropene	ND	0.500						0		30	
trans-1,3-Dichloropropene	ND	0.500						0		30	
1,1,2-Trichloroethane	ND	0.500						0		30	
1,3-Dichloropropane	ND	0.500						0		30	
Tetrachloroethene (PCE)	ND	0.500						0		30	
Dibromochloromethane	ND	0.500						0		30	
1,2-Dibromoethane (EDB)	ND	0.200						0		30	
Chlorobenzene	ND	0.500						0		30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *8/22/2013*

Work Order: 1308111
CLIENT: Shannon & Wilson
Project: B+K

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1308111-001ADUP**	SampType: **DUP**	Units: **µg/L**	Prep Date: **8/20/2013**	RunNo: **9673**
Client ID: **OS-1-81613**	Batch ID: **R9673**		Analysis Date: **8/20/2013**	SeqNo: **194680**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	0.500						0		30	
Bromoform	ND	0.500						0		30	
1,1,2,2-Tetrachloroethane	ND	0.500						0		30	
Bromobenzene	ND	0.500						0		30	
2-Chlorotoluene	ND	0.500						0		30	
4-Chlorotoluene	ND	0.500						0		30	
1,2,3-Trichloropropane	ND	0.500						0		30	
1,2,4-Trichlorobenzene	ND	1.00						0		30	
1,3-Dichlorobenzene	ND	0.500						0		30	
1,4-Dichlorobenzene	ND	0.500						0		30	
1,2-Dichlorobenzene	ND	0.500						0		30	
1,2-Dibromo-3-chloropropane	ND	0.500						0		30	
Hexachloro-1,3-butadiene	ND	2.00						0		30	
1,2,3-Trichlorobenzene	ND	2.00						0		30	
Surr: Dibromofluoromethane	55.8		50.00		112	72.1	122		0		
Surr: Toluene-d8	51.1		50.00		102	62.1	129		0		
Surr: 1-Bromo-4-fluorobenzene	46.5		50.00		92.9	66.8	124		0		

NOTES:
R - High RPD due to low analyte concentration. In this range, high RPD's may be expected.

Sample ID: **1308114-002AMS**	SampType: **MS**	Units: **µg/L**	Prep Date: **8/20/2013**	RunNo: **9673**
Client ID: **BATCH**	Batch ID: **R9673**		Analysis Date: **8/20/2013**	SeqNo: **194684**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	16.4	1.00	20.00	0	81.9	33.3	122				
Chloromethane	28.6	0.500	20.00	0	143	48.2	145				
Vinyl chloride	20.7	0.200	20.00	0	104	45.6	149				
Bromomethane	56.7	0.500	20.00	47.00	48.7	31.5	135				
Trichlorofluoromethane (CFC-11)	25.2	0.500	20.00	1.870	117	54.7	138				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1308111
CLIENT: Shannon & Wilson
Project: B+K

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1308114-002AMS** SampType: **MS** Units: **µg/L** Prep Date: **8/20/2013** RunNo: **9673**
Client ID: **BATCH** Batch ID: **R9673** Analysis Date: **8/20/2013** SeqNo: **194684**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloroethane	8.08	0.500	20.00	0	40.4	52.7	140				S
1,1-Dichloroethene	24.3	0.500	20.00	0	122	58.2	146				
Methylene chloride	23.4	1.00	20.00	0	117	65.1	127				
trans-1,2-Dichloroethene	24.3	0.500	20.00	0	122	69	132				
1,1-Dichloroethane	22.6	0.500	20.00	0	113	74.7	133				
2,2-Dichloropropane	16.0	1.00	20.00	0	80.2	31.5	121				
cis-1,2-Dichloroethene	21.6	0.500	20.00	0	108	67.1	123				
Chloroform	25.4	1.00	20.00	1.510	120	58.6	123				
1,1,1-Trichloroethane (TCA)	24.0	0.500	20.00	0	120	64.2	146				
1,1-Dichloropropene	25.4	0.500	20.00	0	127	73.8	136				
Carbon tetrachloride	25.0	0.500	20.00	0	125	69.2	141				
1,2-Dichloroethane	22.8	0.500	20.00	0	114	62.3	130				
Trichloroethene (TCE)	22.3	0.500	20.00	0	111	65.7	133				
1,2-Dichloropropane	22.8	0.500	20.00	0	114	70	130				
Bromodichloromethane	25.2	0.500	20.00	0	126	59.4	139				
Dibromomethane	22.0	0.500	20.00	0	110	65.5	130				
cis-1,3-Dichloropropene	21.6	0.500	20.00	0	108	63.3	124				
trans-1,3-Dichloropropene	20.8	0.500	20.00	0	104	57.7	125				
1,1,2-Trichloroethane	23.0	0.500	20.00	0	115	59.4	127				
1,3-Dichloropropane	20.9	0.500	20.00	0	105	68.2	134				
Tetrachloroethene (PCE)	23.0	0.500	20.00	0	115	51.5	109				S
Dibromochloromethane	25.3	0.500	20.00	0	127	66.2	138				
1,2-Dibromoethane (EDB)	18.9	0.200	20.00	0	94.3	68.9	124				
Chlorobenzene	22.4	0.500	20.00	0	112	68.9	128				
1,1,1,2-Tetrachloroethane	22.6	0.500	20.00	0	113	67.3	135				
Bromoform	24.7	0.500	20.00	0	124	61.4	136				
1,1,2,2-Tetrachloroethane	25.2	0.500	20.00	0	126	59.1	137				
Bromobenzene	22.0	0.500	20.00	0	110	63.6	130				
2-Chlorotoluene	21.8	0.500	20.00	0	109	63.4	134				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *8/22/2013*

Work Order: 1308111
CLIENT: Shannon & Wilson
Project: B+K

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1308114-002AMS** SampType: **MS** Units: **µg/L** Prep Date: **8/20/2013** RunNo: **9673**
Client ID: **BATCH** Batch ID: **R9673** Analysis Date: **8/20/2013** SeqNo: **194684**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
4-Chlorotoluene	21.7	0.500	20.00	0	109	58.4	134				
1,2,3-Trichloropropane	21.4	0.500	20.00	0	107	62.4	129				
1,2,4-Trichlorobenzene	24.7	1.00	20.00	0	123	53.7	120				S
1,3-Dichlorobenzene	21.6	0.500	20.00	0	108	58.2	128				
1,4-Dichlorobenzene	21.9	0.500	20.00	0	110	60.1	123				
1,2-Dichlorobenzene	22.6	0.500	20.00	0	113	62.6	124				
1,2-Dibromo-3-chloropropane	29.3	0.500	20.00	0	146	51.8	142				S
Hexachloro-1,3-butadiene	16.0	2.00	20.00	0	80.1	62.1	121				
1,2,3-Trichlorobenzene	23.8	2.00	20.00	0	119	50.7	113				S
Surr: Dibromofluoromethane	55.9		50.00		112	72.1	122				
Surr: Toluene-d8	57.2		50.00		114	62.1	129				
Surr: 1-Bromo-4-fluorobenzene	50.6		50.00		101	66.8	124				

NOTES:
S - Outlying spike recovery(ies) observed. The laboratory control sample (LCS) was within range.

Sample ID: **MB-R9673** SampType: **MBLK** Units: **µg/L** Prep Date: **8/20/2013** RunNo: **9673**
Client ID: **MBLKW** Batch ID: **R9673** Analysis Date: **8/20/2013** SeqNo: **194690**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	ND	1.00									
Chloromethane	ND	0.500									
Vinyl chloride	ND	0.200									
Bromomethane	ND	0.500									
Trichlorofluoromethane (CFC-11)	ND	0.500									
Chloroethane	ND	0.500									
1,1-Dichloroethene	ND	0.500									
Methylene chloride	ND	1.00									
trans-1,2-Dichloroethene	ND	0.500									
1,1-Dichloroethane	ND	0.500									

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1308111
CLIENT: Shannon & Wilson
Project: B+K

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **MB-R9673**	SampType: **MBLK**	Units: **µg/L**	Prep Date: **8/20/2013**	RunNo: **9673**
Client ID: **MBLKW**	Batch ID: **R9673**		Analysis Date: **8/20/2013**	SeqNo: **194690**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,2-Dichloropropane	ND	1.00									
cis-1,2-Dichloroethene	ND	0.500									
Chloroform	ND	1.00									
1,1,1-Trichloroethane (TCA)	ND	0.500									
1,1-Dichloropropene	ND	0.500									
Carbon tetrachloride	ND	0.500									
1,2-Dichloroethane	ND	0.500									
Trichloroethene (TCE)	ND	0.500									
1,2-Dichloropropane	ND	0.500									
Bromodichloromethane	ND	0.500									
Dibromomethane	ND	0.500									
cis-1,3-Dichloropropene	ND	0.500									
trans-1,3-Dichloropropene	ND	0.500									
1,1,2-Trichloroethane	ND	0.500									
1,3-Dichloropropane	ND	0.500									
Tetrachloroethene (PCE)	ND	0.500									
Dibromochloromethane	ND	0.500									
1,2-Dibromoethane (EDB)	ND	0.200									
Chlorobenzene	ND	0.500									
1,1,1,2-Tetrachloroethane	ND	0.500									
Bromoform	ND	0.500									
1,1,2,2-Tetrachloroethane	ND	0.500									
Bromobenzene	ND	0.500									
2-Chlorotoluene	ND	0.500									
4-Chlorotoluene	ND	0.500									
1,2,3-Trichloropropane	ND	0.500									
1,2,4-Trichlorobenzene	ND	1.00									
1,3-Dichlorobenzene	ND	0.500									
1,4-Dichlorobenzene	ND	0.500									

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *8/22/2013*

Work Order: 1308111
CLIENT: Shannon & Wilson
Project: B+K

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **MB-R9673**	SampType: **MBLK**			Units: **µg/L**		Prep Date: **8/20/2013**		RunNo: **9673**			
Client ID: **MBLKW**	Batch ID: **R9673**					Analysis Date: **8/20/2013**		SeqNo: **194690**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichlorobenzene	ND	0.500									
1,2-Dibromo-3-chloropropane	ND	0.500									
Hexachloro-1,3-butadiene	ND	2.00									
1,2,3-Trichlorobenzene	ND	2.00									
Surr: Dibromofluoromethane	46.5		50.00		93.0	72.1	122				
Surr: Toluene-d8	41.7		50.00		83.3	62.1	129				
Surr: 1-Bromo-4-fluorobenzene	47.0		50.00		94.0	66.8	124				

Sample ID: **LCS-R9673**	SampType: **LCS**			Units: **µg/L**		Prep Date: **8/20/2013**		RunNo: **9673**			
Client ID: **LCSW**	Batch ID: **R9673**					Analysis Date: **8/20/2013**		SeqNo: **194692**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	14.5	1.00	20.00	0	72.5	43.1	127				
Chloromethane	16.0	0.500	20.00	0	79.9	42.5	131				
Vinyl chloride	18.4	0.200	20.00	0	91.8	56.2	130				
Bromomethane	20.9	0.500	20.00	0	104	45.4	138				
Trichlorofluoromethane (CFC-11)	16.9	0.500	20.00	0	84.4	64.7	129				
Chloroethane	20.6	0.500	20.00	0	103	62.5	123				
1,1-Dichloroethene	17.2	0.500	20.00	0	86.0	60.7	146				
Methylene chloride	17.2	1.00	20.00	0	86.2	60.3	135				
trans-1,2-Dichloroethene	16.9	0.500	20.00	0	84.6	71.3	129				
1,1-Dichloroethane	18.4	0.500	20.00	0	92.2	71.3	129				
2,2-Dichloropropane	11.9	1.00	20.00	0	59.6	37.8	132				
cis-1,2-Dichloroethene	16.4	0.500	20.00	0	81.8	67.5	127				
Chloroform	17.3	1.00	20.00	0	86.7	70.3	123				
1,1,1-Trichloroethane (TCA)	17.9	0.500	20.00	0	89.7	67.9	134				
1,1-Dichloropropene	16.8	0.500	20.00	0	84.0	72.1	133				
Carbon tetrachloride	17.0	0.500	20.00	0	85.1	68	136				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1308111
CLIENT: Shannon & Wilson
Project: B+K

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **LCS-R9673** SampType: **LCS** Units: **µg/L** Prep Date: **8/20/2013** RunNo: **9673**
Client ID: **LCSW** Batch ID: **R9673** Analysis Date: **8/20/2013** SeqNo: **194692**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichloroethane	17.2	0.500	20.00	0	86.0	65.8	126				
Trichloroethene (TCE)	16.7	0.500	20.00	0	83.6	71.9	130				
1,2-Dichloropropane	16.7	0.500	20.00	0	83.6	71.9	131				
Bromodichloromethane	19.5	0.500	20.00	0	97.5	70	130				
Dibromomethane	16.6	0.500	20.00	0	83.3	74.2	125				
cis-1,3-Dichloropropene	17.9	0.500	20.00	0	89.3	62.8	135				
trans-1,3-Dichloropropene	18.2	0.500	20.00	0	91.1	58.1	138				
1,1,2-Trichloroethane	17.5	0.500	20.00	0	87.6	65.4	128				
1,3-Dichloropropane	17.1	0.500	20.00	0	85.7	71.9	131				
Tetrachloroethene (PCE)	17.3	0.500	20.00	0	86.7	52.4	140				
Dibromochloromethane	19.8	0.500	20.00	0	99.2	68.7	139				
1,2-Dibromoethane (EDB)	17.2	0.200	20.00	0	85.8	71.2	129				
Chlorobenzene	20.2	0.500	20.00	0	101	77.2	122				
1,1,1,2-Tetrachloroethane	19.6	0.500	20.00	0	98.2	76.2	130				
Bromoform	20.8	0.500	20.00	0	104	69.9	142				
1,1,2,2-Tetrachloroethane	19.3	0.500	20.00	0	96.7	68	134				
Bromobenzene	20.0	0.500	20.00	0	100	71.1	131				
2-Chlorotoluene	20.4	0.500	20.00	0	102	67.1	137				
4-Chlorotoluene	20.2	0.500	20.00	0	101	70.7	132				
1,2,3-Trichloropropane	18.9	0.500	20.00	0	94.5	70.8	132				
1,2,4-Trichlorobenzene	18.0	1.00	20.00	0	90.2	61.4	139				
1,3-Dichlorobenzene	20.1	0.500	20.00	0	101	73.5	125				
1,4-Dichlorobenzene	20.3	0.500	20.00	0	101	71.4	125				
1,2-Dichlorobenzene	19.6	0.500	20.00	0	98.1	74.2	123				
1,2-Dibromo-3-chloropropane	20.1	0.500	20.00	0	101	66.1	138				
Hexachloro-1,3-butadiene	19.4	2.00	20.00	0	96.8	60.9	141				
1,2,3-Trichlorobenzene	19.1	2.00	20.00	0	95.6	61.3	133				
Surr: Dibromofluoromethane	49.2		50.00		98.4	72.1	122				
Surr: Toluene-d8	48.6		50.00		97.2	62.1	129				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *8/22/2013*

Work Order: 1308111
CLIENT: Shannon & Wilson
Project: B+K

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **LCS-R9673**	SampType: **LCS**			Units: **µg/L**		Prep Date: **8/20/2013**		RunNo: **9673**			
Client ID: **LCSW**	Batch ID: **R9673**					Analysis Date: **8/20/2013**		SeqNo: **194692**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: 1-Bromo-4-fluorobenzene	52.0		50.00		104	66.8	124				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Sample Log-In Check List

Client Name:	**SW**	Work Order Number:	**1308111**
Logged by:	**Chelsea Ward**	Date Received:	**8/16/2013 3:08:08 PM**

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	Client		

Log In

3. Coolers are present?	Yes ☑	No ☐	NA ☐
4. Shipping container/cooler in good condition?	Yes ☑	No ☐	
5. Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Required ☑
6. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
7. Were all coolers received at a temperature of >0°C to 10.0°C	Yes ☐	No ☑	NA ☐
	Samples received straight from field.		
8. Sample(s) in proper container(s)?	Yes ☑	No ☐	
9. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
10. Are samples properly preserved?	Yes ☑	No ☐	
11. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
12. Is the headspace in the VOA vials?	Yes ☐	No ☑	NA ☐
13. Did all samples containers arrive in good condition(unbroken)?	Yes ☑	No ☐	
14. Does paperwork match bottle labels?	Yes ☑	No ☐	
15. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
16. Is it clear what analyses were requested?	Yes ☑	No ☐	
17. Were all holding times able to be met?	Yes ☑	No ☐	

Special Handling (if applicable)

18. Was client notified of all discrepancies with this order?	Yes ☐	No ☐	NA ☑

Person Notified:		Date:	
By Whom:		Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person	
Regarding:			
Client Instructions:			

19. Additional remarks:

7/23/14: Client requested name changes. New report generated.

Item Information

Item #	Temp °C	Condition
Cooler	8.7	
Temp Blank	14.3	

Fremont Analytical

Chain of Custody Record

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Date: 8/16/13

Laboratory Project No (internal): 1308111

Page: 1 of: 1

Client: Shannon & Wilson Inc.

Address: 400 N 34th St, Suite 100

City, State, Zip: Seattle WA

Tel: 206-632-8020

Reports To (PM): Cody Johnson

Fax: 206-695-6777

Email: cmj@shanwil.com

Project Name: B&K

Location: S 96th St

Collected by: EVP

Project No: 21-1-12357-003

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)	VOC (EPA 8260)	GX/BTEX by EPA 8021B	BTEX by 8260	Gasoline Range Organics	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics	SEMI VOL (EPA 8270)	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Cl Pesticides (EPA 8081)	Cl Herbicides (EPA 8151A)	Metals* (6020 / 200.8) Total (T) / Dissolved (D)	Anions (IC)**	HVOCs			Comments/Depth
1	MW-100	8/16/13	1410	GW														X			
2	MW-101	↓	1340	↓														X			
3	MW-102	↓	1420	↓														X			
4	MW-103	↓	1205	↓														X			
5																					
6																					
7																					
8																					
9																					
10																					

*Metals Analysis (Circle): ~~MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn~~

**Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate-Nitrite

Sample Disposal: ☐ Return to Client ☒ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Relinquished	Date/Time	Received	Date/Time
x [signature]	8/16/13 1510	x [signature]	8/16/13 1510
x		x	

Special Remarks:

TAT --> Next Day 2 Day 3 Day (STD)

Distribution: White - Lab, Yellow - File, Pink - Originator

www.fremontanalytical.com

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

Shannon & Wilson
Cody Johnson
400 N. 34th Street, Suite 100
Seattle, WA 98103

RE: B & K
Lab ID: 1405213

June 27, 2014

Attention Cody Johnson:

Fremont Analytical, Inc. received 8 sample(s) on 5/22/2014 for the analyses presented in the following report.

Volatile Organic Compounds by EPA Method 8260

This report consists of the following:

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

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

Thank you for using Fremont Analytical.

Sincerely,

Michael Dee
Sr. Chemist / Principal

Fremont Analytical

Date: *06/27/2014*

CLIENT: Shannon & Wilson
Project: B & K
Lab Order: 1405213

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1405213-001	52114-MW-6:6W	05/21/2014 2:10 PM	05/22/2014 1:00 PM
1405213-002	52114-MW-7:6W	05/21/2014 5:15 PM	05/22/2014 1:00 PM
1405213-003	52114-MW-8:6W	05/21/2014 3:20 PM	05/22/2014 1:00 PM
1405213-004	52114-MW-9:6W	05/21/2014 4:50 PM	05/22/2014 1:00 PM
1405213-005	52214-OS-1:6W	05/22/2014 10:15 AM	05/22/2014 1:00 PM
1405213-006	52214-OS-2:6W	05/22/2014 12:15 AM	05/22/2014 1:00 PM
1405213-007	52114-OS-3:6W	05/21/2014 7:30 PM	05/22/2014 1:00 PM
1405213-008	52214-OS-4:6W	05/22/2014 11:00 AM	05/22/2014 1:00 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

CLIENT: Shannon & Wilson
Project: B & K

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

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

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

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

Client: Shannon & Wilson
Collection Date: 5/21/2014 2:10:00 PM
Project: B & K
Lab ID: 1405213-001
Matrix: Groundwater
Client Sample ID: 52114-MW-6:6W

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R14491		Analyst: BC
Dichlorodifluoromethane	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
Chloromethane	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
Vinyl chloride	ND	0.200		µg/L	1	5/24/2014 11:58:00 AM
Bromomethane	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
Chloroethane	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
Methylene chloride	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
2,2-Dichloropropane	ND	2.00		µg/L	1	5/24/2014 11:58:00 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
Chloroform	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
Carbon tetrachloride	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
1,2-Dichloroethane	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
Trichloroethene (TCE)	18.9	0.500		µg/L	1	5/24/2014 11:58:00 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
Bromodichloromethane	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
Dibromomethane	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
Dibromochloromethane	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	5/24/2014 11:58:00 AM
Chlorobenzene	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
Bromoform	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
Bromobenzene	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
2-Chlorotoluene	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
4-Chlorotoluene	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 5/21/2014 2:10:00 PM
Project: B & K
Lab ID: 1405213-001
Matrix: Groundwater
Client Sample ID: 52114-MW-6:6W

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R14491		Analyst: BC
1,2,3-Trichloropropane	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	5/24/2014 11:58:00 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	5/24/2014 11:58:00 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	5/24/2014 11:58:00 AM
Surr: Dibromofluoromethane	101	61.7-130		%REC	1	5/24/2014 11:58:00 AM
Surr: Toluene-d8	98.9	62.1-129		%REC	1	5/24/2014 11:58:00 AM
Surr: 1-Bromo-4-fluorobenzene	97.1	66.8-124		%REC	1	5/24/2014 11:58:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 5/21/2014 5:15:00 PM
Project: B & K
Lab ID: 1405213-002
Matrix: Groundwater
Client Sample ID: 52114-MW-7:6W

Volatile Organic Compounds by EPA Method 8260

Batch ID: R14491 Analyst: BC

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
Chloromethane	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
Vinyl chloride	34.5	0.200		µg/L	1	5/24/2014 12:57:00 PM
Bromomethane	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
Chloroethane	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
Methylene chloride	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
trans-1,2-Dichloroethene	1.97	1.00		µg/L	1	5/24/2014 12:57:00 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	5/24/2014 12:57:00 PM
cis-1,2-Dichloroethene	143	1.00		µg/L	1	5/24/2014 12:57:00 PM
Chloroform	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
Carbon tetrachloride	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
1,2-Dichloroethane	2.79	1.00		µg/L	1	5/24/2014 12:57:00 PM
Trichloroethene (TCE)	ND	0.500		µg/L	1	5/24/2014 12:57:00 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
Bromodichloromethane	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
Dibromomethane	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
Dibromochloromethane	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	5/24/2014 12:57:00 PM
Chlorobenzene	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
Bromoform	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
Bromobenzene	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
2-Chlorotoluene	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
4-Chlorotoluene	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B & K
Lab ID: 1405213-002
Client Sample ID: 52114-MW-7:6W

Collection Date: 5/21/2014 5:15:00 PM
Matrix: Groundwater

Volatile Organic Compounds by EPA Method 8260

Batch ID: R14491 Analyst: BC

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
1,2,3-Trichloropropane	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	5/24/2014 12:57:00 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	5/24/2014 12:57:00 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	5/24/2014 12:57:00 PM
Surr: Dibromofluoromethane	102	61.7-130		%REC	1	5/24/2014 12:57:00 PM
Surr: Toluene-d8	101	62.1-129		%REC	1	5/24/2014 12:57:00 PM
Surr: 1-Bromo-4-fluorobenzene	99.4	66.8-124		%REC	1	5/24/2014 12:57:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 5/21/2014 3:20:00 PM
Project: B & K
Lab ID: 1405213-003
Matrix: Groundwater
Client Sample ID: 52114-MW-8:6W

Volatile Organic Compounds by EPA Method 8260

Batch ID: R14491 Analyst: BC

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
Chloromethane	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
Vinyl chloride	ND	0.200		µg/L	1	5/24/2014 2:53:00 PM
Bromomethane	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
Chloroethane	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
Methylene chloride	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	5/24/2014 2:53:00 PM
cis-1,2-Dichloroethene	23.1	1.00		µg/L	1	5/24/2014 2:53:00 PM
Chloroform	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
Carbon tetrachloride	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
1,2-Dichloroethane	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
Trichloroethene (TCE)	558	0.500		µg/L	1	5/24/2014 2:53:00 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
Bromodichloromethane	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
Dibromomethane	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
Dibromochloromethane	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	5/24/2014 2:53:00 PM
Chlorobenzene	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
Bromoform	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
Bromobenzene	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
2-Chlorotoluene	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
4-Chlorotoluene	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM

Qualifiers:

- B Analyte detected in the associated Method Blank
- D Dilution was required
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- ND Not detected at the Reporting Limit
- RL Reporting Limit
- S Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B & K
Lab ID: 1405213-003
Client Sample ID: **52114-MW-8:6W**

Collection Date: 5/21/2014 3:20:00 PM
Matrix: Groundwater

Volatile Organic Compounds by EPA Method 8260

Batch ID: R14491 Analyst: BC

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
1,2,3-Trichloropropane	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	5/24/2014 2:53:00 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	5/24/2014 2:53:00 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	5/24/2014 2:53:00 PM
Surr: Dibromofluoromethane	100	61.7-130		%REC	1	5/24/2014 2:53:00 PM
Surr: Toluene-d8	99.2	62.1-129		%REC	1	5/24/2014 2:53:00 PM
Surr: 1-Bromo-4-fluorobenzene	99.8	66.8-124		%REC	1	5/24/2014 2:53:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 5/21/2014 4:50:00 PM
Project: B & K
Lab ID: 1405213-004
Matrix: Groundwater
Client Sample ID: 52114-MW-9:6W

Volatile Organic Compounds by EPA Method 8260

Batch ID: R14491 Analyst: BC

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
Chloromethane	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
Vinyl chloride	ND	0.200		µg/L	1	5/24/2014 3:23:00 PM
Bromomethane	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
Chloroethane	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
1,1-Dichloroethene	1.16	1.00		µg/L	1	5/24/2014 3:23:00 PM
Methylene chloride	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	5/24/2014 3:23:00 PM
cis-1,2-Dichloroethene	6.77	1.00		µg/L	1	5/24/2014 3:23:00 PM
Chloroform	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
Carbon tetrachloride	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
1,2-Dichloroethane	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
Trichloroethene (TCE)	137	0.500		µg/L	1	5/24/2014 3:23:00 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
Bromodichloromethane	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
Dibromomethane	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
Dibromochloromethane	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	5/24/2014 3:23:00 PM
Chlorobenzene	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
Bromoform	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
Bromobenzene	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
2-Chlorotoluene	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
4-Chlorotoluene	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM

Qualifiers:

- B Analyte detected in the associated Method Blank
- D Dilution was required
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- ND Not detected at the Reporting Limit
- RL Reporting Limit
- S Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 5/21/2014 4:50:00 PM
Project: B & K
Lab ID: 1405213-004
Matrix: Groundwater
Client Sample ID: 52114-MW-9:6W

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R14491		Analyst: BC
1,2,3-Trichloropropane	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	5/24/2014 3:23:00 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	5/24/2014 3:23:00 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	5/24/2014 3:23:00 PM
Surr: Dibromofluoromethane	103	61.7-130		%REC	1	5/24/2014 3:23:00 PM
Surr: Toluene-d8	100	62.1-129		%REC	1	5/24/2014 3:23:00 PM
Surr: 1-Bromo-4-fluorobenzene	96.3	66.8-124		%REC	1	5/24/2014 3:23:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 5/22/2014 10:15:00 AM
Project: B & K
Lab ID: 1405213-005
Matrix: Groundwater
Client Sample ID: 52214-OS-1:6W

Volatile Organic Compounds by EPA Method 8260

Batch ID: R14491 Analyst: BC

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
Chloromethane	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
Vinyl chloride	7.26	0.200		µg/L	1	5/24/2014 4:22:00 PM
Bromomethane	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
Chloroethane	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
Methylene chloride	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	5/24/2014 4:22:00 PM
cis-1,2-Dichloroethene	16.8	1.00		µg/L	1	5/24/2014 4:22:00 PM
Chloroform	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
Carbon tetrachloride	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
1,2-Dichloroethane	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
Trichloroethene (TCE)	5.35	0.500		µg/L	1	5/24/2014 4:22:00 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
Bromodichloromethane	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
Dibromomethane	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
Dibromochloromethane	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	5/24/2014 4:22:00 PM
Chlorobenzene	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
Bromoform	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
Bromobenzene	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
2-Chlorotoluene	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
4-Chlorotoluene	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 5/22/2014 10:15:00 AM
Project: B & K
Lab ID: 1405213-005
Matrix: Groundwater
Client Sample ID: 52214-OS-1:6W

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R14491		Analyst: BC
1,2,3-Trichloropropane	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	5/24/2014 4:22:00 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	5/24/2014 4:22:00 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	5/24/2014 4:22:00 PM
Surr: Dibromofluoromethane	103	61.7-130		%REC	1	5/24/2014 4:22:00 PM
Surr: Toluene-d8	99.5	54.5-132		%REC	1	5/24/2014 4:22:00 PM
Surr: 1-Bromo-4-fluorobenzene	96.5	66.8-124		%REC	1	5/24/2014 4:22:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 5/22/2014 12:15:00 AM
Project: B & K
Lab ID: 1405213-006
Matrix: Groundwater
Client Sample ID: 52214-OS-2:6W

Volatile Organic Compounds by EPA Method 8260

Batch ID: R14491 Analyst: BC

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
Chloromethane	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
Vinyl chloride	ND	0.200		µg/L	1	5/24/2014 3:52:00 PM
Bromomethane	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
Chloroethane	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
Methylene chloride	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	5/24/2014 3:52:00 PM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
Chloroform	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
Carbon tetrachloride	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
1,2-Dichloroethane	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
Trichloroethene (TCE)	ND	0.500		µg/L	1	5/24/2014 3:52:00 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
Bromodichloromethane	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
Dibromomethane	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
Dibromochloromethane	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	5/24/2014 3:52:00 PM
Chlorobenzene	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
Bromoform	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
Bromobenzene	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
2-Chlorotoluene	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
4-Chlorotoluene	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM

Qualifiers:

- B Analyte detected in the associated Method Blank
- D Dilution was required
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- ND Not detected at the Reporting Limit
- RL Reporting Limit
- S Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B & K
Lab ID: 1405213-006
Client Sample ID: **52214-OS-2:6W**

Collection Date: 5/22/2014 12:15:00 AM
Matrix: Groundwater

Volatile Organic Compounds by EPA Method 8260

Batch ID: R14491 Analyst: BC

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
1,2,3-Trichloropropane	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	5/24/2014 3:52:00 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	5/24/2014 3:52:00 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	5/24/2014 3:52:00 PM
Surr: Dibromofluoromethane	103	61.7-130		%REC	1	5/24/2014 3:52:00 PM
Surr: Toluene-d8	99.7	54.5-132		%REC	1	5/24/2014 3:52:00 PM
Surr: 1-Bromo-4-fluorobenzene	98.7	66.8-124		%REC	1	5/24/2014 3:52:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *6/27/2014*

Work Order: 1405213
CLIENT: Shannon & Wilson
Project: B & K

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1405213-001ADUP**	SampType: **DUP**		Units: **µg/L**	Prep Date: **5/24/2014**		RunNo: **14491**	
Client ID: **52114-MW-6:6W**	Batch ID: **R14491**			Analysis Date: **5/24/2014**		SeqNo: **298902**	

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	ND	1.00						0		30	
Chloromethane	ND	0.500						0		30	
Vinyl chloride	ND	0.200						0		30	
Bromomethane	ND	0.500						0		30	
Trichlorofluoromethane (CFC-11)	ND	0.500						0		30	
Chloroethane	ND	0.500						0		30	
1,1-Dichloroethene	ND	0.500						0		30	
Methylene chloride	ND	0.500						0		30	
trans-1,2-Dichloroethene	ND	0.500						0		30	
1,1-Dichloroethane	ND	0.500						0		30	
2,2-Dichloropropane	ND	1.00						0		30	
cis-1,2-Dichloroethene	ND	0.500						0		30	
Chloroform	ND	1.00						0		30	
1,1,1-Trichloroethane (TCA)	ND	0.500						0		30	
1,1-Dichloropropene	ND	0.500						0		30	
Carbon tetrachloride	ND	1.00						0		30	
1,2-Dichloroethane	ND	0.500						0		30	
Trichloroethene (TCE)	19.2	0.500						18.94	1.52	30	
1,2-Dichloropropane	ND	0.500						0		30	
Bromodichloromethane	ND	0.500						0		30	
Dibromomethane	ND	0.500						0		30	
cis-1,3-Dichloropropene	ND	0.500						0		30	
trans-1,3-Dichloropropene	ND	0.500						0		30	
1,1,2-Trichloroethane	ND	0.500						0		30	
1,3-Dichloropropane	ND	0.500						0		30	
Tetrachloroethene (PCE)	ND	0.500						0		30	
Dibromochloromethane	ND	0.500						0		30	
1,2-Dibromoethane (EDB)	ND	0.200						0		30	
Chlorobenzene	ND	0.500						0		30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *6/27/2014*

Work Order: 1405213
CLIENT: Shannon & Wilson
Project: B & K

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1405213-001ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **5/24/2014** RunNo: **14491**
Client ID: **52114-MW-6:6W** Batch ID: **R14491** Analysis Date: **5/24/2014** SeqNo: **298902**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	0.500						0		30	
Bromoform	ND	0.500						0		30	
1,1,2,2-Tetrachloroethane	ND	0.500						0		30	
Bromobenzene	ND	0.500						0		30	
2-Chlorotoluene	ND	0.500						0		30	
4-Chlorotoluene	ND	0.500						0		30	
1,2,3-Trichloropropane	ND	0.500						0		30	
1,2,4-Trichlorobenzene	ND	1.00						0		30	
1,3-Dichlorobenzene	ND	0.500						0		30	
1,4-Dichlorobenzene	ND	0.500						0		30	
1,2-Dichlorobenzene	ND	0.500						0		30	
1,2-Dibromo-3-chloropropane	ND	0.500						0		30	
Hexachloro-1,3-butadiene	ND	2.00						0		30	
1,2,3-Trichlorobenzene	ND	2.00						0		30	
Surr: Dibromofluoromethane	50.6		50.00		101	61.7	130		0		
Surr: Toluene-d8	49.2		50.00		98.4	62.1	129		0		
Surr: 1-Bromo-4-fluorobenzene	47.8		50.00		95.6	66.8	124		0		

Sample ID: **1405213-002AMS** SampType: **MS** Units: **µg/L** Prep Date: **5/24/2014** RunNo: **14491**
Client ID: **52114-MW-7:6W** Batch ID: **R14491** Analysis Date: **5/24/2014** SeqNo: **298904**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	8.16	1.00	20.00	0	40.8	33.3	122				
Chloromethane	13.5	0.500	20.00	0	67.3	48.2	145				
Vinyl chloride	47.4	0.200	20.00	34.46	64.7	58.1	158				
Bromomethane	16.1	0.500	20.00	0	80.5	31.5	135				
Trichlorofluoromethane (CFC-11)	17.2	0.500	20.00	0	86.1	54.7	138				
Chloroethane	17.1	0.500	20.00	0	85.5	49.9	143				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *6/27/2014*

Work Order: 1405213
CLIENT: Shannon & Wilson
Project: B & K

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1405213-002AMS** SampType: **MS** Units: **µg/L** Prep Date: **5/24/2014** RunNo: **14491**
Client ID: **52114-MW-7:6W** Batch ID: **R14491** Analysis Date: **5/24/2014** SeqNo: **298904**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	22.5	0.500	20.00	0	112	63	141				
Methylene chloride	22.2	0.500	20.00	0	111	61.6	135				
trans-1,2-Dichloroethene	24.4	0.500	20.00	1.970	112	63.5	138				
1,1-Dichloroethane	22.7	0.500	20.00	0	113	67.8	136				
2,2-Dichloropropane	20.0	1.00	20.00	0	100	31.5	121				
cis-1,2-Dichloroethene	160	0.500	20.00	143.3	85.1	67.1	123				
Chloroform	22.9	1.00	20.00	0	114	66.7	136				
1,1,1-Trichloroethane (TCA)	23.5	0.500	20.00	0	118	64.2	146				
1,1-Dichloropropene	23.5	0.500	20.00	0	118	73.8	136				
Carbon tetrachloride	25.7	1.00	20.00	0	128	62.7	146				
1,2-Dichloroethane	27.1	0.500	20.00	2.790	122	63.4	137				
Trichloroethene (TCE)	23.5	0.500	20.00	0	118	60.4	134				
1,2-Dichloropropane	22.7	0.500	20.00	0	113	62.6	138				
Bromodichloromethane	22.8	0.500	20.00	0	114	59.4	139				
Dibromomethane	22.7	0.500	20.00	0	113	63.6	139				
cis-1,3-Dichloropropene	21.6	0.500	20.00	0	108	63.8	132				
trans-1,3-Dichloropropene	22.7	0.500	20.00	0	113	57.7	125				
1,1,2-Trichloroethane	21.2	0.500	20.00	0	106	59.4	127				
1,3-Dichloropropane	22.3	0.500	20.00	0	112	64.3	135				
Tetrachloroethene (PCE)	23.2	0.500	20.00	0	116	50.3	133				
Dibromochloromethane	22.4	0.500	20.00	0	112	61.6	139				
1,2-Dibromoethane (EDB)	21.7	0.200	20.00	0	109	63.2	134				
Chlorobenzene	22.6	0.500	20.00	0	113	65.8	134				
1,1,1,2-Tetrachloroethane	22.2	0.500	20.00	0	111	65.4	135				
Bromoform	22.6	0.500	20.00	0	113	57.7	139				
1,1,2,2-Tetrachloroethane	22.9	0.500	20.00	0	114	59.8	146				
Bromobenzene	23.2	0.500	20.00	0	116	63.6	130				
2-Chlorotoluene	23.6	0.500	20.00	0	118	61.7	134				
4-Chlorotoluene	21.7	0.500	20.00	0	108	58.4	134				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *6/27/2014*

Work Order: 1405213
CLIENT: Shannon & Wilson
Project: B & K

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1405213-002AMS** SampType: **MS** Units: **µg/L** Prep Date: **5/24/2014** RunNo: **14491**
Client ID: **52114-MW-7:6W** Batch ID: **R14491** Analysis Date: **5/24/2014** SeqNo: **298904**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,3-Trichloropropane	21.8	0.500	20.00	0	109	62.4	129				
1,2,4-Trichlorobenzene	24.8	1.00	20.00	0	124	50.9	133				
1,3-Dichlorobenzene	22.9	0.500	20.00	0	114	58.2	128				
1,4-Dichlorobenzene	22.2	0.500	20.00	0	111	60.1	123				
1,2-Dichlorobenzene	23.0	0.500	20.00	0	115	65.4	133				
1,2-Dibromo-3-chloropropane	25.8	0.500	20.00	0	129	51.8	142				
Hexachloro-1,3-butadiene	25.4	2.00	20.00	0	127	58.1	130				
1,2,3-Trichlorobenzene	25.4	2.00	20.00	0	127	57	131				
Surr: Dibromofluoromethane	49.7		50.00		99.5	61.7	130				
Surr: Toluene-d8	50.3		50.00		101	62.1	129				
Surr: 1-Bromo-4-fluorobenzene	50.8		50.00		102	66.8	124				

Sample ID: **LCS-R14491** SampType: **LCS** Units: **µg/L** Prep Date: **5/24/2014** RunNo: **14491**
Client ID: **LCSW** Batch ID: **R14491** Analysis Date: **5/24/2014** SeqNo: **298948**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	12.5	1.00	20.00	0	62.6	43	136				
Chloromethane	16.1	0.500	20.00	0	80.4	43.9	139				
Vinyl chloride	15.2	0.200	20.00	0	76.1	53.6	139				
Bromomethane	17.9	0.500	20.00	0	89.6	44.8	148				
Trichlorofluoromethane (CFC-11)	15.8	0.500	20.00	0	79.1	63.7	133				
Chloroethane	17.3	0.500	20.00	0	86.5	53	141				
1,1-Dichloroethene	19.8	0.500	20.00	0	99.2	65.6	136				
Methylene chloride	21.4	0.500	20.00	0	107	67.1	131				
trans-1,2-Dichloroethene	20.8	0.500	20.00	0	104	71.7	129				
1,1-Dichloroethane	20.5	0.500	20.00	0	102	67.9	134				
2,2-Dichloropropane	18.3	1.00	20.00	0	91.4	33.7	152				
cis-1,2-Dichloroethene	20.8	0.500	20.00	0	104	71.1	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *6/27/2014*

Work Order: 1405213
CLIENT: Shannon & Wilson
Project: B & K

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **LCS-R14491**	SampType: **LCS**	Units: **µg/L**	Prep Date: **5/24/2014**	RunNo: **14491**	
Client ID: **LCSW**	Batch ID: **R14491**		Analysis Date: **5/24/2014**	SeqNo: **298948**	

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloroform	21.2	1.00	20.00	0	106	76.7	124				
1,1,1-Trichloroethane (TCA)	20.3	0.500	20.00	0	102	71	131				
1,1-Dichloropropene	20.4	0.500	20.00	0	102	74.5	126				
Carbon tetrachloride	18.6	1.00	20.00	0	93.2	66.2	134				
1,2-Dichloroethane	21.4	0.500	20.00	0	107	70	129				
Trichloroethene (TCE)	20.6	0.500	20.00	0	103	65.2	136				
1,2-Dichloropropane	21.2	0.500	20.00	0	106	70.5	130				
Bromodichloromethane	20.6	0.500	20.00	0	103	74.6	127				
Dibromomethane	21.7	0.500	20.00	0	108	75.5	126				
cis-1,3-Dichloropropene	20.2	0.500	20.00	0	101	62.6	137				
trans-1,3-Dichloropropene	20.0	0.500	20.00	0	99.8	58.5	142				
1,1,2-Trichloroethane	20.7	0.500	20.00	0	103	76	124				
1,3-Dichloropropane	20.5	0.500	20.00	0	103	73.5	127				
Tetrachloroethene (PCE)	20.2	0.500	20.00	0	101	47.5	147				
Dibromochloromethane	20.6	0.500	20.00	0	103	67.2	134				
1,2-Dibromoethane (EDB)	21.2	0.200	20.00	0	106	73.6	125				
Chlorobenzene	21.1	0.500	20.00	0	105	73.9	126				
1,1,1,2-Tetrachloroethane	21.4	0.500	20.00	0	107	76.8	124				
Bromoform	21.6	0.500	20.00	0	108	63.8	135				
1,1,2,2-Tetrachloroethane	21.4	0.500	20.00	0	107	62.9	132				
Bromobenzene	21.2	0.500	20.00	0	106	71	131				
2-Chlorotoluene	20.2	0.500	20.00	0	101	70.8	130				
4-Chlorotoluene	19.7	0.500	20.00	0	98.4	70.1	131				
1,2,3-Trichloropropane	21.7	0.500	20.00	0	108	67.7	131				
1,2,4-Trichlorobenzene	20.8	1.00	20.00	0	104	72.4	127				
1,3-Dichlorobenzene	20.5	0.500	20.00	0	103	72.4	129				
1,4-Dichlorobenzene	20.4	0.500	20.00	0	102	70.6	128				
1,2-Dichlorobenzene	21.1	0.500	20.00	0	105	74.2	129				
1,2-Dibromo-3-chloropropane	21.9	0.500	20.00	0	110	63.1	136				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *6/27/2014*

Work Order: 1405213
CLIENT: Shannon & Wilson
Project: B & K

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **LCS-R14491**	SampType: **LCS**			Units: **µg/L**		Prep Date: **5/24/2014**		RunNo: **14491**			
Client ID: **LCSW**	Batch ID: **R14491**					Analysis Date: **5/24/2014**		SeqNo: **298948**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexachloro-1,3-butadiene	19.8	2.00	20.00	0	98.8	58.6	138				
1,2,3-Trichlorobenzene	21.1	2.00	20.00	0	105	66.4	132				
Surr: Dibromofluoromethane	49.2		50.00		98.3	61.7	130				
Surr: Toluene-d8	49.3		50.00		98.6	62.1	129				
Surr: 1-Bromo-4-fluorobenzene	50.2		50.00		100	66.8	124				

Sample ID: **MB-R14491**	SampType: **MBLK**			Units: **µg/L**		Prep Date: **5/24/2014**		RunNo: **14491**			
Client ID: **MBLKW**	Batch ID: **R14491**					Analysis Date: **5/24/2014**		SeqNo: **298949**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	ND	1.00									
Chloromethane	ND	0.500									
Vinyl chloride	ND	0.200									
Bromomethane	ND	0.500									
Trichlorofluoromethane (CFC-11)	ND	0.500									
Chloroethane	ND	0.500									
1,1-Dichloroethene	ND	0.500									
Methylene chloride	ND	0.500									
trans-1,2-Dichloroethene	ND	0.500									
1,1-Dichloroethane	ND	0.500									
2,2-Dichloropropane	ND	1.00									
cis-1,2-Dichloroethene	ND	0.500									
Chloroform	ND	1.00									
1,1,1-Trichloroethane (TCA)	ND	0.500									
1,1-Dichloropropene	ND	0.500									
Carbon tetrachloride	ND	1.00									
1,2-Dichloroethane	ND	0.500									
Trichloroethene (TCE)	ND	0.500									

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *6/27/2014*

Work Order: 1405213
CLIENT: Shannon & Wilson
Project: B & K

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **MB-R14491**	SampType: **MBLK**	Units: **µg/L**	Prep Date: **5/24/2014**	RunNo: **14491**
Client ID: **MBLKW**	Batch ID: **R14491**		Analysis Date: **5/24/2014**	SeqNo: **298949**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichloropropane	ND	0.500									
Bromodichloromethane	ND	0.500									
Dibromomethane	ND	0.500									
cis-1,3-Dichloropropene	ND	0.500									
trans-1,3-Dichloropropene	ND	0.500									
1,1,2-Trichloroethane	ND	0.500									
1,3-Dichloropropane	ND	0.500									
Tetrachloroethene (PCE)	ND	0.500									
Dibromochloromethane	ND	0.500									
1,2-Dibromoethane (EDB)	ND	0.200									
Chlorobenzene	ND	0.500									
1,1,1,2-Tetrachloroethane	ND	0.500									
Bromoform	ND	0.500									
1,1,2,2-Tetrachloroethane	ND	0.500									
Bromobenzene	ND	0.500									
2-Chlorotoluene	ND	0.500									
4-Chlorotoluene	ND	0.500									
1,2,3-Trichloropropane	ND	0.500									
1,2,4-Trichlorobenzene	ND	1.00									
1,3-Dichlorobenzene	ND	0.500									
1,4-Dichlorobenzene	ND	0.500									
1,2-Dichlorobenzene	ND	0.500									
1,2-Dibromo-3-chloropropane	ND	0.500									
Hexachloro-1,3-butadiene	ND	2.00									
1,2,3-Trichlorobenzene	ND	2.00									
Surr: Dibromofluoromethane	49.7		50.00		99.4	61.7	130				
Surr: Toluene-d8	49.6		50.00		99.2	62.1	129				
Surr: 1-Bromo-4-fluorobenzene	47.8		50.00		95.5	66.8	124				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *6/27/2014*

Work Order: 1405213
CLIENT: Shannon & Wilson
Project: B & K

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Qualifiers:	B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
	R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Sample Log-In Check List

Client Name:	**SW**	Work Order Number:	**1405213**
Logged by:	**Erica Silva**	Date Received:	**5/22/2014 1:00:00 PM**

Chain of Custody

1.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2.	How was the sample delivered?	Client		

Log In

3.	Coolers are present?	Yes ☑	No ☐	NA ☐
4.	Shipping container/cooler in good condition?	Yes ☑	No ☐	
5.	Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Required ☑
6.	Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
7.	Were all coolers received at a temperature of >0°C to 10.0°C	Yes ☑	No ☐	NA ☐
8.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
9.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
10.	Are samples properly preserved?	Yes ☑	No ☐	
11.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
12.	Is the headspace in the VOA vials?	Yes ☐	No ☐	NA ☑
13.	Did all samples containers arrive in good condition(unbroken)?	Yes ☑	No ☐	
14.	Does paperwork match bottle labels?	Yes ☑	No ☐	
15.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
16.	Is it clear what analyses were requested?	Yes ☑	No ☐	
17.	Were all holding times able to be met?	Yes ☑	No ☐	

Special Handling (if applicable)

18.	Was client notified of all discrepancies with this order?	Yes ☐	No ☐	NA ☑

Person Notified:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

19. Additional remarks:

Item Information

Item #	Temp °C	Condition
Cooler	10.0	Good
Sample	3.5	Good

Fremont Analytical

Chain of Custody Record

3600 Fremont Ave N. Tel: 206-352-3790
Seattle, WA 98103 Fax: 206-352-7178

Laboratory Project No (internal): 1405213

Date: 5/22/14 Page: 1 of: 1

Client: S+W
Address:
City, State, Zip Tel:
Reports To (PM): Cody Johnson Fax:

Project Name: B+K
Location: Seattle, WA
Collected by:
Email: cmjohnson1.com
Project No: 21-1-12357-003

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, WW = Waste Water

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOC (EPA 8260)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SEMI VOC (EPA 8270)	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Metals** (6020 / 200.8)	Total (T)	Dissolved (D)	Anions (IC)***	EDB (8011)	HVOCs				Comments/Depth
1 52114-MW-6:6W	5/21/14	~~1410~~	6W															X				
2 52114-MW_7:6W		1715																X				
3 52114-MW-9:6W		1520																X				
4 52114-MW-9:6W		1650																X				
5 52214-OS-1:6W	5/22/14	1015																X				
6 52214-OS-2:6W		1215																X				
7 52114-OS-3:6W	5/21/14	1930						HCID														
8 52214-OS-4:6W	5/22/14	1400						HCID														
9																						
10																						

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Special Remarks:

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (A fee may be assessed if samples are retained after 30 days)

Relinquished	Date/Time	Received	Date/Time
x	5/22/14 1300	x	5/22/14 13:00
Relinquished	Date/Time	Received	Date/Time
x		x	

TAT -> SameDay^ NextDay^ 2 Day 3 Day STD

^Please coordinate with the lab in advance

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

Shannon & Wilson
Cody Johnson
400 N. 34th Street, Suite 100
Seattle, WA 98103

RE: B & K
Lab ID: 1405213

June 27, 2014

Attention Cody Johnson:

Fremont Analytical, Inc. received 8 sample(s) on 5/22/2014 for the analyses presented in the following report.

Volatile Organic Compounds by EPA Method 8260

This report consists of the following:

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

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

Thank you for using Fremont Analytical.

Sincerely,

Michael Dee
Sr. Chemist / Principal

Fremont Analytical

Date: *06/27/2014*

CLIENT: Shannon & Wilson
Project: B & K
Lab Order: 1405213

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1405213-001	52114-MW-6:6W	05/21/2014 2:10 PM	05/22/2014 1:00 PM
1405213-002	52114-MW-7:6W	05/21/2014 5:15 PM	05/22/2014 1:00 PM
1405213-003	52114-MW-8:6W	05/21/2014 3:20 PM	05/22/2014 1:00 PM
1405213-004	52114-MW-9:6W	05/21/2014 4:50 PM	05/22/2014 1:00 PM
1405213-005	52214-OS-1:6W	05/22/2014 10:15 AM	05/22/2014 1:00 PM
1405213-006	52214-OS-2:6W	05/22/2014 12:15 AM	05/22/2014 1:00 PM
1405213-007	52114-OS-3:6W	05/21/2014 7:30 PM	05/22/2014 1:00 PM
1405213-008	52214-OS-4:6W	05/22/2014 11:00 AM	05/22/2014 1:00 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **1405213**
Date: **6/27/2014**

CLIENT: Shannon & Wilson
Project: B & K

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

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

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

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

Client: Shannon & Wilson
Project: B & K
Lab ID: 1405213-001
Client Sample ID: **52114-MW-6:6W**

Collection Date: 5/21/2014 2:10:00 PM
Matrix: Groundwater

Volatile Organic Compounds by EPA Method 8260

Batch ID: R14491 Analyst: BC

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
Chloromethane	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
Vinyl chloride	ND	0.200		µg/L	1	5/24/2014 11:58:00 AM
Bromomethane	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
Chloroethane	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
Methylene chloride	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
2,2-Dichloropropane	ND	2.00		µg/L	1	5/24/2014 11:58:00 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
Chloroform	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
Carbon tetrachloride	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
1,2-Dichloroethane	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
Trichloroethene (TCE)	18.9	0.500		µg/L	1	5/24/2014 11:58:00 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
Bromodichloromethane	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
Dibromomethane	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
Dibromochloromethane	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	5/24/2014 11:58:00 AM
Chlorobenzene	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
Bromoform	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
Bromobenzene	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
2-Chlorotoluene	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
4-Chlorotoluene	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 5/21/2014 2:10:00 PM
Project: B & K
Lab ID: 1405213-001
Matrix: Groundwater
Client Sample ID: **52114-MW-6:6W**

Volatile Organic Compounds by EPA Method 8260

Batch ID: R14491 Analyst: BC

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
1,2,3-Trichloropropane	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	5/24/2014 11:58:00 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	5/24/2014 11:58:00 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	5/24/2014 11:58:00 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	5/24/2014 11:58:00 AM
Surr: Dibromofluoromethane	101	61.7-130		%REC	1	5/24/2014 11:58:00 AM
Surr: Toluene-d8	98.9	62.1-129		%REC	1	5/24/2014 11:58:00 AM
Surr: 1-Bromo-4-fluorobenzene	97.1	66.8-124		%REC	1	5/24/2014 11:58:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 5/21/2014 5:15:00 PM
Project: B & K
Lab ID: 1405213-002
Matrix: Groundwater
Client Sample ID: **52114-MW-7:6W**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R14491		Analyst: BC
Dichlorodifluoromethane	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
Chloromethane	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
Vinyl chloride	34.5	0.200		µg/L	1	5/24/2014 12:57:00 PM
Bromomethane	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
Chloroethane	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
Methylene chloride	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
trans-1,2-Dichloroethene	1.97	1.00		µg/L	1	5/24/2014 12:57:00 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	5/24/2014 12:57:00 PM
cis-1,2-Dichloroethene	143	1.00		µg/L	1	5/24/2014 12:57:00 PM
Chloroform	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
Carbon tetrachloride	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
1,2-Dichloroethane	2.79	1.00		µg/L	1	5/24/2014 12:57:00 PM
Trichloroethene (TCE)	ND	0.500		µg/L	1	5/24/2014 12:57:00 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
Bromodichloromethane	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
Dibromomethane	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
Dibromochloromethane	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	5/24/2014 12:57:00 PM
Chlorobenzene	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
Bromoform	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
Bromobenzene	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
2-Chlorotoluene	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
4-Chlorotoluene	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 5/21/2014 5:15:00 PM
Project: B & K
Lab ID: 1405213-002
Matrix: Groundwater
Client Sample ID: 52114-MW-7:6W

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R14491		Analyst: BC
1,2,3-Trichloropropane	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	5/24/2014 12:57:00 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	5/24/2014 12:57:00 PM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	5/24/2014 12:57:00 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	5/24/2014 12:57:00 PM
Surr: Dibromofluoromethane	102	61.7-130		%REC	1	5/24/2014 12:57:00 PM
Surr: Toluene-d8	101	62.1-129		%REC	1	5/24/2014 12:57:00 PM
Surr: 1-Bromo-4-fluorobenzene	99.4	66.8-124		%REC	1	5/24/2014 12:57:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 5/21/2014 3:20:00 PM
Project: B & K
Lab ID: 1405213-003
Matrix: Groundwater
Client Sample ID: 52114-MW-8:6W

Volatile Organic Compounds by EPA Method 8260

Batch ID: R14491 Analyst: BC

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
Chloromethane	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
Vinyl chloride	ND	0.200		µg/L	1	5/24/2014 2:53:00 PM
Bromomethane	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
Chloroethane	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
Methylene chloride	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	5/24/2014 2:53:00 PM
cis-1,2-Dichloroethene	23.1	1.00		µg/L	1	5/24/2014 2:53:00 PM
Chloroform	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
Carbon tetrachloride	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
1,2-Dichloroethane	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
Trichloroethene (TCE)	558	0.500		µg/L	1	5/24/2014 2:53:00 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
Bromodichloromethane	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
Dibromomethane	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
Dibromochloromethane	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	5/24/2014 2:53:00 PM
Chlorobenzene	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
Bromoform	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
Bromobenzene	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
2-Chlorotoluene	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
4-Chlorotoluene	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM

Qualifiers:

- B Analyte detected in the associated Method Blank
- D Dilution was required
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- ND Not detected at the Reporting Limit
- RL Reporting Limit
- S Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 5/21/2014 3:20:00 PM
Project: B & K
Lab ID: 1405213-003
Matrix: Groundwater
Client Sample ID: 52114-MW-8:6W

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R14491		Analyst: BC
1,2,3-Trichloropropane	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	5/24/2014 2:53:00 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	5/24/2014 2:53:00 PM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	5/24/2014 2:53:00 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	5/24/2014 2:53:00 PM
Surr: Dibromofluoromethane	100	61.7-130		%REC	1	5/24/2014 2:53:00 PM
Surr: Toluene-d8	99.2	62.1-129		%REC	1	5/24/2014 2:53:00 PM
Surr: 1-Bromo-4-fluorobenzene	99.8	66.8-124		%REC	1	5/24/2014 2:53:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B & K
Lab ID: 1405213-004
Client Sample ID: **52114-MW-9:6W**

Collection Date: 5/21/2014 4:50:00 PM
Matrix: Groundwater

Volatile Organic Compounds by EPA Method 8260

Batch ID: R14491 Analyst: BC

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
Chloromethane	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
Vinyl chloride	ND	0.200		µg/L	1	5/24/2014 3:23:00 PM
Bromomethane	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
Chloroethane	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
1,1-Dichloroethene	1.16	1.00		µg/L	1	5/24/2014 3:23:00 PM
Methylene chloride	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	5/24/2014 3:23:00 PM
cis-1,2-Dichloroethene	6.77	1.00		µg/L	1	5/24/2014 3:23:00 PM
Chloroform	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
Carbon tetrachloride	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
1,2-Dichloroethane	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
Trichloroethene (TCE)	137	0.500		µg/L	1	5/24/2014 3:23:00 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
Bromodichloromethane	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
Dibromomethane	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
Dibromochloromethane	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	5/24/2014 3:23:00 PM
Chlorobenzene	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
Bromoform	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
Bromobenzene	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
2-Chlorotoluene	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
4-Chlorotoluene	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 5/21/2014 4:50:00 PM
Project: B & K
Lab ID: 1405213-004
Matrix: Groundwater
Client Sample ID: 52114-MW-9:6W

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R14491		Analyst: BC
1,2,3-Trichloropropane	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	5/24/2014 3:23:00 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	5/24/2014 3:23:00 PM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	5/24/2014 3:23:00 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	5/24/2014 3:23:00 PM
Surr: Dibromofluoromethane	103	61.7-130		%REC	1	5/24/2014 3:23:00 PM
Surr: Toluene-d8	100	62.1-129		%REC	1	5/24/2014 3:23:00 PM
Surr: 1-Bromo-4-fluorobenzene	96.3	66.8-124		%REC	1	5/24/2014 3:23:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 5/22/2014 10:15:00 AM
Project: B & K
Lab ID: 1405213-005
Matrix: Groundwater
Client Sample ID: 52214-OS-1:6W

Volatile Organic Compounds by EPA Method 8260

Batch ID: R14491 Analyst: BC

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
Chloromethane	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
Vinyl chloride	7.26	0.200		µg/L	1	5/24/2014 4:22:00 PM
Bromomethane	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
Chloroethane	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
Methylene chloride	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	5/24/2014 4:22:00 PM
cis-1,2-Dichloroethene	16.8	1.00		µg/L	1	5/24/2014 4:22:00 PM
Chloroform	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
Carbon tetrachloride	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
1,2-Dichloroethane	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
Trichloroethene (TCE)	5.35	0.500		µg/L	1	5/24/2014 4:22:00 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
Bromodichloromethane	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
Dibromomethane	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
Dibromochloromethane	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	5/24/2014 4:22:00 PM
Chlorobenzene	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
Bromoform	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
Bromobenzene	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
2-Chlorotoluene	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
4-Chlorotoluene	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM

Qualifiers:

- B Analyte detected in the associated Method Blank
- D Dilution was required
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- ND Not detected at the Reporting Limit
- RL Reporting Limit
- S Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B & K
Lab ID: 1405213-005
Client Sample ID: **52214-OS-1:6W**

Collection Date: 5/22/2014 10:15:00 AM
Matrix: Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R14491		Analyst: BC
1,2,3-Trichloropropane	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	5/24/2014 4:22:00 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	5/24/2014 4:22:00 PM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	5/24/2014 4:22:00 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	5/24/2014 4:22:00 PM
Surr: Dibromofluoromethane	103	61.7-130		%REC	1	5/24/2014 4:22:00 PM
Surr: Toluene-d8	99.5	54.5-132		%REC	1	5/24/2014 4:22:00 PM
Surr: 1-Bromo-4-fluorobenzene	96.5	66.8-124		%REC	1	5/24/2014 4:22:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B & K
Lab ID: 1405213-006
Client Sample ID: 52214-OS-2:6W

Collection Date: 5/22/2014 12:15:00 AM
Matrix: Groundwater

Volatile Organic Compounds by EPA Method 8260

Batch ID: R14491 Analyst: BC

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
Chloromethane	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
Vinyl chloride	ND	0.200		µg/L	1	5/24/2014 3:52:00 PM
Bromomethane	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
Chloroethane	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
Methylene chloride	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	5/24/2014 3:52:00 PM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
Chloroform	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
Carbon tetrachloride	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
1,2-Dichloroethane	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
Trichloroethene (TCE)	ND	0.500		µg/L	1	5/24/2014 3:52:00 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
Bromodichloromethane	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
Dibromomethane	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
Dibromochloromethane	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	5/24/2014 3:52:00 PM
Chlorobenzene	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
Bromoform	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
Bromobenzene	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
2-Chlorotoluene	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
4-Chlorotoluene	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 5/22/2014 12:15:00 AM
Project: B & K
Lab ID: 1405213-006
Matrix: Groundwater
Client Sample ID: 52214-OS-2:6W

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R14491		Analyst: BC
1,2,3-Trichloropropane	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	5/24/2014 3:52:00 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	5/24/2014 3:52:00 PM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	5/24/2014 3:52:00 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	5/24/2014 3:52:00 PM
Surr: Dibromofluoromethane	103	61.7-130		%REC	1	5/24/2014 3:52:00 PM
Surr: Toluene-d8	99.7	54.5-132		%REC	1	5/24/2014 3:52:00 PM
Surr: 1-Bromo-4-fluorobenzene	98.7	66.8-124		%REC	1	5/24/2014 3:52:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *6/27/2014*

Work Order: 1405213
CLIENT: Shannon & Wilson
Project: B & K

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1405213-001ADUP**	SampType: **DUP**	Units: **µg/L**	Prep Date: **5/24/2014**	RunNo: **14491**
Client ID: **52114-MW-6:6W**	Batch ID: **R14491**		Analysis Date: **5/24/2014**	SeqNo: **298902**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	ND	1.00						0		30	
Chloromethane	ND	0.500						0		30	
Vinyl chloride	ND	0.200						0		30	
Bromomethane	ND	0.500						0		30	
Trichlorofluoromethane (CFC-11)	ND	0.500						0		30	
Chloroethane	ND	0.500						0		30	
1,1-Dichloroethene	ND	0.500						0		30	
Methylene chloride	ND	0.500						0		30	
trans-1,2-Dichloroethene	ND	0.500						0		30	
1,1-Dichloroethane	ND	0.500						0		30	
2,2-Dichloropropane	ND	1.00						0		30	
cis-1,2-Dichloroethene	ND	0.500						0		30	
Chloroform	ND	1.00						0		30	
1,1,1-Trichloroethane (TCA)	ND	0.500						0		30	
1,1-Dichloropropene	ND	0.500						0		30	
Carbon tetrachloride	ND	1.00						0		30	
1,2-Dichloroethane	ND	0.500						0		30	
Trichloroethene (TCE)	19.2	0.500						18.94	1.52	30	
1,2-Dichloropropane	ND	0.500						0		30	
Bromodichloromethane	ND	0.500						0		30	
Dibromomethane	ND	0.500						0		30	
cis-1,3-Dichloropropene	ND	0.500						0		30	
trans-1,3-Dichloropropene	ND	0.500						0		30	
1,1,2-Trichloroethane	ND	0.500						0		30	
1,3-Dichloropropane	ND	0.500						0		30	
Tetrachloroethene (PCE)	ND	0.500						0		30	
Dibromochloromethane	ND	0.500						0		30	
1,2-Dibromoethane (EDB)	ND	0.200						0		30	
Chlorobenzene	ND	0.500						0		30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *6/27/2014*

Work Order: 1405213
CLIENT: Shannon & Wilson
Project: B & K

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1405213-001ADUP**	SampType: **DUP**	Units: **µg/L**	Prep Date: **5/24/2014**	RunNo: **14491**
Client ID: **52114-MW-6:6W**	Batch ID: **R14491**		Analysis Date: **5/24/2014**	SeqNo: **298902**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	0.500						0		30	
Bromoform	ND	0.500						0		30	
1,1,2,2-Tetrachloroethane	ND	0.500						0		30	
Bromobenzene	ND	0.500						0		30	
2-Chlorotoluene	ND	0.500						0		30	
4-Chlorotoluene	ND	0.500						0		30	
1,2,3-Trichloropropane	ND	0.500						0		30	
1,2,4-Trichlorobenzene	ND	1.00						0		30	
1,3-Dichlorobenzene	ND	0.500						0		30	
1,4-Dichlorobenzene	ND	0.500						0		30	
1,2-Dichlorobenzene	ND	0.500						0		30	
1,2-Dibromo-3-chloropropane	ND	0.500						0		30	
Hexachloro-1,3-butadiene	ND	2.00						0		30	
1,2,3-Trichlorobenzene	ND	2.00						0		30	
Surr: Dibromofluoromethane	50.6		50.00		101	61.7	130		0		
Surr: Toluene-d8	49.2		50.00		98.4	62.1	129		0		
Surr: 1-Bromo-4-fluorobenzene	47.8		50.00		95.6	66.8	124		0		

Sample ID: **1405213-002AMS**	SampType: **MS**	Units: **µg/L**	Prep Date: **5/24/2014**	RunNo: **14491**
Client ID: **52114-MW-7:6W**	Batch ID: **R14491**		Analysis Date: **5/24/2014**	SeqNo: **298904**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	8.16	1.00	20.00	0	40.8	33.3	122				
Chloromethane	13.5	0.500	20.00	0	67.3	48.2	145				
Vinyl chloride	47.4	0.200	20.00	34.46	64.7	58.1	158				
Bromomethane	16.1	0.500	20.00	0	80.5	31.5	135				
Trichlorofluoromethane (CFC-11)	17.2	0.500	20.00	0	86.1	54.7	138				
Chloroethane	17.1	0.500	20.00	0	85.5	49.9	143				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *6/27/2014*

Work Order: 1405213
CLIENT: Shannon & Wilson
Project: B & K

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1405213-002AMS**	SampType: **MS**	Units: **µg/L**	Prep Date: **5/24/2014**	RunNo: **14491**
Client ID: **52114-MW-7:6W**	Batch ID: **R14491**		Analysis Date: **5/24/2014**	SeqNo: **298904**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	22.5	0.500	20.00	0	112	63	141				
Methylene chloride	22.2	0.500	20.00	0	111	61.6	135				
trans-1,2-Dichloroethene	24.4	0.500	20.00	1.970	112	63.5	138				
1,1-Dichloroethane	22.7	0.500	20.00	0	113	67.8	136				
2,2-Dichloropropane	20.0	1.00	20.00	0	100	31.5	121				
cis-1,2-Dichloroethene	160	0.500	20.00	143.3	85.1	67.1	123				
Chloroform	22.9	1.00	20.00	0	114	66.7	136				
1,1,1-Trichloroethane (TCA)	23.5	0.500	20.00	0	118	64.2	146				
1,1-Dichloropropene	23.5	0.500	20.00	0	118	73.8	136				
Carbon tetrachloride	25.7	1.00	20.00	0	128	62.7	146				
1,2-Dichloroethane	27.1	0.500	20.00	2.790	122	63.4	137				
Trichloroethene (TCE)	23.5	0.500	20.00	0	118	60.4	134				
1,2-Dichloropropane	22.7	0.500	20.00	0	113	62.6	138				
Bromodichloromethane	22.8	0.500	20.00	0	114	59.4	139				
Dibromomethane	22.7	0.500	20.00	0	113	63.6	139				
cis-1,3-Dichloropropene	21.6	0.500	20.00	0	108	63.8	132				
trans-1,3-Dichloropropene	22.7	0.500	20.00	0	113	57.7	125				
1,1,2-Trichloroethane	21.2	0.500	20.00	0	106	59.4	127				
1,3-Dichloropropane	22.3	0.500	20.00	0	112	64.3	135				
Tetrachloroethene (PCE)	23.2	0.500	20.00	0	116	50.3	133				
Dibromochloromethane	22.4	0.500	20.00	0	112	61.6	139				
1,2-Dibromoethane (EDB)	21.7	0.200	20.00	0	109	63.2	134				
Chlorobenzene	22.6	0.500	20.00	0	113	65.8	134				
1,1,1,2-Tetrachloroethane	22.2	0.500	20.00	0	111	65.4	135				
Bromoform	22.6	0.500	20.00	0	113	57.7	139				
1,1,2,2-Tetrachloroethane	22.9	0.500	20.00	0	114	59.8	146				
Bromobenzene	23.2	0.500	20.00	0	116	63.6	130				
2-Chlorotoluene	23.6	0.500	20.00	0	118	61.7	134				
4-Chlorotoluene	21.7	0.500	20.00	0	108	58.4	134				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *6/27/2014*

Work Order: 1405213
CLIENT: Shannon & Wilson
Project: B & K

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1405213-002AMS** SampType: **MS** Units: **µg/L** Prep Date: **5/24/2014** RunNo: **14491**
Client ID: **52114-MW-7:6W** Batch ID: **R14491** Analysis Date: **5/24/2014** SeqNo: **298904**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,3-Trichloropropane	21.8	0.500	20.00	0	109	62.4	129				
1,2,4-Trichlorobenzene	24.8	1.00	20.00	0	124	50.9	133				
1,3-Dichlorobenzene	22.9	0.500	20.00	0	114	58.2	128				
1,4-Dichlorobenzene	22.2	0.500	20.00	0	111	60.1	123				
1,2-Dichlorobenzene	23.0	0.500	20.00	0	115	65.4	133				
1,2-Dibromo-3-chloropropane	25.8	0.500	20.00	0	129	51.8	142				
Hexachloro-1,3-butadiene	25.4	2.00	20.00	0	127	58.1	130				
1,2,3-Trichlorobenzene	25.4	2.00	20.00	0	127	57	131				
Surr: Dibromofluoromethane	49.7		50.00		99.5	61.7	130				
Surr: Toluene-d8	50.3		50.00		101	62.1	129				
Surr: 1-Bromo-4-fluorobenzene	50.8		50.00		102	66.8	124				

Sample ID: **LCS-R14491** SampType: **LCS** Units: **µg/L** Prep Date: **5/24/2014** RunNo: **14491**
Client ID: **LCSW** Batch ID: **R14491** Analysis Date: **5/24/2014** SeqNo: **298948**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	12.5	1.00	20.00	0	62.6	43	136				
Chloromethane	16.1	0.500	20.00	0	80.4	43.9	139				
Vinyl chloride	15.2	0.200	20.00	0	76.1	53.6	139				
Bromomethane	17.9	0.500	20.00	0	89.6	44.8	148				
Trichlorofluoromethane (CFC-11)	15.8	0.500	20.00	0	79.1	63.7	133				
Chloroethane	17.3	0.500	20.00	0	86.5	53	141				
1,1-Dichloroethene	19.8	0.500	20.00	0	99.2	65.6	136				
Methylene chloride	21.4	0.500	20.00	0	107	67.1	131				
trans-1,2-Dichloroethene	20.8	0.500	20.00	0	104	71.7	129				
1,1-Dichloroethane	20.5	0.500	20.00	0	102	67.9	134				
2,2-Dichloropropane	18.3	1.00	20.00	0	91.4	33.7	152				
cis-1,2-Dichloroethene	20.8	0.500	20.00	0	104	71.1	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1405213
CLIENT: Shannon & Wilson
Project: B & K

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **LCS-R14491** SampType: **LCS** Units: **µg/L** Prep Date: **5/24/2014** RunNo: **14491**
Client ID: **LCSW** Batch ID: **R14491** Analysis Date: **5/24/2014** SeqNo: **298948**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloroform	21.2	1.00	20.00	0	106	76.7	124				
1,1,1-Trichloroethane (TCA)	20.3	0.500	20.00	0	102	71	131				
1,1-Dichloropropene	20.4	0.500	20.00	0	102	74.5	126				
Carbon tetrachloride	18.6	1.00	20.00	0	93.2	66.2	134				
1,2-Dichloroethane	21.4	0.500	20.00	0	107	70	129				
Trichloroethene (TCE)	20.6	0.500	20.00	0	103	65.2	136				
1,2-Dichloropropane	21.2	0.500	20.00	0	106	70.5	130				
Bromodichloromethane	20.6	0.500	20.00	0	103	74.6	127				
Dibromomethane	21.7	0.500	20.00	0	108	75.5	126				
cis-1,3-Dichloropropene	20.2	0.500	20.00	0	101	62.6	137				
trans-1,3-Dichloropropene	20.0	0.500	20.00	0	99.8	58.5	142				
1,1,2-Trichloroethane	20.7	0.500	20.00	0	103	76	124				
1,3-Dichloropropane	20.5	0.500	20.00	0	103	73.5	127				
Tetrachloroethene (PCE)	20.2	0.500	20.00	0	101	47.5	147				
Dibromochloromethane	20.6	0.500	20.00	0	103	67.2	134				
1,2-Dibromoethane (EDB)	21.2	0.200	20.00	0	106	73.6	125				
Chlorobenzene	21.1	0.500	20.00	0	105	73.9	126				
1,1,1,2-Tetrachloroethane	21.4	0.500	20.00	0	107	76.8	124				
Bromoform	21.6	0.500	20.00	0	108	63.8	135				
1,1,2,2-Tetrachloroethane	21.4	0.500	20.00	0	107	62.9	132				
Bromobenzene	21.2	0.500	20.00	0	106	71	131				
2-Chlorotoluene	20.2	0.500	20.00	0	101	70.8	130				
4-Chlorotoluene	19.7	0.500	20.00	0	98.4	70.1	131				
1,2,3-Trichloropropane	21.7	0.500	20.00	0	108	67.7	131				
1,2,4-Trichlorobenzene	20.8	1.00	20.00	0	104	72.4	127				
1,3-Dichlorobenzene	20.5	0.500	20.00	0	103	72.4	129				
1,4-Dichlorobenzene	20.4	0.500	20.00	0	102	70.6	128				
1,2-Dichlorobenzene	21.1	0.500	20.00	0	105	74.2	129				
1,2-Dibromo-3-chloropropane	21.9	0.500	20.00	0	110	63.1	136				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *6/27/2014*

Work Order: 1405213
CLIENT: Shannon & Wilson
Project: B & K

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **LCS-R14491** SampType: **LCS** Units: **µg/L** Prep Date: **5/24/2014** RunNo: **14491**
Client ID: **LCSW** Batch ID: **R14491** Analysis Date: **5/24/2014** SeqNo: **298948**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexachloro-1,3-butadiene	19.8	2.00	20.00	0	98.8	58.6	138				
1,2,3-Trichlorobenzene	21.1	2.00	20.00	0	105	66.4	132				
Surr: Dibromofluoromethane	49.2		50.00		98.3	61.7	130				
Surr: Toluene-d8	49.3		50.00		98.6	62.1	129				
Surr: 1-Bromo-4-fluorobenzene	50.2		50.00		100	66.8	124				

Sample ID: **MB-R14491** SampType: **MBLK** Units: **µg/L** Prep Date: **5/24/2014** RunNo: **14491**
Client ID: **MBLKW** Batch ID: **R14491** Analysis Date: **5/24/2014** SeqNo: **298949**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	ND	1.00									
Chloromethane	ND	0.500									
Vinyl chloride	ND	0.200									
Bromomethane	ND	0.500									
Trichlorofluoromethane (CFC-11)	ND	0.500									
Chloroethane	ND	0.500									
1,1-Dichloroethene	ND	0.500									
Methylene chloride	ND	0.500									
trans-1,2-Dichloroethene	ND	0.500									
1,1-Dichloroethane	ND	0.500									
2,2-Dichloropropane	ND	1.00									
cis-1,2-Dichloroethene	ND	0.500									
Chloroform	ND	1.00									
1,1,1-Trichloroethane (TCA)	ND	0.500									
1,1-Dichloropropene	ND	0.500									
Carbon tetrachloride	ND	1.00									
1,2-Dichloroethane	ND	0.500									
Trichloroethene (TCE)	ND	0.500									

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *6/27/2014*

Work Order: 1405213
CLIENT: Shannon & Wilson
Project: B & K

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **MB-R14491**	SampType: **MBLK**		Units: **µg/L**	Prep Date: **5/24/2014**		RunNo: **14491**	
Client ID: **MBLKW**	Batch ID: **R14491**			Analysis Date: **5/24/2014**		SeqNo: **298949**	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichloropropane	ND	0.500									
Bromodichloromethane	ND	0.500									
Dibromomethane	ND	0.500									
cis-1,3-Dichloropropene	ND	0.500									
trans-1,3-Dichloropropene	ND	0.500									
1,1,2-Trichloroethane	ND	0.500									
1,3-Dichloropropane	ND	0.500									
Tetrachloroethene (PCE)	ND	0.500									
Dibromochloromethane	ND	0.500									
1,2-Dibromoethane (EDB)	ND	0.200									
Chlorobenzene	ND	0.500									
1,1,1,2-Tetrachloroethane	ND	0.500									
Bromoform	ND	0.500									
1,1,2,2-Tetrachloroethane	ND	0.500									
Bromobenzene	ND	0.500									
2-Chlorotoluene	ND	0.500									
4-Chlorotoluene	ND	0.500									
1,2,3-Trichloropropane	ND	0.500									
1,2,4-Trichlorobenzene	ND	1.00									
1,3-Dichlorobenzene	ND	0.500									
1,4-Dichlorobenzene	ND	0.500									
1,2-Dichlorobenzene	ND	0.500									
1,2-Dibromo-3-chloropropane	ND	0.500									
Hexachloro-1,3-butadiene	ND	2.00									
1,2,3-Trichlorobenzene	ND	2.00									
Surr: Dibromofluoromethane	49.7		50.00		99.4	61.7	130				
Surr: Toluene-d8	49.6		50.00		99.2	62.1	129				
Surr: 1-Bromo-4-fluorobenzene	47.8		50.00		95.5	66.8	124				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *6/27/2014*

Work Order: 1405213
CLIENT: Shannon & Wilson
Project: B & K

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Qualifiers:	B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
	R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Sample Log-In Check List

Client Name:	**SW**	Work Order Number:	**1405213**
Logged by:	**Erica Silva**	Date Received:	**5/22/2014 1:00:00 PM**

Chain of Custody

1.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2.	How was the sample delivered?	Client		

Log In

3.	Coolers are present?	Yes ☑	No ☐	NA ☐
4.	Shipping container/cooler in good condition?	Yes ☑	No ☐	
5.	Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Required ☑
6.	Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
7.	Were all coolers received at a temperature of >0°C to 10.0°C	Yes ☑	No ☐	NA ☐
8.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
9.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
10.	Are samples properly preserved?	Yes ☑	No ☐	
11.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
12.	Is the headspace in the VOA vials?	Yes ☐	No ☐	NA ☑
13.	Did all samples containers arrive in good condition(unbroken)?	Yes ☑	No ☐	
14.	Does paperwork match bottle labels?	Yes ☑	No ☐	
15.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
16.	Is it clear what analyses were requested?	Yes ☑	No ☐	
17.	Were all holding times able to be met?	Yes ☑	No ☐	

Special Handling (if applicable)

18. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

19. Additional remarks:

Item Information

Item #	Temp °C	Condition
Cooler	10.0	Good
Sample	3.5	Good

Fremont Analytical

Chain of Custody Record

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (internal): 1405213

Date: 5/22/14

Page: 1 of: 1

Client: S+W

Project Name: B+K

Address:

Location: South, WA

City, State, Zip

Tel:

Collected by:

Reports To (PM): Cady Johnson

Fax:

Email: cmj@shanwil.com

Project No: 21-1-12357-003

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, WW = Waste Water

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOC (EPA 8260)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SEMI VOL (EPA 8270 - SIM)	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Metals** (6020 / 200.8) Total (T) | Dissolved (D)	Anions (IC)***	EDB (8011)	HVOCs	Comments/Depth
1 52114-MW-6:GW	5/21/14	1410	GW													X	
2 52114-MW-7:GW	"	1745	"													X	
3 52114-MW-8:GW	"	1520	"													X	
4 52114-MW-9:GW	"	1650	"													X	
5 52214-OS-1:GW	5/21/14	1015	"													X	
6 52214-OS-2:GW	"	1215	"													X	
7 52114-OS-3:GW	5/21/14	1930	"					HOLD									
8 52214-OS-4:GW	5/22/14	1100	"					HOLD									
9																	
10																	

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Special Remarks:

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Relinquished	Date/Time	Received	Date/Time
x	5/22/14 1300	x	5/22/14 13:00
Relinquished	Date/Time	Received	Date/Time
x		x	

TAT -> SameDay^ NextDay^ 2 Day 3 Day (STD)

^Please coordinate with the lab in advance

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

Shannon & Wilson
Cody Johnson
400 N. 34th Street, Suite 100
Seattle, WA 98103

RE: B+K
Lab ID: 1402215

February 28, 2014

Attention Cody Johnson:

Fremont Analytical, Inc. received 4 sample(s) on 2/21/2014 for the analyses presented in the following report.

Volatile Organic Compounds by EPA Method 8260

This report consists of the following:

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

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

Thank you for using Fremont Analytical.

Sincerely,

Michael Dee
Sr. Chemist / Principal

Fremont Analytical

Date: *02/28/2014*

CLIENT: Shannon & Wilson
Project: B+K
Lab Order: 1402215

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1402215-001	0220140S-2:GW	02/20/2014 4:15 PM	02/21/2014 11:00 AM
1402215-002	0220140S-3:GW	02/20/2014 4:30 PM	02/21/2014 11:00 AM
1402215-003	0220140S-4:GW	02/20/2014 4:45 PM	02/21/2014 11:00 AM
1402215-004	022014MW-6:GW	02/20/2014 4:35 PM	02/21/2014 11:00 AM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

CLIENT: Shannon & Wilson
Project: B+K

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

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

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

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

Client: Shannon & Wilson
Collection Date: 2/20/2014 4:15:00 PM
Project: B+K
Lab ID: 1402215-001
Matrix: Water
Client Sample ID: 0220140S-2:GW

Volatile Organic Compounds by EPA Method 8260

Batch ID: R12655 Analyst: EM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane	ND	1.00		µg/L	1	2/21/2014 7:18:00 PM
Chloromethane	ND	1.00		µg/L	1	2/21/2014 7:18:00 PM
Vinyl chloride	ND	0.200		µg/L	1	2/21/2014 7:18:00 PM
Bromomethane	ND	1.00		µg/L	1	2/21/2014 7:18:00 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	2/21/2014 7:18:00 PM
Chloroethane	ND	1.00		µg/L	1	2/21/2014 7:18:00 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	2/21/2014 7:18:00 PM
Methylene chloride	ND	1.00		µg/L	1	2/21/2014 7:18:00 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	2/21/2014 7:18:00 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	2/21/2014 7:18:00 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	2/21/2014 7:18:00 PM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	2/21/2014 7:18:00 PM
Chloroform	ND	1.00		µg/L	1	2/21/2014 7:18:00 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	2/21/2014 7:18:00 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	2/21/2014 7:18:00 PM
Carbon tetrachloride	ND	1.00		µg/L	1	2/21/2014 7:18:00 PM
1,2-Dichloroethane	ND	1.00		µg/L	1	2/21/2014 7:18:00 PM
Trichloroethene (TCE)	ND	0.500		µg/L	1	2/21/2014 7:18:00 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	2/21/2014 7:18:00 PM
Bromodichloromethane	ND	1.00		µg/L	1	2/21/2014 7:18:00 PM
Dibromomethane	ND	1.00		µg/L	1	2/21/2014 7:18:00 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	2/21/2014 7:18:00 PM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	2/21/2014 7:18:00 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	2/21/2014 7:18:00 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	2/21/2014 7:18:00 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	2/21/2014 7:18:00 PM
Dibromochloromethane	ND	1.00		µg/L	1	2/21/2014 7:18:00 PM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	2/21/2014 7:18:00 PM
Chlorobenzene	ND	1.00		µg/L	1	2/21/2014 7:18:00 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	2/21/2014 7:18:00 PM
Bromoform	ND	1.00		µg/L	1	2/21/2014 7:18:00 PM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	2/21/2014 7:18:00 PM
Bromobenzene	ND	1.00		µg/L	1	2/21/2014 7:18:00 PM
2-Chlorotoluene	ND	1.00		µg/L	1	2/21/2014 7:18:00 PM
4-Chlorotoluene	ND	1.00		µg/L	1	2/21/2014 7:18:00 PM

Qualifiers:

- B Analyte detected in the associated Method Blank
- D Dilution was required
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- ND Not detected at the Reporting Limit
- RL Reporting Limit
- S Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B+K
Lab ID: 1402215-001
Client Sample ID: 0220140S-2:GW

Collection Date: 2/20/2014 4:15:00 PM
Matrix: Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R12655		Analyst: EM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	2/21/2014 7:18:00 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	2/21/2014 7:18:00 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	2/21/2014 7:18:00 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	2/21/2014 7:18:00 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	2/21/2014 7:18:00 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	2/21/2014 7:18:00 PM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	2/21/2014 7:18:00 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	2/21/2014 7:18:00 PM
Surr: Dibromofluoromethane	102	72.1-122		%REC	1	2/21/2014 7:18:00 PM
Surr: Toluene-d8	100	62.1-129		%REC	1	2/21/2014 7:18:00 PM
Surr: 1-Bromo-4-fluorobenzene	113	66.8-124		%REC	1	2/21/2014 7:18:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B+K
Lab ID: 1402215-002
Client Sample ID: 0220140S-3:GW

Collection Date: 2/20/2014 4:30:00 PM
Matrix: Water

Volatile Organic Compounds by EPA Method 8260

Batch ID: R12655 Analyst: EM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane	ND	1.00		µg/L	1	2/21/2014 7:47:00 PM
Chloromethane	ND	1.00		µg/L	1	2/21/2014 7:47:00 PM
Vinyl chloride	ND	0.200		µg/L	1	2/21/2014 7:47:00 PM
Bromomethane	ND	1.00		µg/L	1	2/21/2014 7:47:00 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	2/21/2014 7:47:00 PM
Chloroethane	ND	1.00		µg/L	1	2/21/2014 7:47:00 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	2/21/2014 7:47:00 PM
Methylene chloride	ND	1.00		µg/L	1	2/21/2014 7:47:00 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	2/21/2014 7:47:00 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	2/21/2014 7:47:00 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	2/21/2014 7:47:00 PM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	2/21/2014 7:47:00 PM
Chloroform	ND	1.00		µg/L	1	2/21/2014 7:47:00 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	2/21/2014 7:47:00 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	2/21/2014 7:47:00 PM
Carbon tetrachloride	ND	1.00		µg/L	1	2/21/2014 7:47:00 PM
1,2-Dichloroethane	ND	1.00		µg/L	1	2/21/2014 7:47:00 PM
Trichloroethene (TCE)	ND	0.500		µg/L	1	2/21/2014 7:47:00 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	2/21/2014 7:47:00 PM
Bromodichloromethane	ND	1.00		µg/L	1	2/21/2014 7:47:00 PM
Dibromomethane	ND	1.00		µg/L	1	2/21/2014 7:47:00 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	2/21/2014 7:47:00 PM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	2/21/2014 7:47:00 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	2/21/2014 7:47:00 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	2/21/2014 7:47:00 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	2/21/2014 7:47:00 PM
Dibromochloromethane	ND	1.00		µg/L	1	2/21/2014 7:47:00 PM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	2/21/2014 7:47:00 PM
Chlorobenzene	ND	1.00		µg/L	1	2/21/2014 7:47:00 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	2/21/2014 7:47:00 PM
Bromoform	ND	1.00		µg/L	1	2/21/2014 7:47:00 PM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	2/21/2014 7:47:00 PM
Bromobenzene	ND	1.00		µg/L	1	2/21/2014 7:47:00 PM
2-Chlorotoluene	ND	1.00		µg/L	1	2/21/2014 7:47:00 PM
4-Chlorotoluene	ND	1.00		µg/L	1	2/21/2014 7:47:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 2/20/2014 4:30:00 PM
Project: B+K
Lab ID: 1402215-002
Matrix: Water
Client Sample ID: 0220140S-3:GW

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R12655		Analyst: EM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	2/21/2014 7:47:00 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	2/21/2014 7:47:00 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	2/21/2014 7:47:00 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	2/21/2014 7:47:00 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	2/21/2014 7:47:00 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	2/21/2014 7:47:00 PM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	2/21/2014 7:47:00 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	2/21/2014 7:47:00 PM
Surr: Dibromofluoromethane	102	72.1-122		%REC	1	2/21/2014 7:47:00 PM
Surr: Toluene-d8	102	62.1-129		%REC	1	2/21/2014 7:47:00 PM
Surr: 1-Bromo-4-fluorobenzene	112	66.8-124		%REC	1	2/21/2014 7:47:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B+K
Lab ID: 1402215-003
Client Sample ID: 0220140S-4:GW

Collection Date: 2/20/2014 4:45:00 PM
Matrix: Water

Volatile Organic Compounds by EPA Method 8260

Batch ID: R12655 Analyst: EM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane	ND	1.00		µg/L	1	2/21/2014 8:17:00 PM
Chloromethane	ND	1.00		µg/L	1	2/21/2014 8:17:00 PM
Vinyl chloride	ND	0.200		µg/L	1	2/21/2014 8:17:00 PM
Bromomethane	ND	1.00		µg/L	1	2/21/2014 8:17:00 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	2/21/2014 8:17:00 PM
Chloroethane	ND	1.00		µg/L	1	2/21/2014 8:17:00 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	2/21/2014 8:17:00 PM
Methylene chloride	ND	1.00		µg/L	1	2/21/2014 8:17:00 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	2/21/2014 8:17:00 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	2/21/2014 8:17:00 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	2/21/2014 8:17:00 PM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	2/21/2014 8:17:00 PM
Chloroform	ND	1.00		µg/L	1	2/21/2014 8:17:00 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	2/21/2014 8:17:00 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	2/21/2014 8:17:00 PM
Carbon tetrachloride	ND	1.00		µg/L	1	2/21/2014 8:17:00 PM
1,2-Dichloroethane	ND	1.00		µg/L	1	2/21/2014 8:17:00 PM
Trichloroethene (TCE)	ND	0.500		µg/L	1	2/21/2014 8:17:00 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	2/21/2014 8:17:00 PM
Bromodichloromethane	ND	1.00		µg/L	1	2/21/2014 8:17:00 PM
Dibromomethane	ND	1.00		µg/L	1	2/21/2014 8:17:00 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	2/21/2014 8:17:00 PM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	2/21/2014 8:17:00 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	2/21/2014 8:17:00 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	2/21/2014 8:17:00 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	2/21/2014 8:17:00 PM
Dibromochloromethane	ND	1.00		µg/L	1	2/21/2014 8:17:00 PM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	2/21/2014 8:17:00 PM
Chlorobenzene	ND	1.00		µg/L	1	2/21/2014 8:17:00 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	2/21/2014 8:17:00 PM
Bromoform	ND	1.00		µg/L	1	2/21/2014 8:17:00 PM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	2/21/2014 8:17:00 PM
Bromobenzene	ND	1.00		µg/L	1	2/21/2014 8:17:00 PM
2-Chlorotoluene	ND	1.00		µg/L	1	2/21/2014 8:17:00 PM
4-Chlorotoluene	ND	1.00		µg/L	1	2/21/2014 8:17:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 2/20/2014 4:45:00 PM
Project: B+K
Lab ID: 1402215-003
Matrix: Water
Client Sample ID: 0220140S-4:GW

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R12655		Analyst: EM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	2/21/2014 8:17:00 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	2/21/2014 8:17:00 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	2/21/2014 8:17:00 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	2/21/2014 8:17:00 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	2/21/2014 8:17:00 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	2/21/2014 8:17:00 PM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	2/21/2014 8:17:00 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	2/21/2014 8:17:00 PM
Surr: Dibromofluoromethane	103	72.1-122		%REC	1	2/21/2014 8:17:00 PM
Surr: Toluene-d8	104	62.1-129		%REC	1	2/21/2014 8:17:00 PM
Surr: 1-Bromo-4-fluorobenzene	118	66.8-124		%REC	1	2/21/2014 8:17:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 2/20/2014 4:35:00 PM
Project: B+K
Lab ID: 1402215-004
Matrix: Water
Client Sample ID: 022014MW-6:GW

Volatile Organic Compounds by EPA Method 8260

Batch ID: R12655 Analyst: EM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane	ND	1.00		µg/L	1	2/21/2014 8:47:00 PM
Chloromethane	ND	1.00		µg/L	1	2/21/2014 8:47:00 PM
Vinyl chloride	ND	0.200		µg/L	1	2/21/2014 8:47:00 PM
Bromomethane	ND	1.00		µg/L	1	2/21/2014 8:47:00 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	2/21/2014 8:47:00 PM
Chloroethane	ND	1.00		µg/L	1	2/21/2014 8:47:00 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	2/21/2014 8:47:00 PM
Methylene chloride	ND	1.00		µg/L	1	2/21/2014 8:47:00 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	2/21/2014 8:47:00 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	2/21/2014 8:47:00 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	2/21/2014 8:47:00 PM
cis-1,2-Dichloroethene	2.17	1.00		µg/L	1	2/21/2014 8:47:00 PM
Chloroform	ND	1.00		µg/L	1	2/21/2014 8:47:00 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	2/21/2014 8:47:00 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	2/21/2014 8:47:00 PM
Carbon tetrachloride	ND	1.00		µg/L	1	2/21/2014 8:47:00 PM
1,2-Dichloroethane	ND	1.00		µg/L	1	2/21/2014 8:47:00 PM
Trichloroethene (TCE)	85.0	5.00	D	µg/L	10	2/24/2014 10:41:00 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	2/21/2014 8:47:00 PM
Bromodichloromethane	ND	1.00		µg/L	1	2/21/2014 8:47:00 PM
Dibromomethane	ND	1.00		µg/L	1	2/21/2014 8:47:00 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	2/21/2014 8:47:00 PM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	2/21/2014 8:47:00 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	2/21/2014 8:47:00 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	2/21/2014 8:47:00 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	2/21/2014 8:47:00 PM
Dibromochloromethane	ND	1.00		µg/L	1	2/21/2014 8:47:00 PM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	2/21/2014 8:47:00 PM
Chlorobenzene	ND	1.00		µg/L	1	2/21/2014 8:47:00 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	2/21/2014 8:47:00 PM
Bromoform	ND	1.00		µg/L	1	2/21/2014 8:47:00 PM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	2/21/2014 8:47:00 PM
Bromobenzene	ND	1.00		µg/L	1	2/21/2014 8:47:00 PM
2-Chlorotoluene	ND	1.00		µg/L	1	2/21/2014 8:47:00 PM
4-Chlorotoluene	ND	1.00		µg/L	1	2/21/2014 8:47:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 2/20/2014 4:35:00 PM
Project: B+K
Lab ID: 1402215-004
Matrix: Water
Client Sample ID: 022014MW-6:GW

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R12655		Analyst: EM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	2/21/2014 8:47:00 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	2/21/2014 8:47:00 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	2/21/2014 8:47:00 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	2/21/2014 8:47:00 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	2/21/2014 8:47:00 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	2/21/2014 8:47:00 PM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	2/21/2014 8:47:00 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	2/21/2014 8:47:00 PM
Surr: Dibromofluoromethane	104	72.1-122		%REC	1	2/21/2014 8:47:00 PM
Surr: Toluene-d8	103	62.1-129		%REC	1	2/21/2014 8:47:00 PM
Surr: 1-Bromo-4-fluorobenzene	109	66.8-124		%REC	1	2/21/2014 8:47:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *2/28/2014*

Work Order: 1402215
CLIENT: Shannon & Wilson
Project: B+K

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **MB-R12655**	SampType: **MBLK**	Units: **µg/L**	Prep Date: **2/21/2014**	RunNo: **12655**			
Client ID: **MBLKW**	Batch ID: **R12655**		Analysis Date: **2/21/2014**	SeqNo: **252759**			

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	ND	1.00									
Chloromethane	ND	1.00									
Vinyl chloride	ND	0.200									
Bromomethane	ND	1.00									
Trichlorofluoromethane (CFC-11)	ND	1.00									
Chloroethane	ND	1.00									
1,1-Dichloroethene	ND	1.00									
Methylene chloride	ND	1.00									
trans-1,2-Dichloroethene	ND	1.00									
1,1-Dichloroethane	ND	1.00									
2,2-Dichloropropane	ND	2.00									
cis-1,2-Dichloroethene	ND	1.00									
Chloroform	ND	1.00									
1,1,1-Trichloroethane (TCA)	ND	1.00									
1,1-Dichloropropene	ND	1.00									
Carbon tetrachloride	ND	1.00									
1,2-Dichloroethane	ND	1.00									
Trichloroethene (TCE)	ND	0.500									
1,2-Dichloropropane	ND	1.00									
Bromodichloromethane	ND	1.00									
Dibromomethane	ND	1.00									
cis-1,3-Dichloropropene	ND	1.00									
trans-1,3-Dichloropropene	ND	1.00									
1,1,2-Trichloroethane	ND	1.00									
1,3-Dichloropropane	ND	1.00									
Tetrachloroethene (PCE)	ND	1.00									
Dibromochloromethane	ND	1.00									
1,2-Dibromoethane (EDB)	ND	0.0600									
Chlorobenzene	ND	1.00									

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1402215
CLIENT: Shannon & Wilson
Project: B+K

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **MB-R12655** SampType: **MBLK** Units: **µg/L** Prep Date: **2/21/2014** RunNo: **12655**
Client ID: **MBLKW** Batch ID: **R12655** Analysis Date: **2/21/2014** SeqNo: **252759**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	1.00									
Bromoform	ND	1.00									
1,1,2,2-Tetrachloroethane	ND	1.00									
Bromobenzene	ND	1.00									
2-Chlorotoluene	ND	1.00									
4-Chlorotoluene	ND	1.00									
1,2,3-Trichloropropane	ND	1.00									
1,2,4-Trichlorobenzene	ND	2.00									
1,3-Dichlorobenzene	ND	1.00									
1,4-Dichlorobenzene	ND	1.00									
1,2-Dichlorobenzene	ND	1.00									
1,2-Dibromo-3-chloropropane	ND	1.00									
Hexachloro-1,3-butadiene	ND	4.00									
1,2,3-Trichlorobenzene	ND	4.00									
Surr: Dibromofluoromethane	51.6		50.00		103	72.1	122				
Surr: Toluene-d8	52.7		50.00		105	62.1	129				
Surr: 1-Bromo-4-fluorobenzene	54.0		50.00		108	66.8	124				

Sample ID: **LCS-R12655** SampType: **LCS** Units: **µg/L** Prep Date: **2/21/2014** RunNo: **12655**
Client ID: **LCSW** Batch ID: **R12655** Analysis Date: **2/21/2014** SeqNo: **252760**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	20.6	1.00	20.00	0	103	43	136				
Chloromethane	18.3	1.00	20.00	0	91.6	43.9	139				
Vinyl chloride	18.8	0.200	20.00	0	93.8	57.1	131				
Bromomethane	17.0	1.00	20.00	0	85.0	44.8	148				
Trichlorofluoromethane (CFC-11)	19.4	1.00	20.00	0	97.0	63.7	133				
Chloroethane	18.7	1.00	20.00	0	93.6	53	141				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *2/28/2014*

Work Order: 1402215
CLIENT: Shannon & Wilson
Project: B+K

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **LCS-R12655**	SampType: **LCS**	Units: **µg/L**	Prep Date: **2/21/2014**	RunNo: **12655**	
Client ID: **LCSW**	Batch ID: **R12655**		Analysis Date: **2/21/2014**	SeqNo: **252760**	

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	18.0	1.00	20.00	0	90.3	65.6	136				
Methylene chloride	17.2	1.00	20.00	0	86.2	67.1	131				
trans-1,2-Dichloroethene	17.0	1.00	20.00	0	84.9	71.7	129				
1,1-Dichloroethane	18.0	1.00	20.00	0	89.8	67.9	134				
2,2-Dichloropropane	23.5	2.00	20.00	0	118	33.7	152				
cis-1,2-Dichloroethene	19.6	1.00	20.00	0	98.1	71.1	130				
Chloroform	18.8	1.00	20.00	0	93.8	76.7	124				
1,1,1-Trichloroethane (TCA)	18.4	1.00	20.00	0	91.8	71	131				
1,1-Dichloropropene	17.8	1.00	20.00	0	89.1	74.5	126				
Carbon tetrachloride	20.1	1.00	20.00	0	100	66.2	134				
1,2-Dichloroethane	19.0	1.00	20.00	0	95.1	70	129				
Trichloroethene (TCE)	18.6	0.500	20.00	0	92.8	65.2	136				
1,2-Dichloropropane	17.8	1.00	20.00	0	89.2	70.5	130				
Bromodichloromethane	19.8	1.00	20.00	0	99.0	74.6	127				
Dibromomethane	20.0	1.00	20.00	0	99.9	75.5	126				
cis-1,3-Dichloropropene	19.8	1.00	20.00	0	99.2	62.6	137				
trans-1,3-Dichloropropene	20.0	1.00	20.00	0	99.8	58.5	142				
1,1,2-Trichloroethane	18.5	1.00	20.00	0	92.7	76	124				
1,3-Dichloropropane	18.0	1.00	20.00	0	90.2	73.5	127				
Tetrachloroethene (PCE)	18.8	1.00	20.00	0	94.0	47.5	147				
Dibromochloromethane	19.4	1.00	20.00	0	97.0	67.2	134				
1,2-Dibromoethane (EDB)	19.0	0.0600	20.00	0	94.8	73.6	125				
Chlorobenzene	17.0	1.00	20.00	0	85.2	73.9	126				
1,1,1,2-Tetrachloroethane	17.0	1.00	20.00	0	85.0	76.8	124				
Bromoform	26.0	1.00	20.00	0	130	63.8	135				
1,1,2,2-Tetrachloroethane	17.5	1.00	20.00	0	87.3	62.9	132				
Bromobenzene	16.6	1.00	20.00	0	83.0	71	131				
2-Chlorotoluene	17.7	1.00	20.00	0	88.4	70.8	130				
4-Chlorotoluene	18.2	1.00	20.00	0	90.9	70.1	131				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1402215
CLIENT: Shannon & Wilson
Project: B+K

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **LCS-R12655** SampType: **LCS** Units: **µg/L** Prep Date: **2/21/2014** RunNo: **12655**
Client ID: **LCSW** Batch ID: **R12655** Analysis Date: **2/21/2014** SeqNo: **252760**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,3-Trichloropropane	17.7	1.00	20.00	0	88.4	67.7	131				
1,2,4-Trichlorobenzene	19.2	2.00	20.00	0	95.9	72.4	127				
1,3-Dichlorobenzene	18.8	1.00	20.00	0	94.2	72.4	129				
1,4-Dichlorobenzene	18.1	1.00	20.00	0	90.6	70.6	128				
1,2-Dichlorobenzene	18.3	1.00	20.00	0	91.5	74.2	129				
1,2-Dibromo-3-chloropropane	20.9	1.00	20.00	0	105	63.1	136				
Hexachloro-1,3-butadiene	25.6	4.00	20.00	0	128	58.6	138				
1,2,3-Trichlorobenzene	18.8	4.00	20.00	0	94.0	66.4	132				
Surr: Dibromofluoromethane	50.5		50.00		101	72.1	122				
Surr: Toluene-d8	50.9		50.00		102	62.1	129				
Surr: 1-Bromo-4-fluorobenzene	50.7		50.00		101	66.8	124				

Sample ID: **1402218-002ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **2/21/2014** RunNo: **12655**
Client ID: **BATCH** Batch ID: **R12655** Analysis Date: **2/21/2014** SeqNo: **253077**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	ND	1.00						0		30	
Chloromethane	ND	1.00						0		30	
Vinyl chloride	12.5	0.200						12.58	0.558	30	
Bromomethane	ND	1.00						0		30	
Trichlorofluoromethane (CFC-11)	ND	1.00						0		30	
Chloroethane	ND	1.00						0		30	
1,1-Dichloroethene	ND	1.00						0		30	
Methylene chloride	ND	1.00						0		30	
trans-1,2-Dichloroethene	ND	1.00						0		30	
1,1-Dichloroethane	ND	1.00						0		30	
2,2-Dichloropropane	ND	2.00						0		30	
cis-1,2-Dichloroethene	6.52	1.00						6.460	0.924	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *2/28/2014*

Work Order: 1402215
CLIENT: Shannon & Wilson
Project: B+K

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1402218-002ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **2/21/2014** RunNo: **12655**
Client ID: **BATCH** Batch ID: **R12655** Analysis Date: **2/21/2014** SeqNo: **253077**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloroform	ND	1.00						0		30	
1,1,1-Trichloroethane (TCA)	ND	1.00						0		30	
1,1-Dichloropropene	ND	1.00						0		30	
Carbon tetrachloride	ND	1.00						0		30	
1,2-Dichloroethane	ND	1.00						0		30	
Trichloroethene (TCE)	ND	0.500						0		30	
1,2-Dichloropropane	ND	1.00						0		30	
Bromodichloromethane	ND	1.00						0		30	
Dibromomethane	ND	1.00						0		30	
cis-1,3-Dichloropropene	ND	1.00						0		30	
trans-1,3-Dichloropropene	ND	1.00						0		30	
1,1,2-Trichloroethane	ND	1.00						0		30	
1,3-Dichloropropane	ND	1.00						0		30	
Tetrachloroethene (PCE)	ND	1.00						0		30	
Dibromochloromethane	ND	1.00						0		30	
1,2-Dibromoethane (EDB)	ND	0.0600						0		30	
Chlorobenzene	ND	1.00						0		30	
1,1,1,2-Tetrachloroethane	ND	1.00						0		30	
Bromoform	ND	1.00						0		30	
1,1,2,2-Tetrachloroethane	ND	1.00						0		30	
Bromobenzene	ND	1.00						0		30	
2-Chlorotoluene	ND	1.00						0		30	
4-Chlorotoluene	ND	1.00						0		30	
1,2,3-Trichloropropane	ND	1.00						0		30	
1,2,4-Trichlorobenzene	ND	2.00						0		30	
1,3-Dichlorobenzene	ND	1.00						0		30	
1,4-Dichlorobenzene	ND	1.00						0		30	
1,2-Dichlorobenzene	ND	1.00						0		30	
1,2-Dibromo-3-chloropropane	ND	1.00						0		30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *2/28/2014*

Work Order: 1402215
CLIENT: Shannon & Wilson
Project: B+K

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1402218-002ADUP**	SampType: **DUP**			Units: **µg/L**		Prep Date: **2/21/2014**		RunNo: **12655**		
Client ID: **BATCH**	Batch ID: **R12655**					Analysis Date: **2/21/2014**		SeqNo: **253077**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexachloro-1,3-butadiene	ND	4.00						0		30	
1,2,3-Trichlorobenzene	ND	4.00						0		30	
Surr: Dibromofluoromethane	53.4		50.00		107	72.1	122		0		
Surr: Toluene-d8	53.5		50.00		107	62.1	129		0		
Surr: 1-Bromo-4-fluorobenzene	54.9		50.00		110	66.8	124		0		

Sample ID: **1402218-003AMS**	SampType: **MS**			Units: **µg/L**		Prep Date: **2/21/2014**		RunNo: **12655**		
Client ID: **BATCH**	Batch ID: **R12655**					Analysis Date: **2/21/2014**		SeqNo: **253078**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	21.2	1.00	20.00	0	106	33.3	122				
Chloromethane	20.6	1.00	20.00	0.2900	101	48.2	145				
Vinyl chloride	22.7	0.200	20.00	0	114	45.6	149				
Bromomethane	18.3	1.00	20.00	0	91.5	31.5	135				
Trichlorofluoromethane (CFC-11)	20.8	1.00	20.00	0	104	54.7	138				
Chloroethane	19.6	1.00	20.00	0	98.2	49.9	143				
1,1-Dichloroethene	21.1	1.00	20.00	0	105	63	141				
Methylene chloride	19.6	1.00	20.00	0	98.0	61.6	135				
trans-1,2-Dichloroethene	19.9	1.00	20.00	0	99.4	63.5	138				
1,1-Dichloroethane	19.8	1.00	20.00	0	98.8	67.8	136				
2,2-Dichloropropane	25.6	2.00	20.00	0	128	31.5	121				S
cis-1,2-Dichloroethene	21.5	1.00	20.00	0	107	67.1	123				
Chloroform	20.4	1.00	20.00	0	102	66.7	136				
1,1,1-Trichloroethane (TCA)	20.6	1.00	20.00	0	103	64.2	146				
1,1-Dichloropropene	20.5	1.00	20.00	0	103	73.8	136				
Carbon tetrachloride	22.9	1.00	20.00	0	114	62.7	146				
1,2-Dichloroethane	19.9	1.00	20.00	0	99.4	63.4	137				
Trichloroethene (TCE)	21.2	0.500	20.00	0	106	60.4	134				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *2/28/2014*

Work Order: 1402215
CLIENT: Shannon & Wilson
Project: B+K

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1402218-003AMS** SampType: **MS** Units: **µg/L** Prep Date: **2/21/2014** RunNo: **12655**
Client ID: **BATCH** Batch ID: **R12655** Analysis Date: **2/21/2014** SeqNo: **253078**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichloropropane	19.7	1.00	20.00	0	98.6	62.6	138				
Bromodichloromethane	19.8	1.00	20.00	0	98.8	59.4	139				
Dibromomethane	19.1	1.00	20.00	0	95.6	63.6	139				
cis-1,3-Dichloropropene	20.3	1.00	20.00	0	101	63.8	132				
trans-1,3-Dichloropropene	19.5	1.00	20.00	0	97.5	57.7	125				
1,1,2-Trichloroethane	19.5	1.00	20.00	0	97.7	59.4	127				
1,3-Dichloropropane	19.1	1.00	20.00	0	95.7	64.3	135				
Tetrachloroethene (PCE)	20.4	1.00	20.00	0	102	50.3	133				
Dibromochloromethane	19.2	1.00	20.00	0	95.8	61.6	139				
1,2-Dibromoethane (EDB)	19.4	0.0600	20.00	0	97.3	63.2	134				
Chlorobenzene	18.7	1.00	20.00	0	93.4	65.8	134				
1,1,1,2-Tetrachloroethane	19.0	1.00	20.00	0	94.8	65.4	135				
Bromoform	26.8	1.00	20.00	0	134	57.7	139				
1,1,2,2-Tetrachloroethane	18.4	1.00	20.00	0	92.2	59.8	146				
Bromobenzene	17.5	1.00	20.00	0	87.7	63.6	130				
2-Chlorotoluene	19.4	1.00	20.00	0	96.8	61.7	134				
4-Chlorotoluene	20.7	1.00	20.00	0	103	58.4	134				
1,2,3-Trichloropropane	18.5	1.00	20.00	0	92.6	62.4	129				
1,2,4-Trichlorobenzene	18.9	2.00	20.00	0	94.5	50.9	133				
1,3-Dichlorobenzene	19.0	1.00	20.00	0	94.9	58.2	128				
1,4-Dichlorobenzene	18.3	1.00	20.00	0	91.4	60.1	123				
1,2-Dichlorobenzene	18.5	1.00	20.00	0	92.5	65.4	133				
1,2-Dibromo-3-chloropropane	19.5	1.00	20.00	0	97.3	51.8	142				
Hexachloro-1,3-butadiene	25.3	4.00	20.00	0	126	58.1	130				
1,2,3-Trichlorobenzene	18.3	4.00	20.00	0	91.4	57	131				
Surr: Dibromofluoromethane	51.4		50.00		103	72.1	122				
Surr: Toluene-d8	51.4		50.00		103	62.1	129				
Surr: 1-Bromo-4-fluorobenzene	57.2		50.00		114	66.8	124				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1402215
CLIENT: Shannon & Wilson
Project: B+K

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1402218-003AMS**	SampType: **MS**			Units: **µg/L**		Prep Date: **2/21/2014**		RunNo: **12655**			
Client ID: **BATCH**	Batch ID: **R12655**					Analysis Date: **2/21/2014**		SeqNo: **253078**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

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

Sample ID: **CCV-R12655B**	SampType: **CCV**			Units: **µg/L**		Prep Date: **2/24/2014**		RunNo: **12655**			
Client ID: **CCV**	Batch ID: **R12655**					Analysis Date: **2/24/2014**		SeqNo: **254317**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichloroethene (TCE)	21.4	0.500	20.00	0	107	80	120				
Surr: Dibromofluoromethane	56.7		50.00		113	72.1	122				
Surr: Toluene-d8	56.0		50.00		112	62.1	129				
Surr: 1-Bromo-4-fluorobenzene	56.7		50.00		113	66.8	124				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Sample Log-In Check List

Client Name:	**SW**	Work Order Number:	**1402215**
Logged by:	**Chelsea Ward**	Date Received:	**2/21/2014 11:00:00 AM**

Chain of Custody

1.	Is Chain of Custody complete?	Yes	☑	No ☐	Not Present ☐
2.	How was the sample delivered?	Client			

Log In

3.	Coolers are present?	Yes	☑	No ☐	NA ☐
4.	Shipping container/cooler in good condition?	Yes	☑	No ☐	
5.	Custody seals intact on shipping container/cooler?	Yes	☐	No ☐	Not Required ☑
6.	Was an attempt made to cool the samples?	Yes	☑	No ☐	NA ☐
7.	Were all coolers received at a temperature of >0°C to 10.0°C	Yes	☑	No ☐	NA ☐
8.	Sample(s) in proper container(s)?	Yes	☑	No ☐	
9.	Sufficient sample volume for indicated test(s)?	Yes	☑	No ☐	
10.	Are samples properly preserved?	Yes	☑	No ☐	
11.	Was preservative added to bottles?	Yes	☐	No ☑	NA ☐
12.	Is the headspace in the VOA vials?	Yes	☐	No ☐	NA ☑
13.	Did all samples containers arrive in good condition(unbroken)?	Yes	☑	No ☐	
14.	Does paperwork match bottle labels?	Yes	☑	No ☐	
15.	Are matrices correctly identified on Chain of Custody?	Yes	☑	No ☐	
16.	Is it clear what analyses were requested?	Yes	☑	No ☐	
17.	Were all holding times able to be met?	Yes	☑	No ☐	

Special Handling (if applicable)

18.	Was client notified of all discrepancies with this order?	Yes	☐	No ☐	NA ☑

Person Notified:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

19. Additional remarks:

Item Information

Item #	Temp °C	Condition
Cooler	6.4	Good
Sample	8.0	Good

Fremont Analytical

Chain of Custody Record

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Date: 2/21/14

Laboratory Project No (internal): 1402215

Page: 1 of: 1

Client: Shannon & Wilson Inc.
Address: 400 N 34th St. Suite 100
City, State, Zip: Seattle WA 98103 Tel: 206-632-8020
Reports To (PM): Cody Johnson Fax: 206-695-6777 Email: cmj@shanwil.com

Project Name: B&K
Location: S 96th St.
Collected by: EVP
Project No: 21-1-12357-003

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)	VOC (EPA 8260)	GX/BTEX by EPA 8021b	BTEX by 8260	Gasoline Range Organics	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics	SEMI VOL (EPA 8270)	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Cl Pesticides (EPA 8081)	Cl Herbicides (EPA 8151A)	Metals* (6020 / 200.8)	Total (T) / Dissolved (D)	Anions (IC)**	HVOCs			Comments/Depth
1	022014OS-2:GW	2/20/14	1615	water															X			
2	022014OS-3:GW	↓	1630	↓															X			
3	022014OS-4:GW	↓	1545	↓															X			
4	022014MW-6:GW	↓	1435	↓															X			
5																						
6																						
7																						
8																						
9																						
10																						

*Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL *Individual:* Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

**Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Sample Disposal: ☐ Return to Client ☒ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Special Remarks:

Relinquished	Date/Time	Received	Date/Time
x [signature]	2/21/14 1100	x [signature]	2/21/14 1100
x		x	

TAT --> Next Day 2 Day 3 Day (STD)

Distribution: White - Lab, Yellow - File, Pink - Originator

www.fremontanalytical.com

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

Shannon & Wilson
Cody Johnson
400 N. 34th Street, Suite 100
Seattle, WA 98103

RE: B+K RI
Lab ID: 1402089

February 19, 2014

Attention Cody Johnson:

Fremont Analytical, Inc. received 6 sample(s) on 2/12/2014 for the analyses presented in the following report.

Sample Moisture (Percent Moisture)
Volatile Organic Compounds by EPA Method 8260

This report consists of the following:

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

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

Thank you for using Fremont Analytical.

Sincerely,

Michael Dee
Sr. Chemist / Principal

Fremont Analytical

Date: *02/19/2014*

CLIENT: Shannon & Wilson
Project: B+K RI
Lab Order: 1402089

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1402089-001	MW-6:11	02/11/2014 1:10 PM	02/12/2014 4:18 PM
1402089-002	MW-7:15	02/11/2014 11:55 AM	02/12/2014 4:18 PM
1402089-003	MW-8:9	02/11/2014 11:05 AM	02/12/2014 4:18 PM
1402089-004	MW-8:14.5	02/11/2014 11:15 AM	02/12/2014 4:18 PM
1402089-005	MW-9:9	02/11/2014 9:45 AM	02/12/2014 4:18 PM
1402089-006	MW-9:14.5	02/11/2014 9:55 AM	02/12/2014 4:18 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **1402089**
Date: **2/19/2014**

CLIENT: Shannon & Wilson
Project: B+K RI

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

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

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

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

Client: Shannon & Wilson
Project: B+K RI
Lab ID: 1402089-001
Client Sample ID: **MW-6:11**

Collection Date: 2/11/2014 1:10:00 PM
Matrix: Soil

Volatile Organic Compounds by EPA Method 8260

Batch ID: 6584 Analyst: EM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	0.0556		mg/Kg-dry	1	2/13/2014 3:24:00 PM
Chloromethane	ND	0.0556		mg/Kg-dry	1	2/13/2014 3:24:00 PM
Vinyl chloride	ND	0.00185		mg/Kg-dry	1	2/13/2014 3:24:00 PM
Bromomethane	ND	0.0834		mg/Kg-dry	1	2/13/2014 3:24:00 PM
Trichlorofluoromethane (CFC-11)	ND	0.0464		mg/Kg-dry	1	2/13/2014 3:24:00 PM
Chloroethane	ND	0.0556		mg/Kg-dry	1	2/13/2014 3:24:00 PM
1,1-Dichloroethene	ND	0.0464		mg/Kg-dry	1	2/13/2014 3:24:00 PM
Methylene chloride	ND	0.0185		mg/Kg-dry	1	2/13/2014 3:24:00 PM
trans-1,2-Dichloroethene	ND	0.0185		mg/Kg-dry	1	2/13/2014 3:24:00 PM
1,1-Dichloroethane	ND	0.0185		mg/Kg-dry	1	2/13/2014 3:24:00 PM
2,2-Dichloropropane	ND	0.0464		mg/Kg-dry	1	2/13/2014 3:24:00 PM
cis-1,2-Dichloroethene	ND	0.0185		mg/Kg-dry	1	2/13/2014 3:24:00 PM
Chloroform	ND	0.0185		mg/Kg-dry	1	2/13/2014 3:24:00 PM
1,1,1-Trichloroethane (TCA)	ND	0.0185		mg/Kg-dry	1	2/13/2014 3:24:00 PM
1,1-Dichloropropene	ND	0.0185		mg/Kg-dry	1	2/13/2014 3:24:00 PM
Carbon tetrachloride	ND	0.0185		mg/Kg-dry	1	2/13/2014 3:24:00 PM
1,2-Dichloroethane (EDC)	ND	0.0278		mg/Kg-dry	1	2/13/2014 3:24:00 PM
Trichloroethene (TCE)	ND	0.0185		mg/Kg-dry	1	2/13/2014 3:24:00 PM
1,2-Dichloropropane	ND	0.0185		mg/Kg-dry	1	2/13/2014 3:24:00 PM
Bromodichloromethane	ND	0.0185		mg/Kg-dry	1	2/13/2014 3:24:00 PM
Dibromomethane	ND	0.0371		mg/Kg-dry	1	2/13/2014 3:24:00 PM
cis-1,3-Dichloropropene	ND	0.0185		mg/Kg-dry	1	2/13/2014 3:24:00 PM
trans-1,3-Dichloropropylene	ND	0.0278		mg/Kg-dry	1	2/13/2014 3:24:00 PM
1,1,2-Trichloroethane	ND	0.0278		mg/Kg-dry	1	2/13/2014 3:24:00 PM
1,3-Dichloropropane	ND	0.0464		mg/Kg-dry	1	2/13/2014 3:24:00 PM
Tetrachloroethene (PCE)	ND	0.0185		mg/Kg-dry	1	2/13/2014 3:24:00 PM
Dibromochloromethane	ND	0.0278		mg/Kg-dry	1	2/13/2014 3:24:00 PM
1,2-Dibromoethane (EDB)	ND	0.00464		mg/Kg-dry	1	2/13/2014 3:24:00 PM
Chlorobenzene	ND	0.0185		mg/Kg-dry	1	2/13/2014 3:24:00 PM
1,1,1,2-Tetrachloroethane	ND	0.0278		mg/Kg-dry	1	2/13/2014 3:24:00 PM
Bromoform	ND	0.0185		mg/Kg-dry	1	2/13/2014 3:24:00 PM
1,1,2,2-Tetrachloroethane	ND	0.0185		mg/Kg-dry	1	2/13/2014 3:24:00 PM
Bromobenzene	ND	0.0278		mg/Kg-dry	1	2/13/2014 3:24:00 PM
2-Chlorotoluene	ND	0.0185		mg/Kg-dry	1	2/13/2014 3:24:00 PM
4-Chlorotoluene	ND	0.0185		mg/Kg-dry	1	2/13/2014 3:24:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Analytical Report

WO#: **1402089**
Date Reported: **2/19/2014**

Client: Shannon & Wilson
Project: B+K RI
Lab ID: 1402089-001
Client Sample ID: **MW-6:11**

Collection Date: 2/11/2014 1:10:00 PM
Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 6584		Analyst: EM
1,2,3-Trichloropropane	ND	0.0185		mg/Kg-dry	1	2/13/2014 3:24:00 PM
1,2,4-Trichlorobenzene	ND	0.0464		mg/Kg-dry	1	2/13/2014 3:24:00 PM
1,3-Dichlorobenzene	ND	0.0185		mg/Kg-dry	1	2/13/2014 3:24:00 PM
1,4-Dichlorobenzene	ND	0.0185		mg/Kg-dry	1	2/13/2014 3:24:00 PM
1,2-Dichlorobenzene	ND	0.0185		mg/Kg-dry	1	2/13/2014 3:24:00 PM
1,2-Dibromo-3-chloropropane	ND	0.0278		mg/Kg-dry	1	2/13/2014 3:24:00 PM
Hexachloro-1,3-butadiene	ND	0.0927		mg/Kg-dry	1	2/13/2014 3:24:00 PM
1,2,3-Trichlorobenzene	ND	0.0185		mg/Kg-dry	1	2/13/2014 3:24:00 PM
Surr: Dibromofluoromethane	98.5	63.7-129		%REC	1	2/13/2014 3:24:00 PM
Surr: Toluene-d8	101	61.4-128		%REC	1	2/13/2014 3:24:00 PM
Surr: 1-Bromo-4-fluorobenzene	101	63.1-141		%REC	1	2/13/2014 3:24:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R12484		Analyst: KZ
Percent Moisture	16.5			wt%	1	2/13/2014 9:34:43 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B+K RI
Lab ID: 1402089-002
Client Sample ID: **MW-7:15**

Collection Date: 2/11/2014 11:55:00 AM
Matrix: Soil

Volatile Organic Compounds by EPA Method 8260

Batch ID: 6584 Analyst: EM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	0.0626		mg/Kg-dry	1	2/13/2014 5:21:00 PM
Chloromethane	ND	0.0626		mg/Kg-dry	1	2/13/2014 5:21:00 PM
Vinyl chloride	ND	0.00209		mg/Kg-dry	1	2/13/2014 5:21:00 PM
Bromomethane	ND	0.0939		mg/Kg-dry	1	2/13/2014 5:21:00 PM
Trichlorofluoromethane (CFC-11)	ND	0.0522		mg/Kg-dry	1	2/13/2014 5:21:00 PM
Chloroethane	ND	0.0626		mg/Kg-dry	1	2/13/2014 5:21:00 PM
1,1-Dichloroethene	ND	0.0522		mg/Kg-dry	1	2/13/2014 5:21:00 PM
Methylene chloride	ND	0.0209		mg/Kg-dry	1	2/13/2014 5:21:00 PM
trans-1,2-Dichloroethene	ND	0.0209		mg/Kg-dry	1	2/13/2014 5:21:00 PM
1,1-Dichloroethane	ND	0.0209		mg/Kg-dry	1	2/13/2014 5:21:00 PM
2,2-Dichloropropane	ND	0.0522		mg/Kg-dry	1	2/13/2014 5:21:00 PM
cis-1,2-Dichloroethene	ND	0.0209		mg/Kg-dry	1	2/13/2014 5:21:00 PM
Chloroform	ND	0.0209		mg/Kg-dry	1	2/13/2014 5:21:00 PM
1,1,1-Trichloroethane (TCA)	ND	0.0209		mg/Kg-dry	1	2/13/2014 5:21:00 PM
1,1-Dichloropropene	ND	0.0209		mg/Kg-dry	1	2/13/2014 5:21:00 PM
Carbon tetrachloride	ND	0.0209		mg/Kg-dry	1	2/13/2014 5:21:00 PM
1,2-Dichloroethane (EDC)	ND	0.0313		mg/Kg-dry	1	2/13/2014 5:21:00 PM
Trichloroethene (TCE)	0.168	0.0209		mg/Kg-dry	1	2/13/2014 5:21:00 PM
1,2-Dichloropropane	ND	0.0209		mg/Kg-dry	1	2/13/2014 5:21:00 PM
Bromodichloromethane	ND	0.0209		mg/Kg-dry	1	2/13/2014 5:21:00 PM
Dibromomethane	ND	0.0417		mg/Kg-dry	1	2/13/2014 5:21:00 PM
cis-1,3-Dichloropropene	ND	0.0209		mg/Kg-dry	1	2/13/2014 5:21:00 PM
trans-1,3-Dichloropropylene	ND	0.0313		mg/Kg-dry	1	2/13/2014 5:21:00 PM
1,1,2-Trichloroethane	ND	0.0313		mg/Kg-dry	1	2/13/2014 5:21:00 PM
1,3-Dichloropropane	ND	0.0522		mg/Kg-dry	1	2/13/2014 5:21:00 PM
Tetrachloroethene (PCE)	ND	0.0209		mg/Kg-dry	1	2/13/2014 5:21:00 PM
Dibromochloromethane	ND	0.0313		mg/Kg-dry	1	2/13/2014 5:21:00 PM
1,2-Dibromoethane (EDB)	ND	0.00522		mg/Kg-dry	1	2/13/2014 5:21:00 PM
Chlorobenzene	ND	0.0209		mg/Kg-dry	1	2/13/2014 5:21:00 PM
1,1,1,2-Tetrachloroethane	ND	0.0313		mg/Kg-dry	1	2/13/2014 5:21:00 PM
Bromoform	ND	0.0209		mg/Kg-dry	1	2/13/2014 5:21:00 PM
1,1,2,2-Tetrachloroethane	ND	0.0209		mg/Kg-dry	1	2/13/2014 5:21:00 PM
Bromobenzene	ND	0.0313		mg/Kg-dry	1	2/13/2014 5:21:00 PM
2-Chlorotoluene	ND	0.0209		mg/Kg-dry	1	2/13/2014 5:21:00 PM
4-Chlorotoluene	ND	0.0209		mg/Kg-dry	1	2/13/2014 5:21:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B+K RI
Lab ID: 1402089-002
Client Sample ID: **MW-7:15**

Collection Date: 2/11/2014 11:55:00 AM
Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 6584		Analyst: EM
1,2,3-Trichloropropane	ND	0.0209		mg/Kg-dry	1	2/13/2014 5:21:00 PM
1,2,4-Trichlorobenzene	ND	0.0522		mg/Kg-dry	1	2/13/2014 5:21:00 PM
1,3-Dichlorobenzene	ND	0.0209		mg/Kg-dry	1	2/13/2014 5:21:00 PM
1,4-Dichlorobenzene	ND	0.0209		mg/Kg-dry	1	2/13/2014 5:21:00 PM
1,2-Dichlorobenzene	ND	0.0209		mg/Kg-dry	1	2/13/2014 5:21:00 PM
1,2-Dibromo-3-chloropropane	ND	0.0313		mg/Kg-dry	1	2/13/2014 5:21:00 PM
Hexachloro-1,3-butadiene	ND	0.104		mg/Kg-dry	1	2/13/2014 5:21:00 PM
1,2,3-Trichlorobenzene	ND	0.0209		mg/Kg-dry	1	2/13/2014 5:21:00 PM
Surr: Dibromofluoromethane	99.9	63.7-129		%REC	1	2/13/2014 5:21:00 PM
Surr: Toluene-d8	99.2	61.4-128		%REC	1	2/13/2014 5:21:00 PM
Surr: 1-Bromo-4-fluorobenzene	100	63.1-141		%REC	1	2/13/2014 5:21:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R12484		Analyst: KZ
Percent Moisture	23.6			wt%	1	2/13/2014 9:34:43 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B+K RI
Lab ID: 1402089-003
Client Sample ID: **MW-8:9**

Collection Date: 2/11/2014 11:05:00 AM
Matrix: Soil

Volatile Organic Compounds by EPA Method 8260

Batch ID: 6584 Analyst: EM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	0.0605		mg/Kg-dry	1	2/13/2014 5:51:00 PM
Chloromethane	ND	0.0605		mg/Kg-dry	1	2/13/2014 5:51:00 PM
Vinyl chloride	ND	0.00202		mg/Kg-dry	1	2/13/2014 5:51:00 PM
Bromomethane	ND	0.0908		mg/Kg-dry	1	2/13/2014 5:51:00 PM
Trichlorofluoromethane (CFC-11)	ND	0.0504		mg/Kg-dry	1	2/13/2014 5:51:00 PM
Chloroethane	ND	0.0605		mg/Kg-dry	1	2/13/2014 5:51:00 PM
1,1-Dichloroethene	ND	0.0504		mg/Kg-dry	1	2/13/2014 5:51:00 PM
Methylene chloride	ND	0.0202		mg/Kg-dry	1	2/13/2014 5:51:00 PM
trans-1,2-Dichloroethene	ND	0.0202		mg/Kg-dry	1	2/13/2014 5:51:00 PM
1,1-Dichloroethane	ND	0.0202		mg/Kg-dry	1	2/13/2014 5:51:00 PM
2,2-Dichloropropane	ND	0.0504		mg/Kg-dry	1	2/13/2014 5:51:00 PM
cis-1,2-Dichloroethene	0.0535	0.0202		mg/Kg-dry	1	2/13/2014 5:51:00 PM
Chloroform	ND	0.0202		mg/Kg-dry	1	2/13/2014 5:51:00 PM
1,1,1-Trichloroethane (TCA)	ND	0.0202		mg/Kg-dry	1	2/13/2014 5:51:00 PM
1,1-Dichloropropene	ND	0.0202		mg/Kg-dry	1	2/13/2014 5:51:00 PM
Carbon tetrachloride	ND	0.0202		mg/Kg-dry	1	2/13/2014 5:51:00 PM
1,2-Dichloroethane (EDC)	ND	0.0303		mg/Kg-dry	1	2/13/2014 5:51:00 PM
Trichloroethene (TCE)	ND	0.0202		mg/Kg-dry	1	2/13/2014 5:51:00 PM
1,2-Dichloropropane	ND	0.0202		mg/Kg-dry	1	2/13/2014 5:51:00 PM
Bromodichloromethane	ND	0.0202		mg/Kg-dry	1	2/13/2014 5:51:00 PM
Dibromomethane	ND	0.0403		mg/Kg-dry	1	2/13/2014 5:51:00 PM
cis-1,3-Dichloropropene	ND	0.0202		mg/Kg-dry	1	2/13/2014 5:51:00 PM
trans-1,3-Dichloropropylene	ND	0.0303		mg/Kg-dry	1	2/13/2014 5:51:00 PM
1,1,2-Trichloroethane	ND	0.0303		mg/Kg-dry	1	2/13/2014 5:51:00 PM
1,3-Dichloropropane	ND	0.0504		mg/Kg-dry	1	2/13/2014 5:51:00 PM
Tetrachloroethene (PCE)	ND	0.0202		mg/Kg-dry	1	2/13/2014 5:51:00 PM
Dibromochloromethane	ND	0.0303		mg/Kg-dry	1	2/13/2014 5:51:00 PM
1,2-Dibromoethane (EDB)	ND	0.00504		mg/Kg-dry	1	2/13/2014 5:51:00 PM
Chlorobenzene	ND	0.0202		mg/Kg-dry	1	2/13/2014 5:51:00 PM
1,1,1,2-Tetrachloroethane	ND	0.0303		mg/Kg-dry	1	2/13/2014 5:51:00 PM
Bromoform	ND	0.0202		mg/Kg-dry	1	2/13/2014 5:51:00 PM
1,1,2,2-Tetrachloroethane	ND	0.0202		mg/Kg-dry	1	2/13/2014 5:51:00 PM
Bromobenzene	ND	0.0303		mg/Kg-dry	1	2/13/2014 5:51:00 PM
2-Chlorotoluene	ND	0.0202		mg/Kg-dry	1	2/13/2014 5:51:00 PM
4-Chlorotoluene	ND	0.0202		mg/Kg-dry	1	2/13/2014 5:51:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B+K RI
Lab ID: 1402089-003
Client Sample ID: **MW-8:9**

Collection Date: 2/11/2014 11:05:00 AM
Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 6584		Analyst: EM
1,2,3-Trichloropropane	ND	0.0202		mg/Kg-dry	1	2/13/2014 5:51:00 PM
1,2,4-Trichlorobenzene	ND	0.0504		mg/Kg-dry	1	2/13/2014 5:51:00 PM
1,3-Dichlorobenzene	ND	0.0202		mg/Kg-dry	1	2/13/2014 5:51:00 PM
1,4-Dichlorobenzene	ND	0.0202		mg/Kg-dry	1	2/13/2014 5:51:00 PM
1,2-Dichlorobenzene	ND	0.0202		mg/Kg-dry	1	2/13/2014 5:51:00 PM
1,2-Dibromo-3-chloropropane	ND	0.0303		mg/Kg-dry	1	2/13/2014 5:51:00 PM
Hexachloro-1,3-butadiene	ND	0.101		mg/Kg-dry	1	2/13/2014 5:51:00 PM
1,2,3-Trichlorobenzene	ND	0.0202		mg/Kg-dry	1	2/13/2014 5:51:00 PM
Surr: Dibromofluoromethane	99.1	63.7-129		%REC	1	2/13/2014 5:51:00 PM
Surr: Toluene-d8	97.8	61.4-128		%REC	1	2/13/2014 5:51:00 PM
Surr: 1-Bromo-4-fluorobenzene	101	63.1-141		%REC	1	2/13/2014 5:51:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R12484		Analyst: KZ
Percent Moisture	16.9			wt%	1	2/13/2014 9:34:43 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B+K RI
Lab ID: 1402089-004
Client Sample ID: **MW-8:14.5**

Collection Date: 2/11/2014 11:15:00 AM
Matrix: Soil

Volatile Organic Compounds by EPA Method 8260

Batch ID: 6584 Analyst: EM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	0.0683		mg/Kg-dry	1	2/13/2014 6:26:00 PM
Chloromethane	ND	0.0683		mg/Kg-dry	1	2/13/2014 6:26:00 PM
Vinyl chloride	ND	0.00228		mg/Kg-dry	1	2/13/2014 6:26:00 PM
Bromomethane	ND	0.103		mg/Kg-dry	1	2/13/2014 6:26:00 PM
Trichlorofluoromethane (CFC-11)	ND	0.0570		mg/Kg-dry	1	2/13/2014 6:26:00 PM
Chloroethane	ND	0.0683		mg/Kg-dry	1	2/13/2014 6:26:00 PM
1,1-Dichloroethene	ND	0.0570		mg/Kg-dry	1	2/13/2014 6:26:00 PM
Methylene chloride	ND	0.0228		mg/Kg-dry	1	2/13/2014 6:26:00 PM
trans-1,2-Dichloroethene	ND	0.0228		mg/Kg-dry	1	2/13/2014 6:26:00 PM
1,1-Dichloroethane	ND	0.0228		mg/Kg-dry	1	2/13/2014 6:26:00 PM
2,2-Dichloropropane	ND	0.0570		mg/Kg-dry	1	2/13/2014 6:26:00 PM
cis-1,2-Dichloroethene	ND	0.0228		mg/Kg-dry	1	2/13/2014 6:26:00 PM
Chloroform	ND	0.0228		mg/Kg-dry	1	2/13/2014 6:26:00 PM
1,1,1-Trichloroethane (TCA)	ND	0.0228		mg/Kg-dry	1	2/13/2014 6:26:00 PM
1,1-Dichloropropene	ND	0.0228		mg/Kg-dry	1	2/13/2014 6:26:00 PM
Carbon tetrachloride	ND	0.0228		mg/Kg-dry	1	2/13/2014 6:26:00 PM
1,2-Dichloroethane (EDC)	ND	0.0342		mg/Kg-dry	1	2/13/2014 6:26:00 PM
Trichloroethene (TCE)	0.282	0.0228		mg/Kg-dry	1	2/13/2014 6:26:00 PM
1,2-Dichloropropane	ND	0.0228		mg/Kg-dry	1	2/13/2014 6:26:00 PM
Bromodichloromethane	ND	0.0228		mg/Kg-dry	1	2/13/2014 6:26:00 PM
Dibromomethane	ND	0.0456		mg/Kg-dry	1	2/13/2014 6:26:00 PM
cis-1,3-Dichloropropene	ND	0.0228		mg/Kg-dry	1	2/13/2014 6:26:00 PM
trans-1,3-Dichloropropylene	ND	0.0342		mg/Kg-dry	1	2/13/2014 6:26:00 PM
1,1,2-Trichloroethane	ND	0.0342		mg/Kg-dry	1	2/13/2014 6:26:00 PM
1,3-Dichloropropane	ND	0.0570		mg/Kg-dry	1	2/13/2014 6:26:00 PM
Tetrachloroethene (PCE)	ND	0.0228		mg/Kg-dry	1	2/13/2014 6:26:00 PM
Dibromochloromethane	ND	0.0342		mg/Kg-dry	1	2/13/2014 6:26:00 PM
1,2-Dibromoethane (EDB)	ND	0.00570		mg/Kg-dry	1	2/13/2014 6:26:00 PM
Chlorobenzene	ND	0.0228		mg/Kg-dry	1	2/13/2014 6:26:00 PM
1,1,1,2-Tetrachloroethane	ND	0.0342		mg/Kg-dry	1	2/13/2014 6:26:00 PM
Bromoform	ND	0.0228		mg/Kg-dry	1	2/13/2014 6:26:00 PM
1,1,2,2-Tetrachloroethane	ND	0.0228		mg/Kg-dry	1	2/13/2014 6:26:00 PM
Bromobenzene	ND	0.0342		mg/Kg-dry	1	2/13/2014 6:26:00 PM
2-Chlorotoluene	ND	0.0228		mg/Kg-dry	1	2/13/2014 6:26:00 PM
4-Chlorotoluene	ND	0.0228		mg/Kg-dry	1	2/13/2014 6:26:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 2/11/2014 11:15:00 AM
Project: B+K RI
Lab ID: 1402089-004
Matrix: Soil
Client Sample ID: **MW-8:14.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 6584		Analyst: EM
1,2,3-Trichloropropane	ND	0.0228		mg/Kg-dry	1	2/13/2014 6:26:00 PM
1,2,4-Trichlorobenzene	ND	0.0570		mg/Kg-dry	1	2/13/2014 6:26:00 PM
1,3-Dichlorobenzene	ND	0.0228		mg/Kg-dry	1	2/13/2014 6:26:00 PM
1,4-Dichlorobenzene	ND	0.0228		mg/Kg-dry	1	2/13/2014 6:26:00 PM
1,2-Dichlorobenzene	ND	0.0228		mg/Kg-dry	1	2/13/2014 6:26:00 PM
1,2-Dibromo-3-chloropropane	ND	0.0342		mg/Kg-dry	1	2/13/2014 6:26:00 PM
Hexachloro-1,3-butadiene	ND	0.114		mg/Kg-dry	1	2/13/2014 6:26:00 PM
1,2,3-Trichlorobenzene	ND	0.0228		mg/Kg-dry	1	2/13/2014 6:26:00 PM
Surr: Dibromofluoromethane	99.7	63.7-129		%REC	1	2/13/2014 6:26:00 PM
Surr: Toluene-d8	98.4	61.4-128		%REC	1	2/13/2014 6:26:00 PM
Surr: 1-Bromo-4-fluorobenzene	101	63.1-141		%REC	1	2/13/2014 6:26:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R12484		Analyst: KZ
Percent Moisture	18.4			wt%	1	2/13/2014 9:34:43 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B+K RI
Lab ID: 1402089-005
Client Sample ID: **MW-9:9**

Collection Date: 2/11/2014 9:45:00 AM
Matrix: Soil

Volatile Organic Compounds by EPA Method 8260

Batch ID: 6584 Analyst: EM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	0.0457		mg/Kg-dry	1	2/14/2014 3:09:00 PM
Chloromethane	ND	0.0457		mg/Kg-dry	1	2/14/2014 3:09:00 PM
Vinyl chloride	ND	0.00152		mg/Kg-dry	1	2/14/2014 3:09:00 PM
Bromomethane	ND	0.0686		mg/Kg-dry	1	2/14/2014 3:09:00 PM
Trichlorofluoromethane (CFC-11)	ND	0.0381		mg/Kg-dry	1	2/14/2014 3:09:00 PM
Chloroethane	ND	0.0457		mg/Kg-dry	1	2/14/2014 3:09:00 PM
1,1-Dichloroethene	ND	0.0381		mg/Kg-dry	1	2/14/2014 3:09:00 PM
Methylene chloride	ND	0.0152		mg/Kg-dry	1	2/14/2014 3:09:00 PM
trans-1,2-Dichloroethene	ND	0.0152		mg/Kg-dry	1	2/14/2014 3:09:00 PM
1,1-Dichloroethane	ND	0.0152		mg/Kg-dry	1	2/14/2014 3:09:00 PM
2,2-Dichloropropane	ND	0.0381		mg/Kg-dry	1	2/14/2014 3:09:00 PM
cis-1,2-Dichloroethene	ND	0.0152		mg/Kg-dry	1	2/14/2014 3:09:00 PM
Chloroform	ND	0.0152		mg/Kg-dry	1	2/14/2014 3:09:00 PM
1,1,1-Trichloroethane (TCA)	ND	0.0152		mg/Kg-dry	1	2/14/2014 3:09:00 PM
1,1-Dichloropropene	ND	0.0152		mg/Kg-dry	1	2/14/2014 3:09:00 PM
Carbon tetrachloride	ND	0.0152		mg/Kg-dry	1	2/14/2014 3:09:00 PM
1,2-Dichloroethane (EDC)	ND	0.0229		mg/Kg-dry	1	2/14/2014 3:09:00 PM
Trichloroethene (TCE)	ND	0.0152		mg/Kg-dry	1	2/14/2014 3:09:00 PM
1,2-Dichloropropane	ND	0.0152		mg/Kg-dry	1	2/14/2014 3:09:00 PM
Bromodichloromethane	ND	0.0152		mg/Kg-dry	1	2/14/2014 3:09:00 PM
Dibromomethane	ND	0.0305		mg/Kg-dry	1	2/14/2014 3:09:00 PM
cis-1,3-Dichloropropene	ND	0.0152		mg/Kg-dry	1	2/14/2014 3:09:00 PM
trans-1,3-Dichloropropylene	ND	0.0229		mg/Kg-dry	1	2/14/2014 3:09:00 PM
1,1,2-Trichloroethane	ND	0.0229		mg/Kg-dry	1	2/14/2014 3:09:00 PM
1,3-Dichloropropane	ND	0.0381		mg/Kg-dry	1	2/14/2014 3:09:00 PM
Tetrachloroethene (PCE)	ND	0.0152		mg/Kg-dry	1	2/14/2014 3:09:00 PM
Dibromochloromethane	ND	0.0229		mg/Kg-dry	1	2/14/2014 3:09:00 PM
1,2-Dibromoethane (EDB)	ND	0.00381		mg/Kg-dry	1	2/14/2014 3:09:00 PM
Chlorobenzene	ND	0.0152		mg/Kg-dry	1	2/14/2014 3:09:00 PM
1,1,1,2-Tetrachloroethane	ND	0.0229		mg/Kg-dry	1	2/14/2014 3:09:00 PM
Bromoform	ND	0.0152		mg/Kg-dry	1	2/14/2014 3:09:00 PM
1,1,2,2-Tetrachloroethane	ND	0.0152		mg/Kg-dry	1	2/14/2014 3:09:00 PM
Bromobenzene	ND	0.0229		mg/Kg-dry	1	2/14/2014 3:09:00 PM
2-Chlorotoluene	ND	0.0152		mg/Kg-dry	1	2/14/2014 3:09:00 PM
4-Chlorotoluene	ND	0.0152		mg/Kg-dry	1	2/14/2014 3:09:00 PM

Qualifiers:

- B Analyte detected in the associated Method Blank
- D Dilution was required
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- ND Not detected at the Reporting Limit
- RL Reporting Limit
- S Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 2/11/2014 9:45:00 AM
Project: B+K RI
Lab ID: 1402089-005
Matrix: Soil
Client Sample ID: **MW-9:9**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 6584		Analyst: EM
1,2,3-Trichloropropane	ND	0.0152		mg/Kg-dry	1	2/14/2014 3:09:00 PM
1,2,4-Trichlorobenzene	ND	0.0381		mg/Kg-dry	1	2/14/2014 3:09:00 PM
1,3-Dichlorobenzene	ND	0.0152		mg/Kg-dry	1	2/14/2014 3:09:00 PM
1,4-Dichlorobenzene	ND	0.0152		mg/Kg-dry	1	2/14/2014 3:09:00 PM
1,2-Dichlorobenzene	ND	0.0152		mg/Kg-dry	1	2/14/2014 3:09:00 PM
1,2-Dibromo-3-chloropropane	ND	0.0229		mg/Kg-dry	1	2/14/2014 3:09:00 PM
Hexachloro-1,3-butadiene	ND	0.0762		mg/Kg-dry	1	2/14/2014 3:09:00 PM
1,2,3-Trichlorobenzene	ND	0.0152		mg/Kg-dry	1	2/14/2014 3:09:00 PM
Surr: Dibromofluoromethane	104	63.7-129		%REC	1	2/14/2014 3:09:00 PM
Surr: Toluene-d8	102	61.4-128		%REC	1	2/14/2014 3:09:00 PM
Surr: 1-Bromo-4-fluorobenzene	103	63.1-141		%REC	1	2/14/2014 3:09:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R12484		Analyst: KZ
Percent Moisture	19.0			wt%	1	2/13/2014 9:34:43 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B+K RI
Lab ID: 1402089-006
Client Sample ID: **MW-9:14.5**

Collection Date: 2/11/2014 9:55:00 AM
Matrix: Soil

Volatile Organic Compounds by EPA Method 8260

Batch ID: 6584 Analyst: EM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	0.0559		mg/Kg-dry	1	2/14/2014 3:39:00 PM
Chloromethane	ND	0.0559		mg/Kg-dry	1	2/14/2014 3:39:00 PM
Vinyl chloride	ND	0.00186		mg/Kg-dry	1	2/14/2014 3:39:00 PM
Bromomethane	ND	0.0839		mg/Kg-dry	1	2/14/2014 3:39:00 PM
Trichlorofluoromethane (CFC-11)	ND	0.0466		mg/Kg-dry	1	2/14/2014 3:39:00 PM
Chloroethane	ND	0.0559		mg/Kg-dry	1	2/14/2014 3:39:00 PM
1,1-Dichloroethene	ND	0.0466		mg/Kg-dry	1	2/14/2014 3:39:00 PM
Methylene chloride	ND	0.0186		mg/Kg-dry	1	2/14/2014 3:39:00 PM
trans-1,2-Dichloroethene	ND	0.0186		mg/Kg-dry	1	2/14/2014 3:39:00 PM
1,1-Dichloroethane	ND	0.0186		mg/Kg-dry	1	2/14/2014 3:39:00 PM
2,2-Dichloropropane	ND	0.0466		mg/Kg-dry	1	2/14/2014 3:39:00 PM
cis-1,2-Dichloroethene	ND	0.0186		mg/Kg-dry	1	2/14/2014 3:39:00 PM
Chloroform	ND	0.0186		mg/Kg-dry	1	2/14/2014 3:39:00 PM
1,1,1-Trichloroethane (TCA)	ND	0.0186		mg/Kg-dry	1	2/14/2014 3:39:00 PM
1,1-Dichloropropene	ND	0.0186		mg/Kg-dry	1	2/14/2014 3:39:00 PM
Carbon tetrachloride	ND	0.0186		mg/Kg-dry	1	2/14/2014 3:39:00 PM
1,2-Dichloroethane (EDC)	ND	0.0280		mg/Kg-dry	1	2/14/2014 3:39:00 PM
Trichloroethene (TCE)	0.0783	0.0186		mg/Kg-dry	1	2/14/2014 3:39:00 PM
1,2-Dichloropropane	ND	0.0186		mg/Kg-dry	1	2/14/2014 3:39:00 PM
Bromodichloromethane	ND	0.0186		mg/Kg-dry	1	2/14/2014 3:39:00 PM
Dibromomethane	ND	0.0373		mg/Kg-dry	1	2/14/2014 3:39:00 PM
cis-1,3-Dichloropropene	ND	0.0186		mg/Kg-dry	1	2/14/2014 3:39:00 PM
trans-1,3-Dichloropropylene	ND	0.0280		mg/Kg-dry	1	2/14/2014 3:39:00 PM
1,1,2-Trichloroethane	ND	0.0280		mg/Kg-dry	1	2/14/2014 3:39:00 PM
1,3-Dichloropropane	ND	0.0466		mg/Kg-dry	1	2/14/2014 3:39:00 PM
Tetrachloroethene (PCE)	ND	0.0186		mg/Kg-dry	1	2/14/2014 3:39:00 PM
Dibromochloromethane	ND	0.0280		mg/Kg-dry	1	2/14/2014 3:39:00 PM
1,2-Dibromoethane (EDB)	ND	0.00466		mg/Kg-dry	1	2/14/2014 3:39:00 PM
Chlorobenzene	ND	0.0186		mg/Kg-dry	1	2/14/2014 3:39:00 PM
1,1,1,2-Tetrachloroethane	ND	0.0280		mg/Kg-dry	1	2/14/2014 3:39:00 PM
Bromoform	ND	0.0186		mg/Kg-dry	1	2/14/2014 3:39:00 PM
1,1,2,2-Tetrachloroethane	ND	0.0186		mg/Kg-dry	1	2/14/2014 3:39:00 PM
Bromobenzene	ND	0.0280		mg/Kg-dry	1	2/14/2014 3:39:00 PM
2-Chlorotoluene	ND	0.0186		mg/Kg-dry	1	2/14/2014 3:39:00 PM
4-Chlorotoluene	ND	0.0186		mg/Kg-dry	1	2/14/2014 3:39:00 PM

Qualifiers:

- B Analyte detected in the associated Method Blank
- D Dilution was required
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- ND Not detected at the Reporting Limit
- RL Reporting Limit
- S Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B+K RI
Lab ID: 1402089-006
Client Sample ID: **MW-9:14.5**

Collection Date: 2/11/2014 9:55:00 AM
Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 6584		Analyst: EM
1,2,3-Trichloropropane	ND	0.0186		mg/Kg-dry	1	2/14/2014 3:39:00 PM
1,2,4-Trichlorobenzene	ND	0.0466		mg/Kg-dry	1	2/14/2014 3:39:00 PM
1,3-Dichlorobenzene	ND	0.0186		mg/Kg-dry	1	2/14/2014 3:39:00 PM
1,4-Dichlorobenzene	ND	0.0186		mg/Kg-dry	1	2/14/2014 3:39:00 PM
1,2-Dichlorobenzene	ND	0.0186		mg/Kg-dry	1	2/14/2014 3:39:00 PM
1,2-Dibromo-3-chloropropane	ND	0.0280		mg/Kg-dry	1	2/14/2014 3:39:00 PM
Hexachloro-1,3-butadiene	ND	0.0932		mg/Kg-dry	1	2/14/2014 3:39:00 PM
1,2,3-Trichlorobenzene	ND	0.0186		mg/Kg-dry	1	2/14/2014 3:39:00 PM
Surr: Dibromofluoromethane	105	63.7-129		%REC	1	2/14/2014 3:39:00 PM
Surr: Toluene-d8	102	61.4-128		%REC	1	2/14/2014 3:39:00 PM
Surr: 1-Bromo-4-fluorobenzene	100	63.1-141		%REC	1	2/14/2014 3:39:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R12484		Analyst: KZ
Percent Moisture	19.1			wt%	1	2/13/2014 9:34:43 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *2/19/2014*

Work Order: 1402089
CLIENT: Shannon & Wilson
Project: B+K RI

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1402089-001BMS**	SampType: **MS**	Units: **mg/Kg-dry**	Prep Date: **2/12/2014**	RunNo: **12512**
Client ID: **MW-6:11**	Batch ID: **6584**		Analysis Date: **2/13/2014**	SeqNo: **249831**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	0.994	0.0658	1.097	0	90.7	43.5	121				
Chloromethane	1.10	0.0658	1.097	0	101	45	130				
Vinyl chloride	1.21	0.00219	1.097	0	111	51.2	146				
Bromomethane	1.80	0.0987	1.097	0	164	21.3	120				S
Trichlorofluoromethane (CFC-11)	1.25	0.0549	1.097	0	114	35	131				
Chloroethane	2.50	0.0658	1.097	0	228	43.8	117				S
1,1-Dichloroethene	1.18	0.0549	1.097	0	108	61.9	141				
Methylene chloride	1.18	0.0219	1.097	0	108	54.7	142				
trans-1,2-Dichloroethene	1.19	0.0219	1.097	0	109	52	136				
1,1-Dichloroethane	1.13	0.0219	1.097	0	103	51.8	141				
2,2-Dichloropropane	0.917	0.0549	1.097	0	83.6	36	123				
cis-1,2-Dichloroethene	1.08	0.0219	1.097	0	98.5	58.6	136				
Chloroform	1.16	0.0219	1.097	0	106	53.2	129				
1,1,1-Trichloroethane (TCA)	1.22	0.0219	1.097	0	111	58.3	145				
1,1-Dichloropropene	1.18	0.0219	1.097	0	108	55.1	138				
Carbon tetrachloride	1.26	0.0219	1.097	0	114	53.3	144				
1,2-Dichloroethane (EDC)	1.11	0.0329	1.097	0	101	51.3	139				
Trichloroethene (TCE)	1.16	0.0219	1.097	0	105	68.6	132				
1,2-Dichloropropane	1.16	0.0219	1.097	0	106	59	136				
Bromodichloromethane	1.15	0.0219	1.097	0	105	50.7	141				
Dibromomethane	1.13	0.0439	1.097	0	103	50.6	137				
cis-1,3-Dichloropropene	1.03	0.0219	1.097	0	93.7	50.4	138				
trans-1,3-Dichloropropylene	1.07	0.0329	1.097	0	97.9	44.1	147				
1,1,2-Trichloroethane	1.06	0.0329	1.097	0	96.3	51.6	137				
1,3-Dichloropropane	1.13	0.0549	1.097	0	103	53.1	134				
Tetrachloroethene (PCE)	1.14	0.0219	1.097	0	104	35.6	158				
Dibromochloromethane	1.16	0.0329	1.097	0	106	55.3	140				
1,2-Dibromoethane (EDB)	1.10	0.00549	1.097	0	99.9	50.4	136				
Chlorobenzene	1.14	0.0219	1.097	0	104	60	133				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *2/19/2014*

Work Order: 1402089
CLIENT: Shannon & Wilson
Project: B+K RI

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1402089-001BMS**	SampType: **MS**			Units: **mg/Kg-dry**		Prep Date: **2/12/2014**		RunNo: **12512**			
Client ID: **MW-6:11**	Batch ID: **6584**					Analysis Date: **2/13/2014**		SeqNo: **249831**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	1.23	0.0329	1.097	0	112	53.1	142				
Bromoform	1.16	0.0219	1.097	0	106	57.9	130				
1,1,2,2-Tetrachloroethane	1.21	0.0219	1.097	0	110	51.9	131				
Bromobenzene	1.19	0.0329	1.097	0	108	54.2	140				
2-Chlorotoluene	1.13	0.0219	1.097	0	103	51.6	136				
4-Chlorotoluene	1.20	0.0219	1.097	0	109	50.1	139				
1,2,3-Trichloropropane	1.17	0.0219	1.097	0	107	50.5	131				
1,2,4-Trichlorobenzene	1.14	0.0549	1.097	0	104	50.8	130				
1,3-Dichlorobenzene	1.15	0.0219	1.097	0	105	52.6	131				
1,4-Dichlorobenzene	0.827	0.0219	1.097	0	75.4	52.9	129				
1,2-Dichlorobenzene	1.11	0.0219	1.097	0	102	55.8	129				
1,2-Dibromo-3-chloropropane	1.09	0.0329	1.097	0	99.2	40.5	131				
Hexachloro-1,3-butadiene	1.77	0.110	1.097	0	161	40.6	158				S
1,2,3-Trichlorobenzene	1.14	0.0219	1.097	0	104	54.4	124				
Surr: Dibromofluoromethane	2.69		2.743		98.0	63.7	129				
Surr: Toluene-d8	2.71		2.743		98.7	61.4	128				
Surr: 1-Bromo-4-fluorobenzene	2.77		2.743		101	63.1	141				

NOTES:
S - Outlying QC recoveries were observed. The method is in control as indicated by the LCS.

Sample ID: **1402090-003BDUP**	SampType: **DUP**			Units: **mg/Kg-dry**		Prep Date: **2/12/2014**		RunNo: **12512**			
Client ID: **BATCH**	Batch ID: **6584**					Analysis Date: **2/13/2014**		SeqNo: **249834**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	0.0738						0		30	
Chloromethane	ND	0.0738						0		30	
Vinyl chloride	ND	0.00246						0		30	
Bromomethane	ND	0.111						0		30	
Trichlorofluoromethane (CFC-11)	ND	0.0615						0		30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *2/19/2014*

Work Order: 1402089
CLIENT: Shannon & Wilson
Project: B+K RI

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1402090-003BDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **2/12/2014** RunNo: **12512**
Client ID: **BATCH** Batch ID: **6584** Analysis Date: **2/13/2014** SeqNo: **249834**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloroethane	ND	0.0738						0		30	
1,1-Dichloroethene	ND	0.0615						0		30	
Methylene chloride	ND	0.0246						0		30	
trans-1,2-Dichloroethene	ND	0.0246						0		30	
1,1-Dichloroethane	ND	0.0246						0		30	
2,2-Dichloropropane	ND	0.0615						0		30	
cis-1,2-Dichloroethene	ND	0.0246						0		30	
Chloroform	ND	0.0246						0		30	
1,1,1-Trichloroethane (TCA)	ND	0.0246						0		30	
1,1-Dichloropropene	ND	0.0246						0		30	
Carbon tetrachloride	ND	0.0246						0		30	
1,2-Dichloroethane (EDC)	ND	0.0369						0		30	
Trichloroethene (TCE)	ND	0.0246						0		30	
1,2-Dichloropropane	ND	0.0246						0		30	
Bromodichloromethane	ND	0.0246						0		30	
Dibromomethane	ND	0.0492						0		30	
cis-1,3-Dichloropropene	ND	0.0246						0		30	
trans-1,3-Dichloropropylene	ND	0.0369						0		30	
1,1,2-Trichloroethane	ND	0.0369						0		30	
1,3-Dichloropropane	ND	0.0615						0		30	
Tetrachloroethene (PCE)	ND	0.0246						0		30	
Dibromochloromethane	ND	0.0369						0		30	
1,2-Dibromoethane (EDB)	ND	0.00615						0		30	
Chlorobenzene	ND	0.0246						0		30	
1,1,1,2-Tetrachloroethane	ND	0.0369						0		30	
Bromoform	ND	0.0246						0		30	
1,1,2,2-Tetrachloroethane	ND	0.0246						0		30	
Bromobenzene	ND	0.0369						0		30	
2-Chlorotoluene	ND	0.0246						0		30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *2/19/2014*

Work Order: 1402089
CLIENT: Shannon & Wilson
Project: B+K RI

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1402090-003BDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **2/12/2014** RunNo: **12512**
Client ID: **BATCH** Batch ID: **6584** Analysis Date: **2/13/2014** SeqNo: **249834**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	0.0246						0		30	
1,2,3-Trichloropropane	ND	0.0246						0		30	
1,2,4-Trichlorobenzene	ND	0.0615						0		30	
1,3-Dichlorobenzene	ND	0.0246						0		30	
1,4-Dichlorobenzene	ND	0.0246						0		30	
1,2-Dichlorobenzene	ND	0.0246						0		30	
1,2-Dibromo-3-chloropropane	ND	0.0369						0		30	
Hexachloro-1,3-butadiene	ND	0.123						0		30	
1,2,3-Trichlorobenzene	ND	0.0246						0		30	
Surr: Dibromofluoromethane	3.11		3.075		101	63.7	129		0		
Surr: Toluene-d8	2.95		3.075		95.9	61.4	128		0		
Surr: 1-Bromo-4-fluorobenzene	3.08		3.075		100	63.1	141		0		

Sample ID: **LCS-6584** SampType: **LCS** Units: **mg/Kg** Prep Date: **2/12/2014** RunNo: **12512**
Client ID: **LCSS** Batch ID: **6584** Analysis Date: **2/13/2014** SeqNo: **249838**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	0.838	0.0600	1.000	0	83.8	37.7	136				
Chloromethane	0.983	0.0600	1.000	0	98.2	38.8	132				
Vinyl chloride	0.997	0.00200	1.000	0	99.7	56.1	130				
Bromomethane	0.968	0.0900	1.000	0	96.8	41.3	148				
Trichlorofluoromethane (CFC-11)	1.17	0.0500	1.000	0	117	60.3	132				
Chloroethane	0.846	0.0600	1.000	0	84.6	37.1	144				
1,1-Dichloroethene	0.974	0.0500	1.000	0	97.4	49.7	142				
Methylene chloride	0.984	0.0200	1.000	0	98.4	57.6	135				
trans-1,2-Dichloroethene	0.960	0.0200	1.000	0	96.0	55	139				
1,1-Dichloroethane	1.01	0.0200	1.000	0	101	65.5	132				
2,2-Dichloropropane	0.876	0.0500	1.000	0	87.6	28.1	149				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *2/19/2014*

Work Order: 1402089
CLIENT: Shannon & Wilson
Project: B+K RI

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **LCS-6584** SampType: **LCS** Units: **mg/Kg** Prep Date: **2/12/2014** RunNo: **12512**
Client ID: **LCSS** Batch ID: **6584** Analysis Date: **2/13/2014** SeqNo: **249838**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,2-Dichloroethene	0.942	0.0200	1.000	0	94.2	71.6	123				
Chloroform	1.01	0.0200	1.000	0	101	67.5	129				
1,1,1-Trichloroethane (TCA)	1.03	0.0200	1.000	0	103	69	132				
1,1-Dichloropropene	0.998	0.0200	1.000	0	99.8	72.7	131				
Carbon tetrachloride	1.02	0.0200	1.000	0	102	63.4	137				
1,2-Dichloroethane (EDC)	0.968	0.0300	1.000	0	96.8	61.9	136				
Trichloroethene (TCE)	0.978	0.0200	1.000	0	97.8	67.4	133				
1,2-Dichloropropane	0.972	0.0200	1.000	0	97.2	72.7	133				
Bromodichloromethane	0.998	0.0200	1.000	0	99.8	76.1	136				
Dibromomethane	0.974	0.0400	1.000	0	97.4	70	130				
cis-1,3-Dichloropropene	0.992	0.0200	1.000	0	99.2	59.1	143				
trans-1,3-Dichloropropylene	0.950	0.0300	1.000	0	95.0	49.2	149				
1,1,2-Trichloroethane	0.976	0.0300	1.000	0	97.6	74.5	129				
1,3-Dichloropropane	0.962	0.0500	1.000	0	96.2	70	130				
Tetrachloroethene (PCE)	1.01	0.0200	1.000	0	101	52.7	150				
Dibromochloromethane	1.02	0.0300	1.000	0	102	70.6	144				
1,2-Dibromoethane (EDB)	1.01	0.00500	1.000	0	101	70	130				
Chlorobenzene	1.01	0.0200	1.000	0	101	76.1	123				
1,1,1,2-Tetrachloroethane	1.01	0.0300	1.000	0	101	74.8	131				
Bromoform	0.955	0.0200	1.000	0	95.5	67	154				
1,1,2,2-Tetrachloroethane	1.05	0.0200	1.000	0	105	60	130				
Bromobenzene	1.05	0.0300	1.000	0	105	49.2	144				
2-Chlorotoluene	1.03	0.0200	1.000	0	103	76.7	129				
4-Chlorotoluene	1.01	0.0200	1.000	0	101	77.5	125				
1,2,3-Trichloropropane	0.971	0.0200	1.000	0	97.1	67.9	136				
1,2,4-Trichlorobenzene	1.01	0.0500	1.000	0	101	65.6	137				
1,3-Dichlorobenzene	1.01	0.0200	1.000	0	101	72.8	128				
1,4-Dichlorobenzene	0.729	0.0200	1.000	0	72.9	72.6	126				
1,2-Dichlorobenzene	1.02	0.0200	1.000	0	102	72.8	126				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *2/19/2014*

Work Order: 1402089
CLIENT: Shannon & Wilson
Project: B+K RI

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **LCS-6584** SampType: **LCS** Units: **mg/Kg** Prep Date: **2/12/2014** RunNo: **12512**
Client ID: **LCSS** Batch ID: **6584** Analysis Date: **2/13/2014** SeqNo: **249838**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dibromo-3-chloropropane	0.988	0.0300	1.000	0	98.9	60.3	130				
Hexachloro-1,3-butadiene	0.449	0.100	1.000	0	44.9	42	151				
1,2,3-Trichlorobenzene	1.00	0.0200	1.000	0	100	62.1	140				
Surr: Dibromofluoromethane	2.48		2.500		99.0	63.7	129				
Surr: Toluene-d8	2.52		2.500		101	61.4	128				
Surr: 1-Bromo-4-fluorobenzene	2.50		2.500		100	63.1	141				

Sample ID: **MB-6584** SampType: **MBLK** Units: **mg/Kg** Prep Date: **2/12/2014** RunNo: **12512**
Client ID: **MBLKS** Batch ID: **6584** Analysis Date: **2/13/2014** SeqNo: **249839**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	0.0600									
Chloromethane	ND	0.0600									
Vinyl chloride	ND	0.00200									
Bromomethane	ND	0.0900									
Trichlorofluoromethane (CFC-11)	ND	0.0500									
Chloroethane	ND	0.0600									
1,1-Dichloroethene	ND	0.0500									
Methylene chloride	ND	0.0200									
trans-1,2-Dichloroethene	ND	0.0200									
1,1-Dichloroethane	ND	0.0200									
2,2-Dichloropropane	ND	0.0500									
cis-1,2-Dichloroethene	ND	0.0200									
Chloroform	ND	0.0200									
1,1,1-Trichloroethane (TCA)	ND	0.0200									
1,1-Dichloropropene	ND	0.0200									
Carbon tetrachloride	ND	0.0200									
1,2-Dichloroethane (EDC)	ND	0.0300									

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1402089
CLIENT: Shannon & Wilson
Project: B+K RI

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **MB-6584** SampType: **MBLK** Units: **mg/Kg** Prep Date: **2/12/2014** RunNo: **12512**
Client ID: **MBLKS** Batch ID: **6584** Analysis Date: **2/13/2014** SeqNo: **249839**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichloroethene (TCE)	ND	0.0200									
1,2-Dichloropropane	ND	0.0200									
Bromodichloromethane	ND	0.0200									
Dibromomethane	ND	0.0400									
cis-1,3-Dichloropropene	ND	0.0200									
trans-1,3-Dichloropropylene	ND	0.0300									
1,1,2-Trichloroethane	ND	0.0300									
1,3-Dichloropropane	ND	0.0500									
Tetrachloroethene (PCE)	ND	0.0200									
Dibromochloromethane	ND	0.0300									
1,2-Dibromoethane (EDB)	ND	0.00500									
Chlorobenzene	ND	0.0200									
1,1,1,2-Tetrachloroethane	ND	0.0300									
Bromoform	ND	0.0200									
1,1,2,2-Tetrachloroethane	ND	0.0200									
Bromobenzene	ND	0.0300									
2-Chlorotoluene	ND	0.0200									
4-Chlorotoluene	ND	0.0200									
1,2,3-Trichloropropane	ND	0.0200									
1,2,4-Trichlorobenzene	ND	0.0500									
1,3-Dichlorobenzene	ND	0.0200									
1,4-Dichlorobenzene	ND	0.0200									
1,2-Dichlorobenzene	ND	0.0200									
1,2-Dibromo-3-chloropropane	ND	0.0300									
Hexachloro-1,3-butadiene	ND	0.100									
1,2,3-Trichlorobenzene	ND	0.0200									
Surr: Dibromofluoromethane	2.53		2.500		101	63.7	129				
Surr: Toluene-d8	2.58		2.500		103	61.4	128				
Surr: 1-Bromo-4-fluorobenzene	2.45		2.500		98.2	63.1	141				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *2/19/2014*

Work Order: 1402089
CLIENT: Shannon & Wilson
Project: B+K RI

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **MB-6584**	SampType: **MBLK**	Units: **mg/Kg**	Prep Date: **2/12/2014**	RunNo: **12512**
Client ID: **MBLKS**	Batch ID: **6584**		Analysis Date: **2/13/2014**	SeqNo: **249839**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: **CCV-6584**	SampType: **CCV**	Units: **mg/Kg**	Prep Date: **2/14/2014**	RunNo: **12512**
Client ID: **CCV**	Batch ID: **6584**		Analysis Date: **2/14/2014**	SeqNo: **251269**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	18.1	0.0600	20.00	0	90.5	80	120				
Chloromethane	18.4	0.0600	20.00	0	92.1	80	120				
Vinyl chloride	18.7	0.00200	20.00	0	93.6	80	120				
Bromomethane	48.1	0.0900	20.00	0	241	80	120				S
Trichlorofluoromethane (CFC-11)	16.4	0.0500	20.00	0	82.0	80	120				
Chloroethane	31.3	0.0600	20.00	0	157	80	120				S
1,1-Dichloroethene	18.5	0.0500	20.00	0	92.5	80	120				
Methylene chloride	19.0	0.0200	20.00	0	94.8	80	120				
trans-1,2-Dichloroethene	19.7	0.0200	20.00	0	98.6	80	120				
1,1-Dichloroethane	19.5	0.0200	20.00	0	97.3	80	120				
2,2-Dichloropropane	22.9	0.0500	20.00	0	115	80	120				
cis-1,2-Dichloroethene	19.6	0.0200	20.00	0	97.8	80	120				
Chloroform	18.6	0.0200	20.00	0	93.2	80	120				
1,1,1-Trichloroethane (TCA)	19.5	0.0200	20.00	0	97.4	80	120				
1,1-Dichloropropene	19.5	0.0200	20.00	0	97.6	80	120				
Carbon tetrachloride	19.7	0.0200	20.00	0	98.7	80	120				
1,2-Dichloroethane (EDC)	19.8	0.0300	20.00	0	99.2	80	120				
Trichloroethene (TCE)	18.9	0.0200	20.00	0	94.4	80	120				
1,2-Dichloropropane	19.4	0.0200	20.00	0	97.2	80	120				
Bromodichloromethane	19.2	0.0200	20.00	0	96.0	80	120				
Dibromomethane	18.8	0.0400	20.00	0	94.1	80	120				
cis-1,3-Dichloropropene	20.4	0.0200	20.00	0	102	80	120				
trans-1,3-Dichloropropylene	19.9	0.0300	20.00	0	99.5	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *2/19/2014*

Work Order: 1402089
CLIENT: Shannon & Wilson
Project: B+K RI

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **CCV-6584**	SampType: **CCV**	Units: **mg/Kg**	Prep Date: **2/14/2014**	RunNo: **12512**	
Client ID: **CCV**	Batch ID: **6584**		Analysis Date: **2/14/2014**	SeqNo: **251269**	

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2-Trichloroethane	19.4	0.0300	20.00	0	96.8	80	120				
1,3-Dichloropropane	18.9	0.0500	20.00	0	94.4	80	120				
Tetrachloroethene (PCE)	19.0	0.0200	20.00	0	94.9	80	120				
Dibromochloromethane	18.8	0.0300	20.00	0	93.9	80	120				
1,2-Dibromoethane (EDB)	18.9	0.00500	20.00	0	94.4	80	120				
Chlorobenzene	19.5	0.0200	20.00	0	97.5	80	120				
1,1,1,2-Tetrachloroethane	19.4	0.0300	20.00	0	96.9	80	120				
Bromoform	19.3	0.0200	20.00	0	96.5	80	120				
1,1,2,2-Tetrachloroethane	19.7	0.0200	20.00	0	98.5	80	120				
Bromobenzene	18.4	0.0300	20.00	0	91.8	80	120				
2-Chlorotoluene	19.4	0.0200	20.00	0	97.0	80	120				
4-Chlorotoluene	19.7	0.0200	20.00	0	98.4	80	120				
1,2,3-Trichloropropane	20.5	0.0200	20.00	0	103	80	120				
1,2,4-Trichlorobenzene	19.2	0.0500	20.00	0	95.8	80	120				
1,3-Dichlorobenzene	18.3	0.0200	20.00	0	91.4	80	120				
1,4-Dichlorobenzene	22.2	0.0200	20.00	0	111	80	120				
1,2-Dichlorobenzene	18.6	0.0200	20.00	0	92.8	80	120				
1,2-Dibromo-3-chloropropane	17.9	0.0300	20.00	0	89.3	80	120				
Hexachloro-1,3-butadiene	23.7	0.100	20.00	0	118	80	120				
1,2,3-Trichlorobenzene	18.6	0.0200	20.00	0	93.3	80	120				
Surr: Dibromofluoromethane	49.6		50.00		99.2	63.7	129				
Surr: Toluene-d8	50.6		50.00		101	61.4	128				
Surr: 1-Bromo-4-fluorobenzene	50.4		50.00		101	63.1	141				

NOTES:

S - Outlying QC recoveries were observed (Bromomethane, Chlorethane; high bias). There were no detections of these analytes in the following samples.

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Sample Log-In Check List

Client Name:	**SW**	Work Order Number:	**1402089**
Logged by:	**Chelsea Ward**	Date Received:	**2/12/2014 4:18:00 PM**

Chain of Custody

1.	Is Chain of Custody complete?	Yes	☑	No ☐	Not Present ☐
2.	How was the sample delivered?	Client			

Log In

3.	Coolers are present?	Yes	☑	No ☐	NA ☐
4.	Shipping container/cooler in good condition?	Yes	☑	No ☐	
5.	Custody seals intact on shipping container/cooler?	Yes	☐	No ☐	Not Required ☑
6.	Was an attempt made to cool the samples?	Yes	☑	No ☐	NA ☐
7.	Were all coolers received at a temperature of >0°C to 10.0°C	Yes	☑	No ☐	NA ☐
8.	Sample(s) in proper container(s)?	Yes	☑	No ☐	
9.	Sufficient sample volume for indicated test(s)?	Yes	☑	No ☐	
10.	Are samples properly preserved?	Yes	☑	No ☐	
11.	Was preservative added to bottles?	Yes	☐	No ☑	NA ☐
12.	Is the headspace in the VOA vials?	Yes	☐	No ☐	NA ☑
13.	Did all samples containers arrive in good condition(unbroken)?	Yes	☑	No ☐	
14.	Does paperwork match bottle labels?	Yes	☑	No ☐	
15.	Are matrices correctly identified on Chain of Custody?	Yes	☑	No ☐	
16.	Is it clear what analyses were requested?	Yes	☑	No ☐	
17.	Were all holding times able to be met?	Yes	☑	No ☐	

Special Handling (if applicable)

18. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

19. Additional remarks:

Item Information

Item #	Temp °C	Condition
Cooler	6.7	Good
Sample	6.0	Good

Fremont Analytical

Chain of Custody Record

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (internal): 1402089

Date: 2/12/14

Page: 1 of: 1

Client: S+W

Project Name: BK DF

Address:

Location: 2

City, State, Zip

Tel:

Collected by: CMJ

Reports To (PM):

Fax:

Email: CMJ@shannwil.com

Project No: 21-1-12357-03

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)	VOC (EPA 8260)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SEMI VOL (EPA 8270)	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Metals* (6020) / 200.8)	Total (T)	Dissolved (D)	Anions (IC)**	HOLD	Comments/Depth
1	~~MW-6:5~~ MW-6:11	2/11/14	1310	SOIL													X		
2	MW-7:15		1155														X		
3	MW-8:9		1105														X		
4	MW-8:14.5		1115														X		
5	MW-9:9		945														X		
6	MW-9:14.5	↓	955	↓													X		
7																			
8																			
9																			
10																			

*Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

**Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Special Remarks:

Relinquished	Date/Time	Received	Date/Time
x	2/12/14 1618		
Relinquished	Date/Time	Received	Date/Time
x		x	

TAT --> SameDay NextDay 2 Day 3 Day ~~STD~~

Distribution: White - Lab, Yellow - File, Pink - Originator

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

Shannon & Wilson
Cody Johnson
400 N. 34th Street, Suite 100
Seattle, WA 98103

RE: B+K RI
Lab ID: 1402130

February 20, 2014

Attention Cody Johnson:

Fremont Analytical, Inc. received 4 sample(s) on 2/14/2014 for the analyses presented in the following report.

Volatile Organic Compounds by EPA Method 8260

This report consists of the following:

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

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

Thank you for using Fremont Analytical.

Sincerely,

Michael Dee
Sr. Chemist / Principal

Fremont Analytical

Date: *02/20/2014*

CLIENT: Shannon & Wilson
Project: B+K RI
Lab Order: 1402130

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1402130-001	21414MW-7:GW	02/14/2014 12:45 PM	02/14/2014 5:26 PM
1402130-002	21414MW-8:GW	02/14/2014 11:00 AM	02/14/2014 5:26 PM
1402130-003	21414MW-9:GW	02/14/2014 9:30 AM	02/14/2014 5:26 PM
1402130-004	21414OS-1:GW	02/14/2014 1:30 PM	02/14/2014 5:26 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

CLIENT: Shannon & Wilson
Project: B+K RI

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

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

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

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

Client: Shannon & Wilson
Project: B+K RI
Lab ID: 1402130-001
Client Sample ID: 21414MW-7:GW

Collection Date: 2/14/2014 12:45:00 PM
Matrix: Water

Volatile Organic Compounds by EPA Method 8260

Batch ID: R12595 Analyst: EM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane	ND	1.00		µg/L	1	2/18/2014 7:02:00 PM
Chloromethane	ND	1.00		µg/L	1	2/18/2014 7:02:00 PM
Vinyl chloride	95.8	2.00	D	µg/L	10	2/20/2014 5:21:00 AM
Bromomethane	ND	1.00		µg/L	1	2/18/2014 7:02:00 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	2/18/2014 7:02:00 PM
Chloroethane	ND	1.00		µg/L	1	2/18/2014 7:02:00 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	2/18/2014 7:02:00 PM
Methylene chloride	ND	1.00		µg/L	1	2/18/2014 7:02:00 PM
trans-1,2-Dichloroethene	3.44	1.00		µg/L	1	2/18/2014 7:02:00 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	2/18/2014 7:02:00 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	2/18/2014 7:02:00 PM
cis-1,2-Dichloroethene	297	10.0	D	µg/L	10	2/20/2014 5:21:00 AM
Chloroform	ND	1.00		µg/L	1	2/18/2014 7:02:00 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	2/18/2014 7:02:00 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	2/18/2014 7:02:00 PM
Carbon tetrachloride	ND	1.00		µg/L	1	2/18/2014 7:02:00 PM
1,2-Dichloroethane	15.7	1.00		µg/L	1	2/18/2014 7:02:00 PM
Trichloroethene (TCE)	1.94	0.500		µg/L	1	2/18/2014 7:02:00 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	2/18/2014 7:02:00 PM
Bromodichloromethane	ND	1.00		µg/L	1	2/18/2014 7:02:00 PM
Dibromomethane	ND	1.00		µg/L	1	2/18/2014 7:02:00 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	2/18/2014 7:02:00 PM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	2/18/2014 7:02:00 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	2/18/2014 7:02:00 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	2/18/2014 7:02:00 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	2/18/2014 7:02:00 PM
Dibromochloromethane	ND	1.00		µg/L	1	2/18/2014 7:02:00 PM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	2/18/2014 7:02:00 PM
Chlorobenzene	ND	1.00		µg/L	1	2/18/2014 7:02:00 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	2/18/2014 7:02:00 PM
Bromoform	ND	1.00		µg/L	1	2/18/2014 7:02:00 PM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	2/18/2014 7:02:00 PM
Bromobenzene	ND	1.00		µg/L	1	2/18/2014 7:02:00 PM
2-Chlorotoluene	ND	1.00		µg/L	1	2/18/2014 7:02:00 PM
4-Chlorotoluene	ND	1.00		µg/L	1	2/18/2014 7:02:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B+K RI
Lab ID: 1402130-001
Client Sample ID: **21414MW-7:GW**

Collection Date: 2/14/2014 12:45:00 PM
Matrix: Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R12595		Analyst: EM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	2/18/2014 7:02:00 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	2/18/2014 7:02:00 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	2/18/2014 7:02:00 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	2/18/2014 7:02:00 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	2/18/2014 7:02:00 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	2/18/2014 7:02:00 PM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	2/18/2014 7:02:00 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	2/18/2014 7:02:00 PM
Surr: Dibromofluoromethane	99.2	72.1-122		%REC	1	2/18/2014 7:02:00 PM
Surr: Toluene-d8	95.8	62.1-129		%REC	1	2/18/2014 7:02:00 PM
Surr: 1-Bromo-4-fluorobenzene	99.3	66.8-124		%REC	1	2/18/2014 7:02:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B+K RI
Lab ID: 1402130-002
Client Sample ID: 21414MW-8:GW

Collection Date: 2/14/2014 11:00:00 AM
Matrix: Water

Volatile Organic Compounds by EPA Method 8260

Batch ID: R12595 Analyst: EM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane	ND	1.00		µg/L	1	2/18/2014 7:30:00 PM
Chloromethane	ND	1.00		µg/L	1	2/18/2014 7:30:00 PM
Vinyl chloride	ND	0.200		µg/L	1	2/18/2014 7:30:00 PM
Bromomethane	ND	1.00		µg/L	1	2/18/2014 7:30:00 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	2/18/2014 7:30:00 PM
Chloroethane	ND	1.00		µg/L	1	2/18/2014 7:30:00 PM
1,1-Dichloroethene	1.97	1.00		µg/L	1	2/18/2014 7:30:00 PM
Methylene chloride	ND	1.00		µg/L	1	2/18/2014 7:30:00 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	2/18/2014 7:30:00 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	2/18/2014 7:30:00 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	2/18/2014 7:30:00 PM
cis-1,2-Dichloroethene	32.0	1.00		µg/L	1	2/18/2014 7:30:00 PM
Chloroform	ND	1.00		µg/L	1	2/18/2014 7:30:00 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	2/18/2014 7:30:00 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	2/18/2014 7:30:00 PM
Carbon tetrachloride	ND	1.00		µg/L	1	2/18/2014 7:30:00 PM
1,2-Dichloroethane	7.19	1.00		µg/L	1	2/18/2014 7:30:00 PM
Trichloroethene (TCE)	878	25.0	D	µg/L	50	2/20/2014 5:50:00 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	2/18/2014 7:30:00 PM
Bromodichloromethane	ND	1.00		µg/L	1	2/18/2014 7:30:00 PM
Dibromomethane	ND	1.00		µg/L	1	2/18/2014 7:30:00 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	2/18/2014 7:30:00 PM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	2/18/2014 7:30:00 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	2/18/2014 7:30:00 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	2/18/2014 7:30:00 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	2/18/2014 7:30:00 PM
Dibromochloromethane	ND	1.00		µg/L	1	2/18/2014 7:30:00 PM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	2/18/2014 7:30:00 PM
Chlorobenzene	ND	1.00		µg/L	1	2/18/2014 7:30:00 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	2/18/2014 7:30:00 PM
Bromoform	ND	1.00		µg/L	1	2/18/2014 7:30:00 PM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	2/18/2014 7:30:00 PM
Bromobenzene	ND	1.00		µg/L	1	2/18/2014 7:30:00 PM
2-Chlorotoluene	ND	1.00		µg/L	1	2/18/2014 7:30:00 PM
4-Chlorotoluene	ND	1.00		µg/L	1	2/18/2014 7:30:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 2/14/2014 11:00:00 AM
Project: B+K RI
Lab ID: 1402130-002
Matrix: Water
Client Sample ID: 21414MW-8:GW

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R12595		Analyst: EM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	2/18/2014 7:30:00 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	2/18/2014 7:30:00 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	2/18/2014 7:30:00 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	2/18/2014 7:30:00 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	2/18/2014 7:30:00 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	2/18/2014 7:30:00 PM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	2/18/2014 7:30:00 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	2/18/2014 7:30:00 PM
Surr: Dibromofluoromethane	99.6	72.1-122		%REC	1	2/18/2014 7:30:00 PM
Surr: Toluene-d8	99.3	62.1-129		%REC	1	2/18/2014 7:30:00 PM
Surr: 1-Bromo-4-fluorobenzene	96.7	66.8-124		%REC	1	2/18/2014 7:30:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 2/14/2014 9:30:00 AM
Project: B+K RI
Lab ID: 1402130-003
Matrix: Water
Client Sample ID: 21414MW-9:GW

Volatile Organic Compounds by EPA Method 8260

Batch ID: R12595 Analyst: EM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane	ND	1.00		µg/L	1	2/18/2014 7:58:00 PM
Chloromethane	ND	1.00		µg/L	1	2/18/2014 7:58:00 PM
Vinyl chloride	ND	0.200		µg/L	1	2/18/2014 7:58:00 PM
Bromomethane	ND	1.00		µg/L	1	2/18/2014 7:58:00 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	2/18/2014 7:58:00 PM
Chloroethane	ND	1.00		µg/L	1	2/18/2014 7:58:00 PM
1,1-Dichloroethene	1.28	1.00		µg/L	1	2/18/2014 7:58:00 PM
Methylene chloride	ND	1.00		µg/L	1	2/18/2014 7:58:00 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	2/18/2014 7:58:00 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	2/18/2014 7:58:00 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	2/18/2014 7:58:00 PM
cis-1,2-Dichloroethene	9.62	1.00		µg/L	1	2/18/2014 7:58:00 PM
Chloroform	ND	1.00		µg/L	1	2/18/2014 7:58:00 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	2/18/2014 7:58:00 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	2/18/2014 7:58:00 PM
Carbon tetrachloride	ND	1.00		µg/L	1	2/18/2014 7:58:00 PM
1,2-Dichloroethane	ND	1.00		µg/L	1	2/18/2014 7:58:00 PM
Trichloroethene (TCE)	275	5.00	D	µg/L	10	2/20/2014 6:20:00 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	2/18/2014 7:58:00 PM
Bromodichloromethane	ND	1.00		µg/L	1	2/18/2014 7:58:00 PM
Dibromomethane	ND	1.00		µg/L	1	2/18/2014 7:58:00 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	2/18/2014 7:58:00 PM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	2/18/2014 7:58:00 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	2/18/2014 7:58:00 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	2/18/2014 7:58:00 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	2/18/2014 7:58:00 PM
Dibromochloromethane	ND	1.00		µg/L	1	2/18/2014 7:58:00 PM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	2/18/2014 7:58:00 PM
Chlorobenzene	ND	1.00		µg/L	1	2/18/2014 7:58:00 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	2/18/2014 7:58:00 PM
Bromoform	ND	1.00		µg/L	1	2/18/2014 7:58:00 PM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	2/18/2014 7:58:00 PM
Bromobenzene	ND	1.00		µg/L	1	2/18/2014 7:58:00 PM
2-Chlorotoluene	ND	1.00		µg/L	1	2/18/2014 7:58:00 PM
4-Chlorotoluene	ND	1.00		µg/L	1	2/18/2014 7:58:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 2/14/2014 9:30:00 AM
Project: B+K RI
Lab ID: 1402130-003
Matrix: Water
Client Sample ID: 21414MW-9:GW

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R12595		Analyst: EM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	2/18/2014 7:58:00 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	2/18/2014 7:58:00 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	2/18/2014 7:58:00 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	2/18/2014 7:58:00 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	2/18/2014 7:58:00 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	2/18/2014 7:58:00 PM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	2/18/2014 7:58:00 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	2/18/2014 7:58:00 PM
Surr: Dibromofluoromethane	100	72.1-122		%REC	1	2/18/2014 7:58:00 PM
Surr: Toluene-d8	96.9	62.1-129		%REC	1	2/18/2014 7:58:00 PM
Surr: 1-Bromo-4-fluorobenzene	98.6	66.8-124		%REC	1	2/18/2014 7:58:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B+K RI
Lab ID: 1402130-004
Client Sample ID: 21414OS-1:GW

Collection Date: 2/14/2014 1:30:00 PM
Matrix: Water

Volatile Organic Compounds by EPA Method 8260

Batch ID: R12595 Analyst: EM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane	ND	1.00		µg/L	1	2/18/2014 8:26:00 PM
Chloromethane	ND	1.00		µg/L	1	2/18/2014 8:26:00 PM
Vinyl chloride	ND	0.200		µg/L	1	2/18/2014 8:26:00 PM
Bromomethane	ND	1.00		µg/L	1	2/18/2014 8:26:00 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	2/18/2014 8:26:00 PM
Chloroethane	ND	1.00		µg/L	1	2/18/2014 8:26:00 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	2/18/2014 8:26:00 PM
Methylene chloride	ND	1.00		µg/L	1	2/18/2014 8:26:00 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	2/18/2014 8:26:00 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	2/18/2014 8:26:00 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	2/18/2014 8:26:00 PM
cis-1,2-Dichloroethene	15.3	1.00		µg/L	1	2/18/2014 8:26:00 PM
Chloroform	ND	1.00		µg/L	1	2/18/2014 8:26:00 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	2/18/2014 8:26:00 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	2/18/2014 8:26:00 PM
Carbon tetrachloride	ND	1.00		µg/L	1	2/18/2014 8:26:00 PM
1,2-Dichloroethane	ND	1.00		µg/L	1	2/18/2014 8:26:00 PM
Trichloroethene (TCE)	5.31	0.500		µg/L	1	2/18/2014 8:26:00 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	2/18/2014 8:26:00 PM
Bromodichloromethane	ND	1.00		µg/L	1	2/18/2014 8:26:00 PM
Dibromomethane	ND	1.00		µg/L	1	2/18/2014 8:26:00 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	2/18/2014 8:26:00 PM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	2/18/2014 8:26:00 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	2/18/2014 8:26:00 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	2/18/2014 8:26:00 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	2/18/2014 8:26:00 PM
Dibromochloromethane	ND	1.00		µg/L	1	2/18/2014 8:26:00 PM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	2/18/2014 8:26:00 PM
Chlorobenzene	ND	1.00		µg/L	1	2/18/2014 8:26:00 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	2/18/2014 8:26:00 PM
Bromoform	ND	1.00		µg/L	1	2/18/2014 8:26:00 PM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	2/18/2014 8:26:00 PM
Bromobenzene	ND	1.00		µg/L	1	2/18/2014 8:26:00 PM
2-Chlorotoluene	ND	1.00		µg/L	1	2/18/2014 8:26:00 PM
4-Chlorotoluene	ND	1.00		µg/L	1	2/18/2014 8:26:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 2/14/2014 1:30:00 PM
Project: B+K RI
Lab ID: 1402130-004
Matrix: Water
Client Sample ID: 21414OS-1:GW

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R12595		Analyst: EM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	2/18/2014 8:26:00 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	2/18/2014 8:26:00 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	2/18/2014 8:26:00 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	2/18/2014 8:26:00 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	2/18/2014 8:26:00 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	2/18/2014 8:26:00 PM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	2/18/2014 8:26:00 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	2/18/2014 8:26:00 PM
Surr: Dibromofluoromethane	104	72.1-122		%REC	1	2/18/2014 8:26:00 PM
Surr: Toluene-d8	103	62.1-129		%REC	1	2/18/2014 8:26:00 PM
Surr: 1-Bromo-4-fluorobenzene	95.2	66.8-124		%REC	1	2/18/2014 8:26:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1402130
CLIENT: Shannon & Wilson
Project: B+K RI

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **MB-R12595**	SampType: **MBLK**	Units: **µg/L**	Prep Date: **2/18/2014**	RunNo: **12595**	
Client ID: **MBLKW**	Batch ID: **R12595**		Analysis Date: **2/18/2014**	SeqNo: **251511**	

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	ND	1.00									
Chloromethane	ND	1.00									
Vinyl chloride	ND	0.200									
Bromomethane	ND	1.00									
Trichlorofluoromethane (CFC-11)	ND	1.00									
Chloroethane	ND	1.00									
1,1-Dichloroethene	ND	1.00									
Methylene chloride	ND	1.00									
trans-1,2-Dichloroethene	ND	1.00									
1,1-Dichloroethane	ND	1.00									
2,2-Dichloropropane	ND	2.00									
cis-1,2-Dichloroethene	ND	1.00									
Chloroform	ND	1.00									
1,1,1-Trichloroethane (TCA)	ND	1.00									
1,1-Dichloropropene	ND	1.00									
Carbon tetrachloride	ND	1.00									
1,2-Dichloroethane	ND	1.00									
Trichloroethene (TCE)	ND	0.500									
1,2-Dichloropropane	ND	1.00									
Bromodichloromethane	ND	1.00									
Dibromomethane	ND	1.00									
cis-1,3-Dichloropropene	ND	1.00									
trans-1,3-Dichloropropene	ND	1.00									
1,1,2-Trichloroethane	ND	1.00									
1,3-Dichloropropane	ND	1.00									
Tetrachloroethene (PCE)	ND	1.00									
Dibromochloromethane	ND	1.00									
1,2-Dibromoethane (EDB)	ND	0.0600									
Chlorobenzene	ND	1.00									

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *2/20/2014*

Work Order: 1402130
CLIENT: Shannon & Wilson
Project: B+K RI

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **MB-R12595**	SampType: **MBLK**	Units: **µg/L**	Prep Date: **2/18/2014**	RunNo: **12595**
Client ID: **MBLKW**	Batch ID: **R12595**		Analysis Date: **2/18/2014**	SeqNo: **251511**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	1.00									
Bromoform	ND	1.00									
1,1,2,2-Tetrachloroethane	ND	1.00									
Bromobenzene	ND	1.00									
2-Chlorotoluene	ND	1.00									
4-Chlorotoluene	ND	1.00									
1,2,3-Trichloropropane	ND	1.00									
1,2,4-Trichlorobenzene	ND	2.00									
1,3-Dichlorobenzene	ND	1.00									
1,4-Dichlorobenzene	ND	1.00									
1,2-Dichlorobenzene	ND	1.00									
1,2-Dibromo-3-chloropropane	ND	1.00									
Hexachloro-1,3-butadiene	ND	4.00									
1,2,3-Trichlorobenzene	ND	4.00									
Surr: Dibromofluoromethane	48.3		50.00		96.6	72.1	122				
Surr: Toluene-d8	47.7		50.00		95.5	62.1	129				
Surr: 1-Bromo-4-fluorobenzene	46.7		50.00		93.3	66.8	124				

Sample ID: **1402148-002ADUP**	SampType: **DUP**	Units: **µg/L**	Prep Date: **2/18/2014**	RunNo: **12595**
Client ID: **BATCH**	Batch ID: **R12595**		Analysis Date: **2/18/2014**	SeqNo: **251677**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	ND	1.00						0		30	
Chloromethane	9.72	1.00						8.344	15.3	30	
Vinyl chloride	ND	0.200						0		30	
Bromomethane	ND	1.00						0		30	
Trichlorofluoromethane (CFC-11)	ND	1.00						0		30	
Chloroethane	ND	1.00						0		30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *2/20/2014*

Work Order: 1402130
CLIENT: Shannon & Wilson
Project: B+K RI

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1402148-002ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **2/18/2014** RunNo: **12595**
Client ID: **BATCH** Batch ID: **R12595** Analysis Date: **2/18/2014** SeqNo: **251677**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	ND	1.00						0		30	
Methylene chloride	ND	1.00						0		30	
trans-1,2-Dichloroethene	ND	1.00						0		30	
1,1-Dichloroethane	ND	1.00						0		30	
2,2-Dichloropropane	ND	2.00						0		30	
cis-1,2-Dichloroethene	ND	1.00						0		30	
Chloroform	ND	1.00						0		30	
1,1,1-Trichloroethane (TCA)	ND	1.00						0		30	
1,1-Dichloropropene	ND	1.00						0		30	
Carbon tetrachloride	ND	1.00						0		30	
1,2-Dichloroethane	ND	1.00						0		30	
Trichloroethene (TCE)	ND	0.500						0		30	
1,2-Dichloropropane	ND	1.00						0		30	
Bromodichloromethane	ND	1.00						0		30	
Dibromomethane	ND	1.00						0		30	
cis-1,3-Dichloropropene	ND	1.00						0		30	
trans-1,3-Dichloropropene	ND	1.00						0		30	
1,1,2-Trichloroethane	ND	1.00						0		30	
1,3-Dichloropropane	ND	1.00						0		30	
Tetrachloroethene (PCE)	ND	1.00						0		30	
Dibromochloromethane	ND	1.00						0		30	
1,2-Dibromoethane (EDB)	ND	0.0600						0		30	
Chlorobenzene	ND	1.00						0		30	
1,1,1,2-Tetrachloroethane	ND	1.00						0		30	
Bromoform	ND	1.00						0		30	
1,1,2,2-Tetrachloroethane	ND	1.00						0		30	
Bromobenzene	ND	1.00						0		30	
2-Chlorotoluene	ND	1.00						0		30	
4-Chlorotoluene	ND	1.00						0		30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1402130
CLIENT: Shannon & Wilson
Project: B+K RI

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1402148-002ADUP**	SampType: **DUP**			Units: **µg/L**		Prep Date: **2/18/2014**		RunNo: **12595**		
Client ID: **BATCH**	Batch ID: **R12595**					Analysis Date: **2/18/2014**		SeqNo: **251677**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,3-Trichloropropane	ND	1.00						0		30	
1,2,4-Trichlorobenzene	ND	2.00						0		30	
1,3-Dichlorobenzene	ND	1.00						0		30	
1,4-Dichlorobenzene	ND	1.00						0		30	
1,2-Dichlorobenzene	ND	1.00						0		30	
1,2-Dibromo-3-chloropropane	ND	1.00						0		30	
Hexachloro-1,3-butadiene	ND	4.00						0		30	
1,2,3-Trichlorobenzene	ND	4.00						0		30	
Surr: Dibromofluoromethane	49.6		50.00		99.3	72.1	122		0		
Surr: Toluene-d8	49.5		50.00		98.9	62.1	129		0		
Surr: 1-Bromo-4-fluorobenzene	50.1		50.00		100	66.8	124		0		

Sample ID: **1402148-003AMS**	SampType: **MS**			Units: **µg/L**		Prep Date: **2/18/2014**		RunNo: **12595**		
Client ID: **BATCH**	Batch ID: **R12595**					Analysis Date: **2/18/2014**		SeqNo: **251678**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	54.9	1.00	20.00	0	274	33.3	122				S
Chloromethane	44.4	1.00	20.00	9.561	174	48.2	145				S
Vinyl chloride	30.2	0.200	20.00	0	151	45.6	149				S
Bromomethane	25.6	1.00	20.00	0	128	31.5	135				
Trichlorofluoromethane (CFC-11)	29.5	1.00	20.00	0	147	54.7	138				S
Chloroethane	29.8	1.00	20.00	0	149	49.9	143				S
1,1-Dichloroethene	28.6	1.00	20.00	0	143	63	141				S
Methylene chloride	25.5	1.00	20.00	0	128	61.6	135				
trans-1,2-Dichloroethene	26.8	1.00	20.00	0	134	63.5	138				
1,1-Dichloroethane	24.7	1.00	20.00	0	123	67.8	136				
2,2-Dichloropropane	24.4	2.00	20.00	0	122	31.5	121				S
cis-1,2-Dichloroethene	22.9	1.00	20.00	0	115	67.1	123				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1402130
CLIENT: Shannon & Wilson
Project: B+K RI

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1402148-003AMS** SampType: **MS** Units: **µg/L** Prep Date: **2/18/2014** RunNo: **12595**
Client ID: **BATCH** Batch ID: **R12595** Analysis Date: **2/18/2014** SeqNo: **251678**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloroform	23.0	1.00	20.00	0	115	66.7	136				
1,1,1-Trichloroethane (TCA)	23.6	1.00	20.00	0	118	64.2	146				
1,1-Dichloropropene	22.7	1.00	20.00	0	113	73.8	136				
Carbon tetrachloride	25.2	1.00	20.00	0	126	62.7	146				
1,2-Dichloroethane	23.5	1.00	20.00	0	118	63.4	137				
Trichloroethene (TCE)	22.9	0.500	20.00	0	114	60.4	134				
1,2-Dichloropropane	24.3	1.00	20.00	0	121	62.6	138				
Bromodichloromethane	23.3	1.00	20.00	0	116	59.4	139				
Dibromomethane	23.6	1.00	20.00	0	118	63.6	139				
cis-1,3-Dichloropropene	22.6	1.00	20.00	0	113	63.8	132				
trans-1,3-Dichloropropene	23.3	1.00	20.00	0	116	57.7	125				
1,1,2-Trichloroethane	23.9	1.00	20.00	0	120	59.4	127				
1,3-Dichloropropane	23.1	1.00	20.00	0	115	64.3	135				
Tetrachloroethene (PCE)	23.9	1.00	20.00	0	119	50.3	133				
Dibromochloromethane	23.3	1.00	20.00	0	116	61.6	139				
1,2-Dibromoethane (EDB)	24.5	0.0600	20.00	0	122	63.2	134				
Chlorobenzene	24.1	1.00	20.00	0	121	65.8	134				
1,1,1,2-Tetrachloroethane	24.7	1.00	20.00	0	124	65.4	135				
Bromoform	23.5	1.00	20.00	0	117	57.7	139				
1,1,2,2-Tetrachloroethane	23.0	1.00	20.00	0	115	59.8	146				
Bromobenzene	23.0	1.00	20.00	0	115	63.6	130				
2-Chlorotoluene	23.4	1.00	20.00	0	117	61.7	134				
4-Chlorotoluene	23.4	1.00	20.00	0	117	58.4	134				
1,2,3-Trichloropropane	23.0	1.00	20.00	0	115	62.4	129				
1,2,4-Trichlorobenzene	24.1	2.00	20.00	0	121	50.9	133				
1,3-Dichlorobenzene	23.4	1.00	20.00	0	117	58.2	128				
1,4-Dichlorobenzene	24.3	1.00	20.00	0	121	60.1	123				
1,2-Dichlorobenzene	23.0	1.00	20.00	0	115	65.4	133				
1,2-Dibromo-3-chloropropane	19.7	1.00	20.00	0	98.6	51.8	142				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: 2/20/2014

Work Order: 1402130
CLIENT: Shannon & Wilson
Project: B+K RI

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1402148-003AMS** SampType: **MS** Units: **µg/L** Prep Date: **2/18/2014** RunNo: **12595**
Client ID: **BATCH** Batch ID: **R12595** Analysis Date: **2/18/2014** SeqNo: **251678**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexachloro-1,3-butadiene	22.1	4.00	20.00	0	111	58.1	130				
1,2,3-Trichlorobenzene	22.0	4.00	20.00	0	110	57	131				
Surr: Dibromofluoromethane	48.9		50.00		97.9	72.1	122				
Surr: Toluene-d8	48.4		50.00		96.8	62.1	129				
Surr: 1-Bromo-4-fluorobenzene	49.2		50.00		98.4	66.8	124				

NOTES:
S - Outlying QC recoveries were observed. The method is in control as indicated by the LCS.

Sample ID: **LCS-R12595** SampType: **LCS** Units: **µg/L** Prep Date: **2/18/2014** RunNo: **12595**
Client ID: **LCSW** Batch ID: **R12595** Analysis Date: **2/18/2014** SeqNo: **251679**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	51.5	1.00	20.00	0	258	43	136				S
Chloromethane	29.9	1.00	20.00	0	149	43.9	139				S
Vinyl chloride	24.4	0.200	20.00	0	122	57.1	131				
Bromomethane	20.0	1.00	20.00	0	100	44.8	148				
Trichlorofluoromethane (CFC-11)	23.9	1.00	20.00	0	119	63.7	133				
Chloroethane	23.6	1.00	20.00	0	118	53	141				
1,1-Dichloroethene	23.6	1.00	20.00	0	118	65.6	136				
Methylene chloride	21.2	1.00	20.00	0	106	67.1	131				
trans-1,2-Dichloroethene	21.0	1.00	20.00	0	105	71.7	129				
1,1-Dichloroethane	19.9	1.00	20.00	0	99.7	67.9	134				
2,2-Dichloropropane	20.6	2.00	20.00	0	103	33.7	152				
cis-1,2-Dichloroethene	19.4	1.00	20.00	0	96.9	71.1	130				
Chloroform	19.5	1.00	20.00	0	97.5	76.7	124				
1,1,1-Trichloroethane (TCA)	20.5	1.00	20.00	0	102	71	131				
1,1-Dichloropropene	19.3	1.00	20.00	0	96.4	74.5	126				
Carbon tetrachloride	19.9	1.00	20.00	0	99.4	66.2	134				
1,2-Dichloroethane	20.4	1.00	20.00	0	102	70	129				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1402130
CLIENT: Shannon & Wilson
Project: B+K RI

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **LCS-R12595** SampType: **LCS** Units: **µg/L** Prep Date: **2/18/2014** RunNo: **12595**
Client ID: **LCSW** Batch ID: **R12595** Analysis Date: **2/18/2014** SeqNo: **251679**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichloroethene (TCE)	19.3	0.500	20.00	0	96.7	65.2	136				
1,2-Dichloropropane	20.8	1.00	20.00	0	104	70.5	130				
Bromodichloromethane	19.8	1.00	20.00	0	99.0	74.6	127				
Dibromomethane	21.2	1.00	20.00	0	106	75.5	126				
cis-1,3-Dichloropropene	19.6	1.00	20.00	0	98.2	62.6	137				
trans-1,3-Dichloropropene	19.6	1.00	20.00	0	98.0	58.5	142				
1,1,2-Trichloroethane	21.0	1.00	20.00	0	105	76	124				
1,3-Dichloropropane	21.2	1.00	20.00	0	106	73.5	127				
Tetrachloroethene (PCE)	21.2	1.00	20.00	0	106	47.5	147				
Dibromochloromethane	21.1	1.00	20.00	0	105	67.2	134				
1,2-Dibromoethane (EDB)	21.6	0.0600	20.00	0	108	73.6	125				
Chlorobenzene	19.5	1.00	20.00	0	97.5	73.9	126				
1,1,1,2-Tetrachloroethane	19.4	1.00	20.00	0	96.8	76.8	124				
Bromoform	19.6	1.00	20.00	0	97.8	63.8	135				
1,1,2,2-Tetrachloroethane	20.5	1.00	20.00	0	103	62.9	132				
Bromobenzene	19.2	1.00	20.00	0	95.9	71	131				
2-Chlorotoluene	18.6	1.00	20.00	0	93.2	70.8	130				
4-Chlorotoluene	19.1	1.00	20.00	0	95.3	70.1	131				
1,2,3-Trichloropropane	20.4	1.00	20.00	0	102	67.7	131				
1,2,4-Trichlorobenzene	20.1	2.00	20.00	0	101	72.4	127				
1,3-Dichlorobenzene	20.2	1.00	20.00	0	101	72.4	129				
1,4-Dichlorobenzene	19.4	1.00	20.00	0	97.0	70.6	128				
1,2-Dichlorobenzene	20.6	1.00	20.00	0	103	74.2	129				
1,2-Dibromo-3-chloropropane	21.8	1.00	20.00	0	109	63.1	136				
Hexachloro-1,3-butadiene	20.3	4.00	20.00	0	101	58.6	138				
1,2,3-Trichlorobenzene	20.8	4.00	20.00	0	104	66.4	132				
Surr: Dibromofluoromethane	48.6		50.00		97.1	72.1	122				
Surr: Toluene-d8	49.4		50.00		98.7	62.1	129				
Surr: 1-Bromo-4-fluorobenzene	48.0		50.00		96.1	66.8	124				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *2/20/2014*

Work Order: 1402130
CLIENT: Shannon & Wilson
Project: B+K RI

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **LCS-R12595**	SampType: **LCS**			Units: **µg/L**		Prep Date: **2/18/2014**		RunNo: **12595**			
Client ID: **LCSW**	Batch ID: **R12595**					Analysis Date: **2/18/2014**		SeqNo: **251679**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

NOTES:
S - Outlying QC recoveries were observed (Dichlorodifluoromethane, Chloroethane; high bias). There were no detections of these analytes in the following samples.

Sample ID: **CCV-R12633**	SampType: **CCV**			Units: **µg/L**		Prep Date: **2/19/2014**		RunNo: **12633**			
Client ID: **CCV**	Batch ID: **R12633**					Analysis Date: **2/19/2014**		SeqNo: **252171**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	17.6	0.200	20.00	0	87.9	80	120				
cis-1,2-Dichloroethene	20.3	1.00	20.00	0	102	80	120				
Trichloroethene (TCE)	20.9	0.500	20.00	0	104	80	120				
Surr: Dibromofluoromethane	48.7		50.00		97.3	72.1	122				
Surr: Toluene-d8	50.5		50.00		101	62.1	129				
Surr: 1-Bromo-4-fluorobenzene	52.3		50.00		105	66.8	124				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Sample Log-In Check List

Client Name:	**SW**	Work Order Number:	**1402130**
Logged by:	**Chelsea Ward**	Date Received:	**2/14/2014 5:26:00 PM**

Chain of Custody

1.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐	
2.	How was the sample delivered?	Client			

Log In

3.	Coolers are present?	Yes ☑	No ☐	NA ☐	
4.	Shipping container/cooler in good condition?	Yes ☑	No ☐		
5.	Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Required ☑	
6.	Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐	
7.	Were all coolers received at a temperature of >0°C to 10.0°C	Yes ☑	No ☐	NA ☐	
8.	Sample(s) in proper container(s)?	Yes ☑	No ☐		
9.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐		
10.	Are samples properly preserved?	Yes ☑	No ☐		
11.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐	
12.	Is the headspace in the VOA vials?	Yes ☐	No ☑	NA ☐	
13.	Did all samples containers arrive in good condition(unbroken)?	Yes ☑	No ☐		
14.	Does paperwork match bottle labels?	Yes ☑	No ☐		
15.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐		
16.	Is it clear what analyses were requested?	Yes ☑	No ☐		
17.	Were all holding times able to be met?	Yes ☑	No ☐		

Special Handling (if applicable)

18.	Was client notified of all discrepancies with this order?	Yes ☐	No ☐	NA ☑	

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

19. Additional remarks:

Item Information

Item #	Temp °C	Condition
Cooler	9.2	Good
Sample	7.9	Good

140230

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS
CORPORATE HEADQUARTERS
400 N. 34th Street, Suite 100
Seattle, WA 98103
(206) 632-8020

CHAIN-OF-CUSTODY RECORD

Page _____ of _____

Laboratory _____

Attn: _____

(Include preservative if used)

Analysis Parameters/Sample Container Description

Sample Identity	Lab No.	Time	Date Sampled	Comp.	Grab	1 VOCs						Total Number of Containers	Remarks/Matrix
21414MW-7:6W		1245	2/14/14			X							
21414MW-8:6W		1100											
21414MW-9:6W		930											
21414 OS-1:6W		1330											

Project Information	
Project No.:	21-1-12357-003
Project Name:	B&K RI
Contact:	Cody Johnson
Ongoing Project?	Yes ☐ No ☐
Sampler:	

Sample Receipt	
Total No. of Containers:	
COC Seals/Intact? Y/N/NA	
Received Good Cond./Cold	
Delivery Method:	
(attach shipping bill, if any)	

Instructions	
Requested Turnaround Time:	21
Special Instructions:	

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.
Signature: Time: 1726	Signature: Time:	Signature: Time:
Printed Name: Cody Johnson Date: 2/14/14	Printed Name: Date:	Printed Name: Date:
Company: SAW	Company:	Company:

Received By: 1.	Received By: 2.	Received By: 3.
Signature: Time: 1726	Signature: Time:	Signature: Time:
Printed Name: Chelsea Wolf Date: 2/14/14	Printed Name: Date:	Printed Name: Date:
Company: FAI	Company:	Company:

Distribution: White - w/shipment - returned to Shannon & Wilson w/ laboratory report
Yellow - w/shipment - for consignee files
Pink - Shannon & Wilson - job file

No. 633

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

Shannon & Wilson
Cody Johnson
400 N. 34th Street, Suite 100
Seattle, WA 98103

RE: B&K RI
Lab ID: 1308214

September 12, 2013

Attention Cody Johnson:

Fremont Analytical, Inc. received 16 sample(s) on 8/29/2013 for the analyses presented in the following report.

Sample Moisture (Percent Moisture)
Volatile Organic Compounds by EPA Method 8260

This report consists of the following:

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

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

Thank you for using Fremont Analytical.

Sincerely,

Michael Dee
Sr. Chemist / Principal

Fremont Analytical

Date: *11/14/2013*

CLIENT: Shannon & Wilson
Project: B&K RI
Lab Order: 1308214

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1308214-001	GP-30:4	08/29/2013 9:45 AM	08/29/2013 3:49 PM
1308214-002	GP-30:8	08/29/2013 9:50 AM	08/29/2013 3:49 PM
1308214-003	GP-29:3	08/29/2013 10:10 AM	08/29/2013 3:49 PM
1308214-004	GP-29:6.5	08/29/2013 10:15 AM	08/29/2013 3:49 PM
1308214-005	GP-29:8	08/29/2013 10:20 AM	08/29/2013 3:49 PM
1308214-006	GP-24:3	08/29/2013 10:50 AM	08/29/2013 3:49 PM
1308214-007	GP-24:6.5	08/29/2013 10:55 AM	08/29/2013 3:49 PM
1308214-008	GP-24:12	08/29/2013 11:05 AM	08/29/2013 3:49 PM
1308214-009	GP-25:4	08/29/2013 11:40 AM	08/29/2013 3:49 PM
1308214-010	GP-25:9.5	08/29/2013 11:55 AM	08/29/2013 3:49 PM
1308214-011	GP-26:4	08/29/2013 12:15 PM	08/29/2013 3:49 PM
1308214-012	GP-26:8	08/29/2013 12:30 PM	08/29/2013 3:49 PM
1308214-013	GP-27:4	08/29/2013 12:40 PM	08/29/2013 3:49 PM
1308214-014	GP-27:8	08/29/2013 12:45 PM	08/29/2013 3:49 PM
1308214-015	GP-28:4	08/29/2013 1:00 PM	08/29/2013 3:49 PM
1308214-016	GP-28:8	08/29/2013 1:05 PM	08/29/2013 3:49 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **1308214**

Date: **9/12/2013**

CLIENT: Shannon & Wilson
Project: B&K RI

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

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

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

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

Client: Shannon & Wilson
Project: B&K RI
Lab ID: 1308214-001
Client Sample ID: **GP-30:4**

Collection Date: 8/29/2013 9:45:00 AM
Matrix: Soil

Volatile Organic Compounds by EPA Method 8260

Batch ID: 5304 Analyst: EM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	0.0507		mg/Kg-dry	1	8/31/2013 7:39:00 AM
Chloromethane	ND	0.0507		mg/Kg-dry	1	8/31/2013 7:39:00 AM
Vinyl chloride	ND	0.00169		mg/Kg-dry	1	8/31/2013 7:39:00 AM
Bromomethane	ND	0.0761		mg/Kg-dry	1	8/31/2013 7:39:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0423		mg/Kg-dry	1	8/31/2013 7:39:00 AM
Chloroethane	ND	0.0507		mg/Kg-dry	1	8/31/2013 7:39:00 AM
1,1-Dichloroethene	ND	0.0423		mg/Kg-dry	1	8/31/2013 7:39:00 AM
Methylene chloride	ND	0.0169		mg/Kg-dry	1	8/31/2013 7:39:00 AM
trans-1,2-Dichloroethene	ND	0.0169		mg/Kg-dry	1	8/31/2013 7:39:00 AM
1,1-Dichloroethane	ND	0.0169		mg/Kg-dry	1	8/31/2013 7:39:00 AM
2,2-Dichloropropane	ND	0.0423		mg/Kg-dry	1	8/31/2013 7:39:00 AM
cis-1,2-Dichloroethene	ND	0.0169		mg/Kg-dry	1	8/31/2013 7:39:00 AM
Chloroform	ND	0.0169		mg/Kg-dry	1	8/31/2013 7:39:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0169		mg/Kg-dry	1	8/31/2013 7:39:00 AM
1,1-Dichloropropene	ND	0.0169		mg/Kg-dry	1	8/31/2013 7:39:00 AM
Carbon tetrachloride	ND	0.0169		mg/Kg-dry	1	8/31/2013 7:39:00 AM
1,2-Dichloroethane (EDC)	ND	0.0254		mg/Kg-dry	1	8/31/2013 7:39:00 AM
Trichloroethene (TCE)	ND	0.0254		mg/Kg-dry	1	8/31/2013 7:39:00 AM
1,2-Dichloropropane	ND	0.0169		mg/Kg-dry	1	8/31/2013 7:39:00 AM
Bromodichloromethane	ND	0.0169		mg/Kg-dry	1	8/31/2013 7:39:00 AM
Dibromomethane	ND	0.0338		mg/Kg-dry	1	8/31/2013 7:39:00 AM
cis-1,3-Dichloropropene	ND	0.0169		mg/Kg-dry	1	8/31/2013 7:39:00 AM
trans-1,3-Dichloropropylene	ND	0.0254		mg/Kg-dry	1	8/31/2013 7:39:00 AM
1,1,2-Trichloroethane	ND	0.0254		mg/Kg-dry	1	8/31/2013 7:39:00 AM
1,3-Dichloropropane	ND	0.0423		mg/Kg-dry	1	8/31/2013 7:39:00 AM
Tetrachloroethene (PCE)	ND	0.0169		mg/Kg-dry	1	8/31/2013 7:39:00 AM
Dibromochloromethane	ND	0.0254		mg/Kg-dry	1	8/31/2013 7:39:00 AM
1,2-Dibromoethane (EDB)	ND	0.00423		mg/Kg-dry	1	8/31/2013 7:39:00 AM
Chlorobenzene	ND	0.0169		mg/Kg-dry	1	8/31/2013 7:39:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0254		mg/Kg-dry	1	8/31/2013 7:39:00 AM
Bromoform	ND	0.0169		mg/Kg-dry	1	8/31/2013 7:39:00 AM
1,1,2,2-Tetrachloroethane	ND	0.0169		mg/Kg-dry	1	8/31/2013 7:39:00 AM
Bromobenzene	ND	0.0254		mg/Kg-dry	1	8/31/2013 7:39:00 AM
2-Chlorotoluene	ND	0.0169		mg/Kg-dry	1	8/31/2013 7:39:00 AM
4-Chlorotoluene	ND	0.0169		mg/Kg-dry	1	8/31/2013 7:39:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B&K RI
Lab ID: 1308214-001
Client Sample ID: **GP-30:4**

Collection Date: 8/29/2013 9:45:00 AM
Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 5304		Analyst: EM
1,2,3-Trichloropropane	ND	0.0169		mg/Kg-dry	1	8/31/2013 7:39:00 AM
1,2,4-Trichlorobenzene	ND	0.0423		mg/Kg-dry	1	8/31/2013 7:39:00 AM
1,3-Dichlorobenzene	ND	0.0169		mg/Kg-dry	1	8/31/2013 7:39:00 AM
1,4-Dichlorobenzene	ND	0.0169		mg/Kg-dry	1	8/31/2013 7:39:00 AM
1,2-Dichlorobenzene	ND	0.0169		mg/Kg-dry	1	8/31/2013 7:39:00 AM
1,2-Dibromo-3-chloropropane	ND	0.0254		mg/Kg-dry	1	8/31/2013 7:39:00 AM
Hexachloro-1,3-butadiene	ND	0.0845		mg/Kg-dry	1	8/31/2013 7:39:00 AM
1,2,3-Trichlorobenzene	ND	0.0169		mg/Kg-dry	1	8/31/2013 7:39:00 AM
Surr: Dibromofluoromethane	102	63.7-129		%REC	1	8/31/2013 7:39:00 AM
Surr: Toluene-d8	97.5	61.4-128		%REC	1	8/31/2013 7:39:00 AM
Surr: 1-Bromo-4-fluorobenzene	97.2	63.1-141		%REC	1	8/31/2013 7:39:00 AM
Sample Moisture (Percent Moisture)				Batch ID: R9819		Analyst: JS
Percent Moisture	21.9			wt%	1	8/30/2013 8:20:48 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 8/29/2013 10:10:00 AM
Project: B&K RI
Lab ID: 1308214-003
Matrix: Soil
Client Sample ID: GP-29:3

Volatile Organic Compounds by EPA Method 8260

Batch ID: 5304 Analyst: EM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	0.0443		mg/Kg-dry	1	8/31/2013 9:26:00 AM
Chloromethane	ND	0.0443		mg/Kg-dry	1	8/31/2013 9:26:00 AM
Vinyl chloride	ND	0.00148		mg/Kg-dry	1	8/31/2013 9:26:00 AM
Bromomethane	ND	0.0664		mg/Kg-dry	1	8/31/2013 9:26:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0369		mg/Kg-dry	1	8/31/2013 9:26:00 AM
Chloroethane	ND	0.0443		mg/Kg-dry	1	8/31/2013 9:26:00 AM
1,1-Dichloroethene	ND	0.0369		mg/Kg-dry	1	8/31/2013 9:26:00 AM
Methylene chloride	ND	0.0148		mg/Kg-dry	1	8/31/2013 9:26:00 AM
trans-1,2-Dichloroethene	ND	0.0148		mg/Kg-dry	1	8/31/2013 9:26:00 AM
1,1-Dichloroethane	ND	0.0148		mg/Kg-dry	1	8/31/2013 9:26:00 AM
2,2-Dichloropropane	ND	0.0369		mg/Kg-dry	1	8/31/2013 9:26:00 AM
cis-1,2-Dichloroethene	0.0295	0.0148		mg/Kg-dry	1	8/31/2013 9:26:00 AM
Chloroform	ND	0.0148		mg/Kg-dry	1	8/31/2013 9:26:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0148		mg/Kg-dry	1	8/31/2013 9:26:00 AM
1,1-Dichloropropene	ND	0.0148		mg/Kg-dry	1	8/31/2013 9:26:00 AM
Carbon tetrachloride	ND	0.0148		mg/Kg-dry	1	8/31/2013 9:26:00 AM
1,2-Dichloroethane (EDC)	ND	0.0221		mg/Kg-dry	1	8/31/2013 9:26:00 AM
Trichloroethene (TCE)	ND	0.0221		mg/Kg-dry	1	8/31/2013 9:26:00 AM
1,2-Dichloropropane	ND	0.0148		mg/Kg-dry	1	8/31/2013 9:26:00 AM
Bromodichloromethane	ND	0.0148		mg/Kg-dry	1	8/31/2013 9:26:00 AM
Dibromomethane	ND	0.0295		mg/Kg-dry	1	8/31/2013 9:26:00 AM
cis-1,3-Dichloropropene	ND	0.0148		mg/Kg-dry	1	8/31/2013 9:26:00 AM
trans-1,3-Dichloropropylene	ND	0.0221		mg/Kg-dry	1	8/31/2013 9:26:00 AM
1,1,2-Trichloroethane	ND	0.0221		mg/Kg-dry	1	8/31/2013 9:26:00 AM
1,3-Dichloropropane	ND	0.0369		mg/Kg-dry	1	8/31/2013 9:26:00 AM
Tetrachloroethene (PCE)	ND	0.0148		mg/Kg-dry	1	8/31/2013 9:26:00 AM
Dibromochloromethane	ND	0.0221		mg/Kg-dry	1	8/31/2013 9:26:00 AM
1,2-Dibromoethane (EDB)	ND	0.00369		mg/Kg-dry	1	8/31/2013 9:26:00 AM
Chlorobenzene	ND	0.0148		mg/Kg-dry	1	8/31/2013 9:26:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0221		mg/Kg-dry	1	8/31/2013 9:26:00 AM
Bromoform	ND	0.0148		mg/Kg-dry	1	8/31/2013 9:26:00 AM
1,1,2,2-Tetrachloroethane	ND	0.0148		mg/Kg-dry	1	8/31/2013 9:26:00 AM
Bromobenzene	ND	0.0221		mg/Kg-dry	1	8/31/2013 9:26:00 AM
2-Chlorotoluene	ND	0.0148		mg/Kg-dry	1	8/31/2013 9:26:00 AM
4-Chlorotoluene	ND	0.0148		mg/Kg-dry	1	8/31/2013 9:26:00 AM

Qualifiers:

- B Analyte detected in the associated Method Blank
- D Dilution was required
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- ND Not detected at the Reporting Limit
- RL Reporting Limit
- S Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B&K RI
Lab ID: 1308214-003
Client Sample ID: GP-29:3

Collection Date: 8/29/2013 10:10:00 AM
Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 5304		Analyst: EM
1,2,3-Trichloropropane	ND	0.0148		mg/Kg-dry	1	8/31/2013 9:26:00 AM
1,2,4-Trichlorobenzene	ND	0.0369		mg/Kg-dry	1	8/31/2013 9:26:00 AM
1,3-Dichlorobenzene	ND	0.0148		mg/Kg-dry	1	8/31/2013 9:26:00 AM
1,4-Dichlorobenzene	ND	0.0148		mg/Kg-dry	1	8/31/2013 9:26:00 AM
1,2-Dichlorobenzene	ND	0.0148		mg/Kg-dry	1	8/31/2013 9:26:00 AM
1,2-Dibromo-3-chloropropane	ND	0.0221		mg/Kg-dry	1	8/31/2013 9:26:00 AM
Hexachloro-1,3-butadiene	ND	0.0738		mg/Kg-dry	1	8/31/2013 9:26:00 AM
1,2,3-Trichlorobenzene	ND	0.0148		mg/Kg-dry	1	8/31/2013 9:26:00 AM
Surr: Dibromofluoromethane	99.8	63.7-129		%REC	1	8/31/2013 9:26:00 AM
Surr: Toluene-d8	109	61.4-128		%REC	1	8/31/2013 9:26:00 AM
Surr: 1-Bromo-4-fluorobenzene	95.0	63.1-141		%REC	1	8/31/2013 9:26:00 AM
Sample Moisture (Percent Moisture)				Batch ID: R9819		Analyst: JS
Percent Moisture	15.1			wt%	1	8/30/2013 8:20:48 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 8/29/2013 10:15:00 AM
Project: B&K RI
Lab ID: 1308214-004
Matrix: Soil
Client Sample ID: GP-29:6.5

Volatile Organic Compounds by EPA Method 8260

Batch ID: 5304 Analyst: EM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	0.0418		mg/Kg-dry	1	8/31/2013 12:08:00 PM
Chloromethane	ND	0.0418		mg/Kg-dry	1	8/31/2013 12:08:00 PM
Vinyl chloride	ND	0.00139		mg/Kg-dry	1	8/31/2013 12:08:00 PM
Bromomethane	ND	0.0627		mg/Kg-dry	1	8/31/2013 12:08:00 PM
Trichlorofluoromethane (CFC-11)	ND	0.0348		mg/Kg-dry	1	8/31/2013 12:08:00 PM
Chloroethane	ND	0.0418		mg/Kg-dry	1	8/31/2013 12:08:00 PM
1,1-Dichloroethene	ND	0.0348		mg/Kg-dry	1	8/31/2013 12:08:00 PM
Methylene chloride	ND	0.0139		mg/Kg-dry	1	8/31/2013 12:08:00 PM
trans-1,2-Dichloroethene	ND	0.0139		mg/Kg-dry	1	8/31/2013 12:08:00 PM
1,1-Dichloroethane	ND	0.0139		mg/Kg-dry	1	8/31/2013 12:08:00 PM
2,2-Dichloropropane	ND	0.0348		mg/Kg-dry	1	8/31/2013 12:08:00 PM
cis-1,2-Dichloroethene	ND	0.0139		mg/Kg-dry	1	8/31/2013 12:08:00 PM
Chloroform	ND	0.0139		mg/Kg-dry	1	8/31/2013 12:08:00 PM
1,1,1-Trichloroethane (TCA)	ND	0.0139		mg/Kg-dry	1	8/31/2013 12:08:00 PM
1,1-Dichloropropene	ND	0.0139		mg/Kg-dry	1	8/31/2013 12:08:00 PM
Carbon tetrachloride	ND	0.0139		mg/Kg-dry	1	8/31/2013 12:08:00 PM
1,2-Dichloroethane (EDC)	ND	0.0209		mg/Kg-dry	1	8/31/2013 12:08:00 PM
Trichloroethene (TCE)	ND	0.0209		mg/Kg-dry	1	8/31/2013 12:08:00 PM
1,2-Dichloropropane	ND	0.0139		mg/Kg-dry	1	8/31/2013 12:08:00 PM
Bromodichloromethane	ND	0.0139		mg/Kg-dry	1	8/31/2013 12:08:00 PM
Dibromomethane	ND	0.0278		mg/Kg-dry	1	8/31/2013 12:08:00 PM
cis-1,3-Dichloropropene	ND	0.0139		mg/Kg-dry	1	8/31/2013 12:08:00 PM
trans-1,3-Dichloropropylene	ND	0.0209		mg/Kg-dry	1	8/31/2013 12:08:00 PM
1,1,2-Trichloroethane	ND	0.0209		mg/Kg-dry	1	8/31/2013 12:08:00 PM
1,3-Dichloropropane	ND	0.0348		mg/Kg-dry	1	8/31/2013 12:08:00 PM
Tetrachloroethene (PCE)	ND	0.0139		mg/Kg-dry	1	8/31/2013 12:08:00 PM
Dibromochloromethane	ND	0.0209		mg/Kg-dry	1	8/31/2013 12:08:00 PM
1,2-Dibromoethane (EDB)	ND	0.00348		mg/Kg-dry	1	8/31/2013 12:08:00 PM
Chlorobenzene	ND	0.0139		mg/Kg-dry	1	8/31/2013 12:08:00 PM
1,1,1,2-Tetrachloroethane	ND	0.0209		mg/Kg-dry	1	8/31/2013 12:08:00 PM
Bromoform	ND	0.0139		mg/Kg-dry	1	8/31/2013 12:08:00 PM
1,1,2,2-Tetrachloroethane	ND	0.0139		mg/Kg-dry	1	8/31/2013 12:08:00 PM
Bromobenzene	ND	0.0209		mg/Kg-dry	1	8/31/2013 12:08:00 PM
2-Chlorotoluene	ND	0.0139		mg/Kg-dry	1	8/31/2013 12:08:00 PM
4-Chlorotoluene	ND	0.0139		mg/Kg-dry	1	8/31/2013 12:08:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B&K RI
Lab ID: 1308214-004
Client Sample ID: **GP-29:6.5**

Collection Date: 8/29/2013 10:15:00 AM
Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 5304		Analyst: EM
1,2,3-Trichloropropane	ND	0.0139		mg/Kg-dry	1	8/31/2013 12:08:00 PM
1,2,4-Trichlorobenzene	ND	0.0348		mg/Kg-dry	1	8/31/2013 12:08:00 PM
1,3-Dichlorobenzene	ND	0.0139		mg/Kg-dry	1	8/31/2013 12:08:00 PM
1,4-Dichlorobenzene	ND	0.0139		mg/Kg-dry	1	8/31/2013 12:08:00 PM
1,2-Dichlorobenzene	ND	0.0139		mg/Kg-dry	1	8/31/2013 12:08:00 PM
1,2-Dibromo-3-chloropropane	ND	0.0209		mg/Kg-dry	1	8/31/2013 12:08:00 PM
Hexachloro-1,3-butadiene	ND	0.0696		mg/Kg-dry	1	8/31/2013 12:08:00 PM
1,2,3-Trichlorobenzene	ND	0.0139		mg/Kg-dry	1	8/31/2013 12:08:00 PM
Surr: Dibromofluoromethane	96.3	63.7-129		%REC	1	8/31/2013 12:08:00 PM
Surr: Toluene-d8	131	61.4-128	S	%REC	1	8/31/2013 12:08:00 PM
Surr: 1-Bromo-4-fluorobenzene	130	63.1-141		%REC	1	8/31/2013 12:08:00 PM

NOTES:
S - High surrogate recovery attributed to TPH interference. The method is in control as indicated by the Method Blank (MB) & Laboratory Control Sample (LCS).

Sample Moisture (Percent Moisture)				Batch ID: R9819		Analyst: JS
Percent Moisture	10.7			wt%	1	8/30/2013 8:20:48 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B&K RI
Lab ID: 1308214-006
Client Sample ID: **GP-24:3**

Collection Date: 8/29/2013 10:50:00 AM
Matrix: Soil

Volatile Organic Compounds by EPA Method 8260

Batch ID: 5304 Analyst: EM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	0.0543		mg/Kg-dry	1	8/31/2013 9:53:00 AM
Chloromethane	ND	0.0543		mg/Kg-dry	1	8/31/2013 9:53:00 AM
Vinyl chloride	ND	0.00181		mg/Kg-dry	1	8/31/2013 9:53:00 AM
Bromomethane	ND	0.0814		mg/Kg-dry	1	8/31/2013 9:53:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0452		mg/Kg-dry	1	8/31/2013 9:53:00 AM
Chloroethane	ND	0.0543		mg/Kg-dry	1	8/31/2013 9:53:00 AM
1,1-Dichloroethene	ND	0.0452		mg/Kg-dry	1	8/31/2013 9:53:00 AM
Methylene chloride	ND	0.0181		mg/Kg-dry	1	8/31/2013 9:53:00 AM
trans-1,2-Dichloroethene	ND	0.0181		mg/Kg-dry	1	8/31/2013 9:53:00 AM
1,1-Dichloroethane	ND	0.0181		mg/Kg-dry	1	8/31/2013 9:53:00 AM
2,2-Dichloropropane	ND	0.0452		mg/Kg-dry	1	8/31/2013 9:53:00 AM
cis-1,2-Dichloroethene	ND	0.0181		mg/Kg-dry	1	8/31/2013 9:53:00 AM
Chloroform	ND	0.0181		mg/Kg-dry	1	8/31/2013 9:53:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0181		mg/Kg-dry	1	8/31/2013 9:53:00 AM
1,1-Dichloropropene	ND	0.0181		mg/Kg-dry	1	8/31/2013 9:53:00 AM
Carbon tetrachloride	ND	0.0181		mg/Kg-dry	1	8/31/2013 9:53:00 AM
1,2-Dichloroethane (EDC)	ND	0.0271		mg/Kg-dry	1	8/31/2013 9:53:00 AM
Trichloroethene (TCE)	ND	0.0271		mg/Kg-dry	1	8/31/2013 9:53:00 AM
1,2-Dichloropropane	ND	0.0181		mg/Kg-dry	1	8/31/2013 9:53:00 AM
Bromodichloromethane	ND	0.0181		mg/Kg-dry	1	8/31/2013 9:53:00 AM
Dibromomethane	ND	0.0362		mg/Kg-dry	1	8/31/2013 9:53:00 AM
cis-1,3-Dichloropropene	ND	0.0181		mg/Kg-dry	1	8/31/2013 9:53:00 AM
trans-1,3-Dichloropropylene	ND	0.0271		mg/Kg-dry	1	8/31/2013 9:53:00 AM
1,1,2-Trichloroethane	ND	0.0271		mg/Kg-dry	1	8/31/2013 9:53:00 AM
1,3-Dichloropropane	ND	0.0452		mg/Kg-dry	1	8/31/2013 9:53:00 AM
Tetrachloroethene (PCE)	ND	0.0181		mg/Kg-dry	1	8/31/2013 9:53:00 AM
Dibromochloromethane	ND	0.0271		mg/Kg-dry	1	8/31/2013 9:53:00 AM
1,2-Dibromoethane (EDB)	ND	0.00452		mg/Kg-dry	1	8/31/2013 9:53:00 AM
Chlorobenzene	ND	0.0181		mg/Kg-dry	1	8/31/2013 9:53:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0271		mg/Kg-dry	1	8/31/2013 9:53:00 AM
Bromoform	ND	0.0181		mg/Kg-dry	1	8/31/2013 9:53:00 AM
1,1,2,2-Tetrachloroethane	ND	0.0181		mg/Kg-dry	1	8/31/2013 9:53:00 AM
Bromobenzene	ND	0.0271		mg/Kg-dry	1	8/31/2013 9:53:00 AM
2-Chlorotoluene	ND	0.0181		mg/Kg-dry	1	8/31/2013 9:53:00 AM
4-Chlorotoluene	ND	0.0181		mg/Kg-dry	1	8/31/2013 9:53:00 AM

Qualifiers:

- B Analyte detected in the associated Method Blank
- D Dilution was required
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- ND Not detected at the Reporting Limit
- RL Reporting Limit
- S Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 8/29/2013 10:50:00 AM
Project: B&K RI
Lab ID: 1308214-006
Matrix: Soil
Client Sample ID: GP-24:3

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 5304		Analyst: EM
1,2,3-Trichloropropane	ND	0.0181		mg/Kg-dry	1	8/31/2013 9:53:00 AM
1,2,4-Trichlorobenzene	ND	0.0452		mg/Kg-dry	1	8/31/2013 9:53:00 AM
1,3-Dichlorobenzene	ND	0.0181		mg/Kg-dry	1	8/31/2013 9:53:00 AM
1,4-Dichlorobenzene	ND	0.0181		mg/Kg-dry	1	8/31/2013 9:53:00 AM
1,2-Dichlorobenzene	ND	0.0181		mg/Kg-dry	1	8/31/2013 9:53:00 AM
1,2-Dibromo-3-chloropropane	ND	0.0271		mg/Kg-dry	1	8/31/2013 9:53:00 AM
Hexachloro-1,3-butadiene	ND	0.0904		mg/Kg-dry	1	8/31/2013 9:53:00 AM
1,2,3-Trichlorobenzene	ND	0.0181		mg/Kg-dry	1	8/31/2013 9:53:00 AM
Surr: Dibromofluoromethane	99.7	63.7-129		%REC	1	8/31/2013 9:53:00 AM
Surr: Toluene-d8	109	61.4-128		%REC	1	8/31/2013 9:53:00 AM
Surr: 1-Bromo-4-fluorobenzene	93.3	63.1-141		%REC	1	8/31/2013 9:53:00 AM
Sample Moisture (Percent Moisture)				Batch ID: R9819		Analyst: JS
Percent Moisture	14.7			wt%	1	8/30/2013 8:20:48 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 8/29/2013 11:40:00 AM
Project: B&K RI
Lab ID: 1308214-009
Matrix: Soil
Client Sample ID: GP-25:4

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 5304		Analyst: EM
Dichlorodifluoromethane (CFC-12)	ND	0.0512		mg/Kg-dry	1	8/31/2013 10:20:00 AM
Chloromethane	ND	0.0512		mg/Kg-dry	1	8/31/2013 10:20:00 AM
Vinyl chloride	ND	0.00171		mg/Kg-dry	1	8/31/2013 10:20:00 AM
Bromomethane	ND	0.0768		mg/Kg-dry	1	8/31/2013 10:20:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0427		mg/Kg-dry	1	8/31/2013 10:20:00 AM
Chloroethane	ND	0.0512		mg/Kg-dry	1	8/31/2013 10:20:00 AM
1,1-Dichloroethene	ND	0.0427		mg/Kg-dry	1	8/31/2013 10:20:00 AM
Methylene chloride	ND	0.0171		mg/Kg-dry	1	8/31/2013 10:20:00 AM
trans-1,2-Dichloroethene	ND	0.0171		mg/Kg-dry	1	8/31/2013 10:20:00 AM
1,1-Dichloroethane	ND	0.0171		mg/Kg-dry	1	8/31/2013 10:20:00 AM
2,2-Dichloropropane	ND	0.0427		mg/Kg-dry	1	8/31/2013 10:20:00 AM
cis-1,2-Dichloroethene	0.0179	0.0171		mg/Kg-dry	1	8/31/2013 10:20:00 AM
Chloroform	ND	0.0171		mg/Kg-dry	1	8/31/2013 10:20:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0171		mg/Kg-dry	1	8/31/2013 10:20:00 AM
1,1-Dichloropropene	ND	0.0171		mg/Kg-dry	1	8/31/2013 10:20:00 AM
Carbon tetrachloride	ND	0.0171		mg/Kg-dry	1	8/31/2013 10:20:00 AM
1,2-Dichloroethane (EDC)	ND	0.0256		mg/Kg-dry	1	8/31/2013 10:20:00 AM
Trichloroethene (TCE)	0.0517	0.0256		mg/Kg-dry	1	8/31/2013 10:20:00 AM
1,2-Dichloropropane	ND	0.0171		mg/Kg-dry	1	8/31/2013 10:20:00 AM
Bromodichloromethane	ND	0.0171		mg/Kg-dry	1	8/31/2013 10:20:00 AM
Dibromomethane	ND	0.0342		mg/Kg-dry	1	8/31/2013 10:20:00 AM
cis-1,3-Dichloropropene	ND	0.0171		mg/Kg-dry	1	8/31/2013 10:20:00 AM
trans-1,3-Dichloropropylene	ND	0.0256		mg/Kg-dry	1	8/31/2013 10:20:00 AM
1,1,2-Trichloroethane	ND	0.0256		mg/Kg-dry	1	8/31/2013 10:20:00 AM
1,3-Dichloropropane	ND	0.0427		mg/Kg-dry	1	8/31/2013 10:20:00 AM
Tetrachloroethene (PCE)	ND	0.0171		mg/Kg-dry	1	8/31/2013 10:20:00 AM
Dibromochloromethane	ND	0.0256		mg/Kg-dry	1	8/31/2013 10:20:00 AM
1,2-Dibromoethane (EDB)	ND	0.00427		mg/Kg-dry	1	8/31/2013 10:20:00 AM
Chlorobenzene	ND	0.0171		mg/Kg-dry	1	8/31/2013 10:20:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0256		mg/Kg-dry	1	8/31/2013 10:20:00 AM
Bromoform	ND	0.0171		mg/Kg-dry	1	8/31/2013 10:20:00 AM
1,1,2,2-Tetrachloroethane	ND	0.0171		mg/Kg-dry	1	8/31/2013 10:20:00 AM
Bromobenzene	ND	0.0256		mg/Kg-dry	1	8/31/2013 10:20:00 AM
2-Chlorotoluene	ND	0.0171		mg/Kg-dry	1	8/31/2013 10:20:00 AM
4-Chlorotoluene	ND	0.0171		mg/Kg-dry	1	8/31/2013 10:20:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B&K RI
Lab ID: 1308214-009
Client Sample ID: GP-25:4

Collection Date: 8/29/2013 11:40:00 AM
Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 5304		Analyst: EM
1,2,3-Trichloropropane	ND	0.0171		mg/Kg-dry	1	8/31/2013 10:20:00 AM
1,2,4-Trichlorobenzene	ND	0.0427		mg/Kg-dry	1	8/31/2013 10:20:00 AM
1,3-Dichlorobenzene	ND	0.0171		mg/Kg-dry	1	8/31/2013 10:20:00 AM
1,4-Dichlorobenzene	ND	0.0171		mg/Kg-dry	1	8/31/2013 10:20:00 AM
1,2-Dichlorobenzene	ND	0.0171		mg/Kg-dry	1	8/31/2013 10:20:00 AM
1,2-Dibromo-3-chloropropane	ND	0.0256		mg/Kg-dry	1	8/31/2013 10:20:00 AM
Hexachloro-1,3-butadiene	ND	0.0854		mg/Kg-dry	1	8/31/2013 10:20:00 AM
1,2,3-Trichlorobenzene	ND	0.0171		mg/Kg-dry	1	8/31/2013 10:20:00 AM
Surr: Dibromofluoromethane	99.6	63.7-129		%REC	1	8/31/2013 10:20:00 AM
Surr: Toluene-d8	109	61.4-128		%REC	1	8/31/2013 10:20:00 AM
Surr: 1-Bromo-4-fluorobenzene	94.1	63.1-141		%REC	1	8/31/2013 10:20:00 AM
Sample Moisture (Percent Moisture)				Batch ID: R9819		Analyst: JS
Percent Moisture	17.1			wt%	1	8/30/2013 8:20:48 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B&K RI
Lab ID: 1308214-010
Client Sample ID: **GP-25:9.5**

Collection Date: 8/29/2013 11:55:00 AM
Matrix: Soil

Volatile Organic Compounds by EPA Method 8260

Batch ID: 5380 Analyst: EM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	0.0548		mg/Kg-dry	1	9/11/2013 10:10:00 PM
Chloromethane	ND	0.0548		mg/Kg-dry	1	9/11/2013 10:10:00 PM
Vinyl chloride	ND	0.00183		mg/Kg-dry	1	9/11/2013 10:10:00 PM
Bromomethane	ND	0.0822		mg/Kg-dry	1	9/11/2013 10:10:00 PM
Trichlorofluoromethane (CFC-11)	ND	0.0457		mg/Kg-dry	1	9/11/2013 10:10:00 PM
Chloroethane	ND	0.0548		mg/Kg-dry	1	9/11/2013 10:10:00 PM
1,1-Dichloroethene	ND	0.0457		mg/Kg-dry	1	9/11/2013 10:10:00 PM
Methylene chloride	ND	0.0183		mg/Kg-dry	1	9/11/2013 10:10:00 PM
trans-1,2-Dichloroethene	ND	0.0183		mg/Kg-dry	1	9/11/2013 10:10:00 PM
1,1-Dichloroethane	ND	0.0183		mg/Kg-dry	1	9/11/2013 10:10:00 PM
2,2-Dichloropropane	ND	0.0457		mg/Kg-dry	1	9/11/2013 10:10:00 PM
cis-1,2-Dichloroethene	ND	0.0183		mg/Kg-dry	1	9/11/2013 10:10:00 PM
Chloroform	ND	0.0183		mg/Kg-dry	1	9/11/2013 10:10:00 PM
1,1,1-Trichloroethane (TCA)	ND	0.0183		mg/Kg-dry	1	9/11/2013 10:10:00 PM
1,1-Dichloropropene	ND	0.0183		mg/Kg-dry	1	9/11/2013 10:10:00 PM
Carbon tetrachloride	ND	0.0183		mg/Kg-dry	1	9/11/2013 10:10:00 PM
1,2-Dichloroethane (EDC)	ND	0.0274		mg/Kg-dry	1	9/11/2013 10:10:00 PM
Trichloroethene (TCE)	ND	0.0274		mg/Kg-dry	1	9/11/2013 10:10:00 PM
1,2-Dichloropropane	ND	0.0183		mg/Kg-dry	1	9/11/2013 10:10:00 PM
Bromodichloromethane	ND	0.0183		mg/Kg-dry	1	9/11/2013 10:10:00 PM
Dibromomethane	ND	0.0365		mg/Kg-dry	1	9/11/2013 10:10:00 PM
cis-1,3-Dichloropropene	ND	0.0183		mg/Kg-dry	1	9/11/2013 10:10:00 PM
trans-1,3-Dichloropropylene	ND	0.0274		mg/Kg-dry	1	9/11/2013 10:10:00 PM
1,1,2-Trichloroethane	ND	0.0274		mg/Kg-dry	1	9/11/2013 10:10:00 PM
1,3-Dichloropropane	ND	0.0457		mg/Kg-dry	1	9/11/2013 10:10:00 PM
Tetrachloroethene (PCE)	ND	0.0183		mg/Kg-dry	1	9/11/2013 10:10:00 PM
Dibromochloromethane	ND	0.0274		mg/Kg-dry	1	9/11/2013 10:10:00 PM
1,2-Dibromoethane (EDB)	ND	0.00457		mg/Kg-dry	1	9/11/2013 10:10:00 PM
Chlorobenzene	ND	0.0183		mg/Kg-dry	1	9/11/2013 10:10:00 PM
1,1,1,2-Tetrachloroethane	ND	0.0274		mg/Kg-dry	1	9/11/2013 10:10:00 PM
Bromoform	ND	0.0183		mg/Kg-dry	1	9/11/2013 10:10:00 PM
1,1,2,2-Tetrachloroethane	ND	0.0183		mg/Kg-dry	1	9/11/2013 10:10:00 PM
Bromobenzene	ND	0.0274		mg/Kg-dry	1	9/11/2013 10:10:00 PM
2-Chlorotoluene	ND	0.0183		mg/Kg-dry	1	9/11/2013 10:10:00 PM
4-Chlorotoluene	ND	0.0183		mg/Kg-dry	1	9/11/2013 10:10:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B&K RI
Lab ID: 1308214-010
Client Sample ID: GP-25:9.5

Collection Date: 8/29/2013 11:55:00 AM
Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 5380		Analyst: EM
1,2,3-Trichloropropane	ND	0.0183		mg/Kg-dry	1	9/11/2013 10:10:00 PM
1,2,4-Trichlorobenzene	ND	0.0457		mg/Kg-dry	1	9/11/2013 10:10:00 PM
1,3-Dichlorobenzene	ND	0.0183		mg/Kg-dry	1	9/11/2013 10:10:00 PM
1,4-Dichlorobenzene	ND	0.0183		mg/Kg-dry	1	9/11/2013 10:10:00 PM
1,2-Dichlorobenzene	ND	0.0183		mg/Kg-dry	1	9/11/2013 10:10:00 PM
1,2-Dibromo-3-chloropropane	ND	0.0274		mg/Kg-dry	1	9/11/2013 10:10:00 PM
Hexachloro-1,3-butadiene	ND	0.0913		mg/Kg-dry	1	9/11/2013 10:10:00 PM
1,2,3-Trichlorobenzene	ND	0.0183		mg/Kg-dry	1	9/11/2013 10:10:00 PM
Surr: Dibromofluoromethane	101	63.7-129		%REC	1	9/11/2013 10:10:00 PM
Surr: Toluene-d8	99.8	61.4-128		%REC	1	9/11/2013 10:10:00 PM
Surr: 1-Bromo-4-fluorobenzene	97.1	63.1-141		%REC	1	9/11/2013 10:10:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R9960		Analyst: JS
Percent Moisture	18.1			wt%	1	9/11/2013 9:45:10 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B&K RI
Lab ID: 1308214-011
Client Sample ID: **GP-26:4**

Collection Date: 8/29/2013 12:15:00 PM
Matrix: Soil

Volatile Organic Compounds by EPA Method 8260

Batch ID: 5304 Analyst: EM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	0.0530		mg/Kg-dry	1	8/31/2013 10:47:00 AM
Chloromethane	ND	0.0530		mg/Kg-dry	1	8/31/2013 10:47:00 AM
Vinyl chloride	ND	0.00177		mg/Kg-dry	1	8/31/2013 10:47:00 AM
Bromomethane	ND	0.0795		mg/Kg-dry	1	8/31/2013 10:47:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0442		mg/Kg-dry	1	8/31/2013 10:47:00 AM
Chloroethane	ND	0.0530		mg/Kg-dry	1	8/31/2013 10:47:00 AM
1,1-Dichloroethene	ND	0.0442		mg/Kg-dry	1	8/31/2013 10:47:00 AM
Methylene chloride	ND	0.0177		mg/Kg-dry	1	8/31/2013 10:47:00 AM
trans-1,2-Dichloroethene	ND	0.0177		mg/Kg-dry	1	8/31/2013 10:47:00 AM
1,1-Dichloroethane	ND	0.0177		mg/Kg-dry	1	8/31/2013 10:47:00 AM
2,2-Dichloropropane	ND	0.0442		mg/Kg-dry	1	8/31/2013 10:47:00 AM
cis-1,2-Dichloroethene	ND	0.0177		mg/Kg-dry	1	8/31/2013 10:47:00 AM
Chloroform	ND	0.0177		mg/Kg-dry	1	8/31/2013 10:47:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0177		mg/Kg-dry	1	8/31/2013 10:47:00 AM
1,1-Dichloropropene	ND	0.0177		mg/Kg-dry	1	8/31/2013 10:47:00 AM
Carbon tetrachloride	ND	0.0177		mg/Kg-dry	1	8/31/2013 10:47:00 AM
1,2-Dichloroethane (EDC)	ND	0.0265		mg/Kg-dry	1	8/31/2013 10:47:00 AM
Trichloroethene (TCE)	ND	0.0265		mg/Kg-dry	1	8/31/2013 10:47:00 AM
1,2-Dichloropropane	ND	0.0177		mg/Kg-dry	1	8/31/2013 10:47:00 AM
Bromodichloromethane	ND	0.0177		mg/Kg-dry	1	8/31/2013 10:47:00 AM
Dibromomethane	ND	0.0353		mg/Kg-dry	1	8/31/2013 10:47:00 AM
cis-1,3-Dichloropropene	ND	0.0177		mg/Kg-dry	1	8/31/2013 10:47:00 AM
trans-1,3-Dichloropropylene	ND	0.0265		mg/Kg-dry	1	8/31/2013 10:47:00 AM
1,1,2-Trichloroethane	ND	0.0265		mg/Kg-dry	1	8/31/2013 10:47:00 AM
1,3-Dichloropropane	ND	0.0442		mg/Kg-dry	1	8/31/2013 10:47:00 AM
Tetrachloroethene (PCE)	ND	0.0177		mg/Kg-dry	1	8/31/2013 10:47:00 AM
Dibromochloromethane	ND	0.0265		mg/Kg-dry	1	8/31/2013 10:47:00 AM
1,2-Dibromoethane (EDB)	ND	0.00442		mg/Kg-dry	1	8/31/2013 10:47:00 AM
Chlorobenzene	ND	0.0177		mg/Kg-dry	1	8/31/2013 10:47:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0265		mg/Kg-dry	1	8/31/2013 10:47:00 AM
Bromoform	ND	0.0177		mg/Kg-dry	1	8/31/2013 10:47:00 AM
1,1,2,2-Tetrachloroethane	ND	0.0177		mg/Kg-dry	1	8/31/2013 10:47:00 AM
Bromobenzene	ND	0.0265		mg/Kg-dry	1	8/31/2013 10:47:00 AM
2-Chlorotoluene	ND	0.0177		mg/Kg-dry	1	8/31/2013 10:47:00 AM
4-Chlorotoluene	ND	0.0177		mg/Kg-dry	1	8/31/2013 10:47:00 AM

Qualifiers:

- B Analyte detected in the associated Method Blank
- D Dilution was required
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- ND Not detected at the Reporting Limit
- RL Reporting Limit
- S Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B&K RI
Lab ID: 1308214-011
Client Sample ID: **GP-26:4**

Collection Date: 8/29/2013 12:15:00 PM
Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 5304		Analyst: EM
1,2,3-Trichloropropane	ND	0.0177		mg/Kg-dry	1	8/31/2013 10:47:00 AM
1,2,4-Trichlorobenzene	ND	0.0442		mg/Kg-dry	1	8/31/2013 10:47:00 AM
1,3-Dichlorobenzene	ND	0.0177		mg/Kg-dry	1	8/31/2013 10:47:00 AM
1,4-Dichlorobenzene	ND	0.0177		mg/Kg-dry	1	8/31/2013 10:47:00 AM
1,2-Dichlorobenzene	ND	0.0177		mg/Kg-dry	1	8/31/2013 10:47:00 AM
1,2-Dibromo-3-chloropropane	ND	0.0265		mg/Kg-dry	1	8/31/2013 10:47:00 AM
Hexachloro-1,3-butadiene	ND	0.0884		mg/Kg-dry	1	8/31/2013 10:47:00 AM
1,2,3-Trichlorobenzene	ND	0.0177		mg/Kg-dry	1	8/31/2013 10:47:00 AM
Surr: Dibromofluoromethane	101	63.7-129		%REC	1	8/31/2013 10:47:00 AM
Surr: Toluene-d8	112	61.4-128		%REC	1	8/31/2013 10:47:00 AM
Surr: 1-Bromo-4-fluorobenzene	92.4	63.1-141		%REC	1	8/31/2013 10:47:00 AM
Sample Moisture (Percent Moisture)				Batch ID: R9819		Analyst: JS
Percent Moisture	16.1			wt%	1	8/30/2013 8:20:48 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 8/29/2013 12:40:00 PM
Project: B&K RI
Lab ID: 1308214-013
Matrix: Soil
Client Sample ID: GP-27:4

Volatile Organic Compounds by EPA Method 8260

Batch ID: 5304 Analyst: EM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	0.0481		mg/Kg-dry	1	8/31/2013 11:14:00 AM
Chloromethane	ND	0.0481		mg/Kg-dry	1	8/31/2013 11:14:00 AM
Vinyl chloride	ND	0.00160		mg/Kg-dry	1	8/31/2013 11:14:00 AM
Bromomethane	ND	0.0722		mg/Kg-dry	1	8/31/2013 11:14:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0401		mg/Kg-dry	1	8/31/2013 11:14:00 AM
Chloroethane	ND	0.0481		mg/Kg-dry	1	8/31/2013 11:14:00 AM
1,1-Dichloroethene	ND	0.0401		mg/Kg-dry	1	8/31/2013 11:14:00 AM
Methylene chloride	ND	0.0160		mg/Kg-dry	1	8/31/2013 11:14:00 AM
trans-1,2-Dichloroethene	ND	0.0160		mg/Kg-dry	1	8/31/2013 11:14:00 AM
1,1-Dichloroethane	ND	0.0160		mg/Kg-dry	1	8/31/2013 11:14:00 AM
2,2-Dichloropropane	ND	0.0401		mg/Kg-dry	1	8/31/2013 11:14:00 AM
cis-1,2-Dichloroethene	ND	0.0160		mg/Kg-dry	1	8/31/2013 11:14:00 AM
Chloroform	ND	0.0160		mg/Kg-dry	1	8/31/2013 11:14:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0160		mg/Kg-dry	1	8/31/2013 11:14:00 AM
1,1-Dichloropropene	ND	0.0160		mg/Kg-dry	1	8/31/2013 11:14:00 AM
Carbon tetrachloride	ND	0.0160		mg/Kg-dry	1	8/31/2013 11:14:00 AM
1,2-Dichloroethane (EDC)	ND	0.0241		mg/Kg-dry	1	8/31/2013 11:14:00 AM
Trichloroethene (TCE)	ND	0.0241		mg/Kg-dry	1	8/31/2013 11:14:00 AM
1,2-Dichloropropane	ND	0.0160		mg/Kg-dry	1	8/31/2013 11:14:00 AM
Bromodichloromethane	ND	0.0160		mg/Kg-dry	1	8/31/2013 11:14:00 AM
Dibromomethane	ND	0.0321		mg/Kg-dry	1	8/31/2013 11:14:00 AM
cis-1,3-Dichloropropene	ND	0.0160		mg/Kg-dry	1	8/31/2013 11:14:00 AM
trans-1,3-Dichloropropylene	ND	0.0241		mg/Kg-dry	1	8/31/2013 11:14:00 AM
1,1,2-Trichloroethane	ND	0.0241		mg/Kg-dry	1	8/31/2013 11:14:00 AM
1,3-Dichloropropane	ND	0.0401		mg/Kg-dry	1	8/31/2013 11:14:00 AM
Tetrachloroethene (PCE)	ND	0.0160		mg/Kg-dry	1	8/31/2013 11:14:00 AM
Dibromochloromethane	ND	0.0241		mg/Kg-dry	1	8/31/2013 11:14:00 AM
1,2-Dibromoethane (EDB)	ND	0.00401		mg/Kg-dry	1	8/31/2013 11:14:00 AM
Chlorobenzene	ND	0.0160		mg/Kg-dry	1	8/31/2013 11:14:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0241		mg/Kg-dry	1	8/31/2013 11:14:00 AM
Bromoform	ND	0.0160		mg/Kg-dry	1	8/31/2013 11:14:00 AM
1,1,2,2-Tetrachloroethane	ND	0.0160		mg/Kg-dry	1	8/31/2013 11:14:00 AM
Bromobenzene	ND	0.0241		mg/Kg-dry	1	8/31/2013 11:14:00 AM
2-Chlorotoluene	ND	0.0160		mg/Kg-dry	1	8/31/2013 11:14:00 AM
4-Chlorotoluene	ND	0.0160		mg/Kg-dry	1	8/31/2013 11:14:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B&K RI
Lab ID: 1308214-013
Client Sample ID: **GP-27:4**

Collection Date: 8/29/2013 12:40:00 PM
Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 5304		Analyst: EM
1,2,3-Trichloropropane	ND	0.0160		mg/Kg-dry	1	8/31/2013 11:14:00 AM
1,2,4-Trichlorobenzene	ND	0.0401		mg/Kg-dry	1	8/31/2013 11:14:00 AM
1,3-Dichlorobenzene	ND	0.0160		mg/Kg-dry	1	8/31/2013 11:14:00 AM
1,4-Dichlorobenzene	ND	0.0160		mg/Kg-dry	1	8/31/2013 11:14:00 AM
1,2-Dichlorobenzene	ND	0.0160		mg/Kg-dry	1	8/31/2013 11:14:00 AM
1,2-Dibromo-3-chloropropane	ND	0.0241		mg/Kg-dry	1	8/31/2013 11:14:00 AM
Hexachloro-1,3-butadiene	ND	0.0802		mg/Kg-dry	1	8/31/2013 11:14:00 AM
1,2,3-Trichlorobenzene	ND	0.0160		mg/Kg-dry	1	8/31/2013 11:14:00 AM
Surr: Dibromofluoromethane	100	63.7-129		%REC	1	8/31/2013 11:14:00 AM
Surr: Toluene-d8	113	61.4-128		%REC	1	8/31/2013 11:14:00 AM
Surr: 1-Bromo-4-fluorobenzene	92.2	63.1-141		%REC	1	8/31/2013 11:14:00 AM
Sample Moisture (Percent Moisture)				Batch ID: R9819		Analyst: JS
Percent Moisture	12.7			wt%	1	8/30/2013 8:20:48 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 8/29/2013 1:00:00 PM
Project: B&K RI
Lab ID: 1308214-015
Matrix: Soil
Client Sample ID: GP-28:4

Volatile Organic Compounds by EPA Method 8260

Batch ID: 5304 Analyst: EM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	0.0661		mg/Kg-dry	1	8/31/2013 11:41:00 AM
Chloromethane	ND	0.0661		mg/Kg-dry	1	8/31/2013 11:41:00 AM
Vinyl chloride	ND	0.00220		mg/Kg-dry	1	8/31/2013 11:41:00 AM
Bromomethane	ND	0.0992		mg/Kg-dry	1	8/31/2013 11:41:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0551		mg/Kg-dry	1	8/31/2013 11:41:00 AM
Chloroethane	ND	0.0661		mg/Kg-dry	1	8/31/2013 11:41:00 AM
1,1-Dichloroethene	ND	0.0551		mg/Kg-dry	1	8/31/2013 11:41:00 AM
Methylene chloride	ND	0.0220		mg/Kg-dry	1	8/31/2013 11:41:00 AM
trans-1,2-Dichloroethene	ND	0.0220		mg/Kg-dry	1	8/31/2013 11:41:00 AM
1,1-Dichloroethane	ND	0.0220		mg/Kg-dry	1	8/31/2013 11:41:00 AM
2,2-Dichloropropane	ND	0.0551		mg/Kg-dry	1	8/31/2013 11:41:00 AM
cis-1,2-Dichloroethene	0.0265	0.0220		mg/Kg-dry	1	8/31/2013 11:41:00 AM
Chloroform	ND	0.0220		mg/Kg-dry	1	8/31/2013 11:41:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0220		mg/Kg-dry	1	8/31/2013 11:41:00 AM
1,1-Dichloropropene	ND	0.0220		mg/Kg-dry	1	8/31/2013 11:41:00 AM
Carbon tetrachloride	ND	0.0220		mg/Kg-dry	1	8/31/2013 11:41:00 AM
1,2-Dichloroethane (EDC)	ND	0.0331		mg/Kg-dry	1	8/31/2013 11:41:00 AM
Trichloroethene (TCE)	ND	0.0331		mg/Kg-dry	1	8/31/2013 11:41:00 AM
1,2-Dichloropropane	ND	0.0220		mg/Kg-dry	1	8/31/2013 11:41:00 AM
Bromodichloromethane	ND	0.0220		mg/Kg-dry	1	8/31/2013 11:41:00 AM
Dibromomethane	ND	0.0441		mg/Kg-dry	1	8/31/2013 11:41:00 AM
cis-1,3-Dichloropropene	ND	0.0220		mg/Kg-dry	1	8/31/2013 11:41:00 AM
trans-1,3-Dichloropropylene	ND	0.0331		mg/Kg-dry	1	8/31/2013 11:41:00 AM
1,1,2-Trichloroethane	ND	0.0331		mg/Kg-dry	1	8/31/2013 11:41:00 AM
1,3-Dichloropropane	ND	0.0551		mg/Kg-dry	1	8/31/2013 11:41:00 AM
Tetrachloroethene (PCE)	ND	0.0220		mg/Kg-dry	1	8/31/2013 11:41:00 AM
Dibromochloromethane	ND	0.0331		mg/Kg-dry	1	8/31/2013 11:41:00 AM
1,2-Dibromoethane (EDB)	ND	0.00551		mg/Kg-dry	1	8/31/2013 11:41:00 AM
Chlorobenzene	ND	0.0220		mg/Kg-dry	1	8/31/2013 11:41:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0331		mg/Kg-dry	1	8/31/2013 11:41:00 AM
Bromoform	ND	0.0220		mg/Kg-dry	1	8/31/2013 11:41:00 AM
1,1,2,2-Tetrachloroethane	ND	0.0220		mg/Kg-dry	1	8/31/2013 11:41:00 AM
Bromobenzene	ND	0.0331		mg/Kg-dry	1	8/31/2013 11:41:00 AM
2-Chlorotoluene	ND	0.0220		mg/Kg-dry	1	8/31/2013 11:41:00 AM
4-Chlorotoluene	ND	0.0220		mg/Kg-dry	1	8/31/2013 11:41:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B&K RI
Lab ID: 1308214-015
Client Sample ID: GP-28:4

Collection Date: 8/29/2013 1:00:00 PM
Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 5304		Analyst: EM
1,2,3-Trichloropropane	ND	0.0220		mg/Kg-dry	1	8/31/2013 11:41:00 AM
1,2,4-Trichlorobenzene	ND	0.0551		mg/Kg-dry	1	8/31/2013 11:41:00 AM
1,3-Dichlorobenzene	ND	0.0220		mg/Kg-dry	1	8/31/2013 11:41:00 AM
1,4-Dichlorobenzene	ND	0.0220		mg/Kg-dry	1	8/31/2013 11:41:00 AM
1,2-Dichlorobenzene	ND	0.0220		mg/Kg-dry	1	8/31/2013 11:41:00 AM
1,2-Dibromo-3-chloropropane	ND	0.0331		mg/Kg-dry	1	8/31/2013 11:41:00 AM
Hexachloro-1,3-butadiene	ND	0.110		mg/Kg-dry	1	8/31/2013 11:41:00 AM
1,2,3-Trichlorobenzene	ND	0.0220		mg/Kg-dry	1	8/31/2013 11:41:00 AM
Surr: Dibromofluoromethane	99.5	63.7-129		%REC	1	8/31/2013 11:41:00 AM
Surr: Toluene-d8	113	61.4-128		%REC	1	8/31/2013 11:41:00 AM
Surr: 1-Bromo-4-fluorobenzene	92.8	63.1-141		%REC	1	8/31/2013 11:41:00 AM
Sample Moisture (Percent Moisture)				Batch ID: R9819		Analyst: JS
Percent Moisture	15.4			wt%	1	8/30/2013 8:20:48 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B&K RI
Lab ID: 1308214-016
Client Sample ID: **GP-28:8**

Collection Date: 8/29/2013 1:05:00 PM
Matrix: Soil

Volatile Organic Compounds by EPA Method 8260

Batch ID: 5380 Analyst: EM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	0.0707		mg/Kg-dry	1	9/11/2013 10:37:00 PM
Chloromethane	ND	0.0707		mg/Kg-dry	1	9/11/2013 10:37:00 PM
Vinyl chloride	ND	0.00236		mg/Kg-dry	1	9/11/2013 10:37:00 PM
Bromomethane	ND	0.106		mg/Kg-dry	1	9/11/2013 10:37:00 PM
Trichlorofluoromethane (CFC-11)	ND	0.0590		mg/Kg-dry	1	9/11/2013 10:37:00 PM
Chloroethane	ND	0.0707		mg/Kg-dry	1	9/11/2013 10:37:00 PM
1,1-Dichloroethene	ND	0.0590		mg/Kg-dry	1	9/11/2013 10:37:00 PM
Methylene chloride	ND	0.0236		mg/Kg-dry	1	9/11/2013 10:37:00 PM
trans-1,2-Dichloroethene	ND	0.0236		mg/Kg-dry	1	9/11/2013 10:37:00 PM
1,1-Dichloroethane	ND	0.0236		mg/Kg-dry	1	9/11/2013 10:37:00 PM
2,2-Dichloropropane	ND	0.0590		mg/Kg-dry	1	9/11/2013 10:37:00 PM
cis-1,2-Dichloroethene	ND	0.0236		mg/Kg-dry	1	9/11/2013 10:37:00 PM
Chloroform	ND	0.0236		mg/Kg-dry	1	9/11/2013 10:37:00 PM
1,1,1-Trichloroethane (TCA)	ND	0.0236		mg/Kg-dry	1	9/11/2013 10:37:00 PM
1,1-Dichloropropene	ND	0.0236		mg/Kg-dry	1	9/11/2013 10:37:00 PM
Carbon tetrachloride	ND	0.0236		mg/Kg-dry	1	9/11/2013 10:37:00 PM
1,2-Dichloroethane (EDC)	ND	0.0354		mg/Kg-dry	1	9/11/2013 10:37:00 PM
Trichloroethene (TCE)	ND	0.0354		mg/Kg-dry	1	9/11/2013 10:37:00 PM
1,2-Dichloropropane	ND	0.0236		mg/Kg-dry	1	9/11/2013 10:37:00 PM
Bromodichloromethane	ND	0.0236		mg/Kg-dry	1	9/11/2013 10:37:00 PM
Dibromomethane	ND	0.0472		mg/Kg-dry	1	9/11/2013 10:37:00 PM
cis-1,3-Dichloropropene	ND	0.0236		mg/Kg-dry	1	9/11/2013 10:37:00 PM
trans-1,3-Dichloropropylene	ND	0.0354		mg/Kg-dry	1	9/11/2013 10:37:00 PM
1,1,2-Trichloroethane	ND	0.0354		mg/Kg-dry	1	9/11/2013 10:37:00 PM
1,3-Dichloropropane	ND	0.0590		mg/Kg-dry	1	9/11/2013 10:37:00 PM
Tetrachloroethene (PCE)	ND	0.0236		mg/Kg-dry	1	9/11/2013 10:37:00 PM
Dibromochloromethane	ND	0.0354		mg/Kg-dry	1	9/11/2013 10:37:00 PM
1,2-Dibromoethane (EDB)	ND	0.00590		mg/Kg-dry	1	9/11/2013 10:37:00 PM
Chlorobenzene	ND	0.0236		mg/Kg-dry	1	9/11/2013 10:37:00 PM
1,1,1,2-Tetrachloroethane	ND	0.0354		mg/Kg-dry	1	9/11/2013 10:37:00 PM
Bromoform	ND	0.0236		mg/Kg-dry	1	9/11/2013 10:37:00 PM
1,1,2,2-Tetrachloroethane	ND	0.0236		mg/Kg-dry	1	9/11/2013 10:37:00 PM
Bromobenzene	ND	0.0354		mg/Kg-dry	1	9/11/2013 10:37:00 PM
2-Chlorotoluene	ND	0.0236		mg/Kg-dry	1	9/11/2013 10:37:00 PM
4-Chlorotoluene	ND	0.0236		mg/Kg-dry	1	9/11/2013 10:37:00 PM

Qualifiers:

- B Analyte detected in the associated Method Blank
- D Dilution was required
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- ND Not detected at the Reporting Limit
- RL Reporting Limit
- S Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B&K RI
Lab ID: 1308214-016
Client Sample ID: GP-28:8

Collection Date: 8/29/2013 1:05:00 PM
Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 5380		Analyst: EM
1,2,3-Trichloropropane	ND	0.0236		mg/Kg-dry	1	9/11/2013 10:37:00 PM
1,2,4-Trichlorobenzene	ND	0.0590		mg/Kg-dry	1	9/11/2013 10:37:00 PM
1,3-Dichlorobenzene	ND	0.0236		mg/Kg-dry	1	9/11/2013 10:37:00 PM
1,4-Dichlorobenzene	ND	0.0236		mg/Kg-dry	1	9/11/2013 10:37:00 PM
1,2-Dichlorobenzene	ND	0.0236		mg/Kg-dry	1	9/11/2013 10:37:00 PM
1,2-Dibromo-3-chloropropane	ND	0.0354		mg/Kg-dry	1	9/11/2013 10:37:00 PM
Hexachloro-1,3-butadiene	ND	0.118		mg/Kg-dry	1	9/11/2013 10:37:00 PM
1,2,3-Trichlorobenzene	ND	0.0236		mg/Kg-dry	1	9/11/2013 10:37:00 PM
Surr: Dibromofluoromethane	103	63.7-129		%REC	1	9/11/2013 10:37:00 PM
Surr: Toluene-d8	100	61.4-128		%REC	1	9/11/2013 10:37:00 PM
Surr: 1-Bromo-4-fluorobenzene	94.9	63.1-141		%REC	1	9/11/2013 10:37:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R9960		Analyst: JS
Percent Moisture	17.8			wt%	1	9/11/2013 9:45:10 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *9/12/2013*

Work Order: 1308214
CLIENT: Shannon & Wilson
Project: B&K RI

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1308214-001AMS**	SampType: **MS**		Units: **mg/Kg-dry**	Prep Date: **8/30/2013**		RunNo: **9841**	
Client ID: **GP-30:4**	Batch ID: **5304**			Analysis Date: **8/31/2013**		SeqNo: **197631**	

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	0.614	0.0507	0.8452	0	72.6	43.5	121				
Chloromethane	0.674	0.0507	0.8452	0	79.8	45	130				
Vinyl chloride	0.706	0.00169	0.8452	0	83.6	51.2	146				
Bromomethane	0.913	0.0761	0.8452	0	108	21.3	120				
Trichlorofluoromethane (CFC-11)	0.878	0.0423	0.8452	0	104	35	131				
Chloroethane	0.842	0.0507	0.8452	0	99.7	43.8	117				
1,1-Dichloroethene	0.933	0.0423	0.8452	0	110	61.9	141				
Methylene chloride	0.915	0.0169	0.8452	0	108	54.7	142				
trans-1,2-Dichloroethene	0.895	0.0169	0.8452	0	106	52	136				
1,1-Dichloroethane	0.931	0.0169	0.8452	0	110	51.8	141				
2,2-Dichloropropane	0.659	0.0423	0.8452	0	78.0	36	123				
cis-1,2-Dichloroethene	0.900	0.0169	0.8452	0	107	58.6	136				
Chloroform	0.946	0.0169	0.8452	0	112	53.2	129				
1,1,1-Trichloroethane (TCA)	0.950	0.0169	0.8452	0	112	58.3	145				
1,1-Dichloropropene	0.953	0.0169	0.8452	0	113	55.1	138				
Carbon tetrachloride	0.969	0.0169	0.8452	0	115	53.3	144				
1,2-Dichloroethane (EDC)	0.954	0.0254	0.8452	0	113	51.3	139				
Trichloroethene (TCE)	1.00	0.0169	0.8452	0	118	68.6	132				
1,2-Dichloropropane	1.03	0.0169	0.8452	0	122	59	136				
Bromodichloromethane	1.05	0.0169	0.8452	0	124	50.7	141				
Dibromomethane	1.02	0.0338	0.8452	0	120	50.6	137				
cis-1,3-Dichloropropene	1.00	0.0169	0.8452	0	118	50.4	138				
trans-1,3-Dichloropropylene	0.983	0.0254	0.8452	0	116	44.1	147				
1,1,2-Trichloroethane	1.07	0.0254	0.8452	0	126	51.6	137				
1,3-Dichloropropane	1.06	0.0423	0.8452	0	125	53.1	134				
Tetrachloroethene (PCE)	1.13	0.0169	0.8452	0	133	35.6	158				
Dibromochloromethane	1.03	0.0254	0.8452	0	122	55.3	140				
1,2-Dibromoethane (EDB)	1.06	0.00423	0.8452	0	125	50.4	136				
Chlorobenzene	0.898	0.0169	0.8452	0	106	60	133				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1308214
CLIENT: Shannon & Wilson
Project: B&K RI

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1308214-001AMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **8/30/2013** RunNo: **9841**
Client ID: **GP-30:4** Batch ID: **5304** Analysis Date: **8/31/2013** SeqNo: **197631**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	0.840	0.0254	0.8452	0	99.4	53.1	142				
Bromoform	0.856	0.0169	0.8452	0	101	57.9	130				
1,1,2,2-Tetrachloroethane	0.899	0.0169	0.8452	0	106	51.9	131				
Bromobenzene	0.943	0.0254	0.8452	0	112	54.2	140				
2-Chlorotoluene	0.976	0.0169	0.8452	0	115	51.6	136				
4-Chlorotoluene	0.972	0.0169	0.8452	0	115	50.1	139				
1,2,3-Trichloropropane	0.861	0.0169	0.8452	0	102	50.5	131				
1,2,4-Trichlorobenzene	0.895	0.0423	0.8452	0	106	50.8	130				
1,3-Dichlorobenzene	0.872	0.0169	0.8452	0	103	52.6	131				
1,4-Dichlorobenzene	0.888	0.0169	0.8452	0	105	52.9	129				
1,2-Dichlorobenzene	0.963	0.0169	0.8452	0	114	55.8	129				
1,2-Dibromo-3-chloropropane	0.784	0.0254	0.8452	0	92.8	40.5	131				
Hexachloro-1,3-butadiene	0.857	0.0845	0.8452	0	101	40.6	158				
1,2,3-Trichlorobenzene	0.878	0.0169	0.8452	0	104	54.4	124				
Surr: Dibromofluoromethane	2.20		2.113		104	63.7	129				
Surr: Toluene-d8	2.68		2.113		127	61.4	128				
Surr: 1-Bromo-4-fluorobenzene	2.27		2.113		107	63.1	141				

Sample ID: **1308219-005ADUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **8/30/2013** RunNo: **9841**
Client ID: **BATCH** Batch ID: **5304** Analysis Date: **8/31/2013** SeqNo: **197641**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	0.0549						0		30	
Chloromethane	ND	0.0549						0		30	
Vinyl chloride	ND	0.00183						0		30	
Bromomethane	ND	0.0823						0		30	
Trichlorofluoromethane (CFC-11)	ND	0.0457						0		30	
Chloroethane	ND	0.0549						0		30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *9/12/2013*

Work Order: 1308214
CLIENT: Shannon & Wilson
Project: B&K RI

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1308219-005ADUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **8/30/2013** RunNo: **9841**
Client ID: **BATCH** Batch ID: **5304** Analysis Date: **8/31/2013** SeqNo: **197641**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	ND	0.0457						0		30	
Methylene chloride	ND	0.0183						0		30	
trans-1,2-Dichloroethene	ND	0.0183						0		30	
1,1-Dichloroethane	ND	0.0183						0		30	
2,2-Dichloropropane	ND	0.0457						0		30	
cis-1,2-Dichloroethene	ND	0.0183						0		30	
Chloroform	ND	0.0183						0		30	
1,1,1-Trichloroethane (TCA)	ND	0.0183						0		30	
1,1-Dichloropropene	ND	0.0183						0		30	
Carbon tetrachloride	ND	0.0183						0		30	
1,2-Dichloroethane (EDC)	ND	0.0274						0		30	
Trichloroethene (TCE)	ND	0.0274						0		30	
1,2-Dichloropropane	ND	0.0183						0		30	
Bromodichloromethane	ND	0.0183						0		30	
Dibromomethane	ND	0.0366						0		30	
cis-1,3-Dichloropropene	ND	0.0183						0		30	
trans-1,3-Dichloropropylene	ND	0.0274						0		30	
1,1,2-Trichloroethane	ND	0.0274						0		30	
1,3-Dichloropropane	ND	0.0457						0		30	
Tetrachloroethene (PCE)	ND	0.0183						0		30	
Dibromochloromethane	ND	0.0274						0		30	
1,2-Dibromoethane (EDB)	ND	0.00457						0		30	
Chlorobenzene	ND	0.0183						0		30	
1,1,1,2-Tetrachloroethane	ND	0.0274						0		30	
Bromoform	ND	0.0183						0		30	
1,1,2,2-Tetrachloroethane	ND	0.0183						0		30	
Bromobenzene	ND	0.0274						0		30	R
2-Chlorotoluene	ND	0.0183						0		30	
4-Chlorotoluene	ND	0.0183						0		30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1308214
CLIENT: Shannon & Wilson
Project: B&K RI

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1308219-005ADUP**	SampType: **DUP**			Units: **mg/Kg-dry**		Prep Date: **8/30/2013**		RunNo: **9841**			
Client ID: **BATCH**	Batch ID: **5304**					Analysis Date: **8/31/2013**		SeqNo: **197641**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,3-Trichloropropane	ND	0.0183						0		30	
1,2,4-Trichlorobenzene	ND	0.0457						0		30	
1,3-Dichlorobenzene	ND	0.0183						0		30	
1,4-Dichlorobenzene	ND	0.0183						0		30	
1,2-Dichlorobenzene	ND	0.0183						0		30	
1,2-Dibromo-3-chloropropane	ND	0.0274						0		30	
Hexachloro-1,3-butadiene	ND	0.0914						0		30	
1,2,3-Trichlorobenzene	ND	0.0183						0		30	
Surr: Dibromofluoromethane	2.28		2.286		99.9	63.7	129		0		
Surr: Toluene-d8	2.62		2.286		115	61.4	128		0		
Surr: 1-Bromo-4-fluorobenzene	2.19		2.286		95.8	63.1	141		0		

Sample ID: **LCS-5304**	SampType: **LCS**			Units: **mg/Kg**		Prep Date: **8/30/2013**		RunNo: **9841**			
Client ID: **LCSS**	Batch ID: **5304**					Analysis Date: **8/31/2013**		SeqNo: **197647**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	0.748	0.0600	1.000	0	74.9	37.7	136				
Chloromethane	0.740	0.0600	1.000	0	74.1	38.8	132				
Vinyl chloride	0.762	0.00200	1.000	0	76.2	56.1	130				
Bromomethane	1.02	0.0900	1.000	0	102	48.6	147				
Trichlorofluoromethane (CFC-11)	0.917	0.0500	1.000	0	91.7	60.3	132				
Chloroethane	0.927	0.0600	1.000	0	92.6	55.7	135				
1,1-Dichloroethene	0.961	0.0500	1.000	0	96.1	64.6	134				
Methylene chloride	0.958	0.0200	1.000	0	95.8	60.6	140				
trans-1,2-Dichloroethene	0.966	0.0200	1.000	0	96.6	68.7	127				
1,1-Dichloroethane	0.998	0.0200	1.000	0	99.8	65.5	132				
2,2-Dichloropropane	0.800	0.0500	1.000	0	80.0	28.1	149				
cis-1,2-Dichloroethene	0.981	0.0200	1.000	0	98.1	71.6	123				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *9/12/2013*

Work Order: 1308214
CLIENT: Shannon & Wilson
Project: B&K RI

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **LCS-5304** SampType: **LCS** Units: **mg/Kg** Prep Date: **8/30/2013** RunNo: **9841**
Client ID: **LCSS** Batch ID: **5304** Analysis Date: **8/31/2013** SeqNo: **197647**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloroform	1.01	0.0200	1.000	0	101	67.5	129				
1,1,1-Trichloroethane (TCA)	1.01	0.0200	1.000	0	101	74.4	130				
1,1-Dichloropropene	1.01	0.0200	1.000	0	101	72.7	131				
Carbon tetrachloride	1.04	0.0200	1.000	0	104	67.9	126				
1,2-Dichloroethane (EDC)	0.996	0.0300	1.000	0	99.6	68.7	133				
Trichloroethene (TCE)	1.13	0.0200	1.000	0	113	67.4	133				
1,2-Dichloropropane	1.07	0.0200	1.000	0	107	72.7	133				
Bromodichloromethane	1.08	0.0200	1.000	0	108	76.1	136				
Dibromomethane	1.04	0.0400	1.000	0	104	70	130				
cis-1,3-Dichloropropene	0.994	0.0200	1.000	0	99.4	59.1	143				
trans-1,3-Dichloropropylene	1.02	0.0300	1.000	0	102	49.2	149				
1,1,2-Trichloroethane	1.08	0.0300	1.000	0	108	74.5	129				
1,3-Dichloropropane	1.06	0.0500	1.000	0	106	70	130				
Tetrachloroethene (PCE)	1.12	0.0200	1.000	0	112	52.7	150				
Dibromochloromethane	1.11	0.0300	1.000	0	111	70.6	144				
1,2-Dibromoethane (EDB)	1.09	0.00500	1.000	0	109	70	130				
Chlorobenzene	1.01	0.0200	1.000	0	101	76.1	123				
1,1,1,2-Tetrachloroethane	0.973	0.0300	1.000	0	97.3	74.8	131				
Bromoform	1.03	0.0200	1.000	0	103	67	154				
1,1,2,2-Tetrachloroethane	1.01	0.0200	1.000	0	101	60	130				
Bromobenzene	1.06	0.0300	1.000	0	106	49.2	144				
2-Chlorotoluene	1.09	0.0200	1.000	0	109	76.7	129				
4-Chlorotoluene	1.09	0.0200	1.000	0	109	77.5	125				
1,2,3-Trichloropropane	0.986	0.0200	1.000	0	98.6	67.9	136				
1,2,4-Trichlorobenzene	0.970	0.0500	1.000	0	97.0	65.6	137				
1,3-Dichlorobenzene	0.990	0.0200	1.000	0	99.0	72.8	128				
1,4-Dichlorobenzene	1.00	0.0200	1.000	0	100	72.6	126				
1,2-Dichlorobenzene	1.07	0.0200	1.000	0	107	72.8	126				
1,2-Dibromo-3-chloropropane	0.916	0.0300	1.000	0	91.6	60.3	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1308214
CLIENT: Shannon & Wilson
Project: B&K RI

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **LCS-5304**	SampType: **LCS**			Units: **mg/Kg**		Prep Date: **8/30/2013**		RunNo: **9841**			
Client ID: **LCSS**	Batch ID: **5304**					Analysis Date: **8/31/2013**		SeqNo: **197647**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexachloro-1,3-butadiene	0.946	0.100	1.000	0	94.6	42	151				
1,2,3-Trichlorobenzene	0.998	0.0200	1.000	0	99.8	62.1	140				
Surr: Dibromofluoromethane	2.55		2.500		102	63.7	129				
Surr: Toluene-d8	2.68		2.500		107	61.4	128				
Surr: 1-Bromo-4-fluorobenzene	2.73		2.500		109	63.1	141				

Sample ID: **MB-5304**	SampType: **MBLK**			Units: **mg/Kg**		Prep Date: **8/30/2013**		RunNo: **9841**			
Client ID: **MBLKS**	Batch ID: **5304**					Analysis Date: **8/31/2013**		SeqNo: **197648**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	0.0600									
Chloromethane	ND	0.0600									
Vinyl chloride	ND	0.00200									
Bromomethane	ND	0.0900									
Trichlorofluoromethane (CFC-11)	ND	0.0500									
Chloroethane	ND	0.0600									
1,1-Dichloroethene	ND	0.0500									
Methylene chloride	ND	0.0200									
trans-1,2-Dichloroethene	ND	0.0200									
1,1-Dichloroethane	ND	0.0200									
2,2-Dichloropropane	ND	0.0500									
cis-1,2-Dichloroethene	ND	0.0200									
Chloroform	ND	0.0200									
1,1,1-Trichloroethane (TCA)	ND	0.0200									
1,1-Dichloropropene	ND	0.0200									
Carbon tetrachloride	ND	0.0200									
1,2-Dichloroethane (EDC)	ND	0.0300									
Trichloroethene (TCE)	ND	0.0200									

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *9/12/2013*

Work Order: 1308214
CLIENT: Shannon & Wilson
Project: B&K RI

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **MB-5304** SampType: **MBLK** Units: **mg/Kg** Prep Date: **8/30/2013** RunNo: **9841**
Client ID: **MBLKS** Batch ID: **5304** Analysis Date: **8/31/2013** SeqNo: **197648**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichloropropane	ND	0.0200									
Bromodichloromethane	ND	0.0200									
Dibromomethane	ND	0.0400									
cis-1,3-Dichloropropene	ND	0.0200									
trans-1,3-Dichloropropylene	ND	0.0300									
1,1,2-Trichloroethane	ND	0.0300									
1,3-Dichloropropane	ND	0.0500									
Tetrachloroethene (PCE)	ND	0.0200									
Dibromochloromethane	ND	0.0300									
1,2-Dibromoethane (EDB)	ND	0.00500									
Chlorobenzene	ND	0.0200									
1,1,1,2-Tetrachloroethane	ND	0.0300									
Bromoform	ND	0.0200									
1,1,2,2-Tetrachloroethane	ND	0.0200									
Bromobenzene	ND	0.0300									
2-Chlorotoluene	ND	0.0200									
4-Chlorotoluene	ND	0.0200									
1,2,3-Trichloropropane	ND	0.0200									
1,2,4-Trichlorobenzene	ND	0.0500									
1,3-Dichlorobenzene	ND	0.0200									
1,4-Dichlorobenzene	ND	0.0200									
1,2-Dichlorobenzene	ND	0.0200									
1,2-Dibromo-3-chloropropane	ND	0.0300									
Hexachloro-1,3-butadiene	ND	0.100									
1,2,3-Trichlorobenzene	ND	0.0200									
Surr: Dibromofluoromethane	2.59		2.500		104	63.7	129				
Surr: Toluene-d8	2.35		2.500		93.8	61.4	128				
Surr: 1-Bromo-4-fluorobenzene	2.41		2.500		96.4	63.1	141				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1308214
CLIENT: Shannon & Wilson
Project: B&K RI

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1309101-002AMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **9/11/2013** RunNo: **9985**
Client ID: **BATCH** Batch ID: **5380** Analysis Date: **9/11/2013** SeqNo: **200922**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	1.03	0.0616	1.026	0	100	43.5	121				
Chloromethane	1.13	0.0616	1.026	0	110	45	130				
Vinyl chloride	1.16	0.00205	1.026	0	113	51.2	146				
Bromomethane	0.984	0.0924	1.026	0	95.8	21.3	120				
Trichlorofluoromethane (CFC-11)	0.850	0.0513	1.026	0	82.8	35	131				
Chloroethane	0.896	0.0616	1.026	0	87.3	43.8	117				
1,1-Dichloroethene	0.945	0.0513	1.026	0	92.1	61.9	141				
Methylene chloride	0.875	0.0205	1.026	0	85.2	54.7	142				
trans-1,2-Dichloroethene	1.10	0.0205	1.026	0	107	52	136				
1,1-Dichloroethane	1.08	0.0205	1.026	0	105	51.8	141				
2,2-Dichloropropane	1.24	0.0513	1.026	0	121	36	123				
cis-1,2-Dichloroethene	1.11	0.0205	1.026	0	108	58.6	136				
Chloroform	1.11	0.0205	1.026	0	108	53.2	129				
1,1,1-Trichloroethane (TCA)	1.13	0.0205	1.026	0	111	58.3	145				
1,1-Dichloropropene	1.11	0.0205	1.026	0	108	55.1	138				
Carbon tetrachloride	1.14	0.0205	1.026	0	111	53.3	144				
1,2-Dichloroethane (EDC)	1.06	0.0308	1.026	0	103	51.3	139				
Trichloroethene (TCE)	1.47	0.0205	1.026	0	143	68.6	132				S
1,2-Dichloropropane	1.05	0.0205	1.026	0	102	59	136				
Bromodichloromethane	1.09	0.0205	1.026	0	106	50.7	141				
Dibromomethane	1.05	0.0411	1.026	0	103	50.6	137				
cis-1,3-Dichloropropene	1.08	0.0205	1.026	0	106	50.4	138				
trans-1,3-Dichloropropylene	1.09	0.0308	1.026	0	106	44.1	147				
1,1,2-Trichloroethane	1.07	0.0308	1.026	0	105	51.6	137				
1,3-Dichloropropane	1.07	0.0513	1.026	0	104	53.1	134				
Tetrachloroethene (PCE)	1.25	0.0205	1.026	0	122	35.6	158				
Dibromochloromethane	1.12	0.0308	1.026	0	109	55.3	140				
1,2-Dibromoethane (EDB)	1.08	0.00513	1.026	0	105	50.4	136				
Chlorobenzene	1.08	0.0205	1.026	0	106	60	133				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *9/12/2013*

Work Order: 1308214
CLIENT: Shannon & Wilson
Project: B&K RI

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1309101-002AMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **9/11/2013** RunNo: **9985**
Client ID: **BATCH** Batch ID: **5380** Analysis Date: **9/11/2013** SeqNo: **200922**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	1.11	0.0308	1.026	0	108	53.1	142				
Bromoform	1.14	0.0205	1.026	0	111	57.9	130				
1,1,2,2-Tetrachloroethane	0.723	0.0205	1.026	0	70.4	51.9	131				
Bromobenzene	1.17	0.0308	1.026	0	114	54.2	140				
2-Chlorotoluene	1.02	0.0205	1.026	0	99.3	51.6	136				
4-Chlorotoluene	1.02	0.0205	1.026	0	99.5	50.1	139				
1,2,3-Trichloropropane	1.10	0.0205	1.026	0	107	50.5	131				
1,2,4-Trichlorobenzene	0.966	0.0513	1.026	0	94.1	50.8	130				
1,3-Dichlorobenzene	1.04	0.0205	1.026	0	101	52.6	131				
1,4-Dichlorobenzene	1.08	0.0205	1.026	0	105	52.9	129				
1,2-Dichlorobenzene	1.05	0.0205	1.026	0	103	55.8	129				
1,2-Dibromo-3-chloropropane	1.20	0.0308	1.026	0	117	40.5	131				
Hexachloro-1,3-butadiene	0.959	0.103	1.026	0	93.4	40.6	158				
1,2,3-Trichlorobenzene	0.991	0.0205	1.026	0	96.5	54.4	124				
Surr: Dibromofluoromethane	2.57		2.566		100	63.7	129				
Surr: Toluene-d8	2.59		2.566		101	61.4	128				
Surr: 1-Bromo-4-fluorobenzene	2.58		2.566		101	63.1	141				

NOTES:
S - Outlying QC recoveries were observed. The method is in control as indicated by the LCS.

Sample ID: **1308214-016ADUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **9/11/2013** RunNo: **9985**
Client ID: **GP-28:8** Batch ID: **5380** Analysis Date: **9/11/2013** SeqNo: **200929**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	0.0707						0		30	
Chloromethane	ND	0.0707						0		30	
Vinyl chloride	ND	0.00236						0		30	
Bromomethane	ND	0.106						0		30	
Trichlorofluoromethane (CFC-11)	ND	0.0590						0		30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1308214
CLIENT: Shannon & Wilson
Project: B&K RI

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1308214-016ADUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **9/11/2013** RunNo: **9985**
Client ID: **GP-28:8** Batch ID: **5380** Analysis Date: **9/11/2013** SeqNo: **200929**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloroethane	ND	0.0707						0		30	
1,1-Dichloroethene	ND	0.0590						0		30	
Methylene chloride	ND	0.0236						0		30	
trans-1,2-Dichloroethene	ND	0.0236						0		30	
1,1-Dichloroethane	ND	0.0236						0		30	
2,2-Dichloropropane	ND	0.0590						0		30	
cis-1,2-Dichloroethene	ND	0.0236						0		30	
Chloroform	ND	0.0236						0		30	
1,1,1-Trichloroethane (TCA)	ND	0.0236						0		30	
1,1-Dichloropropene	ND	0.0236						0		30	
Carbon tetrachloride	ND	0.0236						0		30	
1,2-Dichloroethane (EDC)	ND	0.0354						0		30	
Trichloroethene (TCE)	ND	0.0236						0		30	
1,2-Dichloropropane	ND	0.0236						0		30	
Bromodichloromethane	ND	0.0236						0		30	
Dibromomethane	ND	0.0472						0		30	
cis-1,3-Dichloropropene	ND	0.0236						0		30	
trans-1,3-Dichloropropylene	ND	0.0354						0		30	
1,1,2-Trichloroethane	ND	0.0354						0		30	
1,3-Dichloropropane	ND	0.0590						0		30	
Tetrachloroethene (PCE)	ND	0.0236						0		30	
Dibromochloromethane	ND	0.0354						0		30	
1,2-Dibromoethane (EDB)	ND	0.00590						0		30	
Chlorobenzene	ND	0.0236						0		30	
1,1,1,2-Tetrachloroethane	ND	0.0354						0		30	
Bromoform	ND	0.0236						0		30	
1,1,2,2-Tetrachloroethane	ND	0.0236						0		30	
Bromobenzene	ND	0.0354						0		30	
2-Chlorotoluene	ND	0.0236						0		30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *9/12/2013*

Work Order: 1308214
CLIENT: Shannon & Wilson
Project: B&K RI

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1308214-016ADUP**	SampType: **DUP**			Units: **mg/Kg-dry**		Prep Date: **9/11/2013**		RunNo: **9985**			
Client ID: **GP-28:8**	Batch ID: **5380**					Analysis Date: **9/11/2013**		SeqNo: **200929**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	0.0236						0		30	
1,2,3-Trichloropropane	ND	0.0236						0		30	
1,2,4-Trichlorobenzene	ND	0.0590						0		30	
1,3-Dichlorobenzene	ND	0.0236						0		30	
1,4-Dichlorobenzene	ND	0.0236						0		30	
1,2-Dichlorobenzene	ND	0.0236						0		30	
1,2-Dibromo-3-chloropropane	ND	0.0354						0		30	
Hexachloro-1,3-butadiene	ND	0.118						0		30	
1,2,3-Trichlorobenzene	ND	0.0236						0		30	
Surr: Dibromofluoromethane	3.06		2.948		104	63.7	129		0		
Surr: Toluene-d8	2.99		2.948		101	61.4	128		0		
Surr: 1-Bromo-4-fluorobenzene	2.84		2.948		96.5	63.1	141		0		

Sample ID: **LCS-5380**	SampType: **LCS**			Units: **mg/Kg**		Prep Date: **9/11/2013**		RunNo: **9985**			
Client ID: **LCSS**	Batch ID: **5380**					Analysis Date: **9/11/2013**		SeqNo: **200931**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	1.08	0.0600	1.000	0	108	37.7	136				
Chloromethane	1.11	0.0600	1.000	0	111	38.8	132				
Vinyl chloride	1.13	0.00200	1.000	0	113	56.1	130				
Bromomethane	0.921	0.0900	1.000	0	92.1	48.6	147				
Trichlorofluoromethane (CFC-11)	0.940	0.0500	1.000	0	94.0	60.3	132				
Chloroethane	1.02	0.0600	1.000	0	102	55.7	135				
1,1-Dichloroethene	0.927	0.0500	1.000	0	92.7	64.6	134				
Methylene chloride	0.954	0.0200	1.000	0	95.4	60.6	140				
trans-1,2-Dichloroethene	1.02	0.0200	1.000	0	102	68.7	127				
1,1-Dichloroethane	0.988	0.0200	1.000	0	98.8	65.5	132				
2,2-Dichloropropane	1.21	0.0500	1.000	0	121	28.1	149				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1308214
CLIENT: Shannon & Wilson
Project: B&K RI

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **LCS-5380** SampType: **LCS** Units: **mg/Kg** Prep Date: **9/11/2013** RunNo: **9985**
Client ID: **LCSS** Batch ID: **5380** Analysis Date: **9/11/2013** SeqNo: **200931**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,2-Dichloroethene	1.00	0.0200	1.000	0	100	71.6	123				
Chloroform	1.05	0.0200	1.000	0	105	67.5	129				
1,1,1-Trichloroethane (TCA)	1.04	0.0200	1.000	0	104	74.4	130				
1,1-Dichloropropene	1.02	0.0200	1.000	0	102	72.7	131				
Carbon tetrachloride	1.05	0.0200	1.000	0	105	67.9	126				
1,2-Dichloroethane (EDC)	1.02	0.0300	1.000	0	102	68.7	133				
Trichloroethene (TCE)	1.02	0.0200	1.000	0	102	67.4	133				
1,2-Dichloropropane	1.02	0.0200	1.000	0	102	72.7	133				
Bromodichloromethane	1.05	0.0200	1.000	0	105	76.1	136				
Dibromomethane	1.05	0.0400	1.000	0	105	70	130				
cis-1,3-Dichloropropene	1.07	0.0200	1.000	0	107	59.1	143				
trans-1,3-Dichloropropylene	1.10	0.0300	1.000	0	110	49.2	149				
1,1,2-Trichloroethane	1.04	0.0300	1.000	0	104	74.5	129				
1,3-Dichloropropane	1.03	0.0500	1.000	0	103	70	130				
Tetrachloroethene (PCE)	1.14	0.0200	1.000	0	114	52.7	150				
Dibromochloromethane	1.07	0.0300	1.000	0	107	70.6	144				
1,2-Dibromoethane (EDB)	1.04	0.00500	1.000	0	104	70	130				
Chlorobenzene	1.01	0.0200	1.000	0	101	76.1	123				
1,1,1,2-Tetrachloroethane	1.06	0.0300	1.000	0	106	74.8	131				
Bromoform	1.10	0.0200	1.000	0	110	67	154				
1,1,2,2-Tetrachloroethane	1.02	0.0200	1.000	0	102	60	130				
Bromobenzene	1.03	0.0300	1.000	0	103	49.2	144				
2-Chlorotoluene	1.01	0.0200	1.000	0	101	76.7	129				
4-Chlorotoluene	1.02	0.0200	1.000	0	102	77.5	125				
1,2,3-Trichloropropane	1.01	0.0200	1.000	0	101	67.9	136				
1,2,4-Trichlorobenzene	1.06	0.0500	1.000	0	106	65.6	137				
1,3-Dichlorobenzene	1.06	0.0200	1.000	0	106	72.8	128				
1,4-Dichlorobenzene	1.06	0.0200	1.000	0	106	72.6	126				
1,2-Dichlorobenzene	1.08	0.0200	1.000	0	108	72.8	126				

Qualifiers:

- B Analyte detected in the associated Method Blank
- D Dilution was required
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- ND Not detected at the Reporting Limit
- R RPD outside accepted recovery limits
- RL Reporting Limit
- S Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *9/12/2013*

Work Order: 1308214
CLIENT: Shannon & Wilson
Project: B&K RI

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **LCS-5380**	SampType: **LCS**			Units: **mg/Kg**		Prep Date: **9/11/2013**		RunNo: **9985**			
Client ID: **LCSS**	Batch ID: **5380**					Analysis Date: **9/11/2013**		SeqNo: **200931**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dibromo-3-chloropropane	1.07	0.0300	1.000	0	107	60.3	130				
Hexachloro-1,3-butadiene	1.13	0.100	1.000	0	113	42	151				
1,2,3-Trichlorobenzene	1.08	0.0200	1.000	0	108	62.1	140				
Surr: Dibromofluoromethane	2.52		2.500		101	63.7	129				
Surr: Toluene-d8	2.52		2.500		101	61.4	128				
Surr: 1-Bromo-4-fluorobenzene	2.43		2.500		97.1	63.1	141				

Sample ID: **MB-5380**	SampType: **MBLK**			Units: **mg/Kg**		Prep Date: **9/11/2013**		RunNo: **9985**			
Client ID: **MBLKS**	Batch ID: **5380**					Analysis Date: **9/11/2013**		SeqNo: **200932**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	0.0600									
Chloromethane	ND	0.0600									
Vinyl chloride	ND	0.00200									
Bromomethane	ND	0.0900									
Trichlorofluoromethane (CFC-11)	ND	0.0500									
Chloroethane	ND	0.0600									
1,1-Dichloroethene	ND	0.0500									
Methylene chloride	ND	0.0200									
trans-1,2-Dichloroethene	ND	0.0200									
1,1-Dichloroethane	ND	0.0200									
2,2-Dichloropropane	ND	0.0500									
cis-1,2-Dichloroethene	ND	0.0200									
Chloroform	ND	0.0200									
1,1,1-Trichloroethane (TCA)	ND	0.0200									
1,1-Dichloropropene	ND	0.0200									
Carbon tetrachloride	ND	0.0200									
1,2-Dichloroethane (EDC)	ND	0.0300									

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1308214
CLIENT: Shannon & Wilson
Project: B&K RI

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **MB-5380** SampType: **MBLK** Units: **mg/Kg** Prep Date: **9/11/2013** RunNo: **9985**
Client ID: **MBLKS** Batch ID: **5380** Analysis Date: **9/11/2013** SeqNo: **200932**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichloroethene (TCE)	ND	0.0200									
1,2-Dichloropropane	ND	0.0200									
Bromodichloromethane	ND	0.0200									
Dibromomethane	ND	0.0400									
cis-1,3-Dichloropropene	ND	0.0200									
trans-1,3-Dichloropropylene	ND	0.0300									
1,1,2-Trichloroethane	ND	0.0300									
1,3-Dichloropropane	ND	0.0500									
Tetrachloroethene (PCE)	ND	0.0200									
Dibromochloromethane	ND	0.0300									
1,2-Dibromoethane (EDB)	ND	0.00500									
Chlorobenzene	ND	0.0200									
1,1,1,2-Tetrachloroethane	ND	0.0300									
Bromoform	ND	0.0200									
1,1,2,2-Tetrachloroethane	ND	0.0200									
Bromobenzene	ND	0.0300									
2-Chlorotoluene	ND	0.0200									
4-Chlorotoluene	ND	0.0200									
1,2,3-Trichloropropane	ND	0.0200									
1,2,4-Trichlorobenzene	ND	0.0500									
1,3-Dichlorobenzene	ND	0.0200									
1,4-Dichlorobenzene	ND	0.0200									
1,2-Dichlorobenzene	ND	0.0200									
1,2-Dibromo-3-chloropropane	ND	0.0300									
Hexachloro-1,3-butadiene	ND	0.100									
1,2,3-Trichlorobenzene	ND	0.0200									
Surr: Dibromofluoromethane	2.56		2.500		102	63.7	129				
Surr: Toluene-d8	2.53		2.500		101	61.4	128				
Surr: 1-Bromo-4-fluorobenzene	2.47		2.500		98.9	63.1	141				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *9/12/2013*

Work Order: 1308214
CLIENT: Shannon & Wilson
Project: B&K RI

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **MB-5380**	SampType: **MBLK**			Units: **mg/Kg**		Prep Date: **9/11/2013**			RunNo: **9985**			
Client ID: **MBLKS**	Batch ID: **5380**					Analysis Date: **9/11/2013**			SeqNo: **200932**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Sample Log-In Check List

Client Name:	**SW**	Work Order Number:	**1308214**
Logged by:	**Clare Griggs**	Date Received:	**8/29/2013 3:49:00 PM**

Chain of Custody

1.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2.	How was the sample delivered?	Client		

Log In

3.	Coolers are present?	Yes ☑	No ☐	NA ☐
4.	Shipping container/cooler in good condition?	Yes ☑	No ☐	
5.	Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Required ☑
6.	Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
7.	Were all coolers received at a temperature of >0°C to 10.0°C	Yes ☑	No ☐	NA ☐
8.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
9.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
10.	Are samples properly preserved?	Yes ☑	No ☐	
11.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
12.	Is the headspace in the VOA vials?	Yes ☐	No ☐	NA ☑
13.	Did all samples containers arrive in good condition(unbroken)?	Yes ☑	No ☐	
14.	Does paperwork match bottle labels?	Yes ☑	No ☐	
15.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
16.	Is it clear what analyses were requested?	Yes ☑	No ☐	
17.	Were all holding times able to be met?	Yes ☑	No ☐	

Special Handling (if applicable)

18. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

19. Additional remarks:

11/13/13: Requested name changes GP-23 samples marked as GP-29 and GP 22 samples marked to GP-30

Item Information

Item #	Temp °C	Condition
Cooler	8.4	Good
Sample	7.5	Good

1308214

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

CHAIN-OF-CUSTODY RECORD

Laboratory _____
Attn: _____

400 N. 34th Street, Suite 100
Seattle, WA 98103
(206) 632-8020

2355 Hill Road
Fairbanks, AK 99709
(907) 479-0600

2255 S.W. Canyon Road
Portland, OR 97201-2488
(503) 223-6147

2043 Westport Center Drive
St. Louis, MO 63146-3564
(314) 699-9660

5430 Fairbanks Street, Suite 3
Anchorage, AK 99518
(907) 561-2120

1200 17th Street, Suite 1624
Denver, Co 80202
(303) 825-3800

303 Wellsian Way
Richland, WA 99352
(509) 946-6309

Analysis Parameters/Sample Container Description
(include preservative if used)

Sample Identity	Lab No.	Time	Date Sampled	Comp.	Grab	HVOCs						Total Number of Containers	Remarks/Matrix
GP-22:4		945	8/25/13		X	X							
GP-22:8		950											
GP-23:3		1010				X							
GP-23:6.5		1015				X							
GP-23:8		1020											
GP-24:3		1050				X							
GP-24:6.5		1055											
GP-24:12		1105											
GP-25:4		1140				X							
GP-25:9.5		1155											

Project Information	Sample Receipt
Project Number: 21-1-12357-003	Total Number of Containers
Project Name: B&K RI	COC Seals/Intact? Y/N/NA
Contact: Cady Johnson	Received Good Cond./Cold
Ongoing Project? Yes ☐ No ☐	Delivery Method:
Sampler:	(attach shipping bill, if any)

Instructions
Requested Turnaround Time: Std
Special Instructions:

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.
Signature: Time: 1545	Signature: Time:	Signature: Time:
Printed Name: Cady Johnson Date: 8/25/13	Printed Name: Date:	Printed Name: Date:
Company: S+W	Company:	Company:

Received By: 1.	Received By: 2.	Received By: 3.
Signature: Time: 1545	Signature: Time:	Signature: Time:
Printed Name: Clare Griggs Date: 8/25/13	Printed Name: Date:	Printed Name: Date:
Company:	Company:	Company:

Distribution: White - w/shipment - returned to Shannon & Wilson w/ laboratory report
Yellow - w/shipment - for consignee files
Pink - Shannon & Wilson - Job File

F-19-91/UR

No. 30197

13D8214

CHAIN-OF-CUSTODY RECORD

Page ____ of ____

Laboratory ____

Attn: ____

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

400 N. 34th Street, Suite 100
Seattle, WA 98103
(206) 632-8020

2355 Hill Road
Fairbanks, AK 99709
(907) 479-0600

2255 S.W. Canyon Road
Portland, OR 97201-2498
(503) 223-6147

2043 Westport Center Drive
St. Louis, MO 63146-3564
(314) 699-9660

5430 Fairbanks Street, Suite 3
Anchorage, AK 99518
(907) 561-2120

1200 17th Street, Suite 1024
Denver, Co 80202
(303) 825-3800

308 Wellsian Way
Richland, WA 99352
(509) 946-6309

Analysis Parameters/Sample Container Description
(include preservative if used)

Sample Identity	Lab No.	Time	Date Sampled	Comp.	Grab	NVOCs						Total Number of Containers	Remarks/Matrix
GP-26:4		1215	8/29/13			Y							
GP-26:8		1230											
GP-27:4		1240				X							
GP-27:8		1245											
GP-28:4		1300				X							
GP-28:8		1305											

Project Information	Sample Receipt
Project Number:	Total Number of Containers
Project Name: Seals 1	COC Seals/Intact? Y/N/NA
Contact:	Received Good Cond./Cold
Ongoing Project? Yes ☐ No ☐	Delivery Method:
Sampler:	(attach shipping bill, if any)

Instructions
Requested Turnaround Time:
Special Instructions:

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.
Signature: Time: 1540	Signature: Time:	Signature: Time:
Printed Name: Date: 8/29/13	Printed Name: Date:	Printed Name: Date:
Carl Johnson		
Company: S&W	Company:	Company:

Received By: 1.	Received By: 2.	Received By: 3.
Signature: Time: 1549	Signature: Time:	Signature: Time:
Printed Name: Date: 8-29-13	Printed Name: Date:	Printed Name: Date:
Clare Griggs		
Company:	Company:	Company:

Distribution: White - w/shipment - returned to Shannon & Wilson w/ laboratory report
Yellow - w/shipment - for consignee files
Pink - Shannon & Wilson - Job File

F-19-91/UR

No. 30198

1308214

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

CHAIN-OF-CUSTODY RECORD

Laboratory
Attn:

400 N. 34th Street, Suite 100
Seattle, WA 98103
(206) 632-8020

2243 Westport Center Drive
St. Louis, MO 63146-3564
(314) 699-9660

309 Wellsian Way
Richland, WA 99352
(509) 946-6309

2355 Hill Road
Fairbanks, AK 99709
(907) 479-0600

5430 Fairbanks Street, Suite 3
Anchorage, AK 99518
(907) 561-2120

2255 S.W. Canyon Road
Portland, OR 97201-2496
(503) 223-5147

1200 17th Street, Suite 1024
Denver, Co 80202
(303) 825-3800

Analysis Parameters/Sample Container Description
(include preservative if used)

Sample Identity	Lab No	Time	Date Sampled	Comp	Grab	HVOCs						Total Number of Containers	Remarks/Matrix
GP-22:4		945	8/25/13		X	X							(A) Hold per Cody J. 9-11-13 cg
GP-22:8		950											
GP-23:3		1010				X							
GP-23:6.5		1015				X							
GP-25:8		1028											
GP-24:3		1050				X							
GP-24:6.5		1055											
GP-24:12		1105											
GP-25:4		1140				X							
GP-25:9.5		1155	↓		↓	(X)							

Project Information	Sample Receipt
Project Number: 21-1-12357-003	Total Number of Containers
Project Name: B&K RI	COC Seals/Intact? Y/N/NA
Contact: Cody Johnson	Received Good Cond./Cold
Ongoing Project? Yes ☐ No ☐	Delivery Method:
Sampler:	(attach shipping bill, if any)

Instructions
Requested Turnaround Time: STD
Special Instructions:

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.
Signature: [signature] Time: 1548	Signature: Time:	Signature: Time:
Printed Name: Cody Johnson Date: 8/25/13	Printed Name: Date:	Printed Name: Date:
Company: STW	Company:	Company:

Received By: 1.	Received By: 2.	Received By: 3.
Signature: [signature] Time: 1548	Signature: Time:	Signature: Time:
Printed Name: Clara Giggs Date: 8/25/13	Printed Name: Date:	Printed Name: Date:
Company:	Company:	Company:

Distribution: White - w/shipment - returned to Shannon & Wilson w/ laboratory report
Yellow - w/shipment - for consigner files
Pink - Shannon & Wilson - Job File

F-19-91/UR

No. 30197

1309219

CHAIN-OF-CUSTODY RECORD

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

400 N. 34th Street, Suite 100, Seattle, WA 98103, (206) 632-8020
2355 Hill Road, Fairbanks, AK 99709, (907) 479-0600
2225 S.W. Canyon Road, Portland, OR 97201-2498, (503) 223-6147
2043 Westport Center Drive, St. Louis, MO 63146-3554, (314) 569-9650
5430 Fairbanks Street, Suite 3, Anchorage, AK 99518, (907) 561-2120
1200 17th Street, Suite 1024, Denver, Co 80202, (303) 825-3800
303 Wellsian Way, Richland, WA 99352, (509) 946-5309

Page ____ of ____
Laboratory ____
Attn: ____

Analysis Parameters/Sample Container Description
(Include preservative if used)

Sample Identity	Lab No.	Time	Date Sampled	Comp.	Grab	WVOCs						Total Number of Containers	Remarks/Matrix
GP-26:4		1215	8/29/13			X							
GP-26:8		1230											
GP-27:4		1240				X							
GP-27:8		1245											
GP-28:4		1300				X							
GP-28:8		1305				(X)							

Project Information	Sample Receipt
Project Number:	Total Number of Containers
Project Name: Seattle	COC Seals/Intact? Y/N/NA
Contact:	Received Good Cond./Cold
Ongoing Project? Yes ☐ No ☐	Delivery Method:
Sampler:	(attach shipping bill, if any)

Instructions
Requested Turnaround Time:
Special Instructions:

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.
Signature: Time: 1540	Signature: Time:	Signature: Time:
Printed Name: Date: 8/29/13	Printed Name: Date:	Printed Name: Date:
Company: STW	Company:	Company:

Received By: 1.	Received By: 2.	Received By: 3.
Signature: Time: 1549	Signature: Time:	Signature: Time:
Printed Name: Clare Griggs Date: 8-29-13	Printed Name: Date:	Printed Name: Date:
Company:	Company:	Company:

Distribution: White - w/Shipment - returned to Shannon & Wilson w/ laboratory report
Yellow - w/shipment - for consignee files
Pink - Shannon & Wilson - Job File

F-19-8/UR

No. 30198

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

Shannon & Wilson
Cody Johnson
400 N. 34th Street, Suite 100
Seattle, WA 98103

RE: B+K RI
Lab ID: 1309257

October 02, 2013

Attention Cody Johnson:

Fremont Analytical, Inc. received 2 sample(s) on 9/26/2013 for the analyses presented in the following report.

Volatile Organic Compounds by EPA Method 8260

This report consists of the following:

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

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

Thank you for using Fremont Analytical.

Sincerely,

Michael Dee
Sr. Chemist / Principal

Fremont Analytical

Date: *10/02/2013*

CLIENT: Shannon & Wilson
Project: B+K RI
Lab Order: 1309257

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1309257-001	092513-MW4:GW	09/25/2013 12:30 PM	09/26/2013 4:05 PM
1309257-002	092513-MW5:GW	09/25/2013 2:00 PM	09/26/2013 4:05 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Fremont Analytical

Case Narrative

WO#: **1309257**
Date: **10/2/2013**

CLIENT: Shannon & Wilson
Project: B+K RI

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

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

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

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

Client: Shannon & Wilson
Collection Date: 9/25/2013 12:30:00 PM
Project: B+K RI
Lab ID: 1309257-001
Matrix: Groundwater
Client Sample ID: 092513-MW4:GW

Volatile Organic Compounds by EPA Method 8260

Batch ID: R10362 Analyst: EM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane	ND	1.00		µg/L	1	9/28/2013 6:17:00 AM
Chloromethane	ND	1.00		µg/L	1	9/28/2013 6:17:00 AM
Vinyl chloride	ND	0.200		µg/L	1	9/28/2013 6:17:00 AM
Bromomethane	ND	1.00		µg/L	1	9/28/2013 6:17:00 AM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	9/28/2013 6:17:00 AM
Chloroethane	ND	1.00		µg/L	1	9/28/2013 6:17:00 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	9/28/2013 6:17:00 AM
Methylene chloride	ND	1.00		µg/L	1	9/28/2013 6:17:00 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	9/28/2013 6:17:00 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	9/28/2013 6:17:00 AM
2,2-Dichloropropane	ND	2.00		µg/L	1	9/28/2013 6:17:00 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	9/28/2013 6:17:00 AM
Chloroform	ND	1.00		µg/L	1	9/28/2013 6:17:00 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	9/28/2013 6:17:00 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	9/28/2013 6:17:00 AM
Carbon tetrachloride	ND	1.00		µg/L	1	9/28/2013 6:17:00 AM
1,2-Dichloroethane	ND	1.00		µg/L	1	9/28/2013 6:17:00 AM
Trichloroethene (TCE)	ND	1.00		µg/L	1	9/28/2013 6:17:00 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	9/28/2013 6:17:00 AM
Bromodichloromethane	ND	1.00		µg/L	1	9/28/2013 6:17:00 AM
Dibromomethane	ND	1.00		µg/L	1	9/28/2013 6:17:00 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	9/28/2013 6:17:00 AM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	9/28/2013 6:17:00 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	9/28/2013 6:17:00 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	9/28/2013 6:17:00 AM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	9/28/2013 6:17:00 AM
Dibromochloromethane	ND	1.00		µg/L	1	9/28/2013 6:17:00 AM
1,2-Dibromoethane (EDB)	ND	0.0100		µg/L	1	9/28/2013 6:17:00 AM
Chlorobenzene	ND	1.00		µg/L	1	9/28/2013 6:17:00 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	9/28/2013 6:17:00 AM
Bromoform	ND	1.00		µg/L	1	9/28/2013 6:17:00 AM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	9/28/2013 6:17:00 AM
Bromobenzene	ND	1.00		µg/L	1	9/28/2013 6:17:00 AM
2-Chlorotoluene	ND	1.00		µg/L	1	9/28/2013 6:17:00 AM
4-Chlorotoluene	ND	1.00		µg/L	1	9/28/2013 6:17:00 AM

Qualifiers:

- B Analyte detected in the associated Method Blank
- D Dilution was required
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- ND Not detected at the Reporting Limit
- RL Reporting Limit
- S Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 9/25/2013 12:30:00 PM
Project: B+K RI
Lab ID: 1309257-001
Matrix: Groundwater
Client Sample ID: 092513-MW4:GW

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R10362		Analyst: EM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	9/28/2013 6:17:00 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	9/28/2013 6:17:00 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	9/28/2013 6:17:00 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	9/28/2013 6:17:00 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	9/28/2013 6:17:00 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	9/28/2013 6:17:00 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	9/28/2013 6:17:00 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	9/28/2013 6:17:00 AM
Surr: Dibromofluoromethane	99.6	72.1-122		%REC	1	9/28/2013 6:17:00 AM
Surr: Toluene-d8	97.2	62.1-129		%REC	1	9/28/2013 6:17:00 AM
Surr: 1-Bromo-4-fluorobenzene	97.3	66.8-124		%REC	1	9/28/2013 6:17:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 9/25/2013 2:00:00 PM
Project: B+K RI
Lab ID: 1309257-002
Matrix: Groundwater
Client Sample ID: 092513-MW5:GW

Volatile Organic Compounds by EPA Method 8260

Batch ID: R10362 Analyst: EM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane	ND	1.00		µg/L	1	9/28/2013 8:04:00 AM
Chloromethane	ND	1.00		µg/L	1	9/28/2013 8:04:00 AM
Vinyl chloride	ND	0.200		µg/L	1	9/28/2013 8:04:00 AM
Bromomethane	ND	1.00		µg/L	1	9/28/2013 8:04:00 AM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	9/28/2013 8:04:00 AM
Chloroethane	ND	1.00		µg/L	1	9/28/2013 8:04:00 AM
1,1-Dichloroethene	3.28	1.00		µg/L	1	9/28/2013 8:04:00 AM
Methylene chloride	ND	1.00		µg/L	1	9/28/2013 8:04:00 AM
trans-1,2-Dichloroethene	1.83	1.00		µg/L	1	9/28/2013 8:04:00 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	9/28/2013 8:04:00 AM
2,2-Dichloropropane	ND	2.00		µg/L	1	9/28/2013 8:04:00 AM
cis-1,2-Dichloroethene	55.5	50.0	D	µg/L	50	10/2/2013 4:47:00 AM
Chloroform	ND	1.00		µg/L	1	9/28/2013 8:04:00 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	9/28/2013 8:04:00 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	9/28/2013 8:04:00 AM
Carbon tetrachloride	ND	1.00		µg/L	1	9/28/2013 8:04:00 AM
1,2-Dichloroethane	ND	1.00		µg/L	1	9/28/2013 8:04:00 AM
Trichloroethene (TCE)	1,320	50.0	D	µg/L	50	10/2/2013 4:47:00 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	9/28/2013 8:04:00 AM
Bromodichloromethane	ND	1.00		µg/L	1	9/28/2013 8:04:00 AM
Dibromomethane	ND	1.00		µg/L	1	9/28/2013 8:04:00 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	9/28/2013 8:04:00 AM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	9/28/2013 8:04:00 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	9/28/2013 8:04:00 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	9/28/2013 8:04:00 AM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	9/28/2013 8:04:00 AM
Dibromochloromethane	ND	1.00		µg/L	1	9/28/2013 8:04:00 AM
1,2-Dibromoethane (EDB)	ND	0.0100		µg/L	1	9/28/2013 8:04:00 AM
Chlorobenzene	ND	1.00		µg/L	1	9/28/2013 8:04:00 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	9/28/2013 8:04:00 AM
Bromoform	ND	1.00		µg/L	1	9/28/2013 8:04:00 AM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	9/28/2013 8:04:00 AM
Bromobenzene	ND	1.00		µg/L	1	9/28/2013 8:04:00 AM
2-Chlorotoluene	ND	1.00		µg/L	1	9/28/2013 8:04:00 AM
4-Chlorotoluene	ND	1.00		µg/L	1	9/28/2013 8:04:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 9/25/2013 2:00:00 PM
Project: B+K RI
Lab ID: 1309257-002
Matrix: Groundwater
Client Sample ID: 092513-MW5:GW

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R10362		Analyst: EM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	9/28/2013 8:04:00 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	9/28/2013 8:04:00 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	9/28/2013 8:04:00 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	9/28/2013 8:04:00 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	9/28/2013 8:04:00 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	9/28/2013 8:04:00 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	9/28/2013 8:04:00 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	9/28/2013 8:04:00 AM
Surr: Dibromofluoromethane	100	72.1-122		%REC	1	9/28/2013 8:04:00 AM
Surr: Toluene-d8	98.2	62.1-129		%REC	1	9/28/2013 8:04:00 AM
Surr: 1-Bromo-4-fluorobenzene	98.0	66.8-124		%REC	1	9/28/2013 8:04:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1309257
CLIENT: Shannon & Wilson
Project: B+K RI

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1309257-001AMS** SampType: **MS** Units: **µg/L** Prep Date: **9/28/2013** RunNo: **10362**
Client ID: **092513-MW4:GW** Batch ID: **R10362** Analysis Date: **9/28/2013** SeqNo: **207755**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	16.3	1.00	20.00	0	81.4	33.3	122				
Chloromethane	19.7	1.00	20.00	0	98.6	48.2	145				
Vinyl chloride	19.8	0.200	20.00	0	98.8	45.6	149				
Bromomethane	20.7	1.00	20.00	0	103	31.5	135				
Trichlorofluoromethane (CFC-11)	21.0	1.00	20.00	0	105	54.7	138				
Chloroethane	15.5	1.00	20.00	0	77.6	49.9	143				
1,1-Dichloroethene	21.0	1.00	20.00	0	105	63	141				
Methylene chloride	20.5	1.00	20.00	0	102	61.6	135				
trans-1,2-Dichloroethene	20.9	1.00	20.00	0	104	63.5	138				
1,1-Dichloroethane	20.9	1.00	20.00	0	105	67.8	136				
2,2-Dichloropropane	15.5	2.00	20.00	0	77.7	31.5	121				
cis-1,2-Dichloroethene	20.2	1.00	20.00	0	101	67.1	123				
Chloroform	21.2	1.00	20.00	0.2800	105	66.7	136				
1,1,1-Trichloroethane (TCA)	21.8	1.00	20.00	0	109	64.2	146				
1,1-Dichloropropene	21.9	1.00	20.00	0	110	73.8	136				
Carbon tetrachloride	22.4	1.00	20.00	0	112	62.7	146				
1,2-Dichloroethane	20.8	1.00	20.00	0	104	63.4	137				
Trichloroethene (TCE)	19.6	1.00	20.00	0	97.8	60.4	134				
1,2-Dichloropropane	20.6	1.00	20.00	0	103	62.6	138				
Bromodichloromethane	21.2	1.00	20.00	0	106	59.4	139				
Dibromomethane	20.7	1.00	20.00	0	104	63.6	139				
cis-1,3-Dichloropropene	20.4	1.00	20.00	0	102	63.8	132				
trans-1,3-Dichloropropene	20.0	1.00	20.00	0	100	57.7	125				
1,1,2-Trichloroethane	20.4	1.00	20.00	0	102	59.4	127				
1,3-Dichloropropane	20.7	1.00	20.00	0	104	64.3	135				
Tetrachloroethene (PCE)	21.9	1.00	20.00	0	110	50.3	133				
Dibromochloromethane	21.2	1.00	20.00	0	106	61.6	139				
1,2-Dibromoethane (EDB)	20.6	0.0100	20.00	0	103	63.2	134				
Chlorobenzene	21.2	1.00	20.00	0	106	65.8	134				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1309257
CLIENT: Shannon & Wilson
Project: B+K RI

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1309257-001AMS**	SampType: **MS**	Units: **µg/L**	Prep Date: **9/28/2013**	RunNo: **10362**
Client ID: **092513-MW4:GW**	Batch ID: **R10362**		Analysis Date: **9/28/2013**	SeqNo: **207755**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	20.3	1.00	20.00	0	101	65.4	135				
Bromoform	21.0	1.00	20.00	0	105	57.7	139				
1,1,2,2-Tetrachloroethane	23.8	1.00	20.00	0	119	59.8	146				
Bromobenzene	20.7	1.00	20.00	0	104	63.6	130				
2-Chlorotoluene	21.3	1.00	20.00	0	107	61.7	134				
4-Chlorotoluene	21.0	1.00	20.00	0	105	58.4	134				
1,2,3-Trichloropropane	22.0	1.00	20.00	0	110	62.4	129				
1,2,4-Trichlorobenzene	19.5	2.00	20.00	0	97.4	50.9	133				
1,3-Dichlorobenzene	20.9	1.00	20.00	0	105	58.2	128				
1,4-Dichlorobenzene	21.2	1.00	20.00	0	106	60.1	123				
1,2-Dichlorobenzene	20.6	1.00	20.00	0	103	65.4	133				
1,2-Dibromo-3-chloropropane	21.3	1.00	20.00	0	106	51.8	142				
Hexachloro-1,3-butadiene	19.9	4.00	20.00	0	99.5	58.1	130				
1,2,3-Trichlorobenzene	19.5	4.00	20.00	0	97.6	57	131				
Surr: Dibromofluoromethane	51.4		50.00		103	72.1	122				
Surr: Toluene-d8	50.9		50.00		102	62.1	129				
Surr: 1-Bromo-4-fluorobenzene	50.9		50.00		102	66.8	124				

Sample ID: **1309262-002ADUP**	SampType: **DUP**	Units: **µg/L**	Prep Date: **9/28/2013**	RunNo: **10362**
Client ID: **BATCH**	Batch ID: **R10362**		Analysis Date: **9/28/2013**	SeqNo: **207772**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	ND	1.00						0		30	
Chloromethane	ND	1.00						0		30	
Vinyl chloride	ND	0.200						0		30	
Bromomethane	ND	1.00						0		30	
Trichlorofluoromethane (CFC-11)	ND	1.00						0		30	
Chloroethane	ND	1.00						0		30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1309257
CLIENT: Shannon & Wilson
Project: B+K RI

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1309262-002ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **9/28/2013** RunNo: **10362**
Client ID: **BATCH** Batch ID: **R10362** Analysis Date: **9/28/2013** SeqNo: **207772**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	ND	1.00						0		30	
Methylene chloride	ND	1.00						0		30	
trans-1,2-Dichloroethene	ND	1.00						0		30	
1,1-Dichloroethane	ND	1.00						0		30	
2,2-Dichloropropane	ND	2.00						0		30	
cis-1,2-Dichloroethene	ND	1.00						0		30	
Chloroform	ND	1.00						0		30	
1,1,1-Trichloroethane (TCA)	ND	1.00						0		30	
1,1-Dichloropropene	ND	1.00						0		30	
Carbon tetrachloride	ND	1.00						0		30	
1,2-Dichloroethane	ND	1.00						0		30	
Trichloroethene (TCE)	ND	1.00						0		30	
1,2-Dichloropropane	ND	1.00						0		30	
Bromodichloromethane	ND	1.00						0		30	
Dibromomethane	ND	1.00						0		30	
cis-1,3-Dichloropropene	ND	1.00						0		30	
trans-1,3-Dichloropropene	ND	1.00						0		30	
1,1,2-Trichloroethane	ND	1.00						0		30	
1,3-Dichloropropane	ND	1.00						0		30	
Tetrachloroethene (PCE)	ND	1.00						0		30	
Dibromochloromethane	ND	1.00						0		30	
1,2-Dibromoethane (EDB)	ND	0.0100						0		30	
Chlorobenzene	ND	1.00						0		30	
1,1,1,2-Tetrachloroethane	ND	1.00						0		30	
Bromoform	ND	1.00						0		30	
1,1,2,2-Tetrachloroethane	ND	1.00						0		30	
Bromobenzene	ND	1.00						0		30	
2-Chlorotoluene	ND	1.00						0		30	
4-Chlorotoluene	ND	1.00						0		30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *10/2/2013*

Work Order: 1309257
CLIENT: Shannon & Wilson
Project: B+K RI

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1309262-002ADUP**	SampType: **DUP**	Units: **µg/L**	Prep Date: **9/28/2013**	RunNo: **10362**
Client ID: **BATCH**	Batch ID: **R10362**		Analysis Date: **9/28/2013**	SeqNo: **207772**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,3-Trichloropropane	ND	1.00						0		30	
1,2,4-Trichlorobenzene	ND	2.00						0		30	
1,3-Dichlorobenzene	ND	1.00						0		30	
1,4-Dichlorobenzene	ND	1.00						0		30	
1,2-Dichlorobenzene	ND	1.00						0		30	
1,2-Dibromo-3-chloropropane	ND	1.00						0		30	
Hexachloro-1,3-butadiene	ND	4.00						0		30	
1,2,3-Trichlorobenzene	ND	4.00						0		30	
Surr: Dibromofluoromethane	50.0		50.00		100	72.1	122		0		
Surr: Toluene-d8	48.5		50.00		96.9	62.1	129		0		
Surr: 1-Bromo-4-fluorobenzene	48.5		50.00		96.9	66.8	124		0		

Sample ID: **ICV-R10362B**	SampType: **ICV**	Units: **µg/L**	Prep Date: **10/2/2013**	RunNo: **10362**
Client ID: **ICV**	Batch ID: **R10362**		Analysis Date: **10/2/2013**	SeqNo: **207780**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,2-Dichloroethene	19.1	1.00	20.00	0	95.3	70	130				
Trichloroethene (TCE)	21.3	1.00	20.00	0	107	70	130				
Surr: Dibromofluoromethane	51.3		50.00		103	72.1	122				
Surr: Toluene-d8	51.4		50.00		103	62.1	129				
Surr: 1-Bromo-4-fluorobenzene	50.8		50.00		102	66.8	124				

Sample ID: **LCS-R10362**	SampType: **LCS**	Units: **µg/L**	Prep Date: **9/28/2013**	RunNo: **10362**
Client ID: **LCSW**	Batch ID: **R10362**		Analysis Date: **9/28/2013**	SeqNo: **207781**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	17.3	1.00	20.00	0	86.6	43.1	127				
Chloromethane	19.1	1.00	20.00	0	95.4	42.5	131				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1309257
CLIENT: Shannon & Wilson
Project: B+K RI

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **LCS-R10362** SampType: **LCS** Units: **µg/L** Prep Date: **9/28/2013** RunNo: **10362**
Client ID: **LCSW** Batch ID: **R10362** Analysis Date: **9/28/2013** SeqNo: **207781**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	18.9	0.200	20.00	0	94.7	56.2	130				
Bromomethane	19.3	1.00	20.00	0	96.3	45.4	138				
Trichlorofluoromethane (CFC-11)	19.6	1.00	20.00	0	98.0	64.7	129				
Chloroethane	15.1	1.00	20.00	0	75.7	62.5	123				
1,1-Dichloroethene	19.1	1.00	20.00	0	95.6	60.7	146				
Methylene chloride	19.2	1.00	20.00	0	96.2	60.3	135				
trans-1,2-Dichloroethene	19.2	1.00	20.00	0	95.8	71.3	129				
1,1-Dichloroethane	19.3	1.00	20.00	0	96.7	71.3	129				
2,2-Dichloropropane	15.5	2.00	20.00	0	77.6	37.8	132				
cis-1,2-Dichloroethene	18.8	1.00	20.00	0	94.3	67.5	127				
Chloroform	19.3	1.00	20.00	0	96.6	70.3	123				
1,1,1-Trichloroethane (TCA)	19.6	1.00	20.00	0	98.2	67.9	134				
1,1-Dichloropropene	19.7	1.00	20.00	0	98.4	72.1	133				
Carbon tetrachloride	20.1	1.00	20.00	0	100	68	136				
1,2-Dichloroethane	19.4	1.00	20.00	0	97.3	65.8	126				
Trichloroethene (TCE)	20.9	1.00	20.00	0	104	71.9	130				
1,2-Dichloropropane	19.4	1.00	20.00	0	97.2	71.9	131				
Bromodichloromethane	19.8	1.00	20.00	0	99.2	70	130				
Dibromomethane	19.5	1.00	20.00	0	97.3	74.2	125				
cis-1,3-Dichloropropene	19.4	1.00	20.00	0	97.0	62.8	135				
trans-1,3-Dichloropropene	19.4	1.00	20.00	0	97.0	58.1	138				
1,1,2-Trichloroethane	19.4	1.00	20.00	0	97.0	65.4	128				
1,3-Dichloropropane	19.6	1.00	20.00	0	97.8	71.9	131				
Tetrachloroethene (PCE)	20.1	1.00	20.00	0	101	52.4	140				
Dibromochloromethane	20.0	1.00	20.00	0	100	68.7	139				
1,2-Dibromoethane (EDB)	19.7	0.0100	20.00	0	98.4	71.2	129				
Chlorobenzene	19.9	1.00	20.00	0	99.6	77.2	122				
1,1,1,2-Tetrachloroethane	19.2	1.00	20.00	0	96.2	76.2	130				
Bromoform	20.1	1.00	20.00	0	100	69.9	142				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *10/2/2013*

Work Order: 1309257
CLIENT: Shannon & Wilson
Project: B+K RI

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **LCS-R10362** SampType: **LCS** Units: **µg/L** Prep Date: **9/28/2013** RunNo: **10362**
Client ID: **LCSW** Batch ID: **R10362** Analysis Date: **9/28/2013** SeqNo: **207781**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2,2-Tetrachloroethane	18.3	1.00	20.00	0	91.3	68	134				
Bromobenzene	19.7	1.00	20.00	0	98.7	71.1	131				
2-Chlorotoluene	20.0	1.00	20.00	0	100	67.1	137				
4-Chlorotoluene	19.8	1.00	20.00	0	99.0	70.7	132				
1,2,3-Trichloropropane	21.1	1.00	20.00	0	105	70.8	132				
1,2,4-Trichlorobenzene	18.8	2.00	20.00	0	94.2	61.4	139				
1,3-Dichlorobenzene	20.0	1.00	20.00	0	100	73.5	125				
1,4-Dichlorobenzene	20.2	1.00	20.00	0	101	71.4	125				
1,2-Dichlorobenzene	19.5	1.00	20.00	0	97.6	74.2	123				
1,2-Dibromo-3-chloropropane	20.2	1.00	20.00	0	101	66.1	138				
Hexachloro-1,3-butadiene	19.1	4.00	20.00	0	95.5	60.9	141				
1,2,3-Trichlorobenzene	18.9	4.00	20.00	0	94.6	61.3	133				
Surr: Dibromofluoromethane	50.9		50.00		102	72.1	122				
Surr: Toluene-d8	50.8		50.00		102	62.1	129				
Surr: 1-Bromo-4-fluorobenzene	51.2		50.00		102	66.8	124				

Sample ID: **MB-R10362** SampType: **MBLK** Units: **µg/L** Prep Date: **9/28/2013** RunNo: **10362**
Client ID: **MBLKW** Batch ID: **R10362** Analysis Date: **9/28/2013** SeqNo: **207782**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	ND	1.00									
Chloromethane	ND	1.00									
Vinyl chloride	ND	0.200									
Bromomethane	ND	1.00									
Trichlorofluoromethane (CFC-11)	ND	1.00									
Chloroethane	ND	1.00									
1,1-Dichloroethene	ND	1.00									
Methylene chloride	ND	1.00									

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *10/2/2013*

Work Order: 1309257
CLIENT: Shannon & Wilson
Project: B+K RI

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **MB-R10362** SampType: **MBLK** Units: **µg/L** Prep Date: **9/28/2013** RunNo: **10362**
Client ID: **MBLKW** Batch ID: **R10362** Analysis Date: **9/28/2013** SeqNo: **207782**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
trans-1,2-Dichloroethene	ND	1.00									
1,1-Dichloroethane	ND	1.00									
2,2-Dichloropropane	ND	2.00									
cis-1,2-Dichloroethene	ND	1.00									
Chloroform	ND	1.00									
1,1,1-Trichloroethane (TCA)	ND	1.00									
1,1-Dichloropropene	ND	1.00									
Carbon tetrachloride	ND	1.00									
1,2-Dichloroethane	ND	1.00									
Trichloroethene (TCE)	ND	1.00									
1,2-Dichloropropane	ND	1.00									
Bromodichloromethane	ND	1.00									
Dibromomethane	ND	1.00									
cis-1,3-Dichloropropene	ND	1.00									
trans-1,3-Dichloropropene	ND	1.00									
1,1,2-Trichloroethane	ND	1.00									
1,3-Dichloropropane	ND	1.00									
Tetrachloroethene (PCE)	ND	1.00									
Dibromochloromethane	ND	1.00									
1,2-Dibromoethane (EDB)	ND	0.0100									
Chlorobenzene	ND	1.00									
1,1,1,2-Tetrachloroethane	ND	1.00									
Bromoform	ND	1.00									
1,1,2,2-Tetrachloroethane	ND	1.00									
Bromobenzene	ND	1.00									
2-Chlorotoluene	ND	1.00									
4-Chlorotoluene	ND	1.00									
1,2,3-Trichloropropane	ND	1.00									
1,2,4-Trichlorobenzene	ND	2.00									

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *10/2/2013*

Work Order: 1309257
CLIENT: Shannon & Wilson
Project: B+K RI

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **MB-R10362** SampType: **MBLK** Units: **µg/L** Prep Date: **9/28/2013** RunNo: **10362**
Client ID: **MBLKW** Batch ID: **R10362** Analysis Date: **9/28/2013** SeqNo: **207782**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,3-Dichlorobenzene	ND	1.00									
1,4-Dichlorobenzene	ND	1.00									
1,2-Dichlorobenzene	ND	1.00									
1,2-Dibromo-3-chloropropane	ND	1.00									
Hexachloro-1,3-butadiene	ND	4.00									
1,2,3-Trichlorobenzene	ND	4.00									
Surr: Dibromofluoromethane	49.1		50.00		98.2	72.1	122				
Surr: Toluene-d8	48.5		50.00		97.1	62.1	129				
Surr: 1-Bromo-4-fluorobenzene	49.0		50.00		98.0	66.8	124				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Sample Log-In Check List

Client Name:	**SW**	Work Order Number:	**1309257**
Logged by:	**Chelsea Ward**	Date Received:	**9/26/2013 4:05:00 PM**

Chain of Custody

1.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2.	How was the sample delivered?	Client		

Log In

3.	Coolers are present?	Yes ☑	No ☐	NA ☐
4.	Shipping container/cooler in good condition?	Yes ☑	No ☐	
5.	Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Required ☑
6.	Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
7.	Were all coolers received at a temperature of >0°C to 10.0°C	Yes ☑	No ☐	NA ☐
8.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
9.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
10.	Are samples properly preserved?	Yes ☑	No ☐	
11.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
12.	Is the headspace in the VOA vials?	Yes ☐	No ☑	NA ☐
13.	Did all samples containers arrive in good condition(unbroken)?	Yes ☑	No ☐	
14.	Does paperwork match bottle labels?	Yes ☑	No ☐	
15.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
16.	Is it clear what analyses were requested?	Yes ☑	No ☐	
17.	Were all holding times able to be met?	Yes ☑	No ☐	

Special Handling (if applicable)

18.	Was client notified of all discrepancies with this order?	Yes ☐	No ☐	NA ☑

Person Notified:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

19. Additional remarks:

Item Information

Item #	Temp °C	Condition
Cooler	6.3	Good
Sample	5.6	Good

Fremont Analytical

Chain of Custody Record

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (internal): 1309257

Date: 9/26/13

Page: 1 of: 1

Client: S+W

Project Name: B+K RI

Address:

Location: King County WA

City, State, Zip

Tel:

Collected by:

Reports To (PM): Cindy Johnson

Fax:

Email:

Project No: 21-1-12357-003

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)	VOC (EPA 8260)	GX/BTEX by EPA 8021b	BTEX by 8260	Gasoline Range Organics	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics	SEMI VOC (EPA 8270)	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Cl Pesticides (EPA 8081)	Cl Herbicides (EPA 8151A)	Metals* (6020 / 200.8)	Total (T) / Dissolved (D)	Anions (IC)**	BHUCs	Comments/Depth
1	092513-MW4-GW	9/25/13	1230	GW														X		one VOA has a bubble
2	092513-MW5-GW	"	1400	"														X		
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

*Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Si Sn Ti Tl U V Zn

**Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Special Remarks:

Relinquished	Date/Time	Received	Date/Time
x	9/26/13 1605	x	9/26/13 16:05
Relinquished	Date/Time	Received	Date/Time
x		x	

TAT → Next Day 2 Day 3 Day STD

Distribution: White - Lab, Yellow - File, Pink - Originator

Fremont Analytical

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

Shannon & Wilson
Cody Johnson
400 N. 34th Street, Suite 100
Seattle, WA 98103

RE: B+K RI/FS
Lab ID: 1308095

August 16, 2013

Attention Cody Johnson:

Fremont Analytical, Inc. received 1 sample(s) on 8/14/2013 for the analyses presented in the following report.

Volatile Organic Compounds by EPA Method 8260

This report consists of the following:

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

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

Thank you for using Fremont Analytical.

Sincerely,

Michael Dee
Sr. Chemist / Principal

Fremont Analytical

Date: *08/16/2013*

CLIENT: Shannon & Wilson
Project: B+K RI/FS
Lab Order: 1308095

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1308095-001	MW-2-081413	08/14/2013 12:30 PM	08/14/2013 1:30 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

CLIENT: Shannon & Wilson
Project: B+K RI/FS

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

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

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

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

Client: Shannon & Wilson
Collection Date: 8/14/2013 12:30:00 PM
Project: B+K RI/FS
Lab ID: 1308095-001
Matrix: Water
Client Sample ID: MW-2-081413

Volatile Organic Compounds by EPA Method 8260

Batch ID: R9628 Analyst: EM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane	ND	1.00		µg/L	1	8/15/2013 1:34:00 PM
Chloromethane	ND	1.00		µg/L	1	8/15/2013 1:34:00 PM
Vinyl chloride	ND	0.200		µg/L	1	8/15/2013 1:34:00 PM
Bromomethane	ND	1.00		µg/L	1	8/15/2013 1:34:00 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	8/15/2013 1:34:00 PM
Chloroethane	ND	1.00		µg/L	1	8/15/2013 1:34:00 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	8/15/2013 1:34:00 PM
Methylene chloride	ND	1.00		µg/L	1	8/15/2013 1:34:00 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	8/15/2013 1:34:00 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	8/15/2013 1:34:00 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	8/15/2013 1:34:00 PM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	8/15/2013 1:34:00 PM
Chloroform	ND	1.00		µg/L	1	8/15/2013 1:34:00 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	8/15/2013 1:34:00 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	8/15/2013 1:34:00 PM
Carbon tetrachloride	ND	1.00		µg/L	1	8/15/2013 1:34:00 PM
1,2-Dichloroethane	ND	1.00		µg/L	1	8/15/2013 1:34:00 PM
Trichloroethene (TCE)	ND	1.00		µg/L	1	8/15/2013 1:34:00 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	8/15/2013 1:34:00 PM
Bromodichloromethane	ND	1.00		µg/L	1	8/15/2013 1:34:00 PM
Dibromomethane	ND	1.00		µg/L	1	8/15/2013 1:34:00 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	8/15/2013 1:34:00 PM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	8/15/2013 1:34:00 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	8/15/2013 1:34:00 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	8/15/2013 1:34:00 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	8/15/2013 1:34:00 PM
Dibromochloromethane	ND	1.00		µg/L	1	8/15/2013 1:34:00 PM
1,2-Dibromoethane (EDB)	ND	0.0100		µg/L	1	8/15/2013 1:34:00 PM
Chlorobenzene	ND	1.00		µg/L	1	8/15/2013 1:34:00 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	8/15/2013 1:34:00 PM
Bromoform	ND	1.00		µg/L	1	8/15/2013 1:34:00 PM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	8/15/2013 1:34:00 PM
Bromobenzene	ND	1.00		µg/L	1	8/15/2013 1:34:00 PM
2-Chlorotoluene	ND	1.00		µg/L	1	8/15/2013 1:34:00 PM
4-Chlorotoluene	ND	1.00		µg/L	1	8/15/2013 1:34:00 PM

Qualifiers:

- B Analyte detected in the associated Method Blank
- D Dilution was required
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- ND Not detected at the Reporting Limit
- RL Reporting Limit
- S Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B+K RI/FS
Lab ID: 1308095-001
Client Sample ID: MW-2-081413

Collection Date: 8/14/2013 12:30:00 PM
Matrix: Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R9628		Analyst: EM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	8/15/2013 1:34:00 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	8/15/2013 1:34:00 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	8/15/2013 1:34:00 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	8/15/2013 1:34:00 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	8/15/2013 1:34:00 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	8/15/2013 1:34:00 PM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	8/15/2013 1:34:00 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	8/15/2013 1:34:00 PM
Surr: Dibromofluoromethane	97.2	72.1-122		%REC	1	8/15/2013 1:34:00 PM
Surr: Toluene-d8	97.5	62.1-129		%REC	1	8/15/2013 1:34:00 PM
Surr: 1-Bromo-4-fluorobenzene	96.1	66.8-124		%REC	1	8/15/2013 1:34:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *8/16/2013*

Work Order: 1308095
CLIENT: Shannon & Wilson
Project: B+K RI/FS

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1308095-001AMS** SampType: **MS** Units: **µg/L** Prep Date: **8/15/2013** RunNo: **9628**
Client ID: **MW-2-081413** Batch ID: **R9628** Analysis Date: **8/15/2013** SeqNo: **193944**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	28.2	1.00	20.00	0	141	33.3	122				S
Chloromethane	24.9	1.00	20.00	0	124	48.2	145				
Vinyl chloride	25.0	0.200	20.00	0	125	45.6	149				
Bromomethane	29.8	1.00	20.00	0	149	31.5	135				S
Trichlorofluoromethane (CFC-11)	19.8	1.00	20.00	0	99.0	54.7	138				
Chloroethane	16.7	1.00	20.00	0	83.4	52.7	140				
1,1-Dichloroethene	23.9	1.00	20.00	0	120	58.2	146				
Methylene chloride	21.1	1.00	20.00	0	106	65.1	127				
trans-1,2-Dichloroethene	22.8	1.00	20.00	0	114	69	132				
1,1-Dichloroethane	22.2	1.00	20.00	0	111	74.7	133				
2,2-Dichloropropane	30.3	2.00	20.00	0	152	31.5	121				S
cis-1,2-Dichloroethene	22.3	1.00	20.00	0	112	67.1	123				
Chloroform	21.7	1.00	20.00	0	109	58.6	123				
1,1,1-Trichloroethane (TCA)	22.8	1.00	20.00	0	114	64.2	146				
1,1-Dichloropropene	22.7	1.00	20.00	0	113	73.8	136				
Carbon tetrachloride	23.1	1.00	20.00	0	116	69.2	141				
1,2-Dichloroethane	21.4	1.00	20.00	0	107	62.3	130				
Trichloroethene (TCE)	22.0	1.00	20.00	0	110	65.7	133				
1,2-Dichloropropane	21.1	1.00	20.00	0	106	70	130				
Bromodichloromethane	21.4	1.00	20.00	0	107	59.4	139				
Dibromomethane	20.6	1.00	20.00	0	103	65.5	130				
cis-1,3-Dichloropropene	22.2	1.00	20.00	0	111	63.3	124				
trans-1,3-Dichloropropene	21.9	1.00	20.00	0	109	57.7	125				
1,1,2-Trichloroethane	21.1	1.00	20.00	0	106	59.4	127				
1,3-Dichloropropane	21.1	1.00	20.00	0	106	68.2	134				
Tetrachloroethene (PCE)	20.2	1.00	20.00	0	101	51.5	109				
Dibromochloromethane	20.6	1.00	20.00	0	103	66.2	138				
1,2-Dibromoethane (EDB)	20.5	0.0100	20.00	0	102	68.9	124				
Chlorobenzene	21.8	1.00	20.00	0	109	68.9	128				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *8/16/2013*

Work Order: 1308095
CLIENT: Shannon & Wilson
Project: B+K RI/FS

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1308095-001AMS** SampType: **MS** Units: **µg/L** Prep Date: **8/15/2013** RunNo: **9628**
Client ID: **MW-2-081413** Batch ID: **R9628** Analysis Date: **8/15/2013** SeqNo: **193944**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	21.8	1.00	20.00	0	109	67.3	135				
Bromoform	21.2	1.00	20.00	0	106	61.4	136				
1,1,2,2-Tetrachloroethane	20.6	1.00	20.00	0	103	59.1	137				
Bromobenzene	21.4	1.00	20.00	0	107	63.6	130				
2-Chlorotoluene	21.1	1.00	20.00	0	105	63.4	134				
4-Chlorotoluene	21.3	1.00	20.00	0	106	58.4	134				
1,2,3-Trichloropropane	20.7	1.00	20.00	0	104	62.4	129				
1,2,4-Trichlorobenzene	19.2	2.00	20.00	0	96.2	53.7	120				
1,3-Dichlorobenzene	20.8	1.00	20.00	0	104	58.2	128				
1,4-Dichlorobenzene	19.5	1.00	20.00	0	97.5	60.1	123				
1,2-Dichlorobenzene	20.8	1.00	20.00	0	104	62.6	124				
1,2-Dibromo-3-chloropropane	21.9	1.00	20.00	0	110	51.8	142				
Hexachloro-1,3-butadiene	18.1	4.00	20.00	0	90.7	62.1	121				
1,2,3-Trichlorobenzene	19.4	4.00	20.00	0	96.8	50.7	113				
Surr: Dibromofluoromethane	49.7		50.00		99.5	72.1	122				
Surr: Toluene-d8	49.9		50.00		99.8	62.1	129				
Surr: 1-Bromo-4-fluorobenzene	50.5		50.00		101	66.8	124				

NOTES:
S - Outlying QC recoveries were observed (high bias). The method is in control as indicated by the LCS and second source ICV.

Sample ID: **1308097-001ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **8/15/2013** RunNo: **9628**
Client ID: **BATCH** Batch ID: **R9628** Analysis Date: **8/15/2013** SeqNo: **193947**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	ND	1.00						0	0	30	
Chloromethane	ND	1.00						0	0	30	
Vinyl chloride	ND	0.200						0	0	30	
Bromomethane	ND	1.00						0	0	30	
Trichlorofluoromethane (CFC-11)	ND	1.00						0	0	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *8/16/2013*

Work Order: 1308095
CLIENT: Shannon & Wilson
Project: B+K RI/FS

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1308097-001ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **8/15/2013** RunNo: **9628**
Client ID: **BATCH** Batch ID: **R9628** Analysis Date: **8/15/2013** SeqNo: **193947**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloroethane	ND	1.00						0	0	30	
1,1-Dichloroethene	ND	1.00						0	0	30	
Methylene chloride	ND	1.00						0	0	30	
trans-1,2-Dichloroethene	ND	1.00						0	0	30	
1,1-Dichloroethane	ND	1.00						0	0	30	
2,2-Dichloropropane	ND	2.00						0	0	30	
cis-1,2-Dichloroethene	ND	1.00						0	0	30	
Chloroform	30.8	1.00						30.15	2.17	30	
1,1,1-Trichloroethane (TCA)	ND	1.00						0	0	30	
1,1-Dichloropropene	ND	1.00						0	0	30	
Carbon tetrachloride	ND	1.00						0	0	30	
1,2-Dichloroethane	ND	1.00						0	0	30	
Trichloroethene (TCE)	ND	1.00						0	0	30	
1,2-Dichloropropane	ND	1.00						0	0	30	
Bromodichloromethane	1.87	1.00						1.720	8.36	30	
Dibromomethane	ND	1.00						0	0	30	
cis-1,3-Dichloropropene	ND	1.00						0	0	30	
trans-1,3-Dichloropropene	ND	1.00						0	0	30	
1,1,2-Trichloroethane	ND	1.00						0	0	30	
1,3-Dichloropropane	ND	1.00						0	0	30	
Tetrachloroethene (PCE)	ND	1.00						0	0	30	
Dibromochloromethane	ND	1.00						0	0	30	
1,2-Dibromoethane (EDB)	ND	0.0100						0	0	30	
Chlorobenzene	ND	1.00						0	0	30	
1,1,1,2-Tetrachloroethane	ND	1.00						0	0	30	
Bromoform	ND	1.00						0	0	30	
1,1,2,2-Tetrachloroethane	ND	1.00						0	0	30	
Bromobenzene	ND	1.00						0	0	30	
2-Chlorotoluene	ND	1.00						0	0	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *8/16/2013*

Work Order: 1308095
CLIENT: Shannon & Wilson
Project: B+K RI/FS

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1308097-001ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **8/15/2013** RunNo: **9628**
Client ID: **BATCH** Batch ID: **R9628** Analysis Date: **8/15/2013** SeqNo: **193947**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.00						0	0	30	
1,2,3-Trichloropropane	ND	1.00						0	0	30	
1,2,4-Trichlorobenzene	ND	2.00						0	0	30	
1,3-Dichlorobenzene	ND	1.00						0	0	30	
1,4-Dichlorobenzene	ND	1.00						0	0	30	
1,2-Dichlorobenzene	ND	1.00						0	0	30	
1,2-Dibromo-3-chloropropane	ND	1.00						0	0	30	
Hexachloro-1,3-butadiene	ND	4.00						0	0	30	
1,2,3-Trichlorobenzene	ND	4.00						0	0	30	
Surr: Dibromofluoromethane	49.7		50.00		99.3	72.1	122		0		
Surr: Toluene-d8	49.7		50.00		99.4	62.1	129		0		
Surr: 1-Bromo-4-fluorobenzene	49.0		50.00		97.9	66.8	124		0		

Sample ID: **ICV-R9628** SampType: **ICV** Units: **µg/L** Prep Date: **8/15/2013** RunNo: **9628**
Client ID: **ICV** Batch ID: **R9628** Analysis Date: **8/15/2013** SeqNo: **193952**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,2-Dichloropropane	16.8	2.00	20.00	0	84.2	70	130				
Surr: Dibromofluoromethane	49.8		50.00		99.5	72.1	122				
Surr: Toluene-d8	50.2		50.00		100	62.1	129				
Surr: 1-Bromo-4-fluorobenzene	49.1		50.00		98.2	66.8	124				

Sample ID: **LCS-R9628** SampType: **LCS** Units: **µg/L** Prep Date: **8/15/2013** RunNo: **9628**
Client ID: **LCSW** Batch ID: **R9628** Analysis Date: **8/15/2013** SeqNo: **193953**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	25.0	1.00	20.00	0	125	43.1	127				
Chloromethane	20.5	1.00	20.00	0	103	42.5	131				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *8/16/2013*

Work Order: 1308095
CLIENT: Shannon & Wilson
Project: B+K RI/FS

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **LCS-R9628**	SampType: **LCS**	Units: **µg/L**	Prep Date: **8/15/2013**	RunNo: **9628**
Client ID: **LCSW**	Batch ID: **R9628**		Analysis Date: **8/15/2013**	SeqNo: **193953**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	20.8	0.200	20.00	0	104	56.2	130				
Bromomethane	17.6	1.00	20.00	0	87.9	45.4	138				
Trichlorofluoromethane (CFC-11)	18.2	1.00	20.00	0	90.9	64.7	129				
Chloroethane	19.8	1.00	20.00	0	99.2	62.5	123				
1,1-Dichloroethene	20.9	1.00	20.00	0	104	60.7	146				
Methylene chloride	20.1	1.00	20.00	0	101	60.3	135				
trans-1,2-Dichloroethene	20.4	1.00	20.00	0	102	71.3	129				
1,1-Dichloroethane	20.2	1.00	20.00	0	101	71.3	129				
2,2-Dichloropropane	31.4	2.00	20.00	0	157	37.8	132				S
cis-1,2-Dichloroethene	20.3	1.00	20.00	0	102	67.5	127				
Chloroform	20.2	1.00	20.00	0	101	70.3	123				
1,1,1-Trichloroethane (TCA)	20.2	1.00	20.00	0	101	67.9	134				
1,1-Dichloropropene	20.1	1.00	20.00	0	101	72.1	133				
Carbon tetrachloride	19.7	1.00	20.00	0	98.6	68	136				
1,2-Dichloroethane	20.4	1.00	20.00	0	102	65.8	126				
Trichloroethene (TCE)	20.2	1.00	20.00	0	101	71.9	130				
1,2-Dichloropropane	19.8	1.00	20.00	0	98.9	71.9	131				
Bromodichloromethane	19.7	1.00	20.00	0	98.4	70	130				
Dibromomethane	19.7	1.00	20.00	0	98.5	74.2	125				
cis-1,3-Dichloropropene	21.2	1.00	20.00	0	106	62.8	135				
trans-1,3-Dichloropropene	21.3	1.00	20.00	0	106	58.1	138				
1,1,2-Trichloroethane	19.7	1.00	20.00	0	98.5	65.4	128				
1,3-Dichloropropane	19.9	1.00	20.00	0	99.4	71.9	131				
Tetrachloroethene (PCE)	18.5	1.00	20.00	0	92.5	52.4	140				
Dibromochloromethane	19.5	1.00	20.00	0	97.4	68.7	139				
1,2-Dibromoethane (EDB)	19.8	0.0100	20.00	0	98.8	71.2	129				
Chlorobenzene	19.8	1.00	20.00	0	99.2	77.2	122				
1,1,1,2-Tetrachloroethane	19.9	1.00	20.00	0	99.4	76.2	130				
Bromoform	20.0	1.00	20.00	0	99.8	69.9	142				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *8/16/2013*

Work Order: 1308095
CLIENT: Shannon & Wilson
Project: B+K RI/FS

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **LCS-R9628** SampType: **LCS** Units: **µg/L** Prep Date: **8/15/2013** RunNo: **9628**
Client ID: **LCSW** Batch ID: **R9628** Analysis Date: **8/15/2013** SeqNo: **193953**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2,2-Tetrachloroethane	18.8	1.00	20.00	0	93.8	68	134				
Bromobenzene	20.3	1.00	20.00	0	101	71.1	131				
2-Chlorotoluene	19.8	1.00	20.00	0	99.2	67.1	137				
4-Chlorotoluene	19.6	1.00	20.00	0	98.0	70.7	132				
1,2,3-Trichloropropane	20.3	1.00	20.00	0	101	70.8	132				
1,2,4-Trichlorobenzene	20.2	2.00	20.00	0	101	61.4	139				
1,3-Dichlorobenzene	20.0	1.00	20.00	0	100	73.5	125				
1,4-Dichlorobenzene	19.6	1.00	20.00	0	97.9	71.4	125				
1,2-Dichlorobenzene	20.1	1.00	20.00	0	100	74.2	123				
1,2-Dibromo-3-chloropropane	20.8	1.00	20.00	0	104	66.1	138				
Hexachloro-1,3-butadiene	20.8	4.00	20.00	0	104	60.9	141				
1,2,3-Trichlorobenzene	20.1	4.00	20.00	0	101	61.3	133				
Surr: Dibromofluoromethane	49.8		50.00		99.6	72.1	122				
Surr: Toluene-d8	50.3		50.00		101	62.1	129				
Surr: 1-Bromo-4-fluorobenzene	49.0		50.00		97.9	66.8	124				

NOTES:
S - Outlying QC recoveries were observed (2,2-Dichloropropane; high bias). The method is in control as indicated by the second source ICV.

Sample ID: **MB-R9628** SampType: **MBLK** Units: **µg/L** Prep Date: **8/15/2013** RunNo: **9628**
Client ID: **MBLKW** Batch ID: **R9628** Analysis Date: **8/15/2013** SeqNo: **193954**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	ND	1.00									
Chloromethane	ND	1.00									
Vinyl chloride	ND	0.200									
Bromomethane	ND	1.00									
Trichlorofluoromethane (CFC-11)	ND	1.00									
Chloroethane	ND	1.00									
1,1-Dichloroethene	ND	1.00									

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *8/16/2013*

Work Order: 1308095
CLIENT: Shannon & Wilson
Project: B+K RI/FS

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **MB-R9628**	SampType: **MBLK**	Units: **µg/L**	Prep Date: **8/15/2013**	RunNo: **9628**	
Client ID: **MBLKW**	Batch ID: **R9628**		Analysis Date: **8/15/2013**	SeqNo: **193954**	

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methylene chloride	ND	1.00									
trans-1,2-Dichloroethene	ND	1.00									
1,1-Dichloroethane	ND	1.00									
2,2-Dichloropropane	ND	2.00									
cis-1,2-Dichloroethene	ND	1.00									
Chloroform	ND	1.00									
1,1,1-Trichloroethane (TCA)	ND	1.00									
1,1-Dichloropropene	ND	1.00									
Carbon tetrachloride	ND	1.00									
1,2-Dichloroethane	ND	1.00									
Trichloroethene (TCE)	ND	1.00									
1,2-Dichloropropane	ND	1.00									
Bromodichloromethane	ND	1.00									
Dibromomethane	ND	1.00									
cis-1,3-Dichloropropene	ND	1.00									
trans-1,3-Dichloropropene	ND	1.00									
1,1,2-Trichloroethane	ND	1.00									
1,3-Dichloropropane	ND	1.00									
Tetrachloroethene (PCE)	ND	1.00									
Dibromochloromethane	ND	1.00									
1,2-Dibromoethane (EDB)	ND	0.0100									
Chlorobenzene	ND	1.00									
1,1,1,2-Tetrachloroethane	ND	1.00									
Bromoform	ND	1.00									
1,1,2,2-Tetrachloroethane	ND	1.00									
Bromobenzene	ND	1.00									
2-Chlorotoluene	ND	1.00									
4-Chlorotoluene	ND	1.00									
1,2,3-Trichloropropane	ND	1.00									

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *8/16/2013*

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Client ID: **MBLKW**	Batch ID: **R9628**					Analysis Date: **8/15/2013**		SeqNo: **193954**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	ND	2.00									
1,3-Dichlorobenzene	ND	1.00									
1,4-Dichlorobenzene	ND	1.00									
1,2-Dichlorobenzene	ND	1.00									
1,2-Dibromo-3-chloropropane	ND	1.00									
Hexachloro-1,3-butadiene	ND	4.00									
1,2,3-Trichlorobenzene	ND	4.00									
Surr: Dibromofluoromethane	49.7		50.00		99.3	72.1	122				
Surr: Toluene-d8	49.7		50.00		99.5	62.1	129				
Surr: 1-Bromo-4-fluorobenzene	51.1		50.00		102	66.8	124				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Sample Log-In Check List

Client Name:	**SW**	Work Order Number:	**1308095**
Logged by:	**Chelsea Ward**	Date Received:	**8/14/2013 1:30:00 PM**

Chain of Custody

1.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2.	How was the sample delivered?	Client		

Log In

3.	Coolers are present?	Yes ☑	No ☐	NA ☐
4.	Shipping container/cooler in good condition?	Yes ☑	No ☐	
5.	Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Required ☑
6.	Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
7.	Were all coolers received at a temperature of >0°C to 10.0°C	Yes ☐	No ☑	NA ☐
		Sample received straight from field.		
8.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
9.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
10.	Are samples properly preserved?	Yes ☑	No ☐	
11.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
12.	Is the headspace in the VOA vials?	Yes ☐	No ☐	NA ☑
13.	Did all samples containers arrive in good condition(unbroken)?	Yes ☑	No ☐	
14.	Does paperwork match bottle labels?	Yes ☑	No ☐	
15.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
16.	Is it clear what analyses were requested?	Yes ☑	No ☐	
17.	Were all holding times able to be met?	Yes ☑	No ☐	

Special Handling (if applicable)

18.	Was client notified of all discrepancies with this order?	Yes ☐	No ☐	NA ☑

Person Notified:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

19. Additional remarks:

Item Information

Item #	Temp °C	Condition
Cooler	12.6	
Sample	15.1	

Fremont Analytical

Chain of Custody Record

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (internal): 1308095

Date: 8/14/13

Page: 1 of: 1

Client: Shannon & Wilson

Project Name: D&K RI/FS

Address:

Location:

City, State, Zip

Tel:

Collected by:

Reports To (PM): Cody Johnson

Fax:

Email: CMJ@shanwil.com

Project No: 21-1-12357-003

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)	VOC (EPA 8260)	GX/BTEX by EPA 8021B	BTEX by 8260	Gasoline Range Organics	Hydrocarbon Identification (NCID)	Diesel/Heavy Oil Range Organics	SemiVOL (EPA 8270)	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Cl Pesticides (EPA 8081)	Cl Herbicides (EPA 8151A)	Metals* (6020 / 200.8)	Total (T) / Dissolved (D)	Anions (IC)**	HVOCs	Comments/Depth
1	MW-2-080413	8/14/13	1233	WA														X		
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

*Metals Analysis (Circle): MTCA 5 RCRA 8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

**Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Special Remarks:

Relinquished	Date/Time	Received	Date/Time
x	8/14/13 1330	x	8/14/13 1330
Relinquished	Date/Time	Received	Date/Time
x		x	

TAT --> Next Day 2 Day 3 Day STD

Distribution: White - Lab, Yellow - File, Pink - Originator

www.fremontanalytical.com

1311 N. 35th St.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Shannon & Wilson
Cody Johnson
400 N. 34th Street, Suite 100
Seattle, Washington 98103

RE: B&K Phase II
Lab ID: 1207105

July 26, 2012

Attention Cody Johnson:

Fremont Analytical, Inc. received 5 sample(s) on 7/19/2012 for the analyses presented in the following report.

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.
Dissolved Metals by EPA Method 200.8
Polychlorinated Biphenyls (PCB) by EPA 8082
Total Metals by EPA Method 200.8
Volatile Organic Compounds by EPA Method 8260

This report consists of the following:

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

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

Thank you for using Fremont Analytical.

Sincerely,

Michael Dee
Sr. Chemist / Principal

Fremont Analytical

Date: *07/27/2012*

CLIENT: Shannon & Wilson
Project: B&K Phase II
Lab Order: 1207105

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1207105-001	GP-11:GW	07/18/2012 11:30 AM	07/19/2012 9:20 AM
1207105-002	GP-12:GW	07/18/2012 12:20 PM	07/19/2012 9:20 AM
1207105-003	GP-13:GW	07/18/2012 1:10 PM	07/19/2012 9:20 AM
1207105-004	GP-22:GW	07/18/2012 3:50 PM	07/19/2012 9:20 AM
1207105-005	GP-23:GW	07/18/2012 5:35 PM	07/19/2012 9:20 AM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **1207105**
Date: **7/26/2012**

CLIENT: Shannon & Wilson
Project: B&K Phase II

I. SAMPLE RECEIPT:
All samples were received intact. The internal ice chest temperatures were measured on receipt and are recorded on the attached Sample Receipt Checklist.

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

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

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.
Metals prep: Samples for totals were decanted then preserved.

Prep Notations: Samples had to be decanted prior to extraction.

Client: Shannon & Wilson
Collection Date: 7/18/2012 11:30:00 AM
Project: B&K Phase II
Lab ID: 1207105-001
Matrix: Water
Client Sample ID: GP-11:GW

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 2844		Analyst: SG
Diesel (Fuel Oil)	ND	50.0		µg/L	1	7/25/2012 5:23:00 AM
Heavy Oil	ND	100		µg/L	1	7/25/2012 5:23:00 AM
Surr: 2-Fluorobiphenyl	71.6	50-150		%REC	1	7/25/2012 5:23:00 AM
Surr: o-Terphenyl	91.5	50-150		%REC	1	7/25/2012 5:23:00 AM
Polychlorinated Biphenyls (PCB) by EPA 8082				Batch ID: 2833		Analyst: PH
Aroclor 1016	ND	0.200		µg/L	1	7/24/2012 11:06:00 PM
Aroclor 1221	ND	0.200		µg/L	1	7/24/2012 11:06:00 PM
Aroclor 1232	ND	0.200		µg/L	1	7/24/2012 11:06:00 PM
Aroclor 1242	ND	0.200		µg/L	1	7/24/2012 11:06:00 PM
Aroclor 1248	ND	0.200		µg/L	1	7/24/2012 11:06:00 PM
Aroclor 1254	ND	0.200		µg/L	1	7/24/2012 11:06:00 PM
Aroclor 1260	ND	0.200		µg/L	1	7/24/2012 11:06:00 PM
Aroclor 1262	ND	0.200		µg/L	1	7/24/2012 11:06:00 PM
Aroclor 1268	ND	0.200		µg/L	1	7/24/2012 11:06:00 PM
Total PCBs	ND	0.200		µg/L	1	7/24/2012 11:06:00 PM
Surr: Decachlorobiphenyl	112	71.4-142		%REC	1	7/24/2012 11:06:00 PM
Surr: Tetrachloro-m-xylene	82.6	60.9-138		%REC	1	7/24/2012 11:06:00 PM
Dissolved Metals by EPA Method 200.8				Batch ID: 2837		Analyst: MC
Lead	2.97	1.00		µg/L	1	7/23/2012 3:44:14 PM
Total Metals by EPA Method 200.8				Batch ID: 2830		Analyst: MC
Lead	92.7	1.00		µg/L	1	7/23/2012 2:55:48 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B&K Phase II
Lab ID: 1207105-002
Client Sample ID: GP-12:GW

Collection Date: 7/18/2012 12:20:00 PM
Matrix: Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 2844		Analyst: SG
Diesel (Fuel Oil)	ND	50.0		µg/L	1	7/25/2012 5:52:00 AM
Heavy Oil	ND	100		µg/L	1	7/25/2012 5:52:00 AM
Surr: 2-Fluorobiphenyl	79.4	50-150		%REC	1	7/25/2012 5:52:00 AM
Surr: o-Terphenyl	93.1	50-150		%REC	1	7/25/2012 5:52:00 AM
Polychlorinated Biphenyls (PCB) by EPA 8082				Batch ID: 2833		Analyst: PH
Aroclor 1016	ND	0.200		µg/L	1	7/24/2012 11:22:00 PM
Aroclor 1221	ND	0.200		µg/L	1	7/24/2012 11:22:00 PM
Aroclor 1232	ND	0.200		µg/L	1	7/24/2012 11:22:00 PM
Aroclor 1242	ND	0.200		µg/L	1	7/24/2012 11:22:00 PM
Aroclor 1248	ND	0.200		µg/L	1	7/24/2012 11:22:00 PM
Aroclor 1254	ND	0.200		µg/L	1	7/24/2012 11:22:00 PM
Aroclor 1260	ND	0.200		µg/L	1	7/24/2012 11:22:00 PM
Aroclor 1262	ND	0.200		µg/L	1	7/24/2012 11:22:00 PM
Aroclor 1268	ND	0.200		µg/L	1	7/24/2012 11:22:00 PM
Total PCBs	ND	0.200		µg/L	1	7/24/2012 11:22:00 PM
Surr: Decachlorobiphenyl	97.5	71.4-142		%REC	1	7/24/2012 11:22:00 PM
Surr: Tetrachloro-m-xylene	77.1	60.9-138		%REC	1	7/24/2012 11:22:00 PM
Dissolved Metals by EPA Method 200.8				Batch ID: 2837		Analyst: MC
Lead	1.81	1.00		µg/L	1	7/23/2012 3:50:48 PM
Total Metals by EPA Method 200.8				Batch ID: 2830		Analyst: MC
Lead	23.2	1.00		µg/L	1	7/23/2012 3:02:21 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B&K Phase II
Lab ID: 1207105-003
Client Sample ID: GP-13:GW

Collection Date: 7/18/2012 1:10:00 PM
Matrix: Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 2844		Analyst: SG
Diesel (Fuel Oil)	ND	50.0		µg/L	1	7/25/2012 6:20:00 AM
Heavy Oil	ND	100		µg/L	1	7/25/2012 6:20:00 AM
Surr: 2-Fluorobiphenyl	69.7	50-150		%REC	1	7/25/2012 6:20:00 AM
Surr: o-Terphenyl	94.6	50-150		%REC	1	7/25/2012 6:20:00 AM
Polychlorinated Biphenyls (PCB) by EPA 8082				Batch ID: 2833		Analyst: PH
Aroclor 1016	ND	0.200		µg/L	1	7/24/2012 11:38:00 PM
Aroclor 1221	ND	0.200		µg/L	1	7/24/2012 11:38:00 PM
Aroclor 1232	ND	0.200		µg/L	1	7/24/2012 11:38:00 PM
Aroclor 1242	ND	0.200		µg/L	1	7/24/2012 11:38:00 PM
Aroclor 1248	ND	0.200		µg/L	1	7/24/2012 11:38:00 PM
Aroclor 1254	ND	0.200		µg/L	1	7/24/2012 11:38:00 PM
Aroclor 1260	ND	0.200		µg/L	1	7/24/2012 11:38:00 PM
Aroclor 1262	ND	0.200		µg/L	1	7/24/2012 11:38:00 PM
Aroclor 1268	ND	0.200		µg/L	1	7/24/2012 11:38:00 PM
Total PCBs	ND	0.200		µg/L	1	7/24/2012 11:38:00 PM
Surr: Decachlorobiphenyl	96.2	71.4-142		%REC	1	7/24/2012 11:38:00 PM
Surr: Tetrachloro-m-xylene	80.8	60.9-138		%REC	1	7/24/2012 11:38:00 PM
Dissolved Metals by EPA Method 200.8				Batch ID: 2837		Analyst: MC
Lead	2.48	1.00		µg/L	1	7/23/2012 3:57:21 PM
Total Metals by EPA Method 200.8				Batch ID: 2830		Analyst: MC
Lead	47.8	1.00		µg/L	1	7/23/2012 3:08:54 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B&K Phase II
Lab ID: 1207105-005
Client Sample ID: GP-23:GW

Collection Date: 7/18/2012 5:35:00 PM
Matrix: Water

Volatile Organic Compounds by EPA Method 8260

Batch ID: R5082 Analyst: EM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane	ND	1.00		µg/L	1	7/21/2012 1:06:00 PM
Chloromethane	ND	1.00		µg/L	1	7/21/2012 1:06:00 PM
Vinyl chloride	ND	0.200		µg/L	1	7/21/2012 1:06:00 PM
Bromomethane	ND	1.00		µg/L	1	7/21/2012 1:06:00 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	7/21/2012 1:06:00 PM
Chloroethane	ND	1.00		µg/L	1	7/21/2012 1:06:00 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	7/21/2012 1:06:00 PM
Methylene chloride	ND	1.00		µg/L	1	7/21/2012 1:06:00 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	7/21/2012 1:06:00 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	7/21/2012 1:06:00 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	7/21/2012 1:06:00 PM
cis-1,2-Dichloroethene	2.77	1.00		µg/L	1	7/21/2012 1:06:00 PM
Chloroform	ND	1.00		µg/L	1	7/21/2012 1:06:00 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	7/21/2012 1:06:00 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	7/21/2012 1:06:00 PM
Carbon tetrachloride	ND	1.00		µg/L	1	7/21/2012 1:06:00 PM
1,2-Dichloroethane	ND	1.00		µg/L	1	7/21/2012 1:06:00 PM
Trichloroethene (TCE)	ND	1.00		µg/L	1	7/21/2012 1:06:00 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	7/21/2012 1:06:00 PM
Bromodichloromethane	ND	1.00		µg/L	1	7/21/2012 1:06:00 PM
Dibromomethane	ND	1.00		µg/L	1	7/21/2012 1:06:00 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	7/21/2012 1:06:00 PM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	7/21/2012 1:06:00 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	7/21/2012 1:06:00 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	7/21/2012 1:06:00 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	7/21/2012 1:06:00 PM
Dibromochloromethane	ND	1.00		µg/L	1	7/21/2012 1:06:00 PM
1,2-Dibromoethane (EDB)	ND	0.0100		µg/L	1	7/21/2012 1:06:00 PM
Chlorobenzene	ND	1.00		µg/L	1	7/21/2012 1:06:00 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	7/21/2012 1:06:00 PM
Bromoform	ND	1.00		µg/L	1	7/21/2012 1:06:00 PM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	7/21/2012 1:06:00 PM
Bromobenzene	ND	1.00		µg/L	1	7/21/2012 1:06:00 PM
2-Chlorotoluene	ND	1.00		µg/L	1	7/21/2012 1:06:00 PM
4-Chlorotoluene	ND	1.00		µg/L	1	7/21/2012 1:06:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B&K Phase II
Lab ID: 1207105-005
Client Sample ID: GP-23:GW

Collection Date: 7/18/2012 5:35:00 PM
Matrix: Water

Volatile Organic Compounds by EPA Method 8260

Batch ID: R5082 Analyst: EM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
1,2,3-Trichloropropane	ND	1.00		µg/L	1	7/21/2012 1:06:00 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	7/21/2012 1:06:00 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	7/21/2012 1:06:00 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	7/21/2012 1:06:00 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	7/21/2012 1:06:00 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	7/21/2012 1:06:00 PM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	7/21/2012 1:06:00 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	7/21/2012 1:06:00 PM
Surr: 1-Bromo-4-fluorobenzene	97.0	79.2-120		%REC	1	7/21/2012 1:06:00 PM
Surr: Dibromofluoromethane	101	76-114		%REC	1	7/21/2012 1:06:00 PM
Surr: Toluene-d8	100	86.8-119		%REC	1	7/21/2012 1:06:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: 7/26/2012

Work Order: 1207105
CLIENT: Shannon & Wilson
Project: B&K Phase II

QC SUMMARY REPORT

Dissolved Metals by EPA Method 200.8

Sample ID: MB-2837	SampType: MBLK			Units: µg/L		Prep Date: 7/23/2012			RunNo: 5054		
Client ID: MBLKW	Batch ID: 2837					Analysis Date: 7/23/2012			SeqNo: 98104		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	1.00									

Sample ID: LCS-2837	SampType: LCS			Units: µg/L		Prep Date: 7/23/2012			RunNo: 5054		
Client ID: LCSW	Batch ID: 2837					Analysis Date: 7/23/2012			SeqNo: 98105		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	50.1	1.00	50.00	0	100	85	115				

Sample ID: 1207102-001CMS	SampType: MS			Units: µg/L		Prep Date: 7/23/2012			RunNo: 5054		
Client ID: BATCH	Batch ID: 2837					Analysis Date: 7/23/2012			SeqNo: 98108		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	276	1.00	250.0	0.8065	110	70	130				

Sample ID: 1207102-001CMSD	SampType: MSD			Units: µg/L		Prep Date: 7/23/2012			RunNo: 5054		
Client ID: BATCH	Batch ID: 2837					Analysis Date: 7/23/2012			SeqNo: 98109		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	284	1.00	250.0	0.8065	113	70	130	275.6	3.12	30	

Sample ID: 1207029-031DDUP	SampType: DUP			Units: µg/L		Prep Date: 7/23/2012			RunNo: 5054		
Client ID: BATCH	Batch ID: 2837					Analysis Date: 7/23/2012			SeqNo: 98184		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	1.00						0	0	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: 7/26/2012

Work Order: 1207105
CLIENT: Shannon & Wilson
Project: B&K Phase II

QC SUMMARY REPORT
Total Metals by EPA Method 200.8

Sample ID: MB-2830	SampType: MBLK			Units: µg/L	Prep Date: 7/23/2012			RunNo: 5047		
Client ID: MBLKW	Batch ID: 2830				Analysis Date: 7/23/2012			SeqNo: 98033		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	1.00									

Sample ID: LCS-2830	SampType: LCS			Units: µg/L	Prep Date: 7/23/2012			RunNo: 5047		
Client ID: LCSW	Batch ID: 2830				Analysis Date: 7/23/2012			SeqNo: 98034		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	50.7	1.00	50.00	0	101	85	115				

Sample ID: 1207102-001BDUP	SampType: DUP			Units: µg/L	Prep Date: 7/23/2012			RunNo: 5047		
Client ID: BATCH	Batch ID: 2830				Analysis Date: 7/23/2012			SeqNo: 98036		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	1.00						0	0	30	

Sample ID: 1207102-001BMS	SampType: MS			Units: µg/L	Prep Date: 7/23/2012			RunNo: 5047		
Client ID: BATCH	Batch ID: 2830				Analysis Date: 7/23/2012			SeqNo: 98037		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	255	1.00	250.0	0.6235	102	70	130				

Sample ID: 1207102-001BMSD	SampType: MSD			Units: µg/L	Prep Date: 7/23/2012			RunNo: 5047		
Client ID: BATCH	Batch ID: 2830				Analysis Date: 7/23/2012			SeqNo: 98038		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	255	1.00	250.0	0.6235	102	70	130	254.7	0.156	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: 7/26/2012

Work Order: 1207105
CLIENT: Shannon & Wilson
Project: B&K Phase II

QC SUMMARY REPORT

Dissolved Metals by EPA Method 200.8

Sample ID: **MB-2837**	SampType: **MBLK**			Units: **µg/L**		Prep Date: **7/23/2012**		RunNo: **5054**		
Client ID: **MBLKW**	Batch ID: **2837**					Analysis Date: **7/23/2012**		SeqNo: **98104**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	1.00									

Sample ID: **LCS-2837**	SampType: **LCS**			Units: **µg/L**		Prep Date: **7/23/2012**		RunNo: **5054**		
Client ID: **LCSW**	Batch ID: **2837**					Analysis Date: **7/23/2012**		SeqNo: **98105**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	50.1	1.00	50.00	0	100	85	115				

Sample ID: **1207102-001CMS**	SampType: **MS**			Units: **µg/L**		Prep Date: **7/23/2012**		RunNo: **5054**		
Client ID: **BATCH**	Batch ID: **2837**					Analysis Date: **7/23/2012**		SeqNo: **98108**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	276	1.00	250.0	0.8065	110	70	130				

Sample ID: **1207102-001CMSD**	SampType: **MSD**			Units: **µg/L**		Prep Date: **7/23/2012**		RunNo: **5054**		
Client ID: **BATCH**	Batch ID: **2837**					Analysis Date: **7/23/2012**		SeqNo: **98109**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	284	1.00	250.0	0.8065	113	70	130	275.6	3.12	30	

Sample ID: **1207029-031DDUP**	SampType: **DUP**			Units: **µg/L**		Prep Date: **7/23/2012**		RunNo: **5054**		
Client ID: **BATCH**	Batch ID: **2837**					Analysis Date: **7/23/2012**		SeqNo: **98184**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	1.00						0	0	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *7/26/2012*

Work Order: 1207105
CLIENT: Shannon & Wilson
Project: B&K Phase II

QC SUMMARY REPORT

Polychlorinated Biphenyls (PCB) by EPA 8082

Sample ID: **MB-2833**	SampType: **MBLK**	Units: **µg/L**	Prep Date: **7/23/2012**	RunNo: **5084**
Client ID: **MBLKW**	Batch ID: **2833**		Analysis Date: **7/24/2012**	SeqNo: **99096**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	ND	0.200									
Aroclor 1221	ND	0.200									
Aroclor 1232	ND	0.200									
Aroclor 1242	ND	0.200									
Aroclor 1248	ND	0.200									
Aroclor 1254	ND	0.200									
Aroclor 1260	ND	0.200									
Aroclor 1262	ND	0.200									
Aroclor 1268	ND	0.200									
Total PCBs	ND	0.200									
Surr: Decachlorobiphenyl	117		100.0		117	71.4	142				
Surr: Tetrachloro-m-xylene	80.3		100.0		80.3	60.9	138				

Sample ID: **LCS-2833**	SampType: **LCS**	Units: **µg/L**	Prep Date: **7/23/2012**	RunNo: **5084**
Client ID: **LCSW**	Batch ID: **2833**		Analysis Date: **7/24/2012**	SeqNo: **99097**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1254	1.72	0.200	2.000	0	86.2	63.8	137				
Surr: Decachlorobiphenyl	117		100.0		117	71.4	142				
Surr: Tetrachloro-m-xylene	62.0		100.0		62.0	60.9	138				

Sample ID: **1207093-007EDUP**	SampType: **DUP**	Units: **µg/L**	Prep Date: **7/23/2012**	RunNo: **5084**
Client ID: **BATCH**	Batch ID: **2833**		Analysis Date: **7/24/2012**	SeqNo: **99100**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	ND	0.200						0	0	30	
Aroclor 1221	ND	0.200						0	0	30	
Aroclor 1232	ND	0.200						0	0	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *7/26/2012*

Work Order: 1207105
CLIENT: Shannon & Wilson
Project: B&K Phase II

QC SUMMARY REPORT

Polychlorinated Biphenyls (PCB) by EPA 8082

Sample ID: **1207093-007EDUP** SampType: **DUP** Units: **µg/L** Prep Date: **7/23/2012** RunNo: **5084**
Client ID: **BATCH** Batch ID: **2833** Analysis Date: **7/24/2012** SeqNo: **99100**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1242	ND	0.200						0	0	30	
Aroclor 1248	ND	0.200						0	0	30	
Aroclor 1254	ND	0.200						0	0	30	
Aroclor 1260	ND	0.200						0	0	30	
Aroclor 1262	ND	0.200						0	0	30	
Aroclor 1268	ND	0.200						0	0	30	
Total PCBs	ND	0.200						0	0	30	
Surr: Decachlorobiphenyl	97.8		100.0		97.8	71.4	142		0		
Surr: Tetrachloro-m-xylene	68.7		100.0		68.7	60.9	138		0		

Sample ID: **1207093-007EMS** SampType: **MS** Units: **µg/L** Prep Date: **7/23/2012** RunNo: **5084**
Client ID: **BATCH** Batch ID: **2833** Analysis Date: **7/24/2012** SeqNo: **99101**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1254	1.94	0.200	2.000	0	96.8	68.4	133				
Surr: Decachlorobiphenyl	102		100.0		102	71.4	142				
Surr: Tetrachloro-m-xylene	63.6		100.0		63.6	60.9	138				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: 7/26/2012

Work Order: 1207105
CLIENT: Shannon & Wilson
Project: B&K Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1207093-013ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **7/21/2012** RunNo: **5082**
Client ID: **BATCH** Batch ID: **R5082** Analysis Date: **7/21/2012** SeqNo: **99088**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	ND	1.00						0	0	30	
Chloromethane	ND	1.00						0	0	30	
Vinyl chloride	ND	0.200						0	0	30	
Bromomethane	ND	1.00						0	0	30	
Trichlorofluoromethane (CFC-11)	ND	1.00						0	0	30	
Chloroethane	ND	1.00						0	0	30	
1,1-Dichloroethene	ND	1.00						0	0	30	
Methylene chloride	ND	1.00						0	0	30	
trans-1,2-Dichloroethene	ND	1.00						0	0	30	
1,1-Dichloroethane	ND	1.00						0	0	30	
2,2-Dichloropropane	ND	2.00						0	0	30	
cis-1,2-Dichloroethene	ND	1.00						0	0	30	
Chloroform	ND	1.00						0	0	30	
1,1,1-Trichloroethane (TCA)	ND	1.00						0	0	30	
1,1-Dichloropropene	ND	1.00						0	0	30	
Carbon tetrachloride	ND	1.00						0	0	30	
1,2-Dichloroethane	ND	1.00						0	0	30	
Trichloroethene (TCE)	ND	1.00						0	0	30	
1,2-Dichloropropane	ND	1.00						0	0	30	
Bromodichloromethane	ND	1.00						0	0	30	
Dibromomethane	ND	1.00						0	0	30	
cis-1,3-Dichloropropene	ND	1.00						0	0	30	
trans-1,3-Dichloropropene	ND	1.00						0	0	30	
1,1,2-Trichloroethane	ND	1.00						0	0	30	
1,3-Dichloropropane	ND	1.00						0	0	30	
Tetrachloroethene (PCE)	ND	1.00						0	0	30	
Dibromochloromethane	ND	1.00						0	0	30	
1,2-Dibromoethane (EDB)	ND	0.0100						0	0	30	
Chlorobenzene	ND	1.00						0	0	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *7/26/2012*

Work Order: 1207105
CLIENT: Shannon & Wilson
Project: B&K Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1207093-013ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **7/21/2012** RunNo: **5082**
Client ID: **BATCH** Batch ID: **R5082** Analysis Date: **7/21/2012** SeqNo: **99088**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	1.00						0	0	30	
Bromoform	ND	1.00						0	0	30	
1,1,2,2-Tetrachloroethane	ND	1.00						0	0	30	
Bromobenzene	ND	1.00						0	0	30	
2-Chlorotoluene	ND	1.00						0	0	30	
4-Chlorotoluene	ND	1.00						0	0	30	
1,2,3-Trichloropropane	ND	1.00						0	0	30	
1,2,4-Trichlorobenzene	ND	2.00						0	0	30	
1,3-Dichlorobenzene	ND	1.00						0	0	30	
1,4-Dichlorobenzene	ND	1.00						0	0	30	
1,2-Dichlorobenzene	ND	1.00						0	0	30	
1,2-Dibromo-3-chloropropane	ND	1.00						0	0	30	
Hexachloro-1,3-butadiene	ND	4.00						0	0	30	
1,2,3-Trichlorobenzene	ND	4.00						0	0	30	
Surr: 1-Bromo-4-fluorobenzene	9.89		10.00		98.9	79.2	120		0		
Surr: Dibromofluoromethane	10.2		10.00		102	76	114		0		
Surr: Toluene-d8	10.1		10.00		101	86.8	119		0		

Sample ID: **1207093-013AMS** SampType: **MS** Units: **µg/L** Prep Date: **7/21/2012** RunNo: **5082**
Client ID: **BATCH** Batch ID: **R5082** Analysis Date: **7/21/2012** SeqNo: **99089**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	19.7	1.00	20.00	0	98.5	33.3	122				
Chloromethane	20.0	1.00	20.00	0	100	48.2	145				
Vinyl chloride	21.3	0.200	20.00	0	106	45.6	149				
Bromomethane	5.52	1.00	20.00	0	27.6	31.5	135				S
Trichlorofluoromethane (CFC-11)	20.6	1.00	20.00	0	103	54.7	138				
Chloroethane	22.9	1.00	20.00	0	115	52.7	140				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *7/26/2012*

Work Order: 1207105
CLIENT: Shannon & Wilson
Project: B&K Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1207093-013AMS** SampType: **MS** Units: **µg/L** Prep Date: **7/21/2012** RunNo: **5082**
Client ID: **BATCH** Batch ID: **R5082** Analysis Date: **7/21/2012** SeqNo: **99089**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	23.8	1.00	20.00	0	119	58.2	146				
Methylene chloride	21.6	1.00	20.00	0	108	65.1	127				
trans-1,2-Dichloroethene	22.7	1.00	20.00	0	113	69	132				
1,1-Dichloroethane	22.1	1.00	20.00	0	110	74.7	133				
2,2-Dichloropropane	17.8	2.00	20.00	0	88.9	31.5	121				
cis-1,2-Dichloroethene	22.1	1.00	20.00	0	110	67.1	123				
Chloroform	22.0	1.00	20.00	0	110	58.6	123				
1,1,1-Trichloroethane (TCA)	24.0	1.00	20.00	0	120	64.2	146				
1,1-Dichloropropene	22.9	1.00	20.00	0	115	73.8	136				
Carbon tetrachloride	24.2	1.00	20.00	0	121	69.2	141				
1,2-Dichloroethane	22.6	1.00	20.00	0	113	62.3	130				
Trichloroethene (TCE)	21.8	1.00	20.00	0	109	65.7	133				
1,2-Dichloropropane	22.8	1.00	20.00	0	114	70	130				
Bromodichloromethane	23.5	1.00	20.00	0	117	59.4	139				
Dibromomethane	23.4	1.00	20.00	0	117	65.5	130				
cis-1,3-Dichloropropene	24.0	1.00	20.00	0	120	63.3	124				
trans-1,3-Dichloropropene	24.0	1.00	20.00	0	120	57.7	125				
1,1,2-Trichloroethane	23.3	1.00	20.00	0	117	59.4	127				
1,3-Dichloropropane	23.0	1.00	20.00	0	115	68.2	134				
Tetrachloroethene (PCE)	17.7	1.00	20.00	0	88.7	51.5	109				
Dibromochloromethane	24.2	1.00	20.00	0	121	66.2	138				
1,2-Dibromoethane (EDB)	23.5	0.0100	20.00	0	118	68.9	124				
Chlorobenzene	21.5	1.00	20.00	0	108	68.9	128				
1,1,1,2-Tetrachloroethane	23.4	1.00	20.00	0	117	67.3	135				
Bromoform	24.7	1.00	20.00	0	123	61.4	136				
1,1,2,2-Tetrachloroethane	24.2	1.00	20.00	0	121	59.1	137				
Bromobenzene	21.9	1.00	20.00	0	110	63.6	130				
2-Chlorotoluene	21.3	1.00	20.00	0	106	63.4	134				
4-Chlorotoluene	21.0	1.00	20.00	0	105	58.4	134				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *7/26/2012*

Work Order: 1207105
CLIENT: Shannon & Wilson
Project: B&K Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1207093-013AMS**	SampType: **MS**	Units: **µg/L**	Prep Date: **7/21/2012**	RunNo: **5082**
Client ID: **BATCH**	Batch ID: **R5082**		Analysis Date: **7/21/2012**	SeqNo: **99089**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,3-Trichloropropane	24.1	1.00	20.00	0	120	62.4	129				
1,2,4-Trichlorobenzene	19.5	2.00	20.00	0	97.3	53.7	120				
1,3-Dichlorobenzene	20.2	1.00	20.00	0	101	58.2	128				
1,4-Dichlorobenzene	20.2	1.00	20.00	0	101	60.1	123				
1,2-Dichlorobenzene	20.6	1.00	20.00	0	103	62.6	124				
1,2-Dibromo-3-chloropropane	27.3	1.00	20.00	0	137	51.8	142				
Hexachloro-1,3-butadiene	20.4	4.00	20.00	0	102	62.1	121				
1,2,3-Trichlorobenzene	20.5	4.00	20.00	0	103	50.7	113				
Surr: 1-Bromo-4-fluorobenzene	10.0		10.00		100	82	118				
Surr: Dibromofluoromethane	10.1		10.00		101	79.4	116				
Surr: Toluene-d8	10.0		10.00		100	92	107				

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

Sample ID: **LCS-R5082**	SampType: **LCS**	Units: **µg/L**	Prep Date: **7/21/2012**	RunNo: **5082**
Client ID: **LCSW**	Batch ID: **R5082**		Analysis Date: **7/21/2012**	SeqNo: **99090**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	21.6	1.00	20.00	0	108	45.1	121				
Chloromethane	21.8	1.00	20.00	0	109	42.5	131				
Vinyl chloride	23.6	0.200	20.00	0	118	56.2	130				
Bromomethane	19.6	1.00	20.00	0	97.9	45.4	138				
Trichlorofluoromethane (CFC-11)	25.0	1.00	20.00	0	125	64.7	129				
Chloroethane	23.8	1.00	20.00	0	119	62.5	123				
1,1-Dichloroethene	24.0	1.00	20.00	0	120	60.7	146				
Methylene chloride	21.9	1.00	20.00	0	110	60.3	135				
trans-1,2-Dichloroethene	23.4	1.00	20.00	0	117	71.3	129				
1,1-Dichloroethane	22.2	1.00	20.00	0	111	71.3	129				
2,2-Dichloropropane	19.9	2.00	20.00	0	99.5	37.8	132				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *7/26/2012*

Work Order: 1207105
CLIENT: Shannon & Wilson
Project: B&K Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **LCS-R5082** SampType: **LCS** Units: **µg/L** Prep Date: **7/21/2012** RunNo: **5082**
Client ID: **LCSW** Batch ID: **R5082** Analysis Date: **7/21/2012** SeqNo: **99090**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,2-Dichloroethene	22.2	1.00	20.00	0	111	67.5	127				
Chloroform	22.3	1.00	20.00	0	112	70.3	123				
1,1,1-Trichloroethane (TCA)	24.1	1.00	20.00	0	120	67.9	134				
1,1-Dichloropropene	24.6	1.00	20.00	0	123	72.1	133				
Carbon tetrachloride	25.0	1.00	20.00	0	125	68	136				
1,2-Dichloroethane	22.5	1.00	20.00	0	112	65.8	126				
Trichloroethene (TCE)	25.2	1.00	20.00	0	126	71.9	130				
1,2-Dichloropropane	22.8	1.00	20.00	0	114	71.9	131				
Bromodichloromethane	23.8	1.00	20.00	0	119	70	130				
Dibromomethane	23.2	1.00	20.00	0	116	74.2	125				
cis-1,3-Dichloropropene	18.5	1.00	20.00	0	92.7	62.8	135				
trans-1,3-Dichloropropene	18.5	1.00	20.00	0	92.7	58.1	138				
1,1,2-Trichloroethane	23.4	1.00	20.00	0	117	65.4	128				
1,3-Dichloropropane	23.0	1.00	20.00	0	115	71.9	131				
Tetrachloroethene (PCE)	35.8	1.00	20.00	0	179	52.4	140				S
Dibromochloromethane	25.0	1.00	20.00	0	125	68.7	139				
1,2-Dibromoethane (EDB)	23.5	0.0100	20.00	0	118	71.2	129				
Chlorobenzene	22.6	1.00	20.00	0	113	77.2	122				
1,1,1,2-Tetrachloroethane	24.0	1.00	20.00	0	120	76.2	130				
Bromoform	25.4	1.00	20.00	0	127	69.9	142				
1,1,2,2-Tetrachloroethane	20.5	1.00	20.00	0	102	68	134				
Bromobenzene	23.4	1.00	20.00	0	117	71.1	131				
2-Chlorotoluene	23.4	1.00	20.00	0	117	67.1	137				
4-Chlorotoluene	23.6	1.00	20.00	0	118	70.7	132				
1,2,3-Trichloropropane	23.6	1.00	20.00	0	118	70.8	132				
1,2,4-Trichlorobenzene	23.0	2.00	20.00	0	115	61.4	139				
1,3-Dichlorobenzene	22.4	1.00	20.00	0	112	73.5	125				
1,4-Dichlorobenzene	22.4	1.00	20.00	0	112	71.4	125				
1,2-Dichlorobenzene	22.4	1.00	20.00	0	112	74.2	123				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: 7/26/2012

Work Order: 1207105
CLIENT: Shannon & Wilson
Project: B&K Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **LCS-R5082**	SampType: **LCS**	Units: **µg/L**	Prep Date: **7/21/2012**	RunNo: **5082**
Client ID: **LCSW**	Batch ID: **R5082**		Analysis Date: **7/21/2012**	SeqNo: **99090**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dibromo-3-chloropropane	24.7	1.00	20.00	0	124	66.1	138				
Hexachloro-1,3-butadiene	24.2	4.00	20.00	0	121	60.9	141				
1,2,3-Trichlorobenzene	22.8	4.00	20.00	0	114	61.3	133				
Surr: 1-Bromo-4-fluorobenzene	10.1		10.00		101	83.4	115				
Surr: Dibromofluoromethane	10.1		10.00		101	81.2	112				
Surr: Toluene-d8	10.1		10.00		101	89.4	109				

NOTES:
S - Outlying spike recovery observed for Tetrachloroethene (high bias). There were no detections above the laboratory reporting limit for this analyte. The Initial Calibration Verification (ICV) - for this analyte was within range (2nd source).

Sample ID: **MB-R5082**	SampType: **MBLK**	Units: **µg/L**	Prep Date: **7/21/2012**	RunNo: **5082**
Client ID: **MBLKW**	Batch ID: **R5082**		Analysis Date: **7/21/2012**	SeqNo: **99091**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	ND	1.00									
Chloromethane	ND	1.00									
Vinyl chloride	ND	0.200									
Bromomethane	ND	1.00									
Trichlorofluoromethane (CFC-11)	ND	1.00									
Chloroethane	ND	1.00									
1,1-Dichloroethene	ND	1.00									
Methylene chloride	ND	1.00									
trans-1,2-Dichloroethene	ND	1.00									
1,1-Dichloroethane	ND	1.00									
2,2-Dichloropropane	ND	2.00									
cis-1,2-Dichloroethene	ND	1.00									
Chloroform	ND	1.00									
1,1,1-Trichloroethane (TCA)	ND	1.00									
1,1-Dichloropropene	ND	1.00									

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *7/26/2012*

Work Order: 1207105
CLIENT: Shannon & Wilson
Project: B&K Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **MB-R5082**	SampType: **MBLK**	Units: **µg/L**	Prep Date: **7/21/2012**	RunNo: **5082**
Client ID: **MBLKW**	Batch ID: **R5082**		Analysis Date: **7/21/2012**	SeqNo: **99091**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Carbon tetrachloride	ND	1.00									
1,2-Dichloroethane	ND	1.00									
Trichloroethene (TCE)	ND	1.00									
1,2-Dichloropropane	ND	1.00									
Bromodichloromethane	ND	1.00									
Dibromomethane	ND	1.00									
cis-1,3-Dichloropropene	ND	1.00									
trans-1,3-Dichloropropene	ND	1.00									
1,1,2-Trichloroethane	ND	1.00									
1,3-Dichloropropane	ND	1.00									
Tetrachloroethene (PCE)	ND	1.00									
Dibromochloromethane	ND	1.00									
1,2-Dibromoethane (EDB)	ND	0.0100									
Chlorobenzene	ND	1.00									
1,1,1,2-Tetrachloroethane	ND	1.00									
Bromoform	ND	1.00									
1,1,2,2-Tetrachloroethane	ND	1.00									
Bromobenzene	ND	1.00									
2-Chlorotoluene	ND	1.00									
4-Chlorotoluene	ND	1.00									
1,2,3-Trichloropropane	ND	1.00									
1,2,4-Trichlorobenzene	ND	2.00									
1,3-Dichlorobenzene	ND	1.00									
1,4-Dichlorobenzene	ND	1.00									
1,2-Dichlorobenzene	ND	1.00									
1,2-Dibromo-3-chloropropane	ND	1.00									
Hexachloro-1,3-butadiene	ND	4.00									
1,2,3-Trichlorobenzene	ND	4.00									
Surr: 1-Bromo-4-fluorobenzene	9.93		10.00		99.3	79.2	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *7/26/2012*

Work Order: 1207105
CLIENT: Shannon & Wilson
Project: B&K Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **MB-R5082**	SampType: **MBLK**			Units: **µg/L**		Prep Date: **7/21/2012**		RunNo: **5082**			
Client ID: **MBLKW**	Batch ID: **R5082**					Analysis Date: **7/21/2012**		SeqNo: **99091**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Dibromofluoromethane	10.1		10.00		101	76	114				
Surr: Toluene-d8	10.0		10.00		100	86.8	119				

Sample ID: **ICV-R5082**	SampType: **ICV**			Units: **µg/L**		Prep Date: **7/21/2012**		RunNo: **5082**			
Client ID: **ICV**	Batch ID: **R5082**					Analysis Date: **7/21/2012**		SeqNo: **99093**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tetrachloroethene (PCE)	25.0	1.00	20.00	0	125	70	130				
Surr: 1-Bromo-4-fluorobenzene	10.0		10.00		100	79.2	120				
Surr: Dibromofluoromethane	10.1		10.00		101	76	114				
Surr: Toluene-d8	10.0		10.00		100	86.8	119				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Sample Log-In Check List

Client Name: **SW**	Work Order Number: **1207105**
Logged by: **Troy Zehr**	Date Received: **7/19/2012 9:20:00 AM**

Chain of Custody

1.	Were custodial seals present?	Yes ☐	No ☐	Not Required ☑
2.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3.	How was the sample delivered?	Client		

Log In

4.	Coolers are present?	Yes ☑	No ☐	NA ☐
5.	Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
6.	Were all coolers received at a temperature of >0° C to 10.0°C	Yes ☑	No ☐	NA ☐
7.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
8.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
9.	Are samples properly preserved?	Yes ☑	No ☐	
10.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
11.	Is there headspace present in VOA vials?	Yes ☐	No ☐	NA ☑
12.	Did all sample containers arrive in good condition?(unbroken)	Yes ☑	No ☐	
13.	Does paperwork match bottle labels?	Yes ☑	No ☐	
14.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
15.	Is it clear what analyses were requested?	Yes ☑	No ☐	
16.	Were all holding times able to be met?	Yes ☑	No ☐	

Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

18. Additional remarks/Disrepancies

Item Information

Item #	Temp °C	Condition
Cooler	4.5	Good

1207105

CHAIN-OF-CUSTODY RECORD

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

400 N. 34th Street, Suite 100
Seattle, WA 98103
(206) 632-8020

2355 Hill Road
Fairbanks, AK 99709
(907) 479-0600

2255 S.W. Canyon Road
Portland, OR 97201-2496
(503) 223-6147

2013 Westport Center Drive
St. Louis, MO 63146-3564
(314) 699-9660

5430 Fairbanks Street, Suite 3
Anchorage, AK 99518
(907) 561-2120

1200 17th Street, Suite 1024
Denver, Co 80202
(303) 825-3800

303 Wellsian Way
Richland, WA 99352
(509) 946-6309

Laboratory Fremont Analytical

Attn:

Analysis Parameters/Sample Container Description
(include preservative if used)

Sample Identity	Lab No.	Time	Date Sampled	Comp	Grab	PCBs	lead diss/total	HVOCs	TPH-Dx			Total Number of Containers	Remarks/Matrix
GP-11:GW:23.0		1130	7/18/12		X	X	X		X			3	GW
GP-12:GW:27.0		1220	7/18/12		X	X	X		X			3	GW
GP-13:GW:23.0		1310	7/18/12		X	X	X		X			3	GW
GP-22:GW:11.0		1550	7/18/12		X	X		[redacted]				2	GW
GP-23:22.0		1735	7/18/12		X			X				2	Soil

Project Information		Sample Receipt	
Project Number:	21-1-17357-020	Total Number of Containers	13
Project Name:	B&K Phase II	COC Seals/Intact? Y/N/NA	
Contact:	Cody Johnson	Received Good Cond./Cold	
Ongoing Project?	Yes ☐ No ☒	Delivery Method:	
Sampler:	EVP	(attach shipping bill, if any)	

Instructions

Requested Turnaround Time: Standard

Special Instructions: hold all samples - will call with instructions

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.
Signature: [signature] Time: 0930	Signature: Time:	Signature: Time:
Printed Name: Ed Pak Date: 7/19/12	Printed Name: Date:	Printed Name: Date:
Company: IAW	Company:	Company:

Received By: 1.	Received By: 2.	Received By: 3.
Signature: [signature] Time: 920	Signature: Time:	Signature: Time:
Printed Name: M. RIDGEWAY Date: 7/19/12	Printed Name: Date:	Printed Name: Date:
Company: FAI	Company:	Company:

Distribution: White - w/shipment - returned to Shannon & Wilson w/ laboratory report
Yellow - w/shipment - for consignee files
Pink - Shannon & Wilson - Job File

F-19-91/UR

N 30105

1311 N. 35th St.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Shannon & Wilson
Ed Ptak
400 N. 34th Street, Suite 100
Seattle, Washington 98103

RE: B & K Phase 2
Lab ID: 1207090

July 23, 2012

Attention Ed Ptak:

Fremont Analytical, Inc. received 12 sample(s) on 7/17/2012 for the analyses presented in the following report.

Polychlorinated Biphenyls (PCB) by EPA 8082
Volatile Organic Compounds by EPA Method 8260

This report consists of the following:

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

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

Thank you for using Fremont Analytical.

Sincerely,

Michael Dee
Sr. Chemist / Principal

Fremont Analytical

Date: *07/23/2012*

CLIENT: Shannon & Wilson
Project: B & K Phase 2
Lab Order: 1207090

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1207090-001	GP-16:6.3	07/16/2012 11:10 AM	07/17/2012 10:30 AM
1207090-002	GP-16:GW:7.0	07/16/2012 11:15 AM	07/17/2012 10:30 AM
1207090-003	GP-16:GW:19.0	07/16/2012 1:05 PM	07/17/2012 10:30 AM
1207090-004	GP-17:11.0	07/16/2012 1:50 PM	07/17/2012 10:30 AM
1207090-005	GP-17:GW:12.0	07/16/2012 2:00 PM	07/17/2012 10:30 AM
1207090-006	GP-18:6.3	07/16/2012 2:40 PM	07/17/2012 10:30 AM
1207090-007	GP-18:GW:12.0	07/16/2012 2:55 PM	07/17/2012 10:30 AM
1207090-008	GP-19:10.5	07/16/2012 4:35 PM	07/17/2012 10:30 AM
1207090-009	GP-19:GW:12.0	07/16/2012 4:40 PM	07/17/2012 10:30 AM
1207090-010	GP-20:8.5	07/16/2012 3:35 PM	07/17/2012 10:30 AM
1207090-011	GP-20:GW:12.0	07/16/2012 3:45 PM	07/17/2012 10:30 AM
1207090-012	GP-21:8.3	07/16/2012 10:40 AM	07/17/2012 10:30 AM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

CLIENT: Shannon & Wilson
Project: B & K Phase 2

I. SAMPLE RECEIPT:
All samples were received intact. The internal ice chest temperatures were measured on receipt and are recorded on the attached Sample Receipt Checklist.

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

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

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

Client: Shannon & Wilson
Collection Date: 7/16/2012 11:15:00 AM
Project: B & K Phase 2
Lab ID: 1207090-002
Matrix: Water
Client Sample ID: GP-16:GW:7.0

Volatile Organic Compounds by EPA Method 8260

Batch ID: R4997 Analyst: EM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane	ND	1.00		µg/L	1	7/17/2012 7:07:00 PM
Chloromethane	ND	1.00		µg/L	1	7/17/2012 7:07:00 PM
Vinyl chloride	16.0	0.200		µg/L	1	7/17/2012 7:07:00 PM
Bromomethane	ND	1.00		µg/L	1	7/17/2012 7:07:00 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	7/17/2012 7:07:00 PM
Chloroethane	ND	1.00		µg/L	1	7/17/2012 7:07:00 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	7/17/2012 7:07:00 PM
Methylene chloride	ND	1.00		µg/L	1	7/17/2012 7:07:00 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	7/17/2012 7:07:00 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	7/17/2012 7:07:00 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	7/17/2012 7:07:00 PM
cis-1,2-Dichloroethene	7.52	1.00		µg/L	1	7/17/2012 7:07:00 PM
Chloroform	ND	1.00		µg/L	1	7/17/2012 7:07:00 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	7/17/2012 7:07:00 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	7/17/2012 7:07:00 PM
Carbon tetrachloride	ND	1.00		µg/L	1	7/17/2012 7:07:00 PM
1,2-Dichloroethane	5.08	1.00		µg/L	1	7/17/2012 7:07:00 PM
Trichloroethene (TCE)	ND	1.00		µg/L	1	7/17/2012 7:07:00 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	7/17/2012 7:07:00 PM
Bromodichloromethane	ND	1.00		µg/L	1	7/17/2012 7:07:00 PM
Dibromomethane	ND	1.00		µg/L	1	7/17/2012 7:07:00 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	7/17/2012 7:07:00 PM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	7/17/2012 7:07:00 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	7/17/2012 7:07:00 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	7/17/2012 7:07:00 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	7/17/2012 7:07:00 PM
Dibromochloromethane	ND	1.00		µg/L	1	7/17/2012 7:07:00 PM
1,2-Dibromoethane (EDB)	ND	0.0100		µg/L	1	7/17/2012 7:07:00 PM
Chlorobenzene	ND	1.00		µg/L	1	7/17/2012 7:07:00 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	7/17/2012 7:07:00 PM
Bromoform	ND	1.00		µg/L	1	7/17/2012 7:07:00 PM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	7/17/2012 7:07:00 PM
Bromobenzene	ND	1.00		µg/L	1	7/17/2012 7:07:00 PM
2-Chlorotoluene	ND	1.00		µg/L	1	7/17/2012 7:07:00 PM
4-Chlorotoluene	ND	1.00		µg/L	1	7/17/2012 7:07:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 7/16/2012 11:15:00 AM
Project: B & K Phase 2
Lab ID: 1207090-002
Matrix: Water
Client Sample ID: GP-16:GW:7.0

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R4997		Analyst: EM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	7/17/2012 7:07:00 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	7/17/2012 7:07:00 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	7/17/2012 7:07:00 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	7/17/2012 7:07:00 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	7/17/2012 7:07:00 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	7/17/2012 7:07:00 PM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	7/17/2012 7:07:00 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	7/17/2012 7:07:00 PM
Surr: 1-Bromo-4-fluorobenzene	88.5	79.2-120		%REC	1	7/17/2012 7:07:00 PM
Surr: Dibromofluoromethane	113	76-114		%REC	1	7/17/2012 7:07:00 PM
Surr: Toluene-d8	100	86.8-119		%REC	1	7/17/2012 7:07:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 7/16/2012 1:05:00 PM
Project: B & K Phase 2
Lab ID: 1207090-003
Matrix: Water
Client Sample ID: GP-16:GW:19.0

Volatile Organic Compounds by EPA Method 8260

Batch ID: R4997 Analyst: EM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane	ND	1.00		µg/L	1	7/17/2012 7:40:00 PM
Chloromethane	ND	1.00		µg/L	1	7/17/2012 7:40:00 PM
Vinyl chloride	ND	0.200		µg/L	1	7/17/2012 7:40:00 PM
Bromomethane	ND	1.00		µg/L	1	7/17/2012 7:40:00 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	7/17/2012 7:40:00 PM
Chloroethane	ND	1.00		µg/L	1	7/17/2012 7:40:00 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	7/17/2012 7:40:00 PM
Methylene chloride	ND	1.00		µg/L	1	7/17/2012 7:40:00 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	7/17/2012 7:40:00 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	7/17/2012 7:40:00 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	7/17/2012 7:40:00 PM
cis-1,2-Dichloroethene	34.1	1.00		µg/L	1	7/17/2012 7:40:00 PM
Chloroform	ND	1.00		µg/L	1	7/17/2012 7:40:00 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	7/17/2012 7:40:00 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	7/17/2012 7:40:00 PM
Carbon tetrachloride	ND	1.00		µg/L	1	7/17/2012 7:40:00 PM
1,2-Dichloroethane	2.55	1.00		µg/L	1	7/17/2012 7:40:00 PM
Trichloroethene (TCE)	39.1	1.00		µg/L	1	7/17/2012 7:40:00 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	7/17/2012 7:40:00 PM
Bromodichloromethane	ND	1.00		µg/L	1	7/17/2012 7:40:00 PM
Dibromomethane	ND	1.00		µg/L	1	7/17/2012 7:40:00 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	7/17/2012 7:40:00 PM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	7/17/2012 7:40:00 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	7/17/2012 7:40:00 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	7/17/2012 7:40:00 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	7/17/2012 7:40:00 PM
Dibromochloromethane	ND	1.00		µg/L	1	7/17/2012 7:40:00 PM
1,2-Dibromoethane (EDB)	ND	0.0100		µg/L	1	7/17/2012 7:40:00 PM
Chlorobenzene	ND	1.00		µg/L	1	7/17/2012 7:40:00 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	7/17/2012 7:40:00 PM
Bromoform	ND	1.00		µg/L	1	7/17/2012 7:40:00 PM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	7/17/2012 7:40:00 PM
Bromobenzene	ND	1.00		µg/L	1	7/17/2012 7:40:00 PM
2-Chlorotoluene	ND	1.00		µg/L	1	7/17/2012 7:40:00 PM
4-Chlorotoluene	ND	1.00		µg/L	1	7/17/2012 7:40:00 PM

Qualifiers:

- B Analyte detected in the associated Method Blank
- D Dilution was required
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- ND Not detected at the Reporting Limit
- RL Reporting Limit
- S Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B & K Phase 2
Lab ID: 1207090-003
Client Sample ID: GP-16:GW:19.0

Collection Date: 7/16/2012 1:05:00 PM
Matrix: Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R4997		Analyst: EM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	7/17/2012 7:40:00 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	7/17/2012 7:40:00 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	7/17/2012 7:40:00 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	7/17/2012 7:40:00 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	7/17/2012 7:40:00 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	7/17/2012 7:40:00 PM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	7/17/2012 7:40:00 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	7/17/2012 7:40:00 PM
Surr: 1-Bromo-4-fluorobenzene	88.3	79.2-120		%REC	1	7/17/2012 7:40:00 PM
Surr: Dibromofluoromethane	112	76-114		%REC	1	7/17/2012 7:40:00 PM
Surr: Toluene-d8	100	86.8-119		%REC	1	7/17/2012 7:40:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B & K Phase 2
Lab ID: 1207090-005
Client Sample ID: GP-17:GW:12.0

Collection Date: 7/16/2012 2:00:00 PM
Matrix: Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Polychlorinated Biphenyls (PCB) by EPA 8082				Batch ID: 2825		Analyst: PH
Aroclor 1016	ND	0.200		µg/L	1	7/19/2012 4:30:00 PM
Aroclor 1221	ND	0.200		µg/L	1	7/19/2012 4:30:00 PM
Aroclor 1232	ND	0.200		µg/L	1	7/19/2012 4:30:00 PM
Aroclor 1242	ND	0.200		µg/L	1	7/19/2012 4:30:00 PM
Aroclor 1248	ND	0.200		µg/L	1	7/19/2012 4:30:00 PM
Aroclor 1254	ND	0.200		µg/L	1	7/19/2012 4:30:00 PM
Aroclor 1260	ND	0.200		µg/L	1	7/19/2012 4:30:00 PM
Aroclor 1262	ND	0.200		µg/L	1	7/19/2012 4:30:00 PM
Aroclor 1268	ND	0.200		µg/L	1	7/19/2012 4:30:00 PM
Total PCBs	ND	0.200		µg/L	1	7/19/2012 4:30:00 PM
Surr: Decachlorobiphenyl	86.2	71.4-142		%REC	1	7/19/2012 4:30:00 PM
Surr: Tetrachloro-m-xylene	76.2	60.9-138		%REC	1	7/19/2012 4:30:00 PM
Volatile Organic Compounds by EPA Method 8260				Batch ID: R4997		Analyst: EM
Dichlorodifluoromethane	ND	1.00		µg/L	1	7/17/2012 8:13:00 PM
Chloromethane	ND	1.00		µg/L	1	7/17/2012 8:13:00 PM
Vinyl chloride	3.48	0.200		µg/L	1	7/17/2012 8:13:00 PM
Bromomethane	ND	1.00		µg/L	1	7/17/2012 8:13:00 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	7/17/2012 8:13:00 PM
Chloroethane	ND	1.00		µg/L	1	7/17/2012 8:13:00 PM
1,1-Dichloroethene	4.12	1.00		µg/L	1	7/17/2012 8:13:00 PM
Methylene chloride	ND	1.00		µg/L	1	7/17/2012 8:13:00 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	7/17/2012 8:13:00 PM
1,1-Dichloroethane	1.19	1.00		µg/L	1	7/17/2012 8:13:00 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	7/17/2012 8:13:00 PM
cis-1,2-Dichloroethene	42.6	1.00		µg/L	1	7/17/2012 8:13:00 PM
Chloroform	ND	1.00		µg/L	1	7/17/2012 8:13:00 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	7/17/2012 8:13:00 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	7/17/2012 8:13:00 PM
Carbon tetrachloride	ND	1.00		µg/L	1	7/17/2012 8:13:00 PM
1,2-Dichloroethane	61.1	1.00		µg/L	1	7/17/2012 8:13:00 PM
Trichloroethene (TCE)	1,050	50.0	D	µg/L	50	7/19/2012 12:12:00 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	7/17/2012 8:13:00 PM
Bromodichloromethane	ND	1.00		µg/L	1	7/17/2012 8:13:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B & K Phase 2
Lab ID: 1207090-005
Client Sample ID: GP-17:GW:12.0

Collection Date: 7/16/2012 2:00:00 PM
Matrix: Water

Volatile Organic Compounds by EPA Method 8260

Batch ID: R4997 Analyst: EM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dibromomethane	ND	1.00		µg/L	1	7/17/2012 8:13:00 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	7/17/2012 8:13:00 PM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	7/17/2012 8:13:00 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	7/17/2012 8:13:00 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	7/17/2012 8:13:00 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	7/17/2012 8:13:00 PM
Dibromochloromethane	ND	1.00		µg/L	1	7/17/2012 8:13:00 PM
1,2-Dibromoethane (EDB)	ND	0.0100		µg/L	1	7/17/2012 8:13:00 PM
Chlorobenzene	ND	1.00		µg/L	1	7/17/2012 8:13:00 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	7/17/2012 8:13:00 PM
Bromoform	ND	1.00		µg/L	1	7/17/2012 8:13:00 PM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	7/17/2012 8:13:00 PM
Bromobenzene	ND	1.00		µg/L	1	7/17/2012 8:13:00 PM
2-Chlorotoluene	ND	1.00		µg/L	1	7/17/2012 8:13:00 PM
4-Chlorotoluene	ND	1.00		µg/L	1	7/17/2012 8:13:00 PM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	7/17/2012 8:13:00 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	7/17/2012 8:13:00 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	7/17/2012 8:13:00 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	7/17/2012 8:13:00 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	7/17/2012 8:13:00 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	7/17/2012 8:13:00 PM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	7/17/2012 8:13:00 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	7/17/2012 8:13:00 PM
Surr: 1-Bromo-4-fluorobenzene	88.1	79.2-120		%REC	1	7/17/2012 8:13:00 PM
Surr: Dibromofluoromethane	113	76-114		%REC	1	7/17/2012 8:13:00 PM
Surr: Toluene-d8	102	86.8-119		%REC	1	7/17/2012 8:13:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 7/16/2012 2:55:00 PM
Project: B & K Phase 2
Lab ID: 1207090-007
Matrix: Water
Client Sample ID: GP-18:GW:12.0

Volatile Organic Compounds by EPA Method 8260

Batch ID: R4997 Analyst: EM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane	ND	1.00		µg/L	1	7/17/2012 8:46:00 PM
Chloromethane	ND	1.00		µg/L	1	7/17/2012 8:46:00 PM
Vinyl chloride	11.8	0.200		µg/L	1	7/17/2012 8:46:00 PM
Bromomethane	ND	1.00		µg/L	1	7/17/2012 8:46:00 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	7/17/2012 8:46:00 PM
Chloroethane	ND	1.00		µg/L	1	7/17/2012 8:46:00 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	7/17/2012 8:46:00 PM
Methylene chloride	ND	1.00		µg/L	1	7/17/2012 8:46:00 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	7/17/2012 8:46:00 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	7/17/2012 8:46:00 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	7/17/2012 8:46:00 PM
cis-1,2-Dichloroethene	30.2	1.00		µg/L	1	7/17/2012 8:46:00 PM
Chloroform	ND	1.00		µg/L	1	7/17/2012 8:46:00 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	7/17/2012 8:46:00 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	7/17/2012 8:46:00 PM
Carbon tetrachloride	ND	1.00		µg/L	1	7/17/2012 8:46:00 PM
1,2-Dichloroethane	38.3	1.00		µg/L	1	7/17/2012 8:46:00 PM
Trichloroethene (TCE)	2.27	1.00		µg/L	1	7/17/2012 8:46:00 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	7/17/2012 8:46:00 PM
Bromodichloromethane	ND	1.00		µg/L	1	7/17/2012 8:46:00 PM
Dibromomethane	ND	1.00		µg/L	1	7/17/2012 8:46:00 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	7/17/2012 8:46:00 PM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	7/17/2012 8:46:00 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	7/17/2012 8:46:00 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	7/17/2012 8:46:00 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	7/17/2012 8:46:00 PM
Dibromochloromethane	ND	1.00		µg/L	1	7/17/2012 8:46:00 PM
1,2-Dibromoethane (EDB)	ND	0.0100		µg/L	1	7/17/2012 8:46:00 PM
Chlorobenzene	ND	1.00		µg/L	1	7/17/2012 8:46:00 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	7/17/2012 8:46:00 PM
Bromoform	ND	1.00		µg/L	1	7/17/2012 8:46:00 PM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	7/17/2012 8:46:00 PM
Bromobenzene	ND	1.00		µg/L	1	7/17/2012 8:46:00 PM
2-Chlorotoluene	ND	1.00		µg/L	1	7/17/2012 8:46:00 PM
4-Chlorotoluene	ND	1.00		µg/L	1	7/17/2012 8:46:00 PM

Qualifiers:

- B Analyte detected in the associated Method Blank
- D Dilution was required
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- ND Not detected at the Reporting Limit
- RL Reporting Limit
- S Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 7/16/2012 2:55:00 PM
Project: B & K Phase 2
Lab ID: 1207090-007
Matrix: Water
Client Sample ID: GP-18:GW:12.0

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R4997		Analyst: EM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	7/17/2012 8:46:00 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	7/17/2012 8:46:00 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	7/17/2012 8:46:00 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	7/17/2012 8:46:00 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	7/17/2012 8:46:00 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	7/17/2012 8:46:00 PM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	7/17/2012 8:46:00 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	7/17/2012 8:46:00 PM
Surr: 1-Bromo-4-fluorobenzene	88.4	79.2-120		%REC	1	7/17/2012 8:46:00 PM
Surr: Dibromofluoromethane	112	76-114		%REC	1	7/17/2012 8:46:00 PM
Surr: Toluene-d8	100	86.8-119		%REC	1	7/17/2012 8:46:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 7/16/2012 4:40:00 PM
Project: B & K Phase 2
Lab ID: 1207090-009
Matrix: Water
Client Sample ID: GP-19:GW:12.0

Volatile Organic Compounds by EPA Method 8260

Batch ID: R4997 Analyst: EM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane	ND	1.00		µg/L	1	7/17/2012 9:18:00 PM
Chloromethane	ND	1.00		µg/L	1	7/17/2012 9:18:00 PM
Vinyl chloride	ND	0.200		µg/L	1	7/17/2012 9:18:00 PM
Bromomethane	ND	1.00		µg/L	1	7/17/2012 9:18:00 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	7/17/2012 9:18:00 PM
Chloroethane	ND	1.00		µg/L	1	7/17/2012 9:18:00 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	7/17/2012 9:18:00 PM
Methylene chloride	ND	1.00		µg/L	1	7/17/2012 9:18:00 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	7/17/2012 9:18:00 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	7/17/2012 9:18:00 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	7/17/2012 9:18:00 PM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	7/17/2012 9:18:00 PM
Chloroform	ND	1.00		µg/L	1	7/17/2012 9:18:00 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	7/17/2012 9:18:00 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	7/17/2012 9:18:00 PM
Carbon tetrachloride	ND	1.00		µg/L	1	7/17/2012 9:18:00 PM
1,2-Dichloroethane	ND	1.00		µg/L	1	7/17/2012 9:18:00 PM
Trichloroethene (TCE)	5.42	1.00		µg/L	1	7/17/2012 9:18:00 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	7/17/2012 9:18:00 PM
Bromodichloromethane	ND	1.00		µg/L	1	7/17/2012 9:18:00 PM
Dibromomethane	ND	1.00		µg/L	1	7/17/2012 9:18:00 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	7/17/2012 9:18:00 PM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	7/17/2012 9:18:00 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	7/17/2012 9:18:00 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	7/17/2012 9:18:00 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	7/17/2012 9:18:00 PM
Dibromochloromethane	ND	1.00		µg/L	1	7/17/2012 9:18:00 PM
1,2-Dibromoethane (EDB)	ND	0.0100		µg/L	1	7/17/2012 9:18:00 PM
Chlorobenzene	ND	1.00		µg/L	1	7/17/2012 9:18:00 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	7/17/2012 9:18:00 PM
Bromoform	ND	1.00		µg/L	1	7/17/2012 9:18:00 PM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	7/17/2012 9:18:00 PM
Bromobenzene	ND	1.00		µg/L	1	7/17/2012 9:18:00 PM
2-Chlorotoluene	ND	1.00		µg/L	1	7/17/2012 9:18:00 PM
4-Chlorotoluene	ND	1.00		µg/L	1	7/17/2012 9:18:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B & K Phase 2
Lab ID: 1207090-009
Client Sample ID: GP-19:GW:12.0

Collection Date: 7/16/2012 4:40:00 PM
Matrix: Water

Volatile Organic Compounds by EPA Method 8260

Batch ID: R4997 Analyst: EM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
1,2,3-Trichloropropane	ND	1.00		µg/L	1	7/17/2012 9:18:00 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	7/17/2012 9:18:00 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	7/17/2012 9:18:00 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	7/17/2012 9:18:00 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	7/17/2012 9:18:00 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	7/17/2012 9:18:00 PM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	7/17/2012 9:18:00 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	7/17/2012 9:18:00 PM
Surr: 1-Bromo-4-fluorobenzene	87.8	79.2-120		%REC	1	7/17/2012 9:18:00 PM
Surr: Dibromofluoromethane	111	76-114		%REC	1	7/17/2012 9:18:00 PM
Surr: Toluene-d8	99.3	86.8-119		%REC	1	7/17/2012 9:18:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 7/16/2012 3:45:00 PM
Project: B & K Phase 2
Lab ID: 1207090-011
Matrix: Water
Client Sample ID: GP-20:GW:12.0

Volatile Organic Compounds by EPA Method 8260

Batch ID: R4997 Analyst: EM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane	ND	1.00		µg/L	1	7/17/2012 9:51:00 PM
Chloromethane	ND	1.00		µg/L	1	7/17/2012 9:51:00 PM
Vinyl chloride	ND	0.200		µg/L	1	7/17/2012 9:51:00 PM
Bromomethane	ND	1.00		µg/L	1	7/17/2012 9:51:00 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	7/17/2012 9:51:00 PM
Chloroethane	ND	1.00		µg/L	1	7/17/2012 9:51:00 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	7/17/2012 9:51:00 PM
Methylene chloride	ND	1.00		µg/L	1	7/17/2012 9:51:00 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	7/17/2012 9:51:00 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	7/17/2012 9:51:00 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	7/17/2012 9:51:00 PM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	7/17/2012 9:51:00 PM
Chloroform	ND	1.00		µg/L	1	7/17/2012 9:51:00 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	7/17/2012 9:51:00 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	7/17/2012 9:51:00 PM
Carbon tetrachloride	ND	1.00		µg/L	1	7/17/2012 9:51:00 PM
1,2-Dichloroethane	ND	1.00		µg/L	1	7/17/2012 9:51:00 PM
Trichloroethene (TCE)	11.9	1.00		µg/L	1	7/17/2012 9:51:00 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	7/17/2012 9:51:00 PM
Bromodichloromethane	ND	1.00		µg/L	1	7/17/2012 9:51:00 PM
Dibromomethane	ND	1.00		µg/L	1	7/17/2012 9:51:00 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	7/17/2012 9:51:00 PM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	7/17/2012 9:51:00 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	7/17/2012 9:51:00 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	7/17/2012 9:51:00 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	7/17/2012 9:51:00 PM
Dibromochloromethane	ND	1.00		µg/L	1	7/17/2012 9:51:00 PM
1,2-Dibromoethane (EDB)	ND	0.0100		µg/L	1	7/17/2012 9:51:00 PM
Chlorobenzene	ND	1.00		µg/L	1	7/17/2012 9:51:00 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	7/17/2012 9:51:00 PM
Bromoform	ND	1.00		µg/L	1	7/17/2012 9:51:00 PM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	7/17/2012 9:51:00 PM
Bromobenzene	ND	1.00		µg/L	1	7/17/2012 9:51:00 PM
2-Chlorotoluene	ND	1.00		µg/L	1	7/17/2012 9:51:00 PM
4-Chlorotoluene	ND	1.00		µg/L	1	7/17/2012 9:51:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B & K Phase 2
Lab ID: 1207090-011
Client Sample ID: GP-20:GW:12.0

Collection Date: 7/16/2012 3:45:00 PM
Matrix: Water

Volatile Organic Compounds by EPA Method 8260

Batch ID: R4997 Analyst: EM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
1,2,3-Trichloropropane	ND	1.00		µg/L	1	7/17/2012 9:51:00 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	7/17/2012 9:51:00 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	7/17/2012 9:51:00 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	7/17/2012 9:51:00 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	7/17/2012 9:51:00 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	7/17/2012 9:51:00 PM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	7/17/2012 9:51:00 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	7/17/2012 9:51:00 PM
Surr: 1-Bromo-4-fluorobenzene	87.2	79.2-120		%REC	1	7/17/2012 9:51:00 PM
Surr: Dibromofluoromethane	113	76-114		%REC	1	7/17/2012 9:51:00 PM
Surr: Toluene-d8	99.5	86.8-119		%REC	1	7/17/2012 9:51:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *7/23/2012*

Work Order: 1207090
CLIENT: Shannon & Wilson
Project: B & K Phase 2

QC SUMMARY REPORT

Polychlorinated Biphenyls (PCB) by EPA 8082

Sample ID: **MB-2825**	SampType: **MBLK**	Units: **µg/L**	Prep Date: **7/18/2012**	RunNo: **5029**
Client ID: **MBLKW**	Batch ID: **2825**		Analysis Date: **7/19/2012**	SeqNo: **97630**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	ND	0.200									
Aroclor 1221	ND	0.200									
Aroclor 1232	ND	0.200									
Aroclor 1242	ND	0.200									
Aroclor 1248	ND	0.200									
Aroclor 1254	ND	0.200									
Aroclor 1260	ND	0.200									
Aroclor 1262	ND	0.200									
Aroclor 1268	ND	0.200									
Total PCBs	ND	0.200									
Surr: Decachlorobiphenyl	112		100.0		112	71.4	142				
Surr: Tetrachloro-m-xylene	78.6		100.0		78.6	60.9	138				

Sample ID: **LCS-2825**	SampType: **LCS**	Units: **µg/L**	Prep Date: **7/18/2012**	RunNo: **5029**
Client ID: **LCSW**	Batch ID: **2825**		Analysis Date: **7/19/2012**	SeqNo: **97631**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1254	1.84	0.200	2.000	0	92.1	63.8	137				
Surr: Decachlorobiphenyl	107		100.0		107	71.4	142				
Surr: Tetrachloro-m-xylene	91.5		100.0		91.5	60.9	138				

Sample ID: **LCSD-2825**	SampType: **LCSD**	Units: **µg/L**	Prep Date: **7/18/2012**	RunNo: **5029**
Client ID: **LCSW02**	Batch ID: **2825**		Analysis Date: **7/19/2012**	SeqNo: **97632**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1254	1.73	0.200	2.000	0	86.6	63.8	137	1.842	6.13	30	
Surr: Decachlorobiphenyl	106		100.0		106	71.4	142		0		
Surr: Tetrachloro-m-xylene	78.3		100.0		78.3	60.9	138		0		

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *7/23/2012*

Work Order: 1207090
CLIENT: Shannon & Wilson
Project: B & K Phase 2

QC SUMMARY REPORT

Polychlorinated Biphenyls (PCB) by EPA 8082

Sample ID: **LCSD-2825**	SampType: **LCSD**				Units: **µg/L**		Prep Date: **7/18/2012**		RunNo: **5029**			
Client ID: **LCSW02**	Batch ID: **2825**						Analysis Date: **7/19/2012**		SeqNo: **97632**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	

Sample ID: **1207090-005BMS**	SampType: **MS**				Units: **µg/L**		Prep Date: **7/18/2012**		RunNo: **5029**			
Client ID: **GP-17:GW:12.0**	Batch ID: **2825**						Analysis Date: **7/19/2012**		SeqNo: **97634**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Aroclor 1254	1.61	0.200	2.000	0	80.4	68.4	133					
Surr: Decachlorobiphenyl	90.0		100.0		90.0	71.4	142					
Surr: Tetrachloro-m-xylene	73.0		100.0		73.0	60.9	138					

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *7/23/2012*

Work Order: 1207090
CLIENT: Shannon & Wilson
Project: B & K Phase 2

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1207067-008ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **7/17/2012** RunNo: **4997**
Client ID: **BATCH** Batch ID: **R4997** Analysis Date: **7/17/2012** SeqNo: **96369**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	ND	1.00						0	0	30	
Chloromethane	ND	1.00						0	0	30	
Vinyl chloride	ND	0.200						0	0	30	
Bromomethane	ND	1.00						0	0	30	
Trichlorofluoromethane (CFC-11)	ND	1.00						0	0	30	
Chloroethane	ND	1.00						0	0	30	
1,1-Dichloroethene	ND	1.00						0	0	30	
Methylene chloride	ND	1.00						0	0	30	
trans-1,2-Dichloroethene	ND	1.00						0	0	30	
1,1-Dichloroethane	ND	1.00						0	0	30	
2,2-Dichloropropane	ND	2.00						0	0	30	
cis-1,2-Dichloroethene	ND	1.00						0	0	30	
Chloroform	ND	1.00						0	0	30	
1,1,1-Trichloroethane (TCA)	ND	1.00						0	0	30	
1,1-Dichloropropene	ND	1.00						0	0	30	
Carbon tetrachloride	ND	1.00						0	0	30	
1,2-Dichloroethane	ND	1.00						0	0	30	
Trichloroethene (TCE)	ND	1.00						0	0	30	
1,2-Dichloropropane	ND	1.00						0	0	30	
Bromodichloromethane	ND	1.00						0	0	30	
Dibromomethane	ND	1.00						0	0	30	
cis-1,3-Dichloropropene	ND	1.00						0	0	30	
trans-1,3-Dichloropropene	ND	1.00						0	0	30	
1,1,2-Trichloroethane	ND	1.00						0	0	30	
1,3-Dichloropropane	ND	1.00						0	0	30	
Tetrachloroethene (PCE)	ND	1.00						0	0	30	
Dibromochloromethane	ND	1.00						0	0	30	
1,2-Dibromoethane (EDB)	ND	0.0100						0	0	30	
Chlorobenzene	ND	1.00						0	0	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1207090
CLIENT: Shannon & Wilson
Project: B & K Phase 2

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1207067-008ADUP**	SampType: **DUP**			Units: **µg/L**		Prep Date: **7/17/2012**		RunNo: **4997**			
Client ID: **BATCH**	Batch ID: **R4997**					Analysis Date: **7/17/2012**		SeqNo: **96369**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	1.00						0	0	30	
Bromoform	ND	1.00						0	0	30	
1,1,2,2-Tetrachloroethane	ND	1.00						0	0	30	
Bromobenzene	ND	1.00						0	0	30	
2-Chlorotoluene	ND	1.00						0	0	30	
4-Chlorotoluene	ND	1.00						0	0	30	
1,2,3-Trichloropropane	ND	1.00						0	0	30	
1,2,4-Trichlorobenzene	ND	2.00						0	0	30	
1,3-Dichlorobenzene	ND	1.00						0	0	30	
1,4-Dichlorobenzene	ND	1.00						0	0	30	
1,2-Dichlorobenzene	ND	1.00						0	0	30	
1,2-Dibromo-3-chloropropane	ND	1.00						0	0	30	
Hexachloro-1,3-butadiene	ND	4.00						0	0	30	
1,2,3-Trichlorobenzene	ND	4.00						0	0	30	
Surr: 1-Bromo-4-fluorobenzene	10.2		10.00		102	79.2	120		0		
Surr: Dibromofluoromethane	9.78		10.00		97.8	76	114		0		
Surr: Toluene-d8	9.93		10.00		99.3	86.8	119		0		

Sample ID: **1207067-009AMS**	SampType: **MS**			Units: **µg/L**		Prep Date: **7/17/2012**		RunNo: **4997**			
Client ID: **BATCH**	Batch ID: **R4997**					Analysis Date: **7/17/2012**		SeqNo: **96371**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	18.9	1.00	20.00	0	94.6	70	130				
Chloromethane	20.5	1.00	20.00	0	103	70	130				
Vinyl chloride	20.2	0.200	20.00	0	101	70	130				
Bromomethane	19.4	1.00	20.00	0	96.8	70	130				
Trichlorofluoromethane (CFC-11)	22.0	1.00	20.00	1.920	100	70	130				
Chloroethane	18.5	1.00	20.00	0	92.4	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *7/23/2012*

Work Order: 1207090
CLIENT: Shannon & Wilson
Project: B & K Phase 2

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1207067-009AMS**	SampType: **MS**			Units: **µg/L**		Prep Date: **7/17/2012**		RunNo: **4997**			
Client ID: **BATCH**	Batch ID: **R4997**					Analysis Date: **7/17/2012**		SeqNo: **96371**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	21.2	1.00	20.00	0	106	71.4	135				
Methylene chloride	21.9	1.00	20.00	0	110	70	130				
trans-1,2-Dichloroethene	19.7	1.00	20.00	0	98.6	70	130				
1,1-Dichloroethane	21.0	1.00	20.00	0	105	70	130				
2,2-Dichloropropane	10.0	2.00	20.00	0	50.0	70	130				S
cis-1,2-Dichloroethene	19.7	1.00	20.00	0	98.5	70	130				
Chloroform	18.0	1.00	20.00	0	90.0	70	130				
1,1,1-Trichloroethane (TCA)	20.5	1.00	20.00	0	103	70	130				
1,1-Dichloropropene	20.8	1.00	20.00	0	104	70	130				
Carbon tetrachloride	20.3	1.00	20.00	0	102	70	130				
1,2-Dichloroethane	20.6	1.00	20.00	0	103	70	130				
Trichloroethene (TCE)	20.0	1.00	20.00	0	99.8	80.7	122				
1,2-Dichloropropane	20.5	1.00	20.00	0	102	70	130				
Bromodichloromethane	20.6	1.00	20.00	0	103	70	130				
Dibromomethane	20.6	1.00	20.00	0	103	70	130				
cis-1,3-Dichloropropene	17.7	1.00	20.00	0	88.5	70	130				
trans-1,3-Dichloropropene	17.7	1.00	20.00	0	88.5	70	130				
1,1,2-Trichloroethane	20.2	1.00	20.00	0	101	70	130				
1,3-Dichloropropane	20.6	1.00	20.00	0	103	70	130				
Tetrachloroethene (PCE)	18.2	1.00	20.00	0	91.2	50.9	104				
Dibromochloromethane	19.8	1.00	20.00	0	99.0	70	130				
1,2-Dibromoethane (EDB)	20.1	0.0100	20.00	0	100	70	130				
Chlorobenzene	20.1	1.00	20.00	0	100	75.3	125				
1,1,1,2-Tetrachloroethane	19.9	1.00	20.00	0	99.3	70	130				
Bromoform	19.2	1.00	20.00	0	96.1	70	130				
1,1,2,2-Tetrachloroethane	20.4	1.00	20.00	0	102	70	130				
Bromobenzene	19.4	1.00	20.00	0	97.2	70	130				
2-Chlorotoluene	20.3	1.00	20.00	0	101	70	130				
4-Chlorotoluene	19.7	1.00	20.00	0	98.7	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1207090
CLIENT: Shannon & Wilson
Project: B & K Phase 2

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1207067-009AMS**	SampType: **MS**	Units: **µg/L**	Prep Date: **7/17/2012**	RunNo: **4997**
Client ID: **BATCH**	Batch ID: **R4997**		Analysis Date: **7/17/2012**	SeqNo: **96371**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,3-Trichloropropane	19.2	1.00	20.00	0	95.9	70	130				
1,2,4-Trichlorobenzene	19.5	2.00	20.00	0	97.4	70	130				
1,3-Dichlorobenzene	19.2	1.00	20.00	0	96.0	70	130				
1,4-Dichlorobenzene	19.2	1.00	20.00	0	96.0	70	130				
1,2-Dichlorobenzene	19.7	1.00	20.00	0	98.6	70	130				
1,2-Dibromo-3-chloropropane	20.1	1.00	20.00	0	101	70	130				
Hexachloro-1,3-butadiene	19.6	4.00	20.00	0	98.0	70	130				
1,2,3-Trichlorobenzene	19.6	4.00	20.00	0	98.0	70	130				
Surr: 1-Bromo-4-fluorobenzene	10.1		10.00		101	79.2	120				
Surr: Dibromofluoromethane	9.80		10.00		98.0	76	114				
Surr: Toluene-d8	9.92		10.00		99.2	86.8	119				

NOTES:
S - Outlying spike recovery observed for 2,2-Dichloropropane.

Sample ID: **LCS-R4997**	SampType: **LCS**	Units: **µg/L**	Prep Date: **7/17/2012**	RunNo: **4997**
Client ID: **LCSW**	Batch ID: **R4997**		Analysis Date: **7/17/2012**	SeqNo: **96382**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	21.3	1.00	20.00	0	107	70	130				
Chloromethane	21.7	1.00	20.00	0	109	70	130				
Vinyl chloride	21.4	0.200	20.00	0	107	70	130				
Bromomethane	22.6	1.00	20.00	0	113	70	130				
Trichlorofluoromethane (CFC-11)	20.1	1.00	20.00	0	101	70	130				
Chloroethane	21.2	1.00	20.00	0	106	70	130				
1,1-Dichloroethene	21.8	1.00	20.00	0	109	72.2	137				
Methylene chloride	23.3	1.00	20.00	0	117	70	130				
trans-1,2-Dichloroethene	20.8	1.00	20.00	0	104	70	130				
1,1-Dichloroethane	21.4	1.00	20.00	0	107	70	130				
2,2-Dichloropropane	11.5	2.00	20.00	0	57.5	70	130				S

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: 7/23/2012

Work Order: 1207090
CLIENT: Shannon & Wilson
Project: B & K Phase 2

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **LCS-R4997** SampType: **LCS** Units: **µg/L** Prep Date: **7/17/2012** RunNo: **4997**
Client ID: **LCSW** Batch ID: **R4997** Analysis Date: **7/17/2012** SeqNo: **96382**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,2-Dichloroethene	21.0	1.00	20.00	0	105	70	130				
Chloroform	19.0	1.00	20.00	0	95.1	70	130				
1,1,1-Trichloroethane (TCA)	21.5	1.00	20.00	0	108	70	130				
1,1-Dichloropropene	21.8	1.00	20.00	0	109	70	130				
Carbon tetrachloride	21.1	1.00	20.00	0	106	70	130				
1,2-Dichloroethane	22.0	1.00	20.00	0	110	64.6	112				
Trichloroethene (TCE)	21.8	1.00	20.00	0	109	76.8	122				
1,2-Dichloropropane	22.1	1.00	20.00	0	110	70	130				
Bromodichloromethane	21.7	1.00	20.00	0	109	70	130				
Dibromomethane	22.2	1.00	20.00	0	111	70	130				
cis-1,3-Dichloropropene	17.4	1.00	20.00	0	87.2	70	130				
trans-1,3-Dichloropropene	17.4	1.00	20.00	0	87.2	70	130				
1,1,2-Trichloroethane	21.4	1.00	20.00	0	107	70	130				
1,3-Dichloropropane	22.1	1.00	20.00	0	110	70	130				
Tetrachloroethene (PCE)	30.3	1.00	20.00	0	151	50.1	124				S
Dibromochloromethane	22.0	1.00	20.00	0	110	70	130				
1,2-Dibromoethane (EDB)	22.0	0.0100	20.00	0	110	70	130				
Chlorobenzene	21.3	1.00	20.00	0	106	79.1	119				
1,1,1,2-Tetrachloroethane	21.1	1.00	20.00	0	105	70	130				
Bromoform	21.9	1.00	20.00	0	109	70	130				
1,1,2,2-Tetrachloroethane	20.4	1.00	20.00	0	102	70	130				
Bromobenzene	21.5	1.00	20.00	0	108	70	130				
2-Chlorotoluene	21.7	1.00	20.00	0	108	70	130				
4-Chlorotoluene	21.4	1.00	20.00	0	107	70	130				
1,2,3-Trichloropropane	21.2	1.00	20.00	0	106	70	130				
1,2,4-Trichlorobenzene	21.4	2.00	20.00	0	107	70	130				
1,3-Dichlorobenzene	20.3	1.00	20.00	0	102	70	130				
1,4-Dichlorobenzene	20.3	1.00	20.00	0	102	70	130				
1,2-Dichlorobenzene	20.4	1.00	20.00	0	102	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *7/23/2012*

Work Order: 1207090
CLIENT: Shannon & Wilson
Project: B & K Phase 2

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **LCS-R4997** SampType: **LCS** Units: **µg/L** Prep Date: **7/17/2012** RunNo: **4997**
Client ID: **LCSW** Batch ID: **R4997** Analysis Date: **7/17/2012** SeqNo: **96382**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dibromo-3-chloropropane	20.9	1.00	20.00	0	104	70	130				
Hexachloro-1,3-butadiene	20.6	4.00	20.00	0	103	70	130				
1,2,3-Trichlorobenzene	20.9	4.00	20.00	0	104	70	130				
Surr: 1-Bromo-4-fluorobenzene	10.0		10.00		100	79.2	120				
Surr: Dibromofluoromethane	9.84		10.00		98.4	76	114				
Surr: Toluene-d8	9.91		10.00		99.1	86.8	119				

NOTES:
S - Outlying spike recovery(ies) observed for 2,2-Dichloropropane & Tetrachloroethene. The Initial Calibration Verification (ICV) - 2nd source was included and was within range.

Sample ID: **ICV-R4997** SampType: **ICV** Units: **µg/L** Prep Date: **7/16/2012** RunNo: **4997**
Client ID: **ICV** Batch ID: **R4997** Analysis Date: **7/16/2012** SeqNo: **96385**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,2-Dichloropropane	16.4	2.00	20.00	0	81.8	70	130				
Tetrachloroethene (PCE)	17.6	1.00	20.00	0	88.1	70	130				
Surr: 1-Bromo-4-fluorobenzene	10.1		10.00		101	79.2	120				
Surr: Dibromofluoromethane	9.76		10.00		97.6	76	114				
Surr: Toluene-d8	9.88		10.00		98.8	86.8	119				

Sample ID: **MB-R4997** SampType: **MBLK** Units: **µg/L** Prep Date: **7/17/2012** RunNo: **4997**
Client ID: **MBLKW** Batch ID: **R4997** Analysis Date: **7/17/2012** SeqNo: **96387**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	ND	1.00									
Chloromethane	ND	1.00									
Vinyl chloride	ND	0.200									
Bromomethane	ND	1.00									
Trichlorofluoromethane (CFC-11)	ND	1.00									

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *7/23/2012*

Work Order: 1207090
CLIENT: Shannon & Wilson
Project: B & K Phase 2

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **MB-R4997** SampType: **MBLK** Units: **µg/L** Prep Date: **7/17/2012** RunNo: **4997**
Client ID: **MBLKW** Batch ID: **R4997** Analysis Date: **7/17/2012** SeqNo: **96387**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloroethane	ND	1.00									
1,1-Dichloroethene	ND	1.00									
Methylene chloride	ND	1.00									
trans-1,2-Dichloroethene	ND	1.00									
1,1-Dichloroethane	ND	1.00									
2,2-Dichloropropane	ND	2.00									
cis-1,2-Dichloroethene	ND	1.00									
Chloroform	ND	1.00									
1,1,1-Trichloroethane (TCA)	ND	1.00									
1,1-Dichloropropene	ND	1.00									
Carbon tetrachloride	ND	1.00									
1,2-Dichloroethane	ND	1.00									
Trichloroethene (TCE)	ND	1.00									
1,2-Dichloropropane	ND	1.00									
Bromodichloromethane	ND	1.00									
Dibromomethane	ND	1.00									
cis-1,3-Dichloropropene	ND	1.00									
trans-1,3-Dichloropropene	ND	1.00									
1,1,2-Trichloroethane	ND	1.00									
1,3-Dichloropropane	ND	1.00									
Tetrachloroethene (PCE)	ND	1.00									
Dibromochloromethane	ND	1.00									
1,2-Dibromoethane (EDB)	ND	0.0100									
Chlorobenzene	ND	1.00									
1,1,1,2-Tetrachloroethane	ND	1.00									
Bromoform	ND	1.00									
1,1,2,2-Tetrachloroethane	ND	1.00									
Bromobenzene	ND	1.00									
2-Chlorotoluene	ND	1.00									

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: 7/23/2012

Work Order: 1207090
CLIENT: Shannon & Wilson
Project: B & K Phase 2

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **MB-R4997**	SampType: **MBLK**	Units: **µg/L**	Prep Date: **7/17/2012**	RunNo: **4997**
Client ID: **MBLKW**	Batch ID: **R4997**		Analysis Date: **7/17/2012**	SeqNo: **96387**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.00									
1,2,3-Trichloropropane	ND	1.00									
1,2,4-Trichlorobenzene	ND	2.00									
1,3-Dichlorobenzene	ND	1.00									
1,4-Dichlorobenzene	ND	1.00									
1,2-Dichlorobenzene	ND	1.00									
1,2-Dibromo-3-chloropropane	ND	1.00									
Hexachloro-1,3-butadiene	ND	4.00									
1,2,3-Trichlorobenzene	ND	4.00									
Surr: 1-Bromo-4-fluorobenzene	10.0		10.00		100	79.2	120				
Surr: Dibromofluoromethane	9.81		10.00		98.1	76	114				
Surr: Toluene-d8	9.91		10.00		99.1	86.8	119				

Sample ID: **CCV-R4997**	SampType: **CCV**	Units: **µg/L**	Prep Date: **7/18/2012**	RunNo: **4997**
Client ID: **CCV**	Batch ID: **R4997**		Analysis Date: **7/18/2012**	SeqNo: **97220**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichlorofluoromethane (CFC-11)	23.0	1.00	20.00	0	115	80	120				
Trichloroethene (TCE)	21.6	1.00	20.00	0	108	80	120				
Surr: 1-Bromo-4-fluorobenzene	8.82		10.00		88.2	79.2	120				
Surr: Dibromofluoromethane	10.3		10.00		103	76	114				
Surr: Toluene-d8	10.3		10.00		103	86.8	119				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Sample Log-In Check List

Client Name: **SW**	Work Order Number: **1207090**
Logged by: **Troy Zehr**	Date Received: **7/17/2012 10:30:00 AM**

Chain of Custody

1.	Were custodial seals present?	Yes ☐	No ☐	Not Required ☑
2.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3.	How was the sample delivered?	Client		

Log In

4.	Coolers are present?	Yes ☑	No ☐	NA ☐
5.	Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
6.	Were all coolers received at a temperature of >0° C to 10.0°C	Yes ☑	No ☐	NA ☐
7.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
8.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
9.	Are samples properly preserved?	Yes ☑	No ☐	
10.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
11.	Is there headspace present in VOA vials?	Yes ☐	No ☐	NA ☑
12.	Did all sample containers arrive in good condition?(unbroken)	Yes ☑	No ☐	
13.	Does paperwork match bottle labels?	Yes ☑	No ☐	
14.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
15.	Is it clear what analyses were requested?	Yes ☑	No ☐	
16.	Were all holding times able to be met?	Yes ☑	No ☐	

Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

18. Additional remarks/Disrepancies

Sample GP-18:6.3 on the COC was labelled GP-18:6.2 on the jar and VOA's.

Item Information

Item #	Temp °C	Condition
Cooler 1	2.8	Good
Cooler 2	3.2	Good

1207090

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

CORPORATE HEADQUARTERS
400 N. 34th Street, Suite 100
Seattle, WA 98103
(206) 632-8020

CHAIN-OF-CUSTODY RECORD

Laboratory Fremont Analytical
Attn:

(include preservative if used)
Analysis Parameters/Sample Container Description

Sample Identity	Lab No.	Time	Date Sampled	Comp.	Grab	PCBs (Total)	HVOCs	Total Number of Containers	Remarks/Matrix
GP-16:6.3		1110	7/16/12	X				3	soil
GP-16:GW:7.0		1115	7/16/12	X		X		4	GW
GP-16:GW:19.0		1305	7/16/12	X		X		4	GW
GP-17:11.0		1350	7/16/12	X				3	soil
GP-17:GW:12.0		1400	7/16/12	X	X	X		4	GW
GP-18:6.3		1440	7/16/12	X				3	soil
GP-18:GW:12.0		1455	7/16/12	X		X		4	GW
GP-19:10.5		1635	7/16/12	X				3	soil
GP-19GW:12.0		1640	7/16/12	X		X		4	GW
GP-20:8.5		1535	7/16/12	X				3	soil

Project Information	
Project No.:	21-1-12357-002
Project Name:	B14 Phase 2
Contact:	Cody Johnson
Ongoing Project?	Yes ☐ No ☒
Sampler:	EVP

Sample Receipt	
Total No. of Containers:	42
COC Seals/Intact? Y/N/NA	
Received Good Cond./Cold	
Delivery Method:	
(attach shipping bill, if any)	

Instructions	
Requested Turnaround Time:	Standard
Special Instructions:	Hold all soil samples, wait for further instruction. Run PCBs ~~on all samples~~ only on GP-17-GW:12.0 Sample

Distribution: White - w/shipment - returned to Shannon & Wilson w/ laboratory report
Yellow - w/shipment - for consignee files
Pink - Shannon & Wilson - job file

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.
Signature:	Signature:	Signature:
Time: 1030	Time:	Time:
Printed Name: Edwin Park	Printed Name:	Printed Name:
Date: 7/17	Date:	Date:
Company: S&W	Company:	Company:

Received By: 1.	Received By: 2.	Received By: 3.
Signature:	Signature:	Signature:
Time: 1030	Time:	Time:
Printed Name: M. PLDGarvey	Printed Name:	Printed Name:
Date: 7/17	Date:	Date:
Company: FAI	Company:	Company:

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

CORPORATE HEADQUARTERS
400 N. 34th Street, Suite 100
Seattle, WA 98103
(206) 632-8020

CHAIN-OF-CUSTODY RECORD

Laboratory Fremont Analytical
Attn: _____

(include preservative if used)
Analysis Parameters/Sample Container Description

Sample Identity	Lab No.	Time	Date Sampled	Comp.	Grab	-cV	HVOCs					Total Number of Containers	Remarks/Matrix
GP-20:GW:12.0		1545	7/16/12		X		X					4	GW
GP-21:8.3		1040	7/16/12		X							3	Soil

Project Information	
Project No.:	21-1-12357-002
Project Name:	B&K Phase II
Contact:	Cody Johnson
Ongoing Project?	Yes ☐ No ☒
Sampler:	EVP

Sample Receipt	
Total No. of Containers:	
COC Seals/Intact? Y/N/NA	
Received Good Cond./Cold	
Delivery Method:	
(attach shipping bill, if any)	

Instructions	
Requested Turnaround Time:	Standard
Special Instructions:	See page 1 of 2

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.
Signature: _____ Time: 1030	Signature: _____ Time: _____	Signature: _____ Time: _____
Printed Name: Edwin Park Date: 7/17	Printed Name: _____ Date: _____	Printed Name: _____ Date: _____
Company: S&W	Company:	Company:

Received By: 1.	Received By: 2.	Received By: 3.
Signature: _____ Time: 1030	Signature: _____ Time: _____	Signature: _____ Time: _____
Printed Name: M. McGlenn Date: 7/17	Printed Name: _____ Date: _____	Printed Name: _____ Date: _____
Company: FAI	Company:	Company:

Distribution: White - w/shipment - returned to Shannon & Wilson w/ laboratory report
Yellow - w/shipment - for consignee files
Pink - Shannon & Wilson - job file

Fremont Analytical

1311 N. 35th St.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Shannon & Wilson
Cody Johnson
400 N. 34th Street, Suite 100
Seattle, Washington 98103

RE: B & K Phase 2 ESA
Lab ID: 1205055

May 16, 2012

Attention Cody Johnson:

Fremont Analytical, Inc. received 1 sample(s) on 4/24/2012 for the analyses presented in the following report.

Polychlorinated Biphenyls (PCB) by EPA 8082

This report consists of the following:

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

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

Thank you for using Fremont Analytical.

Sincerely,

Michael Dee
Sr. Chemist / Principal

Fremont Analytical

Date: *05/16/2012*

CLIENT: Shannon & Wilson
Project: B & K Phase 2 ESA
Lab Order: 1205055

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1205055-001	GP-1-WA	04/23/2012 9:30 AM	04/24/2012 12:05 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Fremont Analytical

Case Narrative

WO#: **1205055**

Date: **5/16/2012**

CLIENT: Shannon & Wilson

Project: B & K Phase 2 ESA

I. SAMPLE RECEIPT:
All samples were received intact.

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

The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples to ensure method criteria are achieved throughout the entire analytical process.

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

Re-extraction/Re-analysis for PCBs.

Client: Shannon & Wilson
Project: B & K Phase 2 ESA
Lab ID: 1205055-001
Client Sample ID: GP-1-WA

Collection Date: 4/23/2012 9:30:00 AM
Matrix: Water

Polychlorinated Biphenyls (PCB) by EPA 8082

Batch ID: 2400 Analyst: MD

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Aroclor 1016	ND	0.267		µg/L	1	5/15/2012 7:52:00 PM
Aroclor 1221	ND	0.267		µg/L	1	5/15/2012 7:52:00 PM
Aroclor 1232	ND	0.267		µg/L	1	5/15/2012 7:52:00 PM
Aroclor 1242	ND	0.267		µg/L	1	5/15/2012 7:52:00 PM
Aroclor 1248	ND	0.267		µg/L	1	5/15/2012 7:52:00 PM
Aroclor 1254	ND	0.267		µg/L	1	5/15/2012 7:52:00 PM
Aroclor 1260	ND	0.267		µg/L	1	5/15/2012 7:52:00 PM
Aroclor 1262	ND	0.267		µg/L	1	5/15/2012 7:52:00 PM
Aroclor 1268	ND	0.267		µg/L	1	5/15/2012 7:52:00 PM
Total PCBs	ND	0.267		µg/L	1	5/15/2012 7:52:00 PM
Surr: Decachlorobiphenyl	83.2	71.4-142		%REC	1	5/15/2012 7:52:00 PM
Surr: Tetrachloro-m-xylene	69.1	60.9-138		%REC	1	5/15/2012 7:52:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *5/16/2012*

Work Order: 1205055
CLIENT: Shannon & Wilson
Project: B & K Phase 2 ESA

QC SUMMARY REPORT

Polychlorinated Biphenyls (PCB) by EPA 8082

Sample ID: **MB-2400**	SampType: **MBLK**	Units: **µg/L**	Prep Date: **5/14/2012**	RunNo: **4276**
Client ID: **MBLKW**	Batch ID: **2400**		Analysis Date: **5/15/2012**	SeqNo: **77106**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	ND	0.200									
Aroclor 1221	ND	0.200									
Aroclor 1232	ND	0.200									
Aroclor 1242	ND	0.200									
Aroclor 1248	ND	0.200									
Aroclor 1254	ND	0.200									
Aroclor 1260	ND	0.200									
Aroclor 1262	ND	0.200									
Aroclor 1268	ND	0.200									
Total PCBs	ND	0.200									
Surr: Decachlorobiphenyl	83.9		100.0		83.9	71.4	142				
Surr: Tetrachloro-m-xylene	77.0		100.0		77.0	60.9	138				

Sample ID: **LCS-2400**	SampType: **LCS**	Units: **µg/L**	Prep Date: **5/14/2012**	RunNo: **4276**
Client ID: **LCSW**	Batch ID: **2400**		Analysis Date: **5/15/2012**	SeqNo: **77107**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1254	1.73	0.200	2.000	0	86.6	63.8	137				
Surr: Decachlorobiphenyl	82.3		100.0		82.3	71.4	142				
Surr: Tetrachloro-m-xylene	65.3		100.0		65.3	60.9	138				

Sample ID: **LCSD-2400**	SampType: **LCSD**	Units: **µg/L**	Prep Date: **5/14/2012**	RunNo: **4276**
Client ID: **LCSW02**	Batch ID: **2400**		Analysis Date: **5/15/2012**	SeqNo: **77108**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1254	1.88	0.200	2.000	0	93.9	63.8	137	2.095	10.9	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1205055
CLIENT: Shannon & Wilson
Project: B & K Phase 2 ESA

QC SUMMARY REPORT

Polychlorinated Biphenyls (PCB) by EPA 8082

Sample ID: **LCSD-2400**	SampType: **LCSD**	Units: **µg/L**	Prep Date: **5/14/2012**	RunNo: **4276**	
Client ID: **LCSW02**	Batch ID: **2400**		Analysis Date: **5/15/2012**	SeqNo: **77108**	

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Decachlorobiphenyl	73.9		100.0		73.9	71.4	142		0		
Surr: Tetrachloro-m-xylene	65.5		100.0		65.5	60.9	138		0		

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

1205055

Fremont Analytical

2930 Westlake Ave. N. Suite 100
Seattle, WA 98109
Tel: 206-352-3790
Fax: 206-352-7178

Chain of Custody Record

~~1204134~~ 1204134

Date: 4/24/12 Page: 1 of: 1

Client: Shannon+Wilson
Address:
City, State, Zip Tel:
Project Name: Boyk Place 2 ESA
Location:
Collected by: CMJ
Reports To (PM): Cody Johnson Fax:
Email: CMJ@shanwil.com
Project No: 21-1-12357-002

	Sample Name	Time	Sample Type	Container Type	Date of Collection	VOA 8260	VOA 8021B BTEX	NWTPH-Gx	NWTPH-HCID	NWTPH-Dx Ext.	SEMI VOL 8270C	PAH 8270	PCBs 8082	CI PESTICIDES 8151	CI HERBICIDES 8151A	METALS: Pb-total (Diss)	Metals: MTCA-5	Metals: RCRA-8	Pb, As	pH	Comments/Depth
1	GP-1-WA	930	WA grab	4-VOA 2-500mL 1-1L	4/23/12	X		X		X			X (circled)								~~filter and Run~~ PCB 5/9/12
2	GP-1:8	925	Soil grab	3-VOA 1-4oz		X		X		X			X								
3	GP-4:3.5	~~[illegible]~~ 1310	"	1-4oz					X												[illegible]
4	GP-6:8	1115	"	3-VOA 1-4oz		X		X		X						X					
5	GP-6-WA	1120	2-1L 2-500mL 3-VOA	WA grab		X		X		X						X					Lab to Filter for Dissolved
6	GP-8:5	1445	Soil grab	1-4oz	↓														X	X	
7																					
8																					
9																					
10																					

Relinquished	Date/Time	Received	Date/Time
x [signature]	4/24/12 10:30	x [signature]	4/24/12 12:05
x		x	

Sample Receipt:
Good?
Temperature:
Seals Intact?:
Total Number of Containers:

Special Remarks

TAT -> 24HR 48HR (Standard)

Distribution: White - Lab, Yellow - File, Pink - Originator

www.fremontanalytical.com

1311 N. 35th St.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Shannon & Wilson
Cody Johnson
400 N. 34th Street, Suite 100
Seattle, Washington 98103

RE: B & K Phase 2
Lab ID: 1205026

May 08, 2012

Attention Cody Johnson:

Fremont Analytical, Inc. received 2 sample(s) on 4/26/2012 for the analyses presented in the following report.

Metals (SW6020) with TCLP Extraction (EPA 1311)

This report consists of the following:

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

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

Thank you for using Fremont Analytical.

Sincerely,

Michelle Clements
Sr. Chemist / Lab Manager

Fremont Analytical

Date: *05/08/2012*

CLIENT: Shannon & Wilson
Project: B & K Phase 2
Lab Order: 1205026

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1205026-001	GP-10:7.5	04/24/2012 5:10 PM	04/26/2012 12:30 PM
1205026-002	GP-8:5	04/23/2012 2:45 PM	04/26/2012 12:30 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **1205026**
Date: **5/8/2012**

CLIENT: Shannon & Wilson
Project: B & K Phase 2

I. SAMPLE RECEIPT:
All samples were received intact.

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

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

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

Prep Comments for PREP-TCLP LEACH, Sample 1205026-001A: Extraction fluid #2 required due to high pH value.
Prep Comments for PREP-TCLP LEACH, Sample 1205026-002A: extraction fluid #2 required due to high pH value.

Client: Shannon & Wilson
Project: B & K Phase 2
Lab ID: 1205026-001
Client Sample ID: GP-10:7.5

Collection Date: 4/24/2012 5:10:00 PM
Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Metals (SW6020) with TCLP Extraction (EPA 1311)				Batch ID: 2360		Analyst: BR
Arsenic	ND	0.500		mg/L	1	5/7/2012 7:24:03 PM
Lead	ND	0.500		mg/L	1	5/7/2012 7:24:03 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B & K Phase 2
Lab ID: 1205026-002
Client Sample ID: GP-8:5

Collection Date: 4/23/2012 2:45:00 PM
Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Metals (SW6020) with TCLP Extraction (EPA 1311)				Batch ID: 2360		Analyst: BR
Arsenic	ND	0.500		mg/L	1	5/7/2012 7:33:26 PM
Lead	ND	0.500		mg/L	1	5/7/2012 7:33:26 PM

Fremont Analytical

Date: *5/8/2012*

Work Order: 1205026
CLIENT: Shannon & Wilson
Project: B & K Phase 2

QC SUMMARY REPORT

Metals (SW6020) with TCLP Extraction (EPA 1311)

Sample ID: **MB-2360**	SampType: **MBLK**	Units: **mg/L**	Prep Date: **5/7/2012**	RunNo: **4202**
Client ID: **MBLKS**	Batch ID: **2360**		Analysis Date: **5/7/2012**	SeqNo: **75757**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.500									
Lead	ND	0.500									

Sample ID: **LCS-2360**	SampType: **LCS**	Units: **mg/L**	Prep Date: **5/7/2012**	RunNo: **4202**
Client ID: **LCSS**	Batch ID: **2360**		Analysis Date: **5/7/2012**	SeqNo: **75758**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.4	0.500	12.50	0	91.6	65	135				
Lead	6.47	0.500	6.250	0	103	65	135				

Sample ID: **1205026-002ADUP**	SampType: **DUP**	Units: **mg/L**	Prep Date: **5/7/2012**	RunNo: **4202**
Client ID: **GP-8:5**	Batch ID: **2360**		Analysis Date: **5/7/2012**	SeqNo: **75761**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.500						0	0	30	
Lead	ND	0.500						0	0	30	

Sample ID: **1205026-002AMS**	SampType: **MS**	Units: **mg/L**	Prep Date: **5/7/2012**	RunNo: **4202**
Client ID: **GP-8:5**	Batch ID: **2360**		Analysis Date: **5/7/2012**	SeqNo: **75762**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	13.5	0.500	12.50	0	108	65	135				
Lead	6.35	0.500	6.250	0	102	65	135				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *5/8/2012*

Work Order: 1205026
CLIENT: Shannon & Wilson
Project: B & K Phase 2

QC SUMMARY REPORT

Metals (SW6020) with TCLP Extraction (EPA 1311)

Sample ID: **1205026-002AMSD**	SampType: **MSD**		Units: **mg/L**	Prep Date: **5/7/2012**		RunNo: **4202**			
Client ID: **GP-8:5**	Batch ID: **2360**			Analysis Date: **5/7/2012**		SeqNo: **75763**			

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	15.0	0.500	12.50	0	120	65	135	13.45	10.7	30	
Lead	6.15	0.500	6.250	0	98.4	65	135	6.352	3.18	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS
CORPORATE HEADQUARTERS
400 N. 34th Street, Suite 100
Seattle, WA 98103
(206) 632-8020

CHAIN-OF-CUSTODY RECORD

Page 1 of 1
Laboratory Fremont Analytical
Attn:

~~1204149~~ 1205026

(include preservative if used)
Analysis Parameters/Sample Container Description

Sample Identity	Lab No.	Time	Date Sampled	Comp.	Grab	As, Pb	pH	TPH-Dx	TPH-G	VOC	TCLP (Pb, As)	Total Number of Containers	Remarks/Matrix
GP-10-WA		1700	4/24		X			X	X	X			Hold metals
GP-10-7		1705	↓		↓								Hold
GP-10-7.5		1710	↓		↓	X	X				(X)		
													(X) Add Analysis per C. Johnson 5/3/12

Project Information

Project No.: 21-1-23570-02
Project Name: B+K Phase 2
Contact: Cody Johnson
Ongoing Project? Yes ☐ No ☒
Sampler: CJ

Sample Receipt

Total No. of Containers:
COC Seals/Intact? Y/N/NA
Received Good Cond./Cold
Delivery Method:
(attach shipping bill, if any)

Instructions

Requested Turnaround Time: Std.
Special Instructions:

Relinquished By: 1.
Signature: [signature] Time: 1255
Printed Name: Cody Johnson Date: 4/25/12
Company: S+W

Relinquished By: 2.
Signature: Time:
Printed Name: Date:
Company:

Relinquished By: 3.
Signature: Time:
Printed Name: Date:
Company:

Received By: 1.
Signature: [signature] Time: 12:30
Printed Name: Troy Zeller Date: 4/26
Company: FAI

Received By: 2.
Signature: Time:
Printed Name: Date:
Company:

Received By: 3.
Signature: Time:
Printed Name: Date:
Company:

Distribution: White - w/shipment - returned to Shannon & Wilson w/ laboratory report
Yellow - w/shipment - for consignee files
Pink - Shannon & Wilson - job file

Fremont
2930 Westlake Ave. N. Suite 100
Seattle, WA 98109
Tel: 206-352-3790
Fax: 206-352-7178

Chain of Custody Record

120413~~3~~ 4

Date: 4/24/12
Page: 1 of: 1

Client: Shannon & Wilson
Address:
City, State, Zip
Tel:
Reports To (PM): Cody Johnson
Fax:
Email: CMJ@shanwil.com

Project Name: Bak Phase 2 ESA
Location:
Collected by: CMJ
Project No: 21-1-12357-002

#	Sample Name	Time	Sample Type	Container Type	Date of Collection	VOA 8260	VOA 8021B BTEX	NWTPH-Gx	NWTPH-HCID	NWTPH-Dx Ext.	SEMI VOL 8270C	~~PAH 8270~~ TCLP-Pb, As	PCBs 8082	Cl PESTICIDES 8151	Cl HERBICIDES 8151A	METALS: Pb (total, diss)	Metals: MTCA-5	Metals: RCRA-8	Pb, As	pH	Comments/Depth
1	GP-1-WA	930	WA-grab	4-VOA, 2-[illegible], 1-1L	4/23/12	X		X		X			X								
2	GP-1:8	925	Soil-grab	3-VOA, 1-4oz		X		X		X			X								
3	GP-4:3.5	~~[illegible]~~ 1310	"	1-4oz					X												
4	GP-6:8	1115	"	3-VOA, 1-4oz		X		X		X						X					
5	GP-6-WA	1120	2-250mL, 2-[illegible], 3-VOA	VA-grab		X		X		X						X					Lab to Filter for Dissolved
6	GP-8:5	1445	Soil-grab	1-4oz	↓							(X)							X	X	
7																					
8																					
9																					
10																					

Relinquished	Date/Time	Received	Date/Time
x [signature]	4/24/12 10:30	x [signature]	4/24/12 12:05
Relinquished x	Date/Time	Received x	Date/Time:

Sample Receipt:
Good?
Temperature:
Seals Intact?:
Total Number of Containers:

Special Remarks

TAT -> 24HR 48HR (Standard)

www.fremontanalytical.com

Michael C. Ridgeway

From: Cody Johnson [CMJ@shanwil.com]
Sent: Thursday, May 03, 2012 1:13 PM
To: Michael C. Ridgeway
Subject: TCLP

Mike please run the following samples for TCLP lead and arsenic:

GP-10:7.5 from lab report 1204149
GP-8:5 from lab report 1204134

Thanks!

Cody Johnson PE

SHANNON & WILSON, INC.

Cody Johnson | Principal Engineer
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Shannon & Wilson
Cody Johnson
400 N. 34th Street, Suite 100
Seattle, Washington 98103

RE: B & K Phase 2 ESA
Lab ID: 1204134

April 30, 2012

Attention Cody Johnson:

Fremont Analytical, Inc. received 6 sample(s) on 4/24/2012 for the analyses presented in the following report.

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.
Dissolved Metals by EPA Method 200.8
Gasoline by NWTPH-Gx
Hydrocarbon Identification by NWTPH-HCID
pH by EPA Method 9045
Polychlorinated Biphenyls (PCB) by EPA 8082
Sample Moisture (Percent Moisture)
Total Metals by EPA Method 200.8
Total Metals by EPA Method 6020
Volatile Organic Compounds by EPA Method 8260

This report consists of the following:

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

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

Thank you for using Fremont Analytical.

Sincerely,

Michael Dee
Sr. Chemist / Principal

Fremont Analytical

Date: *04/30/2012*

CLIENT: Shannon & Wilson
Project: B & K Phase 2 ESA
Lab Order: 1204134

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1204134-001	GP-1-WA	04/23/2012 9:30 AM	04/24/2012 12:05 PM
1204134-002	GP-1:8	04/23/2012 9:25 AM	04/24/2012 12:05 PM
1204134-003	GP-4:3.5	04/23/2012 1:10 PM	04/24/2012 12:05 PM
1204134-004	GP-6:8	04/23/2012 11:15 AM	04/24/2012 12:05 PM
1204134-005	GP-6-WA	04/23/2012 11:20 AM	04/24/2012 12:05 PM
1204134-006	GP-8:5	04/23/2012 2:45 PM	04/24/2012 12:05 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Fremont Analytical

Case Narrative

WO#: **1204134**
Date: **4/30/2012**

CLIENT: Shannon & Wilson
Project: B & K Phase 2 ESA

I. SAMPLE RECEIPT:
All samples were received intact. The internal ice chest temperatures were measured on receipt and are recorded on the attached Sample Receipt Checklist.

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

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

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

Client: Shannon & Wilson
Collection Date: 4/23/2012 9:30:00 AM
Project: B & K Phase 2 ESA
Lab ID: 1204134-001
Matrix: Water
Client Sample ID: GP-1-WA

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 2294		Analyst: EM
Diesel (Fuel Oil)	ND	50.0		µg/L	1	4/25/2012 8:35:00 PM
Diesel Range Organics (C12-C24)	538	50.0		µg/L	1	4/25/2012 8:35:00 PM
Heavy Oil	ND	100		µg/L	1	4/25/2012 8:35:00 PM
Surr: 2-Fluorobiphenyl	76.4	50-150		%REC	1	4/25/2012 8:35:00 PM
Surr: o-Terphenyl	113	50-150		%REC	1	4/25/2012 8:35:00 PM
NOTES: DRO - Indicates the presence of unresolved compounds eluting from dodecane through tetracosane (C12-C24).						
Polychlorinated Biphenyls (PCB) by EPA 8082				Batch ID: 2307		Analyst: SG
Aroclor 1016	ND	0.200		µg/L	1	4/30/2012 1:27:00 PM
Aroclor 1221	ND	0.200		µg/L	1	4/30/2012 1:27:00 PM
Aroclor 1232	ND	0.200		µg/L	1	4/30/2012 1:27:00 PM
Aroclor 1242	ND	0.200		µg/L	1	4/30/2012 1:27:00 PM
Aroclor 1248	ND	0.200		µg/L	1	4/30/2012 1:27:00 PM
Aroclor 1254	1.87	0.200		µg/L	1	4/30/2012 1:27:00 PM
Aroclor 1260	ND	0.200		µg/L	1	4/30/2012 1:27:00 PM
Aroclor 1262	ND	0.200		µg/L	1	4/30/2012 1:27:00 PM
Aroclor 1268	ND	0.200		µg/L	1	4/30/2012 1:27:00 PM
Total PCBs	1.87	0.200		µg/L	1	4/30/2012 1:27:00 PM
Surr: Decachlorobiphenyl	94.0	71.4-142		%REC	1	4/30/2012 1:27:00 PM
Surr: Tetrachloro-m-xylene	76.3	60.9-138		%REC	1	4/30/2012 1:27:00 PM
Gasoline by NWTPH-Gx				Batch ID: R4115		Analyst: PH
Gasoline	ND	50.0		µg/L	1	4/30/2012 12:50:00 PM
Gasoline Range Organics	62.7	50.0		µg/L	1	4/30/2012 12:50:00 PM
Surr: 1,2-Dichloroethane-d4	99.7	65-135		%REC	1	4/30/2012 12:50:00 PM
Surr: Fluorobenzene	116	65-135		%REC	1	4/30/2012 12:50:00 PM
NOTES: GRO - Indicates the presence of unresolved compounds eluting from benzene to naphthalene (~C6->C12).						
Volatile Organic Compounds by EPA Method 8260				Batch ID: R4065		Analyst: PH
Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	4/25/2012 6:02:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B & K Phase 2 ESA
Lab ID: 1204134-001
Client Sample ID: GP-1-WA

Collection Date: 4/23/2012 9:30:00 AM
Matrix: Water

Volatile Organic Compounds by EPA Method 8260

Batch ID: R4065 Analyst: PH

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Chloromethane	ND	1.00		µg/L	1	4/25/2012 6:02:00 AM
Vinyl chloride	ND	0.200		µg/L	1	4/25/2012 6:02:00 AM
Bromomethane	ND	1.00		µg/L	1	4/25/2012 6:02:00 AM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	4/25/2012 6:02:00 AM
Chloroethane	ND	1.00		µg/L	1	4/25/2012 6:02:00 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	4/25/2012 6:02:00 AM
Methylene chloride	ND	1.00		µg/L	1	4/25/2012 6:02:00 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	4/25/2012 6:02:00 AM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	4/25/2012 6:02:00 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	4/25/2012 6:02:00 AM
2,2-Dichloropropane	ND	2.00		µg/L	1	4/25/2012 6:02:00 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	4/25/2012 6:02:00 AM
Chloroform	ND	1.00		µg/L	1	4/25/2012 6:02:00 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	4/25/2012 6:02:00 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	4/25/2012 6:02:00 AM
Carbon tetrachloride	ND	1.00		µg/L	1	4/25/2012 6:02:00 AM
1,2-Dichloroethane	ND	1.00		µg/L	1	4/25/2012 6:02:00 AM
Benzene	ND	1.00		µg/L	1	4/25/2012 6:02:00 AM
Trichloroethene (TCE)	ND	1.00		µg/L	1	4/25/2012 6:02:00 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	4/25/2012 6:02:00 AM
Bromodichloromethane	ND	1.00		µg/L	1	4/25/2012 6:02:00 AM
Dibromomethane	ND	1.00		µg/L	1	4/25/2012 6:02:00 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	4/25/2012 6:02:00 AM
Toluene	ND	1.00		µg/L	1	4/25/2012 6:02:00 AM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	4/25/2012 6:02:00 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	4/25/2012 6:02:00 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	4/25/2012 6:02:00 AM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	4/25/2012 6:02:00 AM
Dibromochloromethane	ND	1.00		µg/L	1	4/25/2012 6:02:00 AM
1,2-Dibromoethane (EDB)	ND	0.0100		µg/L	1	4/25/2012 6:02:00 AM
Chlorobenzene	ND	1.00		µg/L	1	4/25/2012 6:02:00 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	4/25/2012 6:02:00 AM
Ethylbenzene	ND	1.00		µg/L	1	4/25/2012 6:02:00 AM
m,p-Xylene	ND	1.00		µg/L	1	4/25/2012 6:02:00 AM
o-Xylene	ND	1.00		µg/L	1	4/25/2012 6:02:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B & K Phase 2 ESA
Lab ID: 1204134-001
Client Sample ID: GP-1-WA

Collection Date: 4/23/2012 9:30:00 AM
Matrix: Water

Volatile Organic Compounds by EPA Method 8260

Batch ID: R4065 Analyst: PH

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Styrene	ND	1.00		µg/L	1	4/25/2012 6:02:00 AM
Isopropylbenzene	ND	1.00		µg/L	1	4/25/2012 6:02:00 AM
Bromoform	ND	1.00		µg/L	1	4/25/2012 6:02:00 AM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	4/25/2012 6:02:00 AM
n-Propylbenzene	ND	1.00		µg/L	1	4/25/2012 6:02:00 AM
Bromobenzene	ND	1.00		µg/L	1	4/25/2012 6:02:00 AM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	4/25/2012 6:02:00 AM
2-Chlorotoluene	ND	1.00		µg/L	1	4/25/2012 6:02:00 AM
4-Chlorotoluene	ND	1.00		µg/L	1	4/25/2012 6:02:00 AM
tert-Butylbenzene	ND	1.00		µg/L	1	4/25/2012 6:02:00 AM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	4/25/2012 6:02:00 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	4/25/2012 6:02:00 AM
sec-Butylbenzene	ND	1.00		µg/L	1	4/25/2012 6:02:00 AM
4-Isopropyltoluene	ND	1.00		µg/L	1	4/25/2012 6:02:00 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	4/25/2012 6:02:00 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	4/25/2012 6:02:00 AM
n-Butylbenzene	ND	1.00		µg/L	1	4/25/2012 6:02:00 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	4/25/2012 6:02:00 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	4/25/2012 6:02:00 AM
1,2,4-Trimethylbenzene	1.58	1.00		µg/L	1	4/25/2012 6:02:00 AM
Hexachlorobutadiene	ND	4.00		µg/L	1	4/25/2012 6:02:00 AM
Naphthalene	2.00	1.00		µg/L	1	4/25/2012 6:02:00 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	4/25/2012 6:02:00 AM
Surr: 1-Bromo-4-fluorobenzene	98.2	79.2-120		%REC	1	4/25/2012 6:02:00 AM
Surr: Dibromofluoromethane	99.8	76-114		%REC	1	4/25/2012 6:02:00 AM
Surr: Toluene-d8	99.9	86.8-119		%REC	1	4/25/2012 6:02:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B & K Phase 2 ESA
Lab ID: 1204134-002
Client Sample ID: GP-1:8

Collection Date: 4/23/2012 9:25:00 AM
Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 2291		Analyst: EM
Diesel (Fuel Oil)	ND	24.7		mg/Kg-dry	1	4/26/2012 4:22:00 AM
Heavy Oil	330	61.8		mg/Kg-dry	1	4/26/2012 4:22:00 AM
Surr: 2-Fluorobiphenyl	95.0	50-150		%REC	1	4/26/2012 4:22:00 AM
Surr: o-Terphenyl	104	50-150		%REC	1	4/26/2012 4:22:00 AM
Polychlorinated Biphenyls (PCB) by EPA 8082				Batch ID: 2303		Analyst: SG
Aroclor 1016	ND	0.143		mg/Kg-dry	1	4/27/2012 3:23:00 PM
Aroclor 1221	ND	0.143		mg/Kg-dry	1	4/27/2012 3:23:00 PM
Aroclor 1232	ND	0.143		mg/Kg-dry	1	4/27/2012 3:23:00 PM
Aroclor 1242	ND	0.143		mg/Kg-dry	1	4/27/2012 3:23:00 PM
Aroclor 1248	ND	0.143		mg/Kg-dry	1	4/27/2012 3:23:00 PM
Aroclor 1254	ND	0.143		mg/Kg-dry	1	4/27/2012 3:23:00 PM
Aroclor 1260	ND	0.143		mg/Kg-dry	1	4/27/2012 3:23:00 PM
Aroclor 1262	ND	0.143		mg/Kg-dry	1	4/27/2012 3:23:00 PM
Aroclor 1268	ND	0.143		mg/Kg-dry	1	4/27/2012 3:23:00 PM
Total PCBs	ND	0.143		mg/Kg-dry	1	4/27/2012 3:23:00 PM
Surr: Decachlorobiphenyl	107	66.1-145		%REC	1	4/27/2012 3:23:00 PM
Surr: Tetrachloro-m-xylene	89.6	67.2-132		%REC	1	4/27/2012 3:23:00 PM
Gasoline by NWTPH-Gx				Batch ID: R4104		Analyst: PH
Gasoline	ND	4.35		mg/Kg-dry	1	4/26/2012 2:33:00 PM
Surr: 1,2-Dichloroethane-d4	104	65-135		%REC	1	4/26/2012 2:33:00 PM
Surr: Fluorobenzene	93.7	65-135		%REC	1	4/26/2012 2:33:00 PM
Volatile Organic Compounds by EPA Method 8260				Batch ID: 2296		Analyst: PH
Dichlorodifluoromethane (CFC-12)	ND	0.0522		mg/Kg-dry	1	4/26/2012 2:33:00 PM
Chloromethane	ND	0.0522		mg/Kg-dry	1	4/26/2012 2:33:00 PM
Vinyl chloride	ND	0.00174		mg/Kg-dry	1	4/26/2012 2:33:00 PM
Bromomethane	ND	0.0782		mg/Kg-dry	1	4/26/2012 2:33:00 PM
Trichlorofluoromethane (CFC-11)	ND	0.0435		mg/Kg-dry	1	4/26/2012 2:33:00 PM
Chloroethane	ND	0.0522		mg/Kg-dry	1	4/26/2012 2:33:00 PM
1,1-Dichloroethene	ND	0.0435		mg/Kg-dry	1	4/26/2012 2:33:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B & K Phase 2 ESA
Lab ID: 1204134-002
Client Sample ID: GP-1:8

Collection Date: 4/23/2012 9:25:00 AM
Matrix: Soil

Volatile Organic Compounds by EPA Method 8260

Batch ID: 2296 Analyst: PH

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Methylene chloride	ND	0.0174		mg/Kg-dry	1	4/26/2012 2:33:00 PM
trans-1,2-Dichloroethene	ND	0.0174		mg/Kg-dry	1	4/26/2012 2:33:00 PM
Methyl tert-butyl ether (MTBE)	ND	0.0435		mg/Kg-dry	1	4/26/2012 2:33:00 PM
1,1-Dichloroethane	ND	0.0174		mg/Kg-dry	1	4/26/2012 2:33:00 PM
2,2-Dichloropropane	ND	0.0435		mg/Kg-dry	1	4/26/2012 2:33:00 PM
cis-1,2-Dichloroethene	ND	0.0174		mg/Kg-dry	1	4/26/2012 2:33:00 PM
Chloroform	ND	0.0174		mg/Kg-dry	1	4/26/2012 2:33:00 PM
1,1,1-Trichloroethane (TCA)	ND	0.0174		mg/Kg-dry	1	4/26/2012 2:33:00 PM
1,1-Dichloropropene	ND	0.0174		mg/Kg-dry	1	4/26/2012 2:33:00 PM
Carbon tetrachloride	ND	0.0174		mg/Kg-dry	1	4/26/2012 2:33:00 PM
1,2-Dichloroethane	ND	0.0261		mg/Kg-dry	1	4/26/2012 2:33:00 PM
Benzene	ND	0.0174		mg/Kg-dry	1	4/26/2012 2:33:00 PM
Trichloroethene (TCE)	ND	0.0261		mg/Kg-dry	1	4/26/2012 2:33:00 PM
1,2-Dichloropropane	ND	0.0174		mg/Kg-dry	1	4/26/2012 2:33:00 PM
Bromodichloromethane	ND	0.0174		mg/Kg-dry	1	4/26/2012 2:33:00 PM
Dibromomethane	ND	0.0348		mg/Kg-dry	1	4/26/2012 2:33:00 PM
cis-1,3-Dichloropropene	ND	0.0174		mg/Kg-dry	1	4/26/2012 2:33:00 PM
Toluene	ND	0.0174		mg/Kg-dry	1	4/26/2012 2:33:00 PM
trans-1,3-Dichloropropylene	ND	0.0261		mg/Kg-dry	1	4/26/2012 2:33:00 PM
1,1,2-Trichloroethane	ND	0.0261		mg/Kg-dry	1	4/26/2012 2:33:00 PM
1,3-Dichloropropane	ND	0.0435		mg/Kg-dry	1	4/26/2012 2:33:00 PM
Tetrachloroethene (PCE)	ND	0.0174		mg/Kg-dry	1	4/26/2012 2:33:00 PM
Dibromochloromethane	ND	0.0261		mg/Kg-dry	1	4/26/2012 2:33:00 PM
1,2-Dibromoethane (EDB)	ND	0.00435		mg/Kg-dry	1	4/26/2012 2:33:00 PM
Chlorobenzene	ND	0.0174		mg/Kg-dry	1	4/26/2012 2:33:00 PM
1,1,1,2-Tetrachloroethane	ND	0.0261		mg/Kg-dry	1	4/26/2012 2:33:00 PM
Ethylbenzene	ND	0.0261		mg/Kg-dry	1	4/26/2012 2:33:00 PM
m,p-Xylene	ND	0.0174		mg/Kg-dry	1	4/26/2012 2:33:00 PM
o-Xylene	ND	0.0174		mg/Kg-dry	1	4/26/2012 2:33:00 PM
Styrene	ND	0.0174		mg/Kg-dry	1	4/26/2012 2:33:00 PM
Isopropylbenzene	ND	0.0695		mg/Kg-dry	1	4/26/2012 2:33:00 PM
Bromoform	ND	0.0174		mg/Kg-dry	1	4/26/2012 2:33:00 PM
1,1,2,2-Tetrachloroethane	ND	0.0174		mg/Kg-dry	1	4/26/2012 2:33:00 PM
n-Propylbenzene	ND	0.0174		mg/Kg-dry	1	4/26/2012 2:33:00 PM
Bromobenzene	ND	0.0261		mg/Kg-dry	1	4/26/2012 2:33:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B & K Phase 2 ESA
Lab ID: 1204134-002
Client Sample ID: GP-1:8

Collection Date: 4/23/2012 9:25:00 AM
Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 2296		Analyst: PH
1,3,5-Trimethylbenzene	ND	0.0174		mg/Kg-dry	1	4/26/2012 2:33:00 PM
2-Chlorotoluene	ND	0.0174		mg/Kg-dry	1	4/26/2012 2:33:00 PM
4-Chlorotoluene	ND	0.0174		mg/Kg-dry	1	4/26/2012 2:33:00 PM
tert-Butylbenzene	ND	0.0174		mg/Kg-dry	1	4/26/2012 2:33:00 PM
1,2,3-Trichloropropane	ND	0.0174		mg/Kg-dry	1	4/26/2012 2:33:00 PM
1,2,4-Trichlorobenzene	ND	0.0435		mg/Kg-dry	1	4/26/2012 2:33:00 PM
sec-Butylbenzene	ND	0.0174		mg/Kg-dry	1	4/26/2012 2:33:00 PM
4-Isopropyltoluene	ND	0.0174		mg/Kg-dry	1	4/26/2012 2:33:00 PM
1,3-Dichlorobenzene	ND	0.0174		mg/Kg-dry	1	4/26/2012 2:33:00 PM
1,4-Dichlorobenzene	ND	0.0174		mg/Kg-dry	1	4/26/2012 2:33:00 PM
n-Butylbenzene	ND	0.0174		mg/Kg-dry	1	4/26/2012 2:33:00 PM
1,2-Dichlorobenzene	ND	0.0174		mg/Kg-dry	1	4/26/2012 2:33:00 PM
1,2-Dibromo-3-chloropropane	ND	0.0261		mg/Kg-dry	1	4/26/2012 2:33:00 PM
1,2,4-Trimethylbenzene	ND	0.0174		mg/Kg-dry	1	4/26/2012 2:33:00 PM
Hexachlorobutadiene	ND	0.0869		mg/Kg-dry	1	4/26/2012 2:33:00 PM
Naphthalene	ND	0.0261		mg/Kg-dry	1	4/26/2012 2:33:00 PM
1,2,3-Trichlorobenzene	ND	0.0174		mg/Kg-dry	1	4/26/2012 2:33:00 PM
Surr: 1-Bromo-4-fluorobenzene	95.5	63.1-141		%REC	1	4/26/2012 2:33:00 PM
Surr: Dibromofluoromethane	107	67.6-119		%REC	1	4/26/2012 2:33:00 PM
Surr: Toluene-d8	101	78.5-126		%REC	1	4/26/2012 2:33:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R4098		Analyst: EM
Percent Moisture	22.7			wt%	1	4/30/2012 8:36:17 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B & K Phase 2 ESA
Lab ID: 1204134-004
Client Sample ID: GP-6:8

Collection Date: 4/23/2012 11:15:00 AM
Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 2291		Analyst: EM
Diesel (Fuel Oil)	ND	22.9		mg/Kg-dry	1	4/26/2012 4:50:00 AM
Heavy Oil	ND	57.1		mg/Kg-dry	1	4/26/2012 4:50:00 AM
Surr: 2-Fluorobiphenyl	99.3	50-150		%REC	1	4/26/2012 4:50:00 AM
Surr: o-Terphenyl	103	50-150		%REC	1	4/26/2012 4:50:00 AM
Gasoline by NWTPH-Gx				Batch ID: R4104		Analyst: PH
Gasoline	ND	3.95		mg/Kg-dry	1	4/26/2012 1:39:00 PM
Surr: 1,2-Dichloroethane-d4	103	65-135		%REC	1	4/26/2012 1:39:00 PM
Surr: Fluorobenzene	96.0	65-135		%REC	1	4/26/2012 1:39:00 PM
Volatile Organic Compounds by EPA Method 8260				Batch ID: 2296		Analyst: PH
Dichlorodifluoromethane (CFC-12)	ND	0.0474		mg/Kg-dry	1	4/26/2012 1:39:00 PM
Chloromethane	ND	0.0474		mg/Kg-dry	1	4/26/2012 1:39:00 PM
Vinyl chloride	ND	0.00158		mg/Kg-dry	1	4/26/2012 1:39:00 PM
Bromomethane	ND	0.0711		mg/Kg-dry	1	4/26/2012 1:39:00 PM
Trichlorofluoromethane (CFC-11)	ND	0.0395		mg/Kg-dry	1	4/26/2012 1:39:00 PM
Chloroethane	ND	0.0474		mg/Kg-dry	1	4/26/2012 1:39:00 PM
1,1-Dichloroethene	ND	0.0395		mg/Kg-dry	1	4/26/2012 1:39:00 PM
Methylene chloride	ND	0.0158		mg/Kg-dry	1	4/26/2012 1:39:00 PM
trans-1,2-Dichloroethene	ND	0.0158		mg/Kg-dry	1	4/26/2012 1:39:00 PM
Methyl tert-butyl ether (MTBE)	ND	0.0395		mg/Kg-dry	1	4/26/2012 1:39:00 PM
1,1-Dichloroethane	ND	0.0158		mg/Kg-dry	1	4/26/2012 1:39:00 PM
2,2-Dichloropropane	ND	0.0395		mg/Kg-dry	1	4/26/2012 1:39:00 PM
cis-1,2-Dichloroethene	ND	0.0158		mg/Kg-dry	1	4/26/2012 1:39:00 PM
Chloroform	ND	0.0158		mg/Kg-dry	1	4/26/2012 1:39:00 PM
1,1,1-Trichloroethane (TCA)	ND	0.0158		mg/Kg-dry	1	4/26/2012 1:39:00 PM
1,1-Dichloropropene	ND	0.0158		mg/Kg-dry	1	4/26/2012 1:39:00 PM
Carbon tetrachloride	ND	0.0158		mg/Kg-dry	1	4/26/2012 1:39:00 PM
1,2-Dichloroethane	ND	0.0237		mg/Kg-dry	1	4/26/2012 1:39:00 PM
Benzene	ND	0.0158		mg/Kg-dry	1	4/26/2012 1:39:00 PM
Trichloroethene (TCE)	ND	0.0237		mg/Kg-dry	1	4/26/2012 1:39:00 PM
1,2-Dichloropropane	ND	0.0158		mg/Kg-dry	1	4/26/2012 1:39:00 PM
Bromodichloromethane	ND	0.0158		mg/Kg-dry	1	4/26/2012 1:39:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B & K Phase 2 ESA
Lab ID: 1204134-004
Client Sample ID: GP-6:8

Collection Date: 4/23/2012 11:15:00 AM
Matrix: Soil

Volatile Organic Compounds by EPA Method 8260

Batch ID: 2296 Analyst: PH

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dibromomethane	ND	0.0316		mg/Kg-dry	1	4/26/2012 1:39:00 PM
cis-1,3-Dichloropropene	ND	0.0158		mg/Kg-dry	1	4/26/2012 1:39:00 PM
Toluene	ND	0.0158		mg/Kg-dry	1	4/26/2012 1:39:00 PM
trans-1,3-Dichloropropylene	ND	0.0237		mg/Kg-dry	1	4/26/2012 1:39:00 PM
1,1,2-Trichloroethane	ND	0.0237		mg/Kg-dry	1	4/26/2012 1:39:00 PM
1,3-Dichloropropane	ND	0.0395		mg/Kg-dry	1	4/26/2012 1:39:00 PM
Tetrachloroethene (PCE)	ND	0.0158		mg/Kg-dry	1	4/26/2012 1:39:00 PM
Dibromochloromethane	ND	0.0237		mg/Kg-dry	1	4/26/2012 1:39:00 PM
1,2-Dibromoethane (EDB)	ND	0.00395		mg/Kg-dry	1	4/26/2012 1:39:00 PM
Chlorobenzene	ND	0.0158		mg/Kg-dry	1	4/26/2012 1:39:00 PM
1,1,1,2-Tetrachloroethane	ND	0.0237		mg/Kg-dry	1	4/26/2012 1:39:00 PM
Ethylbenzene	ND	0.0237		mg/Kg-dry	1	4/26/2012 1:39:00 PM
m,p-Xylene	ND	0.0158		mg/Kg-dry	1	4/26/2012 1:39:00 PM
o-Xylene	ND	0.0158		mg/Kg-dry	1	4/26/2012 1:39:00 PM
Styrene	ND	0.0158		mg/Kg-dry	1	4/26/2012 1:39:00 PM
Isopropylbenzene	ND	0.0632		mg/Kg-dry	1	4/26/2012 1:39:00 PM
Bromoform	ND	0.0158		mg/Kg-dry	1	4/26/2012 1:39:00 PM
1,1,2,2-Tetrachloroethane	ND	0.0158		mg/Kg-dry	1	4/26/2012 1:39:00 PM
n-Propylbenzene	ND	0.0158		mg/Kg-dry	1	4/26/2012 1:39:00 PM
Bromobenzene	ND	0.0237		mg/Kg-dry	1	4/26/2012 1:39:00 PM
1,3,5-Trimethylbenzene	ND	0.0158		mg/Kg-dry	1	4/26/2012 1:39:00 PM
2-Chlorotoluene	ND	0.0158		mg/Kg-dry	1	4/26/2012 1:39:00 PM
4-Chlorotoluene	ND	0.0158		mg/Kg-dry	1	4/26/2012 1:39:00 PM
tert-Butylbenzene	ND	0.0158		mg/Kg-dry	1	4/26/2012 1:39:00 PM
1,2,3-Trichloropropane	ND	0.0158		mg/Kg-dry	1	4/26/2012 1:39:00 PM
1,2,4-Trichlorobenzene	ND	0.0395		mg/Kg-dry	1	4/26/2012 1:39:00 PM
sec-Butylbenzene	ND	0.0158		mg/Kg-dry	1	4/26/2012 1:39:00 PM
4-Isopropyltoluene	ND	0.0158		mg/Kg-dry	1	4/26/2012 1:39:00 PM
1,3-Dichlorobenzene	ND	0.0158		mg/Kg-dry	1	4/26/2012 1:39:00 PM
1,4-Dichlorobenzene	ND	0.0158		mg/Kg-dry	1	4/26/2012 1:39:00 PM
n-Butylbenzene	ND	0.0158		mg/Kg-dry	1	4/26/2012 1:39:00 PM
1,2-Dichlorobenzene	ND	0.0158		mg/Kg-dry	1	4/26/2012 1:39:00 PM
1,2-Dibromo-3-chloropropane	ND	0.0237		mg/Kg-dry	1	4/26/2012 1:39:00 PM
1,2,4-Trimethylbenzene	ND	0.0158		mg/Kg-dry	1	4/26/2012 1:39:00 PM
Hexachlorobutadiene	ND	0.0790		mg/Kg-dry	1	4/26/2012 1:39:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B & K Phase 2 ESA
Lab ID: 1204134-004
Client Sample ID: GP-6:8

Collection Date: 4/23/2012 11:15:00 AM
Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: 2296		Analyst: PH
Naphthalene	ND	0.0237		mg/Kg-dry	1	4/26/2012 1:39:00 PM
1,2,3-Trichlorobenzene	ND	0.0158		mg/Kg-dry	1	4/26/2012 1:39:00 PM
Surr: 1-Bromo-4-fluorobenzene	94.7	63.1-141		%REC	1	4/26/2012 1:39:00 PM
Surr: Dibromofluoromethane	105	67.6-119		%REC	1	4/26/2012 1:39:00 PM
Surr: Toluene-d8	102	78.5-126		%REC	1	4/26/2012 1:39:00 PM
Total Metals by EPA Method 6020				Batch ID: 2299		Analyst: BR
Lead	5.35	0.165		mg/Kg-dry	1	4/27/2012 1:28:35 PM
Sample Moisture (Percent Moisture)				Batch ID: R4082		Analyst: SC
Percent Moisture	14.9			wt%	1	4/26/2012 3:24:51 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B & K Phase 2 ESA
Lab ID: 1204134-005
Client Sample ID: GP-6-WA

Collection Date: 4/23/2012 11:20:00 AM
Matrix: Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 2294		Analyst: EM
Diesel (Fuel Oil)	ND	50.0		µg/L	1	4/25/2012 9:30:00 PM
Diesel Range Organics (C12-C24)	1,170	50.0		µg/L	1	4/25/2012 9:30:00 PM
Heavy Oil	ND	100		µg/L	1	4/25/2012 9:30:00 PM
Surr: 2-Fluorobiphenyl	96.3	50-150		%REC	1	4/25/2012 9:30:00 PM
Surr: o-Terphenyl	136	50-150		%REC	1	4/25/2012 9:30:00 PM

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

Gasoline by NWTPH-Gx				Batch ID: R4115		Analyst: PH
Gasoline	ND	50.0		µg/L	1	4/30/2012 12:23:00 PM
Gasoline Range Organics	264	50.0		µg/L	1	4/30/2012 12:23:00 PM
Surr: 1,2-Dichloroethane-d4	95.1	65-135		%REC	1	4/30/2012 12:23:00 PM
Surr: Fluorobenzene	117	65-135		%REC	1	4/30/2012 12:23:00 PM

NOTES:
GRO - Indicates the presence of unresolved compounds eluting from benzene to naphthalene (~C6->C12).
GRO values are elevated due to the presence of chlorinated volatile organic compounds.

Volatile Organic Compounds by EPA Method 8260				Batch ID: R4065		Analyst: PH
Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	4/25/2012 7:34:00 AM
Chloromethane	ND	1.00		µg/L	1	4/25/2012 7:34:00 AM
Vinyl chloride	7.64	0.200		µg/L	1	4/25/2012 7:34:00 AM
Bromomethane	ND	1.00		µg/L	1	4/25/2012 7:34:00 AM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	4/25/2012 7:34:00 AM
Chloroethane	ND	1.00		µg/L	1	4/25/2012 7:34:00 AM
1,1-Dichloroethene	2.07	1.00		µg/L	1	4/25/2012 7:34:00 AM
Methylene chloride	ND	1.00		µg/L	1	4/25/2012 7:34:00 AM
trans-1,2-Dichloroethene	1.30	1.00		µg/L	1	4/25/2012 7:34:00 AM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	4/25/2012 7:34:00 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	4/25/2012 7:34:00 AM
2,2-Dichloropropane	ND	2.00		µg/L	1	4/25/2012 7:34:00 AM
cis-1,2-Dichloroethene	57.7	1.00		µg/L	1	4/25/2012 7:34:00 AM
Chloroform	ND	1.00		µg/L	1	4/25/2012 7:34:00 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	4/25/2012 7:34:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B & K Phase 2 ESA
Lab ID: 1204134-005
Client Sample ID: GP-6-WA

Collection Date: 4/23/2012 11:20:00 AM
Matrix: Water

Volatile Organic Compounds by EPA Method 8260

Batch ID: R4065 Analyst: PH

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
1,1-Dichloropropene	ND	1.00		µg/L	1	4/25/2012 7:34:00 AM
Carbon tetrachloride	ND	1.00		µg/L	1	4/25/2012 7:34:00 AM
1,2-Dichloroethane	145	5.00	D	µg/L	5	4/25/2012 10:06:00 AM
Benzene	ND	1.00		µg/L	1	4/25/2012 7:34:00 AM
Trichloroethene (TCE)	96.6	1.00		µg/L	1	4/25/2012 7:34:00 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	4/25/2012 7:34:00 AM
Bromodichloromethane	ND	1.00		µg/L	1	4/25/2012 7:34:00 AM
Dibromomethane	ND	1.00		µg/L	1	4/25/2012 7:34:00 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	4/25/2012 7:34:00 AM
Toluene	ND	1.00		µg/L	1	4/25/2012 7:34:00 AM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	4/25/2012 7:34:00 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	4/25/2012 7:34:00 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	4/25/2012 7:34:00 AM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	4/25/2012 7:34:00 AM
Dibromochloromethane	ND	1.00		µg/L	1	4/25/2012 7:34:00 AM
1,2-Dibromoethane (EDB)	ND	0.0100		µg/L	1	4/25/2012 7:34:00 AM
Chlorobenzene	ND	1.00		µg/L	1	4/25/2012 7:34:00 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	4/25/2012 7:34:00 AM
Ethylbenzene	ND	1.00		µg/L	1	4/25/2012 7:34:00 AM
m,p-Xylene	ND	1.00		µg/L	1	4/25/2012 7:34:00 AM
o-Xylene	ND	1.00		µg/L	1	4/25/2012 7:34:00 AM
Styrene	ND	1.00		µg/L	1	4/25/2012 7:34:00 AM
Isopropylbenzene	ND	1.00		µg/L	1	4/25/2012 7:34:00 AM
Bromoform	ND	1.00		µg/L	1	4/25/2012 7:34:00 AM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	4/25/2012 7:34:00 AM
n-Propylbenzene	ND	1.00		µg/L	1	4/25/2012 7:34:00 AM
Bromobenzene	ND	1.00		µg/L	1	4/25/2012 7:34:00 AM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	4/25/2012 7:34:00 AM
2-Chlorotoluene	ND	1.00		µg/L	1	4/25/2012 7:34:00 AM
4-Chlorotoluene	ND	1.00		µg/L	1	4/25/2012 7:34:00 AM
tert-Butylbenzene	ND	1.00		µg/L	1	4/25/2012 7:34:00 AM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	4/25/2012 7:34:00 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	4/25/2012 7:34:00 AM
sec-Butylbenzene	ND	1.00		µg/L	1	4/25/2012 7:34:00 AM
4-Isopropyltoluene	ND	1.00		µg/L	1	4/25/2012 7:34:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B & K Phase 2 ESA
Lab ID: 1204134-005
Client Sample ID: GP-6-WA

Collection Date: 4/23/2012 11:20:00 AM
Matrix: Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R4065		Analyst: PH
1,3-Dichlorobenzene	ND	1.00		µg/L	1	4/25/2012 7:34:00 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	4/25/2012 7:34:00 AM
n-Butylbenzene	ND	1.00		µg/L	1	4/25/2012 7:34:00 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	4/25/2012 7:34:00 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	4/25/2012 7:34:00 AM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	4/25/2012 7:34:00 AM
Hexachlorobutadiene	ND	4.00		µg/L	1	4/25/2012 7:34:00 AM
Naphthalene	ND	1.00		µg/L	1	4/25/2012 7:34:00 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	4/25/2012 7:34:00 AM
Surr: 1-Bromo-4-fluorobenzene	98.2	79.2-120		%REC	1	4/25/2012 7:34:00 AM
Surr: Dibromofluoromethane	97.4	76-114		%REC	1	4/25/2012 7:34:00 AM
Surr: Toluene-d8	98.1	86.8-119		%REC	1	4/25/2012 7:34:00 AM
Dissolved Metals by EPA Method 200.8				Batch ID: 2290		Analyst: BR
Lead	ND	1.00		µg/L	1	4/25/2012 4:37:44 PM
Total Metals by EPA Method 200.8				Batch ID: 2297		Analyst: BR
Lead	36.9	1.00		µg/L	1	4/27/2012 5:48:13 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B & K Phase 2 ESA
Lab ID: 1204134-006
Client Sample ID: GP-8:5

Collection Date: 4/23/2012 2:45:00 PM
Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020				Batch ID: 2299		Analyst: BR
Arsenic	375	0.154		mg/Kg-dry	1	4/27/2012 1:37:54 PM
Lead	3,280	0.308		mg/Kg-dry	1	4/27/2012 1:37:54 PM
Sample Moisture (Percent Moisture)				Batch ID: R4082		Analyst: SC
Percent Moisture	52.3			wt%	1	4/26/2012 3:24:51 PM
pH by EPA Method 9045				Batch ID: R4063		Analyst: BR
Hydrogen Ion (pH)	12.0			pH	1	4/24/2012 3:00:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1204134
CLIENT: Shannon & Wilson
Project: B & K Phase 2 ESA

QC SUMMARY REPORT

pH by EPA Method 9045

Sample ID: **MB-R4063**	SampType: **MBLK**	Units: **pH**	Prep Date: **4/24/2012**	RunNo: **4063**
Client ID: **MBLKS**	Batch ID: **R4063**		Analysis Date: **4/24/2012**	SeqNo: **73089**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hydrogen Ion (pH)	7.73										

Sample ID: **LCS-R4063**	SampType: **LCS**	Units: **pH**	Prep Date: **4/24/2012**	RunNo: **4063**
Client ID: **LCSS**	Batch ID: **R4063**		Analysis Date: **4/24/2012**	SeqNo: **73090**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hydrogen Ion (pH)	7.00		7.000	0	100	95	105				

Sample ID: **1204134-006ADUP**	SampType: **DUP**	Units: **pH**	Prep Date: **4/24/2012**	RunNo: **4063**
Client ID: **GP-8:5**	Batch ID: **R4063**		Analysis Date: **4/24/2012**	SeqNo: **73092**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hydrogen Ion (pH)	12.2							12.03	1.65	10	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *4/30/2012*

Work Order: 1204134
CLIENT: Shannon & Wilson
Project: B & K Phase 2 ESA

QC SUMMARY REPORT

Dissolved Metals by EPA Method 200.8

Sample ID: **MB-2290**	SampType: **MBLK**	Units: **µg/L**	Prep Date: **4/25/2012**	RunNo: **4072**
Client ID: **MBLKW**	Batch ID: **2290**		Analysis Date: **4/25/2012**	SeqNo: **73185**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	1.00									

Sample ID: **LCS-2290**	SampType: **LCS**	Units: **µg/L**	Prep Date: **4/25/2012**	RunNo: **4072**
Client ID: **LCSW**	Batch ID: **2290**		Analysis Date: **4/25/2012**	SeqNo: **73186**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	46.0	1.00	50.00	0	92.0	85	115				

Sample ID: **1204143-003CMS**	SampType: **MS**	Units: **µg/L**	Prep Date: **4/25/2012**	RunNo: **4072**
Client ID: **BATCH**	Batch ID: **2290**		Analysis Date: **4/25/2012**	SeqNo: **73191**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	231	1.00	250.0	0	92.4	70	130				

Sample ID: **1204143-003CMSD**	SampType: **MSD**	Units: **µg/L**	Prep Date: **4/25/2012**	RunNo: **4072**
Client ID: **BATCH**	Batch ID: **2290**		Analysis Date: **4/25/2012**	SeqNo: **73192**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	235	1.00	250.0	0	94.0	70	130	230.9	1.71	30	

Sample ID: **1204134-005EDUP**	SampType: **DUP**	Units: **µg/L**	Prep Date: **4/25/2012**	RunNo: **4072**
Client ID: **GP-6-WA**	Batch ID: **2290**		Analysis Date: **4/25/2012**	SeqNo: **73194**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	1.00						0	0	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: 4/30/2012

Work Order: 1204134
CLIENT: Shannon & Wilson
Project: B & K Phase 2 ESA

QC SUMMARY REPORT

Total Metals by EPA Method 200.8

Sample ID: **MB-2297**	SampType: **MBLK**	Units: **µg/L**	Prep Date: **4/27/2012**	RunNo: **4101**
Client ID: **MBLKW**	Batch ID: **2297**		Analysis Date: **4/27/2012**	SeqNo: **73561**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	1.00									

Sample ID: **LCS-2297**	SampType: **LCS**	Units: **µg/L**	Prep Date: **4/27/2012**	RunNo: **4101**
Client ID: **LCSW**	Batch ID: **2297**		Analysis Date: **4/27/2012**	SeqNo: **73562**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	45.1	1.00	50.00	0	90.2	85	115				

Sample ID: **1204134-005DDUP**	SampType: **DUP**	Units: **µg/L**	Prep Date: **4/27/2012**	RunNo: **4101**
Client ID: **GP-6-WA**	Batch ID: **2297**		Analysis Date: **4/27/2012**	SeqNo: **73564**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	36.0	1.00						36.92	2.43	30	

Sample ID: **1204134-005DMS**	SampType: **MS**	Units: **µg/L**	Prep Date: **4/27/2012**	RunNo: **4101**
Client ID: **GP-6-WA**	Batch ID: **2297**		Analysis Date: **4/27/2012**	SeqNo: **73565**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	250	1.00	250.0	36.92	85.2	70	130				

Sample ID: **1204134-005DMSD**	SampType: **MSD**	Units: **µg/L**	Prep Date: **4/27/2012**	RunNo: **4101**
Client ID: **GP-6-WA**	Batch ID: **2297**		Analysis Date: **4/27/2012**	SeqNo: **73566**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	255	1.00	250.0	36.92	87.2	70	130	250.0	1.95	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *4/30/2012*

Work Order: 1204134
CLIENT: Shannon & Wilson
Project: B & K Phase 2 ESA

QC SUMMARY REPORT
Total Metals by EPA Method 6020

Sample ID: **MB-2299**	SampType: **MBLK**	Units: **mg/Kg**	Prep Date: **4/27/2012**	RunNo: **4088**
Client ID: **MBLKS**	Batch ID: **2299**		Analysis Date: **4/27/2012**	SeqNo: **73374**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.100									
Lead	ND	0.200									

Sample ID: **LCS-2299**	SampType: **LCS**	Units: **mg/Kg**	Prep Date: **4/27/2012**	RunNo: **4088**
Client ID: **LCSS**	Batch ID: **2299**		Analysis Date: **4/27/2012**	SeqNo: **73375**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	50.7	0.100	50.00	0	101	80	120				
Lead	24.9	0.200	25.00	0	99.4	80	120				

Sample ID: **1204134-006ADUP**	SampType: **DUP**	Units: **mg/Kg-dry**	Prep Date: **4/27/2012**	RunNo: **4088**
Client ID: **GP-8:5**	Batch ID: **2299**		Analysis Date: **4/27/2012**	SeqNo: **73382**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	404	0.153						375.2	7.36	30	
Lead	3,370	0.306						3,276	2.77	30	

Sample ID: **1204134-006AMS**	SampType: **MS**	Units: **mg/Kg-dry**	Prep Date: **4/27/2012**	RunNo: **4088**
Client ID: **GP-8:5**	Batch ID: **2299**		Analysis Date: **4/27/2012**	SeqNo: **73383**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	461	0.162	81.24	375.2	106	75	125				
Lead	3,250	0.325	40.62	3,276	-69.8	75	125				S

NOTES:
S - Pb analyte concentration was too high for accurate MS recovery. The method is in control as indicated by the laboratory control sample (LCS).

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *4/30/2012*

Work Order: 1204134
CLIENT: Shannon & Wilson
Project: B & K Phase 2 ESA

QC SUMMARY REPORT

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Sample ID: **1204134-004CDUP**	SampType: **DUP**	Units: **mg/Kg-dry**	Prep Date: **4/25/2012**	RunNo: **4074**
Client ID: **GP-6:8**	Batch ID: **2291**		Analysis Date: **4/26/2012**	SeqNo: **73220**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	22.5						0	0	30	
Heavy Oil	ND	56.2						0	0	30	
Surr: 2-Fluorobiphenyl	22.6		22.47		100	50	150		0		
Surr: o-Terphenyl	23.5		22.47		104	50	150		0		

Sample ID: **LCS-2291**	SampType: **LCS**	Units: **mg/Kg**	Prep Date: **4/25/2012**	RunNo: **4074**
Client ID: **LCSS**	Batch ID: **2291**		Analysis Date: **4/26/2012**	SeqNo: **73224**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	423	20.0	500.0	0	84.6	65	135				
Surr: 2-Fluorobiphenyl	20.1		20.00		100	50	150				
Surr: o-Terphenyl	20.2		20.00		101	50	150				

Sample ID: **MB-2291**	SampType: **MBLK**	Units: **mg/Kg**	Prep Date: **4/25/2012**	RunNo: **4074**
Client ID: **MBLKS**	Batch ID: **2291**		Analysis Date: **4/26/2012**	SeqNo: **73225**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	20.0									
Heavy Oil	ND	50.0									
Surr: 2-Fluorobiphenyl	18.1		20.00		90.7	50	150				
Surr: o-Terphenyl	19.7		20.00		98.4	50	150				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *4/30/2012*

Work Order: 1204134
CLIENT: Shannon & Wilson
Project: B & K Phase 2 ESA

QC SUMMARY REPORT

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Sample ID: **1204134-001CDUP**	SampType: **DUP**	Units: **µg/L**	Prep Date: **4/25/2012**	RunNo: **4073**
Client ID: **GP-1-WA**	Batch ID: **2294**		Analysis Date: **4/25/2012**	SeqNo: **73206**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	50.0						0	0	30	
Diesel Range Organics (C12-C24)	579	50.0						537.8	7.45	30	
Heavy Oil	ND	100						0	0	30	
Surr: 2-Fluorobiphenyl	129		160.0		80.7	50	150		0		
Surr: o-Terphenyl	195		160.0		122	50	150		0		

Sample ID: **LCS-2294**	SampType: **LCS**	Units: **µg/L**	Prep Date: **4/25/2012**	RunNo: **4073**
Client ID: **LCSW**	Batch ID: **2294**		Analysis Date: **4/25/2012**	SeqNo: **73214**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	1,820	50.0	2,000	0	91.1	65	135				
Surr: 2-Fluorobiphenyl	137		160.0		85.5	50	150				
Surr: o-Terphenyl	182		160.0		114	50	150				

Sample ID: **MB-2294**	SampType: **MBLK**	Units: **µg/L**	Prep Date: **4/25/2012**	RunNo: **4073**
Client ID: **MBLKW**	Batch ID: **2294**		Analysis Date: **4/25/2012**	SeqNo: **73215**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	50.0									
Heavy Oil	ND	100									
Surr: 2-Fluorobiphenyl	143		160.0		89.5	50	150				
Surr: o-Terphenyl	177		160.0		111	50	150				

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

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *4/30/2012*

Work Order: 1204134
CLIENT: Shannon & Wilson
Project: B & K Phase 2 ESA

QC SUMMARY REPORT

Polychlorinated Biphenyls (PCB) by EPA 8082

Sample ID: **1204134-002CDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **4/27/2012** RunNo: **4094**
Client ID: **GP-1:8** Batch ID: **2303** Analysis Date: **4/27/2012** SeqNo: **73440**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	ND	0.125						0	0	30	
Aroclor 1221	ND	0.125						0	0	30	
Aroclor 1232	ND	0.125						0	0	30	
Aroclor 1242	ND	0.125						0	0	30	
Aroclor 1248	ND	0.125						0	0	30	
Aroclor 1254	ND	0.125						0	0	30	
Aroclor 1260	ND	0.125						0	0	30	
Aroclor 1262	ND	0.125						0	0	30	
Aroclor 1268	ND	0.125						0	0	30	
Total PCBs	ND	0.125						0	0	30	
Surr: Decachlorobiphenyl	64.1		62.32		103	66.1	145		0		
Surr: Tetrachloro-m-xylene	53.6		62.32		86.1	67.2	132		0		

Sample ID: **LCS-2303** SampType: **LCS** Units: **mg/Kg** Prep Date: **4/27/2012** RunNo: **4094**
Client ID: **LCSS** Batch ID: **2303** Analysis Date: **4/27/2012** SeqNo: **73441**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1254	0.478	0.100	0.5000	0	95.6	70.7	118				
Surr: Decachlorobiphenyl	34.4		50.00		68.9	66.1	145				
Surr: Tetrachloro-m-xylene	38.8		50.00		77.6	67.2	132				

Sample ID: **LCSD-2303** SampType: **LCSD** Units: **mg/Kg** Prep Date: **4/27/2012** RunNo: **4094**
Client ID: **LCSS02** Batch ID: **2303** Analysis Date: **4/27/2012** SeqNo: **73442**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1254	0.499	0.100	0.5000	0	99.8	70.7	118	0.4782	4.22	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *4/30/2012*

Work Order: 1204134
CLIENT: Shannon & Wilson
Project: B & K Phase 2 ESA

QC SUMMARY REPORT

Polychlorinated Biphenyls (PCB) by EPA 8082

Sample ID: **LCSD-2303**	SampType: **LCSD**	Units: **mg/Kg**	Prep Date: **4/27/2012**	RunNo: **4094**
Client ID: **LCSS02**	Batch ID: **2303**		Analysis Date: **4/27/2012**	SeqNo: **73442**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Decachlorobiphenyl	33.4		50.00		66.8	66.1	145		0		
Surr: Tetrachloro-m-xylene	36.6		50.00		73.3	67.2	132		0		

Sample ID: **MB-2303**	SampType: **MBLK**	Units: **mg/Kg**	Prep Date: **4/27/2012**	RunNo: **4094**
Client ID: **MBLKS**	Batch ID: **2303**		Analysis Date: **4/27/2012**	SeqNo: **73443**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	ND	0.100									
Aroclor 1221	ND	0.100									
Aroclor 1232	ND	0.100									
Aroclor 1242	ND	0.100									
Aroclor 1248	ND	0.100									
Aroclor 1254	ND	0.100									
Aroclor 1260	ND	0.100									
Aroclor 1262	ND	0.100									
Aroclor 1268	ND	0.100									
Total PCBs	ND	0.100									
Surr: Decachlorobiphenyl	34.1		50.00		68.2	66.1	145				
Surr: Tetrachloro-m-xylene	36.5		50.00		73.0	67.2	132				

Sample ID: **1204162-001AMS**	SampType: **MS**	Units: **mg/Kg-dry**	Prep Date: **4/27/2012**	RunNo: **4094**
Client ID: **BATCH**	Batch ID: **2303**		Analysis Date: **4/27/2012**	SeqNo: **73464**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1254	0.816	0.0981	0.9811	0	83.2	70.7	118				
Surr: Decachlorobiphenyl	45.2		49.06		92.2	66.1	145				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1204134
CLIENT: Shannon & Wilson
Project: B & K Phase 2 ESA

QC SUMMARY REPORT

Polychlorinated Biphenyls (PCB) by EPA 8082

Sample ID: **1204162-001AMS**	SampType: **MS**	Units: **mg/Kg-dry**	Prep Date: **4/27/2012**	RunNo: **4094**
Client ID: **BATCH**	Batch ID: **2303**		Analysis Date: **4/27/2012**	SeqNo: **73464**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Tetrachloro-m-xylene	42.5		49.06		86.6	67.2	132				

Sample ID: **1204162-001AMSD**	SampType: **MSD**	Units: **mg/Kg-dry**	Prep Date: **4/27/2012**	RunNo: **4094**
Client ID: **BATCH**	Batch ID: **2303**		Analysis Date: **4/27/2012**	SeqNo: **73465**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1254	0.914	0.0961	0.9612	0	95.1	70.7	118	0.8163	11.3	30	
Surr: Decachlorobiphenyl	47.7		48.06		99.3	66.1	145		0		
Surr: Tetrachloro-m-xylene	43.6		48.06		90.8	67.2	132		0		

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *4/30/2012*

Work Order: 1204134
CLIENT: Shannon & Wilson
Project: B & K Phase 2 ESA

QC SUMMARY REPORT

Polychlorinated Biphenyls (PCB) by EPA 8082

Sample ID: **LCS-2307**	SampType: **LCS**	Units: **µg/L**	Prep Date: **4/27/2012**	RunNo: **4113**
Client ID: **LCSW**	Batch ID: **2307**		Analysis Date: **4/30/2012**	SeqNo: **73680**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1254	2.57	0.200	2.000	0	129	63.8	137				
Surr: Decachlorobiphenyl	137		100.0		137	71.4	142				
Surr: Tetrachloro-m-xylene	83.3		100.0		83.3	60.9	138				

Sample ID: **MB-2307**	SampType: **MBLK**	Units: **µg/L**	Prep Date: **4/27/2012**	RunNo: **4113**
Client ID: **MBLKW**	Batch ID: **2307**		Analysis Date: **4/30/2012**	SeqNo: **73681**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	ND	0.200									
Aroclor 1221	ND	0.200									
Aroclor 1232	ND	0.200									
Aroclor 1242	ND	0.200									
Aroclor 1248	ND	0.200									
Aroclor 1254	ND	0.200									
Aroclor 1260	ND	0.200									
Aroclor 1262	ND	0.200									
Aroclor 1268	ND	0.200									
Total PCBs	ND	0.200									
Surr: Decachlorobiphenyl	99.2		100.0		99.2	71.4	142				
Surr: Tetrachloro-m-xylene	62.0		100.0		62.0	60.9	138				

Sample ID: **LCSD-2307**	SampType: **LCSD**	Units: **µg/L**	Prep Date: **4/27/2012**	RunNo: **4113**
Client ID: **LCSW02**	Batch ID: **2307**		Analysis Date: **4/30/2012**	SeqNo: **73682**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1254	2.16	0.200	2.000	0	108	63.8	137	2.571	17.4	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1204134
CLIENT: Shannon & Wilson
Project: B & K Phase 2 ESA

QC SUMMARY REPORT

Polychlorinated Biphenyls (PCB) by EPA 8082

Sample ID: **LCSD-2307** SampType: **LCSD** Units: **µg/L** Prep Date: **4/27/2012** RunNo: **4113**
Client ID: **LCSW02** Batch ID: **2307** Analysis Date: **4/30/2012** SeqNo: **73682**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Decachlorobiphenyl	130		100.0		130	71.4	142		0		
Surr: Tetrachloro-m-xylene	94.0		100.0		94.0	60.9	138		0		

Sample ID: **1204134-001DDUP** SampType: **DUP** Units: **µg/L** Prep Date: **4/27/2012** RunNo: **4113**
Client ID: **GP-1-WA** Batch ID: **2307** Analysis Date: **4/30/2012** SeqNo: **73698**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	ND	0.200						0	0	30	
Aroclor 1221	ND	0.200						0	0	30	
Aroclor 1232	ND	0.200						0	0	30	
Aroclor 1242	ND	0.200						0	0	30	
Aroclor 1248	ND	0.200						0	0	30	
Aroclor 1254	2.49	0.200						1.872	28.4	30	
Aroclor 1260	ND	0.200						0	0	30	
Aroclor 1262	ND	0.200						0	0	30	
Aroclor 1268	ND	0.200						0	0	30	
Total PCBs	2.49	0.200						1.872	28.4	30	
Surr: Decachlorobiphenyl	113		100.0		113	71.4	142		0		
Surr: Tetrachloro-m-xylene	79.5		100.0		79.5	60.9	138		0		

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *4/30/2012*

Work Order: 1204134
CLIENT: Shannon & Wilson
Project: B & K Phase 2 ESA

QC SUMMARY REPORT

Gasoline by NWTPH-Gx

Sample ID: **MB-R4104**	SampType: **MBLK**	Units: **mg/Kg**	Prep Date: **4/25/2012**	RunNo: **4104**
Client ID: **MBLKS**	Batch ID: **R4104**		Analysis Date: **4/26/2012**	SeqNo: **73608**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	5.00									
Surr: 1,2-Dichloroethane-d4	0.488		0.5000		97.7	65	135				
Surr: Fluorobenzene	0.507		0.5000		101	65	135				

Sample ID: **LCS-R4104**	SampType: **LCS**	Units: **mg/Kg**	Prep Date: **4/25/2012**	RunNo: **4104**
Client ID: **LCSS**	Batch ID: **R4104**		Analysis Date: **4/26/2012**	SeqNo: **73609**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	24.0	5.00	25.00	0	95.9	65	135				
Surr: 1,2-Dichloroethane-d4	0.514		0.5000		103	65	135				
Surr: Fluorobenzene	0.514		0.5000		103	65	135				

Sample ID: **1204134-004ADUP**	SampType: **DUP**	Units: **mg/Kg-dry**	Prep Date: **4/25/2012**	RunNo: **4104**
Client ID: **GP-6:8**	Batch ID: **R4104**		Analysis Date: **4/26/2012**	SeqNo: **73615**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	4.14						0	0	30	
Surr: 1,2-Dichloroethane-d4	0.421		0.4140		102	65	135		0		
Surr: Fluorobenzene	0.391		0.4140		94.5	65	135		0		

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1204134
CLIENT: Shannon & Wilson
Project: B & K Phase 2 ESA

QC SUMMARY REPORT

Polychlorinated Biphenyls (PCB) by EPA 8082

Sample ID: **LCS-2307**	SampType: **LCS**	Units: **µg/L**	Prep Date: **4/27/2012**	RunNo: **4113**
Client ID: **LCSW**	Batch ID: **2307**		Analysis Date: **4/30/2012**	SeqNo: **73680**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1254	2.57	0.200	2.000	0	129	63.8	137				
Surr: Decachlorobiphenyl	137		100.0		137	71.4	142				
Surr: Tetrachloro-m-xylene	83.3		100.0		83.3	60.9	138				

Sample ID: **MB-2307**	SampType: **MBLK**	Units: **µg/L**	Prep Date: **4/27/2012**	RunNo: **4113**
Client ID: **MBLKW**	Batch ID: **2307**		Analysis Date: **4/30/2012**	SeqNo: **73681**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	ND	0.200									
Aroclor 1221	ND	0.200									
Aroclor 1232	ND	0.200									
Aroclor 1242	ND	0.200									
Aroclor 1248	ND	0.200									
Aroclor 1254	ND	0.200									
Aroclor 1260	ND	0.200									
Aroclor 1262	ND	0.200									
Aroclor 1268	ND	0.200									
Total PCBs	ND	0.200									
Surr: Decachlorobiphenyl	99.2		100.0		99.2	71.4	142				
Surr: Tetrachloro-m-xylene	62.0		100.0		62.0	60.9	138				

Sample ID: **LCSD-2307**	SampType: **LCSD**	Units: **µg/L**	Prep Date: **4/27/2012**	RunNo: **4113**
Client ID: **LCSW02**	Batch ID: **2307**		Analysis Date: **4/30/2012**	SeqNo: **73682**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1254	2.16	0.200	2.000	0	108	63.8	137	2.571	17.4	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *4/30/2012*

Work Order: 1204134
CLIENT: Shannon & Wilson
Project: B & K Phase 2 ESA

QC SUMMARY REPORT
Gasoline by NWTPH-Gx

Sample ID: **MB-R4115**	SampType: **MBLK**	Units: **µg/L**	Prep Date: **4/30/2012**	RunNo: **4115**
Client ID: **MBLKW**	Batch ID: **R4115**		Analysis Date: **4/30/2012**	SeqNo: **73690**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	50.0									
Surr: 1,2-Dichloroethane-d4	9.38		10.00		93.8	65	135				
Surr: Fluorobenzene	11.5		10.00		115	65	135				

Sample ID: **LCS-R4115**	SampType: **LCS**	Units: **µg/L**	Prep Date: **4/30/2012**	RunNo: **4115**
Client ID: **LCSW**	Batch ID: **R4115**		Analysis Date: **4/30/2012**	SeqNo: **73691**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	467	50.0	500.0	0	93.4	65	135				
Surr: 1,2-Dichloroethane-d4	9.39		10.00		93.9	65	135				
Surr: Fluorobenzene	12.0		10.00		120	65	135				

Sample ID: **1204134-001ADUP**	SampType: **DUP**	Units: **µg/L**	Prep Date: **4/30/2012**	RunNo: **4115**
Client ID: **GP-1-WA**	Batch ID: **R4115**		Analysis Date: **4/30/2012**	SeqNo: **73694**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	50.0						0	0	30	
Gasoline Range Organics	77.2	50.0						62.69	20.7	30	
Surr: 1,2-Dichloroethane-d4	9.99		10.00		99.9	65	135		0		
Surr: Fluorobenzene	11.5		10.00		115	65	135		0		

NOTES:
GRO - Indicates the presence of unresolved compounds eluting from benzene to naphthalene (~C6->C12).

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *4/30/2012*

Work Order: 1204134
CLIENT: Shannon & Wilson
Project: B & K Phase 2 ESA

QC SUMMARY REPORT

Gasoline by NWTPH-Gx

Sample ID: **MB-R4104**	SampType: **MBLK**			Units: **mg/Kg**		Prep Date: **4/25/2012**		RunNo: **4104**			
Client ID: **MBLKS**	Batch ID: **R4104**					Analysis Date: **4/26/2012**		SeqNo: **73608**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	5.00									
Surr: 1,2-Dichloroethane-d4	0.488		0.5000		97.7	65	135				
Surr: Fluorobenzene	0.507		0.5000		101	65	135				

Sample ID: **LCS-R4104**	SampType: **LCS**			Units: **mg/Kg**		Prep Date: **4/25/2012**		RunNo: **4104**			
Client ID: **LCSS**	Batch ID: **R4104**					Analysis Date: **4/26/2012**		SeqNo: **73609**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	24.0	5.00	25.00	0	95.9	65	135				
Surr: 1,2-Dichloroethane-d4	0.514		0.5000		103	65	135				
Surr: Fluorobenzene	0.514		0.5000		103	65	135				

Sample ID: **1204134-004ADUP**	SampType: **DUP**			Units: **mg/Kg-dry**		Prep Date: **4/25/2012**		RunNo: **4104**			
Client ID: **GP-6:8**	Batch ID: **R4104**					Analysis Date: **4/26/2012**		SeqNo: **73615**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	4.14						0	0	30	
Surr: 1,2-Dichloroethane-d4	0.421		0.4140		102	65	135		0		
Surr: Fluorobenzene	0.391		0.4140		94.5	65	135		0		

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *4/30/2012*

Work Order: 1204134
CLIENT: Shannon & Wilson
Project: B & K Phase 2 ESA

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **MBLK-2296** SampType: **MBLK** Units: **mg/Kg** Prep Date: **4/25/2012** RunNo: **4105**
Client ID: **MBLKS** Batch ID: **2296** Analysis Date: **4/26/2012** SeqNo: **73618**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	0.0600									
Chloromethane	ND	0.0600									
Vinyl chloride	ND	0.00200									
Bromomethane	ND	0.0900									
Trichlorofluoromethane (CFC-11)	ND	0.0500									
Chloroethane	ND	0.0600									
1,1-Dichloroethene	ND	0.0500									
Methylene chloride	ND	0.0200									
trans-1,2-Dichloroethene	ND	0.0200									
Methyl tert-butyl ether (MTBE)	ND	0.0500									
1,1-Dichloroethane	ND	0.0200									
2,2-Dichloropropane	ND	0.0500									
cis-1,2-Dichloroethene	ND	0.0200									
Chloroform	ND	0.0200									
1,1,1-Trichloroethane (TCA)	ND	0.0200									
1,1-Dichloropropene	ND	0.0200									
Carbon tetrachloride	ND	0.0200									
1,2-Dichloroethane	ND	0.0300									
Benzene	ND	0.0200									
Trichloroethene (TCE)	ND	0.0300									
1,2-Dichloropropane	ND	0.0200									
Bromodichloromethane	ND	0.0200									
Dibromomethane	ND	0.0400									
cis-1,3-Dichloropropene	ND	0.0200									
Toluene	ND	0.0200									
trans-1,3-Dichloropropylene	ND	0.0300									
1,1,2-Trichloroethane	ND	0.0300									

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1204134
CLIENT: Shannon & Wilson
Project: B & K Phase 2 ESA

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **MBLK-2296** SampType: **MBLK** Units: **mg/Kg** Prep Date: **4/25/2012** RunNo: **4105**
Client ID: **MBLKS** Batch ID: **2296** Analysis Date: **4/26/2012** SeqNo: **73618**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,3-Dichloropropane	ND	0.0500									
Tetrachloroethene (PCE)	ND	0.0200									
Dibromochloromethane	ND	0.0300									
1,2-Dibromoethane (EDB)	ND	0.00500									
Chlorobenzene	ND	0.0200									
1,1,1,2-Tetrachloroethane	ND	0.0300									
Ethylbenzene	ND	0.0300									
m,p-Xylene	ND	0.0200									
o-Xylene	ND	0.0200									
Styrene	ND	0.0200									
Isopropylbenzene	ND	0.0800									
Bromoform	ND	0.0200									
1,1,2,2-Tetrachloroethane	ND	0.0200									
n-Propylbenzene	ND	0.0200									
Bromobenzene	ND	0.0300									
1,3,5-Trimethylbenzene	ND	0.0200									
2-Chlorotoluene	ND	0.0200									
4-Chlorotoluene	ND	0.0200									
tert-Butylbenzene	ND	0.0200									
1,2,3-Trichloropropane	ND	0.0200									
1,2,4-Trichlorobenzene	ND	0.0500									
sec-Butylbenzene	ND	0.0200									
4-Isopropyltoluene	ND	0.0200									
1,3-Dichlorobenzene	ND	0.0200									
1,4-Dichlorobenzene	ND	0.0200									
n-Butylbenzene	ND	0.0200									
1,2-Dichlorobenzene	ND	0.0200									

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1204134
CLIENT: Shannon & Wilson
Project: B & K Phase 2 ESA

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **MBLK-2296** SampType: **MBLK** Units: **mg/Kg** Prep Date: **4/25/2012** RunNo: **4105**
Client ID: **MBLKS** Batch ID: **2296** Analysis Date: **4/26/2012** SeqNo: **73618**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dibromo-3-chloropropane	ND	0.0300									
1,2,4-Trimethylbenzene	ND	0.0200									
Hexachlorobutadiene	ND	0.100									
Naphthalene	ND	0.0300									
1,2,3-Trichlorobenzene	ND	0.0200									
Surr: 1-Bromo-4-fluorobenzene	0.472		0.5000		94.3	63.1	141				
Surr: Dibromofluoromethane	0.505		0.5000		101	67.6	119				
Surr: Toluene-d8	0.501		0.5000		100	78.5	126				

Sample ID: **LCS-2296** SampType: **LCS** Units: **mg/Kg** Prep Date: **4/25/2012** RunNo: **4105**
Client ID: **LCSS** Batch ID: **2296** Analysis Date: **4/26/2012** SeqNo: **73619**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	0.522	0.0500	0.5000	0	104	65.7	133				
Benzene	0.490	0.0200	0.5000	0	98.0	67.4	114				
Trichloroethene (TCE)	0.455	0.0300	0.5000	0	91.0	66.4	119				
Toluene	0.471	0.0200	0.5000	0	94.2	70	117				
Tetrachloroethene (PCE)	0.242	0.0200	0.4000	0	60.4	48	126				
Chlorobenzene	0.457	0.0200	0.5000	0	91.4	66.9	116				
Surr: 1-Bromo-4-fluorobenzene	0.476		0.5000		95.2	63.1	141				
Surr: Dibromofluoromethane	0.505		0.5000		101	67.6	119				
Surr: Toluene-d8	0.491		0.5000		98.2	78.5	126				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1204134
CLIENT: Shannon & Wilson
Project: B & K Phase 2 ESA

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1204137-003AMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **4/25/2012** RunNo: **4105**
Client ID: **BATCH** Batch ID: **2296** Analysis Date: **4/26/2012** SeqNo: **73624**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	0.484	0.0470	0.4703	0	103	57.9	143				
Benzene	0.455	0.0188	0.4703	0	96.7	66.3	119				
Trichloroethene (TCE)	0.458	0.0282	0.4703	0	97.4	59.6	132				
Toluene	0.488	0.0188	0.4703	0.02540	98.4	54.9	134				
Tetrachloroethene (PCE)	0.285	0.0188	0.3763	0	75.9	51.2	137				
Chlorobenzene	0.443	0.0188	0.4703	0	94.1	62.2	122				
Surr: 1-Bromo-4-fluorobenzene	0.452		0.4703		96.2	63.1	141				
Surr: Dibromofluoromethane	0.488		0.4703		104	67.6	119				
Surr: Toluene-d8	0.481		0.4703		102	78.5	126				

Sample ID: **1204134-004ADUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **4/25/2012** RunNo: **4105**
Client ID: **GP-6:8** Batch ID: **2296** Analysis Date: **4/26/2012** SeqNo: **73626**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	0.0497						0	0	30	
Chloromethane	ND	0.0497						0	0	30	
Vinyl chloride	ND	0.00166						0	0	30	
Bromomethane	ND	0.0745						0	0	30	
Trichlorofluoromethane (CFC-11)	ND	0.0414						0	0	30	
Chloroethane	ND	0.0497						0	0	30	
1,1-Dichloroethene	ND	0.0414						0	0	30	
Methylene chloride	ND	0.0166						0	0	30	
trans-1,2-Dichloroethene	ND	0.0166						0	0	30	
Methyl tert-butyl ether (MTBE)	ND	0.0414						0	0	30	
1,1-Dichloroethane	ND	0.0166						0	0	30	
2,2-Dichloropropane	ND	0.0414						0	0	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *4/30/2012*

Work Order: 1204134
CLIENT: Shannon & Wilson
Project: B & K Phase 2 ESA

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1204134-004ADUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **4/25/2012** RunNo: **4105**
Client ID: **GP-6:8** Batch ID: **2296** Analysis Date: **4/26/2012** SeqNo: **73626**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,2-Dichloroethene	ND	0.0166						0	0	30	
Chloroform	ND	0.0166						0	0	30	
1,1,1-Trichloroethane (TCA)	ND	0.0166						0	0	30	
1,1-Dichloropropene	ND	0.0166						0	0	30	
Carbon tetrachloride	ND	0.0166						0	0	30	
1,2-Dichloroethane	ND	0.0248						0	0	30	
Benzene	ND	0.0166						0	0	30	
Trichloroethene (TCE)	ND	0.0248						0	0	30	
1,2-Dichloropropane	ND	0.0166						0	0	30	
Bromodichloromethane	ND	0.0166						0	0	30	
Dibromomethane	ND	0.0331						0	0	30	
cis-1,3-Dichloropropene	ND	0.0166						0	0	30	
Toluene	ND	0.0166						0	0	30	
trans-1,3-Dichloropropylene	ND	0.0248						0	0	30	
1,1,2-Trichloroethane	ND	0.0248						0	0	30	
1,3-Dichloropropane	ND	0.0414						0	0	30	
Tetrachloroethene (PCE)	ND	0.0166						0	0	30	
Dibromochloromethane	ND	0.0248						0	0	30	
1,2-Dibromoethane (EDB)	ND	0.00414						0	0	30	
Chlorobenzene	ND	0.0166						0	0	30	
1,1,1,2-Tetrachloroethane	ND	0.0248						0	0	30	
Ethylbenzene	ND	0.0248						0	0	30	
m,p-Xylene	ND	0.0166						0	0	30	
o-Xylene	ND	0.0166						0	0	30	
Styrene	ND	0.0166						0	0	30	
Isopropylbenzene	ND	0.0662						0	0	30	
Bromoform	ND	0.0166						0	0	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1204134
CLIENT: Shannon & Wilson
Project: B & K Phase 2 ESA

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1204134-004ADUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **4/25/2012** RunNo: **4105**
Client ID: **GP-6:8** Batch ID: **2296** Analysis Date: **4/26/2012** SeqNo: **73626**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2,2-Tetrachloroethane	ND	0.0166						0	0	30	
n-Propylbenzene	ND	0.0166						0	0	30	
Bromobenzene	ND	0.0248						0	0	30	
1,3,5-Trimethylbenzene	ND	0.0166						0	0	30	
2-Chlorotoluene	ND	0.0166						0	0	30	
4-Chlorotoluene	ND	0.0166						0	0	30	
tert-Butylbenzene	ND	0.0166						0	0	30	
1,2,3-Trichloropropane	ND	0.0166						0	0	30	
1,2,4-Trichlorobenzene	ND	0.0414						0	0	30	
sec-Butylbenzene	ND	0.0166						0	0	30	
4-Isopropyltoluene	ND	0.0166						0	0	30	
1,3-Dichlorobenzene	ND	0.0166						0	0	30	
1,4-Dichlorobenzene	ND	0.0166						0	0	30	
n-Butylbenzene	ND	0.0166						0	0	30	
1,2-Dichlorobenzene	ND	0.0166						0	0	30	
1,2-Dibromo-3-chloropropane	ND	0.0248						0	0	30	
1,2,4-Trimethylbenzene	ND	0.0166						0	0	30	
Hexachlorobutadiene	ND	0.0828						0	0	30	
Naphthalene	ND	0.0248						0	0	30	
1,2,3-Trichlorobenzene	ND	0.0166						0	0	30	
Surr: 1-Bromo-4-fluorobenzene	0.397		0.4140		96.0	63.1	141		0		
Surr: Dibromofluoromethane	0.436		0.4140		105	67.6	119		0		
Surr: Toluene-d8	0.419		0.4140		101	78.5	126		0		

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *4/30/2012*

Work Order: 1204134
CLIENT: Shannon & Wilson
Project: B & K Phase 2 ESA

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **MB-R4065** SampType: **MBLK** Units: **µg/L** Prep Date: **4/24/2012** RunNo: **4065**
Client ID: **MBLKW** Batch ID: **R4065** Analysis Date: **4/24/2012** SeqNo: **73105**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	1.00									
Chloromethane	ND	1.00									
Vinyl chloride	ND	0.200									
Bromomethane	ND	1.00									
Trichlorofluoromethane (CFC-11)	ND	1.00									
Chloroethane	ND	1.00									
1,1-Dichloroethene	ND	1.00									
Methylene chloride	ND	1.00									
trans-1,2-Dichloroethene	ND	1.00									
Methyl tert-butyl ether (MTBE)	ND	1.00									
1,1-Dichloroethane	ND	1.00									
2,2-Dichloropropane	ND	2.00									
cis-1,2-Dichloroethene	ND	1.00									
Chloroform	ND	1.00									
1,1,1-Trichloroethane (TCA)	ND	1.00									
1,1-Dichloropropene	ND	1.00									
Carbon tetrachloride	ND	1.00									
1,2-Dichloroethane	ND	1.00									
Benzene	ND	1.00									
Trichloroethene (TCE)	ND	1.00									
1,2-Dichloropropane	ND	1.00									
Bromodichloromethane	ND	1.00									
Dibromomethane	ND	1.00									
cis-1,3-Dichloropropene	ND	1.00									
Toluene	ND	1.00									
trans-1,3-Dichloropropene	ND	1.00									
1,1,2-Trichloroethane	ND	1.00									

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1204134
CLIENT: Shannon & Wilson
Project: B & K Phase 2 ESA

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **MB-R4065** SampType: **MBLK** Units: **µg/L** Prep Date: **4/24/2012** RunNo: **4065**
Client ID: **MBLKW** Batch ID: **R4065** Analysis Date: **4/24/2012** SeqNo: **73105**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,3-Dichloropropane	ND	1.00									
Tetrachloroethene (PCE)	ND	1.00									
Dibromochloromethane	ND	1.00									
1,2-Dibromoethane (EDB)	ND	0.0100									
Chlorobenzene	ND	1.00									
1,1,1,2-Tetrachloroethane	ND	1.00									
Ethylbenzene	ND	1.00									
m,p-Xylene	ND	1.00									
o-Xylene	ND	1.00									
Styrene	ND	1.00									
Isopropylbenzene	ND	1.00									
Bromoform	ND	1.00									
1,1,2,2-Tetrachloroethane	ND	1.00									
n-Propylbenzene	ND	1.00									
Bromobenzene	ND	1.00									
1,3,5-Trimethylbenzene	ND	1.00									
2-Chlorotoluene	ND	1.00									
4-Chlorotoluene	ND	1.00									
tert-Butylbenzene	ND	1.00									
1,2,3-Trichloropropane	ND	1.00									
1,2,4-Trichlorobenzene	ND	2.00									
sec-Butylbenzene	ND	1.00									
4-Isopropyltoluene	ND	1.00									
1,3-Dichlorobenzene	ND	1.00									
1,4-Dichlorobenzene	ND	1.00									
n-Butylbenzene	ND	1.00									
1,2-Dichlorobenzene	ND	1.00									

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *4/30/2012*

Work Order: 1204134
CLIENT: Shannon & Wilson
Project: B & K Phase 2 ESA

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **MB-R4065**	SampType: **MBLK**	Units: **µg/L**	Prep Date: **4/24/2012**	RunNo: **4065**
Client ID: **MBLKW**	Batch ID: **R4065**		Analysis Date: **4/24/2012**	SeqNo: **73105**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dibromo-3-chloropropane	ND	1.00									
1,2,4-Trimethylbenzene	ND	1.00									
Hexachlorobutadiene	ND	4.00									
Naphthalene	ND	1.00									
1,2,3-Trichlorobenzene	ND	4.00									
Surr: 1-Bromo-4-fluorobenzene	9.68		10.00		96.8	79.2	120				
Surr: Dibromofluoromethane	9.72		10.00		97.2	76	114				
Surr: Toluene-d8	9.83		10.00		98.3	86.8	119				

Sample ID: **LCS-R4065**	SampType: **LCS**	Units: **µg/L**	Prep Date: **4/24/2012**	RunNo: **4065**
Client ID: **LCSW**	Batch ID: **R4065**		Analysis Date: **4/24/2012**	SeqNo: **73106**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	12.3	1.00	10.00	0	123	62.3	136				
Benzene	10.8	1.00	10.00	0	108	73.9	125				
Trichloroethene (TCE)	10.2	1.00	10.00	0	102	59.7	125				
Toluene	10.5	1.00	10.00	0	105	73	126				
Tetrachloroethene (PCE)	7.25	1.00	8.000	0	90.6	50	116				
Chlorobenzene	10.4	1.00	10.00	0	104	75.1	121				
Surr: 1-Bromo-4-fluorobenzene	9.56		10.00		95.6	79.2	120				
Surr: Dibromofluoromethane	9.74		10.00		97.4	76	114				
Surr: Toluene-d8	9.77		10.00		97.7	86.8	119				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1204134
CLIENT: Shannon & Wilson
Project: B & K Phase 2 ESA

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1204123-005AMS** SampType: **MS** Units: **µg/L** Prep Date: **4/24/2012** RunNo: **4065**
Client ID: **BATCH** Batch ID: **R4065** Analysis Date: **4/24/2012** SeqNo: **73111**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	11.9	1.00	10.00	0	119	54.9	139				
Benzene	11.1	1.00	10.00	0.4300	107	70.7	126				
Trichloroethene (TCE)	10.2	1.00	10.00	0	102	51.8	131				
Toluene	10.3	1.00	10.00	0	103	72.4	122				
Tetrachloroethene (PCE)	7.38	1.00	8.000	0	92.2	50	121				
Chlorobenzene	10.2	1.00	10.00	0	102	68.3	123				
Surr: 1-Bromo-4-fluorobenzene	9.59		10.00		95.9	79.2	120				
Surr: Dibromofluoromethane	9.82		10.00		98.2	76	114				
Surr: Toluene-d8	9.74		10.00		97.4	86.8	119				

Sample ID: **1204134-001ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **4/24/2012** RunNo: **4065**
Client ID: **GP-1-WA** Batch ID: **R4065** Analysis Date: **4/25/2012** SeqNo: **73121**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	1.00						0	0	30	
Chloromethane	ND	1.00						0	0	30	
Vinyl chloride	ND	0.200						0	0	30	
Bromomethane	ND	1.00						0	0	30	
Trichlorofluoromethane (CFC-11)	ND	1.00						0	0	30	
Chloroethane	ND	1.00						0	0	30	
1,1-Dichloroethene	ND	1.00						0	0	30	
Methylene chloride	ND	1.00						0	0	30	
trans-1,2-Dichloroethene	ND	1.00						0	0	30	
Methyl tert-butyl ether (MTBE)	ND	1.00						0	0	30	
1,1-Dichloroethane	ND	1.00						0	0	30	
2,2-Dichloropropane	ND	2.00						0	0	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1204134
CLIENT: Shannon & Wilson
Project: B & K Phase 2 ESA

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1204134-001ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **4/24/2012** RunNo: **4065**
Client ID: **GP-1-WA** Batch ID: **R4065** Analysis Date: **4/25/2012** SeqNo: **73121**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,2-Dichloroethene	ND	1.00						0	0	30	
Chloroform	ND	1.00						0	0	30	
1,1,1-Trichloroethane (TCA)	ND	1.00						0	0	30	
1,1-Dichloropropene	ND	1.00						0	0	30	
Carbon tetrachloride	ND	1.00						0	0	30	
1,2-Dichloroethane	ND	1.00						0	0	30	
Benzene	ND	1.00						0	0	30	
Trichloroethene (TCE)	ND	1.00						0	0	30	
1,2-Dichloropropane	ND	1.00						0	0	30	
Bromodichloromethane	ND	1.00						0	0	30	
Dibromomethane	ND	1.00						0	0	30	
cis-1,3-Dichloropropene	ND	1.00						0	0	30	
Toluene	ND	1.00						0	0	30	
trans-1,3-Dichloropropene	ND	1.00						0	0	30	
1,1,2-Trichloroethane	ND	1.00						0	0	30	
1,3-Dichloropropane	ND	1.00						0	0	30	
Tetrachloroethene (PCE)	ND	1.00						0	0	30	
Dibromochloromethane	ND	1.00						0	0	30	
1,2-Dibromoethane (EDB)	ND	0.0100						0	0	30	
Chlorobenzene	ND	1.00						0	0	30	
1,1,1,2-Tetrachloroethane	ND	1.00						0	0	30	
Ethylbenzene	ND	1.00						0	0	30	
m,p-Xylene	ND	1.00						0	0	30	
o-Xylene	ND	1.00						0	0	30	
Styrene	ND	1.00						0	0	30	
Isopropylbenzene	ND	1.00						0	0	30	
Bromoform	ND	1.00						0	0	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1204134
CLIENT: Shannon & Wilson
Project: B & K Phase 2 ESA

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1204134-001ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **4/24/2012** RunNo: **4065**
Client ID: **GP-1-WA** Batch ID: **R4065** Analysis Date: **4/25/2012** SeqNo: **73121**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2,2-Tetrachloroethane	ND	1.00						0	0	30	
n-Propylbenzene	ND	1.00						0	0	30	
Bromobenzene	ND	1.00						0	0	30	
1,3,5-Trimethylbenzene	ND	1.00						0	0	30	
2-Chlorotoluene	ND	1.00						0	0	30	
4-Chlorotoluene	ND	1.00						0	0	30	
tert-Butylbenzene	ND	1.00						0	0	30	
1,2,3-Trichloropropane	ND	1.00						0	0	30	
1,2,4-Trichlorobenzene	ND	2.00						0	0	30	
sec-Butylbenzene	ND	1.00						0	0	30	
4-Isopropyltoluene	ND	1.00						0	0	30	
1,3-Dichlorobenzene	ND	1.00						0	0	30	
1,4-Dichlorobenzene	ND	1.00						0	0	30	
n-Butylbenzene	ND	1.00						0	0	30	
1,2-Dichlorobenzene	ND	1.00						0	0	30	
1,2-Dibromo-3-chloropropane	ND	1.00						0	0	30	
1,2,4-Trimethylbenzene	1.33	1.00						1.580	17.2	30	
Hexachlorobutadiene	ND	4.00						0	0	30	
Naphthalene	2.41	1.00						2.000	18.6	30	
1,2,3-Trichlorobenzene	ND	4.00						0	0	30	
Surr: 1-Bromo-4-fluorobenzene	9.72		10.00		97.2	79.2	120		0		
Surr: Dibromofluoromethane	9.74		10.00		97.4	76	114		0		
Surr: Toluene-d8	9.82		10.00		98.2	86.8	119		0		

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Sample Log-In Check List

Client Name: **SW**	Work Order Number: **1204134**
Logged by: **Troy Zehr**	Date Received: **4/24/2012 12:05:00 PM**

Chain of Custody

1.	Were custodial seals present?	Yes ☑	No ☐	Not Required ☐
2.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3.	How was the sample delivered?	Client		

Log In

4.	Coolers are present?	Yes ☑	No ☐	NA ☐
5.	Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
6.	Were all coolers received at a temperature of >0° C to 10.0°C	Yes ☑	No ☐	NA ☐
7.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
8.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
9.	Are samples properly preserved?	Yes ☑	No ☐	
10.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
11.	Is there headspace present in VOA vials?	Yes ☐	No ☑	NA ☐
12.	Did all sample containers arrive in good condition?(unbroken)	Yes ☑	No ☐	
13.	Does paperwork match bottle labels?	Yes ☑	No ☐	
14.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
15.	Is it clear what analyses were requested?	Yes ☑	No ☐	
16.	Were all holding times able to be met?	Yes ☑	No ☐	

Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

18. Additional remarks/Disrepancies

Item Information

Item #	Temp °C	Condition
Cooler	4.8	Good

Fremont Analytical

2930 Westlake Ave. N. Suite 100
Seattle, WA 98109
Tel: 206-352-3790
Fax: 206-352-7178

Chain of Custody Record

1204134

Date: 4/24/12 Page: 1 of: 1

Client: Shannon & Wilson
Address:
City, State, Zip
Tel:

Project Name: Bok Phase 2 ESA
Location:
Collected by: CMJ

Reports To (PM): Cody Johnson
Fax:
Email: CMJ@shanwil.com
Project No: 21-1-12357-002

#	Sample Name	Time	Sample Type	Container Type	Date of Collection	VOA 8260	VOA 8021B BTEX	NWTPH-Gx	NWTPH-HCID	NWTPH-Dx Ext.	SEMI VOL 8270C	PAH 8270	PCBs 8082	CI PESTICIDES 8151	CI HERBICIDES 8151A	METALS: Pb total + Diss.	Metals: MTCA-5	Metals: RCRA-8	Pb, As	pH	Comments/Depth
1	GP-1-WA	930	WA-grab	4-VOA 2-500mL 1-1L	4/23/12	X		X		X			X								
2	GP-1:8	925	Soil-grab	3-VOA 1-4oz	↓	X		X		X			X								
3	GP-4:3.5	~~1300~~ 1310	"	1-4oz	↓				X												
4	GP-6:8	1115	"	3-VOA 1-4oz	↓	X		X		X						X					
5	GP-6-WA	1120	2-1L(?) 3-VOAs	VOA-grab	↓	X		X		X						X					Lab to Filter for Diss...
6	GP-8:5	1445	Soil-grab	1-4oz	↓														X	X	
7																					
8																					
9																					
10																					

Relinquished x [signature] Date/Time 4/24/12 10:30
Received x [signature] Date/Time: 4/24/12 12:05
Relinquished Date/Time
Received x Date/Time:

Sample Receipt:
Good?
Temperature:
Seals Intact?:
Total Number of Containers:

Special Remarks

TAT --> 24HR 48HR (Standard)

1311 N. 35th St.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Shannon & Wilson
Cody Johnson
400 N. 34th Street, Suite 100
Seattle, Washington 98103

RE: B & K Phase 2
Lab ID: 1204149

May 02, 2012

Attention Cody Johnson:

Fremont Analytical, Inc. received 3 sample(s) on 4/26/2012 for the analyses presented in the following report.

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.
Gasoline by NWTPH-Gx
pH by EPA Method 9045
Sample Moisture (Percent Moisture)
Total Metals by EPA Method 6020
Volatile Organic Compounds by EPA Method 8260

This report consists of the following:

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

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

Thank you for using Fremont Analytical.

Sincerely,

Michael Dee
Sr. Chemist / Principal

Fremont Analytical

Date: *05/02/2012*

CLIENT: Shannon & Wilson
Project: B & K Phase 2
Lab Order: 1204149

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1204149-001	GP-10-WA	04/24/2012 5:30 PM	04/26/2012 12:30 PM
1204149-002	GP-10:7	04/24/2012 5:05 PM	04/26/2012 12:30 PM
1204149-003	GP-10:7.5	04/24/2012 5:10 PM	04/26/2012 12:30 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

CLIENT: Shannon & Wilson
Project: B & K Phase 2

I. SAMPLE RECEIPT:
All samples were received intact. The internal ice chest temperatures were measured on receipt and are recorded on the attached Sample Receipt Checklist.

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

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

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.
Prep Comments for PREP-DX-W, Sample 1204149-001A: We homogenized the water from both bottles because they did not look the same. One bottle had darker yellow water than the other.

Client: Shannon & Wilson
Project: B & K Phase 2
Lab ID: 1204149-001
Client Sample ID: GP-10-WA

Collection Date: 4/24/2012 5:30:00 PM
Matrix: Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 2302		Analyst: EM
Diesel (Fuel Oil)	ND	50.0		µg/L	1	4/27/2012 3:19:00 PM
Diesel Range Organics (C12-C24)	836	50.0		µg/L	1	4/27/2012 3:19:00 PM
Heavy Oil	ND	100		µg/L	1	4/27/2012 3:19:00 PM
Surr: 2-Fluorobiphenyl	58.1	50-150		%REC	1	4/27/2012 3:19:00 PM
Surr: o-Terphenyl	79.3	50-150		%REC	1	4/27/2012 3:19:00 PM
NOTES:						
DRO - Indicates the presence of unresolved compounds eluting from dodecane through tetracosane (C12-C24).						
Gasoline by NWTPH-Gx				Batch ID: R4137		Analyst: PH
Gasoline	ND	50.0		µg/L	1	5/1/2012 10:48:00 PM
Surr: 1,2-Dichloroethane-d4	109	65-135		%REC	1	5/1/2012 10:48:00 PM
Surr: Fluorobenzene	118	65-135		%REC	1	5/1/2012 10:48:00 PM
Volatile Organic Compounds by EPA Method 8260				Batch ID: R4136		Analyst: PH
Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	5/1/2012 10:48:00 PM
Chloromethane	ND	1.00		µg/L	1	5/1/2012 10:48:00 PM
Vinyl chloride	ND	0.200		µg/L	1	5/1/2012 10:48:00 PM
Bromomethane	ND	1.00		µg/L	1	5/1/2012 10:48:00 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	5/1/2012 10:48:00 PM
Chloroethane	ND	1.00		µg/L	1	5/1/2012 10:48:00 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	5/1/2012 10:48:00 PM
Methylene chloride	ND	1.00		µg/L	1	5/1/2012 10:48:00 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	5/1/2012 10:48:00 PM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	5/1/2012 10:48:00 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	5/1/2012 10:48:00 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	5/1/2012 10:48:00 PM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	5/1/2012 10:48:00 PM
Chloroform	ND	1.00		µg/L	1	5/1/2012 10:48:00 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	5/1/2012 10:48:00 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	5/1/2012 10:48:00 PM
Carbon tetrachloride	ND	1.00		µg/L	1	5/1/2012 10:48:00 PM
1,2-Dichloroethane	ND	1.00		µg/L	1	5/1/2012 10:48:00 PM
Benzene	ND	1.00		µg/L	1	5/1/2012 10:48:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B & K Phase 2
Lab ID: 1204149-001
Client Sample ID: GP-10-WA

Collection Date: 4/24/2012 5:30:00 PM
Matrix: Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R4136		Analyst: PH
Trichloroethene (TCE)	ND	1.00		µg/L	1	5/1/2012 10:48:00 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	5/1/2012 10:48:00 PM
Bromodichloromethane	ND	1.00		µg/L	1	5/1/2012 10:48:00 PM
Dibromomethane	ND	1.00		µg/L	1	5/1/2012 10:48:00 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	5/1/2012 10:48:00 PM
Toluene	1.68	1.00		µg/L	1	5/1/2012 10:48:00 PM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	5/1/2012 10:48:00 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	5/1/2012 10:48:00 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	5/1/2012 10:48:00 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	5/1/2012 10:48:00 PM
Dibromochloromethane	ND	1.00		µg/L	1	5/1/2012 10:48:00 PM
1,2-Dibromoethane (EDB)	ND	0.0100		µg/L	1	5/1/2012 10:48:00 PM
Chlorobenzene	ND	1.00		µg/L	1	5/1/2012 10:48:00 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	5/1/2012 10:48:00 PM
Ethylbenzene	ND	1.00		µg/L	1	5/1/2012 10:48:00 PM
m,p-Xylene	ND	1.00		µg/L	1	5/1/2012 10:48:00 PM
o-Xylene	ND	1.00		µg/L	1	5/1/2012 10:48:00 PM
Styrene	ND	1.00		µg/L	1	5/1/2012 10:48:00 PM
Isopropylbenzene	ND	1.00		µg/L	1	5/1/2012 10:48:00 PM
Bromoform	ND	1.00		µg/L	1	5/1/2012 10:48:00 PM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	5/1/2012 10:48:00 PM
n-Propylbenzene	ND	1.00		µg/L	1	5/1/2012 10:48:00 PM
Bromobenzene	ND	1.00		µg/L	1	5/1/2012 10:48:00 PM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	5/1/2012 10:48:00 PM
2-Chlorotoluene	ND	1.00		µg/L	1	5/1/2012 10:48:00 PM
4-Chlorotoluene	ND	1.00		µg/L	1	5/1/2012 10:48:00 PM
tert-Butylbenzene	ND	1.00		µg/L	1	5/1/2012 10:48:00 PM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	5/1/2012 10:48:00 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	5/1/2012 10:48:00 PM
sec-Butylbenzene	ND	1.00		µg/L	1	5/1/2012 10:48:00 PM
4-Isopropyltoluene	ND	1.00		µg/L	1	5/1/2012 10:48:00 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	5/1/2012 10:48:00 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	5/1/2012 10:48:00 PM
n-Butylbenzene	ND	1.00		µg/L	1	5/1/2012 10:48:00 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	5/1/2012 10:48:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B & K Phase 2
Lab ID: 1204149-001
Client Sample ID: GP-10-WA

Collection Date: 4/24/2012 5:30:00 PM
Matrix: Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R4136		Analyst: PH
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	5/1/2012 10:48:00 PM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	5/1/2012 10:48:00 PM
Hexachlorobutadiene	ND	4.00		µg/L	1	5/1/2012 10:48:00 PM
Naphthalene	ND	1.00		µg/L	1	5/1/2012 10:48:00 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	5/1/2012 10:48:00 PM
Surr: 1-Bromo-4-fluorobenzene	103	79.2-120		%REC	1	5/1/2012 10:48:00 PM
Surr: Dibromofluoromethane	105	76-114		%REC	1	5/1/2012 10:48:00 PM
Surr: Toluene-d8	100	86.8-119		%REC	1	5/1/2012 10:48:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: B & K Phase 2
Lab ID: 1204149-003
Client Sample ID: GP-10:7.5

Collection Date: 4/24/2012 5:10:00 PM
Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020				Batch ID: 2299		Analyst: BR
Arsenic	188	0.208		mg/Kg-dry	1	4/27/2012 2:39:42 PM
Lead	1,430	0.416		mg/Kg-dry	1	4/27/2012 2:39:42 PM
Sample Moisture (Percent Moisture)				Batch ID: R4098		Analyst: EM
Percent Moisture	63.8			wt%	1	4/30/2012 8:36:17 AM
pH by EPA Method 9045				Batch ID: R4078		Analyst: SG
Hydrogen Ion (pH)	11.5			pH	1	4/26/2012 2:41:07 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1204149
CLIENT: Shannon & Wilson
Project: B & K Phase 2

QC SUMMARY REPORT
pH by EPA Method 9045

Sample ID: **MB-R4078**	SampType: **MBLK**	Units: **pH**	Prep Date: **4/26/2012**	RunNo: **4078**
Client ID: **MBLKS**	Batch ID: **R4078**		Analysis Date: **4/26/2012**	SeqNo: **73260**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hydrogen Ion (pH)	7.89										

Sample ID: **LCS-R4078**	SampType: **LCS**	Units: **pH**	Prep Date: **4/26/2012**	RunNo: **4078**
Client ID: **LCSS**	Batch ID: **R4078**		Analysis Date: **4/26/2012**	SeqNo: **73261**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hydrogen Ion (pH)	7.07		7.000	0	101	95	105				

Sample ID: **1204149-003ADUP**	SampType: **DUP**	Units: **pH**	Prep Date: **4/26/2012**	RunNo: **4078**
Client ID: **GP-10:7.5**	Batch ID: **R4078**		Analysis Date: **4/26/2012**	SeqNo: **73263**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hydrogen Ion (pH)	11.6							11.49	0.694	10	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *5/2/2012*

Work Order: 1204149
CLIENT: Shannon & Wilson
Project: B & K Phase 2

QC SUMMARY REPORT
Total Metals by EPA Method 6020

Sample ID: **MB-2299**	SampType: **MBLK**	Units: **mg/Kg**	Prep Date: **4/27/2012**	RunNo: **4088**
Client ID: **MBLKS**	Batch ID: **2299**		Analysis Date: **4/27/2012**	SeqNo: **73374**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.100									
Lead	ND	0.200									

Sample ID: **LCS-2299**	SampType: **LCS**	Units: **mg/Kg**	Prep Date: **4/27/2012**	RunNo: **4088**
Client ID: **LCSS**	Batch ID: **2299**		Analysis Date: **4/27/2012**	SeqNo: **73375**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	50.7	0.100	50.00	0	101	80	120				
Lead	24.9	0.200	25.00	0	99.4	80	120				

Sample ID: **1204134-006AMS**	SampType: **MS**	Units: **mg/Kg-dry**	Prep Date: **4/27/2012**	RunNo: **4088**
Client ID: **BATCH**	Batch ID: **2299**		Analysis Date: **4/27/2012**	SeqNo: **73383**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	461	0.162	81.24	375.2	106	75	125				
Lead	3,250	0.325	40.62	3,276	-69.8	75	125				S

Sample ID: **1204149-003ADUP**	SampType: **DUP**	Units: **mg/Kg-dry**	Prep Date: **4/27/2012**	RunNo: **4088**
Client ID: **GP-10:7.5**	Batch ID: **2299**		Analysis Date: **4/27/2012**	SeqNo: **73510**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	182	0.210						188.0	3.40	30	
Lead	1,380	0.419						1,429	3.57	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *5/2/2012*

Work Order: 1204149
CLIENT: Shannon & Wilson
Project: B & K Phase 2

QC SUMMARY REPORT
Total Metals by EPA Method 6020

Sample ID: **1204162-003AMS**	SampType: **MS**			Units: **mg/Kg-dry**	Prep Date: **4/27/2012**			RunNo: **4088**			
Client ID: **BATCH**	Batch ID: **2299**				Analysis Date: **4/27/2012**			SeqNo: **73515**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	51.7	0.0809	40.44	5.952	113	75	125				
Lead	23.2	0.162	20.22	2.685	101	75	125				

Sample ID: **1204162-003AMSD**	SampType: **MSD**			Units: **mg/Kg-dry**	Prep Date: **4/27/2012**			RunNo: **4088**			
Client ID: **BATCH**	Batch ID: **2299**				Analysis Date: **4/27/2012**			SeqNo: **73516**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	47.6	0.0741	37.07	5.952	112	75	125	51.66	8.19	30	
Lead	21.3	0.148	18.54	2.685	100	75	125	23.20	8.61	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *5/2/2012*

Work Order: 1204149
CLIENT: Shannon & Wilson
Project: B & K Phase 2

QC SUMMARY REPORT

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Sample ID: **LCS-2302**	SampType: **LCS**			Units: **µg/L**		Prep Date: **4/27/2012**		RunNo: **4092**		
Client ID: **LCSW**	Batch ID: **2302**					Analysis Date: **4/27/2012**		SeqNo: **73429**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	1,490	50.0	2,000	0	74.4	65	135				
Surr: 2-Fluorobiphenyl	99.5		160.0		62.2	50	150				
Surr: o-Terphenyl	132		160.0		82.4	50	150				

Sample ID: **MB-2302**	SampType: **MBLK**			Units: **µg/L**		Prep Date: **4/27/2012**		RunNo: **4092**		
Client ID: **MBLKW**	Batch ID: **2302**					Analysis Date: **4/27/2012**		SeqNo: **73430**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	50.0									
Heavy Oil	ND	100									
Surr: 2-Fluorobiphenyl	96.9		160.0		60.6	50	150				
Surr: o-Terphenyl	132		160.0		82.8	50	150				

Sample ID: **1204149-001ADUP**	SampType: **DUP**			Units: **µg/L**		Prep Date: **4/27/2012**		RunNo: **4092**		
Client ID: **GP-10-WA**	Batch ID: **2302**					Analysis Date: **4/27/2012**		SeqNo: **73455**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	50.0						0	0	30	
Diesel Range Organics (C12-C24)	819	50.0						836.3	2.15	30	
Heavy Oil	ND	100						0	0	30	
Surr: 2-Fluorobiphenyl	97.7		160.0		61.1	50	150		0		
Surr: o-Terphenyl	125		160.0		78.1	50	150		0		

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

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1204149
CLIENT: Shannon & Wilson
Project: B & K Phase 2

QC SUMMARY REPORT
Gasoline by NWTPH-Gx

Sample ID: **MB-R4137**	SampType: **MBLK**	Units: **µg/L**	Prep Date: **5/1/2012**	RunNo: **4137**
Client ID: **MBLKW**	Batch ID: **R4137**		Analysis Date: **5/1/2012**	SeqNo: **74418**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	50.0									
Surr: 1,2-Dichloroethane-d4	11.2		10.00		112	65	135				
Surr: Fluorobenzene	11.8		10.00		118	65	135				

Sample ID: **LCS-R4137**	SampType: **LCS**	Units: **µg/L**	Prep Date: **5/1/2012**	RunNo: **4137**
Client ID: **LCSW**	Batch ID: **R4137**		Analysis Date: **5/1/2012**	SeqNo: **74419**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	460	50.0	500.0	0	92.0	65	135				
Surr: 1,2-Dichloroethane-d4	10.9		10.00		109	65	135				
Surr: Fluorobenzene	11.6		10.00		116	65	135				

Sample ID: **1204165-001ADUP**	SampType: **DUP**	Units: **µg/L**	Prep Date: **5/1/2012**	RunNo: **4137**
Client ID: **BATCH**	Batch ID: **R4137**		Analysis Date: **5/1/2012**	SeqNo: **74422**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	50.0						0	0	30	
Surr: 1,2-Dichloroethane-d4	11.1		10.00		111	65	135		0		
Surr: Fluorobenzene	11.9		10.00		119	65	135		0		

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *5/2/2012*

Work Order: 1204149
CLIENT: Shannon & Wilson
Project: B & K Phase 2

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **MB-R4136** SampType: **MBLK** Units: **µg/L** Prep Date: **5/1/2012** RunNo: **4136**
Client ID: **MBLKW** Batch ID: **R4136** Analysis Date: **5/1/2012** SeqNo: **74403**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	1.00									
Chloromethane	ND	1.00									
Vinyl chloride	ND	0.200									
Bromomethane	ND	1.00									
Trichlorofluoromethane (CFC-11)	ND	1.00									
Chloroethane	ND	1.00									
1,1-Dichloroethene	ND	1.00									
Methylene chloride	ND	1.00									
trans-1,2-Dichloroethene	ND	1.00									
Methyl tert-butyl ether (MTBE)	ND	1.00									
1,1-Dichloroethane	ND	1.00									
2,2-Dichloropropane	ND	2.00									
cis-1,2-Dichloroethene	ND	1.00									
Chloroform	ND	1.00									
1,1,1-Trichloroethane (TCA)	ND	1.00									
1,1-Dichloropropene	ND	1.00									
Carbon tetrachloride	ND	1.00									
1,2-Dichloroethane	ND	1.00									
Benzene	ND	1.00									
Trichloroethene (TCE)	ND	1.00									
1,2-Dichloropropane	ND	1.00									
Bromodichloromethane	ND	1.00									
Dibromomethane	ND	1.00									
cis-1,3-Dichloropropene	ND	1.00									
Toluene	ND	1.00									
trans-1,3-Dichloropropene	ND	1.00									
1,1,2-Trichloroethane	ND	1.00									

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1204149
CLIENT: Shannon & Wilson
Project: B & K Phase 2

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **MB-R4136** SampType: **MBLK** Units: **µg/L** Prep Date: **5/1/2012** RunNo: **4136**
Client ID: **MBLKW** Batch ID: **R4136** Analysis Date: **5/1/2012** SeqNo: **74403**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,3-Dichloropropane	ND	1.00									
Tetrachloroethene (PCE)	ND	1.00									
Dibromochloromethane	ND	1.00									
1,2-Dibromoethane (EDB)	ND	0.0100									
Chlorobenzene	ND	1.00									
1,1,1,2-Tetrachloroethane	ND	1.00									
Ethylbenzene	ND	1.00									
m,p-Xylene	ND	1.00									
o-Xylene	ND	1.00									
Styrene	ND	1.00									
Isopropylbenzene	ND	1.00									
Bromoform	ND	1.00									
1,1,2,2-Tetrachloroethane	ND	1.00									
n-Propylbenzene	ND	1.00									
Bromobenzene	ND	1.00									
1,3,5-Trimethylbenzene	ND	1.00									
2-Chlorotoluene	ND	1.00									
4-Chlorotoluene	ND	1.00									
tert-Butylbenzene	ND	1.00									
1,2,3-Trichloropropane	ND	1.00									
1,2,4-Trichlorobenzene	ND	2.00									
sec-Butylbenzene	ND	1.00									
4-Isopropyltoluene	ND	1.00									
1,3-Dichlorobenzene	ND	1.00									
1,4-Dichlorobenzene	ND	1.00									
n-Butylbenzene	ND	1.00									
1,2-Dichlorobenzene	ND	1.00									

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *5/2/2012*

Work Order: 1204149
CLIENT: Shannon & Wilson
Project: B & K Phase 2

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **MB-R4136** SampType: **MBLK** Units: **µg/L** Prep Date: **5/1/2012** RunNo: **4136**
Client ID: **MBLKW** Batch ID: **R4136** Analysis Date: **5/1/2012** SeqNo: **74403**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dibromo-3-chloropropane	ND	1.00									
1,2,4-Trimethylbenzene	ND	1.00									
Hexachlorobutadiene	ND	4.00									
Naphthalene	ND	1.00									
1,2,3-Trichlorobenzene	ND	4.00									
Surr: 1-Bromo-4-fluorobenzene	10.2		10.00		102	79.2	120				
Surr: Dibromofluoromethane	10.4		10.00		104	76	114				
Surr: Toluene-d8	9.85		10.00		98.5	86.8	119				

Sample ID: **LCS-R4136** SampType: **LCS** Units: **µg/L** Prep Date: **5/1/2012** RunNo: **4136**
Client ID: **LCSW** Batch ID: **R4136** Analysis Date: **5/1/2012** SeqNo: **74404**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	12.5	1.00	10.00	0	125	62.3	136				
Benzene	11.0	1.00	10.00	0	110	73.9	125				
Trichloroethene (TCE)	10.2	1.00	10.00	0	102	59.7	125				
Toluene	10.8	1.00	10.00	0	108	73	126				
Tetrachloroethene (PCE)	5.39	1.00	8.000	0	67.4	50	116				
Chlorobenzene	9.88	1.00	10.00	0	98.8	75.1	121				
Surr: 1-Bromo-4-fluorobenzene	10.1		10.00		101	79.2	120				
Surr: Dibromofluoromethane	10.2		10.00		102	76	114				
Surr: Toluene-d8	10.0		10.00		100	86.8	119				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1204149
CLIENT: Shannon & Wilson
Project: B & K Phase 2

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1204167-001AMS** SampType: **MS** Units: **µg/L** Prep Date: **5/1/2012** RunNo: **4136**
Client ID: **BATCH** Batch ID: **R4136** Analysis Date: **5/1/2012** SeqNo: **74406**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	13.1	1.00	10.00	0	131	54.9	139				
Benzene	11.5	1.00	10.00	0	115	70.7	126				
Trichloroethene (TCE)	11.0	1.00	10.00	0	110	51.8	131				
Toluene	10.8	1.00	10.00	0	108	72.4	122				
Tetrachloroethene (PCE)	5.56	1.00	8.000	0	69.5	50	121				
Chlorobenzene	10.6	1.00	10.00	0	106	68.3	123				
Surr: 1-Bromo-4-fluorobenzene	10.5		10.00		105	79.2	120				
Surr: Dibromofluoromethane	10.3		10.00		103	76	114				
Surr: Toluene-d8	9.92		10.00		99.2	86.8	119				

Sample ID: **1204165-001ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **5/1/2012** RunNo: **4136**
Client ID: **BATCH** Batch ID: **R4136** Analysis Date: **5/1/2012** SeqNo: **74408**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	1.00						0	0	30	
Chloromethane	ND	1.00						0	0	30	
Vinyl chloride	ND	0.200						0	0	30	
Bromomethane	ND	1.00						0	0	30	
Trichlorofluoromethane (CFC-11)	ND	1.00						0	0	30	
Chloroethane	ND	1.00						0	0	30	
1,1-Dichloroethene	ND	1.00						0	0	30	
Methylene chloride	ND	1.00						0	0	30	
trans-1,2-Dichloroethene	ND	1.00						0	0	30	
Methyl tert-butyl ether (MTBE)	ND	1.00						0	0	30	
1,1-Dichloroethane	ND	1.00						0	0	30	
2,2-Dichloropropane	ND	2.00						0	0	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: 5/2/2012

Work Order: 1204149
CLIENT: Shannon & Wilson
Project: B & K Phase 2

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1204165-001ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **5/1/2012** RunNo: **4136**
Client ID: **BATCH** Batch ID: **R4136** Analysis Date: **5/1/2012** SeqNo: **74408**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,2-Dichloroethene	ND	1.00						0	0	30	
Chloroform	ND	1.00						0	0	30	
1,1,1-Trichloroethane (TCA)	ND	1.00						0	0	30	
1,1-Dichloropropene	ND	1.00						0	0	30	
Carbon tetrachloride	ND	1.00						0	0	30	
1,2-Dichloroethane	ND	1.00						0	0	30	
Benzene	ND	1.00						0	0	30	
Trichloroethene (TCE)	ND	1.00						0	0	30	
1,2-Dichloropropane	ND	1.00						0	0	30	
Bromodichloromethane	ND	1.00						0	0	30	
Dibromomethane	ND	1.00						0	0	30	
cis-1,3-Dichloropropene	ND	1.00						0	0	30	
Toluene	ND	1.00						0	0	30	
trans-1,3-Dichloropropene	ND	1.00						0	0	30	
1,1,2-Trichloroethane	ND	1.00						0	0	30	
1,3-Dichloropropane	ND	1.00						0	0	30	
Tetrachloroethene (PCE)	ND	1.00						0	0	30	
Dibromochloromethane	ND	1.00						0	0	30	
1,2-Dibromoethane (EDB)	ND	0.0100						0	0	30	
Chlorobenzene	ND	1.00						0	0	30	
1,1,1,2-Tetrachloroethane	ND	1.00						0	0	30	
Ethylbenzene	ND	1.00						0	0	30	
m,p-Xylene	ND	1.00						0	0	30	
o-Xylene	ND	1.00						0	0	30	
Styrene	ND	1.00						0	0	30	
Isopropylbenzene	ND	1.00						0	0	30	
Bromoform	ND	1.00						0	0	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1204149
CLIENT: Shannon & Wilson
Project: B & K Phase 2

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1204165-001ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **5/1/2012** RunNo: **4136**
Client ID: **BATCH** Batch ID: **R4136** Analysis Date: **5/1/2012** SeqNo: **74408**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2,2-Tetrachloroethane	ND	1.00						0	0	30	
n-Propylbenzene	ND	1.00						0	0	30	
Bromobenzene	ND	1.00						0	0	30	
1,3,5-Trimethylbenzene	ND	1.00						0	0	30	
2-Chlorotoluene	ND	1.00						0	0	30	
4-Chlorotoluene	ND	1.00						0	0	30	
tert-Butylbenzene	ND	1.00						0	0	30	
1,2,3-Trichloropropane	ND	1.00						0	0	30	
1,2,4-Trichlorobenzene	ND	2.00						0	0	30	
sec-Butylbenzene	ND	1.00						0	0	30	
4-Isopropyltoluene	ND	1.00						0	0	30	
1,3-Dichlorobenzene	ND	1.00						0	0	30	
1,4-Dichlorobenzene	ND	1.00						0	0	30	
n-Butylbenzene	ND	1.00						0	0	30	
1,2-Dichlorobenzene	ND	1.00						0	0	30	
1,2-Dibromo-3-chloropropane	ND	1.00						0	0	30	
1,2,4-Trimethylbenzene	ND	1.00						0	0	30	
Hexachlorobutadiene	ND	4.00						0	0	30	
Naphthalene	ND	1.00						0	0	30	
1,2,3-Trichlorobenzene	ND	4.00						0	0	30	
Surr: 1-Bromo-4-fluorobenzene	10.1		10.00		101	79.2	120		0		
Surr: Dibromofluoromethane	10.3		10.00		103	76	114		0		
Surr: Toluene-d8	9.92		10.00		99.2	86.8	119		0		

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Sample Log-In Check List

Client Name: **SW**	Work Order Number: **1204149**
Logged by: **Troy Zehr**	Date Received: **4/26/2012 12:30:00 PM**

Chain of Custody

1.	Were custodial seals present?	Yes ☐	No ☐	Not Required ☑
2.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3.	How was the sample delivered?	Client		

Log In

4.	Coolers are present?	Yes ☑	No ☐	NA ☐
5.	Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
6.	Were all coolers received at a temperature of >0° C to 10.0°C	Yes ☑	No ☐	NA ☐
7.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
8.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
9.	Are samples properly preserved?	Yes ☑	No ☐	
10.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
11.	Is there headspace present in VOA vials?	Yes ☐	No ☑	NA ☐
12.	Did all sample containers arrive in good condition?(unbroken)	Yes ☑	No ☐	
13.	Does paperwork match bottle labels?	Yes ☑	No ☐	
14.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
15.	Is it clear what analyses were requested?	Yes ☑	No ☐	
16.	Were all holding times able to be met?	Yes ☑	No ☐	

Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

18. Additional remarks/Disrepancies

Item Information

Item #	Temp °C	Condition
Cooler	6.8	Good

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS
CORPORATE HEADQUARTERS
400 N. 34th Street, Suite 100
Seattle, WA 98103
(206) 632-8020

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Laboratory Fremont Analytical

Attn:

1204149

(include preservative if used)

Analysis Parameters/Sample Container Description

Sample Identity	Lab No.	Time	Date Sampled	Comp.	Grab	As, Pb	pH	TPH-Dx	TPH-G	VOCs	Metals	Total Number of Containers	Remarks/Matrix
GP-10-WA		1760	4/24		X			X	X	X			H2O Metals
GP-10-7		1705											H2O
GP-10 7.5		1710				X	X						

Project Information	
Project No.:	211257002
Project Name:	B+K Phase 2
Contact:	Cody Johnson
Ongoing Project?	Yes ☐ No ☒
Sampler:	CJ

Sample Receipt	
Total No. of Containers:	
COC Seals/Intact? Y/N/NA	
Received Good Cond./Cold	
Delivery Method:	
(attach shipping bill, if any)	

Instructions	
Requested Turnaround Time:	STD.
Special Instructions:	

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.
Signature:	Signature:	Signature:
Time: 1750	Time:	Time:
Printed Name: Cody Johnson	Printed Name:	Printed Name:
Date: 4/25/12	Date:	Date:
Company: S+W	Company:	Company:

Received By: 1.	Received By: 2.	Received By: 3.
Signature:	Signature:	Signature:
Time: 12:30	Time:	Time:
Printed Name: Troy Zehr	Printed Name:	Printed Name:
Date: 4/26	Date:	Date:
Company: FAI	Company:	Company:

Distribution: White - w/shipment - returned to Shannon & Wilson w/ laboratory report
Yellow - w/shipment - for consignee files
Pink - Shannon & Wilson - job file

1311 N. 35th St.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Shannon & Wilson
Cody Johnson
400 N. 34th Street, Suite 100
Seattle, Washington 98103

RE: FMH/B&K
Lab ID: 1204113

April 26, 2012

Attention Cody Johnson:

Fremont Analytical, Inc. received 4 sample(s) on 4/20/2012 for the analyses presented in the following report.

Dissolved Metals by EPA Method 200.8
Gasoline by NWTPH-Gx
Total Metals by EPA Method 200.8
Volatile Organic Compounds by EPA Method 8260

This report consists of the following:

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

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

Thank you for using Fremont Analytical.

Sincerely,

Michael Dee
Sr. Chemist / Principal

Fremont Analytical

Date: *04/26/2012*

CLIENT: Shannon & Wilson
Project: FMH/B&K
Lab Order: 1204113

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1204113-001	MW-3:GW	04/20/2012 11:24 AM	04/20/2012 3:05 PM
1204113-002	MW-2:GW	04/20/2012 12:20 PM	04/20/2012 3:05 PM
1204113-003	MW-1:GW	04/20/2012 1:19 PM	04/20/2012 3:05 PM
1204113-004	Trip Blank	04/18/2012 1:37 PM	04/20/2012 3:05 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Fremont Analytical

Case Narrative

WO#: **1204113**
Date: **4/26/2012**

CLIENT: Shannon & Wilson
Project: FMH/B&K

I. SAMPLE RECEIPT:
All samples were received intact. The internal ice chest temperatures were measured on receipt and are recorded on the attached Sample Receipt Checklist.

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

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

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

Client: Shannon & Wilson
Project: FMH/B&K
Lab ID: 1204113-001
Client Sample ID: MW-3:GW

Collection Date: 4/20/2012 11:24:00 AM
Matrix: Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Gasoline by NWTPH-Gx				Batch ID: R4037		Analyst: PH
Gasoline	ND	50.0		µg/L	1	4/20/2012 10:50:00 PM
Surr: 1,4-Difluorobenzene	94.8	65-135		%REC	1	4/20/2012 10:50:00 PM
Surr: 4-Bromofluorobenzene	115	65-135		%REC	1	4/20/2012 10:50:00 PM
Volatile Organic Compounds by EPA Method 8260				Batch ID: R4043		Analyst: PH
Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	4/21/2012 11:20:00 AM
Chloromethane	ND	1.00		µg/L	1	4/21/2012 11:20:00 AM
Vinyl chloride	ND	0.200		µg/L	1	4/21/2012 11:20:00 AM
Bromomethane	ND	1.00		µg/L	1	4/21/2012 11:20:00 AM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	4/21/2012 11:20:00 AM
Chloroethane	ND	1.00		µg/L	1	4/21/2012 11:20:00 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	4/21/2012 11:20:00 AM
Methylene chloride	ND	1.00		µg/L	1	4/21/2012 11:20:00 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	4/21/2012 11:20:00 AM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	4/21/2012 11:20:00 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	4/21/2012 11:20:00 AM
2,2-Dichloropropane	ND	2.00		µg/L	1	4/21/2012 11:20:00 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	4/21/2012 11:20:00 AM
Chloroform	ND	1.00		µg/L	1	4/21/2012 11:20:00 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	4/21/2012 11:20:00 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	4/21/2012 11:20:00 AM
Carbon tetrachloride	ND	1.00		µg/L	1	4/21/2012 11:20:00 AM
1,2-Dichloroethane	ND	1.00		µg/L	1	4/21/2012 11:20:00 AM
Benzene	ND	1.00		µg/L	1	4/21/2012 11:20:00 AM
Trichloroethene (TCE)	ND	1.00		µg/L	1	4/21/2012 11:20:00 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	4/21/2012 11:20:00 AM
Bromodichloromethane	ND	1.00		µg/L	1	4/21/2012 11:20:00 AM
Dibromomethane	ND	1.00		µg/L	1	4/21/2012 11:20:00 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	4/21/2012 11:20:00 AM
Toluene	ND	1.00		µg/L	1	4/21/2012 11:20:00 AM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	4/21/2012 11:20:00 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	4/21/2012 11:20:00 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	4/21/2012 11:20:00 AM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	4/21/2012 11:20:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: FMH/B&K
Lab ID: 1204113-001
Client Sample ID: MW-3:GW

Collection Date: 4/20/2012 11:24:00 AM
Matrix: Water

Volatile Organic Compounds by EPA Method 8260

Batch ID: R4043 Analyst: PH

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dibromochloromethane	ND	1.00		µg/L	1	4/21/2012 11:20:00 AM
1,2-Dibromoethane (EDB)	ND	0.0100		µg/L	1	4/21/2012 11:20:00 AM
Chlorobenzene	ND	1.00		µg/L	1	4/21/2012 11:20:00 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	4/21/2012 11:20:00 AM
Ethylbenzene	ND	1.00		µg/L	1	4/21/2012 11:20:00 AM
m,p-Xylene	ND	1.00		µg/L	1	4/21/2012 11:20:00 AM
o-Xylene	ND	1.00		µg/L	1	4/21/2012 11:20:00 AM
Styrene	ND	1.00		µg/L	1	4/21/2012 11:20:00 AM
Isopropylbenzene	ND	1.00		µg/L	1	4/21/2012 11:20:00 AM
Bromoform	ND	1.00		µg/L	1	4/21/2012 11:20:00 AM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	4/21/2012 11:20:00 AM
n-Propylbenzene	ND	1.00		µg/L	1	4/21/2012 11:20:00 AM
Bromobenzene	ND	1.00		µg/L	1	4/21/2012 11:20:00 AM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	4/21/2012 11:20:00 AM
2-Chlorotoluene	ND	1.00		µg/L	1	4/21/2012 11:20:00 AM
4-Chlorotoluene	ND	1.00		µg/L	1	4/21/2012 11:20:00 AM
tert-Butylbenzene	ND	1.00		µg/L	1	4/21/2012 11:20:00 AM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	4/21/2012 11:20:00 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	4/21/2012 11:20:00 AM
sec-Butylbenzene	ND	1.00		µg/L	1	4/21/2012 11:20:00 AM
4-Isopropyltoluene	11.5	1.00		µg/L	1	4/21/2012 11:20:00 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	4/21/2012 11:20:00 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	4/21/2012 11:20:00 AM
n-Butylbenzene	ND	1.00		µg/L	1	4/21/2012 11:20:00 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	4/21/2012 11:20:00 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	4/21/2012 11:20:00 AM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	4/21/2012 11:20:00 AM
Hexachlorobutadiene	ND	4.00		µg/L	1	4/21/2012 11:20:00 AM
Naphthalene	ND	1.00		µg/L	1	4/21/2012 11:20:00 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	4/21/2012 11:20:00 AM
Surr: 1-Bromo-4-fluorobenzene	96.1	79.2-120		%REC	1	4/21/2012 11:20:00 AM
Surr: Dibromofluoromethane	98.3	76-114		%REC	1	4/21/2012 11:20:00 AM
Surr: Toluene-d8	96.1	86.8-119		%REC	1	4/21/2012 11:20:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: FMH/B&K
Lab ID: 1204113-001
Client Sample ID: MW-3:GW

Collection Date: 4/20/2012 11:24:00 AM
Matrix: Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Metals by EPA Method 200.8				Batch ID: 2279		Analyst: BR
Arsenic	2.48	1.00		µg/L	1	4/24/2012 4:51:36 PM
Lead	ND	1.00		µg/L	1	4/24/2012 4:51:36 PM
Total Metals by EPA Method 200.8				Batch ID: 2278		Analyst: BR
Arsenic	5.65	1.00		µg/L	1	4/24/2012 6:13:18 PM
Lead	1.54	1.00		µg/L	1	4/24/2012 6:13:18 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: FMH/B&K
Lab ID: 1204113-002
Client Sample ID: MW-2:GW

Collection Date: 4/20/2012 12:20:00 PM
Matrix: Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Gasoline by NWTPH-Gx				Batch ID: R4037		Analyst: PH
Gasoline	ND	50.0		µg/L	1	4/20/2012 11:20:00 PM
Surr: 1,4-Difluorobenzene	93.0	65-135		%REC	1	4/20/2012 11:20:00 PM
Surr: 4-Bromofluorobenzene	118	65-135		%REC	1	4/20/2012 11:20:00 PM
Volatile Organic Compounds by EPA Method 8260				Batch ID: R4043		Analyst: PH
Benzene	ND	1.00		µg/L	1	4/21/2012 12:22:00 PM
Toluene	ND	1.00		µg/L	1	4/21/2012 12:22:00 PM
Ethylbenzene	ND	1.00		µg/L	1	4/21/2012 12:22:00 PM
m,p-Xylene	ND	1.00		µg/L	1	4/21/2012 12:22:00 PM
o-Xylene	ND	1.00		µg/L	1	4/21/2012 12:22:00 PM
Surr: 1-Bromo-4-fluorobenzene	97.7	79.2-120		%REC	1	4/21/2012 12:22:00 PM
Surr: Dibromofluoromethane	101	76-114		%REC	1	4/21/2012 12:22:00 PM
Surr: Toluene-d8	98.2	86.8-119		%REC	1	4/21/2012 12:22:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: FMH/B&K
Lab ID: 1204113-003
Client Sample ID: MW-1:GW

Collection Date: 4/20/2012 1:19:00 PM
Matrix: Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Metals by EPA Method 200.8				Batch ID: 2279		Analyst: BR
Arsenic	6.67	1.00		µg/L	1	4/24/2012 5:32:01 PM
Lead	1,510	1.00		µg/L	1	4/24/2012 5:32:01 PM
Total Metals by EPA Method 200.8				Batch ID: 2278		Analyst: BR
Arsenic	10.8	1.00		µg/L	1	4/24/2012 6:43:12 PM
Lead	1,910	1.00		µg/L	1	4/24/2012 6:43:12 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *4/26/2012*

Work Order: 1204113
CLIENT: Shannon & Wilson
Project: FMH/B&K

QC SUMMARY REPORT

Dissolved Metals by EPA Method 200.8

Sample ID: **CCV-2279**	SampType: **CCV**	Units: **µg/L**	Prep Date: **4/24/2012**	RunNo: **4061**
Client ID: **CCV**	Batch ID: **2279**		Analysis Date: **4/24/2012**	SeqNo: **73055**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	86.6	1.00	100.0	0	86.6	85	115				
Lead	45.8	1.00	50.00	0	91.6	85	115				

Sample ID: **MB-2279**	SampType: **MBLK**	Units: **µg/L**	Prep Date: **4/24/2012**	RunNo: **4061**
Client ID: **MBLKW**	Batch ID: **2279**		Analysis Date: **4/24/2012**	SeqNo: **73056**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	1.00									
Lead	ND	1.00									

Sample ID: **LCS-2279**	SampType: **LCS**	Units: **µg/L**	Prep Date: **4/24/2012**	RunNo: **4061**
Client ID: **LCSW**	Batch ID: **2279**		Analysis Date: **4/24/2012**	SeqNo: **73057**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	90.7	1.00	100.0	0	90.7	85	115				
Lead	47.6	1.00	50.00	0	95.1	85	115				

Sample ID: **1204113-001CMS**	SampType: **MS**	Units: **µg/L**	Prep Date: **4/24/2012**	RunNo: **4061**
Client ID: **MW-3:GW**	Batch ID: **2279**		Analysis Date: **4/24/2012**	SeqNo: **73060**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	473	1.00	500.0	2.478	94.2	70	130				
Lead	226	1.00	250.0	0.1020	90.4	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *4/26/2012*

Work Order: 1204113
CLIENT: Shannon & Wilson
Project: FMH/B&K

QC SUMMARY REPORT

Dissolved Metals by EPA Method 200.8

Sample ID: **1204113-001CMSD** SampType: **MSD** Units: **µg/L** Prep Date: **4/24/2012** RunNo: **4061**
Client ID: **MW-3:GW** Batch ID: **2279** Analysis Date: **4/24/2012** SeqNo: **73061**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	467	1.00	500.0	2.478	93.0	70	130	473.4	1.31	30	
Lead	222	1.00	250.0	0.1020	88.9	70	130	226.0	1.61	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *4/26/2012*

Work Order: 1204113
CLIENT: Shannon & Wilson
Project: FMH/B&K

QC SUMMARY REPORT

Total Metals by EPA Method 200.8

Sample ID: **MB-2278** SampType: **MBLK** Units: **µg/L** Prep Date: **4/24/2012** RunNo: **4062**
Client ID: **MBLKW** Batch ID: **2278** Analysis Date: **4/24/2012** SeqNo: **73067**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	1.00									
Lead	ND	1.00									

Sample ID: **LCS-2278** SampType: **LCS** Units: **µg/L** Prep Date: **4/24/2012** RunNo: **4062**
Client ID: **LCSW** Batch ID: **2278** Analysis Date: **4/24/2012** SeqNo: **73068**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	91.4	1.00	100.0	0	91.4	85	115				
Lead	46.2	1.00	50.00	0	92.3	85	115				

Sample ID: **1204113-003ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **4/24/2012** RunNo: **4062**
Client ID: **MW-1:GW** Batch ID: **2278** Analysis Date: **4/24/2012** SeqNo: **73073**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.6	1.00						10.78	1.97	30	
Lead	1,870	1.00						1,907	1.87	30	

Sample ID: **1204114-001CMS** SampType: **MS** Units: **µg/L** Prep Date: **4/24/2012** RunNo: **4062**
Client ID: **BATCH** Batch ID: **2278** Analysis Date: **4/24/2012** SeqNo: **73076**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	493	1.00	500.0	0	98.6	70	130				
Lead	232	1.00	250.0	0.1925	92.9	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *4/26/2012*

Work Order: 1204113
CLIENT: Shannon & Wilson
Project: FMH/B&K

QC SUMMARY REPORT

Total Metals by EPA Method 200.8

Sample ID: **1204114-001CMSD** SampType: **MSD** Units: **µg/L** Prep Date: **4/24/2012** RunNo: **4062**
Client ID: **BATCH** Batch ID: **2278** Analysis Date: **4/24/2012** SeqNo: **73077**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	471	1.00	500.0	0	94.1	70	130	493.0	4.67	30	
Lead	226	1.00	250.0	0.1925	90.3	70	130	232.5	2.82	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *4/26/2012*

Work Order: 1204113
CLIENT: Shannon & Wilson
Project: FMH/B&K

QC SUMMARY REPORT
Gasoline by NWTPH-Gx

Sample ID: **MB-R4037**	SampType: **MBLK**	Units: **µg/L**	Prep Date: **4/20/2012**	RunNo: **4037**
Client ID: **MBLKW**	Batch ID: **R4037**		Analysis Date: **4/20/2012**	SeqNo: **72623**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	50.0									
Surr: 1,4-Difluorobenzene	9.08		10.00		90.8	65	135				
Surr: 4-Bromofluorobenzene	11.2		10.00		112	65	135				

Sample ID: **LCS-R4037**	SampType: **LCS**	Units: **µg/L**	Prep Date: **4/20/2012**	RunNo: **4037**
Client ID: **LCSW**	Batch ID: **R4037**		Analysis Date: **4/20/2012**	SeqNo: **72624**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	458	50.0	500.0	0	91.6	65	135				
Surr: 1,4-Difluorobenzene	9.28		10.00		92.8	65	135				
Surr: 4-Bromofluorobenzene	8.62		10.00		86.2	65	135				

Sample ID: **LCSD-R4037**	SampType: **LCSD**	Units: **µg/L**	Prep Date: **4/20/2012**	RunNo: **4037**
Client ID: **LCSW02**	Batch ID: **R4037**		Analysis Date: **4/20/2012**	SeqNo: **72625**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	471	50.0	500.0	0	94.3	65	135	457.9	2.89	30	
Surr: 1,4-Difluorobenzene	9.46		10.00		94.6	65	135		0	0	
Surr: 4-Bromofluorobenzene	8.76		10.00		87.6	65	135		0	0	

Sample ID: **1204113-002ADUP**	SampType: **DUP**	Units: **µg/L**	Prep Date: **4/20/2012**	RunNo: **4037**
Client ID: **MW-2:GW**	Batch ID: **R4037**		Analysis Date: **4/20/2012**	SeqNo: **72651**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	50.0						0	0	30	
Surr: 1,4-Difluorobenzene	9.55		10.00		95.5	65	135		0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1204113
CLIENT: Shannon & Wilson
Project: FMH/B&K

QC SUMMARY REPORT

Gasoline by NWTPH-Gx

Sample ID: **1204113-002ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **4/20/2012** RunNo: **4037**
Client ID: **MW-2:GW** Batch ID: **R4037** Analysis Date: **4/20/2012** SeqNo: **72651**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	11.6		10.00		116	65	135		0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *4/26/2012*

Work Order: 1204113
CLIENT: Shannon & Wilson
Project: FMH/B&K

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **MB-R4043** SampType: **MBLK** Units: **µg/L** Prep Date: **4/21/2012** RunNo: **4043**
Client ID: **MBLKW** Batch ID: **R4043** Analysis Date: **4/21/2012** SeqNo: **72787**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	1.00									
Chloromethane	ND	1.00									
Vinyl chloride	ND	0.200									
Bromomethane	ND	1.00									
Trichlorofluoromethane (CFC-11)	ND	1.00									
Chloroethane	ND	1.00									
1,1-Dichloroethene	ND	1.00									
Methylene chloride	ND	1.00									
trans-1,2-Dichloroethene	ND	1.00									
Methyl tert-butyl ether (MTBE)	ND	1.00									
1,1-Dichloroethane	ND	1.00									
2,2-Dichloropropane	ND	2.00									
cis-1,2-Dichloroethene	ND	1.00									
Chloroform	ND	1.00									
1,1,1-Trichloroethane (TCA)	ND	1.00									
1,1-Dichloropropene	ND	1.00									
Carbon tetrachloride	ND	1.00									
1,2-Dichloroethane	ND	1.00									
Benzene	ND	1.00									
Trichloroethene (TCE)	ND	1.00									
1,2-Dichloropropane	ND	1.00									
Bromodichloromethane	ND	1.00									
Dibromomethane	ND	1.00									
cis-1,3-Dichloropropene	ND	1.00									
Toluene	ND	1.00									
trans-1,3-Dichloropropene	ND	1.00									
1,1,2-Trichloroethane	ND	1.00									

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1204113
CLIENT: Shannon & Wilson
Project: FMH/B&K

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **MB-R4043** SampType: **MBLK** Units: **µg/L** Prep Date: **4/21/2012** RunNo: **4043**
Client ID: **MBLKW** Batch ID: **R4043** Analysis Date: **4/21/2012** SeqNo: **72787**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,3-Dichloropropane	ND	1.00									
Tetrachloroethene (PCE)	ND	1.00									
Dibromochloromethane	ND	1.00									
1,2-Dibromoethane (EDB)	ND	0.0100									
Chlorobenzene	ND	1.00									
1,1,1,2-Tetrachloroethane	ND	1.00									
Ethylbenzene	ND	1.00									
m,p-Xylene	ND	1.00									
o-Xylene	ND	1.00									
Styrene	ND	1.00									
Isopropylbenzene	ND	1.00									
Bromoform	ND	1.00									
1,1,2,2-Tetrachloroethane	ND	1.00									
n-Propylbenzene	ND	1.00									
Bromobenzene	ND	1.00									
1,3,5-Trimethylbenzene	ND	1.00									
2-Chlorotoluene	ND	1.00									
4-Chlorotoluene	ND	1.00									
tert-Butylbenzene	ND	1.00									
1,2,3-Trichloropropane	ND	1.00									
1,2,4-Trichlorobenzene	ND	2.00									
sec-Butylbenzene	ND	1.00									
4-Isopropyltoluene	ND	1.00									
1,3-Dichlorobenzene	ND	1.00									
1,4-Dichlorobenzene	ND	1.00									
n-Butylbenzene	ND	1.00									
1,2-Dichlorobenzene	ND	1.00									

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *4/26/2012*

Work Order: 1204113
CLIENT: Shannon & Wilson
Project: FMH/B&K

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **MB-R4043** SampType: **MBLK** Units: **µg/L** Prep Date: **4/21/2012** RunNo: **4043**
Client ID: **MBLKW** Batch ID: **R4043** Analysis Date: **4/21/2012** SeqNo: **72787**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dibromo-3-chloropropane	ND	1.00									
1,2,4-Trimethylbenzene	ND	1.00									
Hexachlorobutadiene	ND	4.00									
Naphthalene	ND	1.00									
1,2,3-Trichlorobenzene	ND	4.00									
Surr: 1-Bromo-4-fluorobenzene	9.34		10.00		93.4	79.2	120				
Surr: Dibromofluoromethane	9.73		10.00		97.3	76	114				
Surr: Toluene-d8	9.72		10.00		97.2	86.8	119				

Sample ID: **LCS-R4043** SampType: **LCS** Units: **µg/L** Prep Date: **4/21/2012** RunNo: **4043**
Client ID: **LCSW** Batch ID: **R4043** Analysis Date: **4/21/2012** SeqNo: **72788**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	10.3	1.00	10.00	0	103	62.3	136				
Benzene	9.50	1.00	10.00	0	95.0	73.9	125				
Trichloroethene (TCE)	9.60	1.00	10.00	0	96.0	59.7	125				
Toluene	9.74	1.00	10.00	0	97.4	73	126				
Tetrachloroethene (PCE)	6.71	1.00	8.000	0	83.9	50	116				
Chlorobenzene	9.88	1.00	10.00	0	98.8	75.1	121				
Surr: 1-Bromo-4-fluorobenzene	9.55		10.00		95.5	79.2	120				
Surr: Dibromofluoromethane	9.63		10.00		96.3	76	114				
Surr: Toluene-d8	9.71		10.00		97.1	86.8	119				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1204113
CLIENT: Shannon & Wilson
Project: FMH/B&K

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1204113-001ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **4/21/2012** RunNo: **4043**
Client ID: **MW-3:GW** Batch ID: **R4043** Analysis Date: **4/21/2012** SeqNo: **72793**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	1.00						0	0	30	
Chloromethane	ND	1.00						0	0	30	
Vinyl chloride	ND	0.200						0	0	30	
Bromomethane	ND	1.00						0	0	30	
Trichlorofluoromethane (CFC-11)	ND	1.00						0	0	30	
Chloroethane	ND	1.00						0	0	30	
1,1-Dichloroethene	ND	1.00						0	0	30	
Methylene chloride	ND	1.00						0	0	30	
trans-1,2-Dichloroethene	ND	1.00						0	0	30	
Methyl tert-butyl ether (MTBE)	ND	1.00						0	0	30	
1,1-Dichloroethane	ND	1.00						0	0	30	
2,2-Dichloropropane	ND	2.00						0	0	30	
cis-1,2-Dichloroethene	ND	1.00						0	0	30	
Chloroform	ND	1.00						0	0	30	
1,1,1-Trichloroethane (TCA)	ND	1.00						0	0	30	
1,1-Dichloropropene	ND	1.00						0	0	30	
Carbon tetrachloride	ND	1.00						0	0	30	
1,2-Dichloroethane	ND	1.00						0	0	30	
Benzene	ND	1.00						0	0	30	
Trichloroethene (TCE)	ND	1.00						0	0	30	
1,2-Dichloropropane	ND	1.00						0	0	30	
Bromodichloromethane	ND	1.00						0	0	30	
Dibromomethane	ND	1.00						0	0	30	
cis-1,3-Dichloropropene	ND	1.00						0	0	30	
Toluene	ND	1.00						0	0	30	
trans-1,3-Dichloropropene	ND	1.00						0	0	30	
1,1,2-Trichloroethane	ND	1.00						0	0	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *4/26/2012*

Work Order: 1204113
CLIENT: Shannon & Wilson
Project: FMH/B&K

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1204113-001ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **4/21/2012** RunNo: **4043**
Client ID: **MW-3:GW** Batch ID: **R4043** Analysis Date: **4/21/2012** SeqNo: **72793**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,3-Dichloropropane	ND	1.00						0	0	30	
Tetrachloroethene (PCE)	ND	1.00						0	0	30	
Dibromochloromethane	ND	1.00						0	0	30	
1,2-Dibromoethane (EDB)	ND	0.0100						0	0	30	
Chlorobenzene	ND	1.00						0	0	30	
1,1,1,2-Tetrachloroethane	ND	1.00						0	0	30	
Ethylbenzene	ND	1.00						0	0	30	
m,p-Xylene	ND	1.00						0	0	30	
o-Xylene	ND	1.00						0	0	30	
Styrene	ND	1.00						0	0	30	
Isopropylbenzene	ND	1.00						0	0	30	
Bromoform	ND	1.00						0	0	30	
1,1,2,2-Tetrachloroethane	ND	1.00						0	0	30	
n-Propylbenzene	ND	1.00						0	0	30	
Bromobenzene	ND	1.00						0	0	30	
1,3,5-Trimethylbenzene	ND	1.00						0	0	30	
2-Chlorotoluene	ND	1.00						0	0	30	
4-Chlorotoluene	ND	1.00						0	0	30	
tert-Butylbenzene	ND	1.00						0	0	30	
1,2,3-Trichloropropane	ND	1.00						0	0	30	
1,2,4-Trichlorobenzene	ND	2.00						0	0	30	
sec-Butylbenzene	ND	1.00						0	0	30	
4-Isopropyltoluene	12.4	1.00						11.51	7.12	30	
1,3-Dichlorobenzene	ND	1.00						0	0	30	
1,4-Dichlorobenzene	ND	1.00						0	0	30	
n-Butylbenzene	ND	1.00						0	0	30	
1,2-Dichlorobenzene	ND	1.00						0	0	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: 4/26/2012

Work Order: 1204113
CLIENT: Shannon & Wilson
Project: FMH/B&K

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1204113-001ADUP**	SampType: **DUP**	Units: **µg/L**	Prep Date: **4/21/2012**	RunNo: **4043**
Client ID: **MW-3:GW**	Batch ID: **R4043**		Analysis Date: **4/21/2012**	SeqNo: **72793**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dibromo-3-chloropropane	ND	1.00						0	0	30	
1,2,4-Trimethylbenzene	ND	1.00						0	0	30	
Hexachlorobutadiene	ND	4.00						0	0	30	
Naphthalene	ND	1.00						0	0	30	
1,2,3-Trichlorobenzene	ND	4.00						0	0	30	
Surr: 1-Bromo-4-fluorobenzene	9.73		10.00		97.3	79.2	120		0		
Surr: Dibromofluoromethane	10.1		10.00		101	76	114		0		
Surr: Toluene-d8	9.77		10.00		97.7	86.8	119		0		

Sample ID: **1204110-002AMS**	SampType: **MS**	Units: **µg/L**	Prep Date: **4/21/2012**	RunNo: **4043**
Client ID: **BATCH**	Batch ID: **R4043**		Analysis Date: **4/21/2012**	SeqNo: **72798**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	10.0	1.00	10.00	0	100	54.9	139				
Benzene	9.91	1.00	10.00	0	99.1	70.7	126				
Trichloroethene (TCE)	9.78	1.00	10.00	0	97.8	51.8	131				
Toluene	9.82	1.00	10.00	0	98.2	72.4	122				
Tetrachloroethene (PCE)	6.65	1.00	8.000	0	83.1	50	121				
Chlorobenzene	9.81	1.00	10.00	0	98.1	68.3	123				
Surr: 1-Bromo-4-fluorobenzene	9.97		10.00		99.7	79.2	120				
Surr: Dibromofluoromethane	10.2		10.00		103	76	114				
Surr: Toluene-d8	9.81		10.00		98.1	86.8	119				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Sample Log-In Check List

Client Name: **SW**	Work Order Number: **1204113**
Logged by: **Troy Zehr**	Date Received: **4/20/2012 3:05:00 PM**

Chain of Custody

1.	Were custodial seals present?	Yes ☐	No ☐	Not Required ☑
2.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3.	How was the sample delivered?	Client		

Log In

4.	Coolers are present?	Yes ☑	No ☐	NA ☐
5.	Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
6.	Were all coolers received at a temperature of >0° C to 10.0°C	Yes ☑	No ☐	NA ☐
7.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
8.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
9.	Are samples properly preserved?	Yes ☑	No ☐	
10.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
11.	Is there headspace present in VOA vials?	Yes ☐	No ☑	NA ☐
12.	Did all sample containers arrive in good condition?(unbroken)	Yes ☑	No ☐	
13.	Does paperwork match bottle labels?	Yes ☑	No ☐	
14.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
15.	Is it clear what analyses were requested?	Yes ☑	No ☐	
16.	Were all holding times able to be met?	Yes ☑	No ☐	

Special Handling (if applicable)

17.	Was client notified of all discrepancies with this order?	Yes ☐	No ☐	NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

18. Additional remarks/Disrepancies

Item Information

Item #	Temp °C	Condition
Cooler	5.2	Good

Fremont Analytical

Chain of Custody Record

1311 N. 35th Street
Seattle, WA 98103

Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (internal): 1204113

Date: 4/20/12

Page: 1 of: 1

Client: Shannon & Wilson, Inc.
Address: 400 N 34th St.
City, State, Zip: Seattle, WA
Tel: 206-632-8020

Project Name: FMH/B&K
Location: 1313 S 96th St. Seattle, WA
Collected by: JML

Reports To (PM): CMJ
Fax:
Email: cmj@shanwil.com
Project No: 21-1-12357-003

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)	VOC (EPA 8260)	GX/BTEX by EPA 8021b	BTEX by 8260	Gasoline Range Organics	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics	SEMI VOC (EPA 8270)	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Cl Pesticides (EPA 8081)	Cl Herbicides (EPA 8151A)	Metals (6020 / 200.8)	Total (T) / Dissolved (D)	Anions (IC)**	Comments/Depth
1 MW-3:GW	4/20/12	11:24	GW	X		X								X		T/D		NOT FIELD FILTERED
2 MW-2:GW	↓	12:20	↓		X													
3 MW-1:GW	↓	13:19	↓											X		T/D		NOT FIELD FILTERED
4																		
5																		
6																		
7																		
8																		
9																		
10																		

*Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al (As) B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni (Pb) Sb Se Sr Sn Ti Tl U V Zn

**Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Sample Disposal: ☐ Return to Client ☒ Disposal by lab (A fee may be assessed if samples are retained after 30 days.)

Special Remarks:

Relinquished	Date/Time	Received	Date/Time
x	4/20/12 15:05		4/20/12 1505
Relinquished	Date/Time	Received	Date/Time
x			

TAT --> Next Day 2 Day 3 Day (STD)

1311 N. 35th St.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Shannon & Wilson
Cody Johnson
400 N. 34th Street, Suite 100
Seattle, Washington 98103

RE: BNK
Lab ID: 1202057

February 14, 2012

Attention Cody Johnson:

Fremont Analytical, Inc. received 1 sample(s) on 1/31/2011 for the analyses presented in the following report.

Metals (SW6020) with TCLP Extraction (EPA 1311)

This report consists of the following:

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

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

Thank you for using Fremont Analytical.

Sincerely,

Michelle Clements
Sr. Chemist / Lab Manager

Fremont Analytical

Date: *02/14/2012*

CLIENT: Shannon & Wilson
Project: BNK
Lab Order: 1202057

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1202057-001	MW-1:4	01/27/2012 10:00 AM	01/31/2012 2:27 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **1202057**
Date: **2/14/2012**

CLIENT: Shannon & Wilson
Project: BNK

I. SAMPLE RECEIPT:
All samples were received intact.

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

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

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

Analytical Report

WO#: **1202057**
Date Reported: **2/14/2012**

Client: Shannon & Wilson
Collection Date: 1/27/2012 10:00:00 AM
Project: BNK
Lab ID: 1202057-001
Matrix: Soil
Client Sample ID: MW-1:4

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Metals (SW6020) with TCLP Extraction (EPA 1311)				Batch ID: 1880		Analyst: BR
Arsenic	0.00632	0.00100		mg/L	1	2/13/2012 3:29:11 PM
Lead	1.56	0.00100		mg/L	1	2/13/2012 3:29:11 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *2/14/2012*

Work Order: 1202057
CLIENT: Shannon & Wilson
Project: BNK

QC SUMMARY REPORT

Metals (SW6020) with TCLP Extraction (EPA 1311)

Sample ID: **MB-1880**	SampType: **MBLK**	Units: **mg/L**	Prep Date: **2/13/2012**	RunNo: **3346**
Client ID: **MBLKS**	Batch ID: **1880**		Analysis Date: **2/13/2012**	SeqNo: **59511**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.00100									
Lead	ND	0.00100									

Sample ID: **LCS-1880**	SampType: **LCS**	Units: **mg/L**	Prep Date: **2/13/2012**	RunNo: **3346**
Client ID: **LCSS**	Batch ID: **1880**		Analysis Date: **2/13/2012**	SeqNo: **59512**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	1.16	0.00100	1.250	0	92.7	65	135				
Lead	0.633	0.00100	0.6250	0	101	65	135				

Sample ID: **1202057-001ADUP**	SampType: **DUP**	Units: **mg/L**	Prep Date: **2/13/2012**	RunNo: **3346**
Client ID: **MW-1:4**	Batch ID: **1880**		Analysis Date: **2/13/2012**	SeqNo: **59514**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.00544	0.00100						0.006316	14.9	30	
Lead	1.53	0.00100						1.561	2.13	20	

Sample ID: **1202057-001AMS**	SampType: **MS**	Units: **mg/L**	Prep Date: **2/13/2012**	RunNo: **3346**
Client ID: **MW-1:4**	Batch ID: **1880**		Analysis Date: **2/13/2012**	SeqNo: **59515**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	1.63	0.00100	1.250	0.006316	130	65	135				
Lead	2.01	0.00100	0.6250	1.561	71.7	65	135				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *2/14/2012*

Work Order: 1202057
CLIENT: Shannon & Wilson
Project: BNK

QC SUMMARY REPORT

Metals (SW6020) with TCLP Extraction (EPA 1311)

Sample ID: **1202057-001AMSD**	SampType: **MSD**			Units: **mg/L**	Prep Date: **2/13/2012**		RunNo: **3346**		
Client ID: **MW-1:4**	Batch ID: **1880**				Analysis Date: **2/13/2012**		SeqNo: **59516**		

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	1.68	0.00100	1.250	0.006316	134	65	135	1.627	3.38	30	
Lead	1.98	0.00100	0.6250	1.561	66.8	65	135	2.009	1.54	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Chain of Custody Record

120257

Laboratory Project No (Internal): 120159

1321 N. 35th Street
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Date: 1/31/12

Page: 1 of: 1

Client: Shannon & Wilson
Address: 400 W. 34th St.
City, State, Zip: Seattle WA 98126 Tel: 206-632-8020
Reports To (PM): Cody Johnson Fax: Email: cmj@shanwil.com

Project Name: BNK
Location: 1313 S 96th
Collected by: JMW / JMH
Project No: 21-1-12357-002

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)	VOC (EPA 8260)	GX/BTEX by EPA 8021B	BTEX by 8260	Gasoline Range Organics	Hydrocarbon Identification (NWTPH)	Diesel/Heavy Oil Range Organics	SEMI VOL (EPA 8270)	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Cl Pesticides (EPA 8081)	Cl Herbicides (EPA 8151A)	Metals* (6020 / 200.8)	Total (T) / Dissolved (D)	Anions (IC)**	TCLP-Pb,As	Comments/Depth
1 MW-1	1/31	1335	W					X											(X) Add Analysis per S&W 2/8/12
2 MW-2	1/31	1320	W					X											
3 MW-3	1/31	1050	W					X											
4 MW-[illegible]4	1/27/12	1000	S											X			(X)		
5 Composite disposal ?	1/27/12	1500	S					X						X					
6																			
7																			
8																			
9																			
10																			

*Metals Analysis (Circle): (MTCA-5) RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

**Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Special Remarks:

Relinquished	Date/Time	Received	Date/Time
x [signature]	1/31/12 1427	x [signature]	1/31/12 14:27
Relinquished	Date/Time	Received	Date/Time
x		x	

TAT --> Next Day 2 Day 3 Day (STD)

Distribution: White - Lab, Yellow - File, Pink - Originator

www.fremontanalytical.com

1311 N. 35th St.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Shannon & Wilson
Cody Johnson
400 N. 34th Street, Suite 100
Seattle, Washington 98103

RE: BNK
Lab ID: 1201159

February 07, 2012

Attention Cody Johnson:

Fremont Analytical, Inc. received 5 sample(s) on 1/31/2012 for the analyses presented in the following report.

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.
Mercury by EPA Method 7471
Total Metals by EPA Method 6020

This report consists of the following:

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

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

Thank you for using Fremont Analytical.

Sincerely,

Michael Dee
Sr. Chemist / Principal

Fremont Analytical

Date: *02/07/2012*

CLIENT: Shannon & Wilson
Project: BNK
Lab Order: 1201159

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1201159-001	MW-1	01/31/2012 1:35 PM	01/31/2012 2:27 PM
1201159-002	MW-2	01/31/2012 12:20 PM	01/31/2012 2:27 PM
1201159-003	MW-3	01/31/2012 10:50 AM	01/31/2012 2:27 PM
1201159-004	MW-1:4	01/27/2012 10:00 AM	01/31/2012 2:27 PM
1201159-005	Composite Disposal 1	01/27/2012 3:00 PM	01/31/2012 2:27 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **1201159**
Date: **2/7/2012**

CLIENT: Shannon & Wilson
Project: BNK

I. SAMPLE RECEIPT:
All samples were received intact. The internal ice chest temperatures were measured on receipt and are recorded on the attached Sample Receipt Checklist.

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

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

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

Client: Shannon & Wilson
Collection Date: 1/31/2012 1:35:00 PM
Project: BNK
Lab ID: 1201159-001
Matrix: Water
Client Sample ID: MW-1

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: R3252		Analyst: EM
Diesel (Fuel Oil)	ND	50.0		µg/L	1	2/2/2012 4:55:00 PM
Heavy Oil	ND	100		µg/L	1	2/2/2012 4:55:00 PM
Surr: 2-Fluorobiphenyl	119	59-137		%REC	1	2/2/2012 4:55:00 PM
Surr: o-Terphenyl	110	55.5-139		%REC	1	2/2/2012 4:55:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1201159**
Date Reported: **2/7/2012**

Client: Shannon & Wilson
Collection Date: 1/31/2012 12:20:00 PM
Project: BNK
Lab ID: 1201159-002
Matrix: Water
Client Sample ID: MW-2

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: R3252		Analyst: EM
Diesel (Fuel Oil)	ND	50.0		µg/L	1	2/2/2012 5:50:00 PM
Heavy Oil	ND	100		µg/L	1	2/2/2012 5:50:00 PM
Surr: 2-Fluorobiphenyl	101	59-137		%REC	1	2/2/2012 5:50:00 PM
Surr: o-Terphenyl	113	55.5-139		%REC	1	2/2/2012 5:50:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Project: BNK
Lab ID: 1201159-003
Client Sample ID: MW-3

Collection Date: 1/31/2012 10:50:00 AM
Matrix: Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: R3252		Analyst: EM
Diesel (Fuel Oil)	ND	50.0		µg/L	1	2/2/2012 7:40:00 PM
Heavy Oil	ND	100		µg/L	1	2/2/2012 7:40:00 PM
Surr: 2-Fluorobiphenyl	124	59-137		%REC	1	2/2/2012 7:40:00 PM
Surr: o-Terphenyl	124	55.5-139		%REC	1	2/2/2012 7:40:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 1/27/2012 10:00:00 AM
Project: BNK
Lab ID: 1201159-004
Matrix: Soil
Client Sample ID: MW-1:4

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020				Batch ID: 1828		Analyst: BR
Arsenic	301	0.160		mg/Kg-dry	1	2/2/2012 9:59:33 AM
Cadmium	10.9	0.320		mg/Kg-dry	1	2/2/2012 9:59:33 AM
Chromium	17.6	0.160		mg/Kg-dry	1	2/2/2012 9:59:33 AM
Lead	3,240	0.320		mg/Kg-dry	1	2/2/2012 9:59:33 AM
Mercury by EPA Method 7471				Batch ID: 1825		Analyst: MC
Mercury	ND	0.505		mg/Kg-dry	1	2/1/2012 2:38:12 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Shannon & Wilson
Collection Date: 1/27/2012 3:00:00 PM
Project: BNK
Lab ID: 1201159-005
Matrix: Soil
Client Sample ID: Composite Disposal 1

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 1830		Analyst: EM
Diesel (Fuel Oil)	ND	23.7		mg/Kg-dry	1	2/1/2012 7:25:00 PM
Heavy Oil	ND	59.2		mg/Kg-dry	1	2/1/2012 7:25:00 PM
Surr: 2-Fluorobiphenyl	101	75-135		%REC	1	2/1/2012 7:25:00 PM
Surr: o-Terphenyl	90.2	71.2-128		%REC	1	2/1/2012 7:25:00 PM
Total Metals by EPA Method 6020				Batch ID: 1828		Analyst: BR
Arsenic	19.4	0.105		mg/Kg-dry	1	2/2/2012 10:16:34 AM
Cadmium	0.864	0.211		mg/Kg-dry	1	2/2/2012 10:16:34 AM
Chromium	44.9	0.105		mg/Kg-dry	1	2/2/2012 10:16:34 AM
Lead	178	0.211		mg/Kg-dry	1	2/2/2012 10:16:34 AM
Mercury by EPA Method 7471				Batch ID: 1825		Analyst: MC
Mercury	ND	0.261		mg/Kg-dry	1	2/1/2012 2:41:39 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: 2/7/2012

Work Order: 1201159
CLIENT: Shannon & Wilson
Project: BNK

QC SUMMARY REPORT
Total Metals by EPA Method 6020

Sample ID: **MB-1828**	SampType: **MBLK**	Units: **mg/Kg**	Prep Date: **2/1/2012**	RunNo: **3245**
Client ID: **MBLKS**	Batch ID: **1828**		Analysis Date: **2/2/2012**	SeqNo: **57812**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.100									
Cadmium	ND	0.200									
Chromium	ND	0.100									
Lead	ND	0.200									

Sample ID: **LCS-1828**	SampType: **LCS**	Units: **mg/Kg**	Prep Date: **2/1/2012**	RunNo: **3245**
Client ID: **LCSS**	Batch ID: **1828**		Analysis Date: **2/2/2012**	SeqNo: **57813**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	50.7	0.100	50.00	0	101	80	120				
Cadmium	2.59	0.200	2.500	0	103	80	120				
Chromium	55.0	0.100	50.00	0	110	80	120				
Lead	27.3	0.200	25.00	0	109	80	120				

Sample ID: **1201090-004BDUP**	SampType: **DUP**	Units: **mg/Kg-dry**	Prep Date: **2/1/2012**	RunNo: **3245**
Client ID: **BATCH**	Batch ID: **1828**		Analysis Date: **2/2/2012**	SeqNo: **57815**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	1.47	0.101						1.424	3.28	30	
Cadmium	0.550	0.202						0.5402	1.83	30	
Chromium	26.8	0.101						25.50	4.80	30	
Lead	10.2	0.202						9.933	2.17	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *2/7/2012*

Work Order: 1201159
CLIENT: Shannon & Wilson
Project: BNK

QC SUMMARY REPORT

Total Metals by EPA Method 6020

Sample ID: **1201090-004BMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **2/1/2012** RunNo: **3245**
Client ID: **BATCH** Batch ID: **1828** Analysis Date: **2/2/2012** SeqNo: **57816**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	55.7	0.108	54.12	1.424	100	75	125				
Cadmium	3.41	0.216	2.706	0.5402	106	75	125				
Chromium	88.1	0.108	54.12	25.50	116	75	125				
Lead	37.8	0.216	27.06	9.933	103	75	125				

Sample ID: **1201090-004BMSD** SampType: **MSD** Units: **mg/Kg-dry** Prep Date: **2/1/2012** RunNo: **3245**
Client ID: **BATCH** Batch ID: **1828** Analysis Date: **2/2/2012** SeqNo: **57817**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	51.8	0.103	51.27	1.424	98.3	75	125	55.65	7.17	30	
Cadmium	3.26	0.205	2.564	0.5402	106	75	125	3.411	4.66	30	
Chromium	83.9	0.103	51.27	25.50	114	75	125	88.06	4.87	30	
Lead	35.8	0.205	25.64	9.933	101	75	125	37.78	5.32	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *2/7/2012*

Work Order: 1201159
CLIENT: Shannon & Wilson
Project: BNK

QC SUMMARY REPORT
Mercury by EPA Method 7471

Sample ID: **MB-1825**	SampType: **MBLK**			Units: **mg/Kg**		Prep Date: **2/1/2012**		RunNo: **3229**			
Client ID: **MBLKS**	Batch ID: **1825**					Analysis Date: **2/1/2012**		SeqNo: **56974**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.250									

Sample ID: **LCS-1825**	SampType: **LCS**			Units: **mg/Kg**		Prep Date: **2/1/2012**		RunNo: **3229**			
Client ID: **LCSS**	Batch ID: **1825**					Analysis Date: **2/1/2012**		SeqNo: **56975**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.500	0.250	0.5000	0	100	85	115				

Sample ID: **1201090-004BMS**	SampType: **MS**			Units: **mg/Kg-dry**		Prep Date: **2/1/2012**		RunNo: **3229**			
Client ID: **BATCH**	Batch ID: **1825**					Analysis Date: **2/1/2012**		SeqNo: **56978**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.755	0.328	0.6557	0	115	70	130				

Sample ID: **1201090-004BMSD**	SampType: **MSD**			Units: **mg/Kg-dry**		Prep Date: **2/1/2012**		RunNo: **3229**			
Client ID: **BATCH**	Batch ID: **1825**					Analysis Date: **2/1/2012**		SeqNo: **56979**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.644	0.316	0.6314	0	102	70	130	0.7554	15.9	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *2/7/2012*

Work Order: 1201159
CLIENT: Shannon & Wilson
Project: BNK

QC SUMMARY REPORT
Mercury by EPA Method 7471

Sample ID: **1201159-005ADUP** SampType: **DUP** Units: **µg/L-dry** Prep Date: **2/1/2012** RunNo: **3229**
Client ID: **Composite Disposal 1** Batch ID: **1825** Analysis Date: **2/1/2012** SeqNo: **56986**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.269						0	0	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *2/7/2012*

Work Order: 1201159
CLIENT: Shannon & Wilson
Project: BNK

QC SUMMARY REPORT

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Sample ID: **LCS-1830**	SampType: **LCS**	Units: **mg/Kg**	Prep Date: **2/1/2012**	RunNo: **3225**
Client ID: **LCSS**	Batch ID: **1830**		Analysis Date: **2/1/2012**	SeqNo: **56941**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	451	20.0	500.0	0	90.2	65	135				
Surr: 2-Fluorobiphenyl	20.5		20.00		103	75	135				
Surr: o-Terphenyl	19.2		20.00		95.9	71.2	128				

Sample ID: **MB-1830**	SampType: **MBLK**	Units: **mg/Kg**	Prep Date: **2/1/2012**	RunNo: **3225**
Client ID: **MBLKS**	Batch ID: **1830**		Analysis Date: **2/1/2012**	SeqNo: **56942**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	20.0									
Heavy Oil	ND	50.0									
Surr: 2-Fluorobiphenyl	21.3		20.00		106	75	135				
Surr: o-Terphenyl	20.8		20.00		104	71.2	128				

Sample ID: **1201159-005ADUP**	SampType: **DUP**	Units: **mg/Kg-dry**	Prep Date: **2/1/2012**	RunNo: **3225**
Client ID: **Composite Disposal 1**	Batch ID: **1830**		Analysis Date: **2/1/2012**	SeqNo: **58397**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	24.5						0	0	30	
Heavy Oil	ND	61.2						0	0	30	
Surr: 2-Fluorobiphenyl	25.8		24.47		105	75	135		0		
Surr: o-Terphenyl	22.8		24.47		93.3	71.2	128		0		

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *2/7/2012*

Work Order: 1201159
CLIENT: Shannon & Wilson
Project: BNK

QC SUMMARY REPORT

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Sample ID: **LCS-R3252**	SampType: **LCS**	Units: **µg/L**	Prep Date: **2/1/2012**	RunNo: **3252**
Client ID: **LCSW**	Batch ID: **R3252**		Analysis Date: **2/2/2012**	SeqNo: **57915**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	2,020	50.0	2,000	0	101	65	135				
Surr: 2-Fluorobiphenyl	61.0		80.00		76.3	59	137				
Surr: o-Terphenyl	84.3		80.00		105	55.5	139				

Sample ID: **MB-R3252**	SampType: **MBLK**	Units: **µg/L**	Prep Date: **2/1/2012**	RunNo: **3252**
Client ID: **MBLKW**	Batch ID: **R3252**		Analysis Date: **2/2/2012**	SeqNo: **57916**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	50.0									
Heavy Oil	ND	100									
Surr: 2-Fluorobiphenyl	79.9		80.00		99.9	59	137				
Surr: o-Terphenyl	88.9		80.00		111	55.5	139				

Sample ID: **1201159-002ADUP**	SampType: **DUP**	Units: **µg/L**	Prep Date: **2/1/2012**	RunNo: **3252**
Client ID: **MW-2**	Batch ID: **R3252**		Analysis Date: **2/2/2012**	SeqNo: **58440**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	50.0						0	0	30	
Heavy Oil	ND	100						0	0	30	
Surr: 2-Fluorobiphenyl	87.4		80.00		109	59	137		0		
Surr: o-Terphenyl	89.9		80.00		112	55.5	139		0		

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Sample Log-In Check List

Client Name: **SW**	Work Order Number: **1201159**
Logged by: **Troy Zehr**	Date Received: **1/31/2012 2:27:00 PM**

Chain of Custody

1.	Were custodial seals intact?	Yes ☐	No ☐	Not Present ☑
2.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3.	How was the sample delivered?	Client		

Log In

4.	Coolers are present?	Yes ☑	No ☐	NA ☐
5.	Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
6.	Were all coolers received at a temperature of >0° C to 10.0°C	Yes ☑	No ☐	NA ☐
7.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
8.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
9.	Are samples properly preserved?	Yes ☑	No ☐	
10.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
11.	Is there headspace present in VOA vials?	Yes ☐	No ☐	NA ☑
12.	Did all sample containers arrive in good condition?(unbroken)	Yes ☑	No ☐	
13.	Does paperwork match bottle labels?	Yes ☑	No ☐	
14.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
15.	Is it clear what analyses were requested?	Yes ☑	No ☐	
16.	Were all holding times able to be met?	Yes ☑	No ☐	

Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

18. Additional remarks/Disrepancies

Item Information

Item #	Temp °C	Condition
Cooler 1	6.2	Good
Cooler 2	4.1	Good

Fremont Analytical

Chain of Custody Record

1311 N. 35th Street
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (internal): 1201159

Date: 1/31/12 Page: 1 of: 1

Client: Shannon & Wilson
Address: 400 N. 34th St.
City, State, Zip: Seattle WA 98126 Tel: 206-632-8020
Reports To (PM): Cody Johnson Fax: Email: cmj@shanwil.com

Project Name: BNK
Location: 1313 S 96th
Collected by: JMW / JMH
Project No: 21-1-12357-002

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)	VOC (EPA 8260)	GX/BTEX by EPA 8021b	BTEX by 8260	Gasoline Range Organics	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics	SEMI VOL (EPA 8270)	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Cl Pesticides (EPA 8081)	Cl Herbicides (EPA 8151A)	Metals* (6020 / 200.8)	Total (T) / Dissolved (D)	Anions (IC)**	Comments/Depth
1	MW-1	1/31	1335	W						X									
2	MW-2	1/31	1220	W						X									
3	MW-3	1/31	1050	W						X									
4	MW-1-4	1/27/12	1000	S											X				
5	Composite disposal 1	1/27/12	1500	S						X					X				
6																			
7																			
8																			
9																			
10																			

*Metals Analysis (Circle): (MTCA-5) RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

**Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Special Remarks:

Relinquished	Date/Time	Received	Date/Time
x [signature]	1/31/12 1427	x [signature]	1/31/12 14:27
x		x	

TAT --> Next Day 2 Day 3 Day (STD)

Distribution: White - Lab, Yellow - File, Pink - Originator

APPENDIX C

WASHINGTON STATE DEPARTMENT OF ECOLOGY WELL DATABASE LOGS FOR OFF-SITE WELLS

285933

Please print, sign and return to the Department of Ecology 23-4E-5A

RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. R65533

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

RECEIVED
JAN 14 2008
DEPARTMENT OF ECOLOGY
WELL DRILLING UNIT

Construction/Decommission *("x" in box)*
- ☒ Construction
- ☐ Decommission

ORIGINAL INSTALLATION Notice of Intent Number:

Type of Well *("x in box)*
- ☒ Resource Protection
- ☐ Geotech Soil Boring

Property Owner Northshore Plaza Enterprises

Site Address 9635 Des Moines-Memorial Drive S

Consulting Firm Riley Group

City Seattle County King

Unique Ecology Well IDTag No. AGT-171

Location NE1/4-1/4 NE1/4 Sec 05 Twn 23N R 04

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

EWM ☒ or WWM ☐

Lat/Long (s, t, r still REQUIRED) Lat Deg ____ Min ____ Sec ____

Long Deg ____ Min ____ Sec ____

☒ Driller ☐ Engineer ☐ Trainee

Name (Print Last, First Name) Haun, Martin

Driller/Engineer /Trainee Signature

Driller or Trainee License No. 2827

Tax Parcel No. 5624200371

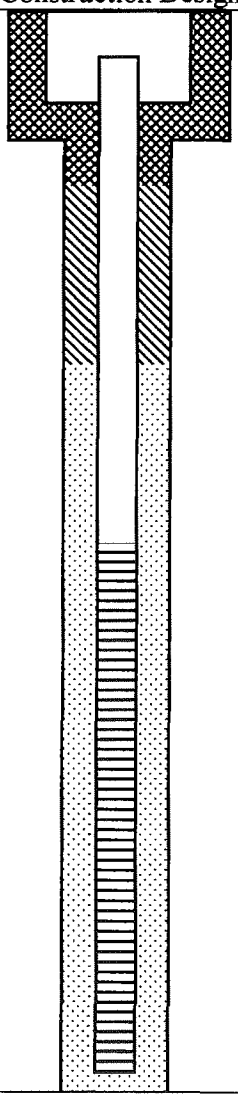
Cased or Uncased Diameter 2" Static Level N/A

Work/Decommission Start Date 2JAN08

Work/Decommission Completed Date 2JAN08

If trainee, licensed driller's Signature and License Number:

Construction Design



Well Data

MONUMENT TYPE: 5" FLUSH MOUNT

CONCRETE SURFACE SEAL: Ø - 1'

ANNULAR SPACE: 3'

BACKFILL: 1' - 4'

TYPE: BENTONITE

PVC BLANK: Ø - 5'

SCREEN: 5' - 10'

SLOT SIZE: 10 Ø 10

TYPE: 3/4" PRE PACK PVC SCH 40

SAND PACK: 4' - 10'

MATERIAL: 10/20 SILICA SAND

DRILLING METHOD: DIRECT PUSH

WELL DEPTH: 10'

BORING DIAMETER: 2"

Formation Description

Ø - 8'
BRN SAND SILT W/ TRACE GRAVEL

8' - 10'
GREYISH MED SAND

8

STATE OF ECOLOGY
WELL DRILLING
JAN 10 AM 8:45

SCALE: 1"= ____ PAGE 1 OF 7

ECY 050-12 (Rev. 7/06)

Ecology is an Equal Opportunity Employer

285934

Please print, sign and return to the Department of Ecology 23-4E-5A

RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. R65533

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission *("x" in box)*

☒ Construction

☐ Decommission

ORIGINAL INSTALLATION Notice of Intent Number:

Type of Well *("x in box)*

☒ Resource Protection

☐ Geotech Soil Boring

Property Owner Northshore Plaza Enterprises

Site Address 9635 Des Moines-Memorial Drive S

Consulting Firm Riley Group

City Seattle County King

Unique Ecology Well IDTag No. AGT-172

Location NE1/4-1/4 NE1/4 Sec 05 Twn 23N R 04

EWM ☒ or WWM ☐

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (s, t, r still REQUIRED) Lat Deg _____ Min _____ Sec _____

Long Deg _____ Min _____ Sec _____

☒ Driller ☐ Engineer ☐ Trainee

Name (Print Last, First Name) Haun, Martin

Driller/Engineer /Trainee Signature [signature]

Driller or Trainee License No. 2827

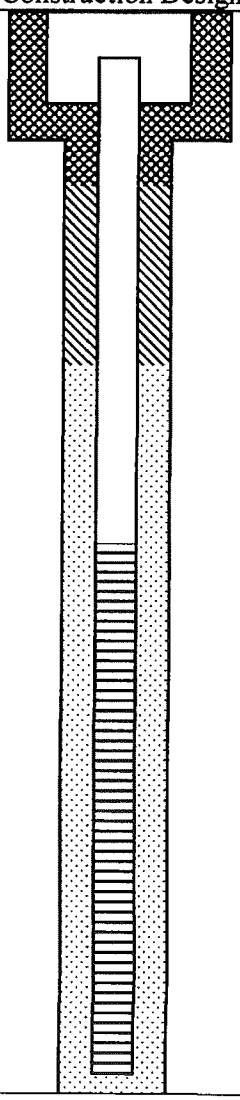
Tax Parcel No. 5624200371

Cased or Uncased Diameter 2" Static Level N/A

Work/Decommission Start Date 2JAN08

Work/Decommission Completed Date 2JAN08

If trainee, licensed driller's Signature and License Number:

Construction Design	Well Data	Formation Description
	MONUMENT TYPE: 5" FLUSH MOUNT CONCRETE SURFACE SEAL: Ø-1' ANNULAR SPACE: 3' BACKFILL: 1'-4' TYPE: BENTONITE PVC BLANK: Ø-5' SCREEN: 5'-10' SLOT SIZE: 010 TYPE: 3/4" PRE PACK PVC SCH 40 SAND PACK: 4'-10' MATERIAL: 10/20 SILICA SAND DRILLING METHOD: DIRECT PUSH WELL DEPTH: 10' BORING DIAMETER: 2"	Ø-8' GRAYISH SAND SILT 8'-10' SOILS NOT OBSERVED

RECEIVED

JAN 14 2008

DEPT. OF ECOLOGY

SCALE: 1"= ____ PAGE 2 OF 7

285935

Please print, sign and return to the Department of Ecology 23-4E-5A

RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. R65533

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission *("x" in box)*

☒ Construction
☐ Decommission

ORIGINAL INSTALLATION Notice of Intent Number:

Type of Well *("x in box)*

☒ Resource Protection
☐ Geotech Soil Boring

Property Owner Northshore Plaza Enterprises

Site Address 9635 Des Moines-Memorial Drive S

City Seattle County King

Location NE1/4-1/4 NE1/4 Sec 05 Twn 23N R 04

EWM ☒ or WWM ☐

Lat/Long (s, t, r still REQUIRED) Lat Deg ____ Min ____ Sec ____

Long Deg ____ Min ____ Sec ____

Tax Parcel No. 5624200371

Consulting Firm Riley Group

Unique Ecology Well IDTag No. AGT-174

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☒ Driller ☐ Engineer ☐ Trainee

Name (Print Last, First Name) Haun, Martin

Driller/Engineer /Trainee Signature [signature]

Driller or Trainee License No. 2827

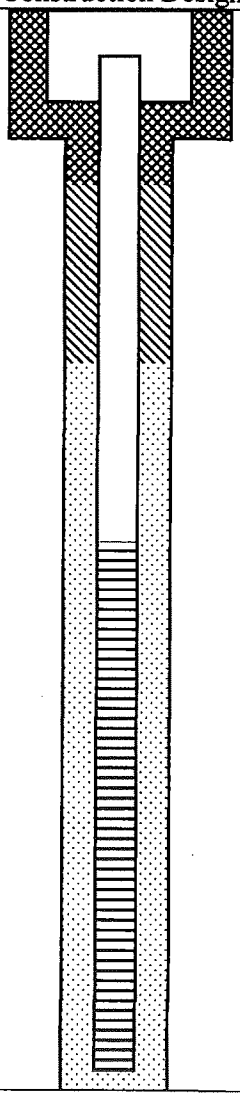
If trainee, licensed driller's Signature and License Number:

Cased or Uncased Diameter 2" Static Level N/A

Work/Decommission Start Date 2JAN08

Work/Decommission Completed Date 2JAN08

Construction Design



Well Data

MONUMENT TYPE: 5" FLUSH MOUNT

CONCRETE SURFACE SEAL: Ø-1'

ANNULAR SPACE: 3'

BACKFILL: 1'-4'

TYPE: BENTONITE

PVC BLANK: Ø-5'

SCREEN: 5'-10'

SLOT SIZE: .010

TYPE: 3/4" PREPACK PVC SCH 40

SAND PACK: 4'-10'

MATERIAL: 10/20 SILICA SAND

DRILLING METHOD: DIRECT PUSH

WELL DEPTH: 10'

BORING DIAMETER: 2"

Formation Description

NO SOILS OBSERVED

RECEIVED
JAN 14 2008
DEPT. OF ECOLOGY

SCALE: 1"= ____ PAGE 3 OF 7

285936

Please print, sign and return to the Department of Ecology 23-4E-SF

RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. R65533

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission *("x" in box)*

☒ Construction
☐ Decommission

ORIGINAL INSTALLATION Notice of Intent Number:

Type of Well *("x in box)*

☒ Resource Protection
☐ Geotech Soil Boring

Property Owner Northshore Plaza Enterprises

Site Address 9635 Des Moines-Memorial Drive S

Consulting Firm Riley Group

City Seattle County King

Unique Ecology Well IDTag No. AFN 272

Location NE1/4-1/4 NE1/4 Sec 05 Twn 23N R 04

EWM ☒ or WWM ☐

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (s, t, r still REQUIRED) Lat Deg ____ Min ____ Sec ____

Long Deg ____ Min ____ Sec ____

☒ Driller ☐ Engineer ☐ Trainee

Name (Print Last, First Name) Haun, Martin

Driller/Engineer /Trainee Signature [signature]

Driller or Trainee License No. 2827

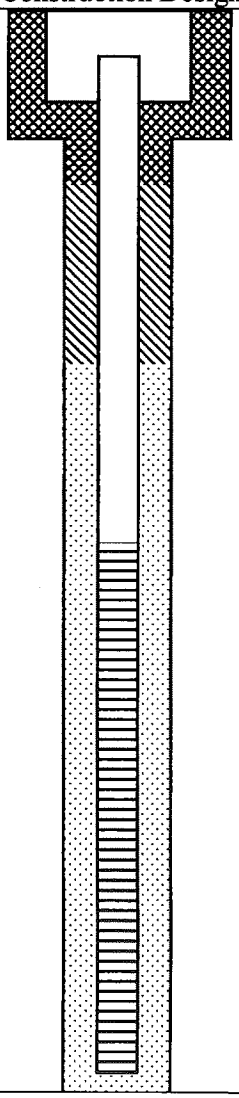
Tax Parcel No. 5624200371

Cased or Uncased Diameter 2" Static Level N/A

Work/Decommission Start Date 2JAN08

Work/Decommission Completed Date 2JAN08

If trainee, licensed driller's Signature and License Number:

Construction Design	Well Data	Formation Description
	MONUMENT TYPE: 5" FLUSH MOUNT CONCRETE SURFACE SEAL: Ø-1' ANNULAR SPACE: 3' BACKFILL: 1'-4' TYPE: BENTONITE PVC BLANK: Ø-5' SCREEN: 5'-10' SLOT SIZE: .010 TYPE: 3/4" PRE-PACK PVC SCH 40 SAND PACK: 4'-12' MATERIAL: 10/20 SILICA SAND DRILLING METHOD: DIRECT PUSH WELL DEPTH: 12' BORING DIAMETER: 2"	Ø-12' BRN SAND SILT W/ TRACE GRAVEL

RECEIVED
JAN 14 2008
DEPT. OF ECOLOGY

SCALE: 1"= ____ PAGE 4 OF 7

APPENDIX D

REMEDIAL EXCAVATION DISPOSAL DOCUMENTATION

REGIONAL DISPOSAL COMPANY INTERMODA
PO BOX 51057
LOS ANGELES, CA 90074-1057
(206) 332-7731

INVOICE

TO:

Stardhip Properties
1313 S 96th St.
Seattle, WA 98106

INVOICE NO.	0000047135
PAGE	1
DATE	Dec-15-13
CUSTOMER NO.	163877
SITE NO.	
REFERENCE NO.	

SERVICE DATE	CODE	DESCRIPTION		REFERENCE	QTY.	AMOUNT
		Balance forward :				$0.00
		Payments :				$0.00
		Adjustments :				$0.00
		Invoices :				$0.00
10 - Dec	VG	SW-CONT SOIL	38.50	01-902143	21.73 TN	$836.61
		Vehicle: SOIL				
		Contract: TB-11359				
10 - Dec	VG	SW-CONT SOIL	38.50	01-902162	23.16 TN	$891.66
		Vehicle: SOIL				
		Contract: TB-11359				
10 - Dec	VG	SW-CONT SOIL	38.50	01-902163	29.24 TN	$1,125.74
		Vehicle: SOIL				
		Contract: TB-11359				
10 - Dec	VG	SW-CONT SOIL	38.50	01-902179	31.80 TN	$1,224.30
		Vehicle: SOIL				
		Contract: TB-11359				
10 - Dec	VG	SW-CONT SOIL	38.50	01-902188	24.65 TN	$949.03
		Vehicle: SOIL				
		Contract: TB-11359				
10 - Dec	VG	SW-CONT SOIL	38.50	01-902193	32.43 TN	$1,248.56
		Vehicle: SOIL				
		Contract: TB-11359				
10 - Dec	VG	SW-CONT SOIL	38.50	01-902199	27.93 TN	$1,075.31
		Vehicle: SOIL				
		Contract: TB-11359				
10 - Dec	VG	SW-CONT SOIL	38.50	01-902204	21.59 TN	$831.22

Payment due upon receipt of this invoice. 1.5% per month (18% per annum) late charge on balances over 30 days from date of invoice.
Payments received after invoice date are not reflected.
To ensure proper credit, please include your account number on your check and include the bottom portion of this invoice. When making payment on multiple accounts, please include the account numbers and the amounts of payment.

Account Status

CURRENT	31 - 60 DAYS	61 - 90 DAYS	OVER 90 DAYS

TOTAL
THIS INVOICE

PLEASE PAY THIS AMOUNT

We reserve the right to suspend service without notice on any past due account.

Please remit to:

INVOICE NO.
PAGE
DATE
CUSTOMER NO.
SITE NO.
REFERENCE NO.

REMARKS

AMOUNT OF
REMITTANCE

PLEASE RETURN THIS PORTION WITH REMITTANCE

REGIONAL DISPOSAL COMPANY INTERMODA
PO BOX 51057
LOS ANGELES, CA 90074-1057
(206) 332-773

RDI1

INVOICE

INVOICE NO.	0000047135
PAGE	2
DATE	Dec-15-13
CUSTOMER NO.	163877
SITE NO.	
REFERENCE NO.	

TO:

Stardhip Properties
1313 S 96th St.
Seattle, WA 98106

SERVICE DATE	CODE	DESCRIPTION			REFERENCE	QTY.	AMOUNT
		Vehicle:	SOIL				
		Contract:	TB-11359				
10 - Dec	VG	SW-CONT SOIL		38.50	01-902207	27.80 TN	$1,070.30
		Vehicle:	SOIL				
		Contract:	TB-11359				
10 - Dec	VG	SW-CONT SOIL		38.50	01-902209	30.05 TN	$1,156.93
		Vehicle:	SOIL				
		Contract:	TB-11359				

Material / Fee Summary

VG	SW-CONT SOIL		270.38 TN	$10,409.66

Copy to MA w/receipts 12-19-13

Christine

1570 400-1-00

ENTERED
DEC 19 2013

Soil disposal

Date	Ticket#	Rate	Qty/Ton	Amount
12/10/2013	902143	38.50	21.73	836.61
12/10/2013	902162	38.50	23.16	891.66
12/10/2013	902163	38.50	29.24	1,125.74
12/10/2013	902179	38.50	31.80	1,224.30
12/10/2013	902188	38.50	24.65	949.03
12/10/2013	902193	38.50	32.43	1,248.56
12/10/2013	902199	38.50	27.93	1,075.31
12/10/2013	902204	38.50	21.59	831.22
12/10/2013	902207	38.50	27.80	1,070.30
12/10/2013	902209	38.50	30.05	1,156.93
			270.38	10,409.66

SITE: REGIONAL DISPOSAL INTERMODAL
3rd and lander
Seattle, WA --

CUSTOMER
163877
Stardhip Properties
913 S 96th St.
Seattle, WA 98106
TB-11359

SITE: 01 | TICKET #: 902143 | CELL:
WEIGHMASTER: IN - JAMIE B. OUT - Maria G.
DATE/TIME IN: 12-10-2013 8:33 am | DATE/TIME OUT: 12-10-2013 9:34 am
VEHICLE: SOIL | CONTAINER:
REFERENCE: 1106 BOSS CONSTRUCTION INVOICE
BILL OF LADING:

SCALE IN	GROSS WEIGHT	82,720	NET TONS	21.73
SCALE OUT	TARE WEIGHT	39,260	NET WEIGHT	43,460

INBOUND

QTY.	UNIT	DESCRIPTION	RATE	EXTENSION	TAX	TOTAL
0.00	YD	TRACKING QTY				
21.73	TN	SW-CONT SOIL SEATTLE/KING				

NET AMOUNT
TENDERED
CHANGE
CHECK#

The undersigned individual signing this document on behalf of Customer acknowledges that he or she has read and understands the terms and conditions on the reverse side and that he or she has the authority to sign this document on behalf of the customer.

2/21

RS F042UPR (07/12)

SIGNATURE _____

SITE: REGIONAL DISPOSAL INTERMODAL
3rd and lander
Seattle, WA --

CUSTOMER
163877
Stardhip Properties
913 S 96th St.
Seattle, WA 98106
TB-11359

SITE: 01 | TICKET #: 902162 | CELL:
WEIGHMASTER: JAMIE B.
DATE/TIME IN: 12-10-2013 8:29 am | DATE/TIME OUT: 12-10-2013 11:08 am
VEHICLE: SOIL | CONTAINER:
REFERENCE: 1106 BOSS CONSTRUCTION INVOICE
BILL OF LADING:

SCALE IN	GROSS WEIGHT	95,380	NET TONS	23.16
SCALE OUT	TARE WEIGHT	49,060	NET WEIGHT	46,320

INBOUND

QTY.	UNIT	DESCRIPTION	RATE	EXTENSION	TAX	TOTAL
0.00	YD	TRACKING QTY				
23.16	TN	SW-CONT SOIL SEATTLE/KING				

Frank Luna

NET AMOUNT
TENDERED
CHANGE
CHECK#

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2/21

SITE: REGIONAL DISPOSAL INTERMODAL
3rd and lander
Seattle, WA --

CUSTOMER
163877
Stardhip Properties
'13 S 96th St.
attle, WA 98106
TB-11359

SITE: 01 | TICKET #: 902163 | CELL:
WEIGHMASTER: IN - Kim L. OUT - JAMIE B.
DATE/TIME IN: 12-10-2013 10:56 am | DATE/TIME OUT: 12-10-2013 11:22 am
VEHICLE: SOIL | CONTAINER:
REFERENCE: DOT/BOSS | INVOICE
BILL OF LADING:

SCALE IN	GROSS WEIGHT	96,000	NET TONS	29.24	
SCALE OUT	TARE WEIGHT	37,520	NET WEIGHT	58,480	INBOUND

QTY.	UNIT	DESCRIPTION	RATE	EXTENSION	TAX	TOTAL
0.00	YD	TRACKING QTY				
29.24	TN	SW-CONT SOIL SEATTLE/KING				

NET AMOUNT
TENDERED
CHANGE
CHECK#

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2/21

RS-[illegible]42UPR (07/12)

SIGNATURE _____

SITE: REGIONAL DISPOSAL INTERMODAL
3rd and lander
Seattle, WA --

CUSTOMER
163877
Stardhip Properties
'13 S 96th St.
attle, WA 98106
TB-11359

SITE: 01 | TICKET #: 902179 | CELL:
WEIGHMASTER: IN - Kim L. OUT - Maria G.
DATE/TIME IN: 12-10-2013 12:11 pm | DATE/TIME OUT: 12-10-2013 12:39 pm
VEHICLE: SOIL | CONTAINER:
REFERENCE: DOT/BOSS | INVOICE
BILL OF LADING:

SCALE IN	GROSS WEIGHT	113,620	NET TONS	31.80	
SCALE OUT	TARE WEIGHT	50,020	NET WEIGHT	63,600	INBOUND

QTY.	UNIT	DESCRIPTION	RATE	EXTENSION	TAX	TOTAL
0.00	YD	TRACKING QTY				
31.80	TN	SW-CONT SOIL SEATTLE/KING				

NET AMOUNT
TENDERED
CHANGE
CHECK#

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SITE: REGIONAL DISPOSAL INTERMODAL
3rd and lander
Seattle, WA --

CUSTOMER
163877
Stardhip Properties
3 S 96th St.
Seattle, WA 98106
TB-11359

SITE: 01 | TICKET #: 902188 | CELL:
WEIGHMASTER: IN - Kim L. OUT - JAMIE B.
DATE/TIME IN: 12-10-2013 12:49 pm | DATE/TIME OUT: 12-10-2013 1:22 pm
VEHICLE: SOIL | CONTAINER:
REFERENCE: DT07/BOSS | INVOICE
BILL OF LADING:

SCALE IN	GROSS WEIGHT	90,600	NET TONS	24.65	
SCALE OUT	TARE WEIGHT	41,300	NET WEIGHT	49,300	INBOUND

QTY.	UNIT	DESCRIPTION	RATE	EXTENSION	TAX	TOTAL
0.00	YD	TRACKING QTY				
24.65	TN	SW-CONT SOIL SEATTLE/KING				

NET AMOUNT
TENDERED
CHANGE
CHECK#

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2/21

RS 7042UPR (07/12)

SIGNATURE _____

SITE: REGIONAL DISPOSAL INTERMODAL
3rd and lander
Seattle, WA --

CUSTOMER
163877
Stardhip Properties
3 S 96th St.
TB-11359

SITE: 01 | TICKET #: 902193 | CELL:
WEIGHMASTER: IN - Kim L. OUT - JAMIE B.
DATE/TIME IN: 12-10-2013 1:34 pm | DATE/TIME OUT: 12-10-2013 1:56 pm
VEHICLE: SOIL | CONTAINER:
REFERENCE: DT07/BOSS | INVOICE
BILL OF LADING:

SCALE IN	GROSS WEIGHT	114,360	NET TONS	32.43	
SCALE OUT	TARE WEIGHT	49,500	NET WEIGHT	64,860	INBOUND

QTY.	UNIT	DESCRIPTION	RATE	EXTENSION	TAX	TOTAL
0.00	YD	TRACKING QTY				
32.43	TN	SW-CONT SOIL SEATTLE/KING				

NET AMOUNT
TENDERED
CHANGE

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SITE: REGIONAL DISPOSAL INTERMODAL
3rd and lander
Seattle, WA --

CUSTOMER
163877
Stardhip Properties
313 S 96th St.
Seattle, WA 98106
TB-11359

SITE: 01 | TICKET #: 902199 | CELL:
WEIGHTMASTER: IN - Leslie U. OUT - James J.
DATE/TIME IN: 12-10-2013 2:16 pm | DATE/TIME OUT: 12-10-2013 2:38 pm
VEHICLE: SOIL | CONTAINER:
REFERENCE: 1106 | INVOICE
BILL OF LADING:

SCALE IN	GROSS WEIGHT	97,940	NET TONS	27.93	
SCALE OUT	TARE WEIGHT	42,080	NET WEIGHT	55,860	INBOUND

QTY.	UNIT	DESCRIPTION	RATE	EXTENSION	TAX	TOTAL
0.00	YD	TRACKING QTY				
27.93	TN	SW-CONT SOIL SEATTLE/KING				

NET AMOUNT
TENDERED
CHANGE
CHECK#

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2/21

7042UPR (07/12)

SIGNATURE _____

SITE: REGIONAL DISPOSAL INTERMODAL
3rd and lander
Seattle, WA --

CUSTOMER
163877
Stardhip Properties
13 S 96th St.
Seattle, WA 98106
TB-11359

SITE: 01 | TICKET #: 902204 | CELL:
WEIGHTMASTER: IN - Leslie U. OUT - James J.
DATE/TIME IN: 12-10-2013 2:48 pm | DATE/TIME OUT: 12-10-2013 3:17 pm
VEHICLE: SOIL | CONTAINER:
REFERENCE: | INVOICE
BILL OF LADING:

SCALE IN	GROSS WEIGHT	111,200	NET TONS	21.59	
SCALE OUT	TARE WEIGHT	68,020	NET WEIGHT	43,180	INBOUND

QTY.	UNIT	DESCRIPTION	RATE	EXTENSION	TAX	TOTAL
0.00	YD	TRACKING QTY				
21.59	TN	SW-CONT SOIL SEATTLE/KING				

NET AMOUNT
TENDERED
CHANGE

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SITE
REGIONAL DISPOSAL INTERMODAL
3rd and lander
Seattle, WA --

CUSTOMER
163877
Stardhip Properties
1313 S 96th St.
Seattle, WA 98106
TB-11359

SITE 01 | TICKET # 902207 | CELL
WEIGHMASTER Leslie U.
DATE/TIME IN 12-10-2013 3:26 pm | DATE/TIME OUT 12-10-2013 3:44 pm
VEHICLE SOIL | CONTAINER
REFERENCE TT06 | INVOICE
BILL OF LADING

SCALE IN	GROSS WEIGHT	94,460	NET TONS	27.80	
SCALE OUT	TARE WEIGHT	38,860	NET WEIGHT	55,600	INBOUND

QTY	UNIT	DESCRIPTION	RATE	EXTENSION	TAX	TOTAL
0.00	YD	TRACKING QTY				
27.80	TN	SW-CONT SOIL SEATTLE/KING				

NET AMOUNT
TENDERED
CHANGE
CHECK#

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RS-F042UPR (07/12)

SITE
REGIONAL DISPOSAL INTERMODAL
3rd and lander
Seattle, WA --

CUSTOMER
163877
Stardhip Properties
1313 S 96th St.
Seattle, WA 98106
TB-11359

SITE 01 | TICKET # 902209 | CELL
WEIGHMASTER IN - Leslie U. OUT - James J.
DATE/TIME IN 12-10-2013 4:18 pm | DATE/TIME OUT 12-10-2013 5:14 pm
VEHICLE SOIL | CONTAINER
REFERENCE DT07 | INVOICE
BILL OF LADING

SCALE IN	GROSS WEIGHT	109,120	NET TONS	30.05	
SCALE OUT	TARE WEIGHT	49,020	NET WEIGHT	60,100	INBOUND

QTY	UNIT	DESCRIPTION	RATE	EXTENSION	TAX	TOTAL
0.00	YD	TRACKING QTY				
30.05	TN	SW-CONT SOIL SEATTLE/KING				

NET AMOUNT
TENDERED
CHANGE

The undersigned individual signing this document on behalf of Customer acknowledges that he or she has read and understands the terms and conditions

SITE
REGIONAL DISPOSAL INTERMODAL
3rd and lander
Seattle, WA --

CUSTOMER
163877
Stardhip Properties
1313 S 96th St.
Seattle, WA 98106
TB-11359

SITE 01 | TICKET # 902207 | CELL
WEIGHMASTER Leslie U.
DATE/TIME IN 12-10-2013 3:26 pm | DATE/TIME OUT 12-10-2013 3:44 pr
VEHICLE SOIL | CONTAINER
REFERENCE TT06 | INVOICE
BILL OF LADING

SCALE IN	GROSS WEIGHT	94,460	NET TONS	27.80	
SCALE OUT	TARE WEIGHT	38,860	NET WEIGHT	55,600	INBOUND

QTY.	UNIT	DESCRIPTION	RATE	EXTENSION	TAX	TOTAL
0.00	YD	TRACKING QTY				
27.80	TN	SW-CONT SOIL SEATTLE/KING				

NET AMOUNT
TENDERED
CHANGE
CHECK#

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RS-F042UPR (07/12)

12/16/2013 08:55 3606717637 BOSSCON SQUALICUM PAGE 09

SITE
REGIONAL DISPOSAL INTERMODAL
3rd and lander
Seattle, WA --

CUSTOMER
163877
Stardhip Properties
1313 S 96th St.
Seattle, WA 98106
TB-11359

SITE 01 | TICKET # 902209 | CELL
WEIGHMASTER IN - Leslie U. OUT - James J.
DATE/TIME IN 12-10-2013 4:18 pm | DATE/TIME OUT 12-10-2013 5:14 pm
VEHICLE SOIL | CONTAINER
REFERENCE DT07 | INVOICE
BILL OF LADING

SCALE IN	GROSS WEIGHT	109,120	NET TONS	30.05	
SCALE OUT	TARE WEIGHT	49,020	NET WEIGHT	60,100	INBOUND

QTY.	UNIT	DESCRIPTION	RATE	EXTENSION	TAX	TOTAL
0.00	YD	TRACKING QTY				
30.05	TN	SW-CONT SOIL SEATTLE/KING				

NET AMOUNT
TENDERED
CHANGE

INVOICE

NO: 9713-015

Starships Payable

BOSS

TIM

CONSTRUCTION, INC.

4945 Guide Meridian
Bellingham, WA 98226
(360) 398-2300 Phone
(360) 398-2302 Fax

Starship

BILL TO: Customer # 0
Gary Dunlap
5311 Woodlawn Ave N
Seattle WA 98103
Tax: 0

INVOICE DATE: 12/18/13
Job # 9700.0002.13012

TERMS: Payable upon receipt. A finance charge of 1-1/2% per month (18% per year) will be charges on past due accounts over 30 days.

	Hitachi 330 Excavtor Rental			
	1313 S 96th St., Seattle WA			
	Mobilization			
11/15/13	Load Plates & Bucket on TltTrlr	7.50	50.00	375.00
11/18/13	Deliver EX19 Hitachi	5.25	125.00	656.25
11/18/13	Deliver Plates & Bucket	5.25	110.00	577.50
11/25/13	Demob Plates	8.50	110.00	935.00
12/13/13	Demob EX19 Hitachi	5.25	125.00	656.25
11-18-13 to 12/12/13	Rent 330 Excv	1.00	9,000.00	9,000.00
	Hauling Contaminated Soil			
12/06/13	TT05/SD04	7.75	110.00	852.50
12/09/13	TT04/SD02	5.50	110.00	605.00
12/10/13	DT07/PT04	11.00	110.00	1,210.00
12/10/13	TT06/T15	8.50	110.00	935.00

SUB TOTAL	$15,802.50
WSST 9.5%	$1,501.24
TOTAL	$17,303.74

WHITE - Customer
YELLOW - Accounting
GREEN - A/R
BLUE - File

Sales Tax is due unless current resale certificate is enclosed with remittance.

Copy to MA
1-2-14

1570-400-1-00

THANK YOU

OK for PMT F/I

To print, select File then Print from the browser menu

Account Detail

ANDERSON, ROBERT 7821

Since Last Statement			
Previous Balance	$813.15	Total Available Credit*	$4,005.32
Payments and Credits	-$4,529.23	Total Available Cash*	$2,500.00
Posted Transactions	$4,710.76	Total Credit Limit	$5,000.00
Total Pending Transactions	$0.00	Total Cash Limit	$2,500.00
New Balance*	$994.68	Minimum Payment Due 12/25/2013	$0.00

Since Last Statement

Purchase Date	Post Date	Description	Amount
12/06/2013	12/09/2013	CEMEX CASH 'SALE - 800-99CEMEX, TX	$1,275.01
12/09/2013	12/10/2013	CEMEX CASH 'SALE - 800-99CEMEX, TX	$1,627.92
12/11/2013	12/11/2013	~~ONLINE PAYMENT THANK YOU~~	~~-$2,000.00~~
12/13/2013	12/16/2013	DONALDSON CO - 952-8873131, MN	$1,807.83
12/16/2013	12/16/2013	ONLINE PAYMENT THANK YOU	-$1,716.08
12/16/2013	12/16/2013	PAYMENT - THANK YOU	-$813.15

} 2,902.93

* May not include some items pending for processing.

ARSHIP PROPERTIES, LLC

Vendor No: BKU1 / Name: BECKWITH & KUFFEL INC

001019

Invoice	Ref	Inv Date	Inv Amt	Discount	Adj Amt	Amt Paid
0110	SOIL RACC	01/10/14	2902.93	0.00	0.00	2902.93

ct: 1005-400-1-00) Check Date 01/10/14 Total 2902.93

SUPERIOR PRESS (800) 590-7990

Paid for RA Credit Card

CEMEX

1875382158

Weighed At: Everett Aggregate
6300 Glenwood Ave.
Everett, WA 98213

Location: 1875

Order: 40950889 Dispatch: Date: 12/06/2013
Ship To: CASH1875 - EVERETT AGG: TRANS & LAND FILL AGGREGA
75:ROBERT ANDERSON
75:1313 S 96TH ST-SEATTLE
EVERETT, WA 98213-0037
Instruct: CLASS 2 TO THE LANDFILL
BOSS CONSTRUCTION #TT-5 SIDE DUMP

Job #: PO: CODY JOHNSON
Product: 1192506 - CLASS 2 SOIL DUMPED BY TON
Carrier:
Vehicle: 2033934 - 1875-2 EVERETT GENERIC
Tractor / Trailer1 / Trailer 2 -/- -/-

Qty: 25.14 ton
Weighmaster:
CEMEX
Deputy Weighmaster:
Devion M Helm
Scale: 1
In: 11:38 am
Out: 12:05 pm

--- DRIVER ON AT TARE & GROSS ---

	lb	ton	tne
Gross:	89,100	44.55	40.42
Tare:	38,820	19.41	17.61
Net:	50,280	25.14	22.81

PRICE	23.46	589.78
FREIGHT	0.00	0.00
FEE/OTHER		21.23
TAX		0.00
TOTAL		611.01

CEMEX'S STANDARD TERMS AND CONDITIONS INCORPORATED HEREIN.

Signature of Receiving Agent Driver

METRIC CONVERSION FORMULA: POUNDS DIVIDED BY 2240 EQUALS [illegible]

SEE REVERSE SIDE FOR PRODUCT LABEL INFORMATION

CEMEX

1875382186

Weighed At: Everett Aggregate
6300 Glenwood Ave.
Everett, WA 98213

Location: 1875

Order: 40950889 Dispatch: Date: 12/06/2013
Ship To: CASH1875 - EVERETT AGG: TRANS & LAND FILL AGGREGA
75:ROBERT ANDERSON
75:1313 S 96TH ST-SEATTLE
EVERETT, WA 98213-0037
Instruct: CLASS 2 TO THE LANDFILL

Job #: PO: CODY JOHNSON
Product: 1192506 - CLASS 2 SOIL DUMPED BY TON
Carrier:
Vehicle: 2033934 - 1875-2 EVERETT GENERIC
Tractor / Trailer1 / Trailer 2 -/- -/-

Qty: 27.32 ton
Weighmaster:
CEMEX
Deputy Weighmaster:
Devion M Helm
Scale: 1
In:
Out: 2:32 pm

--- DRIVER ON AT TARE & GROSS ---

	lb	ton	tne
Gross:	93,460	46.73	42.39
Tare:	38,820	19.41	17.61
Net:	54,640	27.32	24.78

* Predetermined Tare

PRICE	23.46	640.9[illegible]
FREIGHT	0.00	0.0[illegible]
FEE/OTHER		23.07
TAX		0.0[illegible]
TOTAL		664.0[illegible]

CEMEX'S STANDARD TERMS AND CONDITIONS INCORPORATED HEREIN.

Signature of Receiving Agent Driver

METRIC CONVERSION FORMULA: POUNDS DIVIDED BY [illegible]

SEE REVERSE SIDE FOR PRODUCT LABEL INFORMATION

$1275.01
[illegible] Check

CEMEX

1875382230

Weighed At: Everett Aggregate
6300 Glenwood Ave
Everett, WA 98213

Location: 1875

Order: 40950889 Dispatch: ODate: 12/09/2013
Ship To: CASH1875 - EVERETT AGG TRANS.& LAND FILL AGGREGA1
75:ROBERT ANDERSON
75:1313 S 96TH ST-SEATTLE
EVERETT, WA 98213-0037
Instruct: CLASS 2 TO THE LANDFILL
BOSS CONSTRUCTION #TT04 SIDE DUMP

Job #: PO: CODY JOHNSON
Product: 1192506 - CLASS 2 SOIL DUMPED BY TON
Carrier:
Vehicle: 2033934 - 1875-2,EVERETT GENERIC
Tractor / Trailer1 / Trailer 2 -/- -/-

Qty: 33.49 ton
Weighmaster:
CEMEX
Deputy Weighmaster:
Devion M Helm
Scale: 0
In:
Out: 10:27 am

--- DRIVER ON AT TARE & GROSS ---

	lb	ton	tne
Gross:	105,800	52.90	47.99
Tare:	38,820	19.41	17.61
Net:	66,980	33.49	30.38

m Manual Weight, * P T

PRICE	23.46	785.68
FREIGHT	0.00	0.00
FEE/OTHER		28.28
TAX		0.00
TOTAL		813.96

CEMEX'S STANDARD TERMS AND CONDITIONS INCORPORATED HEREIN.

Signature of Receiving Agent Driver

METRIC CONVERSION FORMULA: POUNDS DIVIDED BY 2,204.622, ROUNDED TO 2 DECIMALS
SEE REVERSE SIDE FOR PRODUCT LABEL INFORMATION

CEMEX

1875382270

Weighed At: Everett Aggregate
6300 Glenwood Ave
Everett, WA 98213

Location: 1875

Order: 40950889 Dispatch: ODate: 12/09/2013
Ship To: CASH1875 - EVERETT AGG TRANS.& LAND FILL AGGREGA1
75:ROBERT ANDERSON
75:1313 S 96TH ST-SEATTLE
EVERETT, WA 98213-0037
Instruct: CLASS 2 TO THE LANDFILL
BOSS CONSTRUCTION #TT04 SIDE DUMP

Job #: PO: CODY JOHNSON
Product: 1192506 - CLASS 2 SOIL DUMPED BY TON
Carrier:
Vehicle: 2033934 - 1875-2,EVERETT GENERIC
Tractor / Trailer1 / Trailer 2 -/- -/-

Qty: 33.49 ton
Weighmaster:
CEMEX
Deputy Weighmaster:
Devion M Helm
Scale: 0
In:
Out: 12:46 pm

--- DRIVER ON AT TARE & GROSS ---

	lb	ton	tne
Gross:	105,800	52.90	47.99
Tare:	38,820	19.41	17.61
Net:	66,980	33.49	30.38

m Manual Weight, * P T

PRICE	23.46	785.68
FREIGHT	0.00	0.00
FEE/OTHER		28.28
TAX		0.00
TOTAL		813.96

CEMEX'S STANDARD TERMS AND CONDITIONS INCORPORATED HEREIN.

Signature of Receiving Agent Driver

METRIC CONVERSION FORMULA: POUNDS DIVIDED BY 2,204.622, ROUNDED TO 2 DECIMALS
SEE REVERSE SIDE FOR PRODUCT LABEL INFORMATION

$1627.92

RA Card

APPENDIX E

3D MICROEMULSION PRODUCT INFORMATION

3-D MicroEmulsion
HRC ADVANCED®

REGENESIS
Advanced Technologies for Groundwater Resources

3-D Microemulsion (3DMe)™

INSTALLATION INSTRUCTIONS

High-Volume, Wide-Area, Micro-Emulsion Application

Introduction

3-D Microemulsion (3DMe)™, a form of HRC Advanced®, should ONLY be applied as a high-volume, micro-emulsion. In this form it offers greater physical distribution of the 3DMe material across a larger potential radius from a single injection point. The production of a 3DMe emulsion involves the on-site, volumetric mixing of 10 parts water with 1 part delivered 3DMe concentrate to form the injection-ready 3DMe micro-emulsion. This micro-emulsion suspension can then be injected directly or further diluted to a predetermined ratio of 3DMe to water. The following instructions provide details in the production and installation of the 3DMe micro-emulsion.

Material Overview Handling and Safety

3DMe concentrate is shipped and delivered in 4.25-gallon buckets. Each bucket has a gross weight of approximately 32 pounds. Each bucket contains 30 pounds of 3DMe concentrate (net weight) and a nominal volume of 3.7 gallons. At room temperature, 3DMe concentrate is a liquid material with a viscosity of approximately 500 centipoise, roughly the equivalent of pancake syrup. The viscosity of 3DMe is not temperature sensitive above 50 °F (10 °C). However, below 50 °F the viscosity may increase significantly. If the user plans to apply the product in cold weather, consideration should be given to heating the material to above 60 °F so that it can be easily handled. 3DMe concentrate should be stored in a warm, dry place that is protected from direct sunlight. It is common for stored 3DMe concentrate to settle somewhat in the bucket, a quick pre-mix stir by a hand held drill with a paint or "jiffy mixer" attachment will rapidly re-homogenize the material. 3DMe concentrate is non-toxic, however field personnel should take precautions while handling and applying the material. Field personnel should use appropriate personal protection equipment (PPE) including eye protection. Gloves should be used as appropriate based on the exposure duration and field conditions. A Material Safety Data Sheet is provided with each shipment. Personnel who operate field equipment during the installation process should have appropriate training, supervision, and experience and should review the MSDS prior to site operations.

Micro-Emulsion Production 3DMe to Water Ratio

3DMe concentrate should be mixed with water on a volume to volume (v/v) basis to produce a micro-emulsion starting at 10 parts water: 1 part 3DMe. Although micro-emulsions can be easily produced using greater water volumes than 10 parts, e.g. 20 to 50 parts water to 1 part 3DMe, the initial micro-emulsion should never be produced below a ratio of less than 10 parts water: 1 part 3DMe v/v. **WARNING: Do not attempt to produce a micro-emulsion at less than 10 parts water to 1 part 3DMe ratio v/v. This will produce an undesirable and unstable solution.**

The field production of 3DMe micro-emulsion is a very simple procedure; however, it is critical that the user follow the mixing directions outlined below. Never attempt to add water to the 3DMe as this will produce an undesirable and unstable large emulsion. Always add the 3DMe to a large volume of water.

As indicated previously the 10:1 ratio of water to 3DMe v/v is the minimum water ratio that can be used, a greater ratio (more dilute solution) can easily be achieved and is governed by: A) the volume of 3DMe required to treat the estimated contaminant mass, B) the pore volume in which the material is applied, C) the time available for installation (gallons/pump rate), and C) the estimated volume of 3DMe micro-emulsion that the target zone will accept over the time period allocated for installation.

Conceptually, although a higher volume of water to volume of 3DMe will produce a larger volume of the suspension, it will lower the concentration of 3DMe per gallon of solution. Thus, the benefit of using a high water/3DMe v/v ratio in order to affect a greater pore volume of the subsurface aquifer is offset by the dilution of the 3DMe per unit volume of suspension as well as by the limitations of the subsurface hydraulic conductivity and effective porosity (capacity of the aquifer to accept the volume of 3DMe micro-emulsion).

It is important that the user plan in advance the v/v 3DMe/water ratio to be employed at a project site. The resulting volume of solution will dictate the site water requirements and the time required for injection, etc. If upon injection of greater than 10:1 3DMe micro-emulsion, the subsurface does not readily accept the volume of solution as designed, the user can adjust downward the v/v water to 3DMe ratio until a more concentrated suspension is produced (this solution should never drop below the required 10 parts water:1 part 3DMe v/v production ratio). For more information on designing a 3DMe/water ratios to meet specific site conditions, please contact Regenesis Technical Services.

Direct Push Application Requirements

One of the best methods to deliver the 3DMe micro-emulsion into the subsurface is to pressure inject the solution through direct-push rods using hydraulic equipment, or to pressure inject/gravity feed the micro-emulsion into the dedicated injection wells. The use of low cost push points or temporary injection points allows the applier to more cost effectively distribute the 3DMe material across shallow sites by employing multiple points per site. In the case of treating deep aquifer sites, the use of the micro-emulsion applied via dedicated injection wells is likely to be the most cost effective remediation approach. Please note that this set of instructions

is specific to direct-push equipment. Please contact Regenesis Technical Services to assist you with dedicated injection well applications.

In general, Regenesis strongly recommends application of the 3DMe micro-emulsion using an injection pump with a minimum delivery rate of three gallons per minute (gpm) and a pressure rating of between 150 to 200 pounds per square inch (psi). **Note: the injection pump requirements are different than the requirements of the mixing pump (see Mixing to Generate 3DMe Micro-emulsion).** High pressure, positive displacement pumps and progressive cavity pumps are appropriate for injecting 3DMe. For low permeability lithologies (clay, silt) higher pressure pumps (800-1600 psi) may be necessary, while for more permeable lithologies (gravel, sand) a lower pressure pump may be adequate. Examples of appropriate pumps are: Rupe Models 6-2200, 9-1500 and 9-1600 (positive displacement), Geoprobe® GS-2000 (positive displacement) and DP-800 (progressive cavity), Yamada (air diaphragm), Moyno (progressive cavity), and Wilden (air diaphragm). Delivery rate is a critical factor in managing installation time and costs. Generally, higher delivery rates (>6 gpm) are more cost effective for these types of applications but pump selection should be on a site specific basis and account for the volume of 3DMe solution and specific aquifer conditions present at the site.

The installation of the 3DMe micro-emulsion should span the entire vertical contaminated saturated thickness. If the vertical extent of the application is confined to a limited interval, then the micro-emulsion should be placed across a vertical zone extending a minimum of one-foot above and one-foot below the screened interval of monitoring wells that are being used to evaluate the performance of the project.

Producing the 3DMe Micro-Emulsion

The application of 3DMe requires the creation of a micro-emulsion. Technically the optimal suspension is an 3DMe-in-water suspension containing micro-emulsions. Before beginning the mixing procedure the user should have in mind the desired water to 3DMe ratio v/v desired.

It is critical that the micro-emulsion be produced using a high-shear apparatus such as a high speed centrifugal pump. The shearing provided by the vanes in these types of pumps is sufficient to form and maintain a homogeneous milky emulsion. **This pump will be a different pump than that used to inject the 3DMe micro-emulsion into the subsurface.** If the user is uncertain as to requirements for the pump or the applicability of a certain pump, please contact Regenesis Technical Services. Regenesis typically suggests using a water trailer/pump apparatus commonly found at equipment rental facilities. Regenesis recommends using a Magnum Products LLC model MWT500 or equivalent water trailer (fitted with centrifugal recirculation pump). This "trash pump" or transfer pump is an ideal high shear pump and the water tank (400 gallons) serves as an excellent mixing tank.

To ensure that proper micro-emulsion suspension is generated Regenesis suggests a two-step process that simply requires mixing at least 10 parts water to 1 part 3DMe concentrate using water at a temperature $\geq 60^{o}$F.

Step 1) Regenesis recommends that the 3DMe concentrate in each bucket be re-homogenized using a drill equipped with a paint or "jiffy" mixer attachment as minor settling may have occurred during shipment.

Step 2) to calculate the volume of water necessary to produce a 10:1 v/v micro-emulsion, each bucket of 3DMe concentrate containing 3.7 gallons of material should be mixed with 37 gallons of water.

Example: 6 buckets x 3.7 gallons 3DMe concentrate/bucket yields a total of 22.2 gallons of 3DMe concentrate. Thus, a 10:1 v/v solution will require 222 gallons of water (22.2 gallons 3DMe concentrate x 10 gallons water yields 222 gallons of water). A nominal total volume micro-emulsion would result from the summation of the 3DMe concentrate volume (22.2 gallons) and the water volume (222 gallons). This yields a total fluids delivery volume of approximately 244 gallons.

The previously calculated water volume (222 gallons) should be transferred into an appropriately sized mixing tank. The water should be circulated by the high shear centrifugal pump and each of the six 3DMe buckets slowly poured into the tank. Each bucket of 3DMe concentrate should be poured at a slow rate (approx. 1 minute per bucket) and the contents of the tank continually recirculated using the high hear centrifugal pump. A period of 1-2 minutes should be allowed between addition of each subsequent bucket of 3DMe concentrate to allow the centrifugal pump to continue to shear and mix the water/3DMe concentrate. Upon addition of the entire volume of 3DMe concentrate the pump should remain on to allow the solution mixture to recirulate. The recirculation of the 3DMe micro-emulsion should continue until the material is injected to maintain micro-emulsion consistency.

Application of Micro-Emulsion Using Direct-Push Methods

1) Prior to the installation of the micro-emulsion, any surface or overhead impediments should be identified as well as the location of all underground structures. Underground structures include but are not limited to: utility lines, tanks, distribution piping, sewers, drains, and landscape irrigation systems.

2) The planned installation locations should be adjusted to account for all impediments and obstacles.

3) Pre-mark the installation locations, noting any points that may have different vertical application requirements or total depth.

4) Set up the direct-push unit over each specific point and follow the manufacturer's standard operating procedures (SOP). Care should be taken to assure that probe holes remain vertical.

5) For most applications, Regenesis suggests using drive rods with an O.D. of at least 1.25-inches and an I.D. of at least 0.625-inches I.D (Geoprobe or equivalent). However, the lithologic conditions at some sites may warrant the use of larger 2.125-inch O.D./1.5-inch I.D. drive rods.

6) The most typical type of sub-assembly currently being used is designed for 1.25-inch direct-push rods and is manufactured by Geoprobe. Other brands of drive rods can also be used but require the fabrication of a sub-assembly that allows for a connection between the pump and drive rod.

7) For mixing large volumes of the micro-emulsion, Regenesis recommends using a Magnum Products LLC model MWT500 water trailer (fitted with centrifugal recirculation pump) or equivalent unit. However, single large volume poly tanks are adequate. We suggest filling the tank with an appropriate quantity (e.g. from the example above 222 gallons) of water before start of mixing operations. The tank should be configured so that both a hose and a fire hydrant or larger water tank can be connected to it simultaneously and filled with water quickly and easily. This will dramatically reduce the time needed to fill the tank with mixing water.

8) Regenesis highly recommends preparing the micro-emulsion before pushing any drive rods into the subsurface. NOTE: it is best if the micro-emulsion is produced a single day application volumes.

9) After the micro-emulsion mixing/shearing step has been completed as described above, the micro-emulsion is ready to be applied. Check to see if a hose has already been attached to the inlet side of the centrifugal pump. If this has not been done, do so now.

10) If a non-water trailer tank is being used for mixing the micro-emulsion a stand alone centrifugal pump and hose system should be used for the shearing and mixing operations.

11) Advance drive rods through the ground surface, as necessary, following SOP.

12) Push the drive rod assembly with an expendable tip to the desired maximum depth. Regenesis suggests pre-counting the number of drive rods needed to reach depth prior to starting injection activities to avoid any miscalculations.

13) After the drive rods have been pushed to the desired depth, the rod assembly should be withdrawn three to six inches. The expendable tip can be dropped from the drive rods, following SOP.

14) If an injection tool is used instead of a direct-push rod with an expendable tip, the application of material can take place without any preliminary withdrawal of the rods.

15) In some cases, introduction of a large column of air may be problematic. This is particularly the case in deep injections (>50 ft) with large diameter rods (>1.5-inch O.D.). To prevent the injection of air into the aquifer during the application, fill the drive rods with 3DMe emulsion after they have been pushed to the desired depth and before the disposable tip has been dropped or before the injection tip is operational.

16) Transfer the appropriate quantity of the micro-emulsion from the water trailer to the working/application pump hopper or associated holding tank.

17) A volume check should be performed prior to the injection of the micro-emulsion. Determining the volume discharged per unit time/stroke using a graduated bucket and stopwatch or stroke counter.

18) Start the pump and use the graduated bucket to determine how many gallons of micro-emulsion are delivered each minute or stroke per unit volume.

19) Connect the 1.25-inch O.D., 1-inch I.D. delivery hose to the pump outlet and the appropriate sub-assembly. Circulate the micro-emulsion through the hose and the sub-assembly to displace any air present in the system.

20) Connect the sub-assembly to the drive rod. After confirming that all of the connections are secure, pump the micro-emulsion through the delivery system to displace any water or other fluids in the rods.

21) The pump engine RPM and hydraulic settings should remain constant throughout the day to maintain a constant discharge rate.

22) The material is now ready to be installed in the subsurface. Use the pumps discharge rate as calculated in step 18 to determine the withdrawal rate of the drive rods needed for the application.

23) Slowly withdraw the drive rods using Geoprobe Rod Grip or Pull Plate Assembly (Part AT1222-For 1.25-inch drive rods). While slowly withdrawing single lengths of drive rod (three or four feet), pump the pre-determined volume of micro-emulsion into the aquifer across the desired treatment interval.

24) Remove one or two sections of the drive rod at a time. The drive rod may contain some residual material so Regenesis suggests placing it in a clean, empty bucket and allowing the material to drain. Eventually, the material recovered in the bucket should be returned to the pump hopper for reuse.

25) Observe any indications of aquifer refusal such as "surfacing" around the injection rods or previously installed injection points. If aquifer acceptance appears to be low, allow enough time for the aquifer to equilibrate prior to removing the drive rod.

26) Repeat steps 19 through 25 until treatment of the entire contaminated vertical zone has been achieved.

27) Install an appropriate seal, such as bentonite, above the micro-emulsion injection zone. The seal should span across the entire vadose zone. Depending on soil conditions and local regulations, a bentonite seal using chips or pellets can be used. If the injection hole remains open more than three or four feet below the ground surface sand can be used to fill the hole and provide a base for the bentonite seal. The installation of an appropriate seal assures that

the micro-emulsion remains properly placed and prevents contaminant migration from the surface. If the micro-emulsion continues to "surface" up the direct-push borehole, an oversized disposable drive tip or wood plug/stake can be used to temporarily plug the hole until the aquifer equilibrates and the material stops surfacing.

28) Remove and clean the drive rods as necessary.

29) Finish the borehole at the surface as appropriate (concrete or asphalt cap, if necessary).

30) Periodically compare the pre- and post-injection discharge rates of the micro-emulsion in the pump hopper or holding tank using any pre-marked volume levels. If volume level indicators are not on the pumps hopper or holding tank use a pre-marked dipstick or alternatively temporary mark the hopper or holding tank with known quantities/volumes of water using a carpenter's grease pencil (Kiel crayon).

31) Move to the next probe point, repeating steps 11 through 29.

Helpful Hints

1) *Application in Cold Weather Settings*

As discussed in the Material Overview, Handling, and Safety section, cold weather tends to increase the viscosity of 3DMe as well as decrease the ease of micro-emulsion formation. To optimize an application in cold weather settings Regenesis recommends maintaining the 3DMe concentrate and the associated water at a temperature ≥60°F (16°C). The following procedures can be used to facilitate the production and installation of a 10:1 v/v 3DMe micro-emulsion.

- Raise and maintain the temperature of the HRC-A to at least 60°F (16°C) prior to mixing with water. A hot water bath can be used to heat up the 3DMe concentrate buckets. A Rubbermaid fiberglass Farm Trough Stock Tank (Model 4242-00-GRAY) has been used for this process. This trough can hold up to 16 buckets of 3DMe concentrate.
- Hot water (approximately 130-170°F or 54-77°C) should be added to the tank after the buckets of 3DMe have been placed inside. The hot water should be delivered from a heated pressure washer (Hotsy® Model No. 444 or equivalent) or steam cleaner unit.
- It is equally critical that a moderate water temperature (>60°F or 16°C) be used in the production of the micro-emulsion. If on-site water supply is below 60°F use a hot water or steam cleaner to generate a small volume (e.g. 5-10% of total water volume) of hot water (130–170°F/54-77°C). This small volume of hot water should be added to remaining cold water volume to raise the total volume temperature to >60°F. When the 3DMe concentrate and water each reach a minimum temperature of 60°F or 16°C the two materials are ready for mixing.
- Upon achieving a minimum temperature of 60°F or 16°C (approximately 10-20 minutes). When the 3DMe and the associated water volumes have reached a minimum temperature of 60°F or 16°C (approximately 10-20 minutes) they are ready for mixing.
- In exceptionally harsh winter temperature settings use of a separate insulated pump containment structure and insulated delivery hoses may be necessary.

- Use a pump with a heater unit.
- Periodically check the temperature of the material in the hopper.
- Re-circulate the 3DMe micro-emulsion through the pump and hose to maintain temperature adequate temperatures.
- Care should be taken to avoid the re-circulation of material volumes that exceed the volume of the pump hopper or holding tank.

Table 1: Equipment Volume and 3DMe Micro-Emulsion Weight per Unit Length of Hose (Feet)

Equipment	Volume	Product Weight
1-inch OD; 0.625-inch ID hose (10 feet)	0.2 gallon	1.6 lbs.
1.25-inch OD; 0.625-inch ID drive rod (3 feet):	0.05 gallon	0.4 lbs.
1.25-inch OD; 0.625-inch ID drive rod (4 feet):	0.06 gallon	0.5 lbs.

2) Pump Cleaning

For best results, use a heated pressure washer to clean equipment and rods periodically throughout the day. Internal pump mechanisms and hoses can be easily cleaned by re-circulating a solution of hot water and a biodegradable cleaner such as Simple Green through the pump and delivery hose. Further cleaning and decontamination (if necessary due to subsurface conditions) should be performed according to the equipment supplier's standard procedures and local regulatory requirements.

NOTE:

Before using the Rupe Pump, check the following:

- Fuel level prior to engaging in pumping activities (it would be best to start with a full tank)
- Remote control/pump stroke counter LCD display [if no display is present, the electronic counter will need to be replaced (Grainger Stock No. 2A540)]

Monitor pump strokes by observing the proximity switches (these are located on the top of the piston).

3) *Bedrock Applications*

When contaminants are present in competent bedrock aquifers, the use of direct-push technology as a delivery method is not possible. *Regenesis is in the process of developing methods for applying 3DMe via boreholes drilled using conventional rotary techniques.* To develop the best installation strategy for a particular bedrock site, it is critical that our customers call the Technical Services department at Regenesis early in the design process.

The micro-emulsion can be applied into a bedrock aquifer in cased and uncased boreholes. The micro-emulsion can be delivered by simply filling the borehole without pressure or by using a

single or straddle packer system to inject the material under pressure. Selection of the appropriate delivery method is predicated on site-specific conditions. The following issues should be considered in developing a delivery strategy:

- Is the aquifer's hydraulic conductivity controlled by fractures?
- Backfilling may be the better delivery method in massive, unfractured bedrock. This is particularly true in an aquifer setting with high permeability and little fracturing (such as that found in massive sandstone).
- Down-hole packer systems may be more advantageous in fractured bedrock aquifers.
    - In this case the fracture type, trends, and interconnections should be evaluated and identified.
- Are the injection wells and monitoring wells connected by the same fractures?
- Determine if it is likely that the injection zone is connected to the proposed monitoring points.
- If pressure injection via straddle packers is desired, consideration should be given to the well construction. Specific issues to be considered are:
    - Diameter of the uncased borehole (*will casing diameter allow a packer system to be used under high pressures*?).
    - Diameter of the casing (*same as above*).
    - Strength of the casing (*can it withstand the delivery pressures?*).
    - Length of screened interval (*screened intervals greater than 10 feet will require a straddle packer system*).

For further assistance or questions please contact Regenesis Technical Services at 949-366-8000.

3-D MicroEmulsion™
HRC ADVANCED®

APPENDIX F

IMPORTANT INFORMATION ABOUT YOUR GEOTECHNICAL/ENVIRONMENTAL REPORT

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

Attachment to and part of Report 21-1-12357-003

Date: October 21, 2014
To: Mr. Louis Kuffel
Beckwith & Kuffel

IMPORTANT INFORMATION ABOUT YOUR GEOTECHNICAL/ENVIRONMENTAL REPORT

CONSULTING SERVICES ARE PERFORMED FOR SPECIFIC PURPOSES AND FOR SPECIFIC CLIENTS.

Consultants prepare reports to meet the specific needs of specific individuals. A report prepared for a civil engineer may not be adequate for a construction contractor or even another civil engineer. Unless indicated otherwise, your consultant prepared your report expressly for you and expressly for the purposes you indicated. No one other than you should apply this report for its intended purpose without first conferring with the consultant. No party should apply this report for any purpose other than that originally contemplated without first conferring with the consultant.

THE CONSULTANT'S REPORT IS BASED ON PROJECT-SPECIFIC FACTORS.

A geotechnical/environmental report is based on a subsurface exploration plan designed to consider a unique set of project-specific factors. Depending on the project, these may include: the general nature of the structure and property involved; its size and configuration; its historical use and practice; the location of the structure on the site and its orientation; other improvements such as access roads, parking lots, and underground utilities; and the additional risk created by scope-of-service limitations imposed by the client. To help avoid costly problems, ask the consultant to evaluate how any factors that change subsequent to the date of the report may affect the recommendations. Unless your consultant indicates otherwise, your report should not be used: (1) when the nature of the proposed project is changed (for example, if an office building will be erected instead of a parking garage, or if a refrigerated warehouse will be built instead of an unrefrigerated one, or chemicals are discovered on or near the site); (2) when the size, elevation, or configuration of the proposed project is altered; (3) when the location or orientation of the proposed project is modified; (4) when there is a change of ownership; or (5) for application to an adjacent site. Consultants cannot accept responsibility for problems that may occur if they are not consulted after factors which were considered in the development of the report have changed.

SUBSURFACE CONDITIONS CAN CHANGE.

Subsurface conditions may be affected as a result of natural processes or human activity. Because a geotechnical/environmental report is based on conditions that existed at the time of subsurface exploration, construction decisions should not be based on a report whose adequacy may have been affected by time. Ask the consultant to advise if additional tests are desirable before construction starts; for example, groundwater conditions commonly vary seasonally.

Construction operations at or adjacent to the site and natural events such as floods, earthquakes, or groundwater fluctuations may also affect subsurface conditions and, thus, the continuing adequacy of a geotechnical/environmental report. The consultant should be kept apprised of any such events, and should be consulted to determine if additional tests are necessary.

MOST RECOMMENDATIONS ARE PROFESSIONAL JUDGMENTS.

Site exploration and testing identifies actual surface and subsurface conditions only at those points where samples are taken. The data were extrapolated by your consultant, who then applied judgment to render an opinion about overall subsurface conditions. The actual interface between materials may be far more gradual or abrupt than your report indicates. Actual conditions in areas not sampled may differ from those predicted in your report. While nothing can be done to prevent such situations, you and your consultant can work together to help reduce their impacts. Retaining your consultant to observe subsurface construction operations can be particularly beneficial in this respect.

A REPORT'S CONCLUSIONS ARE PRELIMINARY.

The conclusions contained in your consultant's report are preliminary because they must be based on the assumption that conditions revealed through selective exploratory sampling are indicative of actual conditions throughout a site. Actual subsurface conditions can be discerned only during earthwork; therefore, you should retain your consultant to observe actual conditions and to provide conclusions. Only the consultant who prepared the report is fully familiar with the background information needed to determine whether or not the report's recommendations based on those conclusions are valid and whether or not the contractor is abiding by applicable recommendations. The consultant who developed your report cannot assume responsibility or liability for the adequacy of the report's recommendations if another party is retained to observe construction.

THE CONSULTANT'S REPORT IS SUBJECT TO MISINTERPRETATION.

Costly problems can occur when other design professionals develop their plans based on misinterpretation of a geotechnical/environmental report. To help avoid these problems, the consultant should be retained to work with other project design professionals to explain relevant geotechnical, geological, hydrogeological, and environmental findings, and to review the adequacy of their plans and specifications relative to these issues.

BORING LOGS AND/OR MONITORING WELL DATA SHOULD NOT BE SEPARATED FROM THE REPORT.

Final boring logs developed by the consultant are based upon interpretation of field logs (assembled by site personnel), field test results, and laboratory and/or office evaluation of field samples and data. Only final boring logs and data are customarily included in geotechnical/environmental reports. These final logs should not, under any circumstances, be redrawn for inclusion in architectural or other design drawings, because drafters may commit errors or omissions in the transfer process.

To reduce the likelihood of boring log or monitoring well misinterpretation, contractors should be given ready access to the complete geotechnical engineering/environmental report prepared or authorized for their use. If access is provided only to the report prepared for you, you should advise contractors of the report's limitations, assuming that a contractor was not one of the specific persons for whom the report was prepared, and that developing construction cost estimates was not one of the specific purposes for which it was prepared. While a contractor may gain important knowledge from a report prepared for another party, the contractor should discuss the report with your consultant and perform the additional or alternative work believed necessary to obtain the data specifically appropriate for construction cost estimating purposes. Some clients hold the mistaken impression that simply disclaiming responsibility for the accuracy of subsurface information always insulates them from attendant liability. Providing the best available information to contractors helps prevent costly construction problems and the adversarial attitudes that aggravate them to a disproportionate scale.

READ RESPONSIBILITY CLAUSES CLOSELY.

Because geotechnical/environmental engineering is based extensively on judgment and opinion, it is far less exact than other design disciplines. This situation has resulted in wholly unwarranted claims being lodged against consultants. To help prevent this problem, consultants have developed a number of clauses for use in their contracts, reports and other documents. These responsibility clauses are not exculpatory clauses designed to transfer the consultant's liabilities to other parties; rather, they are definitive clauses that identify where the consultant's responsibilities begin and end. Their use helps all parties involved recognize their individual responsibilities and take appropriate action. Some of these definitive clauses are likely to appear in your report, and you are encouraged to read them closely. Your consultant will be pleased to give full and frank answers to your questions.

The preceding paragraphs are based on information provided by the
ASFE/Association of Engineering Firms Practicing in the Geosciences, Silver Spring, Maryland