Cleanup Action Work Plan Engineering Design Report Addendum #1 Yakima Air Terminal – Richardson Airways Washdown Area Yakima, Washington

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Prepared for

City of Yakima, Washington Yakima County, Washington



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INTRODUCTION

In June 2009, a Cleanup Action Work Plan (CAWP; Landau Associates 2009a) was prepared and submitted for the former Richardson Airways Washdown Site located in Yakima, Washington (site; Figure 1) on behalf of the City of Yakima (City) and Yakima County (County). The CAWP was prepared in accordance with the requirements of Consent Decree No. 08-2-04863-1 (Consent Decree) between the Washington State Department of Ecology (Ecology) and the City and County, and the Draft Cleanup Action Plan (CAP) prepared by Ecology in July 2008 and accepted as final in December 2008 (Ecology 2008). The purpose of the CAWP was to establish a plan to help ensure that the cleanup action for the remediation of contaminated soils at the site is designed, constructed, and implemented in a manner that is consistent with the CAP, accepted engineering practices, and the requirements specified in WAC 173-340-360. The CAWP also provided sufficient information for the development of construction plans and specifications, and documentation of the engineering concepts and design criteria used to develop the cleanup action.

This CAWP Addendum #1 was prepared in order to convey the results of a supplemental sampling event that was conducted after submittal of the CAWP, and identify how the results of the sampling modify portions of the approach for the cleanup action. Approval for the supplemental sampling was given by Ecology based on discussions during a June 15, 2009 meeting at Ecology (Dick Bassett, Doug Mayo, and Beth Clark). The sampling protocol was summarized in a June 26, 2009 email to Ecology (Clark, E. 2009).

PURPOSE OF SUPPLEMENTAL SAMPLING

The CAWP indicated that:

"systematic confirmation sampling will be conducted to determine the limits of the excavation. The sampling may be done prior to and/or during excavation depending on the specific sampling locations. The proposed excavated area has been divided into a grid... [and a] confirmation sample will be collected from the excavation base at the approximate center of the grid area... Additionally, confirmation samples will be collected from the side walls of the excavation at intervals of approximately 50 lineal feet."

Soil samples analyzed during this supplemental sampling were primarily collected to achieve the objective of determining the limits of the excavation, prior to commencing excavation activities. This addendum distinguishes between confirmation samples, which will be used to define the final limits of the site excavation in accordance with WAC 173-340-410 and verification samples, which were collected to reevaluate the historical site data. Specifically, the supplemental sampling was performed to achieve the following objectives:

• Pre-establish the vertical extent of the remedial excavation in portions of the proposed excavation by performing confirmation sampling at a depth of 2 feet (ft) below ground

surface (BGS) at the approximate base sampling locations within the proposed 2-ft excavation contour shown on Figure 7 ("Approximate Confirmation Sampling Locations") of the CAWP.

- Pre-establish the horizontal extent of the remedial excavation by performing shallow confirmation sampling around the perimeter of the proposed excavation limits in the approximate sidewall confirmation sampling locations proposed in Figure 7 ("Approximate Confirmation Sampling Locations") of the CAWP.
- Verify certain results, which are over 15 years old, from the investigation conducted in 1993 by CH2MHill (CH2MHill 1993) which were driving the conceptual remedial excavation depth.
- Verify certain results, which are over 15 years old, from the 1993 investigation which were driving the necessity to perform confirmation sampling for herbicides.

Successful completion of these activities reduces the uncertainty in the vertical and horizontal limits of the final excavation and significantly reduces the number of confirmation samples (and constituents) that will be required during excavation and will thereby streamline the performance of the cleanup action.

SUPPLEMENTAL SAMPLING

On June 29 and 30, 2009, Landau Associates conducted a supplemental sampling that consisted of advancing soil borings using direct-push drilling methods at various locations around the perimeter and through the interior of the project area (identified on Figure 2) to collect and analyze soil samples to achieve the objectives stated in the section above. All sample locations were clearly flagged in the field, global positioning system (GPS) coordinates were collected, and detailed field notes were maintained indicating the location and depth of samples. This data will be used to accurately define site excavation limits.

Soil samples were collected and analyzed from the following boring locations:

- Borings advanced as representative pre-excavation "base" confirmation samples, B-1A, B-7A, B-1B, B-2B, B-3B, B-4B, B-5B, B-1C, and B-3C, were advanced to a depth of 2 ft at grid locations identified on Figure 7 of the CAWP, and samples were collected and analyzed for pesticides to define the vertical extent of the remedial excavation in areas around these borings.
- Borings advanced as representative pre-excavation "sidewall" confirmation samples, SW1 through SW14, were advanced around the perimeter of the known area of soil contamination and samples collected and analyzed for pesticides from a depth of approximately 0.5 to 2.0 ft BGS to define the horizontal extent of the remedial excavation.
- Borings DP16 through DP19 were advanced proximate to, and to similar depths as, former CH2MHill soil borings SB-3 through SB-5 and SB-11 respectively, to verify the presence or

absences of pesticide-contaminated soil at the depths where they were identified during the 1993 investigation. Soil boring logs for these borings are included in Appendix A.

• In addition to the pesticide sampling described in the bullets above, samples from boring locations B-1A, B-1B, SW1, SW2, SW10, SW11, DP-17, and DP-18 were also analyzed for herbicides to verify the presence or absence of herbicides previously identified in the 1993 investigation in the vicinity of soil borings SB-4 and SB-5.

Methods for conducting field activities, including sample collection procedures, conformed to those described in the project Sampling and Analysis Plan (SAP; Landau Associates 2009b).

Soil samples were analyzed by Analytical Resources, Inc., of Tukwila, Washington. All samples submitted for analysis were analyzed for organochlorine pesticides by U.S. Environmental Protection Agency (EPA) Method 8081B. Select samples (i.e., samples from borings B-1A, B-1B, DP-17, DP-18, SW1, SW2, SW10, and SW11) were also analyzed for chlorinated herbicides by EPA Method 8151A. Laboratory analytical reports and associated data are presented in Appendix B. Samples are identified by the boring location (i.e., DP-8) followed by the sample depth interval in feet BGS (i.e., DP-8:1.5-3).

DATA QUALITY REVIEW

Following receipt of the final analytical data packages, the analytical results and laboratory testing methods were reviewed by Landau Associates for quality assurance through a limited data validation process. The laboratory data validation process consisted of reviewing data for holding times, method blank results, field duplicate results, laboratory blank results, matrix spike recoveries, surrogate recoveries, laboratory control samples, and reporting limits. The data validation was performed using appropriate guidance from the EPA (EPA 1999) for the required indicator parameters.

All of the results for the samples collected and analyzed for the supplemental soil sampling were determined to be acceptable for project use without qualification with the following exceptions:

- Due to high recovery in the laboratory control sample (LCS) for the herbicide dinoseb, the dinoseb results for sample DP17:2-3 analyzed in conjunction with the LCS were qualified as estimated. The dinoseb results for sample DP17:2-3 were qualified with a J, as indicated in Table 1.
- Recovery of 2,4,5-T, dicamba, and dichloroprop in the matrix spike and matrix spike duplicate (MS/MSD) conducted on sample DP18:2-3 were low. 2,4,5-T, dicamba, and dalapon results for sample DP18:2-3 were non-detect; therefore, the reporting limits for this sample for these constituents were qualified as estimated (UJ), as indicated in Table 1.
- Recovery of the pesticide 4,4'-DDT in the MS/MSD conducted on sample DP17:2-3 were low for the MS and high for the MSD. The 4,4'-DDT results for sample DP17:2-3 were qualified with a J, as indicated in Table 1.

A summary of the analytical results and assigned data qualifiers is provided in Table 1. The laboratory data reports are provided in Appendix B.

INVESTIGATION RESULTS

Pesticides were detected above the Model Toxics Control Act (MTCA) Method B cleanup levels for soil established for the site (Landau Associates 2009c) in 6 of the 37 samples. The remaining samples were either below their respective cleanup level and/or below the laboratory reporting limit. Herbicides were not detected in any of the samples, with the exception of one sample as discussed below, for which they were analyzed. More specifically:

- **Pre-Excavation "Base" Confirmation Samples:** Samples from borings B-1A, B-7A, B-1B, B-2B, B-3B, B-4B, B-5B, B-1C, and B-3C, were collected and analyzed from a depth of approximately 2 ft BGS. Pesticide concentrations in samples from each of these sampling locations were below the laboratory reporting limit with the exception of one location (B-1A) where Endosulfan I was detected at a concentration [2.7 micrograms per kilogram (μg/kg)] slightly above the reporting limit, but well below the cleanup level (4,300 μg/kg).
- **Pre-Excavation "Sidewall" Confirmation Samples:** Samples from the "SW" locations were analyzed in two rounds of analysis. Samples from borings SW1 through SW13, which defined the initially estimated boundaries of shallow soil contamination, were analyzed first. Sample pesticide concentrations from each of these locations were below the site cleanup levels with the exception of samples from borings SW1, SW3, SW4, and SW13. Therefore, samples from borings SW14, SW16, SW17, and SW25 (which were advanced approximately 5 ft radially outward from the four borings with exceedances) were analyzed. Sample concentrations from each of these locations were below cleanup levels except for the sample from boring SW14, which contained Dieldrin at a concentration (15 µg/kg) slightly above the cleanup level (10 µg/kg).
- **Depth Verification Samples:** Samples from borings DP16 through DP19 were analyzed from various depth intervals to verify the 1993 results from similar areas and depths. Pesticides were detected above the reporting limit in the two sample intervals collected from DP16 (4.5 to 6 ft and 7.5 to 9 ft BGS) and from DP17 (2 to 3 ft and 4.5 to 6 ft BGS); however, the samples from the deeper interval in DP16, the two sample intervals from boring DP17, and the two sample intervals from DP18 (2 to 3 ft and 3 to 4 ft BGS) and DP19 (2 to 3 ft and 4.5 to 6 ft BGS) did not contain any pesticide concentrations above the site cleanup levels. The location and depth intervals of DP17 (2 to 3 ft BGS) and DP-18 (2 to 3 ft BGS) also make these two samples appropriate for use as confirmation samples and to assist in defining the horizontal and vertical limits of the excavation.
- **Herbicide Samples:** Samples from boring locations B-1A, B-1B, SW1, SW2, SW10, SW11, DP-17, and DP-18 that were analyzed for herbicides contained no herbicide concentrations above the laboratory reporting limit, with the exception of the sample collected from boring DP-17 at 2 to 3 ft BGS which contained dinoseb at a concentration of 1,000 μg/kg, which is below the cleanup level of 1,600 μg/kg.

Pertinent sampling results are summarized on Figures 3 and 4. The inferred approximate extent of soil contamination at the site, based on these results, is shown on Figure 5.

REVETMENT SAMPLING

In addition to the sampling described above, a sample (RVTComp:0.5-2) was collected from a nearby revetment at the airport to determine the suitability of that material for potential backfill material. Analyte concentrations were below reporting limits or at natural background levels (metals); however, the soil type and volume was determined to not be structurally suitable for use as backfill material. The results of the revetment sampling are included in Table 1 and in the analytical results in Appendix B.

CONCLUSIONS OF THE SUPPLEMENTAL SAMPLING AND APPLICABILITY OF THE RESULTS TO THE CLEANUP ACTION

The following conclusions pertaining to the cleanup action have been drawn based on the results of the supplemental sampling:

- Based on the results of the "B" series of pre-excavation confirmation samples, the vertical extent of the proposed remedial excavation has been defined at 2 ft BGS within each confirmation sampling grid where base samples were collected and analyzed (i.e., the remedial excavation will extend to no more than 2 ft BGS within grid locations A1, A7, B1 through B7, and C1).
- Based on the results of the "SW" series of pre-excavation confirmation samples, the horizontal extent of the proposed remedial excavation has been defined in all directions with the exception of the northwest corner near boring location SW-14. Therefore, the remedial excavation will extend horizontally (to a depth of 2 ft BGS) to each of the SW sampling locations where sample results were below the pesticide cleanup levels. The excavation will be extended radially approximately 5 ft beyond the area around SW-14, and at least one sidewall confirmation sample will be collected from this area to ensure that pesticide contaminated soils are adequately removed from this area.
- Based on the result of the samples collected from borings DP-16 through 19, it is concluded that the pesticide concentrations that were observed at deeper intervals in soil borings SB-3, SB-4, SB-5, and SB-11 in the 1993 investigation have declined (likely due to natural degradation) to concentrations below cleanup levels. Therefore, soils in the vicinity of SB-3, SB-4, SB-5, and SB-11 will be excavated to depths of no greater than 6 ft, 3 ft, 2 ft, and 2 ft, respectively, prior to confirmation sampling.
- Because herbicides were not identified above cleanup levels in samples from boring locations B-1A, B-1B, SW1, SW2, SW10, SW11, DP-17, and DP-18, it is concluded that the herbicide concentrations that were observed in samples from soil borings SB-4 and SB-5 in the 1993 investigation have declined (likely due to natural degradation) to concentrations below cleanup levels. Therefore, confirmation sampling for herbicides will not be conducted during the remedial excavation.

As indicated above, the results of the supplemental sampling are directly applicable to how the remedial excavation and confirmation sampling will be conducted, as originally outlined in the CAWP. Based on these results, specific items identified within the CAWP need to be amended to accurately reflect current site conditions and modifications to the cleanup approach. Specifically:

- Due to differences between the findings of the 1993 investigation and the current investigation, it is evident that the results from over 15 years ago no longer reflect current site conditions. Pesticide concentrations have evidently declined in deeper intervals and herbicides are no longer present at appreciable concentrations. Therefore, determination of excavation limits and volumes have been redefined using the recent (2009) data. The approximate area and depth of the proposed excavation are shown on Figure 6.
- Based on the results of the recent investigations and sampling events (the areas and depths of contaminated soils):
 - the remedial excavation will extend to depths between 2 ft and 6 ft BGS
 - the approximate area of excavation is 19,000 square feet (ft²)
 - the estimated in-place volume of contaminated soil that will be excavated for disposal is 2,000 to 2,200 cubic yards (yd³).
- Confirmation samples will be collected from each grid area (where pre-excavation confirmation samples have not already been collected and analyzed) upon completion of excavation of that grid (as practicable based on the configuration of the excavation of proximate areas) and submitted to the analytical laboratory for analysis as appropriate. The approximate locations of pre-excavation confirmation samples and the approximate location where additional post-excavation confirmation samples will be collected are shown on Figure 7.
- The final depth and horizontal limit of the excavation where pre-excavation confirmation samples have not yet been collected will be determined by the results of sidewall and base confirmation samples.

REMAINING SITE CONFIRMATION SAMPLING

The confirmation samples collected as part of this supplemental sampling define the limit of the 2-ft excavation (with the exception of SW-14 as described above). The remaining confirmation sampling to be conducted as part of the site excavation activities will be focused on defining the horizontal limit of the excavation in the area of SW-14 and defining the depth of the excavation greater than 2 ft as follows:

- An additional 2-ft excavation sidewall confirmation sample will be collected approximately 5 ft beyond (west/northwest) the area of SW-14.
- Additional base samples will be collected in the 2-ft, 3-ft, and 6-ft excavation areas as shown on Figure 7.

• Additional sidewall samples will be collected from each sidewall of the two 6-ft excavation areas as shown on Figure 7.

Based on the supplemental sampling results, the remaining confirmation sampling will be limited to pesticides (i.e., herbicide analysis will not be performed on any of the post-excavation confirmation samples).

SUMMARY

A supplemental investigation was conducted to reduce the uncertainty in the vertical and horizontal limits of the final excavation by collecting and analyzing pre-excavation confirmation samples. The investigation was also used to verify whether 1993 investigation results were still applicable to the site. The pre-excavation base confirmation sampling results have defined the vertical extent of the remedial excavation at 2 ft BGS throughout large portions of the excavation. The pre-excavation sidewall confirmation sampling results have successfully defined the horizontal limits of the shallow (2-ft) portion of the remedial excavation, except for a small area along the northwest boundary, where an additional confirmation sample(s) will be needed during the cleanup. Additional sampling locations and analyses have confirmed that the depth of pesticide contamination above cleanup levels has been reduced over the past 15 years (likely due to natural degradation) to the upper 6 ft or less of soil at the site; therefore, the remedial excavation will not extend as deep in certain areas of the site as previously indicated in the CAWP before confirmation samples are collected. Similarly, herbicide concentrations have been reduced to below cleanup levels across the site; therefore, herbicide analysis will not be necessary during cleanup activities.

The results and conclusions of this investigation better defines the limits (and estimated volumes) of soil excavation and significantly reduces the number of confirmation samples (and constituents) that will be required during the excavation. This will prove effective in streamlining the overall implementation and performance of the cleanup action.

USE OF THIS REPORT

This Cleanup Action Work Plan Addendum #1 has been prepared for the exclusive use of the City and County of Yakima, Washington for specific application to the Yakima Air Terminal, Richardson Airways Washdown Site. The reuse of information, conclusions, and recommendations provided herein for extensions of the project or for any other project, without review and authorization by Landau Associates, shall be at the user's sole risk. Landau Associates warrants that within the limitations of scope, schedule, and budget, our services have been provided in a manner consistent with that level of

care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions as this project. We make no other warranty, either express or implied.

If you have any questions or comments regarding this report, please contact Beth Clark at 509-967-0704, or at eclark@landauinc.com.

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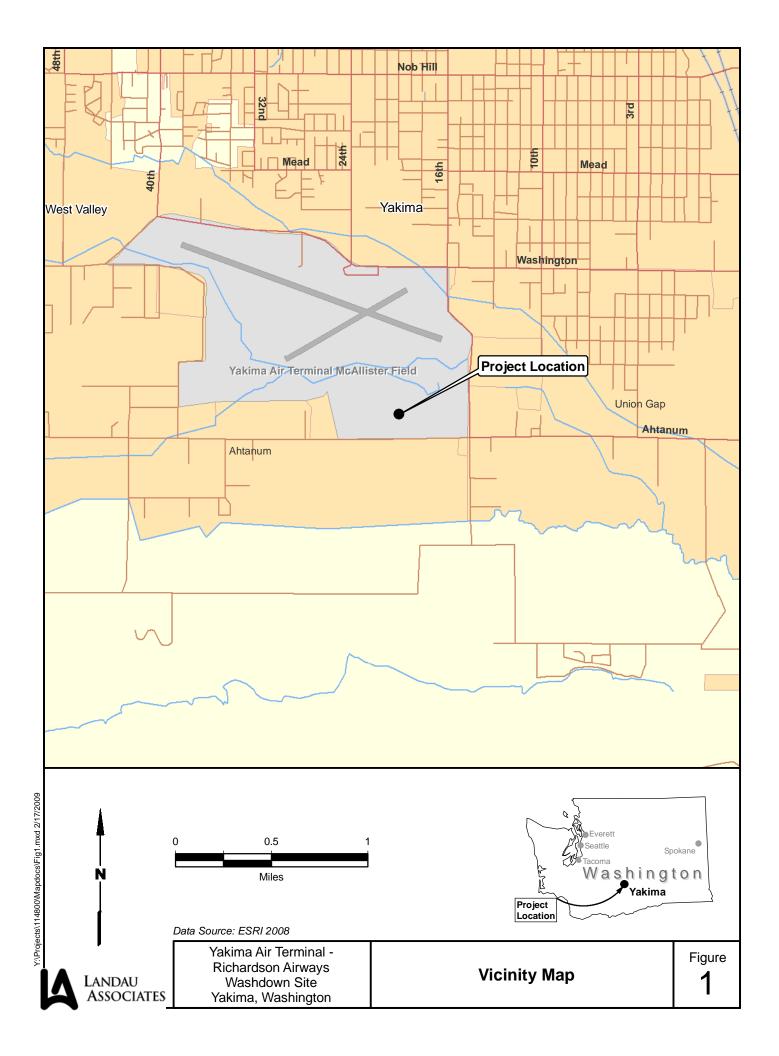
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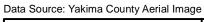
Landau Associates. 2009c. Minor Site Modification Form; Site: Yakima Air Terminal – Richardson Airways Washdown Area, Yakima, Washington; Modification: Sampling & Analysis Plan, Section 4.1.4; Appendix B, Section 3.2.1; Table B-3. May 28.



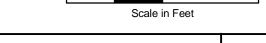


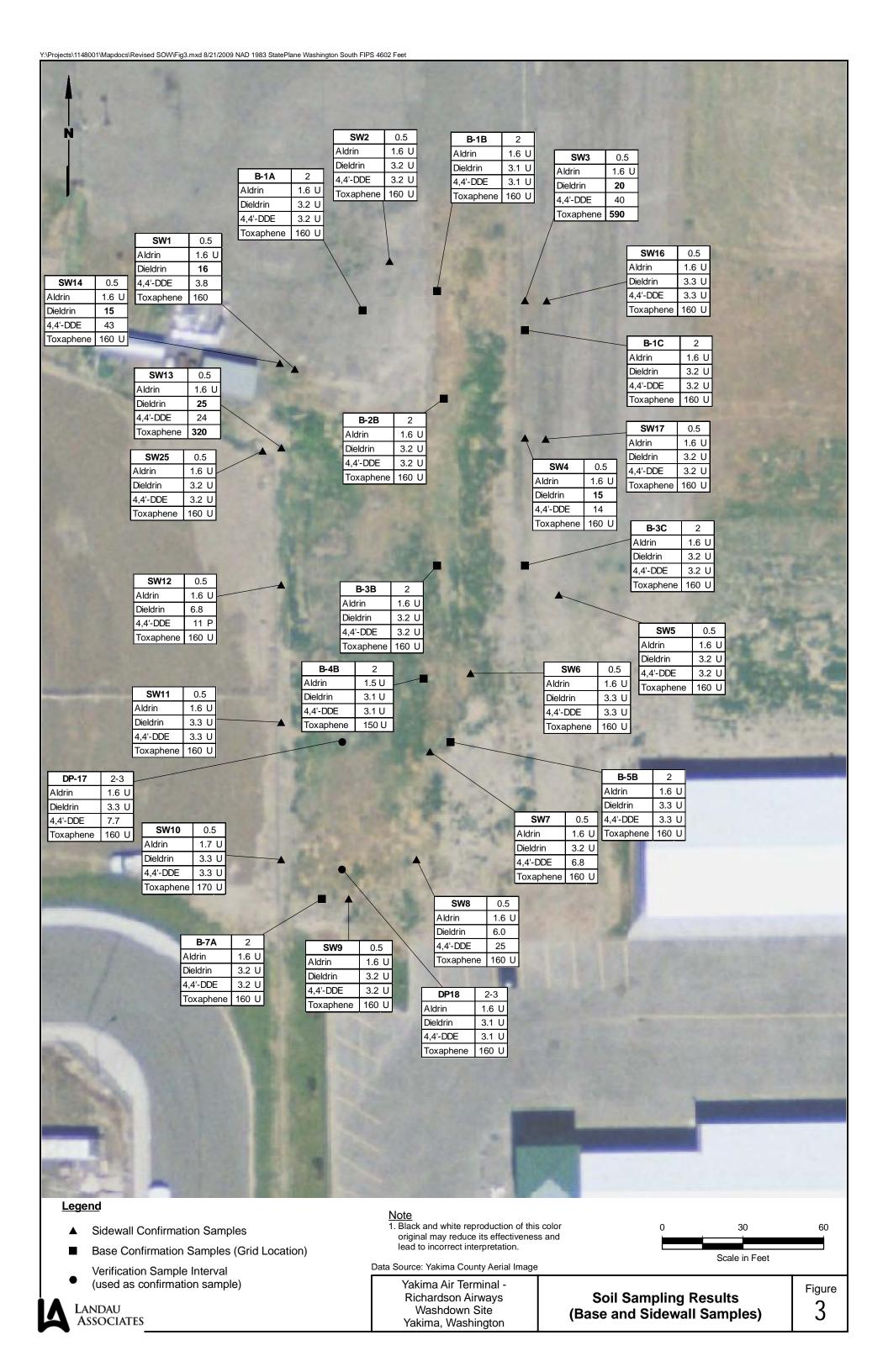
- SW1 Sidewall Confirmation Samples
- B-3B Base Confirmation Samples (Grid Location)
- DP16 Deeper Verification Samples

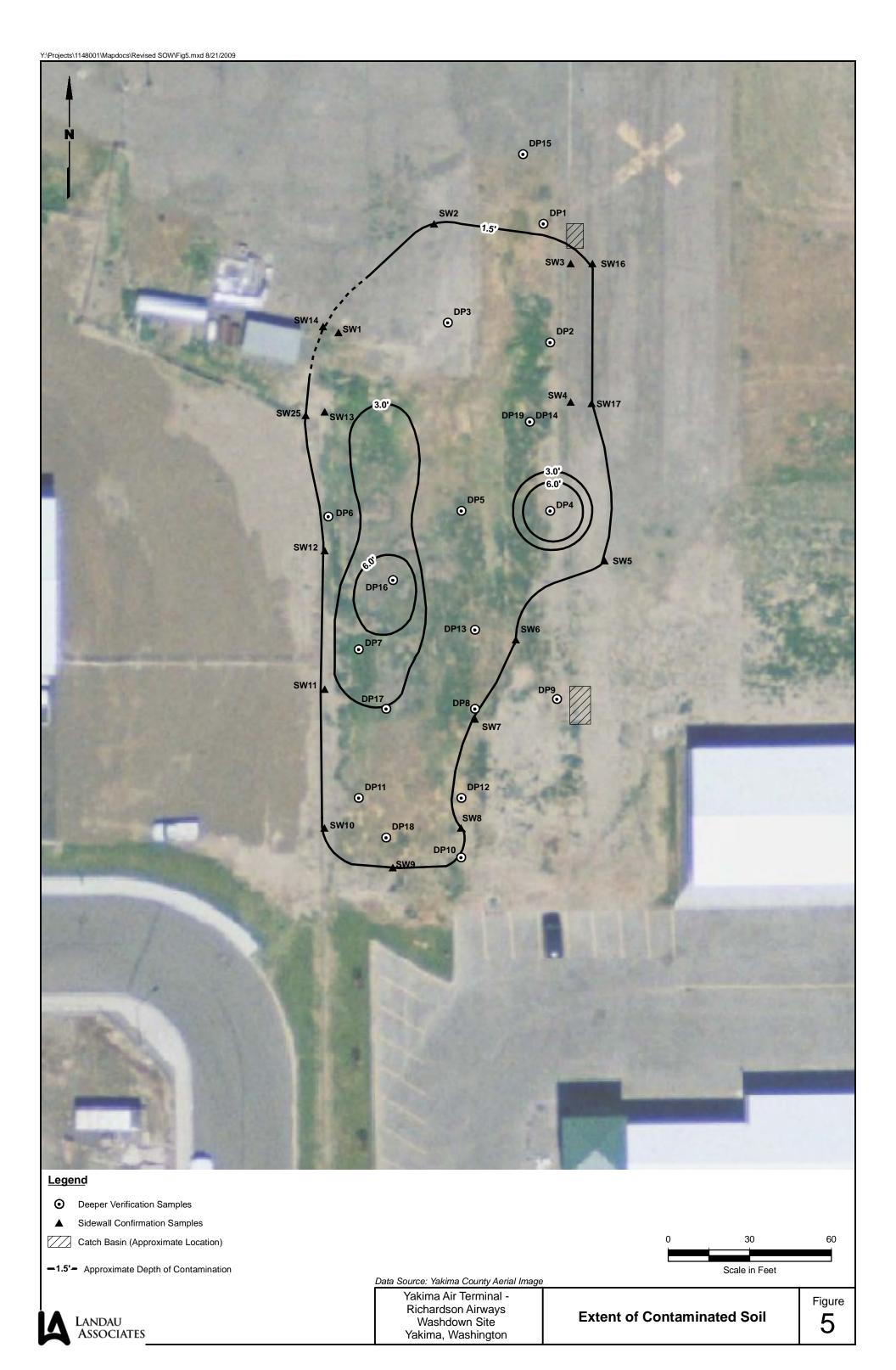
original may reduce its effectiveness and lead to incorrect interpretation.



Yakima Air Terminal -Richardson Airways Washdown Site Yakima, Washington









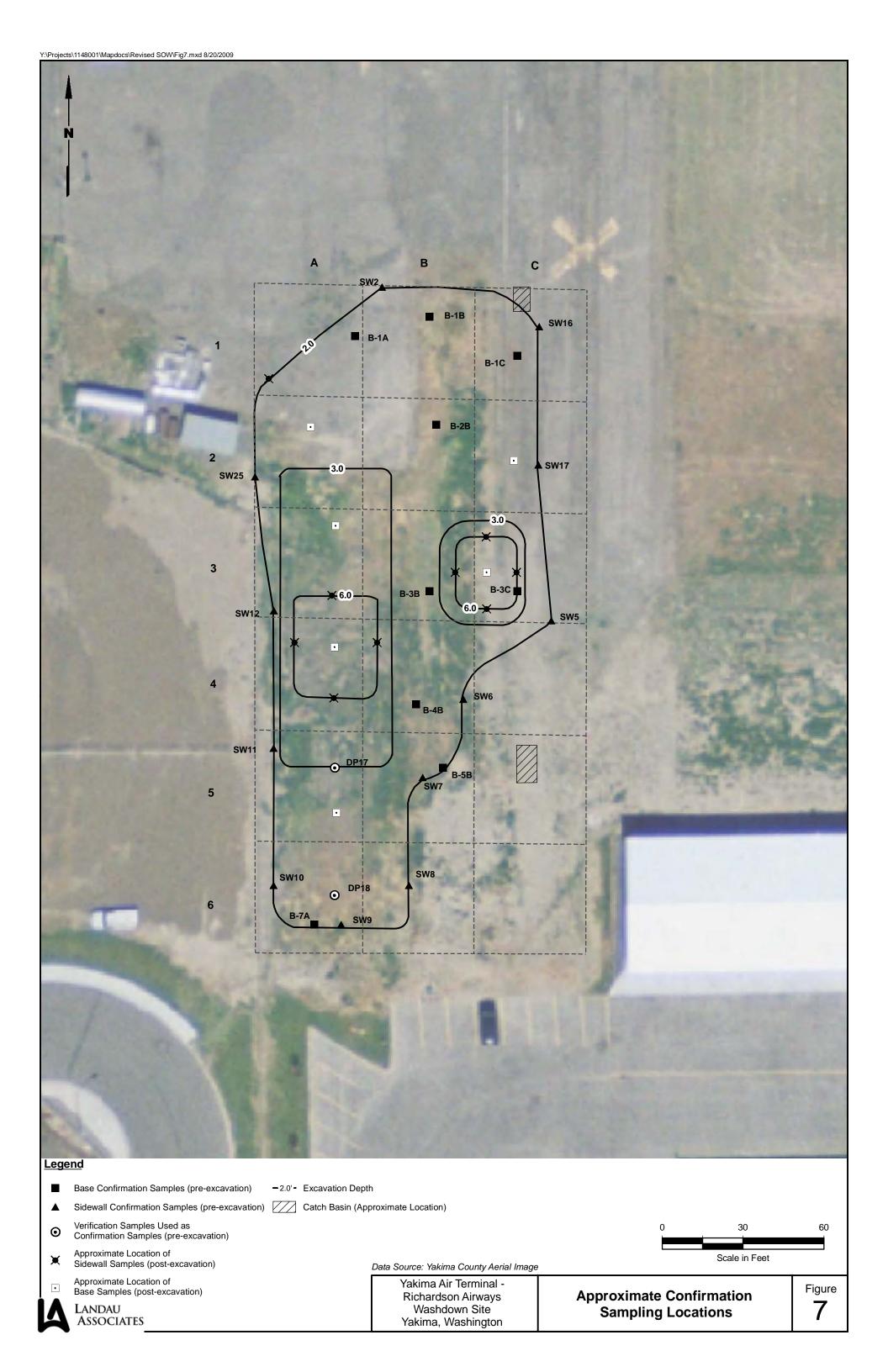


TABLE 1
SOIL ANALYTICAL RESULTS
YAKIMA AIR TERMINAL
RICHARDSON AIRWAYS
YAKIMA, WASHINGTON

Sample ID: Lab ID: Date Sampled:	B-1A-2 PF48P 6/29/2009	B-1B-2 PF48R 6/29/2009	B-1C-2 PF48C 6/29/2009	B-2B-2 PF48D 6/29/2009	Dup of B-2B-2 SW27-W-6.5 PF47O 6/29/2009	B-3B-2 PF48E 6/29/2009	B-4B-2 PF48F 6/29/2009	B-3C-2 PF48G 6/29/2009	B-5B-2 PF48H 6/29/2009
PESTICIDES (μg/kg)									_
SW8081B									
alpha-BHC	1.6 U	1.6 U	1.5 U	1.6 U	1.6 U				
beta-BHC	1.6 U	1.6 U	1.5 U	1.6 U	1.6 U				
delta-BHC	1.6 U	1.6 U	1.5 U	1.6 U	1.6 U				
gamma-BHC (Lindane)	1.6 U	1.6 U	1.5 U	1.6 U	1.6 U				
Heptachlor	1.6 U	1.6 U	1.5 U	1.6 U	1.6 U				
Aldrin	1.6 U	1.6 U	1.5 U	1.6 U	1.6 U				
Heptachlor Epoxide	1.6 U	1.6 U	1.5 U	1.6 U	1.6 U				
Endosulfan I	2.7	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.5 U	1.6 U	1.6 U
Dieldrin	3.2 U	3.1 U	3.2 U	3.2 U	3.2 U	3.2 U	3.1 U	3.2 U	3.3 U
4,4'-DDE	3.2 U	3.1 U	3.2 U	3.2 U	3.2 U	3.2 U	3.1 U	3.2 U	3.3 U
Endrin	3.2 U	3.1 U	3.2 U	3.2 U	3.2 U	3.2 U	3.1 U	3.2 U	3.3 U
Endosulfan II	3.2 U	3.1 U	3.2 U	3.2 U	3.2 U	3.2 U	3.1 U	3.2 U	3.3 U
4,4'-DDD	3.2 U	3.1 U	3.2 U	3.2 U	3.2 U	3.2 U	3.1 U	3.2 U	3.3 U
Endosulfan Sulfate	3.2 U	3.1 U	3.2 U	3.2 U	3.2 U	3.2 U	3.1 U	3.2 U	3.3 U
4,4'-DDT	3.2 U	3.1 U	3.2 U	3.2 U	3.2 U	3.2 U	3.1 U	3.2 U	3.3 U
Methoxychlor	16 U	16 U	15 U	16 U	16 U				
Endrin Ketone	3.2 U	3.1 U	3.2 U	3.2 U	3.2 U	3.2 U	3.1 U	3.2 U	3.3 U
Endrin Aldehyde	3.2 U	3.1 U	3.2 U	3.2 U	3.2 U	3.2 U	3.1 U	3.2 U	3.3 U
gamma Chlordane	1.6 U	1.6 U	1.5 U	1.6 U	1.6 U				
alpha Chlordane	1.6 U	1.6 U	1.5 U	1.6 U	1.6 U				
Toxaphene	160 U	160 U	150 U	160 U	160 U				

TABLE 1
SOIL ANALYTICAL RESULTS
YAKIMA AIR TERMINAL
RICHARDSON AIRWAYS
YAKIMA, WASHINGTON

					Dup of B-2B-2				
Sample ID:	B-1A-2	B-1B-2	B-1C-2	B-2B-2	SW27-W-6.5	B-3B-2	B-4B-2	B-3C-2	B-5B-2
Lab ID:	PF48P	PF48R	PF48C	PF48D	PF47O	PF48E	PF48F	PF48G	PF48H
Date Sampled:	6/29/2009	6/29/2009	6/29/2009	6/29/2009	6/29/2009	6/29/2009	6/29/2009	6/29/2009	6/29/2009
HERBICIDES (µg/kg)									
SW8151A									
2,4,5-TP (Silvex)	11 U	11 U	NA	NA	NA	NA	NA	NA	NA
2,4,5-T	11 U	11 U	NA	NA	NA	NA	NA	NA	NA
Dinoseb	22 U	22 U	NA	NA	NA	NA	NA	NA	NA
Dicamba	22 U	22 U	NA	NA	NA	NA	NA	NA	NA
2,4-D	44 U	44 U	NA	NA	NA	NA	NA	NA	NA
2,4-DB	220 U	220 U	NA	NA	NA	NA	NA	NA	NA
Dalapon	44 U	44 U	NA	NA	NA	NA	NA	NA	NA
MCPA	11,000 U	11,000 U	NA	NA	NA	NA	NA	NA	NA
Dichloroprop	44 U	44 U	NA	NA	NA	NA	NA	NA	NA
PETROLEUM HYDROCARBONS									
NWTPH-HCID (mg/kg)									
Gasoline Range Organics	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diesel Range Organics	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lube Oil	NA	NA	NA	NA	NA	NA	NA	NA	NA
TOTAL METALS (mg/kg)									
SW6010B									
Arsenic	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic									

TABLE 1
SOIL ANALYTICAL RESULTS
YAKIMA AIR TERMINAL
RICHARDSON AIRWAYS
YAKIMA, WASHINGTON

Sample ID: Lab ID: Date Sampled:	B-7A-2 PF48I 6/29/2009	DP16:2-3 PH60A 6/29/2009	DP16:4.5-6 PH60B 6/29/2009	DP16:7.5-9 PF39C 6/29/2009	DP17:2-3 PH60C 6/29/2009	DP17:4.5-6 PF39F 6/29/2009	DP18:2-3 PH60D 6/29/2009	DP18:3-4 PF39I 6/29/2009	DP19:2-3 PH60E 6/29/2009
PESTICIDES (μg/kg)									_
SW8081B									
alpha-BHC	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U
beta-BHC	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U
delta-BHC	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U
gamma-BHC (Lindane)	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U
Heptachlor	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U
Aldrin	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U
Heptachlor Epoxide	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U
Endosulfan I	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U
Dieldrin	3.2 U	3.2 U	16	9.6	3.3 U	4.2	3.1 U	3.3 U	3.3 U
4,4'-DDE	3.2 U	3.2 U	6.9	7.1	7.7	4.0	3.1 U	3.3 U	3.3 U
Endrin	3.2 U	3.2 U	3.1 U	3.2 U	3.3 U	3.1 U	3.1 U	3.3 U	3.3 U
Endosulfan II	3.2 U	3.2 U	8.9 P	8.8 P	3.3 U	3.1 U	3.1 U	3.3 U	3.3 U
4,4'-DDD	3.2 U	3.2 U	3.1 U	3.2 U	3.3 U	3.1 U	3.1 U	3.3 U	3.3 U
Endosulfan Sulfate	3.2 U	3.2 U	3.1 U	3.2 U	3.3 U	3.1 U	3.1 U	3.3 U	3.3 U
4,4'-DDT	3.2 U	3.2 U	14 P	12 P	37 J	15	3.1 U	3.3 U	3.3 U
Methoxychlor	16 U	16 U	16 U	16 U	16 U	16 U	16 U	16 U	16 U
Endrin Ketone	3.2 U	3.2 U	3.1 U	3.2 U	3.3 U	3.1 U	3.1 U	3.3 U	3.3 U
Endrin Aldehyde	3.2 U	3.2 U	3.1 U	7.5 U	3.3 U	3.1 U	3.1 U	3.3 U	3.3 U
gamma Chlordane	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U
alpha Chlordane	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U
Toxaphene	160 U	160 U	120 J1	160 U	160 U	160 U	160 U	160 U	160 U

TABLE 1
SOIL ANALYTICAL RESULTS
YAKIMA AIR TERMINAL
RICHARDSON AIRWAYS
YAKIMA, WASHINGTON

Sample ID: Lab ID: Date Sampled:	B-7A-2 PF48I 6/29/2009	DP16:2-3 PH60A 6/29/2009	DP16:4.5-6 PH60B 6/29/2009	DP16:7.5-9 PF39C 6/29/2009	DP17:2-3 PH60C 6/29/2009	DP17:4.5-6 PF39F 6/29/2009	DP18:2-3 PH60D 6/29/2009	DP18:3-4 PF39I 6/29/2009	DP19:2-3 PH60E 6/29/2009
HERBICIDES (μg/kg)									
SW8151A									
2,4,5-TP (Silvex)	NA	NA	NA	NA	10 U	10 U	12 U	12 U	NA
2,4,5-T	NA	NA	NA	NA	10 U	10 U	12 UJ	12 U	NA
Dinoseb	NA	NA	NA	NA	1,000 J	21 U	23 U	23 U	NA
Dicamba	NA	NA	NA	NA	21 U	21 U	23 UJ	23 U	NA
2,4-D	NA	NA	NA	NA	42 U	42 U	46 U	46 U	NA
2,4-DB	NA	NA	NA	NA	210 U	210 U	230 U	230 U	NA
Dalapon	NA	NA	NA	NA	42 U	42 U	46 U	46 U	NA
MCPA	NA	NA	NA	NA	10,000 U	10,000 U	12,000 U	12,000 U	NA
Dichloroprop	NA	NA	NA	NA	42 U	42 U	46 UJ	46 U	NA
PETROLEUM HYDROCARBONS NWTPH-HCID (mg/kg)			N A		.				NA
Gasoline Range Organics	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diesel Range Organics	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lube Oil	NA	NA	NA	NA	NA	NA	NA	NA	NA
TOTAL METALS (mg/kg) SW6010B									
Arsenic	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 1
SOIL ANALYTICAL RESULTS
YAKIMA AIR TERMINAL
RICHARDSON AIRWAYS
YAKIMA, WASHINGTON

Sample ID: Lab ID: Date Sampled:	DP19:4.5-6 PH60F 6/29/2009	DP19:9-10.5 PF39M 6/29/2009	SW1-NW-0.5 PF48J 6/29/2009	SW2-NW-0.5 PF48K 6/29/2009	SW3-NW-0.5 PF48L 6/29/2009	SW4-E-0.5 PF48M 6/29/2009	SW5-SE-0.5 PF48N 6/29/2009	SW6-E-0.5 PF48O 6/29/2009	SW7-SE-0.5 PF47A 6/29/2009
PESTICIDES (µg/kg)									
SW8081B									
alpha-BHC	1.5 U	1.7 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U
beta-BHC	1.5 U	1.7 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U
delta-BHC	1.5 U	1.7 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U
gamma-BHC (Lindane)	1.5 U	1.7 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U
Heptachlor	1.5 U	1.7 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U
Aldrin	1.5 U	1.7 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U
Heptachlor Epoxide	1.5 U	1.7 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U
Endosulfan I	1.5 U	1.7 U	99	1.6 U	17 P	1.6 U	1.6 U	1.6 U	1.6 U
Dieldrin	3.1 U	3.3 U	16	3.2 U	20	15	3.2 U	3.3 U	3.2 U
4,4'-DDE	3.1 U	3.3 U	3.8	3.2 U	40	14	3.2 U	3.3 U	6.8
Endrin	3.1 U	3.3 U	5.0	3.2 U	3.2 U	3.2 U	3.2 U	3.3 U	3.2 U
Endosulfan II	3.1 U	3.3 U	95	6.0	110	9.8 P	3.2 U	3.3 U	3.2 U
4,4'-DDD	3.1 U	3.3 U	3.2 U	3.2 U	14 U	3.2 U	3.2 U	3.3 U	3.2 U
Endosulfan Sulfate	3.1 U	3.3 U	6.5	3.8	27	3.2 U	3.2 U	3.3 U	3.2 U
4,4'-DDT	3.1 U	3.3 U	16 P	3.2 U	62 P	21	4.5	3.3 U	3.0 J1
Methoxychlor	15 U	17 U	16 U	16 U	16 U	16 U	16 U	16 U	16 U
Endrin Ketone	3.1 U	3.3 U	3.2 U	3.2 U	3.2 U	3.2 U	3.2 U	3.3 U	3.2 U
Endrin Aldehyde	3.1 U	3.3 U	3.2 U	3.2 U	28 P	6.6 U	3.2 U	3.3 U	3.2 U
gamma Chlordane	1.5 U	1.7 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U
alpha Chlordane	1.5 U	1.7 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U
Toxaphene	150 U	170 U	160	160 U	590	160 U	160 U	160 U	160 U
	[

TABLE 1
SOIL ANALYTICAL RESULTS
YAKIMA AIR TERMINAL
RICHARDSON AIRWAYS
YAKIMA, WASHINGTON

Sample ID: Lab ID: Date Sampled:	DP19:4.5-6 PH60F 6/29/2009	DP19:9-10.5 PF39M 6/29/2009	SW1-NW-0.5 PF48J 6/29/2009	SW2-NW-0.5 PF48K 6/29/2009	SW3-NW-0.5 PF48L 6/29/2009	SW4-E-0.5 PF48M 6/29/2009	SW5-SE-0.5 PF48N 6/29/2009	SW6-E-0.5 PF48O 6/29/2009	SW7-SE-0.5 PF47A 6/29/2009
HERBICIDES (μg/kg)									
SW8151A									
2,4,5-TP (Silvex)	NA	NA	11 U	9.9 U	NA	NA	NA	NA	NA
2,4,5-T	NA	NA	11 U	9.9 U	NA	NA	NA	NA	NA
Dinoseb	NA	NA	22 U	20 U	NA	NA	NA	NA	NA
Dicamba	NA	NA	22 U	20 U	NA	NA	NA	NA	NA
2,4-D	NA	NA	59 U	40 U	NA	NA	NA	NA	NA
2,4-DB	NA	NA	220 U	200 U	NA	NA	NA	NA	NA
Dalapon	NA	NA	44 U	40 U	NA	NA	NA	NA	NA
MCPA	NA	NA	11,000 U	9,900 U	NA	NA	NA	NA	NA
Dichloroprop	NA	NA	44 U	40 U	NA	NA	NA	NA	NA
PETROLEUM HYDROCARBONS NWTPH-HCID (mg/kg)									
Gasoline Range Organics	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diesel Range Organics	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lube Oil	NA	NA	NA	NA	NA	NA	NA	NA	NA
TOTAL METALS (mg/kg) SW6010B									
Arsenic	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 1
SOIL ANALYTICAL RESULTS
YAKIMA AIR TERMINAL
RICHARDSON AIRWAYS
YAKIMA, WASHINGTON

Sample ID: Lab ID: Date Sampled:	SW8-E-0.5 PF47C 6/29/2009	SW9-S-0.5 PF47E 6/29/2009	SW10-W-0.5 PF47G 6/29/2009	SW11-W-0.5 PF47I 6/29/2009	SW12-W-0.5 PF47K 6/29/2009	SW13-W-0.5 PF47M 6/29/2009	SW14-NW-0.5 PH60H 6/30/2009	SW16-NE-0.5 PH60I 6/30/2009	SW17-E-0.5 PH60J 6/30/2009
PESTICIDES (µg/kg)									
SW8081B									
alpha-BHC	1.6 U	1.6 U	1.7 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U
beta-BHC	1.6 U	1.6 U	1.7 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U
delta-BHC	1.6 U	1.6 U	1.7 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U
gamma-BHC (Lindane)	1.6 U	1.6 U	1.7 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U
Heptachlor	1.6 U	1.6 U	1.7 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U
Aldrin	1.6 U	1.6 U	1.7 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U
Heptachlor Epoxide	1.6 U	1.6 U	1.7 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U
Endosulfan I	1.6 U	1.6 U	1.7 U	1.6 U	1.6 U	1.6 U	11	1.6 U	1.6 U
Dieldrin	6.0	3.2 U	3.3 U	3.3 U	6.8	25	15	3.3 U	3.2 U
4,4'-DDE	25	3.2 U	3.3 U	3.3 U	11 P	24	43	3.3 U	3.2 U
Endrin	3.1 U	3.2 U	3.3 U	3.3 U	3.3 U	3.2 U	3.2 U	3.3 U	3.2 U
Endosulfan II	3.1 U	3.2 U	3.3 U	3.3 U	3.3 U	12 U	14	3.3 U	3.2 U
4,4'-DDD	4.7	3.2 U	3.3 U	3.3 U	3.3 U	8.0	8.9 P	3.3 U	3.2 U
Endosulfan Sulfate	3.1 U	3.2 U	3.3 U	3.3 U	3.3 U	7.2 U	3.2 U	3.3 U	3.2 U
4,4'-DDT	30	3.2 U	3.3 U	3.3 U	15 P	51 P	120	3.3 U	3.2 U
Methoxychlor	16 U	16 U	17 U	16 U	16 U	16 U	16 U	16 U	16 U
Endrin Ketone	3.1 U	3.2 U	3.3 U	3.3 U	3.3 U	3.2 U	3.2 U	3.3 U	3.2 U
Endrin Aldehyde	3.1 U	3.2 U	3.3 U	3.3 U	7.2 U	22 U	3.2 U	3.3 U	3.2 U
gamma Chlordane	1.6 U	1.6 U	1.7 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U
alpha Chlordane	2.7 P	1.6 U	1.7 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U
Toxaphene	160 U	160 U	170 U	160 U	160 U	320	160 U	160 U	160 U

TABLE 1
SOIL ANALYTICAL RESULTS
YAKIMA AIR TERMINAL
RICHARDSON AIRWAYS
YAKIMA, WASHINGTON

Sample ID: Lab ID: Date Sampled:	SW8-E-0.5 PF47C 6/29/2009	SW9-S-0.5 PF47E 6/29/2009	SW10-W-0.5 PF47G 6/29/2009	SW11-W-0.5 PF47I 6/29/2009	SW12-W-0.5 PF47K 6/29/2009	SW13-W-0.5 PF47M 6/29/2009	SW14-NW-0.5 PH60H 6/30/2009	SW16-NE-0.5 PH60I 6/30/2009	SW17-E-0.5 PH60J 6/30/2009
HERBICIDES (μg/kg)									
SW8151A									
2,4,5-TP (Silvex)	NA	NA	10 U	10 U	NA	NA	NA	NA	NA
2,4,5-T	NA NA	NA	10 U	10 U	NA	NA	NA	NA	NA
Dinoseb	NA	NA	21 U	21 U	NA	NA	NA	NA	NA
Dicamba	NA	NA	21 U	21 U	NA	NA	NA	NA	NA
2,4-D	NA	NA	41 U	41 U	NA	NA	NA	NA	NA
2,4-DB	NA	NA	210 U	210 U	NA	NA	NA	NA	NA
Dalapon	NA	NA	41 U	41 U	NA	NA	NA	NA	NA
MCPA	NA	NA	10,000 U	10,000 U	NA	NA	NA	NA	NA
Dichloroprop	NA	NA	41 U	41 U	NA	NA	NA	NA	NA
PETROLEUM HYDROCARBONS NWTPH-HCID (mg/kg)									
Gasoline Range Organics	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diesel Range Organics	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lube Oil	NA	NA	NA	NA	NA	NA	NA	NA	NA
TOTAL METALS (mg/kg) SW6010B									
Arsenic	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 1
SOIL ANALYTICAL RESULTS
YAKIMA AIR TERMINAL
RICHARDSON AIRWAYS
YAKIMA, WASHINGTON

Sample ID: Lab ID: Date Sampled:	SW25-W-0.5 PH60G 6/30/2009	RVTComp:0.5-2 PF47AL 6/30/2009	
PESTICIDES (µg/kg)			
SW8081B			
alpha-BHC	1.6 U	1.6 U	
beta-BHC	1.6 U	1.6 U	
delta-BHC	1.6 U	1.6 U	
gamma-BHC (Lindane)	1.6 U	1.6 U	
Heptachlor	1.6 U	1.6 U	
Aldrin	1.6 U	1.6 U	
Heptachlor Epoxide	1.6 U	1.6 U	
Endosulfan I	1.6 U	1.6 U	
Dieldrin	3.2 U	3.2 U	
4,4'-DDE	3.2 U	3.2 U	
Endrin	3.2 U	3.2 U	
Endosulfan II	3.2 U	3.2 U	
4,4'-DDD	3.2 U	3.2 U	
Endosulfan Sulfate	3.2 U	3.2 U	
4,4'-DDT	3.2 U	3.2 U	
Methoxychlor	16 U	16 U	
Endrin Ketone	3.2 U	3.2 U	
Endrin Aldehyde	3.2 U	3.2 U	
gamma Chlordane	1.6 U	1.6 U	
alpha Chlordane	1.6 U	1.6 U	
Toxaphene	160 U	160 U	

TABLE 1
SOIL ANALYTICAL RESULTS
YAKIMA AIR TERMINAL
RICHARDSON AIRWAYS
YAKIMA, WASHINGTON

Sample ID: Lab ID: Date Sampled:	SW25-W-0.5 PH60G 6/30/2009	RVTComp:0.5-2 PF47AL 6/30/2009
HERBICIDES (µg/kg)		
SW8151A		
2,4,5-TP (Silvex)	NA	9.3 U
2,4,5-T	NA	9.3 U
Dinoseb	NA	18 U
Dicamba	NA	18 U
2,4-D	NA	37 U
2,4-DB	NA	180 U
Dalapon	NA	37 U
MCPA	NA	9,300 U
Dichloroprop	NA	37 U
PETROLEUM HYDROCARBONS NWTPH-HCID (mg/kg)		
Gasoline Range Organics	NA	20 U
Diesel Range Organics	NA	50 U
Lube Oil	NA	100 U
TOTAL METALS (mg/kg) SW6010B		
Arsenic	NA	10 U
Lead	NA	6

TABLE 1 SOIL ANALYTICAL RESULTS YAKIMA AIR TERMINAL RICHARDSON AIRWAYS YAKIMA, WASHINGTON

- U = Indicates the compound was undetected at the reported concentration.
- J = Indicates the analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- UJ = The analyte was not detected in the sample; the reported sample reporting limit is an estimate.
- J1 = Reported detected result is less than the Reporting Limit but greater than the Method Detection Limit.
- P = The analyte was detected on both chromatographic columns but the quantified values differ by 40% RPD with no obvious chromatographic interference. The higher of the two values is reported by the laboratory.
- Bold = Detected compound.
- $\mathsf{Box} = \mathsf{Exceedance} \ \mathsf{of} \ \mathsf{cleanup} \ \mathsf{level}.$

Boring Logs

Soil Classification System

MAJOR

USCS GRAPHIC LETTER

TYPICAL (2)(3)

	DIVISIONS			SYMBOL ⁽¹⁾	DESCRIPTIONS (2)(3)			
COARSE-GRAINED SOIL (More than 50% of material is larger than No. 200 sieve size)	GRAVEL AND	CLEAN GRAVEL		GW	Well-graded gravel; gravel/sand mixture(s); little or no fines			
	GRAVELLY SOIL	(Little or no fines)	00000	GP	Poorly graded gravel; gravel/sand mixture(s); little or no fines			
	(More than 50% of coarse fraction retained	GRAVEL WITH FINES		GM	Silty gravel; gravel/sand/silt mixture(s)			
	on No. 4 sieve)	(Appreciable amount of fines)		GC	Clayey gravel; gravel/sand/clay mixture(s)			
	SAND AND	CLEAN SAND		SW	Well-graded sand; gravelly sand; little or no fines			
	SANDY SOIL	(Little or no fines)		SP	Poorly graded sand; gravelly sand; little or no fines			
	(More than 50% of coarse fraction passed	SAND WITH FINES (Appreciable amount of		SM	Silty sand; sand/silt mixture(s)			
<u> σ</u> ≥ Ω	through No. 4 sieve)	fines)		SC	Clayey sand; sand/clay mixture(s)			
FINE-GRAINED SOIL (More than 50% of material is smaller than No. 200 sieve size)	SILT AI	ШПП	ML	Inorganic silt and very fine sand; rock flour; silty or clayey fine sand or clayey silt with slight plasticity				
			CL	Inorganic clay of low to medium plasticity; gravelly clay; sandy clay; silty clay; lean clay				
	(Liquid limit		OL	Organic silt; organic, silty clay of low plasticity				
	SILT AI		MH	Inorganic silt; micaceous or diatomaceous fine sand				
			СН	Inorganic clay of high plasticity; fat clay				
	(Liquid limit g		ОН	Organic clay of medium to high plasticity; organic silt				
	HIGHLY OF	RGANIC SOIL		PT	Peat; humus; swamp soil with high organic content			

OTHER MATERIALS

GRAPHIC LETTER SYMBOL SYMBOL

TYPICAL DESCRIPTIONS

PAVEMENT	AC or PC	Asphalt concrete pavement or Portland cement pavement
ROCK	RK	Rock (See Rock Classification)
WOOD	WD	Wood, lumber, wood chips
DEBRIS	O/O/O/ DB	Construction debris, garbage

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

 $\label{eq:primary constituent:} \begin{array}{ll} & > 50\% - \text{"GRAVEL," "SAND," "SILT," "CLAY," etc.} \\ \text{Secondary Constituents:} & > 30\% \text{ and } \leq 50\% - \text{"very gravelly," "very sandy," "very silty," etc.} \\ & > 15\% \text{ and } \leq 30\% - \text{"gravelly," "sandy," "silty," etc.} \\ \text{Additional Constituents:} & > 5\% \text{ and } \leq 15\% - \text{"with gravel," "with sand," "with silt," etc.} \\ & \leq 5\% - \text{"with trace gravel," "with trace sand," "with trace silt," etc., or not noted.} \\ \end{array}$

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

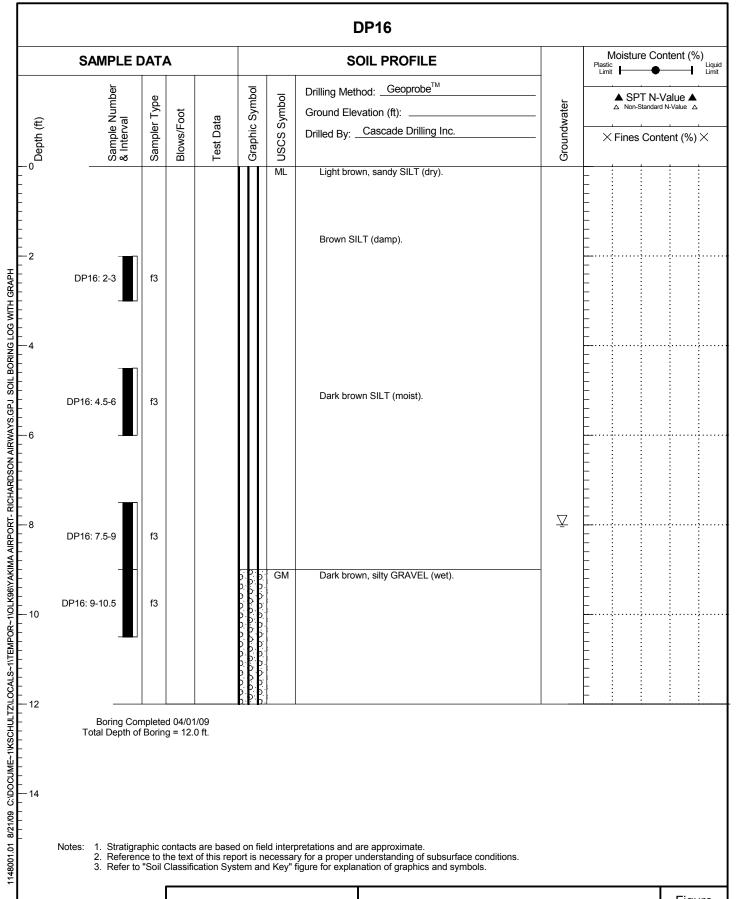
Drilling and Sampling Key Field and Lab Test Data SAMPLER TYPE SAMPLE NUMBER & INTERVAL Code Description Code Description 3.25-inch O.D., 2.42-inch I.D. Split Spoon PP = 1.0 Pocket Penetrometer, tsf b 2.00-inch O.D., 1.50-inch I.D. Split Spoon Sample Identification Number TV = 0.5Torvane, tsf Shelby Tube PID = 100 Photoionization Detector VOC screening, ppm С Recovery Depth Interval d Grab Sample W = 10Moisture Content, % Single-Tube Core Barrel D = 120Dry Density, pcf Sample Depth Interval Double-Tube Core Barrel -200 = 60 Material smaller than No. 200 sieve, % Grain Size - See separate figure for data 2.50-inch O.D., 2.00-inch I.D. WSDOT GS Portion of Sample Retained h 3.00-inch O.D., 2.375-inch I.D. Mod. California for Archive or Analysis ALAtterberg Limits - See separate figure for data Other - See text if applicable GT Other Geotechnical Testing Chemical Analysis 300-lb Hammer, 30-inch Drop CA 2 140-lb Hammer, 30-inch Drop Groundwater Pushed Approximate water level at time of drilling (ATD) Vibrocore (Rotosonic/Geoprobe) Approximate water level at time other than ATD Other - See text if applicable



Richardson Airways Washdown Area Yakima, Washington

Soil Classification System and Key

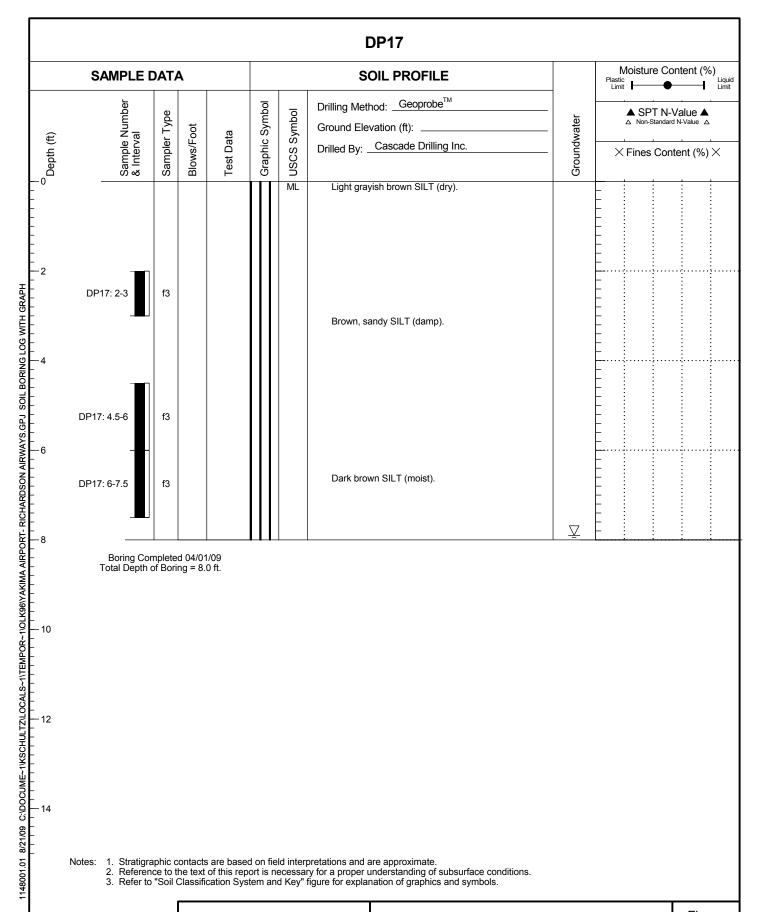
Figure



LANDAU ASSOCIATES Richardson Airways Washdown Area Yakima, Washington

Log of Boring DP16

Figure Δ_2

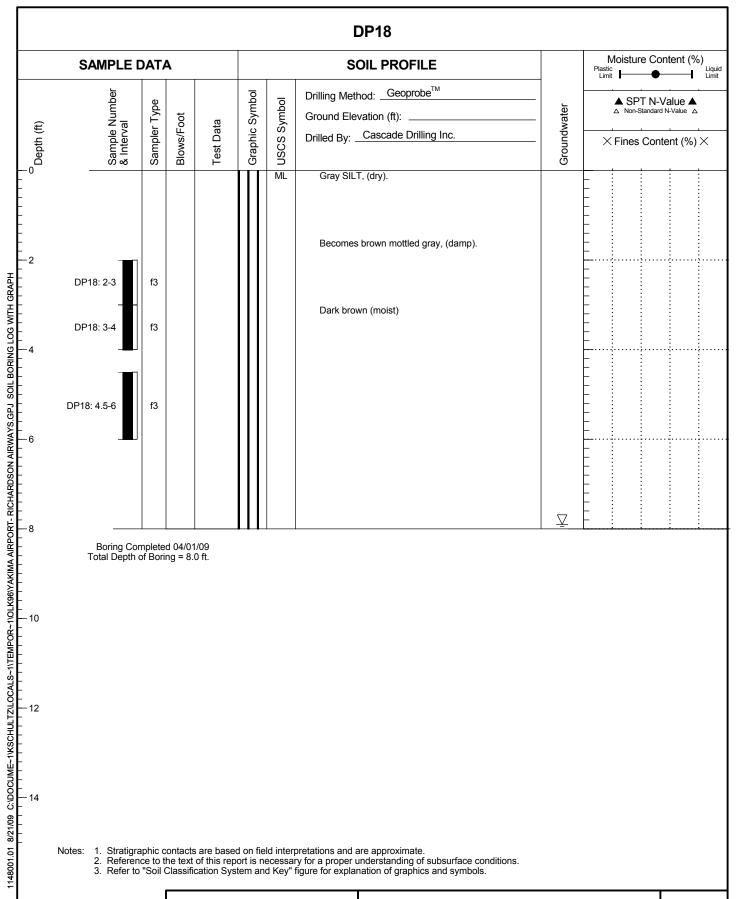


LANDAU ASSOCIATES

Richardson Airways Washdown Area Yakima, Washington

Log of Boring DP17

Figure Δ_3



LANDAU ASSOCIATES

Richardson Airways Washdown Area Yakima, Washington

Log of Boring DP18

Figure A-4

SAMPLE DATA					SOIL PROFILE				Moisture Plastic Limit	e Content (%)	
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Drilling Method: _Geoprobe™ Ground Elevation (ft): Drilled By: _Cascade Drilling Inc.	Groundwater	▲ SPT N-Value ▲ △ Non-Standard N-Value △ × Fines Content (%) ×		
2 4	DP19: 2-3	f3	8			ML	Grayish brown, sandy SILT (dry). Brown (damp) Dark brown (moist)				
8	DP19: 9-10.5	f3				GM	Becomes brown mottled red (moist) Dark brown, silty GRAVEL (wet).	<u>Ā</u>			
· 12	Boring Co Total Depth of Notes: 1. Stratign 2. Reference 3. Reference	f Borin	g = 12.0	O ft.	d on fie	eld interpecessard Key"	oretations and are approximate. y for a proper understanding of subsurface conditions. igure for explanation of graphics and symbols.		<u> </u>		

LANDAU ASSOCIATES

Richardson Airways Washdown Area Yakima, Washington

Log of Boring DP19

A-5

Laboratory Data Sheets, Chain(s) of Custody



July 13, 2009

Ryan Reich Landau Associates, Inc. 10 North Post St. Peyton Building, Suite 218 Spokane, WA 99201

RE: Project No: 1148001.010.020

Project Name: Richardson Airways

ARI Job No: PF39

Dear Ryan:

Please find enclosed the original chain of custody (COC) record, sample receipt documentation, and the final results from the project referenced above. Analytical Resources, Inc. (ARI) accepted fourteen soil samples in good condition on July 1, 2009. Select samples were placed on hold pending further instructions. * Note all samples were frozen to protect holding times.

The samples were analyzed for Pesticides and Herbicides, as requested on the COC.

The herbicides LCS and LCSD RPD for Dinoseb is outside the +/- 30% control limits. All other QC is in control and no further corrective action was taken.

The pesticide LCS, LCSD does not contain Toxaphene spikes as Toxaphene contains over two hundred associated compounds.

There were no other anomalies associated with the samples.

A copy of this report and all corresponding raw data will remain on file electronically with ARI. If you have any questions or require additional information, please contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Kelly Bottem

Client Services Manager

(206) 695-6211

kellyb@arilabs.com

Enclosures

Date 6-29-09 ☐ Accelerated **Turnaround Time** Standard Treeze Observations/Comments 1 = \$ Page_ Received by Printed Name Company Signature HOLD 1400 160 (70H 1101 HOLD Croft HOLD おひ 1707 Date Method of Shipment **Festing Parameters** Chain-of-Custody Record Relinquished by Printed Name Signature Company 1800 Project Name Kichacolson Ahrways Project No. 1148001.012.020 \times Containers, No. of ☐ Seattle (Edmonds) (425) 778-0907 (2 F 3 C) Matrix So.i/ E Date 7 Yatima Air Dart Received by 28:01 16:45 ☐ **Portland (Tigard)** (503) 443-6010 10:50 10:10 55:07 11:15 10.20 10:30 3:// 70:52 10:00 10:05 0/:// Time Company Ryan Reich Ryan Peich **Spokane** (509) 327-9737 □ Tacoma (253) 926-2493 6-53-09 Date Date 2 7-1-09 Time 11:40 Ryan Riel Special Shipment/Handling or Storage Requirements 1-501:610V LANDAU | P ASSOCIATES | DP16: 9-10.5 DR19: 9-10.5 Project Location/Event DP18: 4.5-6 17019:45-6 Lenden Company Sample I.D. DP17: 45-6 DO17: 6-7.5 DP16: 7.5-9 DP16:45-6 DP18: 3-4 DP18: 2-3 DP16: 2-3 DP19: 2-3 DP17: 2-5 Relinquished by Sampler's Name Send Results To_ Project Contact

WHITE COPY - Project File

PINK COPY - Client Representative YELLOW COPY - Laboratory

Rev. 6/02



Cooler Receipt Form

ARI Client: Lan	dau	Project Name: RICHA	rdson Airw	2115
COC No(s):	(NA)	Delivered by: Fed-Ex UPS C		
Assigned ARI Job No:P	F39	Tracking No:		NA NA
Preliminary Examination Phase	· •:			
Were intact, properly signed and	d dated custody seals attached	d to the outside of to cooler?	YES	(NO)
Were custody papers included v			(YES)	NO
Were custody papers properly f			(YES)	NO
Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for cl	hemistry) ∂ . ω		
If cooler temperature is out of co	ompliance fill out form 00070F		Temp Gun ID#: 4	87405
Cooler Accepted by:	AV	Date: 7/1/09 Tin	ne: //46	
	Complete custody form	s and attach all shipping documents		
Log In Phase				
Log-In Phase:		:		
Was a temperature blank include	ed in the cooler?	··· <u>··</u> ·····	YES	(NO)
What kind of packing material w	as used? Bubble Wrap	Wet Ice Gel Packs Baggies Foam Bi	lock Paper Other: VC	
Was sufficient ice used (if approp			NA (YES)	NO
Were all bottles sealed in individ			YES	(NO)
			(E)	NO
	· · · · · · · · · · · · · · · · · · ·	••••••	(ES)	
		nber of containers received?	(E)	NO
				NO
			(ES)	NO
•			√ (Es	NO
		reservation sheet, excluding VOCs)	YA YES	NO
Were all VOC vials free of air but			(NA) YES	NO
Was sufficient amount of sample	sent in each bottle?		(ES)	NO
Samples Logged by:	₩Date	e: <u>7/1/09</u> Time: _	1309	
	** Notify Project Manag	er of discrepancies or concerns **		-
Sample ID on Bottle	S			
Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on C	oc
				
Additional Notes, Discrepancies	s. & Resolutions:			
•				İ
By: Date	9:			
Small Air Bubbles Peabubb	} 2: ",02:1" !!!!!!!	Small → "sm"		
- 2mm 2-4 mr	6 > 4 mm	Peabubbles → "pb"		
•	. 000	Large → "lg"		

Headspace → "hs"



Page 1 of 1

Sample ID: DP16:7.5-9 SAMPLE

Lab Sample ID: PF39C LIMS ID: 09-15672

Matrix: Soil

Data Release Authorized:

Reported: 07/10/09

Project: RICHARDSON AIRWAYS

1148001.010.020

QC Report No: PF39-Landau Associates, Inc.

Date Sampled: 06/29/09 Date Received: 07/01/09

Sample Amount: 12.4 g-dry-wt

Final Extract Volume: 4.0 mL Dilution Factor: 1.00

Silica Gel: Yes

Percent Moisture: 22.2%

Date Extracted: 07/06/09 Date Analyzed: 07/08/09 18:40 Instrument/Analyst: ECD7/AAR

GPC Cleanup: No Sulfur Cleanup: Yes Florisil Cleanup: No Acid Cleanup: No

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	1.6	< 1.6 U
319-85-7	beta-BHC	1.6	< 1.6 U
319-86-8	delta-BHC	1.6	< 1.6 U
58-89-9	gamma-BHC (Lindane)	1.6	< 1.6 U
76-44-8	Heptachlor	1.6	< 1.6 U
309-00-2	Aldrin	1.6	< 1.6 U
1024-57-3	Heptachlor Epoxide	1.6	< 1.6 U
959-98-8	Endosulfan I	1.6	< 1.6 U
60-57-1	Dieldrin	3.2	9.6
72-55-9	4,4'-DDE	3.2	7.1
72-20-8	Endrin	3.2	< 3.2 U
33213-65-9	Endosulfan II	3.2	8.8 P
72-54-8	4,4'-DDD	3.2	< 3.2 U
1031-07-8	Endosulfan Sulfate	3.2	< 3.2 U
50-29-3	4,4'-DDT	3.2	12 P
72-43-5	Methoxychlor	16	< 16 U
53494-70-5	Endrin Ketone	3.2	< 3.2 U
7421-93-4	Endrin Aldehyde	7.5	< 7.5 Y
5103-74-2	gamma Chlordane	1.6	< 1.6 U
5103-71-9	alpha Chlordane	1.6	< 1.6 U
8001-35-2	Toxaphene	160	< 160 U

Reported in $\mu g/kg$ (ppb)

1-4	
Decachlorobiphenyl	83.0%
Tetrachlorometaxylene	68.5%



Page 1 of 1

Sample ID: DP17:4.5-6 SAMPLE

Lab Sample ID: PF39F LIMS ID: 09-15675

Matrix: Soil

Data Release Authorized:

Reported: 07/10/09

VIS

Date Extracted: 07/06/09

Date Analyzed: 07/08/09 19:01 Instrument/Analyst: ECD7/AAR

GPC Cleanup: No Sulfur Cleanup: Yes Florisil Cleanup: No Acid Cleanup: No QC Report No: PF39-Landau Associates, Inc.

Project: RICHARDSON AIRWAYS

1148001.010.020

Date Sampled: 06/29/09 Date Received: 07/01/09

Sample Amount: 12.8 g-dry-wt

Final Extract Volume: 4.0 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: 20.3%

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	1.6	< 1.6 U
319-85-7	beta-BHC	1.6	< 1.6 U
319-86-8	delta-BHC	1.6	< 1.6 U
58-89-9	gamma-BHC (Lindane)	1.6	< 1.6 U
76-44-8	Heptachlor	1.6	< 1.6 U
309-00-2	Aldrin	1.6	< 1.6 U
1024-57-3	Heptachlor Epoxide	1.6	< 1.6 U
959-98-8	Endosulfan I	1.6	< 1.6 U
60-57-1	Dieldrin	3.1	4.2
72-55-9	4,4'-DDE	3.1	4.0
72-20-8	Endrin	3.1	< 3.1 U
33213-65-9	Endosulfan II	3.1	< 3.1 U
72-54-8	4,4'-DDD	3.1	< 3.1 U
1031-07-8	Endosulfan Sulfate	3.1	< 3.1 U
50-29-3	4,4'-DDT	3.1	15
72-43-5	Methoxychlor	16	< 16 U
53494-70-5	Endrin Ketone	3.1	< 3.1 U
7421-93-4	Endrin Aldehyde	3.1	< 3.1 U
5103-74-2	gamma Chlordane	1.6	< 1.6 U
5103-71-9	alpha Chlordane	1.6	< 1.6 U
8001-35-2	Toxaphene	160	< 160 U

Reported in $\mu g/kg$ (ppb)

Decachlorobiphenyl	80.5%
Tetrachlorometaxylene	69.5%



Page 1 of 1

Sample ID: DP18:3-4 SAMPLE

Lab Sample ID: PF39I LIMS ID: 09-15678

Matrix: Soil

Data Release Authorized:

Reported: 07/10/09

Date Extracted: 07/06/09 Date Analyzed: 07/08/09 19:21 Instrument/Analyst: ECD7/AAR

GPC Cleanup: No Sulfur Cleanup: Yes Florisil Cleanup: No

Acid Cleanup: No

QC Report No: PF39-Landau Associates, Inc.

Project: RICHARDSON AIRWAYS

1148001.010.020

Date Sampled: 06/29/09 Date Received: 07/01/09

Sample Amount: 12.3 g-dry-wt

Final Extract Volume: 4.0 mL Dilution Factor: 1.00 Silica Gel: Yes

Percent Moisture: 28.1%

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	1.6	< 1.6 U
319-85-7	beta-BHC	1.6	< 1.6 U
319-86-8	delta-BHC	1.6	< 1.6 U
58-89-9	gamma-BHC (Lindane)	1.6	< 1.6 U
76-44-8	Heptachlor	1.6	< 1.6 U
309-00-2	Aldrin	1.6	< 1.6 U
1024-57-3	Heptachlor Epoxide	1.6	< 1.6 U
959-98-8	Endosulfan I	1.6	< 1.6 U
60-57-1	Dieldrin	3.3	< 3.3 U
72-55-9	4,4'-DDE	3.3	< 3.3 U
72-20-8	Endrin	3.3	< 3.3 U
33213-65-9	Endosulfan II	3.3	< 3.3 U
72-54-8	4,4'-DDD	3.3	< 3.3 U
1031-07-8	Endosulfan Sulfate	3.3	< 3.3 U
50-29-3	4,4'-DDT	3.3	< 3.3 U
72-43-5	Methoxychlor	16	< 16 U
53494-70-5	Endrin Ketone	3.3	< 3.3 U
7421-93-4	Endrin Aldehyde	3.3	< 3.3 U
5103-74-2	gamma Chlordane	1.6	< 1.6 U
5103-71-9	alpha Chlordane	1.6	< 1.6 U
8001-35-2	Toxaphene	160	< 160 U

Reported in $\mu g/kg$ (ppb)

Decachlorobiphenyl	72.8%
Tetrachlorometaxylene	60.8%



Page 1 of 1

Lab Sample ID: PF39M LIMS ID: 09-15682

Matrix: Soil

Data Release Authorized:

Reported: 07/10/09

Date Extracted: 07/06/09

Date Analyzed: 07/08/09 19:42 Instrument/Analyst: ECD7/AAR

GPC Cleanup: No Sulfur Cleanup: Yes Florisil Cleanup: No Acid Cleanup: No Sample ID: DP19:9-10.5 SAMPLE

QC Report No: PF39-Landau Associates, Inc.

Project: RICHARDSON AIRWAYS

1148001.010.020

Date Sampled: 06/29/09
Date Received: 07/01/09

Sample Amount: 12.1 g-dry-wt

Final Extract Volume: 4.0 mL Dilution Factor: 1.00

Silica Gel: Yes

Percent Moisture: 24.5%

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	1.7	< 1.7 U
319-85-7	beta-BHC	1.7	< 1.7 U
319-86-8	delta-BHC	1.7	< 1.7 U
58-89-9	gamma-BHC (Lindane)	1.7	< 1.7 U
76-44-8	Heptachlor	1.7	< 1.7 U
309-00-2	Aldrin	1.7	< 1.7 U
1024-57-3	Heptachlor Epoxide	1.7	< 1.7 U
959-98-8	Endosulfan I	1.7	< 1.7 U
60-57-1	Dieldrin	3.3	< 3.3 U
72-55-9	4,4'-DDE	3.3	< 3.3 U
72-20-8	Endrin	3.3	< 3.3 U
33213-65-9	Endosulfan II	3.3	< 3.3 U
72-54-8	4,4'-DDD	3.3	< 3.3 U
1031-07-8	Endosulfan Sulfate	3.3	< 3.3 U
50-29-3	4,4'-DDT	3.3	< 3.3 U
72-43-5	Methoxychlor	17	< 17 U
53494-70-5	Endrin Ketone	3.3	< 3.3 U
7421-93-4	Endrin Aldehyde	3.3	< 3.3 U
5103-74-2	gamma Chlordane	1.7	< 1.7 U
5103-71-9	alpha Chlordane	1.7	< 1.7 U
8001-35-2	Toxaphene	170	< 170 U

Reported in $\mu g/kg$ (ppb)

Decachlorobiphenyl	73.8%
Tetrachlorometaxylene	64.8%



Page 1 of 1

Sample ID: MB-070609 METHOD BLANK

Lab Sample ID: MB-070609

LIMS ID: 09-15672

Matrix: Soil

Data Release Authorized:

Reported: 07/10/09

Date Extracted: 07/06/09

Date Analyzed: 07/08/09 17:38 Instrument/Analyst: ECD7/AAR

GPC Cleanup: No Sulfur Cleanup: Yes Florisil Cleanup: No

Acid Cleanup: No

QC Report No: PF39-Landau Associates, Inc.

Project: RICHARDSON AIRWAYS

1148001.010.020

Date Sampled: NA Date Received: NA

Sample Amount: 12.0 g-dry-wt

Final Extract Volume: 4.0 mL Dilution Factor: 1.00

Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	1.7	< 1.7 U
319-85-7	beta-BHC	1.7	< 1.7 U
319-86-8	delta-BHC	1.7	< 1.7 U
58-89-9	gamma-BHC (Lindane)	1.7	< 1.7 U
76-44-8	Heptachlor	1.7	< 1.7 U
309-00-2	Aldrin	1.7	< 1.7 U
1024-57-3	Heptachlor Epoxide	1.7	< 1.7 U
959-98-8	Endosulfan I	1.7	< 1.7 U
60-57-1	Dieldrin	3.3	< 3.3 U
72-55-9	4,4'-DDE	3.3	< 3.3 U
72-20-8	Endrin	3.3	< 3.3 U
33213-65-9	Endosulfan II	3.3	< 3.3 U
72-54-8	4,4'-DDD	3.3	< 3.3 U
1031-07-8	Endosulfan Sulfate	3.3	< 3.3 U
50-29-3	4,4'-DDT	3.3	< 3.3 U
72-43-5	Methoxychlor	17	< 17 U
53494-70-5	Endrin Ketone	3.3	< 3.3 U
7421-93-4	Endrin Aldehyde	3.3	< 3.3 U
5103-74-2	gamma Chlordane	1.7	< 1.7 U
5103-71-9	alpha Chlordane	1.7	< 1.7 U
8001-35-2	Toxaphene	170	< 170 U

Reported in $\mu g/kg$ (ppb)

Decachlorobiphenyl	79.0%
Tetrachlorometaxylene	61.5%



SW8081 PESTICIDE SOIL/SEDIMENT SURROGATE RECOVERY SUMMARY

Matrix: Soil

QC Report No: PF39-Landau Associates, Inc. Project: RICHARDSON AIRWAYS

1148001.010.020

Client ID	DCBP	TCMX	TOT OUT
MD 070600	70.00	61 50	•
MB-070609	79.0%	61.5%	Ü
LCS-070609	77.2%	56.5%	0
LCSD-070609	95.2%	70.5%	0
DP16:7.5-9	83.0%	68.5%	0
DP17:4.5-6	80.5%	69.5%	0
DP18:3-4	72.8%	60.8%	0
DP19:9-10.5	73.8%	64.8%	0

	LCS/MB LIMITS	QC LIMITS
 DecachlorobiphenylTetrachlorometaxylene	(30-160) (30-160)	(30-160) (30-160)

Prep Method: SW3546

Log Number Range: 09-15672 to 09-15682



Page 1 of 1

Lab Sample ID: LCS-070609

LIMS ID: 09-15672

Matrix: Soil

Data Release Authorized:

Reported: 07/10/09

QC Report No: PF39-Landau Associates, Inc.

Project: RICHARDSON AIRWAYS

1148001.010.020

Date Sampled: 06/29/09

Date Received: 07/01/09

Sample Amount LCS: 12.0 g-dry-wt

Sample ID: LCS-070609

LCSD: 12.0 g-dry-wt

Final Extract Volume LCS: 4.0 mL

LCSD: 4.0 mL

LCS/LCSD

Dilution Factor LCS: 1.00

LCSD: 1.00

Silica Gel: Yes

Percent Moisture: NA

Date Extracted LCS/LCSD: 07/06/09

Date Analyzed LCS: 07/08/09 17:59

LCSD: 07/08/09 18:19

Instrument/Analyst LCS: ECD7/AAR LCSD: ECD7/AAR

GPC Cleanup: No

Sulfur Cleanup: Yes Florisil Cleanup: No

Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD	
6.67	75.0%	6.13	6.67	91.9%	20.3%	
6.67	79.5%	6.43	6.67	96.4%	19.3%	
6.67	82.9%	6.77	6.67	101%	20.2%	
6.67	82.0%	6.70	6.67	100%	20.2%	
6.67	74.5%	6.07	6.67	91.0%	19.9%	
6.67	76.0%	6.13	6.67	91.9%	18.9%	
6.67	82.9%	6.73	6.67	101%	19.6%	
6.67	75.4%	6.00	6.67	90.0%	17.6%	
13.3	85.0%	13.9	13.3	105%	20.6%	
13.3	101%	16.6	13.3	125%	21.3%	
13.3	83.5%	13.8	13.3	104%	21.7%	
13.3	82.7%	13.6	13.3	102%	21.1%	
13.3	83.5%	13.8	13.3	104%	21.7%	
13.3	75.2%	12.4	13.3	93.2%	21.4%	
13.3	83.5%	14.0	13.3	105%	23.1%	
66.7	81.4%	67.0	66.7	100%	20.9%	
13.3	77.4%	12.7	13.3	95.5%	20.9%	
13.3	71.4%	11.8	13.3	88.7%	21.6%	
6.67	83.5%	6.77	6.67	101%	19.4%	
6.67	81.0%	6.57	6.67	98.5%	19.5%	
	6.67 6.67 6.67 6.67 6.67 6.67 6.67 6.67	6.67 75.0% 6.67 79.5% 6.67 82.9% 6.67 82.0% 6.67 74.5% 6.67 76.0% 6.67 75.4% 13.3 85.0% 13.3 100% 13.3 100% 13.3 83.5% 13.3 83.5% 13.3 83.5% 13.3 83.5% 13.3 75.2% 13.3 83.5% 66.7 81.4% 13.3 77.4% 13.3 77.4% 13.3 77.4% 13.3 77.4%	Added-LCS Recovery LCSD 6.67 75.0% 6.13 6.67 79.5% 6.43 6.67 82.9% 6.77 6.67 82.0% 6.70 6.67 74.5% 6.07 6.67 76.0% 6.13 6.67 82.9% 6.73 6.67 75.4% 6.00 13.3 85.0% 13.9 13.3 101% 16.6 13.3 82.7% 13.6 13.3 82.7% 13.6 13.3 83.5% 13.8 13.3 75.2% 12.4 13.3 83.5% 14.0 66.7 81.4% 67.0 13.3 77.4% 12.7 13.3 71.4% 11.8 6.67 83.5% 6.77	Added-LCS Recovery LCSD Added-LCSD 6.67 75.0% 6.13 6.67 6.67 79.5% 6.43 6.67 6.67 82.9% 6.77 6.67 6.67 82.0% 6.70 6.67 6.67 74.5% 6.07 6.67 6.67 76.0% 6.13 6.67 6.67 82.9% 6.73 6.67 6.67 75.4% 6.00 6.67 13.3 85.0% 13.9 13.3 13.3 101% 16.6 13.3 13.3 83.5% 13.8 13.3 13.3 82.7% 13.8 13.3 13.3 83.5% 12.4 13.3 13.3 83.5% 14.0 13.3 13.3 83.5% 14.0 13.3 13.3 77.4% 12.7 13.3 13.3 71.4% 11.8 13.3 6.67 83.5% 6.77 <td< td=""><td>Added-LCS Recovery LCSD Added-LCSD Recovery 6.67 75.0% 6.13 6.67 91.9% 6.67 79.5% 6.43 6.67 96.4% 6.67 82.9% 6.77 6.67 101% 6.67 82.0% 6.70 6.67 100% 6.67 74.5% 6.07 6.67 91.0% 6.67 76.0% 6.13 6.67 91.9% 6.67 76.0% 6.13 6.67 91.9% 6.67 82.9% 6.73 6.67 101% 6.67 75.4% 6.00 6.67 90.0% 13.3 101% 16.6 13.3 105% 13.3 85.0% 13.9 13.3 105% 13.3 82.7% 13.8 13.3 104% 13.3 82.7% 13.6 13.3 102% 13.3 83.5% 13.8 13.3 104% 13.3 83.5% 12.4<</td><td>Added-LCS Recovery LCSD Added-LCSD Recovery RPD 6.67 75.0% 6.13 6.67 91.9% 20.3% 6.67 79.5% 6.43 6.67 96.4% 19.3% 6.67 82.9% 6.77 6.67 101% 20.2% 6.67 82.0% 6.70 6.67 100% 20.2% 6.67 74.5% 6.07 6.67 91.0% 19.9% 6.67 76.0% 6.13 6.67 91.9% 18.9% 6.67 76.0% 6.13 6.67 91.9% 18.9% 6.67 75.4% 6.00 6.67 90.0% 17.6% 13.3 85.0% 13.9 13.3 105% 20.6% 13.3 101% 16.6 13.3 125% 21.3% 13.3 83.5% 13.8 13.3 104% 21.7% 13.3 82.7% 13.8 13.3 104% 21.7% 13.3</td></td<>	Added-LCS Recovery LCSD Added-LCSD Recovery 6.67 75.0% 6.13 6.67 91.9% 6.67 79.5% 6.43 6.67 96.4% 6.67 82.9% 6.77 6.67 101% 6.67 82.0% 6.70 6.67 100% 6.67 74.5% 6.07 6.67 91.0% 6.67 76.0% 6.13 6.67 91.9% 6.67 76.0% 6.13 6.67 91.9% 6.67 82.9% 6.73 6.67 101% 6.67 75.4% 6.00 6.67 90.0% 13.3 101% 16.6 13.3 105% 13.3 85.0% 13.9 13.3 105% 13.3 82.7% 13.8 13.3 104% 13.3 82.7% 13.6 13.3 102% 13.3 83.5% 13.8 13.3 104% 13.3 83.5% 12.4<	Added-LCS Recovery LCSD Added-LCSD Recovery RPD 6.67 75.0% 6.13 6.67 91.9% 20.3% 6.67 79.5% 6.43 6.67 96.4% 19.3% 6.67 82.9% 6.77 6.67 101% 20.2% 6.67 82.0% 6.70 6.67 100% 20.2% 6.67 74.5% 6.07 6.67 91.0% 19.9% 6.67 76.0% 6.13 6.67 91.9% 18.9% 6.67 76.0% 6.13 6.67 91.9% 18.9% 6.67 75.4% 6.00 6.67 90.0% 17.6% 13.3 85.0% 13.9 13.3 105% 20.6% 13.3 101% 16.6 13.3 125% 21.3% 13.3 83.5% 13.8 13.3 104% 21.7% 13.3 82.7% 13.8 13.3 104% 21.7% 13.3

Pest/PCB Surrogate Recovery

	LCS	LCSD
Decachlorobiphenyl	77.2%	95.2%
Tetrachlorometaxylene	56.5%	70.5%

Reported in $\mu g/kg$ (ppb)

RPD calculated using sample concentrations per SW846.



ORGANICS ANALYSIS DATA SHEET Herbicides by SW8151A GC/ECD

Page 1 of 1

Lab Sample ID: PF39F LIMS ID: 09-15675

Matrix: Soil

Data Release Authorized:

Date Extracted: 07/08/09

Date Analyzed: 07/10/09 16:49

Instrument/Analyst: ECD1/AAR

Reported: 07/11/09

QC Report No: PF39-Landau Associates, Inc. Project: RICHARDSON AIRWAYS

1148001.010.020

Sample ID: DP17:4.5-6

SAMPLE

Date Sampled: 06/29/09 Date Received: 07/01/09

Sample Amount: 12.0 g-dry-wt

Final Extract Volume: 50 mL

Dilution Factor: 1.00

Percent Moisture: 20.3%

CAS Number	Analyte	RL	Result
93-72-1	2,4,5-TP (Silvex)	10	< 10 U
93-76-5	2,4,5-T	10	< 10 U
88-85-7	Dinoseb	21	< 21 U
1918-00-9	Dicamba	21	< 21 U
94-75-7	2,4-D	42	< 42 U
94-82-6	2,4-DB	210	< 210 U
75-99-0	Dalapon	42	< 42 U
94-74-6	MCPA	10,000	< 10,000 U
120-36-5	Dichloroprop	42	< 42 U

Reported in $\mu g/kg$ (ppb)

Herbicide Surrogate Recovery

2,4-Dichlorophenylacetic Acid 42.7%



ORGANICS ANALYSIS DATA SHEET Herbicides by SW8151A GC/ECD

Page 1 of 1

Lab Sample ID: PF39I LIMS ID: 09-15678

Matrix: Soil

Data Release Authorized:

Reported: 07/11/09

Date Extracted: 07/08/09 Date Analyzed: 07/10/09 17:25 Instrument/Analyst: ECD1/AAR

Percent Moisture: 28.1%

Sample ID: DP18:3-4 SAMPLE

QC Report No: PF39-Landau Associates, Inc.

Project: RICHARDSON AIRWAYS

1148001.010.020

Date Sampled: 06/29/09 Date Received: 07/01/09

Sample Amount: 10.8 g-dry-wt

Final Extract Volume: 50 mL

Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
93-72-1 93-76-5	2,4,5-TP (Silvex) 2,4,5-T	12 12	< 12 U < 12 U
88-85-7 1918-00-9	Dinoseb Dicamba	23 23	< 23 U < 23 U
94-75-7 94-82-6 75-99-0	2,4-D 2,4-DB	46 230	< 46 U < 230 U
94-74-6 120-36-5	Dalapon MCPA Dichloroprop	46 12,000 46	< 46 U < 12,000 U < 46 U

Reported in $\mu g/kg$ (ppb)

Herbicide Surrogate Recovery

2,4-Dichlorophenylacetic Acid 42.2%



SW8151A/HERBICIDE SOIL SURROGATE RECOVERY SUMMARY

Matrix: Soil

QC Report No: PF39-Landau Associates, Inc. Project: RICHARDSON AIRWAYS

1148001.010.020

Client ID	DCPA	TOT OUT
MB-070809	43.7%	0
LCS-070809	51.8%	0
LCSD-070809	53.2%	0
DP17:4.5-6	42.7%	0
DP18:3-4	42.2%	0

LCS/MB LIMITS QC LIMITS

(DCPA) = 2,4-Dichlorophenylacetic Acid (28-121) (15-155)

Log Number Range: 09-15675 to 09-15678



ORGANICS ANALYSIS DATA SHEET Herbicides by SW8151A GC/ECD

Page 1 of 1

Lab Sample ID: MB-070809

LIMS ID: 09-15675

Matrix: Soil

Data Release Authorized: \

Reported: 07/11/09

Date Extracted: 07/08/09 Date Analyzed: 07/10/09 14:59

Instrument/Analyst: ECD1/AAR

Percent Moisture: NA

Sample ID: MB-070809 METHOD BLANK

QC Report No: PF39-Landau Associates, Inc.

Project: RICHARDSON AIRWAYS

1148001.010.020

Date Sampled: NA Date Received: NA

Sample Amount: 15.0 g-dry-wt

Final Extract Volume: 50 mL

Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
93-72-1	2,4,5-TP (Silvex)	8.3	< 8.3 U
93-76-5	2,4,5-T	8.3	< 8.3 U
88-85-7	Dinoseb	17	< 17 U
1918-00-9	Dicamba	17	< 17 U
94-75-7	2,4-D	33	< 33 U
94-82-6	2,4-DB	170	< 170 U
75-99-0	Dalapon	33	< 33 U
94-74-6	MCPA	8,300	< 8,300 U
120-36-5	Dichloroprop	33	< 33 U

Reported in $\mu g/kg$ (ppb)

Herbicide Surrogate Recovery

2,4-Dichlorophenylacetic Acid 43.7%



ORGANICS ANALYSIS DATA SHEET Herbicides by SW8151A GC/ECD

Page 1 of 1

Sample ID: LCS-070809

LCS/LCSD

Lab Sample ID: LCS-070809

LIMS ID: 09-15675

Matrix: Soil

QC Report No: PF39-Landau Associates, Inc.

Project: RICHARDSON AIRWAYS

1148001.010.020

Date Sampled: 06/29/09 Date Received: 07/01/09

Sample Amount LCS: 15.0 g-dry-wt

LCSD: 15.0 g-dry-wt

Final Extract Volume LCS: 50 mL

LCSD: 50 mL

Dilution Factor LCS: 1.00

LCSD: 1.00

Data Release Authorized: Reported: 07/11/09

Date Extracted LCS/LCSD: 07/08/09

Date Analyzed LCS: 07/10/09 15:36

Instrument/Analyst LCS: ECD1/AAR

LCSD: 07/10/09 16:12

LCSD: ECD1/AAR

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
2,4,5-TP (Silvex)	130	167	77.8%	132	167	79.0%	1.5%
2,4,5-T	79.6	83.3	95.6%	81.0	83.3	97.2%	1.7%
Dinoseb	50.7	167	30.4%	81.9	167	49.0%	47.1%
Dicamba	131	167	78.4%	133	167	79.6%	1.5%
2,4-D	104	333	31.2%	133	333	39.9%	24.5%
2,4-DB	1310	1670	78.4%	1310	1670	78.4%	0.0%
Dalapon	293	333	88.0%	270	333	81.1%	8.2%
MCPA	45000	83300	54.0%	49700	83300	59.7%	9.9%
Dichloroprop	189	333	56.8%	194	333	58.3%	2.6%

Herbicide Surrogate Recovery

LCS LCSD 2,4-Dichlorophenylacetic 51.8% 53.2%

Results reported in $\mu g/kg$ (ppb) RPD calculated using sample concentrations per SW846. July 13, 2009

Ryan Reich Landau Associates, Inc. 10 North Post St. Peyton Building, Suite 218 Spokane, WA 99201 RECEIVED

JUL 17 2009

LANDAU ASSOCIATES, INC.

RE: Project No: 1148001.010

Project Name: Richardson Airways

ARI Job No: PF47

Dear Ryan:

Please find enclosed the original and a revised copy of chain of custody (COC) record, sample receipt documentation, and the final results from the project referenced above. Analytical Resources, Inc. (ARI) accepted seventy soil samples in good condition on July 1, 2009. The samples were logged under two different ARI SDGs (PF47 and PF48) based on sample volumes. Select samples were placed on hold pending further instructions. * Note all samples were frozen to protect holding times.

The samples were analyzed for Pesticides, HCID, Total Metals and Herbicides, as requested on the COC.

The herbicides LCS and LCSD RPD for Dinoseb is outside the +/- 30% control limits. All other QC is in control and no further corrective action was taken.

The pesticide LCS, LCSD, matrix spike and matrix spike duplicate does not contain Toxaphene spikes as Toxaphene contains over two hundred associated compounds

There were no other anomalies associated with the samples.

A copy of this report and all corresponding raw data will remain on file electronically with ARI. If you have any questions or require additional information, please contact me at your convenience.

Sincerely,

ANALYTICAL RESQUECES, INC.

Kelly Bottem

Client Services Manager

(206) 695-6211

kellyb@arilabs.com

Enclosures

Observations/Comments/ Received by Printed Name Signature Company Date Method of Shipment Testing Parameters Tirne Chain-of-Custody Record Relinquished by Printed Name Company Signature Date Project Name (2004) 2004 (2004) Project No. 1004 (2004) No. of Containers / Time Matrix Seattle (Edmonds) (425),778-0907 Received by Portland (Tigard) (503) 443-6010 Printed Name 13.5 8 40 4 E LIMB Signature Сотрану Date 层 Spokane (609) 327-9737 Tacoma (253) 926-2493 ene E The second secon Time Special Shipment/Handling or Storage Requirements D Project Location/Event Sample (.D. LANDAU ASSOCIATES Date Charles I Sampler's Name Send Results To_ Relinquished by Project Contact Printed Name Signature Company

Date

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Turnaround Time Standard

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YELLOW COPY - Laboratory

WHITE COPY - Project File

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Time

Date 6-29-09 ☐ Accelerated Freeze Turnaround Time Freeze Standard Observations/Comments Time ; ٤ ~ Page_ Received by Printed Name 1406 400 HOLD しまり HOLD Signature Company Torn COOH Crah HOL Date Method of Shipment **Testing Parameters** Time Chain-of-Custody Record Relinquished by Printed Name Sig Company Signature 3/808 Project Name Kichardson Mrunys Project No. 1148001.010 No. of Containers / Matrix ٧,٥ Arcport Received by Printed Name 05:21 12:40 05:2/ ☐ Portland (Tigard) (503) 443-6010 95:11 52:21 55:21 02:11 11:35 11:55 12.10 54:21 12:00 2:05 52:11 97:11 1.62 Time Company Date Spokane (509) 327-9737 6-53-09 Date Time //-46 You Reich Special Shipment/Handling LANDAU | Pr or Storage Requirements Project Location/Event_ Sample I.D. B-18-65 B-18-2 Date 7-1-09 Send Results To_ 18-218-2 Relinquished by Sampler's Name 18-14-2 Project Contact B-1A-05 3-10-2 13-213-2 13-418-5 B-23-3 13-36-2 8-18-3 13-10-3 8-10-3 B-418-3 R-3C-3 Printed Name Signature Company

Seattle (Edmonds) (425) 778-0907

☐ **Tacoma** (253) 926-2493

PINK COPY - Client Representative

YELLOW COPY - Laboratory

WHITE COPY - Project File

□ Accelerated ŏ Turnaround Time Standard Freeze Observations/Comments Time 1 * 7 2 Page_ Received by Printed Name HOLD 1400 HocD HOLL 40LD HOLD Signature Company HOL いなま Date Method of Shipment **Festing Parameters** Time Chain-of-Custody Record Relinquished by Printed Name Signature (A)808) Company Date Project Name Kichardson Arways Project No. 1148001.010 Containers, No. of 109 Time Matrix Soil Printed Name □ Seattle (Edmonds) (425) 778-0907 Received by 07:1/1 \Box Portland (Tigard) (503) 443-6010 13:15 13.25 14:00 30:41 9/:/1 14.20 14.25 14:30 14:35 14.45 13:55 15:00 15:05 13:20 13:10 Time Company Ryan Reich Date Kail Spokane (509) 327-9737 □ Jacoma (253) 926-2493 6-29-09 Date Yan Indan ASSC Lyan Reich Special Shipment/Handling or Storage Requirements Project Location/Event_ B-7A-3 SWI-NW-05 LANDAU DI ASSOCIATES SW1-NW-2-SW2-NW-Z SW3-NE-05 Sample I.D. SWZ-NW-0.5 SW 6-8-0.5 SW14-E-0.5 SW3-NE-2 SW5-5E-65 Sws-55-2 Date 7-1-09 Sw6-E-2 2-3-hMS Sampler's Name_ Relinquished by Send Results To. Project Contact B-53-2 B-5B-3 18-74-2 Printed Name Signature Company

WHITE COPY - Project File

PINK COPY - Client Representative

YELLOW COPY - Laboratory

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Project Name Richardson Airways Project No. 1148001.010 No. of Containers Matrix . So. . ☐ Seattle (Edmonds) (425) 778-0907 02:30 16:20 Landau Dortland (Tigard) (503) 443-6010
ASSOCIATES 15:35 15:40 15:28 Yakima Anport 53.51 00;97 97:97 16:15 15.15 95:51 39.91 6-29-09 15:10 5:5 Time Spokane (509) 327-9737 □ Ţacoma (253) 926-2493 Date SW7-SE-00 Project Location/Event_ Sm-m-078 SUB-E-05 SUB-E-2 SW7-SE-1 Sample I.D. Sm11-11-05 SW12-W-0.5 5m13-M-05 2213-W-2 50-5-6MS Sw10-W-2 Sw11-11-2 SW12-12-2 2 - 8 - 8 - 8 Sampler's Name Send Results To_ Project Contact

Date 6-29-09	Pageof

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Observations/Comments

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Turnaround Time Standard

Chain-of-Custody Record

Testing Parameters

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Company	Company	Company	**************************************	Company	
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Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number:	Turn-around Requested:	Page: ζ of		Analytical Resources, Incorporated
ABI Client Company:	Phone:			4611 South 134th Place. Suite 100
Cardan Asse	509 327-9757	6-2009	ent?	Tukwila, WA 98168
نے	Reach	No. of Coaler Coalers: Temps:	ər SS:	206-695-6200 206-695-6201 (fax)
Olient Project Name: (4 6		Analysis Requested	Notes/Comments
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117 800,010	7/42 70.52	- 18 P. 18 P		
Sample ID	Date Time Matrix No. 6	No. Containers		
50-MN-105	6-3009 8:15 50:1	×		HOLD, Freeze
SWIY-NW/Z	/ 62:8 '	$ \times \times $		14061)
50-MN-51175	8:25	\ \\\		(100F)
SWIS-NW-Z	05:30	×		1,40
5W16-NE-0.5	1 8:45	×		/440
5-11/0-NE-2	8:50	×		(707)
Sw17-E-0-5	8:55	×		(int)
Sw17-E-2	6:00	×		07047
SW19-E-0.5	00:00	×		(1,62)
5-3-41ms	10:02	×		
Comments/Special Instructions		Received by:	Relinquished by:	Received by:
	Kym Poten	(Signature)	(Signature)	(Signature)
	Printed Name: Printe	Printed Namés	Printed Name:	Printed Name:
	Company: Company		Сотралу:	Сопрапу:
	2	Date & Time: 09 (14 &	Date & Time:	Date & Time:

said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for signed agreement between ARI and the Client.

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number:	Turn-around Requested:	Requested:		A CONTRACTOR OF THE PARTY OF TH	Page: S	of		Analytical Re	Analytical Resources, Incorporated
ARI Client Company:	Phone	Phone:			Date:	Ice Present?		4611 South 134th Pl Tukwila, WA 98168	4611 South 134th Place, Suite 100 Tukwila, WA 98168
	Z. A				No. of Coolers:	Cooler Temps:		206-695-620	206-695-6200 206-695-6201 (fax)
1.			***		The state of the s	Anal	Analysis Requested		Notes/Comments
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Comments/Special Instructions	Relinquished by: (Signature)		Q.	Received by: (Signature)		Relinquishe (Signature)	Relinquished by: (Signature)	Received by: (Signature)	
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meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program signed agreement between ARI and the Client. Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Chain of Custody Record & Laboratory Analysis Request

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	्र इक्क	7121 19 19		, J	Samplers:	
Notes/Comments	Analysis Requested	7			August .	Client Project Name:
206-695-6200 206-695-6201 (fax)		No. of Cooler Coolers: Temps:			Rejeh	Ryan
4611 South 134th Place, Suite 100 Tukwila, WA 98168	nt?	Date: Ice Present?	(%)	Phone: 509 527-9735		ARI Client Company:
Analytical Resources, Incorporated		Page: 6 of		Requested:	Turn-around Requested:	ARI Assigned Number:

meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or cosigned agreement between ARI and the Client. Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.



Cooler Receipt Form

ARI Client: Landa	<u>u</u>		Project Name:		
COC No(s):		NA	Delivered by: Fed-Ex UPS Cou	rief Hand Delivered C	ither:
Assigned ARI Job No:	44		Tracking No:		
Preliminary Examination Pha	se:				
Were intact, properly signed a	and dated custody seals	attached to t	he outside of to cooler?	YES	NO
Were custody papers included				YES	NO
Were custody papers properly	y filled out (ink, signed, e	tc.)		YES	NO
Temperature of Cooler(s) (°C)				.20	110
If cooler temperature is out of				Temp Gun ID#: 4	87405
Cooler Accepted by:	HV		Date: #/1/09 Time	: _// 46	
	Complete custo		nd attach all shipping documents	·	Marie y y kay kay kay kay kay kay kay kay kay
Log-In Phase:			444.404		<u>.</u>
Was a temperature blank inclu	uded in the cooler?			YES	
			Ice Gel Packs Baggies Foam Bloo	A 1	100
Was sufficient ice used (if appr				NA (FE)	NO
Were all bottles sealed in indiv				YES	(NØ
Did all bottles arrive in good co				₩.	NO
					NO
			of containers received?	VFS	NO
					NO
Were all bottles used correct for					NO
			rvation sheet, excluding VOCs)	(M) YES	NO
Were all VOC vials free of air b			_ ,	NA YES	NO
Was sufficient amount of samp	le sent in each bottle?				NO
Samples Logged by:		Date:	Alling	1630	
oumpied Lagged by.	Notify Projec		f discrepancies or concerns **	100	-
Sample ID on Bottle	Sample ID on	coc	Sample ID on Bottle	Sample ID on	сос
Additional Notes, Discrepanc	ies, & Resolutions:				
	Date:				
I II	ubbles' LARGE Air Bi		mall → "sm"		
	24 mm	Pe	eabubbles → "pb"		
		L:	arge → "lg"		
Construction of the Communication of the Communicat		' H.	eadspace → "hs"		



ORGANICS ANALYSIS DATA SHEET Herbicides by SW8151A GC/ECD

Page 1 of 1

Sample ID: SW10-W-0.5

SAMPLE

Lab Sample ID: PF47G LIMS ID: 09-15705

Matrix: Soil

Data Release Authorized: VS Reported: 07/11/09

Date Analyzed: 07/10/09 18:02

QC Report No: PF47-Landau Associates, Inc.

Project: RICHARDSON AIRWAYS

1148001.010

Date Sampled: 06/29/09 Date Received: 07/01/09

Sample Amount: 12.2 g-dry-wt

Final Extract Volume: 50 mL

Instrument/Analyst: ECD1/AAR Dilution Factor: 1.00

Percent Moisture: 19.6%

Date Extracted: 07/08/09

CAS Number	Analyte	RL	Result
93-72-1	2,4,5-TP (Silvex)	10	< 10 U
93-76-5	2,4,5-T	10	< 10 U
88-85-7	Dinoseb	21	< 21 U
1918-00-9	Dicamba	21	< 21 U
94-75-7	2,4-D	41	< 41 U
94-82-6	2,4-DB	210	< 210 U
75-99-0	Dalapon	41	< 41 U
94-74-6	MCPA	10,000	< 10,000 U
120-36-5	Dichloroprop	41	< 41 U

Reported in $\mu g/kg$ (ppb)

Herbicide Surrogate Recovery

2,4-Dichlorophenylacetic Acid 35.0%



Sample ID: SW11-W-0.5

Project: RICHARDSON AIRWAYS

1148001.010

ORGANICS ANALYSIS DATA SHEET Herbicides by SW8151A GC/ECD

Page 1 of 1

Lab Sample ID: PF47I

SAMPLE QC Report No: PF47-Landau Associates, Inc.

LIMS ID: 09-15707 Matrix: Soil

Data Release Authorized: Reported: 07/11/09

Date Sampled: 06/29/09 Date Received: 07/01/09

Date Extracted: 07/08/09 Sample Amount: 12.1 g-dry-wt

Date Analyzed: 07/10/09 18:38 Final Extract Volume: 50 mL Instrument/Analyst: ECD1/AAR Dilution Factor: 1.00

Percent Moisture: 19.4%

CAS Number	Analyte	RL	Result
93-72-1	2,4,5-TP (Silvex)	10	< 10 U
93-76-5	2,4,5-T	10	< 10 U
88-85-7	Dinoseb	21	< 21 U
1918-00-9	Dicamba	21	< 21 U
94-75-7	2,4-D	41	< 41 U
94-82-6	2,4-DB	210	< 210 U
75-99-0	Dalapon	41	< 41 U
94-74-6	MCPA	10,000	< 10,000 U
120-36-5	Dichloroprop	41	< 41 U

Reported in $\mu g/kg$ (ppb)

Herbicide Surrogate Recovery

2,4-Dichlorophenylacetic Acid 37.7%



ORGANICS ANALYSIS DATA SHEET Herbicides by SW8151A GC/ECD

Page 1 of 1

Sample ID: RVTComp:0.5-2

SAMPLE

Lab Sample ID: PF47AL

LIMS ID: 09-15736

Matrix: Soil

Data Release Authorized: Reported: 07/11/09

Date Analyzed: 07/10/09 19:15

QC Report No: PF47-Landau Associates, Inc. Project: RICHARDSON AIRWAYS

1148001.010

Date Sampled: 06/30/09 Date Received: 07/01/09

Sample Amount: 13.5 g-dry-wt

Final Extract Volume: 50 mL

Dilution Factor: 1.00

Instrument/Analyst: ECD1/AAR Percent Moisture: 10.0%

Date Extracted: 07/08/09

CAS Number	Analyte	RL	Result
93-72-1	2,4,5-TP (Silvex)	9.3	< 9.3 U
93-76-5	2,4,5-T	9.3	< 9.3 U
88-85-7	Dinoseb	18	< 18 U
1918-00-9	Dicamba	18	< 18 U
94-75-7	2,4-D	37	< 37 U
94-82-6	2,4-DB	180	< 180 U
75-99-0	Dalapon	37	< 37 บิ
94-74-6	MCPA	9,300	< 9,300 U
120-36-5	Dichloroprop	37	< 37 U

Reported in $\mu g/kg$ (ppb)

Herbicide Surrogate Recovery

2,4-Dichlorophenylacetic Acid 54.1%



ORGANICS ANALYSIS DATA SHEET Herbicides by SW8151A GC/ECD

Page 1 of 1

Sample ID: MB-070809
METHOD BLANK

Lab Sample ID: MB-070809

Date Extracted: 07/08/09

LIMS ID: 09-15707

Matrix: Soil

Data Release Authorized:

Date Analyzed: 07/10/09 14:59

Instrument/Analyst: ECD1/AAR

Reported: 07/11/09

QC Report No: PF47-Landau Associates, Inc.

Project: RICHARDSON AIRWAYS

1148001.010

Date Sampled: NA Date Received: NA

Sample Amount: 15.0 g-dry-wt

Final Extract Volume: 50 mL

Dilution Factor: 1.00

Percent Moisture: NA

CAS Number	Analyte	RL	Result
93-72-1	2,4,5-TP (Silvex)	8.3	< 8.3 U
93-76-5	2,4,5-T	8.3	< 8.3 U
88-85-7	Dinoseb	17	< 17 U
1918-00-9	Dicamba	17	< 17 U
94-75-7	2,4-D	33	< 33 U
94-82-6	2,4-DB	170	< 170 U
75-99-0	Dalapon	33	< 33 U
94-74-6	MCPA	8,300	< 8,300 U
120-36-5	Dichloroprop	33	< 33 U

Reported in $\mu g/kg$ (ppb)

Herbicide Surrogate Recovery

2,4-Dichlorophenylacetic Acid 43.7%



SW8151A/HERBICIDE SOIL SURROGATE RECOVERY SUMMARY

Matrix: Soil QC Report No: PF47-Landau Associates, Inc.

Project: RICHARDSON AIRWAYS

1148001.010

Client ID	DCPA	TOT OUT
SW10-W-0.5	35.0%	0
MB-070809	43.7%	0
LCS-070809	51.8%	0
LCSD-070809	53.2%	0
SW11-W-0.5	37.7%	0
RVTComp: 0.5-2	54.1%	0

LCS/MB LIMITS QC LIMITS

(DCPA) = 2,4-Dichlorophenylacetic Acid (28-121) (15-155)

Log Number Range: 09-15705 to 09-15736



ORGANICS ANALYSIS DATA SHEET Herbicides by SW8151A GC/ECD

Page 1 of 1

Sample ID: LCS-070809

LCS/LCSD

Lab Sample ID: LCS-070809

LIMS ID: 09-15707

Matrix: Soil

Data Release Authorized: \

Reported: 07/11/09

QC Report No: PF47-Landau Associates, Inc.

Project: RICHARDSON AIRWAYS

1148001.010

Date Sampled: 06/29/09 Date Received: 07/01/09

Date Extracted LCS/LCSD: 07/08/09 Sample Amount LCS: 15.0 g-dry-wt

LCSD: 15.0 g-dry-wt

Date Analyzed LCS: 07/10/09 15:36 Final Extract Volume LCS: 50 mL LCSD: 07/10/09 16:12

LCSD: 50 mL

Instrument/Analyst LCS: ECD1/AAR Dilution Factor LCS: 1.00

LCSD: ECD1/AAR LCSD: 1.00

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
2,4,5-TP (Silvex)	130	167	77.8%	132	167	79.0%	1.5%
2,4,5-T	79.6	83.3	95.6%	81.0	83.3	97.2%	1.7%
Dinoseb	50.7	167	30.4%	81.9	167	49.0%	47.1%
Dicamba	131	167	78.4%	133	167	79.6%	1.5%
2,4-D	104	333	31.2%	133	333	39.9%	24.5%
2,4-DB	1310	1670	78.4%	1310	1670	78.4%	0.0%
Dalapon	293	333	88.0%	270	333	81.1%	8.2%
MCPA	45000	83300	54.0%	49700	83300	59.7%	9.9%
Dichloroprop	189	333	56.8%	194	333	58.3%	2.6%

Herbicide Surrogate Recovery

LCSD 2,4-Dichlorophenylacetic 51.8% 53.2%

Results reported in $\mu g/kg$ (ppb) RPD calculated using sample concentrations per SW846.



Page 1 of 1

Sample ID: SW7-SE-0.5 SAMPLE

Lab Sample ID: PF47A LIMS ID: 09-15699

Matrix: Soil

Data Release Authorized: \(\sqrt{1} \)

Reported: 07/10/09

1148001.010

QC Report No: PF47-Landau Associates, Inc.

Sample Amount: 12.3 g-dry-wt Final Extract Volume: 4.0 mL

Date Sampled: 06/29/09

Date Received: 07/01/09

Project: RICHARDSON AIRWAYS

Dilution Factor: 1.00 Silica Gel: Yes

Percent Moisture: 12.3%

Date Extracted: 07/06/09 Date Analyzed: 07/08/09 20:03 Instrument/Analyst: ECD7/AAR

GPC Cleanup: No Sulfur Cleanup: Yes Florisil Cleanup: No Acid Cleanup: No

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	1.6	< 1.6 U
319-85-7	beta-BHC	1.6	< 1.6 U
319-86-8	delta-BHC	1.6	< 1.6 U
58-89-9	gamma-BHC (Lindane)	1.6	< 1.6 U
76-44-8	Heptachlor	1.6	< 1.6 U
309-00-2	Aldrin	1.6	< 1.6 U
1024-57-3	Heptachlor Epoxide	1.6	< 1.6 U
959-98-8	Endosulfan I	1.6	< 1.6 U
60-57-1	Dieldrin	3.2	< 3.2 U
72-55-9	4,4'-DDE	3.2	6.8
72-20-8	Endrin	3.2	< 3.2 U
33213-65-9	Endosulfan II	3.2	< 3.2 U
72-54-8	4,4'-DDD	3.2	< 3.2 U
1031-07-8	Endosulfan Sulfate	3.2	< 3.2 U
50-29-3	4,4'-DDT	3.2	3.0 J
72-43-5	Methoxychlor	16	< 16 U
53494-70-5	Endrin Ketone	3.2	< 3.2 U
7421-93-4	Endrin Aldehyde	3.2	< 3.2 U
5103-74-2	gamma Chlordane	1.6	< 1.6 U
5103-71-9	alpha Chlordane	1.6	< 1.6 U
8001-35-2	Toxaphene	160	< 160 U

Reported in $\mu g/kg$ (ppb)

Decachlorobiphenyl	74.5%
Tetrachlorometaxvlene	60.5%



Page 1 of 1

Matrix: Soil

Sample ID: SW8-E-0.5 SAMPLE

Lab Sample ID: PF47C QC Report No: PF47-Landau Associates, Inc. LIMS ID: 09-15701

Project: RICHARDSON AIRWAYS 1148001.010

Date Sampled: 06/29/09 Date Received: 07/01/09

Sample Amount: 12.9 g-dry-wt

Final Extract Volume: 4.0 mL Dilution Factor: 1.00 Silica Gel: Yes

Percent Moisture: 14.5%

Data Release Authorized: Reported: 07/10/09 Date Extracted: 07/06/09

Date Analyzed: 07/08/09 20:23 Instrument/Analyst: ECD7/AAR GPC Cleanup: No

Sulfur Cleanup: Yes Florisil Cleanup: No Acid Cleanup: No

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	1.6	< 1.6 U
319-85-7	beta-BHC	1.6	< 1.6 U
319-86-8	delta-BHC	1.6	< 1.6 U
58-89-9	gamma-BHC (Lindane)	1.6	< 1.6 U
76-44-8	Heptachlor	1.6	< 1.6 U
309-00-2	Aldrin	1.6	< 1.6 U
1024-57-3	Heptachlor Epoxide	1.6	< 1.6 U
959-98-8	Endosulfan I	1.6	< 1.6 U
60-57-1	Dieldrin	3.1	6.0
72-55-9	4,4'-DDE	3.1	25
72-20-8	Endrin	3.1	< 3.1 U
33213-65-9	Endosulfan II	3.1	< 3.1 U
72-54-8	4,4'-DDD	3.1	4.7
1031-07-8	Endosulfan Sulfate	3.1	< 3.1 U
50-29-3	4,4'-DDT	3.1	30
72-43-5	Methoxychlor	16	< 16 U
53494-70-5	Endrin Ketone	3.1	< 3.1 U
7421-93-4	Endrin Aldehyde	3.1	< 3.1 U
5103-74-2	gamma Chlordane	1.6	< 1.6 U
5103-71-9	alpha Chlordane	1.6	2.7 P
8001-35-2	Toxaphene	160	< 160 U

Reported in $\mu g/kg$ (ppb)

Decachlorobiphenyl	71.88	5
Tetrachlorometaxylene	61.0%	5



Page 1 of 1

Sample ID: SW9-S-0.5 SAMPLE

Lab Sample ID: PF47E LIMS ID: 09-15703

Matrix: Soil

Data Release Authorized:

Reported: 07/10/09

Date Extracted: 07/06/09 Date Analyzed: 07/08/09 20:44 Instrument/Analyst: ECD7/AAR

GPC Cleanup: No Sulfur Cleanup: Yes Florisil Cleanup: No Acid Cleanup: No

QC Report No: PF47-Landau Associates, Inc.

Project: RICHARDSON AIRWAYS

1148001.010

Date Sampled: 06/29/09 Date Received: 07/01/09

Sample Amount: 12.6 g-dry-wt

Final Extract Volume: 4.0 mL Dilution Factor: 1.00

Silica Gel: Yes

Percent Moisture: 15.7%

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	1.6	< 1.6 U
319-85-7	beta-BHC	1.6	< 1.6 U
319-86-8	delta-BHC	1.6	< 1.6 U
58-89-9	gamma-BHC (Lindane)	1.6	< 1.6 U
76-44-8	Heptachlor	1.6	< 1.6 U
309-00-2	Aldrin	1.6	< 1.6 U
1024-57-3	Heptachlor Epoxide	1.6	< 1.6 U
959-98-8	Endosulfan I	1.6	< 1.6 U
60-57-1	Dieldrin	3.2	< 3.2 U
72-55-9	4,4'-DDE	3.2	< 3.2 U
72-20-8	Endrin	3.2	< 3.2 U
33213-65-9	Endosulfan II	3.2	< 3.2 U
72-54-8	4,4'-DDD	3.2	< 3.2 U
1031-07-8	Endosulfan Sulfate	3.2	< 3.2 U
50-29-3	4,4'-DDT	3.2	< 3.2 U
72-43-5	Methoxychlor	16	< 16 U
53494-70-5	Endrin Ketone	3.2	< 3.2 U
7421-93-4	Endrin Aldehyde	3.2	< 3.2 U
5103-74-2	gamma Chlordane	1.6	< 1.6 U
5103-71-9	alpha Chlordane	1.6	< 1.6 U
8001-35-2	Toxaphene	160	< 160 U

Reported in $\mu g/kg$ (ppb)

Decachlorobiphen	yl	69.0%
Tetrachlorometax	ylene	56.2%



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Sample ID: SW10-W-0.5 SAMPLE

Lab Sample ID: PF47G QC Report No: PF47-Landau Associates, Inc. LIMS ID: 09-15705 Project: RICHARDSON AIRWAYS

1148001.010

Date Sampled: 06/29/09 Date Received: 07/01/09

Sample Amount: 12.1 g-dry-wt

Final Extract Volume: 4.0 mL Dilution Factor: 1.00 Silica Gel: Yes

Percent Moisture: 19.6%

Matrix: Soil
Data Release Authorized: VIS
Reported: 07/10/09

Date Extracted: 07/06/09
Date Analyzed: 07/09/09 14:11
Instrument/Analyst: ECD7/AAR

GPC Cleanup: No Sulfur Cleanup: Yes Florisil Cleanup: No Acid Cleanup: No

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	1.7	< 1.7 U
319-85-7	beta-BHC	1.7	< 1.7 U
319-86-8	delta-BHC	1.7	< 1.7 U
58-89-9	gamma-BHC (Lindane)	1,7	< 1.7 U
76-44-8	Heptachlor	1.7	< 1.7 U
309-00-2	Aldrin	1.7	< 1.7 U
1024-57-3	Heptachlor Epoxide	1.7	< 1.7 U
959-98-8	Endosulfan I	1.7	< 1.7 U
60-57-1	Dieldrin	3.3	< 3.3 U
72-55-9	4,4'-DDE	3.3	< 3.3 U
72-20-8	Endrin	3.3	< 3.3 U
33213-65-9	Endosulfan II	3.3	< 3.3 U
72-54-8	4,4'-DDD	3.3	< 3.3 U
1031-07-8	Endosulfan Sulfate	3.3	< 3.3 U
50-29-3	4,4'-DDT	3.3	< 3.3 U
72-43-5	Methoxychlor	17	< 17 U
53494-70-5	Endrin Ketone	3.3	< 3.3 U
7421-93-4	Endrin Aldehyde	3.3	< 3.3 U
5103-74-2	gamma Chlordane	1.7	< 1.7 U
5103-71-9	alpha Chlordane	1.7	< 1.7 U
8001-35-2	Toxaphene	170	< 170 U

Reported in $\mu g/kg$ (ppb)

Decachlorobiphenyl	64.8%
Tetrachlorometaxylene	57.2%



Page 1 of 1

Sample ID: SW11-W-0.5 SAMPLE

QC Report No: PF47-Landau Associates, Inc.

Project: RICHARDSON AIRWAYS

1148001.010

Date Sampled: 06/29/09 Date Received: 07/01/09

Sample Amount: 12.1 g-dry-wt

Final Extract Volume: 4.0 mL

Dilution Factor: 1.00 Silica Gel: Yes

Percent Moisture: 19.4%

Lab Sample ID: PF47I LIMS ID: 09-15707 Matrix: Soil

Data Release Authorized: VIS

Reported: 07/10/09

Date Extracted: 07/06/09 Date Analyzed: 07/09/09 14:31 Instrument/Analyst: ECD7/AAR

GPC Cleanup: No Sulfur Cleanup: Yes Florisil Cleanup: No Acid Cleanup: No

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	1.6	< 1.6 U
319-85-7	beta-BHC	1.6	< 1.6 U
319-86-8	delta-BHC	1.6	< 1.6 U
58-89-9	gamma-BHC (Lindane)	1.6	< 1.6 U
76-44-8	Heptachlor	1.6	< 1.6 U
309-00-2	Aldrin	1.6	< 1.6 U
1024-57-3	Heptachlor Epoxide	1.6	< 1.6 U
959-98-8	Endosulfan I	1.6	< 1.6 U
60-57-1	Dieldrin	3.3	< 3.3 U
72-55-9	4,4'-DDE	3.3	< 3.3 U
72-20-8	Endrin	3.3	< 3.3 U
33213-65-9	Endosulfan II	3.3	< 3.3 U
72-54-8	4,4'-DDD	3.3	< 3.3 U
1031-07-8	Endosulfan Sulfate	3.3	< 3.3 U
50-29-3	4,4'-DDT	3.3	< 3.3 U
72-43-5	Methoxychlor	16	< 16 U
53494-70-5	Endrin Ketone	3.3	< 3.3 U
7421-93-4	Endrin Aldehyde	3.3	< 3.3 U
5103-74-2	gamma Chlordane	1.6	< 1.6 U
5103-71-9	alpha Chlordane	1.6	< 1.6 U
8001-35-2	Toxaphene	160	< 160 U

Reported in $\mu g/kg$ (ppb)

Decachlorobiphenyl	69.0%
Tetrachlorometaxylene	55.2%



Page 1 of 1

Matrix: Soil

Sample ID: SW12-W-0.5 SAMPLE

QC Report No: PF47-Landau Associates, Inc.

Project: RICHARDSON AIRWAYS

1148001.010

Date Sampled: 06/29/09 Date Received: 07/01/09

Sample Amount: 12.2 g-dry-wt

Final Extract Volume: 4.0 mL Dilution Factor: 1.00

Silica Gel: Yes

Percent Moisture: 18.6%

Date Extracted: 07/06/09
Date Analyzed: 07/09/09 14:56

Data Release Authorized:

Date Analyzed: 07/09/09 14:56 Instrument/Analyst: ECD7/AAR GPC Cleanup: No

Sulfur Cleanup: Yes Florisil Cleanup: No Acid Cleanup: No

Lab Sample ID: PF47K

LIMS ID: 09-15709

Reported: 07/10/09

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	1.6	< 1.6 U
319-85-7	beta-BHC	1.6	< 1.6 U
319-86-8	delta-BHC	1.6	< 1.6 U
58-89-9	gamma-BHC (Lindane)	1.6	< 1.6 U
76-44-8	Heptachlor	1.6	< 1.6 U
309-00-2	Aldrin	1.6	< 1.6 U
1024-57-3	Heptachlor Epoxide	1.6	< 1.6 U
959-98-8	Endosulfan I	1.6	< 1.6 U
60-57-1	Dieldrin	3.3	6.8
72-55-9	4,4'-DDE	3.3	11 P
72-20-8	Endrin	3.3	< 3.3 U
33213-65-9	Endosulfan II	3.3	< 3.3 U
72-54-8	4,4'-DDD	3.3	< 3.3 U
1031-07-8	Endosulfan Sulfate	3.3	< 3.3 U
50-29-3	4,4'-DDT	3.3	15 P
72-43-5	Methoxychlor	16	< 16 U
53494-70-5	Endrin Ketone	3.3	< 3.3 U
7421-93-4	Endrin Aldehyde	7.2	< 7.2 Y
5103-74-2	gamma Chlordane	1.6	< 1.6 U
5103-71-9	alpha Chlordane	1.6	< 1.6 U
8001-35-2	Toxaphene	160	< 160 U

Reported in $\mu g/kg$ (ppb)

Decachlorobiphenyl	92.8%
Tetrachlorometaxylene	71.2%



Page 1 of 1

Sample ID: SW13-W-0.5

SAMPLE

Lab Sample ID: PF47M LIMS ID: 09-15711 Matrix: Soil

Data Release Authorized:

Reported: 07/10/09

QC Report No: PF47-Landau Associates, Inc.

Project: RICHARDSON AIRWAYS

1148001.010 Date Sampled: 06/29/09 Date Received: 07/01/09

Sample Amount: 12.3 g-dry-wt

Final Extract Volume: 4.0 mL Dilution Factor: 1.00

Silica Gel: Yes

Percent Moisture: 23.0%

Date Extracted: 07/06/09 Date Analyzed: 07/09/09 15:17 Instrument/Analyst: ECD7/AAR

GPC Cleanup: No Sulfur Cleanup: Yes Florisil Cleanup: No Acid Cleanup: No

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	1.6	< 1.6 U
319-85-7	beta-BHC	1.6	< 1.6 U
319-86-8	delta-BHC	1.6	< 1.6 U
58-89-9	gamma-BHC (Lindane)	1.6	< 1.6 U
76-44-8	Heptachlor	1.6	< 1.6 U
309-00-2	Aldrin	1.6	< 1.6 U
1024-57-3	Heptachlor Epoxide	1.6	< 1.6 U
959-98-8	Endosulfan I	1.6	< 1.6 U
60-57-1	Dieldrin	3.2	25
72-55-9	4,4'-DDE	3.2	24
72-20-8	Endrin	3.2	< 3.2 U
33213-65-9	Endosulfan II	12	< 12 Y
72-54-8	4,4'-DDD	3.2	8.0
1031-07-8	Endosulfan Sulfate	7.2	< 7.2 Y
50-29-3	4,4'-DDT	3.2	51 P
72-43-5	Methoxychlor	16	< 16 U
53494-70-5	Endrin Ketone	3.2	< 3.2 U
7421-93-4	Endrin Aldehyde	22	< 22 Y
5103-74-2	gamma Chlordane	1.6	< 1.6 U
5103-71-9	alpha Chlordane	1.6	< 1.6 U
8001-35-2	Toxaphene	160	320

Reported in $\mu g/kg$ (ppb)

Decachlorobiphenyl	66.0%
Tetrachlorometaxylene	53.5%



Page 1 of 1

Sample ID: SW27-W-6.5 SAMPLE

QC Report No: PF47-Landau Associates, Inc.

Project: RICHARDSON AIRWAYS

1148001.010 ed: 06/29/09

Date Sampled: 06/29/09 Date Received: 07/01/09

Sample Amount: 12.4 g-dry-wt

Final Extract Volume: 4.0 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: 27.4%

Lab Sample ID: PF470 LIMS ID: 09-15713 Matrix: Soil

Data Release Authorized: VIS

Date Extracted: 07/06/09
Date Analyzed: 07/09/09 15:37
Instrument/Analyst: ECD7/AAR

GPC Cleanup: No Sulfur Cleanup: Yes Florisil Cleanup: No Acid Cleanup: No

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	1.6	< 1.6 U
319-85-7	beta-BHC	1.6	< 1.6 U
319-86-8	delta-BHC	1.6	< 1.6 U
58-89-9	gamma-BHC (Lindane)	1.6	< 1.6 U
76-44-8	Heptachlor	1.6	< 1.6 U
309-00-2	Aldrin	1.6	< 1.6 U
1024-57-3	Heptachlor Epoxide	1.6	< 1.6 U
959-98-8	Endosulfan I	1.6	< 1.6 U
60-57-1	Dieldrin	3.2	< 3.2 U
72-55-9	4,4'-DDE	3.2	< 3.2 U
72-20-8	Endrin	3.2	< 3.2 U
33213-65-9	Endosulfan II	3.2	< 3.2 U
72-54-8	4,4'-DDD	3.2	< 3.2 U
1031-07-8	Endosulfan Sulfate	3.2	< 3.2 U
50-29-3	4,4'-DDT	3.2	< 3.2 U
72-43-5	Methoxychlor	16	< 16 U
53494-70-5	Endrin Ketone	3.2	< 3.2 U
7421-93-4	Endrin Aldehyde	3.2	< 3.2 U
5103-74-2	gamma Chlordane	1.6	< 1.6 U
5103-71-9	alpha Chlordane	1.6	< 1.6 U
8001-35-2	Toxaphene	160	< 160 U

Reported in $\mu g/kg$ (ppb)

Decachlorobiphenyl	80.8%
Tetrachlorometaxylene	68.0%



Page 1 of 1

Sample ID: RVTComp:0.5-2 SAMPLE

Lab Sample ID: PF47AL LIMS ID: 09-15736

Matrix: Soil Data Release Authorized:

Reported: 07/10/09

Date Extracted: 07/06/09 Date Analyzed: 07/09/09 15:58 Instrument/Analyst: ECD7/AAR

GPC Cleanup: No Sulfur Cleanup: Yes Florisil Cleanup: No Acid Cleanup: No

Sample Amount: 12.6 g-dry-wt Final Extract Volume: 4.0 mL

Date Sampled: 06/30/09

Date Received: 07/01/09

Dilution Factor: 1.00 Silica Gel: Yes

QC Report No: PF47-Landau Associates, Inc.

Project: RICHARDSON AIRWAYS

1148001.010

Percent Moisture: 10.0%

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	1.6	< 1.6 U
319-85-7	beta-BHC	1.6	< 1.6 U
319-86-8	delta-BHC	1.6	< 1.6 U
58-89-9	gamma-BHC (Lindane)	1.6	< 1.6 U
76-44-8	Heptachlor	1.6	< 1.6 U
309-00-2	Aldrin	1.6	< 1.6 U
1024-57-3	Heptachlor Epoxide	1.6	< 1.6 U
959-98-8	Endosulfan I	1.6	< 1.6 U
60-57-1	Dieldrin	3.2	< 3.2 U
72-55-9	4,4'-DDE	3.2	< 3.2 U
72-20-8	Endrin	3.2	< 3.2 U
33213-65-9	Endosulfan II	3.2	< 3.2 U
72-54-8	4,4'-DDD	3.2	< 3.2 U
1031-07-8	Endosulfan Sulfate	3.2	< 3.2 U
50-29-3	4,4'-DDT	3.2	< 3.2 U
72-43-5	Methoxychlor	16	< 16 U
53494-70-5	Endrin Ketone	3.2	< 3.2 U
7421-93-4	Endrin Aldehyde	3.2	< 3.2 U
5103-74-2	gamma Chlordane	1.6	< 1.6 U
5103-71-9	alpha Chlordane	1.6	< 1.6 U
8001-35-2	Toxaphene	160	< 160 U

Reported in $\mu g/kg$ (ppb)

Decachlorobiphenyl	93.8%
Tetrachlorometaxylene	71.8%



Page 1 of 1

Matrix: Soil

Sample ID: RVTComp:0.5-2 MATRIX SPIKE

Lab Sample ID: PF47AL QC Report No: PF47-Landau Associates, Inc. LIMS ID: 09-15736 Project: RICHARDSON AIRWAYS

Project: RICHARDSON AIRWAYS 1148001.010

Data Release Authorized: \(\sqrt{15} \)
Reported: 07/10/09 \(\text{Date Sampled: 06/30/09 } \)
Date Received: 07/01/09

Date Extracted: 07/06/09 Sample Amount: 12.6 g-dry-wt Date Analyzed: 07/09/09 16:19 Final Extract Volume: 4.0 mL

Instrument/Analyst: ECD7/AAR Dilution Factor: 1.00
GPC Cleanup: No Silica Gel: Yes
Sulfur Cleanup: Yes

Florisil Cleanup: No Percent Moisture: 10.0% Acid Cleanup: No

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	1.6	
319-85-7	beta-BHC	1.6	
319-86-8	delta-BHC	1.6	
58-89-9	gamma-BHC (Lindane)	1.6	
76-44-8	Heptachlor	1.6	
309-00-2	Aldrin	1.6	
1024-57-3	Heptachlor Epoxide	1.6	
959-98-8	Endosulfan I	1.6	
60-57-1	Dieldrin	3.2	
72-55-9	4,4'-DDE	3.2	****
72-20-8	Endrin	3.2	
33213-65-9	Endosulfan II	3.2	
72-54-8	4,4'-DDD	3.2	
1031-07-8	Endosulfan Sulfate	3.2	
50-29-3	4,4'-DDT	3.2	
72-43-5	Methoxychlor	16	
53494-70-5	Endrin Ketone	3.2	
7421-93-4	Endrin Aldehyde	3.2	***** ***** *****
5103-74-2	gamma Chlordane	1.6	
5103-71-9	alpha Chlordane	1.6	
8001-35-2	Toxaphene	160	< 160 U

Reported in $\mu g/kg$ (ppb)

Decachlorobi	.phenyl	80.0%
Tetrachloron	netaxylene	61.0%



Page 1 of 1

Sample ID: RVTComp:0.5-2 MATRIX SPIKE DUP

Lab Sample ID: PF47AL LIMS ID: 09-15736

Matrix: Soil

Data Release Authorized: Reported: 07/10/09

Date Extracted: 07/06/09 Date Analyzed: 07/09/09 16:39 Instrument/Analyst: ECD7/AAR

GPC Cleanup: No Sulfur Cleanup: Yes Florisil Cleanup: No

Acid Cleanup: No

QC Report No: PF47-Landau Associates, Inc.

Project: RICHARDSON AIRWAYS

1148001.010

Date Sampled: 06/30/09 Date Received: 07/01/09

Sample Amount: 12.6 g-dry-wt

Final Extract Volume: 4.0 mL Dilution Factor: 1.00 Silica Gel: Yes

Percent Moisture: 10.0%

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	1.6	
319-85-7	beta-BHC	1.6	
319-86-8	delta-BHC	1.6	
58-89-9	gamma-BHC (Lindane)	1.6	
76-44-8	Heptachlor	1.6	-
309-00-2	Aldrin	1.6	
1024-57-3	Heptachlor Epoxide	1.6	
959-98-8	Endosulfan I	1.6	
60-57-1	Dieldrin	3.2	
72-55-9	4,4'-DDE	3.2	
72-20-8	Endrin	3.2	
33213-65-9	Endosulfan II	3.2	
72-54-8	4,4'-DDD	3.2	
1031-07-8	Endosulfan Sulfate	3.2	
50-29-3	4,4'-DDT	3.2	
72-43-5	Methoxychlor	16	
53494-70-5	Endrin Ketone	3.2	
7421-93-4	Endrin Aldehyde	3.2	
5103-74-2	gamma Chlordane	1.6	
5103-71-9	alpha Chlordane	1.6	
8001-35-2	Toxaphene	160	< 160 U

Reported in $\mu g/kg$ (ppb)

Decachlorobiphenyl	88.5%
Tetrachlorometaxylene	70.8%



Page 1 of 1

Sample ID: MB-070609 METHOD BLANK

Lab Sample ID: MB-070609

LIMS ID: 09-15736

Matrix: Soil

Data Release Authorized:

Reported: 07/10/09

Date Extracted: 07/06/09 Date Analyzed: 07/08/09 17:38 Instrument/Analyst: ECD7/AAR

GPC Cleanup: No Sulfur Cleanup: Yes Florisil Cleanup: No Acid Cleanup: No

QC Report No: PF47-Landau Associates, Inc.

Project: RICHARDSON AIRWAYS

1148001.010

Date Sampled: NA Date Received: NA

Sample Amount: 12.0 g-dry-wt

Final Extract Volume: 4.0 mL Dilution Factor: 1.00

Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	1.7	< 1.7 U
319-85-7	beta-BHC	1.7	< 1.7 U
319-86-8	delta-BHC	1.7	< 1.7 U
58-89-9	gamma-BHC (Lindane)	1.7	< 1.7 U
76-44-8	Heptachlor	1.7	< 1.7 U
309-00-2	Aldrin	1.7	< 1.7 U
1024-57-3	Heptachlor Epoxide	1.7	< 1.7 U
959-98-8	Endosulfan I	1.7	< 1.7 U
60-57-1	Dieldrin	3.3	< 3.3 U
72-55-9	4,4'-DDE	3.3	< 3.3 U
72-20-8	Endrin	3.3	< 3.3 U
33213-65-9	Endosulfan II	3.3	< 3.3 U
72-54-8	4,4'-DDD	3.3	< 3.3 U
1031-07-8	Endosulfan Sulfate	3.3	< 3.3 U
50-29-3	4,4'-DDT	3.3	< 3.3 U
72-43-5	Methoxychlor	17	< 17 U
53494-70-5	Endrin Ketone	3.3	< 3.3 U
7421-93-4	Endrin Aldehyde	3.3	< 3.3 U
5103-74-2	gamma Chlordane	1.7	< 1.7 U
5103-71-9	alpha Chlordane	1.7	< 1.7 U
8001-35-2	Toxaphene	170	< 170 U

Reported in $\mu g/kg$ (ppb)

Decachlorobiphenyl	79.0%
Tetrachlorometaxylene	61.5%



SW8081 PESTICIDE SOIL/SEDIMENT SURROGATE RECOVERY SUMMARY

Matrix: Soil QC Report No: PF47-Landau Associates, Inc.

Project: RICHARDSON AIRWAYS

1148001.010

Client ID	DCBP	TCMX	TOT OUT
SW7-SE-0.5 SW8-E-0.5 SW9-S-0.5	74.5% 71.8% 69.0%	60.5% 61.0% 56.2%	0 0 0
SW10-W-0.5 SW11-W-0.5 SW12-W-0.5 SW13-W-0.5 SW27-W-6.5	64.8% 69.0% 92.8% 66.0% 80.8%	57.2% 55.2% 71.2% 53.5% 68.0%	0 0 0 0
MB-070609 LCS-070609 LCSD-070609 RVTComp:0.5-2 RVTComp:0.5-2 MS RVTComp:0.5-2 MSD	79.08 77.28 95.28 93.88 80.08 88.58	61.5% 56.5% 70.5% 71.8% 61.0%	0 0 0 0 0

		LCS/MB	LIMITS	QC	LIMITS
• •	Decachlorobiphenyl Tetrachlorometaxylene	(30- (30-	/	,)-160))-160)

Prep Method: SW3546

Log Number Range: 09-15699 to 09-15736



Page 1 of 1

Sample ID: LCS-070609

LCS/LCSD

Lab Sample ID: LCS-070609

LIMS ID: 09-15736

Matrix: Soil

Data Release Authorized:

Date Extracted LCS/LCSD: 07/06/09

Date Analyzed LCS: 07/08/09 17:59

Instrument/Analyst LCS: ECD7/AAR

LCSD: 07/08/09 18:19

LCSD: ECD7/AAR

Reported: 07/10/09

QC Report No: PF47-Landau Associates, Inc.

Project: RICHARDSON AIRWAYS

1148001.010

Date Sampled: 06/30/09 Date Received: 07/01/09

Sample Amount LCS: 12.0 g-dry-wt

LCSD: 12.0 g-dry-wt

Final Extract Volume LCS: 4.0 mL

LCSD: 4.0 mL

Dilution Factor LCS: 1.00

LCSD: 1.00

Silica Gel: Yes

GPC Cleanup: No Sulfur Cleanup: Yes

Florisil Cleanup: No

Percent Moisture: NA

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
alpha-BHC	5.00	6.67	75.0%	6.13	6.67	91.9%	20.3%
beta-BHC	5.30	6.67	79.5%	6.43	6.67	96.4%	19.3%
delta-BHC	5.53	6.67	82.9%	6.77	6.67	101%	20.2%
gamma-BHC (Lindane)	5.47	6.67	82.0%	6.70	6.67	100%	20.2%
Heptachlor	4.97	6.67	74.5%	6.07	6.67	91.0%	19.9%
Aldrin	5.07	6.67	76.0%	6.13	6.67	91.9%	18.9%
Heptachlor Epoxide	5.53	6.67	82.9%	6.73	6.67	101%	19.6%
Endosulfan I	5.03	6.67	75.4%	6.00	6.67	90.0%	17.6%
Dieldrin	11.3	13.3	85.0%	13.9	13.3	105%	20.6%
4,4'-DDE	13.4	13.3	101%	16.6	13.3	125%	21.3%
Endrin	11.1	13.3	83.5%	13.8	13.3	104%	21.7%
Endosulfan II	11.0	13.3	82.7%	13.6	13.3	102%	21.1%
4,4'-DDD	11.1	13.3	83.5%	13.8	13.3	104%	21.7%
Endosulfan Sulfate	10.0	13.3	75.2%	12.4	13.3	93.2%	21.4%
4,4'-DDT	11.1	13.3	83.5%	14.0	13.3	105%	23.1%
Methoxychlor	54.3	66.7	81.4%	67.0	66.7	100%	20.9%
Endrin Ketone	10.3	13.3	77.4%	12.7	13.3	95.5%	20.9%
Endrin Aldehyde	9.50	13.3	71.4%	11.8	13.3	88.7%	21.6%
gamma Chlordane	5.57	6.67	83.5%	6.77	6.67	101%	19.4%
alpha Chlordane	5.40	6.67	81.0%	6.57	6.67	98.5%	19.5%

Pest/PCB Surrogate Recovery

	LCS	LCSD
Decachlorobiphenyl	77.2%	95.2%
Tetrachlorometaxvlene	56.5%	70.5%

Reported in $\mu g/kg$ (ppb)

RPD calculated using sample concentrations per SW846.



Page 1 of 1

Sample ID: RVTComp:0.5-2

MS/MSD

Lab Sample ID: PF47AL LIMS ID: 09-15736

Matrix: Soil

Data Release Authorized:

: VIS

Reported: 07/10/09

Date Extracted MS/MSD: 07/06/09

Date Analyzed MS: 07/09/09 16:19 MSD: 07/09/09 16:39

Instrument/Analyst MS: ECD7/AAR

MSD: ECD7/AAR

GPC Cleanup: No Sulfur Cleanup: Yes Florisil Cleanup: No QC Report No: PF47-Landau Associates, Inc.

Project: RICHARDSON AIRWAYS

1148001.010

Date Sampled: 06/30/09 Date Received: 07/01/09

Sample Amount MS: 12.6 g-dry-wt

MSD: 12.6 g-dry-wt

Final Extract Volume MS: 4.0 mL

MSD: 4.0 mL

Dilution Factor MS: 1.00 MSD: 1.00

Silica Gel: Yes

Percent Moisture: 10.0%

Analyte	Sample	MS	Spike Added-MS	MS Recovery	MSD	Spike Added-MSD	MSD Recovery	RPD
alpha-BHC	< 1.59	4.41	6.34	69.6%	5.25	6.33	82.9%	17.4%
beta-BHC	< 1.59	4.85	6.34	76.5%	5.73	6.33	90.5%	16.6%
delta-BHC	< 1.59	4.85	6.34	76.5%	5.85	6.33	92.4%	18.7%
gamma-BHC (Lindane)	< 1.59	4.76	6.34	75.1%	5.70	6.33	90.0%	18.0%
Heptachlor	< 1.59	4.44	6.34	70.0%	5.25	6.33	82.9%	16.7%
Aldrin	< 1.59	4.69	6.34	74.0%	5.57	6.33	88.0%	17.2%
Heptachlor Epoxide	< 1.59	4.69	6.34	74.0%	5.63	6.33	88.9%	18.2%
Endosulfan I	< 1.59	4.31	6.34	68.0%	5.13	6.33	81.0%	17.4%
Dieldrin	< 3.17	9.52	12.7	75.0%	11.6	12.7	91.3%	19.7%
4,4'-DDE	< 3.17	11.8	12.7	92.9%	14.3	12.7	113%	19.2%
Endrin	< 3.17	9.23	12.7	72.7%	11.4	12.7	89.8%	21.0%
Endosulfan II	< 3.17	9.10	12.7	71.7%	11.2	12.7	88.2%	20.7%
4,4'-DDD	< 3.17	9.36	12.7	73.7%	11.6	12.7	91.3%	21.4%
Endosulfan Sulfate	< 3.17	8.72	12.7	68.7%	10.5	12.7	82.7%	18.5%
4,4'-DDT	< 3.17	9.45	12.7	74.4%	11.6	12.7	91.3%	20.4%
Methoxychlor	< 15.9	46.0	63.4	72.6%	55.4	63.3	87.5%	18.5%
Endrin Ketone	< 3.17	8.60	12.7	67.7%	10.3	12.7	81.1%	18.0%
Endrin Aldehyde	< 3.17	8.09	12.7	63.7%	9.62	12.7	75.7%	17.3%
gamma Chlordane	< 1.59	4.63	6.34	73.0%	5.63	6.33	88.9%	19.5%
alpha Chlordane	< 1.59	4.66	6.34	73.5%	5.51	6.33	87.0%	16.7%

Reported in $\mu g/kg$ (ppb)

RPD calculated using sample concentrations per SW846.



ORGANICS ANALYSIS DATA SHEET

NWTPH-HCID Method by GC/FID

Page 1 of 1

Matrix: Soil

QC Report No: PF47-Landau Associates, Inc.

Project: RICHARDSON AIRWAYS

1148001.010

Data Release Authorized: MR Reported: 07/02/09

ARI ID	Sample ID	Extraction Date	Analysis Date	DL	Range	Result
MB-070209 09-15736	Method Blank	07/02/09	07/02/09	1.0	Gas Diesel Oil o-Terphenyl	< 20 U < 50 U < 100 U 100%
PF47AL 09-15736	RVTComp:0.5-2 HC ID:	07/02/09	07/02/09	1.0	Gas Diesel Oil o-Terphenyl	< 20 U < 50 U < 100 U 98.0%

Reported in mg/kg (ppm)

Gas value based on total peaks in the range from Toluene to C12. Diesel value based on the total peaks in the range from C12 to C24. Oil value based on the total peaks in the range from C24 to C38.



HCID SURROGATE RECOVERY SUMMARY

Matrix: Soil

QC Report No: PF47-Landau Associates, Inc.

Project: RICHARDSON AIRWAYS

1148001.010

Client ID	O-TER	TOT OUT
070209MB	100%	. 0
RVTComp: 0.5-2	98.0%	•
KATCOMD.O.D-Z	20.00	O

LCS/MB LIMITS QC LIMITS

(O-TER) = O-Terphenyl

(68-122) (50-150)

Prep Method: SW3550B

Log Number Range: 09-15736 to 09-15736



TOTAL HCID RANGE HYDROCARBONS-EXTRACTION REPORT

ARI Job: PF47
Project: RICHARDSON AIRWAYS Matrix: Soil

Date Received: 07/01/09 1148001.010

ARI ID	Client ID	Sample Amt	Final Vol	Basis	Prep Date
09-15736-070209MB	Method Blank RVTComp:0.5-2	10.0 g	5.00 mL	-	07/02/09
09-15736-PF47AL		9.01 g	5.00 mL	D	07/02/09



INORGANICS ANALYSIS DATA SHEET TOTAL METALS

Page 1 of 1

Lab Sample ID: PF47AL

LIMS ID: 09-15736

Matrix: Soil

Data Release Authorized Reported: 07/08/09

Percent Total Solids: 89.6%

Sample ID: RVTComp:0.5-2

SAMPLE

QC Report No: PF47-Landau Associates, Inc.

Project: RICHARDSON AIRWAYS

1148001.010

Date Sampled: 06/30/09 Date Received: 07/01/09

Meth	Date	Analysis Method	Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B 3050B	07/06/09 07/06/09	6010B 6010B	, ,	7440-38-2 7439-92-1	Arsenic Lead	10 5	10 6	U

U-Analyte undetected at given RL RL-Reporting Limit



INORGANICS ANALYSIS DATA SHEET TOTAL METALS

Page 1 of 1

Lab Sample ID: PF47MB

LIMS ID: 09-15736

Matrix: Soil

Data Release Authorized: Reported: 07/08/09

Percent Total Solids: NA

Sample ID: METHOD BLANK

QC Report No: PF47-Landau Associates, Inc.

Project: RICHARDSON AIRWAYS

1148001.010

Date Sampled: NA Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	07/06/09	6010B	07/07/09	7440-38-2	Arsenic	5	5	U
3050B	07/06/09	6010B	07/07/09	7439-92-1	Lead	2	2	

U-Analyte undetected at given RL RL-Reporting Limit



INORGANICS ANALYSIS DATA SHEET TOTAL METALS

Page 1 of 1

Lab Sample ID: PF47LCS

LIMS ID: 09-15736

Matrix: Soil

Data Release Authorized: Reported: 07/08/09

Sample ID: LAB CONTROL

QC Report No: PF47-Landau Associates, Inc.

Project: RICHARDSON AIRWAYS

1148001.010

Date Sampled: NA Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

	Analysis	Spike	Spike	8	
Analyte	Method	Found	Added	Recovery	Q
Arsenic	6010B	215	200	108%	
Lead	6010B	203	200	102%	

Reported in mg/kg-dry

N-Control limit not met

NA-Not Applicable, Analyte Not Spiked

Control Limits: 80-120%

July 13, 2009

Ryan Reich Landau Associates, Inc. 10 North Post St. Peyton Building, Suite 218 Spokane, WA 99201

RE: Project No: 1148001.010

Project Name: Richardson Airways

ARI Job No: PF48

Dear Ryan:

Please find enclosed the original and a revised copy of chain of custody (COC) record, e-mail documentation, sample receipt documentation, and the final results from the project referenced above. Analytical Resources, Inc. (ARI) accepted seventy soil samples in good condition on July 1, 2009. The samples were logged under two different ARI SDGs (PF47 and PF48) based on sample volumes. Select samples were placed on hold pending further instructions. * Note all samples were frozen to protect holding times.

The samples were analyzed for Pesticides and Herbicides, as requested on the COC.

The herbicides LCS and LCSD RPD for Dinoseb is outside the +/- 30% control limits. All other QC is in control and no further corrective action was taken.

The herbicides matrix spike on sample **SW2-NW-0.5** is out of control low for several analytes with RPDs outside of the +/- 30% control limits. The matrix spike duplicate and all other QC is in control, therefore no further corrective action was taken.

The pesticide LCS, LCSD, matrix spike and matrix spike duplicate does not contain Toxaphene spikes as Toxaphene contains over two hundred associated compounds

There were no other anomalies associated with the samples.

A copy of this report and all corresponding raw data will remain on file electronically with ARI. If you have any questions or require additional information, please contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Kelly Bottem

Client Services Manager

(206) 695-6211

kellyb@arilabs.com

Enclosures

Observations/Comments/ Stansard (1) Accelerated Ö Turneround Time ime Pade 0990 Received by Printed Name Company Signature 923 Method of Officials Testing Parameters Inne Chain-of-Custody Record Relinquished by Printed Name Signature Company Care Project No. Containers No. of E E Matrix Received by Seattle (Edmonds) (425) 778-0907 Printed Name ☐ Portland (Tigard) (503) 443-8010 Company (D) Signature Date Spokane (509) 327-9737 Tacoms (253) 926-2499 Cate FIME Special Shipment/Handling Project Name or Storage Requirements Project Location/Event Semple I.D. LANDAU ASSOCIATES Relinquished by Sampler's Name Send Results To. Project Contact Printed Name Signature Company Date

WHITE COPY - Project File YELLOW

YELLOW COPY - Laboratory

PIMK DOPY - Client Representative

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Subject: Richardson samples

From: "Ryan Reich" <rreich@landauinc.com>

Date: Thu, 2 Jul 2009 09:41:35 -0700 **To:** "Kelly Bottem" <kellyb@arilabs.com>

Kelly,

Please see two changes on the attached COCs.

Hold B-1A-0.5 and analyze B-1A-2

And

Hold B-1B-0.5 and analyze B-1B-2

Thank you

Ryan Reich Landau Associates, Inc. 10 N Post Street, Suite 218, Spokane, WA 99201 509.327.9737 * fax 509.327.9691 * cell 509.995.1665 rreich@landauinc.com * www.landauinc.com

Email is a sustainable communications tool - please consider this before printing.

Notice: This communication may contain privileged or other confidential information. If you have received it in error, please advise the sender by reply email and immediately delete the message and any attachments without copying or disclosing the contents. Thank you.

Content-Description: 2009_07_02_09_36_03.pdf

2009_07_02_09_36_03.pdf Content-Type: application/octet-stream

Content-Encoding: base64

Rev. 6/02 □ Accelerated I reeze Turnaround Time Trove Standard Standard Observations/Comments Time 1 1 4 *** ** Received by Printed Name 150 1600 Ho.D 1620 HOL 400 120 Signature Company Horn たらか Date PINK COPY - Client Representative Method of Shipment **Festing Parameters** Chain-of-Custody Record Relinquished by Printed Name Signature Company YELLOW COPY - Laboratory Date Project Name Kichardson Mynays Project No. 1148001.000 X No. of Containers / Matrix >,65 2. part WHITE COPY - Project File Printed Name Received by 6.70 52:21 1.50 12:55 12:40 55:77 05.2/ 27.22 11:35 53:11 12:13 02.77 12:00 22.11 60-62-9 30.27 1:12 Time Company Date Date Time 11.46 LOVE KRICH Special Shipment/Handling or Storage Requirements Project Location/Event Sample I.D. Date 7-1-09 8-18-65 B-1A-2 B-1A-3 Relinquished by Sampler's Name 18-18-3 13-213-2 13-213-3 13-213-3 15-313-3 Send Results To. 13-14-05 Project Contact 12-118-2 18-2 12-25-8 2-11-2 5-316-3 アースペース Printed Name Company Signature

50-22-0

Date Page_

☐ Seattle (Edmonds) (425) 778-0907

☐ Portland (Tigard) (503) 443-6010

LANDAU | F

Spokane (509) 327-9737 □ Tacoma (253) 926-2493

□ Accelerated Turnaround Time Standard Treed Observations/Comments Time 1 ** · ** * **** 7 Received by Printed Name (779H 行って Hord クレクナ Company のなど HOLD 1010 Signature い
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が Date Method of Shipment **Festing Parameters** Chain-of-Custody Record Relinquished by Printed Name Signature Company (A)800 YELLOW COPY - Laboratory Date X CO Time エイク Project Name Kichardson Arrways Project No. 1148001.010 No. of Containers / Matrix >00 Received by Printed Name 14:30 07:14 14:00 0/:// 7:50 14:52 14.45 12:25 55:2 30:1/ 14.25 15:00 62409 13:10 13:15 15:65 02:50 Time Company laterina Aroport Wan Reich Date YOU KNICH Date A550 Ryan Reich _ Time Special Shipment/Handling or Storage Requirements B-72-3 SWI-NW-05 SW1-NW-2 Project Location/Event wooden SWZ-NN-Z SW3-NE-05 Sample I.D. SUZ-NW-0.5 SW6-E-0.5 とうしている SWIS-NIC-7 Sus-56-2 SWS-26-6.0 Date 7-1-09 Sub-2-12 2-3-hms Relinquished by Sampler's Name Send Results To. B-625-2 Project Contact 2-81-3 7.28.2 Printed Name Signature Company

PINK COPY - Client Representative

WHITE COPY - Project File

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Date___ Page__

□ Seattle (Edmonds) (425) 778-0907

☐ **Portland (Tigard)** (503) 443-6010

LANDAU ASSOCIATES

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Spokane (509) 327-9737 ☐ **Jacoma** (253) 926-2493

60-62-9 ☐ Accelerated ŏ Turnaround Time 2 Standard Observations/Comments Time Page_ Received by Printed Name HOLD HOLD HOLD Signature Company 1704 K04 14045 4017 Date Method of Shipment **Testing Parameters** Time Chain-of-Custody Record Relinquished by Printed Name Signature Company 170 Project Name Richardson Airways Project No. 1148001.000 No. of Containers/ Time Matrix Soil Date 7 (1) □ Seattle (Edmonds) (425) 778-0907 02:51 Received by 15:40 15:32 ☐ Spokane (509) 327-9737
☐ Portland (Tigard) (503) 443-6010 15:56 15:45 16:65 Yakina Hrport \$5:57 00:97 16:20 17:60 16:15 15:10 51:51 85:31 9/:9/ Time Company ☐ **Jacoma** (253) 926-2493 10-12-09 60-52-01 Time //:46 Special Shipment/Handling or Storage Requirements SW7-5E-05 Project Location/Event SW10-W-0.5 5418-6-65 SW8-E-2 Sample I.D. Su17-55-2 SW11-11-05 SW13-W-2 SW12-W-0.5 50-M-81MS Sull-1/-2-Sw9-8-8-05 Su110-W-2 LANDAU ASSOCIATES SW12-40-2 Sw9-5-2 SW27-65 Relinquished by Sampler's Name Send Results To. Project Contact Printed Name Signature Company

Rev. 6/02

PINK COPY - Client Representative

FELLOW COPY - Laboratory

WHITE COPY - Project File

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number:	Page: 4 of		Analytical Resources, Incorporated
pany: Jun Asse	Date: Ice		Analytical Chemists and Consultants 4611 South 134th Place, Suite 100 Tukwila, WA 98168
	No. of Coolers: Temps:		206-695-6200 206-695-6201 (fax)
		Analysis Requested	Notes/Comments
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Syau Ketch	ין בי פנס		
Matrix No. Containers	5-2+1 108		
SWI4-NW-DS 6-3009 8:15 50:1 /	×		Har D. Frons
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SW19-E-0.5 (10:00)			() () () () ()
	×		1400
Relinquished by:		Refinquished by:	Received by:
(Signature) Cyax (Lat. (Signature)		(Signature)	(Signature)
Zyen Rich	Jarge I	Frinted Name:	Printed Name:
landan Ass	0	Сотралу:	Соптрапу:
Date & Time: 7-1-09 11:46 7-11 (09)	4カ17	Date & Time:	Date & Time:

said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for signed agreement between ARI and the Client.

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Chain of Custody Record & Laboratory Analysis Request

S of Analytical Resources, Incorporated	loe Hesent? 4611 South 134th Place, Suite 100 Tulawila MA 03168	Cooler 706-695-6200 206-695-6201 (fax)	Analysis Requested Notes/Comments		5-2-1	HOLD Form	\ _) (100)	14000	(204)	(70/1	1004	51041	C) Chaff	Croth	Reinquished by:		Printed Name:	
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		Ö-		20ct	4o. Containers						<u> </u>			(4		Received by:	(Signature)	Printed Name:	Company:
Turn-around Requested:	Phone:	2,59		Samplers: Rea Periol	Date Time Matrix	6-30.09 10:60 Sail	51:01	07:01	(0:45	10:50	10:35	00,//	/ ///	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	V 11:20	C dab	(Signature) Lynn (Kun	Ryan Reid	pany:
	ipany: Landass	200	Ollent Project Name:	1 1	Sample ID	5W20-5E-05 6	Sw20-5E-2	54121-E-O.S	54121-E-2	Sw22-W-0.5	Sw22-W-2	50 -m-52 ms	5w25-W-2	Swz4-W-0.5			ng(S)		Company:

meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program signed agreement between ARI and the Client.

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Chain of Custody Record & Laboratory Analysis Request

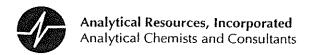
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	ium-around requested:			Page;	<u>5</u>			Analytic	Analytical Resources, Incorporated
ARI Cilent Company:	Phone:			, Date:	ခ၁ု			Analytica 4611 Con	Analytical Chemists and Consultants
Client Contact:	509	227-973	32	6-30-09	Prese	ent?	>	Tukwila	Tukwila, WA 98168
Kyan Pach	ich			No. of Coolers:	Cooler Temps:	±. ₩		206-695	206-695-6200 206-695-6201 (fax)
Client Project Name: (L.	١	,				Analysis Requested	quested		Notes/Comments
	Samplers: Raw	Canada A	tracti	19 52P! 518	-HO 57972	SP			
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Date	Date & Time: 7-1-69 /	9/1.11	Date & Timp:	9711 100	9	Date & Time:		Date & Time:	

said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for

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Cooler Receipt Form

ARI Client: Landau	Project Name: <u>Richardson</u> Airways
COC No(s): NA	Delivered by: Fed-Ex UPS Courier Hard Delivered Other:
Assigned ARI Job No: PF48	Tracking No:NA
Preliminary Examination Phase:	
Were intact, properly signed and dated custody seals attached	ed to the outside of to cooler?
Were custody papers included with the cooler?	
Were custody papers properly filled out (ink, signed, etc.)	
Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for a	
If cooler temperature is out of compliance fill out form 00070F	
Cooler Accepted by:	Date: #/1 09Time:
	ms and attach all shipping documents
Log-In Phase:	
Was a temperature blank included in the cooler?	YES (NO
What kind of packing material was used? Bubble Wrap	
Was sufficient ice used (if appropriate)?	NA (YES) NO
Were all bottles sealed in individual plastic bags?	YES (NO
Did all bottles arrive in good condition (unbroken)?	YES NO
Were all bottle labels complete and legible?	YES NO
Did the number of containers listed on COC match with the nu	umber of containers received? YES NO
Did all bottle labels and tags agree with custody papers?	······································
Were all bottles used correct for the requested analyses?	VES NO
Do any of the analyses (bottles) require preservation? (attach	• • • • • • • • • • • • • • • • • • • •
Were all VOC vials free of air bubbles?	August and the second
Was sufficient amount of sample sent in each bottle?	
Samples Logged by:	ate:
** Notify Project Mana	ger of discrepancies or concerns **
Sample ID on Bottle Sample ID on COC	Sample ID on Bottle Sample ID on COC
	Sample 15 on Bottle Sample 15 on COC
Additional Notes, Discrepancies, & Resolutions:	
_	
By: Date: Small Air Bubbles Peabubbles CARGE Air Bubbles	
Small Air Bubbles Pesbubbles LARGE Air Bubbles > 2 mm > 4 mm	Small → "sm"
	Peabubbles → "pb"
	Large → "lg" Headspace → "hs"



Page 1 of 1

Matrix: Soil

Sample ID: B-1C-2 SAMPLE

QC Report No: PF48-Landau Associates, Inc.

Project: Richardson Airways

1148001.010

Date Sampled: 06/29/09 Date Received: 07/01/09

Sample Amount: 12.3 g-dry-wt

Final Extract Volume: 4.0 mL

Dilution Factor: 1.00 Silica Gel: Yes

Percent Moisture: 27.6%

Date Extracted: 07/07/09 Date Analyzed: 07/09/09 20:06 Instrument/Analyst: ECD7/AAR

Data Release Authorized:

GPC Cleanup: No Sulfur Cleanup: Yes Florisil Cleanup: No

Lab Sample ID: PF48C

LIMS ID: 09-15739

Reported: 07/13/09

Acid Cleanup: No

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	1.6	< 1.6 U
319-85-7	beta-BHC	1.6	< 1.6 U
319-86-8	delta-BHC	1.6	< 1.6 U
58-89-9	gamma-BHC (Lindane)	1.6	< 1.6 U
76-44-8	Heptachlor	1.6	< 1.6 U
309-00-2	Aldrin	1.6	< 1.6 U
1024-57-3	Heptachlor Epoxide	1.6	< 1.6 U
959-98-8	Endosulfan I	1.6	< 1.6 U
60-57-1	Dieldrin	3.2	< 3.2 U
72-55-9	4,4'-DDE	3.2	< 3.2 U
72-20-8	Endrin	3.2	< 3.2 U
33213-65-9	Endosulfan II	3.2	< 3.2 U
72-54-8	4,4'-DDD	3.2	< 3.2 U
1031-07-8	Endosulfan Sulfate	3.2	< 3.2 U
50-29-3	4,4'-DDT	3.2	< 3.2 U
72-43-5	Methoxychlor	16	< 16 U
53494-70-5	Endrin Ketone	3.2	< 3.2 U
7421-93-4	Endrin Aldehyde	3.2	< 3.2 U
5103-74-2	gamma Chlordane	1.6	< 1.6 U
5103-71-9	alpha Chlordane	1.6	< 1.6 U
8001-35-2	Toxaphene	160	< 160 U

Reported in µg/kg (ppb)

Decachlorobiphenyl	92.0%
Tetrachlorometaxylene	65.5%



Matrix: Soil

SAMPLE

Sample ID: B-2B-2

QC Report No: PF48-Landau Associates, Inc.

Project: Richardson Airways

1148001.010

Date Sampled: 06/29/09 Date Received: 07/01/09

Sample Amount: 12.5 g-dry-wt

Final Extract Volume: 4.0 mL

Dilution Factor: 1.00 Silica Gel: Yes

Percent Moisture: 27.3%

Date Extracted: 07/07/09 Date Analyzed: 07/09/09 20:26 Instrument/Analyst: ECD7/AAR

Data Release Authorized: WW

GPC Cleanup: No Sulfur Cleanup: Yes Florisil Cleanup: No Acid Cleanup: No

Lab Sample ID: PF48D

LIMS ID: 09-15740

Reported: 07/13/09

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	1.6	< 1.6 U
319-85-7	beta-BHC	1.6	< 1.6 U
319-86-8	delta-BHC	1.6	< 1.6 U
58-89-9	gamma-BHC (Lindane)	1.6	< 1.6 U
76-44-8	Heptachlor	1.6	< 1.6 U
309-00-2	Aldrin	1.6	< 1.6 U
1024-57-3	Heptachlor Epoxide	1.6	< 1.6 U
959-98-8	Endosulfan I	1.6	< 1.6 U
60-57-1	Dieldrin	3.2	< 3.2 U
72-55-9	4,4'-DDE	3.2	< 3.2 U
72-20-8	Endrin	3.2	< 3.2 U
33213-65-9	Endosulfan II	3.2	< 3.2 U
72-54-8	4,4'-DDD	3.2	< 3.2 U
1031-07-8	Endosulfan Sulfate	3.2	< 3.2 U
50-29-3	4,4'-DDT	3.2	< 3.2 U
72-43-5	Methoxychlor	16	< 16 U
53494-70-5	Endrin Ketone	3.2	< 3.2 U
7421-93-4	Endrin Aldehyde	3.2	< 3.2 U
5103-74-2	gamma Chlordane	1.6	< 1.6 U
5103-71-9	alpha Chlordane	1.6	< 1.6 U
8001-35-2	Toxaphene	160	< 160 U

Reported in µg/kg (ppb)

Decachlorobipheny	l 85.2%
Tetrachlorometaxy!	lene 59.5%



Sample ID: B-3B-2 SAMPLE

Lab Sample ID: PF48E LIMS ID: 09-15741

Matrix: Soil

Data Release Authorized: WW

Reported: 07/13/09

Date Extracted: 07/07/09 Date Analyzed: 07/09/09 20:47 Instrument/Analyst: ECD7/AAR

GPC Cleanup: No Sulfur Cleanup: Yes Florisil Cleanup: No Acid Cleanup: No

QC Report No: PF48-Landau Associates, Inc.

Project: Richardson Airways

1148001.010

Date Sampled: 06/29/09 Date Received: 07/01/09

Sample Amount: 12.6 g-dry-wt

Final Extract Volume: 4.0 mL

Dilution Factor: 1.00 Silica Gel: Yes

Percent Moisture: 22.0%

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	1.6	< 1.6 U
319-85-7	beta-BHC	1.6	< 1.6 U
319-86-8	delta-BHC	1.6	< 1.6 U
58-89-9	gamma-BHC (Lindane)	1.6	< 1.6 U
76-44-8	Heptachlor	1.6	< 1.6 U
309-00-2	Aldrin	1.6	< 1.6 U
1024-57-3	Heptachlor Epoxide	1.6	< 1.6 U
959-98-8	Endosulfan I	1.6	< 1.6 U
60-57-1	Dieldrin	3.2	< 3.2 U
72-55-9	4,4'-DDE	3.2	< 3.2 U
72-20-8	Endrin	3.2	< 3.2 U
33213-65-9	Endosulfan II	3.2	< 3.2 U
72-54-8	4,4'-DDD	3.2	< 3.2 U
1031-07-8	Endosulfan Sulfate	3.2	< 3.2 U
50-29-3	4,4'-DDT	3.2	< 3.2 U
72-43-5	Methoxychlor	16	< 16 U
53494-70-5	Endrin Ketone	3.2	< 3.2 U
7421-93-4	Endrin Aldehyde	3.2	< 3.2 U
5103-74-2	gamma Chlordane	1.6	< 1.6 U
5103-71-9	alpha Chlordane	1.6	< 1.6 U
8001-35-2	Toxaphene	160	< 160 U

Reported in µg/kg (ppb)

Decachlorobiphenyl	87.0%
Tetrachlorometaxyle	ene 61.8%



Sample ID: B-4B-2 SAMPLE

Lab Sample ID: PF48F LIMS ID: 09-15742

QC Report No: PF48-Landau Associates, Inc. Project: Richardson Airways

Matrix: Soil

1148001.010

Data Release Authorized: WWW

Date Sampled: 06/29/09

Reported: 07/13/09

Date Received: 07/01/09

Date Extracted: 07/07/09 Date Analyzed: 07/09/09 21:08

Sample Amount: 12.9 g-dry-wt Final Extract Volume: 4.0 mL

Instrument/Analyst: ECD7/AAR GPC Cleanup: No

Dilution Factor: 1.00 Silica Gel: Yes

Sulfur Cleanup: Yes Florisil Cleanup: No

Percent Moisture: 15.7%

Acid Cleanup: No

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	1.5	< 1.5 U
319-85-7	beta-BHC	1.5	< 1.5 U
319-86-8	delta-BHC	1.5	< 1.5 U
58-89-9	gamma-BHC (Lindane)	1.5	< 1.5 U
76-44-8	Heptachlor	1.5	< 1.5 U
309-00-2	Aldrin	1.5	< 1.5 U
1024-57-3	Heptachlor Epoxide	1.5	< 1.5 U
959-98-8	Endosulfan I	1.5	< 1.5 U
60-57-1	Dieldrin	3.1	< 3.1 U
72-55-9	4,4'-DDE	3.1	< 3.1 U
72-20-8	Endrin	3.1	< 3.1 U
33213-65-9	Endosulfan II	3.1	< 3.1 U
72-54-8	4,4'-DDD	3.1	< 3.1 U
1031-07-8	Endosulfan Sulfate	3.1	< 3.1 U
50-29-3	4,4'-DDT	3.1	< 3.1 U
72-43-5	Methoxychlor	15	< 15 U
53494-70-5	Endrin Ketone	3.1	< 3.1 U
7421-93-4	Endrin Aldehyde	3.1	< 3.1 U
5103-74-2	gamma Chlordane	1.5	< 1.5 U
5103-71-9	alpha Chlordane	1.5	< 1.5 U
8001-35-2	Toxaphene	150	< 150 U

Reported in µg/kg (ppb)

Decachlorobiphenyl	88.8%
Tetrachlorometaxylene	59.0%



Sample ID: B-4B-2
MATRIX SPIKE

Lab Sample ID: PF48F LIMS ID: 09-15742

Matrix: Soil

Data Release Authorized: WWW

Reported: 07/13/09

Date Extracted: 07/07/09
Date Analyzed: 07/09/09 21:28
Instrument/Analyst: ECD7/AAR

GPC Cleanup: No Sulfur Cleanup: Yes Florisil Cleanup: No

Acid Cleanup: No

QC Report No: PF48-Landau Associates, Inc.

Project: Richardson Airways

1148001.010

Date Sampled: 06/29/09
Date Received: 07/01/09

Sample Amount: 12.6 g-dry-wt

Final Extract Volume: 4.0 mL

Dilution Factor: 1.00 Silica Gel: Yes

Percent Moisture: 15.7%

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	1.6	
319-85-7	beta-BHC	1.6	
319-86-8	delta-BHC	1.6	
58-89-9	gamma-BHC (Lindane)	1.6	
76-44-8	Heptachlor	1.6	*** *** ***
309-00-2	Aldrin	1.6	
1024-57-3	Heptachlor Epoxide	1.6	
959-98-8	Endosulfan I	1.6	
50-57-1	Dieldrin	3.2	Aur war war
72-55-9	4,4'-DDE	3.2	
72-20-8	Endrin	3.2	
33213-65-9	Endosulfan II	3.2	
72-54-8	4,4'-DDD	3.2	
1031-07-8	Endosulfan Sulfate	3.2	
50-29-3	4,4'-DDT	3.2	
72-43-5	Methoxychlor	16	
3494-70-5	Endrin Ketone	3.2	
7421-93-4	Endrin Aldehyde	3.2	
5103-74-2	gamma Chlordane	1.6	
5103-71-9	alpha Chlordane	1.6	** -*
3001-35-2	Toxaphene	160	< 160 t

Reported in µg/kg (ppb)

Decachlorobiphenyl	84.5%
Tetrachlorometaxylene	56.5%



Sample ID: B-4B-2 Page 1 of 1 MATRIX SPIKE DUP

Lab Sample ID: PF48F LIMS ID: 09-15742

Matrix: Soil

Data Release Authorized:

Reported: 07/13/09

Date Extracted: 07/07/09 Date Analyzed: 07/09/09 21:49 Instrument/Analyst: ECD7/AAR

GPC Cleanup: No Sulfur Cleanup: Yes Florisil Cleanup: No Acid Cleanup: No

QC Report No: PF48-Landau Associates, Inc.

Project: Richardson Airways

1148001.010

Date Sampled: 06/29/09 Date Received: 07/01/09

Sample Amount: 12.6 g-dry-wt

Final Extract Volume: 4.0 mL Dilution Factor: 1.00

Silica Gel: Yes

Percent Moisture: 15.7%

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	1.6	
319-85-7	beta-BHC	1.6	
319-86-8	delta-BHC	1.6	
58-89-9	gamma-BHC (Lindane)	1.6	MAL Roy WAY
76-44-8	Heptachlor	1.6	
309-00-2	Aldrin	1.6	
1024-57-3	Heptachlor Epoxide	1.6	
959-98-8	Endosulfan I	1.6	
60-57-1	Dieldrin	3.2	
72-55-9	4,4'-DDE	3.2	
72-20-8	Endrin	3.2	
33213-65-9	Endosulfan II	3.2	
72-54-8	4,4'-DDD	3.2	
1031-07-8	Endosulfan Sulfate	3.2	
50-29-3	4,4'-DDT	3.2	
72-43-5	Methoxychlor	16	
53494-70-5	Endrin Ketone	3.2	
7421-93-4	Endrin Aldehyde	3.2	
5103-74-2	gamma Chlordane	1.6	
5103-71-9	alpha Chlordane	1.6	
8001-35-2	Toxaphene	160	< 160 U

Reported in µg/kg (ppb)

Decachlorobiphenyl	84.8%
Tetrachlorometaxylene	60.2%



Page 1 of 1

Matrix: Soil

QC Report No: PF48-Landau Associates, Inc.

Sample ID: B-3C-2

SAMPLE

Project: Richardson Airways

1148001.010

Date Sampled: 06/29/09 Date Received: 07/01/09

Sample Amount: 12.6 q-dry-wt

Final Extract Volume: 4.0 mL Dilution Factor: 1.00 Silica Gel: Yes

Percent Moisture: 26.2%

Date Extracted: 07/07/09 Date Analyzed: 07/09/09 22:10 Instrument/Analyst: ECD7/AAR

Data Release Authorized: Www

GPC Cleanup: No Sulfur Cleanup: Yes Florisil Cleanup: No Acid Cleanup: No

Lab Sample ID: PF48G

LIMS ID: 09-15743

Reported: 07/13/09

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	1.6	< 1.6 U
319-85-7	beta-BHC	1.6	< 1.6 U
319-86-8	delta-BHC	1.6	< 1.6 U
58-89-9	gamma-BHC (Lindane)	1.6	< 1.6 U
76-44-8	Heptachlor	1.6	< 1.6 U
309-00-2	Aldrin	1.6	< 1.6 U
1024-57-3	Heptachlor Epoxide	1.6	< 1.6 U
959-98-8	Endosulfan I	1.6	< 1.6 U
60-57-1	Dieldrin	3.2	< 3.2 U
72-55-9	4,4'-DDE	3.2	< 3.2 U
72-20-8	Endrin	3.2	< 3.2 U
33213-65-9	Endosulfan II	3,2	< 3.2 U
72-54-8	4,4'-DDD	3.2	< 3.2 U
1031-07-8	Endosulfan Sulfate	3.2	< 3.2 U
50-29-3	4,4'-DDT	3,2	< 3.2 U
72-43-5	Methoxychlor	16	< 16 U
53494-70-5	Endrin Ketone	3.2	< 3.2 U
7421-93-4	Endrin Aldehyde	3.2	< 3.2 U
5103-74-2	gamma Chlordane	1.6	< 1.6 U
5103-71-9	alpha Chlordane	1.6	< 1.6 U
8001-35-2	Toxaphene	160	< 160 U

Reported in µg/kg (ppb)

Decachlorobiphenyl	88.8%
Tetrachlorometaxyle	ne 56.5%



Sample ID: B-5B-2 SAMPLE

Lab Sample ID: PF48H LIMS ID: 09-15744

Matrix: Soil

Data Release Authorized: WWW

Reported: 07/13/09

Date Extracted: 07/07/09 Date Analyzed: 07/10/09 00:34 Instrument/Analyst: ECD7/AAR

GPC Cleanup: No Sulfur Cleanup: Yes Florisil Cleanup: No

Acid Cleanup: No

QC Report No: PF48-Landau Associates, Inc.

Project: Richardson Airways

1148001.010

Date Sampled: 06/29/09 Date Received: 07/01/09

Sample Amount: 12.2 g-dry-wt

Final Extract Volume: 4.0 mL Dilution Factor: 1.00

Silica Gel: Yes

Percent Moisture: 32.1%

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	1.6	< 1.6 U
319-85-7	beta-BHC	1.6	< 1.6 U
319-86-8	delta-BHC	1.6	< 1.6 U
58-89-9	gamma-BHC (Lindane)	1.6	< 1.6 U
76-44-8	Heptachlor	1.6	< 1.6 U
309-00-2	Aldrin	1.6	< 1.6 U
1024-57-3	Heptachlor Epoxide	1.6	< 1.6 U
959-98-8	Endosulfan I	1.6	< 1.6 U
60-57-1	Dieldrin	3.3	< 3.3 U
72-55-9	4,4'-DDE	3.3	< 3.3 U
72-20-8	Endrin	3.3	< 3.3 U
33213-65-9	Endosulfan II	3.3	< 3.3 U
72-54-8	4,4'-DDD	3.3	< 3.3 U
1031-07-8	Endosulfan Sulfate	3.3	< 3.3 U
50-29-3	4,4'-DDT	3.3	< 3.3 U
72-43-5	Methoxychlor	16	< 16 U
53494-70-5	Endrin Ketone	3.3	< 3.3 U
7421-93-4	Endrin Aldehyde	3.3	< 3.3 Ü
5103-74-2	gamma Chlordane	1.6	< 1.6 U
5103-71-9	alpha Chlordane	1.6	< 1.6 U
8001-35-2	Toxaphene	160	< 160 U

Reported in µg/kg (ppb)

Decachlorobiphenyl	86.0%
Tetrachlorometaxylene	e 63.8%



Page 1 of 1

Lab Sample ID: PF48I LIMS ID: 09-15745

Matrix: Soil

Data Release Authorized: \\WW

Reported: 07/13/09

Date Extracted: 07/07/09 Date Analyzed: 07/10/09 00:55 Instrument/Analyst: ECD7/AAR

GPC Cleanup: No Sulfur Cleanup: Yes Florisil Cleanup: No Acid Cleanup: No

Sample ID: B-7A-2 SAMPLE

QC Report No: PF48-Landau Associates, Inc.

Project: Richardson Airways

1148001.010

Date Sampled: 06/29/09 Date Received: 07/01/09

Sample Amount: 12.4 g-dry-wt

Final Extract Volume: 4.0 mL

Dilution Factor: 1.00 Silica Gel: Yes

Percent Moisture: 28.2%

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	1.6	< 1.6 U
319-85-7	beta-BHC	1.6	< 1.6 U
319-86-8	delta-BHC	1.6	< 1.6 U
58-89-9	gamma-BHC (Lindane)	1.6	< 1.6 U
76-44-8	Heptachlor	1.6	< 1.6 U
309-00-2	Aldrin	1.6	< 1.6 U
1024-57-3	Heptachlor Epoxide	1.6	< 1.6 U
959-98-8	Endosulfan I	1.6	< 1.6 U
60-57-1	Dieldrin	3.2	< 3.2 U
72-55-9	4,4'-DDE	3.2	< 3.2 U
72-20-8	Endrin	3.2	< 3.2 U
33213-65-9	Endosulfan II	3.2	< 3.2 U
72-54-8	4,4'-DDD	3.2	< 3.2 U
1031-07-8	Endosulfan Sulfate	3.2	< 3.2 U
50-29-3	4,4'-DDT	3.2	< 3.2 U
72-43 - 5	Methoxychlor	16	< 16 U
53494-70-5	Endrin Ketone	3.2	< 3.2 U
7421-93-4	Endrin Aldehyde	3.2	< 3.2 U
5103-74-2	gamma Chlordane	1.6	< 1.6 U
5103-71-9	alpha Chlordane	1.6	< 1.6 U
8001-35-2	Toxaphene	160	< 160 U

Reported in µg/kg (ppb)

Decachlorobipheny	·l	83.0%
Tetrachlorometaxy	lene	56.2%



Sample ID: SW1-NW-0.5 SAMPLE

Lab Sample ID: PF48J LIMS ID: 09-15746

Matrix: Soil
Data Release Authorized: WWW

Reported: 07/13/09

Date Extracted: 07/07/09
Date Analyzed: 07/10/09 01:16
Instrument/Analyst: ECD7/AAR

GPC Cleanup: No Sulfur Cleanup: Yes Florisil Cleanup: No Acid Cleanup: No QC Report No: PF48-Landau Associates, Inc.

Project: Richardson Airways

1148001.010

Date Sampled: 06/29/09 Date Received: 07/01/09

Sample Amount: 12.4 g-dry-wt

Final Extract Volume: 4.0 mL Dilution Factor: 1.00

Silica Gel: Yes

Percent Moisture: 25.0%

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	1.6	< 1.6 U
319-85-7	beta-BHC	1.6	< 1.6 U
319-86-8	delta-BHC	1.6	< 1.6 U
58-89-9	gamma-BHC (Lindane)	1.6	< 1.6 U
76-44-8	Heptachlor	1.6	< 1.6 U
309-00-2	Aldrin	1.6	< 1.6 U
1024-57-3	Heptachlor Epoxide	1.6	< 1.6 U
959-98-8	Endosulfan I	1.6	88 E
60-57-1	Dieldrin	3.2	16
72-55-9	4,4'-DDE	3.2	3.8
72-20-8	Endrin	3.2	5.0
33213-65-9	Endosulfan II	3.2	92 E
72-54-8	4,4'-DDD	3.2	< 3.2 U
1031-07-8	Endosulfan Sulfate	3.2	6.5
50-29-3	4,4'-DDT	3.2	16 P
72-43-5	Methoxychlor	16	< 16 U
53494-70-5	Endrin Ketone	3.2	< 3.2 U
7421-93-4	Endrin Aldehyde	3.2	< 3.2 U
5103-74-2	gamma Chlordane	1.6	< 1.6 U
5103-71-9	alpha Chlordane	1.6	< 1.6 U
8001-35-2	Toxaphene	160	160

Reported in µg/kg (ppb)

Decachlorobiphenyl	84.2%
Tetrachlorometaxylene	61.8%



Sample ID: SW1-NW-0.5 Page 1 of 1 DILUTION

Lab Sample ID: PF48J LIMS ID: 09-15746

Matrix: Soil Data Release Authorized: WW

Reported: 07/13/09

Date Extracted: 07/07/09

Date Analyzed: 07/10/09 17:29 Instrument/Analyst: ECD7/AAR GPC Cleanup: No

Sulfur Cleanup: Yes Florisil Cleanup: No Acid Cleanup: No

QC Report No: PF48-Landau Associates, Inc.

Project: Richardson Airways

1148001.010

Date Sampled: 06/29/09 Date Received: 07/01/09

Sample Amount: 12.4 g-dry-wt

Final Extract Volume: 4.0 mL

Dilution Factor: 10.0 Silica Gel: Yes

Percent Moisture: 25.0%

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	16	< 16 U
319-85-7	beta-BHC	16	< 16 U
319-86-8	delta-BHC	16	< 16 U
58-89-9	gamma-BHC (Lindane)	16	< 16 U
76-44-8	Heptachlor	16	< 16 U
309-00-2	Aldrin	16	< 16 U
1024-57-3	Heptachlor Epoxide	16	< 16 U
959-98-8	Endosulfan I	16	99
60-57-1	Dieldrin	32	< 32 U
72-55-9	4,4'-DDE	32	< 32 U
72-20-8	Endrin	32	< 32 U
33213-65-9	Endosulfan II	32	95
72-54-8	4,4'-DDD	32	< 32 U
1031-07-8	Endosulfan Sulfate	32	< 32 U
50-29-3	4,4'-DDT	32	< 32 Ü
72-43-5	Methoxychlor	160	< 160 U
53494-70-5	Endrin Ketone	32	< 32 U
7421-93-4	Endrin Aldehyde	32	< 32 U
5103-74-2	gamma Chlordane	16	< 16 U
5103-71-9	alpha Chlordane	16	< 16 U
8001-35-2	Toxaphene	1,600	< 1,600 U

Reported in µg/kg (ppb)

Decachlorobiph	nenyl	99.8%
Tetrachloromet	axvlene	76.0%



SAMPLE Lab Sample ID: PF48K QC Report No: PF48-Landau Associates, Inc.

LIMS ID: 09-15747 Project: Richardson Airways Matrix: Soil

1148001.010

Sample ID: SW2-NW-0.5

Data Release Authorized: $^{\mathcal{W}}$ Date Sampled: 06/29/09 Reported: 07/13/09 Date Received: 07/01/09

Date Extracted: 07/07/09 Sample Amount: 12.7 g-dry-wt

Date Analyzed: 07/10/09 01:36 Final Extract Volume: 4.0 mL Dilution Factor: 1.00 Instrument/Analyst: ECD7/AAR

Silica Gel: Yes

Sulfur Cleanup: Yes Florisil Cleanup: No Percent Moisture: 16.9%

Acid Cleanup: No

GPC Cleanup: No

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	1.6	< 1.6 U
319-85-7	beta-BHC	1.6	< 1.6 U
319-86-8	delta-BHC	1.6	< 1.6 U
58-89-9	gamma-BHC (Lindane)	1.6	< 1.6 U
76-44-8	Heptachlor	1.6	< 1.6 U
309-00-2	Aldrin	1.6	< 1.6 U
1024-57-3	Heptachlor Epoxide	1.6	< 1.6 U
959-98-8	Endosulfan I	1.6	< 1.6 U
60-57-1	Dieldrin	3.2	< 3.2 U
72-55-9	4,4'-DDE	3.2	< 3.2 U
72-20-8	Endrin	3.2	< 3.2 U
33213 <i>-</i> 65-9	Endosulfan II	3.2	6.0
72-54-8	4,4'-DDD	3.2	< 3.2 U
1031-07-8	Endosulfan Sulfate	3.2	3.8
50-29-3	4,4'-DDT	3.2	< 3.2 U
72-43-5	Methoxychlor	16	< 16 U
53494-70-5	Endrin Ketone	3.2	< 3,2 U
7421-93-4	Endrin Aldehyde	3.2	< 3.2 U
5103-74-2	gamma Chlordane	1.6	< 1.6 U
5103-71-9	alpha Chlordane	1.6	< 1.6 U
8001-35-2	Toxaphene	160	< 160 U

Reported in µg/kg (ppb)

Decachlorobiphenyl	82.8%
Tetrachlorometaxyle	ne 60.2%



Sample ID: SW3-NW-0.5 SAMPLE

Lab Sample ID: PF48L LIMS ID: 09-15748

Matrix: Soil

Data Release Authorized: WW

Reported: 07/13/09

Date Extracted: 07/07/09
Date Analyzed: 07/10/09 01:57
Instrument/Analyst: ECD7/AAR

GPC Cleanup: No Sulfur Cleanup: Yes Florisil Cleanup: No Acid Cleanup: No QC Report No: PF48-Landau Associates, Inc.

Project: Richardson Airways

1148001.010

Date Sampled: 06/29/09 Date Received: 07/01/09

Sample Amount: 12.4 g-dry-wt

Final Extract Volume: 4.0 mL Dilution Factor: 1.00

Silica Gel: Yes

Percent Moisture: 11.5%

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	1.6	< 1.6 U
319-85-7	beta-BHC	1.6	< 1.6 U
319-86-8	delta-BHC	1.6	< 1.6 U
58-89-9	gamma-BHC (Lindane)	1.6	< 1.6 U
76-44-8	Heptachlor	1.6	< 1.6 U
309-00-2	Aldrin	1.6	< 1.6 U
1024-57-3	Heptachlor Epoxide	1.6	< 1.6 U
959-98-8	Endosulfan I	1.6	17 P
60-57-1	Dieldrin	3.2	20
72-55-9	4,4'-DDE	3.2	40
72-20-8	Endrin	3.2	< 3.2 U
33213-65-9	Endosulfan II	3.2	110 EP
72-54-8	4,4'-DDD	14	< 14 Y
1031-07-8	Endosulfan Sulfate	3.2	27
50-29-3	4,4'-DDT	3.2	67 EP
72-43-5	Methoxychlor	16	< 16 U
53494-70-5	Endrin Ketone	3.2	< 3.2 U
7421-93-4	Endrin Aldehyde	3.2	28 P
5103-74-2	gamma Chlordane	1.6	< 1.6 U
5103-71-9	alpha Chlordane	1.6	< 1.6 U
8001-35-2	Toxaphene	160	590

Reported in µg/kg (ppb)

Decachlorobiphenyl	87.2%
Tetrachlorometaxylene	70.5%



Sample ID: SW3-NW-0.5 DILUTION

Lab Sample ID: PF48L LIMS ID: 09-15748

QC Report No: PF48-Landau Associates, Inc. Project: Richardson Airways

Matrix: Soil

1148001.010

Data Release Authorized: WWW

Date Sampled: 06/29/09 Date Received: 07/01/09

Reported: 07/13/09

Date Extracted: 07/07/09 Date Analyzed: 07/10/09 18:11 Instrument/Analyst: ECD7/AAR

Sample Amount: 12.4 g-dry-wt Final Extract Volume: 4.0 mL

GPC Cleanup: No

Dilution Factor: 5.00 Silica Gel: Yes

Sulfur Cleanup: Yes Florisil Cleanup: No

Percent Moisture: 11.5%

Acid Cleanup: No

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	8.0	< 8.0 Ü
319-85-7	beta-BHC	8.0	< 8.0 U
319-86-8	delta-BHC	8.0	< 8.0 U
58-89-9	gamma-BHC (Lindane)	8.0	< 8.0 U
76-44-8	Heptachlor	8.0	< 8.0 U
309-00-2	Aldrin	8.0	< 8.0 U
1024-57-3	Heptachlor Epoxide	8.0	< 8.0 U
959-98-8	Endosulfan I	8.0	19 P
60-57-1	Dieldrin	16	21
72-55-9	4,4'-DDE	16	35
72-20-8	Endrin	16	< 16 U
33213-65-9	Endosulfan II	16	110
72-54-8	4,4 *-DDD	16	< 16 U
1031-07-8	Endosulfan Sulfate	16	25
50-29-3	4,4'-DDT	16	62 P
72-43-5	Methoxychlor	80	< 80 U
53494-70-5	Endrin Ketone	16	< 16 U
7421-93-4	Endrin Aldehyde	34	< 34 Y
5103-74-2	gamma Chlordane	8.0	< 8.0 U
5103-71-9	alpha Chlordane	8.0	< 8.0 U
8001-35-2	Toxaphene	800	< 800 U

Reported in µg/kg (ppb)

Decachlorobiphenyl	97.5%
Tetrachlorometaxylene	85.5%



Sample ID: SW4-E-0.5 SAMPLE

Lab Sample ID: PF48M LIMS ID: 09-15749

Matrix: Soil

Data Release Authorized: WWW

Reported: 07/13/09

Date Extracted: 07/07/09 Date Analyzed: 07/10/09 02:18 Instrument/Analyst: ECD7/AAR

GPC Cleanup: No Sulfur Cleanup: Yes Florisil Cleanup: No Acid Cleanup: No

QC Report No: PF48-Landau Associates, Inc.

Project: Richardson Airways

1148001.010

Date Sampled: 06/29/09 Date Received: 07/01/09

Sample Amount: 12.4 g-dry-wt

Final Extract Volume: 4.0 mL

Dilution Factor: 1.00 Silica Gel: Yes

Percent Moisture: 23.9%

CAS Number	Analyte	\mathtt{RL}	Result
319-84-6	alpha-BHC	1.6	< 1.6 U
319-85-7	beta-BHC	1.6	< 1.6 U
319-86-8	delta-BHC	1.6	< 1.6 U
58-89-9	gamma-BHC (Lindane)	1.6	< 1.6 U
76-44-8	Heptachlor	1.6	< 1.6 U
309-00-2	Aldrin	1.6	< 1.6 U
1024-57-3	Heptachlor Epoxide	1.6	< 1.6 U
959-98-8	Endosulfan I	1.6	< 1.6 U
60-57-1	Dieldrin	3.2	15
72-55-9	4,4'-DDE	3.2	14
72-20-8	Endrin	3.2	< 3.2 U
33213-65-9	Endosulfan II	3.2	9.8 P
72-54-8	4,4'-DDD	3.2	< 3.2 U
1031-07-8	Endosulfan Sulfate	3.2	< 3.2 U
50-29-3	4,4'-DDT	3.2	21
72-43-5	Methoxychlor	16	< 16 U
53494-70-5	Endrin Ketone	3.2	< 3.2 U
7421-93-4	Endrin Aldehyde	6.6	< 6.6 Y
5103-74-2	gamma Chlordane	1.6	< 1.6 U
5103-71-9	alpha Chlordane	1.6	< 1.6 U
8001-35-2	Toxaphene	160	< 160 U

Reported in µg/kg (ppb)

Decachlorobiphenyl	84.0왕
Tetrachlorometaxylene	65.0%



Sample ID: SW5-SE-0.5 SAMPLE

Lab Sample ID: PF48N QC Report No: PF48-Landau Associates, Inc. LIMS ID: 09-15750 Project: Richardson Airways

Project: Richardson Airways 1148001.010

Data Release Authorized: \text{\text{WW}} Date Sampled: 06/29/09 \text{Reported: 07/13/09} Date Received: 07/01/09

Date Extracted: 07/07/09 Sample Amount: 12.4 g-dry-wt

Date Analyzed: 07/10/09 02:38 Final Extract Volume: 4.0 mL Instrument/Analyst: ECD7/AAR Dilution Factor: 1.00 GPC Cleanup: No Silica Gel: Yes

Sulfur Cleanup: Yes
Florisil Cleanup: No Percent Moisture: 18.1%

Acid Cleanup: No

Matrix: Soil

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	1.6	< 1.6 U
319-85-7	beta-BHC	1.6	< 1.6 U
319-86-8	delta-BHC	1.6	< 1.6 U
58-89-9	gamma-BHC (Lindane)	1.6	< 1.6 U
76-44-8	Heptachlor	1.6	< 1.6 U
309-00-2	Aldrin	1.6	< 1.6 U
1024-57-3	Heptachlor Epoxide	1.6	< 1.6 U
959-98-8	Endosulfan I	1.6	< 1.6 U
60-57-1	Dieldrin	3.2	< 3.2 U
72-55-9	4,4'-DDE	3.2	< 3.2 Ū
72-20-8	Endrin	3.2	< 3.2 U
33213-65-9	Endosulfan II	3.2	< 3.2 U
72-54-8	4,4'-DDD	3.2	< 3.2 U
1031-07-8	Endosulfan Sulfate	3.2	< 3.2 U
50-29-3	4,4'-DDT	3.2	4.5
72-43-5	Methoxychlor	16	< 16 U
53494-70-5	Endrin Ketone	3.2	< 3.2 U
7421-93-4	Endrin Aldehyde	3.2	< 3.2 U
5103-74-2	gamma Chlordane	1.6	< 1.6 U
5103-71-9	alpha Chlordane	1.6	< 1.6 U
8001-35-2	Toxaphene	160	< 160 U

Reported in µg/kg (ppb)

Decachlorobiphenyl	85.2%
Tetrachlorometaxylene	73.2%



Sample ID: SW6-E-0.5 SAMPLE

Lab Sample ID: PF480 LIMS ID: 09-15751

Matrix: Soil

Data Release Authorized: WWW Reported: 07/13/09

Date Extracted: 07/07/09
Date Analyzed: 07/10/09 02:59
Instrument/Analyst: ECD7/AAR

GPC Cleanup: No Sulfur Cleanup: Yes Florisil Cleanup: No Acid Cleanup: No QC Report No: PF48-Landau Associates, Inc.

Project: Richardson Airways

1148001.010

Date Sampled: 06/29/09 Date Received: 07/01/09

Sample Amount: 12.1 g-dry-wt

Final Extract Volume: 4.0 mL Dilution Factor: 1.00

Silica Gel: Yes

Percent Moisture: 19.5%

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	1.6	< 1.6 U
319-85-7	beta-BHC	1.6	< 1.6 U
319-86-8	delta-BHC	1.6	< 1.6 U
58-89-9	gamma-BHC (Lindane)	1.6	< 1.6 U
76-44-8	Heptachlor	1.6	< 1.6 U
309-00-2	Aldrin	1.6	< 1.6 U
1024-57-3	Heptachlor Epoxide	1.6	< 1.6 U
959-98-8	Endosulfan I	1.6	< 1.6 U
60-57-1	Dieldrin	3.3	< 3.3 U
72-55-9	4,4'-DDE	3.3	< 3.3 U
72-20-8	Endrin	3.3	< 3.3 U
33213-65-9	Endosulfan II	3.3	< 3.3 U
72-54-8	4,4'-DDD	3.3	< 3.3 U
1031-07-8	Endosulfan Sulfate	3.3	< 3.3 U
50-29-3	4,4'-DDT	3.3	< 3.3 U
72-43-5	Methoxychlor	16	< 16 U
53494-70-5	Endrin Ketone	3.3	< 3.3 U
7421-93-4	Endrin Aldehyde	3.3	< 3.3 U
5103-74-2	gamma Chlordane	1.6	< 1.6 U
5103-71-9	alpha Chlordane	1.6	< 1.6 U
8001-35-2	Toxaphene	160	< 160 U

Reported in µg/kg (ppb)

Decachlorobiphenyl	77.2%
Tetrachlorometaxylene	56.8%



Page 1 of 1

Matrix: Soil

Sample ID: B-1A-2 SAMPLE

QC Report No: PF48-Landau Associates, Inc.

Project: Richardson Airways

1148001.010

Date Sampled: 06/29/09 Date Received: 07/01/09

Sample Amount: 12.5 g-dry-wt

Final Extract Volume: 4.0 mL

Dilution Factor: 1.00 Silica Gel: Yes

Percent Moisture: 24.4%

Date Extracted: 07/07/09 Date Analyzed: 07/10/09 03:20 Instrument/Analyst: ECD7/AAR

Data Release Authorized: WW

GPC Cleanup: No Sulfur Cleanup: Yes Florisil Cleanup: No

Lab Sample ID: PF48P

LIMS ID: 09-15752

Reported: 07/13/09

Acid Cleanup: No

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	1.6	< 1.6 U
319-85-7	beta-BHC	1.6	< 1.6 U
319-86-8	delta-BHC	1.6	< 1.6 U
58-89-9	gamma-BHC (Lindane)	1.6	< 1.6 U
76-44-8	Heptachlor	1.6	< 1.6 U
309-00-2	Aldrin	1.6	< 1.6 U
1024-57-3	Heptachlor Epoxide	1.6	< 1.6 U
959-98-8	Endosulfan I	1.6	2.7
60-57-1	Dieldrin	3.2	< 3.2 U
72-55-9	4,4'-DDE	3.2	< 3.2 U
72-20-8	Endrin	3.2	< 3.2 U
33213-65-9	Endosulfan II	3.2	< 3.2 U
72-54-8	4,4'-DDD	3.2	< 3.2 U
1031-07-8	Endosulfan Sulfate	3.2	< 3.2 U
50-29-3	4,4'-DDT	3.2	< 3.2 U
72-43-5	Methoxychlor	16	< 16 U
53494-70-5	Endrin Ketone	3.2	< 3.2 U
7421-93-4	Endrin Aldehyde	3.2	< 3.2 U
5103-74-2	gamma Chlordane	1.6	< 1.6 U
5103-71-9	alpha Chlordane	1.6	< 1.6 U
8001-35-2	Toxaphene	160	< 160 U

Reported in µg/kg (ppb)

Decachlorobiphenyl	85.0%
Tetrachlorometaxylene	60.5%



Sample ID: B-1B-2 Page 1 of 1 SAMPLE

Lab Sample ID: PF48R QC Report No: PF48-Landau Associates, Inc.

LIMS ID: 09-15754 Project: Richardson Airways Matrix: Soil

1148001.010

Data Release Authorized: WW Date Sampled: 06/29/09 Reported: 07/13/09 Date Received: 07/01/09

Date Extracted: 07/07/09 Sample Amount: 12.8 g-dry-wt

Date Analyzed: 07/10/09 03:40 Final Extract Volume: 4.0 mL Instrument/Analyst: ECD7/AAR

Dilution Factor: 1.00 Silica Gel: Yes

Percent Moisture: 25.6%

Florisil Cleanup: No Acid Cleanup: No

GPC Cleanup: No Sulfur Cleanup: Yes

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	1.6	< 1.6 U
319-85-7	beta-BHC	1.6	< 1.6 U
319-86-8	delta-BHC	1.6	< 1.6 U
58-89-9	gamma-BHC (Lindane)	1.6	< 1.6 U
76-44-8	Heptachlor	1.6	< 1.6 U
309-00-2	Aldrin	1.6	< 1.6 U
1024-57-3	Heptachlor Epoxide	1.6	< 1.6 U
959-98-8	Endosulfan I	1.6	< 1.6 U
60-57-1	Dieldrin	3.1	< 3.1 U
72-55-9	4,4'-DDE	3.1	< 3.1 U
72-20-8	Endrin	3.1	< 3.1 U
33213-65-9	Endosulfan II	3.1	< 3.1 U
72-54-8	4,4'-DDD	3.1	< 3.1 U
1031-07-8	Endosulfan Sulfate	3.1	< 3.1 U
50-29-3	4,4'-DDT	3.1	< 3.1 U
72-43-5	Methoxychlor	16	< 16 U
53494-70-5	Endrin Ketone	3.1	< 3.1 U
7421-93-4	Endrin Aldehyde	3.1	< 3.1 U
5103-74-2	gamma Chlordane	1.6	< 1.6 U
5103-71-9	alpha Chlordane	1.6	< 1.6 U
8001-35-2	Toxaphene	160	< 160 U

Reported in µg/kg (ppb)

Decachlorobiphenyl	86.0%
Tetrachlorometaxylene	58.8%



Sample ID: MB-070709 METHOD BLANK

Lab Sample ID: MB-070709

LIMS ID: 09-15742

Matrix: Soil

Data Release Authorized: WWW

Reported: 07/13/09

Date Extracted: 07/07/09
Date Analyzed: 07/09/09 19:04
Instrument/Analyst: ECD7/AAR

GPC Cleanup: No Sulfur Cleanup: Yes Florisil Cleanup: No

Acid Cleanup: No

QC Report No: PF48-Landau Associates, Inc.

Project: Richardson Airways

1148001.010

Date Sampled: NA Date Received: NA

Sample Amount: 12.0 g-dry-wt

Final Extract Volume: 4.0 mL Dilution Factor: 1.00

Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	1.7	< 1.7 U
319-85-7	beta-BHC	1.7	< 1.7 U
319-86-8	delta-BHC	1.7	< 1.7 U
58-89-9	gamma-BHC (Lindane)	1.7	< 1.7 U
76-44-8	Heptachlor	1.7	< 1.7 U
309-00-2	Aldrin	1.7	< 1.7 บั
1024-57-3	Heptachlor Epoxide	1.7	< 1.7 U
959-98-8	Endosulfan I	1.7	< 1.7 U
60-57-1	Dieldrin	3.3	< 3.3 U
72-55-9	4,4'-DDE	3.3	< 3.3 ປັ
72-20-8	Endrin	3.3	< 3.3 U
33213-65-9	Endosulfan II	3.3	< 3.3 U
72-54-8	4,4'-DDD	3.3	< 3.3 U
1031-07-8	Endosulfan Sulfate	3.3	< 3.3 U
50-29-3	4,4'-DDT	3.3	< 3.3 U
72-43-5	Methoxychlor	17	< 17 U
53494-70-5	Endrin Ketone	3.3	< 3.3 U
7421-93-4	Endrin Aldehyde	3.3	< 3.3 U
5103-74-2	gamma Chlordane	1.7	< 1.7 U
5103-71-9	alpha Chlordane	1.7	< 1.7 U
8001-35-2	Toxaphene	170	< 170 U

Reported in µg/kg (ppb)

Decachlorobiphenyl	92.8%
Tetrachlorometaxylene	71.5%



SW8081 PESTICIDE SOIL/SEDIMENT SURROGATE RECOVERY SUMMARY

Matrix: Soil QC Report No: PF48-Landau Associates, Inc.

Project: Richardson Airways

1148001.010

Client ID	DCBP	TCMX	TOT OUT
B-1C-2	92.0%	65.5%	0
B-2B-2	85.2%	59.5%	0
B-3B-2	87.0%	61.8%	0
MB-070709	92.8%	71.5%	0
LCS-070709	97.8%	62.0%	0
LCSD-070709	97.8%	64.5%	0
B-4B-2	88.8%	59.0%	0
B-4B-2 MS	84.5%	56.5%	0
B-4B-2 MSD	84.8%	60.2%	0
B-3C-2	88.8%	56.5%	0
B-5B-2	86.0%	63.8%	0
B-7A-2	83.0%	56.2%	0
SW1-NW-0.5	84.2%	61.8%	0
SW1-NW-0.5 DL	99.8%	76.0%	0
SW2-NW-0.5	82.8%	60.2%	0
SW3-NW-0.5	87.2%	70.5%	0
SW3-NW-0.5 DL	97.5%	85.5%	0
SW4-E-0.5	84.0%	65.0%	0
SW5-SE-0.5	85.2%	73.2%	0
SW6-E-0.5	77.2%	56.8%	0
B-1A-2	85.0%	60.5%	0
B-1B-2	86.0%	58.8%	0

		LCS/MB LIMITS	QC	LIMITS
	Decachlorobiphenyl Tetrachlorometaxylene	(30-160) (30-160)		30-160) 30-160)

Prep Method: SW3546

Log Number Range: 09-15739 to 09-15754



Sample ID: B-4B-2 MS/MSD

Lab Sample ID: PF48F LIMS ID: 09-15742 QC Report No: PF48-Landau Associates, Inc. Project: Richardson Airways

Matrix: Soil

1148001.010

Data Release Authorized:

Date Sampled: 06/29/09 Date Received: 07/01/09

Reported: 07/13/09

ate Received: 07/01/09

Date Extracted MS/MSD: 07/07/09

Sample Amount MS: 12.6 g-dry-wt MSD: 12.6 g-dry-wt

Date Analyzed MS: 07/09/09 21:28

Final Extract Volume MS: 4.0 mL

MSD: 07/09/09 21:49
Instrument/Analyst MS: ECD7/AAR

MSD: 4.0 mL Dilution Factor MS: 1.00

MSD: ECD7/AAR

MSD: 1.00

GPC Cleanup: No

Silica Gel: Yes

Sulfur Cleanup: Yes Florisil Cleanup: No

Percent Moisture: 15.7%

Analyte	Sample	MS	Spike Added-MS	MS Recovery	MSD	Spike Added-MSD	MSD Recovery	RPD
alpha-BHC	< 1.54	4.75	6.33	75.0%	5.03	6.33	79.5%	5.7%
beta-BHC	< 1.54	5.16	6.33	81.5%	5.22	6.33	82.5%	1.2%
delta-BHC	< 1.54	5.16	6.33	81.5%	5.16	6.33	81.5%	0.0%
gamma-BHC (Lindane)	< 1.54	5.25	6.33	82.9%	5.57	6.33	88.0%	5.9%
Heptachlor	< 1.54	4.72	6.33	74.6%	5.03	6.33	79.5%	6.4%
Aldrin	< 1.54	4.78	6.33	75.5%	5.06	6.33	79.9%	5.7%
Heptachlor Epoxide	< 1.54	5.54	6.33	87.5%	5.82	6.33	91.9%	4.9%
Endosulfan I	< 1.54	5.03	6.33	79.5%	5.16	6.33	81.5%	2.6%
Dieldrin	< 3.09	11.4	12.7	89.8%	12.1	12.7	95.3%	6.0%
4,4'-DDE	< 3.09	14.1	12.7	111%	14.3	12.7	113%	1.48
Endrin	< 3.09	11.4	12.7	89.8%	11.7	12.7	92.1%	2.6%
Endosulfan II	< 3.09	10.9	12.7	85.8%	10.9	12.7	85.8%	0.0%
4,4'-DDD	< 3.09	11.3	12.7	89.0%	11.3	12.7	89.0%	0.0%
Endosulfan Sulfate	< 3.09	8.99	12.7	70.8%	9.02	12.7	71.0%	0.3%
4,4'-DDT	< 3.09	12.0	12.7	94.5%	12.2	12.7	96.1%	1.7%
Methoxychlor	< 15.4	58.2	63.3	91.9%	58.5	63.3	92.4%	0.5%
Endrin Ketone	< 3.09	9.87	12,7	77.7%	9.84	12.7	77.5%	0.3%
Endrin Aldehyde	< 3.09	6.08	12.7	47.9%	6.20	12.7	48.8%	2.0%
gamma Chlordane	< 1.54	5.60	6.33	88.5%	5.85	6.33	92.4%	4.4%
alpha Chlordane	< 1.54	5.44	6.33	85.9%	5.73	6.33	90.5%	5.2%

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Reported in µg/kg (ppb)

RPD calculated using sample concentrations per SW846.



GPC Cleanup: No

Sample ID: LCS-070709 Page 1 of 1 LCS/LCSD

Lab Sample ID: LCS-070709 QC Report No: PF48-Landau Associates, Inc.

LIMS ID: 09-15742 Project: Richardson Airways Matrix: Soil

1148001.010

Data Release Authorized: WW Date Sampled: 06/29/09 Reported: 07/13/09 Date Received: 07/01/09

Date Extracted LCS/LCSD: 07/07/09 Sample Amount LCS: 12.0 g-dry-wt

LCSD: 12.0 g-dry-wt

Date Analyzed LCS: 07/09/09 19:25 Final Extract Volume LCS: 4.0 mL LCSD: 07/09/09 19:45

LCSD: 4.0 mL

Instrument/Analyst LCS: ECD7/AAR Dilution Factor LCS: 1.00 LCSD: ECD7/AAR LCSD: 1.00

Silica Gel: Yes

Sulfur Cleanup: Yes Florisil Cleanup: No Percent Moisture: NA

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
alpha-BHC	5.90	6.67	88.5%	6.10	6.67	91.5%	3.3%
beta-BHC	6.40	6.67	96.0%	6.50	6.67	97.5%	1.6%
delta-BHC	6.80	6.67	102%	6.77	6,67	101%	0.4%
gamma-BHC (Lindane)	6.63	6.67	99.4%	6.77	6.67	101%	2.1%
Heptachlor	5.83	6.67	87.4%	6.07	6.67	91.0%	4.0%
Aldrin	6.00	6.67	90.0%	6.07	6.67	91.0%	1.2%
Heptachlor Epoxide	6.97	6.67	104%	6.97	6.67	104%	0.0%
Endosulfan I	6.07	6.67	91.0%	6.13	6.67	91.9%	1.0%
Dieldrin	14.3	13.3	108%	14.3	13.3	108%	0.0%
4,4'-DDE	17.1	13.3	129%	17.2	13.3	129%	0.6%
Endrin	14.3	13.3	108%	14.3	13.3	108%	0.0%
Endosulfan II	13.9	13.3	105%	13.9	13.3	105%	0.0%
4,4'-DDD	14.0	13.3	105%	13.9	13.3	105%	0.7%
Endosulfan Sulfate	12.8	13.3	96.2%	12.6	13.3	94.7%	1.6%
4,4'-DDT	14.8	13.3	111%	14.9	13.3	112%	0.7왕
Methoxychlor	70.0	66.7	105%	70.3	66.7	105%	0.4%
Endrin Ketone	13.1	13.3	98.5%	13.1	13.3	98.5%	0.0%
Endrin Aldehyde	7.90	13.3	59.4%	8.10	13.3	60.9%	2.5%
gamma Chlordane	6.90	6.67	103%	7.00	6.67	105왕	1.4%
alpha Chlordane	6.70	6.67	100%	6.77	6.67	101%	1.0%

Pest/PCB Surrogate Recovery

	LCS	LCSD
Decachlorobiphenyl	97.8%	97.8%
Tetrachlorometaxylene	62.0%	64.5%

Reported in µg/kg (ppb) RPD calculated using sample concentrations per SW846.



Sample ID: SW1-NW-0.5 SAMPLE

Lab Sample ID: PF48J LIMS ID: 09-15746

QC Report No: PF48-Landau Associates, Inc.

Project: Richardson Airways 1148001.010

Matrix: Soil Data Release Authorized: \\\

Date Sampled: 06/29/09 Date Received: 07/01/09

Reported: 07/13/09

Sample Amount: 11.4 g-dry-wt

Date Extracted: 07/08/09 Date Analyzed: 07/10/09 21:41 Instrument/Analyst: ECD1/AAR

Final Extract Volume: 50 mL Dilution Factor: 1.00

Percent Moisture: 25.0%

CAS Number	Analyte	RL	Result
93-72-1	2,4,5-TP (Silvex)	11	< 11 U
93-76-5	2,4,5-T	11	< 11 U
88-85-7	Dinoseb	22	< 22 U
1918-00-9	Dicamba	22	< 22 U
94-75-7	2,4-D	59	< 59 Y
94-82-6	2,4-DB	220	< 220 U
75-99-0	Dalapon	44	< 44 U
94-74-6	MCPA	11,000	< 11,000 U
120-36-5	Dichloroprop	44	< 44 U

Reported in µg/kg (ppb)

Herbicide Surrogate Recovery

2,4-Dichlorophenylacetic Acid 45.0%



Sample ID: SW2-NW-0.5 SAMPLE

Lab Sample ID: PF48K

QC Report No: PF48-Landau Associates, Inc.

LIMS ID: 09-15747

Project: Richardson Airways

Matrix: Soil

1148001.010

Data Release Authorized: \\W Reported: 07/13/09

Date Sampled: 06/29/09 Date Received: 07/01/09

Date Extracted: 07/08/09

Sample Amount: 12.6 g-dry-wt

Date Analyzed: 07/10/09 22:18

Final Extract Volume: 50 mL

Instrument/Analyst: ECD1/AAR Percent Moisture: 16.9%

Dilution Factor: 1.00

CAS Number	Analyte	nalyte RL					
93-72-1	2,4,5-TP (Silvex)	9.9	< 9.9 U				
93-76-5	2,4,5-T	9.9	< 9.9 U				
88-85-7	Dinoseb	20	< 20 U				
1918-00-9	Dicamba	20	< 20 U				
94-75-7	2,4-D	40	< 40 U				
94-82-6	2,4-DB	200	< 200 U				
75-99-0	Dalapon	40	< 40 U				
94-74-6	MCPA	9,900	< 9,900 U				
120-36-5	Dichloroprop	40	< 40 U				

Reported in µg/kg (ppb)

Herbicide Surrogate Recovery

2,4-Dichlorophenylacetic Acid 41.9%



Sample ID: SW2-NW-0.5 MATRIX SPIKE

Lab Sample ID: PF48K LIMS ID: 09-15747

QC Report No: PF48-Landau Associates, Inc.

Project: Richardson Airways

Matrix: Soil

1148001.010

Data Release Authorized: WW Reported: 07/13/09

Date Sampled: 06/29/09 Date Received: 07/01/09

Date Extracted: 07/08/09

Sample Amount: 12.6 g-dry-wt

Date Analyzed: 07/10/09 22:54 Instrument/Analyst: ECD1/AAR

Final Extract Volume: 50 mL

Percent Moisture: 16.9%

Dilution Factor: 1.00

CAS Number	ber Analyte RL							
93-72-1	2,4,5-TP (Silvex)	9.9						
93-76-5	2,4,5-T	9.9						
88-85-7	Dinoseb	20	***					
1918-00-9	Dicamba	20						
94-75-7	2,4-D	40						
94-82-6	2,4-DB	200						
75-99-0	Dalapon	40						
94-74-6	MCPA	9,900						
120-36-5	Dichloroprop	40						

Reported in µg/kg (ppb)

Herbicide Surrogate Recovery

2,4-Dichlorophenylacetic Acid 27.0%



Page 1 of 1

Sample ID: SW2-NW-0.5

MATRIX SPIKE DUP

Lab Sample ID: PF48K LIMS ID: 09-15747

Matrix: Soil

Data Release Authorized: WW Reported: 07/13/09

QC Report No: PF48-Landau Associates, Inc.

Project: Richardson Airways

1148001.010

Date Sampled: 06/29/09 Date Received: 07/01/09

Date Extracted: 07/08/09 Sample Amount: 12.5 g-dry-wt

Date Analyzed: 07/10/09 23:31 Final Extract Volume: 50 mL Instrument/Analyst: ECD1/AAR Dilution Factor: 1.00

Percent Moisture: 16.9%

CAS Number	Analyte	Analyte RL				
93-72-1	2,4,5-TP (Silvex)	10	MM NA Lag			
93-76-5	2,4,5-T	10				
88-85-7	Dinoseb	20				
1918-00-9	Dicamba	20	*** ***			
94-75-7	2,4-D	40				
94-82-6	2,4-DB	200				
75-99-0	Dalapon	40				
94-74-6	MCPA	10,000				
120-36-5	Dichloroprop	40				

Reported in µg/kg (ppb)

Herbicide Surrogate Recovery

2,4-Dichlorophenylacetic Acid 50.8%



Sample ID: B-1A-2 SAMPLE

Lab Sample ID: PF48P LIMS ID: 09-15752

QC Report No: PF48-Landau Associates, Inc.

Project: Richardson Airways 1148001.010

Matrix: Soil Data Release Authorized: WW Reported: 07/13/09

Date Sampled: 06/29/09 Date Received: 07/01/09

Sample Amount: 11.4 g-dry-wt

Date Extracted: 07/08/09
Date Analyzed: 07/11/09 00:07 Instrument/Analyst: ECD1/AAR

Final Extract Volume: 50 mL Dilution Factor: 1.00

Percent Moisture: 24.4%

CAS Number	Analyte	RL	Result
93-72-1	2,4,5-TP (Silvex)	11	< 11 U
93-76-5	2,4,5-T	11	< 11 U
88-85-7	Dinoseb	22	< 22 U
1918-00-9	Dicamba	22	< 22 U
94-75-7	2,4-D	44	< 44 U
94-82-6	2,4-DB	220	< 220 U
75-99-0	Dalapon	44	< 44 U
94-74-6	MCPA	11,000	< 11,000 U
120-36-5	Dichloroprop	44	< 44 U

Reported in µg/kg (ppb)

Herbicide Surrogate Recovery

2,4-Dichlorophenylacetic Acid 54.4%



Sample ID: B-1B-2
SAMPLE

Lab Sample ID: PF48R LIMS ID: 09-15754 QC Report No: PF48-Landau Associates, Inc. Project: Richardson Airways

LIMS ID: 09-15754 Matrix: Soil Project: Richardson Airways 1148001.010

Matrix: Soll
Data Release Authorized:

Date Sampled: 06/29/09 Date Received: 07/01/09

Reported: 07/13/09

Sample Amount: 11.3 g-dry-wt

Date Extracted: 07/08/09
Date Analyzed: 07/11/09 00:44
Instrument/Analyst: ECD1/AAR

Final Extract Volume: 50 mL Dilution Factor: 1.00

Percent Moisture: 25.6%

CAS Number	Analyte	RL	Result
93-72-1	2,4,5-TP (Silvex)	11	< 11 U
93-76-5	2,4,5-T	11	< 11 U
88-85-7	Dinoseb	22	< 22 U
1918-00-9	Dicamba	22	< 22 U
94-75-7	2,4-D	44	< 44 U
94-82-6	2,4-DB	220	< 220 U
75-99-0	Dalapon	44	< 44 U
94-74-6	MCPA	11,000	< 11,000 U
120-36-5	Dichloroprop	44	< 44 U

Reported in µg/kg (ppb)

Herbicide Surrogate Recovery

2,4-Dichlorophenylacetic Acid 40.9%



Sample ID: MB-070809 METHOD BLANK

Lab Sample ID: MB-070809

LIMS ID: 09-15747

Matrix: Soil

Data Release Authorized: WWW

Date Extracted: 07/08/09 Date Analyzed: 07/10/09 14:59

Reported: 07/13/09

1148001.010 Date Sampled: NA

Date Sampled: NA
Date Received: NA

Sample Amount: 15.0 g-dry-wt

Project: Richardson Airways

QC Report No: PF48-Landau Associates, Inc.

Final Extract Volume: 50 mL

Dilution Factor: 1.00

Instrument/Analyst: ECD1/AAR
Percent Moisture: NA

CAS Number	Analyte	Result	
93-72-1	2,4,5-TP (Silvex)	8.3	< 8.3 U
93-76-5	2,4,5-T	8.3	< 8.3 U
88-85-7	Dinoseb	17	< 17 U
1918-00-9	Dicamba	17	< 17 U
94-75-7	2,4-D	33	< 33 U
94-82-6	2,4-DB	170	< 170 U
75-99-0	Dalapon	33	< 33 U
94-74-6	MCPA	8,300	< 8,300 U
120-36-5	Dichloroprop	33	< 33 U

Reported in µg/kg (ppb)

Herbicide Surrogate Recovery

2,4-Dichlorophenylacetic Acid 43.7%



SW8151A/HERBICIDE SOIL SURROGATE RECOVERY SUMMARY

QC Report No: PF48-Landau Associates, Inc. Project: Richardson Airways Matrix: Soil

1148001.010

Client ID	DCPA	TOT OUT
SW1-NW-0.5	45.0%	0
MB-070809	43.78	0
LCS-070809	51.8%	0
LCSD-070809	53.2%	0
SW2-NW-0.5	41.9%	0
SW2-NW-0.5 MS	27.0%	0
SW2-NW-0.5 MSD	50.8%	0
B-1A-2	54.4%	0
B-1B-2	40.9%	0

LCS/MB LIMITS QC LIMITS

(DCPA) = 2,4-Dichlorophenylacetic Acid (28-121) (15-155)

Log Number Range: 09-15746 to 09-15754



1 of 1 LCS/LCSD

Lab Sample ID: LCS-070809 LIMS ID: 09-15747

Matrix: Soil

Data Release Authorized: WW Reported: 07/13/09

Date Extracted LCS/LCSD: 07/08/09

Date Analyzed LCS: 07/10/09 15:36

LCSD: 07/10/09 16:12 Instrument/Analyst LCS: ECD1/AAR

LCSD: ECD1/AAR

QC Report No: PF48-Landau Associates, Inc.

Project: Richardson Airways

1148001.010

Date Sampled: 06/29/09 Date Received: 07/01/09

Sample Amount LCS: 15.0 g-dry-wt

Sample ID: LCS-070809

LCSD: 15.0 g-dry-wt

Final Extract Volume LCS: 50 mL

LCSD: 50 mL

Dilution Factor LCS: 1.00

LCSD: 1.00

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
2,4,5-TP (Silvex)	130	167	77.8%	132	167	79.0%	1.5%
2,4,5-T	79.6	83.3	95.6%	81.0	83.3	97.2%	1.7%
Dinoseb	50.7	167	30.4%	81.9	167	49.0%	47.1%
Dicamba	131	167	78.4%	133	167	79.6%	1.5%
2,4-D	104	333	31.2%	133	333	39.9%	24.5%
2,4-DB	1310	1670	78.4%	1310	1670	78.4%	0.0%
Dalapon	293	333	88.0%	270	333	81.1%	8.2%
MCPA	45000	83300	54.0%	49700	83300	59.7%	9.9%
Dichloroprop	189	333	56.8%	194	333	58.3%	2.6%

Herbicide Surrogate Recovery

LCS LCSD 2,4-Dichlorophenylacetic 51.8% 53.2%

Results reported in µg/kg (ppb)
RPD calculated using sample concentrations per SW846.



Page 1 of 1

Matrix: Soil

Sample ID: SW2-NW-0.5 MS/MSD

Lab Sample ID: PF48K QC Report No: PF48-Landau Associates, Inc. LIMS ID: 09-15747

Project: Richardson Airways 1148001.010

Date Sampled: 06/29/09 Date Received: 07/01/09

Date Extracted MS/MSD: 07/08/09 Sample Amount MS: 12.6 g-dry-wt

MSD: 12.5 g-dry-wt

Date Analyzed MS: 07/10/09 22:54 Final Extract Volume MS: 50 mL MSD: 07/10/09 23:31

MSD: 50 mL

Instrument/Analyst MS: ECD1/AAR Dilution Factor MS: 1.00 MSD: ECD1/AAR MSD: 1.00

Percent Moisture: 16.9%

Data Release Authorized:

Reported: 07/13/09

Analyte	Sample	MS	Spike Added-MS	MS Recovery	MSD	Spike Added-MSD	MSD Recovery	RPD
2,4,5-TP (Silvex)	< 9.94	73.3	198	37.0%	132	200	66.0%	57.2%
2,4,5-T	< 9.94	44.7	99.2	45.1%	74.5	100	74.5%	50.0%
Dinoseb	< 19.9	19.6	198	9.9%	31.2	200	15,6%	45.7%
Dicamba	< 19.9	45.7	198	23.1%	97.6	200	48.8%	72.4%
2,4-D	< 39.8	71.7	397	18.1%	204	400	51.0%	96.0%
2,4-DB	< 199	833	1980	42.1%	1550	2000	77.5%	60.2%
Dalapon	< 39.8	107	397	27.0%	137	400	34.2%	24.6%
MCPA	< 9940	27200	99200	27.4%	54900	100000		67.5%
Dichloroprop	< 39.8	106	397	26.7%	223	400	55.8%	71.1%

Results reported in µg/kg (ppb) RPD calculated using sample concentrations per SW846.



August 3, 2009

Ryan Reich Landau Associates, Inc. 10 North Post St. Peyton Building, Suite 218 Spokane, WA 99201

RE: Project No: 1148001.010

Project Name: Richardson Airways

ARI Job No: PH60

Dear Ryan:

Please find enclosed the original and a revised copy of chain of custody (COC) record, sample receipt documentation, and the final results from the project referenced above. Analytical Resources, Inc. (ARI) accepted several soil samples in good condition on July 1, 2009. The samples were logged under two different ARI SDGs (PF39 and PF47) based on sample volumes. Select samples were placed on hold pending further instructions. * Note all samples were frozen to protect holding times.

On July 21, 2009 at the request of Landau Associates, select samples were removed from hold and analyzed for Herbicides and Pesticides.

The herbicides matrix spike and/ or the matrix spike duplicate are out of control low for several analytes with RPDs outside of control limits for sample **DP18: 2-3.** All other QC is in control and no further corrective action was taken.

The pesticide LCS, LCSD, matrix spike and matrix spike duplicate does not contain Toxaphene spikes as Toxaphene contains over two hundred associated compounds

The pesticides matrix spike duplicate is out of control high for 4,4'-DDE for sample **DP17:2-3**. All other QC is in control and no further corrective action was taken.

There were no other anomalies associated with the samples.

A copy of this report and all corresponding raw data will remain on file electronically with ARI. If you have any questions or require additional information, please contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Kelly Bottem

Client Services Manager

(206) 695-6211

kellyb@arilabs.com

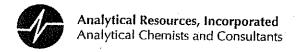
Enclosures

Page 1R of <u>35</u>

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Cooler Receipt Form

ARI Client: Lan	dau	Project Name: RICNA	rdson Armi	aus
COC No(s):	(NA)	Delivered by: Fed-Ex UPS (Courier Hand Delivered Of	her:
Assigned ARI Job No:P	F39	Tracking No:		(NA)
Preliminary Examination Phas	e:		·	
Were intact, properly signed an	d dated custody seals attached to	to the outside of to cooler?	YES	(NO)
	with the cooler?		(VES)	NO
•	illed out (ink, signed, etc.)		(123)	
	recommended 2.0-6.0 °C for che		(123)	NO
If cooler temperature is out of co		<u> </u>	Temp Gun ID#: 48	37405
Cooler Accepted by:	AV	Date: 7/1/09 TI	me: 1/46	<u> </u>
	Complete custody forms	and attach all shipping documen		······································
Log-In Phase:	· · · · · · · · · · · · · · · · · · ·	<u> </u>		
Was a temperature blank include	ed in the cooler?		VEC	(iid
		/et lce Gel Packs Baggies Foam E	YES	~(NO)
Was sufficient ice used (if approp	priate)?		NA (YES)	NO SV
Were all bottles sealed in individ		•	VES	(NO)
Did all bottles arrive in good con-	dition (unbroken)?	***************************************	(FS)	NO
		***************************************	(Fig.	NO
		er of containers received?	X ES	NO
				NO
Were all bottles used correct for t	the requested analyses?	***************************************		NO
Do any of the analyses (bottles) r	equire preservation? (attach pre:	servation sheet, excluding VOCs)	MA) YES	NO
Were all VOC vials free of air but	bles?	••••••	(NA) YES	NO
Was sufficient amount of sample	sent in each bottle?		(ES)	NO
Samples Logged by:	₩ Date:	7/1/09 Time:	1309	
		of discrepancies or concerns **		,
Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on Co	oc
Additional Notes, Discrepancies	s. & Resolutions:	1		
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By: Date	9;			1
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- 2am 2.4 mm		Peabubbles -> "pb"		
		Large → "lg"		
	·	Headspace → "hs"		

0016F 3/12/09

Cooler Receipt Form

Revision 012

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ARI Assigned Number:	Turn-around Requested	Requested:			Page	* 100	ő				Analytic	Analytical Resources, Incorporated
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ARI Client Company.		Phone:		Conference of	Date:		Ice Present?				HELL SON	4611 South 134th Place, Suite 100 Tukveila, WA 98168
		1		-	Solers Coders		Cooler Temps:		<u> </u>		206-695	206-695-6200 206-695-6201 (fax)
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meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, advising out of or in connection with the requested services, shall not exceed the involved amount for said services. The ecceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or or Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Ouality Assurance Program. This program signed agreement between ARI and the Client.

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless afternate reternion schedules have been established by work-order or contract.

:	Turn-around Requested:	Page: f of		Analytical Resources, Incorporated
, V		Date:		Analytical Chemists and Consultants 4611 South 134th Place, Suite 100
Carden 1455c	509 327-9757	4200		Tukwila, WA 98168
Cylem Contact: Reject		No. of Coolers: Temps:		206-695-6200 206-695-6201 (fax)
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said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-Limits of Llability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for signed agreement between ARI and the Client.

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract

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Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless afternate retention schedules have been established by work-order or contract.

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Analytical Resources, Incorporated	4611 South 134th Place, Suite 100 Tukwila, WA 98168 206-695-6200 206-695-6201 (fax)	Notes/Comments		Lhis From	72311	(1977) "				4.	Received by:	(Signature)	rfinied Name:	Company:	Date & Time:
9	Date: Ice Present? 2-50-09 Present? No. of Cooler Coolers: Temps:	Analysis Requested Analysis Requested Analysis Programmer Analysis	12483 / 2			×					Reinquished by:	(Signature)	10/gardsen	Сетрапу:	19 [4 6 Date & Time:
	527-9727 6-30- No. of Coolers.	Arget	No. Container	X / / 1/03	× :	" Z ×					Received by/	Printed Name	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Company	11:46 Date & Timp: (1)
Turn-around Requested:	508	Armans - letima Samplers: Run Ress	Date Time	6-3009 11:30	11:36	K:71 11					Relinquished by: (Signature)		Kyan Revel	167	7-1-09 //:-
ARI Assigned Number: ARI Client Company:	Client Contact: Kean Rich	Client Project #:	Sample ID	5WZ5-W-0.5	2-m-52m5	RVT Comp: 05-2					Comments/Special Instructions				

said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

11、行動を開きに機構を行い、機構等のは物に、シケ



Cooler Receipt Form

Was a temperature blank included in the cooler? What kind of packing material was used? **Bubble** Wrap Wet Ice Gel Packs Baggies Foam Block **Caper** Other: Was sufficient ice used (if appropriate)? **NO** Were all bottles sealed in individual plastic bags? **YES** Did all bottles arrive in good condition (unbroken)? **NO** Were all bottle labels complete and legible? **NO** Did the number of containers listed on COC match with the number of containers received? **YES** NO** Did all bottle labels and tags agree with custody papers? **NO** Were all bottles used correct for the requested analyses? **NO** Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs) **NO** Was sufficient amount of sample sent in each bottle? **NO** NO** Was sufficient amount of sample sent in each bottle? **NO** NO** NO** YES** NO** NO** NO** NO** Was sufficient amount of sample sent in each bottle? **NO** NO** N	ARI Client: <u>Landa</u>	<u>U</u>	Project Name:		·
Preliminary Examination Phase: Were intact, properly signed and dated custody seals attached to the outside of to cooler? Were custody papers included with the cooler? YES NO Were outsody papers properly filled out (ink, signed, etc.) Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) If cooler temperature is out of compliance fill out form 00070F Cooler Accepted by: Complete custody forms and attach all shipping documents Log-In Phase: Was a temperature blank included in the cooler? What kind of packing material was used? What kind of packing material was used? Were all bottles sealed in individual plastic begs? Did all bottles sealed in individual plastic begs? Did all bottles sealed in individual plastic begs? No Were all bottles used correct for the requested analyses? Did all bottle labels and lags agree with custody papers? No Were all bottles used correct for the requested analyses? Do any of the analyses (bottles) require preservation? (attach preservation sheef, excluding VOCs). Was sufficient amount of sample sent in pach bottle? Sample ID on Bottle	COC No(s):	NA NA	Delivered by: Fed-Ex UPS Co	ourier Hand Delivered Ot	her:
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Were custody papers properly filled out (ink, signed, etc.)	Were intact, properly signed ar	id dated custody seals attached to t	the outside of to cooler?	YEŞ	NO
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If cooler temperature is out of compliance fill out form 00070F Cooler Accepted by: Complete custody forms and attach all shipping documents omplete custody forms and attach all shipping documents Complete custody forms and attach all shipping documents Complete Custody forms and attach all shipping documents Complete Custody forms and attach all shipping documents Complete Custody forms and attach all shipping documents Complete Custody forms and attach all shipping documents Complete Custody forms and attach all shipping documents Complete Custody forms and attach all shipping documents Complete Custody forms and attach all shipping documents Complete Custody forms and attach all shipping documents Complete Custody forms and attach all shipping documents Complete Custody forms and attach all shipping documents Complete Custody forms and attach all shipping documents Complete Custody forms and attach all shipping documents Complete Custody forms and attach all shipping documents Complete Custody forms and attach all shipping documents Complete Custody forms and attach all shipping documents Complete Custody forms and attach all shipping forms and	Were custody papers properly	filled out (ink, signed, etc.)	***************************************	YES	NO
If cooler temperature is out of compliance fill out form 00070F Cooler Accepted by: Complete custody forms and attach all shipping documents omplete custody forms and attach all shipping documents Complete custody forms and attach all shipping documents Complete Custody forms and attach all shipping documents Complete Custody forms and attach all shipping documents Complete Custody forms and attach all shipping documents Complete Custody forms and attach all shipping documents Complete Custody forms and attach all shipping documents Complete Custody forms and attach all shipping documents Complete Custody forms and attach all shipping documents Complete Custody forms and attach all shipping documents Complete Custody forms and attach all shipping documents Complete Custody forms and attach all shipping documents Complete Custody forms and attach all shipping documents Complete Custody forms and attach all shipping documents Complete Custody forms and attach all shipping documents Complete Custody forms and attach all shipping documents Complete Custody forms and attach all shipping documents Complete Custody forms and attach all shipping forms and	Temperature of Cooler(s) (°C)	recommended 2.0-6.0 °C for chem	istry) 0.8 210		
Complete custody forms and attach all shipping documents Log-In Phase: Was a temperature blank included in the cooler? What kind of packing material was used?				Temp Gun ID#: 4	87405
Complete custody forms and attach all shipping documents Log-In Phase: Was a temperature blank included in the cooler? What kind of packing material was used?	Cooler Accepted by:	TV	Date: 7/1/09 Tin	ne: 1146	
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What kind of packing material was used?	Was a temperature blank includ	ed in the cooler?		Ven	
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Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs) Were all VOC vials free of air bubbles?	Did all bottle labels and tags agr	ee with custody papers?	••••••••••		NO
Were all VOC vials free of air bubbles? Was sufficient amount of sample sent in each bottle? Date: Notify Project Manager of discrepancies or concerns** Sample ID on Bottle	Were all bottles used correct for	the requested analyses?	***************************************		NO
Samples Logged by: Date: Notify Project Manager of discrepancies or concerns ** Sample ID on Bottle Sample ID on COC Sample ID on Bottle Sample ID on				(MA) YES	NO
Sample ID on Bottle Sample ID on COC Sample ID on Bottle Sample ID on COC Additional Notes, Discrepancies, & Resolutions: Small Air Bubbles Peabubbles Sample ID on COC Small 3 "sm" Peabubbles 3 "pb" Large 3 "lg"			•	('NA) YES	NO
Sample ID on Bottle Sample ID on COC Sample ID on Bottle Sample ID on COC Additional Notes, Discrepancies, & Resolutions: By: Date: Small Air Bubbles Peabubbles 2-4 mm Peabubbles - "pb" Large - "ig"	Was sufficient amount of sample	sent in each bottle?	7 - 20	US TES	NO
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Additional Notes, Discrepancies, & Resolutions: By: Date: Small Air Bubbles Peabubbles' LARGE Air Bubbles Small > "sm" Peabubbles > "pb" Large > "lg"		Notify Project Manager o	of discrepancies or concerns **	(
Additional Notes, Discrepancies, & Resolutions: By: Date: Small Air Bubbles Peabubbles' LAIGE Air Bubbles Small > "sm" Peabubbles > "pb" Large > "lg"	Sample ID on Bottle	Sample ID on COC	Sample ID on Pottle	C	
By: Date: Small Air Bubbles Peabubbles' LARGE Air Bubbles Small → "sm" -2mm 2-4 mm > 4 mm Peabubbles → "pb" Large → "ig"			Sample to on bottle	Sample ID on C	:00
By: Date: Small Air Bubbles Peabubbles' LARGE Air Bubbles Small → "sm" -2mm 2-4 mm > 4 mm Peabubbles → "pb" Large → "ig"					
By: Date: Small Air Bubbles Peabubbles' LARGE Air Bubbles Small → "sm" -2mm 2-4 mm > 4 mm Peabubbles → "pb" Large → "ig"			, , , , , , , , , , , , , , , , , , , ,		
By: Date: Small Air Bubbles Peabubbles' LARGE Air Bubbles Small → "sm" -2mm 2-4 mm > 4 mm Peabubbles → "pb" Large → "ig"					
Small Air Bubbles	Additional Notes, Discrepancie	s, & Resolutions:		1	
Small Air Bubbles					ĺ
Small Air Bubbles					
Small Air Bubbles	Du.	t a.	•		
- 2mm 2.4 mm S4 mm Peabubbles → "pb" Large → "jg"			mall -> "em"		
Large → "lg"	1 1	m >4 mm			
<u> </u>	• • .		•		
	<u></u>	4 1	- ·		

0016F 3/12/09 Cooler Receipt Form

Revision 012

PMED: 20225



Page 1 of 1

Lab Sample ID: PH60C LIMS ID: 09-17243

Matrix: Soil

Reported: 07/31/09

Data Release Authorized: /

Date Extracted: 07/23/09 Date Analyzed: 07/28/09 20:34

Instrument/Analyst: ECD1/AAR Percent Moisture: 19.8%

Sample ID: DP17:2-3 SAMPLE

QC Report No: PH60-Landau Associates, Inc.

Project: RICHARDSON AIRWAYS 1148001.010.020

Date Sampled: 06/29/09 Date Received: 07/01/09

Sample Amount: 12.0 g-dry-wt

Final Extract Volume: 50 mL Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
93-72-1	2,4,5-TP (Silvex)	10	< 10 U
93-76-5	2,4,5-T	10	< 10 U
88-85-7	Dinoseb	21	1,000
1918-00-9	Dicamba	21	< 21 U
94-75-7	2,4-D	42	< 42 U
94-82-6	2,4-DB	210	< 210 U
75-99-0	Dalapon	42	< 42 U
94-74-6	MCPA	10,000	< 10,000 U
120-36-5	Dichloroprop	42	< 42 U

Reported in $\mu g/kg$ (ppb)

Herbicide Surrogate Recovery

2,4-Dichlorophenylacetic Acid 56.6%

FORM I

PHEC: DOC10



Page 1 of 1

Sample ID: DP17:2-3 DILUTION

Lab Sample ID: PH60C LIMS ID: 09-17243

Matrix: Soil

Data Release Authorized: 4 Reported: 07/31/09

QC Report No: PH60-Landau Associates, Inc.

Project: RICHARDSON AIRWAYS 1148001.010.020

Date Sampled: 06/29/09 Date Received: 07/01/09

Sample Amount: 12.0 g-dry-wt Final Extract Volume: 50 mL

Dilution Factor: 5.00

Instrument/Analyst: ECD1/AAR Percent Moisture: 19.8%

Date Extracted: 07/23/09 Date Analyzed: 07/30/09 16:01

CAS Number	Analyte	RL	Result
93-72-1	2,4,5-TP (Silvex)	52	< 52 U
93-76-5	2,4,5-T	52	< 52 U
88-85-7	Dinoseb	100	1,100
1918-00-9	Dicamba	100	< 100 U
94-75-7	2,4-D	210	< 210 U
94-82-6	2,4-DB	1,000	< 1,000 U
75-99-0	Dalapon	210	< 210 U
94-74-6	MCPA	52,000	< 52,000 U
120-36-5	Dichloroprop	210	< 210 U

Reported in $\mu g/kg$ (ppb)

Herbicide Surrogate Recovery

2,4-Dichlorophenylacetic Acid 68.9%

FORM I

PHEB: BUG11



Page 1 of 1

Sample ID: DP18:2-3 SAMPLE

Lab Sample ID: PH60D LIMS ID: 09-17244

Matrix: Soil

Data Release Authorized: Reported: 07/31/09

QC Report No: PH60-Landau Associates, Inc.

Project: RICHARDSON AIRWAYS 1148001.010.020

Date Sampled: 06/29/09 Date Received: 07/01/09

Sample Amount: 10.9 g-dry-wt

Final Extract Volume: 50 mL Dilution Factor: 1.00

Percent Moisture: 27.4%

Date Extracted: 07/23/09 Date Analyzed: 07/28/09 21:11

Instrument/Analyst: ECD1/AAR

CAS Number	Analyte	RL	Result
93-72-1	2,4,5-TP (Silvex)	12	< 12 U
93-76-5	2,4,5-T	12	< 12 U
88-85-7	Dinoseb	23	< 23 U
1918-00-9	Dicamba	23	< 23 U
94-75-7	2,4-D	46	< 46 U
94-82-6	2,4-DB	230	< 230 U
75-99-0	Dalapon	46	< 46 U
94-74-6	MCPA	12,000	< 12,000 U
120-36-5	Dichloroprop	46	< 46 U

Reported in $\mu g/kg$ (ppb)

Herbicide Surrogate Recovery

2,4-Dichlorophenylacetic Acid 38.9%

FORM I

PHGE: 00012



Page 1 of 1

Sample ID: DP18:2-3
MATRIX SPIKE

Lab Sample ID: PH60D LIMS ID: 09-17244

Matrix: Soil

Data Release Authorized: Reported: 07/31/09

Date Extracted: 07/23/09

Date Analyzed: 07/28/09 21:48

Instrument/Analyst: ECD1/AAR

: //

QC Report No: PH60-Landau Associates, Inc. Project: RICHARDSON AIRWAYS

oject: RICHARDSON AIRWAYS 1148001.010.020

Date Sampled: 06/29/09 Date Received: 07/01/09

Sample Amount: 10.9 g-dry-wt

Final Extract Volume: 50 mL Dilution Factor: 1.00

Percent Moisture: 27.4%

CAS Number	Analyte	RL	Result
93-72-1	2,4,5-TP (Silvex)	12	
93-76-5	2,4,5-T	12	
88-85-7	Dinoseb	23	
1918-00-9	Dicamba	23	
94-75-7	2,4-D	46	
94-82-6	2,4-DB	230	
75-99-0	Dalapon	46	AND AND MAN
94-74-6	MCPA	12,000	
120-36-5	Dichloroprop	46	

Reported in $\mu g/kg$ (ppb)

Herbicide Surrogate Recovery

2,4-Dichlorophenylacetic Acid 41.0%

FORM I

PHSE: QQQ13



ORGANICS ANALYSIS DATA SHEET Herbicides by SW8151A GC/ECD

Page 1 of 1

Sample ID: DP18:2-3

MATRIX SPIKE DUP

Lab Sample ID: PH60D LIMS ID: 09-17244

Matrix: Soil

Data Release Authorized: Reported: 07/31/09

QC Report No: PH60-Landau Associates, Inc. Project: RICHARDSON AIRWAYS

1148001.010.020

Date Sampled: 06/29/09 Date Received: 07/01/09

Sample Amount: 10.9 g-dry-wt

Final Extract Volume: 50 mL Dilution Factor: 1.00

Percent Moisture: 27.4%

Date Extracted: 07/23/09

Date Analyzed: 07/28/09 22:25

Instrument/Analyst: ECD1/AAR

CAS Number	Analyte	RL	Result
93-72-1	2,4,5-TP (Silvex)	12	
93-76-5	2,4,5-T	12	
88-85-7	Dinoseb	23	
1918-00-9	Dicamba	23	
94-75-7	2,4-D	46	
94-82-6	2,4-DB	230	
75-99-0	Dalapon	46	
94-74-6	MCPA	12,000	
120-36-5	Dichloroprop	46	

Reported in $\mu g/kg$ (ppb)

Herbicide Surrogate Recovery

2,4-Dichlorophenylacetic Acid 63.9%

FORM I

PHEO: OUQ14



ORGANICS ANALYSIS DATA SHEET Herbicides by SW8151A GC/ECD

Page 1 of 1

Sample ID: MB-072309 METHOD BLANK

Lab Sample ID: MB-072309

Date Extracted: 07/23/09

Date Analyzed: 07/28/09 17:29

Instrument/Analyst: ECD1/AAR

LIMS ID: 09-17244

Matrix: Soil

Data Release Authorized:

Reported: 07/31/09

Project: RICHARDSON AIRWAYS 1148001.010.020

Date Sampled: NA

Date Received: NA

Sample Amount: 15.0 g-dry-wt

QC Report No: PH60-Landau Associates, Inc.

Final Extract Volume: 50 mL Dilution Factor: 1.00

Percent Moisture: NA

CAS Number	Analyte	RL	Result
93-72-1	2,4,5-TP (Silvex)	8.3	< 8.3 U
93 <i>-</i> 76 - 5	2,4,5-T	8.3	< 8.3 U
88-85-7	Dinoseb	17	< 17 U
1918-00-9	Dicamba	17	< 17 U
94-75-7	2,4-D	33	< 33 U
94-82-6	2,4-DB	170	< 170 U
75-99-0	Dalapon	33	< 33 U
94-74-6	MCPA	8,300	< 8,300 U
120-36-5	Dichloroprop	33	< 33 U

Reported in $\mu g/kg$ (ppb)

Herbicide Surrogate Recovery

2,4-Dichlorophenylacetic Acid 61.8%

FORM I



SW8151A/HERBICIDE SOIL SURROGATE RECOVERY SUMMARY

Matrix: Soil QC Report No: PH60-Landau Associates, Inc.

Project: RICHARDSON AIRWAYS

1148001.010.020

Client ID	DCPA	TOT OUT
	· · · · · · · · · · · · · · · · · · ·	
DP17:2-3	56.6%	0
DP17:2-3 DL	68.9%	0
MB-072309	61.8%	0
LCS-072309	63.1%	0
LCSD-072309	50.9%	0
DP18:2-3	38.9%	0
DP18:2-3 MS	41.0%	0
DP18:2-3 MSD	63.9%	0

LCS/MB LIMITS QC LIMITS

(DCPA) = 2,4-Dichlorophenylacetic Acid (28-121) (15-155)

Log Number Range: 09-17243 to 09-17244

FORM-II SW8151A PHS0:00015



ORGANICS ANALYSIS DATA SHEET Herbicides by SW8151A GC/ECD

Page 1 of 1

Sample ID: LCS-072309

LCS/LCSD

Lab Sample ID: LCS-072309

LIMS ID: 09-17244

Matrix: Soil

Data Release Authorized:

Reported: 07/31/09

QC Report No: PH60-Landau Associates, Inc.

Project: RICHARDSON AIRWAYS

1148001.010.020

Date Sampled: 06/29/09 Date Received: 07/01/09

Date Extracted LCS/LCSD: 07/23/09

Date Analyzed LCS: 07/28/09 19:20

Instrument/Analyst LCS: ECD1/AAR

LCSD: 07/28/09 19:57

Sample Amount LCS: 15.0 g-dry-wt LCSD: 15.0 g-dry-wt

Final Extract Volume LCS: 50 mL

LCSD: 50 mL

Dilution Factor LCS: 1.00

LCSD: 1.00

LCSD: ECD1/AAR

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	_	RPD
2,4,5-TP (Silvex)	132	167	79.0%	111	167	66.5%	17.3%
2,4,5-T	75.5	83.3	90.6%	59.4	83.3	71.3%	23.9%
Dinoseb	64.4	167	38.6%	45.9	167	27.5%	33.5%
Dicamba	156	167	93.4%	105	167	62.9%	39.1%
2,4-D	247	333	74.2%	229	333	68.8%	7.6%
2,4-DB	1490	1670	89.2%	1170	1670	70.1%	24.1%
Dalapon	276	333	82.9%	102	333	30.6%	92.1%
MCPA	54400	83300	65.3%	48400	83300	58.1%	11.7%
Dichloroprop	213	333	64.0%	183	333	55.0%	15.2%

Herbicide Surrogate Recovery

LCS LCSD 2,4-Dichlorophenylacetic 63.1% 50.9%

Results reported in $\mu g/kg$ (ppb) RPD calculated using sample concentrations per SW846.

PHS0:00017



ORGANICS ANALYSIS DATA SHEET Herbicides by SW8151A GC/ECD

Page 1 of 1

Sample ID: DP18:2-3 MS/MSD

Lab Sample ID: PH60D LIMS ID: 09-17244

Matrix: Soil

Data Release Authorized: //

Date Extracted MS/MSD: 07/23/09

Date Analyzed MS: 07/28/09 21:48

Reported: 07/31/09

QC Report No: PH60-Landau Associates, Inc. Project: RICHARDSON AIRWAYS

1148001.010.020

Date Sampled: 06/29/09 Date Received: 07/01/09

Sample Amount MS: 10.9 g-dry-wt

MSD: 10.9 g-dry-wt

Final Extract Volume MS: 50 mL

MSD: 50 mL

Dilution Factor MS: 1.00

MSD: 1.00

Instrument/Analyst MS: ECD1/AAR

MSD: ECD1/AAR

MSD: 07/28/09 22:25

Percent Moisture: 27.4%

			Spike	MS		Spike	MSD	
Analyte	Sample	MS	Added-MS	Recovery	MSD	Added-MSD	Recovery	RPD
2,4,5-TP (Silvex)	< 11.5	88.1	229	38.5%	101	229	44.1%	13.6%
2,4,5-T	< 11.5	29.9	115	26.0%	37.5	115	32.6%	22.6%
Dinoseb	< 22.9	110	229	48.0%	121	229	52.8%	9.5%
Dicamba	< 22.9	17.9	229	7.8%	24.4	229	10.7%	30.7%
2,4-D	< 45.9	233	459	50.8%	292	459	63.6%	22.5号
2,4-DB	< 229	1710	2290	74.7%	1990	2290	86.9%	15.1%
Dalapon	< 45.9	106	459	23.1%	118	459	25.7%	10.7%
MCPA	< 11500	33200	115000	28.9%	42600	115000	37.0%	24.8%
Dichloroprop	< 45.9	130	459	28.3%	181	459	39.4%	32.8%

Results reported in $\mu g/kg$ (ppb)

RPD calculated using sample concentrations per SW846.

PHSE: 20018



Page 1 of 1

Matrix: Soil

SAMPLE

QC Report No: PH60-Landau Associates, Inc.

Project: RICHARDSON AIRWAYS 1148001.010.020

Sample ID: DP16:2-3

Date Sampled: 06/29/09 Date Received: 07/01/09

Sample Amount: 12.7 g-dry-wt

Final Extract Volume: 4.0 mL Dilution Factor: 1.00 Silica Gel: Yes

Percent Moisture: 26.7%

Date Extracted: 07/23/09
Date Analyzed: 07/27/09 16:34
Instrument/Analyst: ECD7/AAR

Data Release Authorized: //

GPC Cleanup: No Sulfur Cleanup: Yes Florisil Cleanup: No

Lab Sample ID: PH60A LIMS ID: 09-17241

Reported: 07/29/09

Acid Cleanup: No

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	1.6	< 1.6 U
319-85-7	beta-BHC	1.6	< 1.6 U
319-86 - 8	delta-BHC	1.6	< 1.6 U
58-89 - 9	gamma-BHC (Lindane)	1.6	< 1.6 U
76-44-8	Heptachlor	1.6	< 1.6 U
309-00-2	Aldrin	1.6	< 1.6 U
1024-57-3	Heptachlor Epoxide	1.6	< 1.6 U
959-98 - 8	Endosulfan I	1.6	< 1.6 U
60-57-1	Dieldrin	3.2	< 3.2 U
72-55-9	4,4'-DDE	3.2	< 3.2 U
72-20-8	Endrin	3.2	< 3.2 U
33213-65-9	Endosulfan II	3.2	< 3.2 U
72-54-8	4,4'-DDD	3.2	< 3.2 U
1031-07-8	Endosulfan Sulfate	3.2	< 3.2 U
50-29-3	4,4'-DDT	3.2	< 3.2 U
72-43-5	Methoxychlor	16	< 16 U
53494-70-5	Endrin Ketone	3.2	< 3.2 U
7421-93-4	Endrin Aldehyde	3.2	< 3.2 U
5103 - 74-2	gamma Chlordane	1.6	< 1.6 U
5103-71-9	alpha Chlordane	1.6	< 1.6 U
8001-35-2	Toxaphene	160	< 160 U

Reported in $\mu g/kg$ (ppb)

Pest/PCB Surrogate Recovery

Decachlorobiphenyl	75.2%
Tetrachlorometaxylene	62.8%

FORM I



Page 1 of 1

Matrix: Soil

Sample ID: DP16:4.5-6
SAMPLE

QC Report No: PH60-Landau Associates, Inc.

Project: RICHARDSON AIRWAYS 1148001.010.020

Date Sampled: 06/29/09 Date Received: 07/01/09

Sample Amount: 12.9 g-dry-wt

Final Extract Volume: 4.0 mL Dilution Factor: 1.00 Silica Gel: Yes

Percent Moisture: 23.3%

Date Extracted: 07/23/09

Data Release Authorized:/

Lab Sample ID: PH60B

LIMS ID: 09-17242

Reported: 07/29/09

Date Analyzed: 07/27/09 16:55 Instrument/Analyst: ECD7/AAR

GPC Cleanup: No

Sulfur Cleanup: Yes Florisil Cleanup: No

Acid Cleanup: No

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	1.6	< 1.6 U
319-85-7	beta-BHC	1.6	< 1.6 U
319-86-8	delta-BHC	1.6	< 1.6 U
58-89-9	gamma-BHC (Lindane)	1.6	< 1.6 U
76-44-8	Heptachlor	1.6	< 1.6 U
309-00-2	Aldrin	1.6	< 1.6 U
1024-57-3	Heptachlor Epoxide	1.6	< 1.6 U
959-98-8	Endosulfan I	1.6	< 1.6 U
60-57-1	Dieldrin	3.1	16
72-55-9	4,4'-DDE	3.1	6.9
72-20-8	Endrin	3.1	< 3.1 U
33213-65-9	Endosulfan II	3.1	8.9 P
72-54-8	4,4'-DDD	3.1	< 3.1 U
1031-07-8	Endosulfan Sulfate	3.1	< 3.1 U
50-29-3	4,4'-DDT	3.1	14 P
72-43-5	Methoxychlor	16	< 16 U
53494-70-5	Endrin Ketone	3.1	< 3.1 U
7421-93-4	Endrin Aldehyde	3.1	< 3.1 U
5103-74-2	gamma Chlordane	1.6	< 1.6 U
5103-71-9	alpha Chlordane	1.6	< 1.6 U
8001-35-2	Toxaphene	160	120 J
	-		

Reported in $\mu g/kg$ (ppb)

Pest/PCB Surrogate Recovery

The state of the s	
Decachlorobiphenyl	72.0%
Tetrachlorometaxvlene	63.0%

FORM I

F-62: 20029



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Matrix: Soil

Sample ID: DP17:2-3 SAMPLE

QC Report No: PH60-Landau Associates, Inc.

Project: RICHARDSON AIRWAYS 1148001.010.020

Date Sampled: 06/29/09 Date Received: 07/01/09

Sample Amount: 12.2 g-dry-wt

Final Extract Volume: 4.0 mL Dilution Factor: 1.00 Silica Gel: Yes

Percent Moisture: 19.8%

Date Extracted: 07/23/09 Date Analyzed: 07/27/09 17:16 Instrument/Analyst: ECD7/AAR

GPC Cleanup: No Sulfur Cleanup: Yes Florisil Cleanup: No

Lab Sample ID: PH60C

Data Release Authorized:/

LIMS ID: 09-17243

Reported: 07/29/09

Acid Cleanup: No

CAS Number	Analyte	RL	Result
	alpha-BHC beta-BHC delta-BHC gamma-BHC (Lindane) Heptachlor Aldrin Heptachlor Epoxide Endosulfan I Dieldrin 4,4'-DDE Endrin	1.6 1.6 1.6 1.6 1.6 1.6 1.6 3.3 3.3 3.3 3.3 3.3 3.3	< 1.6 U < 3.3 U 7.7 < 3.3 U < 3.1 U <
7421-93-4 5103-74-2 5103-71-9 8001-35-2	Endrin Aldehyde gamma Chlordane alpha Chlordane Toxaphene	3.3 1.6 1.6 160	< 3.3 U < 1.6 U < 1.6 U < 160 U

Reported in $\mu g/kg$ (ppb)

Pest/PCB Surrogate Recovery

The state of the s	
Decachlorobiphenyl	80.8%
Tetrachlorometaxylene	71.0%

FORM I

PH60:00021



Page 1 of 1

Matrix: Soil

Sample ID: DP17:2-3 MATRIX SPIKE

QC Report No: PH60-Landau Associates, Inc.

Project: RICHARDSON AIRWAYS 1148001.010.020

Date Sampled: 06/29/09 Date Received: 07/01/09

Sample Amount: 12.4 g-dry-wt

Final Extract Volume: 4.0 mL Dilution Factor: 1.00

Silica Gel: Yes

Percent Moisture: 19.8%

Date Extracted: 07/23/09

Data Release Authorized:

Lab Sample ID: PH60C

LIMS ID: 09-17243

Reported: 07/29/09

Date Extracted: 07/27/09 17:37
Date Analyzed: 07/27/09 17:37 Instrument/Analyst: ECD7/AAR

GPC Cleanup: No Sulfur Cleanup: Yes Florisil Cleanup: No Acid Cleanup: No

> CAS Number Analyte \mathtt{RL} Result 319-84-6 alpha-BHC 319-85-7 beta-BHC 319-86-8 delta-BHC 58-89-9 gamma-BHC (Lindane) 76-44-8 Heptachlor 309-00-2 Aldrin 1.6 1.6 1.6 1.6 1.6 1.6 1024-57-3 Heptachlor Epoxide 1.6 959-98-8 Endosulfan I 60-57-1 Dieldrin 72-55-9 4,4'-DDE 1.6 3.2 3.2 72-20-8 Endrin 3.2 33213-65-9 Endosulfan II 3.2 72-54-8 4,4'-DDD 3.2 1031-07-8 Endosulfan Sulfate 3.2 3.2 50-29-3 4,4'-DDT 72-43-5 Methoxychlor 4,4'-DDT 16 53494-70-5 Endrin Ketone 3.2 7421-93-4 Endrin Aldehyde 5103-74-2 gamma Chlordane 5103-71-9 alpha Chlordane 8001-35-2 Toxaphene 3.2 1.6 1.6 _ _ -160 < 160 U

> > Reported in $\mu g/kg$ (ppb)

Pest/PCB Surrogate Recovery

Decachlorobiphenyl	80.0%
Tetrachlorometaxylene	75.5%

FMSG: 89922



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Sample ID: DP17:2-3

MATRIX SPIKE DUP

Lab Sample ID: PH60C LIMS ID: 09-17243

Matrix: Soil

Data Release Authorized: #8
Reported: 07/29/09

A.

QC Report No: PH60-Landau Associates, Inc. Project: RICHARDSON AIRWAYS

1148001.010.020

Date Sampled: 06/29/09
Date Received: 07/01/09

Sample Amount: 12.4 g-dry-wt

Final Extract Volume: 4.0 mL Dilution Factor: 1.00 Silica Gel: Yes

Percent Moisture: 19.8%

Date Extracted: 07/23/09
Date Analyzed: 07/27/09 17:57
Instrument/Analyst: ECD7/AAR

GPC Cleanup: No Sulfur Cleanup: Yes Florisil Cleanup: No

Acid Cleanup: No

CAS Numbe

319-84-6

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	1.6	
319-85-7	beta-BHC	1.6	
319-86-8	delta-BHC	1.6	
58-89 - 9	gamma-BHC (Lindane)	1.6	
76-44 - 8	Heptachlor	1.6	
309-00-2	Aldrin	1.6	
1024-57-3	Heptachlor Epoxide	1.6	
959-98-8	Endosulfan I	1.6	
60-57-1	Dieldrin	3.2	MAR. ARA. 8040
72-55-9	4,4'-DDE	3.2	
72-20-8	Endrin	3.2	
33213-65-9	Endosulfan II	3.2	
72-54-8	4,4'-DDD	3.2	
1031-07-8	Endosulfan Sulfate	3.2	
50-29-3	4,4'-DDT	3.2	
72-43-5	Methoxychlor	16	
53494-70-5	Endrin Ketone	3.2	
7421-93-4	Endrin Aldehyde	3.2	
5103-74-2	gamma Chlordane	1.6	AAR AAA 1000
5103-71-9	alpha Chlordane	1.6	
8001-35-2	Toxaphene	160	< 160 U

Reported in $\mu g/kg$ (ppb)

Pest/PCB Surrogate Recovery

Decachlorobiphenyl	78.2%
Tetrachlorometaxylene	69.8%

FORM I



Page 1 of 1

Matrix: Soil

QC Report No: PH60-Landau Associates, Inc.

Sample ID: DP18:2-3

SAMPLE

Project: RICHARDSON AIRWAYS 1148001.010.020

Date Sampled: 06/29/09 Date Received: 07/01/09

Sample Amount: 12.8 g-dry-wt

Final Extract Volume: 4.0 mL Dilution Factor: 1.00 Silica Gel: Yes

Percent Moisture: 27.4%

Date Extracted: 07/23/09 Date Extracted: 07,27,09 18:18

Instrument/Analyst: ECD7/AAR GPC Cleanup: No

Sulfur Cleanup: Yes Florisil Cleanup: No

Lab Sample ID: PH60D LIMS ID: 09-17244

Reported: 07/29/09

Data Release Authorized:

Acid Cleanup: No

CAS Number Analyte RLResult 319-84-6 alpha-BHC 319-85-7 beta-BHC 319-86-8 delta-BHC 58-89-9 gamma-BHC (Lindane) 76-44-8 Heptachlor 309-00-2 Aldrin 1.6 < 1.6 U 1.6 < 1.6 U < 1.6 U 1.6 1.6 < 1.6 U 1.6 < 1.6 U 1.6 < 1.6 U 1.6 1024-57-3 Heptachlor Epoxide < 1.6 U 959-98-8 Endosulfan I 60-57-1 Dieldrin 72-55-9 4,4'-DDE 1.6 < 1.6 U 3.1 < 3.1 U 3.1 < 3.1 U 72-20-8 Endrin 3.1 < 3.1 U 33213-65-9 Endosulfan II 3.1 < 3.1 U 72-54-8 4,4'-DDD < 3.1 U 3.1 1031-07-8 Endosulfan Sulfate 3.1 < 3.1 U < 3.1 U 3.1 50-29-3 72-43-5 4,4'-DDT 16 < 16 U Methoxychlor 53494-70-5 Endrin Ketone 3.1 < 3.1 U 7421-93-4 Endrin Aldehyde 5103-74-2 gamma Chlordane 5103-71-9 alpha Chlordane 8001-35-2 Toxaphene 3.1 < 3.1 U < 1.6 U 1.6 1.6 < 1.6 U 1.6 < 1.6 U

Reported in $\mu g/kg$ (ppb)

Pest/PCB Surrogate Recovery

Decachlorobiphenyl	77.5%
Tetrachlorometaxylene	69.0%

FORM I

PHEC: 00024



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SAMPLE QC Report No: PH60-Landau Associates, Inc.

Lab Sample ID: PH60E LIMS ID: 09-17245

Matrix: Soil Data Release Authorized;

Reported: 07/29/09

Date Extracted: 07/23/09 Date Analyzed: 07/27/09 18:39 Instrument/Analyst: ECD7/AAR

GPC Cleanup: No Sulfur Cleanup: Yes Florisil Cleanup: No Acid Cleanup: No

Sample Amount: 12.3 g-dry-wt Final Extract Volume: 4.0 mL

> Dilution Factor: 1.00 Silica Gel: Yes

Project: RICHARDSON AIRWAYS

Date Sampled: 06/29/09

Date Received: 07/01/09

1148001.010.020

Sample ID: DP19:2-3

Percent Moisture: 28.2%

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	1.6	< 1.6 U
319-85-7	beta-BHC	1.6	< 1.6 U
319-86-8	delta-BHC	1.6	< 1.6 U
58-89-9	gamma-BHC (Lindane)	1.6	< 1.6 U
76-44-8	Heptachlor	1.6	< 1.6 U
309-00-2	Aldrin	1.6	< 1.6 U
1024-57-3	Heptachlor Epoxide	1.6	< 1.6 U
959-98-8	Endosulfan I	1.6	< 1.6 U
60-57-1	Dieldrin	3.3	< 3.3 U
72-55-9	4,4'-DDE	3.3	< 3.3 U
72-20-8	Endrin	3.3	< 3.3 U
33213-65-9	Endosulfan II	3.3	< 3.3 U
72-54-8	4,4'-DDD	3.3	< 3.3 U
1031-07-8	Endosulfan Sulfate	3.3	< 3.3 U
50-29-3	4,4'-DDT	3.3	< 3.3 U
72-43-5	Methoxychlor	16	< 16 U
53494-70-5	Endrin Ketone	3.3	< 3.3 U
7421-93-4	Endrin Aldehyde	3.3	< 3.3 U
5103-74-2	gamma Chlordane	1.6	< 1.6 U
5103-71-9	alpha Chlordane	1.6	< 1.6 U
8001-35-2	Toxaphene	160	< 160 U

Reported in $\mu g/kg$ (ppb)

Pest/PCB Surrogate Recovery

Decachlorobiphenyl	78.8%
Tetrachlorometaxylene	67.2%

FORM I

PHEE: MODES



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Sample ID: DP19:4.5-6
SAMPLE

QC Report No: PH60-Landau Associates, Inc.

Project: RICHARDSON AIRWAYS 1148001.010.020

Date Sampled: 06/29/09
Date Received: 07/01/09

Sample Amount: 13.0 g-dry-wt

Final Extract Volume: 4.0 mL Dilution Factor: 1.00 Silica Gel: Yes

Percent Moisture: 29.7%

Date Extracted: 07/23/09
Date Analyzed: 07/27/09 21:04
Instrument/Analyst: ECD7/AAR

GPC Cleanup: No Sulfur Cleanup: Yes Florisil Cleanup: No

Lab Sample ID: PH60F

Data Release Authorized:

LIMS ID: 09-17246 Matrix: Soil

Reported: 07/29/09

Acid Cleanup: No

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	1,5	< 1.5 U
319-85-7	_	1.5	< 1.5 U
319-86-8	delta-BHC	1.5	< 1.5 U
58-89-9	gamma-BHC (Lindane)	1.5	< 1.5 U
76-44-8	Heptachlor	1.5	< 1.5 Ŭ
309-00-2	Aldrin	1.5	< 1.5 U
1024-57-3	Heptachlor Epoxide	1.5	< 1.5 U
959 - 98-8	Endosulfan I	1.5	< 1.5 U
60-57-1	Dieldrin	3.1	< 3.1 U
72 <i>-</i> 55-9	4,4'-DDE	3.1	< 3.1 U
72-20-8	Endrin	3.1	< 3.1 U
33213-65-9	Endosulfan II	3.1	< 3.1 U
72-54-8	4,4'-DDD	3.1	< 3.1 U
1031-07-8	Endosulfan Sulfate	3.1	< 3.1 U
50-29-3	4,4'-DDT	3.1	< 3.1 U
72-43-5	Methoxychlor	15	< 15 U
53494-70-5	Endrin Ketone	3.1	< 3.1 U
7421-93-4	Endrin Aldehyde	3.1	< 3.1 U
5103-74-2	gamma Chlordane	1.5	< 1.5 U
5103-71-9	alpha Chlordane	1.5	< 1.5 U
8001-35-2	Toxaphene	150	< 150 U

Reported in $\mu g/kg$ (ppb)

Pest/PCB Surrogate Recovery

Decachlorobiphenyl	77.8%
Tetrachlorometaxylene	68.2%

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Matrix: Soil

Data Release Authorized:

Date Analyzed: 07/27/09 21:25

Instrument/Analyst: ECD7/AAR

Reported: 07/29/09

QC Report No: PH60-Landau Associates, Inc. Lab Sample ID: PH60G LIMS ID: 09-17247

Project: RICHARDSON AIRWAYS 1148001.010.020

Sample ID: SW25-W-0.5

SAMPLE

Date Sampled: 06/30/09 Date Received: 07/01/09

Sample Amount: 12.4 g-dry-wt Date Extracted: 07/23/09

Final Extract Volume: 4.0 mL Dilution Factor: 1.00 Silica Gel: Yes

Sulfur Cleanup: Yes Percent Moisture: 22.4% Florisil Cleanup: No

Acid Cleanup: No

GPC Cleanup: No

CAS Number	Analyte	RL	Result
319-84-6 319-85-7 319-86-8 58-89-9 76-44-8 309-00-2 1024-57-3 959-98-8 60-57-1 72-55-9 72-20-8 33213-65-9 72-54-8 1031-07-8 50-29-3	alpha-BHC beta-BHC delta-BHC gamma-BHC (Lindane) Heptachlor Aldrin Heptachlor Epoxide Endosulfan I Dieldrin 4,4'-DDE Endrin Endosulfan II 4,4'-DDD Endosulfan Sulfate 4,4'-DDT	RL 1.6 1.6 1.6 1.6 1.6 1.6 1.6 3.2 3.2 3.2 3.2 3.2 3.2 3.2 3.2	Result < 1.6 U < 3.2 U
72-43-5 53494-70-5 7421-93-4 5103-74-2 5103-71-9 8001-35-2	Methoxychlor Endrin Ketone Endrin Aldehyde gamma Chlordane alpha Chlordane Toxaphene	3.2 3.2 1.6 1.6	< 3.2 U < 3.2 U < 1.6 U < 1.6 U < 160 U

Reported in $\mu g/kg$ (ppb)

Pest/PCB Surrogate Recovery

Decachlorobiphenyl	70.2%
Tetrachlorometaxylene	63.8%

FORM I

PHSØ: 227



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Matrix: Soil

QC Report No: PH60-Landau Associates, Inc. Lab Sample ID: PH60H LIMS ID: 09-17248

Project: RICHARDSON AIRWAYS 1148001.010.020

Date Sampled: 06/30/09 Date Received: 07/01/09

Data Release Authorized: Reported: 07/29/09

Date Extracted: 07/23/09 Date Analyzed: 07/27/09 21:46 Instrument/Analyst: ECD7/AAR

GPC Cleanup: No Sulfur Cleanup: Yes Florisil Cleanup: No Acid Cleanup: No

Sample Amount: 12.4 g-dry-wt

Sample ID: SW14-NW-0.5

SAMPLE

Final Extract Volume: 4.0 mL Dilution Factor: 1.00 Silica Gel: Yes

Percent Moisture: 18.0%

	Analyte	RL	Result
319-84-6		1.6	
319-85-7	beta-BHC	1.6	< 1.6 U
319-86-8	delta-BHC	1.6	< 1.6 U
58-89 - 9	gamma-BHC (Lindane)	1.6	< 1.6 U
76-44-8	Heptachlor	1.6	< 1.6 U
309-00-2	Aldrin	1.6	< 1.6 U
1024-57-3	Heptachlor Epoxide	1.6	< 1.6 U
959-98-8	Endosulfan I	1.6	11
60-57-1	Dieldrin	3.2	15
72-55-9	4,4'-DDE	3.2	57 EP
72-20-8	Endrin	3.2	< 3.2 U
33213-65-9	Endosulfan II	3.2	14
72-54-8	4,4'-DDD	3.2	8.9 P
1031-07-8	Endosulfan Sulfate	3.2	< 3.2 U
50-29-3	4,4'-DDT	3.2	150 E
72-43-5	Methoxychlor	16	< 16 U
53494-70-5	Endrin Ketone	3.2	< 3.2 U
7421-93-4	Endrin Aldehyde	3.2	< 3.2 U
5103-74-2	gamma Chlordane	1.6	< 1.6 U
5103-71-9	alpha Chlordane	1.6	< 1.6 U
8001-35-2	Toxaphene	160	< 160 U

Reported in $\mu g/kg$ (ppb)

Pest/PCB Surrogate Recovery

Decachlorobiphenyl	66.8%
Tetrachlorometaxylene	67.0%

FORM I



Page 1 of 1

Matrix: Soil

Reported: 07/29/09

Data Release Authorized: //

Instrument/Analyst: ECD7/AAR

Lab Sample ID: PH60H QC Report No: PH60-Landau Associates, Inc. LIMS ID: 09-17248 Project: RICHARDSON AIRWAYS

Project: RICHARDSON AIRWAYS 1148001.010.020

Sample ID: SW14-NW-0.5

DILUTION

Date Sampled: 06/30/09 Date Received: 07/01/09

Date Extracted: 07/23/09 Sample Amount: 12.4 g-dry-wt Date Analyzed: 07/28/09 16:52 Final Extract Volume: 4.0 mL

Final Extract Volume: 4.0 mL Dilution Factor: 10.0 Silica Gel: Yes

Sulfur Cleanup: Yes
Florisil Cleanup: No Percent Moisture: 18.0%

Acid Cleanup: No

GPC Cleanup: No

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	16	< 16 U
319-85-7	beta-BHC	16	< 16 U
319-86-8	delta-BHC	16	< 16 U
58 - 89-9	gamma-BHC (Lindane)	16	< 16 U
76-44-8	Heptachlor	16	< 16 U
309-00-2	Aldrin	16	< 16 U
1024-57-3	Heptachlor Epoxide	16	< 16 U
959-98-8	Endosulfan I	16	< 16 U
60-57-1	Dieldrin	32	< 32 U
72-55-9	4,4'-DDE	32	43
72-20-8	Endrin	32	< 32 U
33213-65-9	Endosulfan II	32	< 32 U
72-54-8	4,4'-DDD	32	< 32 U
1031-07-8	Endosulfan Sulfate	32	< 32 U
50-29-3	4,4'-DDT	32	120
72-43-5	Methoxychlor	160	< 160 U
53494 - 70-5	Endrin Ketone	32	< 32 U
7421-93-4	Endrin Aldehyde	32	< 32 U
5103-74-2	gamma Chlordane	16	< 16 U
5103-71-9	alpha Chlordane	16	< 16 U
8001-35-2	Toxaphene	1,600	< 1,600 U

Reported in $\mu g/kg$ (ppb)

Pest/PCB Surrogate Recovery

Decachlorobiphenyl	95.0%
Tetrachlorometaxvlene	89.0%

P468:08829



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Sample ID: SW16-NE-0.5 SAMPLE

Lab Sample ID: PH60I LIMS ID: 09-17249

Matrix: Soil

Data Release Authorized:

Reported: 07/29/09

Date Extracted: 07/23/09

Date Analyzed: 07/27/09 22:06 Instrument/Analyst: ECD7/AAR

GPC Cleanup: No Sulfur Cleanup: Yes Florisil Cleanup: No

Acid Cleanup: No

QC Report No: PH60-Landau Associates, Inc.

Project: RICHARDSON AIRWAYS 1148001.010.020

Date Sampled: 06/30/09 Date Received: 07/01/09

Sample Amount: 12.2 g-dry-wt

Final Extract Volume: 4.0 mL Dilution Factor: 1.00 Silica Gel: Yes

Percent Moisture: 24.3%

CAS Number	Analyte	RL	Result
319-84-6 319-85-7	alpha-BHC beta-BHC	1.6 1.6	< 1.6 U < 1.6 U
319-86-8	delta-BHC	1.6	< 1.6 U
58-89-9 76-44-8	gamma-BHC (Lindane) Heptachlor	1.6 1.6	< 1.6 U < 1.6 U
309-00-2	Aldrin	1.6	< 1.6 U
1024-57-3 959-98-8	Heptachlor Epoxide Endosulfan I	1.6 1.6	< 1.6 U < 1.6 U
60-57-1	Dieldrin	3.3	< 3.3 U
72-55-9 72-20-8	4,4'-DDE Endrin	3.3 3.3	< 3.3 U < 3.3 U
33213-65-9	Endosulfan II 4,4'-DDD	3.3 3.3	< 3.3 U < 3.3 U
72-54-8 1031-07-8	Endosulfan Sulfate	3.3	< 3.3 U
50-29-3 72-43-5	4,4'-DDT Methoxychlor	3.3 16	< 3.3 U < 16 U
53494-70-5	Endrin Ketone	3.3	< 3.3 U
7421-93-4 5103-74-2	Endrin Aldehyde gamma Chlordane	3.3 1.6	< 3.3 U < 1.6 U
5103-71-9	alpha Chlordane	1.6	< 1.6 U
8001-35-2	Toxaphene	160	< 160 U

Reported in $\mu g/kg$ (ppb)

Pest/PCB Surrogate Recovery

Decachlorobiphenyl	79.2%
Tetrachlorometaxylene	69.2%

FORM I

PHEB: BBBBB



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Matrix: Soil

LIMS ID: 09-17250

Reported: 07/29/09

Lab Sample ID: PH60J QC Report No: PH60-Landau Associates, Inc.

Project: RICHARDSON AIRWAYS 1148001.010.020

Sample ID: SW17-E-0.5

SAMPLE

Date Sampled: 06/30/09

Date Sampled: 06/30/09
Date Received: 07/01/09

Date Extracted: 07/23/09 Sample Amount: 12.5 g-dry-wt

Final Extract Volume: 4.0 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: 22.6%

Date Extracted: 07/23/09
Date Analyzed: 07/27/09 22:27
Instrument/Analyst: ECD7/AAR

Data Release Authorized:/

GPC Cleanup: No Sulfur Cleanup: Yes Florisil Cleanup: No Acid Cleanup: No

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	1.6	< 1.6 U
319-85-7	beta-BHC	1.6	< 1.6 U
319-86-8	delta-BHC	1.6	< 1.6 U
58-89-9	gamma-BHC (Lindane)	1.6	< 1.6 U
76-44-8	Heptachlor	1.6	< 1.6 U
309-00-2	Aldrin	1.6	< 1.6 U
1024-57-3	Heptachlor Epoxide	1.6	< 1.6 U
959-98-8	Endosulfan I	1.6	< 1.6 U
60-57-1	Dieldrin	3.2	< 3.2 U
72-55 - 9	4,4'-DDE	3.2	< 3.2 U
72-20-8	Endrin	3.2	< 3.2 U
33213-65-9	Endosulfan II	3.2	< 3.2 U
72-54-8	4,4'-DDD	3.2	< 3.2 U
1031-07-8	Endosulfan Sulfate	3.2	< 3.2 U
50-29-3	4,4'-DDT	3.2	< 3.2 U
72-43-5	Methoxychlor	16	< 16 U
53494-70-5	Endrin Ketone	3.2	< 3.2 U
7421-93-4	Endrin Aldehyde	3.2	< 3.2 U
5103-74-2	gamma Chlordane	1.6	< 1.6 U
5103-71-9	alpha Chlordane	1.6	< 1.6 U
8001-35-2	Toxaphene	160	< 160 U

Reported in $\mu g/kg$ (ppb)

Pest/PCB Surrogate Recovery

Decachlorobiphenyl	82.2%
Tetrachlorometaxylene	70.2%



Page 1 of 1

Sample ID: MB-072309 METHOD BLANK

Lab Sample ID: MB-072309 LIMS ID: 09-17243

Matrix: Soil

Data Release Authorized: / Reported: 07/29/09

QC Report No: PH60-Landau Associates, Inc. Project: RICHARDSON AIRWAYS 1148001.010.020

Date Sampled: NA Date Received: NA

Sample Amount: 12.0 g-dry-wt

Date Analyzed: 07/27/09 15:32 Final Extract Volume: 4.0 mL
Instrument/Analyst: ECD7/AAR Dilution Factor: 1.00 Silica Gel: Yes

Percent Moisture: NA

GPC Cleanup: No

Date Extracted: 07/23/09

Sulfur Cleanup: Yes Florisil Cleanup: No Acid Cleanup: No

> Analyte \mathtt{RL} Result CAS Number 319-84-6 alpha-BHC 319-85-7 beta-BHC 319-86-8 delta-BHC 58-89-9 gamma-BHC (Lindane) 76-44-8 Heptachlor 309-00-2 Aldrin 1.7 < 1.7 U 1.7 < 1.7 U 1.7 < 1.7 U 1.7 < 1.7 U < 1.7 U 1.7 1.7 < 1.7 U 1024-57-3 Heptachlor Epoxide 1.7 < 1.7 U 959-98-8 Endosulfan I
> 60-57-1 Dieldrin
> 72-55-9 4,4'-DDE
> 72-20-8 Endrin 1.7 < 1.7 U 3.3 < 3.3 U 3.3 < 3.3 U 3.3 < 3.3 U 33213-65-9 Endosulfan II 3.3 < 3.3 U 72-54-8 4,4'-DDD 1031-07-8 Endosulfan Sulfate 3.3 < 3.3 U 3.3 < 3.3 U 3.3 < 3.3 U 50-29-3 72-43-5 4,4'-DDT 17 < 17 U Methoxychlor 3.3 53494-70-5 Endrin Ketone < 3.3 U < 3.3 U 7421-93-4 Endrin Aldehyde 3.3 5103-74-2 gamma Chlordane 5103-71-9 alpha Chlordane 8001-35-2 Toxaphene 1.7 < 1.7 U 1.7 < 1.7 U 170 < 170 U

> > Reported in $\mu g/kg$ (ppb)

Pest/PCB Surrogate Recovery

Decachlorobiphenyl	90.2%
Tetrachlorometaxylene	81.0%

PHS: 2223



SW8081 PESTICIDE SOIL/SEDIMENT SURROGATE RECOVERY SUMMARY

QC Report No: PH60-Landau Associates, Inc. Project: RICHARDSON AIRWAYS Matrix: Soil

1148001.010.020

Client ID	DCBP	TCMX	TOT OUT
DP16:2-3	75.2%	62.8%	0
DP16:4.5-6	72.0%	63.0%	О
MB-072309	90.2%	81.0%	0
LCS-072309	83.8%	69.8%	0
LCSD-072309	86.5%	72.2%	0
DP17:2-3	80.8%	71.0%	0
DP17:2-3 MS	80.0%	75.5%	0
DP17:2-3 MSD	78.2%	69.8%	0
DP18:2-3	77.5%	69.0%	0
DP19:2-3	78.8%	67.2%	0
DP19:4.5-6	77.8%	68.2%	0
SW25-W-0.5	70.2%	63.8%	0
SW14-NW-0.5	66.8%	67.0%	0
SW14-NW-0.5 DL	95.0%	89.0%	0
SW16-NE-0.5	79.2%	69.2%	0
SW17-E-0.5	82.2%	70.2%	0

LCS/MB	LIMITS	QC	LIMITS
		101	

(DCBP)	-	Decachlorobiphenyl	(30-160)	(30-160)
(TCMX)	=	Tetrachlorometaxylene	(30-160)	(30-160)

Prep Method: SW3546

Log Number Range: 09-17241 to 09-17250

FORM-II SW8081 PHEC: 00033



Page 1 of 1

Sample ID: LCS-072309

LCS/LCSD

Lab Sample ID: LCS-072309

LIMS ID: 09-17243

Matrix: Soil Data Release Authorized:

Reported: 07/29/09

QC Report No: PH60-Landau Associates, Inc.

Project: RICHARDSON AIRWAYS

1148001.010.020

Date Sampled: 06/29/09 Date Received: 07/01/09

Date Extracted LCS/LCSD: 07/23/09

Sample Amount LCS: 12.0 g-dry-wt

LCSD: 12.0 g-dry-wt Final Extract Volume LCS: 4.0 mL

Date Analyzed LCS: 07/27/09 15:53

LCSD: 07/27/09 16:13 Instrument/Analyst LCS: ECD7/AAR

LCSD: 4.0 mL Dilution Factor LCS: 1.00

LCSD: 1.00

LCSD: ECD7/AAR Silica Gel: Yes

GPC Cleanup: No Sulfur Cleanup: Yes Florisil Cleanup: No

Percent Moisture: NA

		Spike	LCS		Spike	LCSD	
-	LCS I	Added-LCS	Recovery	LCSD	Added-LCSD	Recovery	RPD
	.00	6.67	90.0%	6.33	6.67	94.9%	5.4%
beta-BHC 6	. 27	6.67	94.0%	6.53	6.67	97.9%	4.1%
delta-BHC 6.	. 40	6.67	96.0%	6.93	6.67	104%	8.0%
gamma-BHC (Lindane) 6.	.70	6.67	100%	6.97	6.67	104%	4.0%
Heptachlor 5.	.70	6.67	85.5%	5.97	6.67	89.5%	4.6%
Aldrin 6.	.00	6.67	90.0%	6.30	6.67	94.5%	4.9%
Heptachlor Epoxide 6.	.37	6.67	95.5%	6.63	6.67	99.4%	4.0%
Endosulfan I 6.	.50	6.67	97.5%	6.73	6.67	101%	3.5%
Dieldrin 13	3.9	13.3	105%	14.5	13.3	109%	4.2%
4,4'-DDE 13	7.6	13.3	132%	18.4	13.3	138%	4.4%
Endrin 13	3.7	13.3	103%	13.9	13.3	105%	1.4%
Endosulfan II 13	3.8	13.3	104%	14.1	13.3	106%	2.2%
4,4'-DDD 14	1.4	13.3	108%	15.0	13.3	113%	4.1%
Endosulfan Sulfate 12	2.1	13.3	91.0%	12.5	13.3	94.0%	3.3%
4,4'-DDT 13	3.7	13.3	103%	13.8	13.3	104%	0.7%
Methoxychlor 64	1.7	66.7	97.0%	65.0	66.7	97.5%	0.5%
Endrin Ketone 13	3.2	13.3	99.2%	13.6	13.3	102%	3.0%
Endrin Aldehyde 10).1	13.3	75.9%	10.2	13.3	76.7%	1.0%
gamma Chlordane 6.	. 73	6.67	101%	7.17	6.67	107%	6.3%
alpha Chlordane 6.	. 63	6.67	99.4%	7.03	6.67	105%	5.9%

Pest/PCB Surrogate Recovery

	LCS	LCSD
Decachlorobiphenyl	83.8%	86.5%
Tetrachlorometaxylene	69.8%	72.2%

Reported in $\mu g/kg$ (ppb)

RPD calculated using sample concentrations per SW846.

PHSW: WWASL



Page 1 of 1

Matrix: Soil

Lab Sample ID: PH60C

Data Release Authorized:

Date Extracted MS/MSD: 07/23/09

Date Analyzed MS: 07/27/09 17:37

Instrument/Analyst MS: ECD7/AAR

MSD: 07/27/09 17:57

MSD: ECD7/AAR

LIMS ID: 09-17243

Reported: 07/29/09

GPC Cleanup: No

Sample ID: DP17:2-3 MS/MSD

QC Report No: PH60-Landau Associates, Inc.

Project: RICHARDSON AIRWAYS 1148001.010.020

Date Sampled: 06/29/09 Date Received: 07/01/09

Sample Amount MS: 12.4 g-dry-wt

MSD: 12.4 g-dry-wt

Final Extract Volume MS: 4.0 mL

MSD: 4.0 mL

Dilution Factor MS: 1.00 MSD: 1.00

Silica Gel: Yes

bilica GCI. 1eb

Sulfur Cleanup: Yes
Florisil Cleanup: No Percent Moisture: 19.8%

Analyte	Sample	MS	Spike Added-MS	MS Recovery	MSD	Spike Added-MSD	MSD Recovery	RPD
miary ce		110		RCCOVELY		Added-MbD	Kecovery	KFD.
alpha-BHC	< 1.64	5.72	6.46	88.5%	5.36	6.46	83.0%	6.5%
beta-BHC	< 1.64	5.46	6.46	84.5%	5.23	6.46	81.0%	4.3%
delta-BHC	< 1.64	7.59	6.46	117%	7.85	6.46	122%	3.4%
gamma-BHC (Lindane)	< 1.64	6.30	6.46	97.5%	6.11	6.46	94.6%	3.1%
Heptachlor	< 1.64	8.63	6.46	134%	9.24	6.46	143%	6.8%
Aldrin	< 1.64	5.91	6.46	91.5%	5.72	6.46	88.5%	3.3%
Heptachlor Epoxide	< 1.64	6.04	6.46	93.5%	6.04	6.46	93.5%	0.0%
Endosulfan I	< 1.64	6.14	6.46	95.0%	5.88	6.46	91.0%	4.3%
Dieldrin	< 3.27	15.1	12.9	117%	14.8	12.9	115%	2.0%
4,4'-DDE	7.72	25.5	12.9	138%	28.7	12.9	163%	11.8%
Endrin	< 3.27	13.1	12.9	102%	12.7	12.9	98.4%	3.1%
Endosulfan II	< 3.27	12.9	12.9	100%	12.4	12.9	96.1%	4.0%
4,4'-DDD	< 3.27	14.8	12.9	115%	15.5	12.9	120%	4.6%
Endosulfan Sulfate	< 3.27	10.1	12.9	78.3%	10.0	12.9	77.5%	1.0%
4,4'-DDT	36.6	41.4	12.9	37.2%	54.3	12.9	137%	27.0%
Methoxychlor	< 16.4	58.8	64.6	91.0%	59.1	64.6	91.5%	0.5%
Endrin Ketone	< 3.27	12.2	12.9	94.6%	12.1	12.9	93.8%	0.8%
Endrin Aldehyde	< 3.27	8.92	12.9	69.1%	10.5	12.9	81.4%	16.3%
gamma Chlordane	< 1.64	6.30	6.46	97.5%	6.30	6.46	97.5%	0.0%
alpha Chlordane	< 1.64	6.59	6.46	102%	6.69	6.46	104%	1.5%

Reported in $\mu g/kg$ (ppb)

RPD calculated using sample concentrations per SW846.