AKTPEERLESS

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October 1, 2020

Mr. Timothy Palazzolo
City of Detroit
Detroit Demolition Department
1301 Third Street
Detroit, Michigan 48226

Subject: **Topsoil Composite Soil Sampling Report**
13120 Longview
Detroit, Michigan
AKT Peerless Project No. 8997f5-5-10.3

Mr. Palazzolo:

The City of Detroit, Detroit Demolition Department retained AKT Peerless to conduct soil sampling at a residential demolition site located at 13120 Longview in Detroit, Wayne County, Michigan.

This scope of work was conducted in accordance with AKT Peerless' Work Order Request dated July 29, 2020 (approved July 29, 2020).

AKT Peerless understands that a residential structure was demolished at this location and the former basement excavation was filled with engineered fill (crushed residential hardfill consisting of broken concrete foundations and slabs, hard paved surfaces, brick and block, along with soil overburden) from the basement floor to approximately 12-inches below grade. An imported topsoil material was placed in the top 12-inches to grade.

Field Investigation

On September 21, 2020, Mr. Sean Brick and Mr. Antonio Morsette with AKT Peerless collected (1) composite sample, which consisted of three (3) discrete soil samples from the topsoil (top 12") combined into one (1) composite sample identified as "13120 Longview-TS-Composite" in the former area of the residential structure.

AKT Peerless used a shovel to collect the samples.

During sample collection, AKT Peerless adhered to proper decontamination procedures. Sampling equipment was decontaminated using the following methods to minimize potential cross-contamination of soil samples:

- Washing and scrubbing the equipment with non-phosphate detergent
- Rinsing the equipment
- Air-drying the equipment

AKT Peerless collected samples according to USEPA Publication SW-846, Testing Methods for Evaluating Solid Waste. Soil samples were collected in laboratory-supplied containers, stored on ice at approximately 4 degrees Celsius, and submitted under chain-of-custody documentation. Soil samples collected for volatile analyses (VOCs) were field preserved with methanol in accordance with U.S. EPA

Method 5035. Soil samples collected for additional analyses were stored in unpreserved, 8-ounce wide-mouth jars.

Photographs taken during sampling activities are included in Attachment I. A site map depicting the sample locations is included in Attachment II.

Laboratory Analysis and Methods

The soil samples were delivered to ALS Group, USA, an independent National Voluntary Laboratory Accreditation Program (NVLAP) laboratory in Holland, Michigan, under chain-of-custody documentation for analysis of:

- Volatile Organic Compounds (VOCs) in accordance with USEPA Method 8260C;
- Semi-Volatile Organic Compounds (SVOCs) in accordance with USEPA Method 8270D;
- Polychlorinated biphenyls (PCBs) in accordance with USEPA Method 8082;
- Michigan 10 Metals (arsenic, barium, cadmium, total chromium, copper, lead, mercury, selenium, silver, and zinc) in accordance with USEPA Method 6020B or 7471B;
- Chloride in accordance with USEPA Method 325.3;
- Herbicides in accordance with USEPA Method 8151; and
- Pesticides in accordance with USEPA Method 8081A.

Analytical Results

AKT Peerless compared the laboratory analytical results to Michigan Department of Environment, Great Lakes and Energy (EGLE) Part 201 Residential Cleanup Criterion (RCC) provided in Michigan Administrative Rules 299.1 through 299.50 and the requirements outlined in the Detroit Land Bank Authority (DLBA) Scope of Services, revised September 13, 2018 (which were the applicable Scope of Work standards at the time backfill was placed at the subject property).

The results of the investigation indicate the following:

- VOCs were not detected in the topsoil composite sample above laboratory method detection limits (MDLs).
- Select SVOCs were detected in the topsoil composite sample at concentrations exceeding laboratory MDLs but below EGLE Part 201 RCC. Remaining SVOCs were not detected above laboratory MDLs.
- PCBs were not detected in the topsoil composite sample above laboratory MDLs.
- Arsenic, barium, chromium, copper, lead, and zinc were detected in the topsoil composite sample above laboratory MDLs but below EGLE Part 201 RCC. Cadmium, mercury, selenium, and silver were not detected in the topsoil composite sample above laboratory MDLs.
- Chloride was not detected in the topsoil composite sample above laboratory MDLs.
- Herbicides were not detected in the topsoil composite sample above laboratory MDLs.
- Pesticides were not detected in the topsoil composite sample above laboratory MDLs.

A table summarizing the soil sampling results is included in Attachment III. The laboratory analytical results and chain of custody documentation are also provided in Attachment III.

Conclusions and Recommendations

AKT Peerless collected one (1) composite sample, which consisted of three (3) discrete soil samples from the topsoil (top 12") combined into one (1) composite sample in the former area of the residential structure located at 13120 Longview in Detroit, Wayne County, Michigan. The soil samples were submitted for laboratory analysis of VOCs, SVOCs, PCBs, MI Metals, chloride, herbicides, and pesticides.

Laboratory analytical results from the topsoil composite sample depth did not identify the presence of target compounds above laboratory EGLE Part 201 RCC.

According to the DLBA Scope of Services, backfill that is contaminated above an EGLE Part 201 RCC or with detectable concentrations of VOCs is not suitable for the Detroit backfill program. Based on the sampling results from the topsoil composite sample, the topsoil material does meet the DLBA Scope of Services requirements.

Limitations

The information and opinions obtained in this report are for the exclusive use of the City of Detroit. No distribution to or reliance by other parties may occur without the express written permission of AKT Peerless. AKT Peerless will not distribute this report without your written consent or as required by law or by a Court order. The information and opinions contained in the report are given in light of that assignment. The report must be reviewed and relied upon only in conjunction with the terms and conditions expressly agreed upon by the parties and as limited therein. Any third parties who have been extended the right to rely on the contents of this report by AKT Peerless (which is expressly required prior to any third-party release), expressly agrees to be bound by the original terms and conditions entered into by AKT Peerless and the City of Detroit.

Subject to the above and the terms and conditions, AKT Peerless accepts responsibility for the competent performance of its duties in executing the assignment and preparing reports in accordance with the normal standards of the profession but disclaims any responsibility for consequential damages. Although AKT Peerless believes that results contained herein are reliable, AKT Peerless cannot warrant or guarantee that the information provided is exhaustive or that the information provided by the City of Detroit or third parties is complete or accurate.

Signatures of Environmental Professionals

The following individuals contributed to the completion of this report.

DRAFT

Sean Brick
Environmental Consultant
AKT Peerless
Farmington, Michigan Office
Phone: 248.615.1333

DRAFT

Megan Napier
Senior Engineer
AKT Peerless
Farmington, Michigan Office
Phone: 248.615.1333

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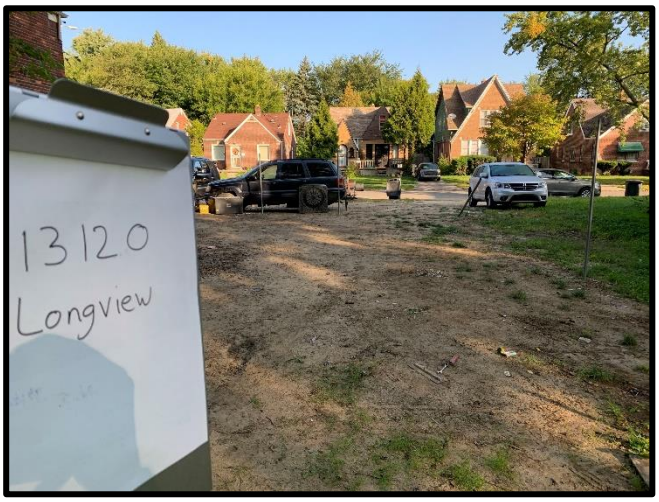
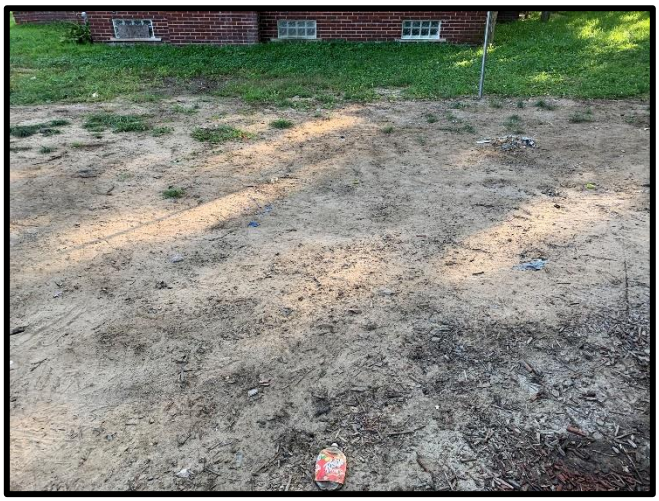
Attachment I

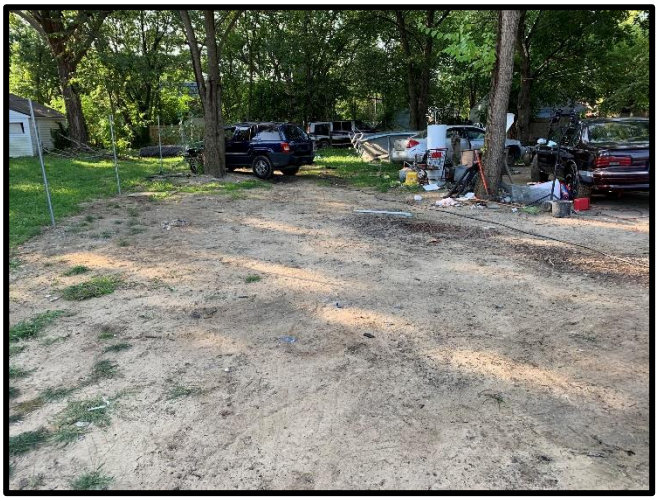
Site Photographs



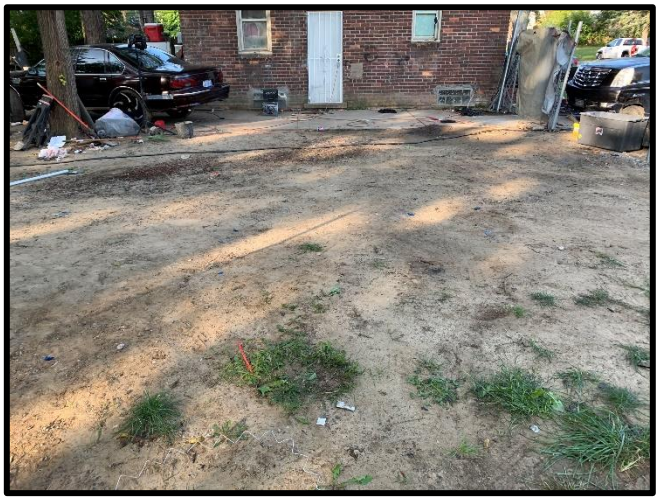
View of the property looking north.



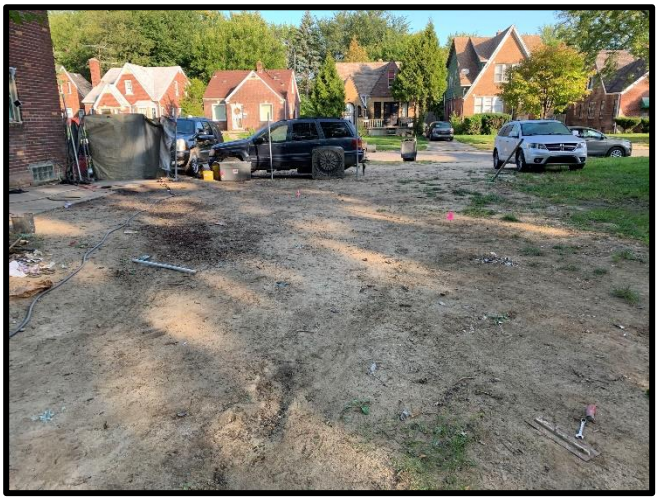
View of the property looking east.



View of the property looking south.



View of the property looking west.



View of sample locations.

View of typical top fill material.

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Property Photographs
13120 Longview
Detroit, Michigan

Taken by: S. Brick
Date: 09.21.2020

Project No: 8997F5-5-10.5

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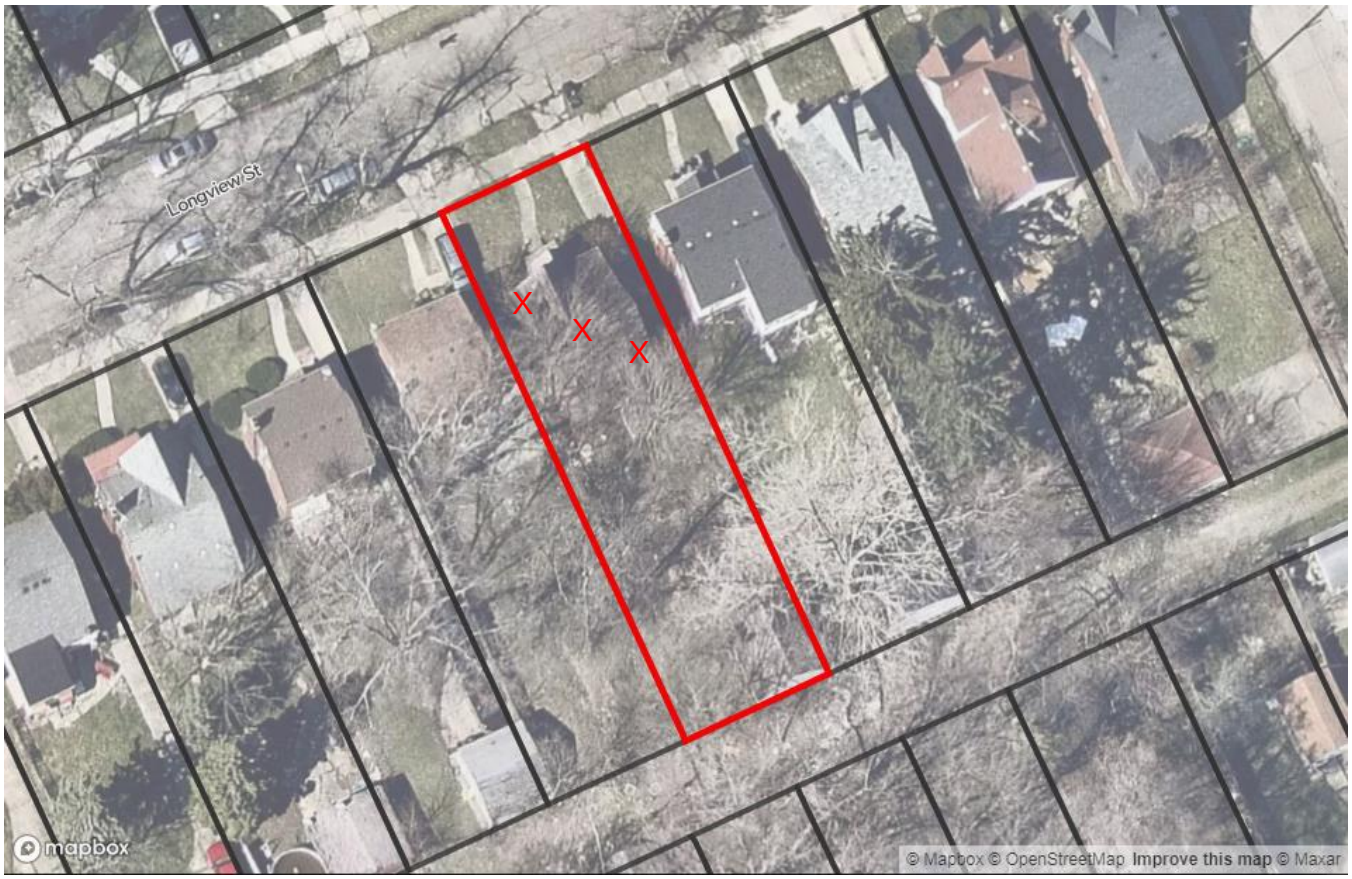
Attachment II

Site Map



Notes:

– Approximate location of excavation area

X – Approximate location of AKT Peerless discrete sample locations

Map not to scale.

Map/aerial courtesy of Detroit Parcel Viewer at https://cityofdetroit.github.io/parcel-viewer/

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Sample Location Map
13120 Longview
Detroit, Michigan

Project No: 8997F5-5-10.4

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Attachment III

Soil Results Table and Laboratory Analytical Results

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Table 1: Summary of Soil Analytical Results
13120 Longview, Detroit, Michigan
AKT Peerless Project No. 8997F5-5-10.4

Parameters* *(Refer to detailed laboratory report for method reference data)*	Chemical Abstract Service Number	Statewide Default Background Levels	Residential Drinking Water Protection Criteria	Groundwater Surface Water Interface Protection Criteria	Residential Soil Volatilization to Indoor Air Inhalation Criteria	Residential Infinite Source Volatile Soil Inhalation Criteria	Residential Particulate Soil Inhalation Criteria	Residential Direct Contact Criteria	Soil Saturation Concentration Screening Levels	Sample Name / Collection Date	13120 Longview-TS-Composite / 9/21/2020
Metals (µg/kg)											
Arsenic	7440-38-2	5,800	4,600	4,600	NLV	NLV	7.2E+5	7,600	NA		5,000
Barium (B)	7440-39-3	75,000	1.3E+6	(G)	NLV	NLV	3.3E+8	3.7E+7	NA		48,000
Cadmium (B)	7440-43-9	1,200	6,000	(G,X)	NLV	NLV	1.7E+6	5.5E+5	NA		<200
Chromium, Total	7440-47-3	18,000 (total)	30,000	3,300	NLV	NLV	2.6E+5	2.5E+6	NA		10,000
Copper (B)	7440-50-8	32,000	5.8E+6	(G)	NLV	NLV	1.3E+8	2.0E+7	NA		8,200
Lead (B)	7439-92-1	21,000	7.0E+5	(G,X)	NLV	NLV	1.0E+8	4.0E+5	NA		26,000
Mercury, Total	7439-97-6	130	1,700	50 (M); 1.2	48,000	52,000	2.0E+7	1.6E+5	NA		<50
Selenium (B)	7782-49-2	410	4,000	400	NLV	NLV	1.3E+8	2.6E+6	NA		<400
Silver (B)	7440-22-4	1,000	4,500	100 (M); 27	NLV	NLV	6.7E+6	2.5E+6	NA		<400
Zinc (B)	7440-66-6	47,000	2.4E+6	(G)	NLV	NLV	ID	1.7E+8	NA		44,000
Chloride (ug/kg)											
Chloride	16887-00-6	NA	5.0E+6	(X)	NLV	NLV	ID	5.0E+5 (F)	NA		<200,000
Polychlorinated biphenyls (PCBs, µg/kg)											
PCBs (J,T)	1336-36-3	NA	NLL	NLL	3.0E+6	2.4E+5	5.2E+6	(T)	NA		<330
Herbicides (µg/kg)											
Silvex (2,4,5-TP)	93-72-1	NA	3,600	2,200	NLV	NLV	ID	1.7E+6	NA		<300
2,4-Dichlorophenoxyacetic acid	94-75-7	NA	1,400	4,400	NLV	NLV	6.7E+9	2.5E+6	NA		<200
Pesticides (µg/kg)											
All Pesticides	Varies	-	-	-	-	-	-	-	-		BDL
Semivolatile Organic Compounds (SVOCs, µg/kg)											
Fluoranthene	206-44-0	NA	7.3E+5	5,500	1.0E+9 (D)	7.4E+8	9.3E+9	4.6E+7	NA		380
Remaining SVOCs	Varies	-	-	-	-	-	-	-	-		BDL
Volatile Organic Compounds (VOCs, µg/kg)											
All VOCs	Varies	-	-	-	-	-	-	-	-		BDL

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R 299.49 FOOTNOTES FOR GENERIC CLEANUP CRITERIA TABLES (as last revised on December 30, 2013)

Cleanup Criteria Requirements for Response Activity (formerly the Part 201 Generic Cleanup Criteria and Screening Levels)

(A) Criterion is the state of Michigan drinking water standard established pursuant to Section 5 of 1976 PA 399, MCL 325.1005.

(B) Background, as defined in R 299.1(b), may be substituted if higher than the calculated cleanup criterion. Background levels may be less than criteria for some inorganic compounds.

(C) The criterion developed under R 299.20 to R 299.26 exceeds the chemical-specific soil saturation screening level (C_{sat}). The person proposing or implementing response activity shall document whether additional response activity is required to control free-phase liquids or NAPL to protect against risks associated with free-phase liquids by using methods appropriate for the free-phase liquids present. Development of a site-specific C_{sat} or methods presented in R 299.22, R 299.24(5), and R 299.26(8) may be conducted for the relevant exposure pathways.

(D) Calculated criterion exceeds 10%, hence it is reduced to 100 percent or 1.0E+9 parts per billion (ppb).

(E) Criterion is the aesthetic drinking water value, as required by Section 20120a(5) of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA). A notice of aesthetic impact may be employed as an institutional control mechanism if groundwater concentrations exceed the aesthetic drinking water criterion, but do not exceed the applicable health-based drinking water value [as provided in the table in Footnote (E) in R 299.49].

(F) Criterion is based on adverse impacts to plant life and phytotoxicity.

(G) Groundwater surface water interface (GSI) criterion depends on the pH or water hardness, or both, of the receiving surface water. The final chronic value (FCV) for the protection of aquatic life shall be calculated based on the pH or hardness of the receiving surface water. Where water hardness exceeds 400 mg $CaCO_3$/L, use 400 mg $CaCO_3$/L for the FCV calculation. The FCV formula provides values in units of ug/L or ppb. The generic GSI criterion is the lesser of the calculated FCV, the wildlife value (WV), and the surface water human non-drinking water value (HNDV). The soil GSI protection criteria for these hazardous substances are the greater of 20 times the GSI criterion or the GSI soil-water partition values using the GSI criteria developed with the procedure described in this footnote. [See table in Footnote (G) in R 299.49].

(H) Valence-specific chromium data (Cr III and Cr VI) shall be compared to the corresponding valence-specific cleanup criteria. If both Cr III and Cr VI are present in groundwater, the total concentration of both cannot exceed the drinking water criterion of 100 ug/L. If analytical data are provided for total chromium only, they shall be compared to the cleanup criteria for Cr VI. Cr III soil cleanup criterion for protection of drinking water can only be used at sites where groundwater is prevented from being used as a public water supply, currently and in the future, through an approved land or resource use restriction.

(I) Hazardous substance may exhibit the characteristic of ignitability as defined in 40 C.F.R. §261.21 (revised as of July 1, 2001), which is adopted by reference in these rules.

(J) Hazardous substance may be present in several isomer forms. Isomer-specific concentrations shall be added together for comparison to criteria.

(K) Hazardous substance may be flammable or explosive, or both.

(L) Criteria for lead are derived using a biologically based model, as allowed for under Section 20120a(9) of the NREPA, and are not calculated using the algorithms and assumptions specified in pathway-specific rules. The generic residential drinking water criterion of 4 ug/L is linked to the generic residential soil direct contact criterion of 400 mg/kg. A higher concentration in the drinking water, up to the state action level of 15 ug/L, may be allowed as a site-specific remedy and still allow for drinking water use, under Section 20120a(2) of the NREPA if soil concentrations are appropriately lower than 400 mg/kg. If a site-specific criterion is approved based on this subdivision, a notice shall be filed on the deed for all property where the groundwater concentrations will exceed 4 ug/L to provide notice of the potential for unacceptable risk if soil or groundwater concentrations increase. Acceptable concentrations of site-specific soil and drinking water concentrations are presented in the [table in Footnote (L) in R 299.49].

(M) Calculated criterion is below the analytical target detection limit, therefore, the criterion defaults to the target detection limit.

(N) The concentrations of all potential sources of nitrate-nitrogen (e.g., ammonia-N, nitrite-N, nitrate-N) in groundwater that is used as a source of drinking water shall not, when added together, exceed the nitrate drinking water criterion of 10,000 ug/L. Where leaching to groundwater is a relevant pathway, soil concentrations of all potential sources of nitrate-nitrogen shall not, when added together, exceed the nitrate drinking water protection criterion of 2.0E+5 ug/kg.

(O) The concentration of all polychlorinated and polybrominated dibenzodioxin and dibenzofuran isomers present at a facility, expressed as an equivalent concentration of 2,3,7,8-tetrachlorodibenzo-p-dioxin based upon their relative potency, shall be added together and compared to the criteria for 2,3,7,8-tetrachlorodibenzo-p-dioxin. The generic cleanup criteria for 2,3,7,8-tetrachlorodibenzo-p-dioxin are not calculated according to the algorithms presented in R 299.14 to R 299.26. The generic cleanup criteria are being held at the values that the DEQ has used since August 1998, in recognition of the fact that national efforts to reassess risks posed by dioxin are not yet complete. Until these studies are complete, it is premature to select a revised slope factor and/or reference dose for calculation of generic cleanup criteria.

(P) Amenable cyanide methods or method OIA-1677 shall be used to quantify cyanide concentrations for compliance with all groundwater criteria. Total cyanide methods or method OIA-1677 shall be used to quantify cyanide concentrations for compliance with soil criteria. Nonresidential direct contact criteria may not be protective of the potential for release of hydrogen cyanide gas. Additional land or resource use restrictions may be necessary to protect for the acute inhalation concerns associated with hydrogen cyanide gas.

(Q) Criteria for carcinogenic polycyclic aromatic hydrocarbons were developed using relative potential potencies to benzo(a)pyrene.

(R) Hazardous substance may exhibit the characteristic of reactivity as defined in 40 C.F.R. §261.23 (revised as of July 1, 2001), which is adopted by reference in these rules.

(S) Criterion defaults to the hazardous substance-specific water solubility limit.

(T) Refer to the federal Toxic Substances Control Act (TSCA), 40 C.F.R. §761, subpart D and 40 C.F.R. §761, Subpart G, to determine the applicability of TSCA cleanup standards. Subpart D and subpart G of 40 C.F.R. §761 (July 1, 2001) are adopted by reference in these rules. Alternatives to compliance with the TSCA standards listed below are possible under 40 C.F.R. §761 Subpart D. New releases may be subject to the standards identified in 40 C.F.R. §761, Subpart G. Use Part 201 soil direct contact cleanup criteria in the following table if TSCA standards are not applicable. [See table in Footnote (T) in R 299.49].

(U) Hazardous substance may exhibit the characteristic of corrosivity as defined in 40 C.F.R. §261.22 (revised as of July 1, 2001), which is adopted by reference in these rules.

(V) Criterion is the aesthetic drinking water value as required by Section 20120(a)(5) of the NREPA. Concentrations up to 200 ug/L may be acceptable, and still allow for drinking water use, as part of a site-specific cleanup under Section 20120a(2) and 20120b of the NREPA.

(W) Concentrations of trihalomethanes in groundwater shall be added together to determine compliance with the Michigan drinking water standard of 80 ug/L. Concentrations of trihalomethanes in soil shall be added together to determine compliance with the drinking water protection criterion of 1,600 ug/kg.

(X) The GSI criterion shown in the generic cleanup criteria tables is not protective for surface water that is used as a drinking water source. For a groundwater discharge to the Great Lakes and their connecting waters or discharge in close proximity to a water supply intake in inland surface waters, the generic GSI criterion shall be the surface water human drinking water value (HDV) listed in the [table in Footnote (X) in R 299.49], except for those HDV indicated with an asterisk. For HDV with an asterisk, the generic GSI criterion shall be the lowest of the HDV, the WV, and the calculated FCV. See formulas in [the table in Footnote (G) in R 299.49]. Soil protection criteria based on the HDV shall be as listed in the [table in Footnote (X) in R 299.49], except for those values with an asterisk. Soil GSI protection criteria based on the HDV shall be as listed in the [table in Footnote (X) in R 299.49], except for those values with an asterisk. Soil GSI protection criteria for compounds with an asterisk shall be the greater of 20 times the GSI criterion or the GSI soil-water partition values using the GSI criteria developed with the procedure described in this footnote.

(Y) Source size modifiers shown in the [table in Footnote (Y) in R 299.49] shall be used to determine soil inhalation criteria for ambient air when the source size is not one-half acre. The modifier shall be multiplied by the generic soil inhalation criteria shown in the table of generic cleanup criteria to determine the applicable criterion. See Footnote (C) [in R 299.49].

(Z) Mercury is typically measured as total mercury. The generic cleanup criteria, however, are based on data for different species of mercury. Specifically, data for elemental mercury, chemical abstract service (CAS) number 7439976, serve as the basis for the soil volatilization to indoor air criteria, groundwater volatilization to indoor air, and soil inhalation criteria. Data for methyl mercury, CAS number 22967926, serve as the basis for the GSI criterion; and data for mercuric chloride, CAS number 7487947, serve as the basis for the drinking water, groundwater contact, soil direct contact, and the groundwater protection criteria. Comparison to criteria shall be based on species-specific analytical data only if sufficient facility characterization has been conducted to rule out the presence of other species of mercury.

(AA) Use 10,000 ug/L where groundwater enters a structure through the use of a water well, sump or other device. Use 28,000 ug/L for all other uses.

(BB) The state drinking water standard for asbestos (fibers greater than 10 micrometers in length) is in units of a million fibers per liter of water (MFL). Soil concentrations of asbestos are determined by polarized light microscopy.

(CC) Groundwater: The generic GSI criteria are based on the toxicity of unionized ammonia (NH_3); the criteria are 29 ug/L and 53 ug/L for cold water and warm water surface water, respectively. As a result, the GSI criterion shall be compared to the percent of the total ammonia concentration in the groundwater that will become NH_3 in the surface water. This percent NH_3 is a function of the pH and temperature of the receiving surface water and can be estimated using the [table in Footnote (CC) in R 299.49], taken from Emerson, et al., (Journal of the Fisheries Research Board of Canada, Volume 32(12):2382, 1975). The generic approach for estimating NH_3 assumes a default pH of 8 and default temperatures of 68 °F and 85 °F for cold water and warm water surface water, respectively. The resulting NH_3 is 3.8 percent and 7.2 percent for cold water and warm water, respectively. This default percentage shall be multiplied by the total ammonia-nitrogen (NH_3-N) concentration in the groundwater and the resulting NH_3 concentration compared to the applicable GSI criterion. As an alternative, the maximum pH and temperature data from the specific receiving surface water can be used to estimate, from the [table in Footnote (CC) in R 299.49], a lower percent unionized ammonia concentration for comparison to the generic GSI.
Soil: The generic soil GSI protection criteria for unionized ammonia are 580 ug/kg and 1,100 ug/kg for cold water and warm water surface water, respectively.

(DD) Hazardous substance causes developmental effects. Residential direct contact criteria are protective of both prenatal and postnatal exposure. Nonresidential direct contact criteria are protective for a pregnant adult receptor.

(EE) The [values listed in the table in Footnote (EE) in 299.49] are applicable generic GSI criteria as required by Section 20120e of the NREPA.

(FF) The chloride GSI criterion shall be 125 mg/L when the discharge is to surface waters of the state designated as public water supply sources or 50 mg/L when the discharge is to the Great Lakes or connecting waters. Chloride GSI criteria shall not apply for surface waters of the state that are not designated as a public water supply source; however, the total dissolved solids criterion is applicable.

(GG) Risk-based criteria are not available for methane due to insufficient toxicity data. An acceptable soil gas concentration (presented for both residential and nonresidential land uses) was derived utilizing 25 percent of the lower explosive level for methane. This equates to 1.25 percent or 8.4E+6 ug/m^3.

(HH) The residential criterion for sodium is 230,000 ug/L in accordance with the Sodium Advisory Council recommendation and revised Groundwater Discharge Standards.

ID Insufficient data to develop criterion.

NA A criterion or value is not available or, in the case of background and CAS numbers, not applicable.

NLL Hazardous substance is not likely to leach under most soil conditions.

NLV Hazardous substance is not likely to volatilize under most conditions.

ug/kg Micrograms per kilogram

ug/L Micrograms per liter

BDL Below Laboratory Method Detection Limits

BOLD Exceeds criteria.

BF Backfill

TS Topsoil

30-Sep-2020

Megan Napier
AKT Peerless
22725 Orchard Lake Road
Farmington, MI 48336

Re: **8997f5-5-10.4** Work Order: **20091791**

Dear Megan,

ALS Environmental received 1 sample on 22-Sep-2020 08:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental - Holland and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 45.

If you have any questions regarding this report, please feel free to contact me:

ADDRESS: 3352 128th Avenue, Holland, MI, USA
PHONE: +1 (616) 399-6070 FAX: +1 (616) 399-6185

Sincerely,

Electronically approved by: Bill Carey

Bill Carey
Project Manager

Report of Laboratory Analysis

ALS Group, USA

Date: 30-Sep-20

Client: AKT Peerless
Project: 8997f5-5-10.4
Work Order: **20091791**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
20091791-01	13120 Longview - TS - Composite	Soil		9/21/2020 09:15	9/22/2020 08:00	☐

Client: AKT Peerless
Project: 8997f5-5-10.4
WorkOrder: **20091791**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
Hr	BOD/CBOD - Sample was reset outside Hold Time, value should be considered estimated.
J	Analyte is present at an estimated concentration between the MDL and Report Limit
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
% of sample	Percent of Sample
µg/Kg-dry	Micrograms per Kilogram Dry Weight
mg/Kg-dry	Milligrams per Kilogram Dry Weight

Client: AKT Peerless
Project: 8997f5-5-10.4
Work Order: 20091791

Case Narrative

Samples for the above noted Work Order were received on 9/22/2020. The attached "Sample Receipt Checklist" documents the status of custody seals, container integrity, preservation, and temperature compliance.

Samples were analyzed according to the analytical methodology previously transmitted in the "Work Order Acknowledgement". Methodologies are also documented in the "Analytical Result" section for each sample. Quality control results are listed in the "QC Report" section. Sample association for the reported quality control is located at the end of each batch summary. If applicable, results are appropriately qualified in the Analytical Result and QC Report sections. The "Qualifiers" section documents the various qualifiers, units, and acronyms utilized in reporting. A copy of the laboratory's scope of accreditation is available upon request.

With the following exceptions, all sample analyses achieved analytical criteria.

Volatile Organics:
Batch 164680, Method SW8260C, Sample LCS-164680: The LCS recovery was above the upper control limit. All the sample results in the batch were non-detect. No qualification is necessary for this analyte: bromomethane, methyl iodide

Batch 164680, Method SW8260C, Sample 20091791-01A MS: The MS recovery was below the lower control limit. The corresponding result in the parent sample may be biased low for this analyte: chloroethane

Batch 164680, Method SW8260C, Sample 20091791-01A MS: The MS recovery was above the upper control limit. The corresponding result in the parent sample was non-detect, therefore no qualification is necessary: methyl iodide, acetone

Batch 164680, Method SW8260C, Sample 20091791-01A MSD: The MSD recovery was below the lower control limit. The corresponding result in the parent sample may be biased low for this analyte: chloroethane

Batch 164680, Method SW8260C, Sample 20091791-01A MSD: The MSD recovery was above the upper control limit. The corresponding result in the parent sample was non-detect, therefore no qualification is necessary. methyl iodide, acetone

Batch 164680, Method SW8260C, Sample 20091791-01A MSD: The MSD recovery was outside of the control limit. However, the MS recovery and the RPD between the MS and MSD was in control. No qualification is required for this analyte: tetrachloroethene

Extractable Organics:
Batch 164676, Method SW8081A, Sample 13120 Longview - TS - Composite (20091791-01B): One or more surrogate recoveries were below the lower control limits. The sample results may be biased low, Decachlorobiphenyl
-Matrix interference

Batch 164882, Method SW846 8270D, Sample 13120 Longview - TS - Composite (20091791-01B): The reporting limit is elevated due to dilution needed to eliminate matrix-related interference.

Metals:
No other deviations or anomalies were noted.

Wet Chemistry:
No other deviations or anomalies were noted.

ALS Group, USA

Date: *30-Sep-20*

Client:	AKT Peerless	**Client Sample ID:**	13120 Longview - TS - Composi
Work Order:	20091791	**Collection Date:**	9/21/2020 9:15:00 AM
Project:	8997f5-5-10.4		
Lab ID:	20091791-01	**Matrix:**	SOIL

Analyses	Result	Report Limit	MDEQ OP Memo 2 TDL	Qual	Units	Dilution Factor	Date Analyzed
HERBICIDES			**SW8151**		Prep Date: **9/25/2020**		Analyst: **KYM**
2,4,5-TP (Silvex)	ND	300	300		µg/Kg-dry	1	9/26/2020
2,4-D	ND	200	200		µg/Kg-dry	1	9/26/2020
Surr: DCAA	*62.0*	*10-150*			*%REC*	1	9/26/2020
PCBS			**SW8082**		Prep Date: **9/22/2020**		Analyst: **RM**
Aroclor 1016	ND	330	330		µg/Kg-dry	1	9/23/2020
Aroclor 1221	ND	330	330		µg/Kg-dry	1	9/23/2020
Aroclor 1232	ND	330	330		µg/Kg-dry	1	9/23/2020
Aroclor 1242	ND	330	330		µg/Kg-dry	1	9/23/2020
Aroclor 1248	ND	330	330		µg/Kg-dry	1	9/23/2020
Aroclor 1254	ND	330	330		µg/Kg-dry	1	9/23/2020
Aroclor 1260	ND	330	330		µg/Kg-dry	1	9/23/2020
Aroclor 1262	ND	330	330		µg/Kg-dry	1	9/23/2020
Aroclor 1268	ND	330	330		µg/Kg-dry	1	9/23/2020
Surr: Decachlorobiphenyl	*69.9*	*40-140*			*%REC*	1	9/23/2020
Surr: Tetrachloro-m-xylene	*52.7*	*45-124*			*%REC*	1	9/23/2020
PESTICIDES			**SW8081A**		Prep Date: **9/22/2020**		Analyst: **RM**
4,4´-DDD	ND	20	20		µg/Kg-dry	1	9/22/2020
4,4´-DDE	ND	20	20		µg/Kg-dry	1	9/22/2020
4,4´-DDT	ND	20	20		µg/Kg-dry	1	9/22/2020
Aldrin	ND	20	20		µg/Kg-dry	1	9/22/2020
alpha-BHC	ND	11	10		µg/Kg-dry	1	9/22/2020
alpha-Chlordane	ND	30	30		µg/Kg-dry	1	9/22/2020
beta-BHC	ND	20	20		µg/Kg-dry	1	9/22/2020
Chlordane, Technical	ND	30	30		µg/Kg-dry	1	9/22/2020
delta-BHC	ND	20	20		µg/Kg-dry	1	9/22/2020
Dieldrin	ND	20	20		µg/Kg-dry	1	9/22/2020
Endosulfan I	ND	20	20		µg/Kg-dry	1	9/22/2020
Endosulfan II	ND	20	20		µg/Kg-dry	1	9/22/2020
Endosulfan sulfate	ND	20	20		µg/Kg-dry	1	9/22/2020
Endrin	ND	20	20		µg/Kg-dry	1	9/22/2020
Endrin aldehyde	ND	20	20		µg/Kg-dry	1	9/22/2020
Endrin ketone	ND	20	20		µg/Kg-dry	1	9/22/2020
gamma-BHC (Lindane)	ND	20	20		µg/Kg-dry	1	9/22/2020
gamma-Chlordane	ND	30	30		µg/Kg-dry	1	9/22/2020
Heptachlor	ND	20	20		µg/Kg-dry	1	9/22/2020
Heptachlor epoxide	ND	20	20		µg/Kg-dry	1	9/22/2020
Methoxychlor	ND	50	50		µg/Kg-dry	1	9/22/2020
Toxaphene	ND	170	170		µg/Kg-dry	1	9/22/2020

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: AKT Peerless **Client Sample ID:** 13120 Longview - TS - Composi
Work Order: 20091791 **Collection Date:** 9/21/2020 9:15:00 AM
Project: 8997f5-5-10.4
Lab ID: 20091791-01 **Matrix:** SOIL

Analyses	Result	Report Limit	MDEQ OP Memo 2 TDL	Qual	Units	Dilution Factor	Date Analyzed
Surr: Decachlorobiphenyl	*48.8*	*50-150*		S	*%REC*	1	9/22/2020
Surr: Tetrachloro-m-xylene	*57.9*	*50-150*			*%REC*	1	9/22/2020
MERCURY BY CVAA			**SW7471B**		Prep Date: **9/24/2020**		Analyst: **MAC**
Mercury	ND	50	50		µg/Kg-dry	1	9/24/2020
METALS BY ICP-MS			**SW6020B**		Prep Date: **9/26/2020**		Analyst: **STP**
Arsenic	**5,000**	**2,000**	**2,000**		**µg/Kg-dry**	1	9/29/2020
Barium	**48,000**	**1,000**	**1,000**		**µg/Kg-dry**	1	9/28/2020
Cadmium	ND	200	200		µg/Kg-dry	1	9/28/2020
Chromium	**10,000**	**2,000**	**2,000**		**µg/Kg-dry**	1	9/29/2020
Copper	**8,200**	**1,000**	**1,000**		**µg/Kg-dry**	1	9/29/2020
Lead	**26,000**	**10,000**	**10,000**		**µg/Kg-dry**	1	9/28/2020
Selenium	ND	400	200		µg/Kg-dry	1	9/29/2020
Silver	ND	400	100		µg/Kg-dry	1	9/29/2020
Zinc	**44,000**	**8,100**	**1,000**		**µg/Kg-dry**	10	9/29/2020
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW846 8270D**		Prep Date: **9/25/2020**		Analyst: **EEW**
1,1`-Biphenyl	ND	350	330		µg/Kg-dry	10	9/28/2020
2,4,5-Trichlorophenol	ND	350	300		µg/Kg-dry	10	9/28/2020
2,4,6-Trichlorophenol	ND	350	330		µg/Kg-dry	10	9/28/2020
2,4-Dichlorophenol	ND	350	330		µg/Kg-dry	10	9/28/2020
2,4-Dimethylphenol	ND	350	330		µg/Kg-dry	10	9/28/2020
2,4-Dinitrophenol	ND	830	830		µg/Kg-dry	10	9/28/2020
2,4-Dinitrotoluene	ND	350	330		µg/Kg-dry	10	9/28/2020
2,6-Dinitrotoluene	ND	350	330		µg/Kg-dry	10	9/28/2020
2-Chloronaphthalene	ND	330	330		µg/Kg-dry	10	9/28/2020
2-Chlorophenol	ND	350	330		µg/Kg-dry	10	9/28/2020
2-Methylnaphthalene	ND	330	330		µg/Kg-dry	10	9/28/2020
2-Methylphenol	ND	350	330		µg/Kg-dry	10	9/28/2020
2-Nitroaniline	ND	830	830		µg/Kg-dry	10	9/28/2020
2-Nitrophenol	ND	350	330		µg/Kg-dry	10	9/28/2020
3&4-Methylphenol	ND	350	330		µg/Kg-dry	10	9/28/2020
3,3´-Dichlorobenzidine	ND	2,000	2,000		µg/Kg-dry	10	9/28/2020
3-Nitroaniline	ND	830	830		µg/Kg-dry	10	9/28/2020
4,6-Dinitro-2-methylphenol	ND	830	830		µg/Kg-dry	10	9/28/2020
4-Bromophenyl phenyl ether	ND	350	330		µg/Kg-dry	10	9/28/2020
4-Chloro-3-methylphenol	ND	350	280		µg/Kg-dry	10	9/28/2020
4-Chloroaniline	ND	720	330		µg/Kg-dry	10	9/28/2020
4-Chlorophenyl phenyl ether	ND	350	330		µg/Kg-dry	10	9/28/2020
4-Nitroaniline	ND	1,800	830		µg/Kg-dry	10	9/28/2020
4-Nitrophenol	ND	830	830		µg/Kg-dry	10	9/28/2020

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: *30-Sep-20*

Client:	AKT Peerless	**Client Sample ID:**	13120 Longview - TS - Composi
Work Order:	20091791	**Collection Date:**	9/21/2020 9:15:00 AM
Project:	8997f5-5-10.4		
Lab ID:	20091791-01	**Matrix:**	SOIL

Analyses	Result	Report Limit	MDEQ OP Memo 2 TDL	Qual	Units	Dilution Factor	Date Analyzed
Acenaphthene	ND	330	330		µg/Kg-dry	10	9/28/2020
Acenaphthylene	ND	330	330		µg/Kg-dry	10	9/28/2020
Acetophenone	ND	350	330		µg/Kg-dry	10	9/28/2020
Anthracene	ND	330	330		µg/Kg-dry	10	9/28/2020
Atrazine	ND	350	50		µg/Kg-dry	10	9/28/2020
Benzaldehyde	ND	720	300		µg/Kg-dry	10	9/28/2020
Benzo(a)anthracene	ND	330	330		µg/Kg-dry	10	9/28/2020
Benzo(a)pyrene	ND	330	330		µg/Kg-dry	10	9/28/2020
Benzo(b)fluoranthene	ND	330	330		µg/Kg-dry	10	9/28/2020
Benzo(g,h,i)perylene	ND	330	330		µg/Kg-dry	10	9/28/2020
Benzo(k)fluoranthene	ND	330	330		µg/Kg-dry	10	9/28/2020
Bis(2-chloroethoxy)methane	ND	350	330		µg/Kg-dry	10	9/28/2020
Bis(2-chloroethyl)ether	ND	350	100		µg/Kg-dry	10	9/28/2020
Bis(2-chloroisopropyl)ether	ND	350	330		µg/Kg-dry	10	9/28/2020
Bis(2-ethylhexyl)phthalate	ND	350	330		µg/Kg-dry	10	9/28/2020
Butyl benzyl phthalate	ND	350	330		µg/Kg-dry	10	9/28/2020
Caprolactam	ND	350	330		µg/Kg-dry	10	9/28/2020
Carbazole	ND	350	330		µg/Kg-dry	10	9/28/2020
Chrysene	ND	330	330		µg/Kg-dry	10	9/28/2020
Dibenzo(a,h)anthracene	ND	330	330		µg/Kg-dry	10	9/28/2020
Dibenzofuran	ND	350	330		µg/Kg-dry	10	9/28/2020
Diethyl phthalate	ND	350	330		µg/Kg-dry	10	9/28/2020
Dimethyl phthalate	ND	350	330		µg/Kg-dry	10	9/28/2020
Di-n-butyl phthalate	ND	350	330		µg/Kg-dry	10	9/28/2020
Di-n-octyl phthalate	ND	350	330		µg/Kg-dry	10	9/28/2020
Fluoranthene	**380**	**330**	**330**		**µg/Kg-dry**	10	9/28/2020
Fluorene	ND	330	330		µg/Kg-dry	10	9/28/2020
Hexachlorobenzene	ND	350	330		µg/Kg-dry	10	9/28/2020
Hexachlorobutadiene	ND	350	50		µg/Kg-dry	10	9/28/2020
Hexachlorocyclopentadiene	ND	350	330		µg/Kg-dry	10	9/28/2020
Hexachloroethane	ND	350	300		µg/Kg-dry	10	9/28/2020
Indeno(1,2,3-cd)pyrene	ND	330	330		µg/Kg-dry	10	9/28/2020
Isophorone	ND	1,800	330		µg/Kg-dry	10	9/28/2020
Naphthalene	ND	330	330		µg/Kg-dry	10	9/28/2020
Nitrobenzene	ND	1,800	330		µg/Kg-dry	10	9/28/2020
N-Nitrosodi-n-propylamine	ND	350	330		µg/Kg-dry	10	9/28/2020
N-Nitrosodiphenylamine	ND	350	330		µg/Kg-dry	10	9/28/2020
Pentachlorophenol	ND	350	20		µg/Kg-dry	10	9/28/2020
Phenanthrene	ND	330	330		µg/Kg-dry	10	9/28/2020
Phenol	ND	350	330		µg/Kg-dry	10	9/28/2020
Pyrene	ND	330	330		µg/Kg-dry	10	9/28/2020

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client:	AKT Peerless	**Client Sample ID:**	13120 Longview - TS - Composi
Work Order:	20091791	**Collection Date:**	9/21/2020 9:15:00 AM
Project:	8997f5-5-10.4		
Lab ID:	20091791-01	**Matrix:**	SOIL

Analyses	Result	Report Limit	MDEQ OP Memo 2 TDL	Qual	Units	Dilution Factor	Date Analyzed
Surr: 2,4,6-Tribromophenol	*64.4*	*38-92*			*%REC*	10	9/28/2020
Surr: 2-Fluorobiphenyl	*62.4*	*44-107*			*%REC*	10	9/28/2020
Surr: 2-Fluorophenol	*62.8*	*37-109*			*%REC*	10	9/28/2020
Surr: 4-Terphenyl-d14	*63.0*	*52-123*			*%REC*	10	9/28/2020
Surr: Nitrobenzene-d5	*66.4*	*41-94*			*%REC*	10	9/28/2020
Surr: Phenol-d6	*71.4*	*28-111*			*%REC*	10	9/28/2020
VOLATILE ORGANIC COMPOUNDS			**SW8260C**		Prep Date: **9/22/2020**		Analyst: **MF**
1,1,1,2-Tetrachloroethane	ND	100	100		µg/Kg-dry	1	9/30/2020
1,1,1-Trichloroethane	ND	50	50		µg/Kg-dry	1	9/30/2020
1,1,2,2-Tetrachloroethane	ND	50	50		µg/Kg-dry	1	9/30/2020
1,1,2-Trichloroethane	ND	50	50		µg/Kg-dry	1	9/30/2020
1,1,2-Trichlorotrifluoroethane	ND	100	100		µg/Kg-dry	1	9/30/2020
1,1-Dichloroethane	ND	50	50		µg/Kg-dry	1	9/30/2020
1,1-Dichloroethene	ND	50	50		µg/Kg-dry	1	9/30/2020
1,2,3-Trichloropropane	ND	100	100		µg/Kg-dry	1	9/30/2020
1,2,4-Trichlorobenzene	ND	250	250		µg/Kg-dry	1	9/30/2020
1,2,4-Trimethylbenzene	ND	100	100		µg/Kg-dry	1	9/30/2020
1,2-Dibromo-3-chloropropane	ND	110	10		µg/Kg-dry	1	9/30/2020
1,2-Dibromoethane	ND	33	20		µg/Kg-dry	1	9/30/2020
1,2-Dichlorobenzene	ND	100	100		µg/Kg-dry	1	9/30/2020
1,2-Dichloroethane	ND	110	50		µg/Kg-dry	1	9/30/2020
1,2-Dichloropropane	ND	50	50		µg/Kg-dry	1	9/30/2020
1,3,5-Trimethylbenzene	ND	110	100		µg/Kg-dry	1	9/30/2020
1,3-Dichlorobenzene	ND	100	100		µg/Kg-dry	1	9/30/2020
1,4-Dichlorobenzene	ND	100	100		µg/Kg-dry	1	9/30/2020
2-Butanone	ND	750	750		µg/Kg-dry	1	9/30/2020
2-Hexanone	ND	2,500	2,500		µg/Kg-dry	1	9/30/2020
2-Methylnaphthalene	ND	330	330		µg/Kg-dry	1	9/30/2020
4-Methyl-2-pentanone	ND	2,500	2,500		µg/Kg-dry	1	9/30/2020
Acetone	ND	1,000	1,000		µg/Kg-dry	1	9/30/2020
Acrylonitrile	ND	110	100		µg/Kg-dry	1	9/30/2020
Benzene	ND	50	50		µg/Kg-dry	1	9/30/2020
Bromodichloromethane	ND	100	100		µg/Kg-dry	1	9/30/2020
Bromoform	ND	100	100		µg/Kg-dry	1	9/30/2020
Bromomethane	ND	200	200		µg/Kg-dry	1	9/30/2020
Carbon disulfide	ND	250	250		µg/Kg-dry	1	9/30/2020
Carbon tetrachloride	ND	50	50		µg/Kg-dry	1	9/30/2020
Chlorobenzene	ND	50	50		µg/Kg-dry	1	9/30/2020
Chloroethane	ND	250	250		µg/Kg-dry	1	9/30/2020
Chloroform	ND	50	50		µg/Kg-dry	1	9/30/2020

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: *30-Sep-20*

Client: AKT Peerless
Work Order: 20091791
Project: 8997f5-5-10.4
Lab ID: 20091791-01

Client Sample ID: 13120 Longview - TS - Composi
Collection Date: 9/21/2020 9:15:00 AM
Matrix: SOIL

Analyses	Result	Report Limit	MDEQ OP Memo 2 TDL	Qual	Units	Dilution Factor	Date Analyzed
Chloromethane	ND	250	250		µg/Kg-dry	1	9/30/2020
cis-1,2-Dichloroethene	ND	50	50		µg/Kg-dry	1	9/30/2020
cis-1,3-Dichloropropene	ND	50	50		µg/Kg-dry	1	9/30/2020
Dibromochloromethane	ND	100	100		µg/Kg-dry	1	9/30/2020
Dibromomethane	ND	250	250		µg/Kg-dry	1	9/30/2020
Dichlorodifluoromethane	ND	250	250		µg/Kg-dry	1	9/30/2020
Diethyl ether	ND	200	200		µg/Kg-dry	1	9/30/2020
Ethylbenzene	ND	50	50		µg/Kg-dry	1	9/30/2020
Hexachloroethane	ND	300	300		µg/Kg-dry	1	9/30/2020
Isopropylbenzene	ND	250	250		µg/Kg-dry	1	9/30/2020
m,p-Xylene	ND	100	100		µg/Kg-dry	1	9/30/2020
Methyl tert-butyl ether	ND	250	250		µg/Kg-dry	1	9/30/2020
Methylene chloride	ND	270	100		µg/Kg-dry	1	9/30/2020
Naphthalene	ND	330	330		µg/Kg-dry	1	9/30/2020
n-Propylbenzene	ND	100	100		µg/Kg-dry	1	9/30/2020
o-Xylene	ND	50	50		µg/Kg-dry	1	9/30/2020
Styrene	ND	50	50		µg/Kg-dry	1	9/30/2020
Tetrachloroethene	ND	50	50		µg/Kg-dry	1	9/30/2020
Toluene	ND	100	100		µg/Kg-dry	1	9/30/2020
trans-1,2-Dichloroethene	ND	50	50		µg/Kg-dry	1	9/30/2020
trans-1,3-Dichloropropene	ND	50	50		µg/Kg-dry	1	9/30/2020
Trichloroethene	ND	50	50		µg/Kg-dry	1	9/30/2020
Trichlorofluoromethane	ND	100	100		µg/Kg-dry	1	9/30/2020
Vinyl acetate	ND	5,000	5,000		µg/Kg-dry	1	9/30/2020
Vinyl chloride	ND	40	40		µg/Kg-dry	1	9/30/2020
Xylenes, Total	ND	150	150		µg/Kg-dry	1	9/30/2020
Surr: 1,2-Dichloroethane-d4	*103*	*70-130*			*%REC*	1	9/30/2020
Surr: 4-Bromofluorobenzene	*97.8*	*70-130*			*%REC*	1	9/30/2020
Surr: Dibromofluoromethane	*92.5*	*70-130*			*%REC*	1	9/30/2020
Surr: Toluene-d8	*97.8*	*70-130*			*%REC*	1	9/30/2020
CHLORIDE			**A4500-CL E-11**		Prep Date: **9/23/2020**		Analyst: **JDR**
Chloride	ND	200	200		mg/Kg-dry	1	9/24/2020
MOISTURE			**SW3550C**				Analyst: **RZM**
Moisture	**9.2**	**0.10**	**0**		**% of sample**	1	9/25/2020

Note: See Qualifiers page for a list of qualifiers and their definitions.

Batch ID: **164675** Instrument ID **GC14** Method: **SW8082**

MBLK	Sample ID: **PBLKS1-164675-164675**			Units: **µg/Kg**			Analysis Date: **9/22/2020 10:14 PM**			
Client ID:	Run ID: **GC14_200922A**			SeqNo: **6730962**			Prep Date: **9/22/2020**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	ND	67								
Aroclor 1221	ND	67								
Aroclor 1232	ND	67								
Aroclor 1242	ND	67								
Aroclor 1248	ND	67								
Aroclor 1254	ND	67								
Aroclor 1260	ND	67								
Aroclor 1262	ND	67								
Aroclor 1268	ND	67								
Surr: Decachlorobiphenyl	*37*	0	*33.3*	0	*111*	*40-140*	0			
Surr: Tetrachloro-m-xylene	*36.45*	0	*33.3*	0	*109*	*45-124*	0			

LCS	Sample ID: **PLCSS1-164675-164675**			Units: **µg/Kg**			Analysis Date: **9/22/2020 10:29 PM**			
Client ID:	Run ID: **GC14_200922A**			SeqNo: **6730963**			Prep Date: **9/22/2020**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	830.5	67	833	0	99.7	50-130	0			
Aroclor 1260	807.7	67	833	0	97	50-130	0			
Surr: Decachlorobiphenyl	*38.38*	0	*33.3*	0	*115*	*40-140*	0			
Surr: Tetrachloro-m-xylene	*37.33*	0	*33.3*	0	*112*	*45-124*	0			

MS	Sample ID: **20091635-01C MS**			Units: **µg/Kg**			Analysis Date: **9/22/2020 10:44 PM**			
Client ID:	Run ID: **GC14_200922A**			SeqNo: **6730964**			Prep Date: **9/22/2020**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	782.2	64	803.8	0	97.3	40-140	0			
Aroclor 1260	764.1	64	803.8	0	95.1	40-140	0			
Surr: Decachlorobiphenyl	*34.72*	0	*32.13*	0	*108*	*40-140*	0			
Surr: Tetrachloro-m-xylene	*35.45*	0	*32.13*	0	*110*	*45-124*	0			

MSD	Sample ID: **20091635-01C MSD**			Units: **µg/Kg**			Analysis Date: **9/22/2020 11:00 PM**			
Client ID:	Run ID: **GC14_200922A**			SeqNo: **6730965**			Prep Date: **9/22/2020**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	846.2	66	826.8	0	102	40-140	782.2	7.87	50	
Aroclor 1260	815.3	66	826.8	0	98.6	40-140	764.1	6.48	50	
Surr: Decachlorobiphenyl	*36.41*	0	*33.05*	0	*110*	*40-140*	34.72	*4.74*	*50*	
Surr: Tetrachloro-m-xylene	*35.86*	0	*33.05*	0	*109*	*45-124*	35.45	*1.16*	*50*	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: AKT Peerless
Work Order: 20091791
Project: 8997f5-5-10.4

QC BATCH REPORT

Batch ID: **164675** Instrument ID **GC14** Method: **SW8082**

The following samples were analyzed in this batch:	20091791-01B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: AKT Peerless
Work Order: 20091791
Project: 8997f5-5-10.4

QC BATCH REPORT

Batch ID: **164676** Instrument ID **GC12** Method: **SW8081A**

MBLK Sample ID: **PBLKS1-164676-164676** Units: **µg/Kg** Analysis Date: **9/22/2020 09:20 PM**
Client ID: Run ID: **GC12_200922A** SeqNo: **6730267** Prep Date: **9/22/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4,4´-DDD	ND	10								
4,4´-DDE	ND	10								
4,4´-DDT	ND	10								
Aldrin	ND	10								
alpha-BHC	ND	10								
alpha-Chlordane	ND	10								
beta-BHC	ND	10								
Chlordane, Technical	ND	25								
delta-BHC	ND	10								
Dieldrin	ND	10								
Endosulfan I	ND	10								
Endosulfan II	ND	10								
Endosulfan sulfate	ND	10								
Endrin	ND	10								
Endrin aldehyde	ND	10								
Endrin ketone	ND	10								
gamma-BHC (Lindane)	ND	10								
gamma-Chlordane	ND	10								
Heptachlor	ND	10								
Heptachlor epoxide	ND	10								
Methoxychlor	ND	10								
Toxaphene	ND	60								
Surr: Decachlorobiphenyl	*28.48*	0	*33.3*	0	*85.5*	*50-150*	0			
Surr: Tetrachloro-m-xylene	*29.18*	0	*33.3*	0	*87.6*	*50-150*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: AKT Peerless
Work Order: 20091791
Project: 8997f5-5-10.4

QC BATCH REPORT

Batch ID: **164676** Instrument ID **GC12** Method: **SW8081A**

LCS	Sample ID: **PLCSS1-164676-164676**				Units: **µg/Kg**			Analysis Date: **9/22/2020 09:34 PM**		
Client ID:	Run ID: **GC12_200922A**				SeqNo: **6730268**		Prep Date: **9/22/2020**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4,4´-DDD	28.5	10	33.33	0	85.5	50-150	0			
4,4´-DDE	26.92	10	33.33	0	80.8	50-150	0			
4,4´-DDT	23.12	10	33.33	0	69.4	50-150	0			
Aldrin	31.13	10	33.33	0	93.4	50-150	0			
alpha-BHC	32.13	10	33.33	0	96.4	50-150	0			
alpha-Chlordane	30.88	10	33.33	0	92.7	50-150	0			
beta-BHC	30.68	10	33.33	0	92.1	50-150	0			
delta-BHC	31.33	10	33.33	0	94	50-150	0			
Dieldrin	31.45	10	33.33	0	94.4	50-150	0			
Endosulfan I	32.78	10	33.33	0	98.4	50-150	0			
Endosulfan II	30.48	10	33.33	0	91.5	50-150	0			
Endosulfan sulfate	29.67	10	33.33	0	89	50-150	0			
Endrin	29.73	10	33.33	0	89.2	50-150	0			
Endrin aldehyde	28.55	10	33.33	0	85.7	50-150	0			
Endrin ketone	29.4	10	33.33	0	88.2	50-150	0			
gamma-BHC (Lindane)	30.95	10	33.33	0	92.9	50-150	0			
gamma-Chlordane	31.2	10	33.33	0	93.6	50-150	0			
Heptachlor	20.42	10	33.33	0	61.3	50-150	0			
Heptachlor epoxide	31.83	10	33.33	0	95.5	50-150	0			
Methoxychlor	20.13	10	33.33	0	60.4	50-150	0			
Surr: Decachlorobiphenyl	*27.67*	0	*33.3*	0	*83.1*	*50-150*	0			
Surr: Tetrachloro-m-xylene	*28.68*	0	*33.3*	0	*86.1*	*50-150*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: AKT Peerless
Work Order: 20091791
Project: 8997f5-5-10.4

QC BATCH REPORT

Batch ID: **164676** Instrument ID **GC12** Method: **SW8081A**

MS	Sample ID: **20091638-01C MS**				Units: **µg/Kg**			Analysis Date: **9/22/2020 09:47 PM**			
Client ID:		Run ID: **GC12_200922A**			SeqNo: **6730269**			Prep Date: **9/22/2020**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4,4´-DDD	26.93	9.9	32.84	0	82	50-150	0			
4,4´-DDE	25.63	9.9	32.84	0	78.1	50-150	0			
4,4´-DDT	20.99	9.9	32.84	0	63.9	50-150	0			
Aldrin	28.54	9.9	32.84	0	86.9	50-150	0			
alpha-BHC	29.46	9.9	32.84	0	89.7	50-150	0			
alpha-Chlordane	28.19	9.9	32.84	0	85.9	50-150	0			
beta-BHC	27.82	9.9	32.84	0	84.7	50-150	0			
delta-BHC	27.8	9.9	32.84	0	84.7	50-150	0			
Dieldrin	28.69	9.9	32.84	0	87.4	50-150	0			
Endosulfan I	29.59	9.9	32.84	0	90.1	50-150	0			
Endosulfan II	26.42	9.9	32.84	0	80.5	50-150	0			
Endosulfan sulfate	24.17	9.9	32.84	0	73.6	50-150	0			
Endrin	27.52	9.9	32.84	0	83.8	50-150	0			
Endrin aldehyde	23.15	9.9	32.84	0	70.5	50-150	0			
Endrin ketone	25.04	9.9	32.84	0	76.3	50-150	0			
gamma-BHC (Lindane)	28.36	9.9	32.84	0	86.4	50-150	0			
gamma-Chlordane	28.36	9.9	32.84	0	86.4	50-150	0			
Heptachlor	19.11	9.9	32.84	0	58.2	50-150	0			
Heptachlor epoxide	29.03	9.9	32.84	0	88.4	50-150	0			
Methoxychlor	18.06	9.9	32.84	0	55	50-150	0			
Surr: Decachlorobiphenyl	*19.67*	0	*32.81*	0	*60*	*50-150*	0			
Surr: Tetrachloro-m-xylene	*26.03*	0	*32.81*	0	*79.3*	*50-150*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: AKT Peerless
Work Order: 20091791
Project: 8997f5-5-10.4

QC BATCH REPORT

Batch ID: **164676** Instrument ID **GC12** Method: **SW8081A**

MSD	Sample ID: **20091638-01C MSD**				Units: **µg/Kg**			Analysis Date: **9/22/2020 10:01 PM**			
Client ID:		Run ID: **GC12_200922A**			SeqNo: **6730270**			Prep Date: **9/22/2020**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4,4´-DDD	25.2	9.9	33.11	0	76.1	50-150	26.93	6.65	35	
4,4´-DDE	25.18	9.9	33.11	0	76.1	50-150	25.63	1.78	35	
4,4´-DDT	20.35	9.9	33.11	0	61.5	50-150	20.99	3.09	35	
Aldrin	27.02	9.9	33.11	0	81.6	50-150	28.54	5.47	35	
alpha-BHC	27.8	9.9	33.11	0	84	50-150	29.46	5.81	35	
alpha-Chlordane	26.54	9.9	33.11	0	80.2	50-150	28.19	6.05	35	
beta-BHC	25.48	9.9	33.11	0	77	50-150	27.82	8.77	35	
delta-BHC	24.93	9.9	33.11	0	75.3	50-150	27.8	10.9	35	
Dieldrin	26.67	9.9	33.11	0	80.6	50-150	28.69	7.28	35	
Endosulfan I	27.91	9.9	33.11	0	84.3	50-150	29.59	5.83	35	
Endosulfan II	23.38	9.9	33.11	0	70.6	50-150	26.42	12.2	35	
Endosulfan sulfate	21.16	9.9	33.11	0	63.9	50-150	24.17	13.3	35	
Endrin	25.88	9.9	33.11	0	78.2	50-150	27.52	6.16	35	
Endrin aldehyde	19.9	9.9	33.11	0	60.1	50-150	23.15	15.1	35	
Endrin ketone	22.2	9.9	33.11	0	67.1	50-150	25.04	12	35	
gamma-BHC (Lindane)	26.7	9.9	33.11	0	80.7	50-150	28.36	6.01	35	
gamma-Chlordane	26.65	9.9	33.11	0	80.5	50-150	28.36	6.2	35	
Heptachlor	18.54	9.9	33.11	0	56	50-150	19.11	3.04	35	
Heptachlor epoxide	27.05	9.9	33.11	0	81.7	50-150	29.03	7.06	35	
Methoxychlor	16.21	9.9	33.11	0	49	50-150	18.06	10.8	35	S
Surr: Decachlorobiphenyl	*19.85*	0	*33.08*	0	*60*	*50-150*	19.67	*0.901*	*35*	
Surr: Tetrachloro-m-xylene	*25.64*	0	*33.08*	0	*77.5*	*50-150*	26.03	*1.48*	*35*	

The following samples were analyzed in this batch: 20091791-01B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: AKT Peerless
Work Order: 20091791
Project: 8997f5-5-10.4

QC BATCH REPORT

Batch ID: **164829** Instrument ID **GC7** Method: **SW8151**

MBLK Sample ID: **HBLKS1-164829-164829** Units: **µg/Kg** Analysis Date: **9/26/2020 05:04 PM**
Client ID: Run ID: **GC7_200926A** SeqNo: **6740691** Prep Date: **9/25/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-TP (Silvex)	ND	5.0								
2,4-D	ND	10								
Surr: DCAA	*9*	0	*50*	0	*18*	*10-150*	0			

LCS Sample ID: **HLCSS1-164829-164829** Units: **µg/Kg** Analysis Date: **9/26/2020 05:18 PM**
Client ID: Run ID: **GC7_200926A** SeqNo: **6740692** Prep Date: **9/25/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-TP (Silvex)	31	5.0	50	0	62	10-150	0			
2,4-D	40	10	50	0	80	10-130	0			
Surr: DCAA	*35*	0	*50*	0	*70*	*10-150*	0			

MS Sample ID: **20091791-01B MS** Units: **µg/Kg** Analysis Date: **9/26/2020 05:31 PM**
Client ID: **13120 Longview - TS - Composite** Run ID: **GC7_200926A** SeqNo: **6740693** Prep Date: **9/25/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-TP (Silvex)	22.88	5.0	49.74	0	46	10-150	0			
2,4-D	34.82	9.9	49.74	0	70	10-130	0			
Surr: DCAA	*30.84*	0	*49.74*	0	*62*	*10-150*	0			

MSD Sample ID: **20091791-01B MSD** Units: **µg/Kg** Analysis Date: **9/26/2020 05:45 PM**
Client ID: **13120 Longview - TS - Composite** Run ID: **GC7_200926A** SeqNo: **6740694** Prep Date: **9/25/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-TP (Silvex)	14.78	4.9	49.26	0	30	10-150	22.88	43	50	
2,4-D	29.56	9.9	49.26	0	60	10-130	34.82	16.3	50	
Surr: DCAA	*21.67*	0	*49.26*	0	*44*	*10-150*	30.84	*34.9*	*50*	

The following samples were analyzed in this batch: 20091791-01B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: AKT Peerless
Work Order: 20091791
Project: 8997f5-5-10.4

QC BATCH REPORT

Batch ID: **164822** Instrument ID **HG4** Method: **SW7471B**

MBLK Sample ID: **MBLK-164822-164822** Units: **mg/Kg** Analysis Date: **9/24/2020 04:23 PM**
Client ID: Run ID: **HG4_200924A** SeqNo: **6734850** Prep Date: **9/24/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.020								

LCS Sample ID: **LCS-164822-164822** Units: **mg/Kg** Analysis Date: **9/24/2020 04:25 PM**
Client ID: Run ID: **HG4_200924A** SeqNo: **6734851** Prep Date: **9/24/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.17	0.020	0.1665	0	102	80-120	0			

MS Sample ID: **20091791-01BMS** Units: **mg/Kg** Analysis Date: **9/24/2020 04:32 PM**
Client ID: **13120 Longview - TS - Composite** Run ID: **HG4_200924A** SeqNo: **6734855** Prep Date: **9/24/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1574	0.017	0.1391	0.03144	90.5	75-125	0			

MSD Sample ID: **20091791-01BMSD** Units: **mg/Kg** Analysis Date: **9/24/2020 04:34 PM**
Client ID: **13120 Longview - TS - Composite** Run ID: **HG4_200924A** SeqNo: **6734856** Prep Date: **9/24/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1634	0.017	0.1384	0.03144	95.4	75-125	0.1574	3.77	35	

The following samples were analyzed in this batch: 20091791-01B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: AKT Peerless
Work Order: 20091791
Project: 8997f5-5-10.4

QC BATCH REPORT

Batch ID: **164941** Instrument ID **ICPMS3** Method: **SW6020B**

MBLK Sample ID: **MBLK-164941-164941** Units: **mg/Kg** Analysis Date: **9/28/2020 06:13 PM**
Client ID: Run ID: **ICPMS3_200928B** SeqNo: **6743768** Prep Date: **9/26/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.25								
Barium	ND	0.25								
Cadmium	ND	0.10								
Chromium	ND	0.25								
Copper	ND	0.25								
Lead	ND	0.25								
Selenium	ND	0.25								
Silver	ND	0.25								
Zinc	ND	0.50								

LCS Sample ID: **LCS-164941-164941** Units: **mg/Kg** Analysis Date: **9/28/2020 06:15 PM**
Client ID: Run ID: **ICPMS3_200928B** SeqNo: **6743770** Prep Date: **9/26/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cadmium	5.395	0.10	5	0	108	80-120	0			
Chromium	5.631	0.25	5	0	113	80-120	0			
Selenium	5.202	0.25	5	0	104	80-120	0			
Zinc	5.462	0.50	5	0	109	80-120	0			

LCS Sample ID: **LCS-164941-164941** Units: **mg/Kg** Analysis Date: **9/29/2020 05:18 PM**
Client ID: Run ID: **ICPMS3_200929B** SeqNo: **6746777** Prep Date: **9/26/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.65	0.25	5	0	93	80-120	0			
Barium	4.983	0.25	5	0	99.7	80-120	0			
Copper	4.766	0.25	5	0	95.3	80-120	0			
Lead	4.924	0.25	5	0	98.5	80-120	0			
Silver	4.811	0.25	5	0	96.2	80-120	0			

MS Sample ID: **20091840-01BMS** Units: **mg/Kg** Analysis Date: **9/28/2020 06:58 PM**
Client ID: Run ID: **ICPMS3_200928B** SeqNo: **6743810** Prep Date: **9/26/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	413.2	0.42	8.306	398	183	75-125	0			SEO
Cadmium	9.036	0.17	8.306	2.124	83.2	75-125	0			
Lead	1260	0.42	8.306	1404	-1730	75-125	0			SEO
Selenium	7.257	0.42	8.306	0.7494	78.3	75-125	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: AKT Peerless
Work Order: 20091791
Project: 8997f5-5-10.4

QC BATCH REPORT

Batch ID: **164941** Instrument ID **ICPMS3** Method: **SW6020B**

MS Sample ID: **20091840-01BMS** Units: **mg/Kg** Analysis Date: **9/29/2020 05:48 PM**
Client ID: Run ID: **ICPMS3_200929B** SeqNo: **6746797** Prep Date: **9/26/2020** DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	399.4	42	8.306	390.5	107	75-125	0			O
Lead	1226	42	8.306	1348	-1470	75-125	0			SO

MS Sample ID: **20091840-01BMS** Units: **mg/Kg** Analysis Date: **9/29/2020 05:54 PM**
Client ID: Run ID: **ICPMS3_200929B** SeqNo: **6746800** Prep Date: **9/26/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	17.37	0.42	8.306	12.48	58.9	75-125	0			S
Chromium	40.16	0.42	8.306	29.99	122	75-125	0			
Copper	85.24	0.42	8.306	94.3	-109	75-125	0			SO
Silver	7.002	0.42	8.306	0.8221	74.4	75-125	0			S
Zinc	643.5	0.83	8.306	618.6	299	75-125	0			SEO

MSD Sample ID: **20091840-01BMSD** Units: **mg/Kg** Analysis Date: **9/28/2020 07:00 PM**
Client ID: Run ID: **ICPMS3_200928B** SeqNo: **6743811** Prep Date: **9/26/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	399.2	0.40	8.078	398	14.7	75-125	413.2	3.45	20	SEO
Cadmium	8.365	0.16	8.078	2.124	77.3	75-125	9.036	7.71	20	
Lead	974	0.40	8.078	1404	-5330	75-125	1260	25.6	20	SREO
Selenium	7.172	0.40	8.078	0.7494	79.5	75-125	7.257	1.17	20	

MSD Sample ID: **20091840-01BMSD** Units: **mg/Kg** Analysis Date: **9/29/2020 05:50 PM**
Client ID: Run ID: **ICPMS3_200929B** SeqNo: **6746798** Prep Date: **9/26/2020** DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	361	40	8.078	390.5	-365	75-125	404.4	11.4	20	SO
Lead	885.5	40	8.078	1348	-5730	75-125	1179	28.5	20	SRO

MSD Sample ID: **20091840-01BMSD** Units: **mg/Kg** Analysis Date: **9/29/2020 05:56 PM**
Client ID: Run ID: **ICPMS3_200929B** SeqNo: **6746801** Prep Date: **9/26/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	16.97	0.40	8.078	12.48	55.7	75-125	17.37	2.31	20	S
Chromium	46.91	0.40	8.078	29.99	209	75-125	40.16	15.5	20	S
Copper	77.75	0.40	8.078	94.3	-205	75-125	85.24	9.18	20	SO
Silver	6.934	0.40	8.078	0.8221	75.7	75-125	7.002	0.985	20	
Zinc	545	0.81	8.078	618.6	-911	75-125	643.5	16.6	20	SEO

The following samples were analyzed in this batch: 20091791-01B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: AKT Peerless
Work Order: 20091791
Project: 8997f5-5-10.4

QC BATCH REPORT

Batch ID: **164882** Instrument ID **SVMS10** Method: **SW846 8270D**

MBLK	Sample ID: **SBLKS1-164882-164882**				Units: **µg/Kg**		Analysis Date: **9/27/2020 10:57 PM**			
Client ID:		Run ID: **SVMS10_200927A**			SeqNo: **6741358**		Prep Date: **9/25/2020**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1`-Biphenyl	ND	33								
2,4,5-Trichlorophenol	ND	33								
2,4,6-Trichlorophenol	ND	33								
2,4-Dichlorophenol	ND	33								
2,4-Dimethylphenol	ND	33								
2,4-Dinitrophenol	ND	33								
2,4-Dinitrotoluene	ND	33								
2,6-Dinitrotoluene	ND	33								
2-Chloronaphthalene	ND	6.7								
2-Chlorophenol	ND	33								
2-Methylnaphthalene	ND	6.7								
2-Methylphenol	ND	33								
2-Nitroaniline	ND	33								
2-Nitrophenol	ND	33								
3&4-Methylphenol	ND	33								
3,3´-Dichlorobenzidine	ND	170								
3-Nitroaniline	ND	33								
4,6-Dinitro-2-methylphenol	ND	33								
4-Bromophenyl phenyl ether	ND	33								
4-Chloro-3-methylphenol	ND	33								
4-Chloroaniline	ND	67								
4-Chlorophenyl phenyl ether	ND	33								
4-Nitroaniline	ND	170								
4-Nitrophenol	ND	33								
Acenaphthene	ND	6.7								
Acenaphthylene	ND	6.7								
Acetophenone	ND	33								
Anthracene	ND	6.7								
Atrazine	ND	33								
Benzaldehyde	ND	67								
Benzo(a)anthracene	ND	6.7								
Benzo(a)pyrene	ND	6.7								
Benzo(b)fluoranthene	ND	6.7								
Benzo(g,h,i)perylene	ND	6.7								
Benzo(k)fluoranthene	ND	6.7								
Bis(2-chloroethoxy)methane	ND	33								
Bis(2-chloroethyl)ether	ND	33								
Bis(2-chloroisopropyl)ether	ND	33								
Bis(2-ethylhexyl)phthalate	ND	33								
Butyl benzyl phthalate	ND	33								
Caprolactam	ND	33								
Carbazole	ND	33								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Batch ID: **164882** Instrument ID **SVMS10** Method: **SW846 8270D**

Chrysene	ND	6.7					
Dibenzo(a,h)anthracene	ND	6.7					
Dibenzofuran	ND	33					
Diethyl phthalate	ND	33					
Dimethyl phthalate	ND	33					
Di-n-butyl phthalate	ND	33					
Di-n-octyl phthalate	ND	33					
Fluoranthene	ND	6.7					
Fluorene	ND	6.7					
Hexachlorobenzene	ND	33					
Hexachlorobutadiene	ND	33					
Hexachlorocyclopentadiene	ND	33					
Hexachloroethane	ND	33					
Indeno(1,2,3-cd)pyrene	ND	6.7					
Isophorone	ND	170					
Naphthalene	ND	6.7					
Nitrobenzene	ND	170					
N-Nitrosodi-n-propylamine	ND	33					
N-Nitrosodiphenylamine	ND	33					
Pentachlorophenol	ND	33					
Phenanthrene	ND	6.7					
Phenol	ND	33					
Pyrene	ND	6.7					
Surr: 2,4,6-Tribromophenol	*2271*	0	*3333*	0	*68.1*	*38-92*	0
Surr: 2-Fluorobiphenyl	*2668*	0	*3333*	0	*80*	*44-107*	0
Surr: 2-Fluorophenol	*2680*	0	*3333*	0	*80.4*	*37-109*	0
Surr: 4-Terphenyl-d14	*3050*	0	*3333*	0	*91.5*	*52-123*	0
Surr: Nitrobenzene-d5	*2567*	0	*3333*	0	*77*	*41-94*	0
Surr: Phenol-d6	*2911*	0	*3333*	0	*87.3*	*28-111*	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: AKT Peerless
Work Order: 20091791
Project: 8997f5-5-10.4

QC BATCH REPORT

Batch ID: **164882** Instrument ID **SVMS10** Method: **SW846 8270D**

LCS	Sample ID: **SLCSS1-164882-164882**			Units: **µg/Kg**			Analysis Date: **9/27/2020 11:24 PM**			
Client ID:	Run ID: **SVMS10_200927A**			SeqNo: **6741359**			Prep Date: **9/25/2020**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1`-Biphenyl	1159	33	1333	0	87	53-97	0			
2,4,5-Trichlorophenol	1009	33	1333	0	75.7	52-111	0			
2,4,6-Trichlorophenol	1013	33	1333	0	76	46-105	0			
2,4-Dichlorophenol	1017	33	1333	0	76.3	47-96	0			
2,4-Dimethylphenol	1221	33	1333	0	91.6	49-97	0			
2,4-Dinitrophenol	525.3	33	1333	0	39.4	10-106	0			
2,4-Dinitrotoluene	1105	33	1333	0	82.9	58-110	0			
2,6-Dinitrotoluene	1105	33	1333	0	82.9	59-108	0			
2-Chloronaphthalene	1050	6.7	1333	0	78.8	56-104	0			
2-Chlorophenol	1061	33	1333	0	79.6	50-104	0			
2-Methylnaphthalene	1077	6.7	1333	0	80.8	54-96	0			
2-Methylphenol	1118	33	1333	0	83.9	49-105	0			
2-Nitroaniline	1136	33	1333	0	85.2	54-107	0			
2-Nitrophenol	1030	33	1333	0	77.3	51-94	0			
3&4-Methylphenol	1126	33	1333	0	84.5	48-105	0			
3,3´-Dichlorobenzidine	956.7	170	1333	0	71.8	39-99	0			
3-Nitroaniline	929.3	33	1333	0	69.7	17-92	0			
4,6-Dinitro-2-methylphenol	881.3	33	1333	0	66.1	32-103	0			
4-Bromophenyl phenyl ether	1081	33	1333	0	81.1	60-106	0			
4-Chloro-3-methylphenol	1173	33	1333	0	88	51-101	0			
4-Chloroaniline	1178	67	1333	0	88.4	27-110	0			
4-Chlorophenyl phenyl ether	1067	33	1333	0	80	58-106	0			
4-Nitroaniline	761.3	170	1333	0	57.1	21-100	0			
4-Nitrophenol	1025	33	1333	0	76.9	29-120	0			
Acenaphthene	1111	6.7	1333	0	83.4	55-101	0			
Acenaphthylene	1148	6.7	1333	0	86.1	59-106	0			
Acetophenone	1107	33	1333	0	83.1	51-100	0			
Anthracene	1144	6.7	1333	0	85.8	67-105	0			
Atrazine	1155	33	1333	0	86.6	45-125	0			
Benzaldehyde	501.3	67	1333	0	37.6	10-120	0			
Benzo(a)anthracene	1200	6.7	1333	0	90	68-105	0			
Benzo(a)pyrene	1132	6.7	1333	0	84.9	68-110	0			
Benzo(b)fluoranthene	1218	6.7	1333	0	91.4	65-110	0			
Benzo(g,h,i)perylene	1188	6.7	1333	0	89.1	60-120	0			
Benzo(k)fluoranthene	1145	6.7	1333	0	85.9	66-113	0			
Bis(2-chloroethoxy)methane	1079	33	1333	0	81	53-96	0			
Bis(2-chloroethyl)ether	1037	33	1333	0	77.8	47-108	0			
Bis(2-chloroisopropyl)ether	1084	33	1333	0	81.3	47-107	0			
Bis(2-ethylhexyl)phthalate	1144	33	1333	0	85.8	59-117	0			
Butyl benzyl phthalate	1047	33	1333	0	78.6	59-106	0			
Caprolactam	916.7	33	1333	0	68.8	42-105	0			
Carbazole	1189	33	1333	0	89.2	67-108	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Batch ID: **164882** Instrument ID **SVMS10** Method: **SW846 8270D**

Chrysene	1155	6.7	1333	0	86.6	68-108	0
Dibenzo(a,h)anthracene	1187	6.7	1333	0	89.1	62-119	0
Dibenzofuran	1105	33	1333	0	82.9	60-104	0
Diethyl phthalate	1161	33	1333	0	87.1	62-111	0
Dimethyl phthalate	1108	33	1333	0	83.1	62-106	0
Di-n-butyl phthalate	1157	33	1333	0	86.8	59-105	0
Di-n-octyl phthalate	1199	33	1333	0	90	51-123	0
Fluoranthene	1131	6.7	1333	0	84.9	67-106	0
Fluorene	1128	6.7	1333	0	84.6	59-107	0
Hexachlorobenzene	1111	33	1333	0	83.3	62-103	0
Hexachlorobutadiene	1001	33	1333	0	75.1	51-94	0
Hexachlorocyclopentadiene	1156	33	1333	0	86.7	25-120	0
Hexachloroethane	1055	33	1333	0	79.1	55-93	0
Indeno(1,2,3-cd)pyrene	1162	6.7	1333	0	87.2	56-120	0
Isophorone	1176	170	1333	0	88.2	52-99	0
Naphthalene	1041	6.7	1333	0	78.1	46-98	0
Nitrobenzene	1119	170	1333	0	83.9	53-95	0
N-Nitrosodi-n-propylamine	1125	33	1333	0	84.4	50-104	0
N-Nitrosodiphenylamine	1147	33	1333	0	86	63-107	0
Pentachlorophenol	986	33	1333	0	74	34-106	0
Phenanthrene	1106	6.7	1333	0	83	66-101	0
Phenol	1093	33	1333	0	82	44-109	0
Pyrene	1105	6.7	1333	0	82.9	60-119	0
Surr: 2,4,6-Tribromophenol	*2585*	0	*3333*	0	*77.6*	*38-92*	0
Surr: 2-Fluorobiphenyl	*2649*	0	*3333*	0	*79.5*	*44-107*	0
Surr: 2-Fluorophenol	*2495*	0	*3333*	0	*74.9*	*37-109*	0
Surr: 4-Terphenyl-d14	*2819*	0	*3333*	0	*84.6*	*52-123*	0
Surr: Nitrobenzene-d5	*2641*	0	*3333*	0	*79.2*	*41-94*	0
Surr: Phenol-d6	*2823*	0	*3333*	0	*84.7*	*28-111*	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: AKT Peerless
Work Order: 20091791
Project: 8997f5-5-10.4

QC BATCH REPORT

Batch ID: **164882** Instrument ID **SVMS10** Method: **SW846 8270D**

MS	Sample ID: **20092057-02A MS**				Units: **µg/Kg**			Analysis Date: **9/27/2020 11:51 PM**			
Client ID:		Run ID: **SVMS10_200927A**			SeqNo: **6741360**			Prep Date: **9/25/2020**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1`-Biphenyl	945.3	32	1277	0	74	53-97	0			
2,4,5-Trichlorophenol	935.7	32	1277	0	73.3	52-111	0			
2,4,6-Trichlorophenol	914	32	1277	0	71.6	46-105	0			
2,4-Dichlorophenol	868	32	1277	0	68	47-96	0			
2,4-Dimethylphenol	1062	32	1277	0	83.1	49-97	0			
2,4-Dinitrophenol	106	32	1277	0	8.3	10-106	0			S
2,4-Dinitrotoluene	917.2	32	1277	0	71.8	58-110	0			
2,6-Dinitrotoluene	917.2	32	1277	0	71.8	59-108	0			
2-Chloronaphthalene	882.1	6.4	1277	0	69.1	56-104	0			
2-Chlorophenol	860.4	32	1277	0	67.4	50-104	0			
2-Methylnaphthalene	883.4	6.4	1277	0	69.2	54-96	0			
2-Methylphenol	914.7	32	1277	0	71.6	49-105	0			
2-Nitroaniline	970.2	32	1277	0	76	54-107	0			
2-Nitrophenol	884	32	1277	0	69.2	51-94	0			
3&4-Methylphenol	940.9	32	1277	0	73.7	48-105	0			
3,3´-Dichlorobenzidine	546.8	160	1277	0	42.8	39-99	0			
3-Nitroaniline	814.4	32	1277	0	63.8	17-92	0			
4,6-Dinitro-2-methylphenol	657.9	32	1277	0	51.5	32-103	0			
4-Bromophenyl phenyl ether	1007	32	1277	0	78.8	60-106	0			
4-Chloro-3-methylphenol	1029	32	1277	0	80.6	51-101	0			
4-Chloroaniline	941.5	64	1277	0	73.7	27-110	0			
4-Chlorophenyl phenyl ether	921.1	32	1277	0	72.1	58-106	0			
4-Nitroaniline	695.6	160	1277	0	54.5	21-100	0			
4-Nitrophenol	748	32	1277	0	58.6	29-120	0			
Acenaphthene	948.5	6.4	1277	0	74.3	55-101	0			
Acenaphthylene	982.4	6.4	1277	0	76.9	59-106	0			
Acetophenone	889.1	32	1277	0	69.6	51-100	0			
Anthracene	1009	6.4	1277	0	79	67-105	0			
Atrazine	1006	32	1277	0	78.8	45-125	0			
Benzaldehyde	562.7	64	1277	0	44.1	10-120	0			
Benzo(a)anthracene	1042	6.4	1277	0	81.6	68-105	0			
Benzo(a)pyrene	1016	6.4	1277	0	79.6	68-110	0			
Benzo(b)fluoranthene	1104	6.4	1277	0	86.5	65-110	0			
Benzo(g,h,i)perylene	1044	6.4	1277	0	81.8	60-120	0			
Benzo(k)fluoranthene	1019	6.4	1277	0	79.8	66-113	0			
Bis(2-chloroethoxy)methane	895.5	32	1277	0	70.1	53-96	0			
Bis(2-chloroethyl)ether	862.9	32	1277	0	67.6	47-108	0			
Bis(2-chloroisopropyl)ether	877	32	1277	0	68.7	47-107	0			
Bis(2-ethylhexyl)phthalate	1078	32	1277	0	84.4	59-117	0			
Butyl benzyl phthalate	1049	32	1277	0	82.2	59-106	0			
Caprolactam	901.3	32	1277	0	70.6	42-105	0			
Carbazole	1012	32	1277	0	79.2	67-108	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Batch ID: **164882** Instrument ID **SVMS10** Method: **SW846 8270D**

Chrysene	1044	6.4	1277	0	81.8	68-108	0
Dibenzo(a,h)anthracene	993.2	6.4	1277	0	77.8	62-119	0
Dibenzofuran	964.5	32	1277	0	75.5	60-104	0
Diethyl phthalate	981.1	32	1277	0	76.8	62-111	0
Dimethyl phthalate	947.2	32	1277	0	74.2	62-106	0
Di-n-butyl phthalate	1070	32	1277	0	83.8	59-105	0
Di-n-octyl phthalate	1220	32	1277	0	95.5	51-123	0
Fluoranthene	1019	6.4	1277	0	79.8	67-106	0
Fluorene	956.2	6.4	1277	0	74.9	59-107	0
Hexachlorobenzene	988.8	32	1277	0	77.4	62-103	0
Hexachlorobutadiene	869.3	32	1277	0	68.1	51-94	0
Hexachlorocyclopentadiene	1056	32	1277	0	82.7	25-120	0
Hexachloroethane	871.2	32	1277	0	68.2	55-93	0
Indeno(1,2,3-cd)pyrene	999	6.4	1277	0	78.2	56-120	0
Isophorone	969.6	160	1277	0	75.9	52-99	0
Naphthalene	862.3	6.4	1277	0	67.5	46-98	0
Nitrobenzene	923	160	1277	0	72.3	53-95	0
N-Nitrosodi-n-propylamine	910.8	32	1277	0	71.3	50-104	0
N-Nitrosodiphenylamine	1017	32	1277	0	79.6	63-107	0
Pentachlorophenol	876.3	32	1277	0	68.6	34-106	0
Phenanthrene	1008	6.4	1277	0	78.9	66-101	0
Phenol	901.3	32	1277	0	70.6	44-109	0
Pyrene	1056	6.4	1277	0	82.7	60-119	0
Surr: 2,4,6-Tribromophenol	*2423*	0	*3193*	0	*75.9*	*38-92*	0
Surr: 2-Fluorobiphenyl	*2276*	0	*3193*	0	*71.3*	*44-107*	0
Surr: 2-Fluorophenol	*2075*	0	*3193*	0	*65*	*37-109*	0
Surr: 4-Terphenyl-d14	*2611*	0	*3193*	0	*81.8*	*52-123*	0
Surr: Nitrobenzene-d5	*2151*	0	*3193*	0	*67.3*	*41-94*	0
Surr: Phenol-d6	*2232*	0	*3193*	0	*69.9*	*28-111*	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: AKT Peerless
Work Order: 20091791
Project: 8997f5-5-10.4

QC BATCH REPORT

Batch ID: **164882** Instrument ID **SVMS10** Method: **SW846 8270D**

MSD	Sample ID: **20092057-02A MSD**				Units: **µg/Kg**		Analysis Date: **9/28/2020 12:18 AM**			
Client ID:		Run ID: **SVMS10_200927A**			SeqNo: **6741361**		Prep Date: **9/25/2020**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1`-Biphenyl	1094	33	1323	0	82.7	53-97	945.3	14.6	30	
2,4,5-Trichlorophenol	1090	33	1323	0	82.4	52-111	935.7	15.3	30	
2,4,6-Trichlorophenol	1096	33	1323	0	82.9	46-105	914	18.1	30	
2,4-Dichlorophenol	1027	33	1323	0	77.6	47-96	868	16.8	30	
2,4-Dimethylphenol	1157	33	1323	0	87.5	49-97	1062	8.62	30	
2,4-Dinitrophenol	324.2	33	1323	0	24.5	10-106	106	101	30	R
2,4-Dinitrotoluene	1031	33	1323	0	78	58-110	917.2	11.7	30	
2,6-Dinitrotoluene	1031	33	1323	0	78	59-108	917.2	11.7	30	
2-Chloronaphthalene	1035	6.6	1323	0	78.3	56-104	882.1	16	30	
2-Chlorophenol	980.5	33	1323	0	74.1	50-104	860.4	13.1	30	
2-Methylnaphthalene	1031	6.6	1323	0	78	54-96	883.4	15.5	30	
2-Methylphenol	1056	33	1323	0	79.8	49-105	914.7	14.3	30	
2-Nitroaniline	1093	33	1323	0	82.6	54-107	970.2	11.9	30	
2-Nitrophenol	995.8	33	1323	0	75.3	51-94	884	11.9	30	
3&4-Methylphenol	1085	33	1323	0	82	48-105	940.9	14.2	30	
3,3´-Dichlorobenzidine	510.1	170	1323	0	38.6	39-99	546.8	6.93	30	S
3-Nitroaniline	837	33	1323	0	63.3	17-92	814.4	2.74	30	
4,6-Dinitro-2-methylphenol	826.4	33	1323	0	62.5	32-103	657.9	22.7	30	
4-Bromophenyl phenyl ether	1154	33	1323	0	87.2	60-106	1007	13.6	30	
4-Chloro-3-methylphenol	1145	33	1323	0	86.5	51-101	1029	10.6	30	
4-Chloroaniline	1049	66	1323	0	79.3	27-110	941.5	10.8	30	
4-Chlorophenyl phenyl ether	1080	33	1323	0	81.6	58-106	921.1	15.9	30	
4-Nitroaniline	598.8	170	1323	0	45.3	21-100	695.6	15	30	
4-Nitrophenol	927.6	33	1323	0	70.1	29-120	748	21.4	30	
Acenaphthene	1116	6.6	1323	0	84.4	55-101	948.5	16.2	30	
Acenaphthylene	1141	6.6	1323	0	86.2	59-106	982.4	14.9	30	
Acetophenone	1016	33	1323	0	76.8	51-100	889.1	13.3	30	
Anthracene	1130	6.6	1323	0	85.4	67-105	1009	11.3	30	
Atrazine	1099	33	1323	0	83.1	45-125	1006	8.83	30	
Benzaldehyde	585.6	66	1323	0	44.3	10-120	562.7	3.98	30	
Benzo(a)anthracene	1141	6.6	1323	0	86.3	68-105	1042	9.06	30	
Benzo(a)pyrene	1142	6.6	1323	0	86.3	68-110	1016	11.7	30	
Benzo(b)fluoranthene	1238	6.6	1323	0	93.6	65-110	1104	11.4	30	
Benzo(g,h,i)perylene	1239	6.6	1323	0	93.7	60-120	1044	17.1	30	
Benzo(k)fluoranthene	1161	6.6	1323	0	87.8	66-113	1019	13.1	30	
Bis(2-chloroethoxy)methane	1024	33	1323	0	77.4	53-96	895.5	13.3	30	
Bis(2-chloroethyl)ether	975.9	33	1323	0	73.8	47-108	862.9	12.3	30	
Bis(2-chloroisopropyl)ether	985.8	33	1323	0	74.5	47-107	877	11.7	30	
Bis(2-ethylhexyl)phthalate	1188	33	1323	0	89.8	59-117	1078	9.78	30	
Butyl benzyl phthalate	1177	33	1323	0	89	59-106	1049	11.5	30	
Caprolactam	1019	33	1323	0	77	42-105	901.3	12.3	30	
Carbazole	1139	33	1323	0	86.1	67-108	1012	11.9	30	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **164882** Instrument ID **SVMS10** Method: **SW846 8270D**

Chrysene	1135	6.6	1323	0	85.8	68-108	1044	8.35	30
Dibenzo(a,h)anthracene	1182	6.6	1323	0	89.4	62-119	993.2	17.4	30
Dibenzofuran	1119	33	1323	0	84.6	60-104	964.5	14.8	30
Diethyl phthalate	1097	33	1323	0	82.9	62-111	981.1	11.2	30
Dimethyl phthalate	1059	33	1323	0	80	62-106	947.2	11.1	30
Di-n-butyl phthalate	1175	33	1323	0	88.8	59-105	1070	9.37	30
Di-n-octyl phthalate	1397	33	1323	0	106	51-123	1220	13.6	30
Fluoranthene	1128	6.6	1323	0	85.3	67-106	1019	10.1	30
Fluorene	1100	6.6	1323	0	83.2	59-107	956.2	14	30
Hexachlorobenzene	1141	33	1323	0	86.2	62-103	988.8	14.3	30
Hexachlorobutadiene	1007	33	1323	0	76.1	51-94	869.3	14.7	30
Hexachlorocyclopentadiene	1298	33	1323	0	98.1	25-120	1056	20.6	30
Hexachloroethane	962	33	1323	0	72.7	55-93	871.2	9.9	30
Indeno(1,2,3-cd)pyrene	1164	6.6	1323	0	88	56-120	999	15.2	30
Isophorone	1125	170	1323	0	85.1	52-99	969.6	14.9	30
Naphthalene	980.5	6.6	1323	0	74.1	46-98	862.3	12.8	30
Nitrobenzene	1033	170	1323	0	78.1	53-95	923	11.3	30
N-Nitrosodi-n-propylamine	1025	33	1323	0	77.5	50-104	910.8	11.8	30
N-Nitrosodiphenylamine	1164	33	1323	0	88	63-107	1017	13.5	30
Pentachlorophenol	1024	33	1323	0	77.4	34-106	876.3	15.6	30
Phenanthrene	1120	6.6	1323	0	84.7	66-101	1008	10.5	30
Phenol	1055	33	1323	0	79.7	44-109	901.3	15.7	30
Pyrene	1222	6.6	1323	0	92.4	60-119	1056	14.5	30
Surr: 2,4,6-Tribromophenol	*2715*	0	*3308*	0	*82.1*	*38-92*	2423	*11.4*	*40*
Surr: 2-Fluorobiphenyl	*2713*	0	*3308*	0	*82*	*44-107*	2276	*17.5*	*40*
Surr: 2-Fluorophenol	*2342*	0	*3308*	0	*70.8*	*37-109*	2075	*12.1*	*40*
Surr: 4-Terphenyl-d14	*2950*	0	*3308*	0	*89.2*	*52-123*	2611	*12.2*	*40*
Surr: Nitrobenzene-d5	*2416*	0	*3308*	0	*73*	*41-94*	2151	*11.6*	*40*
Surr: Phenol-d6	*2674*	0	*3308*	0	*80.8*	*28-111*	2232	*18*	*40*

The following samples were analyzed in this batch: 20091791-01B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: AKT Peerless
Work Order: 20091791
Project: 8997f5-5-10.4

QC BATCH REPORT

Batch ID: **164680** Instrument ID **VMS11** Method: **SW8260C**

MBLK	Sample ID: **MBLK-164680-164680**				Units: **µg/Kg-dry**		Analysis Date: **9/26/2020 03:23 AM**			
Client ID:		Run ID: **VMS11_200925A**			SeqNo: **6739290**		Prep Date: **9/22/2020**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	ND	30								
1,1,1-Trichloroethane	ND	30								
1,1,2,2-Tetrachloroethane	ND	30								
1,1,2-Trichloroethane	ND	30								
1,1,2-Trichlorotrifluoroethane	ND	30								
1,1-Dichloroethane	ND	30								
1,1-Dichloroethene	ND	30								
1,2,3-Trichloropropane	ND	30								
1,2,4-Trichlorobenzene	ND	100								
1,2,4-Trimethylbenzene	ND	30								
1,2-Dibromo-3-chloropropane	ND	100								
1,2-Dibromoethane	ND	30								
1,2-Dichlorobenzene	ND	30								
1,2-Dichloroethane	ND	100								
1,2-Dichloropropane	ND	30								
1,3,5-Trimethylbenzene	ND	100								
1,3-Dichlorobenzene	ND	30								
1,4-Dichlorobenzene	ND	30								
2-Butanone	ND	200								
2-Hexanone	ND	30								
2-Methylnaphthalene	ND	100								
4-Methyl-2-pentanone	ND	30								
Acetone	ND	100								
Acrylonitrile	ND	100								
Benzene	ND	30								
Bromodichloromethane	ND	30								
Bromoform	ND	30								
Bromomethane	ND	100								
Carbon disulfide	ND	30								
Carbon tetrachloride	ND	30								
Chlorobenzene	ND	30								
Chloroethane	ND	100								
Chloroform	ND	30								
Chloromethane	ND	100								
cis-1,2-Dichloroethene	ND	30								
cis-1,3-Dichloropropene	ND	30								
Dibromochloromethane	ND	30								
Dibromomethane	ND	30								
Dichlorodifluoromethane	ND	100								
Diethyl ether	ND	30								
Ethylbenzene	ND	30								
Hexachloroethane	ND	100								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **164680** Instrument ID **VMS11** Method: **SW8260C**

Isopropylbenzene	ND	30					
m,p-Xylene	ND	60					
Methyl tert-butyl ether	ND	30					
Methylene chloride	ND	250					
Naphthalene	ND	100					
n-Propylbenzene	ND	30					
o-Xylene	ND	30					
Styrene	ND	30					
Tetrachloroethene	ND	30					
Toluene	ND	30					
trans-1,2-Dichloroethene	ND	30					
trans-1,3-Dichloropropene	ND	30					
Trichloroethene	ND	30					
Trichlorofluoromethane	ND	30					
Vinyl acetate	ND	250					
Vinyl chloride	ND	30					
Xylenes, Total	ND	90					
Surr: 1,2-Dichloroethane-d4	*949*	0	*1000*	0	*94.9*	*70-130*	0
Surr: 4-Bromofluorobenzene	*987.5*	0	*1000*	0	*98.8*	*70-130*	0
Surr: Dibromofluoromethane	*959.5*	0	*1000*	0	*96*	*70-130*	0
Surr: Toluene-d8	*981*	0	*1000*	0	*98.1*	*70-130*	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: AKT Peerless
Work Order: 20091791
Project: 8997f5-5-10.4

QC BATCH REPORT

Batch ID: **164680** Instrument ID **VMS11** Method: **SW8260C**

MBLK	Sample ID: **MBLK-164680-164680**				Units: **µg/Kg-dry**		Analysis Date: **9/29/2020 10:43 PM**			
Client ID:		Run ID: **VMS7_200929B**			SeqNo: **6748097**		Prep Date: **9/22/2020**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	ND	30								
1,1,1-Trichloroethane	ND	30								
1,1,2,2-Tetrachloroethane	ND	30								
1,1,2-Trichloroethane	ND	30								
1,1,2-Trichlorotrifluoroethane	ND	30								
1,1-Dichloroethane	ND	30								
1,1-Dichloroethene	ND	30								
1,2,3-Trichloropropane	ND	30								
1,2,4-Trichlorobenzene	ND	100								
1,2,4-Trimethylbenzene	ND	30								
1,2-Dibromo-3-chloropropane	ND	100								
1,2-Dibromoethane	ND	30								
1,2-Dichlorobenzene	ND	30								
1,2-Dichloroethane	ND	100								
1,2-Dichloropropane	ND	30								
1,3,5-Trimethylbenzene	ND	100								
1,3-Dichlorobenzene	ND	30								
1,4-Dichlorobenzene	ND	30								
2-Butanone	56	200								J
2-Hexanone	ND	30								
2-Methylnaphthalene	ND	100								
4-Methyl-2-pentanone	ND	30								
Acetone	ND	100								
Acrylonitrile	ND	100								
Benzene	ND	30								
Bromodichloromethane	ND	30								
Bromoform	ND	30								
Bromomethane	ND	100								
Carbon disulfide	ND	30								
Carbon tetrachloride	ND	30								
Chlorobenzene	ND	30								
Chloroethane	ND	100								
Chloroform	ND	30								
Chloromethane	ND	100								
cis-1,2-Dichloroethene	ND	30								
cis-1,3-Dichloropropene	ND	30								
Dibromochloromethane	ND	30								
Dibromomethane	ND	30								
Dichlorodifluoromethane	ND	100								
Diethyl ether	ND	30								
Ethylbenzene	ND	30								
Hexachloroethane	ND	100								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **164680** Instrument ID **VMS11** Method: **SW8260C**

Isopropylbenzene	ND	30					
m,p-Xylene	ND	60					
Methyl tert-butyl ether	ND	30					
Methylene chloride	ND	250					
Naphthalene	ND	100					
n-Propylbenzene	ND	30					
o-Xylene	ND	30					
Styrene	ND	30					
Tetrachloroethene	ND	30					
Toluene	ND	30					
trans-1,2-Dichloroethene	ND	30					
trans-1,3-Dichloropropene	ND	30					
Trichloroethene	ND	30					
Trichlorofluoromethane	ND	30					
Vinyl acetate	ND	250					
Vinyl chloride	ND	30					
Xylenes, Total	ND	90					
Surr: 1,2-Dichloroethane-d4	*1044*	0	*1000*	0	*104*	*70-130*	0
Surr: 4-Bromofluorobenzene	*981.5*	0	*1000*	0	*98.2*	*70-130*	0
Surr: Dibromofluoromethane	*951*	0	*1000*	0	*95.1*	*70-130*	0
Surr: Toluene-d8	*991.5*	0	*1000*	0	*99.2*	*70-130*	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: AKT Peerless
Work Order: 20091791
Project: 8997f5-5-10.4

QC BATCH REPORT

Batch ID: **164680** Instrument ID **VMS11** Method: **SW8260C**

LCS	Sample ID: **LCS-164680-164680**				Units: **µg/Kg-dry**		Analysis Date: **9/26/2020 02:17 AM**			
Client ID:		Run ID: **VMS11_200925A**			SeqNo: **6739288**		Prep Date: **9/22/2020**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	930	30	1000	0	93	75-125	0			
1,1,1-Trichloroethane	940	30	1000	0	94	70-135	0			
1,1,2,2-Tetrachloroethane	1002	30	1000	0	100	55-130	0			
1,1,2-Trichloroethane	990.5	30	1000	0	99	60-125	0			
1,1-Dichloroethane	860	30	1000	0	86	75-125	0			
1,1-Dichloroethene	965.5	30	1000	0	96.6	76-148	0			
1,2,3-Trichloropropane	962	30	1000	0	96.2	65-130	0			
1,2,4-Trichlorobenzene	909.5	100	1000	0	91	65-130	0			
1,2,4-Trimethylbenzene	869	30	1000	0	86.9	65-135	0			
1,2-Dibromo-3-chloropropane	803	100	1000	0	80.3	40-135	0			
1,2-Dibromoethane	981	30	1000	0	98.1	80-195	0			
1,2-Dichlorobenzene	915.5	30	1000	0	91.6	75-120	0			
1,2-Dichloroethane	961	100	1000	0	96.1	70-135	0			
1,2-Dichloropropane	896.5	30	1000	0	89.6	70-120	0			
1,3,5-Trimethylbenzene	932.5	100	1000	0	93.2	65-135	0			
1,3-Dichlorobenzene	933	30	1000	0	93.3	70-125	0			
1,4-Dichlorobenzene	926	30	1000	0	92.6	70-125	0			
2-Butanone	864	200	1000	0	86.4	30-160	0			
2-Hexanone	969.5	30	1000	0	97	45-145	0			
4-Methyl-2-pentanone	1300	30	1000	0	130	74-176	0			
Acetone	1028	100	1000	0	103	20-160	0			
Acrylonitrile	852	100	1000	0	85.2	70-135	0			
Benzene	987	30	1000	0	98.7	75-125	0			
Bromodichloromethane	946	30	1000	0	94.6	70-130	0			
Bromoform	769	30	1000	0	76.9	55-135	0			
Bromomethane	1039	100	1000	0	104	50-170	0			
Carbon disulfide	933	30	1000	0	93.3	45-160	0			
Carbon tetrachloride	941	30	1000	0	94.1	65-135	0			
Chlorobenzene	963.5	30	1000	0	96.4	75-125	0			
Chloroethane	885.5	100	1000	0	88.6	40-155	0			
Chloroform	1001	30	1000	0	100	66-140	0			
Chloromethane	1066	100	1000	0	107	50-144	0			
cis-1,2-Dichloroethene	983	30	1000	0	98.3	65-125	0			
cis-1,3-Dichloropropene	906	30	1000	0	90.6	70-125	0			
Dibromochloromethane	877.5	30	1000	0	87.8	65-135	0			
Dibromomethane	983	30	1000	0	98.3	75-130	0			
Dichlorodifluoromethane	993	100	1000	0	99.3	35-135	0			
Diethyl ether	948.5	30	1000	0	94.8	67-150	0			
Ethylbenzene	959	30	1000	0	95.9	75-125	0			
Hexachloroethane	886.5	100	1000	0	88.6	51-122	0			
Isopropylbenzene	896.5	30	1000	0	89.6	75-130	0			
m,p-Xylene	1928	60	2000	0	96.4	80-125	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **164680** Instrument ID **VMS11** Method: **SW8260C**

Methyl tert-butyl ether	929	30	1000	0	92.9	75-125	0
Methylene chloride	867.5	250	1000	0	86.8	55-145	0
Naphthalene	864.5	100	1000	0	86.4	40-140	0
n-Propylbenzene	896.5	30	1000	0	89.6	65-135	0
o-Xylene	958	30	1000	0	95.8	75-125	0
Styrene	899.5	30	1000	0	90	80-138	0
Tetrachloroethene	904.5	30	1000	0	90.4	67-167	0
Toluene	944.5	30	1000	0	94.4	70-125	0
trans-1,2-Dichloroethene	927.5	30	1000	0	92.8	65-135	0
trans-1,3-Dichloropropene	889	30	1000	0	88.9	59-129	0
Trichloroethene	901	30	1000	0	90.1	75-125	0
Trichlorofluoromethane	754.5	30	1000	0	75.4	25-185	0
Vinyl chloride	967.5	30	1000	0	96.8	60-125	0
Xylenes, Total	2886	90	3000	0	96.2	75-125	0
Surr: 1,2-Dichloroethane-d4	*997.5*	0	*1000*	0	*99.8*	*70-130*	0
Surr: 4-Bromofluorobenzene	*1009*	0	*1000*	0	*101*	*70-130*	0
Surr: Dibromofluoromethane	*994*	0	*1000*	0	*99.4*	*70-130*	0
Surr: Toluene-d8	*1020*	0	*1000*	0	*102*	*70-130*	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: AKT Peerless
Work Order: 20091791
Project: 8997f5-5-10.4

QC BATCH REPORT

Batch ID: **164680** Instrument ID **VMS11** Method: **SW8260C**

LCS	Sample ID: **LCS-164680-164680**				Units: **µg/Kg-dry**		Analysis Date: **9/29/2020 09:37 PM**			
Client ID:		Run ID: **VMS7_200929B**			SeqNo: **6748095**		Prep Date: **9/22/2020**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	952	30	1000	0	95.2	75-125	0			
1,1,1-Trichloroethane	1060	30	1000	0	106	70-135	0			
1,1,2,2-Tetrachloroethane	1172	30	1000	0	117	55-130	0			
1,1,2-Trichloroethane	1148	30	1000	0	115	60-125	0			
1,1-Dichloroethane	1206	30	1000	0	121	75-125	0			
1,1-Dichloroethene	1137	30	1000	0	114	76-148	0			
1,2,3-Trichloropropane	1144	30	1000	0	114	65-130	0			
1,2,4-Trichlorobenzene	1030	100	1000	0	103	65-130	0			
1,2,4-Trimethylbenzene	1124	30	1000	0	112	65-135	0			
1,2-Dibromo-3-chloropropane	919	100	1000	0	91.9	40-135	0			
1,2-Dibromoethane	1086	30	1000	0	109	80-195	0			
1,2-Dichlorobenzene	1006	30	1000	0	101	75-120	0			
1,2-Dichloroethane	1250	100	1000	0	125	70-135	0			
1,2-Dichloropropane	1037	30	1000	0	104	70-120	0			
1,3,5-Trimethylbenzene	1118	100	1000	0	112	65-135	0			
1,3-Dichlorobenzene	1039	30	1000	0	104	70-125	0			
1,4-Dichlorobenzene	1035	30	1000	0	104	70-125	0			
2-Butanone	928.5	200	1000	0	92.8	30-160	0			
2-Hexanone	1064	30	1000	0	106	45-145	0			
4-Methyl-2-pentanone	1440	30	1000	0	144	74-176	0			
Acetone	1169	100	1000	0	117	20-160	0			
Acrylonitrile	1140	100	1000	0	114	70-135	0			
Benzene	1096	30	1000	0	110	75-125	0			
Bromodichloromethane	1025	30	1000	0	102	70-130	0			
Bromoform	787.5	30	1000	0	78.8	55-135	0			
Bromomethane	4760	100	1000	0	476	50-170	0			S
Carbon disulfide	1146	30	1000	0	115	45-160	0			
Carbon tetrachloride	968	30	1000	0	96.8	65-135	0			
Chlorobenzene	1049	30	1000	0	105	75-125	0			
Chloroethane	792.5	100	1000	0	79.2	40-155	0			
Chloroform	1222	30	1000	0	122	66-140	0			
Chloromethane	802.5	100	1000	0	80.2	50-144	0			
cis-1,2-Dichloroethene	1230	30	1000	0	123	65-125	0			
cis-1,3-Dichloropropene	969.5	30	1000	0	97	70-125	0			
Dibromochloromethane	832.5	30	1000	0	83.2	65-135	0			
Dibromomethane	1113	30	1000	0	111	75-130	0			
Dichlorodifluoromethane	846	100	1000	0	84.6	35-135	0			
Diethyl ether	1232	30	1000	0	123	67-150	0			
Ethylbenzene	1060	30	1000	0	106	75-125	0			
Hexachloroethane	794.5	100	1000	0	79.4	51-122	0			
Isopropylbenzene	1128	30	1000	0	113	75-130	0			
m,p-Xylene	2182	60	2000	0	109	80-125	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **164680** Instrument ID **VMS11** Method: **SW8260C**

Methyl tert-butyl ether	1114	30	1000	0	111	75-125	0
Methylene chloride	1157	250	1000	0	116	55-145	0
Naphthalene	1036	100	1000	0	104	40-140	0
n-Propylbenzene	1121	30	1000	0	112	65-135	0
o-Xylene	1124	30	1000	0	112	75-125	0
Styrene	1060	30	1000	0	106	80-138	0
Tetrachloroethene	983.5	30	1000	0	98.4	67-167	0
Toluene	1071	30	1000	0	107	70-125	0
trans-1,2-Dichloroethene	1271	30	1000	0	127	65-135	0
trans-1,3-Dichloropropene	930.5	30	1000	0	93	59-129	0
Trichloroethene	1010	30	1000	0	101	75-125	0
Trichlorofluoromethane	817.5	30	1000	0	81.8	25-185	0
Vinyl chloride	1050	30	1000	0	105	60-125	0
Xylenes, Total	3306	90	3000	0	110	75-125	0
Surr: 1,2-Dichloroethane-d4	*1116*	0	*1000*	0	*112*	*70-130*	0
Surr: 4-Bromofluorobenzene	*1022*	0	*1000*	0	*102*	*70-130*	0
Surr: Dibromofluoromethane	*1036*	0	*1000*	0	*104*	*70-130*	0
Surr: Toluene-d8	*1004*	0	*1000*	0	*100*	*70-130*	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: AKT Peerless
Work Order: 20091791
Project: 8997f5-5-10.4

QC BATCH REPORT

Batch ID: **164680** Instrument ID **VMS11** Method: **SW8260C**

MS Sample ID: **20091791-01A MS** Units: **µg/Kg-dry** Analysis Date: **9/30/2020 04:47 AM**

Client ID: **13120 Longview - TS - Composite** Run ID: **VMS7_200929B** SeqNo: **6748101** Prep Date: **9/22/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	1036	37	1226	0	84.4	75-125	0			
1,1,1-Trichloroethane	1140	37	1226	0	93	70-135	0			
1,1,2,2-Tetrachloroethane	817.3	37	1226	0	66.6	55-130	0			
1,1,2-Trichloroethane	1220	37	1226	0	99.4	60-125	0			
1,1-Dichloroethane	1145	37	1226	0	93.3	75-125	0			
1,1-Dichloroethene	1162	37	1226	0	94.8	76-148	0			
1,2,3-Trichloropropane	1291	37	1226	0	105	65-130	0			
1,2,4-Trichlorobenzene	1213	120	1226	0	98.9	65-130	0			
1,2,4-Trimethylbenzene	1132	37	1226	0	92.3	65-135	0			
1,2-Dibromo-3-chloropropane	969.4	120	1226	0	79	40-135	0			
1,2-Dibromoethane	1167	37	1226	0	95.1	80-195	0			
1,2-Dichlorobenzene	1172	37	1226	0	95.5	75-120	0			
1,2-Dichloroethane	1285	120	1226	0	105	70-135	0			
1,2-Dichloropropane	1086	37	1226	0	88.5	70-120	0			
1,3,5-Trimethylbenzene	1221	120	1226	0	99.5	65-135	0			
1,3-Dichlorobenzene	1165	37	1226	0	95	70-125	0			
1,4-Dichlorobenzene	1169	37	1226	0	95.4	70-125	0			
2-Butanone	1427	250	1226	97.62	108	30-160	0			
2-Hexanone	1430	37	1226	0	117	45-145	0			
4-Methyl-2-pentanone	1253	37	1226	0	102	74-176	0			
Acetone	2318	120	1226	0	189	20-160	0			S
Acrylonitrile	1180	120	1226	0	96.2	70-135	0			
Benzene	1188	37	1226	0	96.8	75-125	0			
Bromodichloromethane	989.6	37	1226	0	80.7	70-130	0			
Bromoform	784.2	37	1226	0	63.9	55-135	0			
Bromomethane	1103	120	1226	0	90	50-170	0			
Carbon disulfide	1103	37	1226	0	90	45-160	0			
Carbon tetrachloride	957.7	37	1226	0	78.1	65-135	0			
Chlorobenzene	1205	37	1226	0	98.3	75-125	0			
Chloroethane	112.2	120	1226	0	9.15	40-155	0			JS
Chloroform	1251	37	1226	0	102	66-140	0			
Chloromethane	730.9	120	1226	0	59.6	50-144	0			
cis-1,2-Dichloroethene	1234	37	1226	0	101	65-125	0			
cis-1,3-Dichloropropene	979.8	37	1226	0	79.9	70-125	0			
Dibromochloromethane	848.6	37	1226	0	69.2	65-135	0			
Dibromomethane	1159	37	1226	0	94.6	75-130	0			
Dichlorodifluoromethane	897.6	120	1226	0	73.2	35-135	0			
Diethyl ether	1235	37	1226	0	101	67-150	0			
Ethylbenzene	1174	37	1226	0	95.7	75-125	0			
Hexachloroethane	815.5	120	1226	0	66.5	51-122	0			
Isopropylbenzene	1243	37	1226	0	101	75-130	0			
m,p-Xylene	2415	74	2453	0	98.4	80-125	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **164680** Instrument ID **VMS11** Method: **SW8260C**

Methyl tert-butyl ether	1184	37	1226	0	96.5	75-125	0
Methylene chloride	1120	310	1226	0	91.4	55-145	0
Naphthalene	1417	120	1226	92.19	108	40-140	0
n-Propylbenzene	1200	37	1226	0	97.8	65-135	0
o-Xylene	1248	37	1226	0	102	75-125	0
Styrene	1191	37	1226	0	97.1	80-138	0
Tetrachloroethene	2025	37	1226	0	165	67-167	0
Toluene	1174	37	1226	0	95.7	70-125	0
trans-1,2-Dichloroethene	1285	37	1226	0	105	65-135	0
trans-1,3-Dichloropropene	930.7	37	1226	0	75.9	59-129	0
Trichloroethene	1443	37	1226	0	118	75-125	0
Trichlorofluoromethane	855.3	37	1226	0	69.7	25-185	0
Vinyl chloride	1090	37	1226	0	88.8	60-125	0
Xylenes, Total	3663	110	3679	0	99.6	75-125	0
Surr: 1,2-Dichloroethane-d4	*1222*	0	*1226*	0	*99.7*	*70-130*	0
Surr: 4-Bromofluorobenzene	*1267*	0	*1226*	0	*103*	*70-130*	0
Surr: Dibromofluoromethane	*1172*	0	*1226*	0	*95.6*	*70-130*	0
Surr: Toluene-d8	*1199*	0	*1226*	0	*97.8*	*70-130*	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: AKT Peerless
Work Order: 20091791
Project: 8997f5-5-10.4

QC BATCH REPORT

Batch ID: **164680** Instrument ID **VMS11** Method: **SW8260C**

MSD Sample ID: **20091791-01A MSD** Units: **µg/Kg-dry** Analysis Date: **9/30/2020 05:03 AM**

Client ID: **13120 Longview - TS - Composite** Run ID: **VMS7_200929B** SeqNo: **6748102** Prep Date: **9/22/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	1098	37	1225	0	89.6	75-125	1036	5.82	30	
1,1,1-Trichloroethane	1231	37	1225	0	101	70-135	1140	7.71	30	
1,1,2,2-Tetrachloroethane	1014	37	1225	0	82.8	55-130	817.3	21.5	30	
1,1,2-Trichloroethane	1320	37	1225	0	108	60-125	1220	7.92	30	
1,1-Dichloroethane	1258	37	1225	0	103	75-125	1145	9.4	30	
1,1-Dichloroethene	1270	37	1225	0	104	76-148	1162	8.87	30	
1,2,3-Trichloropropane	1280	37	1225	0	104	65-130	1291	0.904	30	
1,2,4-Trichlorobenzene	1241	120	1225	0	101	65-130	1213	2.25	30	
1,2,4-Trimethylbenzene	1248	37	1225	0	102	65-135	1132	9.74	30	
1,2-Dibromo-3-chloropropane	981.3	120	1225	0	80.1	40-135	969.4	1.23	30	
1,2-Dibromoethane	1213	37	1225	0	99	80-195	1167	3.87	30	
1,2-Dichlorobenzene	1221	37	1225	0	99.6	75-120	1172	4.11	30	
1,2-Dichloroethane	1351	120	1225	0	110	70-135	1285	5.07	30	
1,2-Dichloropropane	1161	37	1225	0	94.7	70-120	1086	6.67	30	
1,3,5-Trimethylbenzene	1288	120	1225	0	105	65-135	1221	5.33	30	
1,3-Dichlorobenzene	1220	37	1225	0	99.6	70-125	1165	4.63	30	
1,4-Dichlorobenzene	1240	37	1225	0	101	70-125	1169	5.86	30	
2-Butanone	1534	250	1225	97.62	117	30-160	1427	7.27	30	
2-Hexanone	1450	37	1225	0	118	45-145	1430	1.4	30	
4-Methyl-2-pentanone	1383	37	1225	0	113	74-176	1253	9.9	30	
Acetone	2334	120	1225	0	190	20-160	2318	0.697	30	S
Acrylonitrile	1215	120	1225	0	99.2	70-135	1180	2.88	30	
Benzene	1274	37	1225	0	104	75-125	1188	7.03	30	
Bromodichloromethane	1072	37	1225	0	87.5	70-130	989.6	7.99	30	
Bromoform	838	37	1225	0	68.4	55-135	784.2	6.63	30	
Bromomethane	1380	120	1225	0	113	50-170	1103	22.3	30	
Carbon disulfide	1225	37	1225	0	100	45-160	1103	10.5	30	
Carbon tetrachloride	1085	37	1225	0	88.6	65-135	957.7	12.5	30	
Chlorobenzene	1281	37	1225	0	105	75-125	1205	6.07	30	
Chloroethane	159.3	120	1225	0	13	40-155	112.2	34.7	30	SR
Chloroform	1353	37	1225	0	110	66-140	1251	7.77	30	
Chloromethane	778	120	1225	0	63.5	50-144	730.9	6.24	30	
cis-1,2-Dichloroethene	1324	37	1225	0	108	65-125	1234	7.04	30	
cis-1,3-Dichloropropene	1075	37	1225	0	87.7	70-125	979.8	9.27	30	
Dibromochloromethane	897.4	37	1225	0	73.2	65-135	848.6	5.59	30	
Dibromomethane	1195	37	1225	0	97.5	75-130	1159	3.03	30	
Dichlorodifluoromethane	995.4	120	1225	0	81.2	35-135	897.6	10.3	30	
Diethyl ether	1353	37	1225	0	110	67-150	1235	9.05	30	
Ethylbenzene	1275	37	1225	0	104	75-125	1174	8.27	30	
Hexachloroethane	844.7	120	1225	0	68.9	51-122	815.5	3.52	30	
Isopropylbenzene	1357	37	1225	0	111	75-130	1243	8.77	30	
m,p-Xylene	2565	74	2450	0	105	80-125	2415	6.04	30	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **164680** Instrument ID **VMS11** Method: **SW8260C**

Methyl tert-butyl ether	1239	37	1225	0	101	75-125	1184	4.51	30	
Methylene chloride	1215	310	1225	0	99.2	55-145	1120	8.1	30	
Naphthalene	1387	120	1225	92.19	106	40-140	1417	2.1	30	
n-Propylbenzene	1298	37	1225	0	106	65-135	1200	7.86	30	
o-Xylene	1362	37	1225	0	111	75-125	1248	8.73	30	
Styrene	1277	37	1225	0	104	80-138	1191	6.96	30	
Tetrachloroethene	2173	37	1225	0	177	67-167	2025	7.09	30	S
Toluene	1274	37	1225	0	104	70-125	1174	8.17	30	
trans-1,2-Dichloroethene	1392	37	1225	0	114	65-135	1285	8.06	30	
trans-1,3-Dichloropropene	993	37	1225	0	81.1	59-129	930.7	6.47	30	
Trichloroethene	1429	37	1225	0	117	75-125	1443	0.947	30	
Trichlorofluoromethane	952.5	37	1225	0	77.8	25-185	855.3	10.8	30	
Vinyl chloride	1190	37	1225	0	97.1	60-125	1090	8.78	30	
Xylenes, Total	3927	110	3675	0	107	75-125	3663	6.96	30	
Surr: 1,2-Dichloroethane-d4	*1236*	0	*1225*	0	*101*	*70-130*	1222	*1.1*	*30*	
Surr: 4-Bromofluorobenzene	*1268*	0	*1225*	0	*104*	*70-130*	1267	*0.1*	*30*	
Surr: Dibromofluoromethane	*1166*	0	*1225*	0	*95.2*	*70-130*	1172	*0.513*	*30*	
Surr: Toluene-d8	*1180*	0	*1225*	0	*96.3*	*70-130*	1199	*1.59*	*30*	

The following samples were analyzed in this batch: 20091791-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: AKT Peerless
Work Order: 20091791
Project: 8997f5-5-10.4

QC BATCH REPORT

Batch ID: **164758** Instrument ID **GALLERY** Method: **A4500-Cl E-11**

MBLK Sample ID: **MBLK-164758-164758** Units: **mg/Kg** Analysis Date: **9/24/2020 10:15 AM**
Client ID: Run ID: **GALLERY_200924A** SeqNo: **6737345** Prep Date: **9/23/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	ND	10								

MS Sample ID: **20091717-01AMS** Units: **mg/Kg** Analysis Date: **9/24/2020 10:15 AM**
Client ID: Run ID: **GALLERY_200924A** SeqNo: **6737352** Prep Date: **9/23/2020** DF: **4**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	1457	40	497	795.5	133	86-114	0			SH

MSD Sample ID: **20091717-01AMSD** Units: **mg/Kg** Analysis Date: **9/24/2020 10:15 AM**
Client ID: Run ID: **GALLERY_200924A** SeqNo: **6737353** Prep Date: **9/23/2020** DF: **4**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	1480	40	497	795.5	138	86-114	1457	1.6	10	SH

LCS1 Sample ID: **LCS1-164758-164758** Units: **mg/Kg** Analysis Date: **9/24/2020 10:15 AM**
Client ID: Run ID: **GALLERY_200924A** SeqNo: **6737357** Prep Date: **9/23/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	103.2	10	100	0	103	86-114	0			

LCS2 Sample ID: **LCS2-164758-164758** Units: **mg/Kg** Analysis Date: **9/24/2020 10:15 AM**
Client ID: Run ID: **GALLERY_200924A** SeqNo: **6737358** Prep Date: **9/23/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	477.6	10	500	0	95.5	88-112	0			

The following samples were analyzed in this batch: 20091791-01B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: AKT Peerless
Work Order: 20091791
Project: 8997f5-5-10.4

QC BATCH REPORT

Batch ID: **R298994** Instrument ID **MOIST** Method: **SW3550C**

MBLK Sample ID: **WBLKS-R298994** Units: **% of sample** Analysis Date: **9/25/2020 03:02 PM**
Client ID: Run ID: **MOIST_200925B** SeqNo: **6738985** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	ND	0.10								

LCS Sample ID: **LCS-R298994** Units: **% of sample** Analysis Date: **9/25/2020 03:02 PM**
Client ID: Run ID: **MOIST_200925B** SeqNo: **6738984** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	99.99	0.10	100	0	100	98-102	0			

DUP Sample ID: **20091879-01A DUP** Units: **% of sample** Analysis Date: **9/25/2020 03:02 PM**
Client ID: Run ID: **MOIST_200925B** SeqNo: **6738967** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	72.78	0.10	0	0	0	0-0	72.54	0.33	10	

DUP Sample ID: **20092150-04A DUP** Units: **% of sample** Analysis Date: **9/25/2020 03:02 PM**
Client ID: Run ID: **MOIST_200925B** SeqNo: **6738981** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	73	0.10	0	0	0	0-0	74.78	2.41	10	

The following samples were analyzed in this batch: 20091791-01B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Cincinnati, OH +1 513 733 5336
Fort Collins, CO +1 970 490 1511
Everett, WA +1 425 356 2600
Holland, MI +1 616 399 6070
Houston, TX +1 281 530 5656
Spring City, PA +1 610 948 4903
South Charleston, WV +1 304 356 3168
Middletown, PA +1 717 944 5541
Salt Lake City, UT +1 801 266 7700
York, PA +1 717 505 5280

Chain of Custody Form

Page 1 of 1

COC ID: 223358

ALS Project Manager:

ALS Work Order #: 20091791

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name		A	VOCs
Work Order		Project Number	8997F5-5-10.4	B	SVOCs
Company Name	AKT Peerless	Bill To Company	AKT Peerless	C	PCBs
Send Report To	~~Megan Napier napierm@aktpeerless.com~~ SB	Invoice Attn	Accounts Payable	D	MI-10 metals
Address	22725 Orchard Lake Road	Address	214 James Avenue	E	Chloride
				F	Herbicides + Pesticides
City/State/Zip	Farmington, MI 48336	City/State/Zip	Saginaw, MI 48607	G	
Phone	(248) 615-1333	Phone	(989) 754-9896	H	
Fax	coaktr@aktpeerless.com	Fax		I	
e-Mail Address	napierm@aktpeerless.com	e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	13120 Longview -TS-Composite	9/21/2020	9:15 AM	Soil	MeOH	3	X	X	X	X	X	X					
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Sean Brick

Shipment Method:

Required Turnaround Time: (Check Box) ☐ Std 10 WK Days ☒ ~~5~~ WK Days ☐ Other ☐ 2 WK Days ☐ 24 Hour

Results Due Date:

Relinquished by: Sean Brick Date: 9/21/20 Time: 1540 Received by:

Relinquished by: Date: 9/21/20 Time: 1620 Received by (Laboratory):

Logged by (Laboratory): DFS Date: 9/22/20 Time: 1000 Checked by (Laboratory):

Notes: also send report to bricks@aktpeerless.com

Cooler ID	Cooler Temp.
IR1	20°C
pH22	

QC Package: (Check One Box Below)
☑ Level II Std QC ☐ Level III Std QC/Raw Data ☐ Level IV SW846/CLP ☐ Other ☐ TRRP CheckList ☐ TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental. Rec'd 9/22/20 0800

2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.

3. The Chain of Custody is a legal document. All information must be completed accurately.

ALS Group, USA

Sample Receipt Checklist

Client Name: **AKT PEERLESS - FARMINGTON** Date/Time Received: **22-Sep-20 08:00**

Work Order: **20091791** Received by: **DS**

Checklist completed by Diane Shaw (eSignature) 22-Sep-20 (Date) Reviewed by: Bill Carey (eSignature) 22-Sep-20 (Date)

Matrices: Soil

Carrier name: Courier

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	2.0/2.0 c	IR1	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	9/22/2020 10:00:53 AM		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:	-		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction: