Technical Memorandum
Groundwater Quality Sampling, December 2011 Event

Date: 16 July 2012

To: Amy Blain
City of Longview

From: Steve Misner
Kennedy/Jenks Consultants

Subject: City of Longview
Groundwater Quality Sampling Results, December 2011 Monitoring Event
K/J 0997003*01

This memorandum summarizes the results of the groundwater monitoring and sampling event conducted in December 2011 in the Mint Farm Industrial Park well field area (Mint Farm). The groundwater monitoring and sampling is conducted on a semiannual basis to establish background water quality in the well field area prior to initiation of full scale water production from the Mint Farm well field. Groundwater samples are collected from deep sentinel wells DW-1, DW-2, DW-5, DW-6, DW-7, and DW-9 during each pre-operating semiannual sampling event. These wells were selected based on their locations relative to the industrial facilities in the vicinity of the Mint Farm and their ability to detect potential contaminate migration from those industries. Groundwater monitoring will continue during full-scale water production, most likely on a semiannual basis.

ACTIVITIES CONDUCTED DURING THE DECEMBER 2011 MONITORING EVENT

Activities completed during this groundwater monitoring event were conducted in general accordance with *Technical Memorandum 2, Water Quality Sampling Protocol* (Kennedy/Jenks, 28 April 2009). Activities included:

- Collecting groundwater samples from deep sentinel wells DW-1, DW-2, DW-5, DW-6, DW-7, and DW-9 on 5 through 7 December 2011. The groundwater samples were collected following purging and stabilization of pH, temperature, conductivity, and dissolved oxygen.

- Submitting the groundwater samples to Columbia Analytical Services, a certified laboratory for analysis for constituents that were identified based on drinking water regulations, historical activities in the area, unregulated contaminants of emerging concern, and local industrial activity.

- Downloading water level data from the pressure transducers in all 17 sentinel wells. Production well PW-1 was not accessible because of construction activities so the transducer was not downloaded. Production wells PW-2, PW-3, and PW-4 were completed in October 2011 but were not equipped with pressure transducers and access to these wells is limited because of ongoing construction activities.

- Processing the downloaded transducer data, developing shallow and deep groundwater elevation contour maps for 3 October 2011, and generating hydrographs for the wells for summer 2009 through summer 2011.

- Preparing this summary technical memorandum.

RESULTS OF GROUNDWATER MONITORING

Groundwater Elevation Contour Maps and Hydrographs

Figures 1 and 2 are, respectively, shallow aquifer and deep aquifer groundwater elevation contour maps representing a snapshot of conditions on 3 October 2011. Water level data is continuously collected in each sentinel well using pressure transducers. Although water level data was most recently downloaded from the transducers in December 2011, the data must be evaluated and corrected to account for the tidal influence. 3 October 2011 was chosen as a representative data set for the purpose of reporting dampened conditions for the reporting period. The method for deriving the groundwater elevations is described in detail in the *Preliminary Design Report (PDR Part 2) for the City of Longview (City) Mint Farm Regional Water Treatment Plant and Well Field, Part 2A: Hydrogeologic Characterization of the Mint Farm Area* (Kennedy/Jenks, March 2010).

An evaluation of the groundwater elevation contours derived from measurements obtained on 3 October 2011 shows that groundwater in the shallow system primarily flows radially toward the CDID drainage canals around the Mint Farm area. An evaluation of the deep aquifer groundwater elevation contours for the October period indicates that the gradient in the vicinity of the well field is relatively low, with a predominant flow direction toward the east. However, in the south-central portion of the Mint Farm area a slight mounding is also inferred which causes localized variations in flow direction.

The groundwater hydrographs for all of the shallow sentinel wells are presented on Figure 3 and the hydrographs for all of the deep sentinel wells are presented on Figure 4.

Groundwater Sampling Results

The laboratory analytical reports for the groundwater samples collected during the December 2011 sampling event are included on compact disc in Attachment A.

None of the analytes were detected in groundwater samples at concentrations above their respective screening levels with the exception of arsenic in the sample collected from well DW-2 which had a concentration of 11.2 micrograms per liter (ug/l), slightly exceeding the maximum contaminant level of 10 µg/l.

Iron and manganese were detected in the groundwater samples at levels that exceed the Washington Department of Health (DOH) secondary water quality standard for these constituents. Although these constituents are not regulated as a health concern, DOH regulates them in drinking water due to their aesthetic character.

DATA QUALITY

Based on a review of the laboratory reports, it is our opinion that the analytical data are of acceptable quality for their intended use. A laboratory case narrative prepared by CAS is included as part of the lab reports in Attachment A.

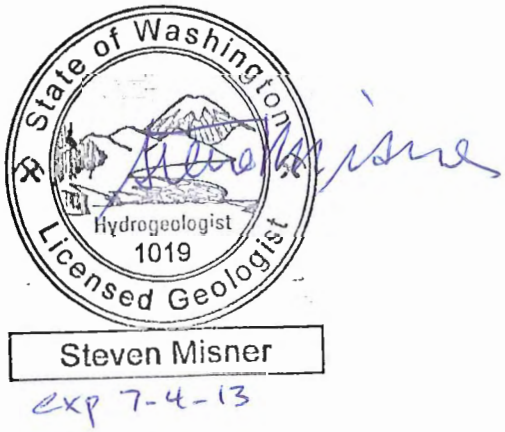
FUTURE SAMPLING ACTIVITIES

Groundwater monitoring will continue on a semiannual basis to establish background water quality in the well field area prior to initiation of full scale water production from the Mint Farm well field beginning in September 2012. The next groundwater monitoring event will be conducted in the third quarter of 2012. Pressure transducer data will be downloaded periodically.

REFERENCES

Kennedy/Jenks Consultants, 2009. *Technical Memorandum 2, Water Quality Sampling Protocol.* Kennedy/Jenks Consultants, 28 April 2009.

Kennedy/Jenks Consultants, 2010. *Preliminary Design Report (PDR Part 2) for the City of Longview (City) Mint Farm Regional Water Treatment Plant and Well Field, Part 2A: Hydrogeologic Characterization of the Mint Farm Area.* Kennedy/Jenks Consultants, March 2010.



Figures

Aerial Source: (c)2009 Microsoft Corporation

Z:\Projects\Longview\Events\20120409_Oct_GW_Elev\GW_Elev_Shallow_2011_Oct.mxd

Legend

- Monitoring Well (Groundwater Elevation)
- Groundwater Contours (Dashed Where Approximate)

Note: Contours shown on this map represent the water level elevation for 10/3/2011.

N

0 600 1,200

Scale: Feet

Contour Interval: 1.0 Foot

Kennedy/Jenks Consultants

Mint Farm RWTP
Longview, Washington

Shallow Aquifer Groundwater Map
October 3, 2011 Groundwater Elevations

KJ 0997003*01

Figure 1

Path: Z:\Projects\Longview\Events\20120409_Oct_GW_Elev\GW_Elev_Deep_2011_Oct.mxd

Aerial Source: (c)2009 Microsoft Corporation

Legend

- Monitoring Well (Groundwater Elevation)
- Groundwater Contours

Note: Contours shown on this map represent the water level elevations for 10/3/2011.
N/A = Not Applicable

N

0 600 1,200

Scale: Feet

Contour Interval: 0.2 Foot

Kennedy/Jenks Consultants

Mint Farm RWTP
Longview, Washington

Deep Aquifer Groundwater Map
October 3, 2011 Groundwater Elevations

KJ 0997003*01

Figure 2

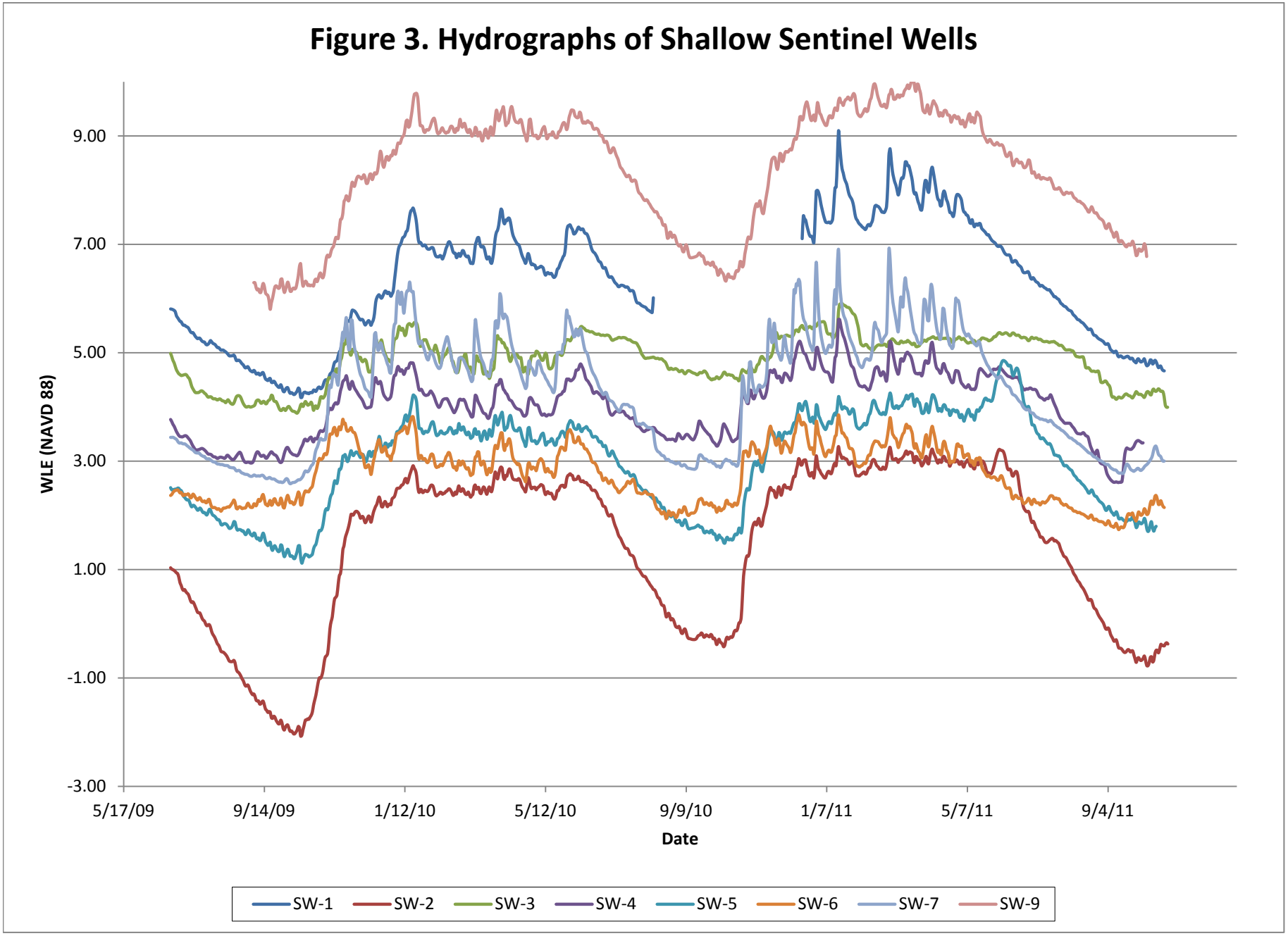


Figure 3. Hydrographs of Shallow Sentinel Wells
9.00
7.00
5.00
3.00
1.00
-1.00
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WLE (NAVD 88)
5/17/09
9/14/09
1/12/10
5/12/10
9/9/10
1/7/11
5/7/11
9/4/11
Date
SW-1
SW-2
SW-3
SW-4
SW-5
SW-6
SW-7
SW-9

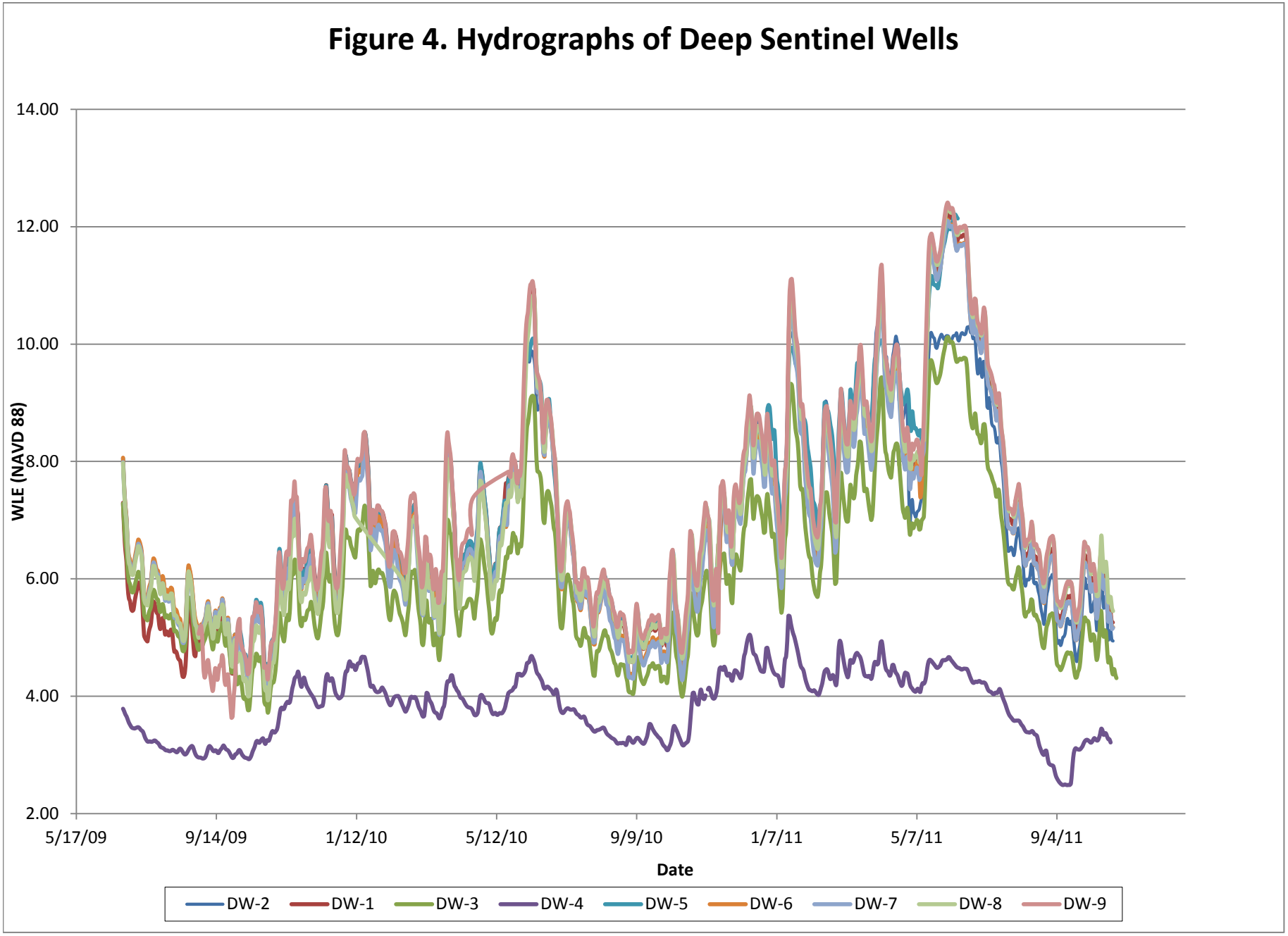
Figure 4. Hydrographs of Deep Sentinel Wells
14.00
12.00
10.00
8.00
6.00
4.00
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WLE (NAVD 88)
5/17/09
9/14/09
1/12/10
5/12/10
9/9/10
1/7/11
5/7/11
9/4/11
Date
DW-2
DW-1
DW-3
DW-4
DW-5
DW-6
DW-7
DW-8
DW-9

Appendix A

Laboratory Analytical Reports

Included on attached CD

Columbia Analytical Services™ 1317 S. 13th Avenue, Kelso, WA 98626 360.577.7222 360.636.1068 (fax) www.caslab.com

January 5, 2012 Analytical Report for Service Request No: K1111839

Steven Misner
Kennedy/Jenks Consultants, Incorporated
200 SW Market St., Suite 500
Portland, OR 97201-5715

RE: City of Longview Mint Farm/17295

Dear Steven:

Enclosed are the results of the samples submitted to our laboratory on December 06, 2011. For your reference, these analyses have been assigned our service request number K1111839.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3363. You may also contact me via Email at LDomenighini@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Lisa Domenighini
Project Chemist

LD/jw

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.1 definition*: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.1 definition*: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.1 definition*: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Agency	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
DOD ELAP	L11-119
Florida DOH	E87412
Georgia DNR	881
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
ISO 17025	L11-118
Louisiana DEQ	3016
Louisiana DHH	LA080001
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon – DEQ (NELAP)	WA100010
South Carolina DHEC	61002
Texas CEQ	04704427-08-TX
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

Case Narrative

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request No.:**	K1111839
Project:	City of Longview Mint Farm	**Date Received:**	12/06/11
Sample Matrix:	Drinking Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Matrix/Duplicate Matrix Spike (MS/DMS), and Laboratory/Duplicate Laboratory Control Sample (LCS/DLCS).

Sample Receipt

Two water samples were received for analysis at Columbia Analytical Services on 12/06/11. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

General Chemistry Parameters

Chloride by EPA Method 300.0:
The control criteria for matrix spike recovery of Chloride for sample Batch QC were not applicable. The analyte concentration in the sample was significantly higher than the added spike concentration, preventing accurate evaluation of the spike recovery.

No other anomalies associated with the analysis of these samples were observed.

Total Metals

No anomalies associated with the analysis of these samples were observed.

EDB and DBCP by EPA Method 504.1

No anomalies associated with the analysis of these samples were observed.

Pesticides and Polychlorinated Biphenyls by EPA Method 508.1

Calibration Verification Exceptions:
The analysis of Chlorinated Pesticides and PCB Aroclors by EPA 508 uses dual column confirmation. When the Continuing Calibration Verification (CCV) criterion is met for both columns, the lower of the two sample results is generally reported. The primary evaluation criteria were not met on the confirmation column for Heptachlor Epoxide. The results were reported from the column with an acceptable CCV. The data quality was not affected. No further corrective action was necessary.

Matrix Spike Recovery Exceptions:
The matrix spike recovery of Endrin for sample batch QC was outside control criteria. Recovery in the Laboratory Control Sample (LCS) was acceptable, which indicated the analytical batch was in control. The matrix spike outlier suggested a potential low bias in this matrix. No further corrective action was appropriate.

No other anomalies associated with the analysis of these samples were observed.

Approved by Lisa A. Jamenghini **Date** 1/10/12

Chlorinated Acides by EPA Method 515.4

No anomalies associated with the analysis of these samples were observed.

Volatile Organic Compounds by EPA Method 524.2

No anomalies associated with the analysis of these samples were observed.

Semivolatile Organic Compounds by EPA Method 525.2

No anomalies associated with the analysis of these samples were observed.

Carbamates and Carbamoyloximes by EPA Method 531.1

No anomalies associated with the analysis of these samples were observed.

Glyphosate by EPA Method 547

No anomalies associated with the analysis of these samples were observed.

Endothall by EPA Method 548.1

No anomalies associated with the analysis of these samples were observed.

Diquat by High Performance Liquid Chromatography by EPA 549.2

Sample Notes and Discussion:
The upper control criterion was exceeded for Diquat in the MRL-level laboratory fortified blank. The advisory criterion is 50-150%. Recovery in the Laboratory Control Sample (LCS) was acceptable. The sample data were not significantly affected. No further corrective action was appropriate.

No other anomalies associated with the analysis of these samples were observed.

Dioxins and Furans by EPA Method 1613B

Dioxin and Furan analysis by EPA Method 1613B was performed at Columbia Analytical Services laboratory in Houston, TX. The narrative for this analysis can be found in the corresponding section of this data package.

Liquid Sulfur

Liquid Sulfur analysis was performed at Columbia Analytical Services laboratory in Simi Valley, CA. The narrative for this analysis can be found in the corresponding section of this data package.

Radiochemistry

Radiochemistry analysis was performed at ACZ Laboratories. The narrative for this analysis can be found in the corresponding section of this data package.

Asbestos

Asbestos analysis was performed LabCor. The narrative for this analysis can be found in the corresponding section of this data package

Approved by Lisa A. Dmenghin **Date** 1/10/12

Chain of Custody

CHAIN OF CUSTODY

Columbia Analytical Services, Inc. 1317 S. 13th Ave.
Kelso, WA 98626 (360) 577-7222

Service Request # K1111839

Company: KENNEDY / JENKS CONSULTANTS
Address: 200 SW MARKET ST., SUITE 500
City: PORTLAND State: OR Zip: 97201
Tel: 503-295-4911 Fax: 503-295-4901 E-mail: STEVEMISNER@KENNEDYJENKS.COM
Sampler(s) Name & Signature: DENNIS ORLOWSKI

PWS ID:
PWS NAME:
P.O./Project Name: CITY OF LONGVIEW MINT FARM
Project Manager: STEVE MISNER
Samples Chlorinated: Yes____ No X
Compliance Sample: Yes____ No____ Report to State: Yes____ No X

Sample I.D.	Source Type (see table below)	Date sampled	Time Sampled	Number of Containers	Primary IOCs: (Check) or (All) ☑As ☑Ba ☑Be ☑Cd ☑Cr ☑Ag ☑Ni ☑Se ☑Na ☑Cyanide ☑Fluoride ☑Nitrate ☑Nitrite ☑Sb, Hg, Tl	Primary IOCs: Lead/Copper	Secondary IOCs: (Check) ☑Al ☑Fe ☑Mn ☑Ag ☑Zn ☑Ca ☑Mg ☑Chloride ☑Color ☑pH ☑Sulfate ☑TDS ☑Hardness ☑Foaming Agents ☑Conductivity ☑Silica ☑Phosphorus ☑Turbidity ☑Other K, ALKALINITY	Disinfection By-Products: Haloacetic Acids (HAA) 552.2	Trihalomethanes (TTHM) 524.2	☑TOC ☑Bromide ☑Bromate ☑Chlorite	Synthetic Organic Chemicals: Semi-Volatiles 525.2 ☑ Regulated ☑ Unregulated	Pesticides/PCBs 508.1	Volatiles 524.2 ☑Reg. ☑UnReg.	EDB/DBCP/TCP 504.1	Chlorinated Acids 515.4	Carbamates 531.1	☑Glyphosate 547 ☑Endothall 548.1	Diquat/Paraquat 549.2	Other Analysis (Specify) UV 254 ASBESTOS HYDROGEN SULFIDE	Remarks:
DW-5	DW	12/06	11:30		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	NO FIELD FILTRATION
DW-2	DW	12/06	13:50		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	" " "

Source Type
DW- Drinking Water
SW - Surface Water
RW - Raw Water
GW - Ground Water
TW - Treated Water

Relinquished by: [signature] Date/Time: 12/06/11 14:45 Received by: [signature] Date/Time: 12/6/11 1445
Relinquished by: ____ Date/Time: ____ Received by: ____ Date/Time: ____
Relinquished by: ____ Date/Time: ____ Received by: ____ Date/Time: ____

Special Instructions/Comments:

Columbia Analytical Services™

CHAIN OF CUSTODY / WA. DRINKING WATER

SR# K1111 839

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • (800) 695-7222 • FAX (360) 636-1068

All fields must be filled out. The information in the Shaded Fields is required for reporting your results to the WA. DOH for compliance.

System Name or Property Owner Name:
☐ Public ☐ Private

Public Water System ID: Group A ☐ Group B ☐

Project Manager: (Person receiving results) STEVE MISNER / KENNETH JENKS

Address: (Street/City/State/Zip) 200 SW MARKET ST. SUITE 500, PORTLAND, OR

County:

Phone Number: 503-295-4911

Sampled By: (Please print clearly)

Fax Number: 503-295-4901

Sampler's Signature:

Sample Type (indicate 1 per sample): Sampled Before Treatment (B); Sampled After Treatment (A); Unknown (NA)

Sample Purpose (indicate 1 per sample): Routine Compliance (RC); Confirmation (C); Investigative (I); Other (specify in comments)

Sample Name	Date Collected	Time Collected	*Source Number	Specific Location Sample Taken	Sampled Before Treatment (B)	Sampled After Treatment (A)	Unknown (NA)	Routine Compliance (RC)	Confirmation (C)	Investigative (I)	Other (specify in comments)	NUMBER OF CONTAINERS	Synthetic Organics (SOCs): 504.1 ☐ 508.1 ☐ 515.4 ☐ 525.2 ☐ 531.1 ☐ 547 ☐ 548.1 ☐ 549.2 ☐	Volatile Organics (VOCs): 524.2 ☐	Disinfection By-Products: THM ☐ HAA ☐ Chlorate ☐ Chlorite ☐ Bromate ☐	Treatment & Precursors: Fluoride ☐ Residual Chlorine ☐ TOC ☐	Inorganics (IOCs): WA IOC List ☑ Nitrate ☑ Nitrite ☑ pH ☑	Metals (Circle Below): Lead & Copper ☐ Hardness ☐	Radionuclides[1]: Gross Alpha ☑ Gross Beta ☑ Radon ☐ Radium 226 ☑ Radium 228 ☑	Other: Asbestos[1] ☑ Dioxins ☐	E. COLI	F. COLI	TOTAL COLI	AMMONIA
DW-5	12/06/11	11:30		DW-5													X		X	X	X		X
DW-2	12/06/11	13:50		DW-2													X		X	X	X		X

COPY OF REPORT TO:

Name: SEE PM ABOVE

Address:

Fax:

e-mail

INVOICE INFORMATION

P.O.#:

Bill To:

Address:

SPECIAL INSTRUCTIONS/COMMENTS:

Circle Metals: Al As Sb Ba Be Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Tl Zn Hg

* For composited of blended samples, list all sources in this section.
1 Analysis subcontracted to an outside laboratory, Shipping costs may be charged.

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Printed Name: DENNIS ORLOWSKI	Printed Name: J Juell	Printed Name:	Printed Name:
Signature:	Signature: J Juell	Signature:	Signature:
Date/Time: 12/06/11 14:45	Date/Time: 12/6/11 1445	Date/Time:	Date/Time:
Company:	Company: CAS	Company:	Company:

DISTRIBUTION: WHITE - return to originator; YELLOW - lab; PINK - retained by originator

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC Lisa

Client / Project: Ken. Jenks Service Request *K11* 14839

Received: 12/6/11 Opened: 12/6/11 By: AJ Unloaded: 12/6/11 By: AJ

1. Samples were received via? *Mail* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where? _____

   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
-0.8	1.3	282			
2.9	0.7	289			
0.3	22 heat EE	311			
0.8	0.8	309			

7. Packing material used. *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Sleeves* *Other* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
9. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA Y N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
11. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA Y N
12. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
13. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
15. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____

Page 1 *of* _____

General Chemistry Parameters

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111839
Date Collected: 12/ 6/11
Date Received: 12/ 6/11

Analysis Method: 150.1

Units: pH Units
Basis: NA

pH

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-5	K1111839-001	7.98		-	1	NA	12/7/11 12:26	H
DW-2	K1111839-002	7.94		-	1	NA	12/7/11 12:28	H

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	NA
Sample Matrix:	Drinking Water	**Date Received:**	NA
		Date Analyzed:	12/ 7/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	Batch QC	**Units:**	pH Units
Lab Code:	K1111888-001	**Basis:**	NA

Analyte Name	Method	MRL	Sample Result	Batch QCDUP Duplicate Sample K1111888-001DUP16 Result	Average	RPD	RPD Limit
pH	150.1	-	7.35	7.31	7.33	<1	20

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111839
Date Analyzed: 12/ 7/11

Lab Control Sample Summary
General Chemistry Parameters

Units: pH Units
Basis: NA

Analyte Name	Method	Lab Control Sample K1111839-LCS2 Result	Spike Amount	% Rec	% Rec Limits
pH	150.1	7.51	7.54	100	85 - 115

Results flagged with an asterisk (*) indicate values outside control criteria.

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111839
Date Collected: 12/ 6/11
Date Received: 12/ 6/11

Analysis Method: 300.0

Units: mg/L
Basis: NA

Chloride

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-5	K1111839-001	**41.2**		2.0	10	NA	12/7/11 13:32	
DW-2	K1111839-002	**16.0**		0.40	2	NA	12/7/11 11:50	
Method Blank	K1111839-MB1	ND	U	0.20	1	NA	12/7/11 09:54	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111839
Date Collected: NA
Date Received: NA
Date Analyzed: 12/ 7/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: KQ1113321-14

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	Sample Result	Batch QCDUP Duplicate Sample KQ1113321-14DUP26 Result	Average	RPD	RPD Limit
Chloride	300.0	0.40	5.04	5.06	5.05	<1	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	NA
Sample Matrix:	Drinking Water	**Date Received:**	NA
		Date Analyzed:	12/ 7/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name:	Batch QC	**Units:**	mg/L
Lab Code:	KQ1113321-14	**Basis:**	NA

Analytical Method: 300.0

		Batch QCMS **Matrix Spike** KQ1113321-14MS9			Batch QCDMS **Duplicate Matrix Spike** KQ1113321-14DMS9					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Chloride	5.04	9.91	4.00	122 *	9.98	4.00	123 *	90 - 110	<1	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111839
Date Analyzed: 12/ 7/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1111839-LCS2			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Chloride	300.0	4.68	5.00	94	90 - 110

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/ 6/11
Sample Matrix:	Drinking Water	**Date Received:**	12/ 6/11
		Units:	mg/L
Analysis Method:	300.0	**Basis:**	NA

Fluoride

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-5	K1111839-001	ND	U	0.40	2	NA	12/7/11 11:36	
DW-2	K1111839-002	ND	U	0.40	2	NA	12/7/11 11:50	
Method Blank	K1111839-MB1	ND	U	0.20	1	NA	12/7/11 09:54	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111839
Date Collected: NA
Date Received: NA
Date Analyzed: 12/ 7/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: KQ1113321-14

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	Sample Result	Batch QCDUP Duplicate Sample KQ1113321-14DUP26 Result	Average	RPD	RPD Limit
Fluoride	300.0	0.40	0.75	0.76	0.758	2	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111839
Date Collected: NA
Date Received: NA
Date Analyzed: 12/ 7/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: KQ1113321-14

Units: mg/L
Basis: NA

Analytical Method: 300.0

		Batch QCMS Matrix Spike KQ1113321-14MS9			Batch QCDMS Duplicate Matrix Spike KQ1113321-14DMS9					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Fluoride	0.75	4.87	4.00	103	4.93	4.00	104	90 - 110	1	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111839
Date Analyzed: 12/ 7/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1111839-LCS2 Result	Spike Amount	% Rec	% Rec Limits
Fluoride	300.0	16.5	17.2	96	90 - 110

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/ 6/11
Sample Matrix:	Drinking Water	**Date Received:**	12/ 6/11
		Units:	mg/L
Analysis Method:	300.0	**Basis:**	NA

Nitrite as Nitrogen

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-5	K1111839-001	ND	U	0.10	2	NA	12/7/11 11:36	
DW-2	K1111839-002	ND	U	0.10	2	NA	12/7/11 11:50	
Method Blank	K1111839-MB1	ND	U	0.050	1	NA	12/7/11 09:54	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	NA
Sample Matrix:	Drinking Water	**Date Received:**	NA
		Date Analyzed:	12/ 7/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	Batch QC	**Units:**	mg/L
Lab Code:	KQ1113321-14	**Basis:**	NA

				Batch QCDUP Duplicate Sample KQ1113321-14DUP26			
Analyte Name	**Method**	**MRL**	**Sample Result**	**Result**	**Average**	**RPD**	**RPD Limit**
Nitrite as Nitrogen	300.0	0.10	ND U	ND U	NC	NC	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111839
Date Collected: NA
Date Received: NA
Date Analyzed: 12/ 7/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: KQ1113321-14

Units: mg/L
Basis: NA

Analytical Method: 300.0

		Batch QCMS Matrix Spike KQ1113321-14MS9			Batch QCDMS Duplicate Matrix Spike KQ1113321-14DMS9					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrite as Nitrogen	ND	3.84	4.00	96	3.84	4.00	96	90 - 110	<1	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111839
Date Analyzed: 12/ 7/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1111839-LCS2			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Nitrite as Nitrogen	300.0	105	100	105	90 - 110

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111839
Date Collected: 12/ 6/11
Date Received: 12/ 6/11

Analysis Method: 300.0

Units: mg/L
Basis: NA

Nitrate as Nitrogen

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-5	K1111839-001	ND	U	0.10	2	NA	12/7/11 11:36	
DW-2	K1111839-002	ND	U	0.10	2	NA	12/7/11 11:50	
Method Blank	K1111839-MB1	ND	U	0.050	1	NA	12/7/11 09:54	

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111839
Date Collected: NA
Date Received: NA
Date Analyzed: 12/ 7/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: KQ1113321-14

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	Sample Result	Batch QCDUP Duplicate Sample KQ1113321-14DUP26 Result	Average	RPD	RPD Limit
Nitrate as Nitrogen	300.0	0.10	0.22	0.22	0.218	1	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111839
Date Collected: NA
Date Received: NA
Date Analyzed: 12/ 7/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: KQ1113321-14

Units: mg/L
Basis: NA

Analytical Method: 300.0

		Batch QCMS Matrix Spike KQ1113321-14MS9			Batch QCDMS Duplicate Matrix Spike KQ1113321-14DMS9					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate as Nitrogen	0.22	4.34	4.00	103	4.35	4.00	103	90 - 110	<1	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111839
Date Analyzed: 12/ 7/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1111839-LCS2 Result	Spike Amount	% Rec	% Rec Limits
Nitrate as Nitrogen	300.0	17.6	17.7	99	90 - 110

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/ 6/11
Sample Matrix:	Drinking Water	**Date Received:**	12/ 6/11
		Units:	mg/L
Analysis Method:	300.0	**Basis:**	NA

Sulfate

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-5	K1111839-001	ND	U	0.40	2	NA	12/7/11 11:36	
DW-2	K1111839-002	ND	U	0.40	2	NA	12/7/11 11:50	
Method Blank	K1111839-MB1	ND	U	0.20	1	NA	12/7/11 09:54	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	NA
Sample Matrix:	Drinking Water	**Date Received:**	NA
		Date Analyzed:	12/ 7/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	Batch QC	**Units:**	mg/L
Lab Code:	KQ1113321-14	**Basis:**	NA

				Batch QCDUP Duplicate Sample KQ1113321-14DUP26			
Analyte Name	**Method**	**MRL**	**Sample Result**	**Result**	**Average**	**RPD**	**RPD Limit**
Sulfate	300.0	0.40	5.20	5.21	5.21	<1	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111839
Date Collected: NA
Date Received: NA
Date Analyzed: 12/ 7/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: KQ1113321-14

Units: mg/L
Basis: NA

Analytical Method: 300.0

		Batch QCMS Matrix Spike KQ1113321-14MS9			Batch QCDMS Duplicate Matrix Spike KQ1113321-14DMS9					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Sulfate	5.20	9.43	4.00	106	9.40	4.00	105	90 - 110	<1	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111839
Date Analyzed: 12/ 7/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1111839-LCS2			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Sulfate	300.0	4.59	5.00	92	90 - 110

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/ 6/11
Sample Matrix:	Drinking Water	**Date Received:**	12/ 6/11
Prep Method:	Method	**Units:**	mg/L
Analysis Method:	335.4	**Basis:**	NA

Cyanide, Total

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-5	K1111839-001	ND	U	0.010	1	12/ 9/11	12/9/11 15:00	
DW-2	K1111839-002	ND	U	0.010	1	12/ 9/11	12/9/11 15:00	
Method Blank	K1111839-MB1	ND	U	0.010	1	12/ 9/11	12/9/11 15:00	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	NA
Sample Matrix:	Drinking Water	**Date Received:**	NA
		Date Analyzed:	12/ 9/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	Batch QC	**Units:**	mg/L
Lab Code:	K1111800-001	**Basis:**	NA

				Batch QCDUP Duplicate Sample K1111800-001DUP7			
Analyte Name	**Method**	**MRL**	**Sample Result**	**Result**	**Average**	**RPD**	**RPD Limit**
Cyanide, Total	335.4	0.010	ND U	ND U	NC	NC	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111839
Date Collected: NA
Date Received: NA
Date Analyzed: 12/ 9/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1111800-001

Units: mg/L
Basis: NA

Analytical Method: 335.4
Prep Method: Method

		Batch QCMS Matrix Spike K1111800-001MS3			Batch QCDMS Duplicate Matrix Spike K1111800-001DMS3					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Cyanide, Total	ND	0.097	0.100	97	0.079	0.100	79	35 - 144	20	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111839
Date Analyzed: 12/ 9/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1111839-LCS2 Result	Spike Amount	% Rec	% Rec Limits
Cyanide, Total	335.4	0.711	0.73	97	83 - 116

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/ 6/11
Sample Matrix:	Drinking Water	**Date Received:**	12/ 6/11
		Units:	mg/L
Analysis Method:	350.1	**Basis:**	NA

Ammonia as Nitrogen

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-5	K1111839-001	**0.070**		0.050	1	NA	12/7/11 11:36	
DW-2	K1111839-002	**0.055**		0.050	1	NA	12/7/11 11:36	
Method Blank	K1111839-MB1	ND	U	0.050	1	NA	12/7/11 11:36	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111839
Date Collected: 12/6/11
Date Received: 12/6/11
Date Analyzed: 12/ 7/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: DW-5
Lab Code: K1111839-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	Sample Result	DW-5DUP Duplicate Sample K1111839-001DUP10 Result	Average	RPD	RPD Limit
Ammonia as Nitrogen	350.1	0.050	0.070	0.071	0.0705	2	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111839
Date Collected: 12/6/11
Date Received: 12/6/11
Date Analyzed: 12/ 7/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: DW-5
Lab Code: K1111839-001

Units: mg/L
Basis: NA

Analytical Method: 350.1

		DW-5MS Matrix Spike K1111839-001MS4			DW-5DMS Duplicate Matrix Spike K1111839-001DMS4					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Ammonia as Nitrogen	0.070	2.10	2.00	102	2.10	2.00	101	90 - 110	<1	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111839
Date Analyzed: 12/ 7/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1111839-LCS2 Result	Spike Amount	% Rec	% Rec Limits
Ammonia as Nitrogen	350.1	13.7	13.9	99	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/ 6/11
Sample Matrix:	Drinking Water	**Date Received:**	12/ 6/11
		Units:	mg/L
Analysis Method:	365.3	**Basis:**	NA

Orthophosphate as Phosphorus

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-5	K1111839-001	**0.476**		0.010	1	NA	12/7/11 11:32	
DW-2	K1111839-002	**0.465**		0.010	1	NA	12/7/11 11:32	
Method Blank	K1111839-MB1	ND	U	0.010	1	NA	12/7/11 11:32	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/6/11
Sample Matrix:	Drinking Water	**Date Received:**	12/6/11
		Date Analyzed:	12/ 7/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	DW-5	**Units:**	mg/L
Lab Code:	K1111839-001	**Basis:**	NA

Analyte Name	Method	MRL	Sample Result	DW-5DUP Duplicate Sample K1111839-001DUP10 Result	Average	RPD	RPD Limit
Orthophosphate as Phosphorus	365.3	0.010	0.476	0.478	0.477	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111839
Date Collected: 12/6/11
Date Received: 12/6/11
Date Analyzed: 12/ 7/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: DW-5
Lab Code: K1111839-001

Units: mg/L
Basis: NA

Analytical Method: 365.3

		DW-5MS Matrix Spike K1111839-001MS4			DW-5DMS Duplicate Matrix Spike K1111839-001DMS4					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Orthophosphate as Phosphorus	0.476	0.664	0.200	94	0.863	0.400	97	60 - 130	3	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111839
Date Analyzed: 12/ 7/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1111839-LCS2			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Orthophosphate as Phosphorus	365.3	2.76	2.83	97	85 - 115

Results flagged with an asterisk (*) indicate values outside control criteria.

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/ 6/11
Sample Matrix:	Drinking Water	**Date Received:**	12/ 6/11
		Units:	ColorUnits
Analysis Method:	SM 2120 B	**Basis:**	NA

Color

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-5	K1111839-001	**10.0**		5.0	1	NA	12/8/11 08:30	
DW-2	K1111839-002	**10.0**		5.0	1	NA	12/8/11 08:30	
Method Blank	K1111839-MB1	ND	U	5.0	1	NA	12/8/11 08:30	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/6/11
Sample Matrix:	Drinking Water	**Date Received:**	12/6/11
		Date Analyzed:	12/ 8/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	DW-5	**Units:**	ColorUnits
Lab Code:	K1111839-001	**Basis:**	NA

Analyte Name	Method	MRL	Sample Result	DW-5DUP Duplicate Sample K1111839-001DUP10 Result	Average	RPD	RPD Limit
Color	SM 2120 B	5.0	10.0	10.0	10.0	<1	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111839
Date Analyzed: 12/ 8/11

Lab Control Sample Summary
General Chemistry Parameters

Units: ColorUnits
Basis: NA

Analyte Name	Method	Lab Control Sample K1111839-LCS2 Result	Spike Amount	% Rec	% Rec Limits
Color	SM 2120 B	25.0	25.0	100	85 - 115

Results flagged with an asterisk (*) indicate values outside control criteria.

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/ 6/11
Sample Matrix:	Drinking Water	**Date Received:**	12/ 6/11
		Units:	mg/L
Analysis Method:	SM 2320 B	**Basis:**	NA

Alkalinity as CaCO3, Total

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-5	K1111839-001	**104**		9.0	1	NA	12/9/11 14:18	
DW-2	K1111839-002	**145**		9.0	1	NA	12/9/11 14:18	
Method Blank	K1111839-MB1	ND	U	9.0	1	NA	12/9/11 14:18	
Method Blank	K1111839-MB2	ND	U	9.0	1	NA	12/9/11 14:18	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111839
Date Collected: NA
Date Received: NA
Date Analyzed: 12/ 9/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1111828-002

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	Sample Result	Batch QCDUP Duplicate Sample K1111828-002DUP9 Result	Average	RPD	RPD Limit
Alkalinity as CaCO3, Total	SM 2320 B	9.0	55.5	55.7	55.6	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	NA
Sample Matrix:	Drinking Water	**Date Received:**	NA
		Date Analyzed:	12/ 9/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	Batch QC	**Units:**	mg/L
Lab Code:	K1111853-002	**Basis:**	NA

Analyte Name	Method	MRL	Sample Result	Batch QCDUP Duplicate Sample K1111853-002DUP13 Result	Average	RPD	RPD Limit
Alkalinity as CaCO3, Total	SM 2320 B	9.0	158	166	162	5	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111839
Date Analyzed: 12/ 9/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1111839-LCS2 Result	Spike Amount	% Rec	% Rec Limits
Alkalinity as CaCO3, Total	SM 2320 B	103	101	102	94 - 106

Results flagged with an asterisk (*) indicate values outside control criteria.

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111839
Date Analyzed: 12/ 9/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1111839-LCS3 Result	Spike Amount	% Rec	% Rec Limits
Alkalinity as CaCO3, Total	SM 2320 B	99.9	101	99	94 - 106

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111839
Date Collected: 12/ 6/11
Date Received: 12/ 6/11

Analysis Method: SM 2510 B

Units: µMHOS/cm
Basis: NA

Conductivity at 25 Degrees Celsius

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-5	K1111839-001	**389**		2.0	1	NA	12/16/11 15:30	
DW-2	K1111839-002	**359**		2.0	1	NA	12/16/11 15:30	
Method Blank	K1111839-MB1	ND	U	2.0	1	NA	12/16/11 15:30	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	NA
Sample Matrix:	Drinking Water	**Date Received:**	NA
		Date Analyzed:	12/16/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	Batch QC	**Units:**	µMHOS/cm
Lab Code:	K1111896-002	**Basis:**	NA

				Batch QCDUP			
				Duplicate Sample			
			Sample	K1111896-002DUP22			**RPD**
Analyte Name	**Method**	**MRL**	**Result**	**Result**	**Average**	**RPD**	**Limit**
Conductivity at 25 Degrees Celsius	SM 2510 B	2.0	537	537	537	<1	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111839
Date Collected: NA
Date Received: NA
Date Analyzed: 12/16/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1111896-003

Units: µMHOS/cm
Basis: NA

Analyte Name	Method	MRL	Sample Result	Batch QCDUP Duplicate Sample K1111896-003DUP23 Result	Average	RPD	RPD Limit
Conductivity at 25 Degrees Celsius	SM 2510 B	2.0	682	682	682	<1	20

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Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111839
Date Analyzed: 12/16/11

Lab Control Sample Summary
General Chemistry Parameters

Units: µMHOS/cm
Basis: NA

Analyte Name	Method	Lab Control Sample K1111839-LCS2 Result	Spike Amount	% Rec	% Rec Limits
Conductivity at 25 Degrees Celsius	SM 2510 B	342	330	104	88 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/ 6/11
Sample Matrix:	Drinking Water	**Date Received:**	12/ 6/11
		Units:	mg/L
Analysis Method:	SM 2540 C	**Basis:**	NA

Solids, Total Dissolved

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-5	K1111839-001	**222**		10	1	NA	12/8/11 13:40	
DW-2	K1111839-002	**218**		10	1	NA	12/8/11 13:40	
Method Blank	K1111839-MB1	ND	U	5.0	1	NA	12/8/11 13:40	
Method Blank	K1111839-MB2	ND	U	5.0	1	NA	12/8/11 13:40	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	NA
Sample Matrix:	Drinking Water	**Date Received:**	NA
		Date Analyzed:	12/ 8/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	Batch QC	**Units:**	mg/L
Lab Code:	K1111884-001	**Basis:**	NA

Analyte Name	Method	MRL	Sample Result	Batch QCDUP Duplicate Sample K1111884-001DUP15 Result	Average	RPD	RPD Limit
Solids, Total Dissolved	SM 2540 C	20	3630	3690	3660	2	10

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111839
Date Collected: NA
Date Received: NA
Date Analyzed: 12/ 8/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1111894-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	Sample Result	Batch QCDUP Duplicate Sample K1111894-001DUP20 Result	Average	RPD	RPD Limit
Solids, Total Dissolved	SM 2540 C	10	377	400	389	6	10

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111839
Date Analyzed: 12/ 8/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1111839-LCS2 Result	Spike Amount	% Rec	% Rec Limits
Solids, Total Dissolved	SM 2540 C	812	825	98	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/ 6/11
Sample Matrix:	Drinking Water	**Date Received:**	12/ 6/11
		Units:	mg/L
Analysis Method:	SM 4500-SiO2 C	**Basis:**	NA

Silica, Dissolved as SiO2

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-5	K1111839-001	**53.9**		1.3	1	NA	12/7/11 15:45	
DW-2	K1111839-002	**44.7**		1.3	1	NA	12/7/11 15:45	
Method Blank	K1111839-MB1	ND	U	0.050	1	NA	12/7/11 15:45	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111839
Date Collected: NA
Date Received: NA
Date Analyzed: 12/ 7/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1111535-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	Sample Result	Batch QCDUP Duplicate Sample K1111535-001DUP1 Result	Average	RPD	RPD Limit
Silica, Dissolved as SiO2	SM 4500-SiO2 C	0.63	8.12	7.84	7.98	4	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111839
Date Collected: NA
Date Received: NA
Date Analyzed: 12/ 7/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1111535-001

Units: mg/L
Basis: NA

Analytical Method: SM 4500-SiO2 C

		Batch QCMS Matrix Spike K1111535-001MS1			Batch QCDMS Duplicate Matrix Spike K1111535-001DMS1					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Silica, Dissolved as SiO2	8.12	21.0	12.5	103	21.2	12.5	104	73 - 130	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111839
Date Analyzed: 12/ 7/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1111839-LCS2 Result	Spike Amount	% Rec	% Rec Limits
Silica, Dissolved as SiO2	SM 4500-SiO2 C	2.10	1.99	105	85 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/ 6/11
Sample Matrix:	Drinking Water	**Date Received:**	12/ 6/11
		Units:	mg/L
Analysis Method:	SM 5310 C	**Basis:**	NA

Carbon, Total Organic

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-5	K1111839-001	**1.02**		0.50	1	NA	12/9/11 13:54	
DW-2	K1111839-002	**1.45**		0.50	1	NA	12/9/11 13:54	
Method Blank	K1111839-MB1	ND	U	0.50	1	NA	12/9/11 13:54	
Method Blank	K1111839-MB2	ND	U	0.50	1	NA	12/9/11 13:54	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/6/11
Sample Matrix:	Drinking Water	**Date Received:**	12/6/11
		Date Analyzed:	12/ 9/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	DW-5	**Units:**	mg/L
Lab Code:	K1111839-001	**Basis:**	NA

Analyte Name	Method	MRL	Sample Result	DW-5DUP Duplicate Sample K1111839-001DUP10 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	0.50	1.02	1.04	1.03	2	33

Results flagged with an asterisk (*) indicate values outside control criteria.

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/6/11
Sample Matrix:	Drinking Water	**Date Received:**	12/6/11
		Date Analyzed:	12/ 9/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	DW-2	**Units:**	mg/L
Lab Code:	K1111839-002	**Basis:**	NA

Analyte Name	Method	MRL	Sample Result	DW-2DUP Duplicate Sample K1111839-002DUP11 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	0.50	1.45	1.46	1.45	<1	33

Results flagged with an asterisk (*) indicate values outside control criteria.

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111839
Date Collected: 12/6/11
Date Received: 12/6/11
Date Analyzed: 12/ 9/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: DW-5
Lab Code: K1111839-001

Units: mg/L
Basis: NA

Analytical Method: SM 5310 C

DW-5MS
Matrix Spike
K1111839-001MS5

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	1.02	25.9	25.0	99	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111839
Date Analyzed: 12/ 9/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1111839-LCS2			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Carbon, Total Organic	SM 5310 C	25.7	26.0	99	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111839
Date Analyzed: 12/ 9/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1111839-LCS3 Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	SM 5310 C	27.4	26.0	105	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/ 6/11
Sample Matrix:	Drinking Water	**Date Received:**	12/ 6/11
Prep Method:	Method	**Units:**	mg/L
Analysis Method:	SM 5540 C	**Basis:**	NA

Methylene Blue Active Substances

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-5	K1111839-001	ND	U	0.050	1	12/ 6/11	12/7/11 08:14	
DW-2	K1111839-002	ND	U	0.050	1	12/ 6/11	12/7/11 08:14	
Method Blank	K1111839-MB1	ND	U	0.050	1	12/ 6/11	12/6/11 09:42	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111839
Date Collected: NA
Date Received: NA
Date Analyzed: 12/ 6/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1111779-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	Sample Result	Batch QCDUP Duplicate Sample K1111779-001DUP3 Result	Average	RPD	RPD Limit
Methylene Blue Active Substances	SM 5540 C	0.050	ND U	ND U	NC	NC	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111839
Date Collected: NA
Date Received: NA
Date Analyzed: 12/ 6/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1111779-001

Units: mg/L
Basis: NA

Analytical Method: SM 5540 C
Prep Method: Method

Batch QCMS
Matrix Spike
K1111779-001MS2

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Methylene Blue Active Substances	ND	0.41	0.40	103	70 - 130

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111839
Date Analyzed: 12/ 6/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1111839-LCS1			Duplicate Lab Control Sample K1111839-DLCS1					
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Methylene Blue Active Substances	SM 5540 C	0.377	0.40	94	0.408	0.40	102	70 - 130	8	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/ 6/11
Sample Matrix:	Drinking Water	**Date Received:**	12/ 6/11
		Units:	cm-1
Analysis Method:	SM 5910 B	**Basis:**	NA

UV254

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-5	K1111839-001	0.032		-	1	NA	12/8/11 10:14	
DW-2	K1111839-002	0.043		-	1	NA	12/8/11 10:14	
Method Blank	K1111839-MB1	0.000		-	1	NA	12/8/11 10:14	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/6/11
Sample Matrix:	Drinking Water	**Date Received:**	12/6/11
		Date Analyzed:	12/ 8/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	DW-5	**Units:**	cm-1
Lab Code:	K1111839-001	**Basis:**	NA

				DW-5DUP Duplicate Sample K1111839-001DUP10			
Analyte Name	**Method**	**MRL**	**Sample Result**	**Result**	**Average**	**RPD**	**RPD Limit**
UV254	SM 5910 B	-	0.032	0.032	0.0320	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/ 6/11
Sample Matrix:	Drinking Water	**Date Received:**	12/ 6/11
		Units:	MPN/100mL
Analysis Method:	SM 9221 E	**Basis:**	NA

Coliform, Fecal

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-5	K1111839-001	ND	U	1.8	1	NA	12/6/11 17:00	
DW-2	K1111839-002	ND	U	1.8	1	NA	12/6/11 17:00	

Metals

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking water

Service Request: K1111839
Date Collected: 12/06/11
Date Received: 12/06/11

Total Metals

Sample Name: DW-5
Lab Code: K1111839-001
Test Notes:

Units: ug/L (ppb)
Basis: NA

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Arsenic (III)	None	1632 Rev. A	0.5	25	NA	12/19/11	6.5	
Arsenic (V)	None	1632 Rev. A	0.5	25	NA	12/13/11	1.4	
Inorganic Arsenic	None	1632 Rev. A	0.5	25	NA	12/13/11	7.9	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/06/11
Sample Matrix:	Drinking water	**Date Received:**	12/06/11

Total Metals

Sample Name:	DW-2	Units:	ug/L (ppb)
Lab Code:	K1111839-002	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Arsenic (III)	None	1632 Rev. A	0.5	25	NA	12/19/11	8.9	
Arsenic (V)	None	1632 Rev. A	0.5	25	NA	12/13/11	2.3	
Inorganic Arsenic	None	1632 Rev. A	0.5	25	NA	12/13/11	11.2	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	NA
Sample Matrix:	Drinking water	**Date Received:**	NA

Total Metals

Sample Name:	Method Blank 1	Units:	ug/L (ppb)
Lab Code:	K1111839-MB1	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Arsenic (III)	None	1632 Rev. A	0.02	1	NA	12/19/11	ND	
Arsenic (V)	None	1632 Rev. A	0.02	1	NA	12/13/11	ND	
Inorganic Arsenic	None	1632 Rev. A	0.02	1	NA	12/13/11	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	NA
Sample Matrix:	Drinking water	**Date Received:**	NA

Total Metals

Sample Name:	Method Blank 2	Units:	ug/L (ppb)
Lab Code:	K1111839-MB2	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Arsenic (III)	None	1632 Rev. A	0.02	1	NA	12/19/11	ND	
Arsenic (V)	None	1632 Rev. A	0.02	1	NA	12/13/11	ND	
Inorganic Arsenic	None	1632 Rev. A	0.02	1	NA	12/13/11	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	NA
Sample Matrix:	Drinking water	**Date Received:**	NA

Total Metals

Sample Name:	Method Blank 3	Units:	ug/L (ppb)
Lab Code:	K1111839-MB3	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Arsenic (III)	None	1632 Rev. A	0.02	1	NA	12/19/11	ND	
Arsenic (V)	None	1632 Rev. A	0.02	1	NA	12/13/11	ND	
Inorganic Arsenic	None	1632 Rev. A	0.02	1	NA	12/13/11	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	NA
Sample Matrix:	Drinking water	**Date Received:**	NA
		Date Extracted:	NA
		Date Analyzed:	12/13, 19/11

Matrix Spike/Duplicate Matrix Spike Summary
Total Metals

Sample Name:	Batch QC		Units:	ug/L (ppb)
Lab Code:	K1111779-001S,	K1111779-001SD	Basis:	NA
Test Notes:				

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Percent Recovery MS	Percent Recovery DMS	Method Acceptance Limits	Relative Percent Difference	Result Notes
Arsenic (III)	None	1632 Rev. A	0.5	5.0	5.0	4.7	11.7	10.5	140	116	30-170	11	
Inorganic Arsenic	None	1632 Rev. A	1.0	10	10	5.0	16.3	17.5	113	125	50-150	7	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
LCS Matrix: Water

Service Request: K1111839
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: 12/13, 19/11

Calibration Verification (CALVER) Sample Summary
Total Metals

Sample Name: CALVER 1

Units: ug/L (ppb)
Basis: NA

Test Notes:

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Arsenic (III)	None	1632 Rev. A	0.20	0.185	92	70-130	
Inorganic Arsenic	None	1632 Rev. A	0.20	0.201	100	80-120	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
LCS Matrix: Water

Service Request: K1111839
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: 12/13, 19/11

Calibration Verification (CALVER) Sample Summary
Total Metals

Sample Name: CALVER 2

Units: ug/L (ppb)
Basis: NA

Test Notes:

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Arsenic (III)	None	1632 Rev. A	0.20	0.163	82	70-130	
Inorganic Arsenic	None	1632 Rev. A	0.20	0.178	89	80-120	

Metals

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/06/11
Sample Matrix:	Drinking water	**Date Received:**	12/06/11

Hardness as CaCO3

Prep Method:	CLAA	Units:	mg/L (ppm)
Analysis Method:	200.7/SM 2340B	Basis:	NA
Test Notes:			

Sample Name	Lab Code	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
DW-5	K1111839-001	0.4	1	12/16/11	12/22/11	131	
DW-2	K1111839-002	0.4	1	12/16/11	12/22/11	120	
Method Blank	K1111839-MB	0.4	1	12/16/11	12/22/11	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	NA
Sample Matrix:	Drinking water	**Date Received:**	NA
		Date Extracted:	12/16/11
		Date Analyzed:	12/22/11

Duplicate Summary
Metals

Sample Name:	Batch QC	Units:	mg/L (ppm)
Lab Code:	K1111779-001D	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Hardness as CaCO3	CLAA	200.7/SM 2340B	0.4	121	120	121	<1	

Metals

Columbia Analytical Services

- Cover Page -
INORGANIC ANALYSIS DATA PACKAGE

Client: Kennedy/Jenks Consultants, Incorporated
Project Name: City of Longview Mint Farm
Project No.: 17295

Service Request: K1111839

Sample Name:	Lab Code:
Batch QC1D	K1111779-001D
Batch QC1S	K1111779-001S
DW-5	K1111839-001
DW-5D	K1111839-001D
DW-5S	K1111839-001S
DW-2	K1111839-002
Method Blank	K1111839-MB
Batch QC2D	K1111888-001D
Batch QC2S	K1111888-001S

Comments:

Approved By: 3C **Date:** 1/3/12

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Kennedy/Jenks Consultants, Incor	Service Request:	K1111839
Project No.:	17295	Date Collected:	12/06/11
Project Name:	City of Longview Mint Farm	Date Received:	12/06/11
Matrix:	WATER	Units:	ug/L
		Basis:	NA

Sample Name: DW-5 Lab Code: K1111839-001

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	200.7	3.0	1.0	12/16/11	12/21/11	4.2		
Antimony	200.8	0.05	1.0	12/09/11	12/13/11	0.05	U	
Arsenic	200.8	0.5	1.0	12/09/11	12/13/11	6.2		
Barium	200.8	0.05	1.0	12/09/11	12/13/11	14.6		
Beryllium	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Cadmium	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Calcium	200.7	50.0	1.0	12/16/11	12/21/11	34200		
Chromium	200.8	0.2	1.0	12/09/11	12/13/11	0.2		
Copper	200.8	0.1	1.0	12/09/11	12/13/11	0.2		
Iron	200.7	10.0	1.0	12/16/11	12/21/11	370		
Lead	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Magnesium	200.7	20.0	1.0	12/16/11	12/21/11	11000		
Manganese	200.7	0.6	1.0	12/16/11	12/21/11	302		
Mercury	245.1	0.2	1.0	12/13/11	12/14/11	0.2	U	
Nickel	200.8	0.2	1.0	12/09/11	12/13/11	1.0		
Potassium	200.7	100	1.0	12/16/11	12/21/11	4580		
Selenium	200.8	1.0	1.0	12/09/11	12/13/11	1.0	U	
Silicon	200.7	50.0	1.0	12/16/11	12/21/11	23400		
Silver	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Sodium	200.7	200	1.0	12/16/11	12/21/11	13300		
Thallium	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Uranium	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Zinc	200.7	2.0	1.0	12/16/11	12/21/11	2.0	U	

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Kennedy/Jenks Consultants, Incor	Service Request:	K1111839
Project No.:	17295	Date Collected:	12/06/11
Project Name:	City of Longview Mint Farm	Date Received:	12/06/11
Matrix:	WATER	Units:	ug/L
		Basis:	NA

Sample Name: DW-2 Lab Code: K1111839-002

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	200.7	3.0	1.0	12/16/11	12/21/11	10.7		
Antimony	200.8	0.05	1.0	12/09/11	12/13/11	0.05	U	
Arsenic	200.8	0.5	1.0	12/09/11	12/13/11	8.7		
Barium	200.8	0.05	1.0	12/09/11	12/13/11	22.6		
Beryllium	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Cadmium	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Calcium	200.7	50.0	1.0	12/16/11	12/21/11	30900		
Chromium	200.8	0.2	1.0	12/09/11	12/13/11	0.2	U	
Copper	200.8	0.1	1.0	12/09/11	12/13/11	0.2		
Iron	200.7	10.0	1.0	12/16/11	12/21/11	495		
Lead	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Magnesium	200.7	20.0	1.0	12/16/11	12/21/11	10400		
Manganese	200.7	0.6	1.0	12/16/11	12/21/11	282		
Mercury	245.1	0.2	1.0	12/13/11	12/14/11	0.2	U	
Nickel	200.8	0.2	1.0	12/09/11	12/13/11	0.8		
Potassium	200.7	100	1.0	12/16/11	12/21/11	5580		
Selenium	200.8	1.0	1.0	12/09/11	12/13/11	1.0	U	
Silicon	200.7	50.0	1.0	12/16/11	12/21/11	21400		
Silver	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Sodium	200.7	200	1.0	12/16/11	12/21/11	15200		
Thallium	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Uranium	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Zinc	200.7	2.0	1.0	12/16/11	12/21/11	2.0	U	

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Kennedy/Jenks Consultants, Incor	Service Request:	K1111839
Project No.:	17295	Date Collected:	
Project Name:	City of Longview Mint Farm	Date Received:	
Matrix:	WATER	Units:	ug/L
		Basis:	NA

Sample Name: Method Blank Lab Code: K1111839-MB

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	200.7	3.0	1.0	12/16/11	12/21/11	3.0	U	
Antimony	200.8	0.05	1.0	12/09/11	12/13/11	0.05	U	
Arsenic	200.8	0.5	1.0	12/09/11	12/13/11	0.5	U	
Barium	200.8	0.05	1.0	12/09/11	12/13/11	0.05	U	
Beryllium	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Cadmium	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Calcium	200.7	50.0	1.0	12/16/11	12/21/11	50.0	U	
Chromium	200.8	0.2	1.0	12/09/11	12/13/11	0.2	U	
Copper	200.8	0.1	1.0	12/09/11	12/13/11	0.1	U	
Iron	200.7	10.0	1.0	12/16/11	12/21/11	10.0	U	
Lead	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Magnesium	200.7	20.0	1.0	12/16/11	12/21/11	20.0	U	
Manganese	200.7	0.6	1.0	12/16/11	12/21/11	0.6	U	
Mercury	245.1	0.2	1.0	12/13/11	12/14/11	0.2	U	
Nickel	200.8	0.2	1.0	12/09/11	12/13/11	0.2	U	
Potassium	200.7	100	1.0	12/16/11	12/21/11	100	U	
Selenium	200.8	1.0	1.0	12/09/11	12/13/11	1.0	U	
Silicon	200.7	50.0	1.0	12/16/11	12/21/11	50.0	U	
Silver	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Sodium	200.7	200	1.0	12/16/11	12/21/11	200	U	
Thallium	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Uranium	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Zinc	200.7	2.0	1.0	12/16/11	12/21/11	2.0	U	

Comments:

Metals

- 5A -

SPIKE SAMPLE RECOVERY

Client: Kennedy/Jenks Consultants, Incor Service Request: K1111839

Project No.: 17295 Units: UG/L

Project Name: City of Longview Mint Farm Basis: NA

Matrix: WATER

Sample Name: Batch QC1S Lab Code: K1111779-001S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Aluminum	70 - 130	2020		50.0	U	2000.00	101.0		200.7
Calcium	70 - 130	42200		33300		10000.00	89.0		200.7
Iron	70 - 130	1580		604		1000.00	97.6		200.7
Magnesium	70 - 130	18900		9230		10000.00	96.7		200.7
Manganese	70 - 130	987		500		500.00	97.4		200.7
Potassium	70 - 130	14400		4280		10000.00	101.2		200.7
Silicon	70 - 130	34000		24600		10000.00	94.0		200.7
Sodium	70 - 130	22000		12100		10000.00	99.0		200.7
Zinc	70 - 130	502		2.0	U	500.00	100.4		200.7

An empty field in the Control Limit column indicates the control limit is not applicable

Metals

- 5A -

SPIKE SAMPLE RECOVERY

Client: Kennedy/Jenks Consultants, Incor **Service Request:** K1111839

Project No.: 17295 **Units:** UG/L

Project Name: City of Longview Mint Farm **Basis:** NA

Matrix: WATER

Sample Name: DW-5S Lab Code: K1111839-001S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Antimony	70 - 130	49.7		0.05	U	50.00	99.4		200.8
Arsenic	70 - 130	56.4		6.2		50.00	100.4		200.8
Barium	70 - 130	115		14.6		100.00	100.4		200.8
Beryllium	70 - 130	2.51		0.02	U	2.50	100.4		200.8
Cadmium	70 - 130	24.4		0.02	U	25.00	97.6		200.8
Chromium	70 - 130	10.3		0.2		10.00	101.0		200.8
Copper	70 - 130	12.3		0.2		12.50	96.8		200.8
Lead	70 - 130	47.3		0.02	U	50.00	94.6		200.8
Nickel	70 - 130	24.4		1.0		25.00	93.6		200.8
Selenium	70 - 130	48.5		1.0	U	50.00	97.0		200.8
Silver	70 - 130	12.0		0.02	U	12.50	96.0		200.8
Thallium	70 - 130	47.5		0.02	U	50.00	95.0		200.8
Uranium	70 - 130	17.9		0.02	U	20.00	89.5		200.8

An empty field in the Control Limit column indicates the control limit is not applicable

Metals

- 5A -

SPIKE SAMPLE RECOVERY

Client: Kennedy/Jenks Consultants, Incor **Service Request:** K1111839

Project No.: 17295 **Units:** UG/L

Project Name: City of Longview Mint Farm **Basis:** NA

Matrix: WATER

Sample Name: Batch QC2S Lab Code: K1111888-001S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Mercury	70 - 130	1.09		0.2	U	1.00	109.0		245.1

An empty field in the Control Limit column indicates the control limit is not applicable

Metals

- 6 -

DUPLICATES

Client: Kennedy/Jenks Consultants, Incor Service Request: K1111839

Project No.: 17295 Units: UG/L

Project Name: City of Longview Mint Farm Basis: NA

Matrix: WATER

Sample Name: Batch QC1D Lab Code: K1111779-001D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Aluminum		8.8		4.4		66.7		200.7
Calcium	20	33300		32900		1.2		200.7
Iron	20	604		599		0.8		200.7
Magnesium	20	9230		9160		0.8		200.7
Manganese	20	500		497		0.6		200.7
Potassium	20	4280		4290		0.2		200.7
Silicon	20	24600		24600		0.0		200.7
Sodium	20	12100		12000		0.8		200.7
Zinc		2.0	U	2.0	U			200.7

An empty field in the Control Limit column indicates the control limit is not applicable.

Metals

- 6 -

DUPLICATES

Client: Kennedy/Jenks Consultants, Incor Service Request: K1111839

Project No.: 17295 Units: UG/L

Project Name: City of Longview Mint Farm Basis: NA

Matrix: WATER

Sample Name: DW-5D Lab Code: K1111839-001D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Antimony		0.05	U	0.05	U			200.8
Arsenic	20	6.2		6.3		1.6		200.8
Barium	20	14.6		14.8		1.4		200.8
Beryllium		0.02	U	0.02	U			200.8
Cadmium		0.02	U	0.02	U			200.8
Chromium		0.2		0.2		0.0		200.8
Copper		0.2		0.2		0.0		200.8
Lead		0.02	U	0.02	U			200.8
Nickel		1.0		0.9		10.5		200.8
Selenium		1.0	U	1.0	U			200.8
Silver		0.02	U	0.02	U			200.8
Thallium		0.02	U	0.02	U			200.8
Uranium		0.02	U	0.02	U			200.8

An empty field in the Control Limit column indicates the control limit is not applicable.

Metals

- 6 -

DUPLICATES

Client: Kennedy/Jenks Consultants, Incor **Service Request:** K1111839

Project No.: 17295 **Units:** UG/L

Project Name: City of Longview Mint Farm **Basis:** NA

Matrix: WATER

Sample Name: Batch QC2D **Lab Code:** K1111888-001D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Mercury		0.2	U	0.2	U			245.1

An empty field in the Control Limit column indicates the control limit is not applicable.

Metals

LABORATORY CONTROL SAMPLE

Client: Kennedy/Jenks Consultants, Incor **Service Request:** K1111839

Project No.: 17295

Project Name: City of Longview Mint Farm

Aqueous LCS Source: CAS MIXED Solid LCS Source:

Analyte	Aqueous: ug/L			Solid: mg/kg				
	True	Found	%R	True	Found	C	Limits	%R
Aluminum	5000	4980	99.6					
Antimony	50	48.9	97.8					
Arsenic	50	49.9	99.8					
Barium	100	98.1	98.1					
Beryllium	2.5	2.44	97.6					
Cadmium	25	24.5	98.0					
Calcium	12500	12400	99.2					
Chromium	10	9.7	97.0					
Copper	12.5	12.5	100.0					
Iron	2500	2400	96.0					
Lead	50	49.2	98.4					
Magnesium	12500	12500	100.0					
Manganese	1250	1210	96.8					
Mercury	5	5.00	100.0					
Nickel	25	24.4	97.6					
Potassium	12500	12500	100.0					
Selenium	50	49.0	98.0					
Silicon	10000	10100	101.0					
Silver	12.5	12.2	97.6					
Sodium	12500	13200	105.6					
Thallium	50	48.6	97.2					
Uranium	20	19.2	96.0					
Zinc	1250	1260	100.8					

EPA Method 504.1

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking water

Service Request: K1111839
Date Collected: 12/06/2011
Date Received: 12/06/2011

EPA Method 504.1

Sample Name: DW-5
Lab Code: K1111839-001

Units: ug/L
Basis: NA

Extraction Method: METHOD
Analysis Method: 504.1

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1,2-Dibromoethane (EDB)	ND	U	0.0097	1	12/14/11	12/14/11	KWG1112619	
1,2-Dibromo-3-chloropropane (DBCP	ND	U	0.0097	1	12/14/11	12/14/11	KWG1112619	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/06/2011
Sample Matrix:	Drinking water	**Date Received:**	12/06/2011

EPA Method 504.1

Sample Name:	DW-2	**Units:**	ug/L
Lab Code:	K1111839-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	504.1		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1,2-Dibromoethane (EDB)	ND	U	0.0095	1	12/14/11	12/14/11	KWG1112619	
1,2-Dibromo-3-chloropropane (DBCP	ND	U	0.0095	1	12/14/11	12/14/11	KWG1112619	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	NA
Sample Matrix:	Drinking water	**Date Received:**	NA

EPA Method 504.1

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1112619-3	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	504.1		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1,2-Dibromoethane (EDB)	ND	U	0.010	1	12/14/11	12/14/11	KWG1112619	
1,2-Dibromo-3-chloropropane (DBCP	ND	U	0.010	1	12/14/11	12/14/11	KWG1112619	

Comments:

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Extracted:**	12/14/2011
Sample Matrix:	Drinking water	**Date Analyzed:**	12/14/2011

Matrix Spike Summary
EPA Method 504.1

Sample Name:	DW-2	**Units:**	ug/L
Lab Code:	K1111839-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	504.1	**Extraction Lot:**	KWG1112619

		DW-2MS KWG1112619-2 Matrix Spike			
Analyte Name	**Sample Result**	**Result**	**Expected**	**%Rec**	**%Rec Limits**
1,2-Dibromoethane (EDB)	ND	0.192	0.239	80	65-135
1,2-Dibromo-3-chloropropane (DBCP	ND	0.172	0.239	72	65-135

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Extracted:**	12/14/2011
Sample Matrix:	Drinking water	**Date Analyzed:**	12/14/2011

Lab Control Spike Summary
EPA Method 504.1

Extraction Method:	METHOD	**Units:**	ug/L
Analysis Method:	504.1	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1112619

	Lab Control Sample KWG1112619-1 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
1,2-Dibromoethane (EDB)	0.249	0.250	99	70-130
1,2-Dibromo-3-chloropropane (DBCP)	0.239	0.250	96	70-130

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Pesticides/PCBs

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/06/2011
Sample Matrix:	Drinking water	**Date Received:**	12/06/2011

Pesticides/PCBs by EPA method 508.1

Sample Name:	DW-5	**Units:**	ug/L
Lab Code:	K1111839-001	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	508.1		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
gamma-BHC (Lindane)	ND	U	0.0099	1	12/13/11	12/20/11	KWG1112596	
Heptachlor	ND	U	0.0099	1	12/13/11	12/20/11	KWG1112596	
Heptachlor Epoxide	ND	U	0.0099	1	12/13/11	12/20/11	KWG1112596	
Endrin	ND	U	0.0099	1	12/13/11	12/23/11	KWG1112596	
Methoxychlor	ND	U	0.0099	1	12/13/11	12/20/11	KWG1112596	
Toxaphene	ND	U	0.099	1	12/13/11	12/20/11	KWG1112596	
Chlordane	ND	U	0.099	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1016	ND	U	0.050	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1221	ND	U	0.099	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1232	ND	U	0.099	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1242	ND	U	0.099	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1248	ND	U	0.099	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1254	ND	U	0.099	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1260	ND	U	0.099	1	12/13/11	12/20/11	KWG1112596	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4,4'-Dibromooctafluorobiphenyl	84	70-130	12/20/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/06/2011
Sample Matrix:	Drinking water	**Date Received:**	12/06/2011

Pesticides/PCBs by EPA method 508.1

Sample Name:	DW-2	**Units:**	ug/L
Lab Code:	K1111839-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	508.1		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
gamma-BHC (Lindane)	ND	U	0.0098	1	12/13/11	12/20/11	KWG1112596	
Heptachlor	ND	U	0.0098	1	12/13/11	12/20/11	KWG1112596	
Heptachlor Epoxide	ND	U	0.0098	1	12/13/11	12/20/11	KWG1112596	
Endrin	ND	U	0.0098	1	12/13/11	12/23/11	KWG1112596	
Methoxychlor	ND	U	0.0098	1	12/13/11	12/20/11	KWG1112596	
Toxaphene	ND	U	0.098	1	12/13/11	12/20/11	KWG1112596	
Chlordane	ND	U	0.098	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1016	ND	U	0.049	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1221	ND	U	0.098	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1232	ND	U	0.098	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1242	ND	U	0.098	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1248	ND	U	0.098	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1254	ND	U	0.098	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1260	ND	U	0.098	1	12/13/11	12/20/11	KWG1112596	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4,4'-Dibromooctafluorobiphenyl	82	70-130	12/20/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	NA
Sample Matrix:	Drinking water	**Date Received:**	NA

Pesticides/PCBs by EPA method 508.1

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1112596-5	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	508.1		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
gamma-BHC (Lindane)	ND	U	0.010	1	12/13/11	12/20/11	KWG1112596	
Heptachlor	ND	U	0.010	1	12/13/11	12/20/11	KWG1112596	
Heptachlor Epoxide	ND	U	0.010	1	12/13/11	12/20/11	KWG1112596	
Endrin	ND	U	0.010	1	12/13/11	12/22/11	KWG1112596	
Methoxychlor	ND	U	0.010	1	12/13/11	12/20/11	KWG1112596	
Toxaphene	ND	U	0.10	1	12/13/11	12/20/11	KWG1112596	
Chlordane	ND	U	0.10	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1016	ND	U	0.050	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1221	ND	U	0.10	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1232	ND	U	0.10	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1242	ND	U	0.10	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1248	ND	U	0.10	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1254	ND	U	0.10	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1260	ND	U	0.10	1	12/13/11	12/20/11	KWG1112596	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4,4'-Dibromooctafluorobiphenyl	82	70-130	12/20/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking water

Service Request: K1111839

Surrogate Recovery Summary
Pesticides/PCBs by EPA method 508.1

Extraction Method: METHOD
Analysis Method: 508.1

Units: ug/L
Level: Low

Sample Name	Lab Code	Sur1
Batch QC	K1111779-001	82
DW-5	K1111839-001	84
DW-2	K1111839-002	82
Method Blank	KWG1112596-5	82
Batch QCMS	KWG1112596-1	81
Batch QCMS	KWG1112596-2	81
Lab Control Sample	KWG1112596-3	80

Surrogate Recovery Control Limits (%)

Sur1 = 4,4'-Dibromooctafluorobiphenyl 70-130

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Extracted:**	12/13/2011
Sample Matrix:	Drinking water	**Date Analyzed:**	12/20/2011 - 1

Matrix Spike Summary
Pesticides/PCBs by EPA method 508.1

Sample Name:	Batch QC	**Units:**	ug/L
Lab Code:	K1111779-001	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	508.1	**Extraction Lot:**	KWG1112596

Analyte Name	Sample Result	Batch QCMS KWG1112596-1 Matrix Spike Result	Expected	%Rec	%Rec Limits
gamma-BHC (Lindane)	ND	0.0685	0.0980	70	65-135
Heptachlor	ND	0.0685	0.0980	70	65-135
Heptachlor Epoxide	ND	0.0679	0.0980	69	65-135
Endrin	ND	0.0465	0.0980	47 *	65-135
Methoxychlor	ND	0.0863	0.0980	88	65-135

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Extracted:**	12/13/2011
Sample Matrix:	Drinking water	**Date Analyzed:**	12/20/2011

Matrix Spike Summary
Pesticides/PCBs by EPA method 508.1

Sample Name:	Batch QC	**Units:**	ug/L
Lab Code:	K1111779-001	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	508.1	**Extraction Lot:**	KWG1112596

Analyte Name	Sample Result	Batch QCMS KWG1112596-2 Matrix Spike Result	Expected	%Rec	%Rec Limits
Aroclor 1260	ND	0.464	0.490	95	65-135

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Extracted:**	12/13/2011
Sample Matrix:	Drinking water	**Date Analyzed:**	12/20/2011 - 12/22/2011

Lab Control Spike Summary
Pesticides/PCBs by EPA method 508.1

Extraction Method:	METHOD	**Units:**	ug/L
Analysis Method:	508.1	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1112596

	Lab Control Sample KWG1112596-3 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
gamma-BHC (Lindane)	0.0700	0.100	70	70-130
Heptachlor	0.0762	0.100	76	70-130
Heptachlor Epoxide	0.0716	0.100	72	70-130
Endrin	0.0749	0.100	75	70-130
Methoxychlor	0.0946	0.100	95	70-130
Aroclor 1260	0.509	0.500	102	70-130

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Chlorinated Acids

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/06/2011
Sample Matrix:	Drinking water	**Date Received:**	12/06/2011

Chlorinated Acids by EPA Method 515.4

Sample Name:	DW-5	**Units:**	ug/L
Lab Code:	K1111839-001	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	515.4		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dalapon	ND	U	1.0	1	12/08/11	12/20/11	KWG1112463	
2,4-D	ND	U	0.10	1	12/08/11	12/20/11	KWG1112463	
Pentachlorophenol	ND	U	0.040	1	12/08/11	12/20/11	KWG1112463	
2,4,5-TP (Silvex)	ND	U	0.050	1	12/08/11	12/20/11	KWG1112463	
Dinoseb	ND	U	0.20	1	12/08/11	12/20/11	KWG1112463	
Picloram	ND	U	0.10	1	12/08/11	12/20/11	KWG1112463	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2,4-Dichlorophenylacetic Acid	112	70-130	12/20/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/06/2011
Sample Matrix:	Drinking water	**Date Received:**	12/06/2011

Chlorinated Acids by EPA Method 515.4

Sample Name:	DW-2	**Units:**	ug/L
Lab Code:	K1111839-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	515.4		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dalapon	ND	U	1.0	1	12/08/11	12/20/11	KWG1112463	
2,4-D	ND	U	0.10	1	12/08/11	12/20/11	KWG1112463	
Pentachlorophenol	ND	U	0.040	1	12/08/11	12/20/11	KWG1112463	
2,4,5-TP (Silvex)	ND	U	0.050	1	12/08/11	12/20/11	KWG1112463	
Dinoseb	ND	U	0.20	1	12/08/11	12/20/11	KWG1112463	
Picloram	ND	U	0.10	1	12/08/11	12/20/11	KWG1112463	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2,4-Dichlorophenylacetic Acid	114	70-130	12/20/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	NA
Sample Matrix:	Drinking water	**Date Received:**	NA

Chlorinated Acids by EPA Method 515.4

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1112463-4	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	515.4		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dalapon	ND	U	1.0	1	12/08/11	12/20/11	KWG1112463	
2,4-D	ND	U	0.10	1	12/08/11	12/20/11	KWG1112463	
Pentachlorophenol	ND	U	0.040	1	12/08/11	12/20/11	KWG1112463	
2,4,5-TP (Silvex)	ND	U	0.050	1	12/08/11	12/20/11	KWG1112463	
Dinoseb	ND	U	0.20	1	12/08/11	12/20/11	KWG1112463	
Picloram	ND	U	0.10	1	12/08/11	12/20/11	KWG1112463	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2,4-Dichlorophenylacetic Acid	105	70-130	12/20/11	Acceptable

Comments:

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking water

Service Request: K1111839

Surrogate Recovery Summary
Chlorinated Acids by EPA Method 515.4

Extraction Method: METHOD
Analysis Method: 515.4

Units: ug/L
Level: Low

Sample Name	Lab Code	Sur1
DW-5	K1111839-001	112
DW-2	K1111839-002	114
Batch QC	K1111888-002	114
Method Blank	KWG1112463-4	105
Batch QCMS	KWG1112463-1	111
Batch QCDMS	KWG1112463-2	111
Lab Control Sample	KWG1112463-3	104

Surrogate Recovery Control Limits (%)

Sur1 = 2,4-Dichlorophenylacetic Acid 70-130

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Extracted:**	12/08/2011
Sample Matrix:	Drinking water	**Date Analyzed:**	12/20/2011

Matrix Spike/Duplicate Matrix Spike Summary
Chlorinated Acids by EPA Method 515.4

Sample Name:	Batch QC	**Units:**	ug/L
Lab Code:	K1111888-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	515.4	**Extraction Lot:**	KWG1112463

		Batch QCMS KWG1112463-1 Matrix Spike			Batch QCDMS KWG1112463-2 Duplicate Matrix Spike					
Analyte Name	**Sample Result**	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Dalapon	ND	4.47	4.98	90	4.59	4.98	92	70-130	3	30
2,4-D	ND	5.65	4.98	114	5.66	4.98	114	70-130	0	30
Pentachlorophenol	ND	3.99	4.98	80	4.04	4.98	81	70-130	1	30
2,4,5-TP (Silvex)	ND	5.15	4.98	104	5.14	4.98	103	70-130	0	30
Dinoseb	ND	4.97	4.98	100	4.94	4.98	99	70-130	1	30
Picloram	ND	6.05	4.98	122	5.79	4.98	116	70-130	4	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Extracted:**	12/08/2011
Sample Matrix:	Drinking water	**Date Analyzed:**	12/20/2011

Lab Control Spike Summary
Chlorinated Acids by EPA Method 515.4

Extraction Method:	METHOD	**Units:**	ug/L
Analysis Method:	515.4	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1112463

	Lab Control Sample KWG1112463-3 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Dalapon	4.38	5.00	88	70-130
2,4-D	5.03	5.00	101	70-130
Pentachlorophenol	3.94	5.00	79	70-130
2,4,5-TP (Silvex)	4.85	5.00	97	70-130
Dinoseb	4.78	5.00	96	70-130
Picloram	5.45	5.00	109	70-130

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Volatile Organic Compounds

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/06/2011
Sample Matrix:	Drinking water	**Date Received:**	12/06/2011

Volatile Organic Compounds

Sample Name:	DW-5	**Units:**	ug/L
Lab Code:	K1111839-001	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	524.2		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Chloromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Vinyl Chloride	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Bromomethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Chloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Trichlorofluoromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Methylene Chloride	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
trans-1,2-Dichloroethene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1-Dichloroethene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
cis-1,2-Dichloroethene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Methyl tert-Butyl Ether	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Chloroform	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Bromochloromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Carbon Tetrachloride	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Benzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2-Dichloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Trichloroethene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2-Dichloropropane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Bromodichloromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Dibromomethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
cis-1,3-Dichloropropene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1-Dichloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Toluene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
trans-1,3-Dichloropropene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Tetrachloroethene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
2,2-Dichloropropane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,3-Dichloropropane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Dibromochloromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2-Dibromoethane (EDB)	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Chlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Ethylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Styrene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
m,p-Xylenes	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
o-Xylene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	

Comments:

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking water

Service Request: K1111839
Date Collected: 12/06/2011
Date Received: 12/06/2011

Volatile Organic Compounds

Sample Name: DW-5
Lab Code: K1111839-001

Units: ug/L
Basis: NA

Extraction Method: METHOD
Analysis Method: 524.2

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1,1,1-Trichloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Bromoform	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1,2,2-Tetrachloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Isopropylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1-Dichloropropene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Bromobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
n-Propylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,3,5-Trimethylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
2-Chlorotoluene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
4-Chlorotoluene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
tert-Butylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2,4-Trimethylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
sec-Butylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
p-Isopropyltoluene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,3-Dichlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,4-Dichlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
n-Butylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2-Dichlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2-Dibromo-3-chloropropane (DBCP	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2,4-Trichlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Hexachlorobutadiene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Naphthalene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1,2-Trichloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1,1,2-Tetrachloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2,3-Trichloropropane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2,3-Trichlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	85	70-130	12/08/11	Acceptable
Dibromofluoromethane	97	82-124	12/08/11	Acceptable
Toluene-d8	98	82-124	12/08/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/06/2011
Sample Matrix:	Drinking water	**Date Received:**	12/06/2011

Volatile Organic Compounds

Sample Name:	DW-2	**Units:**	ug/L
Lab Code:	K1111839-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	524.2		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Chloromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Vinyl Chloride	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Bromomethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Chloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Trichlorofluoromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Methylene Chloride	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
trans-1,2-Dichloroethene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1-Dichloroethene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
cis-1,2-Dichloroethene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Methyl tert-Butyl Ether	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Chloroform	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Bromochloromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Carbon Tetrachloride	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Benzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2-Dichloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Trichloroethene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2-Dichloropropane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Bromodichloromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Dibromomethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
cis-1,3-Dichloropropene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1-Dichloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Toluene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
trans-1,3-Dichloropropene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Tetrachloroethene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
2,2-Dichloropropane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,3-Dichloropropane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Dibromochloromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2-Dibromoethane (EDB)	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Chlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Ethylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Styrene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
m,p-Xylenes	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
o-Xylene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	

Comments:

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/06/2011
Sample Matrix:	Drinking water	**Date Received:**	12/06/2011

Volatile Organic Compounds

Sample Name:	DW-2	**Units:**	ug/L
Lab Code:	K1111839-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	524.2		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1,1,1-Trichloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Bromoform	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1,2,2-Tetrachloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Isopropylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1-Dichloropropene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Bromobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
n-Propylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,3,5-Trimethylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
2-Chlorotoluene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
4-Chlorotoluene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
tert-Butylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2,4-Trimethylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
sec-Butylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
p-Isopropyltoluene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,3-Dichlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,4-Dichlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
n-Butylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2-Dichlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2-Dibromo-3-chloropropane (DBCP	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2,4-Trichlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Hexachlorobutadiene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Naphthalene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1,2-Trichloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1,1,2-Tetrachloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2,3-Trichloropropane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2,3-Trichlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	86	70-130	12/08/11	Acceptable
Dibromofluoromethane	96	82-124	12/08/11	Acceptable
Toluene-d8	98	82-124	12/08/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking water

Service Request: K1111839
Date Collected: NA
Date Received: NA

Volatile Organic Compounds

Sample Name: Method Blank
Lab Code: KWG1112449-2

Units: ug/L
Basis: NA

Extraction Method: METHOD
Analysis Method: 524.2

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Chloromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Vinyl Chloride	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Bromomethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Chloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Trichlorofluoromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Methylene Chloride	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
trans-1,2-Dichloroethene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1-Dichloroethene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
cis-1,2-Dichloroethene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Methyl tert-Butyl Ether	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Chloroform	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Bromochloromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Carbon Tetrachloride	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Benzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2-Dichloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Trichloroethene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2-Dichloropropane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Bromodichloromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Dibromomethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
cis-1,3-Dichloropropene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1-Dichloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Toluene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
trans-1,3-Dichloropropene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Tetrachloroethene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
2,2-Dichloropropane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,3-Dichloropropane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Dibromochloromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2-Dibromoethane (EDB)	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Chlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Ethylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Styrene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
m,p-Xylenes	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
o-Xylene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	

Comments:

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking water

Service Request: K1111839
Date Collected: NA
Date Received: NA

Volatile Organic Compounds

Sample Name: Method Blank
Lab Code: KWG1112449-2

Units: ug/L
Basis: NA

Extraction Method: METHOD
Analysis Method: 524.2

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1,1,1-Trichloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Bromoform	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1,2,2-Tetrachloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Isopropylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1-Dichloropropene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Bromobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
n-Propylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,3,5-Trimethylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
2-Chlorotoluene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
4-Chlorotoluene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
tert-Butylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2,4-Trimethylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
sec-Butylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
p-Isopropyltoluene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,3-Dichlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,4-Dichlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
n-Butylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2-Dichlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2-Dibromo-3-chloropropane (DBCP	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2,4-Trichlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Hexachlorobutadiene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Naphthalene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1,2-Trichloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1,1,2-Tetrachloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2,3-Trichloropropane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2,3-Trichlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	86	70-130	12/08/11	Acceptable
Dibromofluoromethane	96	82-124	12/08/11	Acceptable
Toluene-d8	98	82-124	12/08/11	Acceptable

Comments:

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking water

Service Request: K1111839

Surrogate Recovery Summary
Volatile Organic Compounds

Extraction Method: METHOD
Analysis Method: 524.2

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2	Sur3
DW-5	K1111839-001	85	97	98
DW-2	K1111839-002	86	96	98
Method Blank	KWG1112449-2	86	96	98
Lab Control Sample	KWG1112449-1	98	96	104

Surrogate Recovery Control Limits (%)

Sur1 =	4-Bromofluorobenzene	70-130
Sur2 =	Dibromofluoromethane	82-124
Sur3 =	Toluene-d8	82-124

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Extracted:**	12/08/2011
Sample Matrix:	Drinking water	**Date Analyzed:**	12/08/2011

Lab Control Spike Summary
Volatile Organic Compounds

Extraction Method:	METHOD	**Units:**	ug/L
Analysis Method:	524.2	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1112449

	Lab Control Sample KWG1112449-1 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Dichlorodifluoromethane	3.73	5.00	75	70-130
Chloromethane	4.24	5.00	85	70-130
Vinyl Chloride	4.21	5.00	84	70-130
Bromomethane	4.53	5.00	91	70-130
Chloroethane	4.36	5.00	87	70-130
Trichlorofluoromethane	4.20	5.00	84	70-130
Methylene Chloride	4.92	5.00	98	70-130
trans-1,2-Dichloroethene	4.55	5.00	91	70-130
cis-1,2-Dichloroethene	4.76	5.00	95	70-130
1,1-Dichloroethene	4.13	5.00	83	70-130
Methyl tert-Butyl Ether	9.37	10.0	94	70-130
Chloroform	4.67	5.00	93	70-130
Bromochloromethane	4.95	5.00	99	70-130
Carbon Tetrachloride	4.32	5.00	86	70-130
Benzene	4.68	5.00	94	70-130
1,2-Dichloroethane	4.89	5.00	98	70-130
Trichloroethene	4.44	5.00	89	70-130
1,2-Dichloropropane	4.59	5.00	92	70-130
Bromodichloromethane	4.89	5.00	98	70-130
Dibromomethane	4.83	5.00	97	70-130
cis-1,3-Dichloropropene	4.00	5.00	80	70-130
1,1-Dichloroethane	4.64	5.00	93	70-130
Toluene	4.80	5.00	96	70-130
trans-1,3-Dichloropropene	4.38	5.00	88	70-130
Tetrachloroethene	4.40	5.00	88	70-130
1,3-Dichloropropane	4.55	5.00	91	70-130
2,2-Dichloropropane	4.27	5.00	85	70-130
Dibromochloromethane	4.90	5.00	98	70-130
1,2-Dibromoethane (EDB)	4.73	5.00	95	70-130
Chlorobenzene	4.61	5.00	92	70-130
Ethylbenzene	4.50	5.00	90	70-130
Styrene	4.85	5.00	97	70-130
m,p-Xylenes	9.79	10.0	98	70-130
o-Xylene	4.64	5.00	93	70-130
1,1,1-Trichloroethane	4.38	5.00	88	70-130
1,1,2,2-Tetrachloroethane	4.19	5.00	84	70-130

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking water

Service Request: K1111839
Date Extracted: 12/08/2011
Date Analyzed: 12/08/2011

Lab Control Spike Summary
Volatile Organic Compounds

Extraction Method: METHOD
Analysis Method: 524.2

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG1112449

Analyte Name	Lab Control Sample KWG1112449-1 Lab Control Spike Result	Expected	%Rec	%Rec Limits
Bromoform	4.84	5.00	97	70-130
Isopropylbenzene	4.61	5.00	92	70-130
1,1-Dichloropropene	4.22	5.00	84	70-130
Bromobenzene	4.52	5.00	90	70-130
n-Propylbenzene	4.37	5.00	87	70-130
1,3,5-Trimethylbenzene	4.49	5.00	90	70-130
2-Chlorotoluene	4.41	5.00	88	70-130
4-Chlorotoluene	4.46	5.00	89	70-130
tert-Butylbenzene	4.35	5.00	87	70-130
1,2,4-Trimethylbenzene	4.55	5.00	91	70-130
sec-Butylbenzene	4.40	5.00	88	70-130
p-Isopropyltoluene	4.51	5.00	90	70-130
1,3-Dichlorobenzene	4.50	5.00	90	70-130
1,4-Dichlorobenzene	4.44	5.00	89	70-130
n-Butylbenzene	4.37	5.00	87	70-130
1,2-Dichlorobenzene	4.62	5.00	92	70-130
1,2-Dibromo-3-chloropropane (DBCP)	4.29	5.00	86	70-130
1,2,4-Trichlorobenzene	4.51	5.00	90	70-130
Hexachlorobutadiene	4.56	5.00	91	70-130
Naphthalene	3.72	5.00	74	70-130
1,1,2-Trichloroethane	4.48	5.00	90	70-130
1,1,1,2-Tetrachloroethane	4.71	5.00	94	70-130
1,2,3-Trichloropropane	4.64	5.00	93	70-130
1,2,3-Trichlorobenzene	4.94	5.00	99	70-130

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Semi-Volatile Organic Compounds

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/06/2011
Sample Matrix:	Drinking water	**Date Received:**	12/06/2011

Semivolatile Organics by EPA method 525.2

Sample Name:	DW-5	**Units:**	ug/L
Lab Code:	K1111839-001	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	525.2		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Hexachlorocyclopentadiene	ND	U	0.099	1	12/13/11	12/20/11	KWG1112597	
Hexachlorobenzene	ND	U	0.099	1	12/13/11	12/20/11	KWG1112597	
Simazine	ND	U	0.050	1	12/13/11	12/20/11	KWG1112597	
Atrazine	ND	U	0.099	1	12/13/11	12/20/11	KWG1112597	
Alachlor	ND	U	0.071	1	12/13/11	12/20/11	KWG1112597	
Bis(2-ethylhexyl) Adipate	ND	U	0.59	1	12/13/11	12/20/11	KWG1112597	
Bis(2-ethylhexyl) Phthalate	ND	U	0.59	1	12/13/11	12/20/11	KWG1112597	
Benzo(a)pyrene	ND	U	0.020	1	12/13/11	12/20/11	KWG1112597	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
1,3-Dimethyl-2-nitrobenzene	111	70-130	12/20/11	Acceptable
Triphenyl Phosphate	126	70-130	12/20/11	Acceptable
Perylene-d12	114	70-130	12/20/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/06/2011
Sample Matrix:	Drinking water	**Date Received:**	12/06/2011

Semivolatile Organics by EPA method 525.2

Sample Name:	DW-2	**Units:**	ug/L
Lab Code:	K1111839-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	525.2		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Hexachlorocyclopentadiene	ND	U	0.098	1	12/13/11	12/20/11	KWG1112597	
Hexachlorobenzene	ND	U	0.098	1	12/13/11	12/20/11	KWG1112597	
Simazine	ND	U	0.049	1	12/13/11	12/20/11	KWG1112597	
Atrazine	ND	U	0.098	1	12/13/11	12/20/11	KWG1112597	
Alachlor	ND	U	0.070	1	12/13/11	12/20/11	KWG1112597	
Bis(2-ethylhexyl) Adipate	ND	U	0.59	1	12/13/11	12/20/11	KWG1112597	
Bis(2-ethylhexyl) Phthalate	ND	U	0.59	1	12/13/11	12/20/11	KWG1112597	
Benzo(a)pyrene	ND	U	0.020	1	12/13/11	12/20/11	KWG1112597	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
1,3-Dimethyl-2-nitrobenzene	111	70-130	12/20/11	Acceptable
Triphenyl Phosphate	114	70-130	12/20/11	Acceptable
Perylene-d12	109	70-130	12/20/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	NA
Sample Matrix:	Drinking water	**Date Received:**	NA

Semivolatile Organics by EPA method 525.2

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1112597-3	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	525.2		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Hexachlorocyclopentadiene	ND	U	0.10	1	12/13/11	12/19/11	KWG1112597	
Hexachlorobenzene	ND	U	0.10	1	12/13/11	12/19/11	KWG1112597	
Simazine	ND	U	0.050	1	12/13/11	12/19/11	KWG1112597	
Atrazine	ND	U	0.10	1	12/13/11	12/19/11	KWG1112597	
Alachlor	ND	U	0.072	1	12/13/11	12/19/11	KWG1112597	
Bis(2-ethylhexyl) Adipate	ND	U	0.60	1	12/13/11	12/19/11	KWG1112597	
Bis(2-ethylhexyl) Phthalate	ND	U	0.60	1	12/13/11	12/19/11	KWG1112597	
Benzo(a)pyrene	ND	U	0.020	1	12/13/11	12/19/11	KWG1112597	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
1,3-Dimethyl-2-nitrobenzene	118	70-130	12/19/11	Acceptable
Triphenyl Phosphate	125	70-130	12/19/11	Acceptable
Perylene-d12	110	70-130	12/19/11	Acceptable

Comments:

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking water

Service Request: K1111839

Surrogate Recovery Summary
Semivolatile Organics by EPA method 525.2

Extraction Method: METHOD
Analysis Method: 525.2

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2	Sur3
DW-5	K1111839-001	111	126	114
DW-2	K1111839-002	111	114	109
Batch QC	K1111888-002	116	121	110
Method Blank	KWG1112597-3	118	125	110
Batch QCMS	KWG1112597-2	116	113	116
Lab Control Sample	KWG1112597-1	115	128	111

Surrogate Recovery Control Limits (%)

Sur1 =	1,3-Dimethyl-2-nitrobenzene	70-130
Sur2 =	Triphenyl Phosphate	70-130
Sur3 =	Perylene-d12	70-130

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Extracted:**	12/13/2011
Sample Matrix:	Drinking water	**Date Analyzed:**	12/20/2011

Matrix Spike Summary
Semivolatile Organics by EPA method 525.2

Sample Name:	Batch QC	**Units:**	ug/L
Lab Code:	K1111888-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	525.2	**Extraction Lot:**	KWG1112597

Analyte Name	Sample Result	Batch QCMS KWG1112597-2 Matrix Spike Result	Expected	%Rec	%Rec Limits
Hexachlorocyclopentadiene	ND	0.927	0.971	95	70-130
Hexachlorobenzene	ND	1.12	0.971	115	70-130
Simazine	ND	1.12	0.971	116	70-130
Atrazine	ND	1.11	0.971	114	70-130
Alachlor	ND	0.982	0.971	101	70-130
Bis(2-ethylhexyl) Adipate	ND	1.23	0.971	127	70-130
Bis(2-ethylhexyl) Phthalate	ND	1.14	0.971	118	70-130
Benzo(a)pyrene	ND	1.04	0.971	107	70-130

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Extracted:**	12/13/2011
Sample Matrix:	Drinking water	**Date Analyzed:**	12/19/2011

Lab Control Spike Summary
Semivolatile Organics by EPA method 525.2

Extraction Method:	METHOD	**Units:**	ug/L
Analysis Method:	525.2	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1112597

	Lab Control Sample KWG1112597-1 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Hexachlorocyclopentadiene	0.973	1.00	97	70-130
Hexachlorobenzene	1.19	1.00	119	70-130
Simazine	1.22	1.00	122	70-130
Atrazine	1.24	1.00	124	70-130
Alachlor	1.22	1.00	122	70-130
Bis(2-ethylhexyl) Adipate	1.29	1.00	129	70-130
Bis(2-ethylhexyl) Phthalate	1.25	1.00	125	70-130
Benzo(a)pyrene	1.14	1.00	114	70-130

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Carbamates and Carbamoyloximes

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/06/2011
Sample Matrix:	Drinking water	**Date Received:**	12/06/2011

Carbamates and Carbamoyloximes by EPA Method 531.1

Sample Name:	DW-5	**Units:**	ug/L
Lab Code:	K1111839-001	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	531.1		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aldicarb Sulfoxide	ND	U	1.00	1	12/20/11	12/20/11	KWG1112777	
Aldicarb Sulfone	ND	U	0.500	1	12/20/11	12/20/11	KWG1112777	
Oxamyl	ND	U	0.500	1	12/20/11	12/20/11	KWG1112777	
Aldicarb	ND	U	0.500	1	12/20/11	12/20/11	KWG1112777	
Carbofuran	ND	U	0.500	1	12/20/11	12/20/11	KWG1112777	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/06/2011
Sample Matrix:	Drinking water	**Date Received:**	12/06/2011

Carbamates and Carbamoyloximes by EPA Method 531.1

Sample Name:	DW-2	**Units:**	ug/L
Lab Code:	K1111839-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	531.1		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aldicarb Sulfoxide	ND	U	1.00	1	12/20/11	12/20/11	KWG1112777	
Aldicarb Sulfone	ND	U	0.500	1	12/20/11	12/20/11	KWG1112777	
Oxamyl	ND	U	0.500	1	12/20/11	12/20/11	KWG1112777	
Aldicarb	ND	U	0.500	1	12/20/11	12/20/11	KWG1112777	
Carbofuran	ND	U	0.500	1	12/20/11	12/20/11	KWG1112777	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	NA
Sample Matrix:	Drinking water	**Date Received:**	NA

Carbamates and Carbamoyloximes by EPA Method 531.1

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1112777-4	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	531.1		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aldicarb Sulfoxide	ND	U	1.00	1	12/20/11	12/20/11	KWG1112777	
Aldicarb Sulfone	ND	U	0.500	1	12/20/11	12/20/11	KWG1112777	
Oxamyl	ND	U	0.500	1	12/20/11	12/20/11	KWG1112777	
Aldicarb	ND	U	0.500	1	12/20/11	12/20/11	KWG1112777	
Carbofuran	ND	U	0.500	1	12/20/11	12/20/11	KWG1112777	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Extracted:**	12/20/2011
Sample Matrix:	Drinking water	**Date Analyzed:**	12/20/2011

Matrix Spike Summary
Carbamates and Carbamoyloximes by EPA Method 531.1

Sample Name:	Batch QC	**Units:**	ug/L
Lab Code:	K1111779-001	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	531.1	**Extraction Lot:**	KWG1112777

		Batch QCMS KWG1112777-1 Matrix Spike			
Analyte Name	**Sample Result**	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Aldicarb Sulfoxide	ND	5.25	5.00	105	65-135
Aldicarb Sulfone	ND	5.04	5.00	101	65-135
Oxamyl	ND	5.10	5.00	102	65-135
Aldicarb	ND	4.34	5.00	87	65-135
Carbofuran	ND	4.69	5.00	94	65-135

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Extracted:**	12/20/2011
Sample Matrix:	Drinking water	**Date Analyzed:**	12/20/2011

Lab Control Spike Summary
Carbamates and Carbamoyloximes by EPA Method 531.1

Extraction Method:	METHOD	**Units:**	ug/L
Analysis Method:	531.1	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1112777

	Lab Control Sample KWG1112777-3 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Aldicarb Sulfoxide	4.31	5.00	86	80-120
Aldicarb Sulfone	4.65	5.00	93	80-120
Oxamyl	4.65	5.00	93	80-120
Aldicarb	4.17	5.00	83	80-120
Carbofuran	4.48	5.00	90	80-120

Results flagged with an asterisk (*) indicate values outside control criteria.

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Glyphosate

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/06/2011
Sample Matrix:	Drinking water	**Date Received:**	12/06/2011

Glyphosate by EPA Method 547

Sample Name:	DW-5	**Units:**	ug/L
Lab Code:	K1111839-001	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	547		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Glyphosate	ND	U	6.0	1	12/15/11	12/15/11	KWG1112673	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/06/2011
Sample Matrix:	Drinking water	**Date Received:**	12/06/2011

Glyphosate by EPA Method 547

Sample Name:	DW-2	**Units:**	ug/L
Lab Code:	K1111839-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	547		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Glyphosate	ND	U	6.0	1	12/15/11	12/15/11	KWG1112673	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	NA
Sample Matrix:	Drinking water	**Date Received:**	NA

Glyphosate by EPA Method 547

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1112673-4	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	547		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Glyphosate	ND	U	6.0	1	12/15/11	12/15/11	KWG1112673	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Extracted:**	12/15/2011
Sample Matrix:	Drinking water	**Date Analyzed:**	12/15/2011

Matrix Spike Summary
Glyphosate by EPA Method 547

Sample Name:	Batch QC	**Units:**	ug/L
Lab Code:	K1111779-001	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	547	**Extraction Lot:**	KWG1112673

		Batch QCMS KWG1112673-1 Matrix Spike			
Analyte Name	**Sample Result**	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Glyphosate	ND	61.3	50.0	123	56-131

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Extracted:**	12/15/2011
Sample Matrix:	Drinking water	**Date Analyzed:**	12/15/2011

Lab Control Spike Summary
Glyphosate by EPA Method 547

Extraction Method:	METHOD	**Units:**	ug/L
Analysis Method:	547	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1112673

	Lab Control Sample KWG1112673-3 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Glyphosate	61.3	50.0	123	56-131

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Endothall

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/06/2011
Sample Matrix:	Drinking water	**Date Received:**	12/06/2011

Endothall by EPA Method 548.1

Sample Name:	DW-5	**Units:**	ug/L
Lab Code:	K1111839-001	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	548.1		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Endothall	ND	U	5.0	1	12/09/11	12/10/11	KWG1112499	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/06/2011
Sample Matrix:	Drinking water	**Date Received:**	12/06/2011

Endothall by EPA Method 548.1

Sample Name:	DW-2	**Units:**	ug/L
Lab Code:	K1111839-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	548.1		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Endothall	ND	U	5.0	1	12/09/11	12/10/11	KWG1112499	

Comments:

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	NA
Sample Matrix:	Drinking water	**Date Received:**	NA

Endothall by EPA Method 548.1

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1112499-3	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	548.1		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Endothall	ND	U	5.0	1	12/09/11	12/09/11	KWG1112499	

Comments:

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Extracted:**	12/09/2011
Sample Matrix:	Drinking water	**Date Analyzed:**	12/10/2011

Matrix Spike Summary
Endothall by EPA Method 548.1

Sample Name:	Batch QC	**Units:**	ug/L
Lab Code:	K1111888-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	548.1	**Extraction Lot:**	KWG1112499

		Batch QCMS KWG1112499-2 Matrix Spike			
Analyte Name	**Sample Result**	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Endothall	ND	105	100	105	30-142

Results flagged with an asterisk (*) indicate values outside control criteria.

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Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Extracted:**	12/09/2011
Sample Matrix:	Drinking water	**Date Analyzed:**	12/09/2011

Lab Control Spike Summary
Endothall by EPA Method 548.1

Extraction Method:	METHOD	**Units:**	ug/L
Analysis Method:	548.1	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1112499

	Lab Control Sample KWG1112499-1 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Endothall	99.0	100	99	30-142

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Diquat by High Performance Liquid Chromatography

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/06/2011
Sample Matrix:	Drinking water	**Date Received:**	12/06/2011

Diquat by High Performance Liquid Chromatography

Sample Name:	DW-5	**Units:**	ug/L
Lab Code:	K1111839-001	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	549.2		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diquat	ND	U	0.40	1	12/12/11	12/12/11	KWG1112537	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/06/2011
Sample Matrix:	Drinking water	**Date Received:**	12/06/2011

Diquat by High Performance Liquid Chromatography

Sample Name:	DW-2	**Units:**	ug/L
Lab Code:	K1111839-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	549.2		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diquat	2.5		0.40	1	12/12/11	12/12/11	KWG1112537	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	NA
Sample Matrix:	Drinking water	**Date Received:**	NA

Diquat by High Performance Liquid Chromatography

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1112537-4	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	549.2		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diquat	ND	U	0.40	1	12/12/11	12/12/11	KWG1112537	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Extracted:**	12/12/2011
Sample Matrix:	Drinking water	**Date Analyzed:**	12/12/2011

Matrix Spike Summary
Diquat by High Performance Liquid Chromatography

Sample Name:	Batch QC	**Units:**	ug/L
Lab Code:	K1111888-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	549.2	**Extraction Lot:**	KWG1112537

		Batch QCMS KWG1112537-1 Matrix Spike			
Analyte Name	**Sample Result**	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Diquat	ND	11.6	12.0	96	70-130

Results flagged with an asterisk (*) indicate values outside control criteria.

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Extracted:**	12/12/2011
Sample Matrix:	Drinking water	**Date Analyzed:**	12/12/2011

Lab Control Spike Summary
Diquat by High Performance Liquid Chromatography

Extraction Method:	METHOD	**Units:**	ug/L
Analysis Method:	549.2	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1112537

	Lab Control Sample KWG1112537-3 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Diquat	12.3	12.0	103	70-130

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Dioxins and Furans

Columbia Analytical Services™ 19408 Park Row, Suite 320, Houston, TX 77084 | 713.266.1599 | www.caslab.com

December 27, 2011 Service Request No: K1111839

Lisa Domenighini
Columbia Analytical Services Inc
1317 South 13th Avenue
Kelso, WA 98626

Laboratory Results for: Kennedy/Jenks Consultants, Incorporated

Dear Lisa:

Enclosed are the results of the sample(s) submitted to our laboratory on December 08, 2011. For your reference, these analyses have been assigned our service request number : **K1111839** Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided.
All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. In accordance to the NELAC 2003 Standard, a statement on the estimated uncertainty of measurement of any quantitative analysis will be supplied upon request.

Please contact me if you have any questions. My direct number is 281-994-2959.

Respectfully submitted,

Columbia Analytical Services, Inc.

Arthi Kodur Digitally signed by Arthi Kodur Date: 2011.12.27 16:20:57 -06'00'

Arthi Kodur
Project Manager

Page 1 of 29

For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com.

Columbia Analytical Services INC

Certificate of Analysis

19408 Park Row, Suite 320, Houston, TX 77084
Phone (713)266-1599 Fax (713)266-0130
www.caslab.com

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COLUMBIA ANALYTICAL SERVICES, INC

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request No.:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Received:**	12/8/11
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed in adherence to the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Two water samples were received for analysis at Columbia Analytical Services on 12/8/11.

The samples were received at 0°C in good condition and are consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Data Validation Notes and Discussion

MS/MSD

EQ1100588: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in lieu of an MS/MSD for this extraction batch. The batch quality control criteria were met.

Detection Limits

Detection limits are calculated for each analyte in each sample by measuring the height of the noise level for each quantitation ion for the associated labeled standard. The concentration equivalent to 2.5 times the height of the noise is then calculated using the appropriate response factor and the weight of the sample. The calculated concentration equals the detection limit.

Use of Columbia Analytical Services, Inc. (CAS) Name. Client shall not use CAS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to CAS any test result, tolerance or specification derived from CAS's data ("Attribution") without CAS's prior written consent, which may be withheld by CAS for any reason in its sole discretion. To request CAS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If CAS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use CAS's name or trademark in any Materials or Attribution shall be deemed denied. CAS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of CAS's name or trademark may cause CAS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295

Service Request: K1111839

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
K1111839-001	DW-5	12/6/11	11:30
K1111839-002	DW-2	12/6/11	13:50
K1111839-003	Trip Blank	12/6/11	11:30

Laboratory Certifications
2011-2012

STATE/PROGRAM	AGENCY	CERT#	EXP DATE	CERTIFIED?
DoD ELAP	A2LA	2897.01	11/30/11	Yes
ISO 17025	A2LA	2897.01	11/30/11	Yes
Arizona	AZ-DHS	AZ0725	05/27/12	Yes
Arkansas	ADEQ	10-035-0	06/16/11	Yes
California	CA-ELAP	2452	02/28/13	Yes
Florida/NELAP	FL-DOHS	E87611	06/30/12	Yes
Hawaii	HI-DOH	N/A	06/30/12	Yes
Illinois/NELAP	IL-EPA	002611	10/26/2012	Yes
Louisiana/NELAP	LELAP	03048	06/30/12	Yes
Louisiana/NELAP	LDHH	LA100032	12/31/11	Yes
Maine	ME-DOHS	2010041	06/05/12	Yes
Michigan	MIDEQ	9971	06/30/12	Yes
Minnesota	MDH	048-999-427	12/31/11	Yes
Nevada	NDEP	TX014112010A	07/31/12	Yes (Extension)
New Jersey	NJDEP	TX008	06/30/12	Yes
New Mexico	NMED-DWB	N/A	06/30/12	Yes
New York/NELAP	NY-DOH	11707	04/1/12	Yes
Oklahoma	OKDEQ	2010-022	08/31/12	Yes
Oregon/NELAP	ORELAP	TX200002-006	03/24/12	Yes
Pennsylvania/NELAP	PLAP	002	06/30/12	Yes
Tennessee	TNDEC	04016	06/30/12	Yes
Texas/NELAP	TCEQ	T104704216-10-1	06/30/12	Yes
UTAH/NELAP	UTELCP	COLU2	06/30/12	Yes
Soil Import Permit	USDA	P330-09-00067	03/27/12	Yes
Washington/NELAP	WA-Ecology	C819-10	11/14/12	Yes
West Virginia	WVDEP	347	06/30/12	Yes

Abbreviations, Acronyms & Definitions

Cal	Calibration
Conc	CONCentration
Dioxin(s)	Polychlorinated dibenzo-p-dioxin(s)
EDL	Estimated Detection Limit
EMPC	Estimated Maximum Possible Concentration
Flags	Data qualifiers
Furan(s)	Polychlorinated dibenzofuran(s)
g	Grams
iCAL	initial CALibration
ID	IDentifier
Ions	Masses monitored for the analyte during data acquisition
L	Liter (s)
LCS	Laboratory Control Sample
DLCS	Duplicate Laboratory Control Sample
MB	Method Blank
MCL	Method Calibration Limit
MDL	Method Detection Limit
MRL	Method Reporting Limit
mL	Milliliters
MS	Matrix Spiked sample
DMS	Duplicate Matrix Spiked sample
NO	Number of peaks meeting all identification criteria
PCDD(s)	Polychlorinated dibenzo-p-dioxin(s)
PCDF(s)	Polychlorinated dibenzofuran(s)
ppb	Parts per billion
ppm	Parts per million
ppq	Parts per quadrillion
ppt	Parts per trillion
QA	Quality Assurance
QC	Quality Control
Ratio	Ratio of areas from monitored ions for an analyte
% Rec.	Percent Recovery
RPD	Relative Percent Difference
RRF	Relative Response Factor
RT	Retention Time
RRT	Relative Retention Time
SDG	Sample Delivery Group
S/N	Signal-to-Noise ratio
TEF	Toxicity Equivalence Factor
TEQ	Toxicity Equivalence Quotient

Data Qualifier Flags – Dioxin/Furans

- **B** Indicates the associated analyte is found in the method blank, as well as in the sample.

- **C** Confirmation of the TCDF compound: When 2378-TCDF is detected on the DB-5 column, confirmation analyses are performed on a second column (DB-225). The results from both the DB-5 column and the DB-225 column are included in this data package. The results from the DB-225 analyses should be used to evaluate the 2378-TCDF in the samples. The confirmed result should be used in determining the TEQ value for TCDF.

- **E** Indicates an estimated value – used when the analyte concentration exceeds the upper end of the linear calibration range.

- **J** Indicates an estimated value – used when the analyte concentration is below the method reporting limit (MRL) and above the estimated detection limit (EDL).

- **K** EMPC - When the ion abundance ratios associated with a particular compound are outside the QC limits, samples are flagged with a 'K' flag. A 'K' flag indicates an estimated maximum possible concentration for the associated compound.

- **U** Indicates the compound was analyzed and not detected.

- **Y** Samples that had recoveries of labeled standards outside the acceptance limits are flagged with 'Y'. In all cases, the signal-to-noise ratios are greater than 10:1, making these data acceptable.

- **ND** Indicates concentration is reported as 'Not Detected.'

- **S** Peak is saturated; data not reportable.

- **P** Indicates chlorodiphenyl ether interference present at the retention time of the target compound.

- **Q** Lock-mass interference by chlorodiphenyl ether compounds.

COLUMBIA ANALYTICAL SERVICES, INC. – Houston
Data Processing/Form Production and Peer Review Signatures

SR# Unique ID K1111839 DB-5 DB-225 SPB-Octyl

First Level - Data Processing - to be filled by person generating the forms

Date:	Analyst:	Samples:
12/23/11	gc	001

Second Level - Data Review – to be filled by person doing peer review

Date:	Analyst:	Samples:
12/23/11	uu	001

COLUMBIA ANALYTICAL SERVICES, INC. – Houston
Data Processing/Form Production and Peer Review Signatures

SR# Unique ID K1111839 DB-5 DB-225 SPB-Octyl

First Level - Data Processing - to be filled by person generating the forms

Date: 12/23/11	Analyst:	Samples: 002

Second Level - Data Review – to be filled by person doing peer review

Date: 12/23/11	Analyst:	Samples: 002

Columbia Analytical Services INC

Analytical Results

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/ 6/11 1130
Sample Matrix:	Drinking Water	**Date Received:**	12/ 6/11
Sample Name:	DW-5	**Units:**	pg/L
Lab Code:	K1111839-001	**Basis:**	NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	1613B	**Date Analyzed:**	12/21/11 0136
Prep Method:	Method	**Date Extracted:**	12/13/11
Sample Amount:	1040mL	**Instrument Name:**	E-HRMS-03
		GC Column:	DB-5
Data File Name:	P155603	**Blank File Name:**	P155618
ICAL Date:	03/24/11	**Cal Ver. File Name:**	P155591

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	1.84	9.62			1

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1493.683	75		31-137	0.79	1.007
37Cl-2,3,7,8-TCDD	800	635.888	79		42-164	NA	1.009

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/ 6/11 1350
Sample Matrix:	Drinking Water	**Date Received:**	12/ 6/11
Sample Name:	DW-2	**Units:**	pg/L
Lab Code:	K1111839-002	**Basis:**	NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	1613B	**Date Analyzed:**	12/21/11 1956
Prep Method:	Method	**Date Extracted:**	12/13/11
Sample Amount:	1040mL	**Instrument Name:**	E-HRMS-03
		GC Column:	DB-5
Data File Name:	P155621	**Blank File Name:**	P155618
ICAL Date:	03/24/11	**Cal Ver. File Name:**	P155616

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	2.17	9.62			1

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1419.288	71		31-137	0.78	1.007
37Cl-2,3,7,8-TCDD	800	585.987	73		42-164	NA	1.008

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	NA
Sample Matrix:	Drinking Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	pg/L
Lab Code:	EQ1100588-01	**Basis:**	NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	1613B	**Date Analyzed:**	12/21/11 1734
Prep Method:	Method	**Date Extracted:**	12/13/11
Sample Amount:	1000mL	**Instrument Name:**	E-HRMS-03
		GC Column:	DB-5
Data File Name:	P155618	**Blank File Name:**	P155618
ICAL Date:	03/24/11	**Cal Ver. File Name:**	P155616

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	4.81	10.0			1

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1074.701	54		31-137	0.78	1.007
37Cl-2,3,7,8-TCDD	800	584.970	73		42-164	NA	1.008

Columbia Analytical Services INC

Accuracy and Precision

19408 Park Row, Suite 320, Houston, TX 77084
Phone (713)266-1599 Fax (713)266-0130
www.caslab.com

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Analyzed:**	12/17/11
Sample Matrix:	Drinking Water		

Lab Control Sample Summary
Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	1613B	**Units:**	pg/L
Prep Method:	Method	**Basis:**	NA
		Extraction Lot:	147799

	Lab Control Sample EQ1100588-02			Duplicate Lab Control Sample EQ1100588-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
2,3,7,8-TCDD	189	200	94	186	200	93	73 - 146	1	50

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	NA
Sample Matrix:	Drinking Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	pg/L
Lab Code:	EQ1100588-02	**Basis:**	NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	1613B	**Date Analyzed:**	12/17/11 1627
Prep Method:	Method	**Date Extracted:**	12/13/11
Sample Amount:	1000mL	**Instrument Name:**	E-HRMS-04
		GC Column:	DB-5
Data File Name:	P215955	**Blank File Name:**	P155618
ICAL Date:	04/07/11	**Cal Ver. File Name:**	P215945

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	**189**		0.452	10.0	0.75	1.001	1

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1086.265	54		25-141	0.76	1.006
37Cl-2,3,7,8-TCDD	800	499.005	62		37-158	NA	1.007

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111839
Project:	City of Longview Mint Farm/17295	**Date Collected:**	NA
Sample Matrix:	Drinking Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	pg/L
Lab Code:	EQ1100588-03	**Basis:**	NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	1613B	**Date Analyzed:**	12/17/11 1716
Prep Method:	Method	**Date Extracted:**	12/13/11
Sample Amount:	1000mL	**Instrument Name:**	E-HRMS-04
		GC Column:	DB-5
Data File Name:	P215956	**Blank File Name:**	P155618
ICAL Date:	04/07/11	**Cal Ver. File Name:**	P215945

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	**186**		0.319	10.0	0.76	1.001	1

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1255.750	63		25-141	0.78	1.007
37Cl-2,3,7,8-TCDD	800	573.563	72		37-158	NA	1.007

Columbia Analytical Services INC

Chain of Custody

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Intra-Network Chain of Custody

1317 South 13th Avenue • Kelso, WA 98626 • 1-360-577-7222 • FAX 1-360-636-1068

CAS Contact: Lisa Domenighini

Project Name: City of Longview Mint Farm
Project Number: 17295
Project Manager: Steven Misner
Company: Kennedy/Jenks Consultants, Incorporated

Lab Code	Client Sample ID	# of Cont.	Matrix	Sample Date	Sample Time	Date Received	Send To	Dioxins Furans 1613B
K1111839-001	DW-5	2	Drinking Water	12/6/11	1130	12/6/11	HOUSTON	V
K1111839-002	DW-2	2	Drinking Water	12/6/11	1350	12/6/11	HOUSTON	V

186

Test Comments

Dioxins Furans - 1613B K1111839-001,2 2,3,7,8-TCDD

LISA D
12/6/11

Folder Comments:

Use Baseline for Performance Testing Samples

Special Instructions/Comments	Turnaround Requirements	Report Requirements	Invoice Information
Please provide the electronic(PDF and EDD) report to the following e-mail address: kelso_data@caslab.com - opened @ 1008 - bubble wrap, gel packs - 2 seals - 0°C	____ RUSH (Surcharges Apply) PLEASE CIRCLE WORK DAYS 1 2 3 4 5 X STANDARD Requested FAX Date: ____ Requested Report Date: 12/23/11	____ I. Results Only X II. Results + QC Summaries ____ III. Results + QC and Calibration Summaries ____ IV. Data Validation Report with Raw Data PQL/MDL/J N EDD Y	PO# K1111839 Bill to

Relinquished By: [signature] 12/7/11 1116 Received By: [signature] 12/08/11 1008 Airbill Number: 1Z973 659 01 6606 3271

Columbia Analytical Services

Cooler Receipt Form

Project Chemist: AK

Client/Project: Kennedy,Jenks Consultants/ City of Longview Farm

Service Request: K1111839

Date/Time Received: 12/08/11 10:08:00

Date/Time Logged in: 12/08/11 14:05:00

Technician: AL

Technician: AL

1. Method of delivery: ○ US Mail ○ Fed Ex ◉ UPS ○ DHL ○ Courier ○ Client

2. Samples received in: ◉ Cooler ○ Box ○ Envelope ○ Other

3. Were custody seals on coolers? ◉ Yes ○ No ○ N/A

Were they intact? ◉ Yes ○ No ○ N/A

Were they signed and dated? ◉ Yes ○ No ○ N/A

If yes, how many and where? Two Seals on front

4. Method of delivery: ○ Inserts ○ Baggies ☑ Bubble Wrap ☑ Gel Packs ○ Wet Ice ○ Sleeves ○ Other

5. Foreign or Regulated Soil? ○ Yes ◉ No

Location of Sampling:

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?	Filed
1Z9736590165603271		Dec 8, 2011	1008	AL	0/0	☐	☐
						☐	☐
						☐	☐
						☐	☐
						☐	☐

6. Were custody papers properly filled out (ink, signed, dated, etc)? ◉ Yes ○ No ○ N/A

7. Did all bottles arrive in good condition (not broken, no signs of leakage)? ◉ Yes ○ No ○ N/A

8. Were all sample labels complete (i.e., sample ID, analysis, preservation, etc)? ◉ Yes ○ No ○ N/A

9. Were appropriate bottles/containers and volumes received for the requested tests? ◉ Yes ○ No ○ N/A

10. Did sample labels and tags agree with custody documents? ◉ Yes ○ No ○ N/A

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count	Bottle Type	Out of Temp	Broken	Date	Technician
			☐	☐		
			☐	☐		
			☐	☐		
			☐	☐		

Notes, Discrepancies, & Resolutions:

Print Form

Reset Form

Columbia Analytical Services™

Sample Acceptance Policy

This policy outlines the criteria samples must meet to be accepted by CAS/ Houston.

Cooler Custody Seals (desirable, mandatory if specified in SAP):

- ✓ Intact on outside of cooler, signed and dated

Chain-of-Custody (COC) documentation (mandatory):

The following is required on each COC:

- ✓ Sample ID, the location, date and time of collection, collector's name, preservation type, sample type, and any other special remarks concerning the sample
- ✓ The COC must be completed in ink.
- ✓ Signature and date of relinquishing party.

In the absence of a COC at sample receipt, CAS/Houston will complete a COC, which must be approved by the client, in writing, prior to proceeding with the analysis.

Sample Integrity (mandatory):

Samples are inspected upon arrival to ensure that sample integrity was not compromised during transfer to the laboratory.

- ✓ Sample containers must arrive in good condition (not broken or leaking).
- ✓ Samples must be labeled appropriately, including Sample IDs, and requested test using durable labels and indelible ink.
- ✓ The correct type of sample bottle must be used for the method requested.
- ✓ An appropriate sample volume, or weight, must be received.
- ✓ Sample IDs and number of containers must reconcile with the COC.
- ✓ Samples must be received within the method defined holding time.

Temperature Requirement (varies by sample matrix):

- ✓ Aqueous and Non-aqueous samples must be shipped and stored cold, at 0 to 6°C.
- ✓ Tissue samples must be shipped and stored frozen, at -20 to -10°C.
- ✓ Air samples can be shipped and stored at ambient temperature, ~23°C.
- ✓ The sample temperature must be recorded on the COC

All cooler inspections are documented on the Cooler Receipt Form (CRF). A separate CRF is completed for each service request. Any samples not meeting the above criteria are noted on the CRF and the Project Manager notified. The Project Manager must resolve any sample integrity issues with the client prior to proceeding with the analysis. Such resolutions are documented in writing and filed with the project folder.

Service Request Summary

Folder #: **K1111839**
Client Name: Kennedy/Jenks Consultants, Incorporated
Project Name: City of Longview Mint Farm
Project Number: 17295

Report To: Steven Misner
Kennedy/Jenks Consultants, Incorporated
200 SW Market St., Suite 500
Portland, OR 97201-5715
Phone Number: 503-423-4004
Cell Number:
Fax Number: 503-295-4901
E-mail: stevenmisner@kennedyjenks.com

Project Chemist: Arthi Kodur
Originating Lab: KELSO
Logged By: FADAIR
Date Received: 12/ 6/11
Internal Due Date: 12/23/11
QAP: LAB QAP, Tetras Only
Qualifier Set: CAS Standard
Formset: CAS Standard
Merged?: Y
Report to MDL?: N,Y
P.O. Number:
EDD: EQuIS Kennedy Jenks Mint Farm

10 - 1000 ml-Glass Bottle NM AMBER Teflon Liner Unpreserved
10 - 1000 mL-Plastic Bottle NM CLEAR Unpreserved
10 - 1000 mL-Plastic Bottle NM CLEAR HNO3
8 - 1000 mL-Glass Bottle NM AMBER Na2SO3, HCL
7 - 40 mL-Glass Vial DW VOA CLEAR Tef/Silicone Septa AAc/HCl
6 - 40 mL-Glass Vial VOA CLEAR Tef/Silicone Septa Na2S2O3
4 - 100 ml-Plastic Cup Sterile Na2S2O3
4 - 40 mL-Glass Vial VOA CLEAR Tef/Silicone Septa Unpreserved
4 - 40 mL-Glass Vial DW VOA AMBER Tef/Silicone Septa Na2S2O3
2 - 125 mL-Glass Bottle NM AMBER Na2S2O3
2 - 250 mL-Glass Bottle NM AMBER Na2SO3
2 - 1000 mL-Plastic Bottle NM AMBER Na2S2O3
2 - 500 mL-Plastic Bottle NM CLEAR H2SO4
2 - 500 mL-Plastic Bottle NM CLEAR HNO3
2 - 500 mL-Plastic Bottle NM CLEAR NaOH
2 - 250 mL-Plastic Bottle Natural HCl Cleaned WM HCL

Location: K-HERK-A3, E-Disposed, E-WIC01-DK, K-Delilah-218, SUBBED, In Lab, K-Disposed, SMO, K-MISTY, K-AUTOCLAVE, K-COLIBIN, P-Disposed, P-39-22

189

					KELSO										
CAS Samp No	Client Samp No.	Matrix	Collected		150.1/ pH	300.0/ Chloride	300.0/ F	300.0/ NO2	300.0/ NO3	300.0/ SO4	335.4/ CN T	350.1/ Ammonia T	365.3/ O Phos T	SM 2120 B/ Color	SM 2320 B/ Alkalinity Titr
K1111839-001	DW-5	DW	12/6/11	1130	V	V	V	V	V	V	V	V	V	V	V
K1111839-002	DW-2	DW	12/6/11	1350	V	V	V	V	V	V	V	V	V	V	V
K1111839-003	Trip Blank	DW	12/6/11	1130											

Folder Comments:

Use Baseline for Performance Testing Samples

CAS Samp No.	Client Samp No.	Matrix	Collected		KELSO								KELSO		
					SM 2510 B/ Conductivity	SM 2540 C/ TDS	SM 4500-SiO2 C/ SiO2 D	SM 5310 C/ TOC T	SM 5540 C/ MBAS	SM 5910 B/ UV 254	SM 9221 E/ Fec Coli MT	SM 9223 B/ Qntray Tot NC	1632/ As inorg T	1632/ As3	1632/ As5
K1111839-001	DW-5	DW	12/6/11	1130	V	V	V	V	V	V	V	V	V	V	V
K1111839-002	DW-2	DW	12/6/11	1350	V	V	V	V	V	V	V	V	V	V	V
K1111839-003	Trip Blank	DW	12/6/11	1130											

					KELSO				KELSO			KELSO			
					200.7 LL/ Metals T	200.8/ Metals T	245.1/ Hg T	SM 2340 B/ Hardness Calc	531.1/ CARBAM	547/ GLYPH	549.2/ DIQ_PARAQ	504.1/ EDB DBCP 123TCP	508.1/ PEST_CL	515.4/ CL_ACID_HER B	525.2/ SVO
K1111839-001	DW-5	DW	12/6/11	1130	V	V	V	V	V	V	V	V	V	V	V
K1111839-002	DW-2	DW	12/6/11	1350	V	V	V	V	V	V	V	V	V	V	V
K1111839-003	Trip Blank	DW	12/6/11	1130											

					KELSO	KELSO	SVM	SIMIVALLEY	ACZ			LabCOR
					548.1/ ENDO	524.2/ VOC	1613B/ Dioxins Furans	Sulfur Liq/ Sulfur	900.0/ Radioact	903.1/ Radium 226	904.0/ Radium 228	100.1/ Asbestos
K1111839-001	DW-5	DW	12/6/11	1130	V	V	V	V	V	V	V	V
K1111839-002	DW-2	DW	12/6/11	1350	V	V	V	V	V	V	V	V
K1111839-003	Trip Blank	DW	12/6/11	1130		V(H)						

Service Request Summary

Folder #:	**K1111839**
Client Name:	Kennedy/Jenks Consultants, Incorporated
Project Name:	City of Longview Mint Farm
Project Number:	17295
Report To:	Steven Misner Kennedy/Jenks Consultants, Incorporated 200 SW Market St., Suite 500 Portland, OR 97201-5715
Phone Number:	503-423-4004
Cell Number:	
Fax Number:	503-295-4901
E-mail:	stevenmisner@kennedyjenks.com

Project Chemist:	Arthi Kodur
Originating Lab:	KELSO
Logged By:	FADAIR
Date Received:	12/ 6/11
Internal Due Date:	12/23/11
QAP:	LAB QAP, Tetras Only
Qualifier Set:	CAS Standard
Formset:	CAS Standard
Merged?:	Y
Report to MDL?:	N,Y
P.O. Number:	
EDD:	EQuIS Kennedy Jenks Mint Farm

10	- 1000 ml-Glass Bottle NM AMBER Teflon Liner Unpreserved
10	- 1000 mL-Plastic Bottle NM CLEAR Unpreserved
10	- 1000 mL-Plastic Bottle NM CLEAR HNO3
8	- 1000 mL-Glass Bottle NM AMBER Na2SO3, HCL
7	- 40 mL-Glass Vial DW VOA CLEAR Tef/Silicone Septa AAc/HCl
6	- 40 mL-Glass Vial VOA CLEAR Tef/Silicone Septa Na2S2O3
4	- 100 ml-Plastic Cup Sterile Na2S2O3
4	- 40 mL-Glass Vial VOA CLEAR Tef/Silicone Septa Unpreserved
4	- 40 mL-Glass Vial DW VOA AMBER Tef/Silicone Septa Na2S2O3
2	- 125 mL-Glass Bottle NM AMBER Na2S2O3
2	- 250 mL-Glass Bottle NM AMBER Na2SO3
2	- 1000 mL-Plastic Bottle NM AMBER Na2S2O3
2	- 500 mL-Plastic Bottle NM CLEAR H2SO4
2	- 500 mL-Plastic Bottle NM CLEAR HNO3
2	- 500 mL-Plastic Bottle NM CLEAR NaOH
2	- 250 mL-Plastic Bottle Natural HCl Cleaned WM HCL

Location: K-HERK-A3, E-Disposed, E-WIC01-DK, K-Delilah-218, SUBBED, In Lab, K-Disposed, SMO, K-MISTY, K-AUTOCLAVE, K-COLIBIN, P-Disposed, P-39-22

193

Test Comments:

Group	Test/Method	Samples	Comments
Metals	Metals T/200.7 LL	1-2	Al,Ca,Fe,Mg,K,Mn,Si,Na,Zn
Metals	Metals T/200.8	1-2	Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Ag,Tl,U.
Organic LC	CARBAM/531.1	1-2	Include all the aldicarb compounds
Semivoa GCMS	Dioxins Furans/1613B	1-2	2,3,7,8-TCDD
SubLab	Asbestos/100.1	1-2	Asbestos in drinking water (not chlorinated)
			EPA 100.2
SubLab	Radioact/900.0	1-2	Gross Alpha,Beta,Radium 226 and 228
VOA GC AIR	Sulfur/Sulfur Liq	1-2	Hydrogen Sulfide
VOA GCMS	VOC/524.2	1-2	Full list 524.2

Preparation Information Benchsheet

Prep Run#: 147799
Team: Semivoa GCMS/EBAUCH

Prep WorkFlow: OrgExtAq(365)
Prep Method: Method

Status: Prepped
Prep Date/Time: 12/13/11 11:46 AM

#	Lab Code	Client ID	B#	Method /Test	pH	Matrix	Amt. Ext.	Sample Description
1	E1101198-001	12-01679	.01	1613B/Dioxins Furans	8	Water	920mL	Clear Colorless liquid with yellow debris
2	E1101198-002	12-01682	.01	1613B/Dioxins Furans	8	Water	920mL	Clear Colorless liquid with brown debris
3	E1101202-001	Well 11-35398	.01	1613B/Dioxins Furans	8	Water	960mL	Clear Colorless liquid
4	E1101203-001	#3 Bleach Plant	.01	1613B/Dioxins Furans	5	Water	1000mL	clear orange liquid with orange debris
5	E1101203-002	#2 Bleach Plant	.01	1613B/Dioxins Furans	4	Water	1000mL	clear orange liquid with orange debris
6	E1101208-001	SCH3-104	.01	1613B/Dioxins Furans	8	Water	980mL	clear yellow liquid
7	EQ1100588-01	MB		1613B/Dioxins Furans	5	Liquid	1000mL	
8	EQ1100588-02	LCS		1613B/Dioxins Furans	5	Liquid	1000mL	
9	EQ1100588-03	DLCS		1613B/Dioxins Furans	5	Liquid	1000mL	
10	J1105406-001	SW-MT03-Week 3	.06	1613B/Dioxins Furans	7	Surface Water	900mL	Clear Colorless liquid with yellow debris
11	J1105406-002	SW-GT11-Week 3	.06	1613B/Dioxins Furans	7	Surface Water	940mL	Clear Colorless liquid with yellow debris
12	J1105406-003	SW-GT19-Week 3	.06	1613B/Dioxins Furans	7	Surface Water	960mL	Clear Colorless liquid with yellow debris
13	K1111779-001	DW-6	.07	1613B/Dioxins Furans	8	Drinking Water	1040mL	clear colorless liquid
14	K1111779-002	DW-7	.07	1613B/Dioxins Furans	8	Drinking Water	1040mL	clear colorless liquid
15	K1111839-001	DW-5	.06	1613B/Dioxins Furans	8	Drinking Water	1040mL	clear colorless liquid
16	K1111839-002	DW-2	.06	1613B/Dioxins Furans	8	Drinking Water	1040mL	clear colorless liquid
17	K1111865-003	Composite	.01	1613B/Dioxins Furans	7	Water	1000mL	clear browen liquid

194

Preparation Information Benchsheet

Prep Run#: 147799
Team: Semivoa GCMS/EBAUCH

Prep WorkFlow: OrgExtAq(365)
Prep Method: Method

Status: Prepped
Prep Date/Time: 12/13/11 11:46 AM

Spiking Solutions

Name:	1613B Stock Labeled Standard	Inventory ID	37284	Logbook Ref:	D12-72-3 (37284)	Expires On:	10/30/2020

K1111865-003	20.00µL

Name:	1613B Labeled Working Standard	Inventory ID	38069	Logbook Ref:	D12-76-4 (38069)	Expires On:	12/11/2012

E1101198-001	1,000.00µL	E1101198-002	1,000.00µL	E1101202-001	1,000.00µL	E1101203-001	1,000.00µL	E1101203-002	1,000.00µL	E1101208-001	1,000.00µL
EQ1100588-01	1,000.00µL	EQ1100588-02	1,000.00µL	EQ1100588-03	1,000.00µL	J1105406-001	1,000.00µL	J1105406-002	1,000.00µL	J1105406-003	1,000.00µL
K1111779-001	1,000.00µL	K1111779-002	1,000.00µL	K1111839-001	1,000.00µL	K1111839-002	1,000.00µL				

Name:	8290/1613B Cleanup Working Standard	Inventory ID	38071	Logbook Ref:	D12-76-5 (38071)	Expires On:	12/11/2012

E1101198-001	100.00µL	E1101198-002	100.00µL	E1101202-001	100.00µL	E1101203-001	100.00µL	E1101203-002	100.00µL	E1101208-001	100.00µL
EQ1100588-01	100.00µL	EQ1100588-02	100.00µL	EQ1100588-03	100.00µL	J1105406-001	100.00µL	J1105406-002	100.00µL	J1105406-003	100.00µL
K1111779-001	100.00µL	K1111779-002	100.00µL	K1111839-001	100.00µL	K1111839-002	100.00µL	K1111865-003	100.00µL		

Name:	1613B Matrix Working Standard	Inventory ID	38085	Logbook Ref:	D12-77-2 (38085)	Expires On:	12/12/2012

EQ1100588-02	100.00µL	EQ1100588-03	100.00µL

Preparation Materials

Sensafe Free Chlorine WTR CHK	C2-56-3 (29767)	Acetone 99.5% Minimum	C2-39-7 (32865)	Carbon, High Purity	C2-62-6 (35710)
Ethyl Acetate 99.9% Minimum EtOAc	C2-57-2 (30535)	Extraction Thimbles 43 x123 mm	(1577)	Glass Wool	C2-63-2 (35715)
Sulfuric Acid Reagent Grade H2SO4	C2-64-3 (37036)	Dichloromethane (Methylene Chloride) 99.9% MeCl2	C2-64-4 (37037)	Sodium Thiosulfate Anhydrous Reagent Grade NaS2O3	C2-54-6 (28404)
Sodium Hydroxide Reagent Grade NaOH	C2-53-6 (27838)	Sodium Sulfate Anhydrous Reagent Grade Na2SO4	C2-63-1 (35713)	Tridecane (n-Tridecane)	C2-65-1 (37777)
Hexane (n-Hexane) 98.5% Minimum	C2-64-6 (37039)	Nonane (n-Nonane) 99%	C2-33-001 (13944)	pH Paper 0-14	(1008)
Silica Gel Reagent Grade	C2-58-4 (32780)	Toluene 99.9% Minimum	C2-64-5 (37038)		

Preparation Steps

Step:	Extraction	Step:	Acid Clean	Step:	Silica Gel Clean	Step:	Final Volume
Started:	12/13/11 11:46	Started:	12/14/11 10:05	Started:	12/14/11 10:10	Started:	12/15/11 06:20
Finished:	12/14/11 05:30	Finished:	12/14/11 10:45	Finished:	12/14/11 14:40	Finished:	12/15/11 09:30
By:	TLAFFERTY	By:	CDIAZ	By:	EBAUCH	By:	CDIAZ
Comments		Comments		Comments		Comments	

Preparation Information Benchsheet

Prep Run#: 147799
Team: Semivoa GCMS/EBAUCH

Prep WorkFlow: OrgExtAq(365)
Prep Method: Method

Status: Prepped
Prep Date/Time: 12/13/11 11:46 AM

196

Comments:

Reviewed By: EB Date: 12/15/11

Chain of Custody

Relinquished By: Date:

Received By: Date:

Extracts Examined
Yes No

Hydrogen Sulfide

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LABORATORY REPORT

December 20, 2011

Steven Misner
Kennedy/Jenks Consultants, Incorporated
200 SW Market St., Suite 500
Portland, OR 97201-5715

RE: City of Longview Mint Farm / 17295

Dear Steven:

Enclosed are the results of the samples submitted to our laboratory on December 6, 2011. For your reference, these analyses have been assigned our service request number K1111839.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.caslab.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

Columbia Analytical Services, Inc. is certified by the California Department of Health Services, NELAP Laboratory Certificate No. 02115CA; Arizona Department of Health Services, Certificate No. AZ0694; Florida Department of Health, NELAP Certification E871020; New Jersey Department of Environmental Protection, NELAP Laboratory Certification ID #CA009; New York State Department of Health, NELAP NY Lab ID No: 11221; Oregon Environmental Laboratory Accreditation Program, NELAP ID: CA20007; The American Industrial Hygiene Association, Laboratory #101661; United States Department of Defense Environmental Laboratory Accreditation Program (DoD-ELAP), Certificate No. L10-3-R2; Pennsylvania Registration No. 68-03307; TX Commission of Environmental Quality, NELAP ID T104704413-11-2; Minnesota Department of Health, NELAP Certificate No. 219474; Washington State Department of Ecology, ELAP Lab ID: C946. Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact me for information corresponding to a particular certification.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

Columbia Analytical Services, Inc.

Kate Aguilera Digitally signed by Kate Aguilera Date: 2011.12.20 12:34:06 -08'00'

Kate Aguilera
Project Manager

Client: Kennedy/Jenks Consultants, Incorporated CAS Project No: K1111839
Project: City of Longview Mint Farm / 17295

CASE NARRATIVE

The samples were received intact under chain of custody on December 6, 2011 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Hydrogen Sulfide Analysis

The samples were analyzed for hydrogen sulfide using a gas chromatograph equipped with a sulfur chemiluminescence detector (SCD).

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for utilization of less than the complete report.

Use of Columbia Analytical Services, Inc. (CAS) Name. Client shall not use CAS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to CAS any test result, tolerance or specification derived from CAS's data ("Attribution") without CAS's prior written consent, which may be withheld by CAS for any reason in its sole discretion. To request CAS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If CAS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use CAS's name or trademark in any Materials or Attribution shall be deemed denied. CAS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of CAS's name or trademark may cause CAS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

Intra-Network Chain of Custody

1317 South 13th Avenue • Kelso, WA 98626 • 1-360-577-7222 • FAX 1-360-636-1068

CAS Contact: Lisa Domenighini

Project Name: City of Longview Mint Farm
Project Number: 17295
Project Manager: Steven Misner
Company: Kennedy/Jenks Consultants, Incorporated

Lab Code	Client Sample ID	# of Cont.	Matrix	Sample Date	Sample Time	Date Received	Send To	Sulfur Sulfur Liq
K1111839-001	DW-5	2	Drinking Water	12/6/11	1130	12/6/11	SIMIVALLEY	V
K1111839-002	DW-2	2	Drinking Water	12/6/11	1350	12/6/11	SIMIVALLEY	V

Test Comments
Sulfur - Sulfur Liq K1111839-001.2

Hydrogen Sulfide

LSA 12/6/11

Folder Comments:
Use Baseline for Performance Testing Samples

200

Special Instructions/Comments	Turnaround Requirements	Report Requirements	Invoice Information
Please provide the electronic(PDF and EDD) report to the following e-mail address: kelso_data@caslab.com	____RUSH (Surcharges Apply) PLEASE CIRCLE WORK DAYS 1 2 3 4 5 X STANDARD Requested FAX Date: ____ Requested Report Date: 12/23/11	___ I. Results Only X II. Results + QC Summaries ___ III. Results + QC and Calibration Summaries ___ IV. Data Validation Report with Raw Data PQL/MDL/J N EDD Y	3°C Cold Pre PO# K1111839 Bill to

Relinquished By: [illegible] 12/7/11 1116 Received By: [illegible] 12/8/11 1005 Airbill Number: ____

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Sample Acceptance Check Form

Client: Kennedy/Jenks Consultants, Incorporated Work order: K1111839

Project: City of Longview Mint Farm / 17295

Sample(s) received on: 12/8/11 Date opened: 12/8/11 by: MZAMORA

Note: This form is used forall samples received by CAS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Container(s) **supplied by CAS**?	☒	☐	☐
3	Did **sample containers** arrive in good condition?	☒	☐	☐
4	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
5	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
6	Was **sample volume** received adequate for analysis?	☒	☐	☐
7	Are samples within specified holding times?	☒	☐	☐
8	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☒	☐	☐
	Cooler Temperature: ° C Blank Temperature: 3° C **Gel Packs**			
9	Was a **trip blank** received?	☐	☒	☐
10	Were **custody seals** on outside of cooler/Box?	☒	☐	☐
	Location of seal(s)? Top of cooler, down the front. Sealing Lid?	☒	☐	☐
	Were signature and date included?	☒	☐	☐
	Were seals intact?	☒	☐	☐
	Were custody seals on outside of sample container?	☐	☒	☐
	Location of seal(s)? Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
11	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☒	☐	☐
	Is there a client indication that the submitted samples are **pH** preserved?	☒	☐	☐
	Were **VOA vials** checked for presence/absence of air bubbles?	☒	☐	☐
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☒	☐	☐
12	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
	Do they contain moisture?	☐	☐	☒
13	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
K1111839-001.09	40mL VOA NP		5	1	A	
K1111839-001.10	40mL VOA NP				A	
K1111839-002.09	40mL VOA NP		5	1	A	
K1111839-002.10	40mL VOA NP				A	

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

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RESULTS OF ANALYSIS

Client: **Kennedy/Jenks Consultants, Incorporated**
Client Project ID: **City of Longview Mint Farm / 17295** CAS Project ID: K1111839

Hydrogen Sulfide

Test Code: GC/SCD Reduced Sulfur Analysis
Instrument ID: Agilent 6890A/GC13/SCD
Analyst: Wade Henton/Lauryn Keeler
Matrix: Drinking Water
Test Notes:

Date(s) Collected: 12/6/11
Date Received: 12/6/11
Date Analyzed: 12/12/11

Client Sample ID	CAS Sample ID	Sample Amount ml(s)	Purge Volume Liter(s)	Injection Volume ml(s)	Result µg/L	MRL µg/L	Data Qualifier
DW-5	K1111839-001	10.0	0.30	1.0	ND	0.21	
DW-2	K1111839-002	10.0	0.30	1.0	ND	0.21	
Method Blank	P111212-MB	10.0	0.30	1.0	ND	0.21	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

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LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **Kennedy/Jenks Consultants, Incorporated**
Client Sample ID: **Duplicate Lab Control Sample**
Client Project ID: **City of Longview Mint Farm / 17295**

CAS Project ID: K1111839
CAS Sample ID: P111212-DLCS

Test Code: GC/SCD Reduced Sulfur Analysis
Instrument ID: Agilent 6890A/GC13/SCD
Analyst: Wade Henton/Lauryn Keeler
Matrix: Drinking Water
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 12/12/11
Liquid Amount: 10.0 ml(s)
Purge Volume: 0.30 Liter(s)
Injection Volume: 0.20 ml(s)

CAS #	Compound	Spike Amount LCS / DLCS ug/L	Result LCS ug/L	Result DLCS ug/L	% Recovery LCS	% Recovery DLCS	CAS Acceptance Limits	RPD	RPD Limit	Data Qualifier
7783-06-4	Hydrogen Sulfide	419	382	381	**91**	**91**	58-121	0	26	

Subcontract Laboratory Results

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

January 05, 2012

Report to:
Lisa Domenighini
Columbia Analytical Services
1317 S. 13th Ave.
Kelso, WA 98626

Bill to:
Accounts Payable
Columbia Analytical Services
1317 South 13th Ave.
Kelso, WA 98626

cc: Columbia Analytical Services, Inc.

Project ID: K1111839
ACZ Project ID: L92248

Lisa Domenighini:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on December 08, 2011. This project has been assigned to ACZ's project number, L92248. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L92248. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after February 05, 2012. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than $10/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical reports for five years.

If you have any questions or other needs, please contact your Project Manager.

Sue Webber

Sue Webber has reviewed and approved this report.

ACCREDITED IN ACCORDANCE WITH nelac

ACIL

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

RadioChemistry Analytical Results

Columbia Analytical Services
Project ID: K1111839
Sample ID: DW-5
Locator:

ACZ Sample ID: ***L92248-01***
Date Sampled: *12/06/11 11:30*
Date Received: *12/08/11*
Sample Matrix: *Drinking Water*

Gross Alpha & Beta — Prep Method:
M900.0

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Alpha	12/19/11 17:35		0.52	1.5	1.5	pCi/L	*	thf
Beta	12/19/11 17:35		5.1	2.3	2.8	pCi/L		thf

Radium 226 — Prep Method:
M903.1

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Radium 226	12/30/11 14:04		0.63	0.12	0.21	pCi/L		jjg

Radium 228 — Prep Method:
M904.0

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Radium 228	12/28/11 17:31		0.02	0.23	0.6	pCi/L		zsh

** Please refer to Qualifier Reports for details.*

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RadioChemistry Analytical Results

Columbia Analytical Services
Project ID: K1111839
Sample ID: DW-2
Locator:

ACZ Sample ID: ***L92248-02***
Date Sampled: *12/06/11 13:50*
Date Received: *12/08/11*
Sample Matrix: *Drinking Water*

Gross Alpha & Beta — Prep Method:
M900.0

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Alpha	12/19/11 17:37		2.1	2.2	1.6	pCi/L	*	thf
Beta	12/19/11 17:37		7.3	2.6	2.9	pCi/L		thf

Radium 226 — Prep Method:
M903.1

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Radium 226	12/30/11 14:06		0.16	0.1	0.1	pCi/L		jjg

Radium 228 — Prep Method:
M904.0

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Radium 228	12/28/11 17:31		0.4	0.29	0.67	pCi/L		zsh

** Please refer to Qualifier Reports for details.*

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Error(+/-)	Calculated sample specific uncertainty
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
LCL	Lower Control Limit, in % (except for LCSS, mg/Kg)
LLD	Calculated sample specific Lower Limit of Detection
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
RER	Relative Error Ratio, calculation used for Dup. QC taking into account the error factor.
UCL	Upper Control Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

DUP	Sample Duplicate	MS/MSD	Matrix Spike/Matrix Spike Duplicate
LCSS	Laboratory Control Sample - Soil	PBS	Prep Blank - Soil
LCSW	Laboratory Control Sample - Water	PBW	Prep Blank - Water

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Matrix Spikes	Determines sample matrix interferences, if any.

ACZ Qualifiers (Qual)

H	Analysis exceeded method hold time.
R	Poor spike recovery accepted because the other spike in the set fell within the given limits.
T	High Replicate Error Ratio (RER) accepted because sample concentrations are less than 10x the MDL.
U	No nuclides detected above the Lower Limit of Detection (LLD)
V	High blank data accepted because sample concentration is 10 times higher than blank concentration
X	QC is out of control. See Case Narrative.
Z	Poor spike recovery is accepted because sample concentration is four times greater than spike concentration.

Method Prefix Reference

M	EPA methodology, including those under SDWA, CWA, and RCRA
SM	Standard Methods for the Examination of Water and Wastewater, 19th edition (1995) & 20th edition (1998).
D	ASTM
RP	DOE
ESM	DOE/ESM

Comments

(1) Solid matrices are reported on a dry weight basis.

(2) Preparation method: "Method" indicates preparation defined in analytical method.

(3) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.

(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

ACZ Laboratories, Inc.
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Radiochemistry QC Summary

Columbia Analytical Services
Project ID: K1111839

ACZ Project ID: ***L92248***

Alpha

M900.0

Units: pCi/L

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Error	LLD	Found	Error	LLD	Rec	Lower	Upper	RPD/RER	Limit	Qual
WG315816																
WG315269PBW	PBW	12/19/11						0	1.1	1			2			
WG315269LCSW	LCSW	12/19/11	RC111214-2	81.06				88	8.3	1.5	108.6	81	138			
L91902-01DUP	DUP-RP	12/19/11			4	2.6	2.1	1	2.8	2.3				120	20	RG
L91902-01DUP	DUP-RE	12/19/11			4	2.6	2.1	1	2.8	2.3				0.79	2	
L92289-01DUP	DUP-RP	12/19/11			740	78	16	700	78	17				5.6	20	
L92269-07MS	MS	12/19/11	RC111214-2	81.06	13	4.4	2.4	61	9.1	2.4	59.2	81	138			M2

Beta

M900.0

Units: pCi/L

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Error	LLD	Found	Error	LLD	Rec	Lower	Upper	RPD/RER	Limit	Qual
WG315816																
WG315269PBW	PBW	12/19/11						0	2	2.9			5.8			
WG315269LCSW	LCSW	12/19/11	RC110517-11	100				99	6.7	4.1	99	65	117			
L91902-01DUP	DUP-RP	12/19/11			5.7	2.9	4.2	5.4	3.6	4.3				5.4	20	
L92289-01DUP	DUP-RP	12/19/11			230	30	28	220	31	29				4.4	20	
L92284-01MS	MS	12/19/11	RC110517-11	285.71	94	14	13	350	21	12	89.6	65	117			

Radium 226

M903.1

Units: pCi/L

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Error	LLD	Found	Error	LLD	Rec	Lower	Upper	RPD/RER	Limit	Qual
WG316249																
WG315623PBW	PBW	12/30/11						.1	0.15	0.23			0.46			
WG315623LCSW	LCSW	12/30/11	RC110822-1	23.92				22	0.56	0.12	92	45	131			
L92175-01DUP	DUP-RP	12/30/11			1.6	0.14	0.07	1.9	0.18	0.1				17.1	20	
L92233-02DUP	DUP-RP	12/30/11			0.45	0.09	0.25	.4	0.12	0.16				11.8	20	
L92175-03MS	MS	12/30/11	RC110822-1	23.92	12	0.39	0.15	40	0.79	0.16	117.1	45	131			

ACZ Laboratories, Inc.
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Radiochemistry QC Summary

Columbia Analytical Services
Project ID: K1111839

ACZ Project ID: ***L92248***

Radium 228 M904.0 **Units:** pCi/L

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Error	LLD	Found	Error	LLD	Rec	Lower	Upper	RPD/RER	Limit	Qual
WG316030																
WG315648 LCSW	LCSW	12/28/11	PCN35588	16.96				14	1.1	1.7	82.5	47	123			
WG315648 PBW	PBW	12/28/11						1.1	0.38	0.67			1.34			
L92182-02MS	MS	12/28/11	PCN35588	16.96	2.4	0.73	1.5	13	1.1	1.1	62.5	47	123			
L92270-02DUP	DUP-RE	12/28/11			2.4	0.64	1.2	2.6	0.63	1.7				0.22	2	
L92270-02DUP	DUP-RP	12/28/11			2.4	0.64	1.2	2.6	0.63	1.7				8	20	

210

ACZ Laboratories, Inc.
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RadChem Extended Qualifier Report

Columbia Analytical Services

ACZ Project ID: ***L92248***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L92248-01	WG315816	Alpha	M900.0	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M900.0	RG	Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control.
L92248-02	WG315816	Alpha	M900.0	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M900.0	RG	Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control.

ACZ Laboratories, Inc.
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Certification Qualifiers

Columbia Analytical Services

ACZ Project ID: ***L92248***

No certification qualifiers associated with this analysis

ACZ Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Columbia Analytical Services

K1111839

ACZ Project ID: L92248
Date Received: 12/08/2011 10:44
Received By: ksj
Date Printed: 12/8/2011

Receipt Verification

	YES	NO	NA
1) Does this project require special handling procedures such as CLP protocol?			X
2) Are the custody seals on the cooler intact?	X		
3) Are the custody seals on the sample containers intact?			X
4) Is there a Chain of Custody or other directive shipping papers present?	X		
5) Is the Chain of Custody complete?	X		
6) Is the Chain of Custody in agreement with the samples received?	X		
7) Is there enough sample for all requested analyses?	X		
8) Are all samples within holding times for requested analyses?	X		
9) Were all sample containers received intact?	X		
10) Are the temperature blanks present?			X
11) Are the trip blanks (VOA and/or Cyanide) present?			X
12) Are samples requiring no headspace, headspace free?			X
13) Do the samples that require a Foreign Soils Permit have one?			X

Exceptions: If you answered no to any of the above questions, please describe

N/A

Contact (For any discrepancies, the client must be contacted)

N/A

Shipping Containers

Cooler Id		Temp (°C)	Rad (µR/hr)
Na14468		1.4	17

Client must contact ACZ Project Manager if analysis should not proceed for samples received outside of thermal preservation acceptance criteria.

Notes

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Columbia Analytical Services
K1111839

ACZ Project ID: L92248
Date Received: 12/08/2011 10:44
Received By: ksj
Date Printed: 12/8/2011

Sample Container Preservation

SAMPLE	CLIENT ID	R < 2	G < 2	BK < 2	Y< 2	YG< 2	B< 2	O < 2	T >12	N/A	RAD	ID
L92248-01	DW-5	Y										
L92248-02	DW-2	Y										

Sample Container Preservation Legend

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
B	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
O	Raw/Sulfuric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Y	Raw/Sulfuric	YELLOW	pH must be < 2
YG	Raw/Sulfuric	YELLOW GLASS	pH must be < 2
N/A	No preservative needed	Not applicable	
RAD	Gamma/Beta dose rate	Not applicable	must be < 250 µR/hr

* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By: ksj

umbia Analytical Services, Inc. Chain of Custody

1317 South 13th Avenue • Kelso, WA 98626 • 1-360-577-7222 • FAX 1-360-636-1068

L92248 Chain of Custody

CAS Contact: Lisa Domenighini

L92248

Project Number: K1111839
Project Manager: Lisa Domenighini

Lab Code	Sample ID	# of Cont.	Matrix	Sample Date	Sample Time	Lab ID	Radioact 900.0	Radium 226 903.1	Radium 228 904.0
K1111839-001	DW-5	5	Drinking Water	12/6/11	1130	ACZ	✓	✓	✓
K1111839-002	DW-2	5	Drinking Water	12/6/11	1350	ACZ	✓	✓	✓

Test Comments

Radioact - 900.0 K1111839-001,2 Gross Alpha,Beta,Radium 226 and 228

Folder Comments:
Use Baseline for Performance Testing Samples

Lisa D
12/6/11

Special Instructions/Comments	Turnaround Requirements	Report Requirements	Invoice Information
Please provide the electronic(PDF and EDD) report to the following e-mail address: kelso_data@caslab.com	____RUSH (Surcharges Apply) PLEASE CIRCLE WORK DAYS 1 2 3 4 5 X STANDARD Requested FAX Date: _____ Requested Report Date: 12/23/11	___ I. Results Only X II. Results + QC Summaries ___ III. Results + QC and Calibration Summaries ___ IV. Data Validation Report with Raw Data PQL/MDL/J N EDD Y	PO# K1111839 Bill to

Relinquished By: [signature] 12/7/11 1116 Received By: [signature] 12-8-11 10:44 Airbill Number:

Subcontract Laboratory Results

Lab/Cor, Inc.
7619 6th Ave NW
Seattle, WA 98117

Analysis Report Cover

Final Report

A Professional Service Corporation in the Northwest

Phone: (206) 781-0155
Fax: (206) 789-8424
http://www.labcor.net

Job Number: 111351 **SEA**

Report Number: 111351R01

Report Date: 12/13/2011

Client: Columbia Analytical Services
Address: 1317 S 13th Ave
Kelso, WA 98626
Project Name: City of Longview
Project No.: K1111839
PO Number: K1111839
PWS ID:
Reference No.:

Enclosed please find results for samples submitted to our laboratory. A list of samples and analyses follows:

Lab/Cor Sample #	Client Sample # and Description	Analysis	Analysis Notes	Date Received:
111351 - S1	K1111839-001 - DW-5, WA Water ID#: 119-99444	EPA 100.2 - Potable Water - WA		12/8/2011
111351 - S2	K1111839-002 - DW-2, WA Water ID#: 119-99445	EPA 100.2 - Potable Water - WA		12/8/2011

EPA 100.2 - Potable Water - WA

Preparation and analysis of the above samples was conducted in accordance with the EPA method #100.2. In this method, samples are taken from an affected water supply to measure the amount of asbestos contamination in the system. Samples received 48 hours after collection, or with a sample received temperature greater than 10ºC, are subjected to ozone/UV treatment.

Each sample was shaken, then sonicated briefly in a Branson 2200 sonicator to distribute particulate evenly. Several aliquots were filtered onto 0.22 µm, 25 mm diameter mixed cellulose ester filters. Briefly, the samples were collapsed with a solution of N,N-dimethylformamide and acetic acid, then etched in a low temperature plasma etcher to remove the top surface of the filter and other organics. The samples were carbon coated at high vacuum with a thin layer of carbon, placed on 200 mesh copper grids and allowed to dissolve in N,N-Dimethlyformamide / Acetone baths until cleared of filter debris.

Each aliquot was examined at low magnification to determine the best particulate loading for analysis. Analysis was performed using a transmission electron microscope equipped with an EDS X ray analyzer. The samples were analyzed at an approximate screen magnification of 10,000x, with an accelerating voltage of 100 KV. The sizing of grid openings was performed using a calibrated digital imaging system at low magnification.

Disclaimer

The results reported relate only to the samples tested or analyzed; the laboratory did not have control over sample collection. Interpretation of these results is the sole responsibility of the client.

If further clarification of these results is needed, please call us. Thank you for allowing the staff at Lab/Cor, Inc. the opportunity to provide you with the analytical services.

Sincerely,

x

Nina Borchowiec
Technician/Analyst

Lab/Cor, Inc.
7619 6th Ave NW
Seattle, WA 98117

Final Report

Phone: (206) 781-0155
Fax: (206) 789-8424
http://www.labcor.net

A Professional Service Corporation in the Northwest

EPA 100.2 - Potable Water - WA Summary Data

Job Number: 111351 SEA
Client: Columbia Analytical Services
Project Name: City of Longview

Report Number: 111351R01
Date Received: 12/8/2011

Lab/Cor Sample No.: S1
Client Sample No.: K1111839-001
Description: DW-5, WA Water ID#: 119-99444
Filter Fraction: 1 **Aliquot Dilution:** 1
Volume Taken: 10 **Final Dilution:** 1

Sample Area/Mass/Volume (ml) : 800
Lab Filter Area (mm2) : 193
Grid Openings Analyzed : 11
Average Grid Opening Area : 0.00926
Area Analyzed (mm2) : 0.10186
Analytical Sens. (struc/MFL>10-um) : 0.189
Detection Limit. (struc/MFL>10-um) : 0.567

Analyst(s)	Analysis Date	Microscope	Magnification
KM	12/13/2011	JEOL 1200 EX	10000

Structure Type	Concen-tration MFL>10-um	95% Confidence Interval MFL>10-um	Structure Count[1] Prim/Total	
TEM Water Amphibole	< 0.189	0 - 0.699 - Poisson	0	
TEM Water Chrysotile	< 0.189	0 - 0.699 - Poisson	0	
TEM Water Total	< 0.189	0 - 0.699 - Poisson	0	

Lab/Cor Sample No.: S2
Client Sample No.: K1111839-002
Description: DW-2, WA Water ID#: 119-99445
Filter Fraction: 1 **Aliquot Dilution:** 1
Volume Taken: 10 **Final Dilution:** 1

Sample Area/Mass/Volume (ml) : 800
Lab Filter Area (mm2) : 193
Grid Openings Analyzed : 11
Average Grid Opening Area : 0.00926
Area Analyzed (mm2) : 0.10186
Analytical Sens. (struc/MFL>10-um) : 0.189
Detection Limit. (struc/MFL>10-um) : 0.567

Analyst(s)	Analysis Date	Microscope	Magnification
KM	12/13/2011	JEOL 1200 EX	10000

Structure Type	Concen-tration MFL>10-um	95% Confidence Interval MFL>10-um	Structure Count[1] Prim/Total	
TEM Water Amphibole	< 0.189	0 - 0.699 - Poisson	0	
TEM Water Chrysotile	< 0.189	0 - 0.699 - Poisson	0	
TEM Water Total	< 0.189	0 - 0.699 - Poisson	0	

Reviewed by:

x

Nina Borchowiec
Technician/Analyst

* One-sided upper 95% Poisson confidence limits may be used to calculate sample concentrations ([Struc count] * [Analytical Sensitivity]) when the structure count is below 4. The limits are: 0 str - 0, 1 str - 1, 2 str - 2, 3 str - 3

Lab/Cor, Inc.
7619 6th Ave NW
Seattle, WA 98117

Final Report

Phone: (206) 781-0155
Fax: (206) 789-8424
http://www.labcor.net

A Professional Service Corporation in the Northwest

EPA 100.2 - Potable Water - WA Raw Data

Job Number: 111351 SEA
Client: Columbia Analytical Services
Project Name: City of Longview
Project No.: K1111839

Report Number: 111351R01
Date Received: 12/8/2011

Lab/Cor Sample No: S1
Client Sample No: K1111839-001
Description: DW-5, WA Water ID#: 119-99444

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G9	1	C34				NSD							
G9	2	E33				NSD							
G9	3	E42				NSD							
G9	4	F41				NSD							
G10	5	C34				NSD							
G10	6	E33				NSD							
G10	7	E42				NSD							
G10	8	F41				NSD							
G11	9	C34				NSD							
G11	10	E33				NSD							
G11	11	E42				NSD							

Lab/Cor Sample No: S2
Client Sample No: K1111839-002
Description: DW-2, WA Water ID#: 119-99445

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G5	1	C34				NSD							
G5	2	E33				NSD							
G5	3	E34				NSD							
G5	4	F42				NSD							
G6	5	C34				NSD							
G6	6	E33				NSD							
G6	7	E42				NSD							
G6	8	F41				NSD							
G7	9	C34				NSD							
G7	10	E33				NSD							
G7	11	E42				NSD							

Count Categories

Water_Amph	TEM Water Amphibole	WATER_Chrys	TEM Water Chrysotile	WATER_Total	TEM Water Total

Reviewed by:

x

Nina Borchowiec
Technician/Analyst

Columbia Analytical Services, Inc. Chain of Custody

1317 South 13th Avenue • Kelso, WA 98626 • 1-360-577-7222 • FAX 1-360-636-1068

CAS Contact: Lisa Domenighini

111351

Project Number: K1111839
Project Manager: Lisa Domenighini

Lab Code	Sample ID	# of Cont.	Matrix	Sample Date	Sample Time	Lab ID	Asbestos 100.1
K1111839-001	DW-5	1	Drinking Water	12/6/11	1130	LabCOR	✓
K1111839-002	DW-2	1	Drinking Water	12/6/11	1350	LabCOR	✓

Test Comments

Asbestos - 100.1 K1111839-001,2 Asbestos in drinking water (not chlorinated)

EPA 100.2

Folder Comments:
Use Baseline for Performance Testing Samples

Temp: ~~7.7°C~~ 2.8°C

LSAD 12/6/11

220

Special Instructions/Comments	Turnaround Requirements	Report Requirements	Invoice Information
Please provide the electronic (PDF and EDD) report to the following e-mail address: kelso_data@caslab.com	____RUSH (Surcharges Apply) PLEASE CIRCLE WORK DAYS 1 2 3 4 5 X STANDARD Requested FAX Date: ____ Requested Report Date: 12/23/11	____ I. Results Only X II. Results + QC Summaries ____ III. Results + QC and Calibration Summaries ____ IV. Data Validation Report with Raw Data PQL/MDL/J N EDD Y	PO# K1111839 Bill to

Relinquished By: [signature] 12/7/11 1116

Received By: [signature] 9:30 am

Airbill Number: ____

Columbia Analytical Services™ 1317 S. 13th Avenue, Kelso, WA 98626 360.577.7222 360.636.1068 (fax) www.caslab.com

January 6, 2012 Analytical Report for Service Request No: K1111779

Steven Misner
Kennedy/Jenks Consultants, Incorporated
200 SW Market St., Suite 500
Portland, OR 97201-5715

RE: City of Longview Mint Farm

Dear Steven:

Enclosed are the results of the samples submitted to our laboratory on December 05, 2011. For your reference, these analyses have been assigned our service request number K1111779.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3363. You may also contact me via Email at LDomenighini@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Lisa A. Domenighini

Lisa Domenighini
Project Chemist

LD/ln

100% Recycled Paper

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.1 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.1 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.1 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Agency	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
DOD ELAP	L11-119
Florida DOH	E87412
Georgia DNR	881
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
ISO 17025	L11-118
Louisiana DEQ	3016
Louisiana DHH	LA080001
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon – DEQ (NELAP)	WA100010
South Carolina DHEC	61002
Texas CEQ	04704427-08-TX
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

Case Narrative

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request No.:**	K1111779
Project:	City of Longview Mint Farm	**Date Received:**	12/05/11
Sample Matrix:	Drinking Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Matrix/Duplicate Matrix Spike (MS/DMS), and Laboratory/Duplicate Laboratory Control Sample (LCS/DLCS).

Sample Receipt

Two water samples were received for analysis at Columbia Analytical Services on 12/05/11. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

General Chemistry Parameters

No anomalies associated with the analysis of these samples were observed.

Total Metals

No anomalies associated with the analysis of these samples were observed.

EDB and DBCP by EPA Method 504.1

No anomalies associated with the analysis of these samples were observed.

Pesticides and Polychlorinated Biphenyls by EPA Method 508.1

Calibration Verification Exceptions:
The analysis of Chlorinated Pesticides and PCB Aroclors by EPA 508.1 uses dual column confirmation. When the Continuing Calibration Verification (CCV) criterion is met for both columns, the lower of the two sample results is generally reported. The primary evaluation criteria were not met on the confirmation column for Heptachlor Epoxide. The results were reported from the column with an acceptable CCV. The data quality was not affected. No further corrective action was necessary.

Matrix Spike Recovery Exceptions:
The matrix spike recovery of Endrin for sample DW-6 was outside control criteria. Recovery in the Laboratory Control Sample (LCS) was acceptable, which indicated the analytical batch was in control. The matrix spike outlier suggested a potential low bias in this matrix. No further corrective action was appropriate.

No other anomalies associated with the analysis of these samples were observed.

Approved by Lisa A Jmenughin **Date** 1/10/12

Chlorinated Acides by EPA Method 515.4

No anomalies associated with the analysis of these samples were observed.

Volatile Organic Compounds by EPA Method 524.2

No anomalies associated with the analysis of these samples were observed.

Semivolatile Organic Compounds by EPA Method 525.2

No anomalies associated with the analysis of these samples were observed.

Carbamates and Carbamoyloximes by EPA Method 531.1

No anomalies associated with the analysis of these samples were observed.

Glyphosate by EPA Method 547

No anomalies associated with the analysis of these samples were observed.

Endothall by EPA Method 548.1

No anomalies associated with the analysis of these samples were observed.

Diquat by High Performance Liquid Chromatography by EPA 549.2

Sample Notes and Discussion:
The upper control criterion was exceeded for Diquat in the MRL-level laboratory fortified blank. The advisory criterion is 50-150%. Recovery in the Laboratory Control Sample (LCS) was acceptable. The sample data were not significantly affected. No further corrective action was appropriate.

No other anomalies associated with the analysis of these samples were observed.

Dioxins and Furans by EPA Method 1613B

Dioxin and Furan analysis by EPA Method 1613B was performed at Columbia Analytical Services laboratory in Houston, TX. The narrative for this analysis can be found in the corresponding section of this data package.

Liquid Sulfur

Liquid Sulfur analysis was performed at Columbia Analytical Services laboratory in Simi Valley, CA. The narrative for this analysis can be found in the corresponding section of this data package.

Radiochemistry

Radiochemistry analysis was performed at ACZ Laboratories. The narrative for this analysis can be found in the corresponding section of this data package.

Asbestos

Asbestos analysis was performed LabCor. The narrative for this analysis can be found in the corresponding section of this data package

Approved by Lisa A Domenghini **Date** 1/10/12

Chain of Custody

CHAIN OF CUSTODY

Columbia Analytical Services, Inc. 1317 S. 13th Ave.
Kelso, WA 98626 (360) 577-7222

Service Request # K1111779

Company: KENNEDY / JENKS CONSULTANTS	**PWS ID:**
Address: 200 SW MARKET ST., SUITE 500	**PWS NAME:**
City: PORTLAND **State:** OR **Zip:** 97201	**P.O./Project Name:** CITY OF LONGVIEW MINT FARM
Tel: 503-295-4911 **Fax:** 503-295-4901 **E-mail:** STEVENMISNER@KENNEDYJENKS.COM	**Project Manager:** STEVE MISNER
Sampler(s) Name & Signature: DENNIS ORLOWSKI	**Samples Chlorinated:** Yes____ No X
	Compliance Sample: Yes____ No ____ **Report to State:** Yes____ No X

Sample I.D.	Source Type (see table below)	Date sampled	Time Sampled	Number of Containers	Primary IOCs: (Check) or (All) ☑As ☑Ba ☑Be ☑Cd ☑Cr ☑Ag ☑Ni ☑Se ☑Na ☑Cyanide ☑Fluoride ☑Nitrate ☑Nitrite (Sb, Hg, Tl)	Primary IOCs: Lead/Copper	Secondary IOCs: (Check) ☑Al ☑Fe ☑Mn ☑Ag ☑Zn ☑Ca ☑Mg ☑Chloride ☑Color ☑pH ☑Sulfate ☑TDS ☑Hardness ☑Foaming Agents ☑Conductivity ☑Silica ☑Phosphorus ☑Turbidity ☑Other K, ALKALINITY	Disinfection By-Products: Haloacetic Acids (HAA) 552.2	Disinfection By-Products: Trihalomethanes (TTHM) 524.2	Disinfection By-Products: ☑TOC ☑Bromide ☑Bromate ☑Chlorite	Synthetic Organic Chemicals: Semi-Volatiles 525.2 ☑ Regulated ☑ Unregulated	Synthetic Organic Chemicals: Pesticides/PCBs 508.1	Synthetic Organic Chemicals: Volatiles 524.2 ☑Reg. ☑UnReg.	Synthetic Organic Chemicals: EDB/DBCP/TCP 504.1	Synthetic Organic Chemicals: Chlorinated Acids 515.4	Synthetic Organic Chemicals: Carbamates 531.1	Synthetic Organic Chemicals: ☑Glyphosate 547 ☑Endothall 548.1	Synthetic Organic Chemicals: Diquat/Paraquat 549.2	Other Analysis (Specify) UV 254, ASBESTOS, HYDROGEN SULFIDE	Remarks:
DW-6	DW	12/05/11	11:45		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	NO FIELD FILTRATION
DW-7	DW	12/05	14:30		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	" " "

Source Type		
DW- Drinking Water	Relinquished by:	Date/Time: 12/05/11 15:45
SW - Surface Water	Relinquished by:	Date/Time:
RW - Raw Water	Relinquished by:	Date/Time:
GW - Ground Water	Special Instructions/Comments:	
TW - Treated Water		

Received by: CAS	Date/Time: 12/5/11 1545
Received by:	Date/Time:
Received by:	Date/Time:

Columbia Analytical Services™

CHAIN OF CUSTODY / WA. DRINKING WATER

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • (800) 695-7222 • FAX (360) 636-1068

SR# K111779

Page 2 of 2

All fields must be filled out. The information in the Shaded Fields is required for reporting your results to the WA. DOH for compliance.

System Name or Property Owner Name:
☐Public ☐ Private

Public Water System ID: Group A ☐ Group B ☐

Project Manager: (Person receiving results) STEVE MIGNER / KENNEDY/JENKS

Address: (Street/City/State/Zip) 200 SW MARKET ST. SUITE 500, PORTLAND, OR

County:

Phone Number: 503-295-4911

Sampled By: (Please print clearly) DENNIS ORLOWSKI

Fax Number: 503-295-4901

Sampler's Signature:

Sample Name	Date Collected	Time Collected	*Source Number	Specific Location Sample Taken	Sampled Before Treatment (B)	Sampled After Treatment (A)	Unknown (NA)	Routine Compliance (RC)	Confirmation (C)	Investigative (I)	Other (specify in comments)	NUMBER OF CONTAINERS	Synthetic Organics (SOCs): 504.1 ☐ 508.1 ☐ 515.4 ☐ 525.2 ☐ 531.1 ☐ 547 ☐ 548.1 ☐ 549.2 ☐	Volatile Organics (VOCs): 524.2 ☐	Disinfection By-Products: THM ☐ HAA ☐ Chlorate ☐ Chlorite ☐ Bromate ☐	Treatment & Precursors: Fluoride ☐ Residual Chlorine ☐ TOC ☐	Inorganics (IOCs): WA IOC List ☑ Nitrate ☑ Nitrite ☑ pH ☑	Metals (Circle Below): Lead & Copper ☐ Hardness ☐	Radionuclides[1]: Gross Alpha ☑ Gross Beta ☑ Radon ☐ Radium 226 ☑ Radium 228 ☑	Other: Asbestos[1] ☑ Dioxins ☐	E. COLI	F. COLI / TOTAL COLI	AMMONIA
DW-6	12/05/11	11:45		DW-6													X		X	X	X	X
DW-7	12/05/11	14:30		DW-7																		

COPY OF REPORT TO:

Name: SEE PM ABOVE

Address:

Fax:

e-mail

INVOICE INFORMATION

P.O.#:

Bill To:

Address:

SPECIAL INSTRUCTIONS/COMMENTS:

Circle Metals: Al As Sb Ba Be Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Tl Zn Hg

28317 @ 12/5/11

* For composited of blended samples, list all sources in this section.
1 Analysis subcontracted to an outside laboratory, Shipping costs may be charged.

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Printed Name: DENNIS ORLOWSKI	Printed Name:	Printed Name:	Printed Name:
Signature:	Signature:	Signature:	Signature:
Date/Time: 12/05/11 15:45	Date/Time: 12/5/11 1545	Date/Time:	Date/Time:
Company: KENNEDY/JENKS	Company: CAS	Company:	Company:

DISTRIBUTION: WHITE - return to originator; YELLOW - lab; PINK - retained by originator

COC/WAD Rev 02/08

10

Longview Production Well Pump Testing

List of Regulated and Other Required Chemicals for Baseline, 30-Day, and 60-Day Sampling Events

NOTE: All metals are total only (not dissolved). Dissolved organic carbon to be filtered at the lab, not in the field.

Inorganic Chemicals

Chemical	MCL Goal	MCL
Antimony	0.006	0.006
Arsenic	0	0.010 as of 01/23/06
Arsenic III and V speciation		
Asbestos (fiber >10 micrometers)	7 million fibers per liter	7 MFL
Barium	2	2
Beryllium	0.004	0.004
Cadmium	0.005	0.005
Chromium (total)	0.1	0.1
Copper	1.3	TT; Action Level=1.3
Cyanide (as free cyanide)	0.2	0.2
Fluoride	4.0	4.0
Lead	zero	TT; Action Level=0.015
Mercury (inorganic)	0.002	0.002
Nickel	0.1	
Nitrate (measured as Nitrogen)	10	10
Nitrite (measured as Nitrogen)	1	1
Selenium	0.05	0.05
Thallium	0.0005	0.002

Organic Chemicals

Contaminant	MCLG (mg/L)	MCL or TT (mg/L)
~~Acrylamide~~	~~zero~~	~~TT~~
Aldicarb	0.001	~~0.003~~ *(stayed by EPA)*
Aldicarb Sulfone	0.001	~~0.002~~ *(stayed by EPA)*
Aldicarb Sulfoxide	0.001	~~0.004~~ *(stayed by EPA)*
Alachlor	zero	0.002
Atrazine	0.003	0.003
Benzene	zero	0.005
Benzo(a)pyrene (PAHs)	zero	0.0002
Carbofuran	0.04	0.04
Carbon tetrachloride	zero	0.005
Chlordane	zero	0.002
Chlorobenzene	0.1	0.1
2,4-D	0.07	0.07
Dalapon	0.2	0.2
1,2-Dibromo-3-chloropropane (DBCP)	zero	0.0002
o-Dichlorobenzene	0.6	0.6
p-Dichlorobenzene	0.075	0.075
1,2-Dichloroethane	zero	0.005
1,1-Dichloroethylene	0.007	0.007
cis-1,2-Dichloroethylene	0.07	0.07
trans-1,2-Dichloroethylene	0.1	0.1
Dichloromethane	zero	0.005
1,2-Dichloropropane	zero	0.005
Di(2-ethylhexyl) adipate	0.4	0.4
Di(2-ethylhexyl) phthalate	zero	0.006
Dinoseb	0.007	0.007
Dioxin (2,3,7,8-TCDD)	zero	0.00000003

Diquat	0.02	0.02
Endothall	0.1	0.1
Endrin	0.002	0.002
~~Epichlorohydrin~~	~~zero~~	~~TT~~
Ethylbenzene	0.7	0.7
Ethylene dibromide	zero	0.00005
Glyphosate	0.7	0.7
Heptachlor	zero	0.0004
Heptachlor epoxide	zero	0.0002
Hexachlorobenzene	zero	0.001
Hexachlorocyclopentadiene	0.05	0.05
Lindane	0.0002	0.0002
Methoxychlor	0.04	0.04
Oxamyl (Vydate)	0.2	0.2
Polychlorinated biphenyls (PCBs)	zero	0.0005
Pentachlorophenol	zero	0.001
Picloram	0.5	0.5
Simazine	0.004	0.004
Styrene	0.1	0.1
Tetrachloroethylene	zero	0.005
Toluene	1	1
Toxaphene	zero	0.003
2,4,5-TP (Silvex)	0.05	0.05
1,2,4-Trichlorobenzene	0.07	0.07
1,1,1-Trichloroethane	0.20	0.2
1,1,2-Trichloroethane	0.003	0.005
Trichloroethylene	zero	0.005
Vinyl chloride	zero	0.002
Xylenes (total)	10	10

Radionuclides

Contaminant	MCLG (mg/L)	MCL or TT (mg/L)
Alpha particles	none ---------- zero	15 picocuries per Liter (pCi/L)
Beta particles and photon emitters	none ---------- zero	4 millirems per year
Radium 226 and Radium 228 (combined)	none ---------- zero	5 pCi/L
Uranium	zero	30 ug/L as of 12/08/03

Secondary Contaminants

Contaminant	Secondary Standard
Aluminum	0.05 to 0.2 mg/L
Chloride	250 mg/L
Color	15 (color units)
Fluoride	2.0 mg/L
Foaming Agents	0.5 mg/L
Iron	0.3 mg/L
Manganese	0.05 mg/L
~~Odor~~	~~3 threshold odor number (TON)~~
Silver	0.10 mg/L
Sulfate	250 mg/L
Total Dissolved Solids	500 mg/L
Zinc	5 mg/L

Microbial

Contaminant
Fecal Coliform
Total Coliform
E. Coli

Other Required Chemicals

Contaminant
Alkalinity
Ammonia
Calcium
Hydrogen Sulfide
Magnesium
Orthophosphate
Potassium
Silica
Sodium
Specific Conductivity
TOC and DOC
UV absorbance @254 nm

PC Lisa

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

Client / Project: Kennedy Jenks Service Request *K11* 11779

Received: 12/5/11 Opened: 12/5/11 By: AJ Unloaded: 12/5/11 By: AJ

1. Samples were received via? *Mail* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where? _____

   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
-0.8	0.7	276			
-0.6	0.7	304			
-0.7	0.8	308			
4.5	1.0	299			

7. Packing material used. *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Sleeves* *Other* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
9. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA Y N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
11. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA Y N
12. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
13. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
15. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____

General Chemistry Parameters

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	12/ 5/11
Sample Matrix:	Drinking Water	**Date Received:**	12/ 5/11
		Units:	pH Units
Analysis Method:	150.1	**Basis:**	NA

pH

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-6	K1111779-001	7.52		-	1	NA	12/5/11 17:54	H
DW-7	K1111779-002	7.47		-	1	NA	12/5/11 17:55	H

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm
Sample Matrix: Drinking Water

Service Request: K1111779
Date Collected: 12/5/11
Date Received: 12/5/11
Date Analyzed: 12/ 5/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: DW-6
Lab Code: K1111779-001

Units: pH Units
Basis: NA

Analyte Name	Method	MRL	Sample Result	DW-6DUP Duplicate Sample K1111779-001DUP5 Result	Average	RPD	RPD Limit
pH	150.1	-	7.52	7.50	7.51	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm
Sample Matrix: Drinking Water

Service Request: K1111779
Date Analyzed: 12/ 5/11

Lab Control Sample Summary
General Chemistry Parameters

Units: pH Units
Basis: NA

Analyte Name	Method	Lab Control Sample K1111779-LCS2 Result	Spike Amount	% Rec	% Rec Limits
pH	150.1	7.54	7.54	100	85 - 115

Results flagged with an asterisk (*) indicate values outside control criteria.

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	12/ 5/11
Sample Matrix:	Drinking Water	**Date Received:**	12/ 5/11
		Units:	mg/L
Analysis Method:	300.0	**Basis:**	NA

Chloride

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-6	K1111779-001	**40.8**		2.0	10	NA	12/6/11 13:41	
DW-7	K1111779-002	**6.85**		0.40	2	NA	12/6/11 11:30	
Method Blank	K1111779-MB1	ND	U	0.20	1	NA	12/6/11 09:04	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	12/5/11
Sample Matrix:	Drinking Water	**Date Received:**	12/5/11
		Date Analyzed:	12/ 6/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	DW-7	**Units:**	mg/L
Lab Code:	K1111779-002	**Basis:**	NA

Analyte Name	Method	MRL	Sample Result	DW-7DUP Duplicate Sample K1111779-002DUP6 Result	Average	RPD	RPD Limit
Chloride	300.0	0.40	6.85	6.80	6.83	<1	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm
Sample Matrix: Drinking Water

Service Request: K1111779
Date Collected: 12/5/11
Date Received: 12/5/11
Date Analyzed: 12/ 6/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: DW-7
Lab Code: K1111779-002

Units: mg/L
Basis: NA

Analytical Method: 300.0

		DW-7MS Matrix Spike K1111779-002MS4			DW-7DMS Duplicate Matrix Spike K1111779-002DMS4					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Chloride	6.85	11.1	4.00	107	11.1	4.00	107	90 - 110	<1	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm
Sample Matrix: Drinking Water

Service Request: K1111779
Date Analyzed: 12/ 6/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1111779-LCS2 Result	Spike Amount	% Rec	% Rec Limits
Chloride	300.0	4.68	5.00	94	90 - 110

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm
Sample Matrix: Drinking Water

Service Request: K1111779
Date Collected: 12/ 5/11
Date Received: 12/ 5/11

Units: mg/L
Basis: NA

Analysis Method: 300.0

Fluoride

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-6	K1111779-001	ND	U	0.40	2	NA	12/6/11 11:15	
DW-7	K1111779-002	ND	U	0.40	2	NA	12/6/11 11:30	
Method Blank	K1111779-MB1	ND	U	0.20	1	NA	12/6/11 09:04	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	12/5/11
Sample Matrix:	Drinking Water	**Date Received:**	12/5/11
		Date Analyzed:	12/ 6/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: DW-7 **Units:** mg/L
Lab Code: K1111779-002 **Basis:** NA

Analyte Name	Method	MRL	Sample Result	DW-7DUP Duplicate Sample K1111779-002DUP6 Result	Average	RPD	RPD Limit
Fluoride	300.0	0.40	ND U	ND U	NC	NC	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm
Sample Matrix: Drinking Water

Service Request: K1111779
Date Collected: 12/5/11
Date Received: 12/5/11
Date Analyzed: 12/ 6/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: DW-7
Lab Code: K1111779-002

Units: mg/L
Basis: NA

Analytical Method: 300.0

		DW-7MS Matrix Spike K1111779-002MS4			DW-7DMS Duplicate Matrix Spike K1111779-002DMS4					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Fluoride	ND	4.17	4.00	104	4.22	4.00	106	90 - 110	1	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm
Sample Matrix: Drinking Water

Service Request: K1111779
Date Analyzed: 12/ 6/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1111779-LCS2 Result	Spike Amount	% Rec	% Rec Limits
Fluoride	300.0	17.0	17.2	99	90 - 110

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm
Sample Matrix: Drinking Water

Service Request: K1111779
Date Collected: 12/ 5/11
Date Received: 12/ 5/11

Units: mg/L
Basis: NA

Analysis Method: 300.0

Nitrite as Nitrogen

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-6	K1111779-001	ND	U	0.10	2	NA	12/6/11 11:15	
DW-7	K1111779-002	ND	U	0.10	2	NA	12/6/11 11:30	
Method Blank	K1111779-MB1	ND	U	0.050	1	NA	12/6/11 09:04	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	12/5/11
Sample Matrix:	Drinking Water	**Date Received:**	12/5/11
		Date Analyzed:	12/ 6/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	DW-7	**Units:**	mg/L
Lab Code:	K1111779-002	**Basis:**	NA

Analyte Name	Method	MRL	Sample Result	DW-7DUP Duplicate Sample K1111779-002DUP6 Result	Average	RPD	RPD Limit
Nitrite as Nitrogen	300.0	0.10	ND U	ND U	NC	NC	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm
Sample Matrix: Drinking Water

Service Request: K1111779
Date Collected: 12/5/11
Date Received: 12/5/11
Date Analyzed: 12/ 6/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: DW-7
Lab Code: K1111779-002

Units: mg/L
Basis: NA

Analytical Method: 300.0

		DW-7MS Matrix Spike K1111779-002MS4			DW-7DMS Duplicate Matrix Spike K1111779-002DMS4					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrite as Nitrogen	ND	4.06	4.00	102	4.08	4.00	102	90 - 110	<1	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm
Sample Matrix: Drinking Water

Service Request: K1111779
Date Analyzed: 12/ 6/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1111779-LCS2			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Nitrite as Nitrogen	300.0	105	100	105	90 - 110

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	12/ 5/11
Sample Matrix:	Drinking Water	**Date Received:**	12/ 5/11
		Units:	mg/L
Analysis Method:	300.0	**Basis:**	NA

Nitrate as Nitrogen

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-6	K1111779-001	ND	U	0.10	2	NA	12/6/11 11:15	
DW-7	K1111779-002	ND	U	0.10	2	NA	12/6/11 11:30	
Method Blank	K1111779-MB1	ND	U	0.050	1	NA	12/6/11 09:04	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	12/5/11
Sample Matrix:	Drinking Water	**Date Received:**	12/5/11
		Date Analyzed:	12/ 6/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	DW-7	**Units:**	mg/L
Lab Code:	K1111779-002	**Basis:**	NA

Analyte Name	Method	MRL	Sample Result	DW-7DUP Duplicate Sample K1111779-002DUP6 Result	Average	RPD	RPD Limit
Nitrate as Nitrogen	300.0	0.10	ND U	ND U	NC	NC	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm
Sample Matrix: Drinking Water

Service Request: K1111779
Date Collected: 12/5/11
Date Received: 12/5/11
Date Analyzed: 12/ 6/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: DW-7
Lab Code: K1111779-002

Units: mg/L
Basis: NA

Analytical Method: 300.0

		DW-7MS Matrix Spike K1111779-002MS4			DW-7DMS Duplicate Matrix Spike K1111779-002DMS4					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate as Nitrogen	ND	3.61	4.00	90	3.65	4.00	91	90 - 110	1	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm
Sample Matrix: Drinking Water

Service Request: K1111779
Date Analyzed: 12/ 6/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1111779-LCS2 Result	Spike Amount	% Rec	% Rec Limits
Nitrate as Nitrogen	300.0	17.6	17.7	99	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	12/ 5/11
Sample Matrix:	Drinking Water	**Date Received:**	12/ 5/11
		Units:	mg/L
Analysis Method:	300.0	**Basis:**	NA

Sulfate

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-6	K1111779-001	ND	U	0.40	2	NA	12/6/11 11:15	
DW-7	K1111779-002	**1.61**		0.40	2	NA	12/6/11 11:30	
Method Blank	K1111779-MB1	ND	U	0.20	1	NA	12/6/11 09:04	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	12/5/11
Sample Matrix:	Drinking Water	**Date Received:**	12/5/11
		Date Analyzed:	12/ 6/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	DW-7	**Units:**	mg/L
Lab Code:	K1111779-002	**Basis:**	NA

Analyte Name	Method	MRL	Sample Result	DW-7DUP Duplicate Sample K1111779-002DUP6 Result	Average	RPD	RPD Limit
Sulfate	300.0	0.40	1.61	1.60	1.61	<1	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm
Sample Matrix: Drinking Water

Service Request: K1111779
Date Collected: 12/5/11
Date Received: 12/5/11
Date Analyzed: 12/ 6/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: DW-7
Lab Code: K1111779-002

Units: mg/L
Basis: NA

Analytical Method: 300.0

		DW-7MS Matrix Spike K1111779-002MS4			DW-7DMS Duplicate Matrix Spike K1111779-002DMS4					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Sulfate	1.61	5.46	4.00	96	5.49	4.00	97	90 - 110	<1	20

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm
Sample Matrix: Drinking Water

Service Request: K1111779
Date Analyzed: 12/ 6/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1111779-LCS2 Result	Spike Amount	% Rec	% Rec Limits
Sulfate	300.0	4.62	5.00	92	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	12/ 5/11
Sample Matrix:	Drinking Water	**Date Received:**	12/ 5/11
Prep Method:	Method	**Units:**	mg/L
Analysis Method:	335.4	**Basis:**	NA

Cyanide, Total

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-6	K1111779-001	ND	U	0.010	1	12/ 9/11	12/9/11 15:00	
DW-7	K1111779-002	**0.039**		0.010	1	12/ 9/11	12/9/11 15:00	
Method Blank	K1111779-MB1	ND	U	0.010	1	12/ 9/11	12/9/11 15:00	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	NA
Sample Matrix:	Drinking Water	**Date Received:**	NA
		Date Analyzed:	12/ 9/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	Batch QC	**Units:**	mg/L
Lab Code:	K1111800-001	**Basis:**	NA

				Batch QCDUP Duplicate Sample K1111800-001DUP10			
Analyte Name	**Method**	**MRL**	**Sample Result**	**Result**	**Average**	**RPD**	**RPD Limit**
Cyanide, Total	335.4	0.010	ND U	ND U	NC	NC	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm
Sample Matrix: Drinking Water

Service Request: K1111779
Date Collected: NA
Date Received: NA
Date Analyzed: 12/ 9/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1111800-001

Units: mg/L
Basis: NA

Analytical Method: 335.4
Prep Method: Method

		Batch QCMS Matrix Spike K1111800-001MS5			Batch QCDMS Duplicate Matrix Spike K1111800-001DMS5					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Cyanide, Total	ND	0.097	0.100	97	0.079	0.100	79	35 - 144	20	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm
Sample Matrix: Drinking Water

Service Request: K1111779
Date Analyzed: 12/ 9/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1111779-LCS2 Result	Spike Amount	% Rec	% Rec Limits
Cyanide, Total	335.4	0.711	0.73	97	83 - 116

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	12/ 5/11
Sample Matrix:	Drinking Water	**Date Received:**	12/ 5/11
		Units:	mg/L
Analysis Method:	350.1	**Basis:**	NA

Ammonia as Nitrogen

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-6	K1111779-001	**0.113**		0.050	1	NA	12/6/11 15:41	
DW-7	K1111779-002	**0.270**		0.050	1	NA	12/6/11 15:41	
Method Blank	K1111779-MB1	ND	U	0.050	1	NA	12/6/11 15:41	
Method Blank	K1111779-MB2	ND	U	0.050	1	NA	12/6/11 15:41	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	12/5/11
Sample Matrix:	Drinking Water	**Date Received:**	12/5/11
		Date Analyzed:	12/ 6/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	DW-6	**Units:**	mg/L
Lab Code:	K1111779-001	**Basis:**	NA

Analyte Name	Method	MRL	Sample Result	DW-6DUP Duplicate Sample K1111779-001DUP5 Result	Average	RPD	RPD Limit
Ammonia as Nitrogen	350.1	0.050	0.113	0.112	0.112	<1	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm
Sample Matrix: Drinking Water

Service Request: K1111779
Date Collected: 12/5/11
Date Received: 12/5/11
Date Analyzed: 12/ 6/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: DW-6
Lab Code: K1111779-001

Units: mg/L
Basis: NA

Analytical Method: 350.1

		DW-6MS Matrix Spike K1111779-001MS2			DW-6DMS Duplicate Matrix Spike K1111779-001DMS2					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Ammonia as Nitrogen	0.113	2.16	2.00	102	2.16	2.00	103	90 - 110	<1	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm
Sample Matrix: Drinking Water

Service Request: K1111779
Date Analyzed: 12/ 6/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1111779-LCS2 Result	Spike Amount	% Rec	% Rec Limits
Ammonia as Nitrogen	350.1	13.9	13.9	100	90 - 110

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm
Sample Matrix: Drinking Water

Service Request: K1111779
Date Analyzed: 12/ 6/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1111779-LCS3			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Ammonia as Nitrogen	350.1	13.9	13.9	100	90 - 110

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	12/ 5/11
Sample Matrix:	Drinking Water	**Date Received:**	12/ 5/11
		Units:	mg/L
Analysis Method:	365.3	**Basis:**	NA

Orthophosphate as Phosphorus

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-6	K1111779-001	**0.480**		0.010	1	NA	12/6/11 09:15	
DW-7	K1111779-002	**0.531**		0.010	1	NA	12/6/11 09:15	
Method Blank	K1111779-MB1	ND	U	0.010	1	NA	12/6/11 09:15	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	12/5/11
Sample Matrix:	Drinking Water	**Date Received:**	12/5/11
		Date Analyzed:	12/ 6/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	DW-7	**Units:**	mg/L
Lab Code:	K1111779-002	**Basis:**	NA

Analyte Name	Method	MRL	Sample Result	DW-7DUP Duplicate Sample K1111779-002DUP6 Result	Average	RPD	RPD Limit
Orthophosphate as Phosphorus	365.3	0.010	0.531	0.530	0.531	<1	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm
Sample Matrix: Drinking Water

Service Request: K1111779
Date Collected: 12/5/11
Date Received: 12/5/11
Date Analyzed: 12/ 6/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: DW-7
Lab Code: K1111779-002

Units: mg/L
Basis: NA

Analytical Method: 365.3

		DW-7MS Matrix Spike K1111779-002MS4			DW-7DMS Duplicate Matrix Spike K1111779-002DMS4					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Orthophosphate as Phosphorus	0.531	0.713	0.200	91	0.926	0.400	99	60 - 130	8	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm
Sample Matrix: Drinking Water

Service Request: K1111779
Date Analyzed: 12/ 6/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1111779-LCS2 Result	Spike Amount	% Rec	% Rec Limits
Orthophosphate as Phosphorus	365.3	2.71	2.83	96	85 - 115

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm
Sample Matrix: Drinking Water

Service Request: K1111779
Date Collected: 12/ 5/11
Date Received: 12/ 5/11

Analysis Method: SM 2120 B

Units: ColorUnits
Basis: NA

Color

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-6	K1111779-001	**20.0**		5.0	1	NA	12/6/11 09:45	
DW-7	K1111779-002	**25.0**		5.0	1	NA	12/6/11 09:45	
Method Blank	K1111779-MB1	ND	U	5.0	1	NA	12/6/11 09:45	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm
Sample Matrix: Drinking Water

Service Request: K1111779
Date Collected: NA
Date Received: NA
Date Analyzed: 12/ 6/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1111785-001

Units: ColorUnits
Basis: NA

Analyte Name	Method	MRL	Sample Result	Batch QCDUP Duplicate Sample K1111785-001DUP9 Result	Average	RPD	RPD Limit
Color	SM 2120 B	5.0	40.0	40.0	40.0	<1	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm
Sample Matrix: Drinking Water

Service Request: K1111779
Date Analyzed: 12/ 6/11

Lab Control Sample Summary
General Chemistry Parameters

Units: ColorUnits
Basis: NA

		Lab Control Sample K1111779-LCS2			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Color	SM 2120 B	25.0	25.0	100	85 - 115

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	12/ 5/11
Sample Matrix:	Drinking Water	**Date Received:**	12/ 5/11
		Units:	mg/L
Analysis Method:	SM 2320 B	**Basis:**	NA

Alkalinity as CaCO3, Total

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-6	K1111779-001	**98.2**		9.0	1	NA	12/6/11 14:42	
DW-7	K1111779-002	**89.1**		9.0	1	NA	12/6/11 14:42	
Method Blank	K1111779-MB1	ND	U	9.0	1	NA	12/6/11 14:42	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	12/5/11
Sample Matrix:	Drinking Water	**Date Received:**	12/5/11
		Date Analyzed:	12/ 6/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	DW-6	**Units:**	mg/L
Lab Code:	K1111779-001	**Basis:**	NA

Analyte Name	Method	MRL	Sample Result	DW-6DUP Duplicate Sample K1111779-001DUP5 Result	Average	RPD	RPD Limit
Alkalinity as CaCO3, Total	SM 2320 B	9.0	98.2	103	101	5	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm
Sample Matrix: Drinking Water

Service Request: K1111779
Date Analyzed: 12/ 6/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1111779-LCS2 Result	Spike Amount	% Rec	% Rec Limits
Alkalinity as CaCO3, Total	SM 2320 B	97.9	101	97	94 - 106

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	12/ 5/11
Sample Matrix:	Drinking Water	**Date Received:**	12/ 5/11
		Units:	µMHOS/cm
Analysis Method:	SM 2510 B	**Basis:**	NA

Conductivity at 25 Degrees Celsius

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-6	K1111779-001	**359**		2.0	1	NA	12/6/11 14:00	
DW-7	K1111779-002	**219**		2.0	1	NA	12/6/11 14:00	
Method Blank	K1111779-MB1	ND	U	2.0	1	NA	12/6/11 14:00	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	12/5/11
Sample Matrix:	Drinking Water	**Date Received:**	12/5/11
		Date Analyzed:	12/ 6/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: DW-7
Lab Code: K1111779-002

Units: µMHOS/cm
Basis: NA

Analyte Name	Method	MRL	Sample Result	DW-7DUP Duplicate Sample K1111779-002DUP6 Result	Average	RPD	RPD Limit
Conductivity at 25 Degrees Celsius	SM 2510 B	2.0	219	218	218	<1	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm
Sample Matrix: Drinking Water

Service Request: K1111779
Date Analyzed: 12/ 6/11

Lab Control Sample Summary
General Chemistry Parameters

Units: µMHOS/cm
Basis: NA

		Lab Control Sample K1111779-LCS2			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Conductivity at 25 Degrees Celsius	SM 2510 B	336	330	102	88 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	12/ 5/11
Sample Matrix:	Drinking Water	**Date Received:**	12/ 5/11
		Units:	mg/L
Analysis Method:	SM 2540 C	**Basis:**	NA

Solids, Total Dissolved

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-6	K1111779-001	**239**		10	1	NA	12/6/11 15:00	
DW-7	K1111779-002	**156**		10	1	NA	12/6/11 15:00	
Method Blank	K1111779-MB1	ND	U	5.0	1	NA	12/6/11 15:00	
Method Blank	K1111779-MB2	ND	U	5.0	1	NA	12/6/11 15:00	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	NA
Sample Matrix:	Drinking Water	**Date Received:**	NA
		Date Analyzed:	12/ 6/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	Batch QC	**Units:**	mg/L
Lab Code:	K1111748-001	**Basis:**	NA

Analyte Name	Method	MRL	Sample Result	Batch QCDUP Duplicate Sample K1111748-001DUP2 Result	Average	RPD	RPD Limit
Solids, Total Dissolved	SM 2540 C	10	424	434	429	2	10

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm
Sample Matrix: Drinking Water

Service Request: K1111779
Date Collected: NA
Date Received: NA
Date Analyzed: 12/ 6/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1111748-007

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	Sample Result	Batch QCDUP Duplicate Sample K1111748-007DUP3 Result	Average	RPD	RPD Limit
Solids, Total Dissolved	SM 2540 C	10	408	409	409	<1	10

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm
Sample Matrix: Drinking Water

Service Request: K1111779
Date Analyzed: 12/ 6/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1111779-LCS2			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Solids, Total Dissolved	SM 2540 C	798	825	97	83 - 117

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	12/ 5/11
Sample Matrix:	Drinking Water	**Date Received:**	12/ 5/11
		Units:	mg/L
Analysis Method:	SM 4500-SiO2 C	**Basis:**	NA

Silica, Dissolved as SiO2

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-6	K1111779-001	**41.6**		1.3	1	NA	12/7/11 15:45	
DW-7	K1111779-002	**49.1**		1.3	1	NA	12/7/11 15:45	
Method Blank	K1111779-MB1	ND	U	0.050	1	NA	12/7/11 15:45	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	NA
Sample Matrix:	Drinking Water	**Date Received:**	NA
		Date Analyzed:	12/ 7/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	Batch QC	**Units:**	mg/L
Lab Code:	K1111535-001	**Basis:**	NA

Analyte Name	Method	MRL	Sample Result	Batch QCDUP Duplicate Sample K1111535-001DUP1 Result	Average	RPD	RPD Limit
Silica, Dissolved as SiO2	SM 4500-SiO2 C	0.63	8.12	7.84	7.98	4	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm
Sample Matrix: Drinking Water

Service Request: K1111779
Date Collected: NA
Date Received: NA
Date Analyzed: 12/ 7/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1111535-001

Units: mg/L
Basis: NA

Analytical Method: SM 4500-SiO2 C

		Batch QCMS **Matrix Spike** K1111535-001MS1			Batch QCDMS **Duplicate Matrix Spike** K1111535-001DMS1					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Silica, Dissolved as SiO2	8.12	21.0	12.5	103	21.2	12.5	104	73 - 130	1	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm
Sample Matrix: Drinking Water

Service Request: K1111779
Date Analyzed: 12/ 7/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1111779-LCS2 Result	Spike Amount	% Rec	% Rec Limits
Silica, Dissolved as SiO2	SM 4500-SiO2 C	2.10	1.99	105	85 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	12/ 5/11
Sample Matrix:	Drinking Water	**Date Received:**	12/ 5/11
		Units:	mg/L
Analysis Method:	SM 5310 C	**Basis:**	NA

Carbon, Total Organic

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-6	K1111779-001	**0.94**		0.50	1	NA	12/9/11 13:54	
DW-7	K1111779-002	**1.00**		0.50	1	NA	12/9/11 13:54	
Method Blank	K1111779-MB1	ND	U	0.50	1	NA	12/9/11 13:54	
Method Blank	K1111779-MB2	ND	U	0.50	1	NA	12/9/11 13:54	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	12/5/11
Sample Matrix:	Drinking Water	**Date Received:**	12/5/11
		Date Analyzed:	12/ 9/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	DW-6	**Units:**	mg/L
Lab Code:	K1111779-001	**Basis:**	NA

Analyte Name	Method	MRL	Sample Result	DW-6DUP Duplicate Sample K1111779-001DUP5 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	0.50	0.94	0.92	0.929	2	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	12/5/11
Sample Matrix:	Drinking Water	**Date Received:**	12/5/11
		Date Analyzed:	12/ 9/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	DW-7	**Units:**	mg/L
Lab Code:	K1111779-002	**Basis:**	NA

Analyte Name	Method	MRL	Sample Result	DW-7DUP Duplicate Sample K1111779-002DUP6 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	0.50	1.00	1.02	1.01	2	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	12/5/11
Sample Matrix:	Drinking Water	**Date Received:**	12/5/11
		Date Analyzed:	12/ 9/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: DW-6
Lab Code: K1111779-001

Units: mg/L
Basis: NA

Analytical Method: SM 5310 C

		DW-6MS **Matrix Spike** K1111779-001MS3			
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Carbon, Total Organic	0.94	26.0	25.0	100	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm
Sample Matrix: Drinking Water

Service Request: K1111779
Date Analyzed: 12/ 9/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1111779-LCS2			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Carbon, Total Organic	SM 5310 C	25.7	26.0	99	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm
Sample Matrix: Drinking Water

Service Request: K1111779
Date Analyzed: 12/ 9/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1111779-LCS3 Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	SM 5310 C	27.4	26.0	105	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	12/ 5/11
Sample Matrix:	Drinking Water	**Date Received:**	12/ 5/11
Prep Method:	Method	**Units:**	mg/L
Analysis Method:	SM 5540 C	**Basis:**	NA

Methylene Blue Active Substances

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-6	K1111779-001	ND	U	0.050	1	12/ 6/11	12/6/11 09:42	
DW-7	K1111779-002	ND	U	0.050	1	12/ 6/11	12/6/11 09:42	
Method Blank	K1111779-MB1	ND	U	0.050	1	12/ 6/11	12/6/11 09:42	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	12/5/11
Sample Matrix:	Drinking Water	**Date Received:**	12/5/11
		Date Analyzed:	12/ 6/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	DW-6	**Units:**	mg/L
Lab Code:	K1111779-001	**Basis:**	NA

Analyte Name	Method	MRL	Sample Result	DW-6DUP Duplicate Sample K1111779-001DUP5 Result	Average	RPD	RPD Limit
Methylene Blue Active Substances	SM 5540 C	0.050	ND U	ND U	NC	NC	20

Results flagged with an asterisk (*) indicate values outside control criteria.

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm
Sample Matrix: Drinking Water

Service Request: K1111779
Date Collected: 12/5/11
Date Received: 12/5/11
Date Analyzed: 12/ 6/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: DW-6
Lab Code: K1111779-001

Units: mg/L
Basis: NA

Analytical Method: SM 5540 C
Prep Method: Method

		DW-6MS Matrix Spike K1111779-001MS3			
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Methylene Blue Active Substances	ND	0.41	0.40	103	70 - 130

Results flagged with an asterisk (*) indicate values outside control criteria.

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm
Sample Matrix: Drinking Water

Service Request: K1111779
Date Analyzed: 12/ 6/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1111779-LCS1			Duplicate Lab Control Sample K1111779-DLCS1					
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Methylene Blue Active Substances	SM 5540 C	0.377	0.40	94	0.408	0.40	102	70 - 130	8	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	12/ 5/11
Sample Matrix:	Drinking Water	**Date Received:**	12/ 5/11
		Units:	cm-1
Analysis Method:	SM 5910 B	**Basis:**	NA

UV254

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-6	K1111779-001	0.029		-	1	NA	12/6/11 03:53	
DW-7	K1111779-002	0.037		-	1	NA	12/6/11 03:53	
Method Blank	K1111779-MB1	0.000		-	1	NA	12/6/11 03:53	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	12/5/11
Sample Matrix:	Drinking Water	**Date Received:**	12/5/11
		Date Analyzed:	12/ 6/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	DW-6	**Units:**	cm-1
Lab Code:	K1111779-001	**Basis:**	NA

Analyte Name	Method	MRL	Sample Result	DW-6DUP Duplicate Sample K1111779-001DUP5 Result	Average	RPD	RPD Limit
UV254	SM 5910 B	-	0.029	0.029	0.0290	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	12/ 5/11
Sample Matrix:	Drinking Water	**Date Received:**	12/ 5/11
		Units:	MPN/100mL
Analysis Method:	SM 9221 E	**Basis:**	NA

Coliform, Fecal

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-6	K1111779-001	ND	U	1.8	1	NA	12/5/11 17:00	
DW-7	K1111779-002	ND	U	1.8	1	NA	12/5/11 17:00	

Metals

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	12/05/11
Sample Matrix:	Drinking water	**Date Received:**	12/05/11

Total Metals

Sample Name:	DW-6	Units:	ug/L (ppb)
Lab Code:	K1111779-001	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Arsenic (III)	None	1632 Rev. A	0.5	25	NA	12/19/11	4.7	
Arsenic (V)	None	1632 Rev. A	1.0	50	NA	12/13/11	ND	
Inorganic Arsenic	None	1632 Rev. A	1.0	50	NA	12/13/11	5	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	12/05/11
Sample Matrix:	Drinking water	**Date Received:**	12/05/11

Total Metals

Sample Name:	DW-7	Units:	ug/L (ppb)
Lab Code:	K1111779-002	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Arsenic (III)	None	1632 Rev. A	0.5	25	NA	12/19/11	5.0	
Arsenic (V)	None	1632 Rev. A	0.5	25	NA	12/13/11	0.8	
Inorganic Arsenic	None	1632 Rev. A	0.5	25	NA	12/13/11	5.8	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	NA
Sample Matrix:	Drinking water	**Date Received:**	NA

Total Metals

Sample Name:	Method Blank 1	Units:	ug/L (ppb)
Lab Code:	K1111779-MB1	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Arsenic (III)	None	1632 Rev. A	0.02	0.003	1	NA	12/19/11	ND	
Arsenic (V)	None	1632 Rev. A	0.02	0.003	1	NA	12/13/11	ND	
Inorganic Arsenic	None	1632 Rev. A	0.02	0.003	1	NA	12/13/11	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	NA
Sample Matrix:	Drinking water	**Date Received:**	NA

Total Metals

Sample Name:	Method Blank 2	Units:	ug/L (ppb)
Lab Code:	K1111779-MB2	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Arsenic (III)	None	1632 Rev. A	0.02	1	NA	12/19/11	ND	
Arsenic (V)	None	1632 Rev. A	0.02	1	NA	12/13/11	ND	
Inorganic Arsenic	None	1632 Rev. A	0.02	1	NA	12/13/11	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	NA
Sample Matrix:	Drinking water	**Date Received:**	NA

Total Metals

Sample Name:	Method Blank 3	Units:	ug/L (ppb)
Lab Code:	K1111779-MB3	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Arsenic (III)	None	1632 Rev. A	0.02	1	NA	12/19/11	ND	
Arsenic (V)	None	1632 Rev. A	0.02	1	NA	12/13/11	ND	
Inorganic Arsenic	None	1632 Rev. A	0.02	1	NA	12/13/11	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	12/05/11
Sample Matrix:	Drinking water	**Date Received:**	12/05/11
		Date Extracted:	NA
		Date Analyzed:	12/13, 19/11

Matrix Spike/Duplicate Matrix Spike Summary
Total Metals

Sample Name:	DW-6		Units:	ug/L (ppb)
Lab Code:	K1111779-001S,	K1111779-001SD	Basis:	NA
Test Notes:				

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Percent Recovery MS	Percent Recovery DMS	Method Acceptance Limits	Relative Percent Difference	Result Notes
Arsenic (III)	None	1632 Rev. A	0.5	5.0	5.0	4.7	11.7	10.5	140	116	30-170	11	
Inorganic Arsenic	None	1632 Rev. A	1.0	10	10	5.0	16.3	17.5	113	125	50-150	7	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	NA
LCS Matrix:	Water	**Date Received:**	NA
		Date Extracted:	NA
		Date Analyzed:	12/13, 19/11

Calibration Verification (CALVER) Sample Summary
Total Metals

Sample Name: CALVER 1

Units: ug/L (ppb)
Basis: NA

Test Notes:

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Arsenic (III)	None	1632 Rev. A	0.20	0.185	92	70-130	
Inorganic Arsenic	None	1632 Rev. A	0.20	0.201	100	80-120	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	NA
LCS Matrix:	Water	**Date Received:**	NA
		Date Extracted:	NA
		Date Analyzed:	12/13, 19/11

Calibration Verification (CALVER) Sample Summary
Total Metals

Sample Name: CALVER 2

Units: ug/L (ppb)
Basis: NA

Test Notes:

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Arsenic (III)	None	1632 Rev. A	0.20	0.163	82	70-130	
Inorganic Arsenic	None	1632 Rev. A	0.20	0.178	89	80-120	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	12/05/11
Sample Matrix:	Drinking water	**Date Received:**	12/05/11

Hardness as CaCO3

Prep Method:	CLAA	Units:	mg/L (ppm)
Analysis Method:	200.7/SM 2340B	Basis:	NA
Test Notes:			

Sample Name	Lab Code	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
DW-6	K1111779-001	0.4	1	12/16/11	12/22/11	121	
DW-7	K1111779-002	0.4	1	12/16/11	12/22/11	74.4	
Method Blank	K1111779-MB	0.4	1	12/16/11	12/22/11	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm
Sample Matrix: Drinking water

Service Request: K1111779
Date Collected: 12/05/11
Date Received: 12/05/11
Date Extracted: 12/16/11
Date Analyzed: 12/22/11

Duplicate Summary
Metals

Sample Name: DW-6
Lab Code: K1111779-001D
Test Notes:

Units: mg/L (ppm)
Basis: NA

Analyte	Prep Method	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Hardness as CaCO3	CLAA	200.7/SM 2340B	0.4	121	120	121	<1	

Metals

Columbia Analytical Services

- Cover Page -
INORGANIC ANALYSIS DATA PACKAGE

Client: Kennedy/Jenks Consultants, Incorporated
Project Name: City of Longview Mint Farm
Project No.:

Service Request: K1111779

Sample Name:	Lab Code:
Batch QC1D	K1111699-001D
Batch QC1S	K1111699-001S
DW-6	K1111779-001
DW-6D	K1111779-001D
DW-6S	K1111779-001S
DW-7	K1111779-002
Method Blank	K1111779-MB
Batch QC2D	K1111839-001D
Batch QC2S	K1111839-001S

Comments:

Approved By: 3C **Date:** 11/3/12

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Kennedy/Jenks Consultants, Incor	**Service Request:**	K1111779
Project No.:	NA	**Date Collected:**	12/05/11
Project Name:	City of Longview Mint Farm	**Date Received:**	12/05/11
Matrix:	WATER	**Units:**	ug/L
		Basis:	NA

Sample Name: DW-6 **Lab Code:** K1111779-001

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	200.7	3.0	1.0	12/16/11	12/21/11	8.8		
Antimony	200.8	0.05	1.0	12/09/11	12/13/11	0.05	U	
Arsenic	200.8	0.5	1.0	12/09/11	12/13/11	4.6		
Barium	200.8	0.05	1.0	12/09/11	12/13/11	15.7		
Beryllium	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Cadmium	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Calcium	200.7	50.0	1.0	12/16/11	12/21/11	33300		
Chromium	200.8	0.2	1.0	12/09/11	12/13/11	0.2	U	
Copper	200.8	0.1	1.0	12/09/11	12/13/11	0.1		
Iron	200.7	10.0	1.0	12/16/11	12/21/11	604		
Lead	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Magnesium	200.7	20.0	1.0	12/16/11	12/21/11	9230		
Manganese	200.7	0.6	1.0	12/16/11	12/21/11	500		
Mercury	245.1	0.2	1.0	12/08/11	12/09/11	0.2	U	
Nickel	200.8	0.2	1.0	12/09/11	12/13/11	0.8		
Potassium	200.7	100	1.0	12/16/11	12/21/11	4280		
Selenium	200.8	1.0	1.0	12/09/11	12/13/11	1.0	U	
Silicon	200.7	50.0	1.0	12/16/11	12/21/11	24600		
Silver	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Sodium	200.7	200	1.0	12/16/11	12/21/11	12100		
Thallium	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Uranium	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Zinc	200.7	2.0	1.0	12/16/11	12/21/11	2.0	U	

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Kennedy/Jenks Consultants, Incor	**Service Request:**	K1111779
Project No.:	NA	**Date Collected:**	12/05/11
Project Name:	City of Longview Mint Farm	**Date Received:**	12/05/11
Matrix:	WATER	**Units:**	ug/L
		Basis:	NA

Sample Name: DW-7 **Lab Code:** K1111779-002

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	200.7	3.0	1.0	12/16/11	12/21/11	4.3		
Antimony	200.8	0.05	1.0	12/09/11	12/13/11	0.05	U	
Arsenic	200.8	0.5	1.0	12/09/11	12/13/11	4.5		
Barium	200.8	0.05	1.0	12/09/11	12/13/11	10.3		
Beryllium	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Cadmium	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Calcium	200.7	50.0	1.0	12/16/11	12/21/11	21200		
Chromium	200.8	0.2	1.0	12/09/11	12/13/11	0.2	U	
Copper	200.8	0.1	1.0	12/09/11	12/13/11	0.1		
Iron	200.7	10.0	1.0	12/16/11	12/21/11	1190		
Lead	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Magnesium	200.7	20.0	1.0	12/16/11	12/21/11	5220		
Manganese	200.7	0.6	1.0	12/16/11	12/21/11	640		
Mercury	245.1	0.2	1.0	12/08/11	12/09/11	0.2	U	
Nickel	200.8	0.2	1.0	12/09/11	12/13/11	0.5		
Potassium	200.7	100	1.0	12/16/11	12/21/11	3030		
Selenium	200.8	1.0	1.0	12/09/11	12/13/11	1.0	U	
Silicon	200.7	50.0	1.0	12/16/11	12/21/11	24700		
Silver	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Sodium	200.7	200	1.0	12/16/11	12/21/11	9130		
Thallium	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Uranium	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Zinc	200.7	2.0	1.0	12/16/11	12/21/11	2.0	U	

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Kennedy/Jenks Consultants, Incor	**Service Request:**	K1111779
Project No.:	NA	**Date Collected:**	
Project Name:	City of Longview Mint Farm	**Date Received:**	
Matrix:	WATER	**Units:**	ug/L
		Basis:	NA

Sample Name: Method Blank **Lab Code:** K1111779-MB

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	200.7	3.0	1.0	12/16/11	12/21/11	3.0	U	
Antimony	200.8	0.05	1.0	12/09/11	12/13/11	0.05	U	
Arsenic	200.8	0.5	1.0	12/09/11	12/13/11	0.5	U	
Barium	200.8	0.05	1.0	12/09/11	12/13/11	0.05	U	
Beryllium	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Cadmium	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Calcium	200.7	50.0	1.0	12/16/11	12/21/11	50.0	U	
Chromium	200.8	0.2	1.0	12/09/11	12/13/11	0.2	U	
Copper	200.8	0.1	1.0	12/09/11	12/13/11	0.1	U	
Iron	200.7	10.0	1.0	12/16/11	12/21/11	10.0	U	
Lead	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Magnesium	200.7	20.0	1.0	12/16/11	12/21/11	20.0	U	
Manganese	200.7	0.6	1.0	12/16/11	12/21/11	0.6	U	
Mercury	245.1	0.2	1.0	12/08/11	12/09/11	0.2	U	
Nickel	200.8	0.2	1.0	12/09/11	12/13/11	0.2	U	
Potassium	200.7	100	1.0	12/16/11	12/21/11	100	U	
Selenium	200.8	1.0	1.0	12/09/11	12/13/11	1.0	U	
Silicon	200.7	50.0	1.0	12/16/11	12/21/11	50.0	U	
Silver	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Sodium	200.7	200	1.0	12/16/11	12/21/11	200	U	
Thallium	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Uranium	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Zinc	200.7	2.0	1.0	12/16/11	12/21/11	2.0	U	

Comments:

Metals

- 5A -

SPIKE SAMPLE RECOVERY

Client: Kennedy/Jenks Consultants, Incor **Service Request:** K1111779

Project No.: NA **Units:** UG/L

Project Name: City of Longview Mint Farm **Basis:** NA

Matrix: WATER

Sample Name: Batch QC1S **Lab Code:** K1111699-001S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Mercury	70 - 130	1.18		0.2	U	1.00	118.0		245.1

An empty field in the Control Limit column indicates the control limit is not applicable

Metals

- 5A -

SPIKE SAMPLE RECOVERY

Client: Kennedy/Jenks Consultants, Incor **Service Request:** K1111779

Project No.: NA **Units:** UG/L

Project Name: City of Longview Mint Farm **Basis:** NA

Matrix: WATER

Sample Name: DW-6S **Lab Code:** K1111779-001S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Aluminum	70 - 130	2020		8.8		2000.00	100.6		200.7
Calcium	70 - 130	42200		33300		10000.00	89.0		200.7
Iron	70 - 130	1580		604		1000.00	97.6		200.7
Magnesium	70 - 130	18900		9230		10000.00	96.7		200.7
Manganese	70 - 130	987		500		500.00	97.4		200.7
Potassium	70 - 130	14400		4280		10000.00	101.2		200.7
Silicon	70 - 130	34000		24600		10000.00	94.0		200.7
Sodium	70 - 130	22000		12100		10000.00	99.0		200.7
Zinc	70 - 130	502		2.0	U	500.00	100.4		200.7

An empty field in the Control Limit column indicates the control limit is not applicable

Metals

- 5A -

SPIKE SAMPLE RECOVERY

Client: Kennedy/Jenks Consultants, Incor **Service Request:** K1111779

Project No.: NA **Units:** UG/L

Project Name: City of Longview Mint Farm **Basis:** NA

Matrix: WATER

Sample Name: Batch QC2S **Lab Code:** K1111839-001S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Antimony	70 - 130	49.7		0.05	U	50.00	99.4		200.8
Arsenic	70 - 130	56.4		6.2		50.00	100.4		200.8
Barium	70 - 130	115		14.6		100.00	100.4		200.8
Beryllium	70 - 130	2.51		0.02	U	2.50	100.4		200.8
Cadmium	70 - 130	24.4		0.02	U	25.00	97.6		200.8
Chromium	70 - 130	10.3		0.2		10.00	101.0		200.8
Copper	70 - 130	12.3		0.2		12.50	96.8		200.8
Lead	70 - 130	47.3		0.02	U	50.00	94.6		200.8
Nickel	70 - 130	24.4		1.0		25.00	93.6		200.8
Selenium	70 - 130	48.5		1.0	U	50.00	97.0		200.8
Silver	70 - 130	12.0		0.02	U	12.50	96.0		200.8
Thallium	70 - 130	47.5		0.02	U	50.00	95.0		200.8
Uranium	70 - 130	17.9		0.02	U	20.00	89.5		200.8

An empty field in the Control Limit column indicates the control limit is not applicable

Metals

- 6 -

DUPLICATES

Client: Kennedy/Jenks Consultants, Incor **Service Request:** K1111779

Project No.: NA **Units:** UG/L

Project Name: City of Longview Mint Farm **Basis:** NA

Matrix: WATER

Sample Name: Batch QC1D **Lab Code:** K1111699-001D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Mercury		0.2	U	0.2	U			245.1

An empty field in the Control Limit column indicates the control limit is not applicable.

Metals

- 6 -

DUPLICATES

Client: Kennedy/Jenks Consultants, Incor **Service Request:** K1111779

Project No.: NA **Units:** UG/L

Project Name: City of Longview Mint Farm **Basis:** NA

Matrix: WATER

Sample Name: DW-6D **Lab Code:** K1111779-001D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Aluminum		8.8		4.4		66.7		200.7
Calcium	20	33300		32900		1.2		200.7
Iron	20	604		599		0.8		200.7
Magnesium	20	9230		9160		0.8		200.7
Manganese	20	500		497		0.6		200.7
Potassium	20	4280		4290		0.2		200.7
Silicon	20	24600		24600		0.0		200.7
Sodium	20	12100		12000		0.8		200.7
Zinc		2.0	U	2.0	U			200.7

An empty field in the Control Limit column indicates the control limit is not applicable.

Metals

- 6 -

DUPLICATES

Client: Kennedy/Jenks Consultants, Incor **Service Request:** K1111779

Project No.: NA **Units:** UG/L

Project Name: City of Longview Mint Farm **Basis:** NA

Matrix: WATER

Sample Name: Batch QC2D **Lab Code:** K1111839-001D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Antimony		0.05	U	0.05	U			200.8
Arsenic	20	6.2		6.3		1.6		200.8
Barium	20	14.6		14.8		1.4		200.8
Beryllium		0.02	U	0.02	U			200.8
Cadmium		0.02	U	0.02	U			200.8
Chromium		0.2		0.2		0.0		200.8
Copper		0.2		0.2		0.0		200.8
Lead		0.02	U	0.02	U			200.8
Nickel		1.0		0.9		10.5		200.8
Selenium		1.0	U	1.0	U			200.8
Silver		0.02	U	0.02	U			200.8
Thallium		0.02	U	0.02	U			200.8
Uranium		0.02	U	0.02	U			200.8

An empty field in the Control Limit column indicates the control limit is not applicable.

Metals

LABORATORY CONTROL SAMPLE

Client: Kennedy/Jenks Consultants, Incor **Service Request:** K1111779

Project No.: NA

Project Name: City of Longview Mint Farm

Aqueous LCS Source: CAS MIXED **Solid LCS Source:**

Analyte	Aqueous: ug/L True	Found	%R	Solid: mg/kg True	Found	C	Limits	%R
Aluminum	5000	4980	99.6					
Antimony	50	48.9	97.8					
Arsenic	50	49.9	99.8					
Barium	100	98.1	98.1					
Beryllium	2.5	2.44	97.6					
Cadmium	25	24.5	98.0					
Calcium	12500	12400	99.2					
Chromium	10	9.7	97.0					
Copper	12.5	12.5	100.0					
Iron	2500	2400	96.0					
Lead	50	49.2	98.4					
Magnesium	12500	12500	100.0					
Manganese	1250	1210	96.8					
Mercury	5	5.67	113.4					
Nickel	25	24.4	97.6					
Potassium	12500	12500	100.0					
Selenium	50	49.0	98.0					
Silicon	10000	10100	101.0					
Silver	12.5	12.2	97.6					
Sodium	12500	13200	105.6					
Thallium	50	48.6	97.2					
Uranium	20	19.2	96.0					
Zinc	1250	1260	100.8					

EPA Method 504.1

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	12/05/2011
Sample Matrix:	Drinking water	**Date Received:**	12/05/2011

EPA Method 504.1

Sample Name:	DW-6	**Units:**	ug/L
Lab Code:	K1111779-001	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	504.1		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1,2-Dibromoethane (EDB)	ND	U	0.0096	1	12/14/11	12/14/11	KWG1112619	
1,2-Dibromo-3-chloropropane (DBCP	ND	U	0.0096	1	12/14/11	12/14/11	KWG1112619	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	12/05/2011
Sample Matrix:	Drinking water	**Date Received:**	12/05/2011

EPA Method 504.1

Sample Name:	DW-7	**Units:**	ug/L
Lab Code:	K1111779-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	504.1		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1,2-Dibromoethane (EDB)	ND	U	0.0097	1	12/14/11	12/14/11	KWG1112619	
1,2-Dibromo-3-chloropropane (DBCP	ND	U	0.0097	1	12/14/11	12/14/11	KWG1112619	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	NA
Sample Matrix:	Drinking water	**Date Received:**	NA

EPA Method 504.1

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1112619-3	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	504.1		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1,2-Dibromoethane (EDB)	ND	U	0.010	1	12/14/11	12/14/11	KWG1112619	
1,2-Dibromo-3-chloropropane (DBCP	ND	U	0.010	1	12/14/11	12/14/11	KWG1112619	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Extracted:**	12/14/2011
Sample Matrix:	Drinking water	**Date Analyzed:**	12/14/2011

Matrix Spike Summary
EPA Method 504.1

Sample Name:	Batch QC	**Units:**	ug/L
Lab Code:	K1111839-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	504.1	**Extraction Lot:**	KWG1112619

		Batch QCMS KWG1112619-2 Matrix Spike			
Analyte Name	**Sample Result**	**Result**	**Expected**	**%Rec**	**%Rec Limits**
1,2-Dibromoethane (EDB)	ND	0.192	0.239	80	65-135
1,2-Dibromo-3-chloropropane (DBCP	ND	0.172	0.239	72	65-135

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Extracted:**	12/14/2011
Sample Matrix:	Drinking water	**Date Analyzed:**	12/14/2011

Lab Control Spike Summary
EPA Method 504.1

Extraction Method:	METHOD	**Units:**	ug/L
Analysis Method:	504.1	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1112619

	Lab Control Sample KWG1112619-1 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
1,2-Dibromoethane (EDB)	0.249	0.250	99	70-130
1,2-Dibromo-3-chloropropane (DBCP)	0.239	0.250	96	70-130

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Pesticides/PCBs

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	12/05/2011
Sample Matrix:	Drinking water	**Date Received:**	12/05/2011

Pesticides/PCBs by EPA method 508.1

Sample Name:	DW-6	**Units:**	ug/L
Lab Code:	K1111779-001	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	508.1		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
gamma-BHC (Lindane)	ND	U	0.0099	1	12/13/11	12/20/11	KWG1112596	
Heptachlor	ND	U	0.0099	1	12/13/11	12/20/11	KWG1112596	
Heptachlor Epoxide	ND	U	0.0099	1	12/13/11	12/22/11	KWG1112596	
Endrin	ND	U	0.0099	1	12/13/11	12/22/11	KWG1112596	
Methoxychlor	ND	U	0.0099	1	12/13/11	12/20/11	KWG1112596	
Toxaphene	ND	U	0.099	1	12/13/11	12/20/11	KWG1112596	
Chlordane	ND	U	0.099	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1016	ND	U	0.050	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1221	ND	U	0.099	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1232	ND	U	0.099	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1242	ND	U	0.099	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1248	ND	U	0.099	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1254	ND	U	0.099	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1260	ND	U	0.099	1	12/13/11	12/20/11	KWG1112596	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4,4'-Dibromooctafluorobiphenyl	82	70-130	12/20/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	12/05/2011
Sample Matrix:	Drinking water	**Date Received:**	12/05/2011

Pesticides/PCBs by EPA method 508.1

Sample Name:	DW-7	**Units:**	ug/L
Lab Code:	K1111779-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	508.1		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
gamma-BHC (Lindane)	ND	U	0.0098	1	12/13/11	12/20/11	KWG1112596	
Heptachlor	ND	U	0.0098	1	12/13/11	12/20/11	KWG1112596	
Heptachlor Epoxide	ND	U	0.0098	1	12/13/11	12/20/11	KWG1112596	
Endrin	ND	U	0.0098	1	12/13/11	12/22/11	KWG1112596	
Methoxychlor	ND	U	0.0098	1	12/13/11	12/20/11	KWG1112596	
Toxaphene	ND	U	0.098	1	12/13/11	12/20/11	KWG1112596	
Chlordane	ND	U	0.098	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1016	ND	U	0.049	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1221	ND	U	0.098	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1232	ND	U	0.098	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1242	ND	U	0.098	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1248	ND	U	0.098	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1254	ND	U	0.098	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1260	ND	U	0.098	1	12/13/11	12/20/11	KWG1112596	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4,4'-Dibromooctafluorobiphenyl	82	70-130	12/20/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	NA
Sample Matrix:	Drinking water	**Date Received:**	NA

Pesticides/PCBs by EPA method 508.1

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1112596-5	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	508.1		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
gamma-BHC (Lindane)	ND	U	0.010	1	12/13/11	12/20/11	KWG1112596	
Heptachlor	ND	U	0.010	1	12/13/11	12/20/11	KWG1112596	
Heptachlor Epoxide	ND	U	0.010	1	12/13/11	12/20/11	KWG1112596	
Endrin	ND	U	0.010	1	12/13/11	12/22/11	KWG1112596	
Methoxychlor	ND	U	0.010	1	12/13/11	12/20/11	KWG1112596	
Toxaphene	ND	U	0.10	1	12/13/11	12/20/11	KWG1112596	
Chlordane	ND	U	0.10	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1016	ND	U	0.050	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1221	ND	U	0.10	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1232	ND	U	0.10	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1242	ND	U	0.10	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1248	ND	U	0.10	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1254	ND	U	0.10	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1260	ND	U	0.10	1	12/13/11	12/20/11	KWG1112596	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4,4'-Dibromooctafluorobiphenyl	82	70-130	12/20/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm
Sample Matrix: Drinking water

Service Request: K1111779

Surrogate Recovery Summary
Pesticides/PCBs by EPA method 508.1

Extraction Method: METHOD
Analysis Method: 508.1

Units: ug/L
Level: Low

Sample Name	Lab Code	Sur1
DW-6	K1111779-001	82
DW-7	K1111779-002	82
Method Blank	KWG1112596-5	82
DW-6MS	KWG1112596-1	81
DW-6MS	KWG1112596-2	81
Lab Control Sample	KWG1112596-3	80

Surrogate Recovery Control Limits (%)

Sur1 = 4,4'-Dibromooctafluorobiphenyl 70-130

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Extracted:**	12/13/2011
Sample Matrix:	Drinking water	**Date Analyzed:**	12/20/2011 - 1

Matrix Spike Summary
Pesticides/PCBs by EPA method 508.1

Sample Name:	DW-6	**Units:**	ug/L
Lab Code:	K1111779-001	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	508.1	**Extraction Lot:**	KWG1112596

Analyte Name	Sample Result	DW-6MS KWG1112596-1 Matrix Spike Result	Expected	%Rec		%Rec Limits
gamma-BHC (Lindane)	ND	0.0685	0.0980	70		65-135
Heptachlor	ND	0.0685	0.0980	70		65-135
Heptachlor Epoxide	ND	0.0679	0.0980	69		65-135
Endrin	ND	0.0465	0.0980	47	*	65-135
Methoxychlor	ND	0.0863	0.0980	88		65-135

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Extracted:**	12/13/2011
Sample Matrix:	Drinking water	**Date Analyzed:**	12/20/2011

Matrix Spike Summary
Pesticides/PCBs by EPA method 508.1

Sample Name:	DW-6	**Units:**	ug/L
Lab Code:	K1111779-001	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	508.1	**Extraction Lot:**	KWG1112596

		DW-6MS KWG1112596-2 Matrix Spike			
Analyte Name	**Sample Result**	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Aroclor 1260	ND	0.464	0.490	95	65-135

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Extracted:**	12/13/2011
Sample Matrix:	Drinking water	**Date Analyzed:**	12/20/2011 - 12/22/2011

Lab Control Spike Summary
Pesticides/PCBs by EPA method 508.1

Extraction Method:	METHOD	**Units:**	ug/L
Analysis Method:	508.1	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1112596

	Lab Control Sample KWG1112596-3 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
gamma-BHC (Lindane)	0.0700	0.100	70	70-130
Heptachlor	0.0762	0.100	76	70-130
Heptachlor Epoxide	0.0716	0.100	72	70-130
Endrin	0.0749	0.100	75	70-130
Methoxychlor	0.0946	0.100	95	70-130
Aroclor 1260	0.509	0.500	102	70-130

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Chlorinated Acids

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	12/05/2011
Sample Matrix:	Drinking water	**Date Received:**	12/05/2011

Chlorinated Acids by EPA Method 515.4

Sample Name:	DW-6	**Units:**	ug/L
Lab Code:	K1111779-001	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	515.4		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dalapon	ND	U	0.99	1	12/08/11	12/19/11	KWG1112463	
2,4-D	ND	U	0.099	1	12/08/11	12/19/11	KWG1112463	
Pentachlorophenol	ND	U	0.040	1	12/08/11	12/19/11	KWG1112463	
2,4,5-TP (Silvex)	ND	U	0.050	1	12/08/11	12/19/11	KWG1112463	
Dinoseb	ND	U	0.20	1	12/08/11	12/19/11	KWG1112463	
Picloram	ND	U	0.099	1	12/08/11	12/19/11	KWG1112463	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2,4-Dichlorophenylacetic Acid	108	70-130	12/19/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	12/05/2011
Sample Matrix:	Drinking water	**Date Received:**	12/05/2011

Chlorinated Acids by EPA Method 515.4

Sample Name:	DW-7	**Units:**	ug/L
Lab Code:	K1111779-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	515.4		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dalapon	ND	U	1.0	1	12/08/11	12/19/11	KWG1112463	
2,4-D	ND	U	0.10	1	12/08/11	12/19/11	KWG1112463	
Pentachlorophenol	ND	U	0.040	1	12/08/11	12/19/11	KWG1112463	
2,4,5-TP (Silvex)	ND	U	0.050	1	12/08/11	12/19/11	KWG1112463	
Dinoseb	ND	U	0.20	1	12/08/11	12/19/11	KWG1112463	
Picloram	ND	U	0.10	1	12/08/11	12/19/11	KWG1112463	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2,4-Dichlorophenylacetic Acid	110	70-130	12/19/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	NA
Sample Matrix:	Drinking water	**Date Received:**	NA

Chlorinated Acids by EPA Method 515.4

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1112463-4	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	515.4		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dalapon	ND	U	1.0	1	12/08/11	12/20/11	KWG1112463	
2,4-D	ND	U	0.10	1	12/08/11	12/20/11	KWG1112463	
Pentachlorophenol	ND	U	0.040	1	12/08/11	12/20/11	KWG1112463	
2,4,5-TP (Silvex)	ND	U	0.050	1	12/08/11	12/20/11	KWG1112463	
Dinoseb	ND	U	0.20	1	12/08/11	12/20/11	KWG1112463	
Picloram	ND	U	0.10	1	12/08/11	12/20/11	KWG1112463	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2,4-Dichlorophenylacetic Acid	105	70-130	12/20/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm
Sample Matrix: Drinking water

Service Request: K1111779

Surrogate Recovery Summary
Chlorinated Acids by EPA Method 515.4

Extraction Method: METHOD
Analysis Method: 515.4

Units: ug/L
Level: Low

Sample Name	Lab Code	Sur1
DW-6	K1111779-001	108
DW-7	K1111779-002	110
Batch QC	K1111888-002	114
Method Blank	KWG1112463-4	105
Batch QCMS	KWG1112463-1	111
Batch QCDMS	KWG1112463-2	111
Lab Control Sample	KWG1112463-3	104

Surrogate Recovery Control Limits (%)

Sur1 = 2,4-Dichlorophenylacetic Acid 70-130

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Extracted:**	12/08/2011
Sample Matrix:	Drinking water	**Date Analyzed:**	12/20/2011

Matrix Spike/Duplicate Matrix Spike Summary
Chlorinated Acids by EPA Method 515.4

Sample Name:	Batch QC	**Units:**	ug/L
Lab Code:	K1111888-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	515.4	**Extraction Lot:**	KWG1112463

		Batch QCMS KWG1112463-1 Matrix Spike			Batch QCDMS KWG1112463-2 Duplicate Matrix Spike					
Analyte Name	**Sample Result**	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Dalapon	ND	4.47	4.98	90	4.59	4.98	92	70-130	3	30
2,4-D	ND	5.65	4.98	114	5.66	4.98	114	70-130	0	30
Pentachlorophenol	ND	3.99	4.98	80	4.04	4.98	81	70-130	1	30
2,4,5-TP (Silvex)	ND	5.15	4.98	104	5.14	4.98	103	70-130	0	30
Dinoseb	ND	4.97	4.98	100	4.94	4.98	99	70-130	1	30
Picloram	ND	6.05	4.98	122	5.79	4.98	116	70-130	4	30

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Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Extracted:**	12/08/2011
Sample Matrix:	Drinking water	**Date Analyzed:**	12/20/2011

Lab Control Spike Summary
Chlorinated Acids by EPA Method 515.4

Extraction Method:	METHOD	**Units:**	ug/L
Analysis Method:	515.4	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1112463

	Lab Control Sample KWG1112463-3 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Dalapon	4.38	5.00	88	70-130
2,4-D	5.03	5.00	101	70-130
Pentachlorophenol	3.94	5.00	79	70-130
2,4,5-TP (Silvex)	4.85	5.00	97	70-130
Dinoseb	4.78	5.00	96	70-130
Picloram	5.45	5.00	109	70-130

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Volatile Organic Compounds

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	12/05/2011
Sample Matrix:	Drinking water	**Date Received:**	12/05/2011

Volatile Organic Compounds

Sample Name:	DW-6	**Units:**	ug/L
Lab Code:	K1111779-001	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	524.2		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Chloromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Vinyl Chloride	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Bromomethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Chloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Trichlorofluoromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Methylene Chloride	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
trans-1,2-Dichloroethene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1-Dichloroethene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
cis-1,2-Dichloroethene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Methyl tert-Butyl Ether	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Chloroform	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Bromochloromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Carbon Tetrachloride	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Benzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2-Dichloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Trichloroethene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2-Dichloropropane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Bromodichloromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Dibromomethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
cis-1,3-Dichloropropene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1-Dichloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Toluene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
trans-1,3-Dichloropropene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Tetrachloroethene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
2,2-Dichloropropane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,3-Dichloropropane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Dibromochloromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2-Dibromoethane (EDB)	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Chlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Ethylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Styrene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
m,p-Xylenes	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
o-Xylene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	

Comments:

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm
Sample Matrix: Drinking water

Service Request: K1111779
Date Collected: 12/05/2011
Date Received: 12/05/2011

Volatile Organic Compounds

Sample Name: DW-6
Lab Code: K1111779-001

Units: ug/L
Basis: NA

Extraction Method: METHOD
Analysis Method: 524.2

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1,1,1-Trichloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Bromoform	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1,2,2-Tetrachloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Isopropylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1-Dichloropropene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Bromobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
n-Propylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,3,5-Trimethylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
2-Chlorotoluene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
4-Chlorotoluene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
tert-Butylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2,4-Trimethylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
sec-Butylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
p-Isopropyltoluene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,3-Dichlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,4-Dichlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
n-Butylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2-Dichlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2-Dibromo-3-chloropropane (DBCP	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2,4-Trichlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Hexachlorobutadiene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Naphthalene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1,2-Trichloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1,1,2-Tetrachloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2,3-Trichloropropane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2,3-Trichlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	85	70-130	12/08/11	Acceptable
Dibromofluoromethane	98	82-124	12/08/11	Acceptable
Toluene-d8	98	82-124	12/08/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	12/05/2011
Sample Matrix:	Drinking water	**Date Received:**	12/05/2011

Volatile Organic Compounds

Sample Name:	DW-7	**Units:**	ug/L
Lab Code:	K1111779-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	524.2		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Chloromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Vinyl Chloride	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Bromomethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Chloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Trichlorofluoromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Methylene Chloride	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
trans-1,2-Dichloroethene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1-Dichloroethene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
cis-1,2-Dichloroethene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Methyl tert-Butyl Ether	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Chloroform	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Bromochloromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Carbon Tetrachloride	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Benzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2-Dichloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Trichloroethene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2-Dichloropropane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Bromodichloromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Dibromomethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
cis-1,3-Dichloropropene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1-Dichloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Toluene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
trans-1,3-Dichloropropene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Tetrachloroethene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
2,2-Dichloropropane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,3-Dichloropropane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Dibromochloromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2-Dibromoethane (EDB)	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Chlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Ethylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Styrene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
m,p-Xylenes	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
o-Xylene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	

Comments:

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm
Sample Matrix: Drinking water

Service Request: K1111779
Date Collected: 12/05/2011
Date Received: 12/05/2011

Volatile Organic Compounds

Sample Name: DW-7
Lab Code: K1111779-002

Units: ug/L
Basis: NA

Extraction Method: METHOD
Analysis Method: 524.2

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1,1,1-Trichloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Bromoform	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1,2,2-Tetrachloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Isopropylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1-Dichloropropene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Bromobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
n-Propylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,3,5-Trimethylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
2-Chlorotoluene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
4-Chlorotoluene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
tert-Butylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2,4-Trimethylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
sec-Butylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
p-Isopropyltoluene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,3-Dichlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,4-Dichlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
n-Butylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2-Dichlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2-Dibromo-3-chloropropane (DBCP	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2,4-Trichlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Hexachlorobutadiene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Naphthalene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1,2-Trichloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1,1,2-Tetrachloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2,3-Trichloropropane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2,3-Trichlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	85	70-130	12/08/11	Acceptable
Dibromofluoromethane	97	82-124	12/08/11	Acceptable
Toluene-d8	98	82-124	12/08/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	NA
Sample Matrix:	Drinking water	**Date Received:**	NA

Volatile Organic Compounds

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1112449-2	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	524.2		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Chloromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Vinyl Chloride	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Bromomethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Chloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Trichlorofluoromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Methylene Chloride	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
trans-1,2-Dichloroethene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1-Dichloroethene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
cis-1,2-Dichloroethene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Methyl tert-Butyl Ether	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Chloroform	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Bromochloromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Carbon Tetrachloride	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Benzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2-Dichloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Trichloroethene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2-Dichloropropane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Bromodichloromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Dibromomethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
cis-1,3-Dichloropropene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1-Dichloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Toluene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
trans-1,3-Dichloropropene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Tetrachloroethene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
2,2-Dichloropropane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,3-Dichloropropane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Dibromochloromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2-Dibromoethane (EDB)	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Chlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Ethylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Styrene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
m,p-Xylenes	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
o-Xylene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	NA
Sample Matrix:	Drinking water	**Date Received:**	NA

Volatile Organic Compounds

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1112449-2	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	524.2		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1,1,1-Trichloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Bromoform	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1,2,2-Tetrachloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Isopropylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1-Dichloropropene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Bromobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
n-Propylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,3,5-Trimethylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
2-Chlorotoluene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
4-Chlorotoluene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
tert-Butylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2,4-Trimethylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
sec-Butylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
p-Isopropyltoluene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,3-Dichlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,4-Dichlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
n-Butylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2-Dichlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2-Dibromo-3-chloropropane (DBCP	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2,4-Trichlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Hexachlorobutadiene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Naphthalene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1,2-Trichloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1,1,2-Tetrachloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2,3-Trichloropropane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2,3-Trichlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	86	70-130	12/08/11	Acceptable
Dibromofluoromethane	96	82-124	12/08/11	Acceptable
Toluene-d8	98	82-124	12/08/11	Acceptable

Comments:

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm
Sample Matrix: Drinking water

Service Request: K1111779

Surrogate Recovery Summary
Volatile Organic Compounds

Extraction Method: METHOD
Analysis Method: 524.2

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2	Sur3
DW-6	K1111779-001	85	98	98
DW-7	K1111779-002	85	97	98
Method Blank	KWG1112449-2	86	96	98
Lab Control Sample	KWG1112449-1	98	96	104

Surrogate Recovery Control Limits (%)

Sur1 =	4-Bromofluorobenzene	70-130
Sur2 =	Dibromofluoromethane	82-124
Sur3 =	Toluene-d8	82-124

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm
Sample Matrix: Drinking water

Service Request: K1111779
Date Extracted: 12/08/2011
Date Analyzed: 12/08/2011

Lab Control Spike Summary
Volatile Organic Compounds

Extraction Method: METHOD
Analysis Method: 524.2

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG1112449

Analyte Name	Lab Control Sample KWG1112449-1 Lab Control Spike Result	Expected	%Rec	%Rec Limits
Dichlorodifluoromethane	3.73	5.00	75	70-130
Chloromethane	4.24	5.00	85	70-130
Vinyl Chloride	4.21	5.00	84	70-130
Bromomethane	4.53	5.00	91	70-130
Chloroethane	4.36	5.00	87	70-130
Trichlorofluoromethane	4.20	5.00	84	70-130
Methylene Chloride	4.92	5.00	98	70-130
trans-1,2-Dichloroethene	4.55	5.00	91	70-130
cis-1,2-Dichloroethene	4.76	5.00	95	70-130
1,1-Dichloroethene	4.13	5.00	83	70-130
Methyl tert-Butyl Ether	9.37	10.0	94	70-130
Chloroform	4.67	5.00	93	70-130
Bromochloromethane	4.95	5.00	99	70-130
Carbon Tetrachloride	4.32	5.00	86	70-130
Benzene	4.68	5.00	94	70-130
1,2-Dichloroethane	4.89	5.00	98	70-130
Trichloroethene	4.44	5.00	89	70-130
1,2-Dichloropropane	4.59	5.00	92	70-130
Bromodichloromethane	4.89	5.00	98	70-130
Dibromomethane	4.83	5.00	97	70-130
cis-1,3-Dichloropropene	4.00	5.00	80	70-130
1,1-Dichloroethane	4.64	5.00	93	70-130
Toluene	4.80	5.00	96	70-130
trans-1,3-Dichloropropene	4.38	5.00	88	70-130
Tetrachloroethene	4.40	5.00	88	70-130
1,3-Dichloropropane	4.55	5.00	91	70-130
2,2-Dichloropropane	4.27	5.00	85	70-130
Dibromochloromethane	4.90	5.00	98	70-130
1,2-Dibromoethane (EDB)	4.73	5.00	95	70-130
Chlorobenzene	4.61	5.00	92	70-130
Ethylbenzene	4.50	5.00	90	70-130
Styrene	4.85	5.00	97	70-130
m,p-Xylenes	9.79	10.0	98	70-130
o-Xylene	4.64	5.00	93	70-130
1,1,1-Trichloroethane	4.38	5.00	88	70-130
1,1,2,2-Tetrachloroethane	4.19	5.00	84	70-130

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm
Sample Matrix: Drinking water

Service Request: K1111779
Date Extracted: 12/08/2011
Date Analyzed: 12/08/2011

Lab Control Spike Summary
Volatile Organic Compounds

Extraction Method: METHOD
Analysis Method: 524.2

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG1112449

	Lab Control Sample KWG1112449-1 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Bromoform	4.84	5.00	97	70-130
Isopropylbenzene	4.61	5.00	92	70-130
1,1-Dichloropropene	4.22	5.00	84	70-130
Bromobenzene	4.52	5.00	90	70-130
n-Propylbenzene	4.37	5.00	87	70-130
1,3,5-Trimethylbenzene	4.49	5.00	90	70-130
2-Chlorotoluene	4.41	5.00	88	70-130
4-Chlorotoluene	4.46	5.00	89	70-130
tert-Butylbenzene	4.35	5.00	87	70-130
1,2,4-Trimethylbenzene	4.55	5.00	91	70-130
sec-Butylbenzene	4.40	5.00	88	70-130
p-Isopropyltoluene	4.51	5.00	90	70-130
1,3-Dichlorobenzene	4.50	5.00	90	70-130
1,4-Dichlorobenzene	4.44	5.00	89	70-130
n-Butylbenzene	4.37	5.00	87	70-130
1,2-Dichlorobenzene	4.62	5.00	92	70-130
1,2-Dibromo-3-chloropropane (DBCP)	4.29	5.00	86	70-130
1,2,4-Trichlorobenzene	4.51	5.00	90	70-130
Hexachlorobutadiene	4.56	5.00	91	70-130
Naphthalene	3.72	5.00	74	70-130
1,1,2-Trichloroethane	4.48	5.00	90	70-130
1,1,1,2-Tetrachloroethane	4.71	5.00	94	70-130
1,2,3-Trichloropropane	4.64	5.00	93	70-130
1,2,3-Trichlorobenzene	4.94	5.00	99	70-130

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Semi-Volatile Organic Compounds

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	12/05/2011
Sample Matrix:	Drinking water	**Date Received:**	12/05/2011

Semivolatile Organics by EPA method 525.2

Sample Name:	DW-6	**Units:**	ug/L
Lab Code:	K1111779-001	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	525.2		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Hexachlorocyclopentadiene	ND	U	0.099	1	12/13/11	12/20/11	KWG1112597	
Hexachlorobenzene	ND	U	0.099	1	12/13/11	12/20/11	KWG1112597	
Simazine	ND	U	0.050	1	12/13/11	12/20/11	KWG1112597	
Atrazine	ND	U	0.099	1	12/13/11	12/20/11	KWG1112597	
Alachlor	ND	U	0.071	1	12/13/11	12/20/11	KWG1112597	
Bis(2-ethylhexyl) Adipate	ND	U	0.59	1	12/13/11	12/20/11	KWG1112597	
Bis(2-ethylhexyl) Phthalate	ND	U	0.59	1	12/13/11	12/20/11	KWG1112597	
Benzo(a)pyrene	ND	U	0.020	1	12/13/11	12/20/11	KWG1112597	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
1,3-Dimethyl-2-nitrobenzene	111	70-130	12/20/11	Acceptable
Triphenyl Phosphate	117	70-130	12/20/11	Acceptable
Perylene-d12	113	70-130	12/20/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	12/05/2011
Sample Matrix:	Drinking water	**Date Received:**	12/05/2011

Semivolatile Organics by EPA method 525.2

Sample Name:	DW-7	**Units:**	ug/L
Lab Code:	K1111779-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	525.2		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Hexachlorocyclopentadiene	ND	U	0.098	1	12/13/11	12/20/11	KWG1112597	
Hexachlorobenzene	ND	U	0.098	1	12/13/11	12/20/11	KWG1112597	
Simazine	ND	U	0.049	1	12/13/11	12/20/11	KWG1112597	
Atrazine	ND	U	0.098	1	12/13/11	12/20/11	KWG1112597	
Alachlor	ND	U	0.070	1	12/13/11	12/20/11	KWG1112597	
Bis(2-ethylhexyl) Adipate	ND	U	0.59	1	12/13/11	12/20/11	KWG1112597	
Bis(2-ethylhexyl) Phthalate	ND	U	0.59	1	12/13/11	12/20/11	KWG1112597	
Benzo(a)pyrene	ND	U	0.020	1	12/13/11	12/20/11	KWG1112597	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
1,3-Dimethyl-2-nitrobenzene	118	70-130	12/20/11	Acceptable
Triphenyl Phosphate	115	70-130	12/20/11	Acceptable
Perylene-d12	105	70-130	12/20/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	NA
Sample Matrix:	Drinking water	**Date Received:**	NA

Semivolatile Organics by EPA method 525.2

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1112597-3	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	525.2		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Hexachlorocyclopentadiene	ND	U	0.10	1	12/13/11	12/19/11	KWG1112597	
Hexachlorobenzene	ND	U	0.10	1	12/13/11	12/19/11	KWG1112597	
Simazine	ND	U	0.050	1	12/13/11	12/19/11	KWG1112597	
Atrazine	ND	U	0.10	1	12/13/11	12/19/11	KWG1112597	
Alachlor	ND	U	0.072	1	12/13/11	12/19/11	KWG1112597	
Bis(2-ethylhexyl) Adipate	ND	U	0.60	1	12/13/11	12/19/11	KWG1112597	
Bis(2-ethylhexyl) Phthalate	ND	U	0.60	1	12/13/11	12/19/11	KWG1112597	
Benzo(a)pyrene	ND	U	0.020	1	12/13/11	12/19/11	KWG1112597	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
1,3-Dimethyl-2-nitrobenzene	118	70-130	12/19/11	Acceptable
Triphenyl Phosphate	125	70-130	12/19/11	Acceptable
Perylene-d12	110	70-130	12/19/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm
Sample Matrix: Drinking water

Service Request: K1111779

Surrogate Recovery Summary
Semivolatile Organics by EPA method 525.2

Extraction Method: METHOD
Analysis Method: 525.2

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2	Sur3
DW-6	K1111779-001	111	117	113
DW-7	K1111779-002	118	115	105
Batch QC	K1111888-002	116	121	110
Method Blank	KWG1112597-3	118	125	110
Batch QCMS	KWG1112597-2	116	113	116
Lab Control Sample	KWG1112597-1	115	128	111

Surrogate Recovery Control Limits (%)

Sur1 =	1,3-Dimethyl-2-nitrobenzene	70-130
Sur2 =	Triphenyl Phosphate	70-130
Sur3 =	Perylene-d12	70-130

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Extracted:**	12/13/2011
Sample Matrix:	Drinking water	**Date Analyzed:**	12/20/2011

Matrix Spike Summary
Semivolatile Organics by EPA method 525.2

Sample Name:	Batch QC	**Units:**	ug/L
Lab Code:	K1111888-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	525.2	**Extraction Lot:**	KWG1112597

Analyte Name	Sample Result	Batch QCMS KWG1112597-2 Matrix Spike Result	Expected	%Rec	%Rec Limits
Hexachlorocyclopentadiene	ND	0.927	0.971	95	70-130
Hexachlorobenzene	ND	1.12	0.971	115	70-130
Simazine	ND	1.12	0.971	116	70-130
Atrazine	ND	1.11	0.971	114	70-130
Alachlor	ND	0.982	0.971	101	70-130
Bis(2-ethylhexyl) Adipate	ND	1.23	0.971	127	70-130
Bis(2-ethylhexyl) Phthalate	ND	1.14	0.971	118	70-130
Benzo(a)pyrene	ND	1.04	0.971	107	70-130

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Extracted:**	12/13/2011
Sample Matrix:	Drinking water	**Date Analyzed:**	12/19/2011

Lab Control Spike Summary
Semivolatile Organics by EPA method 525.2

Extraction Method:	METHOD	**Units:**	ug/L
Analysis Method:	525.2	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1112597

	Lab Control Sample KWG1112597-1 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Hexachlorocyclopentadiene	0.973	1.00	97	70-130
Hexachlorobenzene	1.19	1.00	119	70-130
Simazine	1.22	1.00	122	70-130
Atrazine	1.24	1.00	124	70-130
Alachlor	1.22	1.00	122	70-130
Bis(2-ethylhexyl) Adipate	1.29	1.00	129	70-130
Bis(2-ethylhexyl) Phthalate	1.25	1.00	125	70-130
Benzo(a)pyrene	1.14	1.00	114	70-130

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Carbamates and Carbamoyloximes

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	12/05/2011
Sample Matrix:	Drinking water	**Date Received:**	12/05/2011

Carbamates and Carbamoyloximes by EPA Method 531.1

Sample Name:	DW-6	**Units:**	ug/L
Lab Code:	K1111779-001	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	531.1		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aldicarb Sulfoxide	ND	U	1.00	1	12/20/11	12/20/11	KWG1112777	
Aldicarb Sulfone	ND	U	0.500	1	12/20/11	12/20/11	KWG1112777	
Oxamyl	ND	U	0.500	1	12/20/11	12/20/11	KWG1112777	
Aldicarb	ND	U	0.500	1	12/20/11	12/20/11	KWG1112777	
Carbofuran	ND	U	0.500	1	12/20/11	12/20/11	KWG1112777	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	12/05/2011
Sample Matrix:	Drinking water	**Date Received:**	12/05/2011

Carbamates and Carbamoyloximes by EPA Method 531.1

Sample Name:	DW-7	**Units:**	ug/L
Lab Code:	K1111779-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	531.1		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aldicarb Sulfoxide	ND	U	1.00	1	12/20/11	12/20/11	KWG1112777	
Aldicarb Sulfone	ND	U	0.500	1	12/20/11	12/20/11	KWG1112777	
Oxamyl	ND	U	0.500	1	12/20/11	12/20/11	KWG1112777	
Aldicarb	ND	U	0.500	1	12/20/11	12/20/11	KWG1112777	
Carbofuran	ND	U	0.500	1	12/20/11	12/20/11	KWG1112777	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	NA
Sample Matrix:	Drinking water	**Date Received:**	NA

Carbamates and Carbamoyloximes by EPA Method 531.1

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1112777-4	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	531.1		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aldicarb Sulfoxide	ND	U	1.00	1	12/20/11	12/20/11	KWG1112777	
Aldicarb Sulfone	ND	U	0.500	1	12/20/11	12/20/11	KWG1112777	
Oxamyl	ND	U	0.500	1	12/20/11	12/20/11	KWG1112777	
Aldicarb	ND	U	0.500	1	12/20/11	12/20/11	KWG1112777	
Carbofuran	ND	U	0.500	1	12/20/11	12/20/11	KWG1112777	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Extracted:**	12/20/2011
Sample Matrix:	Drinking water	**Date Analyzed:**	12/20/2011

Matrix Spike Summary
Carbamates and Carbamoyloximes by EPA Method 531.1

Sample Name:	DW-6	**Units:**	ug/L
Lab Code:	K1111779-001	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	531.1	**Extraction Lot:**	KWG1112777

		DW-6MS KWG1112777-1 Matrix Spike			
Analyte Name	**Sample Result**	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Aldicarb Sulfoxide	ND	5.25	5.00	105	65-135
Aldicarb Sulfone	ND	5.04	5.00	101	65-135
Oxamyl	ND	5.10	5.00	102	65-135
Aldicarb	ND	4.34	5.00	87	65-135
Carbofuran	ND	4.69	5.00	94	65-135

Results flagged with an asterisk (*) indicate values outside control criteria.

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Extracted:**	12/20/2011
Sample Matrix:	Drinking water	**Date Analyzed:**	12/20/2011

Lab Control Spike Summary
Carbamates and Carbamoyloximes by EPA Method 531.1

Extraction Method:	METHOD	**Units:**	ug/L
Analysis Method:	531.1	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1112777

	Lab Control Sample KWG1112777-3 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Aldicarb Sulfoxide	4.31	5.00	86	80-120
Aldicarb Sulfone	4.65	5.00	93	80-120
Oxamyl	4.65	5.00	93	80-120
Aldicarb	4.17	5.00	83	80-120
Carbofuran	4.48	5.00	90	80-120

Results flagged with an asterisk (*) indicate values outside control criteria.

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Glyphosate

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	12/05/2011
Sample Matrix:	Drinking water	**Date Received:**	12/05/2011

Glyphosate by EPA Method 547

Sample Name:	DW-6	**Units:**	ug/L
Lab Code:	K1111779-001	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	547		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Glyphosate	ND	U	6.0	1	12/15/11	12/15/11	KWG1112673	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	12/05/2011
Sample Matrix:	Drinking water	**Date Received:**	12/05/2011

Glyphosate by EPA Method 547

Sample Name:	DW-7	**Units:**	ug/L
Lab Code:	K1111779-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	547		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Glyphosate	ND	U	6.0	1	12/15/11	12/15/11	KWG1112673	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	NA
Sample Matrix:	Drinking water	**Date Received:**	NA

Glyphosate by EPA Method 547

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1112673-4	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	547		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Glyphosate	ND	U	6.0	1	12/15/11	12/15/11	KWG1112673	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Extracted:**	12/15/2011
Sample Matrix:	Drinking water	**Date Analyzed:**	12/15/2011

Matrix Spike Summary
Glyphosate by EPA Method 547

Sample Name:	DW-6	**Units:**	ug/L
Lab Code:	K1111779-001	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	547	**Extraction Lot:**	KWG1112673

		DW-6MS KWG1112673-1 Matrix Spike			
Analyte Name	**Sample Result**	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Glyphosate	ND	61.3	50.0	123	56-131

Results flagged with an asterisk (*) indicate values outside control criteria.

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Extracted:**	12/15/2011
Sample Matrix:	Drinking water	**Date Analyzed:**	12/15/2011

Lab Control Spike Summary
Glyphosate by EPA Method 547

Extraction Method:	METHOD	**Units:**	ug/L
Analysis Method:	547	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1112673

	Lab Control Sample KWG1112673-3 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Glyphosate	61.3	50.0	123	56-131

Results flagged with an asterisk (*) indicate values outside control criteria.

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Endothall

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	12/05/2011
Sample Matrix:	Drinking water	**Date Received:**	12/05/2011

Endothall by EPA Method 548.1

Sample Name:	DW-6	**Units:**	ug/L
Lab Code:	K1111779-001	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	548.1		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Endothall	ND	U	5.0	1	12/09/11	12/09/11	KWG1112499	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	12/05/2011
Sample Matrix:	Drinking water	**Date Received:**	12/05/2011

Endothall by EPA Method 548.1

Sample Name:	DW-7	**Units:**	ug/L
Lab Code:	K1111779-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	548.1		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Endothall	ND	U	5.0	1	12/09/11	12/09/11	KWG1112499	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	NA
Sample Matrix:	Drinking water	**Date Received:**	NA

Endothall by EPA Method 548.1

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1112499-3	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	548.1		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Endothall	ND	U	5.0	1	12/09/11	12/09/11	KWG1112499	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Extracted:**	12/09/2011
Sample Matrix:	Drinking water	**Date Analyzed:**	12/10/2011

Matrix Spike Summary
Endothall by EPA Method 548.1

Sample Name:	Batch QC	**Units:**	ug/L
Lab Code:	K1111888-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	548.1	**Extraction Lot:**	KWG1112499

		Batch QCMS KWG1112499-2 Matrix Spike			
Analyte Name	**Sample Result**	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Endothall	ND	105	100	105	30-142

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Extracted:**	12/09/2011
Sample Matrix:	Drinking water	**Date Analyzed:**	12/09/2011

Lab Control Spike Summary
Endothall by EPA Method 548.1

Extraction Method:	METHOD	**Units:**	ug/L
Analysis Method:	548.1	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1112499

	Lab Control Sample KWG1112499-1 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Endothall	99.0	100	99	30-142

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Diquat by High Performance Liquid Chromatography

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	12/05/2011
Sample Matrix:	Drinking water	**Date Received:**	12/05/2011

Diquat by High Performance Liquid Chromatography

Sample Name:	DW-6	**Units:**	ug/L
Lab Code:	K1111779-001	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	549.2		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diquat	ND	U	0.40	1	12/12/11	12/12/11	KWG1112537	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	12/05/2011
Sample Matrix:	Drinking water	**Date Received:**	12/05/2011

Diquat by High Performance Liquid Chromatography

Sample Name:	DW-7	**Units:**	ug/L
Lab Code:	K1111779-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	549.2		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diquat	ND	U	0.40	1	12/12/11	12/12/11	KWG1112537	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	NA
Sample Matrix:	Drinking water	**Date Received:**	NA

Diquat by High Performance Liquid Chromatography

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1112537-4	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	549.2		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diquat	ND	U	0.40	1	12/12/11	12/12/11	KWG1112537	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Extracted:**	12/12/2011
Sample Matrix:	Drinking water	**Date Analyzed:**	12/12/2011

Matrix Spike Summary
Diquat by High Performance Liquid Chromatography

Sample Name:	Batch QC	**Units:**	ug/L
Lab Code:	K1111888-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	549.2	**Extraction Lot:**	KWG1112537

		Batch QCMS KWG1112537-1 Matrix Spike			
Analyte Name	**Sample Result**	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Diquat	ND	11.6	12.0	96	70-130

Results flagged with an asterisk (*) indicate values outside control criteria.

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Extracted:**	12/12/2011
Sample Matrix:	Drinking water	**Date Analyzed:**	12/12/2011

Lab Control Spike Summary
Diquat by High Performance Liquid Chromatography

Extraction Method:	METHOD	**Units:**	ug/L
Analysis Method:	549.2	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1112537

	Lab Control Sample KWG1112537-3 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Diquat	12.3	12.0	103	70-130

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Dioxins and Furans

December 27, 2011 Service Request No: K1111779

Lisa Domenighini
Columbia Analytical Services Inc
1317 South 13th Avenue
Kelso, WA 98626

Laboratory Results for: Kennedy/Jenks Consultants, Incorporated

Dear Lisa:

Enclosed are the results of the sample(s) submitted to our laboratory on December 07, 2011. For your reference, these analyses have been assigned our service request number : **K1111779** Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided.
All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. In accordance to the NELAC 2003 Standard, a statement on the estimated uncertainty of measurement of any quantitative analysis will be supplied upon request.

Please contact me if you have any questions. My direct number is 281-994-2959.

Respectfully submitted,

Columbia Analytical Services, Inc.

Arthi Kodur
Digitally signed by Arthi Kodur
Date: 2011.12.28 09:41:05 -06'00'

Arthi Kodur
Project Manager

Page 1 of 28

For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com.

Columbia Analytical Services INC

Certificate of Analysis

19408 Park Row, Suite 320, Houston, TX 77084
Phone (713)266-1599 Fax (713)266-0130
www.caslab.com

An Employee Owned Company

COLUMBIA ANALYTICAL SERVICES, INC

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request No.:**	K1111779
Project:	City of Longview Mint Farm	**Date Received:**	12/7/11
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed in adherence to the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

One water sample was received for analysis at Columbia Analytical Services on 12/7/11

Please note the reporting forms are currently referencing the date CAS-Kelso received the samples (12/5/11) and not the date CAS-Houston received the samples (12/7/11).

The sample was received at 2°C in good condition and is consistent with the accompanying chain of custody form. The sample was stored in a refrigerator at 4°C upon receipt at the laboratory.

Data Validation Notes and Discussion

MS/MSD

EQ1100588: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in lieu of an MS/MSD for this extraction batch. The batch quality control criteria were met.

Detection Limits

Detection limits are calculated for each analyte in each sample by measuring the height of the noise level for each quantitation ion for the associated labeled standard. The concentration equivalent to 2.5 times the height of the noise is then calculated using the appropriate response factor and the weight of the sample. The calculated concentration equals the detection limit.

Use of Columbia Analytical Services, Inc. (CAS) Name. Client shall not use CAS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to CAS any test result, tolerance or specification derived from CAS's data ("Attribution") without CAS's prior written consent, which may be withheld by CAS for any reason in its sole discretion. To request CAS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If CAS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use CAS's name or trademark in any Materials or Attribution shall be deemed denied. CAS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of CAS's name or trademark may cause CAS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm

Service Request: K1111779

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
K1111779-001	DW-6	12/5/11	11:45
K1111779-002	DW-7	12/5/11	14:30
K1111779-003	Trip Blank	12/5/11	11:45

Laboratory Certifications
2011-2012

STATE/PROGRAM	AGENCY	CERT#	EXP DATE	CERTIFIED?
DoD ELAP	A2LA	2897.01	11/30/11	Yes
ISO 17025	A2LA	2897.01	11/30/11	Yes
ARIZONA	AZ-DHS	AZ0725	05/27/12	Yes
ARKANSAS	ADEQ	10-035-0	06/16/11	Yes
CALIFORNIA	CA-ELAP	2452	02/28/13	Yes
FLORIDA/NELAP	FL-DOHS	E87611	06/30/12	Yes
HAWAII	HI-DOH	N/A	06/30/12	Yes
ILLINOIS/NELAP	IL-EPA	002611	10/26/2012	Yes
LOUISIANA/NELAP	LELAP	03048	06/30/12	Yes
LOUISIANA/NELAP	LDHH	LA100032	12/31/11	Yes
MAINE	ME-DOHS	2010041	06/05/12	Yes
MICHIGAN	MIDEQ	9971	06/30/12	Yes
MINNESOTA	MDH	048-999-427	12/31/11	Yes
NEVADA	NDEP	TX014112010A	07/31/12	Yes (Extension)
NEW JERSEY	NJDEP	TX008	06/30/12	Yes
NEW MEXICO	NMED-DWB	N/A	06/30/12	Yes
NEW YORK/NELAP	NY-DOH	11707	04/1/12	Yes
OKLAHOMA	OKDEQ	2010-022	08/31/12	Yes
OREGON/NELAP	ORELAP	TX200002-006	03/24/12	Yes
PENNSYLVANIA/NELAP	PLAP	002	06/30/12	Yes
TENNESSEE	TNDEC	04016	06/30/12	Yes
TEXAS/NELAP	TCEQ	T104704216-10-1	06/30/12	Yes
UTAH/NELAP	UTELCP	COLU2	06/30/12	Yes
SOIL IMPORT PERMIT	USDA	P330-09-00067	03/27/12	Yes
WASHINGTON/NELAP	WA-Ecology	C819-10	11/14/12	Yes
WEST VIRGINIA	WVDEP	347	06/30/12	Yes

Abbreviations, Acronyms & Definitions

Cal	Calibration
Conc	CONCentration
Dioxin(s)	Polychlorinated dibenzo-p-dioxin(s)
EDL	Estimated Detection Limit
EMPC	Estimated Maximum Possible Concentration
Flags	Data qualifiers
Furan(s)	Polychlorinated dibenzofuran(s)
g	Grams
ICAL	Initial CALibration
ID	IDentifier
Ions	Masses monitored for the analyte during data acquisition
L	Liter (s)
LCS	Laboratory Control Sample
DLCS	Duplicate Laboratory Control Sample
MB	Method Blank
MCL	Method Calibration Limit
MDL	Method Detection Limit
MRL	Method Reporting Limit
mL	Milliliters
MS	Matrix Spiked sample
DMS	Duplicate Matrix Spiked sample
NO	Number of peaks meeting all identification criteria
PCDD(s)	Polychlorinated dibenzo-p-dioxin(s)
PCDF(s)	Polychlorinated dibenzofuran(s)
ppb	Parts per billion
ppm	Parts per million
ppq	Parts per quadrillion
ppt	Parts per trillion
QA	Quality Assurance
QC	Quality Control
Ratio	Ratio of areas from monitored ions for an analyte
% Rec.	Percent Recovery
RPD	Relative Percent Difference
RRF	Relative Response Factor
RT	Retention Time
RRT	Relative Retention Time
SDG	Sample Delivery Group
S/N	Signal-to-Noise ratio
TEF	Toxicity Equivalence Factor
TEQ	Toxicity Equivalence Quotient

Data Qualifier Flags – Dioxin/Furans

- **B** Indicates the associated analyte is found in the method blank, as well as in the sample.

- **C** Confirmation of the TCDF compound: When 2378-TCDF is detected on the DB-5 column, confirmation analyses are performed on a second column (DB-225). The results from both the DB-5 column and the DB-225 column are included in this data package. The results from the DB-225 analyses should be used to evaluate the 2378-TCDF in the samples. The confirmed result should be used in determining the TEQ value for TCDF.

- **E** Indicates an estimated value – used when the analyte concentration exceeds the upper end of the linear calibration range.

- **J** Indicates an estimated value – used when the analyte concentration is below the method reporting limit (MRL) and above the estimated detection limit (EDL).

- **K** EMPC - When the ion abundance ratios associated with a particular compound are outside the QC limits, samples are flagged with a 'K' flag. A 'K' flag indicates an estimated maximum possible concentration for the associated compound.

- **U** Indicates the compound was analyzed and not detected.

- **Y** Samples that had recoveries of labeled standards outside the acceptance limits are flagged with 'Y'. In all cases, the signal-to-noise ratios are greater than 10:1, making these data acceptable.

- **ND** Indicates concentration is reported as 'Not Detected.'

- **S** Peak is saturated; data not reportable.

- **P** Indicates chlorodiphenyl ether interference present at the retention time of the target compound.

- **Q** Lock-mass interference by chlorodiphenyl ether compounds.

COLUMBIA ANALYTICAL SERVICES, INC. – Houston
Data Processing/Form Production and Peer Review Signatures

SR# Unique ID K1111779 (DB-5) DB-225 SPB-Octyl

First Level - Data Processing - to be filled by person generating the forms

Date:	Analyst:	Samples:
12/23/11	Ofc	001, 002

Second Level - Data Review – to be filled by person doing peer review

Date:	Analyst:	Samples:
12/23/11	LKL	001, 002

Columbia Analytical Services INC

Analytical Results

19408 Park Row, Suite 320, Houston, TX 77084
Phone (713)266-1599 Fax (713)266-0130
www.caslab.com

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	12/ 5/11 1145
Sample Matrix:	Drinking Water	**Date Received:**	12/ 5/11
Sample Name:	DW-6	**Units:**	pg/L
Lab Code:	K1111779-001	**Basis:**	NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	1613B	**Date Analyzed:**	12/20/11 1739
Prep Method:	Method	**Date Extracted:**	12/13/11
Sample Amount:	1040mL	**Instrument Name:**	E-HRMS-03
		GC Column:	DB-5
Data File Name:	P155593	**Blank File Name:**	P155618
ICAL Date:	03/24/11	**Cal Ver. File Name:**	P155591

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	2.98	9.62			1

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1452.970	73		31-137	0.81	1.007
37Cl-2,3,7,8-TCDD	800	636.377	80		42-164	NA	1.008

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	12/ 5/11 1430
Sample Matrix:	Drinking Water	**Date Received:**	12/ 5/11
Sample Name:	DW-7	**Units:**	pg/L
Lab Code:	K1111779-002	**Basis:**	NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	1613B	**Date Analyzed:**	12/20/11 1914
Prep Method:	Method	**Date Extracted:**	12/13/11
Sample Amount:	1040mL	**Instrument Name:**	E-HRMS-03
		GC Column:	DB-5
Data File Name:	P155595	**Blank File Name:**	P155618
ICAL Date:	03/24/11	**Cal Ver. File Name:**	P155591

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	1.21	9.62			1

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1290.546	65		31-137	0.80	1.007
37Cl-2,3,7,8-TCDD	800	569.754	71		42-164	NA	1.008

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	NA
Sample Matrix:	Drinking Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	pg/L
Lab Code:	EQ1100588-01	**Basis:**	NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	1613B	**Date Analyzed:**	12/21/11 1734
Prep Method:	Method	**Date Extracted:**	12/13/11
Sample Amount:	1000mL	**Instrument Name:**	E-HRMS-03
		GC Column:	DB-5
Data File Name:	P155618	**Blank File Name:**	P155618
ICAL Date:	03/24/11	**Cal Ver. File Name:**	P155616

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	4.81	10.0			1

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1074.701	54		31-137	0.78	1.007
37Cl-2,3,7,8-TCDD	800	584.970	73		42-164	NA	1.008

Columbia Analytical Services INC

Accuracy and Precision

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Analyzed:**	12/17/11
Sample Matrix:	Drinking Water		

Lab Control Sample Summary
Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	1613B	**Units:**	pg/L
Prep Method:	Method	**Basis:**	NA
		Extraction Lot:	147799

	Lab Control Sample EQ1100588-02			Duplicate Lab Control Sample EQ1100588-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
2,3,7,8-TCDD	189	200	94	186	200	93	73 - 146	1	50

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	NA
Sample Matrix:	Drinking Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	pg/L
Lab Code:	EQ1100588-02	**Basis:**	NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	1613B	**Date Analyzed:**	12/17/11 1627
Prep Method:	Method	**Date Extracted:**	12/13/11
Sample Amount:	1000mL	**Instrument Name:**	E-HRMS-04
		GC Column:	DB-5
Data File Name:	P215955	**Blank File Name:**	P155618
ICAL Date:	04/07/11	**Cal Ver. File Name:**	P215945

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	**189**		0.452	10.0	0.75	1.001	1

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1086.265	54		25-141	0.76	1.006
37Cl-2,3,7,8-TCDD	800	499.005	62		37-158	NA	1.007

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111779
Project:	City of Longview Mint Farm	**Date Collected:**	NA
Sample Matrix:	Drinking Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	pg/L
Lab Code:	EQ1100588-03	**Basis:**	NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	1613B	**Date Analyzed:**	12/17/11 1716
Prep Method:	Method	**Date Extracted:**	12/13/11
Sample Amount:	1000mL	**Instrument Name:**	E-HRMS-04
		GC Column:	DB-5
Data File Name:	P215956	**Blank File Name:**	P155618
ICAL Date:	04/07/11	**Cal Ver. File Name:**	P215945

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	**186**		0.319	10.0	0.76	1.001	1

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1255.750	63		25-141	0.78	1.007
37Cl-2,3,7,8-TCDD	800	573.563	72		37-158	NA	1.007

Columbia Analytical Services INC

Chain of Custody

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Intra-Network Chain of Custody

1317 South 13th Avenue • Kelso, WA 98626 • 1-360-577-7222 • FAX 1-360-636-1068

CAS Contact: Lisa Domenighini

Project Name: City of Longview Mint Farm
Project Number:
Project Manager: Steven Misner
Company: Kennedy/Jenks Consultants, Incorporated

Lab Code	Client Sample ID	# of Cont.	Matrix	Sample Date	Sample Time	Date Received	Send To	Dioxins Furans 1613B
K1111779-001	DW-6	2	Drinking Water	12/5/11	1145	12/5/11	HOUSTON	V
K1111779-002	DW-7	2	Drinking Water	12/5/11	1430	12/5/11	HOUSTON	V

187

Test Comments
Dioxins Furans - 1613B K1111779-001,2 2,3,7,8-TCDD

LisAD
12/6/11

Folder Comments:
Use Baseline for Performance Testing Samples

Special Instructions/Comments
Please provide the electronic (PDF and EDD) report to the following e-mail address:
kelso_data@caslab.com

Leaks 1°C
Blue ice/Bubble wrap

Turnaround Requirements
____ RUSH (Surcharges Apply)
PLEASE CIRCLE WORK DAYS
1 2 3 4 5
X STANDARD
Requested FAX Date: _____
Requested Report Date: 12/22/11

Report Requirements
____ I. Results Only
X II. Results + QC Summaries
____ III. Results + QC and Calibration Summaries
____ IV. Data Validation Report with Raw Data
PQL/MDL/J N
EDD Y

Invoice Information
PO# K1111779
Bill to

Relinquished By: [signature] 12/6/11 1130 Received By: [signature] 12-7-11 1214 Airbill Number: 1297361720 6465 7949

Columbia Analytical Services

Cooler Receipt Form

Project Chemist: AK

Client/Project: CAS Kelso; Kennedy/Jenks Consultants

Service Request: K1111779

Date/Time Received: 12/7/11 10:14:00

Date/Time Logged in: 12/7/11 13:35:00

Technician: TL

Technician: TL

1. Method of delivery: ○ US Mail ○ Fed Ex ● UPS ○ DHL ○ Courier ○ Client

2. Samples received in: ● Cooler ○ Box ○ Envelope ○ Other

3. Were custody seals on coolers? ● Yes ○ No ○ N/A

Were they intact? ● Yes ○ No ○ N/A

Were they signed and dated? ● Yes ○ No ○ N/A

If yes, how many and where? 2 front

4. Method of delivery: ○ Inserts ○ Baggies ☑ Bubble Wrap ☑ Gel Packs ○ Wet Ice ○ Sleeves ○ Other

5. Foreign or Regulated Soil? ○ Yes ● No

Location of Sampling:

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?	Filed
1Z9736590164878192		Dec 7, 2011	1014	TL	1/2	☒	☐
						☐	☐
						☐	☐
						☐	☐
						☐	☐

6. Were custody papers properly filled out (ink, signed, dated, etc)? ● Yes ○ No ○ N/A

7. Did all bottles arrive in good condition (not broken, no signs of leakage)? ● Yes ○ No ○ N/A

8. Were all sample labels complete (i.e., sample ID, analysis, preservation, etc)? ● Yes ○ No ○ N/A

9. Were appropriate bottles/containers and volumes received for the requested tests? ● Yes ○ No ○ N/A

10. Did sample labels and tags agree with custody documents? ● Yes ○ No ○ N/A

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count	Bottle Type	Out of Temp	Broken	Date	Technician
			☐	☐		
			☐	☐		
			☐	☐		
			☐	☐		

Notes, Discrepancies, & Resolutions:

Print Form

Reset Form

Columbia Analytical Services

Sample Acceptance Policy

This policy outlines the criteria samples must meet to be accepted by CAS/ Houston.

Cooler Custody Seals (desirable, mandatory if specified in SAP):

- ✓ Intact on outside of cooler, signed and dated

Chain-of-Custody (COC) documentation (mandatory):

The following is required on each COC:

- ✓ Sample ID, the location, date and time of collection, collector's name, preservation type, sample type, and any other special remarks concerning the sample
- ✓ The COC must be completed in ink.
- ✓ Signature and date of relinquishing party.

In the absence of a COC at sample receipt, CAS/Houston will complete a COC, which must be approved by the client, in writing, prior to proceeding with the analysis.

Sample Integrity (mandatory):

Samples are inspected upon arrival to ensure that sample integrity was not compromised during transfer to the laboratory.

- ✓ Sample containers must arrive in good condition (not broken or leaking).
- ✓ Samples must be labeled appropriately, including Sample IDs, and requested test using durable labels and indelible ink.
- ✓ The correct type of sample bottle must be used for the method requested.
- ✓ An appropriate sample volume, or weight, must be received.
- ✓ Sample IDs and number of containers must reconcile with the COC.
- ✓ Samples must be received within the method defined holding time.

Temperature Requirement (varies by sample matrix):

- ✓ Aqueous and Non-aqueous samples must be shipped and stored cold, at 0 to 6°C.
- ✓ Tissue samples must be shipped and stored frozen, at -20 to -10°C.
- ✓ Air samples can be shipped and stored at ambient temperature, ~23°C.
- ✓ The sample temperature must be recorded on the COC

All cooler inspections are documented on the Cooler Receipt Form (CRF). A separate CRF is completed for each service request. Any samples not meeting the above criteria are noted on the CRF and the Project Manager notified. The Project Manager must resolve any sample integrity issues with the client prior to proceeding with the analysis. Such resolutions are documented in writing and filed with the project folder.

Service Request Summary

Folder #: K1111779
Client Name: Kennedy/Jenks Consultants, Incorporated
Project Name: City of Longview Mint Farm
Project Number:

Report To: Steven Misner
Kennedy/Jenks Consultants, Incorporated
200 SW Market St., Suite 500
Portland, OR 97201-5715
Phone Number: 503-423-4004
Cell Number:
Fax Number: 503-295-4901
E-mail: stevenmisner@kennedyjenks.com

Project Chemist: Arthi Kodur
Originating Lab: KELSO
Logged By: SWOLF
Date Received: 12/ 5/11
Internal Due Date: 12/22/11
QAP: LAB QAP, Tetras Only
Qualifier Set: CAS Standard
Formset: CAS Standard
Merged?: N,Y
Report to MDL?: N,Y
P.O. Number:
EDD: EQuIS Kennedy Jenks Mint Farm

10	- 1000 ml-Glass Bottle NM AMBER Teflon Liner Unpreserved
10	- 1000 mL-Plastic Bottle NM CLEAR Unpreserved
10	- 1000 mL-Plastic Bottle NM CLEAR HNO3
8	- 1000 mL-Glass Bottle NM AMBER Na2SO3, HCL
8	- 40 mL-Glass Vial DW VOA CLEAR Tef/Silicone Septa AAc/HCl
6	- 40 mL-Glass Vial VOA CLEAR Tef/Silicone Septa Na2S2O3
4	- 100 ml-Plastic Cup Sterile Na2S2O3
4	- 40 mL-Glass Vial VOA CLEAR Tef/Silicone Septa Unpreserved
4	- 40 mL-Glass Vial DW VOA AMBER Tef/Silicone Septa Na2S2O3
2	- 125 mL-Glass Bottle NM AMBER Na2S2O3
2	- 250 mL-Glass Bottle NM AMBER Na2SO3
2	- 1000 mL-Plastic Bottle NM AMBER Na2S2O3
2	- 500 mL-Plastic Bottle NM CLEAR H2SO4
2	- 500 mL-Plastic Bottle NM CLEAR HNO3
2	- 500 mL-Plastic Bottle NM CLEAR NaOH
2	- 250 mL-Plastic Bottle Natural HCl Cleaned WM HCL

Location: K-HERK-A4, E-Disposed, E-WIC01, SUBBED, K-Disposed, In Lab, K-MISTY, K-COLIBIN, K-AUTOCLAVE, P-Disposed, P-39-22

190

					KELSO										
CAS Samp No	**Client Samp No.**	**Matrix**	**Collected**		150.1/ pH	300.0/ Chloride	300.0/ F	300.0/ NO2	300.0/ NO3	300.0/ SO4	335.4/ CN T	350.1/ Ammonia T	365.3/ O Phos T	SM 2120 B/ Color	SM 2320 B/ Alkalinity Titr
K1111779-001	DW-6	DW	12/5/11	1145	V	V	V	V	V	V	V	V	V	V	V
K1111779-002	DW-7	DW	12/5/11	1430	V	V	V	V	V	V	V	V	V	V	V
K1111779-003	Trip Blank	DW	12/5/11	1145											

Folder Comments:

Use Baseline for Performance Testing Samples

CAS Samp No.	Client Samp No.	Matrix	Collected		KELSO								KELSO		
					SM 2510 B/ Conductivity	SM 2540 C/ TDS	SM 4500-SiO2 C/ SiO2 D	SM 5310 C/ TOC T	SM 5540 C/ MBAS	SM 5910 B/ UV 254	SM 9221 E/ Fec Coli MT	SM 9223 B/ Qntray Tot NC	1632/ As Inorg T	1632/ As3	1632/ As5
K1111779-001	DW-6	DW	12/5/11	1145	V	V	V	V	V	V	V	V	V	V	V
K1111779-002	DW-7	DW	12/5/11	1430	V	V	V	V	V	V	V	V	V	V	V
K1111779-003	Trip Blank	DW	12/5/11	1145											

					KELSO				KELSO			KELSO			
					200.7 LL/ Metals T	200.8/ Metals T	245.1/ Hg T	SM 2340 B/ Hardness Calc	531.1/ CARBAM	547/ GLYPH	549.2/ DIQ_PARAQ	504.1/ EDB DBCP 123TCP	508.1/ PEST_CL	515.4/ CL_ACID_HER B	525.2/ SVO
K1111779-001	DW-6	DW	12/5/11	1145	V	V	V	V	V	V	V	V	V	V	V
K1111779-002	DW-7	DW	12/5/11	1430	V	V	V	V	V	V	V	V	V	V	V
K1111779-003	Trip Blank	DW	12/5/11	1145											

					KELSO	KELSO	SVM	SIMIVALLEY	ACZ			LabCOR
					548.1/ ENDO	524.2/ VOC	1613B/ Dioxins Furans	Sulfur Liq/ Sulfur	900.0/ Radioact	903.1/ Radium 226	904.0/ Radium 228	100.1/ Asbestos
K1111779-001	DW-6	DW	12/5/11	1145	V	V	V	V	V	V	V	V
K1111779-002	DW-7	DW	12/5/11	1430	V	V	V	V	V	V	V	V
K1111779-003	Trip Blank	DW	12/5/11	1145		V(H)						

Service Request Summary

Folder #:	**K1111779**
Client Name:	Kennedy/Jenks Consultants, Incorporated
Project Name:	City of Longview Mint Farm
Project Number:	
Report To:	Steven Misner Kennedy/Jenks Consultants, Incorporated 200 SW Market St., Suite 500 Portland, OR 97201-5715
Phone Number:	503-423-4004
Cell Number:	
Fax Number:	503-295-4901
E-mail:	stevenmisner@kennedyjenks.com

Project Chemist:	Arthi Kodur
Originating Lab:	KELSO
Logged By:	SWOLF
Date Received:	12/ 5/11
Internal Due Date:	12/22/11
QAP:	LAB QAP, Tetras Only
Qualifier Set:	CAS Standard
Formset:	CAS Standard
Merged?:	N,Y
Report to MDL?:	N,Y
P.O. Number:	
EDD:	EQuIS Kennedy Jenks Mint Farm

10	- 1000 ml-Glass Bottle NM AMBER Teflon Liner Unpreserved
10	- 1000 mL-Plastic Bottle NM CLEAR Unpreserved
10	- 1000 mL-Plastic Bottle NM CLEAR HNO3
8	- 1000 mL-Glass Bottle NM AMBER Na2SO3, HCL
8	- 40 mL-Glass Vial DW VOA CLEAR Tef/Silicone Septa AAc/HCl
6	- 40 mL-Glass Vial VOA CLEAR Tef/Silicone Septa Na2S2O3
4	- 100 ml-Plastic Cup Sterile Na2S2O3
4	- 40 mL-Glass Vial VOA CLEAR Tef/Silicone Septa Unpreserved
4	- 40 mL-Glass Vial DW VOA AMBER Tef/Silicone Septa Na2S2O3
2	- 125 mL-Glass Bottle NM AMBER Na2S2O3
2	- 250 mL-Glass Bottle NM AMBER Na2SO3
2	- 1000 mL-Plastic Bottle NM AMBER Na2S2O3
2	- 500 mL-Plastic Bottle NM CLEAR H2SO4
2	- 500 mL-Plastic Bottle NM CLEAR HNO3
2	- 500 mL-Plastic Bottle NM CLEAR NaOH
2	- 250 mL-Plastic Bottle Natural HCl Cleaned WM HCL

Location: K-HERK-A4, E-Disposed, E-WIC01, SUBBED, K-Disposed, In Lab, K-MISTY, K-COLIBIN, K-AUTOCLAVE, P-Disposed, P-39-22

194

Test Comments:

Group	Test/Method	Samples	Comments
Metals	Metals T/200.7 LL	1-2	Al,Ca,Fe,Mg,K,Mn,Si,Na,Zn
Metals	Metals T/200.8	1-2	Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Ag,Tl,U.
Organic LC	CARBAM/531.1	1-2	Include all the aldicarb compounds
Semivoa GCMS	Dioxins Furans/1613B	1-2	2,3,7,8-TCDD
SubLab	Asbestos/100.1	1-2	Asbestos in drinking water (not chlorinated)
			EPA 100.2
SubLab	Radioact/900.0	1-2	Gross Alpha,Beta,Radium 226 and 228
VOA GC AIR	Sulfur/Sulfur Liq	1-2	Hydrogen Sulfide
VOA GCMS	VOC/524.2	1-2	Full List.

Preparation Information Benchsheet

Prep Run#: 147799
Team: Semivoa GCMS/EBAUCH

Prep WorkFlow: OrgExtAq(365)
Prep Method: Method

Status: Prepped
Prep Date/Time: 12/13/11 11:46 AM

#	Lab Code	Client ID	B#	Method /Test	pH	Matrix	Amt. Ext.	Sample Description
1	E1101198-001	12-01679	.01	1613B/Dioxins Furans	8	Water	920mL	Clear Colorless liquid with yellow debris
2	E1101198-002	12-01682	.01	1613B/Dioxins Furans	8	Water	920mL	Clear Colorless liquid with brown debris
3	E1101202-001	Well 11-35398	.01	1613B/Dioxins Furans	8	Water	960mL	Clear Colorless liquid
4	E1101203-001	#3 Bleach Plant	.01	1613B/Dioxins Furans	5	Water	1000mL	clear orange liquid with orange debris
5	E1101203-002	#2 Bleach Plant	.01	1613B/Dioxins Furans	4	Water	1000mL	clear orange liquid with orange debris
6	E1101208-001	SCH3-104	.01	1613B/Dioxins Furans	8	Water	980mL	clear yellow liquid
7	EQ1100588-01	MB		1613B/Dioxins Furans	5	Liquid	1000mL	
8	EQ1100588-02	LCS		1613B/Dioxins Furans	5	Liquid	1000mL	
9	EQ1100588-03	DLCS		1613B/Dioxins Furans	5	Liquid	1000mL	
10	J1105406-001	SW-MT03-Week 3	.06	1613B/Dioxins Furans	7	Surface Water	900mL	Clear Colorless liquid with yellow debris
11	J1105406-002	SW-GT11-Week 3	.06	1613B/Dioxins Furans	7	Surface Water	940mL	Clear Colorless liquid with yellow debris
12	J1105406-003	SW-GT19-Week 3	.06	1613B/Dioxins Furans	7	Surface Water	960mL	Clear Colorless liquid with yellow debris
13	K1111779-001	DW-6	.07	1613B/Dioxins Furans	8	Drinking Water	1040mL	clear colorless liquid
14	K1111779-002	DW-7	.07	1613B/Dioxins Furans	8	Drinking Water	1040mL	clear colorless liquid
15	K1111839-001	DW-5	.06	1613B/Dioxins Furans	8	Drinking Water	1040mL	clear colorless liquid
16	K1111839-002	DW-2	.06	1613B/Dioxins Furans	8	Drinking Water	1040mL	clear colorless liquid
17	K1111865-003	Composite	.01	1613B/Dioxins Furans	7	Water	1000mL	clear browen liquid

Preparation Information Benchsheet

Prep Run#: 147799
Team: Semivoa GCMS/EBAUCH

Prep WorkFlow: OrgExtAq(365)
Prep Method: Method

Status: Prepped
Prep Date/Time: 12/13/11 11:46 AM

Spiking Solutions

Name:	1613B Stock Labeled Standard	Inventory ID	37284	Logbook Ref:	D12-72-3 (37284)	Expires On:	10/30/2020

K1111865-003	20.00µL

Name:	1613B Labeled Working Standard	Inventory ID	38069	Logbook Ref:	D12-76-4 (38069)	Expires On:	12/11/2012

E1101198-001	1,000.00µL	E1101198-002	1,000.00µL	E1101202-001	1,000.00µL	E1101203-001	1,000.00µL	E1101203-002	1,000.00µL	E1101208-001	1,000.00µL
EQ1100588-01	1,000.00µL	EQ1100588-02	1,000.00µL	EQ1100588-03	1,000.00µL	J1105406-001	1,000.00µL	J1105406-002	1,000.00µL	J1105406-003	1,000.00µL
K1111779-001	1,000.00µL	K1111779-002	1,000.00µL	K1111839-001	1,000.00µL	K1111839-002	1,000.00µL				

Name:	8290/1613B Cleanup Working Standard	Inventory ID	38071	Logbook Ref:	D12-76-5 (38071)	Expires On:	12/11/2012

E1101198-001	100.00µL	E1101198-002	100.00µL	E1101202-001	100.00µL	E1101203-001	100.00µL	E1101203-002	100.00µL	E1101208-001	100.00µL
EQ1100588-01	100.00µL	EQ1100588-02	100.00µL	EQ1100588-03	100.00µL	J1105406-001	100.00µL	J1105406-002	100.00µL	J1105406-003	100.00µL
K1111779-001	100.00µL	K1111779-002	100.00µL	K1111839-001	100.00µL	K1111839-002	100.00µL	K1111865-003	100.00µL		

Name:	1613B Matrix Working Standard	Inventory ID	38085	Logbook Ref:	D12-77-2 (38085)	Expires On:	12/12/2012

EQ1100588-02	100.00µL	EQ1100588-03	100.00µL

196

Preparation Materials

Sensafe Free Chlorine WTR CHK	C2-56-3 (29767)	Acetone 99.5% Minimum	C2-39-7 (32865)	Carbon, High Purity	C2-62-6 (35710)
Ethyl Acetate 99.9% Minimum EtOAc	C2-57-2 (30535)	Extraction Thimbles 43 x123 mm	(1577)	Glass Wool	C2-63-2 (35715)
Sulfuric Acid Reagent Grade H2SO4	C2-64-3 (37036)	Dichloromethane (Methylene Chloride) 99.9% MeCl2	C2-64-4 (37037)	Sodium Thiosulfate Anhydrous Reagent Grade NaS2O3	C2-54-6 (28404)
Sodium Hydroxide Reagent Grade NaOH	C2-53-6 (27838)	Sodium Sulfate Anhydrous Reagent Grade Na2SO4	C2-63-1 (35713)	Tridecane (n-Tridecane)	C2-65-1 (37777)
Hexane (n-Hexane) 98.5% Minimum	C2-64-6 (37039)	Nonane (n-Nonane) 99%	C2-33-001 (13944)	pH Paper 0-14	(1008)
Silica Gel Reagent Grade	C2-58-4 (32780)	Toluene 99.9% Minimum	C2-64-5 (37038)		

Preparation Steps

Step:	Extraction	Step:	Acid Clean	Step:	Silica Gel Clean	Step:	Final Volume
Started:	12/13/11 11:46	Started:	12/14/11 10:05	Started:	12/14/11 10:10	Started:	12/15/11 06:20
Finished:	12/14/11 05:30	Finished:	12/14/11 10:45	Finished:	12/14/11 14:40	Finished:	12/15/11 09:30
By:	TLAFFERTY	By:	CDIAZ	By:	EBAUCH	By:	CDIAZ
Comments		Comments		Comments		Comments	

Preparation Information Benchsheet

Prep Run#: 147799
Team: Semivoa GCMS/EBAUCH

Prep WorkFlow: OrgExtAq(365)
Prep Method: Method

Status: Prepped
Prep Date/Time: 12/13/11 11:46 AM

197

Comments:

Reviewed By: EB Date: 12/15/11

Chain of Custody

Relinquished By: Date:

Received By: Date:

Extracts Examined
Yes No

Hydrogen Sulfide

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LABORATORY REPORT

December 20, 2011

Steven Misner
Kennedy/Jenks Consultants, Incorporated
200 SW Market St., Suite 500
Portland, OR 97201-5715

RE: City of Longview Mint Farm

Dear Steven:

Enclosed are the results of the samples submitted to our laboratory on December 5, 2011. For your reference, these analyses have been assigned our service request number K1111779.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.caslab.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

Columbia Analytical Services, Inc. is certified by the California Department of Health Services, NELAP Laboratory Certificate No. 02115CA; Arizona Department of Health Services, Certificate No. AZ0694; Florida Department of Health, NELAP Certification E871020; New Jersey Department of Environmental Protection, NELAP Laboratory Certification ID #CA009; New York State Department of Health, NELAP NY Lab ID No: 11221; Oregon Environmental Laboratory Accreditation Program, NELAP ID: CA20007; The American Industrial Hygiene Association, Laboratory #101661; United States Department of Defense Environmental Laboratory Accreditation Program (DoD-ELAP), Certificate No. L10-3-R2; Pennsylvania Registration No. 68-03307; TX Commission of Environmental Quality, NELAP ID T104704413-11-2; Minnesota Department of Health, NELAP Certificate No. 219474; Washington State Department of Ecology, ELAP Lab ID: C946. Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact me for information corresponding to a particular certification.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

Columbia Analytical Services, Inc.

Kate Aguilera Digitally signed by Kate Aguilera
Date: 2011.12.20 12:32:59 -08'00'

Kate Aguilera
Project Manager

Client: Kennedy/Jenks Consultants, Incorporated CAS Project No: K1111779
Project: City of Longview Mint Farm

CASE NARRATIVE

The samples were received intact under chain of custody on December 5, 2011 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Hydrogen Sulfide Analysis

The samples were analyzed for hydrogen sulfide using a gas chromatograph equipped with a sulfur chemiluminescence detector (SCD).

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for utilization of less than the complete report.

Use of Columbia Analytical Services, Inc. (CAS) Name. Client shall not use CAS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to CAS any test result, tolerance or specification derived from CAS's data ("Attribution") without CAS's prior written consent, which may be withheld by CAS for any reason in its sole discretion. To request CAS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If CAS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use CAS's name or trademark in any Materials or Attribution shall be deemed denied. CAS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of CAS's name or trademark may cause CAS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

Intra-Network Chain of Custody

1317 South 13th Avenue • Kelso, WA 98626 • 1-360-577-7222 • FAX 1-360-636-1068

CAS Contact: Lisa Domenighini

Project Name: City of Longview Mint Farm
Project Number:
Project Manager: Steven Misner
Company: Kennedy/Jenks Consultants, Incorporated

Lab Code	Client Sample ID	# of Cont.	Matrix	Sample Date	Sample Time	Date Received	Send To	Sulfur Sulfur Liq
K1111779-001	DW-6	2	Drinking Water	12/5/11	1145	12/5/11	SIMIVALLEY	V
K1111779-002	DW-7	2	Drinking Water	12/5/11	1430	12/5/11	SIMIVALLEY	V

Lisa D
12/6/11

Test Comments
Sulfur - Sulfur Liq K1111779-001,2 Hydrogen Sulfide

Folder Comments:
Use Baseline for Performance Testing Samples

201

Special Instructions/Comments	Turnaround Requirements	Report Requirements	Invoice Information
Please provide the electronic (PDF and EDD) report to the following e-mail address: kelso_data@caslab.com	____ RUSH (Surcharges Apply) PLEASE CIRCLE WORK DAYS 1 2 3 4 5 X STANDARD Requested FAX Date: ____ Requested Report Date: 12/22/11	____ I. Results Only X II. Results + QC Summaries ____ III. Results + QC and Calibration Summaries ____ IV. Data Validation Report with Raw Data PQL/MDL/J N EDD Y	3°C Cel Fre PO# K1111779 Bill to

Relinquished By: [signature] 12/6/11 1130 Received By: [signature] 12/7/11 1005 Airbill Number: ____

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Sample Acceptance Check Form

Client: Kennedy/Jenks Consultants, Incorporated Work order: K1111779

Project: City of Longview Mint Farm

Sample(s) received on: 12/7/11 Date opened: 12/7/11 by: MZAMORA

Note: This form is used for all samples received by CAS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Container(s) **supplied by CAS**?	☒	☐	☐
3	Did **sample containers** arrive in good condition?	☒	☐	☐
4	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
5	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
6	Was **sample volume** received adequate for analysis?	☒	☐	☐
7	Are samples within specified holding times?	☒	☐	☐
8	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☒	☐	☐
	Cooler Temperature: ° C Blank Temperature: 3° C **Gel Packs**			
9	Was a **trip blank** received?	☐	☒	☐
10	Were **custody seals** on outside of cooler/Box?	☒	☐	☐
	Location of seal(s)? Top of cooler, down the front. Sealing Lid?	☒	☐	☐
	Were signature and date included?	☒	☐	☐
	Were seals intact?	☒	☐	☐
	Were custody seals on outside of sample container?	☐	☒	☐
	Location of seal(s)? Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
11	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☒	☐	☐
	Is there a client indication that the submitted samples are **pH** preserved?	☒	☐	☐
	Were **VOA vials** checked for presence/absence of air bubbles?	☒	☐	☐
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☒	☐	☐
12	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
	Do they contain moisture?	☐	☐	☒
13	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
K1111779-001.10	40mL VOA NP		5	1	A	
K1111779-001.11	40mL VOA NP				A	
K1111779-002.10	40mL VOA NP		5	1	A	
K1111779-002.11	40mL VOA NP				A	

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

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RESULTS OF ANALYSIS

Client: **Kennedy/Jenks Consultants, Incorporated**
Client Project ID: **City of Longview Mint Farm** CAS Project ID: K1111779

Hydrogen Sulfide

Test Code: GC/SCD Reduced Sulfur Analysis
Instrument ID: Agilent 6890A/GC13/SCD
Analyst: Wade Henton
Matrix: Drinking Water
Test Notes:

Date(s) Collected: 12/5/11
Date Received: 12/5/11
Date Analyzed: 12/12/11

Client Sample ID	CAS Sample ID	Sample Amount ml(s)	Purge Volume Liter(s)	Injection Volume ml(s)	**Result µg/L**	MRL µg/L	Data Qualifier
DW-6	K1111779-001	10.0	0.30	1.0	ND	0.21	
DW-7	K1111779-002	10.0	0.30	1.0	ND	0.21	
Method Blank	P111212-MB	10.0	0.30	1.0	ND	0.21	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

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LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **Kennedy/Jenks Consultants, Incorporated**
Client Sample ID: **Duplicate Lab Control Sample**
Client Project ID: **City of Longview Mint Farm**

CAS Project ID: K1111779
CAS Sample ID: P111212-DLCS

Test Code: GC/SCD Reduced Sulfur Analysis
Instrument ID: Agilent 6890A/GC13/SCD
Analyst: Wade Henton
Matrix: Drinking Water
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 12/12/11
Liquid Amount: 10.0 ml(s)
Purge Volume: 0.30 Liter(s)
Injection Volume: 0.20 ml(s)

CAS #	Compound	Spike Amount LCS / DLCS ug/L	Result LCS ug/L	Result DLCS ug/L	% Recovery LCS	% Recovery DLCS	CAS Acceptance Limits	RPD	RPD Limit	Data Qualifier
7783-06-4	Hydrogen Sulfide	419	382	381	**91**	**91**	58-121	0	26	

Subcontract Laboratory Results

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

January 05, 2012

Report to:
Lisa Domenighini
Columbia Analytical Services
1317 S. 13th Ave.
Kelso, WA 98626

Bill to:
Accounts Payable
Columbia Analytical Services
1317 South 13th Ave.
Kelso, WA 98626

cc: Columbia Analytical Services, Inc.

Project ID: K1111779
ACZ Project ID: L92216

Lisa Domenighini:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on December 07, 2011. This project has been assigned to ACZ's project number, L92216. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L92216. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after February 05, 2012. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than $10/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical reports for five years.

If you have any questions or other needs, please contact your Project Manager.

Sue Webber

Sue Webber has reviewed and approved this report.

ACCREDITED IN ACCORDANCE WITH nelac

ACIL

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

RadioChemistry Analytical Results

Columbia Analytical Services
Project ID: K1111779
Sample ID: DW-6
Locator:

ACZ Sample ID: ***L92216-01***
Date Sampled: *12/05/11 11:45*
Date Received: *12/07/11*
Sample Matrix: *Drinking Water*

Gross Alpha & Beta — Prep Method:
M900.0

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Alpha	12/14/11 9:40		0.74	1.3	1.4	pCi/L	*	thf
Beta	12/14/11 9:40		5.6	2.2	2.7	pCi/L		thf

Radium 226 — Prep Method:
M903.1

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Radium 226	12/30/11 13:57		0.06	0.19	0.47	pCi/L		jjg

Radium 228 — Prep Method:
M904.0

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Radium 228	12/28/11 15:54		0.23	0.28	1	pCi/L	*	zsh

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

RadioChemistry Analytical Results

Columbia Analytical Services
Project ID: K1111779
Sample ID: DW-7
Locator:

ACZ Sample ID: ***L92216-02***
Date Sampled: *12/05/11 14:30*
Date Received: *12/07/11*
Sample Matrix: *Drinking Water*

Gross Alpha & Beta
M900.0
Prep Method:

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Alpha	12/14/11 9:42		-0.13	1.3	1.3	pCi/L	*	thf
Beta	12/14/11 9:42		3.1	2	2.7	pCi/L		thf

Radium 226
M903.1
Prep Method:

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Radium 226	12/30/11 13:58		0.18	0.12	0.21	pCi/L		jjg

Radium 228
M904.0
Prep Method:

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Radium 228	12/28/11 15:54		0.06	0.26	0.65	pCi/L	*	zsh

** Please refer to Qualifier Reports for details.*

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Error(+/-)	Calculated sample specific uncertainty
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
LCL	Lower Control Limit, in % (except for LCSS, mg/Kg)
LLD	Calculated sample specific Lower Limit of Detection
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
RER	Relative Error Ratio, calculation used for Dup. QC taking into account the error factor.
UCL	Upper Control Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

DUP	Sample Duplicate	MS/MSD	Matrix Spike/Matrix Spike Duplicate
LCSS	Laboratory Control Sample - Soil	PBS	Prep Blank - Soil
LCSW	Laboratory Control Sample - Water	PBW	Prep Blank - Water

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Matrix Spikes	Determines sample matrix interferences, if any.

ACZ Qualifiers (Qual)

H	Analysis exceeded method hold time.
R	Poor spike recovery accepted because the other spike in the set fell within the given limits.
T	High Replicate Error Ratio (RER) accepted because sample concentrations are less than 10x the MDL.
U	No nuclides detected above the Lower Limit of Detection (LLD)
V	High blank data accepted because sample concentration is 10 times higher than blank concentration
X	QC is out of control. See Case Narrative.
Z	Poor spike recovery is accepted because sample concentration is four times greater than spike concentration.

Method Prefix Reference

M	EPA methodology, including those under SDWA, CWA, and RCRA
SM	Standard Methods for the Examination of Water and Wastewater, 19th edition (1995) & 20th edition (1998).
D	ASTM
RP	DOE
ESM	DOE/ESM

Comments

(1)	Solid matrices are reported on a dry weight basis.
(2)	Preparation method: "Method" indicates preparation defined in analytical method.
(3)	QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(4)	An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Radiochemistry QC Summary

Columbia Analytical Services
Project ID: K1111779

ACZ Project ID: ***L92216***

Alpha

M900.0 **Units:** pCi/L

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Error	LLD	Found	Error	LLD	Rec	Lower	Upper	RPD/RER	Limit	Qual
WG315331																
WG315014PBW	PBW	12/14/11						.5	0.89	0.94			1.88			
WG315014LCSW	LCSW	12/14/11	RC110304-1	81.06				80	7.8	1.4	98.7	81	138			
L92214-01DUP	DUP-RP	12/14/11			3	5.9	5.8	-.74	5.5	5.9				331	20	RG
L92214-01DUP	DUP-RE	12/14/11			3	5.9	5.8	-.74	5.5	5.9				0.46	2	
L92143-01MS	MS	12/14/11	RC110304-1	135.1	-0.5	3.7	3.9	100	15	3.9	74.4	81	138			M2

Beta

M900.0 **Units:** pCi/L

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Error	LLD	Found	Error	LLD	Rec	Lower	Upper	RPD/RER	Limit	Qual
WG315331																
WG315014PBW	PBW	12/14/11						.73	1.9	2.7			5.4			
WG315014LCSW	LCSW	12/14/11	RC110517-11	100				100	6.6	4	100	65	117			
L92214-01DUP	DUP-RP	12/14/11			-1.9	7.4	10	-2.2	6.7	10				14.6	20	
L92182-01MS	MS	12/14/11	RC110517-11	666.67	3.6	19	27	630	44	27	94	65	117			

Radium 226

M903.1 **Units:** pCi/L

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Error	LLD	Found	Error	LLD	Rec	Lower	Upper	RPD/RER	Limit	Qual
WG316249																
WG315623PBW	PBW	12/30/11						.1	0.15	0.23			0.46			
WG315623LCSW	LCSW	12/30/11	RC110822-1	23.92				22	0.56	0.12	92	45	131			
L92175-01DUP	DUP-RP	12/30/11			1.6	0.14	0.07	1.9	0.18	0.1				17.1	20	
L92233-02DUP	DUP-RP	12/30/11			0.45	0.09	0.25	.4	0.12	0.16				11.8	20	
L92175-03MS	MS	12/30/11	RC110822-1	23.92	12	0.39	0.15	40	0.79	0.16	117.1	45	131			

210

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Radiochemistry QC Summary

Columbia Analytical Services
Project ID: K1111779

ACZ Project ID: ***L92216***

Radium 228 M904.0 **Units:** pCi/L

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Error	LLD	Found	Error	LLD	Rec	Lower	Upper	RPD/RER	Limit	Qual
WG316030																
WG315648 LCSW	LCSW	12/28/11	PCN35588	16.96				14	1.1	1.7	82.5	47	123			
WG315648 PBW	PBW	12/28/11						1.1	0.38	0.67			1.34			
L92182-01DUP	DUP-RP	12/28/11			0.8	0.57	1.3	1.9	0.67	1.4				81.5	20	RG
L92182-01DUP	DUP-RE	12/28/11			0.8	0.57	1.3	1.9	0.67	1.4				1.25	2	
L92182-02MS	MS	12/28/11	PCN35588	16.96	2.4	0.73	1.5	13	1.1	1.1	62.5	47	123			
L92270-02DUP	DUP-RE	12/28/11			2.4	0.64	1.2	2.6	0.63	1.7				0.22	2	
L92270-02DUP	DUP-RP	12/28/11			2.4	0.64	1.2	2.6	0.63	1.7				8	20	

211

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

RadChem Extended Qualifier Report

Columbia Analytical Services ACZ Project ID: ***L92216***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L92216-01	WG315331	Alpha	M900.0	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M900.0	RG	Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control.
	WG316030	Radium 228	M904.0	RG	Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control.
L92216-02	WG315331	Alpha	M900.0	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M900.0	RG	Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control.
	WG316030	Radium 228	M904.0	RG	Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Certification Qualifiers

Columbia Analytical Services

ACZ Project ID: ***L92216***

No certification qualifiers associated with this analysis

ACZ Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Columbia Analytical Services

K1111779

ACZ Project ID: L92216
Date Received: 12/07/2011 09:45
Received By: ksj
Date Printed: 12/7/2011

Receipt Verification

	YES	NO	NA
1) Does this project require special handling procedures such as CLP protocol?			X
2) Are the custody seals on the cooler intact?	X		
3) Are the custody seals on the sample containers intact?			X
4) Is there a Chain of Custody or other directive shipping papers present?	X		
5) Is the Chain of Custody complete?	X		
6) Is the Chain of Custody in agreement with the samples received?	X		
7) Is there enough sample for all requested analyses?	X		
8) Are all samples within holding times for requested analyses?	X		
9) Were all sample containers received intact?	X		
10) Are the temperature blanks present?			X
11) Are the trip blanks (VOA and/or Cyanide) present?			X
12) Are samples requiring no headspace, headspace free?			X
13) Do the samples that require a Foreign Soils Permit have one?			X

Exceptions: If you answered no to any of the above questions, please describe

N/A

Contact (For any discrepancies, the client must be contacted)

N/A

Shipping Containers

Cooler Id		Temp (°C)	Rad (µR/hr)
Na14449		1.7	14

Client must contact ACZ Project Manager if analysis should not proceed for samples received outside of thermal preservation acceptance criteria.

Notes

ACZ Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Columbia Analytical Services
K1111779

ACZ Project ID: L92216
Date Received: 12/07/2011 09:45
Received By: ksj
Date Printed: 12/7/2011

Sample Container Preservation

SAMPLE	CLIENT ID	R < 2	G < 2	BK < 2	Y< 2	YG< 2	B< 2	O < 2	T >12	N/A	RAD	ID
L92216-01	DW-6	Y										
L92216-02	DW-7	Y										

Sample Container Preservation Legend

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
B	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
O	Raw/Sulfuric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Y	Raw/Sulfuric	YELLOW	pH must be < 2
YG	Raw/Sulfuric	YELLOW GLASS	pH must be < 2
N/A	No preservative needed	Not applicable	
RAD	Gamma/Beta dose rate	Not applicable	must be < 250 µR/hr

* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By: ksj

L92216 Chain of Custody

umbia Analytical Services, Inc. Chain of Custody

1317 South 13th Avenue • Kelso, WA 98626 • 1-360-577-7222 • FAX 1-360-636-1068

CAS Contact: Lisa Domenighini

L92216

Project Number: K1111779
Project Manager: Lisa Domenighini

Lab Code	Sample ID	# of Cont.	Matrix	Sample Date	Sample Time	Lab ID	Radioact 900.0	Radium 226 903.1	Radium 228 904.0
K1111779-001	DW-6	5	Drinking Water	12/5/11	1145	ACZ	✓	✓	✓
K1111779-002	DW-7	5	Drinking Water	12/5/11	1430	ACZ	✓	✓	✓

Test Comments
Radioact - 900.0 K1111779-001,2 Gross Alpha,Beta,Radium 226 and 228

Drinking Water
LISA D
12/6/11

Folder Comments:
Use Baseline for Performance Testing Samples

216

Special Instructions/Comments	Turnaround Requirements	Report Requirements	Invoice Information
Please provide the electronic (PDF and EDD) report to the following e-mail address: kelso_data@caslab.com	____RUSH (Surcharges Apply) PLEASE CIRCLE WORK DAYS 1 2 3 4 5 X STANDARD Requested FAX Date: ____ Requested Report Date: 12/22/11	___ I. Results Only X II. Results + QC Summaries ___ III. Results + QC and Calibration Summaries ___ IV. Data Validation Report with Raw Data PQL/MDL/J N EDD Y	PO# K1111779 Bill to

Relinquished By: K Smith 12/6/11 1130 Received By: [illegible] 12-7-11 Airbill Number: 9-4/5

Pag

Subcontract Laboratory Results

Lab/Cor, Inc.
7619 6th Ave NW
Seattle, WA 98117

Analysis Report Cover

Final Report

A Professional Service Corporation in the Northwest

Phone: (206) 781-0155
Fax: (206) 789-8424
http://www.labcor.net

Job Number: 111347 **SEA**
Client: Columbia Analytical Services
Address: 1317 S 13th Ave
Kelso, WA 98626
Project Name: City of Longview
Project No.: K1111779
PO Number: K1111779
PWS ID:
Reference No.:

Report Number: 111347R01
Report Date: 12/12/2011

Enclosed please find results for samples submitted to our laboratory. A list of samples and analyses follows:

Lab/Cor Sample #	Client Sample # and Description	Analysis	Analysis Notes	Date Received:
111347 - S1	K1111779-001 - DW-6, WA Water ID#: 119-99442	EPA 100.2 - Potable Water - WA		12/7/2011
111347 - S2	K1111779-002 - DW-7, WA Water ID#: 119-99443	EPA 100.2 - Potable Water - WA		12/7/2011

EPA 100.2 - Potable Water - WA

Preparation and analysis of the above samples was conducted in accordance with the EPA method #100.2. In this method, samples are taken from an affected water supply to measure the amount of asbestos contamination in the system. Samples received 48 hours after collection, or with a sample received temperature greater than 10ºC, are subjected to ozone/UV treatment.

Each sample was shaken, then sonicated briefly in a Branson 2200 sonicator to distribute particulate evenly. Several aliquots were filtered onto 0.22 µm, 25 mm diameter mixed cellulose ester filters. Briefly, the samples were collapsed with a solution of N,N-dimethylformamide and acetic acid, then etched in a low temperature plasma etcher to remove the top surface of the filter and other organics. The samples were carbon coated at high vacuum with a thin layer of carbon, placed on 200 mesh copper grids and allowed to dissolve in N,N-Dimethlyformamide / Acetone baths until cleared of filter debris.

Each aliquot was examined at low magnification to determine the best particulate loading for analysis. Analysis was performed using a transmission electron microscope equipped with an EDS X ray analyzer. The samples were analyzed at an approximate screen magnification of 10,000x, with an accelerating voltage of 100 KV. The sizing of grid openings was performed using a calibrated digital imaging system at low magnification.

Disclaimer

The results reported relate only to the samples tested or analyzed; the laboratory did not have control over sample collection. Interpretation of these results is the sole responsibility of the client.

If further clarification of these results is needed, please call us. Thank you for allowing the staff at Lab/Cor, Inc. the opportunity to provide you with the analytical services.

Sincerely,

x

Nina Borchowiec
Technician/Analyst

Lab/Cor, Inc.
7619 6th Ave NW
Seattle, WA 98117

Final Report

Phone: (206) 781-0155
Fax: (206) 789-8424
http://www.labcor.net

A Professional Service Corporation in the Northwest

EPA 100.2 - Potable Water - WA Summary Data

Job Number: 111347 SEA
Client: Columbia Analytical Services
Project Name: City of Longview

Report Number: 111347R01
Date Received: 12/7/2011

Lab/Cor Sample No.: S1
Client Sample No.: K1111779-001
Description: DW-6, WA Water ID#: 119-99442
Filter Fraction: 1 **Aliquot Dilution:** 1
Volume Taken: 10 **Final Dilution:** 1

Sample Area/Mass/Volume (ml) : 800
Lab Filter Area (mm2) : 193
Grid Openings Analyzed : 11
Average Grid Opening Area : 0.00926
Area Analyzed (mm2) : 0.10186
Analytical Sens. (struc/MFL>10-um) : 0.189
Detection Limit. (struc/MFL>10-um) : 0.567

Analyst(s)	Analysis Date	Microscope	Magnification
KM	12/12/2011	JEOL 1200 EX	10000

Structure Type	Concen-tration MFL>10-um	95% Confidence Interval MFL>10-um	Structure Count[1] Prim/Total	
TEM Water Amphibole	< 0.189	0 - 0.699 - Poisson	0	
TEM Water Chrysotile	< 0.189	0 - 0.699 - Poisson	0	
TEM Water Total	< 0.189	0 - 0.699 - Poisson	0	

Lab/Cor Sample No.: S2
Client Sample No.: K1111779-002
Description: DW-7, WA Water ID#: 119-99443
Filter Fraction: 1 **Aliquot Dilution:** 1
Volume Taken: 10 **Final Dilution:** 1

Sample Area/Mass/Volume (ml) : 800
Lab Filter Area (mm2) : 193
Grid Openings Analyzed : 11
Average Grid Opening Area : 0.00926
Area Analyzed (mm2) : 0.10186
Analytical Sens. (struc/MFL>10-um) : 0.189
Detection Limit. (struc/MFL>10-um) : 0.567

Analyst(s)	Analysis Date	Microscope	Magnification
NB	12/12/2011	JEOL 1200 EX	10000
KM	12/12/2011	JEOL 1200 EX	10000

Structure Type	Concen-tration MFL>10-um	95% Confidence Interval MFL>10-um	Structure Count[1] Prim/Total	
TEM Water Amphibole	< 0.189	0 - 0.699 - Poisson	0	
TEM Water Chrysotile	< 0.189	0 - 0.699 - Poisson	0	
TEM Water Total	< 0.189	0 - 0.699 - Poisson	0	

Reviewed by:

x

Nina Borchowiec
Technician/Analyst

* One-sided upper 95% Poisson confidence limits may be used to calculate sample concentrations ([Struc count] * [Analytical Sensitivity]) when the structure count is below 4. The limits are: 0 str - 0, 1 str - 1, 2 str - 2, 3 str - 3

Lab/Cor, Inc.
7619 6th Ave NW
Seattle, WA 98117

Final Report

A Professional Service Corporation in the Northwest

Phone: (206) 781-0155
Fax: (206) 789-8424
http://www.labcor.net

EPA 100.2 - Potable Water - WA Raw Data

Job Number: 111347 **SEA**
Client: Columbia Analytical Services
Project Name: City of Longview
Project No.: K1111779

Report Number: 111347R01
Date Received: 12/7/2011

Lab/Cor Sample No: S1
Client Sample No: K1111779-001
Description: DW-6, WA Water ID#: 119-99442

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G5	1	E33				NSD							
G5	2	E42				NSD							
G5	3	F41				NSD							
G5	4	F44				NSD							
G6	5	C34				NSD							
G6	6	E33				NSD							
G6	7	E42				NSD							
G6	8	F41				NSD							
G7	9	C34				NSD							
G7	10	E33				NSD							
G7	11	E42				NSD							

Lab/Cor Sample No: S2
Client Sample No: K1111779-002
Description: DW-7, WA Water ID#: 119-99443

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G5	1	C34				NSD							
G5	2	E33				NSD							
G5	3	E42				NSD							
G5	4	F41				NSD							
G6	5	C34				NSD							
G6	6	E33				NSD							
G6	7	E42				NSD							
G6	8	F41				NSD							
G7	9	C34				NSD							
G7	10	E41				NSD							
G7	11	E42	NAM	1		Fiber	15	1.5	10	Non Asbestos Mineral	Na, Al, Si, K, Fe		

Count Categories

Water_Amph	TEM Water Amphibole	WATER_Chrys	TEM Water Chrysotile	WATER_Total	TEM Water Total

Reviewed by:

x

Nina Borchowiec
Technician/Analyst

111547

Columbia Analytical Services, Inc. Chain of Custody

1317 South 13th Avenue • Kelso, WA 98626 • 1-360-577-7222 • FAX 1-360-636-1068

CAS Contact: Lisa Domenighini

Project Number: K1111779
Project Manager: Lisa Domenighini

Lab Code	Sample ID	# of Cont.	Matrix	Sample Date	Sample Time	Lab ID	Asbestos 100.1
K1111779-001	DW-6	1	Drinking Water	12/5/11	1145	LabCOR	✓
K1111779-002	DW-7	1	Drinking Water	12/5/11	1430	LabCOR	✓

Reviewed by:
Results Released:
Fax Verbals USPS
Invoice Released:
Fax USPS Email

Test Comments

Asbestos - 100.1 K1111779-001,2 Asbestos in drinking water (not chlorinated)

EPA 100.2

Folder Comments:
Use Baseline for Performance Testing Samples

LisA D
12/6/11
1.8°C
Condition Good

Special Instructions/Comments	Turnaround Requirements	Report Requirements	Invoice Information
Please provide the electronic (PDF and EDD) report to the following e-mail address: kelso_data@caslab.com	___ RUSH (Surcharges Apply) PLEASE CIRCLE WORK DAYS 1 2 3 4 5 X STANDARD Requested FAX Date: ___ Requested Report Date: 12/22/11	___ I. Results Only X II. Results + QC Summaries ___ III. Results + QC and Calibration Summaries ___ IV. Data Validation Report with Raw Data PQL/MDL/J N EDD Y	PO# K1111779 Bill to

Relinquished By: [signature] 12/6/11 1130 Received By: [signature] 12/7/11 9:34am Airbill Number:

Pag

Columbia Analytical Services™ 1317 S. 13th Avenue, Kelso, WA 98626 360.577.7222 360.636.1068 (fax) www.caslab.com

January 13, 2012 Analytical Report for Service Request No: K1111888

Steven Misner
Kennedy/Jenks Consultants, Incorporated
200 SW Market St., Suite 500
Portland, OR 97201-5715

RE: City of Longview Mint Farm/17295

Dear Steven:

Enclosed are the results of the samples submitted to our laboratory on December 07, 2011. For your reference, these analyses have been assigned our service request number K1111888.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3363. You may also contact me via Email at LDomenighini@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Lisa A Domenighini

Lisa Domenighini
Project Chemist

LD/jw

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.1 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.1 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.1 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Agency	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
DOD ELAP	L11-119
Florida DOH	E87412
Georgia DNR	881
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
ISO 17025	L11-118
Louisiana DEQ	3016
Louisiana DHH	LA080001
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon – DEQ (NELAP)	WA100010
South Carolina DHEC	61002
Texas CEQ	04704427-08-TX
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

Case Narrative

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request No.:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Received:**	12/07/11
Sample Matrix:	Drinking Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Matrix/Duplicate Matrix Spike (MS/DMS), and Laboratory/Duplicate Laboratory Control Sample (LCS/DLCS).

Sample Receipt

Two drinking water samples were received for analysis at Columbia Analytical Services on 12/07/11. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

General Chemistry Parameters

No anomalies associated with the analysis of these samples were observed.

Total Metals

No anomalies associated with the analysis of these samples were observed.

EDB and DBCP by EPA Method 504.1

No anomalies associated with the analysis of these samples were observed.

Pesticides and Polychlorinated Biphenyls by EPA Method 508.1

Calibration Verification Exceptions:
The analysis of Chlorinated Pesticides and PCB Aroclors by EPA 508.1 uses dual column confirmation. When the Continuing Calibration Verification (CCV) criterion is met for both columns, the lower of the two sample results is generally reported. The primary evaluation criteria were not met on the confirmation column for Heptachlor Epoxide. The results were reported from the column with an acceptable CCV. The data quality was not affected. No further corrective action was necessary.

Matrix Spike Recovery Exceptions:
The matrix spike recovery of Endrin for sample batch QC was outside control criteria. Recovery in the Laboratory Control Sample (LCS) was acceptable, which indicated the analytical batch was in control. The matrix spike outlier suggested a potential low bias in this matrix. No further corrective action was appropriate.

No other anomalies associated with the analysis of these samples were observed.

Approved by Lisa A. Jmenighini **Date** 1/16/12

Chlorinated Acids by EPA Method 515.4

No anomalies associated with the analysis of these samples were observed.

Volatile Organic Compounds by EPA Method 524.2

No anomalies associated with the analysis of these samples were observed.

Semivolatile Organic Compounds by EPA Method 525.2

No anomalies associated with the analysis of these samples were observed.

Carbamates and Carbamoyloximes by EPA Method 531.1

No anomalies associated with the analysis of these samples were observed.

Glyphosate by EPA Method 547

No anomalies associated with the analysis of these samples were observed.

Endothall by EPA Method 548.1

No anomalies associated with the analysis of these samples were observed.

Diquat by High Performance Liquid Chromatography by EPA 549.2

No anomalies associated with the analysis of these samples were observed.

Dioxins and Furans by EPA Method 8290

Dioxin and Furan analysis by EPA Method 1613B was performed at Columbia Analytical Services laboratory in Houston, TX. The narrative for this analysis can be found in the corresponding section of this data package.

Liquid Sulfur

Liquid Sulfur analysis by EPA Method 1613B was performed at Columbia Analytical Services laboratory in Simi Valley, CA. The narrative for this analysis can be found in the corresponding section of this data package.

Radiochemistry

Radiochemistry analysis was performed at ACZ Laboratories. The narrative for this analysis can be found in the corresponding section of this data package.

Asbestos

Asbestos analysis was performed at LabCor Laboratories. The narrative for this analysis can be found in the corresponding section of this data package.

Approved by Lisa A Dimenghini **Date** 1/16/12

Chain of Custody

CHAIN OF CUSTODY

Columbia Analytical Services, Inc. 1317 S. 13th Ave.
Kelso, WA 98626 (360) 577-7222

Service Request # K1111888

Company: KENNEDY / JENKS CONSULTANTS
Address: 200 SW MARKET ST., SUITE 500
City: PORTLAND State: OR Zip: 97201
Tel: 503-295-4911 Fax: 503-295-4901 E-mail: STEVEMISNER@KENNEDYJENKS.COM
Sampler(s) Name & Signature: DENNIS ORLOWSKI

PWS ID:
PWS NAME:
P.O./Project Name: CITY OF LONGVIEW MINT FARM
Project Manager: STEVE MISNER
Samples Chlorinated: Yes ___ No X
Compliance Sample: Yes ___ No ___ Report to State: Yes ___ No X

Sample I.D.	Source Type (see table below)	Date sampled	Time Sampled	Number of Containers	Primary IOCs: (Check) or (All) ☑As ☑Ba ☑Be ☑Cd ☑Cr ☑Ag ☑Ni ☑Se ☑Na ☑Cyanide ☑Fluoride ☑Nitrate ☑Nitrite ☑Sb, Hg, Tl	Lead/Copper	Secondary IOCs: (Check) ☑Al ☑Fe ☑Mn ☑Ag ☑Zn ☑Ca ☑Mg ☑Chloride ☑Color ☑pH ☑Sulfate ☑TDS ☑Hardness ☑Foaming Agents ☑Conductivity ☑Silica ☑Phosphorus ☑Turbidity ☑Other K, ALKALINITY	Disinfection By-Products: Haloacetic Acids (HAA) 552.2	Trihalomethanes (TTHM) 524.2	☑TOC ☑Bromide ☑Bromate ☑Chlorite	Synthetic Organic Chemicals: Semi-Volatiles 525.2 ☐ Regulated ☐ Unregulated	Pesticides/PCBs 508.1	Volatiles 524.2 ☐Reg. ☐UnReg.	EDB/DBCP/TCP 504.1	Chlorinated Acids 515.4	Carbamates 531.1	☑Glyphosate 547 ☑Endothall 548.1	Diquat/Paraquat 549.2	Other Analysis (Specify) UV 254, ASBESTOS, HYDROGEN SULFIDE	Remarks:
DW-1	DW	12/07/11	11:46		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	NO FIELD FILTRATION
DW-9	DW	12/07/11	14:30		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	" " "

Source Type
DW- Drinking Water
SW - Surface Water
RW - Raw Water
GW - Ground Water
TW - Treated Water

Relinquished by: [signature] Date/Time: 12/07/11 15:05 Received by: [signature] Date/Time: 12/7/11 1506
Relinquished by: ___ Date/Time: ___ Received by: ___ Date/Time: ___
Relinquished by: ___ Date/Time: ___ Received by: ___ Date/Time: ___

Special Instructions/Comments:

Columbia Analytical Services™

CHAIN OF CUSTODY / WA. DRINKING WATER

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • (800) 695-7222 • FAX (360) 636-1068

SR# _____

Page 2 of 2

All fields must be filled out. The information in the Shaded Fields is required for reporting your results to the WA. DOH for compliance.

System Name or Property Owner Name: ☐Public ☐ Private

Public Water System ID: Group A ☐ Group B ☐

Project Manager: (Person receiving results) STEVE MISNER / KENNEDY/JENKS

Address: (Street/City/State/Zip) 200 SW MARKET ST. SUITE 500, PORTLAND, OR

County:

Phone Number: (503) 295-4911

Sampled By: (Please print clearly)

Fax Number: (503) 295-4901

Sampler's Signature:

Sample Name	Date Collected	Time Collected	*Source Number	Specific Location Sample Taken	Sampled Before Treatment (B)	Sampled After Treatment (A)	Unknown (NA)	Routine Compliance (RC)	Confirmation (C)	Investigative (I)	Other (specify in comments)	NUMBER OF CONTAINERS	Synthetic Organics (SOCs): 504.1 ☐ 508.1 ☐ 515.4 ☐ 525.2 ☐ 531.1 ☐ 547 ☐ 548.1 ☐ 549.2 ☐	Volatile Organics (VOCs): 524.2 ☐	Disinfection By-Products: THM ☐ HAA ☐ Chlorate ☐ Chlorite ☐ Bromate ☐	Treatment & Precursors: Fluoride ☐ Residual Chlorine ☐ TOC ☐	Inorganics (IOCs): WA IOC List ☑ Nitrate ☑ Nitrite ☑ pH ☑	Metals (Circle Below): Lead & Copper ☐ Hardness ☐	Radionuclides[1]: Gross Alpha ☑ Gross Beta ☑ Radon ☐ Radium 226 ☑ Radium 228 ☑	Other: Asbestos[1] ☑ Dioxins ☐	E. COLI	TOTAL COLI	AMMONIA
DW-1	12/07/11	11:40		DW-1													X		X	X	X	X
DW-9	12/07/11	14:30		DW-9													X		X	X	X	X

COPY OF REPORT TO:

Name: SEE PM ABOVE

Address:

Fax:

e-mail

INVOICE INFORMATION

P.O.#:

Bill To:

Address:

SPECIAL INSTRUCTIONS/COMMENTS:

Circle Metals: Al As Sb Ba Be Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Tl Zn Hg

* For composited of blended samples, list all sources in this section.
1 Analysis subcontracted to an outside laboratory, Shipping costs may be charged.

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Printed Name: DENNIS ORLOWSKI	Printed Name: [illegible]	Printed Name:	Printed Name:
Signature: [illegible]	Signature: [illegible]	Signature:	Signature:
Date/Time: 12/07/11 15:05	Date/Time: 12/7/11 1506	Date/Time:	Date/Time:
Company: KENNEDY/JENKS	Company: CAS	Company:	Company:

DISTRIBUTION: WHITE - return to originator; YELLOW - lab; PINK - retained by originator

PC Lisa

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

Client / Project: Ken Jenks Service Request *K11* 41888

Received: 12/7/11 Opened: 12/7/11 By: [illegible] Unloaded: 12/7/11 By: [illegible]

1. Samples were received via? *Mail* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where? _____

   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
0.2	1.0	289			
-0.5	1.0	300			
1.8	1.0	318			
4.8	3.5	304			

7. Packing material used. *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Sleeves* *Other* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
9. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA Y N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
11. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA Y N
12. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
13. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
15. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____

Page 1 *of* _____

General Chemistry Parameters

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/7/2011
Sample Matrix:	Drinking water	**Date Received:**	12/7/2011

Coliform, Total

Prep Method:	NONE	Units:	MPN/100ml
Analysis Method:	SM 9223 B	Basis:	NA
Test Notes:			

Sample Name	Lab Code	MRL	Dilution Factor	Date Analyzed	Time Test Started		Result	Result Notes
DW-1	K1111888-001	1.0	1	12/07/2011	16:28	hrs	ND	
DW-9	K1111888-002	1.0	1	12/07/2011	16:28	hrs	ND	

SM *Standard Methods for the Examination of Water and Wastewater*, 20th Ed., 1998.

1A/052595

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Collected: 12/ 7/11
Date Received: 12/ 7/11

Units: pH Units
Basis: NA

Analysis Method: 150.1

pH

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-1	K1111888-001	7.35		-	1	NA	12/7/11 17:35	H
DW-9	K1111888-002	7.45		-	1	NA	12/7/11 17:39	H

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Collected: 12/7/11
Date Received: 12/7/11
Date Analyzed: 12/ 7/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: DW-1
Lab Code: K1111888-001

Units: pH Units
Basis: NA

Analyte Name	Method	MRL	Sample Result	DW-1DUP Duplicate Sample K1111888-001DUP17 Result	Average	RPD	RPD Limit
pH	150.1	-	7.35	7.31	7.33	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Analyzed: 12/ 7/11

Lab Control Sample Summary
General Chemistry Parameters

Units: pH Units
Basis: NA

		Lab Control Sample K1111888-LCS2			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
pH	150.1	7.51	7.54	100	85 - 115

Results flagged with an asterisk (*) indicate values outside control criteria.

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Collected: 12/ 7/11
Date Received: 12/ 7/11

Units: NTU
Basis: NA

Analysis Method: 180.1

Turbidity

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-1	K1111888-001	**0.63**		0.20	1	NA	12/7/11 16:36	
DW-9	K1111888-002	**0.20**		0.20	1	NA	12/7/11 16:36	
Method Blank	K1111888-MB1	ND	U	0.20	1	NA	12/7/11 09:00	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Collected: NA
Date Received: NA
Date Analyzed: 12/ 7/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1111828-001

Units: NTU
Basis: NA

Analyte Name	Method	MRL	Sample Result	Batch QCDUP Duplicate Sample K1111828-001DUP8 Result	Average	RPD	RPD Limit
Turbidity	180.1	0.20	0.31	0.31	0.309	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Analyzed: 12/ 7/11

Lab Control Sample Summary
General Chemistry Parameters

Units: NTU
Basis: NA

Analyte Name	Method	Lab Control Sample K1111888-LCS2 Result	Spike Amount	% Rec	% Rec Limits
Turbidity	180.1	4.52	4.51	100	82 - 109

Results flagged with an asterisk (*) indicate values outside control criteria.

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/ 7/11
Sample Matrix:	Drinking Water	**Date Received:**	12/ 7/11
		Units:	mg/L
Analysis Method:	300.0	**Basis:**	NA

Chloride

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-1	K1111888-001	**4.61**		0.40	2	NA	12/8/11 10:39	
DW-9	K1111888-002	**7.53**		0.40	2	NA	12/8/11 11:08	
Method Blank	K1111888-MB1	ND	U	0.20	1	NA	12/8/11 08:42	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Collected: 12/7/11
Date Received: 12/7/11
Date Analyzed: 12/ 8/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: DW-1
Lab Code: K1111888-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	Sample Result	DW-1DUP Duplicate Sample K1111888-001DUP17 Result	Average	RPD	RPD Limit
Chloride	300.0	0.40	4.61	4.53	4.57	2	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Collected: 12/7/11
Date Received: 12/7/11
Date Analyzed: 12/ 8/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: DW-1
Lab Code: K1111888-001

Units: mg/L
Basis: NA

Analytical Method: 300.0

		DW-1MS Matrix Spike K1111888-001MS6			DW-1DMS Duplicate Matrix Spike K1111888-001DMS6					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Chloride	4.61	8.70	4.00	102	8.77	4.00	104	90 - 110	<1	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Analyzed: 12/ 8/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1111888-LCS2			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Chloride	300.0	4.68	5.00	94	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Collected: 12/ 7/11
Date Received: 12/ 7/11

Units: mg/L
Basis: NA

Analysis Method: 300.0

Fluoride

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-1	K1111888-001	ND	U	0.40	2	NA	12/8/11 10:39	
DW-9	K1111888-002	ND	U	0.40	2	NA	12/8/11 11:08	
Method Blank	K1111888-MB1	ND	U	0.20	1	NA	12/8/11 08:42	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Collected: 12/7/11
Date Received: 12/7/11
Date Analyzed: 12/ 8/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: DW-1
Lab Code: K1111888-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	Sample Result	DW-1DUP Duplicate Sample K1111888-001DUP17 Result	Average	RPD	RPD Limit
Fluoride	300.0	0.40	ND U	ND U	NC	NC	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Collected: 12/7/11
Date Received: 12/7/11
Date Analyzed: 12/ 8/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: DW-1
Lab Code: K1111888-001

Units: mg/L
Basis: NA

Analytical Method: 300.0

		DW-1MS Matrix Spike K1111888-001MS6			DW-1DMS Duplicate Matrix Spike K1111888-001DMS6					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Fluoride	ND	4.19	4.00	105	4.21	4.00	105	90 - 110	<1	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Analyzed: 12/ 8/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1111888-LCS2 Result	Spike Amount	% Rec	% Rec Limits
Fluoride	300.0	16.8	17.2	98	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Collected: 12/ 7/11
Date Received: 12/ 7/11

Units: mg/L
Basis: NA

Analysis Method: 300.0

Nitrite as Nitrogen

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-1	K1111888-001	ND	U	0.10	2	NA	12/8/11 10:39	
DW-9	K1111888-002	ND	U	0.10	2	NA	12/8/11 11:08	
Method Blank	K1111888-MB1	ND	U	0.050	1	NA	12/8/11 08:42	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Collected: 12/7/11
Date Received: 12/7/11
Date Analyzed: 12/ 8/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: DW-1
Lab Code: K1111888-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	Sample Result	DW-1DUP Duplicate Sample K1111888-001DUP17 Result	Average	RPD	RPD Limit
Nitrite as Nitrogen	300.0	0.10	ND U	ND U	NC	NC	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Collected: 12/7/11
Date Received: 12/7/11
Date Analyzed: 12/ 8/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: DW-1
Lab Code: K1111888-001

Units: mg/L
Basis: NA

Analytical Method: 300.0

		DW-1MS Matrix Spike K1111888-001MS6			DW-1DMS Duplicate Matrix Spike K1111888-001DMS6					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrite as Nitrogen	ND	4.04	4.00	101	4.11	4.00	103	90 - 110	2	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Analyzed: 12/ 8/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1111888-LCS2 Result	Spike Amount	% Rec	% Rec Limits
Nitrite as Nitrogen	300.0	105	100	105	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/ 7/11
Sample Matrix:	Drinking Water	**Date Received:**	12/ 7/11
		Units:	mg/L
Analysis Method:	300.0	**Basis:**	NA

Nitrate as Nitrogen

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-1	K1111888-001	ND	U	0.10	2	NA	12/8/11 10:39	
DW-9	K1111888-002	ND	U	0.10	2	NA	12/8/11 11:08	
Method Blank	K1111888-MB1	ND	U	0.050	1	NA	12/8/11 08:42	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Collected: 12/7/11
Date Received: 12/7/11
Date Analyzed: 12/ 8/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: DW-1
Lab Code: K1111888-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	Sample Result	DW-1DUP Duplicate Sample K1111888-001DUP17 Result	Average	RPD	RPD Limit
Nitrate as Nitrogen	300.0	0.10	ND U	ND U	NC	NC	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Collected: 12/7/11
Date Received: 12/7/11
Date Analyzed: 12/ 8/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: DW-1
Lab Code: K1111888-001

Units: mg/L
Basis: NA

Analytical Method: 300.0

		DW-1MS Matrix Spike K1111888-001MS6			DW-1DMS Duplicate Matrix Spike K1111888-001DMS6					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate as Nitrogen	ND	3.58	4.00	90	3.62	4.00	90	90 - 110	<1	20

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Analyzed: 12/ 8/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1111888-LCS2 Result	Spike Amount	% Rec	% Rec Limits
Nitrate as Nitrogen	300.0	17.6	17.7	100	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Collected: 12/ 7/11
Date Received: 12/ 7/11

Units: mg/L
Basis: NA

Analysis Method: 300.0

Sulfate

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-1	K1111888-001	**1.22**		0.40	2	NA	12/8/11 10:39	
DW-9	K1111888-002	ND	U	0.40	2	NA	12/8/11 11:08	
Method Blank	K1111888-MB1	ND	U	0.20	1	NA	12/8/11 08:42	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Collected: 12/7/11
Date Received: 12/7/11
Date Analyzed: 12/ 8/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: DW-1
Lab Code: K1111888-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	Sample Result	DW-1DUP Duplicate Sample K1111888-001DUP17 Result	Average	RPD	RPD Limit
Sulfate	300.0	0.40	1.22	1.19	1.20	2	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Collected: 12/7/11
Date Received: 12/7/11
Date Analyzed: 12/ 8/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: DW-1
Lab Code: K1111888-001

Units: mg/L
Basis: NA

Analytical Method: 300.0

		DW-1MS Matrix Spike K1111888-001MS6			DW-1DMS Duplicate Matrix Spike K1111888-001DMS6					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Sulfate	1.22	5.02	4.00	95	5.00	4.00	95	90 - 110	<1	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Analyzed: 12/ 8/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1111888-LCS2 Result	Spike Amount	% Rec	% Rec Limits
Sulfate	300.0	4.62	5.00	92	90 - 110

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Collected: 12/ 7/11
Date Received: 12/ 7/11

Prep Method: Method
Analysis Method: 335.4

Units: mg/L
Basis: NA

Cyanide, Total

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-1	K1111888-001	ND	U	0.010	1	12/ 9/11	12/9/11 15:00	
DW-9	K1111888-002	ND	U	0.010	1	12/ 9/11	12/9/11 15:00	
Method Blank	K1111888-MB1	ND	U	0.010	1	12/ 9/11	12/9/11 15:00	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	NA
Sample Matrix:	Drinking Water	**Date Received:**	NA
		Date Analyzed:	12/ 9/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	Batch QC	**Units:**	mg/L
Lab Code:	K1111800-001	**Basis:**	NA

Analyte Name	Method	MRL	Sample Result	Batch QCDUP Duplicate Sample K1111800-001DUP6 Result	Average	RPD	RPD Limit
Cyanide, Total	335.4	0.010	ND U	ND U	NC	NC	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Collected: NA
Date Received: NA
Date Analyzed: 12/ 9/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1111800-001

Units: mg/L
Basis: NA

Analytical Method: 335.4
Prep Method: Method

		Batch QCMS Matrix Spike K1111800-001MS2			Batch QCDMS Duplicate Matrix Spike K1111800-001DMS2					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Cyanide, Total	ND	0.097	0.100	97	0.079	0.100	79	35 - 144	20	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Analyzed: 12/ 9/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1111888-LCS2 Result	Spike Amount	% Rec	% Rec Limits
Cyanide, Total	335.4	0.711	0.73	97	83 - 116

Results flagged with an asterisk (*) indicate values outside control criteria.

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/ 7/11
Sample Matrix:	Drinking Water	**Date Received:**	12/ 7/11
		Units:	mg/L
Analysis Method:	350.1	**Basis:**	NA

Ammonia as Nitrogen

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-1	K1111888-001	**0.422**		0.050	1	NA	12/12/11 09:59	
DW-9	K1111888-002	**0.167**		0.050	1	NA	12/12/11 09:59	
Method Blank	K1111888-MB1	ND	U	0.050	1	NA	12/12/11 09:59	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Collected: 12/7/11
Date Received: 12/7/11
Date Analyzed: 12/12/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: DW-1
Lab Code: K1111888-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	Sample Result	DW-1DUP Duplicate Sample K1111888-001DUP17 Result	Average	RPD	RPD Limit
Ammonia as Nitrogen	350.1	0.050	0.422	0.418	0.420	<1	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Collected: 12/7/11
Date Received: 12/7/11
Date Analyzed: 12/12/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: DW-1
Lab Code: K1111888-001

Units: mg/L
Basis: NA

Analytical Method: 350.1

		DW-1MS Matrix Spike K1111888-001MS6			DW-1DMS Duplicate Matrix Spike K1111888-001DMS6					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Ammonia as Nitrogen	0.422	2.53	2.00	105	2.51	2.00	104	90 - 110	<1	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Analyzed: 12/12/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1111888-LCS2 Result	Spike Amount	% Rec	% Rec Limits
Ammonia as Nitrogen	350.1	14.2	13.9	102	90 - 110

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Collected: 12/ 7/11
Date Received: 12/ 7/11

Units: mg/L
Basis: NA

Analysis Method: 365.3

Orthophosphate as Phosphorus

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-1	K1111888-001	**0.563**		0.010	1	NA	12/8/11 10:13	
DW-9	K1111888-002	**0.574**		0.010	1	NA	12/8/11 10:15	
Method Blank	K1111888-MB1	ND	U	0.010	1	NA	12/8/11 10:12	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Collected: 12/7/11
Date Received: 12/7/11
Date Analyzed: 12/ 8/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: DW-1
Lab Code: K1111888-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	Sample Result	DW-1DUP Duplicate Sample K1111888-001DUP17 Result	Average	RPD	RPD Limit
Orthophosphate as Phosphorus	365.3	0.010	0.563	0.556	0.559	1	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Collected: 12/7/11
Date Received: 12/7/11
Date Analyzed: 12/ 8/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: DW-1
Lab Code: K1111888-001

Units: mg/L
Basis: NA

Analytical Method: 365.3

		DW-1MS Matrix Spike K1111888-001MS6			DW-1DMS Duplicate Matrix Spike K1111888-001DMS6					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Orthophosphate as Phosphorus	0.563	0.743	0.200	90	0.943	0.400	95	60 - 130	5	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Analyzed: 12/ 8/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1111888-LCS2 Result	Spike Amount	% Rec	% Rec Limits
Orthophosphate as Phosphorus	365.3	0.275	0.283	97	85 - 115

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Collected: 12/ 7/11
Date Received: 12/ 7/11

Units: ColorUnits
Basis: NA

Analysis Method: SM 2120 B

Color

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-1	K1111888-001	**15.0**		5.0	1	NA	12/8/11 08:30	
DW-9	K1111888-002	**15.0**		5.0	1	NA	12/8/11 08:30	
Method Blank	K1111888-MB1	ND	U	5.0	1	NA	12/8/11 08:30	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Collected: NA
Date Received: NA
Date Analyzed: 12/ 8/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1111839-001

Units: ColorUnits
Basis: NA

Analyte Name	Method	MRL	Sample Result	Batch QCDUP Duplicate Sample K1111839-001DUP10 Result	Average	RPD	RPD Limit
Color	SM 2120 B	5.0	10.0	10.0	10.0	<1	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Analyzed: 12/ 8/11

Lab Control Sample Summary
General Chemistry Parameters

Units: ColorUnits
Basis: NA

		Lab Control Sample K1111888-LCS2			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Color	SM 2120 B	25.0	25.0	100	85 - 115

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Collected: 12/ 7/11
Date Received: 12/ 7/11

Units: mg/L
Basis: NA

Analysis Method: SM 2320 B

Alkalinity as CaCO3, Total

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-1	K1111888-001	**91.3**		9.0	1	NA	12/9/11 14:18	
DW-9	K1111888-002	**106**		9.0	1	NA	12/9/11 14:18	
Method Blank	K1111888-MB1	ND	U	9.0	1	NA	12/9/11 14:18	
Method Blank	K1111888-MB2	ND	U	9.0	1	NA	12/9/11 14:18	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Collected: NA
Date Received: NA
Date Analyzed: 12/ 9/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1111828-002

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	Sample Result	Batch QCDUP Duplicate Sample K1111828-002DUP9 Result	Average	RPD	RPD Limit
Alkalinity as CaCO3, Total	SM 2320 B	9.0	55.5	55.7	55.6	<1	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Collected: NA
Date Received: NA
Date Analyzed: 12/ 9/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1111853-002

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	Sample Result	Batch QCDUP Duplicate Sample K1111853-002DUP13 Result	Average	RPD	RPD Limit
Alkalinity as CaCO3, Total	SM 2320 B	9.0	158	166	162	5	20

Results flagged with an asterisk (*) indicate values outside control criteria.

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Analyzed: 12/ 9/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1111888-LCS2 Result	Spike Amount	% Rec	% Rec Limits
Alkalinity as CaCO3, Total	SM 2320 B	103	101	102	94 - 106

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Analyzed: 12/ 9/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1111888-LCS3 Result	Spike Amount	% Rec	% Rec Limits
Alkalinity as CaCO3, Total	SM 2320 B	99.9	101	99	94 - 106

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/ 7/11
Sample Matrix:	Drinking Water	**Date Received:**	12/ 7/11
		Units:	µMHOS/cm
Analysis Method:	SM 2510 B	**Basis:**	NA

Conductivity at 25 Degrees Celsius

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-1	K1111888-001	**212**		2.0	1	NA	12/16/11 15:30	
DW-9	K1111888-002	**252**		2.0	1	NA	12/16/11 15:30	
Method Blank	K1111888-MB1	ND	U	2.0	1	NA	12/16/11 15:30	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	NA
Sample Matrix:	Drinking Water	**Date Received:**	NA
		Date Analyzed:	12/16/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	Batch QC	**Units:**	µMHOS/cm
Lab Code:	K1111896-002	**Basis:**	NA

Analyte Name	Method	MRL	Sample Result	Batch QCDUP Duplicate Sample K1111896-002DUP23 Result	Average	RPD	RPD Limit
Conductivity at 25 Degrees Celsius	SM 2510 B	2.0	537	537	537	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	NA
Sample Matrix:	Drinking Water	**Date Received:**	NA
		Date Analyzed:	12/16/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	Batch QC	**Units:**	µMHOS/cm
Lab Code:	K1111896-003	**Basis:**	NA

Analyte Name	Method	MRL	Sample Result	Batch QCDUP Duplicate Sample K1111896-003DUP24 Result	Average	RPD	RPD Limit
Conductivity at 25 Degrees Celsius	SM 2510 B	2.0	682	682	682	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Analyzed: 12/16/11

Lab Control Sample Summary
General Chemistry Parameters

Units: µMHOS/cm
Basis: NA

		Lab Control Sample K1111888-LCS2			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Conductivity at 25 Degrees Celsius	SM 2510 B	342	330	104	88 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/ 7/11
Sample Matrix:	Drinking Water	**Date Received:**	12/ 7/11
		Units:	mg/L
Analysis Method:	SM 2540 C	**Basis:**	NA

Solids, Total Dissolved

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-1	K1111888-001	**167**		10	1	NA	12/8/11 13:40	
DW-9	K1111888-002	**105**		10	1	NA	12/8/11 13:40	
Method Blank	K1111888-MB1	ND	U	5.0	1	NA	12/8/11 13:40	
Method Blank	K1111888-MB2	ND	U	5.0	1	NA	12/8/11 13:40	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Collected: NA
Date Received: NA
Date Analyzed: 12/ 8/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1111884-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	Sample Result	Batch QCDUP Duplicate Sample K1111884-001DUP16 Result	Average	RPD	RPD Limit
Solids, Total Dissolved	SM 2540 C	20	3630	3690	3660	2	10

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Collected: NA
Date Received: NA
Date Analyzed: 12/ 8/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1111894-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	Sample Result	Batch QCDUP Duplicate Sample K1111894-001DUP21 Result	Average	RPD	RPD Limit
Solids, Total Dissolved	SM 2540 C	10	377	400	389	6	10

Results flagged with an asterisk (*) indicate values outside control criteria.

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Analyzed: 12/ 8/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1111888-LCS2 Result	Spike Amount	% Rec	% Rec Limits
Solids, Total Dissolved	SM 2540 C	812	825	98	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/ 7/11
Sample Matrix:	Drinking Water	**Date Received:**	12/ 7/11
		Units:	mg/L
Analysis Method:	SM 4500-SiO2 C	**Basis:**	NA

Silica, Dissolved as SiO2

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-1	K1111888-001	**29.2**		2.5	1	NA	12/12/11 14:35	
DW-9	K1111888-002	**28.9**		2.5	1	NA	12/12/11 14:35	
Method Blank	K1111888-MB1	ND	U	0.050	1	NA	12/12/11 14:35	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	NA
Sample Matrix:	Drinking Water	**Date Received:**	NA
		Date Analyzed:	12/12/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	Batch QC	**Units:**	mg/L
Lab Code:	K1111883-001	**Basis:**	NA

Analyte Name	Method	MRL	Sample Result	Batch QCDUP Duplicate Sample K1111883-001DUP15 Result	Average	RPD	RPD Limit
Silica, Dissolved as SiO2	SM 4500-SiO2 C	0.63	8.40	8.44	8.42	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	NA
Sample Matrix:	Drinking Water	**Date Received:**	NA
		Date Analyzed:	12/12/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1111883-001

Units: mg/L
Basis: NA

Analytical Method: SM 4500-SiO2 C

		Batch QCMS **Matrix Spike** K1111883-001MS5			Batch QCDMS **Duplicate Matrix Spike** K1111883-001DMS5					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Silica, Dissolved as SiO2	8.40	21.9	12.5	108	21.8	12.5	107	73 - 130	<1	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Analyzed: 12/12/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1111888-LCS2 Result	Spike Amount	% Rec	% Rec Limits
Silica, Dissolved as SiO2	SM 4500-SiO2 C	1.85	1.99	93	85 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/ 7/11
Sample Matrix:	Drinking Water	**Date Received:**	12/ 7/11
		Units:	mg/L
Analysis Method:	SM 5310 C	**Basis:**	NA

Carbon, Total Organic

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-1	K1111888-001	**1.00**		0.50	1	NA	12/9/11 13:54	
DW-9	K1111888-002	**1.12**		0.50	1	NA	12/9/11 13:54	
Method Blank	K1111888-MB1	ND	U	0.50	1	NA	12/9/11 13:54	
Method Blank	K1111888-MB2	ND	U	0.50	1	NA	12/9/11 13:54	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/7/11
Sample Matrix:	Drinking Water	**Date Received:**	12/7/11
		Date Analyzed:	12/ 9/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	DW-1	**Units:**	mg/L
Lab Code:	K1111888-001	**Basis:**	NA

Analyte Name	Method	MRL	Sample Result	DW-1DUP Duplicate Sample K1111888-001DUP17 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	0.50	1.00	1.03	1.02	2	33

Results flagged with an asterisk (*) indicate values outside control criteria.

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/7/11
Sample Matrix:	Drinking Water	**Date Received:**	12/7/11
		Date Analyzed:	12/ 9/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	DW-9	**Units:**	mg/L
Lab Code:	K1111888-002	**Basis:**	NA

Analyte Name	Method	MRL	Sample Result	DW-9DUP Duplicate Sample K1111888-002DUP18 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	0.50	1.12	1.10	1.11	2	33

Results flagged with an asterisk (*) indicate values outside control criteria.

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Collected: 12/7/11
Date Received: 12/7/11
Date Analyzed: 12/ 9/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: DW-1
Lab Code: K1111888-001

Units: mg/L
Basis: NA

Analytical Method: SM 5310 C

DW-1MS
Matrix Spike
K1111888-001MS7

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	1.00	24.0	25.0	92	83 - 117

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Analyzed: 12/ 9/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1111888-LCS2 Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	SM 5310 C	25.7	26.0	99	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Analyzed: 12/ 9/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1111888-LCS3 Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	SM 5310 C	27.4	26.0	105	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/ 7/11
Sample Matrix:	Drinking Water	**Date Received:**	12/ 7/11
Prep Method:	Method	**Units:**	mg/L
Analysis Method:	SM 5540 C	**Basis:**	NA

Methylene Blue Active Substances

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-1	K1111888-001	ND	U	0.050	1	12/ 9/11	12/9/11 11:17	
DW-9	K1111888-002	ND	U	0.050	1	12/ 9/11	12/9/11 11:17	
Method Blank	K1111888-MB1	ND	U	0.050	1	12/ 9/11	12/9/11 11:17	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Collected: 12/7/11
Date Received: 12/7/11
Date Analyzed: 12/ 9/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: DW-1
Lab Code: K1111888-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	Sample Result	DW-1DUP Duplicate Sample K1111888-001DUP17 Result	Average	RPD	RPD Limit
Methylene Blue Active Substances	SM 5540 C	0.050	ND U	ND U	NC	NC	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Collected: 12/7/11
Date Received: 12/7/11
Date Analyzed: 12/ 9/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: DW-1
Lab Code: K1111888-001

Units: mg/L
Basis: NA

Analytical Method: SM 5540 C
Prep Method: Method

		DW-1MS **Matrix Spike** K1111888-001MS7			
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Methylene Blue Active Substances	ND	0.52	0.40	129	70 - 130

Results flagged with an asterisk (*) indicate values outside control criteria.

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Analyzed: 12/ 9/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1111888-LCS1			Duplicate Lab Control Sample K1111888-DLCS1					
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Methylene Blue Active Substances	SM 5540 C	0.404	0.40	101	0.436	0.40	109	70 - 130	8	20

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/ 7/11
Sample Matrix:	Drinking Water	**Date Received:**	12/ 7/11
		Units:	cm-1
Analysis Method:	SM 5910 B	**Basis:**	NA

UV254

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-1	K1111888-001	0.080		-	1	NA	12/8/11 10:14	
DW-9	K1111888-002	0.049		-	1	NA	12/8/11 10:14	
Method Blank	K1111888-MB1	0.000		-	1	NA	12/8/11 10:14	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	NA
Sample Matrix:	Drinking Water	**Date Received:**	NA
		Date Analyzed:	12/ 8/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	Batch QC	**Units:**	cm-1
Lab Code:	K1111839-001	**Basis:**	NA

				Batch QCDUP Duplicate Sample K1111839-001DUP10			
Analyte Name	**Method**	**MRL**	**Sample Result**	**Result**	**Average**	**RPD**	**RPD Limit**
UV254	SM 5910 B	-	0.032	0.032	0.0320	<1	20

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking Water

Service Request: K1111888
Date Collected: 12/ 7/11
Date Received: 12/ 7/11

Units: MPN/100mL
Basis: NA

Analysis Method: SM 9221 E

Coliform, Fecal

Sample Name	Lab Code	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
DW-1	K1111888-001	ND	U	1.8	1	NA	12/7/11 16:37	
DW-9	K1111888-002	ND	U	1.8	1	NA	12/7/11 16:37	

Metals

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/07/11
Sample Matrix:	Drinking water	**Date Received:**	12/07/11

Total Metals

Sample Name: DW-1
Lab Code: K1111888-001
Test Notes:

Units: ug/L (ppb)
Basis: NA

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Arsenic (III)	None	1632 Rev. A	0.5	25	NA	12/19/11	4.0	
Arsenic (V)	None	1632 Rev. A	0.5	25	NA	12/13/11	1.0	
Inorganic Arsenic	None	1632 Rev. A	0.5	25	NA	12/13/11	5.0	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/07/11
Sample Matrix:	Drinking water	**Date Received:**	12/07/11

Total Metals

Sample Name:	DW-9	Units:	ug/L (ppb)
Lab Code:	K1111888-002	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Arsenic (III)	None	1632 Rev. A	0.5	25	NA	12/19/11	6.1	
Arsenic (V)	None	1632 Rev. A	0.5	25	NA	12/13/11	0.6	
Inorganic Arsenic	None	1632 Rev. A	0.5	25	NA	12/13/11	6.7	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	NA
Sample Matrix:	Drinking water	**Date Received:**	NA

Total Metals

Sample Name:	Method Blank 1	Units:	ug/L (ppb)
Lab Code:	K1111888-MB1	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Arsenic (III)	None	1632 Rev. A	0.02	1	NA	12/19/11	ND	
Arsenic (V)	None	1632 Rev. A	0.02	1	NA	12/13/11	ND	
Inorganic Arsenic	None	1632 Rev. A	0.02	1	NA	12/13/11	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	NA
Sample Matrix:	Drinking water	**Date Received:**	NA

Total Metals

Sample Name:	Method Blank 2	Units:	ug/L (ppb)
Lab Code:	K1111888-MB2	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Arsenic (III)	None	1632 Rev. A	0.02	1	NA	12/19/11	ND	
Arsenic (V)	None	1632 Rev. A	0.02	1	NA	12/13/11	ND	
Inorganic Arsenic	None	1632 Rev. A	0.02	1	NA	12/13/11	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	NA
Sample Matrix:	Drinking water	**Date Received:**	NA

Total Metals

Sample Name:	Method Blank 3	Units:	ug/L (ppb)
Lab Code:	K1111888-MB3	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Arsenic (III)	None	1632 Rev. A	0.02	1	NA	12/19/11	ND	
Arsenic (V)	None	1632 Rev. A	0.02	1	NA	12/13/11	ND	
Inorganic Arsenic	None	1632 Rev. A	0.02	1	NA	12/13/11	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	NA
Sample Matrix:	Drinking water	**Date Received:**	NA
		Date Extracted:	NA
		Date Analyzed:	12/13, 19/11

Matrix Spike/Duplicate Matrix Spike Summary
Total Metals

Sample Name:	Batch QC		Units:	ug/L (ppb)
Lab Code:	K1111779-001S,	K1111779-001SD	Basis:	NA
Test Notes:				

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Percent Recovery MS	Percent Recovery DMS	Method Acceptance Limits	Relative Percent Difference	Result Notes
Arsenic (III)	None	1632 Rev. A	0.5	5.0	5.0	4.7	11.7	10.5	140	116	30-170	11	
Inorganic Arsenic	None	1632 Rev. A	1.0	10	10	5.0	16.3	17.5	113	125	50-150	7	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	NA
LCS Matrix:	Water	**Date Received:**	NA
		Date Extracted:	NA
		Date Analyzed:	12/13, 19/11

Calibration Verification (CALVER) Sample Summary
Total Metals

Sample Name: CALVER 1

Units: ug/L (ppb)
Basis: NA

Test Notes:

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Arsenic (III)	None	1632 Rev. A	0.20	0.185	92	70-130	
Inorganic Arsenic	None	1632 Rev. A	0.20	0.201	100	80-120	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	NA
LCS Matrix:	Water	**Date Received:**	NA
		Date Extracted:	NA
		Date Analyzed:	12/13, 19/11

Calibration Verification (CALVER) Sample Summary
Total Metals

Sample Name: CALVER 2

Units: ug/L (ppb)
Basis: NA

Test Notes:

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Arsenic (III)	None	1632 Rev. A	0.20	0.163	82	70-130	
Inorganic Arsenic	None	1632 Rev. A	0.20	0.178	89	80-120	

Metals

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/07/11
Sample Matrix:	Drinking water	**Date Received:**	12/07/11

Hardness as CaCO3

Prep Method:	CLAA	Units:	mg/L (ppm)
Analysis Method:	200.7/SM 2340B	Basis:	NA
Test Notes:			

Sample Name	Lab Code	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
DW-1	K1111888-001	0.4	1	12/16/11	12/22/11	69.7	
DW-9	K1111888-002	0.4	1	12/16/11	12/22/11	84.7	
Method Blank	K1111888-MB	0.4	1	12/16/11	12/22/11	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	NA
Sample Matrix:	Drinking water	**Date Received:**	NA
		Date Extracted:	12/16/11
		Date Analyzed:	12/22/11

Duplicate Summary
Metals

Sample Name:	Batch QC	Units:	mg/L (ppm)
Lab Code:	K1111779-001D	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Hardness as CaCO3	CLAA	200.7/SM 2340B	0.4	121	120	121	<1	

Metals

Columbia Analytical Services

- Cover Page -
INORGANIC ANALYSIS DATA PACKAGE

Client: Kennedy/Jenks Consultants, Incorporated
Project Name: City of Longview Mint Farm
Project No.: 17295

Service Request: K1111888

Sample Name:	Lab Code:
Batch QC1D	**K1111779-001D**
Batch QC1S	**K1111779-001S**
Batch QC2D	**K1111839-001D**
Batch QC2S	**K1111839-001S**
DW-1	**K1111888-001**
DW-1D	**K1111888-001D**
DW-1S	**K1111888-001S**
DW-9	**K1111888-002**
Method Blank	**K1111888-MB**

Comments:

Approved By: SC **Date:** 1/3/12

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Kennedy/Jenks Consultants, Incor	**Service Request:**	K1111888
Project No.:	17295	**Date Collected:**	12/07/11
Project Name:	City of Longview Mint Farm	**Date Received:**	12/07/11
Matrix:	WATER	**Units:**	ug/L
		Basis:	NA

Sample Name: DW-1 **Lab Code:** K1111888-001

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	200.7	3.0	1.0	12/16/11	12/21/11	4.6		
Antimony	200.8	0.05	1.0	12/09/11	12/13/11	0.05	U	
Arsenic	200.8	0.5	1.0	12/09/11	12/13/11	3.9		
Barium	200.8	0.05	1.0	12/09/11	12/13/11	11.0		
Beryllium	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Cadmium	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Calcium	200.7	50.0	1.0	12/16/11	12/21/11	19800		
Chromium	200.8	0.2	1.0	12/09/11	12/13/11	0.2	U	
Copper	200.8	0.1	1.0	12/09/11	12/13/11	0.1		
Iron	200.7	10.0	1.0	12/16/11	12/21/11	2230		
Lead	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Magnesium	200.7	20.0	1.0	12/16/11	12/21/11	4930		
Manganese	200.7	0.6	1.0	12/16/11	12/21/11	534		
Mercury	245.1	0.2	1.0	12/13/11	12/14/11	0.2	U	
Nickel	200.8	0.2	1.0	12/09/11	12/13/11	0.5		
Potassium	200.7	100	1.0	12/16/11	12/21/11	2600		
Selenium	200.8	1.0	1.0	12/09/11	12/13/11	1.0	U	
Silicon	200.7	50.0	1.0	12/16/11	12/21/11	25600		
Silver	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Sodium	200.7	200	1.0	12/16/11	12/21/11	8880		
Thallium	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Uranium	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Zinc	200.7	2.0	1.0	12/16/11	12/21/11	2.0	U	

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Kennedy/Jenks Consultants, Incor	**Service Request:**	K1111888
Project No.:	17295	**Date Collected:**	12/07/11
Project Name:	City of Longview Mint Farm	**Date Received:**	12/07/11
Matrix:	WATER	**Units:**	ug/L
		Basis:	NA

Sample Name: DW-9 **Lab Code:** K1111888-002

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	200.7	3.0	1.0	12/16/11	12/21/11	6.6		
Antimony	200.8	0.05	1.0	12/09/11	12/13/11	0.05	U	
Arsenic	200.8	0.5	1.0	12/09/11	12/13/11	5.2		
Barium	200.8	0.05	1.0	12/09/11	12/13/11	11.5		
Beryllium	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Cadmium	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Calcium	200.7	50.0	1.0	12/16/11	12/21/11	24200		
Chromium	200.8	0.2	1.0	12/09/11	12/13/11	0.3		
Copper	200.8	0.1	1.0	12/09/11	12/13/11	0.1		
Iron	200.7	10.0	1.0	12/16/11	12/21/11	682		
Lead	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Magnesium	200.7	20.0	1.0	12/16/11	12/21/11	5890		
Manganese	200.7	0.6	1.0	12/16/11	12/21/11	574		
Mercury	245.1	0.2	1.0	12/13/11	12/14/11	0.2	U	
Nickel	200.8	0.2	1.0	12/09/11	12/13/11	0.7		
Potassium	200.7	100	1.0	12/16/11	12/21/11	3490		
Selenium	200.8	1.0	1.0	12/09/11	12/13/11	1.0	U	
Silicon	200.7	50.0	1.0	12/16/11	12/21/11	26200		
Silver	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Sodium	200.7	200	1.0	12/16/11	12/21/11	9920		
Thallium	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Uranium	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Zinc	200.7	2.0	1.0	12/16/11	12/21/11	2.0	U	

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Kennedy/Jenks Consultants, Incor	Service Request:	K1111888
Project No.:	17295	Date Collected:	
Project Name:	City of Longview Mint Farm	Date Received:	
Matrix:	WATER	Units:	ug/L
		Basis:	NA

Sample Name: Method Blank Lab Code: K1111888-MB

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	200.7	3.0	1.0	12/16/11	12/21/11	3.0	U	
Antimony	200.8	0.05	1.0	12/09/11	12/13/11	0.05	U	
Arsenic	200.8	0.5	1.0	12/09/11	12/13/11	0.5	U	
Barium	200.8	0.05	1.0	12/09/11	12/13/11	0.05	U	
Beryllium	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Cadmium	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Calcium	200.7	50.0	1.0	12/16/11	12/21/11	50.0	U	
Chromium	200.8	0.2	1.0	12/09/11	12/13/11	0.2	U	
Copper	200.8	0.1	1.0	12/09/11	12/13/11	0.1	U	
Iron	200.7	10.0	1.0	12/16/11	12/21/11	10.0	U	
Lead	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Magnesium	200.7	20.0	1.0	12/16/11	12/21/11	20.0	U	
Manganese	200.7	0.6	1.0	12/16/11	12/21/11	0.6	U	
Mercury	245.1	0.2	1.0	12/13/11	12/14/11	0.2	U	
Nickel	200.8	0.2	1.0	12/09/11	12/13/11	0.2	U	
Potassium	200.7	100	1.0	12/16/11	12/21/11	100	U	
Selenium	200.8	1.0	1.0	12/09/11	12/13/11	1.0	U	
Silicon	200.7	50.0	1.0	12/16/11	12/21/11	50.0	U	
Silver	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Sodium	200.7	200	1.0	12/16/11	12/21/11	200	U	
Thallium	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Uranium	200.8	0.02	1.0	12/09/11	12/13/11	0.02	U	
Zinc	200.7	2.0	1.0	12/16/11	12/21/11	2.0	U	

Comments:

Metals

- 5A -

SPIKE SAMPLE RECOVERY

Client: Kennedy/Jenks Consultants, Incor **Service Request:** K1111888

Project No.: 17295 **Units:** UG/L

Project Name: City of Longview Mint Farm **Basis:** NA

Matrix: WATER

Sample Name: Batch QC1S **Lab Code:** K1111779-001S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Aluminum	70 - 130	2020		8.8		2000.00	100.6		200.7
Calcium	70 - 130	42200		33300		10000.00	89.0		200.7
Iron	70 - 130	1580		604		1000.00	97.6		200.7
Magnesium	70 - 130	18900		9230		10000.00	96.7		200.7
Manganese	70 - 130	987		500		500.00	97.4		200.7
Potassium	70 - 130	14400		4280		10000.00	101.2		200.7
Silicon	70 - 130	34000		24600		10000.00	94.0		200.7
Sodium	70 - 130	22000		12100		10000.00	99.0		200.7
Zinc	70 - 130	502		2.0	U	500.00	100.4		200.7

An empty field in the Control Limit column indicates the control limit is not applicable

Metals

- 5A -

SPIKE SAMPLE RECOVERY

Client: Kennedy/Jenks Consultants, Incor **Service Request:** K1111888

Project No.: 17295 **Units:** UG/L

Project Name: City of Longview Mint Farm **Basis:** NA

Matrix: WATER

Sample Name: Batch QC2S **Lab Code:** K1111839-001S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Antimony	70 - 130	49.7		0.05	U	50.00	99.4		200.8
Arsenic	70 - 130	56.4		6.2		50.00	100.4		200.8
Barium	70 - 130	115		14.6		100.00	100.4		200.8
Beryllium	70 - 130	2.51		0.02	U	2.50	100.4		200.8
Cadmium	70 - 130	24.4		0.02	U	25.00	97.6		200.8
Chromium	70 - 130	10.3		0.2		10.00	101.0		200.8
Copper	70 - 130	12.3		0.2		12.50	96.8		200.8
Lead	70 - 130	47.3		0.02	U	50.00	94.6		200.8
Nickel	70 - 130	24.4		1.0		25.00	93.6		200.8
Selenium	70 - 130	48.5		1.0	U	50.00	97.0		200.8
Silver	70 - 130	12.0		0.02	U	12.50	96.0		200.8
Thallium	70 - 130	47.5		0.02	U	50.00	95.0		200.8
Uranium	70 - 130	17.9		0.02	U	20.00	89.5		200.8

An empty field in the Control Limit column indicates the control limit is not applicable

Metals

- 5A -

SPIKE SAMPLE RECOVERY

Client: Kennedy/Jenks Consultants, Incor **Service Request:** K1111888

Project No.: 17295 **Units:** UG/L

Project Name: City of Longview Mint Farm **Basis:** NA

Matrix: WATER

Sample Name: DW-1S **Lab Code:** K1111888-001S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Mercury	70 - 130	1.09		0.2	U	1.00	109.0		245.1

An empty field in the Control Limit column indicates the control limit is not applicable

Metals

- 6 -

DUPLICATES

Client: Kennedy/Jenks Consultants, Incor **Service Request:** K1111888

Project No.: 17295 **Units:** UG/L

Project Name: City of Longview Mint Farm **Basis:** NA

Matrix: WATER

Sample Name: Batch QC1D **Lab Code:** K1111779-001D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Aluminum		8.8		4.4		66.7		200.7
Calcium	20	33300		32900		1.2		200.7
Iron	20	604		599		0.8		200.7
Magnesium	20	9230		9160		0.8		200.7
Manganese	20	500		497		0.6		200.7
Potassium	20	4280		4290		0.2		200.7
Silicon	20	24600		24600		0.0		200.7
Sodium	20	12100		12000		0.8		200.7
Zinc		2.0	U	2.0	U			200.7

An empty field in the Control Limit column indicates the control limit is not applicable.

Metals

- 6 -

DUPLICATES

Client: Kennedy/Jenks Consultants, Incor **Service Request:** K1111888

Project No.: 17295 **Units:** UG/L

Project Name: City of Longview Mint Farm **Basis:** NA

Matrix: WATER

Sample Name: Batch QC2D **Lab Code:** K1111839-001D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Antimony		0.05	U	0.05	U			200.8
Arsenic	20	6.2		6.3		1.6		200.8
Barium	20	14.6		14.8		1.4		200.8
Beryllium		0.02	U	0.02	U			200.8
Cadmium		0.02	U	0.02	U			200.8
Chromium		0.2		0.2		0.0		200.8
Copper		0.2		0.2		0.0		200.8
Lead		0.02	U	0.02	U			200.8
Nickel		1.0		0.9		10.5		200.8
Selenium		1.0	U	1.0	U			200.8
Silver		0.02	U	0.02	U			200.8
Thallium		0.02	U	0.02	U			200.8
Uranium		0.02	U	0.02	U			200.8

An empty field in the Control Limit column indicates the control limit is not applicable.

Metals

- 6 -

DUPLICATES

Client: Kennedy/Jenks Consultants, Incor **Service Request:** K1111888

Project No.: 17295 **Units:** UG/L

Project Name: City of Longview Mint Farm **Basis:** NA

Matrix: WATER

Sample Name: DW-1D **Lab Code:** K1111888-001D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Mercury		0.2	U	0.2	U			245.1

An empty field in the Control Limit column indicates the control limit is not applicable.

Metals

LABORATORY CONTROL SAMPLE

Client: Kennedy/Jenks Consultants, Incor **Service Request:** K1111888

Project No.: 17295

Project Name: City of Longview Mint Farm

Aqueous LCS Source: CAS MIXED **Solid LCS Source:**

Analyte	Aqueous: ug/L True	Found	%R	Solid: mg/kg True	Found	C	Limits	%R
Aluminum	5000	4980	99.6					
Antimony	50	48.9	97.8					
Arsenic	50	49.9	99.8					
Barium	100	98.1	98.1					
Beryllium	2.5	2.44	97.6					
Cadmium	25	24.5	98.0					
Calcium	12500	12400	99.2					
Chromium	10	9.7	97.0					
Copper	12.5	12.5	100.0					
Iron	2500	2400	96.0					
Lead	50	49.2	98.4					
Magnesium	12500	12500	100.0					
Manganese	1250	1210	96.8					
Mercury	5	5.00	100.0					
Nickel	25	24.4	97.6					
Potassium	12500	12500	100.0					
Selenium	50	49.0	98.0					
Silicon	10000	10100	101.0					
Silver	12.5	12.2	97.6					
Sodium	12500	13200	105.6					
Thallium	50	48.6	97.2					
Uranium	20	19.2	96.0					
Zinc	1250	1260	100.8					

EPA Method 504.1

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/07/2011
Sample Matrix:	Drinking water	**Date Received:**	12/07/2011

EPA Method 504.1

Sample Name:	DW-1	**Units:**	ug/L
Lab Code:	K1111888-001	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	504.1		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1,2-Dibromoethane (EDB)	ND	U	0.0096	1	12/14/11	12/14/11	KWG1112619	
1,2-Dibromo-3-chloropropane (DBCP	ND	U	0.0096	1	12/14/11	12/14/11	KWG1112619	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/07/2011
Sample Matrix:	Drinking water	**Date Received:**	12/07/2011

EPA Method 504.1

Sample Name:	DW-9	**Units:**	ug/L
Lab Code:	K1111888-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	504.1		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1,2-Dibromoethane (EDB)	ND	U	0.0097	1	12/14/11	12/14/11	KWG1112619	
1,2-Dibromo-3-chloropropane (DBCP	ND	U	0.0097	1	12/14/11	12/14/11	KWG1112619	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	NA
Sample Matrix:	Drinking water	**Date Received:**	NA

EPA Method 504.1

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1112619-3	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	504.1		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1,2-Dibromoethane (EDB)	ND	U	0.010	1	12/14/11	12/14/11	KWG1112619	
1,2-Dibromo-3-chloropropane (DBCP	ND	U	0.010	1	12/14/11	12/14/11	KWG1112619	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Extracted:**	12/14/2011
Sample Matrix:	Drinking water	**Date Analyzed:**	12/14/2011

Matrix Spike Summary
EPA Method 504.1

Sample Name:	Batch QC	**Units:**	ug/L
Lab Code:	K1111839-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	504.1	**Extraction Lot:**	KWG1112619

		Batch QCMS KWG1112619-2 Matrix Spike			
Analyte Name	**Sample Result**	**Result**	**Expected**	**%Rec**	**%Rec Limits**
1,2-Dibromoethane (EDB)	ND	0.192	0.239	80	65-135
1,2-Dibromo-3-chloropropane (DBCP	ND	0.172	0.239	72	65-135

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Extracted:**	12/14/2011
Sample Matrix:	Drinking water	**Date Analyzed:**	12/14/2011

Lab Control Spike Summary
EPA Method 504.1

Extraction Method:	METHOD	**Units:**	ug/L
Analysis Method:	504.1	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1112619

	Lab Control Sample KWG1112619-1 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
1,2-Dibromoethane (EDB)	0.249	0.250	99	70-130
1,2-Dibromo-3-chloropropane (DBCP)	0.239	0.250	96	70-130

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Pesticides/PCBs

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/07/2011
Sample Matrix:	Drinking water	**Date Received:**	12/07/2011

Pesticides/PCBs by EPA method 508.1

Sample Name:	DW-1	**Units:**	ug/L
Lab Code:	K1111888-001	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	508.1		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
gamma-BHC (Lindane)	ND	U	0.0098	1	12/13/11	12/20/11	KWG1112596	
Heptachlor	ND	U	0.0098	1	12/13/11	12/20/11	KWG1112596	
Heptachlor Epoxide	ND	U	0.0098	1	12/13/11	12/20/11	KWG1112596	
Endrin	ND	U	0.0098	1	12/13/11	12/23/11	KWG1112596	
Methoxychlor	ND	U	0.0098	1	12/13/11	12/20/11	KWG1112596	
Toxaphene	ND	U	0.098	1	12/13/11	12/20/11	KWG1112596	
Chlordane	ND	U	0.098	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1016	ND	U	0.049	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1221	ND	U	0.098	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1232	ND	U	0.098	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1242	ND	U	0.098	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1248	ND	U	0.098	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1254	ND	U	0.098	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1260	ND	U	0.098	1	12/13/11	12/20/11	KWG1112596	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4,4'-Dibromooctafluorobiphenyl	77	70-130	12/20/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/07/2011
Sample Matrix:	Drinking water	**Date Received:**	12/07/2011

Pesticides/PCBs by EPA method 508.1

Sample Name:	DW-9	**Units:**	ug/L
Lab Code:	K1111888-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	508.1		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
gamma-BHC (Lindane)	ND	U	0.0098	1	12/13/11	12/20/11	KWG1112596	
Heptachlor	ND	U	0.0098	1	12/13/11	12/20/11	KWG1112596	
Heptachlor Epoxide	ND	U	0.0098	1	12/13/11	12/20/11	KWG1112596	
Endrin	ND	U	0.0098	1	12/13/11	12/23/11	KWG1112596	
Methoxychlor	ND	U	0.0098	1	12/13/11	12/20/11	KWG1112596	
Toxaphene	ND	U	0.098	1	12/13/11	12/20/11	KWG1112596	
Chlordane	ND	U	0.098	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1016	ND	U	0.049	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1221	ND	U	0.098	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1232	ND	U	0.098	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1242	ND	U	0.098	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1248	ND	U	0.098	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1254	ND	U	0.098	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1260	ND	U	0.098	1	12/13/11	12/20/11	KWG1112596	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4,4'-Dibromooctafluorobiphenyl	81	70-130	12/20/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	NA
Sample Matrix:	Drinking water	**Date Received:**	NA

Pesticides/PCBs by EPA method 508.1

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1112596-5	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	508.1		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
gamma-BHC (Lindane)	ND	U	0.010	1	12/13/11	12/20/11	KWG1112596	
Heptachlor	ND	U	0.010	1	12/13/11	12/20/11	KWG1112596	
Heptachlor Epoxide	ND	U	0.010	1	12/13/11	12/20/11	KWG1112596	
Endrin	ND	U	0.010	1	12/13/11	12/22/11	KWG1112596	
Methoxychlor	ND	U	0.010	1	12/13/11	12/20/11	KWG1112596	
Toxaphene	ND	U	0.10	1	12/13/11	12/20/11	KWG1112596	
Chlordane	ND	U	0.10	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1016	ND	U	0.050	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1221	ND	U	0.10	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1232	ND	U	0.10	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1242	ND	U	0.10	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1248	ND	U	0.10	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1254	ND	U	0.10	1	12/13/11	12/20/11	KWG1112596	
Aroclor 1260	ND	U	0.10	1	12/13/11	12/20/11	KWG1112596	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4,4'-Dibromooctafluorobiphenyl	82	70-130	12/20/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking water

Service Request: K1111888

Surrogate Recovery Summary
Pesticides/PCBs by EPA method 508.1

Extraction Method: METHOD
Analysis Method: 508.1

Units: ug/L
Level: Low

Sample Name	Lab Code	Sur1
Batch QC	K1111779-001	82
DW-1	K1111888-001	77
DW-9	K1111888-002	81
Method Blank	KWG1112596-5	82
Batch QCMS	KWG1112596-1	81
Batch QCMS	KWG1112596-2	81
Lab Control Sample	KWG1112596-3	80

Surrogate Recovery Control Limits (%)

Sur1 = 4,4'-Dibromooctafluorobiphenyl 70-130

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Extracted:**	12/13/2011
Sample Matrix:	Drinking water	**Date Analyzed:**	12/20/2011 - 1

Matrix Spike Summary
Pesticides/PCBs by EPA method 508.1

Sample Name:	Batch QC	**Units:**	ug/L
Lab Code:	K1111779-001	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	508.1	**Extraction Lot:**	KWG1112596

		Batch QCMS KWG1112596-1 Matrix Spike				
Analyte Name	**Sample Result**	**Result**	**Expected**	**%Rec**		**%Rec Limits**
gamma-BHC (Lindane)	ND	0.0685	0.0980	70		65-135
Heptachlor	ND	0.0685	0.0980	70		65-135
Heptachlor Epoxide	ND	0.0679	0.0980	69		65-135
Endrin	ND	0.0465	0.0980	47	*	65-135
Methoxychlor	ND	0.0863	0.0980	88		65-135

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Extracted:**	12/13/2011
Sample Matrix:	Drinking water	**Date Analyzed:**	12/20/2011

Matrix Spike Summary
Pesticides/PCBs by EPA method 508.1

Sample Name:	Batch QC	**Units:**	ug/L
Lab Code:	K1111779-001	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	508.1	**Extraction Lot:**	KWG1112596

		Batch QCMS KWG1112596-2 Matrix Spike			
Analyte Name	**Sample Result**	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Aroclor 1260	ND	0.464	0.490	95	65-135

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Extracted:**	12/13/2011
Sample Matrix:	Drinking water	**Date Analyzed:**	12/20/2011 - 12/22/2011

Lab Control Spike Summary
Pesticides/PCBs by EPA method 508.1

Extraction Method:	METHOD	**Units:**	ug/L
Analysis Method:	508.1	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1112596

	Lab Control Sample KWG1112596-3 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
gamma-BHC (Lindane)	0.0700	0.100	70	70-130
Heptachlor	0.0762	0.100	76	70-130
Heptachlor Epoxide	0.0716	0.100	72	70-130
Endrin	0.0749	0.100	75	70-130
Methoxychlor	0.0946	0.100	95	70-130
Aroclor 1260	0.509	0.500	102	70-130

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Chlorinated Acids

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/07/2011
Sample Matrix:	Drinking water	**Date Received:**	12/07/2011

Chlorinated Acids by EPA Method 515.4

Sample Name:	DW-1	**Units:**	ug/L
Lab Code:	K1111888-001	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	515.4		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dalapon	ND	U	1.0	1	12/08/11	12/20/11	KWG1112463	
2,4-D	ND	U	0.10	1	12/08/11	12/20/11	KWG1112463	
Pentachlorophenol	ND	U	0.040	1	12/08/11	12/20/11	KWG1112463	
2,4,5-TP (Silvex)	ND	U	0.050	1	12/08/11	12/20/11	KWG1112463	
Dinoseb	ND	U	0.20	1	12/08/11	12/20/11	KWG1112463	
Picloram	ND	U	0.10	1	12/08/11	12/20/11	KWG1112463	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2,4-Dichlorophenylacetic Acid	111	70-130	12/20/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/07/2011
Sample Matrix:	Drinking water	**Date Received:**	12/07/2011

Chlorinated Acids by EPA Method 515.4

Sample Name:	DW-9	**Units:**	ug/L
Lab Code:	K1111888-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	515.4		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dalapon	ND	U	1.0	1	12/08/11	12/20/11	KWG1112463	
2,4-D	ND	U	0.10	1	12/08/11	12/20/11	KWG1112463	
Pentachlorophenol	ND	U	0.040	1	12/08/11	12/20/11	KWG1112463	
2,4,5-TP (Silvex)	ND	U	0.050	1	12/08/11	12/20/11	KWG1112463	
Dinoseb	ND	U	0.20	1	12/08/11	12/20/11	KWG1112463	
Picloram	ND	U	0.10	1	12/08/11	12/20/11	KWG1112463	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2,4-Dichlorophenylacetic Acid	114	70-130	12/20/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	NA
Sample Matrix:	Drinking water	**Date Received:**	NA

Chlorinated Acids by EPA Method 515.4

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1112463-4	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	515.4		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dalapon	ND	U	1.0	1	12/08/11	12/20/11	KWG1112463	
2,4-D	ND	U	0.10	1	12/08/11	12/20/11	KWG1112463	
Pentachlorophenol	ND	U	0.040	1	12/08/11	12/20/11	KWG1112463	
2,4,5-TP (Silvex)	ND	U	0.050	1	12/08/11	12/20/11	KWG1112463	
Dinoseb	ND	U	0.20	1	12/08/11	12/20/11	KWG1112463	
Picloram	ND	U	0.10	1	12/08/11	12/20/11	KWG1112463	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2,4-Dichlorophenylacetic Acid	105	70-130	12/20/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking water

Service Request: K1111888

Surrogate Recovery Summary
Chlorinated Acids by EPA Method 515.4

Extraction Method: METHOD
Analysis Method: 515.4

Units: ug/L
Level: Low

Sample Name	Lab Code	Sur1
DW-1	K1111888-001	111
DW-9	K1111888-002	114
Method Blank	KWG1112463-4	105
DW-9MS	KWG1112463-1	111
DW-9DMS	KWG1112463-2	111
Lab Control Sample	KWG1112463-3	104

Surrogate Recovery Control Limits (%)

Sur1 = 2,4-Dichlorophenylacetic Acid 70-130

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Extracted:**	12/08/2011
Sample Matrix:	Drinking water	**Date Analyzed:**	12/20/2011

Matrix Spike/Duplicate Matrix Spike Summary
Chlorinated Acids by EPA Method 515.4

Sample Name:	DW-9	**Units:**	ug/L
Lab Code:	K1111888-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	515.4	**Extraction Lot:**	KWG1112463

		DW-9MS KWG1112463-1 Matrix Spike			DW-9DMS KWG1112463-2 Duplicate Matrix Spike					
Analyte Name	**Sample Result**	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Dalapon	ND	4.47	4.98	90	4.59	4.98	92	70-130	3	30
2,4-D	ND	5.65	4.98	114	5.66	4.98	114	70-130	0	30
Pentachlorophenol	ND	3.99	4.98	80	4.04	4.98	81	70-130	1	30
2,4,5-TP (Silvex)	ND	5.15	4.98	104	5.14	4.98	103	70-130	0	30
Dinoseb	ND	4.97	4.98	100	4.94	4.98	99	70-130	1	30
Picloram	ND	6.05	4.98	122	5.79	4.98	116	70-130	4	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Extracted:**	12/08/2011
Sample Matrix:	Drinking water	**Date Analyzed:**	12/20/2011

Lab Control Spike Summary
Chlorinated Acids by EPA Method 515.4

Extraction Method:	METHOD	**Units:**	ug/L
Analysis Method:	515.4	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1112463

	Lab Control Sample KWG1112463-3 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Dalapon	4.38	5.00	88	70-130
2,4-D	5.03	5.00	101	70-130
Pentachlorophenol	3.94	5.00	79	70-130
2,4,5-TP (Silvex)	4.85	5.00	97	70-130
Dinoseb	4.78	5.00	96	70-130
Picloram	5.45	5.00	109	70-130

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Volatile Organic Compounds

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/07/2011
Sample Matrix:	Drinking water	**Date Received:**	12/07/2011

Volatile Organic Compounds

Sample Name:	DW-1	**Units:**	ug/L
Lab Code:	K1111888-001	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	524.2		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Chloromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Vinyl Chloride	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Bromomethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Chloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Trichlorofluoromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Methylene Chloride	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
trans-1,2-Dichloroethene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1-Dichloroethene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
cis-1,2-Dichloroethene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Methyl tert-Butyl Ether	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Chloroform	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Bromochloromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Carbon Tetrachloride	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Benzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2-Dichloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Trichloroethene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2-Dichloropropane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Bromodichloromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Dibromomethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
cis-1,3-Dichloropropene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1-Dichloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Toluene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
trans-1,3-Dichloropropene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Tetrachloroethene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
2,2-Dichloropropane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,3-Dichloropropane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Dibromochloromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2-Dibromoethane (EDB)	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Chlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Ethylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Styrene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
m,p-Xylenes	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
o-Xylene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	

Comments:

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking water

Service Request: K1111888
Date Collected: 12/07/2011
Date Received: 12/07/2011

Volatile Organic Compounds

Sample Name: DW-1
Lab Code: K1111888-001

Units: ug/L
Basis: NA

Extraction Method: METHOD
Analysis Method: 524.2

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1,1,1-Trichloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Bromoform	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1,2,2-Tetrachloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Isopropylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1-Dichloropropene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Bromobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
n-Propylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,3,5-Trimethylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
2-Chlorotoluene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
4-Chlorotoluene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
tert-Butylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2,4-Trimethylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
sec-Butylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
p-Isopropyltoluene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,3-Dichlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,4-Dichlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
n-Butylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2-Dichlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2-Dibromo-3-chloropropane (DBCP	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2,4-Trichlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Hexachlorobutadiene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Naphthalene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1,2-Trichloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1,1,2-Tetrachloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2,3-Trichloropropane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2,3-Trichlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	86	70-130	12/08/11	Acceptable
Dibromofluoromethane	97	82-124	12/08/11	Acceptable
Toluene-d8	98	82-124	12/08/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/07/2011
Sample Matrix:	Drinking water	**Date Received:**	12/07/2011

Volatile Organic Compounds

Sample Name:	DW-9	**Units:**	ug/L
Lab Code:	K1111888-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	524.2		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Chloromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Vinyl Chloride	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Bromomethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Chloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Trichlorofluoromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Methylene Chloride	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
trans-1,2-Dichloroethene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1-Dichloroethene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
cis-1,2-Dichloroethene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Methyl tert-Butyl Ether	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Chloroform	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Bromochloromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Carbon Tetrachloride	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Benzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2-Dichloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Trichloroethene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2-Dichloropropane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Bromodichloromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Dibromomethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
cis-1,3-Dichloropropene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1-Dichloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Toluene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
trans-1,3-Dichloropropene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Tetrachloroethene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
2,2-Dichloropropane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,3-Dichloropropane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Dibromochloromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2-Dibromoethane (EDB)	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Chlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Ethylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Styrene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
m,p-Xylenes	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
o-Xylene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	

Comments:

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking water

Service Request: K1111888
Date Collected: 12/07/2011
Date Received: 12/07/2011

Volatile Organic Compounds

Sample Name: DW-9
Lab Code: K1111888-002

Units: ug/L
Basis: NA

Extraction Method: METHOD
Analysis Method: 524.2

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1,1,1-Trichloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Bromoform	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1,2,2-Tetrachloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Isopropylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1-Dichloropropene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Bromobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
n-Propylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,3,5-Trimethylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
2-Chlorotoluene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
4-Chlorotoluene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
tert-Butylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2,4-Trimethylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
sec-Butylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
p-Isopropyltoluene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,3-Dichlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,4-Dichlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
n-Butylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2-Dichlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2-Dibromo-3-chloropropane (DBCP	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2,4-Trichlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Hexachlorobutadiene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Naphthalene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1,2-Trichloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1,1,2-Tetrachloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2,3-Trichloropropane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2,3-Trichlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	85	70-130	12/08/11	Acceptable
Dibromofluoromethane	98	82-124	12/08/11	Acceptable
Toluene-d8	98	82-124	12/08/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	NA
Sample Matrix:	Drinking water	**Date Received:**	NA

Volatile Organic Compounds

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1112449-2	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	524.2		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Chloromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Vinyl Chloride	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Bromomethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Chloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Trichlorofluoromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Methylene Chloride	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
trans-1,2-Dichloroethene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1-Dichloroethene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
cis-1,2-Dichloroethene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Methyl tert-Butyl Ether	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Chloroform	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Bromochloromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Carbon Tetrachloride	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Benzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2-Dichloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Trichloroethene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2-Dichloropropane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Bromodichloromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Dibromomethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
cis-1,3-Dichloropropene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1-Dichloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Toluene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
trans-1,3-Dichloropropene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Tetrachloroethene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
2,2-Dichloropropane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,3-Dichloropropane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Dibromochloromethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2-Dibromoethane (EDB)	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Chlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Ethylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Styrene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
m,p-Xylenes	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
o-Xylene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	NA
Sample Matrix:	Drinking water	**Date Received:**	NA

Volatile Organic Compounds

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1112449-2	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	524.2		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1,1,1-Trichloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Bromoform	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1,2,2-Tetrachloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Isopropylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1-Dichloropropene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Bromobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
n-Propylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,3,5-Trimethylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
2-Chlorotoluene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
4-Chlorotoluene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
tert-Butylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2,4-Trimethylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
sec-Butylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
p-Isopropyltoluene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,3-Dichlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,4-Dichlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
n-Butylbenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2-Dichlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2-Dibromo-3-chloropropane (DBCP	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2,4-Trichlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Hexachlorobutadiene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
Naphthalene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1,2-Trichloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,1,1,2-Tetrachloroethane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2,3-Trichloropropane	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	
1,2,3-Trichlorobenzene	ND	U	0.50	1	12/08/11	12/08/11	KWG1112449	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	86	70-130	12/08/11	Acceptable
Dibromofluoromethane	96	82-124	12/08/11	Acceptable
Toluene-d8	98	82-124	12/08/11	Acceptable

Comments:

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking water

Service Request: K1111888

Surrogate Recovery Summary
Volatile Organic Compounds

Extraction Method: METHOD
Analysis Method: 524.2

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2	Sur3
DW-1	K1111888-001	86	97	98
DW-9	K1111888-002	85	98	98
Method Blank	KWG1112449-2	86	96	98
Lab Control Sample	KWG1112449-1	98	96	104

Surrogate Recovery Control Limits (%)

Sur1 =	4-Bromofluorobenzene	70-130
Sur2 =	Dibromofluoromethane	82-124
Sur3 =	Toluene-d8	82-124

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Extracted:**	12/08/2011
Sample Matrix:	Drinking water	**Date Analyzed:**	12/08/2011

Lab Control Spike Summary
Volatile Organic Compounds

Extraction Method:	METHOD	**Units:**	ug/L
Analysis Method:	524.2	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1112449

	Lab Control Sample KWG1112449-1 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Dichlorodifluoromethane	3.73	5.00	75	70-130
Chloromethane	4.24	5.00	85	70-130
Vinyl Chloride	4.21	5.00	84	70-130
Bromomethane	4.53	5.00	91	70-130
Chloroethane	4.36	5.00	87	70-130
Trichlorofluoromethane	4.20	5.00	84	70-130
Methylene Chloride	4.92	5.00	98	70-130
trans-1,2-Dichloroethene	4.55	5.00	91	70-130
cis-1,2-Dichloroethene	4.76	5.00	95	70-130
1,1-Dichloroethene	4.13	5.00	83	70-130
Methyl tert-Butyl Ether	9.37	10.0	94	70-130
Chloroform	4.67	5.00	93	70-130
Bromochloromethane	4.95	5.00	99	70-130
Carbon Tetrachloride	4.32	5.00	86	70-130
Benzene	4.68	5.00	94	70-130
1,2-Dichloroethane	4.89	5.00	98	70-130
Trichloroethene	4.44	5.00	89	70-130
1,2-Dichloropropane	4.59	5.00	92	70-130
Bromodichloromethane	4.89	5.00	98	70-130
Dibromomethane	4.83	5.00	97	70-130
cis-1,3-Dichloropropene	4.00	5.00	80	70-130
1,1-Dichloroethane	4.64	5.00	93	70-130
Toluene	4.80	5.00	96	70-130
trans-1,3-Dichloropropene	4.38	5.00	88	70-130
Tetrachloroethene	4.40	5.00	88	70-130
1,3-Dichloropropane	4.55	5.00	91	70-130
2,2-Dichloropropane	4.27	5.00	85	70-130
Dibromochloromethane	4.90	5.00	98	70-130
1,2-Dibromoethane (EDB)	4.73	5.00	95	70-130
Chlorobenzene	4.61	5.00	92	70-130
Ethylbenzene	4.50	5.00	90	70-130
Styrene	4.85	5.00	97	70-130
m,p-Xylenes	9.79	10.0	98	70-130
o-Xylene	4.64	5.00	93	70-130
1,1,1-Trichloroethane	4.38	5.00	88	70-130
1,1,2,2-Tetrachloroethane	4.19	5.00	84	70-130

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking water

Service Request: K1111888
Date Extracted: 12/08/2011
Date Analyzed: 12/08/2011

Lab Control Spike Summary
Volatile Organic Compounds

Extraction Method: METHOD
Analysis Method: 524.2

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG1112449

	Lab Control Sample KWG1112449-1 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Bromoform	4.84	5.00	97	70-130
Isopropylbenzene	4.61	5.00	92	70-130
1,1-Dichloropropene	4.22	5.00	84	70-130
Bromobenzene	4.52	5.00	90	70-130
n-Propylbenzene	4.37	5.00	87	70-130
1,3,5-Trimethylbenzene	4.49	5.00	90	70-130
2-Chlorotoluene	4.41	5.00	88	70-130
4-Chlorotoluene	4.46	5.00	89	70-130
tert-Butylbenzene	4.35	5.00	87	70-130
1,2,4-Trimethylbenzene	4.55	5.00	91	70-130
sec-Butylbenzene	4.40	5.00	88	70-130
p-Isopropyltoluene	4.51	5.00	90	70-130
1,3-Dichlorobenzene	4.50	5.00	90	70-130
1,4-Dichlorobenzene	4.44	5.00	89	70-130
n-Butylbenzene	4.37	5.00	87	70-130
1,2-Dichlorobenzene	4.62	5.00	92	70-130
1,2-Dibromo-3-chloropropane (DBCP)	4.29	5.00	86	70-130
1,2,4-Trichlorobenzene	4.51	5.00	90	70-130
Hexachlorobutadiene	4.56	5.00	91	70-130
Naphthalene	3.72	5.00	74	70-130
1,1,2-Trichloroethane	4.48	5.00	90	70-130
1,1,1,2-Tetrachloroethane	4.71	5.00	94	70-130
1,2,3-Trichloropropane	4.64	5.00	93	70-130
1,2,3-Trichlorobenzene	4.94	5.00	99	70-130

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Semi-Volatile Organic Compounds

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/07/2011
Sample Matrix:	Drinking water	**Date Received:**	12/07/2011

Semivolatile Organics by EPA method 525.2

Sample Name:	DW-1	**Units:**	ug/L
Lab Code:	K1111888-001	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	525.2		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Hexachlorocyclopentadiene	ND	U	0.098	1	12/13/11	12/20/11	KWG1112597	
Hexachlorobenzene	ND	U	0.098	1	12/13/11	12/20/11	KWG1112597	
Simazine	ND	U	0.049	1	12/13/11	12/20/11	KWG1112597	
Atrazine	ND	U	0.098	1	12/13/11	12/20/11	KWG1112597	
Alachlor	ND	U	0.070	1	12/13/11	12/20/11	KWG1112597	
Bis(2-ethylhexyl) Adipate	ND	U	0.59	1	12/13/11	12/20/11	KWG1112597	
Bis(2-ethylhexyl) Phthalate	ND	U	0.59	1	12/13/11	12/20/11	KWG1112597	
Benzo(a)pyrene	ND	U	0.020	1	12/13/11	12/20/11	KWG1112597	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
1,3-Dimethyl-2-nitrobenzene	120	70-130	12/20/11	Acceptable
Triphenyl Phosphate	106	70-130	12/20/11	Acceptable
Perylene-d12	103	70-130	12/20/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/07/2011
Sample Matrix:	Drinking water	**Date Received:**	12/07/2011

Semivolatile Organics by EPA method 525.2

Sample Name:	DW-9	**Units:**	ug/L
Lab Code:	K1111888-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	525.2		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Hexachlorocyclopentadiene	ND	U	0.098	1	12/13/11	12/20/11	KWG1112597	
Hexachlorobenzene	ND	U	0.098	1	12/13/11	12/20/11	KWG1112597	
Simazine	ND	U	0.049	1	12/13/11	12/20/11	KWG1112597	
Atrazine	ND	U	0.098	1	12/13/11	12/20/11	KWG1112597	
Alachlor	ND	U	0.070	1	12/13/11	12/20/11	KWG1112597	
Bis(2-ethylhexyl) Adipate	ND	U	0.59	1	12/13/11	12/20/11	KWG1112597	
Bis(2-ethylhexyl) Phthalate	ND	U	0.59	1	12/13/11	12/20/11	KWG1112597	
Benzo(a)pyrene	ND	U	0.020	1	12/13/11	12/20/11	KWG1112597	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
1,3-Dimethyl-2-nitrobenzene	116	70-130	12/20/11	Acceptable
Triphenyl Phosphate	121	70-130	12/20/11	Acceptable
Perylene-d12	110	70-130	12/20/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	NA
Sample Matrix:	Drinking water	**Date Received:**	NA

Semivolatile Organics by EPA method 525.2

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1112597-3	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	525.2		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Hexachlorocyclopentadiene	ND	U	0.10	1	12/13/11	12/19/11	KWG1112597	
Hexachlorobenzene	ND	U	0.10	1	12/13/11	12/19/11	KWG1112597	
Simazine	ND	U	0.050	1	12/13/11	12/19/11	KWG1112597	
Atrazine	ND	U	0.10	1	12/13/11	12/19/11	KWG1112597	
Alachlor	ND	U	0.072	1	12/13/11	12/19/11	KWG1112597	
Bis(2-ethylhexyl) Adipate	ND	U	0.60	1	12/13/11	12/19/11	KWG1112597	
Bis(2-ethylhexyl) Phthalate	ND	U	0.60	1	12/13/11	12/19/11	KWG1112597	
Benzo(a)pyrene	ND	U	0.020	1	12/13/11	12/19/11	KWG1112597	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
1,3-Dimethyl-2-nitrobenzene	118	70-130	12/19/11	Acceptable
Triphenyl Phosphate	125	70-130	12/19/11	Acceptable
Perylene-d12	110	70-130	12/19/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295
Sample Matrix: Drinking water

Service Request: K1111888

Surrogate Recovery Summary
Semivolatile Organics by EPA method 525.2

Extraction Method: METHOD
Analysis Method: 525.2

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2	Sur3
DW-1	K1111888-001	120	106	103
DW-9	K1111888-002	116	121	110
Method Blank	KWG1112597-3	118	125	110
DW-9MS	KWG1112597-2	116	113	116
Lab Control Sample	KWG1112597-1	115	128	111

Surrogate Recovery Control Limits (%)

Sur1 =	1,3-Dimethyl-2-nitrobenzene	70-130
Sur2 =	Triphenyl Phosphate	70-130
Sur3 =	Perylene-d12	70-130

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Extracted:**	12/13/2011
Sample Matrix:	Drinking water	**Date Analyzed:**	12/20/2011

Matrix Spike Summary
Semivolatile Organics by EPA method 525.2

Sample Name:	DW-9	**Units:**	ug/L
Lab Code:	K1111888-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	525.2	**Extraction Lot:**	KWG1112597

Analyte Name	Sample Result	DW-9MS KWG1112597-2 Matrix Spike Result	Expected	%Rec	%Rec Limits
Hexachlorocyclopentadiene	ND	0.927	0.971	95	70-130
Hexachlorobenzene	ND	1.12	0.971	115	70-130
Simazine	ND	1.12	0.971	116	70-130
Atrazine	ND	1.11	0.971	114	70-130
Alachlor	ND	0.982	0.971	101	70-130
Bis(2-ethylhexyl) Adipate	ND	1.23	0.971	127	70-130
Bis(2-ethylhexyl) Phthalate	ND	1.14	0.971	118	70-130
Benzo(a)pyrene	ND	1.04	0.971	107	70-130

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Extracted:**	12/13/2011
Sample Matrix:	Drinking water	**Date Analyzed:**	12/19/2011

Lab Control Spike Summary
Semivolatile Organics by EPA method 525.2

Extraction Method:	METHOD	**Units:**	ug/L
Analysis Method:	525.2	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1112597

	Lab Control Sample KWG1112597-1 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Hexachlorocyclopentadiene	0.973	1.00	97	70-130
Hexachlorobenzene	1.19	1.00	119	70-130
Simazine	1.22	1.00	122	70-130
Atrazine	1.24	1.00	124	70-130
Alachlor	1.22	1.00	122	70-130
Bis(2-ethylhexyl) Adipate	1.29	1.00	129	70-130
Bis(2-ethylhexyl) Phthalate	1.25	1.00	125	70-130
Benzo(a)pyrene	1.14	1.00	114	70-130

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Carbamates and Carbamoyloximes

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/07/2011
Sample Matrix:	Drinking water	**Date Received:**	12/07/2011

Carbamates and Carbamoyloximes by EPA Method 531.1

Sample Name:	DW-1	**Units:**	ug/L
Lab Code:	K1111888-001	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	531.1		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aldicarb Sulfoxide	ND	U	1.00	1	12/20/11	12/20/11	KWG1112777	
Aldicarb Sulfone	ND	U	0.500	1	12/20/11	12/20/11	KWG1112777	
Oxamyl	ND	U	0.500	1	12/20/11	12/20/11	KWG1112777	
Aldicarb	ND	U	0.500	1	12/20/11	12/20/11	KWG1112777	
Carbofuran	ND	U	0.500	1	12/20/11	12/20/11	KWG1112777	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/07/2011
Sample Matrix:	Drinking water	**Date Received:**	12/07/2011

Carbamates and Carbamoyloximes by EPA Method 531.1

Sample Name:	DW-9	**Units:**	ug/L
Lab Code:	K1111888-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	531.1		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aldicarb Sulfoxide	ND	U	1.00	1	12/20/11	12/20/11	KWG1112777	
Aldicarb Sulfone	ND	U	0.500	1	12/20/11	12/20/11	KWG1112777	
Oxamyl	ND	U	0.500	1	12/20/11	12/20/11	KWG1112777	
Aldicarb	ND	U	0.500	1	12/20/11	12/20/11	KWG1112777	
Carbofuran	ND	U	0.500	1	12/20/11	12/20/11	KWG1112777	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	NA
Sample Matrix:	Drinking water	**Date Received:**	NA

Carbamates and Carbamoyloximes by EPA Method 531.1

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1112777-4	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	531.1		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aldicarb Sulfoxide	ND	U	1.00	1	12/20/11	12/20/11	KWG1112777	
Aldicarb Sulfone	ND	U	0.500	1	12/20/11	12/20/11	KWG1112777	
Oxamyl	ND	U	0.500	1	12/20/11	12/20/11	KWG1112777	
Aldicarb	ND	U	0.500	1	12/20/11	12/20/11	KWG1112777	
Carbofuran	ND	U	0.500	1	12/20/11	12/20/11	KWG1112777	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Extracted:**	12/20/2011
Sample Matrix:	Drinking water	**Date Analyzed:**	12/20/2011

Matrix Spike Summary
Carbamates and Carbamoyloximes by EPA Method 531.1

Sample Name:	Batch QC	**Units:**	ug/L
Lab Code:	K1111779-001	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	531.1	**Extraction Lot:**	KWG1112777

Batch QCMS
KWG1112777-1

Analyte Name	Sample Result	Matrix Spike Result	Matrix Spike Expected	Matrix Spike %Rec	%Rec Limits
Aldicarb Sulfoxide	ND	5.25	5.00	105	65-135
Aldicarb Sulfone	ND	5.04	5.00	101	65-135
Oxamyl	ND	5.10	5.00	102	65-135
Aldicarb	ND	4.34	5.00	87	65-135
Carbofuran	ND	4.69	5.00	94	65-135

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Extracted:**	12/20/2011
Sample Matrix:	Drinking water	**Date Analyzed:**	12/20/2011

Lab Control Spike Summary
Carbamates and Carbamoyloximes by EPA Method 531.1

Extraction Method:	METHOD	**Units:**	ug/L
Analysis Method:	531.1	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1112777

	Lab Control Sample KWG1112777-3 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Aldicarb Sulfoxide	4.31	5.00	86	80-120
Aldicarb Sulfone	4.65	5.00	93	80-120
Oxamyl	4.65	5.00	93	80-120
Aldicarb	4.17	5.00	83	80-120
Carbofuran	4.48	5.00	90	80-120

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Glyphosate

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/07/2011
Sample Matrix:	Drinking water	**Date Received:**	12/07/2011

Glyphosate by EPA Method 547

Sample Name:	DW-1	**Units:**	ug/L
Lab Code:	K1111888-001	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	547		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Glyphosate	ND	U	6.0	1	12/15/11	12/15/11	KWG1112673	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/07/2011
Sample Matrix:	Drinking water	**Date Received:**	12/07/2011

Glyphosate by EPA Method 547

Sample Name:	DW-9	**Units:**	ug/L
Lab Code:	K1111888-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	547		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Glyphosate	ND	U	6.0	1	12/15/11	12/15/11	KWG1112673	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	NA
Sample Matrix:	Drinking water	**Date Received:**	NA

Glyphosate by EPA Method 547

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1112673-4	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	547		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Glyphosate	ND	U	6.0	1	12/15/11	12/15/11	KWG1112673	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Extracted:**	12/15/2011
Sample Matrix:	Drinking water	**Date Analyzed:**	12/15/2011

Matrix Spike Summary
Glyphosate by EPA Method 547

Sample Name:	Batch QC	**Units:**	ug/L
Lab Code:	K1111779-001	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	547	**Extraction Lot:**	KWG1112673

		Batch QCMS KWG1112673-1 Matrix Spike			
Analyte Name	**Sample Result**	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Glyphosate	ND	61.3	50.0	123	56-131

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

CQLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Extracted:**	12/15/2011
Sample Matrix:	Drinking water	**Date Analyzed:**	12/15/2011

Lab Control Spike Summary
Glyphosate by EPA Method 547

Extraction Method:	METHOD	**Units:**	ug/L
Analysis Method:	547	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1112673

	Lab Control Sample KWG1112673-3 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Glyphosate	61.3	50.0	123	56-131

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Endothall

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/07/2011
Sample Matrix:	Drinking water	**Date Received:**	12/07/2011

Endothall by EPA Method 548.1

Sample Name:	DW-1	**Units:**	ug/L
Lab Code:	K1111888-001	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	548.1		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Endothall	ND	U	5.0	1	12/09/11	12/10/11	KWG1112499	

Comments:

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/07/2011
Sample Matrix:	Drinking water	**Date Received:**	12/07/2011

Endothall by EPA Method 548.1

Sample Name:	DW-9	**Units:**	ug/L
Lab Code:	K1111888-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	548.1		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Endothall	ND	U	5.0	1	12/09/11	12/10/11	KWG1112499	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	NA
Sample Matrix:	Drinking water	**Date Received:**	NA

Endothall by EPA Method 548.1

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1112499-3	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	548.1		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Endothall	ND	U	5.0	1	12/09/11	12/09/11	KWG1112499	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Extracted:**	12/09/2011
Sample Matrix:	Drinking water	**Date Analyzed:**	12/10/2011

Matrix Spike Summary
Endothall by EPA Method 548.1

Sample Name:	DW-9	**Units:**	ug/L
Lab Code:	K1111888-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	548.1	**Extraction Lot:**	KWG1112499

		DW-9MS KWG1112499-2 Matrix Spike			
Analyte Name	**Sample Result**	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Endothall	ND	105	100	105	30-142

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Extracted:**	12/09/2011
Sample Matrix:	Drinking water	**Date Analyzed:**	12/09/2011

Lab Control Spike Summary
Endothall by EPA Method 548.1

Extraction Method:	METHOD	**Units:**	ug/L
Analysis Method:	548.1	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1112499

	Lab Control Sample KWG1112499-1 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Endothall	99.0	100	99	30-142

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Diquat by High Performance Liquid Chromatography

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/07/2011
Sample Matrix:	Drinking water	**Date Received:**	12/07/2011

Diquat by High Performance Liquid Chromatography

Sample Name:	DW-1	**Units:**	ug/L
Lab Code:	K1111888-001	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	549.2		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diquat	ND	U	0.40	1	12/12/11	12/12/11	KWG1112537	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/07/2011
Sample Matrix:	Drinking water	**Date Received:**	12/07/2011

Diquat by High Performance Liquid Chromatography

Sample Name:	DW-9	**Units:**	ug/L
Lab Code:	K1111888-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	549.2		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diquat	ND	U	0.40	1	12/12/11	12/12/11	KWG1112537	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	NA
Sample Matrix:	Drinking water	**Date Received:**	NA

Diquat by High Performance Liquid Chromatography

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1112537-4	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	549.2		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diquat	ND	U	0.40	1	12/12/11	12/12/11	KWG1112537	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Extracted:**	12/12/2011
Sample Matrix:	Drinking water	**Date Analyzed:**	12/12/2011

Matrix Spike Summary
Diquat by High Performance Liquid Chromatography

Sample Name:	DW-9	**Units:**	ug/L
Lab Code:	K1111888-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	549.2	**Extraction Lot:**	KWG1112537

		DW-9MS KWG1112537-1 Matrix Spike			
Analyte Name	**Sample Result**	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Diquat	ND	11.6	12.0	96	70-130

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Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Extracted:**	12/12/2011
Sample Matrix:	Drinking water	**Date Analyzed:**	12/12/2011

Lab Control Spike Summary
Diquat by High Performance Liquid Chromatography

Extraction Method:	METHOD	**Units:**	ug/L
Analysis Method:	549.2	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1112537

	Lab Control Sample KWG1112537-3 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Diquat	12.3	12.0	103	70-130

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Dioxins and Furans

December 29, 2011 Service Request No: K1111888

Lisa Domenighini
Columbia Analytical Services Inc
1317 South 13th Avenue
Kelso, WA 98626

Laboratory Results for: Kennedy/Jenks Consultants, Incorporated

Dear Lisa:

Enclosed are the results of the sample(s) submitted to our laboratory on December 09, 2011. For your reference, these analyses have been assigned our service request number : **K1111888** Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided.
All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. In accordance to the NELAC 2003 Standard, a statement on the estimated uncertainty of measurement of any quantitative analysis will be supplied upon request.

Please contact me if you have any questions. My direct number is 281-994-2959.

Respectfully submitted,

Columbia Analytical Services, Inc.

Arthi Kodur
Digitally signed by Arthi Kodur
Date: 2011.12.29 13:33:33 -06'00'

Arthi Kodur
Project Manager

Page 1 of 27

For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com.

Columbia Analytical Services INC

Certificate of Analysis

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COLUMBIA ANALYTICAL SERVICES, INC

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request No.:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Received:**	12/9/11
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed in adherence to the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Two water samples were received for analysis at Columbia Analytical Services on 12/9/11.

Please note the reporting forms are currently referencing the date CAS-Kelso received the samples (12/7/11) and not the date CAS-Houston received the samples (12/9/11).

The samples were received at 6°C in good condition and are consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Data Validation Notes and Discussion

MS/MSD

EQ1100593: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in lieu of an MS/MSD for this extraction batch. The batch quality control criteria were met.

Detection Limits

Detection limits are calculated for each analyte in each sample by measuring the height of the noise level for each quantitation ion for the associated labeled standard. The concentration equivalent to 2.5 times the height of the noise is then calculated using the appropriate response factor and the weight of the sample. The calculated concentration equals the detection limit.

Use of Columbia Analytical Services, Inc. (CAS) Name. Client shall not use CAS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to CAS any test result, tolerance or specification derived from CAS's data ("Attribution") without CAS's prior written consent, which may be withheld by CAS for any reason in its sole discretion. To request CAS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If CAS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use CAS's name or trademark in any Materials or Attribution shall be deemed denied. CAS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of CAS's name or trademark may cause CAS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

Client: Kennedy/Jenks Consultants, Incorporated
Project: City of Longview Mint Farm/17295

Service Request: K1111888

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
K1111888-001	DW-1	12/7/11	11:40
K1111888-002	DW-9	12/7/11	14:30
K1111888-003	Trip Blank	12/7/11	11:40

Laboratory Certifications
2011-2012

STATE/PROGRAM	AGENCY	CERT#	EXP DATE	CERTIFIED?
DoD ELAP	A2LA	2897.01	11/30/11	Yes
ISO 17025	A2LA	2897.01	11/30/11	Yes
ARIZONA	AZ-DHS	AZ0725	05/27/12	Yes
ARKANSAS	ADEQ	10-035-0	06/16/11	Yes
CALIFORNIA	CA-ELAP	2452	02/28/13	Yes
FLORIDA/NELAP	FL-DOHS	E87611	06/30/12	Yes
HAWAII	HI-DOH	N/A	06/30/12	Yes
ILLINOIS/NELAP	IL-EPA	002611	10/26/2012	Yes
LOUISIANA/NELAP	LELAP	03048	06/30/12	Yes
LOUISIANA/NELAP	LDHH	LA100032	12/31/11	Yes
MAINE	ME-DOHS	2010041	06/05/12	Yes
MICHIGAN	MIDEQ	9971	06/30/12	Yes
MINNESOTA	MDH	048-999-427	12/31/11	Yes
NEVADA	NDEP	TX014112010A	07/31/12	Yes (Extension)
NEW JERSEY	NJDEP	TX008	06/30/12	Yes
NEW MEXICO	NMED-DWB	N/A	06/30/12	Yes
NEW YORK/NELAP	NY-DOH	11707	04/1/12	Yes
OKLAHOMA	OKDEQ	2010-022	08/31/12	Yes
OREGON/NELAP	ORELAP	TX200002-006	03/24/12	Yes
PENNSYLVANIA/NELAP	PLAP	002	06/30/12	Yes
TENNESSEE	TNDEC	04016	06/30/12	Yes
TEXAS/NELAP	TCEQ	T104704216-10-1	06/30/12	Yes
UTAH/NELAP	UTELCP	COLU2	06/30/12	Yes
SOIL IMPORT PERMIT	USDA	P330-09-00067	03/27/12	Yes
WASHINGTON/NELAP	WA-Ecology	C819-10	11/14/12	Yes
WEST VIRGINIA	WVDEP	347	06/30/12	Yes

Abbreviations, Acronyms & Definitions

Cal	Calibration
Conc	CONCentration
Dioxin(s)	Polychlorinated dibenzo-p-dioxin(s)
EDL	Estimated Detection Limit
EMPC	Estimated Maximum Possible Concentration
Flags	Data qualifiers
Furan(s)	Polychlorinated dibenzofuran(s)
g	Grams
ICAL	Initial CALibration
ID	IDentifier
Ions	Masses monitored for the analyte during data acquisition
L	Liter (s)
LCS	Laboratory Control Sample
DLCS	Duplicate Laboratory Control Sample
MB	Method Blank
MCL	Method Calibration Limit
MDL	Method Detection Limit
MRL	Method Reporting Limit
mL	Milliliters
MS	Matrix Spiked sample
DMS	Duplicate Matrix Spiked sample
NO	Number of peaks meeting all identification criteria
PCDD(s)	Polychlorinated dibenzo-p-dioxin(s)
PCDF(s)	Polychlorinated dibenzofuran(s)
ppb	Parts per billion
ppm	Parts per million
ppq	Parts per quadrillion
ppt	Parts per trillion
QA	Quality Assurance
QC	Quality Control
Ratio	Ratio of areas from monitored ions for an analyte
% Rec.	Percent Recovery
RPD	Relative Percent Difference
RRF	Relative Response Factor
RT	Retention Time
RRT	Relative Retention Time
SDG	Sample Delivery Group
S/N	Signal-to-Noise ratio
TEF	Toxicity Equivalence Factor
TEQ	Toxicity Equivalence Quotient

Data Qualifier Flags – Dioxin/Furans

- **B** Indicates the associated analyte is found in the method blank, as well as in the sample.

- **C** Confirmation of the TCDF compound: When 2378-TCDF is detected on the DB-5 column, confirmation analyses are performed on a second column (DB-225). The results from both the DB-5 column and the DB-225 column are included in this data package. The results from the DB-225 analyses should be used to evaluate the 2378-TCDF in the samples. The confirmed result should be used in determining the TEQ value for TCDF.

- **E** Indicates an estimated value – used when the analyte concentration exceeds the upper end of the linear calibration range.

- **J** Indicates an estimated value – used when the analyte concentration is below the method reporting limit (MRL) and above the estimated detection limit (EDL).

- **K** EMPC - When the ion abundance ratios associated with a particular compound are outside the QC limits, samples are flagged with a 'K' flag. A 'K' flag indicates an estimated maximum possible concentration for the associated compound.

- **U** Indicates the compound was analyzed and not detected.

- **Y** Samples that had recoveries of labeled standards outside the acceptance limits are flagged with 'Y'. In all cases, the signal-to-noise ratios are greater than 10:1, making these data acceptable.

- **ND** Indicates concentration is reported as 'Not Detected.'

- **S** Peak is saturated; data not reportable.

- **P** Indicates chlorodiphenyl ether interference present at the retention time of the target compound.

- **Q** Lock-mass interference by chlorodiphenyl ether compounds.

COLUMBIA ANALYTICAL SERVICES, INC. – Houston
Data Processing/Form Production and Peer Review Signatures

SR# Unique ID K1111888 DB-5 DB-225 SPB-Octyl

First Level - Data Processing - to be filled by person generating the forms

Date: 12/23/11 Analyst: [illegible] Samples: 001,002

Second Level - Data Review – to be filled by person doing peer review

Date: 12/23/11 Analyst: [illegible] Samples: 001,002

Columbia Analytical Services INC

Analytical Results

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/ 7/11 1140
Sample Matrix:	Drinking Water	**Date Received:**	12/ 7/11
Sample Name:	DW-1	**Units:**	pg/L
Lab Code:	K1111888-001	**Basis:**	NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	1613B	**Date Analyzed:**	12/21/11 2131
Prep Method:	Method	**Date Extracted:**	12/14/11
Sample Amount:	1040mL	**Instrument Name:**	E-HRMS-03
		GC Column:	DB-5
Data File Name:	P155623	**Blank File Name:**	P155611
ICAL Date:	03/24/11	**Cal Ver. File Name:**	P155616

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	2.28	9.62			1

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1525.458	76		31-137	0.76	1.007
37Cl-2,3,7,8-TCDD	800	662.942	83		42-164	NA	1.008

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	12/ 7/11 1430
Sample Matrix:	Drinking Water	**Date Received:**	12/ 7/11
Sample Name:	DW-9	**Units:**	pg/L
Lab Code:	K1111888-002	**Basis:**	NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	1613B	**Date Analyzed:**	12/21/11 2219
Prep Method:	Method	**Date Extracted:**	12/14/11
Sample Amount:	1040mL	**Instrument Name:**	E-HRMS-03
		GC Column:	DB-5
Data File Name:	P155624	**Blank File Name:**	P155611
ICAL Date:	03/24/11	**Cal Ver. File Name:**	P155616

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	1.99	9.62			1

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1392.068	70		31-137	0.80	1.007
37Cl-2,3,7,8-TCDD	800	598.184	75		42-164	NA	1.008

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	NA
Sample Matrix:	Drinking Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	pg/L
Lab Code:	EQ1100593-01	**Basis:**	NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	1613B	**Date Analyzed:**	12/21/11 1124
Prep Method:	Method	**Date Extracted:**	12/14/11
Sample Amount:	1000mL	**Instrument Name:**	E-HRMS-03
		GC Column:	DB-5
Data File Name:	P155611	**Blank File Name:**	P155611
ICAL Date:	03/24/11	**Cal Ver. File Name:**	P155605

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	4.33	10.0			1

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1180.281	59		31-137	0.78	1.007
37Cl-2,3,7,8-TCDD	800	603.888	75		42-164	NA	1.008

Columbia Analytical Services INC

Accuracy and Precision

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Analyzed:**	12/21/11
Sample Matrix:	Drinking Water		

Lab Control Sample Summary
Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	1613B	**Units:**	pg/L
Prep Method:	Method	**Basis:**	NA
		Extraction Lot:	147966

	Lab Control Sample EQ1100593-02			Duplicate Lab Control Sample EQ1100593-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
2,3,7,8-TCDD	173	200	87	182	200	91	73 - 146	4	50

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	NA
Sample Matrix:	Drinking Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	pg/L
Lab Code:	EQ1100593-02	**Basis:**	NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	1613B	**Date Analyzed:**	12/21/11 0656
Prep Method:	Method	**Date Extracted:**	12/14/11
Sample Amount:	1000mL	**Instrument Name:**	E-HRMS-03
		GC Column:	DB-5
Data File Name:	P155606	**Blank File Name:**	P155611
ICAL Date:	03/24/11	**Cal Ver. File Name:**	P155605

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	**173**		3.41	10.0	0.79	1.001	1

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1190.507	60		25-141	0.78	1.008
37Cl-2,3,7,8-TCDD	800	683.909	85		37-158	NA	1.009

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kennedy/Jenks Consultants, Incorporated	**Service Request:**	K1111888
Project:	City of Longview Mint Farm/17295	**Date Collected:**	NA
Sample Matrix:	Drinking Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	pg/L
Lab Code:	EQ1100593-03	**Basis:**	NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	1613B	**Date Analyzed:**	12/21/11 0742
Prep Method:	Method	**Date Extracted:**	12/14/11
Sample Amount:	1000mL	**Instrument Name:**	E-HRMS-03
		GC Column:	DB-5
Data File Name:	P155607	**Blank File Name:**	P155611
ICAL Date:	03/24/11	**Cal Ver. File Name:**	P155605

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	**182**		4.26	10.0	0.83	1.001	1

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1042.189	52		25-141	0.80	1.007
37Cl-2,3,7,8-TCDD	800	668.096	84		37-158	NA	1.009

Columbia Analytical Services INC

Chain of Custody

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CAS Contact: Lisa Domenighini

Project Name: City of Longview Mint Farm
Project Number: 17295
Project Manager: Steven Misner
Company: Kennedy/Jenks Consultants, Incorporated

Lab Code	Client Sample ID	# of Cont.	Matrix	Sample Date	Sample Time	Date Received	Send To	Dioxins Furans 1613B
K1111888-001	DW-1	2	Drinking Water	12/7/11	1140	12/7/11	HOUSTON	V
K1111888-002	DW-9	2	Drinking Water	12/7/11	1430	12/7/11	HOUSTON	V

LISA D
12/8/11

189

Test Comments

Dioxins Furans - 1613B K1111888-001,2 2,3,7,8-TCDD

Folder Comments:

Use Baseline for Performance Testing Samples

Special Instructions/Comments

Please provide the electronic (PDF and EDD) report to the following e-mail address:
kelso_data@caslab.com
- gel packs, bubble wrap, insert fs
- opened @1003
- 2 seals
- 5°c

Turnaround Requirements

RUSH (Surcharges Apply)

PLEASE CIRCLE WORK DAYS

1 2 3 4 5

X STANDARD

Requested FAX Date:

Requested Report Date: 12/24/11

Report Requirements

I. Results Only

X II. Results + QC Summaries

III. Results + QC and Calibration Summaries

IV. Data Validation Report with Raw Data

PQL/MDL/J N

EDD Y

Invoice Information

PO# K1111888

Bill to

Relinquished By: K1111888 12/8/11 1332 Received By: 12/9/11 0952 Airbill Number: 1Z973159016652 6148

Pag

Columbia Analytical Services

Cooler Receipt Form

Project Chemist: AK

Client/Project: Kennedy,Jenks Consultants/ City of Longview Mint Farm

Service Request: K1111888

Date/Time Received: 12/09/11 09:52:00

Date/Time Logged in: 12/09/11 14:35:00

Technician: AL

Technician: Al

1. Method of delivery: ○ US Mail ○ Fed Ex ◉ UPS ○ DHL ○ Courier ○ Client

2. Samples received in: ◉ Cooler ○ Box ○ Envelope ○ Other

3. Were custody seals on coolers? ◉ Yes ○ No ○ N/A

Were they intact? ◉ Yes ○ No ○ N/A

Were they signed and dated? ◉ Yes ○ No ○ N/A

If yes, how many and where? 2 Seals

4. Method of delivery: ☑ Inserts ○ Baggies ☑ Bubble Wrap ☑ Gel Packs ○ Wet Ice ○ Sleeves ○ Other

5. Foreign or Regulated Soil? ○ Yes ◉ No

Location of Sampling:

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?	Filed
1Z9736590166526148		Dec 9, 2011	1003	AL	5/6	☐	☐
						☐	☐
						☐	☐
						☐	☐
						☐	☐

6. Were custody papers properly filled out (ink, signed, dated, etc)? ◉ Yes ○ No ○ N/A

7. Did all bottles arrive in good condition (not broken, no signs of leakage)? ◉ Yes ○ No ○ N/A

8. Were all sample labels complete (i.e., sample ID, analysis, preservation, etc)? ◉ Yes ○ No ○ N/A

9. Were appropriate bottles/containers and volumes received for the requested tests? ◉ Yes ○ No ○ N/A

10. Did sample labels and tags agree with custody documents? ◉ Yes ○ No ○ N/A

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count	Bottle Type	Out of Temp	Broken	Date	Technician
			☐	☐		
			☐	☐		
			☐	☐		
			☐	☐		

Notes, Discrepancies, & Resolutions:

Print Form

Reset Form

Columbia Analytical Services

Sample Acceptance Policy

This policy outlines the criteria samples must meet to be accepted by CAS/ Houston.

Cooler Custody Seals (desirable, mandatory if specified in SAP):

- ✓ Intact on outside of cooler, signed and dated

Chain-of-Custody (COC) documentation (mandatory):

The following is required on each COC:

- ✓ Sample ID, the location, date and time of collection, collector's name, preservation type, sample type, and any other special remarks concerning the sample
- ✓ The COC must be completed in ink.
- ✓ Signature and date of relinquishing party.

In the absence of a COC at sample receipt, CAS/Houston will complete a COC, which must be approved by the client, in writing, prior to proceeding with the analysis.

Sample Integrity (mandatory):

Samples are inspected upon arrival to ensure that sample integrity was not compromised during transfer to the laboratory.

- ✓ Sample containers must arrive in good condition (not broken or leaking).
- ✓ Samples must be labeled appropriately, including Sample IDs, and requested test using durable labels and indelible ink.
- ✓ The correct type of sample bottle must be used for the method requested.
- ✓ An appropriate sample volume, or weight, must be received.
- ✓ Sample IDs and number of containers must reconcile with the COC.
- ✓ Samples must be received within the method defined holding time.

Temperature Requirement (varies by sample matrix):

- ✓ Aqueous and Non-aqueous samples must be shipped and stored cold, at 0 to 6°C.
- ✓ Tissue samples must be shipped and stored frozen, at -20 to -10°C.
- ✓ Air samples can be shipped and stored at ambient temperature, ~23°C.
- ✓ The sample temperature must be recorded on the COC

All cooler inspections are documented on the Cooler Receipt Form (CRF). A separate CRF is completed for each service request. Any samples not meeting the above criteria are noted on the CRF and the Project Manager notified. The Project Manager must resolve any sample integrity issues with the client prior to proceeding with the analysis. Such resolutions are documented in writing and filed with the project folder.

Service Request Summary

Folder #: **K1111888**
Client Name: Kennedy/Jenks Consultants, Incorporated
Project Name: City of Longview Mint Farm
Project Number: 17295

Report To: Steven Misner
Kennedy/Jenks Consultants, Incorporated
200 SW Market St., Suite 500
Portland, OR 97201-5715
Phone Number: 503-423-4004
Cell Number:
Fax Number: 503-295-4901
E-mail: stevenmisner@kennedyjenks.com

Project Chemist: Arthi Kodur
Originating Lab: KELSO
Logged By: SWOLF
Date Received: 12/ 7/11
Internal Due Date: 12/24/11
QAP: LAB QAP, Tetras Only
Qualifier Set: CAS Standard
Formset: CAS Standard
Merged?: N,Y
Report to MDL?: N,Y
P.O. Number:
EDD: EQuIS Kennedy Jenks Mint Farm

10 - 1000 ml-Glass Bottle NM AMBER Teflon Liner Unpreserved
10 - 1000 mL-Plastic Bottle NM CLEAR Unpreserved
10 - 1000 mL-Plastic Bottle NM CLEAR HNO3
9 - 40 mL-Glass Vial DW VOA CLEAR Tef/Silicone Septa AAc/HCl
8 - 1000 mL-Glass Bottle NM AMBER Na2SO3, HCL
5 - 40 mL-Glass Vial VOA CLEAR Tef/Silicone Septa Na2S2O3
4 - 100 ml-Plastic Cup Sterile Na2S2O3
4 - 40 mL-Glass Vial VOA CLEAR Tef/Silicone Septa Unpreserved
4 - 40 mL-Glass Vial DW VOA AMBER Tef/Silicone Septa Na2S2O3
2 - 125 mL-Glass Bottle NM AMBER Na2S2O3
2 - 250 mL-Glass Bottle NM AMBER Na2SO3
2 - 1000 mL-Plastic Bottle NM AMBER Na2S2O3
2 - 500 mL-Plastic Bottle NM CLEAR H2SO4
2 - 500 mL-Plastic Bottle NM CLEAR HNO3
2 - 500 mL-Plastic Bottle NM CLEAR NaOH
2 - 250 mL-Plastic Bottle Natural HCl Cleaned WM HCL

Location: K-HERK-A5, E-WIC01-DK, E-Disposed, SUBBED, K-MISTY, In Lab, K-Disposed, K-COLIBIN, P-Disposed, P-39-23

192

					KELSO										
CAS Samp No	**Client Samp No.**	**Matrix**	**Collected**		150.1/ pH	180.1/ Turbidity	300.0/ Chloride	300.0/ F	300.0/ NO2	300.0/ NO3	300.0/ SO4	335.4/ CN T	350.1/ Ammonia T	365.3/ O Phos T	SM 2120 B/ Color
K1111888-001	DW-1	DW	12/7/11	1140	V	V	V	V	V	V	V	V	V	V	V
K1111888-002	DW-9	DW	12/7/11	1430	V	V	V	V	V	V	V	V	V	V	V
K1111888-003	Trip Blank	DW	12/7/11	1140											

Folder Comments:

Use Baseline for Performance Testing Samples

CAS Samp No.	Client Samp No.	Matrix	Collected		KELSO									KELSO	
					SM 2320 B/ Alkalinity Titr	SM 2510 B/ Conductivity	SM 2540 C/ TDS	SM 4500-SiO2 C/ SiO2 D	SM 5310 C/ TOC T	SM 5540 C/ MBAS	SM 5910 B/ UV 254	SM 9221 E/ Fec Coli MT	SM 9223 B/ Qntray Tot NC	1632/ As Inorg T	1632/ As3
K1111888-001	DW-1	DW	12/7/11	1140	V	V	V	V	V	V	V	V	V	V	V
K1111888-002	DW-9	DW	12/7/11	1430	V	V	V	V	V	V	V	V	V	V	V
K1111888-003	Trip Blank	DW	12/7/11	1140											

					KELSO					KELSO			KELSO		
					1632/ As5	200.7 LL/ Metals T	200.8/ Metals T	245.1/ Hg T	SM 2340 B/ Hardness Calc	531.1/ CARBAM	547/ GLYPH	549.2/ DIQ_PARAQ	504.1/ EDB DBCP 123TCP	508.1/ PEST_CL	515.4/ CL_ACID_HER B
K1111888-001	DW-1	DW	12/7/11	1140	V	V	V	V	V	V	V	V	V	V	V
K1111888-002	DW-9	DW	12/7/11	1430	V	V	V	V	V	V	V	V	V	V	V
K1111888-003	Trip Blank	DW	12/7/11	1140											

					KELSO		KELSO	SVM	SIMIVALLEY	ACZ			LabCOR
					525.2/ SVO	548.1/ ENDO	524.2/ VOC	1613B/ Dioxins Furans	Sulfur Liq/ Sulfur	900.0/ Radioact	903.1/ Radium 226	904.0/ Radium 228	100.1/ Asbestos
K1111888-001	DW-1	DW	12/7/11	1140	V	V	V	V	V	V	V	V	V
K1111888-002	DW-9	DW	12/7/11	1430	V	V	V	V	V	V	V	V	V
K1111888-003	Trip Blank	DW	12/7/11	1140			V(H)						

Service Request Summary

Folder #:	**K1111888**
Client Name:	Kennedy/Jenks Consultants, Incorporated
Project Name:	City of Longview Mint Farm
Project Number:	17295
Report To:	Steven Misner Kennedy/Jenks Consultants, Incorporated 200 SW Market St., Suite 500 Portland, OR 97201-5715
Phone Number:	503-423-4004
Cell Number:	
Fax Number:	503-295-4901
E-mail:	stevenmisner@kennedyjenks.com

Project Chemist:	Arthi Kodur
Originating Lab:	KELSO
Logged By:	SWOLF
Date Received:	12/ 7/11
Internal Due Date:	12/24/11
QAP:	LAB QAP, Tetras Only
Qualifier Set:	CAS Standard
Formset:	CAS Standard
Merged?:	N,Y
Report to MDL?:	N,Y
P.O. Number:	
EDD:	EQuIS Kennedy Jenks Mint Farm

10	- 1000 ml-Glass Bottle NM AMBER Teflon Liner Unpreserved
10	- 1000 mL-Plastic Bottle NM CLEAR Unpreserved
10	- 1000 mL-Plastic Bottle NM CLEAR HNO3
9	- 40 mL-Glass Vial DW VOA CLEAR Tef/Silicone Septa AAc/HCl
8	- 1000 mL-Glass Bottle NM AMBER Na2SO3, HCL
5	- 40 mL-Glass Vial VOA CLEAR Tef/Silicone Septa Na2S2O3
4	- 100 ml-Plastic Cup Sterile Na2S2O3
4	- 40 mL-Glass Vial VOA CLEAR Tef/Silicone Septa Unpreserved
4	- 40 mL-Glass Vial DW VOA AMBER Tef/Silicone Septa Na2S2O3
2	- 125 mL-Glass Bottle NM AMBER Na2S2O3
2	- 250 mL-Glass Bottle NM AMBER Na2SO3
2	- 1000 mL-Plastic Bottle NM AMBER Na2S2O3
2	- 500 mL-Plastic Bottle NM CLEAR H2SO4
2	- 500 mL-Plastic Bottle NM CLEAR HNO3
2	- 500 mL-Plastic Bottle NM CLEAR NaOH
2	- 250 mL-Plastic Bottle Natural HCl Cleaned WM HCL

Location: K-HERK-A5, E-WIC01-DK, E-Disposed, SUBBED, K-MISTY, In Lab, K-Disposed, K-COLIBIN, P-Disposed, P-39-23

196

Test Comments:

Group	Test/Method	Samples	Comments
Metals	Metals T/200.7 LL	1-2	Al,Ca,Fe,Mg,K,Mn,Si,Na,Zn
Metals	Metals T/200.8	1-2	Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Ag,Tl,U.
Organic LC	CARBAM/531.1	1-2	Include all the aldicarb compounds
Semivoa GCMS	Dioxins Furans/1613B	1-2	2,3,7,8-TCDD
SubLab	Asbestos/100.1	1-2	Asbestos in drinking water (not chlorinated)
			EPA 100.2
SubLab	Radioact/900.0	1-2	Gross Alpha,Beta,Radium 226 and 228
VOA GC AIR	Sulfur/Sulfur Liq	1-2	Hydrogen Sulfide
VOA GCMS	VOC/524.2	1-2	Full list 524.2

Preparation Information Benchsheet

Prep Run#: 147966
Team: Semivoa GCMS/EBAUCH

Prep WorkFlow: OrgExtAq(365)
Prep Method: Method

Status: Prepped
Prep Date/Time: 12/14/11 02:14 PM

#	Lab Code	Client ID	B#	Method /Test	pH	Matrix	Amt. Ext.	Sample Description
1	E1101205-001	11-5344-17584	.01	1613B/Dioxins Furans	7	Water	980mL	clear, yellow liquid with yellow debris
2	E1101206-001	Bp Acid Sewer	.01	1613B/Dioxins Furans	3	Water	840mL	clear, yellow liquid wtih yellow debris
3	E1101206-002	Bp Alkaline Sewer	.01	1613B/Dioxins Furans	7	Water	1020mL	clear, orange liquid with yellow debris
4	E1101211-001	11-036097 Well #3	.01	1613B/Dioxins Furans	7	Water	980mL	clear, colorless liquid
5	EQ1100593-01	MB		1613B/Dioxins Furans	5	Liquid	1000mL	
6	EQ1100593-02	LCS		1613B/Dioxins Furans	5	Liquid	1000mL	
7	EQ1100593-03	DLCS		1613B/Dioxins Furans	5	Liquid	1000mL	
8	J1105501-002	Bleach Plant 006	.01	1613B/Dioxins Furans	4	Water	940mL	clear, yellow liquid with brown debris
9	K1111799-001	PA03600	.01	1613B/Dioxins Furans	6	Water	960mL	clear, colorless liquid with brown debris
10	K1111799-002	PA03603	.01	1613B/Dioxins Furans	6	Water	1000mL	clear, colorless liquid with brown debris
11	K1111888-001	DW-1	.05	1613B/Dioxins Furans	7	Drinking Water	1040mL	clear, yellow liquid
12	K1111888-002	DW-9	.05	1613B/Dioxins Furans	7	Drinking Water	1040mL	clear, yellow liquid

Spiking Solutions

197

Name: 8290/1613B Cleanup Working Standard Inventory ID 38071 Logbook Ref: D12-76-5 (38071) Expires On: 12/11/2012

E1101205-001	100.00µL	E1101206-001	100.00µL	E1101206-002	100.00µL	E1101211-001	100.00µL	EQ1100593-01	100.00µL	EQ1100593-02	100.00µL
EQ1100593-03	100.00µL	J1105501-002	100.00µL	K1111799-001	100.00µL	K1111799-002	100.00µL	K1111888-001	100.00µL	K1111888-002	100.00µL

Name: 1613B Matrix Working Standard Inventory ID 38085 Logbook Ref: D12-77-2 (38085) Expires On: 12/12/2012

EQ1100593-02	100.00µL	EQ1100593-03	100.00µL

Name: 1613B Labeled Working Standard Inventory ID 38232 Logbook Ref: D12-78-2 (38232) Expires On: 12/14/2012

E1101205-001	1,000.00µL	E1101206-001	1,000.00µL	E1101206-002	1,000.00µL	E1101211-001	1,000.00µL	EQ1100593-01	1,000.00µL	EQ1100593-02	1,000.00µL
EQ1100593-03	1,000.00µL	J1105501-002	1,000.00µL	K1111799-001	1,000.00µL	K1111799-002	1,000.00µL	K1111888-001	1,000.00µL	K1111888-002	1,000.00µL

Preparation Materials

Sensafe Free Chlorine WTR CHK	C2-56-3 (29767)	Acetone 99.5% Minimum	C2-39-7 (32865)	Extraction Thimbles 43 x123 mm	(1577)
Sulfuric Acid Reagent Grade H2SO4	C2-64-3 (37036)	Dichloromethane (Methylene Chloride) 99.9% MeCl2	C2-64-4 (37037)	Sodium Thiosulfate Anhydrous Reagent Grade NaS2O3	C2-54-6 (28404)
Sodium Hydroxide Reagent Grade NaOH	C2-53-6 (27838)	Sodium Sulfate Anhydrous Reagent Grade Na2SO4	C2-63-1 (35713)	Tridecane (n-Tridecane)	C2-65-1 (37777)
Hexane (n-Hexane) 98.5% Minimum	C2-64-6 (37039)	Nonane (n-Nonane) 99%	C2-33-001 (13944)	pH Paper 0-14	(1008)
Silica Gel Reagent Grade	C2-64-1 (37034)	Toluene 99.9% Minimum	C2-64-5 (37038)		

Preparation Information Benchsheet

Prep Run#: 147966
Team: Semivoa GCMS/EBAUCH

Prep WorkFlow: OrgExtAq(365)
Prep Method: Method

Status: Prepped
Prep Date/Time: 12/14/11 02:14 PM

Preparation Steps

Step:	Extraction	Step:	Acid Clean	Step:	Silica Gel Clean	Step:	Final Volume
Started:	12/14/11 14:14	Started:	12/16/11 08:00	Started:	12/19/11 05:30	Started:	12/20/11 06:15
Finished:	12/15/11 08:00	Finished:	12/16/11 10:00	Finished:	12/19/11 08:05	Finished:	12/20/11 10:05
By:	EBAUCH	By:	CDIAZ	By:	CDIAZ	By:	CDIAZ
Comments		Comments		Comments		Comments	

198

Comments:

Reviewed By: EB Date: 12/20/11

Chain of Custody

Relinquished By: Date:

Received By: Date:

Extracts Examined
Yes No

Hydrogen Sulfide

LABORATORY REPORT

December 20, 2011

Steven Misner
Kennedy/Jenks Consultants, Incorporated
200 SW Market St., Suite 500
Portland, OR 97201-5715

RE: City of Longview Mint Farm / 17295

Dear Steven:

Enclosed are the results of the samples submitted to our laboratory on December 7, 2011. For your reference, these analyses have been assigned our service request number K1111888.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.caslab.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

Columbia Analytical Services, Inc. is certified by the California Department of Health Services, NELAP Laboratory Certificate No. 02115CA; Arizona Department of Health Services, Certificate No. AZ0694; Florida Department of Health, NELAP Certification E871020; New Jersey Department of Environmental Protection, NELAP Laboratory Certification ID #CA009; New York State Department of Health, NELAP NY Lab ID No: 11221; Oregon Environmental Laboratory Accreditation Program, NELAP ID: CA20007; The American Industrial Hygiene Association, Laboratory #101661; United States Department of Defense Environmental Laboratory Accreditation Program (DoD-ELAP), Certificate No. L10-3-R2; Pennsylvania Registration No. 68-03307; TX Commission of Environmental Quality, NELAP ID T104704413-11-2; Minnesota Department of Health, NELAP Certificate No. 219474; Washington State Department of Ecology, ELAP Lab ID: C946. Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact me for information corresponding to a particular certification.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

Columbia Analytical Services, Inc.

Kate Aguilera Digitally signed by Kate Aguilera Date: 2011.12.20 16:41:09 -08'00'

Kate Aguilera
Project Manager

Client: Kennedy/Jenks Consultants, Incorporated CAS Project No: K1111888
Project: City of Longview Mint Farm / 17295

CASE NARRATIVE

The samples were received intact under chain of custody on December 7, 2011 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Hydrogen Sulfide Analysis

The samples were analyzed for hydrogen sulfide using a gas chromatograph equipped with a sulfur chemiluminescence detector (SCD).

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for utilization of less than the complete report.

Use of Columbia Analytical Services, Inc. (CAS) Name. Client shall not use CAS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to CAS any test result, tolerance or specification derived from CAS's data ("Attribution") without CAS's prior written consent, which may be withheld by CAS for any reason in its sole discretion. To request CAS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If CAS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use CAS's name or trademark in any Materials or Attribution shall be deemed denied. CAS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of CAS's name or trademark may cause CAS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

Intra-Network Chain of Custody

1317 South 13th Avenue • Kelso, WA 98626 • 1-360-577-7222 • FAX 1-360-636-1068

CAS Contact: Lisa Domenighini

Project Name: City of Longview Mint Farm
Project Number: 17295
Project Manager: Steven Misner
Company: Kennedy Jenks Consultants, Incorporated

Lab Code	Client Sample ID	# of Cont.	Matrix	Sample Date	Sample Time	Date Received	Send To	Sulfur Sulfur Liq
K1111888-001	DW-1	2	Drinking Water	12/7/11	1140	12/7/11	SIMIVALLEY	V
K1111888-002	DW-9	2	Drinking Water	12/7/11	1430	12/7/11	SIMIVALLEY	V

12/8/11
(LSA)

202

Test Comments
Sulfur - Sulfur Liq K1111888-001.2 Hydrogen Sulfide

Folder Comments:
Use Baseline for Performance Testing Samples

Special Instructions/Comments	Turnaround Requirements	Report Requirements	Invoice Information
Please provide the electronic (PDF and EDD) report to the following e-mail address: kelso_data@caslab.com	____RUSH (Surcharges Apply) PLEASE CIRCLE WORK DAYS 1 2 3 4 5 X STANDARD Requested FAX Date: _____ Requested Report Date: 12/24/11	____ I. Results Only X II. Results + QC Summaries ____ III. Results + QC and Calibration Summaries ____ IV. Data Validation Report with Raw Data PQL/MDL/J X EDD Y	50% Deposit PO# K1111888 Bill to

Relinquished By: K Smith 12/8/11 1332 Received By: [illegible] 12/9/11 1010 Airbill Number: _____

Columbia Analytical Services™ 2655 Park Center Drive, Suite A, Simi Valley, CA 93065 | 805.526.7161 | www.caslab.com

Sample Acceptance Check Form

Client: Kennedy/Jenks Consultants, Incorporated Work order: K1111888

Project: City of Longview Mint Farm / 17295

Sample(s) received on: 12/9/11 Date opened: 12/9/11 by: MZAMORA

Note: This form is used forall samples received by CAS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Container(s) **supplied by CAS**?	☒	☐	☐
3	Did **sample containers** arrive in good condition?	☒	☐	☐
4	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
5	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
6	Was **sample volume** received adequate for analysis?	☒	☐	☐
7	Are samples within specified holding times?	☒	☐	☐
8	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☒	☐	☐
	Cooler Temperature: ° C Blank Temperature: 5° C **Gel Packs**			
9	Was a **trip blank** received?	☐	☒	☐
10	Were **custody seals** on outside of cooler/Box?	☒	☐	☐
	Location of seal(s)? Top of cooler, down the front. Sealing Lid?	☒	☐	☐
	Were signature and date included?	☒	☐	☐
	Were seals intact?	☒	☐	☐
	Were custody seals on outside of sample container?	☐	☒	☐
	Location of seal(s)? Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
11	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☒	☐	☐
	Is there a client indication that the submitted samples are **pH** preserved?	☒	☐	☐
	Were **VOA vials** checked for presence/absence of air bubbles?	☒	☐	☐
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☒	☐	☐
12	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
	Do they contain moisture?	☐	☐	☒
13	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
K1111888-001.08	40mL VOA NP		5	1	A	
K1111888-001.09	40mL VOA NP				A	
K1111888-002.08	40mL VOA NP		5	1	A	
K1111888-002.09	40mL VOA NP				A	

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

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Client: **Kennedy/Jenks Consultants, Incorporated**
Client Project ID: **City of Longview Mint Farm / 17295** CAS Project ID: K1111888

Hydrogen Sulfide

Test Code: GC/SCD Reduced Sulfur Analysis
Instrument ID: Agilent 6890A/GC13/SCD
Analyst: Wade Henton
Matrix: Drinking Water
Test Notes:

Date(s) Collected: 12/7/11
Date Received: 12/7/11
Date Analyzed: 12/19/11

Client Sample ID	CAS Sample ID	Sample Amount ml(s)	Purge Volume Liter(s)	Injection Volume ml(s)	**Result µg/L**	MRL µg/L	Data Qualifier
DW-1	K1111888-001	10	0.30	1.0	ND	0.21	
DW-9	K1111888-002	10	0.30	1.0	ND	0.21	
Method Blank	P111219-MB	10	0.30	1.0	ND	0.21	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

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LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **Kennedy/Jenks Consultants, Incorporated**
Client Sample ID: **Duplicate Lab Control Sample**
Client Project ID: **City of Longview Mint Farm / 17295**

CAS Project ID: K1111888
CAS Sample ID: P111219-DLCS

Test Code: GC/SCD Reduced Sulfur Analysis
Instrument ID: Agilent 6890A/GC13/SCD
Analyst: Wade Henton
Matrix: Drinking Water
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 12/19/11
Liquid Amount: 10.0 ml(s)
Purge Volume: 0.30 Liter(s)
Injection Volume: 0.20 ml(s)

CAS #	Compound	Spike Amount LCS / DLCS ug/L	Result LCS ug/L	Result DLCS ug/L	% Recovery LCS	% Recovery DLCS	CAS Acceptance Limits	RPD	RPD Limit	Data Qualifier
7783-06-4	Hydrogen Sulfide	419	392	404	**94**	**96**	58-121	2	26	

Subcontract Laboratory Results

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

January 13, 2012

Report to:
Lisa Domenighini
Columbia Analytical Services
1317 S. 13th Ave.
Kelso, WA 98626

Bill to:
Accounts Payable
Columbia Analytical Services
1317 South 13th Ave.
Kelso, WA 98626

cc: Columbia Analytical Services, Inc.

Project ID: K1111888
ACZ Project ID: L92274

Lisa Domenighini:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on December 09, 2011. This project has been assigned to ACZ's project number, L92274. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L92274. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after February 13, 2012. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than $10/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical reports for five years.

If you have any questions or other needs, please contact your Project Manager.

Sue Webber

Sue Webber has reviewed and approved this report.

ACCREDITED IN ACCORDANCE WITH nelac

ACIL

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Radiochemistry Analytical Results

Columbia Analytical Services
Project ID: K1111888
Sample ID: DW-1
Locator:

ACZ Sample ID: ***L92274-01***
Date Sampled: *12/07/11 11:40*
Date Received: *12/09/11*
Sample Matrix: *Drinking Water*

Gross Alpha & Beta — Prep Method:
M900.0

Parameter	Analysis Date	Result	Error (+/-)	MDC	Units	QC	Analyst
Alpha	12/19/11 17:55	0.16	1.6	1.4	pCi/L	*	thf
Beta	12/19/11 17:55	4.1	2.3	2.9	pCi/L		thf

Radium 226 — Prep Method:
M903.1

Parameter	Analysis Date	Result	Error (+/-)	MDC	Units	QC	Analyst
Radium 226	01/11/12 10:22	0.15	0.09	0.1	pCi/L	*	zsh

Radium 228 — Prep Method:
M904.0

Parameter	Analysis Date	Result	Error (+/-)	MDC	Units	QC	Analyst
Radium 228	12/28/11 19:05	0.52	0.26	0.71	pCi/L		zsh

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

RadioChemistry Analytical Results

Columbia Analytical Services
Project ID: K1111888
Sample ID: DW-9
Locator:

ACZ Sample ID: ***L92274-02***
Date Sampled: *12/07/11 14:30*
Date Received: *12/09/11*
Sample Matrix: *Drinking Water*

Gross Alpha & Beta — Prep Method:
M900.0

Parameter	Analysis Date	Result	Error (+/-)	MDC	Units	Qualifier	Analyst
Alpha	12/19/11 17:57	0.77	1.7	1.4	pCi/L	*	thf
Beta	12/19/11 17:57	4.5	2	2.8	pCi/L		thf

Radium 226 — Prep Method:
M903.1

Parameter	Analysis Date	Result	Error (+/-)	MDC	Units	Qualifier	Analyst
Radium 226	01/11/12 10:24	-0.02	0.08	0.34	pCi/L	*	zsh

Radium 228 — Prep Method:
M904.0

Parameter	Analysis Date	Result	Error (+/-)	MDC	Units	Qualifier	Analyst
Radium 228	12/28/11 19:05	0.45	0.25	0.7	pCi/L		zsh

** Please refer to Qualifier Reports for details.*

Report Header Explanation

Batch	A distinct set of samples analyzed at a specific time
Error(+/-)	Calculated sample specific uncertainty
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
LCL	Lower Control Limit, in % (except for LCSS, mg/Kg)
LLD	Calculated sample specific Lower Limit of Detection
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
RER	Relative Error Ratio, calculation used for Dup. QC taking into account the error factor.
UCL	Upper Control Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

DUP	Sample Duplicate	MS/MSD	Matrix Spike/Matrix Spike Duplicate
LCSS	Laboratory Control Sample - Soil	PBS	Prep Blank - Soil
LCSW	Laboratory Control Sample - Water	PBW	Prep Blank - Water

QC Sample Types Explanation

Blanks	Verifies that there is no or minimal contamination in the prep method procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Matrix Spikes	Determines sample matrix interferences, if any.

ACZ Qualifiers (cont)

H	Analysis exceeded method hold time.
R	Poor spike recovery accepted because the other spike in the set fell within the given limits.
T	High Replicate Error Ratio (RER) accepted because sample concentrations are less than 10x the MDL.
U	No nuclides detected above the Lower Limit of Detection (LLD)
V	High blank data accepted because sample concentration is 10 times higher than blank concentration
X	QC is out of control. See Case Narrative.
Z	Poor spike recovery is accepted because sample concentration is four times greater than spike concentration.

Method Code Reference

M	EPA methodology, including those under SDWA, CWA, and RCRA
SM	Standard Methods for the Examination of Water and Wastewater, 19th edition (1995) & 20th edition (1998).
D	ASTM
RP	DOE
ESM	DOE/ESM

Comments

(1)	Solid matrices are reported on a dry weight basis.
(2)	Preparation method: "Method" indicates preparation defined in analytical method.
(3)	QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(4)	An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

Columbia Analytical Services
Project ID: K1111888

ACZ Project ID: ***L92274***

Alpha M900.0 **Units:** pCi/L

Lab ID	Type	Analyzed	Lot/Sol	QC	Sample	Dup	RPD	Blank	Conc	LCL	UCL	Lower	Upper	Result	Limit	Qual
WG315816																
WG315269PBW	PBW	12/19/11						0	1.1	1			2			
WG315269LCSW	LCSW	12/19/11	RC111214-2	81.06				88	8.3	1.5	108.6	84	129			
L92289-01DUP	DUP-R	12/19/11			740	78	16	700	78	17				5.6	20	
L92269-07MS	MS	12/19/11	RC111214-2	81.06	13	4.4	2.4	61	9.1	2.4	59.2	84	129			M2

Beta M900.0 **Units:** pCi/L

Lab ID	Type	Analyzed	Lot/Sol	QC	Sample	Dup	RPD	Blank	Conc	LCL	UCL	Lower	Upper	Result	Limit	Qual
WG315816																
WG315269PBW	PBW	12/19/11						0	2	2.9			5.8			
WG315269LCSW	LCSW	12/19/11	RC110517-11	100				99	6.7	4.1	99	62	133			
L91902-01DUP	DUP-R	12/19/11			5.7	2.9	4.2	5.4	3.6	4.3				5.4	20	
L92289-01DUP	DUP-R	12/19/11			230	30	28	220	31	29				4.4	20	
L92284-01MS	MS	12/19/11	RC110517-11	285.71	94	14	13	350	21	12	89.6	62	133			

Radium 226 M903.1 **Units:** pCi/L

Lab ID	Type	Analyzed	Lot/Sol	QC	Sample	Dup	RPD	Blank	Conc	LCL	UCL	Lower	Upper	Result	Limit	Qual
WG316688																
WG316133PBW	PBW	01/11/12						.05	0.18	0.31			0.62			
WG316133LCSW	LCSW	01/11/12	RC110822-1	23.92				21	0.69	0.2	87.8	45	131			
L92274-01DUP	DUP-R	01/11/12			0.15	0.09	0.1	-.02	0.08	0.19				1.41	2	
L92274-01DUP	DUP-R	01/11/12			0.15	0.09	0.1	-.02	0.08	0.19				261.5	20	RG
L92356-02MS	MS	01/11/12	RC110822-1	23.92	0.55	0.14	0.24	21	0.51	0.14	85.5	45	131			

211

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Radiochemistry QC Summary

Columbia Analytical Services
Project ID: K1111888

ACZ Project ID: ***L92274***

Radium 228 M904.0 **Units:** pCi/L

Sample ID	Type	Analyzed	Standard	%	Sample	Dup	MS	Amount	Dup	MS	LCS	Dup	Dupl	Control	Limit
WG316030															
WG315648 LCSW	LCSW	12/28/11	PCN35588	16.96				14	1.1	1.7	82.5	47	123		
WG315648 PBW	PBW	12/28/11						1.1	0.38	0.67			1.34		
L92182-02MS	MS	12/28/11	PCN35588	16.96	2.4	0.73	1.5	13	1.1	1.1	62.5	47	123		
L92270-02DUP	DUP-R	12/28/11			2.4	0.64	1.2	2.6	0.63	1.7				0.22	2
L92270-02DUP	DUP-R	12/28/11			2.4	0.64	1.2	2.6	0.63	1.7				8	20

212

Columbia Analytical Services ACZ Project ID: ***L92274***

Lab ID	Analytical Batch	Analyte	Method	Qual	Qualifier Description
L92274-01	WG315816	Alpha	M900.0	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG316688	Radium 226	M903.1	RG	Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control.
L92274-02	WG315816	Alpha	M900.0	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG316688	Radium 226	M903.1	RG	Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control.

No certification qualifiers associated with this analysis

ACZ Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Columbia Analytical Services
K1111888

ACZ Project ID: L92274
Date Received: 12/09/2011 12:03
Received By: ksj
Date Printed: 12/9/2011

Receipt Confirmation

	YES	NO	NA
1) Does this project require special handling procedures such as CLP protocol?			X
2) Are the custody seals on the cooler intact?	X		
3) Are the custody seals on the sample containers intact?			X
4) Is there a Chain of Custody or other directive shipping papers present?	X		
5) Is the Chain of Custody complete?	X		
6) Is the Chain of Custody in agreement with the samples received?	X		
7) Is there enough sample for all requested analyses?	X		
8) Are all samples within holding times for requested analyses?	X		
9) Were all sample containers received intact?	X		
10) Are the temperature blanks present?			X
11) Are the trip blanks (VOA and/or Cyanide) present?			X
12) Are samples requiring no headspace, headspace free?			X
13) Do the samples that require a Foreign Soils Permit have one?			X

Exceptions (if applicable to any of the above questions, please describe)

N/A

Contact (for any discrepancies the client must be contacted)

N/A

Shipping Containers

Cooler Id		Temp (°C)	Rad (µR/hr)
Na14479		1.5	16

Client must contact ACZ Project Manager if analysis should not proceed for samples received outside of thermal preservation acceptance criteria.

Notes

ACZ Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Columbia Analytical Services
K1111888

ACZ Project ID: L92274
Date Received: 12/09/2011 12:03
Received By: ksj
Date Printed: 12/9/2011

Sample Container Preservation

SAMPLE	CLIENT ID	R < 2	G < 2	BK < 2	Y< 2	YG< 2	B< 2	O < 2	T >12	N/A	RAD	ID
L92274-01	DW-1	Y										
L92274-02	DW-9	Y										

Sample Container Preservation Legend

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
B	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
O	Raw/Sulfuric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Y	Raw/Sulfuric	YELLOW	pH must be < 2
YG	Raw/Sulfuric	YELLOW GLASS	pH must be < 2
N/A	No preservative needed	Not applicable	
RAD	Gamma/Beta dose rate	Not applicable	must be < 250 µR/hr

* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By: ksj

L92274 Chain of Custody

Columbia Analytical Services, Inc. Chain of Custody

1317 South 13th Avenue • Kelso, WA 98626 • 1-360-577-7222 • FAX 1-360-636-1068

CAS Contact: Lisa Domenighini

L92274

Project Number: K1111888
Project Manager: Lisa Domenighini

Lab Code	Sample ID	# of Cont.	Matrix	Sample Date	Sample Time	Lab ID	Radioact 900.0	Radium 226 903.1	Radium 228 904.0
K1111888-001	DW-1	5	Drinking Water	12/7/11	1140	ACZ	✓	✓	✓
K1111888-002	DW-9	5	Drinking Water	12/7/11	1430	ACZ	✓	✓	✓

Test Comments

Radioact - 900.0 K1111888-001,2 Gross Alpha,Beta,Radium 226 and 228

Lisa D
12/8/11

Folder Comments:
Use Baseline for Performance Testing Samples

Special Instructions/Comments
Please provide the electronic (PDF and EDD) report to the following e-mail address:
kelso_data@caslab.com

Turnaround Requirements
____RUSH (Surcharges Apply)
PLEASE CIRCLE WORK DAYS
1 2 3 4 5
X STANDARD
Requested FAX Date: _____
Requested Report Date: 12/24/11

Report Requirements
____ I. Results Only
X II. Results + QC Summaries
____ III. Results + QC and Calibration Summaries
____ IV. Data Validation Report with Raw Data
PQL/MDL/J N
EDD Y

Invoice Information
PO# K1111888
Bill to

Relinquished By: 12/8/11 1332 Received By: 12.9.11 12:03 Airbill Number:

Subcontract Laboratory Results

Lab/Cor, Inc.
7619 6th Ave NW
Seattle, WA 98117

Analysis Report Cover

Final Report

A Professional Service Corporation in the Northwest

Phone: (206) 781-0155
Fax: (206) 789-8424
http://www.labcor.net

Job Number: 111361 **SEA**
Client: Columbia Analytical Services
Address: 1317 S 13th Ave
Kelso, WA 98626
Project Name: City of Longview
Project No.: K1111888
PO Number: K1111888
PWS ID:
Reference No.:

Report Number: 111361R01
Report Date: 12/13/2011

Enclosed please find results for samples submitted to our laboratory. A list of samples and analyses follows:

Lab/Cor Sample #	Client Sample # and Description	Analysis	Analysis Notes	Date Received:
111361 - S1	K1111888-001 - DW-1, WA Water ID#: 119-99446	EPA 100.2 - Potable Water - WA		12/9/2011
111361 - S2	K1111888-002 - DW-9, WA Water ID#: 119-99447	EPA 100.2 - Potable Water - WA		12/9/2011

EPA 100.2 - Potable Water - WA

Preparation and analysis of the above samples was conducted in accordance with the EPA method #100.2. In this method, samples are taken from an affected water supply to measure the amount of asbestos contamination in the system. Samples received 48 hours after collection, or with a sample received temperature greater than 10°C, are subjected to ozone/UV treatment.

Each sample was shaken, then sonicated briefly in a Branson 2200 sonicator to distribute particulate evenly. Several aliquots were filtered onto 0.22 µm, 25 mm diameter mixed cellulose ester filters. Briefly, the samples were collapsed with a solution of N,N-dimethylformamide and acetic acid, then etched in a low temperature plasma etcher to remove the top surface of the filter and other organics. The samples were carbon coated at high vacuum with a thin layer of carbon, placed on 200 mesh copper grids and allowed to dissolve in N,N-Dimethlyformamide / Acetone baths until cleared of filter debris.

Each aliquot was examined at low magnification to determine the best particulate loading for analysis. Analysis was performed using a transmission electron microscope equipped with an EDS X ray analyzer. The samples were analyzed at an approximate screen magnification of 10,000x, with an accelerating voltage of 100 KV. The sizing of grid openings was performed using a calibrated digital imaging system at low magnification.

Disclaimer

The results reported relate only to the samples tested or analyzed; the laboratory did not have control over sample collection. Interpretation of these results is the sole responsibility of the client.

If further clarification of these results is needed, please call us. Thank you for allowing the staff at Lab/Cor, Inc. the opportunity to provide you with the analytical services.

Sincerely,

Nina Borchowiec
Technician/Analyst

Lab/Cor, Inc.
7619 6th Ave NW
Seattle, WA 98117

Final Report

Phone: (206) 781-0155
Fax: (206) 789-8424
http://www.labcor.net

A Professional Service Corporation in the Northwest

EPA 100.2 - Potable Water - WA Summary Data

Job Number: 111361 SEA
Client: Columbia Analytical Services
Project Name: City of Longview

Report Number: 111361R01
Date Received: 12/9/2011

Lab/Cor Sample No.: S1
Client Sample No.: K1111888-001
Description: DW-1, WA Water ID#: 119-99446
Filter Fraction: 1 **Aliquot Dilution:** 1
Volume Taken: 5 **Final Dilution:** 1

Sample Area/Mass/Volume (ml) : 800
Lab Filter Area (mm2) : 193
Grid Openings Analyzed : 20
Average Grid Opening Area : 0.00926
Area Analyzed (mm2) : 0.1852
Analytical Sens. (struc/MFL>10-um) : 0.208
Detection Limit. (struc/MFL>10-um) : 0.623

Analyst(s)	Analysis Date	Microscope	Magnification
KM	12/13/2011	JEOL 1200 EX	10000

Structure Type	Concen-tration MFL>10-um	95% Confidence Interval MFL>10-um	Structure Count[1] Prim/Total	
TEM Water Amphibole	< 0.208	0 - 0.769 - Poisson	0	
TEM Water Chrysotile	< 0.208	0 - 0.769 - Poisson	0	
TEM Water Total	< 0.208	0 - 0.769 - Poisson	0	

Lab/Cor Sample No.: S2
Client Sample No.: K1111888-002
Description: DW-9, WA Water ID#: 119-99447
Filter Fraction: 1 **Aliquot Dilution:** 1
Volume Taken: 10 **Final Dilution:** 1

Sample Area/Mass/Volume (ml) : 800
Lab Filter Area (mm2) : 193
Grid Openings Analyzed : 11
Average Grid Opening Area : 0.00926
Area Analyzed (mm2) : 0.10186
Analytical Sens. (struc/MFL>10-um) : 0.189
Detection Limit. (struc/MFL>10-um) : 0.567

Analyst(s)	Analysis Date	Microscope	Magnification
KM	12/13/2011	JEOL 1200 EX	10000

Structure Type	Concen-tration MFL>10-um	95% Confidence Interval MFL>10-um	Structure Count[1] Prim/Total	
TEM Water Amphibole	< 0.189	0 - 0.699 - Poisson	0	
TEM Water Chrysotile	< 0.189	0 - 0.699 - Poisson	0	
TEM Water Total	< 0.189	0 - 0.699 - Poisson	0	

Reviewed by:

x

Nina Borchowiec
Technician/Analyst

* One-sided upper 95% Poisson confidence limits may be used to calculate sample concentrations ([Struc count] * [Analytical Sensitivity]) when the structure count is below 4. The limits are: 0 str - 0, 1 str - 1, 2 str - 2, 3 str - 3

Lab/Cor, Inc.
7619 6th Ave NW
Seattle, WA 98117

Final Report

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Fax: (206) 789-8424
http://www.labcor.net

A Professional Service Corporation in the Northwest

EPA 100.2 - Potable Water - WA Raw Data

Job Number: 111361 SEA
Client: Columbia Analytical Services
Project Name: City of Longview
Project No.: K1111888

Report Number: 111361R01
Date Received: 12/9/2011

Lab/Cor Sample No: S1
Client Sample No: K1111888-001
Description: DW-1, WA Water ID#: 119-99446

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G5	1	C34				NSD							
G5	2	E33				NSD							
G5	3	E42				NSD							
G5	4	F41				NSD							
G5	5	F44				NSD							
G5	6	G43				NSD							
G5	7	G44				NSD							
G6	8	C34				NSD							
G6	9	E33				NSD							
G6	10	E42				NSD							
G6	11	F41				NSD							
G6	12	F44				NSD							
G6	13	G43				NSD							
G6	14	G52				NSD							
G7	15	C34				NSD							
G7	16	E33				NSD							
G7	17	E42				NSD							
G7	18	F41				NSD							
G7	19	F44				NSD							
G7	20	G43				NSD							

Lab/Cor Sample No: S2
Client Sample No: K1111888-002
Description: DW-9, WA Water ID#: 119-99447

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G5	1	C34				NSD							
G5	2	E33				NSD							
G5	3	E42				NSD							
G5	4	F41				NSD							
G6	5	C34				NSD							
G6	6	E33				NSD							
G6	7	E42				NSD							
G6	8	F41				NSD							
G7	9	C34				NSD							
G7	10	E33				NSD							
G7	11	E42				NSD							

Lab/Cor, Inc.
7619 6th Ave NW
Seattle, WA 98117

Final Report

Phone: (206) 781-0155
Fax: (206) 789-8424
http://www.labcor.net

A Professional Service Corporation in the Northwest

EPA 100.2 - Potable Water - WA Raw Data

Job Number: 111361 SEA
Client: Columbia Analytical Services
Project Name: City of Longview
Project No.: K1111888

Report Number: 111361R01
Date Received: 12/9/2011

Count Categories

Water_Amph	TEM Water Amphibole	WATER_Chrys	TEM Water Chrysotile	WATER_Total	TEM Water Total

Reviewed by:

Nina Borchowiec
Technician/Analyst

Columbia Analytical Services, Inc. Chain of Custody

1317 South 13th Avenue • Kelso, WA 98626 • 1-360-577-7222 • FAX 1-360-636-1068

CAS Contact: Lisa Domenighini

Project Number: K1111888
Project Manager: Lisa Domenighini

111361

Lab Code	Sample ID	# of Cont.	Matrix	Sample Date	Sample Time	Lab ID	Asbestos 100.1
K1111888-001	DW-1	1	Drinking Water	12/7/11	1140	LabCOR	✓
K1111888-002	DW-9	1	Drinking Water	12/7/11	1430	LabCOR	✓

Reviewed by: _____
Results Released: _____
Fax Verbals USPS Email
Invoice Released: _____
Fax USPS Email

Lisa D
12/8/11

Test Comments

Asbestos - 100.1	K1111888-001,2	Asbestos in drinking water (not chlorinated)
		EPA 100.2

223

Folder Comments:
Use Baseline for Performance Testing Samples

11.2°C
Condition Good

Special Instructions/Comments	Turnaround Requirements	Report Requirements	Invoice Information
Please provide the electronic (PDF and EDD) report to the following e-mail address: kelso_data@caslab.com	____RUSH (Surcharges Apply) PLEASE CIRCLE WORK DAYS 1 2 3 4 5 X STANDARD Requested FAX Date: _____ Requested Report Date: 12/24/11	___ I. Results Only X II. Results + QC Summaries ___ III. Results + QC and Calibration Summaries ___ IV. Data Validation Report with Raw Data PQL/MDL/J N EDD Y	PO# K1111888 Bill to

Relinquished By: H Smith 12/8/11 1332 Received By: [signature] 12/9/11 9:30 am Airbill Number: _____