APPENDIX O
Data Usability Summary Reports

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

Technical Memorandum

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To: Kimberly Semon, Langan Project Manager

From: Joe Conboy, Langan Staff Chemist

Date: November 9, 2020

Re: Data Usability Summary Report
For 802 – 825 Atlantic Avenue
May - September 2020 Soil Samples
Langan Project No.: 170384501

This memorandum presents the findings of an analytical data validation of the data generated from the analysis of soil samples collected between May and September 2020 by Langan Engineering and Environmental Services ("Langan") at the 802 – 825 Atlantic Avenue site ("the site"). The samples were analyzed by York Laboratories, Inc. (NYSDOH NELAP registration #s 10854 and 12058) for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticides, metals including mercury (Hg), cyanide (CN), hexavalent chromium (CrVI), trivalent chromium (CrIII), and total solids (%S) by the methods specified below.

- VOCs by SW-846 Method 8260C
- SVOCs by SW-846 Method 8270D and 8270D SIM
- Pesticides by SW-846 Method 8081B
- Metals by SW-846 Method 6010D
- Mercury by SW-846 Method 7473
- Cyanide by SW-846 Method 9014/9010C
- Hexavalent Chromium by SW-846 Method 7196A
- Trivalent Chromium (calculated)
- Total Solids by Standard Method 2540G

Table 1, below, summarizes the laboratory and client sample identification numbers, sample collection dates, and analytical parameters subject to review.

TABLE 1: SAMPLE SUMMARY

SDG	*Lab Sample ID*	*Client Sample ID*	*Sample Date*	*Analytical Parameters*
20E0588	20E0588-01	EP01_EL56	5/19/2020	VOCs, SVOCs, pesticides, metals (including Hg), CrVI, CrIII, CN, and %S
20E0588	20E0588-02	EP04_EL56	5/19/2020	VOCs, SVOCs, pesticides, metals (including Hg), CrVI, CrIII, CN, and %S
20E0588	20E0588-03	EP05_EL48	5/19/2020	VOCs, SVOCs, pesticides, metals (including Hg), CrVI, CrIII, CN, and %S
20E0588	20E0588-04	EP07_EL56	5/19/2020	VOCs, SVOCs, pesticides, metals (including Hg), CrVI, CrIII, CN, and %S
20E0588	20E0588-05	EP08_EL56	5/19/2020	VOCs, SVOCs, pesticides, metals (including Hg), CrVI, CrIII, CN, and %S
20E0588	20E0588-06	EP09_EL56	5/19/2020	VOCs, SVOCs, pesticides, metals (including Hg), CrVI, CrIII, CN, and %S
20E0588	20E0588-07	FB01-051920	5/19/2020	VOCs, SVOCs, pesticides, metals (including Hg), CrVI, CrIII, and CN
20E0588	20E0588-08	TB01-051920	5/19/2020	VOCs
20E0626	20E0626-01	EP02_EL56	5/20/2020	VOCs, SVOCs, pesticides, metals (including Hg), CrVI, CrIII, CN, and %S
20E0626	20E0626-02	EP03_EL56	5/20/2020	VOCs, SVOCs, pesticides, metals (including Hg), CrVI, CrIII, CN, and %S
20E0626	20E0626-03	EP06_EL56	5/20/2020	VOCs, SVOCs, pesticides, metals (including Hg), CrVI, CrIII, CN, and %S
20E0626	20E0626-04	FB02_052020	5/20/2020	VOCs, SVOCs, pesticides, metals (including Hg), CrVI, CrIII, and CN
20E0626	20E0626-05	TB01-051920	5/20/2020	VOCs
20E0680	20E0680-01	EP10_EL56	5/21/2020	VOCs, SVOCs, pesticides, metals (including Hg), CrVI, CrIII, CN, and %S
20E0680	20E0680-02	EP11_EL56	5/21/2020	VOCs, SVOCs, pesticides, metals (including Hg), CrVI, CrIII, CN, and %S

SDG	*Lab Sample ID*	*Client Sample ID*	*Sample Date*	*Analytical Parameters*
20E0680	20E0680-03	EP13_EL56	5/21/2020	VOCs, SVOCs, pesticides, metals (including Hg), CrVI, CrIII, CN, and %S
20E0680	20E0680-04	TB03_052120	5/21/2020	VOCs
20E0765	20E0765-01	TB04_052620	5/26/2020	VOCs
20E0765	20E0765-02	EP12_EL55	5/26/2020	VOCs, SVOCs, pesticides, metals (including Hg), CrVI, CrIII, CN, and %S
20E0765	20E0765-03	EP14_EL56	5/26/2020	VOCs, SVOCs, pesticides, metals (including Hg), CrVI, CrIII, CN, and %S
20H0355	20H0355-01	EP16_EL60	8/11/2020	VOCs, SVOCs, pesticides, metals (including Hg), CrVI, CrIII, CN, and %S
20H0355	20H0355-02	TB01_081120	8/11/2020	VOCs
20H0563	20H0563-01	EP17_EL60	8/14/2020	VOCs, SVOCs, pesticides, metals (including Hg), CrVI, CrIII, CN, and %S
20H0563	20H0563-02	EP21_EL60	8/14/2020	VOCs, SVOCs, pesticides, metals (including Hg), CrVI, CrIII, CN, and %S
20H0563	20H0563-02	TB01_081420	8/14/2020	VOCs
20H0806	20H0806-01	EP18_EL60	8/20/2020	VOCs, SVOCs, Pesticides, Metals (Including Hg), CrIII, CrVI, CN, and %S
20H0806	20H0806-02	EP22_EL60	8/20/2020	VOCs, SVOCs, Pesticides, Metals (Including Hg), CrIII, CrVI, CN, and %S
20H0806	20H0806-03	TB01_082020	8/20/2020	VOCs
20H1162	20H1162-01	EP23_EL56_20200828	8/28/2020	VOCs, SVOCs, Pesticides, Metals (Including Hg), CrIII, CrVI, CN, and %S
20H1162	20H1162-02	EP25_EL56_20200828	8/28/2020	VOCs, SVOCs, Pesticides, Metals (Including Hg), CrIII, CrVI, CN, and %S
20H1162	20H1162-03	TB05_082820_20200828	8/28/2020	VOCs
20I0174	20I0174-01	EP19_EL56_20200903	9/3/2020	VOCs, SVOCs, Pesticides, Metals (Including Hg), CrIII, CrVI, CN, and %S

SDG	*Lab Sample ID*	*Client Sample ID*	*Sample Date*	*Analytical Parameters*
20I0174	20I0174-02	EP26_EL56_20200903	9/3/2020	VOCs, SVOCs, Pesticides, Metals (Including Hg), CrIII, CrVI, CN, and %S
20I0174	20I0174-03	TB01_090320_20200903	9/3/2020	VOCs
20I0299	20I0299-01	EP23_EL55_20200908	9/8/2020	Metals (including Hg) and %S
20I0812	20I0812-04	EP20_EL54_20200917	9/17/2020	VOCs, SVOCs, Pesticides, Metals (Including Hg), CrIII, CrVI, CN, and %S
20I0812	20I0812-05	EP24_EL54_20200917	9/17/2020	VOCs, SVOCs, Pesticides, Metals (Including Hg), CrIII, CrVI, CN, and %S
20I0812	20I0812-01	SW01_56_20200917	9/17/2020	VOCs, SVOCs, Pesticides, Metals (Including Hg), CrIII, CrVI, CN, and %S
20I0812	20I0812-02	SW02_56_20200917	9/17/2020	VOCs, SVOCs, Pesticides, Metals (Including Hg), CrIII, CrVI, CN, and %S
20I0812	20I0812-03	TB01_091720_20200917	9/17/2020	VOCs
20I1295	20I1295-02	DUP01_093020_20200930	9/30/2020	VOCs, SVOCs, Pesticides, Metals (Including Hg), CrIII, CrVI, CN, and %S
20I1295	20I1295-01	EP19_EL56_20200930	9/30/2020	VOCs, SVOCs, Pesticides, Metals (Including Hg), CrIII, CrVI, CN, and %S
20I1295	20I1295-03	TB01_093020_20200930	9/30/2020	VOCs
20I1297	20I1297-02	DUP02_093020_20200930	9/30/2020	VOCs, SVOCs, Pesticides, Metals (Including Hg), CrIII, CrVI, CN, and %S
20I1297	20I1297-01	EP23_EL56_20200930	9/30/2020	VOCs, SVOCs, Pesticides, Metals (Including Hg), CrIII, CrVI, CN, and %S

Validation Overview

This data validation was performed in accordance with USEPA Region II Standard Operating Procedure (SOP) #HW-34A, "Trace Volatile Data Validation" (September 2016, Revision 1); USEPA Region II SOP #HW-33A, "Low/Medium Volatile Data Validation" (September 2016,

Revision 1); USEPA Region II SOP #HW-35A, "Semivolatile Data Validation" (September 2016, Revision 1); USEPA Region II SOP #HW-36A, "Pesticide Data Validation" (October 2016, Revision 1); USEPA Region II SOP #HW-3a, "ICP-AES Data Validation" (September 2016, Revision 1); USEPA Region II SOP #HW-3c, "Mercury and Cyanide Data Validation" (September 2016, Revision 1); the USEPA Contract Laboratory Program "National Functional Guidelines for Organic Superfund Methods Data Review" (EPA-540-R-2017-002, January 2017); the USEPA Contract Laboratory Program "National Functional Guidelines for Inorganic Superfund Methods Data Review" (EPA-540-R-2017-001, January 2017); and the specifics of the methods employed.

Validation includes review of the analytical data to verify that data are easily traceable and sufficiently complete to permit logical reconstruction by a qualified individual other than the originator. Items subject to review in this memorandum include holding times, sample preservation, sample extraction and digestion, instrument tuning, instrument calibration, laboratory blanks, laboratory control samples, system monitoring compounds, internal standard area counts, matrix spike/spike duplicate recoveries, target compound identification and quantification, chromatograms, overall system performance, serial dilutions, dual column performance, field duplicate, trip blank sample results, and field blank sample results.

As a result of the review process, the following qualifiers may be assigned to the data in accordance with the USEPA's guidelines and best professional judgment:

- **R –** The sample results are unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.
- **J –** The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample.
- **UJ –** The analyte was not detected at a level greater than or equal to the reporting limit (RL); however, the reported RL is approximate and may be inaccurate or imprecise.
- **U –** The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the RL or the sample concentration for results impacted by blank contamination.
- **NJ –** The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

If any validation qualifiers are assigned these qualifiers should supersede any laboratory-applied qualifiers. Data that is not qualified as a result of this data validation is considered acceptable on the basis of the items specified for review. Data that is qualified as "R" are not sufficiently valid

and technically supportable to be used for data interpretation. Data that is otherwise qualified due to minor data quality anomalies are usable, as qualified.

TABLE 2: VALIDATOR-APPLIED QUALIFICATION

Client Sample ID	*Analysis*	*CAS #*	*Analyte*	*Validator Qualifier*
EP08_EL56	8260C	108-10-1	4-Methyl-2-pentanone	U(0.0046)
EP01_EL56	8260C	67-64-1	Acetone	J
EP04_EL56	8260C	67-64-1	Acetone	J
EP05_EL48	8260C	67-64-1	Acetone	J
EP07_EL56	8260C	67-64-1	Acetone	J
EP08_EL56	8260C	67-64-1	Acetone	J
EP09_EL56	8260C	67-64-1	Acetone	J
EP01_EL56	8260C	76-13-1	1,1,2-Trichloro-1,2,2,-trifluoroethane	UJ
EP04_EL56	8260C	76-13-1	1,1,2-Trichloro-1,2,2,-trifluoroethane	UJ
EP05_EL48	8260C	76-13-1	1,1,2-Trichloro-1,2,2,-trifluoroethane	UJ
EP07_EL56	8260C	76-13-1	1,1,2-Trichloro-1,2,2,-trifluoroethane	UJ
EP08_EL56	8260C	76-13-1	1,1,2-Trichloro-1,2,2,-trifluoroethane	UJ
EP09_EL56	8260C	76-13-1	1,1,2-Trichloro-1,2,2,-trifluoroethane	UJ
EP01_EL56	8260C	123-91-1	1,4-Dioxane	UJ
EP04_EL56	8260C	123-91-1	1,4-Dioxane	UJ
EP05_EL48	8260C	123-91-1	1,4-Dioxane	UJ
EP07_EL56	8260C	123-91-1	1,4-Dioxane	UJ
EP08_EL56	8260C	123-91-1	1,4-Dioxane	UJ
EP09_EL56	8260C	123-91-1	1,4-Dioxane	UJ
EP01_EL56	8260C	591-78-6	2-Hexanone	UJ
EP04_EL56	8260C	591-78-6	2-Hexanone	UJ
EP05_EL48	8260C	591-78-6	2-Hexanone	UJ
EP07_EL56	8260C	591-78-6	2-Hexanone	UJ
EP08_EL56	8260C	591-78-6	2-Hexanone	UJ

Client Sample ID	*Analysis*	*CAS #*	*Analyte*	*Validator Qualifier*
EP09_EL56	8260C	591-78-6	2-Hexanone	UJ
EP01_EL56	8260C	110-82-7	Cyclohexane	UJ
EP04_EL56	8260C	110-82-7	Cyclohexane	UJ
EP05_EL48	8260C	110-82-7	Cyclohexane	UJ
EP07_EL56	8260C	110-82-7	Cyclohexane	UJ
EP08_EL56	8260C	110-82-7	Cyclohexane	UJ
EP09_EL56	8260C	110-82-7	Cyclohexane	UJ
EP01_EL56	8270D	51-28-5	2,4-Dinitrophenol	UJ
EP04_EL56	8270D	51-28-5	2,4-Dinitrophenol	UJ
EP05_EL48	8270D	51-28-5	2,4-Dinitrophenol	UJ
EP07_EL56	8270D	51-28-5	2,4-Dinitrophenol	UJ
EP08_EL56	8270D	51-28-5	2,4-Dinitrophenol	UJ
EP09_EL56	8270D	51-28-5	2,4-Dinitrophenol	UJ
EP01_EL56	8270D	534-52-1	4,6-Dinitro-2-methylphenol	UJ
EP04_EL56	8270D	534-52-1	4,6-Dinitro-2-methylphenol	UJ
EP05_EL48	8270D	534-52-1	4,6-Dinitro-2-methylphenol	UJ
EP07_EL56	8270D	534-52-1	4,6-Dinitro-2-methylphenol	UJ
EP08_EL56	8270D	534-52-1	4,6-Dinitro-2-methylphenol	UJ
EP09_EL56	8270D	534-52-1	4,6-Dinitro-2-methylphenol	UJ
EP01_EL56	8270D	65-85-0	Benzoic acid	UJ
EP04_EL56	8270D	65-85-0	Benzoic acid	UJ
EP05_EL48	8270D	65-85-0	Benzoic acid	UJ
EP07_EL56	8270D	65-85-0	Benzoic acid	UJ
EP08_EL56	8270D	65-85-0	Benzoic acid	UJ
EP09_EL56	8270D	65-85-0	Benzoic acid	UJ
EP01_EL56	8270D	117-84-0	Di-n-octylphthalate	UJ
EP04_EL56	8270D	117-84-0	Di-n-octylphthalate	UJ
EP05_EL48	8270D	117-84-0	Di-n-octylphthalate	UJ
EP07_EL56	8270D	117-84-0	Di-n-octylphthalate	UJ
EP08_EL56	8270D	117-84-0	Di-n-octylphthalate	UJ
EP09_EL56	8270D	117-84-0	Di-n-octylphthalate	UJ
EP08_EL56	8081B	72-55-9	4,4'DDE	J

Client Sample ID	*Analysis*	*CAS #*	*Analyte*	*Validator Qualifier*
EP08_EL56	8081B	76-44-8	Heptachlor	J
EP01_el56	6010D	7440-02-0	Nickel	J
EP04_el56	6010D	7440-02-0	Nickel	J
EP05_el48	6010D	7440-02-0	Nickel	J
EP07_el56	6010D	7440-02-0	Nickel	J
EP08_EL56	6010D	7440-02-0	Nickel	J
EP09_EL56	6010D	7440-02-0	Nickel	J
EP01_el56	6010D	7439-92-1	Lead	J
EP04_el56	6010D	7439-92-1	Lead	J
EP05_el48	6010D	7439-92-1	Lead	J
EP07_el56	6010D	7439-92-1	Lead	J
EP08_EL56	6010D	7439-92-1	Lead	J
EP09_EL56	6010D	7439-92-1	Lead	J
EP01_el56	6010D	7440-36-0	Antimony	UJ
EP01_el56	6010D	7440-41-7	Beryllium	UJ
EP01_el56	6010D	7440-22-4	Silver	UJ
EP04_el56	6010D	7440-36-0	Antimony	UJ
EP04_el56	6010D	7440-41-7	Beryllium	UJ
EP04_el56	6010D	7440-22-4	Silver	UJ
EP05_el48	6010D	7440-36-0	Antimony	UJ
EP05_el48	6010D	7440-41-7	Beryllium	UJ
EP05_el48	6010D	7440-22-4	Silver	UJ
EP07_el56	6010D	7440-36-0	Antimony	UJ
EP07_el56	6010D	7440-41-7	Beryllium	UJ
EP07_el56	6010D	7440-22-4	Silver	UJ
EP08_EL56	6010D	7440-36-0	Antimony	UJ
EP08_EL56	6010D	7440-41-7	Beryllium	UJ
EP08_EL56	6010D	7440-22-4	Silver	UJ
EP09_EL56	6010D	7440-36-0	Antimony	UJ
EP09_EL56	6010D	7440-41-7	Beryllium	UJ
EP09_EL56	6010D	7440-22-4	Silver	UJ
EP01_el56	6010D	7429-90-5	Aluminum	J

Client Sample ID	*Analysis*	*CAS #*	*Analyte*	*Validator Qualifier*
EP01_el56	6010D	7440-39-3	Barium	J
EP01_el56	6010D	7440-70-2	Calcium	J
EP01_el56	6010D	7440-47-3	Chromium	J
EP01_el56	6010D	7440-48-4	Cobalt	J
EP01_el56	6010D	7440-50-8	Copper	J
EP01_el56	6010D	7439-89-6	Iron	J
EP01_el56	6010D	7439-92-1	Lead	J
EP01_el56	6010D	7439-95-4	Magnesium	J
EP01_el56	6010D	7439-96-5	Manganese	J
EP01_el56	6010D	7440-02-0	Nickel	J
EP01_el56	6010D	7440-09-7	Potassium	J
EP01_el56	6010D	7440-23-5	Sodium	J
EP01_el56	6010D	7440-62-2	Vanadium	J
EP01_el56	6010D	7440-66-6	Zinc	J
EP04_el56	6010D	7429-90-5	Aluminum	J
EP04_el56	6010D	7440-39-3	Barium	J
EP04_el56	6010D	7440-70-2	Calcium	J
EP04_el56	6010D	7440-47-3	Chromium	J
EP04_el56	6010D	7440-48-4	Cobalt	J
EP04_el56	6010D	7440-50-8	Copper	J
EP04_el56	6010D	7439-89-6	Iron	J
EP04_el56	6010D	7439-92-1	Lead	J
EP04_el56	6010D	7439-95-4	Magnesium	J
EP04_el56	6010D	7439-96-5	Manganese	J
EP04_el56	6010D	7440-02-0	Nickel	J
EP04_el56	6010D	7440-09-7	Potassium	J
EP04_el56	6010D	7440-23-5	Sodium	J
EP04_el56	6010D	7440-62-2	Vanadium	J
EP04_el56	6010D	7440-66-6	Zinc	J
EP05_el48	6010D	7429-90-5	Aluminum	J
EP05_el48	6010D	7440-39-3	Barium	J
EP05_el48	6010D	7440-70-2	Calcium	J

Client Sample ID	*Analysis*	*CAS #*	*Analyte*	*Validator Qualifier*
EP05_el48	6010D	7440-47-3	Chromium	J
EP05_el48	6010D	7440-48-4	Cobalt	J
EP05_el48	6010D	7440-50-8	Copper	J
EP05_el48	6010D	7439-89-6	Iron	J
EP05_el48	6010D	7439-92-1	Lead	J
EP05_el48	6010D	7439-95-4	Magnesium	J
EP05_el48	6010D	7439-96-5	Manganese	J
EP05_el48	6010D	7440-02-0	Nickel	J
EP05_el48	6010D	7440-09-7	Potassium	J
EP05_el48	6010D	7440-23-5	Sodium	J
EP05_el48	6010D	7440-62-2	Vanadium	J
EP05_el48	6010D	7440-66-6	Zinc	J
EP07_el56	6010D	7429-90-5	Aluminum	J
EP07_el56	6010D	7440-39-3	Barium	J
EP07_el56	6010D	7440-70-2	Calcium	J
EP07_el56	6010D	7440-47-3	Chromium	J
EP07_el56	6010D	7440-48-4	Cobalt	J
EP07_el56	6010D	7440-50-8	Copper	J
EP07_el56	6010D	7439-89-6	Iron	J
EP07_el56	6010D	7439-92-1	Lead	J
EP07_el56	6010D	7439-95-4	Magnesium	J
EP07_el56	6010D	7439-96-5	Manganese	J
EP07_el56	6010D	7440-02-0	Nickel	J
EP07_el56	6010D	7440-09-7	Potassium	J
EP07_el56	6010D	7440-23-5	Sodium	J
EP07_el56	6010D	7440-62-2	Vanadium	J
EP07_el56	6010D	7440-66-6	Zinc	J
EP08_EL56	6010D	7429-90-5	Aluminum	J
EP08_EL56	6010D	7440-39-3	Barium	J
EP08_EL56	6010D	7440-70-2	Calcium	J
EP08_EL56	6010D	7440-47-3	Chromium	J
EP08_EL56	6010D	7440-48-4	Cobalt	J

Client Sample ID	*Analysis*	*CAS #*	*Analyte*	*Validator Qualifier*
EP08_EL56	6010D	7440-50-8	Copper	J
EP08_EL56	6010D	7439-89-6	Iron	J
EP08_EL56	6010D	7439-92-1	Lead	J
EP08_EL56	6010D	7439-95-4	Magnesium	J
EP08_EL56	6010D	7439-96-5	Manganese	J
EP08_EL56	6010D	7440-02-0	Nickel	J
EP08_EL56	6010D	7440-09-7	Potassium	J
EP08_EL56	6010D	7440-23-5	Sodium	J
EP08_EL56	6010D	7440-62-2	Vanadium	J
EP08_EL56	6010D	7440-66-6	Zinc	J
EP09_EL56	6010D	7429-90-5	Aluminum	J
EP09_EL56	6010D	7440-39-3	Barium	J
EP09_EL56	6010D	7440-70-2	Calcium	J
EP09_EL56	6010D	7440-47-3	Chromium	J
EP09_EL56	6010D	7440-48-4	Cobalt	J
EP09_EL56	6010D	7440-50-8	Copper	J
EP09_EL56	6010D	7439-89-6	Iron	J
EP09_EL56	6010D	7439-92-1	Lead	J
EP09_EL56	6010D	7439-95-4	Magnesium	J
EP09_EL56	6010D	7439-96-5	Manganese	J
EP09_EL56	6010D	7440-02-0	Nickel	J
EP09_EL56	6010D	7440-09-7	Potassium	J
EP09_EL56	6010D	7440-23-5	Sodium	J
EP09_EL56	6010D	7440-62-2	Vanadium	J
EP09_EL56	6010D	7440-66-6	Zinc	J
EP02_EL56	8260C	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	UJ
EP02_EL56	8260C	123-91-1	1,4-Dioxane	UJ
EP02_EL56	8260C	78-93-3	2-Butanone	UJ
EP02_EL56	8260C	67-64-1	Acetone	UJ
EP02_EL56	8260C	74-97-5	Bromochloromethane	UJ
EP02_EL56	8260C	74-83-9	Bromomethane	UJ
EP02_EL56	8260C	110-82-7	Cyclohexane	UJ

Client Sample ID	*Analysis*	*CAS #*	*Analyte*	*Validator Qualifier*
EP02_EL56	8260C	1634-04-4	Methyl tert-butyl ether	UJ
EP03_EL56	8260C	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	UJ
EP03_EL56	8260C	123-91-1	1,4-Dioxane	UJ
EP03_EL56	8260C	78-93-3	2-Butanone	UJ
EP03_EL56	8260C	67-64-1	Acetone	UJ
EP03_EL56	8260C	74-97-5	Bromochloromethane	UJ
EP03_EL56	8260C	74-83-9	Bromomethane	UJ
EP03_EL56	8260C	110-82-7	Cyclohexane	UJ
EP03_EL56	8260C	1634-04-4	Methyl tert-butyl ether	UJ
EP06_EL56	8260C	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	UJ
EP06_EL56	8260C	123-91-1	1,4-Dioxane	UJ
EP06_EL56	8260C	78-93-3	2-Butanone	UJ
EP06_EL56	8260C	67-64-1	Acetone	UJ
EP06_EL56	8260C	74-97-5	Bromochloromethane	UJ
EP06_EL56	8260C	74-83-9	Bromomethane	UJ
EP06_EL56	8260C	110-82-7	Cyclohexane	UJ
EP06_EL56	8260C	1634-04-4	Methyl tert-butyl ether	UJ
EP02_EL56	8270D	51-28-5	2,4-Dinitrophenol	UJ
EP02_EL56	8270D	534-52-1	4,6-Dinitro-2-methylphenol	UJ
EP02_EL56	8270D	100-52-7	Benzaldehyde	UJ
EP02_EL56	8270D	65-85-0	Benzoic acid	UJ
EP03_EL56	8270D	51-28-5	2,4-Dinitrophenol	UJ
EP03_EL56	8270D	534-52-1	4,6-Dinitro-2-methylphenol	UJ
EP03_EL56	8270D	100-52-7	Benzaldehyde	UJ
EP03_EL56	8270D	65-85-0	Benzoic acid	UJ
EP06_EL56	8270D	51-28-5	2,4-Dinitrophenol	UJ
EP06_EL56	8270D	534-52-1	4,6-Dinitro-2-methylphenol	UJ
EP06_EL56	8270D	65-85-0	Benzoic acid	UJ
EP06_EL56	8270D	86-30-6	N-Nitrosodimethylamine	UJ
EP02_EL56	6010D	7440-36-0	Antimony	UJ
EP02_EL56	6010D	7440-41-7	Beryllium	UJ

Client Sample ID	*Analysis*	*CAS #*	*Analyte*	*Validator Qualifier*
EP02_EL56	6010D	7782-49-2	Selenium	UJ
EP02_EL56	6010D	7440-22-4	Silver	UJ
EP02_EL56	6010D	7440-23-5	Sodium	J
EP03_EL56	6010D	7440-36-0	Antimony	UJ
EP03_EL56	6010D	7440-41-7	Beryllium	UJ
EP03_EL56	6010D	7782-49-2	Selenium	UJ
EP03_EL56	6010D	7440-22-4	Silver	UJ
EP03_EL56	6010D	7440-23-5	Sodium	J
EP06_EL56	6010D	7440-36-0	Antimony	UJ
EP06_EL56	6010D	7440-41-7	Beryllium	UJ
EP06_EL56	6010D	7782-49-2	Selenium	UJ
EP06_EL56	6010D	7440-22-4	Silver	UJ
EP06_EL56	6010D	7440-23-5	Sodium	J
EP02_EL56	6010D	7429-90-5	Aluminum	J
EP02_EL56	6010D	7440-39-3	Barium	J
EP02_EL56	6010D	7440-70-2	Calcium	J
EP02_EL56	6010D	7440-47-3	Chromium	J
EP02_EL56	6010D	7440-48-4	Cobalt	J
EP02_EL56	6010D	7440-50-8	Copper	J
EP02_EL56	6010D	7439-92-1	Iron	J
EP02_EL56	6010D	7439-95-4	Magnesium	J
EP02_EL56	6010D	7439-96-5	Manganese	J
EP02_EL56	6010D	7440-02-0	Nickel	J
EP02_EL56	6010D	7440-62-2	Vanadium	J
EP02_EL56	6010D	7440-66-6	Zinc	J
EP03_EL56	6010D	7429-90-5	Aluminum	J
EP03_EL56	6010D	7440-39-3	Barium	J
EP03_EL56	6010D	7440-70-2	Calcium	J
EP03_EL56	6010D	7440-47-3	Chromium	J
EP03_EL56	6010D	7440-48-4	Cobalt	J
EP03_EL56	6010D	7440-50-8	Copper	J
EP03_EL56	6010D	7439-92-1	Iron	J

Client Sample ID	*Analysis*	*CAS #*	*Analyte*	*Validator Qualifier*
EP03_EL56	6010D	7439-95-4	Magnesium	J
EP03_EL56	6010D	7439-96-5	Manganese	J
EP03_EL56	6010D	7440-02-0	Nickel	J
EP03_EL56	6010D	7440-62-2	Vanadium	J
EP03_EL56	6010D	7440-66-6	Zinc	J
EP06_EL56	6010D	7429-90-5	Aluminum	J
EP06_EL56	6010D	7440-39-3	Barium	J
EP06_EL56	6010D	7440-70-2	Calcium	J
EP06_EL56	6010D	7440-47-3	Chromium	J
EP06_EL56	6010D	7440-48-4	Cobalt	J
EP06_EL56	6010D	7440-50-8	Copper	J
EP06_EL56	6010D	7439-92-1	Iron	J
EP06_EL56	6010D	7439-95-4	Magnesium	J
EP06_EL56	6010D	7439-96-5	Manganese	J
EP06_EL56	6010D	7440-02-0	Nickel	J
EP06_EL56	6010D	7440-62-2	Vanadium	J
EP06_EL56	6010D	7440-66-6	Zinc	J
EP11_EL56	8260C	75-09-2	Methylene chloride	U (0.0085)
EP10_EL56	8260C	67-64-1	Acetone	UJ
EP11_EL56	8260C	67-64-1	Acetone	UJ
EP13_EL56	8260C	67-64-1	Acetone	UJ
EP10_EL56	8260C	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	UJ
EP10_EL56	8260C	96-12-8	1,2-Dibromo-3-chloropropane	UJ
EP10_EL56	8260C	123-91-1	1,4-Dioxane	UJ
EP10_EL56	8260C	75-15-0	Carbon disulfide	UJ
EP10_EL56	8260C	110-82-7	Cyclohexane	UJ
EP11_EL56	8260C	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	UJ
EP11_EL56	8260C	96-12-8	1,2-Dibromo-3-chloropropane	UJ
EP11_EL56	8260C	123-91-1	1,4-Dioxane	UJ
EP11_EL56	8260C	67-64-1	Acetone	UJ
EP11_EL56	8260C	75-15-0	Carbon disulfide	UJ

Client Sample ID	*Analysis*	*CAS #*	*Analyte*	*Validator Qualifier*
EP11_EL56	8260C	110-82-7	Cyclohexane	UJ
EP13_EL56	8260C	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	UJ
EP13_EL56	8260C	96-12-8	1,2-Dibromo-3-chloropropane	UJ
EP13_EL56	8260C	123-91-1	1,4-Dioxane	UJ
EP13_EL56	8260C	67-64-1	Acetone	UJ
EP13_EL56	8260C	75-15-0	Carbon disulfide	UJ
EP13_EL56	8260C	110-82-7	Cyclohexane	UJ
EP10_EL56	8270D	65-85-0	Benzoic acid	UJ
EP11_EL56	8270D	65-85-0	Benzoic acid	UJ
EP13_EL56	8270D	65-85-0	Benzoic acid	UJ
EP10_EL56	8270D	51-28-5	2,4-Dinitrophenol	UJ
EP10_EL56	8270D	534-52-1	4,6-Dinitro-2-methylphenol	UJ
EP10_EL56	8270D	86-30-6	N-Nitrosodiphenylamine	UJ
EP10_EL56	8270D	87-86-5	Pentachlorophenol	UJ
EP11_EL56	8270D	51-28-5	2,4-Dinitrophenol	UJ
EP11_EL56	8270D	534-52-1	4,6-Dinitro-2-methylphenol	UJ
EP11_EL56	8270D	86-30-6	N-Nitrosodiphenylamine	UJ
EP11_EL56	8270D	87-86-5	Pentachlorophenol	UJ
EP13_EL56	8270D	51-28-5	2,4-Dinitrophenol	UJ
EP13_EL56	8270D	534-52-1	4,6-Dinitro-2-methylphenol	UJ
EP13_EL56	8270D	86-30-6	N-Nitrosodiphenylamine	UJ
EP13_EL56	8270D	87-86-5	Pentachlorophenol	UJ
EP10_EL56	8270D	100-52-7	Benzaldehyde	UJ
EP10_EL56	8270D	92-87-5	Benzidine	UJ
EP10_EL56	8270D	117-84-0	Di-n-Octylphthalate	UJ
EP10_EL56	8270D	77-47-4	Hexachloropentadiene	UJ
EP11_EL56	8270D	100-52-7	Benzaldehyde	UJ
EP11_EL56	8270D	92-87-5	Benzidine	UJ
EP11_EL56	8270D	117-84-0	Di-n-Octylphthalate	UJ
EP11_EL56	8270D	77-47-4	Hexachloropentadiene	UJ
EP13_EL56	8270D	100-52-7	Benzaldehyde	UJ
EP13_EL56	8270D	92-87-5	Benzidine	UJ

Client Sample ID	*Analysis*	*CAS #*	*Analyte*	*Validator Qualifier*
EP13_EL56	8270D	117-84-0	Di-n-Octylphthalate	UJ
EP13_EL56	8270D	77-47-4	Hexachloropentadiene	UJ
EP10_EL56	6010D	7440-47-3	Chromium	J
EP10_EL56	6010D	7439-96-5	Manganese	J
EP10_EL56	6010D	7440-02-0	Nickel	J
EP11_EL56	6010D	7440-47-3	Chromium	J
EP11_EL56	6010D	7439-96-5	Manganese	J
EP11_EL56	6010D	7440-02-0	Nickel	J
EP13_EL56	6010D	7440-47-3	Chromium	J
EP13_EL56	6010D	7439-96-5	Manganese	J
EP13_EL56	6010D	7440-02-0	Nickel	J
EP10_EL56	6010D	7440-36-0	Antimony	UJ
EP10_EL56	6010D	7440-41-7	Beryllium	UJ
EP10_EL56	6010D	7440-50-8	Copper	J
EP10_EL56	6010D	7440-22-4	Silver	UJ
EP10_EL56	6010D	7440-23-5	Sodium	J
EP10_EL56	6010D	7440-62-2	Vanadium	J
EP11_EL56	6010D	7440-36-0	Antimony	UJ
EP11_EL56	6010D	7440-41-7	Beryllium	UJ
EP11_EL56	6010D	7440-50-8	Copper	J
EP11_EL56	6010D	7440-22-4	Silver	UJ
EP11_EL56	6010D	7440-23-5	Sodium	J
EP11_EL56	6010D	7440-62-2	Vanadium	J
EP13_EL56	6010D	7440-36-0	Antimony	UJ
EP13_EL56	6010D	7440-41-7	Beryllium	UJ
EP13_EL56	6010D	7440-50-8	Copper	J
EP13_EL56	6010D	7440-22-4	Silver	UJ
EP13_EL56	6010D	7440-23-5	Sodium	J
EP13_EL56	6010D	7440-62-2	Vanadium	J
EP10_EL56	6010D	7429-90-5	Aluminum	J
EP10_EL56	6010D	7440-41-7	Barium	J
EP10_EL56	6010D	7440-70-2	Calcium	J

Client Sample ID	*Analysis*	*CAS #*	*Analyte*	*Validator Qualifier*
EP10_EL56	6010D	7440-48-4	Cobalt	J
EP10_EL56	6010D	7439-89-6	Iron	J
EP10_EL56	6010D	7439-95-4	Magnesium	J
EP10_EL56	6010D	7439-96-5	Manganese	J
EP10_EL56	6010D	7440-02-0	Nickel	J
EP10_EL56	6010D	7440-09-7	Potassium	J
EP10_EL56	6010D	7440-66-6	Zinc	J
EP11_EL56	6010D	7429-90-5	Aluminum	J
EP11_EL56	6010D	7440-41-7	Barium	J
EP11_EL56	6010D	7440-70-2	Calcium	J
EP11_EL56	6010D	7440-48-4	Cobalt	J
EP11_EL56	6010D	7439-89-6	Iron	J
EP11_EL56	6010D	7439-95-4	Magnesium	J
EP11_EL56	6010D	7439-96-5	Manganese	J
EP11_EL56	6010D	7440-02-0	Nickel	J
EP11_EL56	6010D	7440-09-7	Potassium	J
EP11_EL56	6010D	7440-66-6	Zinc	J
EP13_EL56	6010D	7429-90-5	Aluminum	J
EP13_EL56	6010D	7440-41-7	Barium	J
EP13_EL56	6010D	7440-70-2	Calcium	J
EP13_EL56	6010D	7440-48-4	Cobalt	J
EP13_EL56	6010D	7439-89-6	Iron	J
EP13_EL56	6010D	7439-95-4	Magnesium	J
EP13_EL56	6010D	7439-96-5	Manganese	J
EP13_EL56	6010D	7440-02-0	Nickel	J
EP13_EL56	6010D	7440-09-7	Potassium	J
EP13_EL56	6010D	7440-66-6	Zinc	J
EP12_EL55	8260C	67-64-1	Acetone	UJ
EP14_EL56	8260C	67-64-1	Acetone	UJ
EP12_EL55	8260C	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	UJ
EP12_EL55	8260C	75-34-3	1,1-Dichloroethane	UJ
EP12_EL55	8260C	75-35-4	1,1-Dichloroethene	UJ

Client Sample ID	*Analysis*	*CAS #*	*Analyte*	*Validator Qualifier*
EP12_EL55	8260C	71-43-2	Benzene	UJ
EP12_EL55	8260C	75-15-0	Carbon disulfide	UJ
EP12_EL55	8260C	156-59-2	cis-1,2-Dichloroethene	UJ
EP12_EL55	8260C	110-82-7	Cyclohexane	UJ
EP12_EL55	8260C	75-09-2	Methylene chloride	UJ
EP12_EL55	8260C	156-60-5	trans-1,2-Dichloroethene	UJ
EP14_EL56	8260C	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	UJ
EP14_EL56	8260C	75-34-3	1,1-Dichloroethane	UJ
EP14_EL56	8260C	75-35-4	1,1-Dichloroethene	UJ
EP14_EL56	8260C	71-43-2	Benzene	UJ
EP14_EL56	8260C	75-15-0	Carbon disulfide	UJ
EP14_EL56	8260C	156-59-2	cis-1,2-Dichloroethene	UJ
EP14_EL56	8260C	110-82-7	Cyclohexane	UJ
EP14_EL56	8260C	75-09-2	Methylene chloride	UJ
EP14_EL56	8260C	156-60-5	trans-1,2-Dichloroethene	UJ
EP12_EL55	8270D	51-28-5	2,4-Dinitrophenol	UJ
EP12_EL55	8270D	534-52-1	4,6-Dinitro-2-methylphenol	UJ
EP12_EL55	8270D	122-66-7	1,2-Diphenylhydrazine	UJ
EP12_EL55	8270D	121-14-2	2,4-Dinitrotoluene	UJ
EP12_EL55	8270D	606-20-2	2,6-Dinitrotoluene	UJ
EP12_EL55	8270D	100-02-7	4-Nitrophenol	UJ
EP12_EL55	8270D	100-52-7	Benzaldehyde	UJ
EP12_EL55	8270D	97-87-5	Benzidine	UJ
EP12_EL55	8270D	117-84-0	di-n-Octylphthalate	UJ
EP12_EL55	8270D	98-95-3	Nitrobenzene	UJ
EP12_EL55	8270D	87-86-5	Pentachlorophenol	UJ
EP14_EL56	8270D	51-28-5	2,4-Dinitrophenol	UJ
EP14_EL56	8270D	534-52-1	4,6-Dinitro-2-methylphenol	UJ
EP14_EL56	8270D	100-52-7	Benzaldehyde	UJ
EP14_EL56	8270D	108-60-1	Bis(2-Chloroisopropyl)ether	UJ
EP14_EL56	8270D	77-47-4	Hexachlorocyclopentadiene	UJ
EP14_EL56	8270D	62-75-9	N-Nitrosodimethylamine	UJ

Client Sample ID	*Analysis*	*CAS #*	*Analyte*	*Validator Qualifier*
EP16_EL60	8260C	630-20-6	1,1,1,2-Trichloroethane	UJ
EP16_EL60	8260C	75-25-2	Bromoform	UJ
EP16_EL60	8260C	75-71-8	Dichlorodifluoromethane	UJ
EP16_EL60	8260C	120-82-1	1,2,4-Trichlorobenzene	UJ
EP16_EL60	8260C	95-63-6	1,2,4-Trimethylbenzene	UJ
EP16_EL60	8260C	75-27-4	Bromodichloromethane	UJ
EP16_EL60	8260C	74-83-9	Bromomethane	UJ
EP16_EL60	8260C	75-00-3	Chloroethane	UJ
EP16_EL60	8260C	74-87-3	Chloromethane	UJ
EP16_EL60	8260C	75-69-4	Trichlorofluoromethane	UJ
EP16_EL60	8260C	75-01-4	Vinyl chloride	UJ
EP16_EL60	8260C	67-64-1	Acetone	UJ
EP16_EL60	8260C	75-71-8	Dichlorodifluoromethane	UJ
EP16_EL60	8270D	65-85-0	Benzoic acid	UJ
EP16_EL60	8270D	58-90-2	2,3,4,6-Trichlorophenol	UJ
EP16_EL60	8270D	51-28-5	2,4-Dinitrophenol	UJ
EP16_EL60	8270D	534-52-1	4,6-Dinitro-2-methylphenol	UJ
EP16_EL60	8270D	122-39-4	Diphenylamine	UJ
EP16_EL60	8270D	86-30-6	N-Nitrosodiphenylamine	UJ
EP16_EL60	8270D	87-86-5	Pentachlorophenol	UJ
EP16_EL60	8270D	121-14-2	2,4-Dinitrotoluene	UJ
EP16_EL60	8270D	606-20-2	2,6-Dinitrotoluene	UJ
EP16_EL60	8270D	88-74-4	2-Nitroaniline	UJ
EP16_EL60	8270D	88-75-5	2-Nitrophenol	UJ
EP16_EL60	8270D	99-09-2	3-Nitroaniline	UJ
EP16_EL60	8270D	100-01-6	4-Nitroaniline	UJ
EP16_EL60	8270D	100-02-7	4-Nitrophenol	UJ
EP16_EL60	8270D	85-68-7	Benzyl butyl phthalate	UJ
EP16_EL60	8270D	117-81-7	bis(2-Ethylhexyl)phthalate	J
EP16_EL60	8270D	117-84-0	di-n-Octylphthalate	UJ
EP16_EL60	8270D	87-68-3	Hexachlorobutadiene	UJ
EP16_EL60	8270D	77-47-4	Hexachlorocyclopentadiene	UJ

Client Sample ID	*Analysis*	*CAS #*	*Analyte*	*Validator Qualifier*
EP16_EL60	6010D	7440-38-2	Arsenic	J
EP17_EL60	8260C	67-64-1	Acetone	UJ
EP21_EL60	8260C	67-64-1	Acetone	UJ
EP17_EL60	8260C	96-12-8	1,2-Dibromo-3-chloropropane	UJ
EP17_EL60	8260C	123-91-1	1,4-Dioxane	UJ
EP17_EL60	8260C	591-78-6	2-Hexanone	UJ
EP17_EL60	8260C	124-48-1	Dibromochloromethane	UJ
EP21_EL60	8260C	96-12-8	1,2-Dibromo-3-chloropropane	UJ
EP21_EL60	8260C	123-91-1	1,4-Dioxane	UJ
EP21_EL60	8260C	591-78-6	2-Hexanone	UJ
EP21_EL60	8260C	124-48-1	Dibromochloromethane	UJ
EP17_EL60	8270D	65-85-0	Benzoic acid	UJ
EP21_EL60	8270D	65-85-0	Benzoic acid	UJ
EP17_EL60	8270D	606-20-2	2,6-Dinitrotoluene	UJ
EP17_EL60	8270D	534-52-1	4,6-Dinitro-2-methylphenol	UJ
EP21_EL60	8270D	606-20-2	2,6-Dinitrotoluene	UJ
EP21_EL60	8270D	534-52-1	4,6-Dinitro-2-methylphenol	UJ
EP17_EL60	8270D	122-66-7	1,2-Diphenylhydrazine	UJ
EP17_EL60	8270D	95-95-4	2,4,5-Trichlorophenol	UJ
EP17_EL60	8270D	51-28-5	2,4-Dinitrophenol	UJ
EP17_EL60	8270D	121-14-2	2,4-Dinitrotoluene	UJ
EP17_EL60	8270D	88-74-4	2-Nitroaniline	UJ
EP17_EL60	8270D	100-52-7	Benzaldehyde	UJ
EP17_EL60	8270D	111-44-4	bis(2-Chloroethyl)ether	UJ
EP17_EL60	8270D	108-60-1	bis(2-Chloroisopropyl)ether	UJ
EP17_EL60	8270D	87-68-3	Hexachlorobutadiene	UJ
EP17_EL60	8270D	77-47-4	Hexachloropentadiene	UJ
EP17_EL60	8270D	62-75-9	N-Nitrosodimethylamine	UJ
EP17_EL60	8270D	110-86-1	Pyridine	UJ
EP21_EL60	8270D	122-66-7	1,2-Diphenylhydrazine	UJ
EP21_EL60	8270D	95-95-4	2,4,5-Trichlorophenol	UJ
EP21_EL60	8270D	51-28-5	2,4-Dinitrophenol	UJ

Client Sample ID	*Analysis*	*CAS #*	*Analyte*	*Validator Qualifier*
EP21_EL60	8270D	121-14-2	2,4-Dinitrotoluene	UJ
EP21_EL60	8270D	88-74-4	2-Nitroaniline	UJ
EP21_EL60	8270D	100-52-7	Benzaldehyde	UJ
EP21_EL60	8270D	111-44-4	bis(2-Chloroethyl)ether	UJ
EP21_EL60	8270D	108-60-1	bis(2-Chloroisopropyl)ether	UJ
EP21_EL60	8270D	87-68-3	Hexachlorobutadiene	UJ
EP21_EL60	8270D	77-47-4	Hexachloropentadiene	UJ
EP21_EL60	8270D	62-75-9	N-Nitrosodimethylamine	UJ
EP21_EL60	8270D	110-86-1	Pyridine	UJ
EP17_EL60	6010D	7440-50-8	Copper	U(29.6)
EP21_EL60	6010D	7440-50-8	Copper	U(34.7)
EP17_EL60	6010D	7782-49-2	Selenium	UJ
EP21_EL60	6010D	7782-49-2	Selenium	UJ
EP18_EL60	SW6010B	7440-66-6	Zinc	J
EP18_EL60	SW8260C	107-02-8	Acrolein	UJ
EP18_EL60	SW8260C	630-20-6	1,1,1,2-Tetrachloroethane	UJ
EP18_EL60	SW8260C	67-64-1	Acetone	J
EP18_EL60	SW8260C	74-87-3	Chloromethane	UJ
EP18_EL60	SW8260C	75-01-4	Vinyl Chloride	UJ
EP18_EL60	SW8260C	75-25-2	Bromoform	UJ
EP18_EL60	SW8270D	100-52-7	Benzaldehyde	UJ
EP18_EL60	SW8270D	105-60-2	Caprolactam	UJ
EP18_EL60	SW8270D	110-86-1	Pyridine	UJ
EP18_EL60	SW8270D	193-39-5	Indeno(1,2,3-C,D)Pyrene	UJ
EP18_EL60	SW8270D	51-28-5	2,4-Dinitrophenol	UJ
EP18_EL60	SW8270D	534-52-1	4,6-Dinitro-2-Methylphenol	UJ
EP18_EL60	SW8270D	65-85-0	Benzoic Acid	UJ
EP18_EL60	SW8270D	87-86-5	Pentachlorophenol	UJ
EP18_EL60	SW8270D	92-87-5	Benzidine	UJ
EP22_EL60	SW6010B	7440-66-6	Zinc	J
EP22_EL60	SW8260C	107-02-8	Acrolein	UJ
EP22_EL60	SW8260C	630-20-6	1,1,1,2-Tetrachloroethane	UJ

Client Sample ID	*Analysis*	*CAS #*	*Analyte*	*Validator Qualifier*
EP22_EL60	SW8260C	67-64-1	Acetone	UJ
EP22_EL60	SW8260C	74-87-3	Chloromethane	UJ
EP22_EL60	SW8260C	75-01-4	Vinyl Chloride	UJ
EP22_EL60	SW8260C	75-25-2	Bromoform	UJ
EP22_EL60	SW8270D	100-52-7	Benzaldehyde	UJ
EP22_EL60	SW8270D	105-60-2	Caprolactam	UJ
EP22_EL60	SW8270D	110-86-1	Pyridine	UJ
EP22_EL60	SW8270D	117-81-7	Bis(2-Ethylhexyl) Phthalate	U (0.0444)
EP22_EL60	SW8270D	193-39-5	Indeno(1,2,3-C,D)Pyrene	UJ
EP22_EL60	SW8270D	51-28-5	2,4-Dinitrophenol	UJ
EP22_EL60	SW8270D	534-52-1	4,6-Dinitro-2-Methylphenol	UJ
EP22_EL60	SW8270D	65-85-0	Benzoic Acid	UJ
EP22_EL60	SW8270D	87-86-5	Pentachlorophenol	UJ
EP22_EL60	SW8270D	92-87-5	Benzidine	UJ
EP23_EL56	SW6010B	7429-90-5	Aluminum	J
EP23_EL56	SW6010B	7440-23-5	Sodium	U (217)
EP23_EL56	SW6010B	7440-50-8	Copper	J
EP23_EL56	SW6010B	7440-70-2	Calcium	J
EP23_EL56	SW6010B	7782-49-2	Selenium	UJ
EP23_EL56	SW8260C	107-02-8	Acrolein	UJ
EP23_EL56	SW8260C	123-91-1	1,4-Dioxane (P-Dioxane)	UJ
EP23_EL56	SW8260C	124-48-1	Dibromochloromethane	UJ
EP23_EL56	SW8260C	56-23-5	Carbon Tetrachloride	UJ
EP23_EL56	SW8260C	67-64-1	Acetone	UJ
EP23_EL56	SW8260C	74-83-9	Bromomethane	UJ
EP23_EL56	SW8260C	74-87-3	Chloromethane	UJ
EP23_EL56	SW8260C	75-00-3	Chloroethane	UJ
EP23_EL56	SW8260C	75-01-4	Vinyl Chloride	UJ
EP23_EL56	SW8260C	75-69-4	Trichlorofluoromethane	UJ
EP23_EL56	SW8260C	75-71-8	Dichlorodifluoromethane	UJ
EP23_EL56	SW8260C	76-13-1	1,1,2-Trichloro-1,2,2-Trifluoroethane	UJ
EP23_EL56	SW8260C	96-12-8	1,2-Dibromo-3-Chloropropane	UJ

Client Sample ID	*Analysis*	*CAS #*	*Analyte*	*Validator Qualifier*
EP23_EL56	SW8270D	131-11-3	Dimethyl Phthalate	U (0.0893)
EP23_EL56	SW8270D	51-28-5	2,4-Dinitrophenol	UJ
EP23_EL56	SW8270D	534-52-1	4,6-Dinitro-2-Methylphenol	UJ
EP23_EL56	SW8270D	65-85-0	Benzoic Acid	UJ
EP23_EL56	SW8270D	92-87-5	Benzidine	UJ
EP25_EL56	SW6010B	7429-90-5	Aluminum	J
EP25_EL56	SW6010B	7440-23-5	Sodium	U (136)
EP25_EL56	SW6010B	7440-50-8	Copper	J
EP25_EL56	SW6010B	7440-70-2	Calcium	J
EP25_EL56	SW6010B	7782-49-2	Selenium	UJ
EP25_EL56	SW8260C	107-02-8	Acrolein	UJ
EP25_EL56	SW8260C	123-91-1	1,4-Dioxane (P-Dioxane)	UJ
EP25_EL56	SW8260C	124-48-1	Dibromochloromethane	UJ
EP25_EL56	SW8260C	56-23-5	Carbon Tetrachloride	UJ
EP25_EL56	SW8260C	67-64-1	Acetone	J
EP25_EL56	SW8260C	74-83-9	Bromomethane	UJ
EP25_EL56	SW8260C	74-87-3	Chloromethane	UJ
EP25_EL56	SW8260C	75-00-3	Chloroethane	UJ
EP25_EL56	SW8260C	75-01-4	Vinyl Chloride	UJ
EP25_EL56	SW8260C	75-69-4	Trichlorofluoromethane	UJ
EP25_EL56	SW8260C	75-71-8	Dichlorodifluoromethane	UJ
EP25_EL56	SW8260C	76-13-1	1,1,2-Trichloro-1,2,2-Trifluoroethane	UJ
EP25_EL56	SW8260C	96-12-8	1,2-Dibromo-3-Chloropropane	UJ
EP25_EL56	SW8270D	131-11-3	Dimethyl Phthalate	U (0.0894)
EP25_EL56	SW8270D	51-28-5	2,4-Dinitrophenol	UJ
EP25_EL56	SW8270D	534-52-1	4,6-Dinitro-2-Methylphenol	UJ
EP25_EL56	SW8270D	65-85-0	Benzoic Acid	UJ
EP25_EL56	SW8270D	92-87-5	Benzidine	UJ
EP19_EL56	SW6010B	7440-66-6	Zinc	J
EP19_EL56	SW8260C	156-60-5	Trans-1,2-Dichloroethene	UJ
EP19_EL56	SW8260C	630-20-6	1,1,1,2-Tetrachloroethane	UJ
EP19_EL56	SW8260C	67-64-1	Acetone	J

Client Sample ID	*Analysis*	*CAS #*	*Analyte*	*Validator Qualifier*
EP19_EL56	SW8260C	74-83-9	Bromomethane	UJ
EP19_EL56	SW8260C	74-87-3	Chloromethane	UJ
EP19_EL56	SW8260C	75-00-3	Chloroethane	UJ
EP19_EL56	SW8260C	75-01-4	Vinyl Chloride	UJ
EP19_EL56	SW8260C	75-15-0	Carbon Disulfide	UJ
EP19_EL56	SW8260C	75-25-2	Bromoform	UJ
EP19_EL56	SW8260C	75-71-8	Dichlorodifluoromethane	UJ
EP19_EL56	SW8270D	131-11-3	Dimethyl Phthalate	U (0.0881)
EP19_EL56	SW8270D	206-44-0	Fluoranthene	J
EP19_EL56	SW8270D	51-28-5	2,4-Dinitrophenol	UJ
EP19_EL56	SW8270D	534-52-1	4,6-Dinitro-2-Methylphenol	UJ
EP19_EL56	SW8270D	65-85-0	Benzoic Acid	UJ
EP26_EL56	SW6010B	7440-66-6	Zinc	J
EP26_EL56	SW8260C	156-60-5	Trans-1,2-Dichloroethene	UJ
EP26_EL56	SW8260C	630-20-6	1,1,1,2-Tetrachloroethane	UJ
EP26_EL56	SW8260C	67-64-1	Acetone	J
EP26_EL56	SW8260C	74-83-9	Bromomethane	UJ
EP26_EL56	SW8260C	74-87-3	Chloromethane	UJ
EP26_EL56	SW8260C	75-00-3	Chloroethane	UJ
EP26_EL56	SW8260C	75-01-4	Vinyl Chloride	UJ
EP26_EL56	SW8260C	75-15-0	Carbon Disulfide	UJ
EP26_EL56	SW8260C	75-25-2	Bromoform	UJ
EP26_EL56	SW8260C	75-71-8	Dichlorodifluoromethane	UJ
EP26_EL56	SW8270D	206-44-0	Fluoranthene	UJ
EP26_EL56	SW8270D	51-28-5	2,4-Dinitrophenol	UJ
EP26_EL56	SW8270D	534-52-1	4,6-Dinitro-2-Methylphenol	UJ
EP26_EL56	SW8270D	65-85-0	Benzoic Acid	UJ
EP23_EL55	SW6010B	7440-66-6	Zinc	J
EP20_EL54	SW6010B	7440-02-0	Nickel	J
EP20_EL54	SW6010B	7440-22-4	Silver	UJ
EP20_EL54	SW6010B	7440-36-0	Antimony	UJ
EP20_EL54	SW6010B	7440-41-7	Beryllium	UJ

Client Sample ID	*Analysis*	*CAS #*	*Analyte*	*Validator Qualifier*
EP20_EL54	SW6010B	7440-66-6	Zinc	J
EP20_EL54	SW8260C	107-02-8	Acrolein	UJ
EP20_EL54	SW8260C	127-18-4	Tetrachloroethylene (PCE)	UJ
EP20_EL54	SW8260C	56-23-5	Carbon Tetrachloride	UJ
EP20_EL54	SW8260C	630-20-6	1,1,1,2-Tetrachloroethane	UJ
EP20_EL54	SW8260C	74-83-9	Bromomethane	UJ
EP20_EL54	SW8260C	75-00-3	Chloroethane	UJ
EP20_EL54	SW8260C	75-71-8	Dichlorodifluoromethane	UJ
EP20_EL54	SW8270D	108-60-1	Bis(2-Chloroisopropyl) Ether	UJ
EP20_EL54	SW8270D	193-39-5	Indeno(1,2,3-C,D)Pyrene	UJ
EP20_EL54	SW8270D	51-28-5	2,4-Dinitrophenol	UJ
EP20_EL54	SW8270D	534-52-1	4,6-Dinitro-2-Methylphenol	UJ
EP20_EL54	SW8270D	65-85-0	Benzoic Acid	UJ
EP20_EL54	SW8270D	77-47-4	Hexachlorocyclopentadiene	UJ
EP20_EL54	SW8270D	88-74-4	2-Nitroaniline	UJ
EP20_EL54	SW8270D	88-75-5	2-Nitrophenol	UJ
EP20_EL54	SW8270D	92-87-5	Benzidine	UJ
EP24_EL54	SW6010B	7440-02-0	Nickel	J
EP24_EL54	SW6010B	7440-22-4	Silver	UJ
EP24_EL54	SW6010B	7440-36-0	Antimony	UJ
EP24_EL54	SW6010B	7440-41-7	Beryllium	UJ
EP24_EL54	SW6010B	7440-66-6	Zinc	J
EP24_EL54	SW8260C	107-02-8	Acrolein	UJ
EP24_EL54	SW8260C	127-18-4	Tetrachloroethylene (PCE)	UJ
EP24_EL54	SW8260C	56-23-5	Carbon Tetrachloride	UJ
EP24_EL54	SW8260C	630-20-6	1,1,1,2-Tetrachloroethane	UJ
EP24_EL54	SW8260C	74-83-9	Bromomethane	UJ
EP24_EL54	SW8260C	75-00-3	Chloroethane	UJ
EP24_EL54	SW8260C	75-71-8	Dichlorodifluoromethane	UJ
EP24_EL54	SW8270D	108-60-1	Bis(2-Chloroisopropyl) Ether	UJ
EP24_EL54	SW8270D	193-39-5	Indeno(1,2,3-C,D)Pyrene	J
EP24_EL54	SW8270D	51-28-5	2,4-Dinitrophenol	UJ

Client Sample ID	*Analysis*	*CAS #*	*Analyte*	*Validator Qualifier*
EP24_EL54	SW8270D	534-52-1	4,6-Dinitro-2-Methylphenol	UJ
EP24_EL54	SW8270D	65-85-0	Benzoic Acid	UJ
EP24_EL54	SW8270D	77-47-4	Hexachlorocyclopentadiene	UJ
EP24_EL54	SW8270D	88-74-4	2-Nitroaniline	UJ
EP24_EL54	SW8270D	88-75-5	2-Nitrophenol	UJ
EP24_EL54	SW8270D	92-87-5	Benzidine	UJ
SW01_56	SW6010B	7440-02-0	Nickel	J
SW01_56	SW6010B	7440-22-4	Silver	UJ
SW01_56	SW6010B	7440-36-0	Antimony	UJ
SW01_56	SW6010B	7440-41-7	Beryllium	UJ
SW01_56	SW6010B	7440-66-6	Zinc	J
SW01_56	SW8260C	107-02-8	Acrolein	UJ
SW01_56	SW8260C	127-18-4	Tetrachloroethylene (PCE)	UJ
SW01_56	SW8260C	56-23-5	Carbon Tetrachloride	UJ
SW01_56	SW8260C	630-20-6	1,1,1,2-Tetrachloroethane	UJ
SW01_56	SW8260C	74-83-9	Bromomethane	UJ
SW01_56	SW8260C	75-00-3	Chloroethane	UJ
SW01_56	SW8260C	75-71-8	Dichlorodifluoromethane	UJ
SW01_56	SW8270D	108-60-1	Bis(2-Chloroisopropyl) Ether	UJ
SW01_56	SW8270D	193-39-5	Indeno(1,2,3-C,D)Pyrene	UJ
SW01_56	SW8270D	51-28-5	2,4-Dinitrophenol	UJ
SW01_56	SW8270D	534-52-1	4,6-Dinitro-2-Methylphenol	UJ
SW01_56	SW8270D	65-85-0	Benzoic Acid	UJ
SW01_56	SW8270D	77-47-4	Hexachlorocyclopentadiene	UJ
SW01_56	SW8270D	88-74-4	2-Nitroaniline	UJ
SW01_56	SW8270D	88-75-5	2-Nitrophenol	UJ
SW01_56	SW8270D	92-87-5	Benzidine	UJ
SW02_56	SW6010B	7440-02-0	Nickel	J
SW02_56	SW6010B	7440-22-4	Silver	UJ
SW02_56	SW6010B	7440-36-0	Antimony	UJ
SW02_56	SW6010B	7440-41-7	Beryllium	UJ
SW02_56	SW6010B	7440-66-6	Zinc	J

Client Sample ID	*Analysis*	*CAS #*	*Analyte*	*Validator Qualifier*
SW02_56	SW8260C	107-02-8	Acrolein	UJ
SW02_56	SW8260C	127-18-4	Tetrachloroethylene (PCE)	UJ
SW02_56	SW8260C	56-23-5	Carbon Tetrachloride	UJ
SW02_56	SW8260C	630-20-6	1,1,1,2-Tetrachloroethane	UJ
SW02_56	SW8260C	74-83-9	Bromomethane	UJ
SW02_56	SW8260C	75-00-3	Chloroethane	UJ
SW02_56	SW8260C	75-71-8	Dichlorodifluoromethane	UJ
SW02_56	SW8270D	108-60-1	Bis(2-Chloroisopropyl) Ether	UJ
SW02_56	SW8270D	193-39-5	Indeno(1,2,3-C,D)Pyrene	J
SW02_56	SW8270D	51-28-5	2,4-Dinitrophenol	UJ
SW02_56	SW8270D	534-52-1	4,6-Dinitro-2-Methylphenol	UJ
SW02_56	SW8270D	65-85-0	Benzoic Acid	UJ
SW02_56	SW8270D	77-47-4	Hexachlorocyclopentadiene	UJ
SW02_56	SW8270D	88-74-4	2-Nitroaniline	UJ
SW02_56	SW8270D	88-75-5	2-Nitrophenol	UJ
SW02_56	SW8270D	92-87-5	Benzidine	UJ
DUP01_093020	SW8260C	76-13-1	1,1,2-Trichloro-1,2,2-Trifluoroethane	UJ
DUP01_093020	SW8270D	51-28-5	2,4-Dinitrophenol	UJ
DUP01_093020	SW8270D	88-74-4	2-Nitroaniline	UJ
DUP01_093020	SW8270D	99-09-2	3-Nitroaniline	UJ
DUP01_093020	SW8270D	534-52-1	4,6-Dinitro-2-Methylphenol	UJ
DUP01_093020	SW8260C	67-64-1	Acetone	UJ
DUP01_093020	SW8270D	100-52-7	Benzaldehyde	UJ
DUP01_093020	SW8270D	92-87-5	Benzidine	UJ
DUP01_093020	SW8270D	65-85-0	Benzoic Acid	UJ
DUP01_093020	SW8270D	108-60-1	Bis(2-Chloroisopropyl) Ether	UJ
DUP01_093020	SW8260C	74-83-9	Bromomethane	UJ
DUP01_093020	SW8260C	56-23-5	Carbon Tetrachloride	UJ
DUP01_093020	SW8260C	75-00-3	Chloroethane	UJ
DUP01_093020	SW8260C	75-71-8	Dichlorodifluoromethane	UJ
DUP01_093020	SW8270D	77-47-4	Hexachlorocyclopentadiene	UJ
DUP01_093020	SW8270D	62-75-9	N-Nitrosodimethylamine	UJ

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DUP01_093020	SW6010B	7782-49-2	Selenium	UJ
DUP01_093020	SW8260C	75-69-4	Trichlorofluoromethane	UJ
DUP01_093020	SW8260C	75-01-4	Vinyl Chloride	UJ
DUP01_093020	SW6010B	7440-66-6	Zinc	J
EP19_EL56	SW8260C	76-13-1	1,1,2-Trichloro-1,2,2-Trifluoroethane	UJ
EP19_EL56	SW8270D	51-28-5	2,4-Dinitrophenol	UJ
EP19_EL56	SW8270D	88-74-4	2-Nitroaniline	UJ
EP19_EL56	SW8270D	99-09-2	3-Nitroaniline	UJ
EP19_EL56	SW8270D	534-52-1	4,6-Dinitro-2-Methylphenol	UJ
EP19_EL56	SW8260C	67-64-1	Acetone	U (0.12)
EP19_EL56	SW8270D	100-52-7	Benzaldehyde	UJ
EP19_EL56	SW8270D	92-87-5	Benzidine	UJ
EP19_EL56	SW8270D	65-85-0	Benzoic Acid	UJ
EP19_EL56	SW8270D	108-60-1	Bis(2-Chloroisopropyl) Ether	UJ
EP19_EL56	SW8260C	74-83-9	Bromomethane	UJ
EP19_EL56	SW8260C	56-23-5	Carbon Tetrachloride	UJ
EP19_EL56	SW8260C	75-00-3	Chloroethane	UJ
EP19_EL56	SW8260C	75-71-8	Dichlorodifluoromethane	UJ
EP19_EL56	SW8270D	77-47-4	Hexachlorocyclopentadiene	UJ
EP19_EL56	SW8270D	62-75-9	N-Nitrosodimethylamine	UJ
EP19_EL56	SW6010B	7782-49-2	Selenium	UJ
EP19_EL56	SW8260C	75-69-4	Trichlorofluoromethane	UJ
EP19_EL56	SW8260C	75-01-4	Vinyl Chloride	UJ
EP19_EL56	SW6010B	7440-66-6	Zinc	J
DUP02_093020	SW8260C	76-13-1	1,1,2-Trichloro-1,2,2-Trifluoroethane	UJ
DUP02_093020	SW8270D	51-28-5	2,4-Dinitrophenol	UJ
DUP02_093020	SW8270D	88-74-4	2-Nitroaniline	UJ
DUP02_093020	SW8270D	99-09-2	3-Nitroaniline	UJ
DUP02_093020	SW8270D	534-52-1	4,6-Dinitro-2-Methylphenol	UJ
DUP02_093020	SW8270D	100-52-7	Benzaldehyde	UJ
DUP02_093020	SW8270D	92-87-5	Benzidine	UJ

Client Sample ID	*Analysis*	*CAS #*	*Analyte*	*Validator Qualifier*
DUP02_093020	SW8270D	65-85-0	Benzoic Acid	UJ
DUP02_093020	SW8270D	108-60-1	Bis(2-Chloroisopropyl) Ether	UJ
DUP02_093020	SW8260C	74-83-9	Bromomethane	UJ
DUP02_093020	SW8260C	56-23-5	Carbon Tetrachloride	UJ
DUP02_093020	SW8260C	75-00-3	Chloroethane	UJ
DUP02_093020	SW8260C	75-71-8	Dichlorodifluoromethane	UJ
DUP02_093020	SW8270D	77-47-4	Hexachlorocyclopentadiene	UJ
DUP02_093020	SW8270D	62-75-9	N-Nitrosodimethylamine	UJ
DUP02_093020	SW6010B	7782-49-2	Selenium	UJ
DUP02_093020	SW8260C	75-69-4	Trichlorofluoromethane	UJ
DUP02_093020	SW8260C	75-01-4	Vinyl Chloride	UJ
DUP02_093020	SW6010B	7440-66-6	Zinc	J
EP23_EL56	SW8260C	76-13-1	1,1,2-Trichloro-1,2,2-Trifluoroethane	UJ
EP23_EL56	SW8270D	51-28-5	2,4-Dinitrophenol	UJ
EP23_EL56	SW8270D	88-74-4	2-Nitroaniline	UJ
EP23_EL56	SW8270D	99-09-2	3-Nitroaniline	UJ
EP23_EL56	SW8270D	534-52-1	4,6-Dinitro-2-Methylphenol	UJ
EP23_EL56	SW8270D	100-52-7	Benzaldehyde	UJ
EP23_EL56	SW8270D	92-87-5	Benzidine	UJ
EP23_EL56	SW8270D	65-85-0	Benzoic Acid	UJ
EP23_EL56	SW8270D	108-60-1	Bis(2-Chloroisopropyl) Ether	UJ
EP23_EL56	SW8260C	74-83-9	Bromomethane	UJ
EP23_EL56	SW8260C	56-23-5	Carbon Tetrachloride	UJ
EP23_EL56	SW8260C	75-00-3	Chloroethane	UJ
EP23_EL56	SW8260C	75-71-8	Dichlorodifluoromethane	UJ
EP23_EL56	SW8270D	77-47-4	Hexachlorocyclopentadiene	UJ
EP23_EL56	SW8270D	62-75-9	N-Nitrosodimethylamine	UJ
EP23_EL56	SW6010B	7782-49-2	Selenium	UJ
EP23_EL56	SW8260C	75-69-4	Trichlorofluoromethane	UJ
EP23_EL56	SW8260C	75-01-4	Vinyl Chloride	UJ
EP23_EL56	SW6010B	7440-66-6	Zinc	J

MAJOR DEFICIENCIES:

Major deficiencies include those that grossly impact data quality and necessitate the rejection of results. No major deficiencies were identified for this data set.

MINOR DEFICIENCIES:

Minor deficiencies include anomalies that directly impact data quality and necessitate qualification, but do not result in unusable data. The section below describes the minor deficiencies that were identified.

VOCs by SW-846 Method 8260C

20E0588

The method blank (MB) for batch BE00831-BLK3 exhibited a detection of 4-methyl-2-pentanone (0.0056 mg/kg wet weight). The associated result in sample EP08_EL56 is qualified as "U" at the sample concentration based on potential blank contamination.

The secondary calibration verification (SCV) analyzed on 4/28/2020 at 17:32 exhibited a percent difference (%D) above the control limit for acetone (-34.7%). The associated results in sample EP01_EL56, EP04_EL56, EP05_EL48, EP07_EL56, EP08_EL56, and EP09_EL56 are qualified as "J" based on potential indeterminate bias.

The continuing calibration verification (CCV) analyzed on 5/20/2020 at 10:06 exhibited %D above the control limits for 1,1,2-trichloro-1,2,2-trifluoroethane (20.2 %), 1,4-dioxane (-24.3%), and cyclohexane (20.8%), as well as an RF below limits for 2-hexanone (0.0995 RF). The associated results in samples EP01_EL56, EP04_EL56, EP05_EL48, EP07_EL56, EP08_EL56, and EP09_EL56 are qualified as "UJ" based on potential indeterminate bias.

20E0626

The CCV analyzed on 5/21/2020 at 10:08 exhibited %Ds above the control limit for 1,1,2-trichloro-1,2,2-trifluoroethane (22.9%), 1,4-dioxane (-20.7%), 2-butanone (39.2%), acetone (64.7%), bromochloromethane (21.6%), bromomethane (34.6%), cyclohexane (20.6%), and methyl tert butyl ether (24.4%). The associated results in sample EP02_EL56, EP03_EL56, EP06_EL56 are qualified as "UJ" based on potential indeterminate bias.

20E0680

The MB for batch BE00967 exhibited a detection of methylene chloride (0.013 mg/kg wet weight). The methylene chloride result in sample EP11_EL56 was qualified "U" at the reporting limit based on potential blank contamination.

The SCV analyzed on 4/28/2020 at 17:32 exhibited a %D above the control limit for acetone (-34.7%). The associated results in sample EP10_EL56, EP11_EL56, EP13_EL56 are qualified as "UJ" based on potential indeterminate bias.

The CCV analyzed on 5/22/2020 at 10:08 exhibited %Ds above the control limit for 1,1,2-trichloro-1,2,2,-trifluoroethane (22.9%), 1,2-dibromo-3-chloropropane (-20.3%), 1,4-dioxane (-21.9%), acetone (21.7%), carbon disulfide (20.2%), and cyclohexane (22.5%). The associated results in sample EP10_EL56, EP11_EL56, EP13_EL56 are qualified as "UJ" based on potential indeterminate bias.

20E0765

The SCV analyzed on 4/28/2020 at 17:32 exhibited a %D above the control limit for acetone (-34.7%). The associated results in sample EP12_EL55 and EP14_EL56 are qualified as "UJ" based on potential indeterminate bias.

The CCV analyzed on 5/27/2020 at 10:37 exhibited %Ds above the control limit for 1,1,2-trichloro-1,2,2,-trifluoroethane (26.2%), 1,1-dichloroethane (20.2%), 1,1-dichloroethene (22.7%), benzene (24.6%), bromochloromethane (21.2%), carbon disulfide (28.4%), cis-1,2-dichloroethene (22.1%), cyclohexane (26.3%), methylene chloride (21.4%), and trans-1,2-dichloroethene (22.8%). The associated results in sample EP12_EL55 and EP14_EL56 are qualified as "UJ" based on potential indeterminate bias.

20H0355

The laboratory control sample (LCS) and/or laboratory control sample duplicate (LCSD) for batch BH00640 exhibited percent recoveries below the lower control limit (LCL) for 1,1,1,2-tetrachloroethane (74.1, 67.5), bromoform (79.5, 66.4), dichlorodifluoromethane (165, 41.7), 1,2,4-trichlorobenzene (99.5, 78.9), 1,2,4-trimethylbenzene (92.4, 81.9), and bromodichloromethane (92.5, 79.9). The associated results in sample EP16_EL60 are qualified as "UJ" based on potential low bias. The LCS/LCSD for batch BH00640 exhibited percent recoveries within control limits but had relative percent difference (RPDs) above control limits for dichlorodifluoromethane (119%), bromomethane (37.2%), chloroethane (40.6%), chloromethane (50.2%), trichlorofluoromethane (35.9%), and vinyl chloride (47.3%). The associated results in sample EP16_EL60 are qualified as "UJ" based on a potential indeterminate bias.

The SCV analyzed on 8/4/2020 at 20:37 exhibited %Ds above the control limit for acetone (-34.6%). The associated results in sample EP16_EL60 are qualified as "UJ" based on potential indeterminate bias.

The CCV analyzed on 8/11/2020 at 10:00 exhibited %Ds above the control limit for 1,1,2,2-tetrachloroethane (-27.8%), acetone (-36%), bromoform (-24.4%), bromomethane (-25.9%), chloroethane (-20.5%), dichlorodifluoromethane (-34.1%), trichlorofluoromethane (-22.5%). The associated results in sample EP16_EL60 are qualified as "UJ" based on potential indeterminate bias.

20H0563

The SCV analyzed on 8/4/2020 at 20:37 exhibited %Ds above the control limit for acetone (-34.6%). The associated results in sample EP17_EL60 and EP21_EL60 are qualified as "UJ" based on potential indeterminate bias.

The CCV analyzed on 8/17/2020 at 11:31 exhibited %Ds above the control limit for 1,2-dibromo-3-chloropropane (20.2%), 1,4-dioxane (24.5%), 2-hexanone (20.8%), and dibromochloromethane (22.7%). The associated results in sample EP17_EL60 and EP21_EL60 are qualified as "UJ" based on potential indeterminate bias.

20H0806

The CCV analyzed on 8/20/2020 at 10:44 exhibited %Ds above the control limit for 1,1,1,2-tetrachloroethane (-20.9%), acetone (-38.4%), acrolein (90.8%), bromoform (-21.2%), chloromethane (21.1%), and vinyl chloride (21.5%). The associated results in sample EP18_EL60 and EP22_EL60 are qualified as "J" or "UJ" based on potential indeterminate bias.

20H1162

The CCV analyzed on 8/31/2020 at 10:34 exhibited %Ds above the control limit for 1,1,2-trichloro-1,2,2-trifluoroethane (freon 113) (31.1%), 1,2-dibromo-3-chloropropane (26.3%), 1,4-dioxane (20.5%), acetone (-22.5%), acrolein (141%), bromomethane (30.8%), carbon tetrachloride (26%), chloroethane (35.1%), chloromethane (29.2%), dibromochloromethane (25.6%), dichlorodifluoromethane (32.6%), trichlorofluoromethane (28.5%), and vinyl chloride (32.5%). The associated results in sample EP23_EL56 and EP25_EL56 are qualified as "J" or "UJ" based on potential indeterminate bias.

20I0174

The LCS for batch BI00143 exhibited a percent recovery below the LCL for 1,1,1,2-tetrachloroethane (71.6%). The associated results in sample EP19_EL56 and EP26_EL56 are qualified as "UJ" based on potential low bias.

The LCS/LCSD for batch BI00143 exhibited a percent recovery below the LCL for bromoform (68.6%, 76.2%). The associated results in sample EP19_EL56 and EP26_EL56 are qualified as "UJ" based on potential low bias.

The CCV analyzed on 9/3/2020 at 15:04 exhibited %Ds above the control limit for acetone (-22.4%), bromomethane (31.6%), carbon disulfide (-53.4%), chloroethane (20.4%), chloromethane (39%), dichlorodifluoromethane (44%), trans-1,2-dichloroethylene (-20.1%), and vinyl chloride (38.4%). The associated results in sample EP19_EL56 and EP26_EL56 are qualified as "J" or "UJ" based on potential indeterminate bias.

20I0812

The CCV analyzed on 9/18/2020 at 10:02 exhibited %Ds above the control limit for 1,1,1,2-tetrachloroethane (20.9%), acrolein (-36.9%), bromomethane (31%), carbon tetrachloride (21.1%), chloroethane (41.9%), dichlorodifluoromethane (62.9%), and tetrachloroethylene (21.3%). The associated results in sample EP20_EL54, EP24_EL54, SW01_56, and SW02_56 are qualified as "UJ" based on potential indeterminate bias.

20I1295

The trip blank (TB) (TB01_093020) exhibited a detection of acetone (12.4 ug/L). The associated results in sample EP19_EL56 are qualified as "U" at the sample concentration based on potential blank contamination.

The CCV analyzed on 9/30/2020 at 14:20 exhibited %Ds above the control limit for 1,1,2-trichloro-1,2,2-trifluoroethane (freon 113) (21.4%), bromomethane (36%), carbon tetrachloride (20.5%), chloroethane (40.7%), dichlorodifluoromethane (108%), trichlorofluoromethane (41.3%), and vinyl chloride (26.4%). The associated results in sample DUP01_093020 and EP19_EL56 are qualified as "UJ" based on potential indeterminate bias.

20I1297

The CCV analyzed on 9/30/2020 at 14:20 exhibited %Ds above the control limit for 1,1,2-trichloro-1,2,2-trifluoroethane (21.4%), bromomethane (36%), carbon tetrachloride (20.5%), chloroethane (40.7%), dichlorodifluoromethane (108%), trichlorofluoromethane (41.3%), and vinyl chloride (26.4%). The associated results in sample EP23_EL56 and DUP02_093020 are qualified as "UJ" based on potential indeterminate bias.

SVOCs by SW-846 Method 8270D

20E0588

The CCV analyzed on 5/22/2020 at 14:20 exhibited %Ds above the control limit for 2,4-dinitrophenol (42.4%), 4,6-dinitro-2-methylphenol (37.1%), benzoic acid (26.5%), and di-n-octylphthalate (28.3%). The associated results in sample EP01_EL56, EP04_EL56, EP05_EL48, EP07_EL56, EP08_EL56, and EP09_EL56 are qualified as "UJ" based on potential indeterminate bias.

20E0626

The CCV analyzed on 5/26/2020 at 14:10 exhibited %Ds above the control limit for 2,4-dinitrophenol (47.3%), 4,6-dinitro-2-methylphenol (51.2%), benzaldehyde (-23.2%), and benzoic acid (23.6%). The associated results in samples EP02_EL56 and EP03_EL56 are qualified as "UJ" based on potential indeterminate bias.

The CCV analyzed on 5/27/2020 at 08:58 exhibited %Ds above the control limit for 2,4-dinitrophenol (46.4%), 4,6-dinitro-2-methylphenol (50.1%), benzoic acid (23.7%), and n-nitrosodimethylamine (-27%) . The associated results in sample EP06_EL56 are qualified as "UJ" based on potential indeterminate bias.

20E0680

The ICAL for instrument BNA #7 exhibited relative standard deviations (RSDs) above the control limit for benzoic acid (46.9%). The associated results in sample EP10_EL56, EP11_EL56, EP13_EL56 are qualified as "UJ" based on potential indeterminate bias.

The SCV analyzed on 4/20/2020 at 20:43 exhibited %Ds above the control limit for 2,4-dinitrophenol (44.8%), 4,6-dintro-2-methylphenol (41.6%), n-nitrosodiphenylamine (33.9%), and pentachlorophenol (35%). The associated results in sample EP10_EL56, EP11_EL56, EP13_EL56 are qualified as "UJ" based on potential indeterminate bias.

The CCV analyzed on 5/28/2020 at 08:58 exhibited %Ds above the control limit for 2,4-dinitrphenol (73.5%), 4,6-dintro-2-methylphenol (51.9%), benzaldehyde (-35.8%), benzidine (-30.1%), benzoic acid (60.9%), di-n-octylphthalate (25.8%), and hexachloropentadiene (23.7%). The associated results in sample EP10_EL56, EP11_EL56, EP13_EL56 are qualified as "UJ" based on potential indeterminate bias.

20E0765

The SCV analyzed on 4/30/2020 at 15:34 exhibited %Ds above the control limit for 2,4-dinitrophenol (35) and 4,6-dinitro-2-methylphenol (34.5). The associated results in sample EP12_EL55 are qualified as "UJ" based on potential indeterminate bias.

The CCV analyzed on 5/29/2020 at 09:54 exhibited %Ds above the control limit for 1,2-diphenylhydrazine (22.2%), 2,4-dinitrophenol (93.7%), 2,4-dinitrotoluene (31.4%), 2,6-dinitrotoluene (23.4%), 4,6-dinitro-2-methylphenol (61.6%), 4-nitrophenol (44.1%), benzaldehyde (-29.3%), benzidine (-27.5%), di-n-octylphthalate (30.5%), nitrobenzene (21.7%), pentachlorophenol (-20.1%). The associated results in sample EP12_EL55 are qualified as "UJ" based on potential indeterminate bias.

The CCV analyzed on 6/1/2020 at 08:59 exhibited %Ds above the control limit for 2,4-dinitrophenol (56.4%), 4,6-dinitro-2-methylphenol (42.4%), benzaldehyde (-38.3%), bis(2-chloroisopropyl)ether (-33.5%), hexachlorocyclopentadiene (28.1%), n-nitrososdimethylamine (-31.1%). The associated results in sample EP14_EL56 are qualified as "UJ" based on potential indeterminate bias.

20H0355

The ICAL for instrument BNA #7 exhibited RSDs above the control limit for benzoic acid (29%). The associated results in sample EP16_EL60 are qualified as "UJ" based on potential indeterminate bias.

The SCV analyzed on 7/21/2020 at 14:21 exhibited %Ds above the control limit for 2,3,4,6-trichlorophenol (30.5%), 2,4-dinitrophenol (41.2%), 4,6-dinitro-2-methylphenol (47.8%), diphenylamine (31.5%), n-nitrosodiphenylamine (32.5%), and pentachlorophenol (31.2%). The associated results in sample EP16_EL60 are qualified as "UJ" based on potential indeterminate bias.

The CCV analyzed on 8/17/2020 at 14:33 exhibited %Ds above the control limit for 2,3,4,6-trichlorophenol (37%), 2,4-dintriphenol (126%), 2,4-dinitrotoluene (30.3%), 2,6-dinitrotoluene (27.6%), 2-nitroaniline (38.1%), 2-nitrophenol (31.1%), 3-nitroaniline (38.9%), 4,6-dinitro-2-methylphenol (109%), 4-nitroaniline (32.5%), 4-nitrophenol (51.5%), benzoic acid (58.9%), benzyl butyl phthalate (31.4%), bis(2-ethylhexyl)phthalate (33.3%), di-n-octylphthalate (53%), hexachlorobutadiene (-21.3%), hexachlorocyclopentadiene (-22.4%). The associated results in sample EP16_EL60 are qualified as "J" for detections and "UJ" for non-detections based on potential indeterminate bias.

20H0563

The LCS for batch BH01070 exhibited percent recoveries below the LCL for benzoic acid (not detected). The associated results in sample EP12_EL60 and EP21_EL60 are qualified as "UJ" based on potential low bias.

The SCV analyzed on 6/23/2020 at 14:02 exhibited %Ds above the control limit for 2,6-dinitrotoluene (34.4%) and 4,6-dinitro-2-methylphenol (41.5%). The associated results in sample EP12_EL60 and EP21_EL60 are qualified as "UJ" based on potential indeterminate bias.

The CCV analyzed on 8/20/2020 at 07:57 exhibited %Ds above the control limit for 1,2-diphenylhydrazine (-27.9%), 2,4,5-trichlorophenol (22.5%), 2,4-dinitrophenol (138%), 2,4-dinitrotoluene (63.2%), 2,6-dinitrotoluene (48.7%), 2-nitroaniline (23.7%), 4,6-dinitro-2-methylphenol (84.9%), benzaldehyde (-54.6%), bis(2-chloroethyl)ether (-34.5%), bis(2-chloroisopropyl)ether (-49.2%), hexachlorobutadiene (24.7%), hexachloropentadiene (-40.4%), n-nitrosodimethylamine (-46.1%), and pyridine (-47.8%). The associated results in sample EP17_EL60 and EP21_EL60 are qualified as "UJ" based on potential indeterminate bias.

20H0806

The MB for batch BH01370 exhibited a detection of bis(2-ethylhexyl) phthalate (0.0239 mg/kg). The associated results in sample EP22_EL60 are qualified as "U" at the reporting limit based on potential blank contamination.

The ICAL for instrument MSBNA9 exhibited a RSD above the control limit for benzoic acid (22.76166%). The associated results in sample EP18_EL60 and EP22_EL60 are qualified as "UJ" based on potential indeterminate bias.

The CCV analyzed on 8/26/2020 at 09:44 exhibited %Ds above the control limit for 2,4-dinitrophenol (54.1%), 4,6-dinitro-2-methylphenol (60.7%), benzaldehyde (-35%), benzidine (-37.9%), benzoic acid (50.8%), caprolactam (-24.8%), indeno(1,2,3-cd)pyrene (31.7%), pentachlorophenol (23.6%), and pyridine (-23.3%). The associated results in sample EP18_EL60 and EP22_EL60 are qualified as "UJ" based on potential indeterminate bias.

20H1162

The MB for batch BI00083 exhibited a detection of dimethyl phthalate (0.0492 mg/kg). The associated results in sample EP23_EL56 and EP25_EL56 are qualified as "U" at the reporting limit based on potential blank contamination.

The ICAL for instrument MSBNA9 exhibited a RSD above the control limit for benzoic acid (22.76166%). The associated results in sample EP23_EL56 and EP25_EL56 are qualified as "UJ" based on potential indeterminate bias.

The CCV analyzed on 9/2/2020 at 14:37 exhibited %Ds above the control limit for 2,4-dinitrophenol (71.5%), 4,6-dinitro-2-methylphenol (83.6%), benzidine (-28.3%), and benzoic acid (43.6%). The associated results in sample EP23_EL56 and EP25_EL56 are qualified as "UJ" based on potential indeterminate bias.

20I0812

The ICAL for instrument MSBNA9 exhibited a RSD above the control limit for benzoic acid (22.76166%). The associated results in sample EP20_EL54, EP24_EL54, SW01_56, and SW02_56 are qualified as "UJ" based on potential indeterminate bias.

The CCV analyzed on 9/23/2020 at 14:39 exhibited %Ds above the control limit for 2,4-dinitrophenol (43.5%), 2-nitroaniline (21.2%), 2-nitrophenol (20.1%), 4,6-dinitro-2-methylphenol (68.6%), benzidine (-38.2%), bis(2-chloroisopropyl)ether (32%), hexachlorocyclopentadiene (-33.4%), and indeno(1,2,3-cd)pyrene (30%). The associated results in sample EP20_EL54, EP24_EL54, SW01_56, and SW02_56 are qualified as "J" or "UJ" based on potential indeterminate bias.

20I1295

The LCS for batch BJ00067 exhibited a percent recovery below the LCL for benzoic acid (2.56%). The associated results in sample DUP01_093020 and EP19_EL56 are qualified as "UJ" based on potential low bias.

The CCV analyzed on 10/2/2020 at 09:00 exhibited %Ds above the control limit for 2,4-dinitrophenol (38%), 2-nitroaniline (27.2%), 3-nitroaniline (24.2%), 4,6-dinitro-2-methylphenol (62%), benzaldehyde (-47.1%), benzidine (-31.8%), bis(2-chloroisopropyl)ether (34.8%), hexachlorocyclopentadiene (-42.9%), and n-nitrosodimethylamine (27.8%). The associated results in sample DUP01_093020 and EP19_EL56 are qualified as "UJ" based on potential indeterminate bias.

20I1297

The LCS for batch BJ00067 exhibited a percent recovery below the LCL for benzoic acid (2.56%). The associated results in sample EP23_EL56 and DUP02_093020 are qualified as "UJ" based on potential low bias.

The CCV analyzed on 10/2/2020 at 09:00 exhibited %Ds above the control limit for 2,4-dinitrophenol (38%), 2-nitroaniline (27.2%), 3-nitroaniline (24.2%), 4,6-dinitro-2-methylphenol (62%), benzaldehyde (-47.1%), benzidine (-31.8%), bis(2-chloroisopropyl)ether (34.8%), hexachlorocyclopentadiene (-42.9%), and n-nitrosodimethylamine (27.8%). The associated results in sample EP23_EL56 and DUP02_093020 are qualified as "UJ" based on potential indeterminate bias.

Pesticides by SW-846 Method 8081B

20E0588

The sample EP08_EL56 exhibited percent recoveries above the upper control limit (UCL) for the surrogate decachlorobiphenyl (642%, 572%). The associated results are qualified as "J" based on potential high bias.

Metals by SW-846 Method 6010D

20E0588

The standard reference material (SRM) for batch BE00815 exhibited percent recoveries above the UCL for nickel (133%). The associated results in sample EP01_EL56, EP04_EL56, EP05_EL48, EP07_EL56, EP08_EL56, EP09_EL56 are qualified as "J" based on potential high bias.

The laboratory duplicate and parent sample (EP09_EL56) exhibited RPD above the control limit for lead (79%). The associated results for samples EP01_EL56, EP04_EL56, EP05_EL48, EP07_EL56, EP08_EL56, EP09_EL56 are qualified as "J" based on potential indeterminate bias.

The matrix spike (MS) performed on sample EP09_EL56 exhibited percent recoveries below the LCL for antimony (23.9%), beryllium (57.2%), lead (70.3%), and silver (65.3%). The associated results in sample EP01_EL56, EP04_EL56, EP05_EL48, EP07_EL56, EP08_EL56, EP09_EL56 are qualified as "J" or "UJ" based on potential low bias.

The serial dilution performed on EP09-el56 exhibited %Ds above the control limit for aluminum (21.4%), barium (24.9%), calcium (19.3%), chromium (23.5%), cobalt (29%), copper (19.2%), iron (20.7%), lead (23.8%), magnesium (19.6%), manganese (27.6%), nickel (20.9%), potassium (19.3%), sodium (28.1%), vanadium (22.6%), and zinc (29.2%). The associated results in samples EP01_EL56, EP04_EL56, EP05_EL48, EP07_EL56, EP08_EL56, and EP09_EL56 are qualified as "J" based on potential indeterminate bias.

20E0626

The MS performed on sample EP06_EL56 exhibited percent recoveries below the LCL for antimony (20%), beryllium (45.1%), selenium (73%), silver (56.7%), and sodium (39.5%). The associated results in sample EP02_EL56, EP03_EL56, EP06_EL56 are qualified as "J" or "UJ" based on potential low bias.

The serial dilution performed on sample EP06_EL56 exhibited %Ds above the UCL for aluminum (11.6%), barium (18.3%), calcium (12.3%), chromium (19%), cobalt (23.1%), copper (11.8%), iron (13.2%), magnesium (13.9%), manganese (20.2%), nickel (16.4%), sodium (18.8%), vanadium (16.4%), and zinc (25.2%). The associated results in sample EP02_EL56, EP03_EL56, EP06_EL56 are qualified as "J" or "UJ" based on potential indeterminate bias.

20E0680

The laboratory duplicate and parent sample (EP13_EL56) exhibited RPDs above the control limit for chromium (38.8%), manganese (51.4%), and nickel (62.1%). The associated results are qualified as "J" based on potential indeterminate bias.

The MS performed on sample EP13_EL56 exhibited percent recoveries outside of control limits for antimony (28%), beryllium (46.6%), chromium (53.8%), copper (68.9%), nickel (22.1%), silver (68.2%), sodium (39.8%), and vanadium (128%). The associated results in sample EP10_EL56, EP11_EL56, EP13_EL56 are qualified as "J" or "UJ" based on potential bias.

The serial dilution performed on sample EP13_EL56 exhibited %Ds above UCL for aluminum (14.6%), barium (21.5%), calcium (15.2%), chromium (16.6%), cobalt (19.7%), iron (15.3%), magnesium (15.8%), manganese (19.2%), nickel (22.3%), potassium (13.9%), sodium (19.3%), vanadium (15%), and zinc (30.1%). The associated results in sample EP10_EL56, EP11_EL56, EP13_EL56 are qualified as "J" or "UJ" based on potential bias.

20H0355

The ICV analyzed on 8/13/2020 at 12:34 exhibited %Ds above the control limit for arsenic (89.5%). The associated results in sample EP16_EL60 are qualified as "J" based on potential indeterminate bias.

20H0563

The MB for batch BH00856 exhibited a detection of copper (3.87 mg/kg wet). The associated results in sample EP17_EL60 and EP21_EL60 are qualified as "U" at the sample concentration based on potential blank contamination.

The LCS for batch BH00856 exhibited a percent recovery below the LCL for selenium (46.6%). The associated results in sample EP17_EL60 and EP21_EL60 are qualified as "UJ" based on potential low bias.

20H0806

The contract required detection limits (CRDL) check for batch Y0H2627-CRL1 exhibited a percent recovery above the UCL for zinc (179%). The associated results in sample EP18_EL60 and EP22_EL60 are qualified as "J" based on potential high bias.

20H1162

The MB for batch BH01690 exhibited a detection of sodium (52.4 mg/kg). The associated results in sample EP23_EL56 and EP25_EL56 are qualified as "U" at the sample concentration based on potential blank contamination.

The CRDL for batch Y0I0128 exhibited a percent recovery above the UCL for copper (281%). The associated results in samples EP23_EL56 and EP25_EL56 are qualified as "J" based on potential high bias.

The CCV analyzed on 9/1/2020 at 14:42 exhibited %Ds above the control limit for calcium (88.3%), copper (89.4%), and selenium (89.6%). The associated results in sample EP23_EL56 and EP25_EL56 are qualified as "J" or "UJ" based on potential indeterminate bias.

The CCV analyzed on 9/1/2020 at 16:08 exhibited %Ds above the control limit for aluminum (89.8%) and copper (88.3%). The associated results in sample EP23_EL56 and EP25_EL56 are qualified as "J" based on potential indeterminate bias.

20I0299

The CRDL for batch Y0I0930 exhibited a percent recovery above the UCL for zinc (289%). The associated results in sample EP23_EL55 are qualified as "J" based on potential high bias.

20I0812

The MS performed on sample EP24_EL54 exhibited percent recoveries below the LCL for antimony (13.9%), beryllium (48.3%), and silver (37.3%). The associated results in sample EP20_EL54, EP24_EL54, SW01_56, and SW02_56 are qualified as "UJ" based on potential low bias.

The SRM for batch BI01002 exhibited a percent recovery above the UCL for nickel (131%). The associated results in sample EP20_EL54, EP24_EL54, SW01_56, and SW02_56 are qualified as "J" based on potential high bias.

The laboratory duplicate and parent sample (EP24_EL54) exhibited RPDs above the control limit for nickel (11.6%) and zinc (10.5%). The associated results are qualified as "J" based on potential indeterminate bias.

The CRDL for batch Y0I2306 exhibited a percent recovery above the UCL for zinc (232%). The associated results in sample EP20_EL54, EP24_EL54, SW01_56, and SW02_56 are qualified as "J" based on potential high bias.

20I1295

The SRM for batch BJ00005 exhibited a percent recovery below the LCL for selenium (52.6%). The associated results in sample DUP01_093020 and EP19_EL56 are qualified as "UJ" based on potential low bias.

The CRDL for batch Y0J0128 exhibited a percent recovery above the UCL for zinc (224%). The associated results in sample DUP01_093020 and EP19_EL56 are qualified as "J" based on potential high bias.

20I1297

The SRM for batch BJ00005 exhibited a percent recovery below the LCL for selenium (52.6%). The associated results in sample EP23_EL56 and DUP02_093020 are qualified as "UJ" based on potential low bias.

The CRDL for batch Y0J0128 exhibited a percent recovery above the UCL for zinc (224%). The associated results in sample EP23_EL56 and DUP02_093020 are qualified as "J" based on potential high bias.

OTHER DEFICIENCIES:

Other deficiencies include anomalies that do not directly impact data quality and do not necessitate qualification. The section below describes the other deficiencies that were identified.

VOCs by SW-846 Method 8260C

20E0588

The MB for batch BE00831 (BE00831-BLK3) exhibited a detection of methylene chloride (0.010 mg/kg wet weight). The associated results in samples EP01_EL56, EP04_EL56, EP05_EL48, EP07_EL56, EP08_EL56, EP09_EL56 are non-detections. No qualification is necessary.

20E0626

The TB (TB02_052020) exhibited a detection of acetone (4.05 ug/L). The associated results are non-detections. No qualification is necessary.

The MB for batch BE000889 (BE000889–BLK3) exhibited a detection of methylene chloride (0.0081 mg/kg wet). The associated results are non-detections. No qualification is necessary.

The LCS for batch BE00889 exhibited a percent recovery below the LCL for hexachlorobutadiene (81%). The LCSD was recovered within control limits so no qualification was necessary.

20E0680

The TB (TB03_052120) exhibited detections of 2-butanone (6.53 ug/L), 2-hexanone (1.94 ug/L), acetone (50.1 ug/L), and benzene (0.52 ug/L). The associated results are non-detections. No qualification is necessary.

The MB for batch BE00967 exhibited detections of acetone (0.042 mg/kg wet) and methylene chloride (0.013 mg/kg wet). The associated results are non-detections. No qualification is necessary.

20E0765

The TB (TB04_052620) exhibited detections of 2-butanone (6.6 ug/L), 2-hexanone (2.43 ug/L), acetone (54.4 ug/L), and benzene (0.52 ug/L). The associated results are non-detections. No qualification is necessary.

The MB for batch BE01087-BLK3 exhibited detections of acetone (0.012 mg/kg wet) and methylene chloride (0.012 mg/kg wet). The associated results are non-detections. No qualification is necessary.

The LCS recoveries were below limits but the LCSD recoveries were within acceptable limits. No qualification is necessary.

20H0355

The TB (TB01_081120) exhibited detections of 2-butanone (1.08 ug/L), acetone (5.07 ug/L), and toluene (0.22 ug/L). The associated results are non-detections. No qualification is necessary.

20H0563

The TB (TB01_081420) exhibited detections of chloroform (0.34 ug/L). The associated results are non-detections. No qualification is necessary.

20H0806

The TB (TB01_082020_20200820) exhibited a detection of chloroform (0.350 ug/L). The associated results are non-detections. No qualification is necessary.

The LCS/LCSD for batch BH01257 exhibited percent recoveries above the UCL for bromomethane (211%, 179%), chloroethane (207%, 197%), trichlorofluoromethane (156%, 155%), and vinyl chloride (131%, 143%). The associated results are non-detections. No qualification is necessary.

The LCSD for batch BH01257 exhibited a percent recovery above the UCL for chloromethane (141%). The associated results are non-detections. No qualification is necessary.

20H1162

The MB for batch BH01747 exhibited a detection of acetone (2.19 ug/L). The associated results are non-detections. No qualification is necessary.

The TB (TB05_082820) exhibited detections of dibromochloromethane (0.950 ug/L), chloroform (0.340 ug/L), and bromoform (1.13 ug/L). The associated results are non-detections. No qualification is necessary.

The LCS/LCSD for batch BH01746 exhibited a percent recovery above the UCL for acrolein (261%, 256%). The associated results are non-detections. No qualification is necessary.

The LCSD for batch BH01746 exhibited percent recoveries above the UCL for chloromethane (133%) and vinyl chloride (138%). The associated results are non-detections. No qualification is necessary.

20I0174

The TB (TB01_090320_20200903) exhibited a detection of chloroform (0.330 ug/L). The associated results are non-detections. No qualification is necessary.

The LCSD for batch BI00143 exhibited a percent recovery above the UCL for vinyl chloride (132%). The associated results are non-detections. No qualification is necessary.

20I0812

The TB (TB01_091720_20200917) exhibited a detection of chloroform (0.320 ug/L). The associated results are non-detections. No qualification is necessary.

20I1295

The TB (TB01_093020) exhibited detections of 2-hexanone (1.11 ug/L) and methyl ethyl ketone (2-butanone) (5.16 ug/L). The associated results are non-detections. No qualification is necessary.

The LCS/LCSD for batch BI01734 exhibited a percent recovery above the UCL for dichlorodifluoromethane (223%, 226%). The associated results are non-detections. No qualification is necessary.

20I1297

The LCS for batch BI01734 exhibited a percent recovery above the UCL for dichlorodifluoromethane (223%, 226%). The associated results are non-detections. No qualification is necessary.

SVOCs by SW-846 Method 8270D

20E0588

The field blank (FB), FB01_051920, exhibited detections of naphthalene (0.62 ug/L). The associated result for sample EP08_EL56 is >10X the contamination and naphthalene results are non-detections for samples EP01_EL56, EP04_EL56, EP05_EL48, EP07_EL56, and EP09_EL56. No qualification is necessary.

20E0626

The LCS for batch BE01007 exhibited percent recoveries above the UCL for atrazine (113%). The associated results are non-detections. No qualification is necessary.

The sample EP06_EL56 exhibited a percent recovery above the UCL for the surrogate 2,4,6-tribomophenol (113%). The other surrogates were recovered within control limits. No qualification is necessary.

20I1295

The ICAL for instrument MSBNA9 exhibited a RSD above the control limit for benzoic acid (22.76166%). The associated results were previously qualified. No further action is necessary.

20I1297

The ICAL for instrument MSBNA9 exhibited a RSD above the control limit for benzoic acid (22.76166%). The associated results were previously qualified. No further action is necessary.

Pesticides by SW-846 Method 8081B

20E0765

The LCS for batch BE01210 exhibited a percent recovery above the UCL for endosulfan sulfate (146%). The associated results are non-detections. No qualification is necessary.

20H1162

The CCV analyzed on 9/2/2020 at 17:44 exhibited %Ds above the control limit for 4,4'-DDT (35.7%), heptachlor (27.5%), and methoxychlor (41.2%). The associated results were from the secondary chromatographic column. The associated results were reported from the primary chromatographic column. No further action is necessary.

Metals by SW-846 Method 6010D

20E0588

The ICV analyzed on 5/22/2020 at 10:15 exhibited a percent recovery above the control limit for selenium (112%). The associated results are non-detections. No qualification is necessary.

The MS/matrix spike duplicate (MSD) performed on sample EP09-eI56 exhibited percent recoveries above the UCL for aluminum (-279%), calcium (9.31%), iron (-1710%), magnesium (324%), manganese (-2.46%), potassium (-138%). The associated results in the parent sample are >4X the spiked amount. No qualification is necessary.

20E0626

The FB (FB02_052020) exhibited a detection of calcium (0.0733 mg/L). The associated results are >10X the contamination. No qualification is necessary.

The MS performed on sample EP06_EL56 exhibited percent recoveries below the LCL for aluminum (-252%), calcium (-399%), iron (-400%), magnesium (-27.5%), manganese (-154%),

and potassium (11%). The associated results in the parent sample are >4X the spiked amount. No qualification is necessary.

The ICV analyzed on 5/22/2020 at 10:15 exhibited a percent recovery above the control limit for selenium (112%). The associated results are non-detections. No qualification is necessary.

20E0680

The MS performed on sample EP13_EL56 exhibited percent recoveries outside of control limits for aluminum (71.3%), calcium (175%), iron (3690%), magnesium (309%), manganese (-546%), and potassium (338%). The associated results in the parent sample are >4X the spiked amount. No qualification is necessary.

The ICV analyzed on 5/27/2020 at 11:27 exhibited a percent recovery above the control limit for selenium (112%). The associated results in sample EP10_EL56, EP11_EL56, EP13_EL56 are non-detections. No qualification is necessary.

20E0765

The MB for batch BE01066 exhibited a detection of aluminum (11 mg/kg wet). The associated results are non-detections. No qualification is necessary.

20H1162

The MB for batch BH01690-BLK1 exhibited detections of lead (0.652 mg/kg) and potassium (15.4 mg/kg). The associated results are >10X the contamination. No qualification is necessary.

The MB for batch BH01690-BLK1 exhibited a detection of selenium (5.65 mg/kg). The associated results are non-detections. No qualification is necessary.

20I0812

The MS/MSD performed on sample EP24_EL54 exhibited percent recoveries outside of control limits for aluminum (-247%), calcium (558%), iron (-1220%), magnesium (-51.8%), and potassium (-127%). The associated results in the parent sample are >4X the spiked amount. No qualification is necessary.

FIELD DUPLICATES:

Two field duplicate and parent sample pairs were collected and analyzed for all parameters. For results less than 5X the RL, analytes meet the precision criteria if the absolute difference is less than ±2X the RL. For results greater than 5X the RL, analytes meet the precision criteria if the

RPD is less than or equal to 50% for soil. The following field duplicate and parent sample pairs were compared to the precision criteria:

- DUP01_093020 and EP19_EL56
- EP23_EL56 and DUP02_093020

The field duplicate and parent sample (EP19_EL56 and DUP01_093020) exhibited RPDs above the control limit for acetone (178.8%) and zinc (60.2%). The associated results are qualified as "J" or "UJ" based on potential indeterminate bias.

CONCLUSION

On the basis of this evaluation, the laboratory appears to have followed the specified analytical methods with the exception of errors discussed above. If a given fraction is not mentioned above, that means that all specified criteria were met for that parameter. All of the data packages met ASP Category B requirements.

All data are considered usable, as qualified, with the exception of the rejected results. In addition, completeness, defined as the percentage of analytical results that are judged to be valid, is 100%.

Signed:

Joe Conboy
Staff Chemist

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

Technical Memorandum

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To: Lamees Esmail, Langan Senior Staff Engineer

From: Joe Conboy, Langan Senior Staff Chemist

Date: December 3, 2021

Re: Data Usability Summary Report
For 805-825 Atlantic Avenue
February 2018 to February 2020 Groundwater Samples
Langan Project No.: 170384501

This memorandum presents the findings of an analytical data validation from the analysis of groundwater samples collected between February 2018 to February 2020 by Langan Engineering and Environmental Services at 805-825 Atlantic Avenue. The samples were analyzed by Alpha Analytical Laboratories, Inc. (NYSDOH NELAP registration # 11148) and York Analytical Laboratories, Inc. (NYSDOH NELAP registration # 10854 and 12058) for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), per- and polyfluoroalkyl substances (PFAS), total petroleum hydrocarbon - gasoline range organics, nitrate, sulfate, sulfide, and cyanide by the methods specified below.

- VOCs by SW-846 Method 8260C
- SVOCs by SW-846 Method 8270D and 8270D/SIM
- PCBs by SW-846 Method 8082A
- PFAS by USEPA Method 537M
- Metals by SW-846 Methods 6010D/7471B
- TPH - GRO by SW-846 Method 8015D
- Nitrate (as N) by Standard Method 4500NO3-F
- Sulfate (as SO4) by SW-846 Method 9038
- Sulfide by Standard Method 4500S2-AD
- Cyanide by Standard Method 4500 CN C/E

Table 1, attached, summarizes the laboratory and client sample identification numbers, sample collection dates, level of data validation, and analytical parameters subject to review.

Validation Overview

This data validation was performed in accordance with the following guidelines, where applicable:

- USEPA Region II Standard Operating Procedures (SOPs) for Data Validation

- USEPA Contract Laboratory Program "National Functional Guidelines for Organic Superfund Methods Data Review" (EPA 540- R-20-005, November 2020)
- USEPA Contract Laboratory Program "National Functional Guidelines for Inorganic Superfund Methods Data Review" (EPA 540- R-20-005, November 2020), and
- published analytical methodologies.

USEPA Method 537 was developed and validated for the analysis of finished drinking water from surface water and groundwater sources. Laboratories have modified Method 537 to enable the analysis of groundwater and soil, and to incorporate PFAS analytes not currently addressed by the promulgated method. NYSDOH offers certification for PFOA and PFOS in the drinking water category. Non-potable water and soil certification is not available; however, the method describes acceptable modifications. USEPA recommends that modified methods be assessed relative to project goals and data quality objectives.

The following acronyms may be used in the discussion of data-quality issues:

%D	Percent Difference	MB	Method Blank
CCV	Continuing Calibration Verification	MDL	Method Detection Limit
FB	Field Blank	MS	Matrix Spike
FD	Field Duplicate	MSD	Matrix Spike Duplicate
ICAL	Initial Calibration	RF	Response Factor
ICV	Initial Calibration Verification	RL	Reporting Limit
ISTD	Internal Standard	RPD	Relative Percent Difference
LCL	Lower Control Limit	RSD	Relative Standard Deviation
LCS	Laboratory Control Sample	TB	Trip Blank
LCSD	Laboratory Control Sample Duplicate	UCL	Upper Control Limit

Tier 1 data validation is based on completeness and compliance checks of sample-related QC results including: sample receipt documentation; analytical holding times; sample preservation; blank results (method, field, and trip); surrogate recoveries; MS/MSD recoveries and RPDs values; field duplicate RPDs, laboratory duplicate RPDs, and LCS/LCSD recoveries and RPDs. All data in this report underwent Tier 1 validation.

As a result of the review process, the following qualifiers may be assigned to the data in accordance with the USEPA guidelines and our best professional judgment:

R – The sample results are unusable because certain criteria were not met when generating the data. The analyte may or may not be present in the sample.

J – The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample.

UJ – The analyte was not detected at a level greater than or equal to the reporting limit; however, the reported reporting limit is approximate and may be inaccurate or imprecise.

U – The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the RL or the sample concentration for results impacted by blank contamination.

NJ – The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

If any validation qualifiers are assigned, these qualifiers should supersede any laboratory-applied qualifiers. Data that is not qualified as a result of this data validation is considered acceptable on the basis of the items specified for review. Data that is qualified as "R" are considered invalid and are not technically usable for data interpretation. Data that is otherwise qualified because of minor data-quality anomalies are usable, as qualified in Table 2 (attached).

MAJOR DEFICIENCIES:

Major deficiencies include those that grossly impact data quality and necessitate the rejection of results. The section below describes the major deficiencies that were identified.

MINOR DEFICIENCIES:

Minor deficiencies include anomalies that directly impact data quality and necessitate qualification, but do not result in unusable data. The section below describes the minor deficiencies that were identified.

VOCs by SW-846 Method 8260C

L1947059

The LCS/LCSD for batch WG1293995 exhibited a RPD above the control limit for 2-butanone (36%). The associated results in sample MW202_100719 are qualified as J because of potential indeterminate bias.

The LCS for batch WG1293995 exhibited a percent recovery below the LCL for naphthalene (68%). The associated results in sample MW202_100719 are qualified as UJ because of potential low bias.

L1959030

The LCSD for batch WG1321412 exhibited a percent recovery below the LCL for chloromethane (62%). The associated results in sample MW111_121019 are qualified as UJ because of potential low bias.

The LCS/LCSD for batch WG1321412 exhibited RPDs above the control limit for 1,1-dichloroethene (27%), 2-hexanone (21%), bromomethane (32%), carbon disulfide (24%), chloroethane (27%), chloromethane (36%), dichlorodifluoromethane (29%), diethyl ether (29%), hexachlorobutadiene (23%), trichlorofluoromethane (34%), vinyl chloride (32%), and trans-1,4-dichloro-2-butene (22%). The associated results in sample MW111_121019 are qualified as J because of potential indeterminate bias.

L2000410

The sample IP-05_010620 exhibited percent recoveries below the LCL for the internal standard chlorobenzene-d5 (42%) and 1,4-dichlorobenzene-d4 (10%). The associated results are qualified as J or UJ because of potential high bias or loss of instrument sensitivity.

The sample IP-05_010620 exhibited percent recoveries above the UCL for the surrogates toluene-d8 (154%) and 4-bromofluorobenzene (163%). The associated results are qualified as J because of potential high bias.

20B0482

The sample IP-01_021320 exhibited a percent recovery above the UCL for the surrogate p-bromofluorobenzene (133%). The associated detected results are qualified as J because of potential high bias.

The LCS/LCSD for batch BB00668 exhibited percent recoveries below the LCL for 1,3-dichlorobenzene (78.6%, 86.7%), chlorobenzene (87.1%, 72.5%), tetrachloroethene (73.6%, 82.5%), vinyl chloride (56%), and 1,2,3-trichloropropane (45.7%). The associated results in samples IP-01_021320, MW-112_021320, and MW-118_021320 are qualified as UJ because of potential low bias.

The LCS/LCSD for batch BB00668 exhibited a RPD above the control limit for 1,2,3-trichloropropane (612%). The associated results in samples IP-01_021320, MW-112_021320, and MW-118_021320 are qualified as UJ because of potential indeterminate bias.

20C0978

The TB (TB01_032320) exhibited a detection of acetone (4.37 ug/l). The associated results in sample MW112_032320 are qualified as J because of potential blank contamination.

The LCS/LCSD for batch BC01404 exhibited percent recoveries below the LCL for 1,4-dioxane (0%, 7.6%) and 1,2,3-trichlorobenzene (59.2%) and also exhibited RPDs above the control limit

for 1,4-dioxane (200%) and 1,2,3-trichlorobenzene (49.2%). The associated results in sample MW112_032320 are qualified as UJ because of potential low bias.

20B0541

The MB for batch BB00752 exhibited detections of m,p-xylene (5.97 ug/l) and total xylenes (10.5 ug/l). The associated results in sample IP-03_021420 are qualified as U at the sample concentration because of potential blank contamination.

The LCS/LCSD for batch BB00752 exhibited percent recoveries below the LCL for tetrachloroethene (75.8%, 77.8%), 1,3-dichlorobenzene (81.7%, 83.3%), vinyl chloride (66.5%, 63%), chlorobenzene (87.2%), and n-butylbenzene (78.6%). The associated results in samples IP-03_021420 and IP-08_021420 are qualified as UJ because of potential low bias.

The LCS/LCSD for batch BB00752 exhibited a RPD above the control limit for 2-butanone (33.8%). The associated results in samples IP-03_021420 and IP-08_021420 are qualified as UJ because of potential indeterminate bias.

The sample IP08_021420 exhibited a percent recovery above the UCL for the surrogate p-bromofluorobenzene (130%). The associated detected results are qualified as J because of potential high bias.

The sample IP03_021420 exhibited a percent recovery above the UCL for the surrogate p-bromofluorobenzene (154%). The associated detected results are qualified as J because of potential high bias.

18B0626

The FB (GWFB02_021518) exhibited detections of acetone (2.81 ug/l) and chloroform (0.340 ug/l). The associated results in sample GWDUP01_021518, MW101A_021518, MW117_021518, and MW118_021518 are qualified as U at the reporting limit because of potential blank contamination.

The TB (GWTB02_021518) exhibited a detection of tert-butyl alcohol (0.740 ug/l). The associated results in sample GWDUP01_021518, MW101A_021518, MW117_021518, and MW118_021518 are qualified as U at the reporting limit because of potential blank contamination.

18B0987

The FB (GWFB03_022518) exhibited a detection of acetone (1.05 ug/l). The associated results in sample MW111_022518 are qualified as U at the reporting limit because of potential blank contamination.

The LCS for batch BB81290 exhibited a percent recovery above the UCL for tetrachloroethylene (136%). The associated results in sample MW111_022518 and MW112_022518 are qualified as J because of potential high bias.

The LCS for batch BB81290 exhibited a percent recovery below the LCL for tert-butyl alcohol (22.5%, 21.7%). The associated results in sample MW111_022518 and MW112_022518 are qualified as UJ because of potential low bias.

SVOCs by SW-846 Method 8270D and 8270D/SIM

L1947059

The LCS/LCSD for batch WG1293242 exhibited a percent recovery below the LCL for benzoic acid (0%). The associated results in sample MW202_100719 are qualified as UJ because of potential low bias.

The MB for batch WG1293242 exhibited a detection of bis(2-ethylhexyl) phthalate (1.8 ug/l). The associated results in sample MW202_100719 are qualified as U at the reporting limit because of potential blank contamination.

The MB for batch WG1293243 exhibited a detection of phenanthrene (0.03 ug/l). The associated results in sample MW202_100719 are qualified as U at the reporting limit because of potential blank contamination.

18B0626

The FB (GWFB02_021518) exhibited a detection of naphthalene (0.0462 ug/l). The associated results in sample MW118_021518 and GWDUP01_021518 are qualified as U at the reporting limit because of potential blank contamination.

18B0987

The FB (GWFB03_022518) exhibited a detection of naphthalene (0.131 ug/l). The associated results in sample MW111_022518 are qualified as U at the reporting limit because of potential blank contamination.

Metals by SW-846 Methods 6010D/7471B

L1961529

The MB for batch WG1325673-1 exhibited a detection of iron (0.0245 mg/l). The associated results in sample MW-118_122319 are qualified as U at the reporting limit because of potential blank contamination.

L2000410

The MB for batch WG1327694 exhibited a detection of dissolved iron (0.0358 mg/l). The associated results in sample IP-05_010620 are qualified as U at the reporting limit because of potential blank contamination.

The MS performed on sample IP-05_010620 exhibited a percent recovery above the UCL for total iron (127%). The associated results in sample IP-05_010620 are qualified as J because of potential high bias.

The LCS for batch IP-05_010620 exhibited a percent recovery above the UCL for dissolved iron (164%). The associated results in sample IP-05_010620 are qualified as J because of potential high bias.

The MS performed on sample IP-05_010620 exhibited a percent recovery above the UCL for dissolved iron (132%). The associated results in sample IP-05_010620 are qualified as J because of potential high bias.

L2002569

The MB for batch WG1332012 exhibited a detection of total iron (0.0199 mg/l). The associated results in sample MW-112_011720 are qualified as U at the reporting limit because of potential blank contamination.

20B0482

The post-digestion spike performed on sample MW112_021320 exhibited a percent recovery below the LCL for dissolved manganese (0%). The associated results in sample MW112_021320 are qualified as J because of potential low bias.

20C0978

The MS performed on sample MW112_032320 exhibited a percent recovery below the LCL for total iron (0%). The associated results in sample MW112_032320 are qualified as J because of potential low bias.

The post-digestion spike performed on sample MW112_032320 exhibited percent recoveries below the LCL for total iron (0%) and total manganese (14.7%). The associated results in sample MW112_032320 are qualified as J because of potential low bias.

18B0626

The FB (GWFB02_021518) exhibited detections of iron (0.284 mg/l), lead (0.0144 mg/l), magnesium (0.0776 mg/l), potassium (2.17 mg/l), copper (0.0117 mg/l), and zinc (0.0296 mg/l). The associated results in sample GWDUP01_021518, MW101A_021518, MW117_021518, and MW118_021518 are qualified as J or U at the higher of the sample concentration and the reporting limit because of potential blank contamination.

The LCS for batch BB80767 exhibited percent recoveries below the LCL for dissolved arsenic (74.6%) and dissolved selenium (74.4%). The associated results in sample GWDUP01_021518, MW101A_021518, MW117_021518, and MW118_021518 are qualified as J or UJ because of potential low bias.

18B0987

The MB for batch BB81194 exhibited a detection of copper (0.0194 mg/L). The associated results in sample MW111_022518 and MW112_022518 are qualified as U at the sample concentration because of potential blank contamination.

The FB (GWFB03_022518) exhibited detections of nickel (0.0149 mg/l) and zinc (0.0223 mg/l). The associated results in sample MW111_022518 and MW112_022518 are qualified as J or U at the higher of the sample concentration and the reporting limit because of potential blank contamination.

The MS performed on sample GWFB03_022518 exhibited percent recoveries below the LCL for antimony (72.3%), arsenic (79.1%), cadmium (74.6%), and selenium (64.1%). The associated results in sample MW111_022518 and MW112_022518 are qualified as J or UJ because of potential low bias.

The LCS for batch BC80018 exhibited percent recoveries below the LCL for dissolved arsenic (67.9%), dissolved beryllium (74.7%), dissolved cadmium (76.2%), and dissolved selenium (54.2%). The associated results in sample MW106_022518, MW111_022518, and MW112_022518 are qualified as J or UJ because of potential low bias.

The MS performed on sample MW112_022518 exhibited percent recoveries below the LCL for dissolved arsenic (61.1%), dissolved beryllium (46.6%), dissolved cadmium (67%), and dissolved selenium (57.1%). The associated results in sample MW112_022518 are qualified as J or UJ because of potential low bias.

TPH - GRO by SW-846 Method 8015D

L1947059

The sample container of sample MW202_100719 utilized for TPH-GRO analysis had headspace. The associated results as qualified as J because of potential low bias.

Cyanide by Standard Method 4500 CN C/E

18B0626

The MS performed on sample MW101A_021518 exhibited a percent recovery below the LCL for cyanide (78.6%). The associated results in sample MW101A_021518 are qualified as UJ because of potential low bias.

OTHER DEFICIENCIES:

Other deficiencies include anomalies that do not directly impact data quality and do not necessitate qualification. The section below describes the other deficiencies that were identified.

VOCs by SW-846 Method 8260C

L1961529

The LCS for batch WG1325577 exhibited a percent recovery above the UCL for vinyl acetate (140%). The associated results are non-detect. No qualification is necessary.

L2002687

The TB (TB05_012020) exhibited a detection of acetone (1.8 ug/l). The associated results are >10X the contamination. No qualification is necessary.

The MB for batch WG1332266 exhibited a detection of acetone (1.7 ug/l). The associated results are >10X the contamination. No qualification is necessary.

20C0978

The TB (TB01_032320) exhibited a detection of benzene (0.250 ug/l). The associated results are non-detect. No qualification is necessary.

20B0541

The LCS/LCSD for batch BB00752 exhibited a percent recovery above the UCL for 1,4-dioxane (161%). The associated results are non-detect. No qualification is necessary.

18B0626

The FB (GWFB02_021518) exhibited detections of toluene (0.300 ug/l), acetone (2.81 ug/l), chloroform (0.340 ug/l), and tert-butyl alcohol (1.43 ug/l). The associated results are either non-detect or >10X the contamination. No qualification is necessary.

The LCS/LCSD for batch BB80868 exhibited a percent recovery above the UCL for dichlorodifluoromethane (190%, 186%). The associated results are non-detect. No qualification is necessary.

The MS/MSD performed on sample MW101A_021518 exhibited RPDs above the control limit for 1,4-dioxane (63.1%), hexachlorobutadiene (40.8%), methylcyclohexane (30.2%), and n-butylbenzene (30.7%). Organic results are not qualified on the basis of MS/MSD recoveries alone. No qualification is necessary.

The MS performed on sample MW101A_021518 exhibited percent recoveries below the LCL for 1,2,4-trimethylbenzene (71.2%), 1,3-dichlorobenzene (73.7%), methylcyclohexane (54.2%), n-butylbenzene (52.3%), p-cymene (p-isopropyltoluene) (57.8%), and tetrachloroethylene (pce) (59.3%). Organic results are not qualified on the basis of MS recoveries alone. No qualification is necessary.

18B0987

The TB (GWTB03_022518) exhibited a detection of methyl ethyl ketone (2-butanone) (0.480 ug/l). The associated results are either non-detect or >10X the contamination. No qualification is necessary.

SVOCs by SW-846 Method 8270D and 8270D/SIM

18B0626

The LCS for batch BB80824 exhibited a percent recovery above the UCL for 2,3,4,6-tetrachlorophenol (193%). The associated results are non-detect. No qualification is necessary.

The MS performed on sample MW101A_021518 exhibited a percent recovery above the UCL for 2,3,4,6-tetrachlorophenol (179%, 170%). Organic results are not qualified on the basis of MS recoveries alone. No qualification is necessary.

The sample MW101A_021518 exhibited a percent recovery below the LCL for the surrogate 2-fluorophenol (17.5%). No more than one surrogate from a single fraction recovered outside of the control limits. No qualification is necessary.

18B0987

The sample MW112_022518 exhibited percent recoveries below the LCL for the surrogates phenol-d6 (10.0%) and nitrobenzene-d5 (36.2%). No more than one surrogate from a single fraction recovered outside of the control limits. No qualification is necessary.

The LCS for batch BB81182 exhibited a percent recovery above the UCL for benzaldehyde (118%). The associated results are non-detect. No qualification is necessary.

The LCSD for batch BB81182 exhibited percent recoveries above the UCL for 4-nitroaniline (137%), 2,3,4,6-tetrachlorophenol (131%), and carbazole (128%). The associated results are non-detect. No qualification is necessary.

The LCS for batch BC80014 exhibited a percent recovery above the UCL for 4-nitroaniline (138%). The associated results are non-detect. No qualification is necessary.

The LCS for batch BB81182 exhibited a percent recovery above the UCL for nitrobenzene (128%). The associated results are non-detect. No qualification is necessary.

PCBs by SW-846 Method 8082A

18B0626

The sample GWDUP01_021518 exhibited a percent recovery above the UCL for the surrogate decachlorobiphenyl (PCB 209) (130%). The associated results are non-detect. No qualification is necessary.

Metals by SW-846 Methods 6010D/7471B

L1959030

The MB for batch WG1321483 exhibited a detection of total iron (0.0215 mg/l). The associated results are >10X the contamination. No qualification is necessary.

The MB for batch WG1321482 exhibited a detection of dissolved iron (0.0350 mg/l). The associated results are non-detect. No qualification is necessary.

L2000410

The MB for batch WG1327691 exhibited a detection of total iron (0.0358 mg/l). The associated results are >10X the contamination. No qualification is necessary.

L2002687

The MB for batch WG1332247 exhibited a detection of total iron (0.0238 mg/l). The associated results are >10X the contamination. No qualification is necessary.

18B0626

The MB for batch BB80768 exhibited a detection of dissolved zinc (0.036 mg/l). The associated results are non-detect. No qualification is necessary.

The FB (GWFB02_021518) exhibited detections of dissolved iron (0.0448 mg/l), dissolved lead (0.00793 mg/l), dissolved magnesium (0.0699 mg/l), and dissolved potassium (2.93 mg/l). The associated results are either non-detect or >10X the contamination. No qualification is necessary.

The LCS for batch BB80767 exhibited a percent recovery above the UCL for dissolved beryllium (129%). The associated results are non-detect. No qualification is necessary.

The LCS for batch BB80836 exhibited percent recoveries below the LCL for antimony (0%), arsenic (0%), cadmium (0%), and selenium (0%). The associated results in sample GWDUP01_021518, MW101A_021518, MW117_021518, and MW118_021518 are qualified as J or UJ because of potential low bias.

The MS performed on sample MW101A_021518 exhibited a percent recovery above the UCL for copper (132%). The associated results were previously qualified. No further action is necessary.

18B0987

The FB (GWFB03_022518) exhibited detections of dissolved potassium (0.443 mg/l) and dissolved sodium (0.467 mg/l). The associated results are >10X the contamination. No qualification is necessary.

The FB (GWFB03_022518) exhibited detections of potassium (0.182 mg/l), sodium (0.330 mg/l), and calcium (0.290 mg/l). The associated results are >10X the contamination. No qualification is necessary.

TPH - GRO by SW-846 Method 8015D

L1947059

The MS/MSD performed on sample MW202_100719 exhibited a percent recovery below the LCL for GRO (79%). Organic results are not qualified on the basis of MS/MSD recoveries alone. No qualification is necessary.

The MB for batch WG1294149 exhibited a detection of GRO (23 ug/l). The associated results are >10X the contamination. No qualification is necessary.

Sulfate (as SO4) by SW-846 Method 9038

L1959030

The FB (FB01_121019) exhibited a detection of sulfate (2.1 mg/l). The associated results are >10X the contamination. No qualification is necessary.

The MB for batch WG1318923 exhibited a detection of sulfate (1.9 mg/l). The associated results are >10X the contamination. No qualification is necessary.

L1961529

The MB for batch WG1324764-1 exhibited a detection of sulfate (2.0 mg/l). The associated results are >10X the contamination. No qualification is necessary.

L2002687

The MB for batch WG1333221 exhibited a detection of sulfate (1.9 mg/l). The associated results are >10X the contamination. No qualification is necessary.

FIELD DUPLICATE:

One field duplicate and parent sample pair was collected and analyzed for all parameters. For results less than 5X the RL, analytes meet the precision criteria if the absolute difference is less than ±X the RL. For results greater than 5X the RL, analytes meet the precision criteria if the RPD is less than or equal to 30% for groundwater. The following field duplicate and parent sample pairs were compared to the precision criteria:

- MW118_021518 and GWDUP01_021518

The field duplicate and parent sample (MW118_021518 and GWDUP01_021518) exhibited RPDs above the control limit for 1,2,4-trimethylbenzene (63.7%), aluminum (92.5%), dissolved aluminum (103.6%), bis(2-ethylhexyl) phthalate (128.5%), chromium, total (78.2%), ethylbenzene (89.2%), iron (109.4%), m,p-xylene (106.3%), naphthalene (164.2%), n-propylbenzene (70.2%), o-xylene (1,2-dimethylbenzene) (189.4%), selenium (44.4%), toluene (186.5%), and xylenes, total (135%). The associated results are qualified as J or UJ because of potential indeterminate bias.

CONCLUSION:

On the basis of this evaluation, the laboratory appears to have followed the specified analytical methods with the exception of errors discussed above. If a given fraction is not mentioned above,

that means that all specified criteria were met for that parameter. All of the data packages met ASP Category B requirements.

All data are considered usable, as qualified. In addition, completeness, defined as the percentage of analytical results that are judged to be valid, is 100%.

Signed:

Joe Conboy
Senior Staff Chemist

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

Technical Memorandum

989 Lenox Drive Lawrenceville, NJ 08648 T: 609.282.8000
Mailing Address: 989 Lenox Drive Lawrenceville, NJ 08648

To: Lamees Esmail, Langan Senior Staff Engineer

From: Joe Conboy, Langan Staff Chemist

Date: April 15, 2021

Re: Data Usability Summary Report
For 805-825 Atlantic Avenue
March 2021 Groundwater Samples
Langan Project No.: 17038450

This memorandum presents the findings of an analytical data validation of the data generated from the analysis of groundwater samples collected in March 2021 by Langan Engineering and Environmental Services ("Langan") at the 805-825 Atlantic Avenue site ("the site"). The samples were analyzed by Alpha Analytical Laboratories, Inc. (NYSDOH NELAP registration # 11148) for volatile organic compounds (VOCs) by the methods specified below.

- VOCs by SW-846 Method 8260C

Table 1, attached, summarizes the laboratory and client sample identification numbers, sample collection dates, and analytical parameters subject to review.

Validation Overview

This data validation was performed in accordance with USEPA Region II Standard Operating Procedure (SOP) #HW-34A, USEPA Region II SOP #HW-33A, "Low/Medium Volatile Data Validation" (September 2016, Revision 1), the USEPA Contract Laboratory Program "National Functional Guidelines for Organic Superfund Methods Data Review" (EPA-540-R-2017-002, January 2017) and the specifics of the methods employed.

Validation includes review of the analytical data to verify that data are easily traceable and sufficiently complete to permit logical reconstruction by a qualified individual other than the originator. Items subject to review in this memorandum include holding times, sample preservation, instrument tuning, instrument calibration, laboratory blanks, laboratory control samples, system monitoring compounds, internal standard area counts, matrix spike/spike duplicate recoveries, target compound identification and quantification, chromatograms, overall system performance, field duplicate, trip blank, and field blank sample results.

As a result of the review process, the following qualifiers may be assigned to the data in accordance with the USEPA's guidelines and best professional judgment:

R – The sample results are unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.

J – The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample.

UJ – The analyte was not detected at a level greater than or equal to the reporting limit (RL); however, the reported RL is approximate and may be inaccurate or imprecise.

U – The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the RL or the sample concentration for results impacted by blank contamination.

NJ – The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

If any validation qualifiers are assigned these qualifiers should supersede any laboratory-applied qualifiers. Data that is not qualified as a result of this data validation is considered acceptable on the basis of the items specified for review. Data that is qualified as "R" are not sufficiently valid and technically supportable to be used for data interpretation. Data that is otherwise qualified due to minor data quality anomalies are usable, as qualified in Table 2 (attached).

MAJOR DEFICIENCIES:

Major deficiencies include those that grossly impact data quality and necessitate the rejection of results. No major deficiencies were identified.

MINOR DEFICIENCIES:

Minor deficiencies include anomalies that directly impact data quality and necessitate qualification, but do not result in unusable data. The section below describes the minor deficiencies that were identified.

L2115627

The trip blank (TB) (TB01_032921) exhibited a detection of acetone (1.7 ug/l). The associated results in samples MW-205_032921 and MW-204_032921 are qualified as "U" at the reporting limit or "U" at the sample concentration based on potential blank contamination.

The continuing calibration verification (CCV) analyzed on 3/31/2021 at 19:34 exhibited percent drifts (%Ds) above the control limit for bromomethane (22.8%), 2-butanone (22.6%), 2-hexanone

(20.8%), 1,2,3-trichloropropane (21.5%), and 1,2-dibromo-3-chloropropan (20.8%). The associated results in samples MW-205_032921, MW-204_032921, DUP01_032921 are qualified as "J" or "UJ" based on potential indeterminate bias.

The CCV analyzed on 3/31/2021 at 19:34 exhibited response factors (RFs) below the control limit for acrylonitrile (0.044), 1,4-dioxane (0.0015), and 4-methyl-2-pentanone (0.056). The associated results in samples MW-205_032921, MW-204_032921, DUP01_032921 are qualified as "UJ" based on potential indeterminate bias.

L2115808

The initial calibration (ICV) analyzed on 3/11/2021 at 23:43 exhibited RFs below the control limit for acetone (0.039), acrylonitrile (0.047), 2-butanone (0.055), trichloroethene (TCE) (0.169), 1,4-dioxane (0.00112), and 4-methyl-2-pentanone (0.054). The associated results in sample MW-203_033021 are qualified as "J" or "UJ" based on potential indeterminate bias.

OTHER DEFICIENCIES:

Other deficiencies include anomalies that do not directly impact data quality and do not necessitate qualification. The section below describes the other deficiencies that were identified.

L2115627

The collection date and time of sample FB01_032921 on the chain of custody did not match that of the container label. At the client's request, the collection date/time is reported as 29-MAR-21 10:10. No qualification required based on date/time mismatch on chain of custody.

The matrix spike (MS) performed on sample MW-205_032921 exhibited percent recoveries below the lower control limit (LCL) for 1,2,4-trimethylbenzene (50%), bromomethane (28%), chloromethane (60%), 1,4-diethyl benzene (40%), 4-ethyltoluene (50%), m,p-xylene (50%), and trans-1,4-dichloro-2-butene (55%). Organic results are not qualified on the basis of MS recoveries alone. No qualification is necessary.

The matrix spike duplicate (MSD) performed on sample MW-205_032921 exhibited percent recoveries below the LCL for 1,2,4-trimethylbenzene (50%), bromomethane (33%), ethylbenzene (50%), 1,4-diethyl benzene (40%), 4-ethyltoluene (50%), m,p-xylene (50%), and trans-1,4-dichloro-2-butene (55%). Organic results are not qualified on the basis of MSD recoveries alone. No qualification is necessary.

The MS/MSD performed on sample MW-205_032921 exhibited a relative percent difference (RPD) above the control limit for acetone (26%). Organic results are not qualified on the basis of MS/MSD recoveries alone. No qualification is necessary.

The field blank (FB) (FB01_032921) exhibited a detection of acetone (1.7 ug/l). The associated results were previously qualified. No further action is necessary.

The CCV analyzed on 3/31/2021 at 19:34 exhibited RFs below the control limit for 2-butanone (0.048) and 2-hexanone (0.084). The associated results were previously qualified. No further action is necessary.

The ICV analyzed on 3/10/2021 at 18:36 exhibited RFs below the control limit for acetone (0.039), 2-butanone (0.059), 1,4-dioxane (0.00149), and 4-methyl-2-pentanone (0.065). The associated results were previously qualified. No further action is necessary.

L2115808

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) for batch WG1481901 exhibited a percent recovery above the upper control limit (UCL) for bromomethane (140%, 140%). The associated results are non-detections. No qualification is necessary.

FIELD DUPLICATE:

One field duplicate and parent sample pair was collected and analyzed for all parameters. For results less than 5X the RL, analytes meet the precision criteria if the absolute difference is less than ±1X the RL. For results greater than 5X the RL, analytes meet the precision criteria if the RPD is less than or equal to 30% for groundwater. The following field duplicate and parent sample pairs were compared to and met the precision criteria:

- DUP01_032921 and MW-205_032921

CONCLUSION:

On the basis of this evaluation, the laboratory appears to have followed the specified analytical methods with the exception of errors discussed above. If a given fraction is not mentioned above, that means that all specified criteria were met for that parameter. All of the data packages met ASP Category B requirements.

All data are considered usable, as qualified. In addition, completeness, defined as the percentage of analytical results that are judged to be valid, is 100%

Signed:

Joe Conboy
Staff Chemist

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

Technical Memorandum

989 Lenox Drive Lawrenceville, NJ 08648 T: 609.282.8000
Mailing Address: 989 Lenox Drive Lawrenceville, NJ 08648

To: Kimberly Semon, Langan Project Manager

From: Joe Conboy, Langan Staff Chemist

Date: July 1, 2021

Re: Data Usability Summary Report
For 805-825 Atlantic Avenue
June 2021 Groundwater Samples
Langan Project No.: 170384501

This memorandum presents the findings of an analytical data validation from the analysis of groundwater samples collected in June 2021 by Langan Engineering and Environmental Services at 805-825 Atlantic Avenue. The samples were analyzed by Alpha Analytical Laboratories, Inc. (NYSDOH NELAP registration # 11148) for volatile organic compounds (VOCs) by the methods specified below.

- VOCs by SW-846 Method 8260C

Table 1, attached, summarizes the laboratory and client sample identification numbers, sample collection dates, and analytical parameters subject to review.

Validation Overview

This data validation was performed in accordance with the following guidelines, where applicable:

- USEPA Region II Standard Operating Procedure (SOP) #HW-34A, "Trace Volatile Data Validation" (September 2016, Revision 1),
- USEPA Region II SOP #HW-33A, "Low/Medium Volatile Data Validation" (September 2016, Revision 1),
- USEPA Contract Laboratory Program "National Functional Guidelines for Organic Superfund Methods Data Review" (EPA 540- R-20-005, November 2020), and published analytical methodologies.

Validation includes review of the analytical data to verify that they are easily traceable and sufficiently complete to permit logical reconstruction by a qualified individual other than the originator. Items subject to review in this memorandum may include:

- holding times
- sample preservation
- sample extraction and digestion
- instrument tuning
- instrument calibration
- laboratory blanks
- laboratory control samples
- surrogates
- internal standards
- isotope dilutions
- matrix spike/spike duplicate recoveries
- target compound identification and quantification
- chromatograms
- overall system performance
- serial dilutions
- dual column performance
- field duplicates
- trip blanks
- field blanks

As a result of the review process, the following qualifiers may be assigned to the data in accordance with the USEPA guidelines and our best professional judgment:

R – The sample results are unusable because certain criteria were not met when generating the data. The analyte may or may not be present in the sample.
J – The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample.
UJ – The analyte was not detected at a level greater than or equal to the reporting limit; however, the reported reporting limit is approximate and may be inaccurate or imprecise.
U – The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the RL or the sample concentration for results impacted by blank contamination.
NJ – The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

If any validation qualifiers are assigned, these qualifiers should supersede any laboratory-applied qualifiers. Data that is not qualified as a result of this data validation is considered acceptable on the basis of the items specified for review. Data that is qualified as "R" are considered invalid and are not technically usable for data interpretation. Data that is otherwise qualified because of minor data-quality anomalies are usable, as qualified in Table 2 (attached).

The following acronyms may be used in the discussion of data-quality issues:

%D	Percent Difference	MB	Method Blank
CCV	Continuing Calibration Verification	MDL	Method Detection Limit
FB	Field Blank	MS	Matrix Spike
FD	Field Duplicate	MSD	Matrix Spike Duplicate
ICAL	Initial Calibration	RF	Response Factor
ICV	Initial Calibration Verification	RL	Reporting Limit
ISTD	Internal Standard	RPD	Relative Percent Difference
LCL	Lower Control Limit	RSD	Relative Standard Deviation
LCS	Laboratory Control Sample	TB	Trip Blank
LCSD	Laboratory Control Sample Duplicate	UCL	Upper Control Limit

MAJOR DEFICIENCIES:

Major deficiencies include those that grossly impact data quality and necessitate the rejection of results. No major deficiencies were identified.

MINOR DEFICIENCIES:

Minor deficiencies include anomalies that directly impact data quality and necessitate qualification, but do not result in unusable data. The section below describes the minor deficiencies that were identified.

VOCs by SW-846 Method 8260C

L2131020

The ICAL for instrument GONZO exhibited RFs below the control limit for chloroethane (0.099), acetone (0.042), acrylonitrile (0.047), 2-butanone (0.064), trichloroethene (0.172), 1,4-dioxane (0.001), and 4-methyl-2-pentanone (0.06). The associated results in samples MW-204_060921, MW-205_060921, and DUP01_060921 are qualified as J or UJ because of potential indeterminate bias.

The ICV analyzed on 3/2/2021 at 00:59 exhibited RFs below the control limit for acetone (0.041), 2-butanone (0.057), trichloroethene (0.158), 1,4-dioxane (0.00157), and 4-methyl-2-pentanone (0.06). The associated results in samples MW-204_060921, MW-205_060921, and DUP01_060921 are qualified as J or UJ because of potential indeterminate bias.

The CCV analyzed on 6/16/2021 at 09:45 exhibited %Ds above the control limit for dichlorodifluoromethane (37.6%), bromomethane (36.3%), acetone (-47.6%), acrylonitrile (-27.7%), vinyl acetate (-35.3%), 2,2-dichloropropane (22.5%), trans-1,4-dichloro-2-butene (22.4%), and naphthalene (20.7%). The associated results in samples MW-204_060921, MW-205_060921, and DUP01_060921 are qualified as J or UJ because of potential indeterminate bias.

The CCV analyzed on 6/16/2021 at 09:45 exhibited RFs below the control limit for 4-methyl-2-pentanone (0.063), tetrachloroethene (0.2), 1,4-dioxane (0.00167), trichloroethene (0.151), 2-butanone (0.069), acetone (0.062), and chloroethane (0.085). The associated results in samples MW-204_060921, MW-205_060921, and DUP01_060921 are qualified as J or UJ because of potential indeterminate bias.

The LCS/LCSD for batch WG1512938-3/-4 exhibited a percent recovery above the UCL for acetone (150%, 140%). The associated results in samples MW-204_060921 and DUP01_060921 are qualified as J because of potential high bias.

L2131371

The ICAL for instrument VOA122 exhibited RFs below the control limit for bromomethane (0.072), 2-butanone (0.061), trichloroethene (0.195), 1,4-dioxane (0.001), and 4-methyl-2-pentanone (0.062). The associated results in sample MW-203_061021 are qualified as UJ because of potential indeterminate bias.

The ICV analyzed on 4/20/2021 at 22:24 exhibited RFs below the control limit for bromomethane (0.059), 1,4-dioxane (0.00112), 4-methyl-2-pentanone (0.054), and 2-hexanone (0.099). The associated results in sample MW-203_061021 are qualified as UJ because of potential indeterminate bias.

The ICV analyzed on 4/20/2021 at 22:24 exhibited %Ds above the control limit for dichlorodifluoromethane (35.6%) and vinyl acetate (33.4%). The associated results in sample MW-203_061021 are qualified as UJ because of potential indeterminate bias.

The CCV analyzed on 6/16/2021 at 19:04 exhibited %Ds above the control limit for chloromethane (22.9%), vinyl chloride (23.3%), bromomethane (40.3%), chloroethane (25.4%), acetone (22.5%), 2-hexanone (21.3%), n-propylbenzene (22.6%), sec-butylbenzene (21.2%), tert-butylbenzene (24%), and n-butylbenzene (21.1%). The associated results in sample MW-203_061021 are qualified as UJ because of potential indeterminate bias.

The CCV analyzed on 6/16/2021 at 19:04 exhibited RFs below the control limit for bromomethane (0.043), 2-butanone (0.055), trichloroethene (0.183), 1,4-dioxane (0.00125), 4-methyl-2-pentanone (0.052), and 2-hexanone (0.085). The associated results in sample MW-203_061021 are qualified as UJ because of potential indeterminate bias.

OTHER DEFICIENCIES:

Other deficiencies include anomalies that do not directly impact data quality and do not necessitate qualification. The section below describes the other deficiencies that were identified.

VOCs by SW-846 Method 8260C

L2131020

The LCS/LCSD for batch WG1512938-3/-4 exhibited a percent recovery above the UCL for vinyl acetate (140%, 140%). The associated results are non-detect. No qualification is necessary.

The MS/MSD performed on sample MW-205_060921 exhibited percent recoveries below the LCL for 1,2,4-trimethylbenzene (0%), 1,3,5-trimethylbenzene (50%, 50%), 1,4-diethylbenzene (0%), 2,2-dichloropropane (50%, 43%), 4-ethyltoluene (0%), ethylbenzene (0%), n-propylbenzene (60%, 65%), p/m-xylene (0%), and trans-1,4-dichloro-2-butene (50%, 50%). Organic results are not qualified on the basis of MS/MSD recoveries alone. No qualification is necessary.

The MS performed on sample MW-205_060921 exhibited a percent recovery below the LCL for naphthalene (50%). Organic results are not qualified on the basis of MS recoveries alone. No qualification is necessary.

The MS/MSD performed on sample MW-205_060921 exhibited percent recoveries above the UCL for acetone (175%, 190%), acrylonitrile (145%, 140%), and vinyl acetate (140%, 150%). Organic results are not qualified on the basis of MS/MSD recoveries alone. No qualification is necessary.

FIELD DUPLICATE:

One field duplicate and parent sample pairs were collected and analyzed for all parameters. For results less than 5X the RL, analytes meet the precision criteria if the absolute difference is less than ±1X the RL. For results greater than 5X the RL, analytes meet the precision criteria if the RPD is less than or equal to 30% for groundwater. The following field duplicate and parent sample pairs were compared to the precision criteria:

- DUP01_060921 and MW-205_060921

CONCLUSION:

On the basis of this evaluation, the laboratory appears to have followed the specified analytical methods with the exception of errors discussed above. If a given fraction is not mentioned above, that means that all specified criteria were met for that parameter. All of the data packages met ASP Category B requirements.

All data are considered usable, as qualified. In addition, completeness, defined as the percentage of analytical results that are judged to be valid, is 100%.

Signed:

Joe Conboy
Staff Chemist

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

Technical Memorandum

989 Lenox Drive Lawrenceville, NJ 08648 T: 609.282.8000
Mailing Address: 989 Lenox Drive Lawrenceville, NJ 08648

To: Kimberly Semon, Langan Senior Project Manager

From: Joe Conboy, Langan Senior Staff Chemist

Date: November 9, 2021

Re: Data Usability Summary Report
For 805-825 Atlantic Avenue
October 2021 Groundwater Samples
Langan Project No.: 170384501

This memorandum presents the findings of an analytical data validation from the analysis of groundwater samples collected in October 2021 by Langan Engineering and Environmental Services at 805-825 Atlantic Avenue. The samples were analyzed by Alpha Analytical Laboratories, Inc. (NYSDOH NELAP registration # 11148) for volatile organic compounds (VOCs) and sulfate by the methods specified below.

- VOCs by SW-846 Method 8260C
- Sulfate by EPA Method 9038

Table 1, attached, summarizes the laboratory and client sample identification numbers, sample collection dates, and analytical parameters subject to review.

Validation Overview

This data validation was performed in accordance with the following guidelines, where applicable:

- USEPA Region II Standard Operating Procedures (SOPs) for Data Validation
- USEPA Contract Laboratory Program "National Functional Guidelines for Organic Superfund Methods Data Review" (EPA 540- R-20-005, November 2020)
- USEPA Contract Laboratory Program "National Functional Guidelines for Inorganic Superfund Methods Data Review" (EPA 540- R-20-005, November 2020), and
- published analytical methodologies.

The following acronyms may be used in the discussion of data-quality issues:

%D	Percent Difference	MB	Method Blank
CCV	Continuing Calibration Verification	MDL	Method Detection Limit
FB	Field Blank	MS	Matrix Spike
FD	Field Duplicate	MSD	Matrix Spike Duplicate
ICAL	Initial Calibration	RF	Response Factor

ICV	Initial Calibration Verification	RL	Reporting Limit
ISTD	Internal Standard	RPD	Relative Percent Difference
LCL	Lower Control Limit	RSD	Relative Standard Deviation
LCS	Laboratory Control Sample	TB	Trip Blank
LCSD	Laboratory Control Sample Duplicate	UCL	Upper Control Limit

Tier 1 data validation is based on completeness and compliance checks of sample-related QC results including: sample receipt documentation; analytical holding times; sample preservation; blank results (method, field, and trip); surrogate recoveries; MS/MSD recoveries and RPDs values; field duplicate RPDs, laboratory duplicate RPDs, and LCS/LCSD recoveries and RPDs

As a result of the review process, the following qualifiers may be assigned to the data in accordance with the USEPA guidelines and our best professional judgment:

- **R –** The sample results are unusable because certain criteria were not met when generating the data. The analyte may or may not be present in the sample.
- **J –** The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample.
- **UJ –** The analyte was not detected at a level greater than or equal to the reporting limit; however, the reported reporting limit is approximate and may be inaccurate or imprecise.
- **U –** The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the RL or the sample concentration for results impacted by blank contamination.
- **NJ –** The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

If any validation qualifiers are assigned, these qualifiers should supersede any laboratory-applied qualifiers. Data that is not qualified as a result of this data validation is considered acceptable on the basis of the items specified for review. Data that is qualified as "R" are considered invalid and are not technically usable for data interpretation. Data that is otherwise qualified because of minor data-quality anomalies are usable, as qualified in Table 2 (attached).

MAJOR DEFICIENCIES:

Major deficiencies include those that grossly impact data quality and necessitate the rejection of results. No major deficiencies were identified.

MINOR DEFICIENCIES:

Minor deficiencies include anomalies that directly impact data quality and necessitate qualification, but do not result in unusable data. The section below describes the minor deficiencies that were identified.

VOCs by SW-846 Method 8260C (list parameters as heading 2)

L2155791

The LCS/LCSD for batch WG1566611 exhibited a RPD above the control limit for acetone (32%). The associated results in sample DUP01_10292021 are qualified as J because of potential indeterminate bias.

The LCS/LCSD for batch WG1566611 exhibited a percent recovery below the LCL for trans-1,4-dichloro-2-butene (68%). The associated results in sample DUP01_10292021 are qualified as UJ because of potential low bias.

The FB (FB01_101321) exhibited a detection of acetone (3.9 ug/l). The associated results in samples MW-203_10292021 and MW-204_10292021 are qualified as U at the sample concentration because of potential blank contamination. The associated results in samples DUP01_10292021 and MW-205_10292021 are >10X the contamination. No qualification is necessary.

OTHER DEFICIENCIES:

Other deficiencies include anomalies that do not directly impact data quality and do not necessitate qualification. The section below describes the other deficiencies that were identified.

VOCs by SW-846 Method 8260C

L2155791

The LCS/LCSD for batch WG1566323 exhibited a percent recovery above the UCL for vinyl acetate (150%, 140%). The associated results are non-detect. No qualification is necessary.

The LCS/LCSD for batch WG1566611 exhibited a percent recovery above the UCL for vinyl acetate (140%, 140%). The associated results are non-detect. No qualification is necessary.

The MS/MSD performed on sample MW-205_10292021 exhibited percent recoveries below the LCL for ethylbenzene (50%), p/m-xylene (50%), and vinyl acetate (150%, 150%). Organic results are not qualified on the basis of MS/MSD recoveries alone. No qualification is necessary.

The MS/MSD performed on sample MW-205_10292021 exhibited a RPD above the control limit for p-diethylbenzene (22%). Organic results are not qualified on the basis of MS/MSD recoveries alone. No qualification is necessary.

FIELD DUPLICATE:

Two field duplicate and parent sample pairs were collected and analyzed for all parameters. For results less than 5X the RL, analytes meet the precision criteria if the absolute difference is less than ±1X the RL. For results greater than 5X the RL, analytes meet the precision criteria if the RPD is less than or equal to 30% for water. The following field duplicate and parent sample pairs were compared to the precision criteria:

- DUP01_102921 and MW-205_102921
- DUP02_102921 and MW-203_102921

The field duplicate and parent sample (DUP01_102921 and MW-205_102921) exhibited RPDs above the control limit for 1,3,5-trimethylbenzene (40%) and 4-ethyltoluene (37%). The associated results are qualified as J because of potential indeterminate bias.)

CONCLUSION:

On the basis of this evaluation, the laboratory appears to have followed the specified analytical methods with the exception of errors discussed above. If a given fraction is not mentioned above, that means that all specified criteria were met for that parameter. All of the data packages met ASP Category B requirements.

All data are considered usable, as qualified. In addition, completeness, defined as the percentage of analytical results that are judged to be valid, is 100%.

Signed:

Joe Conboy
Senior Staff Chemist

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

Technical Memorandum

989 Lenox Drive Lawrenceville, NJ 08648 T: 609.282.8000
Mailing Address: 989 Lenox Drive Lawrenceville, NJ 08648

To: Lamees Esmail, Langan Senior Staff Engineer

From: Joe Conboy, Langan Senior Staff Chemist

Date: February 3, 2022

Re: Data Usability Summary Report
For 805-825 Atlantic Avenue
January 2022 Groundwater Samples
Langan Project No.: 170384501

This memorandum presents the findings of an analytical data validation from the analysis of groundwater samples collected in January 2022 by Langan Engineering and Environmental Services at 805 – 825 Atlantic Avenue site. The samples were analyzed by Alpha Analytical Laboratories, Inc. (NYSDOH NELAP registration # 11148) for volatile organic compounds (VOCs), and sulfate by the methods specified below.

- VOCs by SW-846 Method 8260C
- Sulfate by SW-846 Method 9038

Table 1, attached, summarizes the laboratory and client sample identification numbers, sample collection dates, level of data validation, and analytical parameters subject to review.

Validation Overview

This data validation was performed in accordance with the following guidelines, where applicable:

- USEPA Region II Standard Operating Procedures (SOPs) for Data Validation
- USEPA Contract Laboratory Program "National Functional Guidelines for Organic Superfund Methods Data Review" (EPA 540- R-20-005, November 2020)
- USEPA Contract Laboratory Program "National Functional Guidelines for Inorganic Superfund Methods Data Review" (EPA 540- R-20-005, November 2020), and
- published analytical methodologies.

The following acronyms may be used in the discussion of data-quality issues:

%D	Percent Difference	MB	Method Blank
CCV	Continuing Calibration Verification	MDL	Method Detection Limit
FB	Field Blank	MS	Matrix Spike
FD	Field Duplicate	MSD	Matrix Spike Duplicate
ICAL	Initial Calibration	RF	Response Factor

ICV	Initial Calibration Verification	RL	Reporting Limit
ISTD	Internal Standard	RPD	Relative Percent Difference
LCL	Lower Control Limit	RSD	Relative Standard Deviation
LCS	Laboratory Control Sample	TB	Trip Blank
LCSD	Laboratory Control Sample Duplicate	UCL	Upper Control Limit

Tier 1 data validation is based on completeness and compliance checks of sample-related QC results including: sample receipt documentation; analytical holding times; sample preservation; blank results (method, field, and trip); surrogate recoveries; MS/MSD recoveries and RPDs values; field duplicate RPDs, laboratory duplicate RPDs, and LCS/LCSD recoveries and RPDs. The analytical laboratory report underwent Tier 1 data validation.

As a result of the review process, the following qualifiers may be assigned to the data in accordance with the USEPA guidelines and our best professional judgment:

- **R –** The sample results are unusable because certain criteria were not met when generating the data. The analyte may or may not be present in the sample.
- **J –** The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample.
- **UJ –** The analyte was not detected at a level greater than or equal to the reporting limit; however, the reported reporting limit is approximate and may be inaccurate or imprecise.
- **U –** The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the RL or the sample concentration for results impacted by blank contamination.
- **NJ –** The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

If any validation qualifiers are assigned, these qualifiers should supersede any laboratory-applied qualifiers. Data that is not qualified as a result of this data validation is considered acceptable on the basis of the items specified for review. Data that is qualified as "R" are considered invalid and are not technically usable for data interpretation. Data that is otherwise qualified because of minor data-quality anomalies are usable, as qualified in Table 2 (attached).

MAJOR DEFICIENCIES:

Major deficiencies include those that grossly impact data quality and necessitate the rejection of results. No major deficiencies were identified in this data set.

MINOR DEFICIENCIES:

Minor deficiencies include anomalies that directly impact data quality and necessitate qualification, but do not result in unusable data. The section below describes the minor deficiencies that were identified.

VOCs by SW-846 Method 8260C

L2171379

The FB (FB01_122921) exhibited a detection of acetone (4.2 ug/L). The associated detected results in samples MW-203_011322, MW-204_011322, MW-205_011322, DUP01_011322, and DUP02_011322 are qualified as U at the reporting limit because of potential blank contamination.

OTHER DEFICIENCIES:

Other deficiencies include anomalies that do not directly impact data quality and do not necessitate qualification. The section below describes the other deficiencies that were identified.

VOCs by SW-846 Method 8260C

L2171379

The LCSD for batch WG1595775 exhibited a percent recovery below the LCL for vinyl acetate (69%). The associated samples DUP01_011322 and MW-205_011322 (dilutions) were not reported for vinyl acetate, so no qualification is required.

The MS/MSD performed on sample MW-205_011322 exhibited percent recoveries below the LCL for trans-1,3-dichloropropene (69%, 66%), ethylbenzene (0%), m&p-xylenes (50%), o-xylene (50%), 1,2,4-trimethylbenzene (0%), 4-diethylbenzene (51%, 53%), and 4-ethyltoluene (40%). Organic results are not qualified on the basis of MS/MSD recoveries alone. No qualification is necessary.

FIELD DUPLICATE:

Two field duplicate and parent sample pairs were collected and analyzed for all parameters. For results less than 5X the RL, analytes meet the precision criteria if the absolute difference is less than ±1X the RL. For results greater than 5X the RL, analytes meet the precision criteria if the RPD is less than or equal to 30% for groundwater. The following field duplicate and parent sample pairs were compared to the precision criteria:

- DUP01_011322 and MW-205_011322
- DUP02_011322 and MW-204_011322

The field duplicate and parent sample (DUP01_011322 and MW-205_011322) exhibited RPDs above the control limit for m&p-xylenes (42.3%) and xylenes (37%). The associated results are qualified as J because of potential indeterminate bias.

CONCLUSION:

On the basis of this evaluation, the laboratory appears to have followed the specified analytical methods with the exception of errors discussed above. If a given fraction is not mentioned above, that means that all specified criteria were met for that parameter. All of the data packages met ASP Category B requirements.

All data are considered usable, as qualified. In addition, completeness, defined as the percentage of analytical results that are judged to be valid, is 100%.

Signed:

Joe Conboy
Senior Staff Chemist