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Automated Report

Technical Report for

Arcadis

National Grid, Philly Coke, Philadelphia, PA

B0036790.0001.00002

SGS Job Number: JC95610

Sampling Date: 09/25/19

Report to:

Arcadis

Lawrence.Healy@arcadis-us.com

ATTN: Lawrence Healy

Total number of pages in report: 190



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

A handwritten signature in black ink, appearing to read "Laura Degenhardt".

Laura Degenhardt
General Manager

Client Service contact: Kelly Ramos 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

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Test results relate only to samples analyzed.

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Sample Summary

Arcadis

Job No: JC95610

National Grid, Philly Coke, Philadelphia, PA
Project No: B0036790.0001.00002

Sample Number	Collected Date	Time By	Received	Matrix Code Type	Client Sample ID
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This report contains results reported as ND = Not detected. The following applies:
Organics ND = Not detected above the MDL

JC95610-1	09/25/19	09:30	CO	09/25/19	SO	Soil	WC-092519
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Soil samples reported on a dry weight basis unless otherwise indicated on result page.

CASE NARRATIVE / CONFORMANCE SUMMARY

Client: Arcadis

Job No JC95610

Site: National Grid, Philly Coke, Philadelphia, PA

Report Date 10/9/2019 4:19:55 PM

On 09/25/2019, 1 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS North America Inc. at a maximum corrected temperature of 3.3 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. Job Number of JC95610 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Compounds qualified as out of range in the continuing calibration summary report are acceptable as per method requirements when there is a high bias but the sample result is non-detect.

MS Volatiles By Method SW846 8260C

Matrix: LEACHATE

Batch ID: V3D6388

- All samples were analyzed within the recommended method holding time.
- Sample(s) JC95392-5MS, JC95392-5MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- RPD(s) for MS/MSD for 1,1-Dichloroethene, 1,4-Dichlorobenzene, Chloroform are outside control limits. Analytical precision exceeds in-house control limits.

MS Semi-volatiles By Method SW846 8270D

Matrix: LEACHATE

Batch ID: OP23137

- All samples were extracted within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC95821-11ALS, JC95821-11AMS, JC95821-11AMSD were used as the QC samples indicated.
- Matrix Spike Recovery(s) for Pyridine are outside of in house control limits.
- JC95610-1 for 2,4-Dinitrotoluene: Associated CCV outside of control limits high, sample was ND.

GC/LC Semi-volatiles By Method SW846 8082A

Matrix: SO

Batch ID: OP23056

- All samples were extracted within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC95413-1MS, JC95413-1MSD were used as the QC samples indicated.
- JC95610-1 for Tetrachloro-m-xylene: Outside control limits due to matrix interference.
- JC95610-1 for Decachlorobiphenyl: Outside control limits due to matrix interference.

Metals Analysis By Method SW846 6010D

Matrix: LEACHATE

Batch ID: MP17700

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC95821-11AMS, JC95821-11AMSD, JC95821-11ASDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Lead, Silver are outside control limits. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

Wednesday, October 09, 2019

Page 1 of 2

Metals Analysis By Method SW846 7470A

Matrix: LEACHATE **Batch ID:** MP17705

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC95821-11AMS, JC95821-11AMSD were used as the QC samples for metals.

General Chemistry By Method SM2540 G 18TH ED MOD

Matrix: SO **Batch ID:** GN708

- Sample(s) JC95922-2DUP were used as the QC samples for Solids, Percent.

General Chemistry By Method SW846 9045D

Matrix: SO **Batch ID:** GN875

- Sample(s) JC95639-5ADUP were used as the QC samples for Corrosivity as pH.

SGS North America Inc. certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SGS North America Inc. is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by SGS North America Inc indicated via signature on the report cover

Summary of Hits

Job Number: JC95610
Account: Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA
Collected: 09/25/19



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
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JC95610-1 WC-092519

Corrosivity as pH	7.62 NC				su	SW846 9045D
Benzene	0.0116	0.0025	0.0021	mg/l	SW846 8260C	
2-Methylphenol	0.0932	0.020	0.0089	mg/l	SW846 8270D	
3&4-Methylphenol	0.141	0.020	0.0088	mg/l	SW846 8270D	
Lead	11.6	0.50		mg/l	SW846 6010D	

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: WC-092519		
Lab Sample ID: JC95610-1		Date Sampled: 09/25/19
Matrix: SO - Soil		Date Received: 09/25/19
Method: SW846 8260C SW846 1311		Percent Solids: 66.9
Project: National Grid, Philly Coke, Philadelphia, PA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3D149472.D	5	09/30/19 17:43	EH	09/25/19 09:00	GP23888	V3D6388
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCLP Leachate

TCLP Leachate method SW846 1311

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
71-43-2	Benzene	0.0116	D018	0.50	0.0025	0.0021	mg/l	
78-93-3	2-Butanone (MEK)	ND	D035	200	0.10	0.034	mg/l	
56-23-5	Carbon tetrachloride	ND	D019	0.50	0.0050	0.0028	mg/l	
108-90-7	Chlorobenzene	ND	D021	100	0.0050	0.0028	mg/l	
67-66-3	Chloroform	ND	D022	6.0	0.0050	0.0025	mg/l	
106-46-7	1,4-Dichlorobenzene	ND	D027	7.5	0.0050	0.0025	mg/l	
107-06-2	1,2-Dichloroethane	ND	D028	0.50	0.0050	0.0030	mg/l	
75-35-4	1,1-Dichloroethene	ND	D029	0.70	0.0050	0.0030	mg/l	
127-18-4	Tetrachloroethene	ND	D039	0.70	0.0050	0.0045	mg/l	
79-01-6	Trichloroethene	ND	D040	0.50	0.0050	0.0026	mg/l	
75-01-4	Vinyl chloride	ND	D043	0.20	0.0050	0.0039	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	111%		76-120%
17060-07-0	1,2-Dichloroethane-D4	103%		64-135%
2037-26-5	Toluene-D8	101%		76-117%
460-00-4	4-Bromofluorobenzene	94%		72-122%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 MCL = Maximum Contamination Level (40 CFR 261 7/1/11) B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.1
4

Report of Analysis

Client Sample ID: WC-092519		
Lab Sample ID: JC95610-1		Date Sampled: 09/25/19
Matrix: SO - Soil		Date Received: 09/25/19
Method: SW846 8270D SW846 3510C		Percent Solids: 66.9
Project: National Grid, Philly Coke, Philadelphia, PA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	P132162.D	1	10/09/19 01:16	CS	10/08/19 08:00	OP23137	EP5993
Run #2							

Run #	Initial Volume	Final Volume
Run #1	100 ml	1.0 ml
Run #2		

ABN TCLP Leachate

TCLP Leachate method SW846 1311

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
95-48-7	2-Methylphenol	0.0932	D023	200	0.020	0.0089	mg/l	
	3&4-Methylphenol	0.141	D024	200	0.020	0.0088	mg/l	
87-86-5	Pentachlorophenol	ND	D037	100	0.10	0.014	mg/l	
95-95-4	2,4,5-Trichlorophenol	ND	D041	400	0.050	0.013	mg/l	
88-06-2	2,4,6-Trichlorophenol	ND	D042	2.0	0.050	0.0092	mg/l	
106-46-7	1,4-Dichlorobenzene	ND	D027	7.5	0.020	0.0017	mg/l	
121-14-2	2,4-Dinitrotoluene ^a	ND	D030	0.13	0.020	0.0055	mg/l	
118-74-1	Hexachlorobenzene	ND	D032	0.13	0.020	0.0033	mg/l	
87-68-3	Hexachlorobutadiene	ND	D033	0.50	0.010	0.0049	mg/l	
67-72-1	Hexachloroethane	ND	D034	3.0	0.050	0.0039	mg/l	
98-95-3	Nitrobenzene	ND	D036	2.0	0.020	0.0064	mg/l	
110-86-1	Pyridine	ND	D038	5.0	0.020	0.0039	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	44%		14-88%
4165-62-2	Phenol-d5	32%		10-110%
118-79-6	2,4,6-Tribromophenol	78%		39-149%
4165-60-0	Nitrobenzene-d5	81%		32-128%
321-60-8	2-Fluorobiphenyl	60%		35-119%
1718-51-0	Terphenyl-d14	70%		10-126%

(a) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
MCL = Maximum Contamination Level (40 CFR 261 7/1/11) B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: WC-092519		Date Sampled: 09/25/19
Lab Sample ID: JC95610-1		Date Received: 09/25/19
Matrix: SO - Soil		Percent Solids: 66.9
Method: SW846 8082A SW846 3510C		
Project: National Grid, Philly Coke, Philadelphia, PA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XX2440964.D	1	10/02/19 09:30	TR	10/01/19 09:00	OP23056	GXX6824
Run #2							

Run #	Initial Weight	Final Volume
Run #1	16.2 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	46	21	ug/kg	
11104-28-2	Aroclor 1221	ND	46	29	ug/kg	
11141-16-5	Aroclor 1232	ND	46	29	ug/kg	
53469-21-9	Aroclor 1242	ND	46	19	ug/kg	
12672-29-6	Aroclor 1248	ND	46	41	ug/kg	
11097-69-1	Aroclor 1254	ND	46	25	ug/kg	
11096-82-5	Aroclor 1260	ND	46	20	ug/kg	
11100-14-4	Aroclor 1268	ND	46	19	ug/kg	
37324-23-5	Aroclor 1262	ND	46	30	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	1434% ^a		31-146%
877-09-8	Tetrachloro-m-xylene	325% ^a		31-146%
2051-24-3	Decachlorobiphenyl	85%		17-164%
2051-24-3	Decachlorobiphenyl	262% ^a		17-164%

(a) Outside control limits due to matrix interference.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.1
4

Report of Analysis

Client Sample ID: WC-092519 Lab Sample ID: JC95610-1 Matrix: SO - Soil Project: National Grid, Philly Coke, Philadelphia, PA	Date Sampled: 09/25/19 Date Received: 09/25/19 Percent Solids: 66.9
---	--

Metals Analysis, TCLP Leachate SW846 1311

Analyte	Result	HW#	MCL	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	< 0.50	D004	5.0	0.50	mg/l	5	10/03/19	10/04/19 ND	SW846 6010D ²	SW846 3010A ³
Barium	< 1.0	D005	100	1.0	mg/l	5	10/03/19	10/04/19 ND	SW846 6010D ²	SW846 3010A ³
Cadmium	< 0.020	D006	1.0	0.020	mg/l	5	10/03/19	10/04/19 ND	SW846 6010D ²	SW846 3010A ³
Chromium	< 0.050	D007	5.0	0.050	mg/l	5	10/03/19	10/04/19 ND	SW846 6010D ²	SW846 3010A ³
Lead	11.6	D008	5.0	0.50	mg/l	5	10/03/19	10/04/19 ND	SW846 6010D ²	SW846 3010A ³
Mercury	< 0.00020	D009	0.20	0.00020	mg/l	1	10/04/19	10/04/19 LL	SW846 7470A ¹	SW846 7470A ⁴
Selenium	< 0.50	D010	1.0	0.50	mg/l	5	10/03/19	10/04/19 ND	SW846 6010D ²	SW846 3010A ³
Silver	< 0.050	D011	5.0	0.050	mg/l	5	10/03/19	10/04/19 ND	SW846 6010D ²	SW846 3010A ³

- (1) Instrument QC Batch: MA47567
- (2) Instrument QC Batch: MA47570
- (3) Prep QC Batch: MP17700
- (4) Prep QC Batch: MP17705

RL = Reporting Limit
MCL = Maximum Contamination Level (40 CFR 261 7/1/11)

4.1
4

Report of Analysis

Client Sample ID: WC-092519	Date Sampled: 09/25/19
Lab Sample ID: JC95610-1	Date Received: 09/25/19
Matrix: SO - Soil	Percent Solids: 66.9
Project: National Grid, Philly Coke, Philadelphia, PA	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Corrosivity as pH	7.62 NC		su	1	10/07/19 17:42	JW	SW846 9045D
Solids, Percent	66.9		%	1	10/02/19 17:05	BG	SM2540 G 18TH ED MOD

RL = Reporting Limit

4.1
4

GC/LC Semi-volatiles

5

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- GC Identification Summaries (Hits)
- Surrogate Recovery Summaries
- GC Surrogate Retention Time Summaries
- Initial and Continuing Calibration Summaries
- Run Sequence Reports



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CHAIN OF CUSTODY

SGS North America Inc. - Dayton
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www.sgs.com/ehusa

E

Client / Reporting Information Company Name: ARCADIS Street Address: 1 LINCOLN CENTER City: SYRACUSE NY State: NY Zip: 13202 Project Contact: CAROL HEALY Phone #: 315-671-9338		Project Information Project Name: NATIONAL GAS - PHILLY COKE Street: RICHMOND ST City: PHILA PA Project #: _____ Client Purchase Order #: _____ Project Manager: _____ Attention: _____		Requested Analysis Matrix Codes: DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge SED - Sediment AIR - Air SOL - Other Solid WP - Wipe FB - Field Blank EB - Equipment Blank RB - Rinse Blank TB - Trip Blank	
Turn Around Time (Business Days) <input checked="" type="checkbox"/> 10 Business Days <input type="checkbox"/> 5 Business Days <input type="checkbox"/> 3 Business Days <input type="checkbox"/> 2 Business Days <input type="checkbox"/> 1 Business Day <input type="checkbox"/> Other _____		Deliverable <input type="checkbox"/> Commercial "A" (Level 1) <input type="checkbox"/> Commercial "B" (Level 2) <input type="checkbox"/> NJ Reduced (Level 3) <input checked="" type="checkbox"/> Full Tier 1 (Level 4) <input type="checkbox"/> Commercial "C" <input type="checkbox"/> NJ DKGP		Comments / Special Instructions Initial Assessment JA YH Label Verification _____	
Collection Field ID / Point of Collection: WC-092519 MEQ/ID/ Viol #: 280 Date: 9/25/19 Time: 0930 Sampled by: CO Date (C): 6 Matrix: SO # of bottles: 3		Number of preserved bottles H2O: _____ HNO3: _____ H2SO4: _____ NONE: _____ DI Water: _____ MEQ/ID: _____ ENCORE: _____		LAB USE ONLY C13 H571	
Chain of Custody 1. Relinquished by: [Signature] Date / Time: 9/25/19 2. Relinquished by: [Signature] Date / Time: 9/25/19 3. Relinquished by: [Signature] Date / Time: 9/25/19 5. Relinquished by: [Signature] Date / Time: 9/25/19		Chain of Custody 2. Relinquished by: [Signature] Date / Time: 9/25/19 4. Relinquished by: [Signature] Date / Time: 9/25/19 4. Relinquished by: [Signature] Date / Time: 9/25/19		Therm. ID: JK7 On Ice: <input checked="" type="checkbox"/> Coolers Temp: 3.48 Cp	

5.1
5

ENSA-QAC-0023-02-FORM-Dayton - Standard COC.xlsx



SGS Sample Receipt Summary

Job Number: JC95610

Client: ARCADIS U.S.

Project: NATIONAL GRID, PHILLY COKE, PHILADELPHI

Date / Time Received: 9/25/2019 1:10:00 PM

Delivery Method: _____

Airbill #'s: _____

Cooler Temps (Raw Measured) °C: Cooler 1: (3.4);

Cooler Temps (Corrected) °C: Cooler 1: (3.3);

Cooler Security

- | | | | | | | | |
|---------------------------|-------------------------------------|-----------|--------------------------|-----------------------|-------------------------------------|-----------|--------------------------|
| | <u>Y</u> | <u>or</u> | <u>N</u> | | <u>Y</u> | <u>or</u> | <u>N</u> |
| 1. Custody Seals Present: | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | 3. COC Present: | <input checked="" type="checkbox"/> | | <input type="checkbox"/> |
| 2. Custody Seals Intact: | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | 4. Smpl Dates/Time OK | <input checked="" type="checkbox"/> | | <input type="checkbox"/> |

Cooler Temperature

- | | | | |
|------------------------------|-------------------------------------|-----------|--------------------------|
| | <u>Y</u> | <u>or</u> | <u>N</u> |
| 1. Temp criteria achieved: | <input checked="" type="checkbox"/> | | <input type="checkbox"/> |
| 2. Cooler temp verification: | IR Gun | | |
| 3. Cooler media: | Ice (Bag) | | |
| 4. No. Coolers: | 1 | | |

Quality Control Preservation

- | | | | | |
|---------------------------------|-------------------------------------|-----------|-------------------------------------|-------------------------------------|
| | <u>Y</u> | <u>or</u> | <u>N</u> | <u>N/A</u> |
| 1. Trip Blank present / cooler: | <input type="checkbox"/> | | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Trip Blank listed on COC: | <input type="checkbox"/> | | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Samples preserved properly: | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | |
| 4. VOCs headspace free: | <input type="checkbox"/> | | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Sample Integrity - Documentation

- | | | | |
|--|-------------------------------------|-----------|--------------------------|
| | <u>Y</u> | <u>or</u> | <u>N</u> |
| 1. Sample labels present on bottles: | <input checked="" type="checkbox"/> | | <input type="checkbox"/> |
| 2. Container labeling complete: | <input checked="" type="checkbox"/> | | <input type="checkbox"/> |
| 3. Sample container label / COC agree: | <input checked="" type="checkbox"/> | | <input type="checkbox"/> |

Sample Integrity - Condition

- | | | | |
|----------------------------------|-------------------------------------|-----------|--------------------------|
| | <u>Y</u> | <u>or</u> | <u>N</u> |
| 1. Sample recvd within HT: | <input checked="" type="checkbox"/> | | <input type="checkbox"/> |
| 2. All containers accounted for: | <input checked="" type="checkbox"/> | | <input type="checkbox"/> |
| 3. Condition of sample: | Intact | | |

Sample Integrity - Instructions

- | | | | | |
|---|-------------------------------------|-----------|-------------------------------------|-------------------------------------|
| | <u>Y</u> | <u>or</u> | <u>N</u> | <u>N/A</u> |
| 1. Analysis requested is clear: | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | |
| 2. Bottles received for unspecified tests | <input type="checkbox"/> | | <input checked="" type="checkbox"/> | |
| 3. Sufficient volume recvd for analysis: | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | |
| 4. Compositing instructions clear: | <input type="checkbox"/> | | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 5. Filtering instructions clear: | <input type="checkbox"/> | | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Test Strip Lot #s: pH 1-12: 229517 pH 12+: 208717 Other: (Specify) _____

Comments

SM089-03
Rev. Date 12/7/17

JC95610: Chain of Custody

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5.1
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Internal Sample Tracking Chronicle

Arcadis

Job No: JC95610

National Grid, Philly Coke, Philadelphia, PA
 Project No: B0036790.0001.00002

5.2
5

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
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JC95610-1 Collected: 25-SEP-19 09:30 By: CO Received: 25-SEP-19 By: AS
 WC-092519

JC95610-1	SW846 8260C	30-SEP-19 17:43	EH	25-SEP-19	TM	V8260TCLP
JC95610-1	SW846 8082A	02-OCT-19 09:30	TR	01-OCT-19	LJ	P8082PCB11
JC95610-1	SM2540 G 18TH ED M	02-OCT-19 17:05	BG			SOL104
JC95610-1	SW846 7470A	04-OCT-19 12:04	LL	04-OCT-19	LL	EHG
JC95610-1	SW846 6010D	04-OCT-19 22:01	ND	03-OCT-19	MR	EAG,EAS,EBA,ECD,ECR,EPB,ESE
JC95610-1	SW846 9045D	07-OCT-19 17:42	JW			CORR
JC95610-1	SW846 8270D	09-OCT-19 01:16	CS	08-OCT-19	RL	AB8270TCLP

SGS Internal Chain of Custody

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA
 Received: 09/25/19

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC95610-1.1	Secured Storage	Dwayne Johnson	09/27/19 13:53	Retrieve from Storage
JC95610-1.1	Dwayne Johnson	Secured Staging Area	09/27/19 13:53	Return to Storage
JC95610-1.1	Secured Staging Area	Kyle McKeon	09/27/19 14:24	Retrieve from Storage
JC95610-1.1	Kyle McKeon	Secured Storage	09/27/19 19:53	Return to Storage
JC95610-1.1	Secured Storage	Matthew Robbins	09/30/19 18:09	Retrieve from Storage
JC95610-1.1	Matthew Robbins	Secured Staging Area	09/30/19 18:09	Return to Storage
JC95610-1.1	Secured Staging Area	Luis Jimenez	09/30/19 21:58	Retrieve from Storage
JC95610-1.1	Luis Jimenez	Natasha Torres	09/30/19 22:35	Custody Transfer
JC95610-1.1	Natasha Torres	Luis Jimenez	10/01/19 09:32	Custody Transfer
JC95610-1.1	Secured Storage	Benjamin Gaines	10/02/19 10:55	Retrieve from Storage
Bottle was returned to secure storage, but inadvertently not scanned.				
JC95610-1.1	Benjamin Gaines	Secured Staging Area	10/02/19 10:55	Return to Storage
JC95610-1.1	Secured Staging Area	Benjamin Gaines	10/02/19 14:44	Retrieve from Storage
JC95610-1.1	Benjamin Gaines	Secured Storage	10/02/19 16:34	Return to Storage
JC95610-1.1	Secured Storage	Tharun Murali	10/03/19 09:47	Retrieve from Storage
JC95610-1.1	Tharun Murali	Secured Storage	10/03/19 09:47	Return to Storage
JC95610-1.1	Secured Storage	Dwayne Johnson	10/07/19 11:11	Retrieve from Storage
JC95610-1.1	Dwayne Johnson	Secured Staging Area	10/07/19 11:11	Return to Storage
JC95610-1.1	Secured Staging Area	Jennell Webber	10/07/19 11:55	Retrieve from Storage
JC95610-1.1	Jennell Webber	Secured Storage	10/07/19 18:00	Return to Storage
JC95610-1.1.1	Kyle McKeon	Organics Prep	09/27/19 14:30	Extract from JC95610-1.1
JC95610-1.1.2	Kyle McKeon	Organics Prep	09/27/19 14:39	Extract from JC95610-1.1
JC95610-1.1.2	Organics Prep	Luis Jimenez	09/27/19 21:19	Extract from JC95610-1.1
JC95610-1.1.2	Luis Jimenez	Extract Storage	09/27/19 21:19	Return to Storage
JC95610-1.1.2	Extract Storage	Christine Phillips	09/28/19 02:32	Retrieve from Storage
JC95610-1.1.2	Christine Phillips	GC5G	09/28/19 02:32	Load on Instrument
JC95610-1.1.3	Luis Jimenez	Organics Prep	09/30/19 21:59	Extract from JC95610-1.1
JC95610-1.1.3	Organics Prep	Luis Jimenez	10/01/19 13:22	Extract from JC95610-1.1
JC95610-1.1.3	Luis Jimenez	Extract Storage	10/01/19 13:22	Return to Storage
JC95610-1.1.3	Extract Storage	Tianwei Ruan	10/01/19 16:15	Retrieve from Storage
JC95610-1.1.3	Tianwei Ruan	GCXX	10/01/19 16:15	Load on Instrument
JC95610-1.1.4	Tharun Murali	TCLP	10/03/19 09:47	Leachate from JC95610-1.1
JC95610-1.1.4	TCLP	Tharun Murali	10/03/19 12:05	Leachate from JC95610-1.1
JC95610-1.1.4	Tharun Murali	Secured Storage	10/03/19 12:05	Return to Storage
JC95610-1.1.4	Secured Storage	Vikas Parikh	10/04/19 06:13	Retrieve from Storage
JC95610-1.1.4	Vikas Parikh	Secured Storage	10/04/19 06:15	Return to Storage
JC95610-1.1.4	Secured Storage	Rhys Longton	10/04/19 09:24	Retrieve from Storage
JC95610-1.1.4	Rhys Longton	Secured Storage	10/04/19 18:22	Return to Storage
JC95610-1.1.4	Secured Storage	Vikas Parikh	10/08/19 06:25	Retrieve from Storage
JC95610-1.1.4	Vikas Parikh	Secured Storage	10/08/19 06:41	Return to Storage

5.3
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SGS Internal Chain of Custody

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA
 Received: 09/25/19

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC95610-1.1.4	Secured Storage	Jonathon Ford	10/08/19 09:15	Retrieve from Storage
JC95610-1.1.4	Jonathon Ford	Secured Storage	10/12/19 08:12	Return to Storage
JC95610-1.1.5	TCLP	Tharun Murali	10/03/19 12:05	Leachate from JC95610-1.1
JC95610-1.1.5	Tharun Murali	Secured Storage	10/03/19 12:05	Return to Storage
JC95610-1.1.6	Rhys Longton	Organics Prep	10/04/19 09:26	Extract from JC95610-1.1.4
JC95610-1.1.6	Organics Prep	Rhys Longton	10/04/19 18:23	Extract from JC95610-1.1.4
JC95610-1.1.6	Rhys Longton	Extract Storage	10/04/19 18:24	Return to Storage
JC95610-1.1.6	Extract Storage	Christopher Sowa	10/05/19 05:01	Retrieve from Storage
JC95610-1.1.6	Christopher Sowa	GCMSZ	10/05/19 05:01	Load on Instrument
JC95610-1.1.6	GCMSZ	James Canas	10/07/19 09:58	Unload from Instrument
JC95610-1.1.6	James Canas	Extract Freezer	10/07/19 09:58	Return to Storage
JC95610-1.1.7	Jonathon Ford	Organics Prep	10/08/19 09:16	Extract from JC95610-1.1.4
JC95610-1.1.7	Organics Prep	Rhys Longton	10/08/19 16:40	Extract from JC95610-1.1.4
JC95610-1.1.7	Rhys Longton	Extract Storage	10/08/19 16:40	Return to Storage
JC95610-1.1.7	Extract Storage	Christopher Sowa	10/09/19 00:18	Retrieve from Storage
JC95610-1.1.7	Christopher Sowa	GCMSZ	10/09/19 00:18	Load on Instrument
JC95610-1.1.7	GCMSZ	Angela Rastelli	10/09/19 11:21	Unload from Instrument
JC95610-1.1.7	Angela Rastelli	Extract Freezer	10/09/19 11:21	Return to Storage
JC95610-1.2	Secured Storage	Todd Shoemaker	09/25/19 15:15	Retrieve from Storage
JC95610-1.2	Todd Shoemaker	Secured Staging Area	09/25/19 15:15	Return to Storage
JC95610-1.2	Secured Staging Area	Tharun Murali	09/25/19 15:23	Retrieve from Storage
JC95610-1.2	Tharun Murali	Secured Storage	09/25/19 17:51	Return to Storage
JC95610-1.2.1	Tharun Murali	TCLP	09/25/19 15:23	Leachate from JC95610-1.2
JC95610-1.2.1	TCLP	Tharun Murali	09/26/19 10:05	Leachate from JC95610-1.2
JC95610-1.2.1	Tharun Murali	Secured Storage	09/26/19 10:05	Return to Storage
JC95610-1.2.2	TCLP	Tharun Murali	09/26/19 10:05	Leachate from JC95610-1.2
JC95610-1.2.2	Tharun Murali	Secured Storage	09/26/19 10:05	Return to Storage
JC95610-1.2.2	Secured Storage	Eddie Huang	09/30/19 10:10	Retrieve from Storage
JC95610-1.2.2	Eddie Huang	GCMS2D	09/30/19 10:10	Load on Instrument
JC95610-1.2.2	GCMS2D	Eddie Huang	09/30/19 10:10	Unload from Instrument
JC95610-1.2.2	Eddie Huang	GCMS3D	09/30/19 10:10	Load on Instrument
JC95610-1.2.2	GCMS3D	Eddie Huang	10/01/19 11:14	Unload from Instrument
JC95610-1.2.2	Eddie Huang	Secured Storage	10/01/19 11:14	Return to Storage

5.3
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MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (BFB)
- Internal Standard Area Summaries
- Surrogate Recovery Summaries
- Initial and Continuing Calibration Summaries
- Run Sequence Reports

Method Blank Summary

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3D6388-MB	3D149454.D	1	09/30/19	EH	n/a	n/a	V3D6388

The QC reported here applies to the following samples:

Method: SW846 8260C

JC95610-1

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.50	0.43	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	6.9	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.55	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.56	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.51	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.60	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.59	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.90	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.53	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.79	ug/l	

CAS No.	Surrogate Recoveries	Limits	
1868-53-7	Dibromofluoromethane	102%	76-120%
17060-07-0	1,2-Dichloroethane-D4	95%	64-135%
2037-26-5	Toluene-D8	104%	76-117%
460-00-4	4-Bromofluorobenzene	92%	72-122%

Method Blank Summary

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3D6386-MB	3D149400.D	1	09/26/19	EH	n/a	n/a	V3D6386

The QC reported here applies to the following samples:

Method: SW846 8260C

GP23888-16LB, GP23888-16LS

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.50	0.43	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	6.9	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.55	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.56	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.51	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.60	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.59	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.90	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.53	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.79	ug/l	

CAS No.	Surrogate Recoveries	Limits	
1868-53-7	Dibromofluoromethane	99%	76-120%
17060-07-0	1,2-Dichloroethane-D4	93%	64-135%
2037-26-5	Toluene-D8	103%	76-117%
460-00-4	4-Bromofluorobenzene	91%	72-122%

Leachate Blank Summary

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GP23888-16LB	3D149415.D	5	09/26/19	EH	09/25/19	GP23888	V3D6386

The QC reported here applies to the following samples:

Method: SW846 8260C

JC95610-1

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	2.5	2.1	ug/l	
78-93-3	2-Butanone (MEK)	ND	50	34	ug/l	
56-23-5	Carbon tetrachloride	ND	5.0	2.8	ug/l	
108-90-7	Chlorobenzene	ND	5.0	2.8	ug/l	
67-66-3	Chloroform	ND	5.0	2.5	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	5.0	2.5	ug/l	
107-06-2	1,2-Dichloroethane	ND	5.0	3.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	5.0	3.0	ug/l	
127-18-4	Tetrachloroethene	ND	5.0	4.5	ug/l	
79-01-6	Trichloroethene	ND	5.0	2.6	ug/l	
75-01-4	Vinyl chloride	ND	5.0	3.9	ug/l	

CAS No.	Surrogate Recoveries	Limits	
1868-53-7	Dibromofluoromethane	99%	76-120%
17060-07-0	1,2-Dichloroethane-D4	93%	64-135%
2037-26-5	Toluene-D8	103%	76-117%
460-00-4	4-Bromofluorobenzene	92%	72-122%

Blank Spike/Blank Spike Duplicate Summary

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3D6388-BS	3D149451.D	1	09/30/19	EH	n/a	n/a	V3D6388
V3D6388-BSD	3D149452.D	1	09/30/19	EH	n/a	n/a	V3D6388

The QC reported here applies to the following samples:

Method: SW846 8260C

JC95610-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	50	50.1	100	50.1	100	0	75-122/30
78-93-3	2-Butanone (MEK)	200	177	89	187	94	5	64-130/30
56-23-5	Carbon tetrachloride	50	52.1	104	51.6	103	1	75-148/30
108-90-7	Chlorobenzene	50	50.6	101	50.9	102	1	76-124/30
67-66-3	Chloroform	50	48.0	96	48.7	97	1	77-124/30
106-46-7	1,4-Dichlorobenzene	50	48.9	98	49.9	100	2	71-123/30
107-06-2	1,2-Dichloroethane	50	45.3	91	46.8	94	3	66-150/30
75-35-4	1,1-Dichloroethene	50	52.2	104	52.0	104	0	61-132/30
127-18-4	Tetrachloroethene	50	52.7	105	53.5	107	2	70-136/30
79-01-6	Trichloroethene	50	52.8	106	52.7	105	0	79-126/30
75-01-4	Vinyl chloride	50	56.7	113	56.3	113	1	56-146/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	102%	100%	76-120%
17060-07-0	1,2-Dichloroethane-D4	93%	91%	64-135%
2037-26-5	Toluene-D8	102%	102%	76-117%
460-00-4	4-Bromofluorobenzene	94%	94%	72-122%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC95392-5MS	3D149463.D	5	09/30/19	EH	n/a	n/a	V3D6388
JC95392-5MSD	3D149464.D	5	09/30/19	EH	n/a	n/a	V3D6388
JC95392-5	3D149456.D	5	09/30/19	EH	09/27/19	GP23943	V3D6388

The QC reported here applies to the following samples:

Method: SW846 8260C

JC95610-1

CAS No.	Compound	JC95392-5 ug/l	Spike Q ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND	250	238	95	250	208	83	13	38-139/13
78-93-3	2-Butanone (MEK)	ND	1000	974	97	1000	846	85	14	58-140/14
56-23-5	Carbon tetrachloride	ND	250	274	110	250	232	93	17	50-161/18
108-90-7	Chlorobenzene	ND	250	239	96	250	212	85	12	65-128/12
67-66-3	Chloroform	ND	250	256	102	250	214	86	18* a	66-132/14
106-46-7	1,4-Dichlorobenzene	ND	250	229	92	250	200	80	14* a	63-126/13
107-06-2	1,2-Dichloroethane	ND	250	235	94	250	206	82	13	59-153/15
75-35-4	1,1-Dichloroethene	ND	250	266	106	250	222	89	18* a	41-144/17
127-18-4	Tetrachloroethene	ND	250	252	101	250	218	87	14	48-145/15
79-01-6	Trichloroethene	ND	250	249	100	250	218	87	13	53-141/15
75-01-4	Vinyl chloride	ND	250	260	104	250	225	90	14	34-151/20

CAS No.	Surrogate Recoveries	MS	MSD	JC95392-5	Limits
1868-53-7	Dibromofluoromethane	115%	109%	103%	76-120%
17060-07-0	1,2-Dichloroethane-D4	100%	97%	98%	64-135%
2037-26-5	Toluene-D8	101%	102%	103%	76-117%
460-00-4	4-Bromofluorobenzene	94%	92%	93%	72-122%

(a) Analytical precision exceeds in-house control limits.

* = Outside of Control Limits.

Leachate Spike Summary

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GP23888-16LS	3D149422.D	5	09/26/19	EH	09/25/19	GP23888	V3D6386
JC95262-6	3D149416.D	5	09/26/19	EH	09/25/19	GP23888	V3D6386

The QC reported here applies to the following samples:

Method: SW846 8260C

JC95610-1

CAS No.	Compound	JC95262-6 ug/l	Spike Q	LS ug/l	LS %	Limits
71-43-2	Benzene	ND	250	208	83	38-139
78-93-3	2-Butanone (MEK)	ND	1000	787	79	58-140
56-23-5	Carbon tetrachloride	ND	250	214	86	50-161
108-90-7	Chlorobenzene	ND	250	221	88	65-128
67-66-3	Chloroform	ND	250	205	82	66-132
106-46-7	1,4-Dichlorobenzene	ND	250	212	85	63-126
107-06-2	1,2-Dichloroethane	ND	250	198	79	59-153
75-35-4	1,1-Dichloroethene	ND	250	218	87	41-144
127-18-4	Tetrachloroethene	ND	250	223	89	48-145
79-01-6	Trichloroethene	ND	250	226	90	53-141
75-01-4	Vinyl chloride	ND	250	190	76	34-151

CAS No.	Surrogate Recoveries	LS	JC95262-6	Limits
1868-53-7	Dibromofluoromethane	103%	100%	76-120%
17060-07-0	1,2-Dichloroethane-D4	90%	94%	64-135%
2037-26-5	Toluene-D8	101%	102%	76-117%
460-00-4	4-Bromofluorobenzene	90%	92%	72-122%

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample:	V3D6212-BFB	Injection Date:	03/07/19
Lab File ID:	3D145269.D	Injection Time:	17:57
Instrument ID:	GCMS3D		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	14.99 - 40.0% of mass 95	16616	17.6	Pass
75	30.0 - 60.0% of mass 95	44517	47.2	Pass
95	Base peak, 100% relative abundance	94402	100.0	Pass
96	5.0 - 9.0% of mass 95	6251	6.62	Pass
173	Less than 2.0% of mass 174	981	1.04 (1.17) ^a	Pass
174	50.0 - 120.0% of mass 95	83682	88.6	Pass
175	5.0 - 9.0% of mass 174	6242	6.61 (7.46) ^a	Pass
176	95.0 - 101.0% of mass 174	80954	85.8 (96.7) ^a	Pass
177	5.0 - 9.0% of mass 176	5431	5.75 (6.71) ^b	Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V3D6212-IC6212	3D145270.D	03/07/19	18:37	00:40	Initial cal 0.2
V3D6212-IC6212	3D145271.D	03/07/19	19:02	01:05	Initial cal 0.5
V3D6212-IC6212	3D145272.D	03/07/19	19:27	01:30	Initial cal 1
V3D6212-IC6212	3D145273.D	03/07/19	19:52	01:55	Initial cal 2
V3D6212-IC6212	3D145274.D	03/07/19	20:17	02:20	Initial cal 4
V3D6212-IC6212	3D145275.D	03/07/19	20:43	02:46	Initial cal 8
V3D6212-IC6212	3D145276.D	03/07/19	21:08	03:11	Initial cal 20
V3D6212-ICC6212	3D145277.D	03/07/19	21:33	03:36	Initial cal 50
V3D6212-IC6212	3D145278.D	03/07/19	21:58	04:01	Initial cal 100
V3D6212-IC6212	3D145279.D	03/07/19	22:24	04:27	Initial cal 200
V3D6212-ICV6212	3D145282.D	03/07/19	23:39	05:42	Initial cal verification 50

Instrument Performance Check (BFB)

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample:	V3D6386-BFB	Injection Date:	09/26/19
Lab File ID:	3D149397.D	Injection Time:	07:19
Instrument ID:	GCMS3D		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	14.99 - 40.0% of mass 95	12041	16.7	Pass
75	30.0 - 60.0% of mass 95	33002	45.7	Pass
95	Base peak, 100% relative abundance	72277	100.0	Pass
96	5.0 - 9.0% of mass 95	4689	6.49	Pass
173	Less than 2.0% of mass 174	265	0.37 (0.37) ^a	Pass
174	50.0 - 120.0% of mass 95	71114	98.4	Pass
175	5.0 - 9.0% of mass 174	5441	7.53 (7.65) ^a	Pass
176	95.0 - 101.0% of mass 174	68010	94.1 (95.6) ^a	Pass
177	5.0 - 9.0% of mass 176	4537	6.28 (6.67) ^b	Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V3D6386-CC6212	3D149397.D	09/26/19	07:19	00:00	Continuing cal 20
V3D6386-BS	3D149398.D	09/26/19	08:22	01:03	Blank Spike
V3D6386-MB	3D149400.D	09/26/19	09:20	02:01	Method Blank
GP23871-15LB	3D149401.D	09/26/19	10:08	02:49	Leachate Blank
ZZZZZZ	3D149402.D	09/26/19	10:33	03:14	(unrelated sample)
JC95314-16	3D149403.D	09/26/19	10:59	03:40	(used for QC only; not part of job JC95610)
ZZZZZZ	3D149404.D	09/26/19	11:24	04:05	(unrelated sample)
ZZZZZZ	3D149405.D	09/26/19	11:50	04:31	(unrelated sample)
ZZZZZZ	3D149406.D	09/26/19	12:15	04:56	(unrelated sample)
JC95314-16MS	3D149408.D	09/26/19	13:05	05:46	Matrix Spike
GP23871-15LS	3D149408.D	09/26/19	13:05	05:46	Leachate Spike
JC95314-16MSD	3D149409.D	09/26/19	13:30	06:11	Matrix Spike Duplicate
ZZZZZZ	3D149411.D	09/26/19	14:21	07:02	(unrelated sample)
ZZZZZZ	3D149412.D	09/26/19	14:46	07:27	(unrelated sample)
ZZZZZZ	3D149413.D	09/26/19	15:12	07:53	(unrelated sample)
GP23888-16LB	3D149415.D	09/26/19	16:03	08:44	Leachate Blank
ZZZZZZ	3D149416.D	09/26/19	16:28	09:09	(unrelated sample)
ZZZZZZ	3D149417.D	09/26/19	16:54	09:35	(unrelated sample)
ZZZZZZ	3D149418.D	09/26/19	17:19	10:00	(unrelated sample)
ZZZZZZ	3D149419.D	09/26/19	17:44	10:25	(unrelated sample)
ZZZZZZ	3D149420.D	09/26/19	18:10	10:51	(unrelated sample)
ZZZZZZ	3D149421.D	09/26/19	18:35	11:16	(unrelated sample)
GP23888-16LS	3D149422.D	09/26/19	19:00	11:41	Leachate Spike

Instrument Performance Check (BFB)

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample:	V3D6388-BFB	Injection Date:	09/30/19
Lab File ID:	3D149450.D	Injection Time:	08:10
Instrument ID:	GCMS3D		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	14.99 - 40.0% of mass 95	16802	16.6	Pass
75	30.0 - 60.0% of mass 95	45538	45.0	Pass
95	Base peak, 100% relative abundance	101098	100.0	Pass
96	5.0 - 9.0% of mass 95	6538	6.47	Pass
173	Less than 2.0% of mass 174	0	0.00 (0.00) ^a	Pass
174	50.0 - 120.0% of mass 95	93880	92.9	Pass
175	5.0 - 9.0% of mass 174	7392	7.31 (7.87) ^a	Pass
176	95.0 - 101.0% of mass 174	90386	89.4 (96.3) ^a	Pass
177	5.0 - 9.0% of mass 176	6225	6.16 (6.89) ^b	Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V3D6388-CC6212	3D149450.D	09/30/19	08:10	00:00	Continuing cal 20
V3D6388-BS	3D149451.D	09/30/19	08:42	00:32	Blank Spike
V3D6388-BSD	3D149452.D	09/30/19	09:07	00:57	Blank Spike Duplicate
V3D6388-MB	3D149454.D	09/30/19	10:04	01:54	Method Blank
GP23943-1LB	3D149455.D	09/30/19	10:33	02:23	Leachate Blank
JC95392-5	3D149456.D	09/30/19	10:58	02:48	(used for QC only; not part of job JC95610)
ZZZZZZ	3D149457.D	09/30/19	11:24	03:14	(unrelated sample)
ZZZZZZ	3D149458.D	09/30/19	11:49	03:39	(unrelated sample)
ZZZZZZ	3D149459.D	09/30/19	12:15	04:05	(unrelated sample)
ZZZZZZ	3D149460.D	09/30/19	12:40	04:30	(unrelated sample)
ZZZZZZ	3D149461.D	09/30/19	13:05	04:55	(unrelated sample)
ZZZZZZ	3D149462.D	09/30/19	13:31	05:21	(unrelated sample)
GP23943-1LS	3D149463A.D	09/30/19	13:56	05:46	Leachate Spike
JC95392-5MS	3D149463.D	09/30/19	13:56	05:46	Matrix Spike
JC95392-5MSD	3D149464.D	09/30/19	14:21	06:11	Matrix Spike Duplicate
GP23923-18LB	3D149466.D	09/30/19	15:11	07:01	Leachate Blank
ZZZZZZ	3D149467.D	09/30/19	15:37	07:27	(unrelated sample)
ZZZZZZ	3D149468.D	09/30/19	16:02	07:52	(unrelated sample)
ZZZZZZ	3D149469.D	09/30/19	16:27	08:17	(unrelated sample)
ZZZZZZ	3D149470.D	09/30/19	16:53	08:43	(unrelated sample)
ZZZZZZ	3D149471.D	09/30/19	17:18	09:08	(unrelated sample)
JC95610-1	3D149472.D	09/30/19	17:43	09:33	WC-092519
GP23923-18LS	3D149474.D	09/30/19	18:33	10:23	Leachate Spike

Internal Standard Area Summary

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Check Std:	V3D6386-CC6212	Injection Date:	09/26/19
Lab File ID:	3D149397.D	Injection Time:	07:19
Instrument ID:	GCMS3D	Method:	SW846 8260C

	IS 1	RT	IS 2	RT	IS 3	RT	IS 4	RT	IS 5	RT
	AREA		AREA		AREA		AREA		AREA	
Check Std	120478	2.96	237986	4.16	333385	4.72	281691	7.11	144472	9.31
Upper Limit ^a	240956	3.46	475972	4.66	666770	5.22	563382	7.61	288944	9.81
Lower Limit ^b	60239	2.46	118993	3.66	166693	4.22	140846	6.61	72236	8.81

Lab	IS 1	RT	IS 2	RT	IS 3	RT	IS 4	RT	IS 5	RT
Sample ID	AREA		AREA		AREA		AREA		AREA	
V3D6386-BS	121295	2.96	237694	4.16	329677	4.72	281398	7.11	143589	9.31
V3D6386-MB	115222	2.96	239286	4.16	328248	4.72	279306	7.11	140740	9.31
GP23871-15LB	112298	2.96	233643	4.16	319876	4.72	274043	7.11	139960	9.31
ZZZZZZ	128415	2.96	245714	4.16	340497	4.72	290128	7.11	148454	9.31
JC95314-16	121972	2.96	245323	4.16	341572	4.72	291334	7.11	148009	9.31
ZZZZZZ	114557	2.96	233796	4.16	315754	4.72	267176	7.11	137164	9.31
ZZZZZZ	118510	2.96	236777	4.16	329258	4.72	277970	7.11	143097	9.31
ZZZZZZ	113286	2.96	236549	4.16	325009	4.72	269863	7.11	138574	9.31
JC95314-16MS	127375	2.96	240611	4.16	338087	4.72	292454	7.11	150225	9.31
GP23871-15LS	127375	2.96	240611	4.16	338087	4.72	292454	7.11	150225	9.31
JC95314-16MSD	135108	2.96	248399	4.16	348295	4.72	300063	7.11	156294	9.31
ZZZZZZ	120790	2.96	242149	4.16	339118	4.72	286509	7.11	148058	9.31
ZZZZZZ	123474	2.96	247504	4.16	339460	4.72	284536	7.11	149611	9.31
ZZZZZZ	119331	2.96	251845	4.16	352272	4.72	300677	7.11	155561	9.31
GP23888-16LB	121788	2.96	244086	4.16	336672	4.72	283018	7.11	144616	9.31
ZZZZZZ	119809	2.96	244896	4.16	340566	4.72	291974	7.11	148815	9.31
ZZZZZZ	118971	2.96	246002	4.16	340448	4.72	284385	7.11	146101	9.31
ZZZZZZ	124235	2.96	249595	4.16	340903	4.72	292147	7.11	152065	9.31
ZZZZZZ	119391	2.96	245139	4.16	340279	4.72	290534	7.11	150603	9.31
ZZZZZZ	116075	2.96	240881	4.16	332681	4.72	283185	7.11	143330	9.31
ZZZZZZ	126463	2.96	246333	4.16	341908	4.72	291290	7.11	149326	9.31
GP23888-16LS	128973	2.96	246043	4.16	350127	4.72	298405	7.11	154262	9.31

- IS 1 = Tert Butyl Alcohol-D9
- IS 2 = Pentafluorobenzene
- IS 3 = 1,4-Difluorobenzene
- IS 4 = Chlorobenzene-D5
- IS 5 = 1,4-Dichlorobenzene-d4

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.
 (b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

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Internal Standard Area Summary

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Check Std:	V3D6388-CC6212	Injection Date:	09/30/19
Lab File ID:	3D149450.D	Injection Time:	08:10
Instrument ID:	GCMS3D	Method:	SW846 8260C

	IS 1		IS 2		IS 3		IS 4		IS 5	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Check Std	186428	2.96	329498	4.16	458641	4.72	388088	7.11	201132	9.31
Upper Limit ^a	372856	3.46	658996	4.66	917282	5.22	776176	7.61	402264	9.81
Lower Limit ^b	93214	2.46	164749	3.66	229321	4.22	194044	6.61	100566	8.81

Lab	IS 1		IS 2		IS 3		IS 4		IS 5	
Sample ID	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
V3D6388-BS	187962	2.96	331558	4.16	469387	4.72	403431	7.11	204545	9.31
V3D6388-BSD	189320	2.96	320150	4.16	451024	4.72	384794	7.11	195669	9.31
V3D6388-MB	169791	2.96	314744	4.16	436142	4.72	370612	7.11	188070	9.31
GP23943-1LB	178755	2.96	302929	4.16	427676	4.72	365575	7.11	190346	9.31
JC95392-5	172723	2.96	313988	4.16	441187	4.72	378860	7.11	193621	9.31
ZZZZZZ	173235	2.96	310640	4.16	435874	4.72	376003	7.11	191439	9.31
ZZZZZZ	172453	2.96	300589	4.16	436001	4.72	370952	7.11	187921	9.31
ZZZZZZ	168813	2.96	294063	4.16	424102	4.72	365779	7.11	187592	9.31
ZZZZZZ	173919	2.96	293321	4.16	423250	4.72	364615	7.11	185915	9.31
ZZZZZZ	171125	2.96	282093	4.16	407000	4.72	352501	7.11	183910	9.31
ZZZZZZ	161620	2.96	284873	4.16	401227	4.72	343997	7.11	177360	9.31
GP23943-1LS	177353	2.96	284703	4.16	433953	4.72	379160	7.11	196394	9.31
JC95392-5MS	177353	2.96	284703	4.16	433953	4.72	379160	7.11	196394	9.31
JC95392-5MSD	189748	2.96	298669	4.16	441199	4.72	380097	7.11	197292	9.31
GP23923-18LB	167616	2.96	288292	4.16	421858	4.72	366386	7.11	186881	9.31
ZZZZZZ	158339	2.96	279787	4.16	408278	4.72	351278	7.11	180045	9.31
ZZZZZZ	170013	2.96	288651	4.16	417853	4.72	360028	7.11	185820	9.31
ZZZZZZ	170208	2.96	293274	4.16	425888	4.72	361670	7.11	187396	9.31
ZZZZZZ	161871	2.96	284968	4.16	419491	4.72	358718	7.11	186965	9.31
ZZZZZZ	170255	2.96	291314	4.16	423587	4.72	360949	7.11	184103	9.31
JC95610-1	175611	2.96	289282	4.16	422088	4.72	369101	7.11	188376	9.31
GP23923-18LS	183220	2.96	292692	4.16	433151	4.72	372007	7.11	189981	9.31

- IS 1 = Tert Butyl Alcohol-D9
- IS 2 = Pentafluorobenzene
- IS 3 = 1,4-Difluorobenzene
- IS 4 = Chlorobenzene-D5
- IS 5 = 1,4-Dichlorobenzene-d4

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.
 (b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Surrogate Recovery Summary

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Method: SW846 8260C	Matrix: LEACHATE
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Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
JC95610-1	3D149472.D	111	103	101	94
GP23888-16LB	3D149415.D	99	93	103	92
GP23888-16LS	3D149422.D	103	90	101	90
JC95392-5MS	3D149463.D	115	100	101	94
JC95392-5MSD	3D149464.D	109	97	102	92
V3D6388-BS	3D149451.D	102	93	102	94
V3D6388-BSD	3D149452.D	100	91	102	94
V3D6388-MB	3D149454.D	102	95	104	92
V3D6386-MB	3D149400.D	99	93	103	91

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	76-120%
S2 = 1,2-Dichloroethane-D4	64-135%
S3 = Toluene-D8	76-117%
S4 = 4-Bromofluorobenzene	72-122%

Initial Calibration Summary

Job Number: JC95610
Account: BBLNYS Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: V3D6212-ICC6212
Lab FileID: 3D145277.D

Response Factor Report MS3D

Method : C:\MSDCHEM\1\METHODS\M3D6212.M (RTE Integrator)
Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
Last Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

Calibration Files

1 =3D145272.D 0.5 =3D145271.D 100 =3D145278.D 50 =3D145277.D
20 =3D145276.D 200 =3D145279.D 4 =3D145274.D 2 =3D145273.D
8 =3D145275.D 0.2 =3D145270.D = =

Compound

Compound	1	0.5	100	50	20	200	4	2	8	0.2	Avg	%RSD
1) tert butyl alcohol-d9 -----ISTD-----												
2) tertiary butyl alcohol	1.429	1.270	1.229	1.244	1.253	1.258	1.206	1.308	1.247	1.499	1.294	7.32
3) ethanol	0.144	0.116	0.109	0.114	0.117	0.103	0.114	0.124	0.119	0.141	0.120	10.95
4) 1,4-dioxane	0.131	0.107	0.113	0.115	0.120	0.115	0.110	0.119	0.119	0.117	0.117	5.89
5) I pentafluorobenzene -----ISTD-----												
6) chlorodifluoromethane	0.502	0.444	0.459	0.456	0.453	0.459	0.426	0.474	0.445	0.428	0.455	4.86
7) dichlorodifluoromethane	0.500	0.531	0.523	0.533	0.530	0.514	0.506	0.491	0.509	0.401	0.504	7.67
8) chloromethane	0.485	0.501	0.462	0.468	0.462	0.474	0.461	0.449	0.456	0.469	0.469	3.36
9) vinyl chloride	0.471	0.463	0.493	0.499	0.494	0.497	0.456	0.456	0.483	0.437	0.475	4.52
10) 1,3-butadiene	0.444	0.359	0.385	0.385	0.389	0.381	0.369	0.402	0.390	0.423	0.393	6.37
11) bromomethane	0.191	0.178	0.180	0.185	0.147	0.170	0.184	0.185	0.178	0.178	0.178	7.65
12) chloroethane	0.319	0.357	0.289	0.293	0.291	0.272	0.289	0.280	0.281	0.266	0.294	9.04
13) trichlorofluoromethane	0.577	0.602	0.601	0.618	0.607	0.595	0.589	0.556	0.597	0.628	0.597	3.37
14) vinyl bromide	0.282	0.264	0.286	0.288	0.282	0.291	0.270	0.254	0.273	0.281	0.277	4.18
15) ethyl ether	0.242	0.237	0.224	0.225	0.221	0.225	0.203	0.237	0.217	0.181	0.221	8.20
16) acrolein	0.092	0.090	0.089	0.090	0.085	0.089	0.091	0.083	0.084	0.081	0.087	4.39
17) freon 113	0.356	0.314	0.324	0.324	0.329	0.326	0.320	0.333	0.319	0.327	0.327	3.74
18) 1,1-dichloroethene	0.385	0.290	0.349	0.345	0.348	0.352	0.316	0.330	0.337	0.265	0.332	10.31
19) acetone	0.057	0.050	0.049	0.049	0.050	0.048	0.048	0.049	0.050	0.050	0.050	5.76
20) acetonitrile	0.092	0.080	0.074	0.073	0.073	0.073	0.071	0.076	0.073	0.076	0.076	8.41
21) iodomethane *This compound fails Initial Calibration criteria*	0.252	0.195	0.102	0.280	0.038	0.037	0.057	0.137	0.137	0.137	0.137	75.39
22) carbon disulfide	1.058	0.950	0.889	0.872	0.872	0.911	0.847	0.887	0.854	0.904	0.904	7.23
23) methylene chloride												

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Initial Calibration Summary

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: V3D6212-ICC6212
 Lab FileID: 3D145277.D

	0.418	0.367	0.351	0.348	0.348	0.352	0.355	0.375	0.353	0.455	0.372	9.69
24)	methyl acetate											
	0.491	0.419	0.402	0.392	0.399	0.394	0.398	0.418	0.392	0.427	0.413	7.25
25)	methyl tert butyl ether											
	1.247	1.053	1.117	1.103	1.113	1.116	1.073	1.106	1.117	1.050	1.109	4.95
26)	trans-1,2-dichloroethene											
	0.408	0.376	0.365	0.365	0.365	0.371	0.347	0.362	0.361	0.408	0.373	5.40
27)	di-isopropyl ether											
	1.430	1.212	1.239	1.250	1.242	1.241	1.201	1.255	1.236	1.181	1.249	5.45
28)	2-butanone											
	0.077	0.062	0.070	0.069	0.068	0.069	0.063	0.067	0.069	0.060	0.068	7.02
29)	1,1-dichloroethane											
	0.701	0.607	0.625	0.627	0.631	0.627	0.610	0.634	0.630	0.575	0.627	5.04
30)	chloroprene											
	0.683	0.524	0.610	0.611	0.607	0.609	0.581	0.592	0.612	0.551	0.598	7.05
31)	acrylonitrile											
	0.206	0.161	0.196	0.194	0.191	0.195	0.193	0.197	0.192		0.192	6.42
32)	hexane											
	0.352	0.309	0.314	0.308	0.307	0.307	0.301	0.320	0.309		0.314	4.84
33)	vinyl acetate											
	0.112	0.091	0.112	0.110	0.111	0.114	0.100	0.104	0.106		0.107	6.78
34)	ethyl tert-butyl ether											
	1.300	1.151	1.190	1.192	1.188	1.201	1.160	1.187	1.184	1.114	1.187	4.01
35)	ethyl acetate											
	0.090		0.082	0.082	0.080	0.082	0.087	0.080	0.087		0.084	4.50
36)	2,2-dichloropropane											
	0.637	0.529	0.527	0.531	0.543	0.527	0.507	0.549	0.531	0.523	0.540	6.64
37)	cis-1,2-dichloroethene											
	0.433	0.362	0.397	0.394	0.399	0.401	0.388	0.386	0.394	0.457	0.401	6.59
38)	methyl acrylate											
	0.078		0.082	0.081	0.079	0.082	0.072	0.080	0.076		0.079	4.30
39)	propionitrile											
	0.097	0.081	0.084	0.083	0.083	0.083	0.083	0.082	0.083	0.074	0.083	6.88
40)	bromochloromethane											
	0.211	0.165	0.174	0.179	0.183	0.171	0.178	0.190	0.177	0.157	0.178	8.17
41)	tetrahydrofuran											
	0.094		0.075	0.074	0.075	0.073	0.070	0.065	0.074		0.075	11.10
42)	chloroform											
	0.443	0.402	0.391	0.390	0.389	0.393	0.386	0.395	0.397	0.505	0.409	9.15
43)	t-butyl formate											
	0.350	0.288	0.370	0.359	0.355	0.374	0.320	0.316	0.333		0.341	8.27
44)	dibromofluoromethane (s)											
	0.357	0.354	0.360	0.359	0.356	0.354	0.354	0.356	0.356	0.346	0.355	1.04
45)	methacrylonitrile											
	0.212	0.160	0.208	0.205	0.200	0.207	0.193	0.206	0.202		0.199	7.86
46)	1,1,1-trichloroethane											
	0.618	0.562	0.565	0.561	0.562	0.572	0.528	0.578	0.548	0.531	0.563	4.51
47)	cyclohexane											
	0.604	0.640	0.579	0.589	0.586	0.587	0.579	0.575	0.568	0.663	0.597	5.15
48)	1,1-dichloropropene											
	0.612	0.498	0.522	0.514	0.515	0.526	0.479	0.522	0.517	0.483	0.519	7.05
49)	iso-butyl alcohol											
	0.039	0.034	0.033	0.032	0.031	0.034	0.032	0.032	0.031		0.033	7.55
50)	carbon tetrachloride											
	0.475	0.440	0.485	0.472	0.468	0.492	0.442	0.459	0.468	0.394	0.460	6.16
51)	tert amyl alcohol											
	0.035	0.028	0.028	0.028	0.028	0.027	0.028	0.026	0.028		0.028	9.09
52) I	1,4-difluorobenzene -----ISTD-----											
53)	1,2-dichloroethane-d4 (s)											

Initial Calibration Summary

Job Number: JC95610
Account: BBLNYS Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: V3D6212-ICC6212
Lab FileID: 3D145277.D

	0.284	0.286	0.276	0.276	0.273	0.268	0.286	0.289	0.285	0.285	0.281	2.45
54)	n-butyl alcohol											
	0.018	0.015	0.017	0.016	0.016	0.017	0.015	0.015	0.016		0.016	6.68
55)	2,2,4-trimethylpentane											
	0.789	0.723	0.694	0.687	0.692	0.697	0.685	0.730	0.709	0.685	0.709	4.54
56)	benzene											
	1.194	1.110	1.053	1.050	1.069	1.058	1.033	1.098	1.061	1.042	1.077	4.42
57)	tert-amyl methyl ether											
	0.229	0.212	0.207	0.207	0.210	0.211	0.202	0.211	0.211	0.194	0.209	4.24
58)	heptane											
	0.208	0.187	0.183	0.181	0.181	0.182	0.173	0.192	0.183	0.161	0.183	6.55
59)	isopropyl acetate											
	0.097		0.090	0.089	0.090	0.090	0.084	0.085	0.086		0.089	4.54
60)	1,2-dichloroethane											
	0.454		0.337	0.343	0.345	0.339	0.354	0.368	0.356		0.362	10.70
61)	trichloroethene											
	0.310	0.265	0.289	0.286	0.288	0.292	0.271	0.298	0.285	0.313	0.290	5.19
62)	ethyl acrylate											
	0.472	0.423	0.454	0.449	0.452	0.456	0.438	0.445	0.441	0.391	0.442	4.98
63)	2-nitropropane											
	0.088	0.086	0.085	0.078	0.074	0.088	0.077	0.067	0.072		0.079	9.37
64)	2-chloroethyl vinyl ether											
	0.171	0.146	0.199	0.195	0.191	0.200	0.170	0.172	0.182		0.181	9.78
65)	methyl methacrylate											
	0.398	0.373	0.338	0.336	0.332	0.337	0.319	0.330	0.330	0.422	0.352	9.76
66)	1,2-dichloropropane											
	0.291	0.248	0.259	0.259	0.258	0.261	0.251	0.262	0.256		0.261	4.70
67)	dibromomethane											
	0.174	0.149	0.155	0.154	0.154	0.156	0.155	0.154	0.152	0.126	0.153	7.67
68)	methylcyclohexane											
			0.445	0.441	0.440	0.444	0.455	0.514	0.452		0.456	5.75
69)	bromodichloromethane											
	0.357	0.307	0.332	0.324	0.317	0.337	0.306	0.302	0.310	0.294	0.319	5.97
70)	epichlorohydrin											
	0.045	0.038	0.046	0.045	0.045	0.044	0.041	0.042	0.043		0.043	5.70
71)	cis-1,3-dichloropropene											
	0.436	0.365	0.424	0.418	0.415	0.431	0.392	0.422	0.407	0.475	0.419	6.83
72)	4-methyl-2-pentanone											
	0.166	0.139	0.151	0.150	0.151	0.149	0.147	0.150	0.151	0.134	0.149	5.59
73)	3-methyl-1-butanol											
	0.024	0.018	0.025	0.024	0.023	0.025	0.022	0.021	0.023		0.023	8.69
74)	I chlorobenzene-d5 -----ISTD-----											
75)	toluene-d8 (s)											
	1.263	1.272	1.260	1.264	1.277	1.265	1.262	1.277	1.283	1.277	1.270	0.65
76)	toluene											
	0.873	0.796	0.786	0.787	0.791	0.802	0.798	0.813	0.800	0.862	0.811	3.84
77)	trans-1,3-dichloropropene											
	0.483	0.436	0.452	0.451	0.443	0.468	0.420	0.426	0.436	0.519	0.453	6.57
78)	ethyl methacrylate											
	0.519	0.437	0.490	0.491	0.489	0.498	0.455	0.450	0.484	0.436	0.475	5.93
79)	1,1,2-trichloroethane											
	0.254	0.202	0.227	0.230	0.231	0.231	0.225	0.237	0.228		0.230	5.80
80)	tetrachloroethene											
	0.318	0.269	0.280	0.283	0.284	0.286	0.269	0.277	0.283	0.291	0.284	4.88
81)	1,3-dichloropropane											
	0.552	0.457	0.472	0.480	0.482	0.488	0.457	0.492	0.479	0.435	0.479	6.45
82)	2-hexanone											
	0.202	0.161	0.183	0.185	0.184	0.183	0.178	0.177	0.183	0.164	0.180	6.37
83)	butyl acetate											

Initial Calibration Summary

Job Number: JC95610
Account: BBLNYS Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: V3D6212-ICC6212
Lab FileID: 3D145277.D

	0.308	0.249	0.287	0.294	0.287	0.293	0.281	0.284	0.286	0.274	0.284	5.41
84)	dibromochloromethane											
	0.296	0.251	0.296	0.288	0.272	0.308	0.254	0.257	0.264	0.232	0.272	9.00
85)	1,2-dibromoethane											
	0.404	0.324	0.358	0.362	0.359	0.366	0.346	0.341	0.356	0.426	0.364	8.17
86)	n-butyl ether											
	1.455	1.157	1.296	1.303	1.298	1.323	1.236	1.306	1.325	1.267	1.297	5.79
87)	chlorobenzene											
	0.968	0.870	0.826	0.842	0.834	0.854	0.827	0.879	0.843	0.891	0.863	4.96
88)	1,1,1,2-tetrachloroethane											
	0.298	0.274	0.293	0.291	0.284	0.302	0.251	0.277	0.274		0.283	5.60
89)	ethylbenzene											
	1.680	1.400	1.453	1.478	1.485	1.482	1.425	1.510	1.484	1.449	1.484	5.11
90)	m,p-xylene											
	0.658	0.571	0.567	0.575	0.576	0.577	0.553	0.592	0.579	0.582	0.583	4.83
91)	o-xylene											
	0.645	0.555	0.541	0.551	0.552	0.552	0.545	0.539	0.555	0.582	0.562	5.64
92)	styrene											
	1.038	0.880	0.947	0.956	0.948	0.963	0.914	0.941	0.948	0.888	0.942	4.69
93)	bromoform											
	0.197		0.226	0.215	0.201	0.238	0.169	0.181	0.187		0.202	11.60
94)	butyl acrylate											
	0.709	0.605	0.713	0.718	0.704	0.726	0.647	0.625	0.680	0.557	0.668	8.59
95)	n-amyl acetate											
	0.325	0.242	0.297	0.299	0.296	0.298	0.275	0.283	0.288		0.289	7.79
96)	isopropylbenzene											
	1.575	1.412	1.407	1.420	1.419	1.422	1.373	1.409	1.430	1.311	1.418	4.60
97)	cis-1,4-dichloro-2-butene											
	0.142		0.169	0.167	0.153	0.174	0.134	0.137	0.140		0.152	10.58
98) I	1,4-dichlorobenzene-d -----ISTD-----											
99)	4-bromofluorobenzene (s)											
	0.938	0.948	0.951	0.945	0.946	0.953	0.943	0.936	0.940	0.940	0.944	0.61
100)	bromobenzene											
	0.924	0.814	0.777	0.783	0.786	0.802	0.772	0.780	0.767	0.728	0.793	6.47
101)	1,1,1,2-tetrachloroethane											
	0.959	0.791	0.886	0.894	0.877	0.908	0.841	0.870	0.866	0.782	0.867	6.07
102)	trans-1,4-dichloro-2-butene											
	0.292		0.267	0.261	0.257	0.273	0.242	0.239	0.239		0.259	7.31
103)	1,2,3-trichloropropane											
	0.338	0.290	0.295	0.293	0.296	0.302	0.301	0.286	0.302		0.300	5.06
104)	n-propylbenzene											
	3.702	3.414	3.457	3.406	3.438	3.514	3.230	3.312	3.300	3.388	3.416	3.82
105)	2-chlorotoluene											
	0.824	0.688	0.717	0.711	0.723	0.738	0.682	0.691	0.693	0.648	0.711	6.59
106)	4-chlorotoluene											
	0.801	0.741	0.716	0.711	0.714	0.736	0.669	0.714	0.693	0.627	0.712	6.42
107)	1,3,5-trimethylbenzene											
	2.698	2.289	2.416	2.405	2.434	2.464	2.289	2.376	2.375	2.353	2.410	4.82
108)	tert-butylbenzene											
	0.600	0.498	0.537	0.526	0.541	0.549	0.521	0.537	0.525		0.537	5.16
109)	1,2,4-trimethylbenzene											
	2.683	2.294	2.399	2.384	2.377	2.457	2.233	2.316	2.377	2.250	2.377	5.40
110)	sec-butylbenzene											
	3.090	2.740	2.904	2.853	2.867	2.914	2.663	2.768	2.822	2.523	2.814	5.48
111)	1,3-dichlorobenzene											
	1.539	1.339	1.374	1.371	1.388	1.413	1.314	1.385	1.365	1.529	1.402	5.33
112)	p-isopropyltoluene											
	2.721	2.274	2.473	2.455	2.440	2.517	2.310	2.391	2.424	2.519	2.453	5.05
113)	1,4-dichlorobenzene											

Initial Calibration Summary

Job Number: JC95610
Account: BBLNYS Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: V3D6212-ICC6212
Lab FileID: 3D145277.D

	1.592	1.401	1.406	1.393	1.402	1.429	1.366	1.431	1.383		1.423	4.69
114)	benzyl chloride											
	1.777	1.487	1.780	1.776	1.701	1.863	1.496	1.531	1.561	1.617	1.659	8.27
115)	1,2-dichlorobenzene											
	1.433	1.349	1.300	1.298	1.336	1.343	1.255	1.364	1.291	1.424	1.339	4.28
116)	n-butylbenzene											
	1.178	0.955	1.147	1.118	1.107	1.164	1.044	1.041	1.079	1.007	1.084	6.66
117)	1,2-dibromo-3-chloropropane											
	0.175		0.194	0.190	0.177	0.208	0.163	0.156	0.164		0.178	10.01
118)	1,3,5-trichlorobenzene											
	1.031	0.897	0.955	0.944	0.929	0.988	0.871	0.882	0.917	1.049	0.946	6.41
119)	2-ethylhexyl acrylate											
		0.506	0.471	0.397	0.547			0.366			0.457	16.44
120)	1,2,4-trichlorobenzene											
	0.815	0.757	0.877	0.840	0.828	0.898	0.771	0.758	0.789	0.862	0.819	6.14
121)	hexachlorobutadiene											
	0.334	0.314	0.336	0.330	0.320	0.355	0.297	0.296	0.323		0.323	5.87
122)	naphthalene											
	2.702	2.396	2.704	2.626	2.554	2.789	2.331	2.351	2.393	3.160	2.601	9.87
123)	1,2,3-trichlorobenzene											
	0.831	0.688	0.808	0.788	0.756	0.825	0.705	0.695	0.749	0.660	0.750	8.20
124)	hexachloroethane											
	0.331		0.390	0.368	0.336	0.419	0.297	0.313	0.307		0.345	12.58
125)	2-methylnaphthalene											
		1.248	1.156	0.998	1.279	0.825		0.905			1.069	17.51
126)	Bis(chloromethyl)ether											
											0.000#	-1.00
127)	Ethylenimine											
											0.000#	-1.00

 (#) = Out of Range ### Number of calibration levels exceeded format ###

M3D6212.M Fri Mar 08 17:12:13 2019 3D

6.9.1
6

Initial Calibration Verification

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: V3D6212-ICV6212
 Lab FileID: 3D145282.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\V3D6212\3D145282.D Vial: 14
 Acq On : 7 Mar 2019 11:39 pm Operator: juntaep
 Sample : icv6212-50 Inst : MS3D
 Misc : MS32815,V3D6212,5,,,,,1 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M3D6212.M (RTE Integrator)
 Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
 Last Update : Fri Mar 08 17:11:15 2019
 Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 tert butyl alcohol-d9	1.000	1.000	0.0	96	0.00	2.99
2 M tertiary butyl alcohol	1.294	1.301	-0.5	100	0.00	3.04
3 ethanol	0.120	0.121	-0.8	102	0.00	2.42
4 M 1,4-dioxane	0.117	0.125	-6.8	105	0.00	5.18
5 I pentafluorobenzene	1.000	1.000	0.0	96	0.00	4.19
6 M chlorodifluoromethane	0.455	0.429	5.7	90	0.00	1.61
7 M dichlorodifluoromethane	0.504	0.520	-3.2	93	0.00	1.60
8 M chloromethane	0.469	0.512	-9.2	105	0.00	1.75
9 M vinyl chloride	0.475	0.479	-0.8	92	0.00	1.83
10 1,3-butadiene	0.393	0.401	-2.0	100	0.00	1.86
11 M bromomethane	0.178	0.213	-19.7	113	0.00	2.07
12 M chloroethane	0.294	0.263	10.5	86	0.00	2.15
13 M trichlorofluoromethane	0.597	0.580	2.8	90	0.00	2.33
14 vinyl bromide	0.277	0.285	-2.9	95	0.00	2.29
15 M ethyl ether	0.221	0.231	-4.5	98	0.00	2.51
16 M acrolein	0.087	0.104	-19.5	111	0.00	2.61
17 freon 113	0.327	0.329	-0.6	97	0.00	2.69
18 M 1,1-dichloroethene	0.332	0.310	6.6	86	0.00	2.69
19 M acetone	0.050	0.052	-4.0	102	0.00	2.69
20 M acetonitrile	0.076	0.075	1.3	98	0.00	2.88
21 M iodomethane	0.137	0.158	-15.3	77	0.00	2.80
22 M carbon disulfide	0.904	0.911	-0.8	100	0.00	2.86
23 M methylene chloride	0.372	0.349	6.2	96	0.00	3.01
24 M methyl acetate	0.413	0.401	2.9	98	0.00	2.90
25 M methyl tert butyl ether	1.109	1.157	-4.3	101	0.00	3.18
26 M trans-1,2-dichloroethene	0.373	0.349	6.4	92	0.00	3.19
27 M di-isopropyl ether	1.249	1.212	3.0	93	0.00	3.48
28 M 2-butanone	0.068	0.073	-7.4	100	0.00	3.84
29 M 1,1-dichloroethane	0.627	0.620	1.1	95	0.00	3.49
30 M chloroprene	0.598	0.613	-2.5	96	0.00	3.54
31 M acrylonitrile	0.192	0.218	-13.5	108	0.00	3.15
32 hexane	0.314	0.254	19.1	79	0.00	3.38
33 M vinyl acetate	0.107	0.106	0.9	93	0.00	3.46
34 M ethyl tert-butyl ether	1.187	1.184	0.3	95	0.00	3.72
35 M ethyl acetate	0.084	0.084	0.0	98	0.00	3.85
36 M 2,2-dichloropropane	0.540	0.504	6.7	91	0.00	3.88
37 M cis-1,2-dichloroethene	0.401	0.407	-1.5	99	0.00	3.87
38 methyl acrylate	0.079	0.084	-6.3	99	0.00	3.89
39 M propionitrile	0.083	0.088	-6.0	102	0.00	3.88
40 M bromochloromethane	0.178	0.184	-3.4	98	0.00	4.04
41 M tetrahydrofuran	0.075	0.079	-5.3	101	0.00	4.04

6.9.2
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Initial Calibration Verification

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: V3D6212-ICV6212
 Lab FileID: 3D145282.D

42 M	chloroform	0.409	0.392	4.2	96	0.00	4.09
43 M	t-butyl formate	0.341	0.330	3.2	88	0.00	4.11
44 S	dibromofluoromethane (s)	0.355	0.365	-2.8	97	0.00	4.20
45 M	methacrylonitrile	0.199	0.211	-6.0	99	0.00	3.99
46 M	1,1,1-trichloroethane	0.563	0.542	3.7	93	0.00	4.23
47	cyclohexane	0.597	0.543	9.0	88	0.00	4.29
48	1,1-dichloropropene	0.519	0.512	1.3	95	0.00	4.33
49	iso-butyl alcohol	0.033	0.035	-6.1	104	0.00	4.33
50	carbon tetrachloride	0.460	0.465	-1.1	94	0.00	4.35
51	tert amyl alcohol	0.028	0.030	-7.1	105	0.00	4.43
52 I	1,4-difluorobenzene	1.000	1.000	0.0	96	0.00	4.75
53 S	1,2-dichloroethane-d4 (s)	0.281	0.277	1.4	96	0.00	4.45
54 M	n-butyl alcohol	0.016	0.017	-6.3	102	0.00	4.81
55	2,2,4-trimethylpentane	0.709	0.650	8.3	91	0.00	4.55
56 M	benzene	1.077	1.062	1.4	97	0.00	4.48
57 M	tert-amyl methyl ether	0.209	0.205	1.9	95	0.00	4.54
58 M	heptane	0.183	0.189	-3.3	100	0.00	4.66
59 M	isopropyl acetate	0.089	0.089	0.0	95	0.00	4.45
60 M	1,2-dichloroethane	0.362	0.351	3.0	98	0.00	4.50
61 M	trichloroethene	0.290	0.290	0.0	97	0.00	4.95
62	ethyl acrylate	0.442	0.481	-8.8	103	0.00	4.96
63 M	2-nitropropane	0.079	0.087	-10.1	106	0.00	5.49
64 M	2-chloroethyl vinyl ether	0.181	0.212	-17.1	104	0.00	5.53
65 M	methyl methacrylate	0.352	0.354	-0.6	101	0.00	5.14
66 M	1,2-dichloropropane	0.261	0.264	-1.1	98	0.00	5.14
67 M	dibromomethane	0.153	0.162	-5.9	101	0.00	5.21
68 M	methylcyclohexane	0.456	0.418	8.3	91	0.00	5.14
69 M	bromodichloromethane	0.319	0.331	-3.8	98	0.00	5.33
70	epichlorohydrin	0.043	0.046	-7.0	97	0.00	5.58
71 M	cis-1,3-dichloropropene	0.419	0.433	-3.3	99	0.00	5.67
72 M	4-methyl-2-pentanone	0.149	0.160	-7.4	103	0.00	5.77
73 M	3-methyl-1-butanol	0.023	0.027	-17.4	105	0.00	5.79
74 I	chlorobenzene-d5	1.000	1.000	0.0	97	0.00	7.14
75 S	toluene-d8 (s)	1.270	1.256	1.1	96	0.00	5.90
76	toluene	0.811	0.809	0.2	100	0.00	5.96
77	trans-1,3-dichloropropene	0.453	0.448	1.1	96	0.00	6.12
78	ethyl methacrylate	0.475	0.490	-3.2	97	0.00	6.14
79	1,1,2-trichloroethane	0.230	0.239	-3.9	101	0.00	6.29
80 M	tetrachloroethene	0.284	0.284	0.0	97	0.00	6.39
81 M	1,3-dichloropropane	0.479	0.507	-5.8	102	0.00	6.44
82	2-hexanone	0.180	0.193	-7.2	102	0.00	6.46
83 M	butyl acetate	0.284	0.305	-7.4	100	0.00	6.54
84 M	dibromochloromethane	0.272	0.312	-14.7	105	0.00	6.63
85 M	1,2-dibromoethane	0.364	0.377	-3.6	101	0.00	6.74
86	n-butyl ether	1.297	1.353	-4.3	101	0.00	7.22
87 M	chlorobenzene	0.863	0.851	1.4	98	0.00	7.17
88 M	1,1,1,2-tetrachloroethane	0.283	0.307	-8.5	102	0.00	7.24
89 M	ethylbenzene	1.484	1.499	-1.0	98	0.00	7.25
90 M	m,p-xylene	0.583	0.585	-0.3	99	0.00	7.36
91 M	o-xylene	0.562	0.561	0.2	99	0.00	7.72
92 M	styrene	0.942	0.990	-5.1	100	0.00	7.74
93 M	bromoform	0.202	0.238	-17.8	107	0.00	7.91
94	butyl acrylate	0.668	0.753	-12.7	101	0.00	7.64
95	n-amyl acetate	0.289	0.291	-0.7	94	0.00	7.85
96	isopropylbenzene	1.418	1.451	-2.3	99	0.00	8.06
97	cis-1,4-dichloro-2-butene	0.152	0.167	-9.9	97	0.00	8.10
98 I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	97	0.00	9.34

Initial Calibration Verification

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: V3D6212-ICV6212
 Lab FileID: 3D145282.D

99 S	4-bromofluorobenzene (s)	0.944	0.943	0.1	97	0.00	8.22
100 M	bromobenzene	0.793	0.803	-1.3	100	0.00	8.37
101 M	1,1,2,2-tetrachloroethane	0.867	0.922	-6.3	100	0.00	8.34
102 M	trans-1,4-dichloro-2-bute	0.259	0.308	-18.9	115	0.00	8.38
103 M	1,2,3-trichloropropane	0.300	0.305	-1.7	101	0.00	8.39
104 M	n-propylbenzene	3.416	3.459	-1.3	99	0.00	8.45
105 M	2-chlorotoluene	0.711	0.720	-1.3	99	0.00	8.55
106 M	4-chlorotoluene	0.712	0.754	-5.9	103	0.00	8.66
107 M	1,3,5-trimethylbenzene	2.410	2.423	-0.5	98	0.00	8.62
108 M	tert-butylbenzene	0.537	0.593	-10.4	110	0.00	8.93
109 M	1,2,4-trimethylbenzene	2.377	2.499	-5.1	102	0.00	8.99
110 M	sec-butylbenzene	2.814	2.893	-2.8	99	0.00	9.14
111 M	1,3-dichlorobenzene	1.402	1.420	-1.3	101	0.00	9.27
112 M	p-isopropyltoluene	2.453	2.497	-1.8	99	0.00	9.29
113 M	1,4-dichlorobenzene	1.423	1.428	-0.4	100	0.00	9.36
114	benzyl chloride	1.659	1.400	15.6	77	0.00	9.47
115 M	1,2-dichlorobenzene	1.339	1.346	-0.5	101	0.00	9.72
116 M	n-butylbenzene	1.084	1.135	-4.7	99	0.00	9.69
117 M	1,2-dibromo-3-chloropropa	0.178	0.191	-7.3	97	0.00	10.48
118	1,3,5-trichlorobenzene	0.946	0.964	-1.9	99	0.00	10.68
119	2-ethylhexyl acrylate	0.457	0.570	-24.7	118	0.00	11.48
120 M	1,2,4-trichlorobenzene	0.819	0.869	-6.1	101	0.00	11.31
121 M	hexachlorobutadiene	0.323	0.329	-1.9	97	0.00	11.45
122 M	naphthalene	2.601	2.750	-5.7	102	0.00	11.57
123 M	1,2,3-trichlorobenzene	0.750	0.806	-7.5	100	0.00	11.79
124 m	hexachloroethane	0.345	0.384	-11.3	102	0.00	9.99
125	2-methylnaphthalene	1.069	1.186	-10.9	100	0.00	12.70
126	Bis(chloromethyl)ether			-----NA-----			
127	Ethylenimine			-----NA-----			

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 3D145277.D M3D6212.M Fri Mar 08 17:11:58 2019 3D

Continuing Calibration Summary

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: V3D6386-CC6212
 Lab FileID: 3D149397.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\V3D6386\3D149397.D Vial: 2
 Acq On : 26 Sep 2019 7:19 am Operator: EddieH
 Sample : CC6212-20 Inst : MS3D
 Misc : MS37788,V3D6386,5,,,,1 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M3D6212.M (RTE Integrator)
 Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Wed Aug 28 14:33:35 2019
 Last Update : Wed Aug 28 14:33:35 2019
 Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	tert butyl alcohol-d9	1.000	1.000	0.0	56	-0.03	2.96
2 M	tertiary butyl alcohol	1.294	1.303	-0.7	58	-0.03	3.01
3	ethanol	0.120	0.125	-4.2	60	-0.03	2.39
4 M	1,4-dioxane	0.117	0.133	-13.7	62	-0.03	5.15
5 I	pentafluorobenzene	1.000	1.000	0.0	74	-0.03	4.16
6 M	chlorodifluoromethane	0.455	0.405	11.0	66	-0.02	1.59
7 M	dichlorodifluoromethane	0.504	0.453	10.1	63	-0.02	1.58
8 M	chloromethane	0.469	0.427	9.0	68	-0.02	1.72
9 M	vinyl chloride	0.475	0.448	5.7	67	-0.02	1.81
10	1,3-butadiene	0.393	0.255	35.1#	48#	-0.02	1.84
11 M	bromomethane	0.178	0.202	-13.5	80	-0.02	2.05
12 M	chloroethane	0.294	0.242	17.7	61	-0.02	2.13
13 M	trichlorofluoromethane	0.597	0.501	16.1	61	-0.02	2.31
14	vinyl bromide	0.277	0.278	-0.4	73	-0.02	2.27
15 M	ethyl ether	0.221	0.206	6.8	69	-0.02	2.49
16 M	acrolein	0.087	0.072	17.2	62	-0.02	2.58
17	freon 113	0.327	0.275	15.9	62	-0.02	2.66
18 M	1,1-dichloroethene	0.332	0.308	7.2	65	-0.02	2.66
19 M	acetone	0.050	0.040	20.0#	61	-0.02	2.67
20 M	acetonitrile	0.076	0.064	15.8	65	-0.03	2.85
21 M	iodomethane	0.137	0.246	-79.6#	177	-0.03	2.77
22 M	carbon disulfide	0.904	0.743	17.8	63	-0.02	2.83
23 M	methylene chloride	0.372	0.363	2.4	77	-0.03	2.98
24 M	methyl acetate	0.413	0.306	25.9#	56	-0.03	2.87
25 M	methyl tert butyl ether	1.109	1.026	7.5	68	-0.02	3.15
26 M	trans-1,2-dichloroethene	0.373	0.335	10.2	68	-0.02	3.17
27 M	di-isopropyl ether	1.249	1.111	11.0	66	-0.02	3.46
28 M	2-butanone	0.068	0.055	19.1	60	-0.03	3.80
29 M	1,1-dichloroethane	0.627	0.614	2.1	72	-0.03	3.46
30 M	chloroprene	0.598	0.515	13.9	63	-0.02	3.51
31 M	acrylonitrile	0.192	0.165	14.1	64	-0.03	3.12
32	hexane	0.314	0.249	20.7#	60	-0.02	3.35
33 M	vinyl acetate	0.107	0.089	16.8	60	-0.02	3.43
34 M	ethyl tert-butyl ether	1.187	1.038	12.6	64	-0.02	3.70
35 M	ethyl acetate	0.084	0.071	15.5	65	0.00	3.82
36 M	2,2-dichloropropane	0.540	0.506	6.3	69	-0.02	3.85
37 M	cis-1,2-dichloroethene	0.401	0.385	4.0	71	-0.03	3.84
38	methyl acrylate	0.079	0.065	17.7	61	-0.03	3.86
39 M	propionitrile	0.083	0.070	15.7	63	-0.04	3.85
40 M	bromochloromethane	0.178	0.190	-6.7	77	-0.04	4.00
41 M	tetrahydrofuran	0.075	0.064	14.7	62	-0.02	4.02

Continuing Calibration Summary

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: V3D6386-CC6212
 Lab FileID: 3D149397.D

42 M	chloroform	0.409	0.374	8.6	71	-0.03	4.05
43 M	t-butyl formate	0.341	0.307	10.0	64	-0.03	4.08
44 S	dibromofluoromethane (s)	0.355	0.356	-0.3	74	-0.04	4.16
45 M	methacrylonitrile	0.199	0.168	15.6	62	-0.03	3.96
46 M	1,1,1-trichloroethane	0.563	0.522	7.3	68	-0.03	4.20
47	cyclohexane	0.597	0.528	11.6	66	-0.03	4.26
48	1,1-dichloropropene	0.519	0.471	9.2	67	-0.03	4.30
49	iso-butyl alcohol	0.033	0.022	33.3#	51	-0.03	4.30
50	carbon tetrachloride	0.460	0.438	4.8	69	-0.03	4.32
51	tert amyl alcohol	0.028	0.024	14.3	62	-0.03	4.39
52 I	1,4-difluorobenzene	1.000	1.000	0.0	74	-0.03	4.72
53 S	1,2-dichloroethane-d4 (s)	0.281	0.257	8.5	70	0.00	4.41
54 M	n-butyl alcohol	0.016	0.013	18.8	57	-0.03	4.78
55	2,2,4-trimethylpentane	0.709	0.566	20.2#	61	-0.02	4.52
56 M	benzene	1.077	1.004	6.8	70	-0.03	4.45
57 M	tert-amyl methyl ether	0.209	0.181	13.4	64	-0.03	4.52
58 M	heptane	0.183	0.172	6.0	70	-0.02	4.63
59 M	isopropyl acetate	0.089	0.074	16.9	61	-0.02	4.43
60 M	1,2-dichloroethane	0.362	0.314	13.3	68	-0.03	4.47
61 M	trichloroethene	0.290	0.293	-1.0	75	-0.03	4.92
62	ethyl acrylate	0.442	0.377	14.7	62	-0.02	4.94
63 M	2-nitropropane	0.079	0.065	17.7	65	-0.03	5.46
64 M	2-chloroethyl vinyl ether	0.181	0.172	5.0	67	-0.03	5.49
65 M	methyl methacrylate	0.352	0.287	18.5	64	-0.03	5.11
66 M	1,2-dichloropropane	0.261	0.259	0.8	74	-0.04	5.11
67 M	dibromomethane	0.153	0.145	5.2	70	-0.03	5.18
68 M	methylcyclohexane	0.456	0.403	11.6	68	-0.02	5.11
69 M	bromodichloromethane	0.319	0.309	3.1	72	-0.04	5.30
70	epichlorohydrin	0.043	0.035	18.6	59	-0.03	5.54
71 M	cis-1,3-dichloropropene	0.419	0.407	2.9	73	-0.03	5.64
72 M	4-methyl-2-pentanone	0.149	0.126	15.4	62	-0.03	5.74
73 M	3-methyl-1-butanol	0.023	0.019	17.4	59	-0.04	5.75
74 I	chlorobenzene-d5	1.000	1.000	0.0	74	-0.03	7.11
75 S	toluene-d8 (s)	1.270	1.302	-2.5	75	-0.03	5.87
76	toluene	0.811	0.782	3.6	73	-0.03	5.92
77	trans-1,3-dichloropropene	0.453	0.425	6.2	71	-0.03	6.09
78	ethyl methacrylate	0.475	0.423	10.9	64	-0.03	6.11
79	1,1,2-trichloroethane	0.230	0.230	0.0	73	-0.03	6.26
80 M	tetrachloroethene	0.284	0.302	-6.3	78	-0.03	6.36
81 M	1,3-dichloropropane	0.479	0.476	0.6	73	-0.03	6.41
82	2-hexanone	0.180	0.151	16.1	60	-0.03	6.42
83 M	butyl acetate	0.284	0.259	8.8	67	-0.02	6.52
84 M	dibromochloromethane	0.272	0.313	-15.1	85	-0.03	6.60
85 M	1,2-dibromoethane	0.364	0.319	12.4	66	-0.03	6.71
86	n-butyl ether	1.297	1.238	4.5	70	-0.03	7.19
87 M	chlorobenzene	0.863	0.860	0.3	76	-0.04	7.14
88 M	1,1,1,2-tetrachloroethane	0.283	0.299	-5.7	78	-0.03	7.21
89 M	ethylbenzene	1.484	1.468	1.1	73	-0.03	7.22
90 M	m,p-xylene	0.583	0.577	1.0	74	-0.03	7.33
91 M	o-xylene	0.562	0.557	0.9	74	-0.03	7.69
92 M	styrene	0.942	0.932	1.1	72	-0.03	7.71
93 M	bromoform	0.202	0.236	-16.8	87	-0.04	7.88
94	butyl acrylate	0.668	0.618	7.5	65	-0.03	7.61
95	n-amyl acetate	0.289	0.266	8.0	66	-0.03	7.81
96	isopropylbenzene	1.418	1.409	0.6	73	-0.03	8.03
97	cis-1,4-dichloro-2-butene	0.152	0.140	7.9	68	-0.03	8.07
98 I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	81	-0.03	9.31

Continuing Calibration Summary

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: V3D6386-CC6212
 Lab FileID: 3D149397.D

99 S	4-bromofluorobenzene (s)	0.944	0.870	7.8	75	-0.03	8.19
100 M	bromobenzene	0.793	0.749	5.5	78	-0.03	8.34
101 M	1,1,2,2-tetrachloroethane	0.867	0.714	17.6	66	0.00	8.30
102 M	trans-1,4-dichloro-2-bute	0.259	0.227	12.4	72	-0.03	8.34
103 M	1,2,3-trichloropropane	0.300	0.260	13.3	72	-0.04	8.36
104 M	n-propylbenzene	3.416	3.098	9.3	73	-0.03	8.42
105 M	2-chlorotoluene	0.711	0.659	7.3	74	-0.03	8.52
106 M	4-chlorotoluene	0.712	0.664	6.7	76	-0.03	8.63
107 M	1,3,5-trimethylbenzene	2.410	2.106	12.6	70	-0.03	8.59
108 M	tert-butylbenzene	0.537	0.505	6.0	76	-0.03	8.89
109 M	1,2,4-trimethylbenzene	2.377	2.105	11.4	72	-0.03	8.95
110 M	sec-butylbenzene	2.814	2.633	6.4	75	-0.03	9.11
111 M	1,3-dichlorobenzene	1.402	1.289	8.1	76	-0.03	9.24
112 M	p-isopropyltoluene	2.453	2.263	7.7	76	-0.03	9.26
113 M	1,4-dichlorobenzene	1.423	1.356	4.7	79	-0.03	9.33
114	benzyl chloride	1.659	1.522	8.3	73	-0.03	9.44
115 M	1,2-dichlorobenzene	1.339	1.264	5.6	77	-0.03	9.69
116 M	n-butylbenzene	1.084	1.019	6.0	75	-0.03	9.66
117 M	1,2-dibromo-3-chloropropa	0.178	0.155	12.9	71	-0.04	10.45
118	1,3,5-trichlorobenzene	0.946	0.907	4.1	80	-0.04	10.64
119	2-ethylhexyl acrylate	0.457	0.339	25.8#	69	-0.03	11.45
120 M	1,2,4-trichlorobenzene	0.819	0.815	0.5	80	-0.04	11.27
121 M	hexachlorobutadiene	0.323	0.350	-8.4	89	-0.03	11.42
122 M	naphthalene	2.601	2.324	10.6	74	-0.04	11.53
123 M	1,2,3-trichlorobenzene	0.750	0.761	-1.5	82	-0.04	11.76
124 m	hexachloroethane	0.345	0.366	-6.1	89	-0.03	9.96
125	2-methylnaphthalene	1.069	0.857	19.8	70	-0.04	12.67
126	Bis(chloromethyl)ether			-----NA-----			
127	Ethylenimine			-----NA-----			

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 3D145276.D M3D6212.M Thu Sep 26 15:39:39 2019 3D

Continuing Calibration Summary

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: V3D6388-CC6212
 Lab FileID: 3D149450.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\V3D6388\3D149450.D Vial: 4
 Acq On : 30 Sep 2019 8:10 am Operator: EddieH
 Sample : CC6212-20 Inst : MS3D
 Misc : MS37930,V3D6388,5,,,,1 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M3D6212.M (RTE Integrator)
 Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4 Wed Aug 28 14:33:35 2019
 Last Update : Wed Aug 28 14:33:35 2019
 Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 20% Max. Rel. Area : 200%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 tert butyl alcohol-d9	1.000	1.000	0.0	87	-0.03	2.96
2 M tertiary butyl alcohol	1.294	1.406	-8.7	98	-0.03	3.01
3 ethanol	0.120	0.142	-18.3	106	-0.03	2.39
4 M 1,4-dioxane	0.117	0.137	-17.1	99	-0.03	5.15
5 I pentafluorobenzene	1.000	1.000	0.0	102	-0.03	4.16
6 M chlorodifluoromethane	0.455	0.491	-7.9	110	-0.02	1.59
7 M dichlorodifluoromethane	0.504	0.449	10.9	86	-0.02	1.58
8 M chloromethane	0.469	0.486	-3.6	107	-0.02	1.72
9 M vinyl chloride	0.475	0.455	4.2	94	-0.02	1.81
10 1,3-butadiene	0.393	0.305	22.4#	80	-0.02	1.84
11 M bromomethane	0.178	0.210	-18.0	116	-0.02	2.05
12 M chloroethane	0.294	0.237	19.4	83	-0.02	2.13
13 M trichlorofluoromethane	0.597	0.458	23.3#	77	-0.02	2.31
14 vinyl bromide	0.277	0.253	8.7	92	-0.02	2.27
15 M ethyl ether	0.221	0.237	-7.2	110	-0.02	2.49
16 M acrolein	0.087	0.097	-11.5	116	-0.02	2.58
17 freon 113	0.327	0.261	20.2#	81	-0.02	2.66
18 M 1,1-dichloroethene	0.332	0.303	8.7	89	-0.02	2.66
19 M acetone	0.050	0.048	4.0	101	-0.02	2.67
20 M acetonitrile	0.076	0.080	-5.3	113	-0.04	2.85
21 M iodomethane	0.137	0.240	-75.2#	239#	-0.03	2.77
22 M carbon disulfide	0.904	0.792	12.4	93	-0.02	2.83
23 M methylene chloride	0.372	0.386	-3.8	113	-0.03	2.98
24 M methyl acetate	0.413	0.385	6.8	98	-0.03	2.87
25 M methyl tert butyl ether	1.109	1.141	-2.9	105	-0.02	3.15
26 M trans-1,2-dichloroethene	0.373	0.334	10.5	93	-0.02	3.17
27 M di-isopropyl ether	1.249	1.273	-1.9	105	-0.02	3.46
28 M 2-butanone	0.068	0.062	8.8	93	-0.03	3.80
29 M 1,1-dichloroethane	0.627	0.644	-2.7	104	-0.03	3.46
30 M chloroprene	0.598	0.524	12.4	88	-0.03	3.50
31 M acrylonitrile	0.192	0.194	-1.0	104	-0.03	3.12
32 hexane	0.314	0.253	19.4	84	-0.02	3.35
33 M vinyl acetate	0.107	0.097	9.3	89	-0.03	3.43
34 M ethyl tert-butyl ether	1.187	1.153	2.9	99	-0.02	3.70
35 M ethyl acetate	0.084	0.083	1.2	106	0.00	3.82
36 M 2,2-dichloropropane	0.540	0.524	3.0	99	-0.03	3.85
37 M cis-1,2-dichloroethene	0.401	0.385	4.0	98	-0.03	3.84
38 methyl acrylate	0.079	0.068	13.9	88	-0.03	3.86
39 M propionitrile	0.083	0.085	-2.4	105	-0.04	3.85
40 M bromochloromethane	0.178	0.191	-7.3	107	-0.03	4.00
41 M tetrahydrofuran	0.075	0.073	2.7	99	-0.02	4.02

Continuing Calibration Summary

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: V3D6388-CC6212
 Lab FileID: 3D149450.D

42 M	chloroform	0.409	0.370	9.5	97	-0.03	4.05
43 M	t-butyl formate	0.341	0.382	-12.0	110	-0.03	4.08
44 S	dibromofluoromethane (s)	0.355	0.356	-0.3	102	-0.04	4.16
45 M	methacrylonitrile	0.199	0.195	2.0	100	-0.03	3.96
46 M	1,1,1-trichloroethane	0.563	0.506	10.1	92	-0.03	4.20
47	cyclohexane	0.597	0.467	21.8#	81	-0.03	4.26
48	1,1-dichloropropene	0.519	0.481	7.3	95	-0.03	4.30
49	iso-butyl alcohol	0.033	0.028	15.2	91	-0.03	4.30
50	carbon tetrachloride	0.460	0.421	8.5	92	-0.03	4.32
51	tert amyl alcohol	0.028	0.026	7.1	93	-0.03	4.39
52 I	1,4-difluorobenzene	1.000	1.000	0.0	102	-0.03	4.72
53 S	1,2-dichloroethane-d4 (s)	0.281	0.256	8.9	95	0.00	4.41
54 M	n-butyl alcohol	0.016	0.015	6.3	97	-0.03	4.78
55	2,2,4-trimethylpentane	0.709	0.576	18.8	85	-0.02	4.52
56 M	benzene	1.077	1.035	3.9	99	-0.03	4.45
57 M	tert-amyl methyl ether	0.209	0.192	8.1	93	-0.03	4.52
58 M	heptane	0.183	0.165	9.8	93	-0.02	4.63
59 M	isopropyl acetate	0.089	0.086	3.4	97	-0.03	4.42
60 M	1,2-dichloroethane	0.362	0.331	8.6	98	-0.03	4.47
61 M	trichloroethene	0.290	0.282	2.8	100	-0.03	4.92
62	ethyl acrylate	0.442	0.432	2.3	97	-0.03	4.93
63 M	2-nitropropane	0.079	0.083	-5.1	114	-0.03	5.46
64 M	2-chloroethyl vinyl ether	0.181	0.197	-8.8	105	-0.03	5.49
65 M	methyl methacrylate	0.352	0.307	12.8	94	-0.03	5.11
66 M	1,2-dichloropropane	0.261	0.271	-3.8	107	-0.04	5.11
67 M	dibromomethane	0.153	0.154	-0.7	102	-0.03	5.18
68 M	methylcyclohexane	0.456	0.387	15.1	90	-0.02	5.11
69 M	bromodichloromethane	0.319	0.326	-2.2	105	-0.04	5.30
70	epichlorohydrin	0.043	0.043	0.0	98	-0.03	5.54
71 M	cis-1,3-dichloropropene	0.419	0.441	-5.3	108	-0.03	5.64
72 M	4-methyl-2-pentanone	0.149	0.146	2.0	99	-0.03	5.74
73 M	3-methyl-1-butanol	0.023	0.023	0.0	100	-0.04	5.75
74 I	chlorobenzene-d5	1.000	1.000	0.0	102	-0.03	7.11
75 S	toluene-d8 (s)	1.270	1.303	-2.6	104	-0.03	5.87
76	toluene	0.811	0.777	4.2	100	-0.03	5.92
77	trans-1,3-dichloropropene	0.453	0.475	-4.9	109	-0.03	6.09
78	ethyl methacrylate	0.475	0.456	4.0	95	-0.03	6.11
79	1,1,2-trichloroethane	0.230	0.241	-4.8	106	-0.03	6.26
80 M	tetrachloroethene	0.284	0.277	2.5	99	-0.03	6.36
81 M	1,3-dichloropropane	0.479	0.513	-7.1	108	-0.03	6.41
82	2-hexanone	0.180	0.180	0.0	99	-0.03	6.42
83 M	butyl acetate	0.284	0.299	-5.3	106	-0.03	6.51
84 M	dibromochloromethane	0.272	0.317	-16.5	118	-0.03	6.60
85 M	1,2-dibromoethane	0.364	0.336	7.7	95	-0.03	6.71
86	n-butyl ether	1.297	1.346	-3.8	105	-0.03	7.19
87 M	chlorobenzene	0.863	0.843	2.3	103	-0.04	7.14
88 M	1,1,1,2-tetrachloroethane	0.283	0.295	-4.2	105	-0.03	7.21
89 M	ethylbenzene	1.484	1.451	2.2	99	-0.03	7.22
90 M	m,p-xylene	0.583	0.565	3.1	100	-0.03	7.33
91 M	o-xylene	0.562	0.555	1.2	102	-0.03	7.69
92 M	styrene	0.942	0.929	1.4	99	-0.03	7.71
93 M	bromoform	0.202	0.246	-21.8#	124	-0.04	7.88
94	butyl acrylate	0.668	0.680	-1.8	98	-0.03	7.61
95	n-amyl acetate	0.289	0.299	-3.5	103	-0.03	7.81
96	isopropylbenzene	1.418	1.406	0.8	101	-0.03	8.03
97	cis-1,4-dichloro-2-butene	0.152	0.164	-7.9	109	-0.03	8.07
98 I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	113	-0.03	9.31

Continuing Calibration Summary

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: V3D6388-CC6212
 Lab FileID: 3D149450.D

99 S	4-bromofluorobenzene (s)	0.944	0.871	7.7	104	-0.03	8.19
100 M	bromobenzene	0.793	0.725	8.6	105	-0.03	8.34
101 M	1,1,2,2-tetrachloroethane	0.867	0.801	7.6	104	0.00	8.30
102 M	trans-1,4-dichloro-2-bute	0.259	0.258	0.4	114	-0.03	8.34
103 M	1,2,3-trichloropropane	0.300	0.270	10.0	103	-0.04	8.36
104 M	n-propylbenzene	3.416	3.077	9.9	101	-0.03	8.42
105 M	2-chlorotoluene	0.711	0.669	5.9	105	-0.03	8.52
106 M	4-chlorotoluene	0.712	0.664	6.7	106	-0.03	8.63
107 M	1,3,5-trimethylbenzene	2.410	2.053	14.8	96	-0.03	8.59
108 M	tert-butylbenzene	0.537	0.482	10.2	101	-0.03	8.89
109 M	1,2,4-trimethylbenzene	2.377	2.167	8.8	103	-0.03	8.95
110 M	sec-butylbenzene	2.814	2.584	8.2	102	-0.03	9.11
111 M	1,3-dichlorobenzene	1.402	1.323	5.6	108	-0.03	9.24
112 M	p-isopropyltoluene	2.453	2.263	7.7	105	-0.03	9.26
113 M	1,4-dichlorobenzene	1.423	1.359	4.5	110	-0.03	9.33
114	benzyl chloride	1.659	1.877	-13.1	125	-0.03	9.44
115 M	1,2-dichlorobenzene	1.339	1.291	3.6	110	-0.04	9.68
116 M	n-butylbenzene	1.084	1.027	5.3	105	-0.04	9.66
117 M	1,2-dibromo-3-chloropropa	0.178	0.167	6.2	107	-0.04	10.45
118	1,3,5-trichlorobenzene	0.946	0.941	0.5	115	-0.04	10.64
119	2-ethylhexyl acrylate	0.457	0.397	13.1	113	-0.03	11.45
120 M	1,2,4-trichlorobenzene	0.819	0.863	-5.4	118	-0.04	11.27
121 M	hexachlorobutadiene	0.323	0.342	-5.9	121	-0.03	11.42
122 M	naphthalene	2.601	2.605	-0.2	116	-0.04	11.53
123 M	1,2,3-trichlorobenzene	0.750	0.808	-7.7	121	-0.04	11.76
124 m	hexachloroethane	0.345	0.356	-3.2	120	-0.03	9.96
125	2-methylnaphthalene	1.069	1.094	-2.3	124	-0.04	12.67
126	Bis(chloromethyl)ether			-----NA-----			
127	Ethylenimine			-----NA-----			

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 3D145276.D M3D6212.M Mon Sep 30 11:42:13 2019 3D

Run Sequence Report

Job Number: JC95610
Account: BBLNYS Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

Run ID: V3D6212	Method: SW846 8260C	Instrument ID: GCMS3D
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Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
V3D6212-BFB	3D145269.D	03/07/19 17:57	n/a	BFB Tune
V3D6212-IC6212	3D145270.D	03/07/19 18:37	n/a	Initial cal 0.2
V3D6212-IC6212	3D145271.D	03/07/19 19:02	n/a	Initial cal 0.5
V3D6212-IC6212	3D145272.D	03/07/19 19:27	n/a	Initial cal 1
V3D6212-IC6212	3D145273.D	03/07/19 19:52	n/a	Initial cal 2
V3D6212-IC6212	3D145274.D	03/07/19 20:17	n/a	Initial cal 4
V3D6212-IC6212	3D145275.D	03/07/19 20:43	n/a	Initial cal 8
V3D6212-IC6212	3D145276.D	03/07/19 21:08	n/a	Initial cal 20
V3D6212-ICC6212	3D145277.D	03/07/19 21:33	n/a	Initial cal 50
V3D6212-IC6212	3D145278.D	03/07/19 21:58	n/a	Initial cal 100
V3D6212-IC6212	3D145279.D	03/07/19 22:24	n/a	Initial cal 200
V3D6212-ICV6212	3D145282.D	03/07/19 23:39	n/a	Initial cal verification 50

6.10.1
6

Run Sequence Report

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Run ID: V3D6386	Method: SW846 8260C	Instrument ID: GCMS3D
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Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
V3D6386-BFB	3D149397.D	09/26/19 07:19	n/a	BFB Tune
V3D6386-CC6212	3D149397.D	09/26/19 07:19	n/a	Continuing cal 20
V3D6386-BS	3D149398.D	09/26/19 08:22	n/a	Blank Spike
V3D6386-MB	3D149400.D	09/26/19 09:20	n/a	Method Blank
GP23871-15LB	3D149401.D	09/26/19 10:08	GP23871	Leachate Blank
ZZZZZZ	3D149402.D	09/26/19 10:33	GP23871	(unrelated sample)
JC95314-16	3D149403.D	09/26/19 10:59	GP23871	(used for QC only; not part of job JC95610)
ZZZZZZ	3D149404.D	09/26/19 11:24	GP23776	(unrelated sample)
ZZZZZZ	3D149405.D	09/26/19 11:50	GP23776	(unrelated sample)
ZZZZZZ	3D149406.D	09/26/19 12:15	GP23776	(unrelated sample)
JC95314-16MS	3D149408.D	09/26/19 13:05	n/a	Matrix Spike
GP23871-15LS	3D149408.D	09/26/19 13:05	GP23871	Leachate Spike
JC95314-16MSD	3D149409.D	09/26/19 13:30	n/a	Matrix Spike Duplicate
ZZZZZZ	3D149411.D	09/26/19 14:21	GP23871	(unrelated sample)
ZZZZZZ	3D149412.D	09/26/19 14:46	GP23871	(unrelated sample)
ZZZZZZ	3D149413.D	09/26/19 15:12	GP23871	(unrelated sample)
GP23888-16LB	3D149415.D	09/26/19 16:03	GP23888	Leachate Blank
ZZZZZZ	3D149416.D	09/26/19 16:28	GP23888	(unrelated sample)
ZZZZZZ	3D149417.D	09/26/19 16:54	GP23888	(unrelated sample)
ZZZZZZ	3D149418.D	09/26/19 17:19	GP23888	(unrelated sample)
ZZZZZZ	3D149419.D	09/26/19 17:44	GP23888	(unrelated sample)
ZZZZZZ	3D149420.D	09/26/19 18:10	GP23888	(unrelated sample)
ZZZZZZ	3D149421.D	09/26/19 18:35	GP23888	(unrelated sample)
GP23888-16LS	3D149422.D	09/26/19 19:00	GP23888	Leachate Spike

6.10.2

6

Run Sequence Report

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Run ID: V3D6388	Method: SW846 8260C	Instrument ID: GCMS3D
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Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
V3D6388-BFB	3D149450.D	09/30/19 08:10	n/a	BFB Tune
V3D6388-CC6212	3D149450.D	09/30/19 08:10	n/a	Continuing cal 20
V3D6388-BS	3D149451.D	09/30/19 08:42	n/a	Blank Spike
V3D6388-BSD	3D149452.D	09/30/19 09:07	n/a	Blank Spike Duplicate
V3D6388-MB	3D149454.D	09/30/19 10:04	n/a	Method Blank
GP23943-1LB	3D149455.D	09/30/19 10:33	GP23943	Leachate Blank
JC95392-5	3D149456.D	09/30/19 10:58	GP23943	(used for QC only; not part of job JC95610)
ZZZZZZ	3D149457.D	09/30/19 11:24	GP23943	(unrelated sample)
ZZZZZZ	3D149458.D	09/30/19 11:49	GP23943	(unrelated sample)
ZZZZZZ	3D149459.D	09/30/19 12:15	GP23943	(unrelated sample)
ZZZZZZ	3D149460.D	09/30/19 12:40	GP23943	(unrelated sample)
ZZZZZZ	3D149461.D	09/30/19 13:05	GP23943	(unrelated sample)
ZZZZZZ	3D149462.D	09/30/19 13:31	GP23943	(unrelated sample)
JC95392-5MS	3D149463.D	09/30/19 13:56	n/a	Matrix Spike
GP23943-1LS	3D149463A.D	09/30/19 13:56	GP23943	Leachate Spike
JC95392-5MSD	3D149464.D	09/30/19 14:21	n/a	Matrix Spike Duplicate
GP23923-18LB	3D149466.D	09/30/19 15:11	GP23923	Leachate Blank
ZZZZZZ	3D149467.D	09/30/19 15:37	GP23871	(unrelated sample)
ZZZZZZ	3D149468.D	09/30/19 16:02	GP23923	(unrelated sample)
ZZZZZZ	3D149469.D	09/30/19 16:27	GP23923	(unrelated sample)
ZZZZZZ	3D149470.D	09/30/19 16:53	GP23888	(unrelated sample)
ZZZZZZ	3D149471.D	09/30/19 17:18	GP23923	(unrelated sample)
JC95610-1	3D149472.D	09/30/19 17:43	GP23888	WC-092519
GP23923-18LS	3D149474.D	09/30/19 18:33	GP23923	Leachate Spike

6.10.3
6

MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (DFTPP)
- Internal Standard Area Summaries
- Surrogate Recovery Summaries
- Initial and Continuing Calibration Summaries
- Run Sequence Reports

Method Blank Summary

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP23137-MB2	P132154.D	1	10/08/19	CS	10/08/19	OP23137	EP5993

The QC reported here applies to the following samples:

Method: SW846 8270D

JC95610-1

CAS No.	Compound	Result	RL	MDL	Units	Q
95-48-7	2-Methylphenol	ND	2.0	0.89	ug/l	
	3&4-Methylphenol	ND	2.0	0.88	ug/l	
87-86-5	Pentachlorophenol	ND	10	1.4	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	5.0	1.3	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	5.0	0.92	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.17	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	2.0	0.55	ug/l	
118-74-1	Hexachlorobenzene	ND	2.0	0.33	ug/l	
87-68-3	Hexachlorobutadiene	ND	1.0	0.49	ug/l	
67-72-1	Hexachloroethane	ND	5.0	0.39	ug/l	
98-95-3	Nitrobenzene	ND	2.0	0.64	ug/l	
110-86-1	Pyridine	ND	2.0	0.39	ug/l	

CAS No.	Surrogate Recoveries	Limits
367-12-4	2-Fluorophenol	44% 14-88%
4165-62-2	Phenol-d5	31% 10-110%
118-79-6	2,4,6-Tribromophenol	74% 39-149%
4165-60-0	Nitrobenzene-d5	74% 32-128%
321-60-8	2-Fluorobiphenyl	70% 35-119%
1718-51-0	Terphenyl-d14	66% 10-126%

7.1.1
7

Leachate Blank Summary

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP23137-LB9	P132155.D	1	10/08/19	CS	10/08/19	OP23137	EP5993

The QC reported here applies to the following samples:

Method: SW846 8270D

JC95610-1

CAS No.	Compound	Result	RL	MDL	Units	Q
95-48-7	2-Methylphenol	ND	20	8.9	ug/l	
	3&4-Methylphenol	ND	20	8.8	ug/l	
87-86-5	Pentachlorophenol	ND	100	14	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	50	13	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	50	9.2	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	20	1.7	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	20	5.5	ug/l	
118-74-1	Hexachlorobenzene	ND	20	3.3	ug/l	
87-68-3	Hexachlorobutadiene	ND	10	4.9	ug/l	
67-72-1	Hexachloroethane	ND	50	3.9	ug/l	
98-95-3	Nitrobenzene	ND	20	6.4	ug/l	
110-86-1	Pyridine	ND	20	3.9	ug/l	

CAS No.	Surrogate Recoveries	Limits
367-12-4	2-Fluorophenol	41% 14-88%
4165-62-2	Phenol-d5	29% 10-110%
118-79-6	2,4,6-Tribromophenol	69% 39-149%
4165-60-0	Nitrobenzene-d5	70% 32-128%
321-60-8	2-Fluorobiphenyl	66% 35-119%
1718-51-0	Terphenyl-d14	65% 10-126%

7.2.1

7

Blank Spike Summary

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP23137-BS2	P132158.D	1	10/08/19	CS	10/08/19	OP23137	EP5993

The QC reported here applies to the following samples:

Method: SW846 8270D

JC95610-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
95-48-7	2-Methylphenol	500	395	79	42-103
	3&4-Methylphenol	500	384	77	39-110
87-86-5	Pentachlorophenol	500	344	69	30-136
95-95-4	2,4,5-Trichlorophenol	500	382	76	55-116
88-06-2	2,4,6-Trichlorophenol	500	378	76	56-115
106-46-7	1,4-Dichlorobenzene	500	321	64	39-110
121-14-2	2,4-Dinitrotoluene	500	517	103	57-122
118-74-1	Hexachlorobenzene	500	380	76	49-122
87-68-3	Hexachlorobutadiene	500	268	54	24-112
67-72-1	Hexachloroethane	500	251	50	31-107
98-95-3	Nitrobenzene	500	372	74	44-116
110-86-1	Pyridine	500	99.5	20	10-110

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	53%	14-88%
4165-62-2	Phenol-d5	44%	10-110%
118-79-6	2,4,6-Tribromophenol	75%	39-149%
4165-60-0	Nitrobenzene-d5	80%	32-128%
321-60-8	2-Fluorobiphenyl	75%	35-119%
1718-51-0	Terphenyl-d14	76%	10-126%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP23137-MS	P132159.D	1	10/08/19	CS	10/08/19	OP23137	EP5993
OP23137-MSD	P132160.D	1	10/09/19	CS	10/08/19	OP23137	EP5993
JC95821-11A	P132161.D	1	10/09/19	CS	10/08/19	OP23137	EP5993

The QC reported here applies to the following samples:

Method: SW846 8270D

JC95610-1

CAS No.	Compound	JC95821-11ASpike		MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
		ug/l	Q							
95-48-7	2-Methylphenol	ND	500	404	81	500	392	78	3	47-112/18
	3&4-Methylphenol	ND	500	391	78	500	378	76	3	44-113/19
87-86-5	Pentachlorophenol	ND	500	384	77	500	368	74	4	25-151/25
95-95-4	2,4,5-Trichlorophenol	ND	500	395	79	500	417	83	5	51-124/20
88-06-2	2,4,6-Trichlorophenol	ND	500	390	78	500	404	81	4	53-120/21
106-46-7	1,4-Dichlorobenzene	ND	500	370	74	500	383	77	3	40-105/22
121-14-2	2,4-Dinitrotoluene	ND	500	507	101	500	525	105	3	54-123/27
118-74-1	Hexachlorobenzene	ND	500	397	79	500	396	79	0	46-125/24
87-68-3	Hexachlorobutadiene	ND	500	310	62	500	325	65	5	26-121/24
67-72-1	Hexachloroethane	ND	500	299	60	500	311	62	4	35-111/26
98-95-3	Nitrobenzene	ND	500	413	83	500	408	82	1	35-130/25
110-86-1	Pyridine	ND	500	52.1	10* a	500	71.2	14	31	12-102/41

CAS No.	Surrogate Recoveries	MS	MSD	JC95821-11ALimits	
367-12-4	2-Fluorophenol	59%	57%	37%	14-88%
4165-62-2	Phenol-d5	42%	43%	27%	10-110%
118-79-6	2,4,6-Tribromophenol	81%	75%	80%	39-149%
4165-60-0	Nitrobenzene-d5	88%	89%	69%	32-128%
321-60-8	2-Fluorobiphenyl	78%	84%	64%	35-119%
1718-51-0	Terphenyl-d14	76%	66%	71%	10-126%

(a) Outside of in house control limits.

* = Outside of Control Limits.

7.4.1

Leachate Spike Summary

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP23137-LS4	P132159.D	1	10/08/19	CS	10/08/19	OP23137	EP5993
JC95821-11A	P132161.D	1	10/09/19	CS	10/08/19	OP23137	EP5993

The QC reported here applies to the following samples:

Method: SW846 8270D

JC95610-1

CAS No.	Compound	JC95821-11ASpike		LS	LS	Limits
		ug/l	Q ug/l	ug/l	%	
95-48-7	2-Methylphenol	ND	500	404	81	47-112
	3&4-Methylphenol	ND	500	391	78	44-113
87-86-5	Pentachlorophenol	ND	500	384	77	25-151
95-95-4	2,4,5-Trichlorophenol	ND	500	395	79	51-124
88-06-2	2,4,6-Trichlorophenol	ND	500	390	78	53-120
106-46-7	1,4-Dichlorobenzene	ND	500	370	74	40-105
121-14-2	2,4-Dinitrotoluene	ND	500	507	101	54-123
118-74-1	Hexachlorobenzene	ND	500	397	79	46-125
87-68-3	Hexachlorobutadiene	ND	500	310	62	26-121
67-72-1	Hexachloroethane	ND	500	299	60	35-111
98-95-3	Nitrobenzene	ND	500	413	83	35-130
110-86-1	Pyridine	ND	500	52.1	10* a	12-102

CAS No.	Surrogate Recoveries	LS	JC95821-11ALimits
367-12-4	2-Fluorophenol	59%	37% 14-88%
4165-62-2	Phenol-d5	42%	27% 10-110%
118-79-6	2,4,6-Tribromophenol	81%	80% 39-149%
4165-60-0	Nitrobenzene-d5	88%	69% 32-128%
321-60-8	2-Fluorobiphenyl	78%	64% 35-119%
1718-51-0	Terphenyl-d14	76%	71% 10-126%

(a) Outside of in house control limits.

* = Outside of Control Limits.

Instrument Performance Check (DFTPP)

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample:	EP5919-DFTPP	Injection Date:	07/09/19
Lab File ID:	P130614.D	Injection Time:	23:15
Instrument ID:	GCMSP		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
51	30.0 - 60.0% of mass 198	15053	35.5	Pass
68	Less than 2.0% of mass 69	0	0.00 (0.00) ^a	Pass
69	Mass 69 relative abundance	14769	34.8	Pass
70	Less than 2.0% of mass 69	52	0.12 (0.35) ^a	Pass
127	40.0 - 60.0% of mass 198	18279	43.1	Pass
197	Less than 1.0% of mass 198	166	0.39	Pass
198	Base peak, 100% relative abundance	42399	100.0	Pass
199	5.0 - 9.0% of mass 198	3004	7.09	Pass
275	10.0 - 30.0% of mass 198	10856	25.6	Pass
365	1.0 - 100.0% of mass 198	1420	3.35	Pass
441	Present, but less than mass 443	3975	9.38 (75.1) ^b	Pass
442	40.0 - 100.0% of mass 198	25920	61.1	Pass
443	17.0 - 23.0% of mass 442	5290	12.5 (20.4) ^c	Pass

- (a) Value is % of mass 69
- (b) Value is % of mass 443
- (c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EP5919-IC5919	P130615.D	07/09/19	23:30	00:15	Initial cal 1
EP5919-IC5919	P130616.D	07/09/19	23:57	00:42	Initial cal 2
EP5919-IC5919	P130617.D	07/10/19	00:27	01:12	Initial cal 25
EP5919-IC5919	P130618.D	07/10/19	00:54	01:39	Initial cal 100
EP5919-IC5919	P130619.D	07/10/19	01:21	02:06	Initial cal 80
EP5919-ICC5919	P130620.D	07/10/19	01:48	02:33	Initial cal 50
EP5919-IC5919	P130621.D	07/10/19	02:16	03:01	Initial cal 10
EP5919-IC5919	P130622.D	07/10/19	02:42	03:27	Initial cal 5
EP5919-ICV5919	P130623.D	07/10/19	03:09	03:54	Initial cal verification 50
EP5919-ICV5919	P130625.D	07/10/19	04:03	04:48	Initial cal verification 50
EP5919-ICV5919	P130627.D	07/10/19	04:57	05:42	Initial cal verification 50
EP5919-ICV5919	P130628.D	07/10/19	05:24	06:09	Initial cal verification 50

7.6.1
7

Instrument Performance Check (DFTPP)

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample:	EP5921-DFTPP	Injection Date:	07/10/19
Lab File ID:	P130641.D	Injection Time:	10:51
Instrument ID:	GCMSP		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
51	30.0 - 60.0% of mass 198	7820	44.8	Pass
68	Less than 2.0% of mass 69	0	0.00 (0.00) ^a	Pass
69	Mass 69 relative abundance	7759	44.4	Pass
70	Less than 2.0% of mass 69	0	0.00 (0.00) ^a	Pass
127	40.0 - 60.0% of mass 198	8753	50.1	Pass
197	Less than 1.0% of mass 198	83	0.48	Pass
198	Base peak, 100% relative abundance	17456	100.0	Pass
199	5.0 - 9.0% of mass 198	1162	6.66	Pass
275	10.0 - 30.0% of mass 198	4038	23.1	Pass
365	1.0 - 100.0% of mass 198	618	3.54	Pass
441	Present, but less than mass 443	1608	9.21 (82.7) ^b	Pass
442	40.0 - 100.0% of mass 198	10065	57.7	Pass
443	17.0 - 23.0% of mass 442	1945	11.1 (19.3) ^c	Pass

- (a) Value is % of mass 69
- (b) Value is % of mass 443
- (c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EP5921-IC5921	P130642.D	07/10/19	11:03	00:12	Initial cal 100
EP5921-ICC5921	P130644.D	07/10/19	11:57	01:06	Initial cal 50
EP5921-IC5921	P130645.D	07/10/19	12:24	01:33	Initial cal 25
EP5921-IC5921	P130646.D	07/10/19	12:51	02:00	Initial cal 10
EP5921-IC5921	P130647.D	07/10/19	13:18	02:27	Initial cal 5
EP5921-IC5921	P130648.D	07/10/19	13:45	02:54	Initial cal 2
EP5921-IC5921	P130649.D	07/10/19	14:13	03:22	Initial cal 1
EP5921-IC5921	P130650.D	07/10/19	14:40	03:49	Initial cal 80
EP5921-ICV5921	P130651.D	07/10/19	15:07	04:16	Initial cal verification 50
EP5921-ICV5921	P130652.D	07/10/19	15:34	04:43	Initial cal verification 50
EP5921-ICV5921	P130653.D	07/10/19	16:01	05:10	Initial cal verification 50
EP5921-ICV5919	P130654.D	07/10/19	16:29	05:38	Initial cal verification 50
EP5921-ICV5919	P130655A.D	07/10/19	17:25	06:34	Initial cal verification 50

7.6.2
7

Instrument Performance Check (DFTPP)

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample:	EP5993-DFTPP	Injection Date:	10/08/19
Lab File ID:	P132152.D	Injection Time:	20:30
Instrument ID:	GCMSP		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
51	30.0 - 60.0% of mass 198	12023	37.8	Pass
68	Less than 2.0% of mass 69	55	0.17 (0.40) ^a	Pass
69	Mass 69 relative abundance	13585	42.8	Pass
70	Less than 2.0% of mass 69	113	0.36 (0.83) ^a	Pass
127	40.0 - 60.0% of mass 198	14392	45.3	Pass
197	Less than 1.0% of mass 198	0	0.00	Pass
198	Base peak, 100% relative abundance	31765	100.0	Pass
199	5.0 - 9.0% of mass 198	2115	6.66	Pass
275	10.0 - 30.0% of mass 198	7258	22.8	Pass
365	1.0 - 100.0% of mass 198	976	3.07	Pass
441	Present, but less than mass 443	2559	8.06 (81.1) ^b	Pass
442	40.0 - 100.0% of mass 198	16324	51.4	Pass
443	17.0 - 23.0% of mass 442	3155	9.93 (19.3) ^c	Pass

- (a) Value is % of mass 69
- (b) Value is % of mass 443
- (c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EP5993-CC5919	P132153.D	10/08/19	20:45	00:15	Continuing cal 25
OP23171-MB1	P132154.D	10/08/19	21:38	01:08	Method Blank
OP23101-MB2	P132154.D	10/08/19	21:38	01:08	Method Blank
OP23172-MB1	P132154.D	10/08/19	21:38	01:08	Method Blank
OP23138-MB3	P132154.D	10/08/19	21:38	01:08	Method Blank
OP23137-MB2	P132154.D	10/08/19	21:38	01:08	Method Blank
OP23137-LB9	P132155.D	10/08/19	22:05	01:35	Leachate Blank
OP23171-LB15	P132156.D	10/08/19	22:32	02:02	Leachate Blank
OP23138-LB12	P132157.D	10/08/19	22:59	02:29	Leachate Blank
OP23137-BS2	P132158.D	10/08/19	23:26	02:56	Blank Spike
OP23101-BS2	P132158.D	10/08/19	23:26	02:56	Blank Spike
OP23172-BS1	P132158.D	10/08/19	23:26	02:56	Blank Spike
OP23171-BS1	P132158.D	10/08/19	23:26	02:56	Blank Spike
OP23138-BS3	P132158.D	10/08/19	23:26	02:56	Blank Spike
OP23137-LS4	P132159.D	10/08/19	23:55	03:25	Leachate Spike
OP23137-MS	P132159.D	10/08/19	23:55	03:25	Matrix Spike
OP23137-MSD	P132160.D	10/09/19	00:22	03:52	Matrix Spike Duplicate
JC95821-11A	P132161.D	10/09/19	00:49	04:19	(used for QC only; not part of job JC95610)
JC95610-1	P132162.D	10/09/19	01:16	04:46	WC-092519

7.6.3
7

Instrument Performance Check (DFTPP)

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample:	EP5993-DFTPP	Injection Date:	10/08/19
Lab File ID:	P132152.D	Injection Time:	20:30
Instrument ID:	GCMSP		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
ZZZZZZ	P132163.D	10/09/19	01:43	05:13	(unrelated sample)
ZZZZZZ	P132164.D	10/09/19	02:10	05:40	(unrelated sample)
OP23171-MS	P132165.D	10/09/19	02:37	06:07	Matrix Spike
OP23171-LS7	P132165.D	10/09/19	02:37	06:07	Leachate Spike
OP23171-MSD	P132166.D	10/09/19	03:04	06:34	Matrix Spike Duplicate
JC94224-13T	P132167.D	10/09/19	03:30	07:00	(used for QC only; not part of job JC95610)
ZZZZZZ	P132168.D	10/09/19	03:57	07:27	(unrelated sample)
ZZZZZZ	P132169.D	10/09/19	04:24	07:54	(unrelated sample)
ZZZZZZ	P132170.D	10/09/19	04:51	08:21	(unrelated sample)
ZZZZZZ	P132171.D	10/09/19	05:18	08:48	(unrelated sample)
OP23138-MS	P132172.D	10/09/19	05:45	09:15	Matrix Spike
OP23138-LS5	P132172.D	10/09/19	05:45	09:15	Leachate Spike
OP23138-MSD	P132173.D	10/09/19	06:12	09:42	Matrix Spike Duplicate
JC95743-1	P132174.D	10/09/19	06:38	10:08	(used for QC only; not part of job JC95610)
ZZZZZZ	P132175.D	10/09/19	07:05	10:35	(unrelated sample)
ZZZZZZ	P132176.D	10/09/19	07:32	11:02	(unrelated sample)

7.6.3
7

Internal Standard Area Summary

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Check Std:	EP5993-CC5919	Injection Date:	10/08/19
Lab File ID:	P132153.D	Injection Time:	20:45
Instrument ID:	GCMSP	Method:	SW846 8270D

	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Check Std	47494	4.21	191764	5.16	125236	6.47	258413	8.14	297971	13.18	320615	16.22
Upper Limit ^a	94988	4.71	383528	5.66	250472	6.97	516826	8.64	595942	13.68	641230	16.72
Lower Limit ^b	23747	3.71	95882	4.66	62618	5.97	129207	7.64	148986	12.68	160308	15.72

Lab Sample ID	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
OP23171-MB1	35272	4.21	150710	5.15	98975	6.46	206488	8.13	229629	13.17	267631	16.21
OP23101-MB2	35272	4.21	150710	5.15	98975	6.46	206488	8.13	229629	13.17	267631	16.21
OP23138-MB3	35272	4.21	150710	5.15	98975	6.46	206488	8.13	229629	13.17	267631	16.21
OP23137-MB2	35272	4.21	150710	5.15	98975	6.46	206488	8.13	229629	13.17	267631	16.21
OP23172-MB1	35272	4.21	150710	5.15	98975	6.46	206488	8.13	229629	13.17	267631	16.21
OP23137-LB9	37413	4.21	157071	5.15	99263	6.46	205723	8.13	229144	13.17	270506	16.21
OP23171-LB15	40472	4.21	169032	5.15	110561	6.46	251297	8.13	256430	13.17	303395	16.21
OP23138-LB12	25501	4.21	117353	5.15	83943	6.46	182749	8.13	221914	13.17	277546	16.20
OP23137-BS2	37910	4.21	157754	5.16	108027	6.47	227279	8.14	272225	13.18	311194	16.21
OP23172-BS1	37910	4.21	157754	5.16	108027	6.47	227279	8.14	272225	13.18	311194	16.21
OP23138-BS3	37910	4.21	157754	5.16	108027	6.47	227279	8.14	272225	13.18	311194	16.21
OP23101-BS2	37910	4.21	157754	5.16	108027	6.47	227279	8.14	272225	13.18	311194	16.21
OP23171-BS1	37910	4.21	157754	5.16	108027	6.47	227279	8.14	272225	13.18	311194	16.21
OP23137-MS	44898	4.21	179976	5.15	120180	6.47	247497	8.14	276151	13.18	310858	16.21
OP23137-LS4	44898	4.21	179976	5.15	120180	6.47	247497	8.14	276151	13.18	310858	16.21
OP23137-MSD	48658	4.22	192196	5.16	121367	6.47	248625	8.14	292951	13.18	337123	16.21
JC95821-11A	37138	4.21	155850	5.15	103060	6.46	226351	8.13	258601	13.17	302110	16.20
JC95610-1	31238	4.21	132980	5.16	87971	6.46	197464	8.13	237301	13.17	285961	16.20
ZZZZZZ	39617	4.21	168478	5.15	108976	6.46	242099	8.13	299717	13.17	361008	16.20
ZZZZZZ	42567	4.21	175822	5.15	111814	6.46	226542	8.13	284593	13.17	337263	16.20
OP23171-MS	39091	4.21	162479	5.15	108379	6.47	231528	8.14	273399	13.18	311992	16.21
OP23171-LS7	39091	4.21	162479	5.15	108379	6.47	231528	8.14	273399	13.18	311992	16.21
OP23171-MSD	45726	4.22	178885	5.16	114951	6.47	241608	8.14	288964	13.18	338206	16.21
JC94224-13T	47845	4.21	197510	5.15	129818	6.46	271306	8.13	312138	13.17	364458	16.20
ZZZZZZ	36804	4.21	160462	5.15	104552	6.46	230520	8.13	275448	13.17	329322	16.20
ZZZZZZ	46632	4.21	193785	5.15	126003	6.46	249763	8.13	301738	13.17	357337	16.20
ZZZZZZ	37771	4.21	160690	5.15	106698	6.46	227551	8.12	269681	13.17	317775	16.20
ZZZZZZ	40065	4.21	169528	5.15	108271	6.46	229622	8.12	279330	13.16	325756	16.20
OP23138-LS5	42494	4.21	170655	5.15	110620	6.46	235040	8.13	276646	13.17	313965	16.21
OP23138-MS	42494	4.21	170655	5.15	110620	6.46	235040	8.13	276646	13.17	313965	16.21
OP23138-MSD	44621	4.21	180745	5.15	117145	6.46	242457	8.13	278104	13.18	312056	16.21
JC95743-1	40217	4.21	173178	5.15	115187	6.46	254374	8.13	306485	13.16	360069	16.20
ZZZZZZ	52814	4.21	199722	5.16	142607	6.46	279364	8.12	330847	13.17	384200	16.20
ZZZZZZ	39899	4.21	168197	5.15	112633	6.46	234811	8.12	275391	13.16	322051	16.20

7.7.1
7

Internal Standard Area Summary

Job Number: JC95610
Account: BBLNYS Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

Check Std:	EP5993-CC5919	Injection Date:	10/08/19
Lab File ID:	P132153.D	Injection Time:	20:45
Instrument ID:	GCMSP	Method:	SW846 8270D

Lab	IS 1	IS 2	IS 3	IS 4	IS 5	IS 6				
Sample ID	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT

- IS 1 = 1,4-Dichlorobenzene-d4
- IS 2 = Naphthalene-d8
- IS 3 = Acenaphthene-D10
- IS 4 = Phenanthrene-d10
- IS 5 = Chrysene-d12
- IS 6 = Perylene-d12

- (a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.
- (b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

7.7.1
7

Surrogate Recovery Summary

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Method: SW846 8270D	Matrix: LEACHATE
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Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6
JC95610-1	P132162.D	44	32	78	81	60	70
OP23137-BS2	P132158.D	53	44	75	80	75	76
OP23137-LB9	P132155.D	41	29	69	70	66	65
OP23137-LS4	P132159.D	59	42	81	88	78	76
OP23137-MB2	P132154.D	44	31	74	74	70	66
OP23137-MS	P132159.D	59	42	81	88	78	76
OP23137-MSD	P132160.D	57	43	75	89	84	66

Surrogate Compounds	Recovery Limits
S1 = 2-Fluorophenol	14-88%
S2 = Phenol-d5	10-110%
S3 = 2,4,6-Tribromophenol	39-149%
S4 = Nitrobenzene-d5	32-128%
S5 = 2-Fluorobiphenyl	35-119%
S6 = Terphenyl-d14	10-126%

7.8.1
7

Initial Calibration Summary

Job Number: JC95610
Account: BBLNYS Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: EP5919-ICC5919
Lab FileID: P130620.D

Response Factor Report MSVOAMSP

Method : C:\MSDCHEM\1\METHODS\MP5919.M (RTE Integrator)
Title : Semi Volatile Extractables by GC/MS
Last Update : Wed Jul 10 08:42:27 2019
Response via : Initial Calibration

Calibration Files

2 =p130616.D 5 =p130622.D 25 =p130617.D 80 =p130619.D
100 =p130618.D 50 =p130620.D 10 =p130621.D 1 =p130615.D

Compound	2	5	25	80	100	50	10	1	Avg	%RSD
1) I 1,4-Dichlorobenzene-d	-----ISTD-----									
2) 1,4-Dioxane	0.477	0.510	0.498	0.520	0.525	0.522	0.471	0.415	0.492	7.59
3) Pyridine	1.291	1.435	1.374	1.415	1.421	1.397	1.352	1.239	1.366	5.04
4) N-Nitrosodim	0.647	0.635	0.629	0.633	0.643	0.633	0.612	0.612	0.630	2.00
5) 2-Fluorophen	1.236	1.273	1.319	1.314	1.354	1.291	1.228	1.259	1.284	3.41
6) Indene	2.224	2.120	2.074	1.894	1.863	1.946	2.023	2.109	2.032	6.10
7) Cumene	3.316	3.224	3.192	3.130	3.097	3.171	3.062	3.159	3.169	2.48
8) Phenol-d5	1.635	1.599	1.626	1.598	1.611	1.604	1.555	1.595	1.603	1.50
9) Phenol	1.929	1.908	1.906	1.760	1.768	1.833	1.833	1.886	1.853	3.49
10) Aniline	2.163	2.069	1.817	1.592	1.584	1.639	1.910	1.902	1.834	11.90
11) bis(2-Chloro	1.273	1.344	1.309	1.241	1.242	1.249	1.260	1.284	1.275	2.83
12) 2-Chlorophen	1.399	1.413	1.410	1.351	1.362	1.373	1.350	1.451	1.389	2.56
13) Decane	1.779	1.818	1.684	1.445	1.342	1.538	1.686	1.779	1.634	10.64
14) 1,3-Dichloro	1.704	1.666	1.625	1.515	1.498	1.549	1.562	1.645	1.595	4.70
15) 1,4-Dichloro	1.732	1.639	1.616	1.490	1.479	1.541	1.561	1.622	1.585	5.31
16) Benzyl alcoh	0.788	0.770	0.811	0.780	0.805	0.783	0.775	0.754	0.783	2.36
17) 1,2-Dichloro	1.632	1.574	1.523	1.430	1.406	1.459	1.517	1.530	1.509	4.98
18) Acetophenone	1.799	1.874	1.869	1.690	1.695	1.736	1.816	1.888	1.796	4.48
19) 2-Methylphen	1.209	1.168	1.171	1.059	1.057	1.117	1.151	1.178	1.139	4.94
20) 2,2'-oxybis(0.308	0.353	0.345	0.321	0.313	0.326	0.337	0.329	0.329	4.64
21) 3&4-Methylph	1.212	1.229	1.207	1.090	1.069	1.131	1.201	1.201	1.168	5.28
22) n-Nitroso-di	0.951	0.926	0.913	0.822	0.816	0.843	0.897	0.900	0.883	5.69
23) Hexachloroet	0.648	0.610	0.622	0.595	0.592	0.619	0.594	0.634	0.614	3.31
24) I Naphthalene-d8	-----ISTD-----									
25) Nitrobenzene	0.379	0.394	0.387	0.385	0.378	0.392	0.402	0.368	0.386	2.76
26) Nitrobenzene	0.394	0.394	0.387	0.372	0.368	0.395	0.387	0.377	0.384	2.81
27) Quinoline	0.668	0.670	0.692	0.687	0.705	0.687	0.673	0.651	0.679	2.51
28) Isophorone	0.667	0.687	0.679	0.649	0.650	0.658	0.660	0.648	0.662	2.22
29) 2-Nitropheno	0.189	0.193	0.202	0.204	0.202	0.212	0.195	0.159	0.195	8.25
30) 2,4-Dimethyl	0.292	0.292	0.322	0.339	0.337	0.340	0.301	0.223	0.306	12.81
31) Benzoic acid			0.138	0.203	0.196	0.196	0.138		0.174	19.03
32) bis(2-Chloro	0.429	0.424	0.432	0.418	0.413	0.421	0.427	0.432	0.425	1.62
33) 2,4-Dichloro	0.341	0.315	0.326	0.320	0.320	0.321	0.319	0.323	0.323	2.42
34) 2,6-Dichloro	0.294	0.294	0.304	0.290	0.290	0.301	0.291	0.300	0.296	1.87
35) 1,3,5-Trichl	0.393	0.389	0.386	0.373	0.356	0.386	0.383	0.402	0.384	3.62
36) 1,2,4-Trichl	0.373	0.359	0.365	0.353	0.348	0.361	0.355	0.381	0.362	3.01
37) 1,2,3-Trichl	0.359	0.352	0.356	0.343	0.333	0.351	0.354	0.378	0.353	3.72
38) Naphthalene	1.114	1.029	1.007	0.941	0.922	0.980	0.998	1.048	1.005	6.05
39) 4-Chloroanil	0.435	0.426	0.424	0.398	0.377	0.404	0.425	0.431	0.415	4.82
40) 2,3-Dichloro	0.401	0.390	0.386	0.363	0.367	0.382	0.370	0.382	0.380	3.39
41) Caprolactam	0.166	0.172	0.186	0.188	0.203	0.193	0.177	0.155	0.180	8.61
42) Hexachlorobu	0.229	0.222	0.220	0.221	0.211	0.223	0.220	0.214	0.220	2.47
43) 4-Chloro-3-m	0.285	0.290	0.309	0.307	0.311	0.308	0.293	0.283	0.298	3.89
44) 2-Methylnaph	0.605	0.568	0.581	0.547	0.541	0.565	0.567	0.578	0.569	3.50
45) 1-Methylnaph	0.732	0.706	0.724	0.680	0.680	0.693	0.703	0.759	0.710	3.84

7.9.1
7

Initial Calibration Summary

Job Number: JC95610
Account: BBLNYS Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: EP5919-ICC5919
Lab FileID: P130620.D

46)	Dimethylnaph	0.662	0.633	0.635	0.599	0.599	0.622	0.638	0.654	0.630	3.66
47)	I Acenaphthene-d10	-----ISTD-----									
48)	Hexachlorocy	0.428	0.411	0.445	0.442	0.417	0.436	0.414	0.373	0.421	5.52
49)	2,4,6-Trichl	0.441	0.422	0.438	0.407	0.403	0.416	0.429	0.412	0.421	3.32
50)	2,4,5-Trichl	0.446	0.454	0.479	0.447	0.436	0.449	0.449	0.420	0.447	3.70
51)	2-Fluorobiph	1.545	1.499	1.482	1.365	1.288	1.400	1.477	1.516	1.447	6.05
52)	2-Chloronaph	1.275	1.250	1.229	1.128	1.083	1.146	1.202	1.237	1.194	5.65
53)	Biphenyl	1.607	1.562	1.565	1.433	1.379	1.465	1.515	1.562	1.511	5.18
54)	2-Nitroanili	0.392	0.439	0.438	0.418	0.406	0.429	0.434	0.323	0.410	9.46
55)	Dimethylphth	1.396	1.370	1.394	1.323	1.327	1.325	1.314	1.404	1.357	2.82
56)	Acenaphthyle	2.027	1.953	1.971	1.796	1.753	1.847	1.904	1.945	1.900	4.92
57)	2,6-Dinitrot	0.253	0.297	0.308	0.292	0.300	0.300	0.285	0.216	0.282	11.21
58)	3-Nitroanili	0.295	0.319	0.348	0.337	0.343	0.340	0.330	0.256	0.321	9.69
59)	Acenaphthene	1.275	1.258	1.219	1.141	1.113	1.160	1.197	1.217	1.198	4.71
60)	2,4-Dinitrop	0.063	0.085	0.142	0.167	0.170	0.155	0.106		0.127	33.45
---- Quadratic regression ---- Coefficient = 0.9998											
Response Ratio = -0.01575 + 0.14869 *A + 0.00512 *A^2											
61)	4-Nitropheno	0.107	0.133	0.152	0.175	0.173	0.171	0.140		0.150	16.79
62)	Dibenzofuran	1.756	1.708	1.711	1.564	1.529	1.585	1.640	1.709	1.650	5.01
63)	2,4-Dinitrot	0.316	0.366	0.406	0.410	0.409	0.409	0.380	0.245	0.368	16.16
64)	2,3,4,6-Tetr	0.327	0.324	0.363	0.363	0.370	0.350	0.317	0.333	0.343	6.03
65)	Diethylphtha	1.431	1.370	1.454	1.383	1.394	1.383	1.351	1.388	1.394	2.38
66)	Fluorene	1.406	1.411	1.376	1.254	1.219	1.290	1.343	1.358	1.332	5.31
67)	4-Chlorophen	0.725	0.676	0.693	0.646	0.637	0.656	0.656	0.711	0.675	4.69
68)	4-Nitroanili	0.295	0.316	0.347	0.330	0.338	0.342	0.336	0.259	0.320	9.35
69)	I Phenanthrene-d10	-----ISTD-----									
70)	4,6-Dinitro-	0.087	0.119	0.134	0.138	0.128	0.096		0.117		17.94
71)	n-Nitrosodip	0.543	0.547	0.543	0.509	0.503	0.524	0.531	0.550	0.531	3.38
72)	1,2-Diphenyl	0.773	0.805	0.762	0.713	0.693	0.731	0.774	0.740	0.749	4.89
73)	2,4,6-Tribro	0.115	0.108	0.122	0.126	0.126	0.123	0.107	0.117	0.118	6.42
74)	4-Bromopheny	0.237	0.231	0.236	0.241	0.240	0.244	0.225	0.236	0.236	2.42
75)	Hexachlorobe	0.256	0.245	0.257	0.254	0.254	0.258	0.248	0.245	0.252	2.19
76)	Pentachlorop	0.126	0.121	0.162	0.171	0.174	0.164	0.130	0.126	0.147	15.68
77)	Phenanthrene	1.131	1.095	1.077	1.004	0.998	1.038	1.059	1.131	1.067	4.86
78)	Anthracene	1.129	1.098	1.095	1.018	1.007	1.056	1.082	1.081	1.071	3.87
79)	Carbazole	1.029	1.000	0.979	0.965	0.964	0.994	0.999	0.994	0.991	2.16
80)	Di-n-butylph	1.170	1.271	1.410	1.372	1.413	1.392	1.309	1.130	1.308	8.40
81)	Fluoranthene	1.237	1.202	1.296	1.246	1.268	1.264	1.188	1.235	1.242	2.84
82)	Octadecane	0.558	0.576	0.598	0.547	0.526	0.568	0.571	0.553	0.562	3.84
83)	I Chrysene-d12	-----ISTD-----									
84)	Pyrene	1.478	1.442	1.422	1.393	1.381	1.405	1.423	1.393	1.417	2.23
85)	Terphenyl-d1	0.926	0.932	0.936	0.948	0.945	0.930	0.904	0.933	0.932	1.43
86)	Butylbenzylp	0.271	0.450	0.526	0.641	0.661	0.622	0.515		0.527	25.86
---- Quadratic regression ---- Coefficient = 0.9996											
Response Ratio = -0.02040 + 0.57773 *A + 0.03692 *A^2											
87)	Benzo[a]anth	1.271	1.251	1.288	1.283	1.305	1.273	1.232	1.344	1.281	2.65
88)	3,3'-Dichlor	0.281	0.350	0.429	0.472	0.476	0.461	0.377		0.407	18.11
89)	Chrysene	1.247	1.253	1.241	1.164	1.164	1.192	1.193	1.238	1.212	3.07
90)	bis(2-Ethylh	0.417	0.688	0.855	0.906	0.941	0.886	0.744	0.419	0.732	28.84
---- Quadratic regression ---- Coefficient = 0.9999											
Response Ratio = -0.01759 + 0.84266 *A + 0.04053 *A^2											
91)	I Perylene-d12	-----ISTD-----									
92)	Di-n-octylph	0.527	0.814	1.307	1.517	1.594	1.464	1.039		1.180	33.92

7.9.1

7

Initial Calibration Summary

Job Number: JC95610
Account: BBLNYS Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: EP5919-ICC5919
Lab FileID: P130620.D

---- Quadratic regression ---- Coefficient = 0.9998
Response Ratio = -0.06426 + 1.36127 *A + 0.10153 *A^2

93)	Benzo[b]fluo	1.107	1.052	1.271	1.335	1.416	1.275	1.154	1.115	1.216	10.47
94)	Benzo[k]fluo	1.195	1.240	1.215	1.081	1.031	1.188	1.214	1.145	1.164	6.29
95)	Benzo[a]pyre	0.983	1.001	1.111	1.115	1.130	1.118	1.020	0.993	1.059	6.13
96)	Indeno[1,2,3	0.775	0.649	0.960	1.020	1.017	1.017	0.791	0.778	0.876	16.51
97)	Dibenz(a,h)a	0.685	0.626	0.923	0.999	1.003	0.977	0.783	0.653	0.831	19.56
98)	Dibenz[a,h)a	0.819	0.805	1.026	1.084	1.073	1.064	0.888	0.809	0.946	13.46
99)	7,12-Dimethy	0.424	0.436	0.548	0.558	0.564	0.556	0.472		0.508	12.23
100)	Benzo[g,h,i]	0.881	0.879	1.013	1.033	1.013	1.035	0.928	0.859	0.955	7.95

(#) = Out of Range ### Number of calibration levels exceeded format ###

MP5919.M

Wed Jul 10 08:58:49 2019

ACLIMS

7.9.1

7

Initial Calibration Verification

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: EP5919-ICV5919
 Lab FileID: P130623.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\EP5919\p130623.D Vial: 10
 Acq On : 10 Jul 2019 3:09 am Operator: chriss2
 Sample : icv5919-50 Inst : MSVOAMSP
 Misc : op13894,ep5919,1000,,,1,1 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MP5919.M (RTE Integrator)
 Title : Semi Volatile Extractables by GC/MS
 Last Update : Wed Jul 10 08:42:27 2019
 Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	109	0.00	4.48
4 t	N-Nitrosodimethylamine	0.630	0.626	0.6	108	0.04	2.29
11 t	bis(2-Chloroethyl)ether	1.275	1.311	-2.8	114	0.00	4.28
14 t	1,3-Dichlorobenzene	1.595	1.517	4.9	107	0.00	4.44
15 t	1,4-Dichlorobenzene	1.585	1.546	2.5	109	0.00	4.49
17 t	1,2-Dichlorobenzene	1.509	1.435	4.9	107	0.00	4.60
20 t	2,2'-oxybis(1-Chloropropa	0.329	0.382	-16.1	128	0.00	4.68
22	n-Nitroso-di-n-propylamin	0.883	0.920	-4.2	119	0.00	4.78
23 t	Hexachloroethane	0.614	0.566	7.8	100	0.00	4.86
24 I	Naphthalene-d8	1.000	1.000	0.0	112	0.00	5.41
26 t	Nitrobenzene	0.384	0.356	7.3	101	0.00	4.90
28 t	Isophorone	0.662	0.664	-0.3	113	-0.01	5.07
32 t	bis(2-Chloroethoxy)methan	0.425	0.426	-0.2	113	0.00	5.23
36 t	1,2,4-Trichlorobenzene	0.362	0.341	5.8	105	0.00	5.37
38 t	Naphthalene	1.005	0.964	4.1	110	0.00	5.43
42 t	Hexachlorobutadiene	0.220	0.222	-0.9	111	0.00	5.52
47 I	Acenaphthene-d10	1.000	1.000	0.0	100	0.00	6.77
48 t	Hexachlorocyclopentadiene	0.421	0.365	13.3	74	0.00	6.04
52 t	2-Chloronaphthalene	1.194	1.201	-0.6	105	0.00	6.29
55 t	Dimethylphthalate	1.357	1.301	4.1	98	0.00	6.52
56 t	Acenaphthylene	1.900	1.769	6.9	96	0.00	6.64
57 t	2,6-Dinitrotoluene	0.282	0.229	18.8	76	0.00	6.58
59 t	Acenaphthene	1.198	1.099	8.3	95	0.00	6.80

7.92
7

Initial Calibration Verification

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: EP5919-ICV5919
 Lab FileID: P130623.D

63 t	2,4-Dinitrotoluene	0.368	0.288	21.7	71	0.00	6.95
65 t	Diethylphthalate	1.394	1.315	5.7	95	0.00	7.21
66 t	Fluorene	1.332	1.244	6.6	97	0.00	7.33
67 t	4-Chlorophenyl-phenylethe	0.675	0.630	6.7	96	0.00	7.33
69 I	Phenanthrene-d10	1.000	1.000	0.0	100	0.00	8.55
71 t	n-Nitrosodiphenylamine	0.531	0.498	6.2	95	0.00	7.47
72 t	1,2-Diphenylhydrazine	0.749	0.754	-0.7	103	0.00	7.52
74 t	4-Bromophenyl-phenylether	0.236	0.224	5.1	92	0.00	7.93
75 t	Hexachlorobenzene	0.252	0.242	4.0	94	0.00	8.01
77 t	Phenanthrene	1.067	0.971	9.0	94	0.00	8.58
78 t	Anthracene	1.071	0.979	8.6	93	0.00	8.66
80 t	Di-n-butylphthalate	1.308	1.225	6.3	88	0.00	9.62
81 t	Fluoranthene	1.242	1.123	9.6	89	0.00	10.65
83 I	Chrysene-d12	1.000	1.000	0.0	89	0.00	13.70
84 t	Pyrene	1.417	1.383	2.4	87	0.00	11.08
----- True		Calc.	% Drift	-----			
86 t	Butylbenzylphthalate	50.000	49.310	1.4	85	0.00	12.68
----- AvgRF		CCRF	% Dev	-----			
87 t	Benzo[a]anthracene	1.281	1.222	4.6	85	0.00	13.68
89 t	Chrysene	1.212	1.154	4.8	86	0.00	13.76
----- True		Calc.	% Drift	-----			
90 t	bis(2-Ethylhexyl)phthalat	50.000	47.495	5.0	83	0.00	14.10
----- AvgRF		CCRF	% Dev	-----			
91 I	Perylene-d12	1.000	1.000	0.0	91	0.00	16.72
----- True		Calc.	% Drift	-----			
92 t	Di-n-octylphthalate	50.000	46.471	7.1	82	0.00	15.53
----- AvgRF		CCRF	% Dev	-----			
93 t	Benzo[b]fluoranthene	1.216	1.105	9.1	79	0.00	15.97
94 t	Benzo[k]fluoranthene	1.164	1.137	2.3	87	-0.01	16.03
95 t	Benzo[a]pyrene	1.059	1.057	0.2	86	0.00	16.60
96 t	Indeno[1,2,3-cd]pyrene	0.876	0.927	-5.8	83	0.00	18.65
98 t	Dibenz[a,h]anthracene	0.946	0.953	-0.7	81	0.00	18.71
100 t	Benzo[g,h,i]perylene	0.955	1.005	-5.2	88	0.00	19.08

(#) = Out of Range
 p130620.D MP5919.M

SPCC's out = 0 CCC's out = 0
 Wed Jul 10 08:59:12 2019 ACLIMS

Initial Calibration Verification

Job Number: JC95610
Account: BBLNYS Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: EP5919-ICV5919
Lab FileID: P130625.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\EP5919\p130625.D Vial: 12
Acq On : 10 Jul 2019 4:03 am Operator: chriss2
Sample : icv5919-50 Inst : MSVOAMSP
Misc : op13894,ep5919,1000,,,1,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MP5919.M (RTE Integrator)
Title : Semi Volatile Extractables by GC/MS
Last Update : Wed Jul 10 08:42:27 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	88	0.00	4.48
3 t	Pyridine	1.366	1.496	-9.5	94	0.14	2.42
10 t	Aniline	1.834	2.339	-27.5	125	0.00	4.24
16 t	Benzyl alcohol	0.783	1.007	-28.6	113	0.00	4.59
24 I	Naphthalene-d8	1.000	1.000	0.0	107	0.00	5.41
39 t	4-Chloroaniline	0.415	0.390	6.0	103	0.00	5.46
44 t	2-Methylnaphthalene	0.569	0.546	4.0	104	0.00	5.92
47 I	Acenaphthene-d10	1.000	1.000	0.0	100	0.00	6.77
54 t	2-Nitroaniline	0.410	0.312	23.9	73	0.00	6.37
58 t	3-Nitroaniline	0.321	0.295	8.1	87	0.00	6.73
62 t	Dibenzofuran	1.650	1.690	-2.4	106	0.00	6.97
68 t	4-Nitroaniline	0.320	0.305	4.7	89	-0.01	7.35
69 I	Phenanthrene-d10	1.000	1.000	0.0	107	0.00	8.55
79 t	Carbazole	0.991	0.980	1.1	105	0.00	8.93

(#) = Out of Range
p130620.D MP5919.M

SPCC's out = 0 CCC's out = 0
Wed Jul 10 08:59:16 2019 ACLIMS

Initial Calibration Verification

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: EP5919-ICV5919
 Lab FileID: P130627.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\EP5919\p130627.D Vial: 14
 Acq On : 10 Jul 2019 4:57 am Operator: chriss2
 Sample : icv5919-50 Inst : MSVOAMSP
 Misc : op13894,ep5919,1000,,,1,1 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MP5919.M (RTE Integrator)
 Title : Semi Volatile Extractables by GC/MS
 Last Update : Wed Jul 10 08:42:27 2019
 Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	114	0.00	4.48
5 S	2-Fluorophenol	1.284	1.241	3.3	110	0.01	3.49
8 S	Phenol-d5	1.603	1.527	4.7	109	0.00	4.21
24 I	Naphthalene-d8	1.000	1.000	0.0	122	0.00	5.41
25 S	Nitrobenzene-d5	0.386	0.356	7.8	111	0.00	4.88
47 I	Acenaphthene-d10	1.000	1.000	0.0	110	0.00	6.77
51 S	2-Fluorobiphenyl	1.447	1.405	2.9	110	0.00	6.20
69 I	Phenanthrene-d10	1.000	1.000	0.0	110	0.00	8.55
73 S	2,4,6-Tribromophenol	0.118	0.119	-0.8	107	0.00	7.61
83 I	Chrysene-d12	1.000	1.000	0.0	98	-0.01	13.69
85 S	Terphenyl-d14	0.932	1.006	-7.9	106	0.00	11.52

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 p130620.D MP5919.M Wed Jul 10 08:59:20 2019 ACLIMS

7.9.4

7

Initial Calibration Verification

Job Number: JC95610
Account: BBLNYS Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: EP5919-ICV5919
Lab FileID: P130628.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\EP5919\p130628.D Vial: 15
Acq On : 10 Jul 2019 5:24 am Operator: chriss2
Sample : icv5919-50 Inst : MSVOAMSP
Misc : op13894,ep5919,1000,,,1,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MP5919.M (RTE Integrator)
Title : Semi Volatile Extractables by GC/MS
Last Update : Wed Jul 10 08:42:27 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
83 I Chrysene-d12	1.000	1.000	0.0	139	0.00	13.69
88 t 3,3'-Dichlorobenzidine	0.407	0.427	-4.9	129	0.00	13.73

(#) = Out of Range SPCC's out = 0 CCC's out = 0
p130620.D MP5919.M Wed Jul 10 08:59:22 2019 ACLIMS

7.9.5
7

Initial Calibration Verification

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: EP5921-ICV5919
 Lab FileID: P130654.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\EP5919\p130654.D Vial: 36
 Acq On : 10 Jul 2019 4:29 pm Operator: chriss2
 Sample : icv5919-50 Inst : MSVOAMSP
 Misc : op13894,ep5921,1000,,,1,1 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MP5919.M (RTE Integrator)
 Title : Semi Volatile Extractables by GC/MS
 Last Update : Wed Jul 10 15:13:29 2019
 Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	83	0.00	4.48
2 t	1,4-Dioxane	0.492	0.473	3.9	75	0.04	1.99
6 t	Indene	2.032	2.149	-5.8	91	0.00	4.67
7 t	Cumene	3.169	2.926	7.7	76	0.00	3.88
13 t	Decane	1.634	1.465	10.3	79	0.00	4.37
18 t	Acetophenone	1.796	1.762	1.9	84	0.00	4.78
24 I	Naphthalene-d8	1.000	1.000	0.0	83	0.00	5.41
27 t	Quinoline	0.679	0.657	3.2	80	-0.01	5.66
40 t	2,3-Dichloroaniline	0.380	0.321	15.5	70	0.00	6.13
41 t	Caprolactam	0.180	0.167	7.2	72	-0.03	5.70
45 t	1-Methylnaphthalene	0.710	0.630	11.3	76	0.00	5.99
46 t	Dimethylnaphthalene	0.630	0.589	6.5	79	0.00	6.40
47 I	Acenaphthene-d10	1.000	1.000	0.0	79	0.00	6.77
53 t	Biphenyl	1.511	1.445	4.4	78	0.00	6.28
69 I	Phenanthrene-d10	1.000	1.000	0.0	78	0.00	8.55
82 t	Octadecane	0.562	0.543	3.4	74	0.00	8.48
83 I	Chrysene-d12	1.000	1.000	0.0	67	-0.01	13.69
91 I	Perylene-d12	1.000	1.000	0.0	63	0.00	16.71
99 t	7,12-Dimethylbenz(a)anthr	0.508	0.560	-10.2	63	-0.01	15.99

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Initial Calibration Verification

Job Number: JC95610
Account: BBLNYS Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: EP5921-ICV5919
Lab FileID: P130654.D

p130644a.D MP5919.M

Wed Jul 10 17:17:15 2019

ACLIMS

Initial Calibration Verification

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: EP5921-ICV5919
 Lab FileID: P130655A.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\EP5919\p130655a.D Vial: 37
 Acq On : 10 Jul 2019 5:25 pm Operator: chriss2
 Sample : icv5919-50 Inst : MSVOAMSP
 Misc : op13894,ep5921,1000,,,1,1 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MP5919.M (RTE Integrator)
 Title : Semi Volatile Extractables by GC/MS
 Last Update : Wed Jul 10 15:13:29 2019
 Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	82	0.00	4.48
9 t	Phenol	1.853	1.635	11.8	73	0.00	4.23
12 t	2-Chlorophenol	1.389	1.329	4.3	79	0.00	4.33
19 t	2-Methylphenol	1.139	1.167	-2.5	85	0.00	4.67
21 t	3&4-Methylphenol	1.168	1.224	-4.8	88	0.00	4.78
24 I	Naphthalene-d8	1.000	1.000	0.0	80	0.00	5.41
29 t	2-Nitrophenol	0.195	0.193	1.0	73	0.00	5.13
30 t	2,4-Dimethylphenol	0.306	0.378	-23.5	89	0.00	5.17
31 t	Benzoic acid	0.174	0.151	13.2	62	-0.01	5.26
33 t	2,4-Dichlorophenol	0.323	0.316	2.2	79	0.00	5.31
34	2,6-Dichlorophenol	0.296	0.317	-7.1	84	0.00	5.47
43 t	4-Chloro-3-methylphenol	0.298	0.314	-5.4	81	-0.01	5.81
47 I	Acenaphthene-d10	1.000	1.000	0.0	78	0.00	6.77
49 t	2,4,6-Trichlorophenol	0.421	0.435	-3.3	82	0.00	6.13
50 t	2,4,5-Trichlorophenol	0.447	0.444	0.7	78	0.00	6.16
60 t	2,4-Dinitrophenol	50.000	36.295	27.4	49#	0.00	6.82
61 t	4-Nitrophenol	0.150	0.140	6.7	64	0.00	6.88
64	2,3,4,6-Tetrachlorophenol	0.343	0.337	1.7	76	0.00	7.09
69 I	Phenanthrene-d10	1.000	1.000	0.0	77	0.00	8.55
70 t	4,6-Dinitro-2-methylpheno	0.117	0.093	20.5	56	-0.01	7.38
76 t	Pentachlorophenol	0.147	0.162	-10.2	66	0.00	8.28

7.97
7

Initial Calibration Verification

Job Number: JC95610
Account: BBLNYS Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: EP5921-ICV5919
Lab FileID: P130655A.D

(#) = Out of Range
p130644a.D MP5919.M

SPCC's out = 0 CCC's out = 0
Thu Jul 11 08:51:35 2019 ACLIMS

Continuing Calibration Summary

Job Number: JC95610
Account: BBLNYS Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: EP5993-CC5919
Lab FileID: P132153.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\EP5993\p132153.D Vial: 2
Acq On : 8 Oct 2019 8:45 pm Operator: chriss2
Sample : cc5919-25 Inst : MSVOAMSP
Misc : op21962,ep5993,1000,,,1,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MP5919.M (RTE Integrator)
Title : Semi Volatile Extractables by GC/MS
Last Update : Wed Oct 09 09:08:41 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	94	-0.01	4.21
2 t	1,4-Dioxane	0.492	0.435	11.6	82	-0.02	1.60
3 t	Pyridine	1.366	1.316	3.7	90	-0.02	1.91
4 t	N-Nitrosodimethylamine	0.630	0.621	1.4	93	-0.03	1.88
5 S	2-Fluorophenol	1.284	1.286	-0.2	91	-0.02	3.23
6 t	Indene	2.032	2.116	-4.1	96	-0.01	4.41
7 t	Cumene	3.169	3.018	4.8	89	-0.01	3.59
8 S	Phenol-d5	1.603	1.752	-9.3	101	-0.02	4.00
9 t	Phenol	1.853	1.985	-7.1	98	-0.02	4.01
10 t	Aniline	1.834	2.060	-12.3	106	-0.01	3.97
11 t	bis(2-Chloroethyl)ether	1.275	1.430	-12.2	102	-0.01	4.03
12 t	2-Chlorophenol	1.389	1.391	-0.1	93	-0.01	4.08
13 t	Decane	1.634	1.369	16.2	76	-0.01	4.11
14 t	1,3-Dichlorobenzene	1.595	1.559	2.3	90	-0.01	4.17
15 t	1,4-Dichlorobenzene	1.585	1.622	-2.3	94	0.00	4.23
16 t	Benzyl alcohol	0.783	0.929	-18.6	107	-0.01	4.34
17 t	1,2-Dichlorobenzene	1.509	1.562	-3.5	96	-0.01	4.34
18 t	Acetophenone	1.796	2.033	-13.2	102	-0.01	4.52
19 t	2-Methylphenol	1.139	1.323	-16.2	106	-0.02	4.45
20 t	2,2'-oxybis(1-Chloropropa	0.329	0.380	-15.5	103	-0.01	4.43
21 t	3&4-Methylphenol	1.168	1.398	-19.7	109	-0.02	4.56
22	n-Nitroso-di-n-propylamin	0.883	1.044	-18.2	107	-0.02	4.53
23 t	Hexachloroethane	0.614	0.543	11.6	82	0.00	4.59
24 I	Naphthalene-d8	1.000	1.000	0.0	102	0.00	5.16
25 S	Nitrobenzene-d5	0.386	0.361	6.5	95	-0.01	4.64
26 t	Nitrobenzene	0.384	0.388	-1.0	102	-0.01	4.65
27 t	Quinoline	0.679	0.774	-14.0	114	-0.01	5.42
28 t	Isophorone	0.662	0.728	-10.0	109	-0.01	4.83
29 t	2-Nitrophenol	0.195	0.211	-8.2	106	0.00	4.89
30 t	2,4-Dimethylphenol	0.306	0.345	-12.7	109	-0.01	4.94
31 t	Benzoic acid	0.174	0.271	-55.7#	199	-0.03	5.06
32 t	bis(2-Chloroethoxy)methan	0.425	0.436	-2.6	102	-0.01	4.99
33 t	2,4-Dichlorophenol	0.323	0.334	-3.4	104	0.00	5.08
34	2,6-Dichlorophenol	0.296	0.321	-8.4	107	-0.01	5.23
35	1,3,5-Trichlorobenzene	0.384	0.349	9.1	92	0.00	4.89
36 t	1,2,4-Trichlorobenzene	0.362	0.337	6.9	94	0.00	5.12
37	1,2,3-Trichlorobenzene	0.353	0.321	9.1	91	0.00	5.28
38 t	Naphthalene	1.005	0.993	1.2	100	-0.01	5.17
39 t	4-Chloroaniline	0.415	0.448	-8.0	107	-0.01	5.22
40 t	2,3-Dichloroaniline	0.380	0.422	-11.1	111	0.00	5.88
41 t	Caprolactam	0.180	0.208	-15.6	114	-0.04	5.49

Continuing Calibration Summary

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: EP5993-CC5919
 Lab FileID: P132153.D

42 t	Hexachlorobutadiene	0.220	0.193	12.3	89	0.00	5.27
43 t	4-Chloro-3-methylphenol	0.298	0.334	-12.1	110	-0.02	5.60
44 t	2-Methylnaphthalene	0.569	0.580	-1.9	101	0.00	5.67
45 t	1-Methylnaphthalene	0.710	0.797	-12.3	112	0.00	5.74
46 t	Dimethylnaphthalene	0.630	0.684	-8.6	109	-0.01	6.13
47 I	Acenaphthene-d10	1.000	1.000	0.0	118	-0.01	6.47
48 t	Hexachlorocyclopentadiene	0.421	0.176	58.2#	47#	0.00	5.78
49 t	2,4,6-Trichlorophenol	0.421	0.392	6.9	106	-0.02	5.89
50 t	2,4,5-Trichlorophenol	0.447	0.431	3.6	106	-0.02	5.92
51 S	2-Fluorobiphenyl	1.447	1.328	8.2	106	0.00	5.93
52 t	2-Chloronaphthalene	1.194	1.095	8.3	105	-0.01	6.02
53 t	Biphenyl	1.511	1.425	5.7	108	0.00	6.01
54 t	2-Nitroaniline	0.410	0.365	11.0	98	-0.02	6.11
55 t	Dimethylphthalate	1.357	1.380	-1.7	117	-0.01	6.24
56 t	Acenaphthylene	1.900	1.776	6.5	106	-0.01	6.35
57 t	2,6-Dinitrotoluene	0.282	0.311	-10.3	119	-0.02	6.30
58 t	3-Nitroaniline	0.321	0.369	-15.0	125	-0.02	6.45
59 t	Acenaphthene	1.198	1.158	3.3	112	-0.01	6.50
		----- True	Calc.	% Drift	-----		
60 t	2,4-Dinitrophenol	50.000	53.284	-6.6	128	-0.02	6.55
		----- AvgRF	CCRF	% Dev	-----		
61 t	4-Nitrophenol	0.150	0.171	-14.0	133	-0.03	6.65
62 t	Dibenzofuran	1.650	1.629	1.3	112	-0.02	6.65
63 t	2,4-Dinitrotoluene	0.368	0.462	-25.5#	134	-0.02	6.66
64	2,3,4,6-Tetrachlorophenol	0.343	0.309	9.9	100	-0.02	6.79
65 t	Diethylphthalate	1.394	1.451	-4.1	118	-0.02	6.88
66 t	Fluorene	1.332	1.440	-8.1	124	-0.02	6.99
67 t	4-Chlorophenyl-phenylethe	0.675	0.696	-3.1	119	-0.02	6.99
68 t	4-Nitroaniline	0.320	0.375	-17.2	128	-0.03	7.04
69 I	Phenanthrene-d10	1.000	1.000	0.0	128	-0.02	8.14
70 t	4,6-Dinitro-2-methylpheno	0.117	0.126	-7.7	136	-0.03	7.08
71 t	n-Nitrosodiphenylamine	0.531	0.486	8.5	115	-0.02	7.12
72 t	1,2-Diphenylhydrazine	0.749	0.658	12.1	111	-0.02	7.16
73 S	2,4,6-Tribromophenol	0.118	0.101	14.4	106	-0.02	7.25
74 t	4-Bromophenyl-phenylether	0.236	0.210	11.0	114	-0.02	7.54
75 t	Hexachlorobenzene	0.252	0.225	10.7	112	-0.02	7.63
76 t	Pentachlorophenol	0.147	0.121	17.7	96	-0.03	7.91
77 t	Phenanthrene	1.067	1.010	5.3	120	-0.02	8.17
78 t	Anthracene	1.071	1.027	4.1	120	-0.03	8.24
79 t	Carbazole	0.991	1.035	-4.4	136	-0.03	8.51
80 t	Di-n-butylphthalate	1.308	1.410	-7.8	128	-0.02	9.16
81 t	Fluoranthene	1.242	1.298	-4.5	129	-0.03	10.16
82 t	Octadecane	0.562	0.446	20.6#	96	-0.02	8.06
83 I	Chrysene-d12	1.000	1.000	0.0	156	-0.03	13.18
84 t	Pyrene	1.417	1.190	16.0	130	-0.03	10.58
85 S	Terphenyl-d14	0.932	0.782	16.1	130	-0.03	11.01
		----- True	Calc.	% Drift	-----		
86 t	Butylbenzylphthalate	25.000	26.631	-6.5	180	-0.03	12.16
		----- AvgRF	CCRF	% Dev	-----		
87 t	Benzo[a]anthracene	1.281	1.201	6.2	145	-0.03	13.16
88 t	3,3'-Dichlorobenzidine	0.407	0.463	-13.8	168	-0.04	13.21
89 t	Chrysene	1.212	1.101	9.2	138	-0.04	13.24

7.98

7

Continuing Calibration Summary

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: EP5993-CC5919
 Lab FileID: P132153.D

		True	Calc.	% Drift			
90 t	bis(2-Ethylhexyl)phthalat	25.000	25.556	-2.2	157	-0.03	13.56
		AvgRF	CCRF	% Dev			
91 I	Perylene-d12	1.000	1.000	0.0	163	-0.02	16.22
		True	Calc.	% Drift			
92 t	Di-n-octylphthalate	25.000	27.049	-8.2	181	-0.03	15.00
		AvgRF	CCRF	% Dev			
93 t	Benzo[b]fluoranthene	1.216	1.217	-0.1	157	0.00	15.47
94 t	Benzo[k]fluoranthene	1.164	1.111	4.6	149	0.00	15.52
95 t	Benzo[a]pyrene	1.059	1.058	0.1	156	-0.04	16.09
96 t	Indeno[1,2,3-cd]pyrene	0.876	0.988	-12.8	168	-0.04	18.16
97 t	Dibenz(a,h)acridine	0.831	0.934	-12.4	165	-0.04	17.79
98 t	Dibenz[a,h]anthracene	0.946	1.060	-12.1	169	-0.04	18.22
99 t	7,12-Dimethylbenz(a)anthr	0.508	0.538	-5.9	160	-0.04	15.48
100 t	Benzo[g,h,i]perylene	0.955	0.977	-2.3	158	-0.04	18.59

(#) = Out of Range
 p132001.D MP5919.M

SPCC's out = 0 CCC's out = 0
 Wed Oct 09 09:13:20 2019 ACLIMS

7.9.8
 7

Run Sequence Report

Job Number: JC95610
Account: BBLNYS Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

Run ID: EP5919	Method: SW846 8270D	Instrument ID: GCMS
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Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
EP5919-DFTPP	P130614.D	07/09/19 23:15	n/a	DFTPP Tune
EP5919-IC5919	P130615.D	07/09/19 23:30	n/a	Initial cal 1
EP5919-IC5919	P130616.D	07/09/19 23:57	n/a	Initial cal 2
EP5919-IC5919	P130617.D	07/10/19 00:27	n/a	Initial cal 25
EP5919-IC5919	P130618.D	07/10/19 00:54	n/a	Initial cal 100
EP5919-IC5919	P130619.D	07/10/19 01:21	n/a	Initial cal 80
EP5919-ICC5919	P130620.D	07/10/19 01:48	n/a	Initial cal 50
EP5919-IC5919	P130621.D	07/10/19 02:16	n/a	Initial cal 10
EP5919-IC5919	P130622.D	07/10/19 02:42	n/a	Initial cal 5
EP5919-ICV5919	P130623.D	07/10/19 03:09	n/a	Initial cal verification 50
EP5919-ICV5919	P130625.D	07/10/19 04:03	n/a	Initial cal verification 50
EP5919-ICV5919	P130627.D	07/10/19 04:57	n/a	Initial cal verification 50
EP5919-ICV5919	P130628.D	07/10/19 05:24	n/a	Initial cal verification 50

7.10.1
7

Run Sequence Report

Job Number: JC95610
Account: BBLNYS Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

Run ID: EP5921	Method: SW846 8270D	Instrument ID: GCMS
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Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
EP5921-DFTPP	P130641.D	07/10/19 10:51	n/a	DFTPP Tune
EP5921-IC5921	P130642.D	07/10/19 11:03	n/a	Initial cal 100
EP5921-ICC5921	P130644.D	07/10/19 11:57	n/a	Initial cal 50
EP5921-IC5921	P130645.D	07/10/19 12:24	n/a	Initial cal 25
EP5921-IC5921	P130646.D	07/10/19 12:51	n/a	Initial cal 10
EP5921-IC5921	P130647.D	07/10/19 13:18	n/a	Initial cal 5
EP5921-IC5921	P130648.D	07/10/19 13:45	n/a	Initial cal 2
EP5921-IC5921	P130649.D	07/10/19 14:13	n/a	Initial cal 1
EP5921-IC5921	P130650.D	07/10/19 14:40	n/a	Initial cal 80
EP5921-ICV5921	P130651.D	07/10/19 15:07	n/a	Initial cal verification 50
EP5921-ICV5921	P130652.D	07/10/19 15:34	n/a	Initial cal verification 50
EP5921-ICV5921	P130653.D	07/10/19 16:01	n/a	Initial cal verification 50
EP5921-ICV5919	P130654.D	07/10/19 16:29	n/a	Initial cal verification 50
EP5921-ICV5919	P130655A.D	07/10/19 17:25	n/a	Initial cal verification 50

7.10.2
7

Run Sequence Report

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Run ID: EP5993	Method: SW846 8270D	Instrument ID: GCMS
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Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
EP5993-DFTPP	P132152.D	10/08/19 20:30	n/a	DFTPP Tune
EP5993-CC5919	P132153.D	10/08/19 20:45	n/a	Continuing cal 25
OP23101-MB2	P132154.D	10/08/19 21:38	OP23101	Method Blank
OP23137-MB2	P132154.D	10/08/19 21:38	OP23137	Method Blank
OP23138-MB3	P132154.D	10/08/19 21:38	OP23138	Method Blank
OP23172-MB1	P132154.D	10/08/19 21:38	OP23172	Method Blank
OP23171-MB1	P132154.D	10/08/19 21:38	OP23171	Method Blank
OP23137-LB9	P132155.D	10/08/19 22:05	OP23137	Leachate Blank
OP23171-LB15	P132156.D	10/08/19 22:32	OP23171	Leachate Blank
OP23138-LB12	P132157.D	10/08/19 22:59	OP23138	Leachate Blank
OP23101-BS2	P132158.D	10/08/19 23:26	OP23101	Blank Spike
OP23137-BS2	P132158.D	10/08/19 23:26	OP23137	Blank Spike
OP23138-BS3	P132158.D	10/08/19 23:26	OP23138	Blank Spike
OP23172-BS1	P132158.D	10/08/19 23:26	OP23172	Blank Spike
OP23171-BS1	P132158.D	10/08/19 23:26	OP23171	Blank Spike
OP23137-LS4	P132159.D	10/08/19 23:55	OP23137	Leachate Spike
OP23137-MS	P132159.D	10/08/19 23:55	OP23137	Matrix Spike
OP23137-MSD	P132160.D	10/09/19 00:22	OP23137	Matrix Spike Duplicate
JC95821-11A	P132161.D	10/09/19 00:49	OP23137	(used for QC only; not part of job JC95610)
JC95610-1	P132162.D	10/09/19 01:16	OP23137	WC-092519
ZZZZZZ	P132163.D	10/09/19 01:43	OP23137	(unrelated sample)
ZZZZZZ	P132164.D	10/09/19 02:10	OP23137	(unrelated sample)
OP23171-LS7	P132165.D	10/09/19 02:37	OP23171	Leachate Spike
OP23171-MS	P132165.D	10/09/19 02:37	OP23171	Matrix Spike
OP23171-MSD	P132166.D	10/09/19 03:04	OP23171	Matrix Spike Duplicate
JC94224-13T	P132167.D	10/09/19 03:30	OP23171	(used for QC only; not part of job JC95610)
ZZZZZZ	P132168.D	10/09/19 03:57	OP23171	(unrelated sample)
ZZZZZZ	P132169.D	10/09/19 04:24	OP23171	(unrelated sample)
ZZZZZZ	P132170.D	10/09/19 04:51	OP23171	(unrelated sample)
ZZZZZZ	P132171.D	10/09/19 05:18	OP23171	(unrelated sample)
OP23138-LS5	P132172.D	10/09/19 05:45	OP23138	Leachate Spike
OP23138-MS	P132172.D	10/09/19 05:45	OP23138	Matrix Spike
OP23138-MSD	P132173.D	10/09/19 06:12	OP23138	Matrix Spike Duplicate
JC95743-1	P132174.D	10/09/19 06:38	OP23138	(used for QC only; not part of job JC95610)
ZZZZZZ	P132175.D	10/09/19 07:05	OP23138	(unrelated sample)
ZZZZZZ	P132176.D	10/09/19 07:32	OP23101	(unrelated sample)

7.10.3
7

GC/LC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- GC Identification Summaries (Hits)
- Surrogate Recovery Summaries
- GC Surrogate Retention Time Summaries
- Initial and Continuing Calibration Summaries
- Run Sequence Reports

Method Blank Summary

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP23056-MB1	XX2440930.D	1	10/01/19	TR	10/01/19	OP23056	GXX6824

The QC reported here applies to the following samples:

Method: SW846 8082A

JC95610-1

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	33	16	ug/kg	
11104-28-2	Aroclor 1221	ND	33	21	ug/kg	
11141-16-5	Aroclor 1232	ND	33	21	ug/kg	
53469-21-9	Aroclor 1242	ND	33	14	ug/kg	
12672-29-6	Aroclor 1248	ND	33	30	ug/kg	
11097-69-1	Aroclor 1254	ND	33	18	ug/kg	
11096-82-5	Aroclor 1260	ND	33	14	ug/kg	
11100-14-4	Aroclor 1268	ND	33	14	ug/kg	
37324-23-5	Aroclor 1262	ND	33	22	ug/kg	

CAS No.	Surrogate Recoveries	Limits	
877-09-8	Tetrachloro-m-xylene	76%	31-146%
877-09-8	Tetrachloro-m-xylene	84%	31-146%
2051-24-3	Decachlorobiphenyl	69%	17-164%
2051-24-3	Decachlorobiphenyl	78%	17-164%

8.1.1

8

Blank Spike Summary

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP23056-BS1	XX2440931.D	1	10/01/19	TR	10/01/19	OP23056	GXX6824

The QC reported here applies to the following samples:

Method: SW846 8082A

JC95610-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
12674-11-2	Aroclor 1016	133	121	91	67-157
11104-28-2	Aroclor 1221		ND		70-130
11141-16-5	Aroclor 1232		ND		70-130
53469-21-9	Aroclor 1242		ND		70-130
12672-29-6	Aroclor 1248		ND		70-130
11097-69-1	Aroclor 1254		ND		70-130
11096-82-5	Aroclor 1260	133	110	82	63-155
11100-14-4	Aroclor 1268		ND		50-150 ^a
37324-23-5	Aroclor 1262		ND		50-150 ^a

CAS No.	Surrogate Recoveries	BSP	Limits
877-09-8	Tetrachloro-m-xylene	91%	31-146%
877-09-8	Tetrachloro-m-xylene	99%	31-146%
2051-24-3	Decachlorobiphenyl	81%	17-164%
2051-24-3	Decachlorobiphenyl	91%	17-164%

(a) Advisory control limits.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP23056-MS	XX2440933.D	1	10/01/19	TR	10/01/19	OP23056	GXX6824
OP23056-MSD	XX2440934.D	1	10/01/19	TR	10/01/19	OP23056	GXX6824
JC95413-1	XX2440932.D	1	10/01/19	TR	10/01/19	OP23056	GXX6824

The QC reported here applies to the following samples:

Method: SW846 8082A

JC95610-1

CAS No.	Compound	JC95413-1 ug/kg	Spike Q ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
12674-11-2	Aroclor 1016	ND	153	115	75	157	93.8	60	20	36-191/60
11104-28-2	Aroclor 1221	ND		ND			ND		nc	70-130/50
11141-16-5	Aroclor 1232	ND		ND			ND		nc	70-130/1
53469-21-9	Aroclor 1242	ND		ND			ND		nc	70-130/6
12672-29-6	Aroclor 1248	ND		ND			ND		nc	70-130/33
11097-69-1	Aroclor 1254	ND		ND			ND		nc	70-130/38
11096-82-5	Aroclor 1260	ND	153	166	109	157	84.1	54	65	15-200/68
11100-14-4	Aroclor 1268	ND		ND			ND		nc	-/50
37324-23-5	Aroclor 1262	ND		ND			ND		nc	-/17

CAS No.	Surrogate Recoveries	MS	MSD	JC95413-1	Limits
877-09-8	Tetrachloro-m-xylene	67%	58%	82%	31-146%
877-09-8	Tetrachloro-m-xylene	75%	64%	89%	31-146%
2051-24-3	Decachlorobiphenyl	49%	37%	53%	17-164%
2051-24-3	Decachlorobiphenyl	74%	64%	116%	17-164%

* = Outside of Control Limits.

GC Identification Summary

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Check Std: GXX6824-CC6801	Injection Date: 10/01/19
Lab File ID: XX2440919.D	Injection Time: 18:18
Instrument ID: GCXX	Method: SW846 8082A

Sample ID: OP23056-BS1	Injection Date: 10/01/19
Lab File ID: XX2440931.D	Injection Time: 21:58
Client ID: Blank Spike	

Compound	Column	RT	StdRT	Conc	Q	Units	RPD Conc
Aroclor 1016	1 ^a			121		ug/kg	16.0
Aroclor 1016	2			142		ug/kg	
AR1016-A	1	3.73	3.73	134		ug/kg	
AR1016-A	2	4.72	4.72	157		ug/kg	
AR1016-B	1	4.16	4.16	126		ug/kg	
AR1016-B	2	5.30	5.30	142		ug/kg	
AR1016-C	1	4.75	4.75	112		ug/kg	
AR1016-C	2	5.95	5.95	130		ug/kg	
AR1016-D	1	4.92	4.92	119		ug/kg	
AR1016-D	2	6.14	6.14	144		ug/kg	
AR1016-E	1	5.46	5.45	115		ug/kg	
AR1016-E	2	6.81	6.81	138		ug/kg	
Aroclor 1260	1 ^a			110		ug/kg	18.9
Aroclor 1260	2			133		ug/kg	
AR1260-A	1	7.89	7.89	112		ug/kg	
AR1260-A	2	9.44	9.45	130		ug/kg	
AR1260-B	1	8.05	8.05	122		ug/kg	
AR1260-B	2	9.56	9.56	139		ug/kg	
AR1260-C	1	8.40	8.39	106		ug/kg	
AR1260-C	2	10.00	10.00	139		ug/kg	
AR1260-D	1	8.83	8.83	104		ug/kg	
AR1260-D	2	10.35	10.35	131		ug/kg	
AR1260-E	1	9.23	9.23	109		ug/kg	
AR1260-E	2	10.90	10.90	127		ug/kg	

(a) QC results reported from this column.

GC Identification Summary

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Check Std:	GXX6824-CC6801	Injection Date:	10/01/19
Lab File ID:	XX2440919.D	Injection Time:	18:18
Instrument ID:	GCXX	Method:	SW846 8082A

Sample ID:	OP23056-MS	Injection Date:	10/01/19
Lab File ID:	XX2440933.D	Injection Time:	22:50
Client ID:	Matrix Spike		

Compound	Column	RT	StdRT	Conc	Q	Units	RPD Conc
Aroclor 1016	1 ^a			115		ug/kg	27.1
Aroclor 1016	2			151		ug/kg	
AR1016-A	1	3.73	3.73	152		ug/kg	
AR1016-A	2	4.72	4.72	178		ug/kg	
AR1016-B	1	4.16	4.16	110		ug/kg	
AR1016-B	2	5.30	5.30	122		ug/kg	
AR1016-C	1	4.75	4.75	90.6		ug/kg	
AR1016-C	2	5.92	5.95	130		ug/kg	
AR1016-D	1	4.92	4.92	123		ug/kg	
AR1016-D	2	6.14	6.14	132		ug/kg	
AR1016-E	1	5.45	5.45	100		ug/kg	
AR1016-E	2	6.81	6.81	194		ug/kg	
Aroclor 1260	1 ^a			166		ug/kg	3.6
Aroclor 1260	2			172		ug/kg	
AR1260-A	1	7.89	7.89	145		ug/kg	
AR1260-A	2	9.45	9.45	150		ug/kg	
AR1260-B	1	8.05	8.05	158		ug/kg	
AR1260-B	2	9.56	9.56	163		ug/kg	
AR1260-C	1	8.39	8.39	87.9		ug/kg	
AR1260-C	2	9.99	10.00	212		ug/kg	
AR1260-D	1	8.84	8.83	159		ug/kg	
AR1260-D	2	10.35	10.35	98.5		ug/kg	
AR1260-E	1	9.28	9.23	279		ug/kg	
AR1260-E	2	10.86	10.90	235		ug/kg	

(a) QC results reported from this column.

8.4.2
8

GC Identification Summary

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Check Std:	GXX6824-CC6801	Injection Date:	10/01/19
Lab File ID:	XX2440919.D	Injection Time:	18:18
Instrument ID:	GCXX	Method:	SW846 8082A

Sample ID:	OP23056-MSD	Injection Date:	10/01/19
Lab File ID:	XX2440934.D	Injection Time:	23:24
Client ID:	Matrix Spike Duplicate		

Compound	Column	RT	StdRT	Conc	Q	Units	RPD Conc
Aroclor 1016	1 ^a			93.8		ug/kg	14.1
Aroclor 1016	2			108		ug/kg	
AR1016-A	1	3.73	3.73	122		ug/kg	
AR1016-A	2	4.73	4.72	130		ug/kg	
AR1016-B	1	4.16	4.16	94.1		ug/kg	
AR1016-B	2	5.30	5.30	108		ug/kg	
AR1016-C	1	4.75	4.75	80.6		ug/kg	
AR1016-C	2	5.95	5.95	95.7		ug/kg	
AR1016-D	1	4.92	4.92	109		ug/kg	
AR1016-D	2	6.14	6.14	90.2		ug/kg	
AR1016-E	1	5.45	5.45	63.0		ug/kg	
AR1016-E	2	6.81	6.81	115		ug/kg	
Aroclor 1260	1 ^a			84.1		ug/kg	15.1
Aroclor 1260	2			97.8		ug/kg	
AR1260-A	1	7.89	7.89	84.9		ug/kg	
AR1260-A	2	9.45	9.45	92.1		ug/kg	
AR1260-B	1	8.05	8.05	93.7		ug/kg	
AR1260-B	2	9.56	9.56	106		ug/kg	
AR1260-C	1	8.39	8.39	61.7		ug/kg	
AR1260-C	2	10.00	10.00	99.1		ug/kg	
AR1260-D	1	8.83	8.83	80.0		ug/kg	
AR1260-D	2	10.35	10.35	84.8		ug/kg	
AR1260-E	1	9.28	9.23	100		ug/kg	
AR1260-E	2	10.86	10.90	107		ug/kg	

(a) QC results reported from this column.

8.4.3
8

Surrogate Recovery Summary

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Method: SW846 8082A	Matrix: SO
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Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 ^a	S1 ^b	S2 ^a	S2 ^b
JC95610-1	XX2440964.D	1434* ^c	325* ^c	85	262* ^c
OP23056-BS1	XX2440931.D	91	99	81	91
OP23056-MB1	XX2440930.D	76	84	69	78
OP23056-MS	XX2440933.D	67	75	49	74
OP23056-MSD	XX2440934.D	58	64	37	64

Surrogate Compounds	Recovery Limits
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S1 = Tetrachloro-m-xylene	31-146%
S2 = Decachlorobiphenyl	17-164%

- (a) Recovery from GC signal #1
- (b) Recovery from GC signal #2
- (c) Outside control limits due to matrix interference.

8.5.1
8

GC Surrogate Retention Time Summary

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Check Std:	GXX6824-CC6801	Injection Date:	10/01/19
Lab File ID:	XX2440919.D	Injection Time:	18:18
Instrument ID:	GCXX	Method:	SW846 8082A

	S1 ^a RT	S1 ^b RT	S2 ^a RT	S2 ^b RT
Check Std	3.32	4.04	10.79	12.58

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 ^a RT	S1 ^b RT	S2 ^a RT	S2 ^b RT
OP23056-MB1	XX2440930.D	10/01/19	21:40	3.32	4.04	10.79	12.58
OP23056-BS1	XX2440931.D	10/01/19	21:58	3.32	4.04	10.79	12.58
JC95413-1	XX2440932.D	10/01/19	22:17	3.33	4.04	10.79	12.58
OP23056-MS	XX2440933.D	10/01/19	22:50	3.32	4.04	10.79	12.58
OP23056-MSD	XX2440934.D	10/01/19	23:24	3.32	4.04	10.79	12.58
ZZZZZZ	XX2440935.D	10/01/19	23:57	3.33	4.04	10.78	12.58
ZZZZZZ	XX2440936.D	10/02/19	00:16	3.32	4.04	10.79	12.58

Surrogate
Compounds

S1 = Tetrachloro-m-xylene
 S2 = Decachlorobiphenyl

- (a) Retention time from GC signal #1
- (b) Retention time from GC signal #2

8.6.1
8

GC Surrogate Retention Time Summary

Job Number: JC95610
Account: BBLNYS Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

Check Std: GXX6824-CC6801	Injection Date: 10/02/19
Lab File ID: XX2440961.D	Injection Time: 07:53
Instrument ID: GCXX	Method: SW846 8082A

S1 ^a	S1 ^b	S2 ^a	S2 ^b
RT	RT	RT	RT

Check Std	3.32	4.04	10.79	12.58
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Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 ^a RT	S1 ^b RT	S2 ^a RT	S2 ^b RT
JC95610-1	XX2440964.D	10/02/19	09:30	3.26	4.05	10.80	12.57
ZZZZZ	XX2440968.D	10/02/19	11:33	3.26	4.04	10.79	12.59

Surrogate Compounds

S1 = Tetrachloro-m-xylene
S2 = Decachlorobiphenyl

- (a) Retention time from GC signal #1
- (b) Retention time from GC signal #2

8.6.2
8

Initial Calibration Summary

Job Number: JC95610
Account: BBLNYS Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GXX6801-ICC6801
Lab FileID: XX2439729.D

Response Factor Report HP G1530A

Method Path : C:\msdchem\1\METHODS\
Method File : PCB6801.M
Title :
Last Update : Wed Sep 11 16:20:28 2019
Response Via : Initial Calibration

Calibration Files

50 =XX2439726.D 250 =XX2439727.D 500 =XX2439728.D
1000 =XX2439729.D 2000 =XX2439730.D 3000 =XX2439731.D

Compound	50	250	500	1000	2000	3000	Avg	%RSD
1) S Tetrachloro-m...	1.320	1.291	1.336	1.434	1.506	1.575	1.410 E7	8.07
2) AR1221-A				1.017			1.017 E5	0.00
3) AR1221-B				1.579			1.579 E5	0.00
4) AR1221-C				5.051			5.051 E5	0.00
5) AR1221-D				7.679			7.679 E4	0.00
6) AR1221-E				4.983			4.983 E4	0.00
7) AR1232-A				3.744			3.744 E5	0.00
8) AR1232-B				2.504			2.504 E5	0.00
9) AR1232-C				5.428			5.428 E5	0.00
10) AR1232-D				2.021			2.021 E5	0.00
11) AR1232-E				1.966			1.966 E5	0.00
12) AR1242-A				4.573			4.573 E5	0.00
13) AR1242-B				1.073			1.073 E6	0.00
14) AR1242-C				3.967			3.967 E5	0.00
15) AR1242-D				4.113			4.113 E5	0.00
16) AR1242-E				3.478			3.478 E5	0.00
17) AR1248-A				2.171			2.171 E5	0.00
18) AR1248-B				5.944			5.944 E5	0.00
19) AR1248-C				6.018			6.018 E5	0.00
20) AR1248-D				6.062			6.062 E5	0.00
21) AR1248-E				3.195			3.195 E5	0.00
22) AR1248-F				5.196			5.196 E5	0.00
23) AR1248-G				4.546			4.546 E5	0.00
24) AR1254-A				4.551			4.551 E5	0.00
25) AR1254-B				6.880			6.880 E5	0.00
26) AR1254-C				5.442			5.442 E5	0.00
27) AR1254-D				9.753			9.753 E5	0.00
28) AR1254-E				7.143			7.143 E5	0.00
29) AR1254-F				6.444			6.444 E5	0.00
30) AR1254-G				9.846			9.846 E5	0.00
31) AR1262-A				7.692			7.692 E5	0.00
32) AR1262-B				9.517			9.517 E5	0.00
33) AR1262-C				9.213			9.213 E5	0.00
34) AR1262-D				2.040			2.040 E6	0.00
35) AR1262-E				2.320			2.320 E6	0.00
36) AR1268-A				2.368			2.368 E6	0.00
37) AR1268-B				2.403			2.403 E6	0.00
38) AR1268-C				2.011			2.011 E6	0.00
39) AR1268-D				8.394			8.394 E5	0.00
40) AR1268-E				7.046			7.046 E6	0.00
41) AR1016-A	2.986	2.805	2.835	2.865	2.850	2.903	2.874 E5	2.23
42) AR1016-B	5.265	5.088	5.122	5.208	5.224	5.285	5.199 E5	1.51
43) AR1016-C	1.236	1.195	1.206	1.243	1.259	1.293	1.239 E6	2.89
44) AR1016-D	4.597	4.496	4.485	4.598	4.621	4.706	4.584 E5	1.80
45) AR1016-E	5.579	4.707	4.621	4.649	4.693	4.768	4.836 E5	7.59
46) AR1260-A	1.081	1.079	1.079	1.121	1.148	1.170	1.113 E6	3.56

87.1

8

Initial Calibration Summary

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GXX6801-ICC6801
 Lab FileID: XX2439729.D

47)	AR1260-B	5.780	5.562	5.574	5.748	5.855	5.958	5.746	E5	2.71
48)	AR1260-C	6.583	6.218	6.215	6.423	6.560	6.676	6.446	E5	3.03
49)	AR1260-D	1.462	1.488	1.518	1.581	1.627	1.663	1.556	E6	5.13
50)	AR1260-E	1.599	1.559	1.578	1.645	1.680	1.718	1.630	E6	3.80
51) S	Decachlorobip...	1.646	1.600	1.604	1.637	1.652	1.685	1.637	E7	1.94

Signal #2 Calibration Files

50	=XX2439726.D	250	=XX2439727.D	500	=XX2439728.D
1000	=XX2439729.D	2000	=XX2439730.D	3000	=XX2439731.D

	Compound	50	250	500	1000	2000	3000	Avg		%RSD
1) S	Tetrachloro-m...		9.054	9.325	9.501	9.693	9.948	9.504	E6	3.60
2)	AR1221-A				6.302			6.302	E4	0.00
3)	AR1221-B				1.035			1.035	E5	0.00
4)	AR1221-C				2.550			2.550	E5	0.00
5)	AR1221-D				4.924			4.924	E4	0.00
6)	AR1221-E				3.058			3.058	E4	0.00
7)	AR1232-A				1.956			1.956	E5	0.00
8)	AR1232-B				1.542			1.542	E5	0.00
9)	AR1232-C				3.389			3.389	E5	0.00
10)	AR1232-D				1.285			1.285	E5	0.00
11)	AR1232-E				9.156			9.156	E4	0.00
12)	AR1242-A				3.020			3.020	E5	0.00
13)	AR1242-B				6.578			6.578	E5	0.00
14)	AR1242-C				2.481			2.481	E5	0.00
15)	AR1242-D				1.913			1.913	E5	0.00
16)	AR1242-E				2.370			2.370	E5	0.00
17)	AR1248-A				1.401			1.401	E5	0.00
18)	AR1248-B				3.963			3.963	E5	0.00
19)	AR1248-C				2.185			2.185	E5	0.00
20)	AR1248-D				2.973			2.973	E5	0.00
21)	AR1248-E				2.952			2.952	E5	0.00
22)	AR1248-F				4.016			4.016	E5	0.00
23)	AR1248-G				3.909			3.909	E5	0.00
24)	AR1254-A				3.612			3.612	E5	0.00
25)	AR1254-B				4.103			4.103	E5	0.00
26)	AR1254-C				3.371			3.371	E5	0.00
27)	AR1254-D				6.523			6.523	E5	0.00
28)	AR1254-E				5.087			5.087	E5	0.00
29)	AR1254-F				5.436			5.436	E5	0.00
30)	AR1254-G				6.564			6.564	E5	0.00
31)	AR1262-A				5.055			5.055	E5	0.00
32)	AR1262-B				8.120			8.120	E5	0.00
33)	AR1262-C				6.442			6.442	E5	0.00
34)	AR1262-D				1.594			1.594	E6	0.00
35)	AR1262-E				1.733			1.733	E6	0.00
36)	AR1268-A				1.944			1.944	E6	0.00
37)	AR1268-B				1.738			1.738	E6	0.00
38)	AR1268-C				1.516			1.516	E6	0.00
39)	AR1268-D				6.171			6.171	E5	0.00
40)	AR1268-E				4.480			4.480	E6	0.00
41)	AR1016-A	1.621	1.658	1.584	1.562	1.544	1.560	1.588	E5	2.72
42)	AR1016-B	3.837	3.569	3.486	3.473	3.465	3.507	3.556	E5	4.00
43)	AR1016-C	8.695	7.855	7.636	7.713	7.793	7.934	7.938	E5	4.86
44)	AR1016-D	2.922	2.893	2.831	2.853	2.877	2.922	2.883	E5	1.27
45)	AR1016-E	2.639	2.278	2.217	2.233	2.237	2.273	2.313	E5	6.99
46)	AR1260-A	8.369	7.675	7.576	7.748	7.851	8.013	7.872	E5	3.63
47)	AR1260-B	5.082	4.965	4.936	4.988	5.075	5.159	5.034	E5	1.69
48)	AR1260-C	4.843	4.705	4.679	4.767	4.807	4.934	4.789	E5	1.96

8.7.1

8

Initial Calibration Summary

Job Number: JC95610
Account: BBLNYS Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GXX6801-ICC6801
Lab FileID: XX2439729.D

49)	AR1260-D	1.251	1.255	1.256	1.284	1.293	1.301	1.273	E6	1.74
50)	AR1260-E	1.233	1.179	1.169	1.198	1.213	1.243	1.206	E6	2.42
51) S	Decachlorobip...	1.093	0.974	0.970	0.970	0.986	1.009	1.000	E7	4.77

(#) = Out of Range

PCB6801.M Thu Sep 12 08:54:43 2019

Initial Calibration Verification

Job Number: JC95610
Account: BBLNYS Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GXX6801-ICV6801
Lab FileID: XX2439736.D

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\gxx6801\
Data File : XX2439736.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Sep 2019 3:53 pm
Operator : tianweir
Sample : icv6801-1000
Misc : op22532,GXX6801,15.0,,,10,1
ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 12 08:50:46 2019
Quant Method : C:\msdchem\1\METHODS\PCB6801.M
Quant Title :
QLast Update : Wed Sep 11 16:20:28 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min
Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
1 S	Tetrachloro-m-xylene	14.104	15.308 E6	-8.5	107	0.00
41	AR1016-A	287.399	297.607 E3	-3.6	104	0.00
42	AR1016-B	519.856	549.287 E3	-5.7	105	0.00
43	AR1016-C	1.239	1.306 E6	-5.4	105	0.00
44	AR1016-D	458.368	476.807 E3	-4.0	104	0.00
45	AR1016-E	483.606	479.597 E3	0.8	103	0.00
46	AR1260-A	1.113	1.212 E6	-8.9	108	0.00
47	AR1260-B	574.637	623.033 E3	-8.4	108	0.00
48	AR1260-C	644.585	713.870 E3	-10.7	111	0.00
49	AR1260-D	1.556	1.700 E6	-9.3	108	0.00
50	AR1260-E	1.630	1.702 E6	-4.4	103	0.00
51 S	Decachlorobiphenyl	16.372	16.831 E6	-2.8	103	0.00

Signal #2

1 S	Tetrachloro-m-xylene	9.504	10.020 E6	-5.4	105	0.00
41	AR1016-A	158.801	163.027 E3	-2.7	104	0.00
42	AR1016-B	355.612	361.925 E3	-1.8	104	0.00
43	AR1016-C	793.755	801.977 E3	-1.0	104	0.00
44	AR1016-D	288.293	297.047 E3	-3.0	104	0.00
45	AR1016-E	231.289	227.752 E3	1.5	102	0.00
46	AR1260-A	787.189	839.706 E3	-6.7	108	0.00
47	AR1260-B	503.405	540.071 E3	-7.3	108	0.00
48	AR1260-C	478.920	514.479 E3	-7.4	108	0.00
49	AR1260-D	1.273	1.374 E6	-7.9	107	0.00
50	AR1260-E	1.206	1.238 E6	-2.7	103	0.00
51 S	Decachlorobiphenyl	10.004	10.102 E6	-1.0	104	0.00

Initial Calibration Verification

Job Number: JC95610
Account: BBLNYS Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GXX6801-ICV6801
Lab FileID: XX2439736.D

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

PCB6801.M Thu Sep 12 08:54:16 2019

8.7.2

8

Initial Calibration Verification

Job Number: JC95610
Account: BBLNYS Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GXX6801-ICV6801
Lab FileID: XX2439737.D

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\gxx6801\
Data File : XX2439737.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Sep 2019 4:11 pm
Operator : tianweir
Sample : icv6801-1000
Misc : op22532,GXX6801,15.0,,,10,1
ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 12:36:08 2019
Quant Method : C:\msdchem\1\METHODS\PCB6801.M
Quant Title :
QLast Update : Wed Sep 11 16:20:28 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min
Max. RRF Dev : 20% Max. Rel. Area : 150%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
2 AR1221-A	101.732	103.748 E3	-2.0	102	0.00
3 AR1221-B	157.948	145.844 E3	7.7	92	0.00
4 AR1221-C	505.114	461.317 E3	8.7	91	0.00
5 AR1221-D	76.789	65.751 E3	14.4	86	0.00
6 AR1221-E	49.826	48.769 E3	2.1	98	0.00
24 AR1254-A	455.129	462.650 E3	-1.7	102	0.00
25 AR1254-B	688.004	697.410 E3	-1.4	101	0.00
26 AR1254-C	544.166	535.852 E3	1.5	98	0.00
27 AR1254-D	975.322	975.206 E3	0.0	100	0.00
28 AR1254-E	714.281	708.965 E3	0.7	99	0.00
29 AR1254-F	644.393	638.131 E3	1.0	99	0.00
30 AR1254-G	984.564	994.946 E3	-1.1	101	0.00

Signal #2

2 AR1221-A	63.020	64.309 E3	-2.0	102	0.00
3 AR1221-B	103.485	95.227 E3	8.0	92	0.00
4 AR1221-C	254.956	234.809 E3	7.9	92	0.00
5 AR1221-D	49.245	39.480 E3	19.8	80	0.00
6 AR1221-E	30.577	30.505 E3	0.2	100	0.00
24 AR1254-A	361.209	362.416 E3	-0.3	100	0.00
25 AR1254-B	410.338	407.909 E3	0.6	99	0.00
26 AR1254-C	337.147	330.339 E3	2.0	98	0.00
27 AR1254-D	652.338	655.423 E3	-0.5	100	0.00
28 AR1254-E	508.693	506.694 E3	0.4	100	0.00
29 AR1254-F	543.623	545.140 E3	-0.3	100	-0.03
30 AR1254-G	656.369	667.333 E3	-1.7	102	0.00

Initial Calibration Verification

Job Number: JC95610
Account: BBLNYS Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GXX6801-ICV6801
Lab FileID: XX2439737.D

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

PCB6801.M Fri Sep 13 12:36:25 2019

8.7.3

8

Initial Calibration Verification

Job Number: JC95610
Account: BBLNYS Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GXX6801-ICV6801
Lab FileID: XX2439738.D

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\gxx6801\
Data File : XX2439738.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Sep 2019 4:29 pm
Operator : tianweir
Sample : icv6801-1000
Misc : op22532,GXX6801,15.0,,,10,1
ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 12 08:49:44 2019
Quant Method : C:\msdchem\1\METHODS\PCB6801.M
Quant Title :
QLast Update : Wed Sep 11 16:20:28 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min
Max. RRF Dev : 20% Max. Rel. Area : 150%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
7 AR1232-A	374.370	389.942 E3	-4.2	104	0.00
8 AR1232-B	250.366	261.691 E3	-4.5	105	0.00
9 AR1232-C	542.764	565.470 E3	-4.2	104	0.00
10 AR1232-D	202.075	211.227 E3	-4.5	105	0.00
11 AR1232-E	196.626	203.761 E3	-3.6	104	0.00
31 AR1262-A	769.154	749.082 E3	2.6	97	0.00
32 AR1262-B	951.665	930.892 E3	2.2	98	0.00
33 AR1262-C	921.263	900.146 E3	2.3	98	0.00
34 AR1262-D	2.040	1.988 E6	2.5	97	0.00
35 AR1262-E	2.320	2.282 E6	1.6	98	0.00

Signal #2

7 AR1232-A	195.638	203.161 E3	-3.8	104	0.00
8 AR1232-B	154.178	160.956 E3	-4.4	104	0.00
9 AR1232-C	338.865	351.526 E3	-3.7	104	0.00
10 AR1232-D	128.480	133.536 E3	-3.9	104	0.00
11 AR1232-E	91.565	95.549 E3	-4.4	104	0.00
31 AR1262-A	505.460	497.729 E3	1.5	98	0.00
32 AR1262-B	811.989	799.136 E3	1.6	98	0.00
33 AR1262-C	644.168	633.588 E3	1.6	98	0.00
34 AR1262-D	1.594	1.564 E6	1.9	98	0.00
35 AR1262-E	1.733	1.703 E6	1.7	98	0.00

8.7.4
8

Initial Calibration Verification

Job Number: JC95610
Account: BBLNYS Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GXX6801-ICV6801
Lab FileID: XX2439738.D

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

PCB6801.M Thu Sep 12 08:54:20 2019

8.7.4

8

Initial Calibration Verification

Job Number: JC95610
Account: BBLNYS Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GXX6801-ICV6801
Lab FileID: XX2439739.D

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\gxx6801\
Data File : XX2439739.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Sep 2019 4:47 pm
Operator : tianweir
Sample : icv6801-1000
Misc : op22532,GXX6801,15.0,,,10,1
ALS Vial : 16 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 12 08:51:23 2019
Quant Method : C:\msdchem\1\METHODS\PCB6801.M
Quant Title :
QLast Update : Wed Sep 11 16:20:28 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min
Max. RRF Dev : 20% Max. Rel. Area : 150%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
12 AR1242-A	457.343	440.310 E3	3.7	96	0.00
13 AR1242-B	1.073	1.031 E6	3.9	96	0.00
14 AR1242-C	396.676	383.072 E3	3.4	97	0.00
15 AR1242-D	411.284	397.646 E3	3.3	97	0.00
16 AR1242-E	347.820	332.902 E3	4.3	96	0.00
36 AR1268-A	2.368	2.272 E6	4.1	96	0.00
37 AR1268-B	2.403	2.304 E6	4.1	96	0.00
38 AR1268-C	2.011	1.934 E6	3.8	96	0.00
39 AR1268-D	839.387	800.362 E3	4.6	95	0.00
40 AR1268-E	7.046	6.790 E6	3.6	96	0.00

Signal #2

12 AR1242-A	301.987	291.705 E3	3.4	97	0.00
13 AR1242-B	657.786	635.356 E3	3.4	97	0.00
14 AR1242-C	248.063	242.390 E3	2.3	98	0.00
15 AR1242-D	191.269	190.115 E3	0.6	99	0.00
16 AR1242-E	237.021	243.244 E3	-2.6	103	0.00
36 AR1268-A	1.944	1.886 E6	3.0	97	0.00
37 AR1268-B	1.738	1.730 E6	0.5	99	0.00
38 AR1268-C	1.516	1.488 E6	1.8	98	0.00
39 AR1268-D	617.115	605.802 E3	1.8	98	0.00
40 AR1268-E	4.480	4.299 E6	4.0	96	0.00

8.7.5
8

Initial Calibration Verification

Job Number: JC95610
Account: BBLNYS Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GXX6801-ICV6801
Lab FileID: XX2439739.D

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

PCB6801.M Thu Sep 12 08:54:23 2019

8.7.5

8

Initial Calibration Verification

Job Number: JC95610
Account: BBLNYS Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GXX6801-ICV6801
Lab FileID: XX2439740.D

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\gxx6801\
Data File : XX2439740.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Sep 2019 5:06 pm
Operator : tianweir
Sample : icv6801-1000
Misc : op22532,GXX6801,15.0,,,10,1
ALS Vial : 17 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 12 08:52:06 2019
Quant Method : C:\msdchem\1\METHODS\PCB6801.M
Quant Title :
QLast Update : Wed Sep 11 16:20:28 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min
Max. RRF Dev : 20% Max. Rel. Area : 150%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
17 AR1248-A	217.058	201.482 E3	7.2	93	0.00
18 AR1248-B	594.374	581.706 E3	2.1	98	0.00
19 AR1248-C	601.828	642.300 E3	-6.7	107	0.00
20 AR1248-D	606.189	633.071 E3	-4.4	104	0.00
21 AR1248-E	319.548	339.584 E3	-6.3	106	0.00
22 AR1248-F	519.608	570.717 E3	-9.8	110	0.00
23 AR1248-G	454.642	480.681 E3	-5.7	106	0.00

Signal #2

17 AR1248-A	140.140	128.342 E3	8.4	92	0.00
18 AR1248-B	396.292	384.669 E3	2.9	97	0.00
19 AR1248-C	218.538	224.370 E3	-2.7	103	0.00
20 AR1248-D	297.333	306.292 E3	-3.0	103	0.00
21 AR1248-E	295.160	309.428 E3	-4.8	105	0.00
22 AR1248-F	401.589	422.719 E3	-5.3	105	0.00
23 AR1248-G	390.888	416.207 E3	-6.5	106	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

PCB6801.M Thu Sep 12 08:54:25 2019

Continuing Calibration Summary

Job Number: JC95610
Account: BBLNYS Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GXX6824-CC6801
Lab FileID: XX2440919.D

Evaluate Continuing Calibration Report

Signal #1 : C:\msdchem\1\data\an...\xx2440919.d\ECD1A.CH Vial: 64
Signal #2 : C:\msdchem\1\data\anndg\gxx6824\xx2440919.d\ECD2B.CH
Acq On : 01 Oct 2019 6:18 pm Operator: tianweir
Sample : cc6801-1000 Inst : HP G1530A
Misc : op23034,gxx6824,16.0,,,10,1 Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\PCB6801.M (ChemStation Integrator)
Title :
Last Update : Tue Oct 01 23:33:59 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min
Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT	Window
1 S	Tetrachloro-m-xylene	14.104	14.706 E6	-4.3	103	0.00	3.29-	3.35
2	AR1221-A			NA				
3	AR1221-B			NA				
4	AR1221-C			NA				
5	AR1221-D			NA				
6	AR1221-E			NA				
7	AR1232-A			NA				
8	AR1232-B			NA				
9	AR1232-C			NA				
10	AR1232-D			NA				
11	AR1232-E			NA				
12	AR1242-A			NA				
13	AR1242-B			NA				
14	AR1242-C			NA				
15	AR1242-D			NA				
16	AR1242-E			NA				
17	AR1248-A			NA				
18	AR1248-B			NA				
19	AR1248-C			NA				
20	AR1248-D			NA				
21	AR1248-E			NA				
22	AR1248-F			NA				
23	AR1248-G			NA				
24	AR1254-A			NA				
25	AR1254-B			NA				
26	AR1254-C			NA				
27	AR1254-D			NA				
28	AR1254-E			NA				
29	AR1254-F			NA				
30	AR1254-G			NA				
31	AR1262-A			NA				
32	AR1262-B			NA				
33	AR1262-C			NA				
34	AR1262-D			NA				
35	AR1262-E			NA				
36	AR1268-A			NA				
37	AR1268-B			NA				
38	AR1268-C			NA				
39	AR1268-D			NA				
40	AR1268-E			NA				
41	AR1016-A	287.399	294.729 E3	-2.6	103	0.00	3.70-	3.76

87.7

8

Continuing Calibration Summary

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GXX6824-CC6801
 Lab FileID: XX2440919.D

42	AR1016-B	519.856	520.315	E3	-0.1	100	0.00	4.13-	4.19
43	AR1016-C	1.239	1.200	E6	3.1	97	0.00	4.72-	4.78
44	AR1016-D	458.368	452.360	E3	1.3	98	0.00	4.89-	4.95
45	AR1016-E	483.606	459.104	E3	5.1	99	0.00	5.42-	5.49
46	AR1260-A	1.113	1.041	E6	6.5	93	0.00	7.86-	7.92
47	AR1260-B	574.637	546.905	E3	4.8	95	0.00	8.02-	8.08
48	AR1260-C	644.585	604.600	E3	6.2	94	0.00	8.36-	8.43
49	AR1260-D	1.556	1.387	E6	10.9	88	0.00	8.80-	8.86
50	AR1260-E	1.630	1.484	E6	9.0	90	0.00	9.20-	9.26
51 S	Decachlorobiphenyl	16.372	14.694	E6	10.2	90	0.00	10.75-	10.82

***** Signal #2 *****

1 S	Tetrachloro-m-xylene	9.504	10.104	E6	-6.3	106	0.00	4.01-	4.07
2	AR1221-A				-----NA-----				
3	AR1221-B				-----NA-----				
4	AR1221-C				-----NA-----				
5	AR1221-D				-----NA-----				
6	AR1221-E				-----NA-----				
7	AR1232-A				-----NA-----				
8	AR1232-B				-----NA-----				
9	AR1232-C				-----NA-----				
10	AR1232-D				-----NA-----				
11	AR1232-E				-----NA-----				
12	AR1242-A				-----NA-----				
13	AR1242-B				-----NA-----				
14	AR1242-C				-----NA-----				
15	AR1242-D				-----NA-----				
16	AR1242-E				-----NA-----				
17	AR1248-A				-----NA-----				
18	AR1248-B				-----NA-----				
19	AR1248-C				-----NA-----				
20	AR1248-D				-----NA-----				
21	AR1248-E				-----NA-----				
22	AR1248-F				-----NA-----				
23	AR1248-G				-----NA-----				
24	AR1254-A				-----NA-----				
25	AR1254-B				-----NA-----				
26	AR1254-C				-----NA-----				
27	AR1254-D				-----NA-----				
28	AR1254-E				-----NA-----				
29	AR1254-F				-----NA-----				
30	AR1254-G				-----NA-----				
31	AR1262-A				-----NA-----				
32	AR1262-B				-----NA-----				
33	AR1262-C				-----NA-----				
34	AR1262-D				-----NA-----				
35	AR1262-E				-----NA-----				
36	AR1268-A				-----NA-----				
37	AR1268-B				-----NA-----				
38	AR1268-C				-----NA-----				
39	AR1268-D				-----NA-----				
40	AR1268-E				-----NA-----				
41	AR1016-A	158.801	169.653	E3	-6.8	109	0.00	4.69-	4.75
42	AR1016-B	355.612	366.368	E3	-3.0	105	0.00	5.27-	5.33
43	AR1016-C	793.755	792.699	E3	0.1	103	0.00	5.92-	5.98
44	AR1016-D	288.293	298.481	E3	-3.5	105	0.00	6.11-	6.17
45	AR1016-E	231.289	233.611	E3	-1.0	105	0.00	6.78-	6.84
46	AR1260-A	787.189	805.195	E3	-2.3	104	0.00	9.42-	9.48
47	AR1260-B	503.405	504.880	E3	-0.3	101	0.00	9.53-	9.59

87.7

8

Continuing Calibration Summary

Job Number: JC95610
Account: BBLNYS Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GXX6824-CC6801
Lab FileID: XX2440919.D

48	AR1260-C	478.920	482.718	E3	-0.8	101	0.00	9.97-10.03
49	AR1260-D	1.273	1.230	E6	3.4	96	0.00	10.32-10.38
50	AR1260-E	1.206	1.206	E6	0.0	101	0.00	10.87-10.93
51 S	Decachlorobiphenyl	10.004	9.926	E6	0.8	102	0.00	12.55-12.61

(#) = Out of Range
xx2440919.d PCB6801.M

SPCC's out = 0 CCC's out = 0
Tue Oct 01 23:37:51 2019

Continuing Calibration Summary

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GXX6824-CC6801
 Lab FileID: XX2440928.D

Evaluate Continuing Calibration Report

Signal #1 : C:\msdchem\1\data\an...\xx2440928.d\ECD1A.CH Vial: 72
 Signal #2 : C:\msdchem\1\data\anndg\gxx6824\xx2440928.d\ECD2B.CH
 Acq On : 01 Oct 2019 9:03 pm Operator: tianweir
 Sample : cc6801-500 Inst : HP G1530A
 Misc : op23034,gxx6824,16.0,,,10,1 Multiplr: 1.00
 IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\pcb6801.m (ChemStation Integrator)
 Title :
 Last Update : Tue Oct 01 23:38:09 2019
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min
 Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT	Window
1 S	Tetrachloro-m-xylene	14.104	14.962 E6	-6.1	112	0.00	3.29-	3.35
2	AR1221-A			NA				
3	AR1221-B			NA				
4	AR1221-C			NA				
5	AR1221-D			NA				
6	AR1221-E			NA				
7	AR1232-A			NA				
8	AR1232-B			NA				
9	AR1232-C			NA				
10	AR1232-D			NA				
11	AR1232-E			NA				
12	AR1242-A			NA				
13	AR1242-B			NA				
14	AR1242-C			NA				
15	AR1242-D			NA				
16	AR1242-E			NA				
17	AR1248-A			NA				
18	AR1248-B			NA				
19	AR1248-C			NA				
20	AR1248-D			NA				
21	AR1248-E			NA				
22	AR1248-F			NA				
23	AR1248-G			NA				
24	AR1254-A			NA				
25	AR1254-B			NA				
26	AR1254-C			NA				
27	AR1254-D			NA				
28	AR1254-E			NA				
29	AR1254-F			NA				
30	AR1254-G			NA				
31	AR1262-A			NA				
32	AR1262-B			NA				
33	AR1262-C			NA				
34	AR1262-D			NA				
35	AR1262-E			NA				
36	AR1268-A			NA				
37	AR1268-B			NA				
38	AR1268-C			NA				
39	AR1268-D			NA				
40	AR1268-E			NA				
41	AR1016-A	287.399	312.618 E3	-8.8	110	0.00	3.70-	3.76

87.8
8

Continuing Calibration Summary

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GXX6824-CC6801
 Lab FileID: XX2440928.D

42	AR1016-B	519.856	550.070	E3	-5.8	107	0.00	4.13- 4.19
43	AR1016-C	1.239	1.249	E6	-0.8	104	0.00	4.72- 4.78
44	AR1016-D	458.368	471.722	E3	-2.9	105	0.00	4.89- 4.95
45	AR1016-E	483.606	486.499	E3	-0.6	105	0.00	5.42- 5.49
46	AR1260-A	1.113	1.063	E6	4.5	99	0.00	7.86- 7.92
47	AR1260-B	574.637	622.028	E3	-8.2	112	0.00	8.02- 8.08
48	AR1260-C	644.585	631.289	E3	2.1	102	0.00	8.36- 8.43
49	AR1260-D	1.556	1.388	E6	10.8	91	0.00	8.80- 8.86
50	AR1260-E	1.630	1.493	E6	8.4	95	0.00	9.20- 9.26
51 S	Decachlorobiphenyl	16.372	15.582	E6	4.8	97	0.00	10.75-10.82

***** Signal #2 *****

1 S	Tetrachloro-m-xylene	9.504	10.848	E6	-14.1	116	0.00	4.01- 4.07
2	AR1221-A				-----NA-----			
3	AR1221-B				-----NA-----			
4	AR1221-C				-----NA-----			
5	AR1221-D				-----NA-----			
6	AR1221-E				-----NA-----			
7	AR1232-A				-----NA-----			
8	AR1232-B				-----NA-----			
9	AR1232-C				-----NA-----			
10	AR1232-D				-----NA-----			
11	AR1232-E				-----NA-----			
12	AR1242-A				-----NA-----			
13	AR1242-B				-----NA-----			
14	AR1242-C				-----NA-----			
15	AR1242-D				-----NA-----			
16	AR1242-E				-----NA-----			
17	AR1248-A				-----NA-----			
18	AR1248-B				-----NA-----			
19	AR1248-C				-----NA-----			
20	AR1248-D				-----NA-----			
21	AR1248-E				-----NA-----			
22	AR1248-F				-----NA-----			
23	AR1248-G				-----NA-----			
24	AR1254-A				-----NA-----			
25	AR1254-B				-----NA-----			
26	AR1254-C				-----NA-----			
27	AR1254-D				-----NA-----			
28	AR1254-E				-----NA-----			
29	AR1254-F				-----NA-----			
30	AR1254-G				-----NA-----			
31	AR1262-A				-----NA-----			
32	AR1262-B				-----NA-----			
33	AR1262-C				-----NA-----			
34	AR1262-D				-----NA-----			
35	AR1262-E				-----NA-----			
36	AR1268-A				-----NA-----			
37	AR1268-B				-----NA-----			
38	AR1268-C				-----NA-----			
39	AR1268-D				-----NA-----			
40	AR1268-E				-----NA-----			
41	AR1016-A	158.801	186.955	E3	-17.7	118	0.00	4.69- 4.75
42	AR1016-B	355.612	405.262	E3	-14.0	116	0.00	5.27- 5.33
43	AR1016-C	793.755	860.475	E3	-8.4	113	0.00	5.92- 5.98
44	AR1016-D	288.293	342.730	E3	-18.9	121	0.00	6.11- 6.17
45	AR1016-E	231.289	259.841	E3	-12.3	117	0.00	6.78- 6.84
46	AR1260-A	787.189	847.240	E3	-7.6	112	0.00	9.41- 9.47
47	AR1260-B	503.405	554.257	E3	-10.1	112	0.00	9.53- 9.59

87.8

8

Continuing Calibration Summary

Job Number: JC95610
Account: BBLNYS Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GXX6824-CC6801
Lab FileID: XX2440928.D

48	AR1260-C	478.920	529.470	E3	-10.6	113	0.00	9.97-10.03
49	AR1260-D	1.273	1.338	E6	-5.1	107	0.00	10.32-10.38
50	AR1260-E	1.206	1.298	E6	-7.6	111	0.00	10.87-10.93
51 S	Decachlorobiphenyl	10.004	10.740	E6	-7.4	111	0.00	12.55-12.61

(#) = Out of Range
xx2440306.d pcb6801.m

SPCC's out = 0 CCC's out = 0
Wed Oct 02 00:39:55 2019

Continuing Calibration Summary

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GXX6824-CC6801
 Lab FileID: XX2440939.D

Evaluate Continuing Calibration Report

Signal #1 : C:\msdchem\1\data\an...\xx2440939.d\ECD1A.CH Vial: 80
 Signal #2 : C:\msdchem\1\data\anndg\gxx6824\xx2440939.d\ECD2B.CH
 Acq On : 02 Oct 2019 1:11 am Operator: tianweir
 Sample : cc6801-1000 Inst : HP G1530A
 Misc : op23056,gxx6824,15.0,,,10,1 Multiplr: 1.00
 IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\PCB6801.M (ChemStation Integrator)
 Title :
 Last Update : Tue Oct 01 23:38:09 2019
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min
 Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT	Window
1 S	Tetrachloro-m-xylene	14.104	14.679 E6	-4.1	102	0.00	3.29-	3.35
2	AR1221-A			NA				
3	AR1221-B			NA				
4	AR1221-C			NA				
5	AR1221-D			NA				
6	AR1221-E			NA				
7	AR1232-A			NA				
8	AR1232-B			NA				
9	AR1232-C			NA				
10	AR1232-D			NA				
11	AR1232-E			NA				
12	AR1242-A			NA				
13	AR1242-B			NA				
14	AR1242-C			NA				
15	AR1242-D			NA				
16	AR1242-E			NA				
17	AR1248-A			NA				
18	AR1248-B			NA				
19	AR1248-C			NA				
20	AR1248-D			NA				
21	AR1248-E			NA				
22	AR1248-F			NA				
23	AR1248-G			NA				
24	AR1254-A			NA				
25	AR1254-B			NA				
26	AR1254-C			NA				
27	AR1254-D			NA				
28	AR1254-E			NA				
29	AR1254-F			NA				
30	AR1254-G			NA				
31	AR1262-A			NA				
32	AR1262-B			NA				
33	AR1262-C			NA				
34	AR1262-D			NA				
35	AR1262-E			NA				
36	AR1268-A			NA				
37	AR1268-B			NA				
38	AR1268-C			NA				
39	AR1268-D			NA				
40	AR1268-E			NA				
41	AR1016-A	287.399	292.996 E3	-1.9	102	0.00	3.70-	3.76

8.7.9

8

Continuing Calibration Summary

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GXX6824-CC6801
 Lab FileID: XX2440939.D

42	AR1016-B	519.856	516.919	E3	0.6	99	0.00	4.13-	4.19
43	AR1016-C	1.239	1.196	E6	3.5	96	0.00	4.72-	4.78
44	AR1016-D	458.368	450.875	E3	1.6	98	0.00	4.89-	4.95
45	AR1016-E	483.606	454.802	E3	6.0	98	0.00	5.42-	5.49
46	AR1260-A	1.113	1.030	E6	7.5	92	0.00	7.86-	7.92
47	AR1260-B	574.637	538.332	E3	6.3	94	0.00	8.02-	8.08
48	AR1260-C	644.585	600.299	E3	6.9	93	0.00	8.36-	8.43
49	AR1260-D	1.556	1.483	E6	4.7	94	0.00	8.80-	8.86
50	AR1260-E	1.630	1.365	E6	16.3	83	0.00	9.20-	9.26
51 S	Decachlorobiphenyl	16.372	14.176	E6	13.4	87	0.00	10.76-	10.83

***** Signal #2 *****

1 S	Tetrachloro-m-xylene	9.504	10.661	E6	-12.2	112	0.00	4.01-	4.07
2	AR1221-A				-----NA-----				
3	AR1221-B				-----NA-----				
4	AR1221-C				-----NA-----				
5	AR1221-D				-----NA-----				
6	AR1221-E				-----NA-----				
7	AR1232-A				-----NA-----				
8	AR1232-B				-----NA-----				
9	AR1232-C				-----NA-----				
10	AR1232-D				-----NA-----				
11	AR1232-E				-----NA-----				
12	AR1242-A				-----NA-----				
13	AR1242-B				-----NA-----				
14	AR1242-C				-----NA-----				
15	AR1242-D				-----NA-----				
16	AR1242-E				-----NA-----				
17	AR1248-A				-----NA-----				
18	AR1248-B				-----NA-----				
19	AR1248-C				-----NA-----				
20	AR1248-D				-----NA-----				
21	AR1248-E				-----NA-----				
22	AR1248-F				-----NA-----				
23	AR1248-G				-----NA-----				
24	AR1254-A				-----NA-----				
25	AR1254-B				-----NA-----				
26	AR1254-C				-----NA-----				
27	AR1254-D				-----NA-----				
28	AR1254-E				-----NA-----				
29	AR1254-F				-----NA-----				
30	AR1254-G				-----NA-----				
31	AR1262-A				-----NA-----				
32	AR1262-B				-----NA-----				
33	AR1262-C				-----NA-----				
34	AR1262-D				-----NA-----				
35	AR1262-E				-----NA-----				
36	AR1268-A				-----NA-----				
37	AR1268-B				-----NA-----				
38	AR1268-C				-----NA-----				
39	AR1268-D				-----NA-----				
40	AR1268-E				-----NA-----				
41	AR1016-A	158.801	177.231	E3	-11.6	113	0.00	4.69-	4.75
42	AR1016-B	355.612	386.406	E3	-8.7	111	0.00	5.27-	5.33
43	AR1016-C	793.755	837.136	E3	-5.5	109	0.00	5.92-	5.98
44	AR1016-D	288.293	330.643	E3	-14.7	116	0.00	6.11-	6.17
45	AR1016-E	231.289	243.861	E3	-5.4	109	0.00	6.78-	6.84
46	AR1260-A	787.189	780.856	E3	0.8	101	0.00	9.41-	9.47
47	AR1260-B	503.405	506.063	E3	-0.5	101	0.00	9.53-	9.59

87.9

8

Continuing Calibration Summary

Job Number: JC95610
Account: BBLNYS Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GXX6824-CC6801
Lab FileID: XX2440939.D

48	AR1260-C	478.920	482.498	E3	-0.7	101	0.00	9.97-10.03
49	AR1260-D	1.273	1.210	E6	4.9	94	0.00	10.32-10.38
50	AR1260-E	1.206	1.174	E6	2.7	98	0.00	10.87-10.93
51 S	Decachlorobiphenyl	10.004	9.621	E6	3.8	99	0.00	12.55-12.61

(#) = Out of Range
xx2440919.d PCB6801.M

SPCC's out = 0 CCC's out = 0
Wed Oct 02 04:55:00 2019

8.7.9

8

Continuing Calibration Summary

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GXX6824-CC6801
 Lab FileID: XX2440961.D

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\gxx6824\
 Data File : XX2440961.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 02 Oct 2019 7:53 am
 Operator : tianweir
 Sample : cc6801-1000
 Misc : op23056,gxx6824,15.0,,,10,1
 ALS Vial : 80 Sample Multiplier: 1

Integration File signal 1: autoint1.e
 Integration File signal 2: autoint2.e
 Quant Time: Oct 02 08:33:49 2019
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6801.M
 Quant Title :
 QLast Update : Fri Sep 13 10:16:02 2019
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min
 Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
1 S	Tetrachloro-m-xylene	14.104	14.302 E6	-1.4	100	0.00
41	AR1016-A	287.399	284.551 E3	1.0	99	0.00
42	AR1016-B	519.856	502.002 E3	3.4	96	0.00
43	AR1016-C	1.239	1.170 E6	5.6	94	0.00
44	AR1016-D	458.368	435.074 E3	5.1	95	0.00
45	AR1016-E	483.606	440.338 E3	8.9	95	0.00
46	AR1260-A	1.113	0.988 E6	11.2	88	0.00
47	AR1260-B	574.637	511.663 E3	11.0	89	0.00
48	AR1260-C	644.585	565.258 E3	12.3	88	0.00
49	AR1260-D	1.556	1.460 E6	6.2	92	0.00
50	AR1260-E	1.630	1.307 E6	19.8	79	0.00
51 S	Decachlorobiphenyl	16.372	13.868 E6	15.3	85	0.00

Signal #2

1 S	Tetrachloro-m-xylene	9.504	10.491 E6	-10.4	110	0.00
41	AR1016-A	158.801	173.346 E3	-9.2	111	0.00
42	AR1016-B	355.612	356.607 E3	-0.3	103	0.00
43	AR1016-C	793.755	825.036 E3	-3.9	107	0.00
44	AR1016-D	288.293	305.030 E3	-5.8	107	0.00
45	AR1016-E	231.289	235.331 E3	-1.7	105	0.00
46	AR1260-A	787.189	762.476 E3	3.1	98	0.00
47	AR1260-B	503.405	489.082 E3	2.8	98	0.00
48	AR1260-C	478.920	475.363 E3	0.7	100	0.00
49	AR1260-D	1.273	1.237 E6	2.8	96	0.00
50	AR1260-E	1.206	1.195 E6	0.9	100	0.00
51 S	Decachlorobiphenyl	10.004	8.801 E6	12.0	91	0.00

Continuing Calibration Summary

Job Number: JC95610
Account: BBLNYS Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GXX6824-CC6801
Lab FileID: XX2440961.D

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

PCB6801.M Wed Oct 02 08:34:16 2019

8.7.10

8

Continuing Calibration Summary

Job Number: JC95610
Account: BBLNYS Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GXX6824-CC6801
Lab FileID: XX2440969.D

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\gxx6824\
Data File : XX2440969.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 02 Oct 2019 12:37 pm
Operator : tianweir
Sample : cc6801-500
Misc : op23056,gxx6824,15.0,,,10,1
ALS Vial : 88 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 02 12:56:47 2019
Quant Method : C:\MSDCHEM\1\METHODS\PCB6801.M
Quant Title :
QLast Update : Fri Sep 13 10:16:02 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min
Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
1 S	Tetrachloro-m-xylene	14.104	15.148 E6	-7.4	113	0.00
41	AR1016-A	287.399	322.320 E3	-12.2	114	0.00
42	AR1016-B	519.856	488.868 E3	6.0	95	-0.01
43	AR1016-C	1.239	1.160 E6	6.4	96	0.00
44	AR1016-D	458.368	424.897 E3	7.3	95	0.00
45	AR1016-E	483.606	431.397 E3	10.8	93	-0.01
46	AR1260-A	1.113	0.974 E6	12.5	90	0.00
47	AR1260-B	574.637	538.621 E3	6.3	97	0.00
48	AR1260-C	644.585	600.729 E3	6.8	97	0.00
49	AR1260-D	1.556	1.635 E6	-5.1	108	0.00
50	AR1260-E	1.630	1.437 E6	11.8	91	0.00
51 S	Decachlorobiphenyl	16.372	14.319 E6	12.5	89	0.00

Signal #2

1 S	Tetrachloro-m-xylene	9.504	10.285 E6	-8.2	110	0.00
41	AR1016-A	158.801	192.662 E3	-21.3#	122	0.00
42	AR1016-B	355.612	379.221 E3	-6.6	109	0.00
43	AR1016-C	793.755	831.849 E3	-4.8	109	0.00
44	AR1016-D	288.293	309.346 E3	-7.3	109	0.00
45	AR1016-E	231.289	236.499 E3	-2.3	107	0.00
46	AR1260-A	787.189	771.378 E3	2.0	102	0.00
47	AR1260-B	503.405	502.620 E3	0.2	102	0.00
48	AR1260-C	478.920	490.018 E3	-2.3	105	0.00
49	AR1260-D	1.273	1.249 E6	1.9	99	0.00
50	AR1260-E	1.206	1.194 E6	1.0	102	0.00
51 S	Decachlorobiphenyl	10.004	9.761 E6	2.4	101	0.00

Continuing Calibration Summary

Job Number: JC95610
Account: BBLNYS Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GXX6824-CC6801
Lab FileID: XX2440969.D

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

PCB6801.M Wed Oct 02 12:57:06 2019

Run Sequence Report

Job Number: JC95610
Account: BBLNYS Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

Run ID: GXX6801	Method: SW846 8082A	Instrument ID: GCXX
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Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
GXX6801-IC6801	XX2439726.D	09/11/19 12:50	n/a	Initial cal 50
GXX6801-IC6801	XX2439727.D	09/11/19 13:08	n/a	Initial cal 250
GXX6801-IC6801	XX2439728.D	09/11/19 13:27	n/a	Initial cal 500
GXX6801-ICC6801	XX2439729.D	09/11/19 13:45	n/a	Initial cal 1000
GXX6801-IC6801	XX2439730.D	09/11/19 14:03	n/a	Initial cal 2000
GXX6801-IC6801	XX2439731.D	09/11/19 14:21	n/a	Initial cal 3000
GXX6801-IC6801	XX2439732.D	09/11/19 14:40	n/a	Initial cal 1000
GXX6801-IC6801	XX2439733.D	09/11/19 14:58	n/a	Initial cal 1000
GXX6801-IC6801	XX2439734.D	09/11/19 15:16	n/a	Initial cal 1000
GXX6801-IC6801	XX2439735.D	09/11/19 15:34	n/a	Initial cal 1000
GXX6801-ICV6801	XX2439736.D	09/11/19 15:53	n/a	Initial cal verification 1000
GXX6801-ICV6801	XX2439737.D	09/11/19 16:11	n/a	Initial cal verification 1000
GXX6801-ICV6801	XX2439738.D	09/11/19 16:29	n/a	Initial cal verification 1000
GXX6801-ICV6801	XX2439739.D	09/11/19 16:47	n/a	Initial cal verification 1000
GXX6801-ICV6801	XX2439740.D	09/11/19 17:06	n/a	Initial cal verification 1000

8.8.1
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Run Sequence Report

Job Number: JC95610
 Account: BBLNYS Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

Run ID: GXX6824	Method: SW846 8082A	Instrument ID: GCXX
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Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
OP23043-MB1	XX2440910.D	10/01/19 15:03	OP23043	Method Blank
OP23043-BS1	XX2440911.D	10/01/19 15:22	OP23043	Blank Spike
OP23043-BSD	XX2440912.D	10/01/19 15:40	OP23043	Blank Spike Duplicate
ZZZZZZ	XX2440913.D	10/01/19 15:58	OP23043	(unrelated sample)
ZZZZZZ	XX2440914.D	10/01/19 16:17	OP23043	(unrelated sample)
ZZZZZZ	XX2440915.D	10/01/19 16:35	OP23043	(unrelated sample)
ZZZZZZ	XX2440916.D	10/01/19 16:53	OP23043	(unrelated sample)
ZZZZZZ	XX2440917.D	10/01/19 17:11	OP23043	(unrelated sample)
GXX6824-CC6801	XX2440919.D	10/01/19 18:18	n/a	Continuing cal 1000
GXX6824-CC6801	XX2440928.D	10/01/19 21:03	n/a	Continuing cal 500
OP23056-MB1	XX2440930.D	10/01/19 21:40	OP23056	Method Blank
OP23056-BS1	XX2440931.D	10/01/19 21:58	OP23056	Blank Spike
JC95413-1	XX2440932.D	10/01/19 22:17	OP23056	(used for QC only; not part of job JC95610)
OP23056-MS	XX2440933.D	10/01/19 22:50	OP23056	Matrix Spike
OP23056-MSD	XX2440934.D	10/01/19 23:24	OP23056	Matrix Spike Duplicate
ZZZZZZ	XX2440935.D	10/01/19 23:57	OP23056	(unrelated sample)
ZZZZZZ	XX2440936.D	10/02/19 00:16	OP23056	(unrelated sample)
GXX6824-CC6801	XX2440939.D	10/02/19 01:11	n/a	Continuing cal 1000
ZZZZZZ	XX2440941.D	10/02/19 01:47	OP23056	(unrelated sample)
ZZZZZZ	XX2440942.D	10/02/19 02:05	OP23056	(unrelated sample)
ZZZZZZ	XX2440944.D	10/02/19 02:42	OP23056	(unrelated sample)
ZZZZZZ	XX2440945.D	10/02/19 03:00	OP23056	(unrelated sample)
ZZZZZZ	XX2440947.D	10/02/19 03:37	OP23056	(unrelated sample)
GXX6824-CC6801	XX2440950.D	10/02/19 04:32	n/a	Continuing cal 500
ZZZZZZ	XX2440952.D	10/02/19 05:09	OP23056	(unrelated sample)
ZZZZZZ	XX2440953.D	10/02/19 05:27	OP23056	(unrelated sample)
ZZZZZZ	XX2440954.D	10/02/19 05:45	OP23056	(unrelated sample)
ZZZZZZ	XX2440956.D	10/02/19 06:22	OP23056	(unrelated sample)
ZZZZZZ	XX2440957.D	10/02/19 06:40	OP23056	(unrelated sample)
ZZZZZZ	XX2440958.D	10/02/19 06:58	OP23056	(unrelated sample)
GXX6824-CC6801	XX2440961.D	10/02/19 07:53	n/a	Continuing cal 1000
JC95610-1	XX2440964.D	10/02/19 09:30	OP23056	WC-092519
ZZZZZZ	XX2440968.D	10/02/19 11:33	OP23056	(unrelated sample)
GXX6824-CC6801	XX2440969.D	10/02/19 12:37	n/a	Continuing cal 500

8.8.2
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Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Instrument Runlogs
- Initial and Continuing Calibration Blanks
- Initial and Continuing Calibration Checks
- High and Low Check Standards
- Interfering Element Check Standards
- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries
- IDL and Linear Range Summaries

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC95610
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H7100419W1.CSV Date Analyzed: 10/04/19 Methods: SW846 7470A
Analyst: LL Run ID: MA47567
Parameters: Hg

Time	Sample Description	Dilution Factor	PS Recov	Comments
10:56	MA47567-STD1	1		See rerun
10:57	MA47567-STD2	1		B=2.3053E-004, C=5.1471E-002, RHO=0.9997348
10:59	MA47567-STD3	1		STDC
11:00	MA47567-STD4	1		STDD
11:02	MA47567-STD5	1		STDE
11:04	MA47567-STD6	1		STDF
11:09	MA47567-STD7	1		STDA
11:14	MA47567-ICV1	1		
11:15	MA47567-ICB1	1		
11:18	MA47567-CCV1	1		
11:19	MA47567-CCB1	1		
11:21	MA47567-CRI1	1		
11:23	MA47567-CCV2	1		
11:25	MA47567-CCB2	1		
11:28	ZZZZZZ	1		
11:29	MP17704-B1	1		
11:30	MP17704-MB1	1		
11:32	MP17704-S1	1		
11:34	MP17704-S2	1		
11:35	JC96032-1	1		(sample used for QC only; not part of login JC95610)
11:37	ZZZZZZ	1		
11:39	ZZZZZZ	1		
11:40	ZZZZZZ	1		
11:41	MA47567-CCV3	1		
11:43	MA47567-CCB3	1		
11:45	ZZZZZZ	1		
11:46	ZZZZZZ	1		
11:47	ZZZZZZ	1		
11:49	ZZZZZZ	1		
11:50	ZZZZZZ	1		
11:51	MP17705-MB1	1		
11:53	MP17705-B1	1		
11:54	MA47567-CCV4	1		

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SGS Instrument Runlog
Inorganics Analyses

Login Number: JC95610
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H7100419W1.CSV Date Analyzed: 10/04/19 Methods: SW846 7470A
Analyst: LL Run ID: MA47567
Parameters: Hg

Time	Sample Description	Dilution Factor	PS Recov	Comments
11:56	MA47567-CCB4	1		
11:58	MP17705-S1	1		
11:59	MP17705-S2	1		
12:01	JC95821-11A	1		(sample used for QC only; not part of login JC95610)
12:03	ZZZZZZ	1		
12:04	JC95610-1	1		
----->	Last reportable sample/prep for job JC95610			
12:06	ZZZZZZ	1		
12:07	ZZZZZZ	1		
12:08	ZZZZZZ	1		
12:10	ZZZZZZ	1		
12:11	MA47567-CCV5	1		
12:12	MA47567-CCB5	1		
----->	Last reportable CCB for job JC95610			
12:15	ZZZZZZ	1		
12:16	ZZZZZZ	1		
12:18	ZZZZZZ	1		
12:19	ZZZZZZ	1		
12:22	ZZZZZZ	1		
12:24	MA47567-CCV6	1		
12:26	MA47567-CCB6	1		

Refer to raw data for calibration curve and standards.

REPORTED ELEMENTS SUMMARY

Login Number: JC95610
 Account: BBLNYS - Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H7100419W1.CSV Date Analyzed: 10/04/19 Methods: SW846 7470A
 Analyst: LL Run ID: MA47567
 Parameters: Hg

Time	Sample Description	Element:	H Dilution	g
11:14	MA47567-ICV1	1	X	
11:15	MA47567-ICB1	1	X	
11:18	MA47567-CCV1	1	X	
11:19	MA47567-CCB1	1	X	
11:21	MA47567-CRI1	1	X	
11:23	MA47567-CCV2	1	X	
11:25	MA47567-CCB2	1	X	
11:28	ZZZZZ	1		
11:29	MP17704-B1	1	X	
11:30	MP17704-MB1	1	X	
11:32	MP17704-S1	1	X	
11:34	MP17704-S2	1	X	
11:35	JC96032-1	1	X (a)	
11:37	ZZZZZ	1		
11:39	ZZZZZ	1		
11:40	ZZZZZ	1		
11:41	MA47567-CCV3	1	X	
11:43	MA47567-CCB3	1	X	
11:45	ZZZZZ	1		
11:46	ZZZZZ	1		
11:47	ZZZZZ	1		
11:49	ZZZZZ	1		
11:50	ZZZZZ	1		
11:51	MP17705-MB1	1	X	
11:53	MP17705-B1	1	X	
11:54	MA47567-CCV4	1	X	
11:56	MA47567-CCB4	1	X	
11:58	MP17705-S1	1	X	
11:59	MP17705-S2	1	X	
12:01	JC95821-11A	1	X (a)	
12:03	ZZZZZ	1		
12:04	JC95610-1	1	X	
12:06	ZZZZZ	1		
		Element:	H	
			g	

9.1.1
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REPORTED ELEMENTS SUMMARY

Login Number: JC95610
 Account: BBLNYS - Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H7100419W1.CSV Date Analyzed: 10/04/19 Methods: SW846 7470A
 Analyst: LL Run ID: MA47567
 Parameters: Hg

Time	Sample Description	Element: H Dilution g
12:07	ZZZZZZ	1
12:08	ZZZZZZ	1
12:10	ZZZZZZ	1
12:11	MA47567-CCV5	1 X
12:12	MA47567-CCB5	1 X
12:15	ZZZZZZ	1
12:16	ZZZZZZ	1
12:18	ZZZZZZ	1
12:19	ZZZZZZ	1
12:22	ZZZZZZ	1
12:24	MA47567-CCV6	1 X
12:26	MA47567-CCB6	1 X

(a) Sample used for QC only; not part of login JC95610.

Element: H
g

9.1.1
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BLANK RESULTS SUMMARY
 Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC95610
 Account: BBLNYS - Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H7100419W1.CSV Date Analyzed: 10/04/19 Methods: SW846 7470A
 QC Limits: result < RL Run ID: MA47567 Units: ug/l

Time:			11:15		11:19		11:25		11:43	
Sample ID:			ICB1		CCB1		CCB2		CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Mercury	0.20	.024	-0.00290	<0.20	-0.00250	<0.20	-0.0437	<0.20	-0.0288	<0.20

(*) Outside of QC limits
 (anr) Analyte not requested

BLANK RESULTS SUMMARY
 Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC95610
 Account: BBLNYS - Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H7100419W1.CSV Date Analyzed: 10/04/19 Methods: SW846 7470A
 QC Limits: result < RL Run ID: MA47567 Units: ug/l

	Time:		11:56		12:12	
	Sample ID:		CCB4		CCB5	
Metal	RL	IDL	raw	final	raw	final
Mercury	0.20	.024	-0.000900	<0.20	-0.00890	<0.20

(*) Outside of QC limits
 (anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC95610
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H7100419W1.CSV Date Analyzed: 10/04/19 Methods: SW846 7470A
QC Limits: 90 to 110 % Recovery Run ID: MA47567 Units: ug/l

	Time:		11:14		11:18		11:23		
Sample ID:	ICV		ICV1	CCV	CCV1	CCV	CCV2		
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Mercury	3	2.99	99.7	2.5	2.47	98.8	2.5	2.33	93.2

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC95610
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H7100419W1.CSV Date Analyzed: 10/04/19 Methods: SW846 7470A
QC Limits: 90 to 110 % Recovery Run ID: MA47567 Units: ug/l

	Time:	11:41		11:54		12:11			
Sample ID:	CCV	CCV3		CCV4		CCV5			
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Mercury	2.5	2.65	106.0	2.5	2.48	99.2	2.5	2.51	100.4

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC95610
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H7100419W1.CSV Date Analyzed: 10/04/19 Methods: SW846 7470A
QC Limits: 70 to 130 % Recovery Run ID: MA47567 Units: ug/l

Time:			11:21	
Sample ID:	CRI	CRIA	CRI1	
Metal	True	True	Results	% Rec

Mercury 0.20 0.234 117.0

(*) Outside of QC limits
(anr) Analyte not requested

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC95610
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA47570
Parameters: As,Ba,Cd,Cr,Pb,Se,Ag

Time	Sample Description	Dilution Factor	PS Recov	Comments
11:39	MA47570-STD1	1		STDA
11:44	MA47570-STD2	1		STDB
11:50	ZZZZZZ	1		
11:55	ZZZZZZ	1		
12:00	MA47570-ICV1	1		
12:08	MA47570-ICB1	1		
12:14	MA47570-ICCV1	1		
12:26	MA47570-CCB1	1		
12:31	MA47570-CRID1	1		See rerun
12:36	ZZZZZZ	1		tip missed cup
12:41	ZZZZZZ	1		tip missed cup
12:46	ZZZZZZ	1		tip missed cup
12:51	ZZZZZZ	1		tip missed cup
12:57	MA47570-HSTD1	1		
13:03	ZZZZZZ	1		
13:08	ZZZZZZ	1		Tip missed cup
13:28	MA47570-HSTD2	1		
13:34	ZZZZZZ	1		
13:39	MA47570-CCV1	1		
13:44	MA47570-CCB2	1		
13:49	MA47570-CRI1	1		
13:54	MA47570-CRID2	1		
13:59	MA47570-ICSA1	1		
14:04	MA47570-ICSAB1	1		
14:09	ZZZZZZ	1		
14:14	ZZZZZZ	1		
14:19	ZZZZZZ	500		
14:24	MP17641-PS1	10		
14:28	ZZZZZZ	5		
14:33	MA47570-CCV2	1		
14:38	MA47570-CCB3	1		
14:43	ZZZZZZ	2		
14:48	ZZZZZZ	2		

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SGS Instrument Runlog
Inorganics Analyses

Login Number: JC95610
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA47570
Parameters: As,Ba,Cd,Cr,Pb,Se,Ag

Time	Sample Description	Dilution Factor	PS Recov	Comments
14:54	MP17641-SD1	50		
14:59	ZZZZZZ	10		
15:03	ZZZZZZ	1		
15:08	ZZZZZZ	2		
15:13	MP17641-SD1	500		
15:18	ZZZZZZ	1		
15:23	ZZZZZZ	5		
15:28	MA47570-CCV3	1		
15:33	MA47570-CCB4	1		
15:38	ZZZZZZ	2		
15:43	ZZZZZZ	1		
15:48	ZZZZZZ	1		
15:53	ZZZZZZ	5		
15:58	ZZZZZZ	1		
16:03	ZZZZZZ	5		
16:08	ZZZZZZ	2		
16:13	ZZZZZZ	1		
16:18	ZZZZZZ	2		
16:23	MA47570-CCV4	1		
16:28	MA47570-CCB5	1		
16:33	ZZZZZZ	10		
16:38	ZZZZZZ	2		
16:43	MA47570-ICSA2	1		
16:48	MA47570-ICSAB2	1		
16:53	MA47570-CCV5	1		
16:58	MA47570-CCB6	1		
17:03	ZZZZZZ	1		
17:08	ZZZZZZ	1		
17:13	ZZZZZZ	1		
17:18	ZZZZZZ	1		
17:23	ZZZZZZ	1		
17:29	ZZZZZZ	1		
17:34	ZZZZZZ	1		

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SGS Instrument Runlog
Inorganics Analyses

Login Number: JC95610
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA47570
Parameters: As,Ba,Cd,Cr,Pb,Se,Ag

Time	Sample Description	Dilution Factor	PS Recov	Comments
17:39	MP17697-MB1	5		
17:44	MP17697-B1	5		
17:49	MA47570-CCV6	1		
17:54	MA47570-CCB7	1		
17:59	MP17697-S1	5		
18:03	MP17697-S2	5		
18:08	JC95862-1	5		(sample used for QC only; not part of login JC95610)
18:13	MP17697-SD1	25		
18:18	ZZZZZZ	5		
18:23	ZZZZZZ	5		
18:28	ZZZZZZ	5		
18:33	ZZZZZZ	5		
18:38	ZZZZZZ	5		
18:43	MA47570-CCV7	1		
18:48	MA47570-CCB8	1		
18:53	ZZZZZZ	5		
18:58	ZZZZZZ	5		
19:03	ZZZZZZ	5		
19:08	ZZZZZZ	5		
19:13	MP17698-MB1	5		No ending QC
19:18	MP17698-B1	5		No ending QC
19:23	MP17698-B2	5		No ending QC
19:27	MP17698-S1	5		No ending QC
19:32	MP17698-S2	5		No ending QC
19:37	MA47570-CCV8	1		
19:42	MA47570-CCB9	1		
19:47	JC95531-1	5		(sample used for QC only; not part of login JC95610)
19:52	MP17698-SD1	25		No ending QC
19:57	MP17700-MB1	5		
20:02	MP17700-MB2	5		
20:07	MP17700-B1	5		
20:12	MP17700-B2	5		
20:16	MP17700-S1	5		

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SGS Instrument Runlog
Inorganics Analyses

Login Number: JC95610
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA47570
Parameters: As,Ba,Cd,Cr,Pb,Se,Ag

Time	Sample Description	Dilution Factor	PS Recov	Comments
20:21	MP17700-S2	5		
20:26	JC95821-11A	5		(sample used for QC only; not part of login JC95610)
20:31	MP17700-SD1	25		
20:36	MA47570-CCV9	1		
20:41	MA47570-CCB10	1		
20:46	ZZZZZZ	1		Tip missed cup
20:51	ZZZZZZ	1		
20:56	ZZZZZZ	1		
21:01	ZZZZZZ	1		
21:06	ZZZZZZ	1		
21:11	ZZZZZZ	1		
21:16	ZZZZZZ	1		
21:21	ZZZZZZ	1		
21:26	ZZZZZZ	1		
21:31	ZZZZZZ	1		
21:36	ZZZZZZ	1		
21:41	ZZZZZZ	1		
21:46	MA47570-CCV10	1		
21:51	MA47570-CCB11	1		
21:56	ZZZZZZ	5		
22:01	JC95610-1	5		
----->	Last reportable sample/prep for job JC95610			
22:06	ZZZZZZ	5		
22:11	ZZZZZZ	5		
22:16	ZZZZZZ	5		
22:21	ZZZZZZ	5		
22:26	MP17692-MB1	1		
22:31	MP17692-B1	1		
22:36	MP17692-S1	1		
22:40	MP17692-S2	1		
22:45	MA47570-CCV11	1		
22:50	MA47570-CCB12	1		
----->	Last reportable CCB for job JC95610			
22:55	DA20472-6	1		(sample used for QC only; not part of login JC95610)
23:00	MP17692-SD1	5		

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SGS Instrument Runlog
Inorganics Analyses

Login Number: JC95610
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA47570
Parameters: As,Ba,Cd,Cr,Pb,Se,Ag

Time	Sample Description	Dilution Factor	PS Recov	Comments
23:05	MP17691-MB1	5		
23:10	MP17691-B1	5		
23:15	MP17691-S1	5		
23:20	MP17691-S2	5		
23:24	JC95743-1	5		(sample used for QC only; not part of login JC95610)
23:29	MP17691-SD1	25		
23:34	ZZZZZZ	1		
23:39	ZZZZZZ	1		
23:44	MA47570-CCV12	1		
23:49	MA47570-CCB13	1		
23:54	ZZZZZZ	1		
23:59	ZZZZZZ	1		
00:04	ZZZZZZ	1		
00:09	ZZZZZZ	1		
00:14	ZZZZZZ	1		
00:19	MP17592-PS1	1		
00:24	MP17699-B1	1		Batch to reanalysis, CCB tip missed cup
00:29	MP17699-MB1	1		
00:34	MP17699-S1	1		
00:39	MA47570-CCV13	1		
00:44	MA47570-CCB14	1		
00:49	MP17699-S2	1		
00:53	JC95963-7F	1		(sample used for QC only; not part of login JC95610)
00:58	MP17699-SD1	5		
01:03	ZZZZZZ	1		
01:08	ZZZZZZ	1		
01:13	ZZZZZZ	1		
01:18	ZZZZZZ	1		
01:23	ZZZZZZ	1		
01:28	ZZZZZZ	1		
01:33	ZZZZZZ	1		
01:38	MA47570-CCV14	1		
01:43	MA47570-CCB15	1		Tip missed cup

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SGS Instrument Runlog
Inorganics Analyses

Login Number: JC95610
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA47570
Parameters: As,Ba,Cd,Cr,Pb,Se,Ag

Time	Sample Description	Dilution Factor	PS Recov	Comments
01:48	ZZZZZZ	1		
01:52	ZZZZZZ	1		
01:58	ZZZZZZ	1		
02:02	ZZZZZZ	1		
02:07	ZZZZZZ	1		
02:12	ZZZZZZ	1		
02:17	ZZZZZZ	1		
02:22	ZZZZZZ	1		
02:27	ZZZZZZ	1		
02:32	ZZZZZZ	1		
02:37	MA47570-CCV15	1		
02:42	MA47570-CCB16	1		

Refer to raw data for calibration curve and standards.

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REPORTED ELEMENTS SUMMARY

Login Number: JC95610
 Account: BBLNYS - Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
 Analyst: ND Run ID: MA47570
 Parameters: As,Ba,Cd,Cr,Pb,Se,Ag

Time	Sample Description	Element: Dilution	A	B	C	P	S	A		
			s	a	d	r	b	e		
			g							
11:50	ZZZZZZ	1								
11:55	ZZZZZZ	1								
12:00	MA47570-ICV1	1	X	X	X	X	X	X		
12:08	MA47570-ICB1	1	X	X	X	X	X	X		
12:14	MA47570-ICCV1	1	X	X	X	X	X	X		
12:26	MA47570-CCB1	1	X	X	X	X	X	X		
12:31	MA47570-CRID1	1	See rerun							
12:36	ZZZZZZ	1								
12:41	ZZZZZZ	1								
12:46	ZZZZZZ	1								
12:51	ZZZZZZ	1								
12:57	MA47570-HSTD1	1								
13:03	ZZZZZZ	1								
13:08	ZZZZZZ	1								
13:28	MA47570-HSTD2	1	X	X	X	X	X	X		
13:34	ZZZZZZ	1								
13:39	MA47570-CCV1	1	X	X	X	X	X	X		
13:44	MA47570-CCB2	1	X	X	X	X	X	X		
13:49	MA47570-CRI1	1	X	X	X	X	X	X		
13:54	MA47570-CRID2	1	X	X	X	X	X	X		
13:59	MA47570-ICSA1	1	X	X	X	X	X	X		
14:04	MA47570-ICSAB1	1	X	X	X	X	X	X		
14:09	ZZZZZZ	1								
14:14	ZZZZZZ	1								
14:19	ZZZZZZ	500								
14:24	MP17641-PS1	10								
14:28	ZZZZZZ	5								
14:33	MA47570-CCV2	1	X	X	X	X	X	X		
14:38	MA47570-CCB3	1	X	X	X	X	X	X		
14:43	ZZZZZZ	2								
14:48	ZZZZZZ	2								
14:54	MP17641-SD1	50								
14:59	ZZZZZZ	10								

Element: A B C P S A
 s a d r b e g

REPORTED ELEMENTS SUMMARY

Login Number: JC95610
 Account: BBLNYS - Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
 Analyst: ND Run ID: MA47570
 Parameters: As,Ba,Cd,Cr,Pb,Se,Ag

Time	Sample Description	Element: Dilution	A	B	C	C	P	S	A
			s	a	d	r	b	e	g
15:03	ZZZZZZ	1							
15:08	ZZZZZZ	2							
15:13	MP17641-SD1	500							
15:18	ZZZZZZ	1							
15:23	ZZZZZZ	5							
15:28	MA47570-CCV3	1	X	X	X	X	X	X	X
15:33	MA47570-CCB4	1	X	X	X	X	X	X	X
15:38	ZZZZZZ	2							
15:43	ZZZZZZ	1							
15:48	ZZZZZZ	1							
15:53	ZZZZZZ	5							
15:58	ZZZZZZ	1							
16:03	ZZZZZZ	5							
16:08	ZZZZZZ	2							
16:13	ZZZZZZ	1							
16:18	ZZZZZZ	2							
16:23	MA47570-CCV4	1	X	X	X	X	X	X	X
16:28	MA47570-CCB5	1	X	X	X	X	X	X	X
16:33	ZZZZZZ	10							
16:38	ZZZZZZ	2							
16:43	MA47570-ICSA2	1	X	X	X	X	X	X	X
16:48	MA47570-ICSAB2	1	X	X	X	X	X	X	X
16:53	MA47570-CCV5	1	X	X	X	X	X	X	X
16:58	MA47570-CCB6	1	X	X	X	X	X	X	X
17:03	ZZZZZZ	1							
17:08	ZZZZZZ	1							
17:13	ZZZZZZ	1							
17:18	ZZZZZZ	1							
17:23	ZZZZZZ	1							
17:29	ZZZZZZ	1							
17:34	ZZZZZZ	1							
17:39	MP17697-MB1	5			X		X		
17:44	MP17697-B1	5		X		X			

Element: A B C C P S A
 s a d r b e g

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REPORTED ELEMENTS SUMMARY

Login Number: JC95610
 Account: BBLNYS - Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
 Analyst: ND Run ID: MA47570
 Parameters: As,Ba,Cd,Cr,Pb,Se,Ag

Time	Sample Description	Element: Dilution	A s	B a	C d	C r	P b	S e	A g
17:49	MA47570-CCV6	1	X	X	X	X	X	X	X
17:54	MA47570-CCB7	1	X	X	X	X	X	X	X
17:59	MP17697-S1	5			X		X		
18:03	MP17697-S2	5			X		X		
18:08	JC95862-1	5			X		X		(a)
18:13	MP17697-SD1	25			X		X		
18:18	ZZZZZZ	5							
18:23	ZZZZZZ	5							
18:28	ZZZZZZ	5							
18:33	ZZZZZZ	5							
18:38	ZZZZZZ	5							
18:43	MA47570-CCV7	1	X	X	X	X	X	X	X
18:48	MA47570-CCB8	1	X	X	X	X	X	X	X
18:53	ZZZZZZ	5							
18:58	ZZZZZZ	5							
19:03	ZZZZZZ	5							
19:08	ZZZZZZ	5							
19:13	MP17698-MB1	5	No	ending	QC				
19:18	MP17698-B1	5	No	ending	QC				
19:23	MP17698-B2	5	No	ending	QC				
19:27	MP17698-S1	5	No	ending	QC				
19:32	MP17698-S2	5	No	ending	QC				
19:37	MA47570-CCV8	1	X	X	X	X	X	X	X
19:42	MA47570-CCB9	1	X	X	X	X	X	X	X
19:47	JC95531-1	5	No	ending	QC				
19:52	MP17698-SD1	25	No	ending	QC				
19:57	MP17700-MB1	5	X	X	X	X	X	X	X
20:02	MP17700-MB2	5	X	X	X	X	X	X	X
20:07	MP17700-B1	5	X	X	X	X	X	X	X
20:12	MP17700-B2	5	X	X	X	X	X	X	X
20:16	MP17700-S1	5	X	X	X	X	X	X	X
20:21	MP17700-S2	5	X	X	X	X	X	X	X
20:26	JC95821-11A	5	X	X	X	X	X	X	(a)

Element: A B C C P S A
 s a d r b e g

REPORTED ELEMENTS SUMMARY

Login Number: JC95610
 Account: BBLNYS - Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
 Analyst: ND Run ID: MA47570
 Parameters: As,Ba,Cd,Cr,Pb,Se,Ag

Time	Sample Description	Element: Dilution	A s	B a	C d	C r	P b	S e	A g
20:31	MP17700-SD1	25	X	X	X	X	X	X	X
20:36	MA47570-CCV9	1	X	X	X	X	X	X	X
20:41	MA47570-CCB10	1	X	X	X	X	X	X	X
20:46	ZZZZZZ	1							
20:51	ZZZZZZ	1							
20:56	ZZZZZZ	1							
21:01	ZZZZZZ	1							
21:06	ZZZZZZ	1							
21:11	ZZZZZZ	1							
21:16	ZZZZZZ	1							
21:21	ZZZZZZ	1							
21:26	ZZZZZZ	1							
21:31	ZZZZZZ	1							
21:36	ZZZZZZ	1							
21:41	ZZZZZZ	1							
21:46	MA47570-CCV10	1	X	X	X	X	X	X	X
21:51	MA47570-CCB11	1	X	X	X	X	X	X	X
21:56	ZZZZZZ	5							
22:01	JC95610-1	5	X	X	X	X	X	X	X
22:06	ZZZZZZ	5							
22:11	ZZZZZZ	5							
22:16	ZZZZZZ	5							
22:21	ZZZZZZ	5							
22:26	MP17692-MB1	1	X	X	X	X	X	X	X
22:31	MP17692-B1	1	X	X	X	X	X	X	X
22:36	MP17692-S1	1	X	X	X	X	X	X	X
22:40	MP17692-S2	1	X	X	X	X	X	X	X
22:45	MA47570-CCV11	1	X	X	X	X	X	X	X
22:50	MA47570-CCB12	1	X	X	X	X	X	X	X
22:55	DA20472-6	1	X	X	X	X	X	X	(a)
23:00	MP17692-SD1	5	X	X	X	X	X	X	X
23:05	MP17691-MB1	5	X	X	X	X	X	X	X
23:10	MP17691-B1	5	X	X	X	X	X	X	X
		Element:	A s	B a	C d	C r	P b	S e	A g

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REPORTED ELEMENTS SUMMARY

Login Number: JC95610
 Account: BBLNYS - Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
 Analyst: ND Run ID: MA47570
 Parameters: As,Ba,Cd,Cr,Pb,Se,Ag

Time	Sample Description	Element: Dilution	A s	B a	C d	C r	P b	S e	A g		
23:15	MP17691-S1	5	X	X	X	X	X	X	X		
23:20	MP17691-S2	5	X	X	X	X	X	X	X		
23:24	JC95743-1	5	X	X	X	X	X	X	X (a)		
23:29	MP17691-SD1	25	X	X	X	X	X	X	X		
23:34	ZZZZZZ	1									
23:39	ZZZZZZ	1									
23:44	MA47570-CCV12	1	X	X	X	X	X	X	X		
23:49	MA47570-CCB13	1	X	X	X	X	X	X	X		
23:54	ZZZZZZ	1									
23:59	ZZZZZZ	1									
00:04	ZZZZZZ	1									
00:09	ZZZZZZ	1									
00:14	ZZZZZZ	1									
00:19	MP17592-PS1	1									
00:24	MP17699-B1	1	Batch to reanalysis, CCB tip missed cup								
00:29	MP17699-MB1	1									
00:34	MP17699-S1	1									
00:39	MA47570-CCV13	1	X	X	X	X	X	X	X		
00:44	MA47570-CCB14	1	X	X	X	X	X	X	X		
00:49	MP17699-S2	1									
00:53	JC95963-7F	1									
00:58	MP17699-SD1	5									
01:03	ZZZZZZ	1									
01:08	ZZZZZZ	1									
01:13	ZZZZZZ	1									
01:18	ZZZZZZ	1									
01:23	ZZZZZZ	1									
01:28	ZZZZZZ	1									
01:33	ZZZZZZ	1									
01:38	MA47570-CCV14	1									
01:43	MA47570-CCB15	1	Tip missed cup								
01:48	ZZZZZZ	1									
01:52	ZZZZZZ	1									

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REPORTED ELEMENTS SUMMARY

Login Number: JC95610
 Account: BBLNYS - Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
 Analyst: ND Run ID: MA47570
 Parameters: As,Ba,Cd,Cr,Pb,Se,Ag

Time	Sample Description	Element: Dilution	A	B	C	C	P	S	A
			s	a	d	r	b	e	g
01:58	ZZZZZZ	1							
02:02	ZZZZZZ	1							
02:07	ZZZZZZ	1							
02:12	ZZZZZZ	1							
02:17	ZZZZZZ	1							
02:22	ZZZZZZ	1							
02:27	ZZZZZZ	1							
02:32	ZZZZZZ	1							
02:37	MA47570-CCV15	1							
02:42	MA47570-CCB16	1							

(a) Sample used for QC only; not part of login JC95610.

Element: A B C C P S A
 s a d r b e g

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INTERNAL STANDARD SUMMARY

Login Number: JC95610
 Account: BBLNYS - Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
 Analyst: ND Run ID: MA47570
 Parameters: As,Ba,Cd,Cr,Pb,Se,Ag

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
11:39	MA47570-STD1	7947 R	181180 R	28940 R	10819 R
11:44	MA47570-STD2	7488	170530	28142	9798
11:50	ZZZZZZ	7671	173640	28488	10037
11:55	ZZZZZZ	7956	180400	28874	10833
12:00	MA47570-ICV1	7694	173800	28734	10041
12:08	MA47570-ICB1	7940	180960	28712	10833
12:14	MA47570-ICCV1	7687	174620	28274	10052
12:26	MA47570-CCB1	7928	179080	28705	10815
12:31	MA47570-CRID1	No results reported for the elements associated with this internal standard.			
12:36	ZZZZZZ	No results reported for the elements associated with this internal standard.			
12:41	ZZZZZZ	No results reported for the elements associated with this internal standard.			
12:46	ZZZZZZ	No results reported for the elements associated with this internal standard.			
12:51	ZZZZZZ	No results reported for the elements associated with this internal standard.			
12:57	MA47570-HSTD1	7138	160580	27296	9134
13:03	ZZZZZZ	7775	176690	28438	10896
13:08	ZZZZZZ	No results reported for the elements associated with this internal standard.			
13:28	MA47570-HSTD2	7647	176140	27988	10644
13:34	ZZZZZZ	7732	179490	28609	10783
13:39	MA47570-CCV1	7645	173480	28443	9993
13:44	MA47570-CCB2	7932	180760	28619	10791
13:49	MA47570-CRI1	7832	178020	28373	10564
13:54	MA47570-CRID2	7892	179940	28507	10722
13:59	MA47570-ICSA1	7081	158300	27324	9109
14:04	MA47570-ICSAB1	7115	158480	27596	9144
14:09	ZZZZZZ	7974	181720	28710	10859
14:14	ZZZZZZ	7980	183090	29113	10865
14:19	ZZZZZZ	7908	181940	28694	10788
14:24	MP17641-PS1	7743	180930	28245	10720
14:28	ZZZZZZ	7928	180220	29551	10602
14:33	MA47570-CCV2	7654	173190	28272	10001
14:38	MA47570-CCB3	7942	180990	28639	10809
14:43	ZZZZZZ	8104	182290	29833	10396
14:48	ZZZZZZ	8135	182890	30290	10333

9.2.2
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INTERNAL STANDARD SUMMARY

Login Number: JC95610
 Account: BBLNYS - Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
 Analyst: ND Run ID: MA47570
 Parameters: As,Ba,Cd,Cr,Pb,Se,Ag

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
14:54	MP17641-SD1	7979	182800	28908	10860
14:59	ZZZZZZ	7998	182020	29506	10698
15:03	ZZZZZZ	8054	183770	29287	10956
15:08	ZZZZZZ	8234	184170	30458	10559
15:13	MP17641-SD1	8021	182820	28689	10948
15:18	ZZZZZZ	8064	183450	29262	10974
15:23	ZZZZZZ	7781	176700	28743	10301
15:28	MA47570-CCV3	7681	174430	28001	10087
15:33	MA47570-CCB4	7972	181720	28498	10892
15:38	ZZZZZZ	7555	171760	28376	9800
15:43	ZZZZZZ	8114	184360	29225	11013
15:48	ZZZZZZ	8290	186560	30702	10669
15:53	ZZZZZZ	7938	179020	28633	10977
15:58	ZZZZZZ	No results reported for the elements associated with this internal standard.			
16:03	ZZZZZZ	8906	199140	32093	10696
16:08	ZZZZZZ	7777	175410	29251	10201
16:13	ZZZZZZ	8064	182860	28857	11019
16:18	ZZZZZZ	No results reported for the elements associated with this internal standard.			
16:23	MA47570-CCV4	7720	172840	27696	10124
16:28	MA47570-CCB5	8007	179720	28035	10938
16:33	ZZZZZZ	8004	180710	28492	10955
16:38	ZZZZZZ	8065	180830	29153	10590
16:43	MA47570-ICSA2	7187	160630	27059	9247
16:48	MA47570-ICSAB2	7215	160030	27091	9298
16:53	MA47570-CCV5	7749	173670	27522	10163
16:58	MA47570-CCB6	8010	182220	27989	10967
17:03	ZZZZZZ	9058	202050	34092	9670
17:08	ZZZZZZ	8504	190530	31911	9738
17:13	ZZZZZZ	8454	190400	31668	9712
17:18	ZZZZZZ	7994	181330	29029	10509
17:23	ZZZZZZ	9124	205160	34320	9730
17:29	ZZZZZZ	8494	190450	31972	9755
17:34	ZZZZZZ	8452	190120	31841	9761

9.2.2
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INTERNAL STANDARD SUMMARY

Login Number: JC95610
 Account: BBLNYS - Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
 Analyst: ND Run ID: MA47570
 Parameters: As,Ba,Cd,Cr,Pb,Se,Ag

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
17:39	MP17697-MB1	8083	183160	28832	11117
17:44	MP17697-B1	8046	183010	28669	10872
17:49	MA47570-CCV6	7760	175720	28095	10282
17:54	MA47570-CCB7	8055	180310	28645	11118
17:59	MP17697-S1	7300	166100	27682	9563
18:03	MP17697-S2	7288	166290	27652	9550
18:08	JC95862-1	7283	165270	27395	9569
18:13	MP17697-SD1	7759	176860	27983	10449
18:18	ZZZZZZ	7221	166750	27594	9447
18:23	ZZZZZZ	7317	167090	27561	9574
18:28	ZZZZZZ	7333	167810	27664	9621
18:33	ZZZZZZ	7342	167970	27777	9649
18:38	ZZZZZZ	7262	165930	27457	9484
18:43	MA47570-CCV7	7795	177160	27996	10349
18:48	MA47570-CCB8	8085	182950	28190	11178
18:53	ZZZZZZ	7339	168310	27736	9675
18:58	ZZZZZZ	7236	165160	27349	9456
19:03	ZZZZZZ	7393	167230	27606	9736
19:08	ZZZZZZ	7278	166110	27506	9572
19:13	MP17698-MB1	No results reported for the elements associated with this internal standard.			
19:18	MP17698-B1	No results reported for the elements associated with this internal standard.			
19:23	MP17698-B2	No results reported for the elements associated with this internal standard.			
19:27	MP17698-S1	No results reported for the elements associated with this internal standard.			
19:32	MP17698-S2	No results reported for the elements associated with this internal standard.			
19:37	MA47570-CCV8	7801	176390	27871	10370
19:42	MA47570-CCB9	8074	181020	28030	11197
19:47	JC95531-1	No results reported for the elements associated with this internal standard.			
19:52	MP17698-SD1	No results reported for the elements associated with this internal standard.			
19:57	MP17700-MB1	7632	170230	27655	9995
20:02	MP17700-MB2	8057	182730	28338	11161
20:07	MP17700-B1	7654	171500	27833	9954
20:12	MP17700-B2	8037	182270	28186	10930
20:16	MP17700-S1	7555	169300	27629	9758

9.2.2
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INTERNAL STANDARD SUMMARY

Login Number: JC95610
 Account: BBLNYS - Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
 Analyst: ND Run ID: MA47570
 Parameters: As,Ba,Cd,Cr,Pb,Se,Ag

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
20:21	MP17700-S2	7542	169700	27782	9758
20:26	JC95821-11A	7478	168410	27752	9728
20:31	MP17700-SD1	7786	176520	27752	10432
20:36	MA47570-CCV9	7722	174630	27649	10274
20:41	MA47570-CCB10	8024	182210	27912	11123
20:46	ZZZZZZ	No results reported for the elements associated with this internal standard.			
20:51	ZZZZZZ	8034	182470	27883	11081
20:56	ZZZZZZ	8030	182760	28061	11093
21:01	ZZZZZZ	8059	181010	28136	11131
21:06	ZZZZZZ	8074	179860	28067	11192
21:11	ZZZZZZ	8085	182430	28266	11152
21:16	ZZZZZZ	8030	181560	27909	11133
21:21	ZZZZZZ	8016	182650	27921	11189
21:26	ZZZZZZ	8027	180210	27922	11207
21:31	ZZZZZZ	8266	172790	28718	10217
21:36	ZZZZZZ	7434	167800	27117	9823
21:41	ZZZZZZ	7416	165290	27196	9832
21:46	MA47570-CCV10	7778	175470	27678	10327
21:51	MA47570-CCB11	8036	182100	27461	11125
21:56	ZZZZZZ	7265	164660	27030	9508
22:01	JC95610-1	7521	167320	27323	9792
22:06	ZZZZZZ	7530	168400	27377	9756
22:11	ZZZZZZ	7660	169860	27446	10022
22:16	ZZZZZZ	7587	168670	27304	9896
22:21	ZZZZZZ	7534	169280	27339	9820
22:26	MP17692-MB1	8117	182820	28433	11228
22:31	MP17692-B1	7836	176360	28057	10509
22:36	MP17692-S1	7675	173720	27106	10326
22:40	MP17692-S2	7695	173260	27275	10355
22:45	MA47570-CCV11	7832	176210	27982	10410
22:50	MA47570-CCB12	8118	184330	28475	11248
22:55	DA20472-6	8017	182260	27960	11152
23:00	MP17692-SD1	8095	182050	27870	11213

9.2.2
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INTERNAL STANDARD SUMMARY

Login Number: JC95610
 Account: BBLNYS - Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
 Analyst: ND Run ID: MA47570
 Parameters: As,Ba,Cd,Cr,Pb,Se,Ag

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
23:05	MP17691-MB1	8142	183200	28298	11263
23:10	MP17691-B1	8119	181660	28428	11028
23:15	MP17691-S1	7926	179730	28295	10706
23:20	MP17691-S2	7930	177670	27796	10716
23:24	JC95743-1	7956	180810	27953	10853
23:29	MP17691-SD1	8074	182390	28024	11151
23:34	ZZZZZ	8018	182660	28284	11021
23:39	ZZZZZ	7726	177720	28253	10852
23:44	MA47570-CCV12	7806	175520	27707	10393
23:49	MA47570-CCB13	8100	183280	28037	11248
23:54	ZZZZZ	7962	181030	28135	10969
23:59	ZZZZZ	7954	181580	28098	10956
00:04	ZZZZZ	6565	141810	26013	8243
00:09	ZZZZZ	7805	178300	27311	10585
00:14	ZZZZZ	8131	182390	28292	11277
00:19	MP17592-PS1	7986	180700	29273	10001
00:24	MP17699-B1	No results reported for the elements associated with this internal standard.			
00:29	MP17699-MB1	No results reported for the elements associated with this internal standard.			
00:34	MP17699-S1	No results reported for the elements associated with this internal standard.			
00:39	MA47570-CCV13	7835	176840	27520	10457
00:44	MA47570-CCB14	8105	182380	27903	11275
00:49	MP17699-S2	No results reported for the elements associated with this internal standard.			
00:53	JC95963-7F	No results reported for the elements associated with this internal standard.			
00:58	MP17699-SD1	No results reported for the elements associated with this internal standard.			
01:03	ZZZZZ	No results reported for the elements associated with this internal standard.			
01:08	ZZZZZ	No results reported for the elements associated with this internal standard.			
01:13	ZZZZZ	No results reported for the elements associated with this internal standard.			
01:18	ZZZZZ	No results reported for the elements associated with this internal standard.			
01:23	ZZZZZ	No results reported for the elements associated with this internal standard.			
01:28	ZZZZZ	No results reported for the elements associated with this internal standard.			
01:33	ZZZZZ	No results reported for the elements associated with this internal standard.			
01:38	MA47570-CCV14	No results reported for the elements associated with this internal standard.			
01:43	MA47570-CCB15	No results reported for the elements associated with this internal standard.			

9.2.2
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INTERNAL STANDARD SUMMARY

Login Number: JC95610
 Account: BBLNYS - Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
 Analyst: ND Run ID: MA47570
 Parameters: As,Ba,Cd,Cr,Pb,Se,Ag

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
01:48	ZZZZZZ	No results reported for the elements associated with this internal standard.			
01:52	ZZZZZZ	No results reported for the elements associated with this internal standard.			
01:58	ZZZZZZ	No results reported for the elements associated with this internal standard.			
02:02	ZZZZZZ	No results reported for the elements associated with this internal standard.			
02:07	ZZZZZZ	No results reported for the elements associated with this internal standard.			
02:12	ZZZZZZ	No results reported for the elements associated with this internal standard.			
02:17	ZZZZZZ	No results reported for the elements associated with this internal standard.			
02:22	ZZZZZZ	No results reported for the elements associated with this internal standard.			
02:27	ZZZZZZ	No results reported for the elements associated with this internal standard.			
02:32	ZZZZZZ	No results reported for the elements associated with this internal standard.			
02:37	MA47570-CCV15	No results reported for the elements associated with this internal standard.			
02:42	MA47570-CCB16	No results reported for the elements associated with this internal standard.			

R = Reference for ISTD limits. ! = Outside limits.

LEGEND:

Istd#	Parameter	Limits
Istd#1	Yttrium (2243)	70-130 %
Istd#2	Yttrium (3600)	70-130 %
Istd#3	Yttrium (3710)	70-130 %
Istd#4	Indium	70-130 %

9.2.2
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BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC95610
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL Run ID: MA47570 Units: ug/l

Metal	RL	IDL	12:08		12:26		13:44		14:38	
			ICB1	final	CCB1	final	CCB2	final	CCB3	final
Aluminum	200	14	anr							
Antimony	6.0	1.4	anr							
Arsenic	3.0	1.5	1.00	<3.0	1.60	<3.0	0.600	<3.0	1.50	<3.0
Barium	200	.5	0.400	<200	1.00	<200	0.600	<200	0.800	<200
Beryllium	1.0	.1	anr							
Bismuth	20	1.8								
Boron	100	.8	anr							
Cadmium	3.0	.3	0.300	<3.0	0.600	<3.0	0.500	<3.0	0.400	<3.0
Calcium	5000	3.9	anr							
Cerium	100									
Chromium	10	.3	0.800	<10	1.10	<10	0.800	<10	0.700	<10
Cobalt	50	.3	anr							
Copper	10	.6	anr							
Iron	100	2.6	anr							
Lead	3.0	1.6	0.400	<3.0	0.600	<3.0	0.600	<3.0	-0.400	<3.0
Lithium	50	2.1								
Magnesium	5000	16	anr							
Manganese	15	.1	anr							
Molybdenum	20	.4								
Nickel	10	.5	anr							
Phosphorus	50	1.9								
Potassium	10000	79	anr							
Selenium	10	3	0.300	<10	0.500	<10	0.00	<10	0.900	<10
Silicon	200	1.2								
Silver	10	.5	-0.200	<10	-0.200	<10	-0.200	<10	-0.400	<10
Sodium	10000	9.9	anr							
Strontium	10	.3								
Sulfur	50	3.5								
Thallium	10	1.3	anr							
Tin	10	.7	anr							
Titanium	10	.5								
Tungsten	50	1.7								
Vanadium	50	.5	anr							

9.2.3
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BLANK RESULTS SUMMARY
 Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC95610
 Account: BBLNYS - Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
 QC Limits: result < RL Run ID: MA47570 Units: ug/l

Time:			12:08		12:26		13:44		14:38	
Sample ID:			ICB1		CCB1		CCB2		CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Zinc	20	.2	anr							
Zirconium	10	.3								

(*) Outside of QC limits
 (anr) Analyte not requested

9.2.3
 9

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC95610
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL Run ID: MA47570 Units: ug/l

Metal	RL	IDL	15:33 CCB4		16:28 CCB5		16:58 CCB6		17:54 CCB7	
			raw	final	raw	final	raw	final	raw	final
Aluminum	200	14	anr							
Antimony	6.0	1.4	anr							
Arsenic	3.0	1.5	0.500	<3.0	0.600	<3.0	1.40	<3.0	0.200	<3.0
Barium	200	.5	0.400	<200	0.500	<200	0.800	<200	0.00	<200
Beryllium	1.0	.1	anr							
Bismuth	20	1.8								
Boron	100	.8	anr							
Cadmium	3.0	.3	0.200	<3.0	0.500	<3.0	0.500	<3.0	-0.100	<3.0
Calcium	5000	3.9	anr							
Cerium	100									
Chromium	10	.3	0.500	<10	1.20	<10	1.00	<10	0.200	<10
Cobalt	50	.3	anr							
Copper	10	.6	anr							
Iron	100	2.6	anr							
Lead	3.0	1.6	0.100	<3.0	0.300	<3.0	-0.300	<3.0	0.100	<3.0
Lithium	50	2.1								
Magnesium	5000	16	anr							
Manganese	15	.1	anr							
Molybdenum	20	.4								
Nickel	10	.5	anr							
Phosphorus	50	1.9								
Potassium	10000	79	anr							
Selenium	10	3	0.600	<10	0.300	<10	0.500	<10	-0.600	<10
Silicon	200	1.2								
Silver	10	.5	0.200	<10	0.300	<10	0.300	<10	0.500	<10
Sodium	10000	9.9	anr							
Strontium	10	.3								
Sulfur	50	3.5								
Thallium	10	1.3	anr							
Tin	10	.7	anr							
Titanium	10	.5								
Tungsten	50	1.7								
Vanadium	50	.5	anr							

9.2.3
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BLANK RESULTS SUMMARY
 Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC95610
 Account: BBLNYS - Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

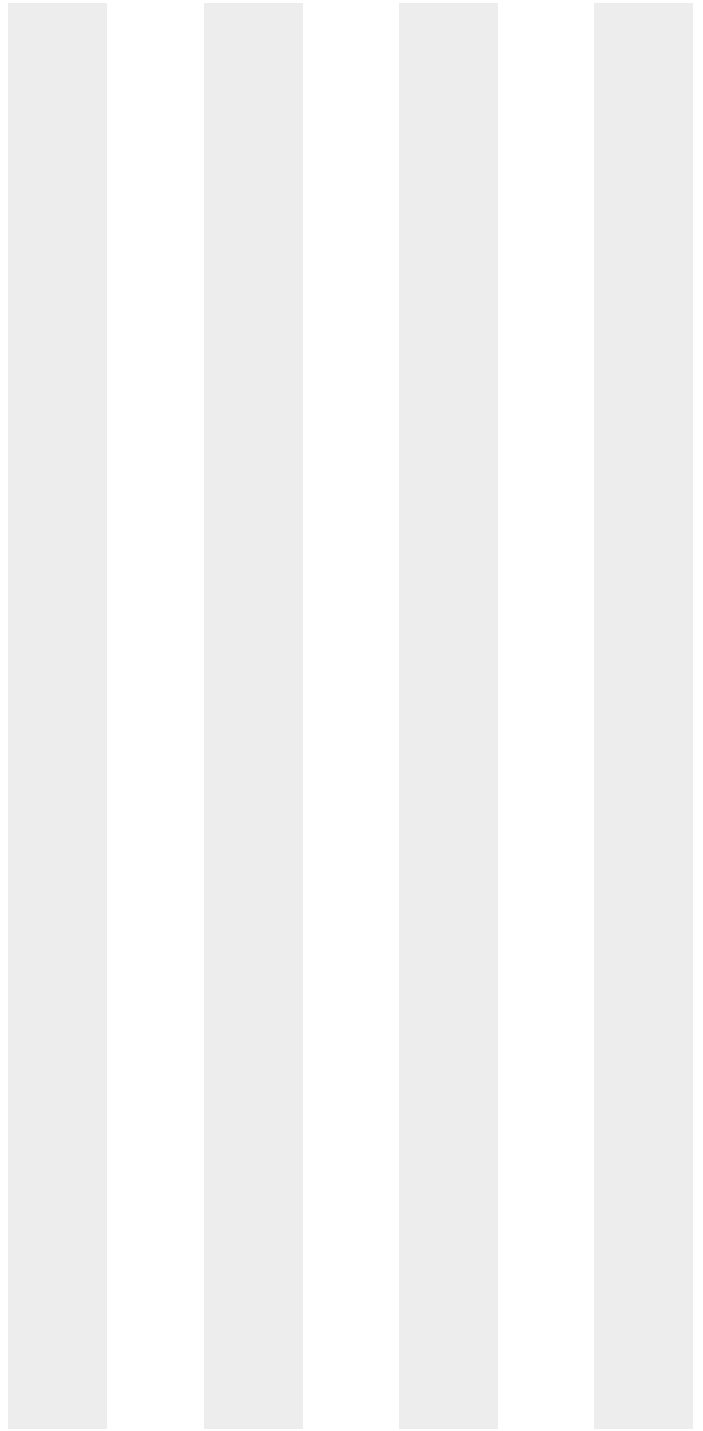
File ID: SC100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
 QC Limits: result < RL Run ID: MA47570 Units: ug/l

Time:			15:33		16:28		16:58		17:54	
Sample ID:			CCB4		CCB5		CCB6		CCB7	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final

Zinc 20 .2 anr

Zirconium 10 .3

(*) Outside of QC limits
 (anr) Analyte not requested



9.2.3
9

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC95610
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL Run ID: MA47570 Units: ug/l

Metal	RL	IDL	18:48 CCB8		19:42 CCB9		20:41 CCB10		21:51 CCB11	
			raw	final	raw	final	raw	final	raw	final
Aluminum	200	14	anr							
Antimony	6.0	1.4	anr							
Arsenic	3.0	1.5	0.200	<3.0	0.100	<3.0	0.300	<3.0	0.00	<3.0
Barium	200	.5	0.200	<200	0.00	<200	0.200	<200	0.300	<200
Beryllium	1.0	.1	anr							
Bismuth	20	1.8								
Boron	100	.8	anr							
Cadmium	3.0	.3	-0.100	<3.0	0.00	<3.0	-0.100	<3.0	0.00	<3.0
Calcium	5000	3.9	anr							
Cerium	100									
Chromium	10	.3	0.100	<10	0.100	<10	0.300	<10	0.300	<10
Cobalt	50	.3	anr							
Copper	10	.6	anr							
Iron	100	2.6	anr							
Lead	3.0	1.6	0.00	<3.0	-0.200	<3.0	-0.400	<3.0	-0.500	<3.0
Lithium	50	2.1								
Magnesium	5000	16	anr							
Manganese	15	.1	anr							
Molybdenum	20	.4								
Nickel	10	.5	anr							
Phosphorus	50	1.9								
Potassium	10000	79	anr							
Selenium	10	3	1.40	<10	0.100	<10	-0.400	<10	0.00	<10
Silicon	200	1.2								
Silver	10	.5	0.600	<10	0.800	<10	0.600	<10	0.500	<10
Sodium	10000	9.9	anr							
Strontium	10	.3								
Sulfur	50	3.5								
Thallium	10	1.3	anr							
Tin	10	.7	anr							
Titanium	10	.5								
Tungsten	50	1.7								
Vanadium	50	.5	anr							

9.2.3
9

BLANK RESULTS SUMMARY
 Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC95610
 Account: BBLNYS - Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
 QC Limits: result < RL Run ID: MA47570 Units: ug/l

Time:	18:48	19:42	20:41	21:51						
Sample ID:	CCB8	CCB9	CCB10	CCB11						
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final

Zinc 20 .2 anr

Zirconium 10 .3

(*) Outside of QC limits
 (anr) Analyte not requested

BLANK RESULTS SUMMARY
 Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC95610
 Account: BBLNYS - Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
 QC Limits: result < RL Run ID: MA47570 Units: ug/l

Metal	RL	IDL	raw	final
Aluminum	200	14	anr	
Antimony	6.0	1.4	anr	
Arsenic	3.0	1.5	0.100	<3.0
Barium	200	.5	0.00	<200
Beryllium	1.0	.1	anr	
Bismuth	20	1.8		
Boron	100	.8	anr	
Cadmium	3.0	.3	0.100	<3.0
Calcium	5000	3.9	anr	
Cerium	100			
Chromium	10	.3	0.200	<10
Cobalt	50	.3	anr	
Copper	10	.6	anr	
Iron	100	2.6	anr	
Lead	3.0	1.6	-1.10	<3.0
Lithium	50	2.1		
Magnesium	5000	16	anr	
Manganese	15	.1	anr	
Molybdenum	20	.4		
Nickel	10	.5	anr	
Phosphorus	50	1.9		
Potassium	10000	79	anr	
Selenium	10	3	0.700	<10
Silicon	200	1.2		
Silver	10	.5	0.600	<10
Sodium	10000	9.9	anr	
Strontium	10	.3		
Sulfur	50	3.5		
Thallium	10	1.3	anr	
Tin	10	.7	anr	
Titanium	10	.5		
Tungsten	50	1.7		
Vanadium	50	.5	anr	

9.2.3
 9

BLANK RESULTS SUMMARY
 Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC95610
 Account: BBLNYS - Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
 QC Limits: result < RL Run ID: MA47570 Units: ug/l

Time:				22:50	
Sample ID:				CCB12	
Metal	RL	IDL	raw	final	

Zinc	20	.2	anr	
Zirconium	10	.3		

(*) Outside of QC limits
 (anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial Continuing Calibration Check

Login Number: JC95610
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
QC Limits: to % Recovery Run ID: MA47570 Units: ug/l

Time:	12:14		
Sample ID:	ICCV ICCV1		
Metal	True	Results	% Rec
Aluminum	anr		
Antimony	anr		
Arsenic	2000	1920	96.0
Barium	2000	2010	100.5
Beryllium	anr		
Bismuth			
Boron	anr		
Cadmium	2000	1980	99.0
Calcium	anr		
Cerium			
Chromium	2000	2010	100.5
Cobalt	anr		
Copper	anr		
Iron	anr		
Lead	2000	2010	100.5
Lithium			
Magnesium	anr		
Manganese	anr		
Molybdenum			
Nickel	anr		
Phosphorus			
Potassium	anr		
Selenium	2000	1980	99.0
Silicon			
Silver	250	250	100.0
Sodium	anr		
Strontium			
Sulfur			
Thallium	anr		
Tin	anr		
Titanium			
Tungsten			
Vanadium	anr		

9.2.4
9

CALIBRATION CHECK STANDARDS SUMMARY
Initial Continuing Calibration Check

Login Number: JC95610
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
QC Limits: to % Recovery Run ID: MA47570 Units: ug/l

Time:	12:14		
Sample ID: ICCV	ICCV1		
Metal	True	Results	% Rec

Zinc anr

Zirconium

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC95610
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA47570 Units: ug/l

Metal	Time:	12:00			13:39			14:33		
	Sample ID:	ICV	ICV1	CCV	CCV1	CCV	CCV2	Results	% Rec	
	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec	
Aluminum	anr									
Antimony	anr									
Arsenic	2000	1910	95.5	2000	1940	97.0	2000	1930	96.5	
Barium	2000	2020	101.0	2000	2010	100.5	2000	2000	100.0	
Beryllium	anr									
Bismuth										
Boron	anr									
Cadmium	2000	1990	99.5	2000	1990	99.5	2000	1980	99.0	
Calcium	anr									
Cerium										
Chromium	2000	1990	99.5	2000	2020	101.0	2000	2020	101.0	
Cobalt	anr									
Copper	anr									
Iron	anr									
Lead	2000	1910	95.5	2000	2030	101.5	2000	2020	101.0	
Lithium										
Magnesium	anr									
Manganese	anr									
Molybdenum										
Nickel	anr									
Phosphorus										
Potassium	anr									
Selenium	2000	2020	101.0	2000	2000	100.0	2000	1990	99.5	
Silicon										
Silver	250	252	100.8	250	251	100.4	250	250	100.0	
Sodium	anr									
Strontium										
Sulfur										
Thallium	anr									
Tin	anr									
Titanium										
Tungsten										
Vanadium	anr									

9.2.5
9

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC95610
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA47570 Units: ug/l

	Time:		12:00		13:39		14:33		
Sample ID:	ICV	ICV1	CCV	CCV1	CCV	CCV2			
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec

Zinc anr

Zirconium

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC95610
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA47570 Units: ug/l

Metal	Sample ID:	15:28			16:23			16:53		
		CCV	CCV3	% Rec	CCV	CCV4	% Rec	CCV	CCV5	% Rec
Aluminum	anr									
Antimony	anr									
Arsenic	2000	1920	96.0	2000	1900	95.0	2000	1890	94.5	
Barium	2000	2010	100.5	2000	2000	100.0	2000	1980	99.0	
Beryllium	anr									
Bismuth										
Boron	anr									
Cadmium	2000	1980	99.0	2000	1980	99.0	2000	1960	98.0	
Calcium	anr									
Cerium										
Chromium	2000	2010	100.5	2000	2020	101.0	2000	2010	100.5	
Cobalt	anr									
Copper	anr									
Iron	anr									
Lead	2000	2020	101.0	2000	2000	100.0	2000	1990	99.5	
Lithium										
Magnesium	anr									
Manganese	anr									
Molybdenum										
Nickel	anr									
Phosphorus										
Potassium	anr									
Selenium	2000	1970	98.5	2000	1950	97.5	2000	1930	96.5	
Silicon										
Silver	250	250	100.0	250	250	100.0	250	248	99.2	
Sodium	anr									
Strontium										
Sulfur										
Thallium	anr									
Tin	anr									
Titanium										
Tungsten										
Vanadium	anr									

9.2.5
9

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC95610
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA47570 Units: ug/l

	Time:		15:28		16:23		16:53		
Sample ID:	CCV		CCV3	CCV	CCV4	CCV	CCV5		
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec

Zinc anr

Zirconium

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC95610
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA47570 Units: ug/l

Metal	Sample ID:	17:49			18:43			19:37		
		CCV	CCV6	% Rec	CCV	CCV7	% Rec	CCV	CCV8	% Rec
Aluminum	anr									
Antimony	anr									
Arsenic	2000	1890	94.5	2000	1880	94.0	2000	1880	94.0	
Barium	2000	1990	99.5	2000	2000	100.0	2000	1990	99.5	
Beryllium	anr									
Bismuth										
Boron	anr									
Cadmium	2000	1980	99.0	2000	1990	99.5	2000	1980	99.0	
Calcium	anr									
Cerium										
Chromium	2000	1990	99.5	2000	1980	99.0	2000	1980	99.0	
Cobalt	anr									
Copper	anr									
Iron	anr									
Lead	2000	1990	99.5	2000	1980	99.0	2000	1980	99.0	
Lithium										
Magnesium	anr									
Manganese	anr									
Molybdenum										
Nickel	anr									
Phosphorus										
Potassium	anr									
Selenium	2000	1940	97.0	2000	1940	97.0	2000	1930	96.5	
Silicon										
Silver	250	248	99.2	250	247	98.8	250	247	98.8	
Sodium	anr									
Strontium										
Sulfur										
Thallium	anr									
Tin	anr									
Titanium										
Tungsten										
Vanadium	anr									

9.2.5
9

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC95610
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA47570 Units: ug/l

	Time:		17:49		18:43		19:37		
Sample ID:	CCV	CCV6		CCV		CCV7		CCV	
Metal	True	Results	% Rec	True <td></td> <th>Results</th> <td>% Rec</td> <th>True <td></td> </th>		Results	% Rec	True <td></td>	

Zinc anr

Zirconium

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC95610
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA47570 Units: ug/l

Metal	Sample ID: CCV	20:36 CCV9			21:46 CCV10			22:45 CCV11		
		True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr									
Antimony	anr									
Arsenic	2000	1890	94.5	2000	1880	94.0	2000	1870	93.5	
Barium	2000	2010	100.5	2000	2000	100.0	2000	1990	99.5	
Beryllium	anr									
Bismuth										
Boron	anr									
Cadmium	2000	1990	99.5	2000	1990	99.5	2000	1990	99.5	
Calcium	anr									
Cerium										
Chromium	2000	2000	100.0	2000	1990	99.5	2000	1990	99.5	
Cobalt	anr									
Copper	anr									
Iron	anr									
Lead	2000	1990	99.5	2000	1980	99.0	2000	1980	99.0	
Lithium										
Magnesium	anr									
Manganese	anr									
Molybdenum										
Nickel	anr									
Phosphorus										
Potassium	anr									
Selenium	2000	1940	97.0	2000	1930	96.5	2000	1930	96.5	
Silicon										
Silver	250	249	99.6	250	248	99.2	250	249	99.6	
Sodium	anr									
Strontium										
Sulfur										
Thallium	anr									
Tin	anr									
Titanium										
Tungsten										
Vanadium	anr									

9.2.5
9

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC95610
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA47570 Units: ug/l

	Time:								
Sample ID:	CCV	20:36	CCV9	CCV	21:46	CCV10	CCV	22:45	CCV11
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec

Zinc anr

Zirconium

(*) Outside of QC limits
(anr) Analyte not requested

HIGH STANDARD CHECK SUMMARY

Login Number: JC95610
 Account: BBLNYS - Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
 QC Limits: 90 to 110 % Recovery Run ID: MA47570 Units: ug/l

Time:	12:57	13:28				
Sample ID:	HSTD	HSTD1	HSTD	HSTD2		
Metal	True	Results	% Rec	True	Results	% Rec
Aluminum	anr					
Antimony						
Arsenic				8000	7570	94.6
Barium				8000	8520	106.5
Beryllium						
Bismuth						
Boron						
Cadmium				8000	8220	102.8
Calcium	anr					
Cerium						
Chromium				8000	8400	105.0
Cobalt						
Copper						
Iron	anr					
Lead				8000	7930	99.1
Lithium						
Magnesium	anr					
Manganese						
Molybdenum						
Nickel						
Phosphorus						
Potassium	anr					
Selenium				8000	8290	103.6
Silicon						
Silver				625	639	102.2
Sodium	anr					
Strontium						
Sulfur						
Thallium						
Tin						
Titanium						
Tungsten						
Vanadium						

9.2.6
9

HIGH STANDARD CHECK SUMMARY

Login Number: JC95610
 Account: BBLNYS - Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
 QC Limits: 90 to 110 % Recovery Run ID: MA47570 Units: ug/l

	Time:	12:57		13:28	
Sample ID:	HSTD	HSTD1	HSTD	HSTD2	
Metal	True	Results	% Rec	True	Results

Zinc

Zirconium

(*) Outside of QC limits
 (anr) Analyte not requested

9.2.6
9

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC95610
 Account: BBLNYS - Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
 QC Limits: CRI 80-120% CRIA 80-120% Run ID: MA47570 Units: ug/l

Time:	Sample ID:	CRI	CRIA	CRID	13:49 CRI1	% Rec	13:54 CRID2	% Rec
Metal	True	True	True	True	Results		Results	% Rec
Aluminum	200	500	100	anr				
Antimony	6.0	20	3.0	anr				
Arsenic	8.0	20	3.0	7.60	95.0	3.10	103.3	
Barium	200		4.0	203	101.5	4.20	105.0	
Beryllium	2.0		1.0	anr				
Bismuth	20							
Boron	100		10	anr				
Cadmium	3.0		1.0	2.90	96.7	0.900	90.0	
Calcium	5000	2000	1000	anr				
Cerium								
Chromium	10		2.0	10.5	105.0	2.30	115.0	
Cobalt	50		3.0	anr				
Copper	10		2.0	anr				
Iron	100	500		anr				
Lead	3.0	20	2.5	2.70	90.0	-0.600U	0.0* (a)	
Lithium	50							
Magnesium	5000	2000	100	anr				
Manganese	15		3.0	anr				
Molybdenum	20							
Nickel	10		4.0	anr				
Phosphorus	50							
Potassium	5000		2000	anr				
Selenium	10	20	5.0	10.5	105.0	4.60	92.0	
Silicon	200							
Silver	5.0		2.0	4.80	96.0	-0.400U	0.0* (a)	
Sodium	5000		1000	anr				
Strontium	10							
Sulfur	50							
Thallium	10		2.0	anr				
Tin	10			anr				
Titanium	10							
Tungsten	50							
Vanadium	50		2.0	anr				

9.27
9

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC95610
 Account: BBLNYS - Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
 QC Limits: CRI 80-120% CRIA 80-120% Run ID: MA47570 Units: ug/l

Time:				13:49				13:54
Sample ID:	CRI	CRIA	CRID	CRI1			CRID2	
Metal	True	True	True	Results	% Rec	Results	% Rec	

Zinc	20		10	anr			
Zirconium	10						

(*) Outside of QC limits
 (anr) Analyte not requested
 (a) No samples reported for this element at this RL in the area bracketed by this QC.

9.2.7
9

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JC95610
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 80 to 120 % Recovery Run ID: MA47570 Units: ug/l

Metal	Time:		13:59		14:04		16:43		16:48	
	Sample ID:	ICSA	ICSAB	ICSAL	ICSAB1	ICSAB2	ICSAB2	ICSAB2	ICSAB2	ICSAB2
	True	True	Results	% Rec	Results	% Rec	Results	% Rec	Results	% Rec
Aluminum	500000	500000	503000	100.6	497000	99.4	499000	99.8	497000	99.4
Antimony		1000	-4.20		971	97.1	-2.70		957	95.7
Arsenic		1000	1.10		1010	101.0	0.600		992	99.2
Barium		500	0.500		506	101.2	0.500		501	100.2
Beryllium		500	0.600		503	100.6	0.600		506	101.2
Bismuth		500	-3.70		499	99.8	-5.00		487	97.4
Boron		500	-1.50		484	96.8	-4.00		471	94.2
Cadmium		1000	0.400		1000	100.0	0.400		991	99.1
Calcium	400000	400000	403000	100.8	382000	95.5	400000	100.0	378000	94.5
Cerium			24.9		10.7		24.9		7.10	
Chromium		500	1.40		490	98.0	1.30		486	97.2
Cobalt		500	-0.400		488	97.6	-0.300		475	95.0
Copper		500	0.500		508	101.6	0.700		497	99.4
Iron	200000	200000	199000	99.5	185000	92.5	200000	100.0	186000	93.0
Lead		1000	0.600		888	88.8	0.200		876	87.6
Lithium		500	-10.3		505	101.0	-11.9		497	99.4
Magnesium	500000	500000	511000	102.2	500000	100.0	509000	101.8	499000	99.8
Manganese		500	0.100		508	101.6	0.100		507	101.4
Molybdenum		500	1.90		468	93.6	2.10		454	90.8
Nickel		1000	2.70		965	96.5	2.80		955	95.5
Phosphorus		500	-12.6		468	93.6	-14.7		453	90.6
Potassium			161		195		114		126	
Selenium		1000	0.700		999	99.9	1.20		971	97.1
Silicon		500	7.20		500	100.0	10.1		493	98.6
Silver		1000	-1.00		1050	105.0	2.50		1030	103.0
Sodium			87.2		98.9		11.4		29.2	
Strontium		500	-2.10		510	102.0	-2.20		507	101.4
Sulfur		500	5.40		485	97.0	6.90		467	93.4
Thallium		1000	-0.200		965	96.5	0.300		956	95.6
Tin		500	-2.00		449	89.8	-1.50		436	87.2
Titanium		500	-1.00		487	97.4	-0.900		478	95.6
Tungsten		500	-6.50		437	87.4	-7.40		425	85.0
Vanadium		500	-5.00		490	98.0	-5.10		482	96.4

9.2.8
9

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
 Part 1 - ICSA and ICSAB Standards

Login Number: JC95610
 Account: BBLNYS - Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
 QC Limits: 80 to 120 % Recovery Run ID: MA47570 Units: ug/l

Time:		13:59		14:04		16:43		16:48		
Sample ID:	ICSAB	ICSAB	ICSAB1	ICSAB1	ICSAB1	ICSAB2	ICSAB2	ICSAB2	ICSAB2	
Metal	True	True	Results	% Rec	Results	% Rec	Results	% Rec	Results	% Rec

Zinc		1000	1.70		950	95.0	1.80		942	94.2
Zirconium		500	2.20		490	98.0	1.90		486	97.2

(*) Outside of QC limits
 (anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JC95610
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP17700
Matrix Type: LEACHATE

Methods: SW846 6010D
Units: mg/l

Prep Date: 10/03/19 10/03/19

Metal	RL	IDL	MDL	MB raw	final	MB raw	final
Aluminum	1.0	.072	.23				
Antimony	0.50	.007	.024				
Arsenic	0.50	.0075	.014	0.00060	<0.50	0.0011	<0.50
Barium	1.0	.0025	.067	0.0028	<1.0	-0.00080	<1.0
Beryllium	0.010	.0005	.0025				
Bismuth	0.10	.009	.02				
Boron	0.50	.004	.31				
Cadmium	0.020	.0015	.005	-0.00030	<0.020	-0.0013	<0.020
Calcium	25	.02	.5				
Chromium	0.050	.0015	.01	0.0023	<0.050	0.0015	<0.050
Cobalt	0.25	.0015	.013				
Copper	0.050	.003	.03				
Iron	0.50	.013	.16				
Lead	0.50	.008	.009	-0.0033	<0.50	-0.0052	<0.50
Lithium	0.25	.011	.037				
Magnesium	25	.082	.7				
Manganese	0.075	.0005	.007				
Molybdenum	0.10	.002	.018				
Nickel	0.050	.0025	.0085				
Phosphorus	0.25	.0095	.089				
Potassium	50	.4	1				
Selenium	0.50	.015	.025	-0.0026	<0.50	-0.0015	<0.50
Silicon	1.0	.006	.51				
Silver	0.050	.0025	.0095	0.0031	<0.050	0.0025	<0.050
Sodium	50	.05	2.8				
Strontium	0.050	.0015	.005				
Sulfur	0.25	.018	.23				
Thallium	0.50	.0065	.009				
Tin	0.050	.0035	.019				
Titanium	0.050	.0025	.013				
Tungsten	0.25	.0085	.2				
Vanadium	0.25	.0025	.009				
Zinc	0.10	.001	.035				

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JC95610
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP17700
Matrix Type: LEACHATE

Methods: SW846 6010D
Units: mg/l

Prep Date: 10/03/19 10/03/19

Metal	RL	IDL	MDL	MB raw	final	MB raw	final
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Zirconium 0.050 .0015 .021

Associated samples MP17700: JC95610-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC95610
 Account: BBLNYS - Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP17700
 Matrix Type: LEACHATE

Methods: SW846 6010D
 Units: mg/l

Prep Date: 10/03/19

Metal	JC95821-11A Original MS		SpikeLot MPSPK2	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	0.0	2.0	2.0	100.0	75-125
Barium	0.51	2.5	2.0	99.5	75-125
Beryllium	anr				
Bismuth					
Boron	anr				
Cadmium	0.0	2.0	2.0	100.0	75-125
Calcium					
Chromium	0.0	2.0	2.0	100.0	75-125
Cobalt					
Copper	anr				
Iron					
Lead	0.040	2.1	2.0	103.0	75-125
Lithium					
Magnesium					
Manganese					
Molybdenum					
Nickel	anr				
Phosphorus					
Potassium					
Selenium	0.0	2.0	2.0	100.0	75-125
Silicon					
Silver	0.0036	0.26	0.25	102.6	75-125
Strontium					
Sulfur					
Thallium					
Tin					
Titanium					
Tungsten					
Vanadium					
Zinc	anr				
Zirconium					

9.3.2
9

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC95610
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP17700
Matrix Type: LEACHATE

Methods: SW846 6010D
Units: mg/l

Prep Date: 10/03/19

Metal	JC95821-11A Original MS	SpikeLot MPSPK2	% Rec	QC Limits
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Associated samples MP17700: JC95610-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC95610
 Account: BBLNYS - Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP17700
 Matrix Type: LEACHATE

Methods: SW846 6010D
 Units: mg/l

Prep Date: 10/03/19

Metal	JC95821-11A Original MSD		SpikeLot MPSPK2	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	0.0	1.9	2.0	95.0	5.1	20
Barium	0.51	2.4	2.0	94.5	4.1	20
Beryllium	anr					
Bismuth						
Boron	anr					
Cadmium	0.0	2.0	2.0	100.0	0.0	20
Calcium						
Chromium	0.0	2.0	2.0	100.0	0.0	20
Cobalt						
Copper	anr					
Iron						
Lead	0.040	2.0	2.0	98.0	4.9	20
Lithium						
Magnesium						
Manganese						
Molybdenum						
Nickel	anr					
Phosphorus						
Potassium						
Selenium	0.0	2.0	2.0	100.0	0.0	20
Silicon						
Silver	0.0036	0.26	0.25	102.6	0.0	20
Strontium						
Sulfur						
Thallium						
Tin						
Titanium						
Tungsten						
Vanadium						
Zinc	anr					
Zirconium						

9.3.2
9

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC95610
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP17700
Matrix Type: LEACHATE

Methods: SW846 6010D
Units: mg/l

Prep Date: 10/03/19

Metal	JC95821-11A Original MSD	SpikeLot MPSPK2	% Rec	MSD RPD	QC Limit
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Associated samples MP17700: JC95610-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JC95610
 Account: BBLNYS - Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP17700
 Matrix Type: LEACHATE

Methods: SW846 6010D
 Units: mg/l

Prep Date: 10/03/19 10/03/19

Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits	BSP Result	Spikelot MPSPK2	% Rec	QC Limits
Aluminum								
Antimony								
Arsenic	1.9	2.0	95.0	80-120	1.8	2.0	90.0	80-120
Barium	2.0	2.0	100.0	80-120	2.0	2.0	100.0	80-120
Beryllium	anr							
Bismuth								
Boron	anr							
Cadmium	2.0	2.0	100.0	80-120	2.0	2.0	100.0	80-120
Calcium								
Chromium	2.0	2.0	100.0	80-120	2.0	2.0	100.0	80-120
Cobalt								
Copper	anr							
Iron								
Lead	2.0	2.0	100.0	80-120	2.0	2.0	100.0	80-120
Lithium								
Magnesium								
Manganese								
Molybdenum								
Nickel	anr							
Phosphorus								
Potassium								
Selenium	2.0	2.0	100.0	80-120	1.9	2.0	95.0	80-120
Silicon								
Silver	0.26	0.25	104.0	80-120	0.25	0.25	100.0	80-120
Sodium								
Strontium								
Sulfur								
Thallium								
Tin								
Titanium								
Tungsten								
Vanadium								
Zinc	anr							

9.3.3
9

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JC95610
 Account: BBLNYS - Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP17700
 Matrix Type: LEACHATE

Methods: SW846 6010D
 Units: mg/l

Prep Date: 10/03/19 10/03/19

Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits	BSP Result	Spikelot MPSPK2	% Rec	QC Limits
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Zirconium

Associated samples MP17700: JC95610-1

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: JC95610
 Account: BBLNYS - Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP17700
 Matrix Type: LEACHATE

Methods: SW846 6010D
 Units: ug/l

Prep Date: 10/03/19

Metal	JC95821-11A Original	SDL 5:25	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	0.00	0.00	NC	0-10
Barium	506	492	2.8	0-10
Beryllium	anr			
Bismuth				
Boron	anr			
Cadmium	0.00	0.00	NC	0-10
Calcium				
Chromium	0.00	0.00	NC	0-10
Cobalt				
Copper	anr			
Iron				
Lead	40.2	0.00	100.0(a)	0-10
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel	anr			
Phosphorus				
Potassium				
Selenium	0.00	0.00	NC	0-10
Silicon				
Silver	3.60	16.6	361.1(a)	0-10
Sodium				
Strontium				
Sulfur				
Thallium				
Tin				
Titanium				
Tungsten				
Vanadium				
Zinc	anr			

9.3.4
 9

SERIAL DILUTION RESULTS SUMMARY

Login Number: JC95610
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP17700
Matrix Type: LEACHATE

Methods: SW846 6010D
Units: ug/l

Prep Date: 10/03/19

Metal	JC95821-11A Original SDL 5:25 %DIF	QC Limits
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Zirconium

Associated samples MP17700: JC95610-1

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JC95610
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP17705
Matrix Type: LEACHATE

Methods: SW846 7470A
Units: mg/l

Prep Date: 10/04/19

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.00020	.000023	.000095	0.000046	<0.00020

Associated samples MP17705: JC95610-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC95610
 Account: BBLNYS - Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP17705
 Matrix Type: LEACHATE

Methods: SW846 7470A
 Units: mg/l

Prep Date: 10/04/19

Metal	JC95821-11A Original MS	Spikelot HGPW3	% Rec	QC Limits
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Mercury	0.0	0.0021	0.0020	105.0	75-125
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Associated samples MP17705: JC95610-1

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC95610
 Account: BBLNYS - Arcadis
 Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP17705
 Matrix Type: LEACHATE

Methods: SW846 7470A
 Units: mg/l

Prep Date: 10/04/19

Metal	JC95821-11A Original MSD	SpikeLot HGPW3	% Rec	MSD RPD	QC Limit
Mercury	0.0	0.0022	0.0020	110.0	4.7 20

Associated samples MP17705: JC95610-1

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JC95610
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP17705
Matrix Type: LEACHATE

Methods: SW846 7470A
Units: mg/l

Prep Date: 10/04/19

Metal	BSP Result	Spikelot HGPW3	% Rec	QC Limits
Mercury	0.0022	0.0020	110.0	80-120

Associated samples MP17705: JC95610-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

Instrument Detection Limits

Job Number: JC95610
Account: BBLNYS Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

Instrument ID: LEEMANHG7	Effective Date: 08/01/19
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Analyte	IDL ug/l
Mercury	.0238

The above applies to the following instrument runs:
MA47567

Instrument Detection Limits

Job Number: JC95610
Account: BBLNYS Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

Instrument ID: SSTRACE3	Effective Date: 02/18/19
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Analyte	IDL ug/l
Aluminum	14.3
Antimony	1.4
Arsenic	1.5
Barium	.5
Beryllium	.1
Bismuth	1.8
Boron	.8
Cadmium	.3
Calcium	3.9
Chromium	.3
Cobalt	.3
Copper	.6
Iron	2.6
Lead	1.6
Lithium	2.1
Magnesium	16.3
Manganese	.1
Molybdenum	.4
Nickel	.5
Phosphorus	1.9
Potassium	79
Selenium	3
Silicon	1.2
Silver	.5
Sodium	9.9
Sulfur	3.5
Strontium	.3
Thallium	1.3
Tin	.7
Titanium	.5
Tungsten	1.7
Vanadium	.5
Yttrium	5
Zinc	.2
Zirconium	.3

The above applies to the following instrument runs:
MA47570

Instrument Linear Ranges

Job Number: JC95610
Account: BBLNYS Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

Instrument ID: LEEMANHG7	Effective Date: 03/10/17
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Analyte	Linear Range ug/l
Mercury	5

The above applies to the following instrument runs:
MA47567

Instrument Linear Ranges

Job Number: JC95610
Account: BBLNYS Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

Instrument ID: SSTRACE3	Effective Date: 08/22/19
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Analyte	Linear Range ug/l
Aluminum	300000
Antimony	8000
Arsenic	8000
Barium	8000
Beryllium	8000
Bismuth	8000
Boron	8000
Cadmium	8000
Calcium	200000
Cerium	8000
Chromium	8000
Cobalt	8000
Copper	8000
Iron	200000
Lead	8000
Lithium	8000
Magnesium	300000
Manganese	8000
Molybdenum	8000
Nickel	8000
Palladium	8000
Phosphorus	8000
Potassium	200000
Selenium	8000
Silicon	25000
Silver	625
Sodium	200000
Sulfur	100000
Strontium	8000
Thallium	8000
Tin	8000
Titanium	8000
Tungsten	8000
Vanadium	8000
Zinc	8000
Zirconium	8000

The above applies to the following instrument runs:
MA47570

9.5
9

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries
- Percent Solids Raw Data Summary

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JC95610
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Corrosivity as pH	GN875	JC95639-5A	su	10.43	10.56	1.2	0-5%
Solids, Percent	GN708	JC95922-2	%	79.5	79.9	0.5	0-5%

Associated Samples:
Batch GN708: JC95610-1
Batch GN875: JC95610-1
(*) Outside of QC limits

10.1
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Percent Solids Raw Data Summary

Job Number: JC95610
Account: BBLNYS Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: JC95610-1 Analyzed: 02-OCT-19 by BG Method: SM2540 G 18TH ED MOD
ClientID: WC-092519

Wet Weight (Total)	33.21	g
Tare Weight	24.63	g
Dry Weight (Total)	30.37	g
Solids, Percent	66.9	%

10.2
10