Watermark

APPENDIX D

2011 and 2012 Data Validation Reports and Laboratory Analytical Reports

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APPENDIX D

Data Validation Reports

1.0 INTRODUCTION

Data validation was completed on soil and groundwater samples collected during RI/FS sampling completed in May 2011. A summary of samples included in this review is presented on Table 1. Samples were analyzed by Test America Laboratories in Pittsburgh, Pennsylvania (TAL-PA) for one or more of the following U.S. Environmental Protection Agency (USEPA) analytical methods (USEPA, 1996):

- Volatile organic compound (VOC) by USEPA Method SW846 8260B
- Semivolatile organic compound (SVOC) by USEPA Method SW846 8270D
- Total metals by USEPA Method 6010C/7470A/7471B

A subset of samples was also analyzed for mercury speciation by Frontier Global Sciences in Seattle, Washington. Samples were analyzed using the following methods:

- Total and elemental mercury by USEPA Method 1631E
- Methyl mercury by USEPA Method 1630

Data validation was completed by the AMEC (formerly MACTEC) project chemist in accordance with the Site Specific Quality Assurance Project Plan (QAPP) for the Current CERCLA Phase – RI/FS (Watermark, 2010). Validation for VOCs, SVOCs, and total metals was completed using USEPA Region II guidelines (USEPA, 2005; USEPA, 2006a; USEPA, 2006b) and New York State Department of Environmental Conservation (NYSDEC) Division of Environmental Remediation guidance for Data Usability Summary Reports (NYSDEC, 2010). Project specific quality control (QC) limits from the QAPP were used. A chemist review was completed for the mercury speciation data.

Under direction of the USACE, an initial data validation step was completed using the Staged Electronic Data Deliverable (SEDD) and Automated Data Review (ADR) software. The ADR system has a computerized data validation module that performs a subset of data validation checks specified in the USEPA and NYSDEC guidelines. Sample results and associated QC data are compared to project specific QC limits that are set up by the project chemist prior to running the validation module. The ADR assigns validation action codes to all results that are associated with QC measurements outside project QC goals, and the validation module applies data validation qualifiers to the final results. The data qualification actions are reviewed by the project chemist prior to accepting the final data. A summary of the ADR QC checks and applicable project specific QC limits for the project is presented in Table 2.

During the ADR review and/or Region II guideline validation the following data quality indicators were reviewed:

- Case Narrative
- Sample Collection and Holding Times
- QC Blanks
- Laboratory Control Samples (LCS)
- Matrix Spike/Matrix Spike Duplicates (MS/MSD)
- Laboratory and Field Duplicates
- Surrogate Spikes
- Reporting Limits
- Data Completeness
- Electronic Data Verification
- Instrument Performance Checks (Tune)
- Initial Calibrations
- Continuing Calibrations
- Internal Standards
- Calculation checks
- Raw data verification

Data qualifications were completed if necessary in accordance with the validation guidelines and professional judgment using the following qualifiers:

U = The target compound was not detected at concentrations greater than the associated limit of detection (LOD)

J = The reported concentration is considered an estimated value

A summary of qualification actions are presented on Table 3 (Table 3a Test America and Table 3b Frontier). Table 3 includes validation action codes associated with results that are qualified during validation. Final results are presented on Table 4 (Table 4a Test America and Table 4b Frontier).

2.0 DATA VALIDATION ACTIONS AND OBSERVATIONS

With the exception of the items discussed below, quality control (QC) parameters and measurements checked during validation met requirements in the analytical method, validation

guidelines, and quality assurance (QA) plan goals. Unless specified below, results are usable without qualification.

The ADR system assigns a validation reason code of RL to results for all analytes that are detected at concentrations between the method detection limit (MDL) and the reporting limit (RL). Results are qualified estimated (J) by the laboratory, and the J qualifier becomes the final qualifier in the final data.

2.1 Groundwater Samples

2.1.1 VOCs

No aqueous matrix spike data were available for review.

Laboratory Control Sample (LCS)

SDG C1E100518

The LCS percent recovery was below the QC limit for acetone (58), 2-butanone (65), 2-hexanone (70), 4-methyl-2-pentanone (70), and vinyl chloride (78). These compounds were not detected in the associated samples and the reporting limits were qualified estimated (UJ).

Field Duplicates

SDG C1E100518

The relative percent difference (RPD) QC limit of 20 was exceeded in sample MW-4 (161) for chloroform. Detections of chloroform in sample MW-4 and its duplicate were qualified estimated (J/UJ).

2.1.2 SVOCs

No aqueous matrix spike data were available for review.

No data quality issues were identified during the validation review.

2.1.3 Metals

Field Duplicates

SDG C1E100518

The RPD QC limit of 20 was exceeded in sample MW-4 for iron (83). Detections of iron in sample MW-4 and its duplicate were qualified estimated (J).

2.2 Soil Samples

2.2.1 SVOCs

LCS

SDG C1E120405

The LCS percent recovery was below the QC limit for naphthalene (58). Detections and non-detections of naphthalene were qualified estimated (U/UJ) in the associated samples.

SDG C1E120445 and C1E130427

The LCS/LCSD relative percent difference (RPD) for benzo(ghi)perylene (24) exceeded the QC limit of 20. Benzo(ghi)perylene was not detected in the associated equipment rinse blank samples and the reporting limits were qualified estimated (UJ).

Matrix Spike

SDG C1E120405

MS/MSD analyses were completed using sample AI3-111(6-24). The MS/MSD percent recoveries were below the QC limit for acenaphthene (42/46), anthracene (19/25), benzo(a)anthracene (0/7), benzo(b)fluoranthene (0/0), benzo(a)pyrene (37/41), chrysene (31/48), fluoranthene (0/0), fluorene (52/56), 2-methylnaphthalene (58), naphthalene (56/56), pyrene (0/0), and phenanthrene (0/0). For all these samples, PAH compounds were detected in the original sample and the MS/MSD runs. Spike results suggest that there is variability in the sample matrix that is impacting the calculated recoveries. This variability was observed in the associated field duplicate (see discussion below). Based on professional judgment, results of detections and non-detects of acenaphthene, pyrene, anthracene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(a)pyrene, chrysene, fluoranthene, fluorene, 2-methylnaphthalene, naphthalene, and phenanthrene were qualified estimated (U/UJ) in the associated samples due to variability in the sample matrix that impacted the calculated recoveries.

SDG C1E140504

MS/MSD analyses were completed using sample AI2-102(0-2). The MS/MSD percent recovery was below the QC limit of 60 for pyrene (55/48) and benzo(k)fluoranthene (59/49) and the MSD percent recovery was below the QC limit of 60 for 2-methylnaphthalene (58), naphthalene (57), and phenanthrene (59). Results for detections and non-detects for pyrene, benzo(k)fluoranthene, 2-methylnaphthalene, naphthalene, and phenanthrene were qualified estimated (U/UJ) in the associated samples.

Field Duplicates

SDG C1E120405

For the field duplicate collected at location A13-108(6-24), the relative percent difference (RPD) QC limit of 30 was exceeded for acenaphthene (34), anthracene (70), benzo(a)anthracene (72), benzo(a)pyrene (71), benzo(b)fluoranthene (70), benzo(ghi)perylene (82), chrysene (88), dibenz(a,h)anthracene (108), fluoranthene (91), indeno(1,2,3-cd)pyrene (123), naphthalene (59), pyrene (78), and phenanthrene (120). Detections of these compounds in sample A13-108(6-24) and its duplicate were qualified estimated (J).

SDG C1E120445

For the field duplicate collected at location A14-115(0-2), the RPD QC limit of 30 was exceeded for anthracene (55), fluoranthene (32), and phenanthrene (75). Detections of these compounds in sample A14-115(0-2) and its duplicate were qualified estimated (J).

SDG C1E130427

For the field duplicate collected at location A12-108(0-2), the RPD QC limit of 30 was exceeded for phenanthrene (38). Detections of phenanthrene in sample A12-108(0-2) and its duplicate were qualified estimated (J).

For the field duplicate collected at location A12-108(6-24), the RPD QC limit of 30 was exceeded for 2-methylnaphthalene (37), acenaphthene (152), anthracene (49), fluoranthene (40), fluorene (79), phenanthrene (94), and pyrene (42). Detections of these compounds in sample A12-108(6-24) and its duplicate were qualified estimated (J).

2.2.2 Metals

Blanks

SDG C1E120405

Beryllium was detected in the method blank at 0.11 mg/kg. Based on that result, an action level was established at 5X the blank concentration (0.55 mg/kg). Detections of beryllium that were below the action level were qualified as non-detect (U).

Matrix Spike/Matrix Spike Duplicate (MS/MSD)

SDG C1E120405

MS/MSD analyses were completed using samples AI3-111(6-24) and AI5-101(0-6). In sample AI3-111(6-24), the MS/MSD percent recovery was below the QC limit of 75 for antimony (46/49) and calcium (51/59). The MS percent recovery for magnesium (144) and the MSD recovery for

lead (149) and zinc (136) were above the QC limit of 125. In sample AI5-101(0-6), the MS/MSD percent recovery for calcium (175/122) was above the QC limit of 125. Results for detections and non-detects of antimony, calcium, magnesium, lead and zinc were qualified estimated (J/UJ).

SDG C1E120445

MS/MSD analyses were completed using samples DUP-AI5-1(0-2) and DUP-AI5-2(6-24). In sample DUP-AI5-2(6-24), the MS/MSD percent recovery was below the QC limit of 75 for antimony (63/63) and MSD percent recovery for copper (72). The MS/MSD percent recovery was above the QC limit of 125 for lead (149/189). In sample DUP-AI5-1(0-2), the MS/MSD percent recovery was above the QC limit of 125 for copper (213/194), manganese (142/142) and zinc (123/139). Results for detections and non-detects of antimony, copper, lead, manganese and zinc in the associated samples were qualified estimated (J/UJ).

SDG C1E130427

MS/MSD analyses were completed using sample AI2-110(0-2). The MS/MSD percent recovery was below the QC limit of 75 for antimony (68/71). Results for detections and non-detects of antimony in samples were qualified as estimated (J/UJ).

SDG C1E140504

MS/MSD analyses were completed using sample AI2-110(0-2). The MS/MSD percent recovery was below the QC limit of 75 for antimony (68/71). Results for detections and non-detects of antimony in associated samples were qualified as estimated (J/UJ).

Field Duplicates

SDG C1E120405

For the field duplicate collected at location A13-108(6-24), the RPD QC limit of 20 was exceeded in sample A13-108(6-24) for arsenic (76), copper (85), lead (63), manganese (44), and vanadium (49). Detections of these elements in sample A13-108(6-24) and its duplicate were qualified estimated (J).

For the field duplicate collected at location A13-108(0-2), the RPD QC limit of 20 was exceeded for arsenic (104), chromium (28), copper (110), iron (23), lead (149), manganese (22), nickel (26), vanadium (72), and zinc (37). Detections of these elements in sample A13-108(0-2) and its duplicate were qualified estimated (J).

SDG C1E120445

For the field duplicate collected at location A15-105(0-2), the relative percent difference (RPD) QC limit of 20 was exceeded for magnesium (38). Detections of magnesium in sample A15-105(0-2) and its duplicate were qualified estimated (J).

For the field duplicate collected at location A15-105(6-24), the RPD QC limit of 20 was exceeded for arsenic (34), barium (52), calcium (109), cobalt (22), copper (89), lead (63), magnesium (56), manganese (43), potassium (92), vanadium (26), and zinc (151). Detections of these elements in sample A15-105(6-24) and its duplicate were qualified estimated (J).

SDG C1E130427

For the field duplicate collected at location A12-108(0-2), the RPD QC limit of 20 was exceeded for antimony (105), cadmium (22), copper (169), and manganese (37). Detections of these elements in sample A12-108(0-2) and its duplicate were qualified estimated (J).

For the field duplicate collected at location A12-108(6-24), the RPD QC limit of 20 was exceeded for antimony (194), calcium (22), and lead (84). Detections of these elements in sample A12-108(6-24) and its duplicate were qualified estimated (J).

2.2.3 Mercury Speciation Analyses

Holding Time

In QAPP worksheet #19 a holding time for Frontier Laboratories mercury analyses is listed as 7 days for soil samples. No holding times are established for soil samples in Methods 1630 and 1631. Based on conversations with Patrick Strickland of Frontier Laboratories the actual holding times used for these methods are as follows for soil samples frozen upon sample collection:

Total Hg – 90 days

Methyl Hg – 180 days

Elemental Hg – 30 days

Samples were frozen upon collection and remained frozen until removed for sample preparation. All samples were prepared and analyzed within the holding times listed above.

Matrix Spike

MS/MSD analyzes were completed on samples A12-107 (0-2) and A14-112 (6-24). Recoveries and RPD for total and elemental mercury were within project limits. Recoveries for methyl

mercury in the A12-107 (0-2) MSD of 64 percent and the MSD of A14-112 (6-24) of 61 percent were below the project limits of 65 – 135 percent. The RPD for MS/MSD results in A14-112 (6-24) of 40 exceeded the project goal of 35. All methyl mercury results were qualified estimated (J/UJ).

Data Validator: Michael J. Washburn
October 6, 2011
Senior Chemist: Christian S. Ricardi, NRCC-EAC
October 6, 2011

References:

New York State Department of Environmental Conservation (NYSDEC), 2010. "Technical Guidance for Site Investigation and Remediation-Appendix 2B"; DER-10; Division of Environmental Remediation; May 2010.

U.S. Environmental Protection Agency (USEPA), 1996. "Test Methods for Evaluating Solid Waste"; Laboratory Manual Physical/Chemical Methods; Office of Solid Waste and Emergency Response; Washington, DC; SW-846; November 1986; Revision 4 - December 1996.

USEPA, 2005. "Validation of Metals Data for the Contract Laboratory Program (CLP)"; USEPA Region II; HW-2; Revision 13; September 2005.

USEPA, Region II, 2006a. "Validating Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry SW-846 Method 8260B"; SOP No. HW-24, Revision 2; October 2006.

USEPA, Region II, 2006b. "Validating Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry SW-846 Method 8270D"; SOP No. HW-22, Revision 3; October 2006.

Watermark, 2010. "Site Specific Quality Assurance Project Plan"; Current CERCLA Phase – RI/FS; FUDS Project Name – Fort Totten Coast Guard Station; Formerly Used Defense Site, Queens, New York; March 2010.

TABLES

Table 1
Sample Summary
Data Validation Report - May 2011 Groundwater and Soil
Supplemental Remedial Investigation
Ft. Totten Coast Guard Station
Queens, New York

Location	Sample ID	Date Sampled	TestAmerica Lab Sample ID	8260B VOCs	8270D SVOCs	6010C Metals	7470A Mercury	7471B Mercury	Frontier Global Services Lab Sample ID	1630 Methylmercury	1631E Elemental Mercury
Soil											
AI3-101	AI3-101(0-2)	5/10/2011	C1E120405001		18	22					
AI3-101	AI3-101(6-24)	5/10/2011	C1E120405002		18	22					
AI3-102	AI3-102(0-2)	5/10/2011	C1E120405003		18	22					
AI3-102	AI3-102(6-24)	5/10/2011	C1E120405004		18	22					
AI3-103	AI3-103(0-2)	5/10/2011	C1E120405005		18	22					
AI3-103	AI3-103(6-24)	5/10/2011	C1E120405006		18	22					
AI3-104	AI3-104(0-2)	5/10/2011	C1E120405007		18	22			1105165-09	1	2
AI3-104	AI3-104(6-24)	5/10/2011	C1E120405008		18	22			1105165-10	1	2
AI3-105	AI3-105(0-2)	5/10/2011	C1E120405009		18	22			1105165-11	1	2
AI3-105	AI3-105(6-24)	5/10/2011	C1E120405010		18	22			1105165-12	1	2
AI3-108	AI3-108(0-2)	5/10/2011	C1E120405011		18	22					
AI3-108	AI3-108(6-24)	5/10/2011	C1E120405012		18	22					
AI3-109	AI3-109(0-2)	5/10/2011	C1E120405013		18	22					
AI3-109	AI3-109(6-24)	5/10/2011	C1E120405014		18	22					
AI3-111	AI3-111(0-2)	5/10/2011	C1E120405015		18	22			1105165-13	1	2
AI3-111	AI3-111(6-24)	5/10/2011	C1E120405016		18	22			1105165-14	1	2
AI3-112	AI3-112(0-2)	5/10/2011	C1E120405017		18	22			1105165-15	1	2
AI3-112	AI3-112(6-12)	5/10/2011	C1E120405018		18	22					
AI3-112	AI3-112(6-24)	5/10/2011							1105165-16	1	2
AI3-108	DUP-AI3-1	5/10/2011	C1E120405019		18	22					
AI3-108	DUP-AI3-2	5/10/2011	C1E120405020		18	22					
AI5-101	AI5-101(0-6)	5/10/2011	C1E120405021			22					
AI5-101	AI5-101(6-24)	5/10/2011	C1E120405022			22					
AI5-101	AI5-101(2-6)	5/10/2011	C1E120405023			22					
AI5-102	AI5-102(0-2)	5/10/2011	C1E120405024			22					
AI5-102	AI5-102(6-24)	5/10/2011	C1E120405025			22					
AI5-102	AI5-102(2-6)	5/10/2011	C1E120405026			22					
AI5-103	AI5-103(0-2)	5/10/2011	C1E120405027			22					
AI5-103	AI5-103(6-24)	5/10/2011	C1E120405028			22					
AI5-103	AI5-103(2-6)	5/10/2011	C1E120405029			22					
AI5-104	AI5-104(0-2)	5/10/2011	C1E120405030			22					
AI5-104	AI5-104(6-24)	5/10/2011	C1E120405031			22					
AI5-104	AI5-104(2-6)	5/10/2011	C1E120405032			22					
AI5-109	AI5-109(0-2)	5/10/2011	C1E120405033			22					
AI5-109	AI5-109(6-24)	5/10/2011	C1E120405034			22					
AI5-109	AI5-109(2-6)	5/10/2011	C1E120405035			22					
AI4-101	AI4-101(0-2)	5/10/2011	C1E120405036			22					

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Location	Sample ID	Date Sampled	TestAmerica Lab Sample ID	8260B VOCs	8270D SVOCs	6010C Metals	7470A Mercury	7471B Mercury	Frontier Global Services Lab Sample ID	1630 Methylmercury	1631E Elemental Mercury
AI4-101	AI4-101(6-24)	5/10/2011	C1E120405037			22					
AI2-107	AI2-107(0-2)	5/11/2011	C1E120445001		18	22			1105165-01	1	2
AI2-107	AI2-107(6-24)	5/11/2011	C1E120445002		18	22			1105165-02	1	2
AI2-109	AI2-109(0-2)	5/11/2011	C1E120445003		18	22			1105165-03	1	2
AI2-109	AI2-109(6-24)	5/11/2011	C1E120445004		18	22			1105165-04	1	2
AI2-111	AI2-111(0-2)	5/11/2011	C1E120445005		18	22			1105165-05	1	2
AI2-111	AI2-111(6-24)	5/11/2011	C1E120445006		18	22			1105165-06	1	2
AI2-112	AI2-112(0-2)	5/11/2011	C1E120445007		18	22			1105165-07	1	2
AI2-112	AI2-112(6-24)	5/11/2011	C1E120445008		18	22			1105165-08	1	2
AI3-106	AI3-106(0-2)	5/11/2011	C1E120445009		18	22					
AI3-106	AI3-106(6-24)	5/11/2011	C1E120445010		18	22					
AI3-106	AI3-106(2-4)	5/11/2011	C1E120445011			22					
AI3-107	AI3-107(0-2)	5/11/2011	C1E120445012		18	22					
AI3-107	AI3-107(6-24)	5/11/2011	C1E120445013		18	22					
AI3-107	AI3-107(2-4)	5/11/2011	C1E120445014			22					
AI3-110	AI3-110(0-2)	5/11/2011	C1E120445015		18	22					
AI3-110	AI3-110(6-24)	5/11/2011	C1E120445016		18	22					
AI3-110	AI3-110(2-4)	5/11/2011	C1E120445017			22					
QC	ER-AI3	5/11/2011	C1E120445018		18	22					
AI4-105	AI4-105(0-2)	5/11/2011	C1E120445019		18				1105165-17	1	2
AI4-105	AI4-105(6-24)	5/11/2011	C1E120445020		18				1105165-18	1	2
AI4-106	AI4-106(0-2)	5/11/2011	C1E120445021		18				1105165-19	1	2
AI4-106	AI4-106(6-24)	5/11/2011	C1E120445022		18				1105165-20	1	2
AI4-112	AI4-112(0-2)	5/11/2011	C1E120445023		18				1105165-21	1	2
AI4-112	AI4-112(6-24)	5/11/2011	C1E120445024		18				1105165-22	1	2
AI4-115	AI4-115(0-2)	5/11/2011	C1E120445025		18				1105165-23	1	2
AI4-115	AI4-115(6-24)	5/11/2011	C1E120445026		18				1105165-24	1	2
AI4-115	DUP-AI4-1	5/11/2011	C1E120445027		18				1105165-25	1	2
AI5-106	AI5-106(0-2)	5/11/2011							1105165-28	1	2
AI5-106	AI5-106(0-6)	5/11/2011	C1E120445028			22					
AI5-106	AI5-106(6-24)	5/11/2011	C1E120445029			22			1105165-29	1	2
AI5-106	AI5-106(2-6)	5/11/2011	C1E120445030			22			1105165-26	1	2
AI5-105	AI5-105(0-2)	5/11/2011	C1E120445031			22			1105165-27	1	2
AI5-105	AI5-105(6-24)	5/11/2011	C1E120445032			22					
AI5-105	AI5-105(2-6)	5/11/2011	C1E120445033			22					
AI5-105	DUP-AI5-1(0-2)	5/11/2011	C1E120445034			22			1105165-30	1	2
AI5-105	DUP-AI5-2(6-24)	5/11/2011	C1E120445035			22					
AI5-107	AI5-107(0-2)	5/11/2011	C1E120445036			22					

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Queens, New York

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AI5-107	AI5-107(6-24)	5/11/2011	C1E120445037			22					
AI5-107	AI5-107(2-6)	5/11/2011	C1E120445038			22					
AI5-108	AI5-108(0-2)	5/11/2011	C1E120445039			22					
AI5-108	AI5-108(6-24)	5/11/2011	C1E120445040			22					
AI5-108	AI5-108(2-6)	5/11/2011	C1E120445041			22					
AI5-110	AI5-110(0-2)	5/11/2011	C1E120445042			22					
AI5-110	AI5-110(6-24)	5/11/2011	C1E120445043			22					
AI5-110	AI5-110(2-6)	5/11/2011	C1E120445044			22					
QC	ER-AI5	5/11/2011	C1E120445045			22					
AI2-108	AI2-108(0-2)	5/12/2011	C1E130427001		18	22					
AI2-108	AI2-108(6-24)	5/12/2011	C1E130427002		18	22					
AI2-108	DUP-AI2-1(0-2)	5/12/2011	C1E130427003		18	22					
AI2-108	DUP-AI2-2(6-24)	5/12/2011	C1E130427004		18	22					
AI2-110	AI2-110(0-2)	5/12/2011	C1E130427005		18	22					
AI2-110	AI2-110(6-24)	5/12/2011	C1E130427006		18	22					
QC	ER-AI2	5/12/2011	C1E130427007		18	22					
QC	ER-AI4	5/12/2011	C1E130427008		18						
AI4-102	AI4-102(0-2)	5/12/2011	C1E130427009		18						
AI4-102	AI4-102(6-24)	5/12/2011	C1E130427010		18						
AI4-103	AI4-103(0-2)	5/12/2011	C1E130427011		18						
AI4-103	AI4-103(6-24)	5/12/2011	C1E130427012		18						
AI4-104	AI4-104(0-2)	5/12/2011	C1E130427013		18						
AI4-104	AI4-104(6-24)	5/12/2011	C1E130427014		18						
AI4-107	AI4-107(0-2)	5/12/2011	C1E130427015		18						
AI4-107	AI4-107(6-24)	5/12/2011	C1E130427016		18						
AI4-108	AI4-108(0-2)	5/12/2011	C1E130427017		18						
AI4-108	AI4-108(6-24)	5/12/2011	C1E130427018		18						
AI4-109	AI4-109(0-2)	5/12/2011	C1E130427019		18						
AI4-109	AI4-109(6-24)	5/12/2011	C1E130427020		18						
AI4-110	AI4-110(0-2)	5/12/2011	C1E130427021		18						
AI4-110	AI4-110(6-24)	5/12/2011	C1E130427022		18						
AI4-111	AI4-111(0-2)	5/12/2011	C1E130427023		18						
AI4-111	AI4-111(6-24)	5/12/2011	C1E130427024		18						
AI4-113	AI4-113(0-2)	5/12/2011	C1E130427025		18						
AI4-113	AI4-113(6-24)	5/12/2011	C1E130427026		18						
AI4-114	AI4-114(0-2)	5/12/2011	C1E130427027		18						
AI4-114	AI4-114(6-24)	5/12/2011	C1E130427028		18						
AI2-101	AI2-101(0-2)"	5/13/2011	C1E140504001		18	22		1			

Table 1
Sample Summary
Data Validation Report - May 2011 Groundwater and Soil
Supplemental Remedial Investigation
Ft. Totten Coast Guard Station
Queens, New York

Location	Sample ID	Date Sampled	TestAmerica Lab Sample ID	8260B VOCs	8270D SVOCs	6010C Metals	7470A Mercury	7471B Mercury	Frontier Global Services Lab Sample ID	1630 Methylmercury	1631E Elemental Mercury
AI2-101	AI2-101(6-24)"	5/13/2011	C1E140504002		18	22		1			
AI2-102	AI2-102(0-2)"	5/13/2011	C1E140504003		18	22		1			
AI2-102	AI2-102(6-24)"	5/13/2011	C1E140504004		18	22		1			
AI2-103	AI2-103(0-2)"	5/13/2011	C1E140504005		18	22		1			
AI2-103	AI2-103(6-24)"	5/13/2011	C1E140504006		18	22		1			
AI2-104	AI2-104(0-2)"	5/13/2011	C1E140504007		18	22		1			
AI2-104	AI2-104(6-24)"	5/13/2011	C1E140504008		18	22		1			
AI2-105	AI2-105(0-2)"	5/13/2011	C1E140504009		18	22		1			
AI2-105	AI2-105(6-24)"	5/13/2011	C1E140504010		18	22		1			
AI2-106	AI2-106(0-2)"	5/13/2011	C1E140504011		18	22		1			
AI2-106	AI2-106(6-24)"	5/13/2011	C1E140504012		18	22		1			
Groundwater											
MW-1	MW-1	5/9/2011	C1E100518001	38	18	22	1				
MW-2	MW-2	5/9/2011	C1E100518002	38	18	22	1				
MW-3	MW-3	5/9/2011	C1E100518003	38	18	22	1				
MW-4	MW-4	5/9/2011	C1E100518004	38	18	22	1				
MW-5	MW-5	5/9/2011	C1E100518005	38	18	22	1				
MW-1	DUP-1	5/9/2011	C1E100518006	38	18	22	1				
QC	TRIPBLANK-1	5/9/2011	C1E100518007	38	18						

Notes:
Number listed under method indicates number of target analytes reported.

Prepared by / Date: KJC 09/28/11
Checked by / Date: MJW 10/06/11

DATA VALIDATION REPORT
2011 SOIL AND GROUNDWATER
FORT TOTTEN COAST GUARD STATION
QUEENS, NEW YORK

TABLE 2

SUMMARY OF ADR DATA QUALITY OBJECTIVES

Project Accuracy and Precision Report

eQapp Name: Watermark Fort Totten CGS - SEDD
Description: Watermark Fort Totten SEDD for TA Pittsburgh

Analyte Name	Analyte Label (CAS)	Lower Rejection (%)	Lower Recovery (%)	Upper Recovery (%)	Upper Rejection (%)	RPD (%)
Method: 1630 **Matrix: Soil**						
QC Type: Laboratory_Control_Sample						
METHYL MERCURY	22967-92-6		77.00	123.00		31.00
QC Type: Matrix_Spike						
METHYL MERCURY	22967-92-6		65.00	135.00		35.00
Method: 1631E **Matrix: Soil**						
QC Type: Laboratory_Control_Sample						
ELEMENTAL MERCURY	7439-97-6E		77.00	123.00		21.00
MERCURY	7439-97-6		77.00	123.00		21.00
QC Type: Matrix_Spike						
ELEMENTAL MERCURY	7439-97-6E		71.00	125.00		24.00
MERCURY	7439-97-6		71.00	125.00		24.00
Method: 6010C **Matrix: Soil**						
QC Type: Laboratory_Control_Sample						
ALUMINUM	7429-90-5		80.00	120.00		20.00
ANTIMONY	7440-36-0		80.00	120.00		20.00
ARSENIC	7440-38-2		80.00	120.00		20.00
BARIUM	7440-39-3		80.00	120.00		20.00
BERYLLIUM	7440-41-7		80.00	120.00		20.00
CADMIUM	7440-43-9		80.00	120.00		20.00
CALCIUM	7440-70-2		80.00	120.00		20.00
CHROMIUM	7440-47-3		80.00	120.00		20.00
COBALT	7440-48-4		80.00	120.00		20.00

Analyte Name	Analyte Label (CAS)	Lower Rejection (%)	Lower Recovery (%)	Upper Recovery (%)	Upper Rejection (%)	RPD (%)
Method: 6010C	**Matrix: Soil**					
QC Type: Laboratory_Control_Sample						
COPPER	7440-50-8		80.00	120.00		20.00
IRON	7439-89-6		80.00	120.00		20.00
LEAD	7439-92-1		80.00	120.00		20.00
MAGNESIUM	7439-95-4		80.00	120.00		20.00
MANGANESE	7439-96-5		80.00	120.00		20.00
NICKEL	7440-02-0		80.00	120.00		20.00
POTASSIUM	7440-09-7		80.00	120.00		20.00
SELENIUM	7782-49-2		80.00	120.00		20.00
SILVER	7440-22-4		80.00	120.00		20.00
SODIUM	7440-23-5		80.00	120.00		20.00
THALLIUM	7440-28-0		80.00	120.00		20.00
VANADIUM	7440-62-2		80.00	120.00		20.00
ZINC	7440-66-6		80.00	120.00		20.00
QC Type: Matrix_Spike						
ALUMINUM	7429-90-5		75.00	125.00		20.00
ANTIMONY	7440-36-0		75.00	125.00		20.00
ARSENIC	7440-38-2		75.00	125.00		20.00
BARIUM	7440-39-3		75.00	125.00		20.00
BERYLLIUM	7440-41-7		75.00	125.00		20.00
CADMIUM	7440-43-9		75.00	125.00		20.00
CALCIUM	7440-70-2		75.00	125.00		20.00
CHROMIUM	7440-47-3		75.00	125.00		20.00
COBALT	7440-48-4		75.00	125.00		20.00
COPPER	7440-50-8		75.00	125.00		20.00
IRON	7439-89-6		75.00	125.00		20.00
LEAD	7439-92-1		75.00	125.00		20.00
MAGNESIUM	7439-95-4		75.00	125.00		20.00
MANGANESE	7439-96-5		75.00	125.00		20.00
NICKEL	7440-02-0		75.00	125.00		20.00
POTASSIUM	7440-09-7		75.00	125.00		20.00
SELENIUM	7782-49-2		75.00	125.00		20.00

Analyte Name	Analyte Label (CAS)	Lower Rejection (%)	Lower Recovery (%)	Upper Recovery (%)	Upper Rejection (%)	RPD (%)
Method: 6010C	**Matrix: Soil**					
QC Type: Matrix_Spike						
SILVER	7440-22-4		75.00	125.00		20.00
SODIUM	7440-23-5		75.00	125.00		20.00
THALLIUM	7440-28-0		75.00	125.00		20.00
VANADIUM	7440-62-2		75.00	125.00		20.00
ZINC	7440-66-6		75.00	125.00		20.00
Method: 6010C	**Matrix: Water**					
QC Type: Laboratory_Control_Sample						
ALUMINUM	7429-90-5		80.00	120.00		20.00
ANTIMONY	7440-36-0		80.00	120.00		20.00
ARSENIC	7440-38-2		80.00	120.00		20.00
BARIUM	7440-39-3		80.00	120.00		20.00
BERYLLIUM	7440-41-7		80.00	120.00		20.00
CADMIUM	7440-43-9		80.00	120.00		20.00
CALCIUM	7440-70-2		80.00	120.00		20.00
CHROMIUM	7440-47-3		80.00	120.00		20.00
COBALT	7440-48-4		80.00	120.00		20.00
COPPER	7440-50-8		80.00	120.00		20.00
IRON	7439-89-6		80.00	120.00		20.00
LEAD	7439-92-1		80.00	120.00		20.00
MAGNESIUM	7439-95-4		80.00	120.00		20.00
MANGANESE	7439-96-5		80.00	120.00		20.00
NICKEL	7440-02-0		80.00	120.00		20.00
POTASSIUM	7440-09-7		80.00	120.00		20.00
SELENIUM	7782-49-2		80.00	120.00		20.00
SILVER	7440-22-4		80.00	120.00		20.00
SODIUM	7440-23-5		80.00	120.00		20.00
THALLIUM	7440-28-0		80.00	120.00		20.00
VANADIUM	7440-62-2		80.00	120.00		20.00
ZINC	7440-66-6		80.00	120.00		20.00

Analyte Name	Analyte Label (CAS)	Lower Rejection (%)	Lower Recovery (%)	Upper Recovery (%)	Upper Rejection (%)	RPD (%)
Method: 6010C	**Matrix: Water**					
QC Type: Matrix_Spike						
ALUMINUM	7429-90-5		75.00	125.00		20.00
ANTIMONY	7440-36-0		75.00	125.00		20.00
ARSENIC	7440-38-2		75.00	125.00		20.00
BARIUM	7440-39-3		75.00	125.00		20.00
BERYLLIUM	7440-41-7		75.00	125.00		20.00
CADMIUM	7440-43-9		75.00	125.00		20.00
CALCIUM	7440-70-2		75.00	125.00		20.00
CHROMIUM	7440-47-3		75.00	125.00		20.00
COBALT	7440-48-4		75.00	125.00		20.00
COPPER	7440-50-8		75.00	125.00		20.00
IRON	7439-89-6		75.00	125.00		20.00
LEAD	7439-92-1		75.00	125.00		20.00
MAGNESIUM	7439-95-4		75.00	125.00		20.00
MANGANESE	7439-96-5		75.00	125.00		20.00
NICKEL	7440-02-0		75.00	125.00		20.00
POTASSIUM	7440-09-7		75.00	125.00		20.00
SELENIUM	7782-49-2		75.00	125.00		20.00
SILVER	7440-22-4		75.00	125.00		20.00
SODIUM	7440-23-5		75.00	125.00		20.00
THALLIUM	7440-28-0		75.00	125.00		20.00
VANADIUM	7440-62-2		75.00	125.00		20.00
ZINC	7440-66-6		75.00	125.00		20.00
Method: 7470A	**Matrix: Water**					
QC Type: Laboratory_Control_Sample						
MERCURY	7439-97-6		80.00	120.00		20.00
QC Type: Matrix_Spike						
MERCURY	7439-97-6		75.00	125.00		20.00

Analyte Name	Analyte Label (CAS)	Lower Rejection (%)	Lower Recovery (%)	Upper Recovery (%)	Upper Rejection (%)	RPD (%)
Method: 7471B	**Matrix: Soil**					
QC Type: Laboratory_Control_Sample						
MERCURY	7439-97-6		80.00	120.00		20.00
QC Type: Matrix_Spike						
MERCURY	7439-97-6		75.00	125.00		20.00
Method: 8260B	**Matrix: Water**					
QC Type: Laboratory_Control_Sample						
1,1,1-TRICHLOROETHANE	71-55-6		80.00	120.00		20.00
1,1,2,2-TETRACHLOROETHANE	79-34-5		80.00	120.00		20.00
1,1,2-TRICHLOROETHANE	79-00-5		80.00	120.00		20.00
1,1-DICHLOROETHANE	75-34-3		80.00	120.00		20.00
1,1-DICHLOROETHENE	75-35-4		80.00	120.00		20.00
1,2,4-TRICHLOROBENZENE	120-82-1		80.00	120.00		20.00
1,2-DICHLOROBENZENE	95-50-1		80.00	120.00		20.00
1,2-DICHLOROETHANE	107-06-2		80.00	120.00		20.00
1,2-DICHLOROETHENE (TOTAL)	540-59-0		80.00	120.00		20.00
1,2-DICHLOROPROPANE	78-87-5		80.00	120.00		20.00
1,3-DICHLOROBENZENE	541-73-1		80.00	120.00		20.00
1,4-DICHLOROBENZENE	106-46-7		80.00	120.00		20.00
2-BUTANONE	78-93-3		80.00	120.00		20.00
2-HEXANONE	591-78-6		80.00	120.00		20.00
4-METHYL-2-PENTANONE	108-10-1		80.00	120.00		20.00
ACETONE	67-64-1		80.00	120.00		20.00
BENZENE	71-43-2		80.00	120.00		20.00
BROMOBENZENE	108-86-1		80.00	120.00		20.00
BROMODICHLOROMETHANE	75-27-4		80.00	120.00		20.00
BROMOFORM	75-25-2		80.00	120.00		20.00
BROMOMETHANE	74-83-9		80.00	120.00		20.00
CARBON DISULFIDE	75-15-0		80.00	120.00		20.00
CARBON TETRACHLORIDE	56-23-5		80.00	120.00		20.00
CHLOROBENZENE	108-90-7		80.00	120.00		20.00
CHLOROETHANE	75-00-3		80.00	120.00		20.00

Analyte Name	Analyte Label (CAS)	Lower Rejection (%)	Lower Recovery (%)	Upper Recovery (%)	Upper Rejection (%)	RPD (%)
Method: 8260B	**Matrix: Water**					
QC Type: Laboratory_Control_Sample						
CHLOROFORM	67-66-3		80.00	120.00		20.00
CHLOROMETHANE	74-87-3		80.00	120.00		20.00
CIS-1,3-DICHLOROPROPENE	10061-01-5		80.00	120.00		20.00
DIBROMOCHLOROMETHANE	124-48-1		80.00	120.00		20.00
ETHYLBENZENE	100-41-4		80.00	120.00		20.00
METHYLENE CHLORIDE	75-09-2		80.00	120.00		20.00
STYRENE	100-42-5		80.00	120.00		20.00
TETRACHLOROETHENE	127-18-4		80.00	120.00		20.00
TOLUENE	108-88-3		80.00	120.00		20.00
TOTAL XYLENES	1330-20-7		80.00	120.00		20.00
TRANS-1,3-DICHLOROPROPENE	10061-02-6		80.00	120.00		20.00
TRICHLOROETHENE	79-01-6		80.00	120.00		20.00
VINYL CHLORIDE	75-01-4		80.00	120.00		20.00
QC Type: Matrix_Spike						
1,1,1-TRICHLOROETHANE	71-55-6		75.00	125.00		20.00
1,1,2,2-TETRACHLOROETHANE	79-34-5		75.00	125.00		20.00
1,1,2-TRICHLOROETHANE	79-00-5		75.00	125.00		20.00
1,1-DICHLOROETHANE	75-34-3		75.00	125.00		20.00
1,1-DICHLOROETHENE	75-35-4		75.00	125.00		20.00
1,2,4-TRICHLOROBENZENE	120-82-1		75.00	125.00		20.00
1,2-DICHLOROBENZENE	95-50-1		75.00	125.00		20.00
1,2-DICHLOROETHANE	107-06-2		75.00	125.00		20.00
1,2-DICHLOROETHENE (TOTAL)	540-59-0		75.00	125.00		20.00
1,2-DICHLOROPROPANE	78-87-5		75.00	125.00		20.00
1,3-DICHLOROBENZENE	541-73-1		75.00	125.00		20.00
1,4-DICHLOROBENZENE	106-46-7		75.00	125.00		20.00
2-BUTANONE	78-93-3		75.00	125.00		20.00
2-HEXANONE	591-78-6		75.00	125.00		20.00
4-METHYL-2-PENTANONE	108-10-1		75.00	125.00		20.00
ACETONE	67-64-1		75.00	125.00		20.00
BENZENE	71-43-2		75.00	125.00		20.00

Analyte Name	Analyte Label (CAS)	Lower Rejection (%)	Lower Recovery (%)	Upper Recovery (%)	Upper Rejection (%)	RPD (%)
Method: 8260B	**Matrix: Water**					
QC Type: Matrix_Spike						
BROMOBENZENE	108-86-1		75.00	125.00		20.00
BROMODICHLOROMETHANE	75-27-4		75.00	125.00		20.00
BROMOFORM	75-25-2		75.00	125.00		20.00
BROMOMETHANE	74-83-9		75.00	125.00		20.00
CARBON DISULFIDE	75-15-0		75.00	125.00		20.00
CARBON TETRACHLORIDE	56-23-5		75.00	125.00		20.00
CHLOROBENZENE	108-90-7		75.00	125.00		20.00
CHLOROETHANE	75-00-3		75.00	125.00		20.00
CHLOROFORM	67-66-3		75.00	125.00		20.00
CHLOROMETHANE	74-87-3		75.00	125.00		20.00
CIS-1,3-DICHLOROPROPENE	10061-01-5		75.00	125.00		20.00
DIBROMOCHLOROMETHANE	124-48-1		75.00	125.00		20.00
ETHYLBENZENE	100-41-4		75.00	125.00		20.00
METHYLENE CHLORIDE	75-09-2		75.00	125.00		20.00
STYRENE	100-42-5		75.00	125.00		20.00
TETRACHLOROETHENE	127-18-4		75.00	125.00		20.00
TOLUENE	108-88-3		75.00	125.00		20.00
TOTAL XYLENES	1330-20-7		75.00	125.00		20.00
TRANS-1,3-DICHLOROPROPENE	10061-02-6		75.00	125.00		20.00
TRICHLOROETHENE	79-01-6		75.00	125.00		20.00
VINYL CHLORIDE	75-01-4		75.00	125.00		20.00
QC Type: Surrogate						
1,2-DICHLOROETHANE-D4	17060-07-0		75.00	125.00		
4-Bromofluorobenzene	460-00-4		75.00	125.00		
DIBROMOFLUOROMETHANE	1868-53-7		75.00	125.00		
TOLUENE-D8	2037-26-5		75.00	125.00		
Method: 8270D	**Matrix: Soil**					
QC Type: Laboratory_Control_Sample						
1-METHYLNAPHTHALENE	90-12-0		60.00	140.00		20.00
2-METHYLNAPHTHALENE	91-57-6		60.00	140.00		20.00

Analyte Name	Analyte Label (CAS)	Lower Rejection (%)	Lower Recovery (%)	Upper Recovery (%)	Upper Rejection (%)	RPD (%)
Method: 8270D	**Matrix: Soil**					
QC Type: Laboratory_Control_Sample						
ACENAPHTHENE	83-32-9		60.00	140.00		20.00
ACENAPHTHYLENE	208-96-8		60.00	140.00		20.00
ANTHRACENE	120-12-7		60.00	140.00		20.00
BENZO[A]ANTHRACENE	56-55-3		60.00	140.00		20.00
Benzo[a]pyrene	50-32-8		60.00	140.00		20.00
Benzo[b]fluoranthene	205-99-2		60.00	140.00		20.00
Benzo[g,h,i]perylene	191-24-2		60.00	140.00		20.00
Benzo[k]fluoranthene	207-08-9		60.00	140.00		20.00
CHRYSENE	218-01-9		60.00	140.00		20.00
Dibenzo[a,h]anthracene	53-70-3		60.00	140.00		20.00
FLUORANTHENE	206-44-0		60.00	140.00		20.00
FLUORENE	86-73-7		60.00	140.00		20.00
Indeno[1,2,3-cd]pyrene	193-39-5		60.00	140.00		20.00
NAPHTHALENE	91-20-3		60.00	140.00		20.00
PHENANTHRENE	85-01-8		60.00	140.00		20.00
PYRENE	129-00-0		60.00	140.00		20.00
QC Type: Matrix_Spike						
1-METHYLNAPHTHALENE	90-12-0		60.00	140.00		30.00
2-METHYLNAPHTHALENE	91-57-6		60.00	140.00		30.00
ACENAPHTHENE	83-32-9		60.00	140.00		30.00
ACENAPHTHYLENE	208-96-8		60.00	140.00		30.00
ANTHRACENE	120-12-7		60.00	140.00		30.00
BENZO[A]ANTHRACENE	56-55-3		60.00	140.00		30.00
Benzo[a]pyrene	50-32-8		60.00	140.00		30.00
Benzo[b]fluoranthene	205-99-2		60.00	140.00		30.00
Benzo[g,h,i]perylene	191-24-2		60.00	140.00		30.00
Benzo[k]fluoranthene	207-08-9		60.00	140.00		30.00
CHRYSENE	218-01-9		60.00	140.00		30.00
Dibenzo[a,h]anthracene	53-70-3		60.00	140.00		30.00
FLUORANTHENE	206-44-0		60.00	140.00		30.00
FLUORENE	86-73-7		60.00	140.00		30.00

Analyte Name	Analyte Label (CAS)	Lower Rejection (%)	Lower Recovery (%)	Upper Recovery (%)	Upper Rejection (%)	RPD (%)
Method: 8270D	**Matrix: Soil**					
QC Type: Matrix_Spike						
Indeno[1,2,3-cd]pyrene	193-39-5		60.00	140.00		30.00
NAPHTHALENE	91-20-3		60.00	140.00		30.00
PHENANTHRENE	85-01-8		60.00	140.00		30.00
PYRENE	129-00-0		60.00	140.00		30.00
QC Type: Surrogate						
2,4,6-TRIBROMOPHENOL	118-79-6		30.00	150.00		
2-FLUOROBIPHENYL	321-60-8		30.00	150.00		
2-FLUOROPHENOL	367-12-4		30.00	150.00		
Nitrobenzene-d5	4165-60-0		30.00	150.00		
PHENOL-D5	4165-62-2		30.00	150.00		
Terphenyl-d14	1718-51-0		30.00	150.00		
Method: 8270D	**Matrix: Water**					
QC Type: Laboratory_Control_Sample						
1-METHYLNAPHTHALENE	90-12-0		60.00	140.00		20.00
2-METHYLNAPHTHALENE	91-57-6		60.00	140.00		20.00
ACENAPHTHENE	83-32-9		60.00	140.00		20.00
ACENAPHTHYLENE	208-96-8		60.00	140.00		20.00
ANTHRACENE	120-12-7		60.00	140.00		20.00
BENZO[A]ANTHRACENE	56-55-3		60.00	140.00		20.00
Benzo[a]pyrene	50-32-8		60.00	140.00		20.00
Benzo[b]fluoranthene	205-99-2		60.00	140.00		20.00
Benzo[g,h,i]perylene	191-24-2		60.00	140.00		20.00
Benzo[k]fluoranthene	207-08-9		60.00	140.00		20.00
CHRYSENE	218-01-9		60.00	140.00		20.00
Dibenzo[a,h]anthracene	53-70-3		60.00	140.00		20.00
FLUORANTHENE	206-44-0		60.00	140.00		20.00
FLUORENE	86-73-7		60.00	140.00		20.00
Indeno[1,2,3-cd]pyrene	193-39-5		60.00	140.00		20.00
NAPHTHALENE	91-20-3		60.00	140.00		20.00
PHENANTHRENE	85-01-8		60.00	140.00		20.00

Analyte Name	Analyte Label (CAS)	Lower Rejection (%)	Lower Recovery (%)	Upper Recovery (%)	Upper Rejection (%)	RPD (%)
Method: 8270D	**Matrix: Water**					
QC Type: Laboratory_Control_Sample						
PYRENE	129-00-0		60.00	140.00		20.00
QC Type: Matrix_Spike						
1-METHYLNAPHTHALENE	90-12-0		60.00	140.00		20.00
2-METHYLNAPHTHALENE	91-57-6		60.00	140.00		20.00
ACENAPHTHENE	83-32-9		60.00	140.00		20.00
ACENAPHTHYLENE	208-96-8		60.00	140.00		20.00
ANTHRACENE	120-12-7		60.00	140.00		20.00
BENZO[A]ANTHRACENE	56-55-3		60.00	140.00		20.00
Benzo[a]pyrene	50-32-8		60.00	140.00		20.00
Benzo[b]fluoranthene	205-99-2		60.00	140.00		20.00
Benzo[g,h,i]perylene	191-24-2		60.00	140.00		20.00
Benzo[k]fluoranthene	207-08-9		60.00	140.00		20.00
CHRYSENE	218-01-9		60.00	140.00		20.00
Dibenzo[a,h]anthracene	53-70-3		60.00	140.00		20.00
FLUORANTHENE	206-44-0		60.00	140.00		20.00
FLUORENE	86-73-7		60.00	140.00		20.00
Indeno[1,2,3-cd]pyrene	193-39-5		60.00	140.00		20.00
NAPHTHALENE	91-20-3		60.00	140.00		20.00
PHENANTHRENE	85-01-8		60.00	140.00		20.00
PYRENE	129-00-0		60.00	140.00		20.00
QC Type: Surrogate						
2,4,6-TRIBROMOPHENOL	118-79-6		30.00	150.00		
2-FLUOROBIPHENYL	321-60-8		30.00	150.00		
2-FLUOROPHENOL	367-12-4		30.00	150.00		
Nitrobenzene-d5	4165-60-0		30.00	150.00		
PHENOL-D5	4165-62-2		30.00	150.00		
Terphenyl-d14	1718-51-0		30.00	150.00		

Project Target Analyte Reporting Limit, Blank Contamination, and Lab & Field Duplicate RPD Criteria

eQapp Name: Watermark Fort Totten CGS - SEDD
Description: Watermark Fort Totten SEDD for TA Pittsburgh

Target Analyte Name	Analyte Label (CAS)	Quantitation Limit	Detection Limit	Units	Blank Contamination Rule	LabDup RPD	FieldDup RPD
Method: 1630 Matrix: Soil							
METHYL MERCURY	22967-92-6	0.05		ug/Kg		30.00	30.00
Method: 1631E Matrix: Soil							
ELEMENTAL MERCURY	7439-97-6E	1.0		ug/Kg		30.00	30.00
MERCURY	7439-97-6	1.0		ug/Kg		30.00	30.00
Method: 6010C Matrix: Soil							
ALUMINUM	7429-90-5	20		mg/Kg	5.00	20.00	30.00
ANTIMONY	7440-36-0	1		mg/Kg	5.00	20.00	30.00
ARSENIC	7440-38-2	1	0.223	mg/Kg	5.00	20.00	30.00
BARIUM	7440-39-3	20	0.233	mg/Kg	5.00	20.00	30.00
BERYLLIUM	7440-41-7	0.4	0.0734	mg/Kg	5.00	20.00	30.00
CADMIUM	7440-43-9	0.5	0.0249	mg/Kg	5.00	20.00	30.00
CALCIUM	7440-70-2	500		mg/Kg	5.00	20.00	30.00
CHROMIUM	7440-47-3	0.5	0.085	mg/Kg	5.00	20.00	30.00
COBALT	7440-48-4	5.0		mg/Kg	5.00	20.00	30.00
COPPER	7440-50-8	2.5	0.342	mg/Kg	5.00	20.00	30.00
IRON	7439-89-6	10		mg/Kg	5.00	20.00	30.00
LEAD	7439-92-1	1.0	0.157	mg/Kg	5.00	20.00	30.00
MAGNESIUM	7439-95-4	500		mg/Kg	5.00	20.00	30.00
MANGANESE	7439-96-5	1.5	0.048	mg/Kg	5.00	20.00	30.00
NICKEL	7440-02-0	4	0.384	mg/Kg	5.00	20.00	30.00
POTASSIUM	7440-09-7	500		mg/Kg	5.00	20.00	30.00
SELENIUM	7782-49-2	1.0	0.33	mg/Kg	5.00	20.00	30.00
SILVER	7440-22-4	0.5	0.0654	mg/Kg	5.00	20.00	30.00
SODIUM	7440-23-5	500		mg/Kg	5.00	20.00	30.00
THALLIUM	7440-28-0	2.0		mg/Kg	5.00	20.00	30.00
VANADIUM	7440-62-2	5.0		mg/Kg	5.00	20.00	30.00
ZINC	7440-66-6	2.0	0.591	mg/Kg	5.00	20.00	30.00

Target Analyte Name	Analyte Label (CAS)	Quantitation Limit	Detection Limit	Units	Blank Contamination Rule	LabDup RPD	FieldDup RPD
Method: 6010C **Matrix: Water**							
ALUMINUM	7429-90-5	200	18	ug/L	5.00	20.00	30.00
ANTIMONY	7440-36-0	10	3.14	ug/L	5.00	20.00	30.00
ARSENIC	7440-38-2	10	2.74	ug/L	5.00	20.00	30.00
BARIUM	7440-39-3	200	2.33	ug/L	5.00	20.00	30.00
BERYLLIUM	7440-41-7	4	0.703	ug/L	5.00	20.00	30.00
CADMIUM	7440-43-9	5	0.249	ug/L	5.00	20.00	30.00
CALCIUM	7440-70-2	5000	34.5	ug/L	5.00	20.00	30.00
CHROMIUM	7440-47-3	5	0.57	ug/L	5.00	20.00	30.00
COBALT	7440-48-4	50	1.23	ug/L	5.00	20.00	30.00
COPPER	7440-50-8	25	2.71	ug/L	5.00	20.00	30.00
IRON	7439-89-6	100	22	ug/L	5.00	20.00	30.00
LEAD	7439-92-1	10	1.57	ug/L	5.00	20.00	30.00
MAGNESIUM	7439-95-4	5000	10.7	ug/L	5.00	20.00	30.00
MANGANESE	7439-96-5	15	0.68	ug/L	5.00	20.00	30.00
NICKEL	7440-02-0	40	1.56	ug/L	5.00	20.00	30.00
POTASSIUM	7440-09-7	5000	237	ug/L	5.00	20.00	30.00
SELENIUM	7782-49-2	10	3.3	ug/L	5.00	20.00	30.00
SILVER	7440-22-4	5	0.68	ug/L	5.00	20.00	30.00
SODIUM	7440-23-5	5000	91.6	ug/L	5.00	20.00	30.00
THALLIUM	7440-28-0	20	4.91	ug/L	5.00	20.00	30.00
VANADIUM	7440-62-2	50	1.11	ug/L	5.00	20.00	30.00
ZINC	7440-66-6	20	5.91	ug/L	5.00	20.00	30.00
Method: 7470A **Matrix: Water**							
MERCURY	7439-97-6	0.2	0.0384	ug/L	5.00	20.00	30.00
Method: 7471B **Matrix: Soil**							
MERCURY	7439-97-6	0.033	0.0109	mg/Kg	5.00	30.00	30.00
Method: 8260B **Matrix: Water**							
1,1,1-TRICHLOROETHANE	71-55-6	1		ug/L	5.00	30.00	30.00
1,1,2,2-TETRACHLOROETHANE	79-34-5	1		ug/L	5.00	30.00	30.00
1,1,2-TRICHLOROETHANE	79-00-5	1		ug/L	5.00	30.00	30.00
1,1-DICHLOROETHANE	75-34-3	1		ug/L	5.00	30.00	30.00
1,1-DICHLOROETHENE	75-35-4	1		ug/L	5.00	30.00	30.00

Target Analyte Name	Analyte Label (CAS)	Quantitation Limit	Detection Limit	Units	Blank Contamination Rule	LabDup RPD	FieldDup RPD
Method: 8260B Matrix: Water							
1,2,4-TRICHLOROBENZENE	120-82-1	1		ug/L	5.00	30.00	30.00
1,2-DICHLOROBENZENE	95-50-1	1		ug/L	5.00	30.00	30.00
1,2-DICHLOROETHANE	107-06-2	1		ug/L	5.00	30.00	30.00
1,2-DICHLOROETHENE (TOTAL)	540-59-0	1		ug/L	5.00	30.00	30.00
1,2-DICHLOROPROPANE	78-87-5	1		ug/L	5.00	30.00	30.00
1,3-DICHLOROBENZENE	541-73-1	1		ug/L	5.00	30.00	30.00
1,4-DICHLOROBENZENE	106-46-7	1		ug/L	5.00	30.00	30.00
2-BUTANONE	78-93-3	10		ug/L	5.00	30.00	30.00
2-HEXANONE	591-78-6	1		ug/L	5.00	30.00	30.00
4-METHYL-2-PENTANONE	108-10-1	10		ug/L	5.00	30.00	30.00
ACETONE	67-64-1	10		ug/L	5.00	30.00	30.00
BENZENE	71-43-2	1		ug/L	5.00	30.00	30.00
BROMOBENZENE	108-86-1	1		ug/L	5.00	30.00	30.00
BROMODICHLOROMETHANE	75-27-4	1		ug/L	5.00	30.00	30.00
BROMOFORM	75-25-2	1		ug/L	5.00	30.00	30.00
BROMOMETHANE	74-83-9	1		ug/L	5.00	30.00	30.00
CARBON DISULFIDE	75-15-0	1		ug/L	5.00	30.00	30.00
CARBON TETRACHLORIDE	56-23-5	1		ug/L	5.00	30.00	30.00
CHLOROBENZENE	108-90-7	1		ug/L	5.00	30.00	30.00
CHLOROETHANE	75-00-3	1		ug/L	5.00	30.00	30.00
CHLOROFORM	67-66-3	1		ug/L	5.00	30.00	30.00
CHLOROMETHANE	74-87-3	1		ug/L	5.00	30.00	30.00
CIS-1,3-DICHLOROPROPENE	10061-01-5	1		ug/L	5.00	30.00	30.00
DIBROMOCHLOROMETHANE	124-48-1	1		ug/L	5.00	30.00	30.00
ETHYLBENZENE	100-41-4	1		ug/L	5.00	30.00	30.00
METHYLENE CHLORIDE	75-09-2	1		ug/L	5.00	30.00	30.00
STYRENE	100-42-5	1		ug/L	5.00	30.00	30.00
TETRACHLOROETHENE	127-18-4	1		ug/L	5.00	30.00	30.00
TOLUENE	108-88-3	1		ug/L	5.00	30.00	30.00
TOTAL XYLENES	1330-20-7	1		ug/L	5.00	30.00	30.00
TRANS-1,3-DICHLOROPROPENE	10061-02-6	1		ug/L	5.00	30.00	30.00
TRICHLOROETHENE	79-01-6	1		ug/L	5.00	30.00	30.00
VINYL CHLORIDE	75-01-4	1		ug/L	5.00	30.00	30.00

Target Analyte Name	Analyte Label (CAS)	Quantitation Limit	Detection Limit	Units	Blank Contamination Rule	LabDup RPD	FieldDup RPD
Method: 8270D Matrix: Soil							
1-METHYLNAPHTHALENE	90-12-0	6.7	0.7119	ug/Kg	5.00	20.00	30.00
2-METHYLNAPHTHALENE	91-57-6	6.7	0.5999	ug/Kg	5.00	20.00	30.00
ACENAPHTHENE	83-32-9	6.7	0.6408	ug/Kg	5.00	20.00	30.00
ACENAPHTHYLENE	208-96-8	6.7	0.7641	ug/Kg	5.00	20.00	30.00
ANTHRACENE	120-12-7	6.7	0.6527	ug/Kg	5.00	20.00	30.00
BENZO[A]ANTHRACENE	56-55-3	6.7	0.836	ug/Kg	5.00	20.00	30.00
Benzo[a]pyrene	50-32-8	6.7	0.6675	ug/Kg	5.00	20.00	30.00
Benzo[b]fluoranthene	205-99-2	6.7	1.0488	ug/Kg	5.00	20.00	30.00
Benzo[g,h,i]perylene	191-24-2	6.7	1.3486	ug/Kg	5.00	20.00	30.00
Benzo[k]fluoranthene	207-08-9	6.7	0.6637	ug/Kg	5.00	20.00	30.00
CHRYSENE	218-01-9	6.7	0.7943	ug/Kg	5.00	20.00	30.00
Dibenzo[a,h]anthracene	53-70-3	6.7	0.7421	ug/Kg	5.00	20.00	30.00
FLUORANTHENE	206-44-0	6.7	0.7134	ug/Kg	5.00	20.00	30.00
FLUORENE	86-73-7	6.7	0.8793	ug/Kg	5.00	20.00	30.00
Indeno[1,2,3-cd]pyrene	193-39-5	6.7	0.6874	ug/Kg	5.00	20.00	30.00
NAPHTHALENE	91-20-3	6.7	0.575	ug/Kg	5.00	20.00	30.00
PHENANTHRENE	85-01-8	6.7	1.0612	ug/Kg	5.00	20.00	30.00
PYRENE	129-00-0	6.7	0.6746	ug/Kg	5.00	20.00	30.00
Method: 8270D Matrix: Water							
1-METHYLNAPHTHALENE	90-12-0	0.2	0.0138	ug/L	5.00	20.00	30.00
2-METHYLNAPHTHALENE	91-57-6	0.2	0.0122	ug/L	5.00	20.00	30.00
ACENAPHTHENE	83-32-9	0.2	0.0144	ug/L	5.00	20.00	30.00
ACENAPHTHYLENE	208-96-8	0.2	0.0144	ug/L	5.00	20.00	30.00
ANTHRACENE	120-12-7	0.2	0.0152	ug/L	5.00	20.00	30.00
BENZO[A]ANTHRACENE	56-55-3	0.2	0.0147	ug/L	5.00	20.00	30.00
Benzo[a]pyrene	50-32-8	0.2	0.0134	ug/L	5.00	20.00	30.00
Benzo[b]fluoranthene	205-99-2	0.2	0.0157	ug/L	5.00	20.00	30.00
Benzo[g,h,i]perylene	191-24-2	0.2	0.0547	ug/L	5.00	20.00	30.00
Benzo[k]fluoranthene	207-08-9	0.2	0.0151	ug/L	5.00	20.00	30.00
CHRYSENE	218-01-9	0.2	0.014	ug/L	5.00	20.00	30.00
Dibenzo[a,h]anthracene	53-70-3	0.2	0.0155	ug/L	5.00	20.00	30.00
FLUORANTHENE	206-44-0	0.2	0.0162	ug/L	5.00	20.00	30.00

Target Analyte Name	Analyte Label (CAS)	Quantitation Limit	Detection Limit	Units	Blank Contamination Rule	LabDup RPD	FieldDup RPD
Method: 8270D Matrix: Water							
FLUORENE	86-73-7	0.2	0.0216	ug/L	5.00	20.00	30.00
Indeno[1,2,3-cd]pyrene	193-39-5	0.2	0.0199	ug/L	5.00	20.00	30.00
NAPHTHALENE	91-20-3	0.2	0.014	ug/L	5.00	20.00	30.00
PHENANTHRENE	85-01-8	0.2	0.0427	ug/L	5.00	20.00	30.00
PYRENE	129-00-0	0.2	0.0157	ug/L	5.00	20.00	30.00
Method: SM 2540B Matrix: Soil							
TOTAL SOLIDS	TSO	1.0		%			30.00

Project Holding Time Report

eQapp Name: Watermark Fort Totten CGS - SEDD
Description: Watermark Fort Totten SEDD for TA Pittsburgh

Analyte Group	Sampling to Analysis (preserved)	Sampling to Analysis (unpreserved)	Sampling to Extraction (preserved)	Sampling to Extraction (unpreserved)	Sampling to Leaching	Leaching to Extraction	Leaching to Analysis	Extraction to Analysis	Units	Rejection Factor
Method: 1630				**Matrix: Soil**						
Target Analytes	180.00								Days	2.00
Method: 1631E				**Matrix: Soil**						
Target Analytes	30.00								Days	2.00
Method: 6010C				**Matrix: Soil**						
Primary	180.00								Days	2.00
Method: 6010C				**Matrix: Water**						
Primary	180.00								Days	2.00
Method: 7470A				**Matrix: Water**						
Primary	28.00								Days	2.00
Method: 7471B				**Matrix: Soil**						
Primary	28.00								Days	2.00
Method: 8260B				**Matrix: Water**						
Target Analytes	14.00	7.00							Days	2.00

Analyte Group	Sampling to Analysis (preserved)	Sampling to Analysis (unpreserved)	Sampling to Extraction (preserved)	Sampling to Extraction (unpreserved)	Sampling to Leaching	Leaching to Extraction	Leaching to Analysis	Extraction to Analysis	Units	Rejection Factor
Method: 8270D			**Matrix: Soil**							
Target Analytes				14.00				40.00	Days	2.00
Method: 8270D			**Matrix: Water**							
Target Analytes				7.00				40.00	Days	2.00
Method: SM 2540B			**Matrix: Soil**							
Target Analytes									Days	2.00

Project Criteria for Instrument Calibration

eQapp Name: Watermark Fort Totten CGS - SEDD
Description: Watermark Fort Totten SEDD for TA Pittsburgh

		Initial Calibration			Initial Calibration Verification					Continuing Calibration				
Target Analyte Name	Analyte Label (CAS)	Relative Response Factor	RSD (%)	Correlation Coefficient	Relative Response Factor	Lower Rejection Limit	Lower Limit	Upper Limit	Upper Rejection Limit	Relative Response Factor	Lower Rejection Limit	Lower Limit	Upper Limit	Upper Rejection Limit
Method: 1630														
METHYL MERCURY	22967-92-6						69.00	131.00				67.00	133.00	
Method: 1631E														
ELEMENTAL MERCURY	7439-97-6E													
MERCURY	7439-97-6						79.00	121.00				77.00	123.00	
Method: 6010C														
ALUMINUM	7429-90-5													
ANTIMONY	7440-36-0													
ARSENIC	7440-38-2													
BARIUM	7440-39-3													
BERYLLIUM	7440-41-7													
CADMIUM	7440-43-9													
CALCIUM	7440-70-2													
CHROMIUM	7440-47-3													
COBALT	7440-48-4													
COPPER	7440-50-8													
IRON	7439-89-6													
LEAD	7439-92-1													
MAGNESIUM	7439-95-4													
MANGANESE	7439-96-5													
NICKEL	7440-02-0													
POTASSIUM	7440-09-7													
SELENIUM	7782-49-2													
SILVER	7440-22-4													
SODIUM	7440-23-5													

Target Analyte Name	Analyte Label (CAS)	Initial Calibration			Initial Calibration Verification					Continuing Calibration				
		Relative Response Factor	RSD (%)	Correlation Coefficient	Relative Response Factor	Lower Rejection Limit	Lower Limit	Upper Limit	Upper Rejection Limit	Relative Response Factor	Lower Rejection Limit	Lower Limit	Upper Limit	Upper Rejection Limit
Method: 6010C														
THALLIUM	7440-28-0													
VANADIUM	7440-62-2													
ZINC	7440-66-6													
Method: 7470A														
MERCURY	7439-97-6						90.00	110.00				90.00	121.00	
Method: 7471B														
MERCURY	7439-97-6													
Method: 8260B														
1,1,1-TRICHLOROETHANE	71-55-6						75.00	125.00						
1,1,2,2-TETRACHLOROETHANE	79-34-5						75.00							
1,1,2-TRICHLOROETHANE	79-00-5						75.00							
1,1-DICHLOROETHANE	75-34-3						75.00							
1,1-DICHLOROETHENE	75-35-4						75.00							
1,2,4-TRICHLOROBENZENE	120-82-1						75.00	125.00						
1,2-DICHLOROBENZENE	95-50-1						75.00							
1,2-DICHLOROETHANE	107-06-2						75.00	125.00						
1,2-DICHLOROETHENE (TOTAL)	540-59-0						75.00	125.00						
1,2-DICHLOROPROPANE	78-87-5						75.00							
1,3-DICHLOROBENZENE	541-73-1						75.00	125.00						
1,4-DICHLOROBENZENE	106-46-7						75.00	125.00						
2-BUTANONE	78-93-3						75.00							
2-HEXANONE	591-78-6						75.00	125.00						
4-METHYL-2-PENTANONE	108-10-1						75.00	125.00						
ACETONE	67-64-1						75.00	125.00						
BENZENE	71-43-2						75.00	125.00						
BROMOBENZENE	108-86-1						75.00	125.00						
BROMODICHLOROMETHANE	75-27-4						75.00							
BROMOFORM	75-25-2						75.00							
BROMOMETHANE	74-83-9						75.00	125.00						
CARBON DISULFIDE	75-15-0						75.00	125.00						
CARBON TETRACHLORIDE	56-23-5						75.00	125.00						

		Initial Calibration			Initial Calibration Verification					Continuing Calibration				
Target Analyte Name	Analyte Label (CAS)	Relative Response Factor	RSD (%)	Correlation Coefficient	Relative Response Factor	Lower Rejection Limit	Lower Limit	Upper Limit	Upper Rejection Limit	Relative Response Factor	Lower Rejection Limit	Lower Limit	Upper Limit	Upper Rejection Limit
Method: 8260B														
CHLOROBENZENE	108-90-7						75.00	125.00						
CHLOROETHANE	75-00-3						75.00	125.00						
CHLOROFORM	67-66-3						75.00	125.00						
CHLOROMETHANE	74-87-3						75.00	125.00						
CIS-1,3-DICHLOROPROPENE	10061-01-5						75.00	125.00						
DIBROMOCHLOROMETHANE	124-48-1						75.00	125.00						
ETHYLBENZENE	100-41-4						75.00	125.00						
METHYLENE CHLORIDE	75-09-2						75.00	125.00						
STYRENE	100-42-5						75.00	125.00						
TETRACHLOROETHENE	127-18-4						75.00	125.00						
TOLUENE	108-88-3						75.00	125.00						
TOTAL XYLENES	1330-20-7						75.00	125.00						
TRANS-1,3-DICHLOROPROPENE	10061-02-6						75.00	125.00						
TRICHLOROETHENE	79-01-6						75.00							
VINYL CHLORIDE	75-01-4						75.00	125.00						
Method: 8270D														
1-METHYLNAPHTHALENE	90-12-0													
2-METHYLNAPHTHALENE	91-57-6													
ACENAPHTHENE	83-32-9													
ACENAPHTHYLENE	208-96-8													
ANTHRACENE	120-12-7													
BENZO[A]ANTHRACENE	56-55-3													
Benzo[a]pyrene	50-32-8													
Benzo[b]fluoranthene	205-99-2													
Benzo[g,h,i]perylene	191-24-2													
Benzo[k]fluoranthene	207-08-9													
CHRYSENE	218-01-9													
Dibenzo[a,h]anthracene	53-70-3													
FLUORANTHENE	206-44-0													
FLUORENE	86-73-7													
Indeno[1,2,3-cd]pyrene	193-39-5													
NAPHTHALENE	91-20-3													

Target Analyte Name	Analyte Label (CAS)	Initial Calibration			Initial Calibration Verification					Continuing Calibration				
		Relative Response Factor	RSD (%)	Correlation Coefficient	Relative Response Factor	Lower Rejection Limit	Lower Limit	Upper Limit	Upper Rejection Limit	Relative Response Factor	Lower Rejection Limit	Lower Limit	Upper Limit	Upper Rejection Limit
Method: 8270D														
PHENANTHRENE	85-01-8													
PYRENE	129-00-0													
Method: SM 2540B														
TOTAL SOLIDS	TSO													

Table 3a
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Ft. Totten Coast Guard Station
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Sample Delivery Group	Lab Sample ID	Analysis Method	Field Sample ID	Parameter Name	Lab Result	Lab Qual	Validated Result	Val Qual	Validation Reason Code	Result Units
C1E10518_ADR_Rev2_rev	C1E100518001	6010C	MW-1	Aluminum	72.9	J	72.9	J	RL	ug/L
C1E10518_ADR_Rev2_rev	C1E100518002	6010C	MW-2	Aluminum	64.1	J	64.1	J	RL	ug/L
C1E10518_ADR_Rev2_rev	C1E100518003	6010C	MW-3	Aluminum	66.1	J	66.1	J	RL	ug/L
C1E10518_ADR_Rev2_rev	C1E100518004	6010C	MW-4	Aluminum	111	J	111	J	RL	ug/L
C1E10518_ADR_Rev2_rev	C1E100518005	6010C	MW-5	Aluminum	65.6	J	65.6	J	RL	ug/L
C1E10518_ADR_Rev2_rev	C1E100518006	6010C	DUP-1	Aluminum	85.3	J	85.3	J	RL	ug/L
C1E10518_ADR_Rev2_rev	C1E100518006	6010C	DUP-1	Antimony	1.3	J	1.3	J	RL	ug/L
C1E10518_ADR_Rev2_rev	C1E100518001	6010C	MW-1	Barium	48.8	J	48.8	J	RL	ug/L
C1E10518_ADR_Rev2_rev	C1E100518002	6010C	MW-2	Barium	6.6	J	6.6	J	RL	ug/L
C1E10518_ADR_Rev2_rev	C1E100518003	6010C	MW-3	Barium	55.5	J	55.5	J	RL	ug/L
C1E10518_ADR_Rev2_rev	C1E100518004	6010C	MW-4	Barium	50.9	J	50.9	J	RL	ug/L
C1E10518_ADR_Rev2_rev	C1E100518005	6010C	MW-5	Barium	47.1	J	47.1	J	RL	ug/L
C1E10518_ADR_Rev2_rev	C1E100518006	6010C	DUP-1	Barium	49.5	J	49.5	J	RL	ug/L
C1E10518_ADR_Rev2_rev	C1E100518002	6010C	MW-2	Chromium	1.3	J	1.3	J	RL	ug/L
C1E10518_ADR_Rev2_rev	C1E100518004	6010C	MW-4	Chromium	4.3	J	4.3	J	RL	ug/L
C1E10518_ADR_Rev2_rev	C1E100518005	6010C	MW-5	Chromium	1	J	1	J	RL	ug/L
C1E10518_ADR_Rev2_rev	C1E100518006	6010C	DUP-1	Chromium	4	J	4	J	RL	ug/L
C1E10518_ADR_Rev2_rev	C1E100518004	6010C	MW-4	Cobalt	0.8	J	0.8	J	RL	ug/L
C1E10518_ADR_Rev2_rev	C1E100518006	6010C	DUP-1	Cobalt	0.85	J	0.85	J	RL	ug/L
C1E10518_ADR_Rev2_rev	C1E100518004	6010C	MW-4	Copper	13.3	J	13.3	J	RL	ug/L
C1E10518_ADR_Rev2_rev	C1E100518006	6010C	DUP-1	Copper	12.3	J	12.3	J	RL	ug/L
C1E10518_ADR_Rev2_rev	C1E100518004	6010C	MW-4	Iron	108		108	J	FD	ug/L
C1E10518_ADR_Rev2_rev	C1E100518006	6010C	DUP-1	Iron	44.7	J	44.7	J	FD, RL	ug/L
C1E10518_ADR_Rev2_rev	C1E100518004	6010C	MW-4	Lead	1.8	J	1.8	J	RL	ug/L
C1E10518_ADR_Rev2_rev	C1E100518002	6010C	MW-2	Magnesium	4080	J	4080	J	RL	ug/L
C1E10518_ADR_Rev2_rev	C1E100518001	6010C	MW-1	Manganese	3.8	J	3.8	J	RL	ug/L
C1E10518_ADR_Rev2_rev	C1E100518004	6010C	MW-4	Manganese	8.3	J	8.3	J	RL	ug/L
C1E10518_ADR_Rev2_rev	C1E100518006	6010C	DUP-1	Manganese	7.8	J	7.8	J	RL	ug/L
C1E10518_ADR_Rev2_rev	C1E100518001	6010C	MW-1	Nickel	4.1	J	4.1	J	RL	ug/L
C1E10518_ADR_Rev2_rev	C1E100518004	6010C	MW-4	Nickel	13.3	J	13.3	J	RL	ug/L
C1E10518_ADR_Rev2_rev	C1E100518005	6010C	MW-5	Nickel	7.6	J	7.6	J	RL	ug/L
C1E10518_ADR_Rev2_rev	C1E100518006	6010C	DUP-1	Nickel	14.4	J	14.4	J	RL	ug/L
C1E10518_ADR_Rev2_rev	C1E100518001	6010C	MW-1	Potassium	2000	J	2000	J	RL	ug/L
C1E10518_ADR_Rev2_rev	C1E100518002	6010C	MW-2	Potassium	948	J	948	J	RL	ug/L
C1E10518_ADR_Rev2_rev	C1E100518003	6010C	MW-3	Potassium	1660	J	1660	J	RL	ug/L
C1E10518_ADR_Rev2_rev	C1E100518004	6010C	MW-4	Potassium	3420	J	3420	J	RL	ug/L
C1E10518_ADR_Rev2_rev	C1E100518005	6010C	MW-5	Potassium	1360	J	1360	J	RL	ug/L
C1E10518_ADR_Rev2_rev	C1E100518006	6010C	DUP-1	Potassium	3430	J	3430	J	RL	ug/L
C1E10518_ADR_Rev2_rev	C1E100518006	6010C	DUP-1	Vanadium	2.4	J	2.4	J	RL	ug/L
C1E12405_ADR_Rev2_rev	C1E120405001	6010C	AI3-101(0-2)	Antimony	0.53	J	0.53	J	MS-L, RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405002	6010C	AI3-101(6-24)	Antimony	0.47	U	0.47	UJ	MS-L	mg/kg

Table 3a
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Sample Delivery Group	Lab Sample ID	Analysis Method	Field Sample ID	Parameter Name	Lab Result	Lab Qual	Validated Result	Val Qual	Validation Reason Code	Result Units
C1E12405_ADR_Rev2_rev	C1E120405003	6010C	AI3-102(0-2)	Antimony	0.47	U	0.47	UJ	MS-L	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405004	6010C	AI3-102(6-24)	Antimony	0.43	U	0.43	UJ	MS-L	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405005	6010C	AI3-103(0-2)	Antimony	2.1	J	2.1	J	MS-L, RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405006	6010C	AI3-103(6-24)	Antimony	0.29	J	0.29	J	MS-L, RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405007	6010C	AI3-104(0-2)	Antimony	0.45	U	0.45	UJ	MS-L	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405008	6010C	AI3-104(6-24)	Antimony	0.2	J	0.2	J	MS-L, RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405009	6010C	AI3-105(0-2)	Antimony	0.45	J	0.45	J	MS-L, RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405010	6010C	AI3-105(6-24)	Antimony	0.21	J	0.21	J	MS-L, RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405011	6010C	AI3-108(0-2)	Antimony	0.41	J	0.41	J	MS-L, RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405012	6010C	AI3-108(6-24)	Antimony	0.44	U	0.44	UJ	MS-L	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405013	6010C	AI3-109(0-2)	Antimony	0.44	U	0.44	UJ	MS-L	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405014	6010C	AI3-109(6-24)	Antimony	0.45	U	0.45	UJ	MS-L	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405015	6010C	AI3-111(0-2)	Antimony	0.41	J	0.41	J	MS-L, RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405016	6010C	AI3-111(6-24)	Antimony	0.44	U	0.44	UJ	MS-L	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405017	6010C	AI3-112(0-2)	Antimony	0.22	J	0.22	J	MS-L, RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405018	6010C	AI3-112(6-12)	Antimony	0.5	U	0.5	UJ	MS-L	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405019	6010C	DUP-AI3-1	Antimony	0.45	J	0.45	J	MS-L, RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405020	6010C	DUP-AI3-2	Antimony	0.44	U	0.44	UJ	MS-L	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405021	6010C	AI5-101(0-6)	Antimony	0.24	J	0.24	J	MS-L, RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405022	6010C	AI5-101(6-24)	Antimony	0.42	U	0.42	UJ	MS-L	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405023	6010C	AI5-101(2-6)	Antimony	0.43	U	0.43	UJ	MS-L	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405024	6010C	AI5-102(0-2)	Antimony	0.42	U	0.42	UJ	MS-L	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405025	6010C	AI5-102(6-24)	Antimony	0.43	U	0.43	UJ	MS-L	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405026	6010C	AI5-102(2-6)	Antimony	0.42	U	0.42	UJ	MS-L	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405027	6010C	AI5-103(0-2)	Antimony	0.4	U	0.4	UJ	MS-L	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405028	6010C	AI5-103(6-24)	Antimony	0.44	U	0.44	UJ	MS-L	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405029	6010C	AI5-103(2-6)	Antimony	0.45	U	0.45	UJ	MS-L	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405030	6010C	AI5-104(0-2)	Antimony	0.4	U	0.4	UJ	MS-L	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405031	6010C	AI5-104(6-24)	Antimony	0.47	U	0.47	UJ	MS-L	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405032	6010C	AI5-104(2-6)	Antimony	0.44	U	0.44	UJ	MS-L	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405033	6010C	AI5-109(0-2)	Antimony	0.43	J	0.43	J	MS-L, RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405034	6010C	AI5-109(6-24)	Antimony	0.43	U	0.43	UJ	MS-L	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405035	6010C	AI5-109(2-6)	Antimony	0.41	U	0.41	UJ	MS-L	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405036	6010C	AI4-101(0-2)	Antimony	0.22	J	0.22	J	MS-L, RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405037	6010C	AI4-101(6-24)	Antimony	0.37	U	0.37	UJ	MS-L	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405011	6010C	AI3-108(0-2)	Arsenic	7.3		7.3	J	FD	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405012	6010C	AI3-108(6-24)	Arsenic	2.8		2.8	J	FD	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405019	6010C	DUP-AI3-1	Arsenic	6.2		6.2	J	FD	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405020	6010C	DUP-AI3-2	Arsenic	2.3		2.3	J	FD	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405025	6010C	AI5-102(6-24)	Barium	15.8	J	15.8	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405021	6010C	AI5-101(0-6)	Beryllium	0.32	J	0.32	U	BL1	mg/kg

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Sample Delivery Group	Lab Sample ID	Analysis Method	Field Sample ID	Parameter Name	Lab Result	Lab Qual	Validated Result	Val Qual	Validation Reason Code	Result Units
C1E12405_ADR_Rev2_rev	C1E120405022	6010C	AI5-101(6-24)	Beryllium	0.34	J	0.34	U	BL1	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405023	6010C	AI5-101(2-6)	Beryllium	0.33	J	0.33	U	BL1	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405024	6010C	AI5-102(0-2)	Beryllium	0.22	J	0.22	U	BL1	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405025	6010C	AI5-102(6-24)	Beryllium	0.29	J	0.29	U	BL1	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405026	6010C	AI5-102(2-6)	Beryllium	0.34	J	0.34	U	BL1	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405027	6010C	AI5-103(0-2)	Beryllium	0.19	J	0.19	U	BL1	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405028	6010C	AI5-103(6-24)	Beryllium	0.49		0.49	U	BL1	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405029	6010C	AI5-103(2-6)	Beryllium	0.35	J	0.35	U	BL1	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405030	6010C	AI5-104(0-2)	Beryllium	0.22	J	0.22	U	BL1	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405032	6010C	AI5-104(2-6)	Beryllium	0.33	J	0.33	U	BL1	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405033	6010C	AI5-109(0-2)	Beryllium	0.37	J	0.37	U	BL1	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405034	6010C	AI5-109(6-24)	Beryllium	0.4	J	0.4	U	BL1	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405035	6010C	AI5-109(2-6)	Beryllium	0.36	J	0.36	U	BL1	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405036	6010C	AI4-101(0-2)	Beryllium	0.4	J	0.4	U	BL1	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405037	6010C	AI4-101(6-24)	Beryllium	0.54		0.54	U	BL1	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405001	6010C	AI3-101(0-2)	Cadmium	0.12	J	0.12	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405002	6010C	AI3-101(6-24)	Cadmium	0.04	J	0.04	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405003	6010C	AI3-102(0-2)	Cadmium	0.14	J	0.14	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405004	6010C	AI3-102(6-24)	Cadmium	0.083	J	0.083	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405006	6010C	AI3-103(6-24)	Cadmium	0.5	J	0.5	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405007	6010C	AI3-104(0-2)	Cadmium	0.13	J	0.13	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405008	6010C	AI3-104(6-24)	Cadmium	0.099	J	0.099	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405009	6010C	AI3-105(0-2)	Cadmium	0.27	J	0.27	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405010	6010C	AI3-105(6-24)	Cadmium	0.21	J	0.21	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405011	6010C	AI3-108(0-2)	Cadmium	0.12	J	0.12	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405012	6010C	AI3-108(6-24)	Cadmium	0.034	J	0.034	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405013	6010C	AI3-109(0-2)	Cadmium	0.22	J	0.22	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405014	6010C	AI3-109(6-24)	Cadmium	0.16	J	0.16	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405016	6010C	AI3-111(6-24)	Cadmium	0.19	J	0.19	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405017	6010C	AI3-112(0-2)	Cadmium	0.066	J	0.066	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405019	6010C	DUP-AI3-1	Cadmium	0.12	J	0.12	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405021	6010C	AI5-101(0-6)	Cadmium	0.48	J	0.48	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405024	6010C	AI5-102(0-2)	Cadmium	0.072	J	0.072	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405027	6010C	AI5-103(0-2)	Cadmium	0.054	J	0.054	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405030	6010C	AI5-104(0-2)	Cadmium	0.037	J	0.037	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405033	6010C	AI5-109(0-2)	Cadmium	0.47	J	0.47	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405034	6010C	AI5-109(6-24)	Cadmium	0.097	J	0.097	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405035	6010C	AI5-109(2-6)	Cadmium	0.21	J	0.21	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405036	6010C	AI4-101(0-2)	Cadmium	0.19	J	0.19	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405037	6010C	AI4-101(6-24)	Cadmium	0.055	J	0.055	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405001	6010C	AI3-101(0-2)	Calcium	468	J B	468	J	MS-L, RL	mg/kg

Table 3a
Data Validation Action Summary - Test America
May 2011 Groundwater and Soil
Supplemental Remedial Investigation
Ft. Totten Coast Guard Station
Queens, New York

Sample Delivery Group	Lab Sample ID	Analysis Method	Field Sample ID	Parameter Name	Lab Result	Lab Qual	Validated Result	Val Qual	Validation Reason Code	Result Units
C1E12405_ADR_Rev2_rev	C1E120405002	6010C	AI3-101(6-24)	Calcium	314	J B	314	J	MS-L, RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405003	6010C	AI3-102(0-2)	Calcium	1020	B	1020	J	MS-L	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405004	6010C	AI3-102(6-24)	Calcium	814	B	814	J	MS-L	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405005	6010C	AI3-103(0-2)	Calcium	15000	B	15000	J	MS-L	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405006	6010C	AI3-103(6-24)	Calcium	2420	B	2420	J	MS-L	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405007	6010C	AI3-104(0-2)	Calcium	692	B	692	J	MS-L	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405008	6010C	AI3-104(6-24)	Calcium	450	J B	450	J	MS-L, RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405009	6010C	AI3-105(0-2)	Calcium	852	B	852	J	MS-L	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405010	6010C	AI3-105(6-24)	Calcium	1260	B	1260	J	MS-L	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405011	6010C	AI3-108(0-2)	Calcium	415	J B	415	J	MS-L, RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405012	6010C	AI3-108(6-24)	Calcium	267	J B	267	J	MS-L, RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405013	6010C	AI3-109(0-2)	Calcium	962	B	962	J	MS-L	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405014	6010C	AI3-109(6-24)	Calcium	582	B	582	J	MS-L	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405015	6010C	AI3-111(0-2)	Calcium	2610	B	2610	J	MS-L	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405016	6010C	AI3-111(6-24)	Calcium	6690	B	6690	J	MS-L	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405017	6010C	AI3-112(0-2)	Calcium	530	J B	530	J	MS-L, RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405018	6010C	AI3-112(6-12)	Calcium	331	J B	331	J	MS-L, RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405019	6010C	DUP-AI3-1	Calcium	400	J B	400	J	MS-L, RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405020	6010C	DUP-AI3-2	Calcium	237	J B	237	J	MS-L, RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405021	6010C	AI5-101(0-6)	Calcium	11100	B	11100	J	MS-L	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405022	6010C	AI5-101(6-24)	Calcium	508	J B	508	J	MS-L, RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405023	6010C	AI5-101(2-6)	Calcium	1280	B	1280	J	MS-L	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405024	6010C	AI5-102(0-2)	Calcium	10600	B	10600	J	MS-L	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405025	6010C	AI5-102(6-24)	Calcium	567	B	567	J	MS-L	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405026	6010C	AI5-102(2-6)	Calcium	4960	B	4960	J	MS-L	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405027	6010C	AI5-103(0-2)	Calcium	27200	B	27200	J	MS-L	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405028	6010C	AI5-103(6-24)	Calcium	4700	B	4700	J	MS-L	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405029	6010C	AI5-103(2-6)	Calcium	980	B	980	J	MS-L	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405030	6010C	AI5-104(0-2)	Calcium	15800	B	15800	J	MS-L	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405031	6010C	AI5-104(6-24)	Calcium	2940	B	2940	J	MS-L	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405032	6010C	AI5-104(2-6)	Calcium	1260	B	1260	J	MS-L	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405033	6010C	AI5-109(0-2)	Calcium	3250	B	3250	J	MS-L	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405034	6010C	AI5-109(6-24)	Calcium	1540	B	1540	J	MS-L	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405035	6010C	AI5-109(2-6)	Calcium	14900	B	14900	J	MS-L	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405036	6010C	AI4-101(0-2)	Calcium	6900	B	6900	J	MS-L	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405037	6010C	AI4-101(6-24)	Calcium	3360	B	3360	J	MS-L	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405011	6010C	AI3-108(0-2)	Chromium	18.5		18.5	J	FD	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405019	6010C	DUP-AI3-1	Chromium	17.2		17.2	J	FD	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405001	6010C	AI3-101(0-2)	Cobalt	5.2	J	5.2	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405002	6010C	AI3-101(6-24)	Cobalt	5	J	5	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405003	6010C	AI3-102(0-2)	Cobalt	5.6	J	5.6	J	RL	mg/kg

Table 3a
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Sample Delivery Group	Lab Sample ID	Analysis Method	Field Sample ID	Parameter Name	Lab Result	Lab Qual	Validated Result	Val Qual	Validation Reason Code	Result Units
C1E12405_ADR_Rev2_rev	C1E120405005	6010C	AI3-103(0-2)	Cobalt	23.7	J	23.7	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405006	6010C	AI3-103(6-24)	Cobalt	4.3	J	4.3	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405007	6010C	AI3-104(0-2)	Cobalt	5.1	J	5.1	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405009	6010C	AI3-105(0-2)	Cobalt	5.3	J	5.3	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405011	6010C	AI3-108(0-2)	Cobalt	3.7	J	3.7	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405012	6010C	AI3-108(6-24)	Cobalt	4.1	J	4.1	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405015	6010C	AI3-111(0-2)	Cobalt	3.9	J	3.9	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405017	6010C	AI3-112(0-2)	Cobalt	5.8	J	5.8	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405019	6010C	DUP-AI3-1	Cobalt	3.4	J	3.4	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405020	6010C	DUP-AI3-2	Cobalt	3.5	J	3.5	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405021	6010C	AI5-101(0-6)	Cobalt	4	J	4	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405023	6010C	AI5-101(2-6)	Cobalt	3.6	J	3.6	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405024	6010C	AI5-102(0-2)	Cobalt	2.7	J	2.7	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405027	6010C	AI5-103(0-2)	Cobalt	3	J	3	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405029	6010C	AI5-103(2-6)	Cobalt	4.4	J	4.4	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405030	6010C	AI5-104(0-2)	Cobalt	4.1	J	4.1	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405032	6010C	AI5-104(2-6)	Cobalt	5.3	J	5.3	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405033	6010C	AI5-109(0-2)	Cobalt	5.7	J	5.7	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405034	6010C	AI5-109(6-24)	Cobalt	4.7	J	4.7	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405035	6010C	AI5-109(2-6)	Cobalt	3.1	J	3.1	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405036	6010C	AI4-101(0-2)	Cobalt	5.6	J	5.6	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405011	6010C	AI3-108(0-2)	Copper	34.2		34.2	J	FD	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405012	6010C	AI3-108(6-24)	Copper	12.6		12.6	J	FD	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405019	6010C	DUP-AI3-1	Copper	31.4		31.4	J	FD	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405020	6010C	DUP-AI3-2	Copper	10		10	J	FD	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405011	6010C	AI3-108(0-2)	Iron	13400	B	13400	J	FD	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405019	6010C	DUP-AI3-1	Iron	12300	B	12300	J	FD	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405001	6010C	AI3-101(0-2)	Lead	86.7		86.7	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405002	6010C	AI3-101(6-24)	Lead	30.7		30.7	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405003	6010C	AI3-102(0-2)	Lead	73.3		73.3	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405004	6010C	AI3-102(6-24)	Lead	44.7		44.7	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405005	6010C	AI3-103(0-2)	Lead	2140		2140	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405006	6010C	AI3-103(6-24)	Lead	265		265	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405007	6010C	AI3-104(0-2)	Lead	102		102	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405008	6010C	AI3-104(6-24)	Lead	132		132	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405009	6010C	AI3-105(0-2)	Lead	170		170	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405010	6010C	AI3-105(6-24)	Lead	114		114	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405011	6010C	AI3-108(0-2)	Lead	111		111	J	MS-H, FD	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405012	6010C	AI3-108(6-24)	Lead	21.3		21.3	J	MS-H, FD	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405013	6010C	AI3-109(0-2)	Lead	76.8		76.8	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405014	6010C	AI3-109(6-24)	Lead	55.7		55.7	J	MS-H	mg/kg

Table 3a
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Sample Delivery Group	Lab Sample ID	Analysis Method	Field Sample ID	Parameter Name	Lab Result	Lab Qual	Validated Result	Val Qual	Validation Reason Code	Result Units
C1E12405_ADR_Rev2_rev	C1E120405015	6010C	AI3-111(0-2)	Lead	150		150	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405016	6010C	AI3-111(6-24)	Lead	68.2		68.2	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405017	6010C	AI3-112(0-2)	Lead	99.6		99.6	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405018	6010C	AI3-112(6-12)	Lead	15.5		15.5	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405019	6010C	DUP-AI3-1	Lead	104		104	J	MS-H, FD	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405020	6010C	DUP-AI3-2	Lead	16.4		16.4	J	MS-H, FD	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405021	6010C	AI5-101(0-6)	Lead	81.9		81.9	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405022	6010C	AI5-101(6-24)	Lead	7.6		7.6	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405023	6010C	AI5-101(2-6)	Lead	7.5		7.5	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405024	6010C	AI5-102(0-2)	Lead	21.2		21.2	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405025	6010C	AI5-102(6-24)	Lead	4.1		4.1	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405026	6010C	AI5-102(2-6)	Lead	5.5		5.5	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405027	6010C	AI5-103(0-2)	Lead	53.3		53.3	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405028	6010C	AI5-103(6-24)	Lead	39.6		39.6	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405029	6010C	AI5-103(2-6)	Lead	78.3		78.3	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405030	6010C	AI5-104(0-2)	Lead	22.6		22.6	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405031	6010C	AI5-104(6-24)	Lead	72.8		72.8	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405032	6010C	AI5-104(2-6)	Lead	18.8		18.8	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405033	6010C	AI5-109(0-2)	Lead	350		350	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405034	6010C	AI5-109(6-24)	Lead	56		56	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405035	6010C	AI5-109(2-6)	Lead	35.5		35.5	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405036	6010C	AI4-101(0-2)	Lead	94.6		94.6	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405037	6010C	AI4-101(6-24)	Lead	39		39	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405001	6010C	AI3-101(0-2)	Magnesium	2490	B	2490	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405002	6010C	AI3-101(6-24)	Magnesium	2570	B	2570	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405003	6010C	AI3-102(0-2)	Magnesium	2470	B	2470	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405004	6010C	AI3-102(6-24)	Magnesium	2470	B	2470	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405005	6010C	AI3-103(0-2)	Magnesium	9140	B	9140	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405006	6010C	AI3-103(6-24)	Magnesium	1820	B	1820	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405007	6010C	AI3-104(0-2)	Magnesium	2090	B	2090	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405008	6010C	AI3-104(6-24)	Magnesium	1990	B	1990	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405009	6010C	AI3-105(0-2)	Magnesium	2120	B	2120	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405010	6010C	AI3-105(6-24)	Magnesium	2530	B	2530	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405011	6010C	AI3-108(0-2)	Magnesium	2050	B	2050	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405012	6010C	AI3-108(6-24)	Magnesium	2120	B	2120	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405013	6010C	AI3-109(0-2)	Magnesium	2550	B	2550	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405014	6010C	AI3-109(6-24)	Magnesium	2430	B	2430	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405015	6010C	AI3-111(0-2)	Magnesium	1800	B	1800	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405016	6010C	AI3-111(6-24)	Magnesium	6390	B	6390	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405017	6010C	AI3-112(0-2)	Magnesium	2620	B	2620	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405018	6010C	AI3-112(6-12)	Magnesium	2590	B	2590	J	MS-H	mg/kg

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Sample Delivery Group	Lab Sample ID	Analysis Method	Field Sample ID	Parameter Name	Lab Result	Lab Qual	Validated Result	Val Qual	Validation Reason Code	Result Units
C1E12405_ADR_Rev2_rev	C1E120405019	6010C	DUP-AI3-1	Magnesium	1900	B	1900	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405020	6010C	DUP-AI3-2	Magnesium	1800	B	1800	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405021	6010C	AI5-101(0-6)	Magnesium	1240	B	1240	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405022	6010C	AI5-101(6-24)	Magnesium	2390	B	2390	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405023	6010C	AI5-101(2-6)	Magnesium	2020	B	2020	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405024	6010C	AI5-102(0-2)	Magnesium	760	B	760	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405025	6010C	AI5-102(6-24)	Magnesium	1210	B	1210	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405026	6010C	AI5-102(2-6)	Magnesium	2340	B	2340	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405027	6010C	AI5-103(0-2)	Magnesium	12700	B	12700	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405028	6010C	AI5-103(6-24)	Magnesium	5540	B	5540	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405029	6010C	AI5-103(2-6)	Magnesium	1880	B	1880	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405030	6010C	AI5-104(0-2)	Magnesium	1550	B	1550	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405031	6010C	AI5-104(6-24)	Magnesium	7280	B	7280	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405032	6010C	AI5-104(2-6)	Magnesium	2200	B	2200	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405033	6010C	AI5-109(0-2)	Magnesium	2010	B	2010	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405034	6010C	AI5-109(6-24)	Magnesium	2290	B	2290	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405035	6010C	AI5-109(2-6)	Magnesium	2150	B	2150	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405036	6010C	AI4-101(0-2)	Magnesium	5090	B	5090	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405037	6010C	AI4-101(6-24)	Magnesium	3680	B	3680	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405011	6010C	AI3-108(0-2)	Manganese	170	B	170	J	FD	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405012	6010C	AI3-108(6-24)	Manganese	245	B	245	J	FD	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405019	6010C	DUP-AI3-1	Manganese	157	B	157	J	FD	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405020	6010C	DUP-AI3-2	Manganese	213	B	213	J	FD	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405011	6010C	AI3-108(0-2)	Nickel	14.9		14.9	J	FD	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405019	6010C	DUP-AI3-1	Nickel	13.9		13.9	J	FD	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405009	6010C	AI3-105(0-2)	Potassium	558	J	558	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405010	6010C	AI3-105(6-24)	Potassium	534	J	534	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405011	6010C	AI3-108(0-2)	Potassium	406	J	406	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405012	6010C	AI3-108(6-24)	Potassium	356	J	356	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405014	6010C	AI3-109(6-24)	Potassium	503	J	503	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405018	6010C	AI3-112(6-12)	Potassium	544	J	544	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405019	6010C	DUP-AI3-1	Potassium	385	J	385	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405020	6010C	DUP-AI3-2	Potassium	306	J	306	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405021	6010C	AI5-101(0-6)	Potassium	401	J	401	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405024	6010C	AI5-102(0-2)	Potassium	326	J	326	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405025	6010C	AI5-102(6-24)	Potassium	507	J	507	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405027	6010C	AI5-103(0-2)	Potassium	427	J	427	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405030	6010C	AI5-104(0-2)	Potassium	486	J	486	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405035	6010C	AI5-109(2-6)	Potassium	431	J	431	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405001	6010C	AI3-101(0-2)	Selenium	0.47	J	0.47	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405003	6010C	AI3-102(0-2)	Selenium	0.4	J	0.4	J	RL	mg/kg

Table 3a
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Sample Delivery Group	Lab Sample ID	Analysis Method	Field Sample ID	Parameter Name	Lab Result	Lab Qual	Validated Result	Val Qual	Validation Reason Code	Result Units
C1E12405_ADR_Rev2_rev	C1E120405004	6010C	AI3-102(6-24)	Selenium	0.42	J	0.42	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405005	6010C	AI3-103(0-2)	Selenium	3.2	J	3.2	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405006	6010C	AI3-103(6-24)	Selenium	0.41	J	0.41	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405009	6010C	AI3-105(0-2)	Selenium	0.57	J	0.57	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405011	6010C	AI3-108(0-2)	Selenium	0.9	J	0.9	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405015	6010C	AI3-111(0-2)	Selenium	0.48	J	0.48	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405017	6010C	AI3-112(0-2)	Selenium	0.73	J	0.73	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405019	6010C	DUP-AI3-1	Selenium	0.5	J	0.5	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405021	6010C	AI5-101(0-6)	Selenium	0.63	J	0.63	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405005	6010C	AI3-103(0-2)	Silver	0.83	J	0.83	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405030	6010C	AI5-104(0-2)	Silver	0.072	J	0.072	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405033	6010C	AI5-109(0-2)	Silver	0.11	J	0.11	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405001	6010C	AI3-101(0-2)	Sodium	46	J	46	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405002	6010C	AI3-101(6-24)	Sodium	32.6	J	32.6	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405003	6010C	AI3-102(0-2)	Sodium	54.5	J	54.5	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405004	6010C	AI3-102(6-24)	Sodium	51.7	J	51.7	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405005	6010C	AI3-103(0-2)	Sodium	932	J	932	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405006	6010C	AI3-103(6-24)	Sodium	115	J	115	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405007	6010C	AI3-104(0-2)	Sodium	23.8	J	23.8	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405009	6010C	AI3-105(0-2)	Sodium	38.7	J	38.7	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405010	6010C	AI3-105(6-24)	Sodium	58.6	J	58.6	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405011	6010C	AI3-108(0-2)	Sodium	45.1	J	45.1	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405013	6010C	AI3-109(0-2)	Sodium	51.4	J	51.4	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405014	6010C	AI3-109(6-24)	Sodium	109	J	109	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405016	6010C	AI3-111(6-24)	Sodium	436	J	436	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405017	6010C	AI3-112(0-2)	Sodium	56.8	J	56.8	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405018	6010C	AI3-112(6-12)	Sodium	19	J	19	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405019	6010C	DUP-AI3-1	Sodium	28.9	J	28.9	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405020	6010C	DUP-AI3-2	Sodium	16.2	J	16.2	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405021	6010C	AI5-101(0-6)	Sodium	235	J	235	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405023	6010C	AI5-101(2-6)	Sodium	70.3	J	70.3	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405024	6010C	AI5-102(0-2)	Sodium	431	J	431	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405025	6010C	AI5-102(6-24)	Sodium	70.4	J	70.4	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405026	6010C	AI5-102(2-6)	Sodium	185	J	185	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405027	6010C	AI5-103(0-2)	Sodium	179	J	179	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405028	6010C	AI5-103(6-24)	Sodium	488	J	488	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405029	6010C	AI5-103(2-6)	Sodium	97.1	J	97.1	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405030	6010C	AI5-104(0-2)	Sodium	379	J	379	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405031	6010C	AI5-104(6-24)	Sodium	451	J	451	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405032	6010C	AI5-104(2-6)	Sodium	97.1	J	97.1	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405033	6010C	AI5-109(0-2)	Sodium	496	J	496	J	RL	mg/kg

Table 3a
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Sample Delivery Group	Lab Sample ID	Analysis Method	Field Sample ID	Parameter Name	Lab Result	Lab Qual	Validated Result	Val Qual	Validation Reason Code	Result Units
C1E12405_ADR_Rev2_rev	C1E120405034	6010C	AI5-109(6-24)	Sodium	435	J	435	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405035	6010C	AI5-109(2-6)	Sodium	356	J	356	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405036	6010C	AI4-101(0-2)	Sodium	172	J	172	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405037	6010C	AI4-101(6-24)	Sodium	360	J	360	J	RL	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405011	6010C	AI3-108(0-2)	Vanadium	35.2		35.2	J	FD	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405012	6010C	AI3-108(6-24)	Vanadium	19.8		19.8	J	FD	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405019	6010C	DUP-AI3-1	Vanadium	32.6		32.6	J	FD	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405020	6010C	DUP-AI3-2	Vanadium	16.6		16.6	J	FD	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405001	6010C	AI3-101(0-2)	Zinc	54.4		54.4	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405002	6010C	AI3-101(6-24)	Zinc	42.3		42.3	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405003	6010C	AI3-102(0-2)	Zinc	68.9		68.9	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405004	6010C	AI3-102(6-24)	Zinc	59.1		59.1	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405005	6010C	AI3-103(0-2)	Zinc	1370		1370	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405006	6010C	AI3-103(6-24)	Zinc	179		179	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405007	6010C	AI3-104(0-2)	Zinc	69.8		69.8	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405008	6010C	AI3-104(6-24)	Zinc	63.5		63.5	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405009	6010C	AI3-105(0-2)	Zinc	112		112	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405010	6010C	AI3-105(6-24)	Zinc	97.3		97.3	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405011	6010C	AI3-108(0-2)	Zinc	50.3		50.3	J	MS-H, FD	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405012	6010C	AI3-108(6-24)	Zinc	40.3		40.3	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405013	6010C	AI3-109(0-2)	Zinc	69.2		69.2	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405014	6010C	AI3-109(6-24)	Zinc	53.8		53.8	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405015	6010C	AI3-111(0-2)	Zinc	274		274	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405016	6010C	AI3-111(6-24)	Zinc	127		127	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405017	6010C	AI3-112(0-2)	Zinc	53.3		53.3	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405018	6010C	AI3-112(6-12)	Zinc	45		45	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405019	6010C	DUP-AI3-1	Zinc	48.2		48.2	J	MS-H, FD	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405020	6010C	DUP-AI3-2	Zinc	34.6		34.6	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405021	6010C	AI5-101(0-6)	Zinc	80.2		80.2	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405022	6010C	AI5-101(6-24)	Zinc	31.7		31.7	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405023	6010C	AI5-101(2-6)	Zinc	30.2		30.2	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405024	6010C	AI5-102(0-2)	Zinc	26.6		26.6	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405025	6010C	AI5-102(6-24)	Zinc	19.4		19.4	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405026	6010C	AI5-102(2-6)	Zinc	29		29	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405027	6010C	AI5-103(0-2)	Zinc	29.9		29.9	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405028	6010C	AI5-103(6-24)	Zinc	53.2		53.2	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405029	6010C	AI5-103(2-6)	Zinc	92.3		92.3	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405030	6010C	AI5-104(0-2)	Zinc	28.6		28.6	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405031	6010C	AI5-104(6-24)	Zinc	116		116	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405032	6010C	AI5-104(2-6)	Zinc	38.9		38.9	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405033	6010C	AI5-109(0-2)	Zinc	316		316	J	MS-H	mg/kg

Table 3a
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Sample Delivery Group	Lab Sample ID	Analysis Method	Field Sample ID	Parameter Name	Lab Result	Lab Qual	Validated Result	Val Qual	Validation Reason Code	Result Units
C1E12405_ADR_Rev2_rev	C1E120405034	6010C	AI5-109(6-24)	Zinc	58.4		58.4	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405035	6010C	AI5-109(2-6)	Zinc	261		261	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405036	6010C	AI4-101(0-2)	Zinc	116		116	J	MS-H	mg/kg
C1E12405_ADR_Rev2_rev	C1E120405037	6010C	AI4-101(6-24)	Zinc	61.3		61.3	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445001	6010C	AI2-107(0-2)	Antimony	0.61	J	0.61	J	MS-L, RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445002	6010C	AI2-107(6-24)	Antimony	0.2	J	0.2	J	MS-L, RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445003	6010C	AI2-109(0-2)	Antimony	0.63	J	0.63	J	MS-L, RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445004	6010C	AI2-109(6-24)	Antimony	0.48	U	0.48	UJ	MS-L	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445005	6010C	AI2-111(0-2)	Antimony	0.87	J	0.87	J	MS-L, RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445006	6010C	AI2-111(6-24)	Antimony	0.86	J	0.86	J	MS-L, RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445007	6010C	AI2-112(0-2)	Antimony	0.58	J	0.58	J	MS-L, RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445008	6010C	AI2-112(6-24)	Antimony	0.48	U	0.48	UJ	MS-L	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445009	6010C	AI3-106(0-2)	Antimony	0.46	J	0.46	J	MS-L, RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445010	6010C	AI3-106(6-24)	Antimony	0.42	J	0.42	J	MS-L, RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445011	6010C	AI3-106(2-4)	Antimony	1.2		1.2	J	MS-L	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445012	6010C	AI3-107(0-2)	Antimony	0.54	J	0.54	J	MS-L, RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445013	6010C	AI3-107(6-24)	Antimony	0.37	J	0.37	J	MS-L, RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445014	6010C	AI3-107(2-4)	Antimony	0.19	J	0.19	J	MS-L, RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445015	6010C	AI3-110(0-2)	Antimony	0.56	J	0.56	J	MS-L, RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445016	6010C	AI3-110(6-24)	Antimony	0.4	J	0.4	J	MS-L, RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445017	6010C	AI3-110(2-4)	Antimony	0.24	J	0.24	J	MS-L, RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445028	6010C	AI5-106(0-6)	Antimony	0.44	U	0.44	UJ	MS-L	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445029	6010C	AI5-106(6-24)	Antimony	1.9		1.9	J	MS-L	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445030	6010C	AI5-106(2-6)	Antimony	0.31	J	0.31	J	MS-L, RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445031	6010C	AI5-105(0-2)	Antimony	1.2		1.2	J	MS-L	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445032	6010C	AI5-105(6-24)	Antimony	0.25	J	0.25	J	MS-L, RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445033	6010C	AI5-105(2-6)	Antimony	0.45	U	0.45	UJ	MS-L	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445034	6010C	DUP-AI5-1(0-2)	Antimony	0.74	J	0.74	J	MS-L, RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445035	6010C	DUP-AI5-2(6-24)	Antimony	0.35	J	0.35	J	MS-L, RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445036	6010C	AI5-107(0-2)	Antimony	1.4		1.4	J	MS-L	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445037	6010C	AI5-107(6-24)	Antimony	0.44	U	0.44	UJ	MS-L	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445038	6010C	AI5-107(2-6)	Antimony	1.1		1.1	J	MS-L	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445039	6010C	AI5-108(0-2)	Antimony	0.44	U	0.44	UJ	MS-L	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445040	6010C	AI5-108(6-24)	Antimony	0.2	J	0.2	J	MS-L, RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445041	6010C	AI5-108(2-6)	Antimony	0.25	J	0.25	J	MS-L, RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445042	6010C	AI5-110(0-2)	Antimony	0.25	J	0.25	J	MS-L, RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445043	6010C	AI5-110(6-24)	Antimony	0.44	U	0.44	UJ	MS-L	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445044	6010C	AI5-110(2-6)	Antimony	0.46	U	0.46	UJ	MS-L	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445032	6010C	AI5-105(6-24)	Arsenic	2.2		2.2	J	FD	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445035	6010C	DUP-AI5-2(6-24)	Arsenic	3.1		3.1	J	FD	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445032	6010C	AI5-105(6-24)	Barium	71.3		71.3	J	FD	mg/kg

Table 3a
Data Validation Action Summary - Test America
May 2011 Groundwater and Soil
Supplemental Remedial Investigation
Ft. Totten Coast Guard Station
Queens, New York

Sample Delivery Group	Lab Sample ID	Analysis Method	Field Sample ID	Parameter Name	Lab Result	Lab Qual	Validated Result	Val Qual	Validation Reason Code	Result Units
C1E12445_ADR_Rev2_rev	C1E120445035	6010C	DUP-AI5-2(6-24)	Barium	41.8		41.8	J	FD	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445001	6010C	AI2-107(0-2)	Beryllium	0.37	J	0.37	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445007	6010C	AI2-112(0-2)	Beryllium	0.44	J	0.44	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445012	6010C	AI3-107(0-2)	Beryllium	0.56	J	0.56	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445015	6010C	AI3-110(0-2)	Beryllium	0.48	J	0.48	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445031	6010C	AI5-105(0-2)	Beryllium	0.36	J	0.36	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445033	6010C	AI5-105(2-6)	Beryllium	0.44	J	0.44	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445034	6010C	DUP-AI5-1(0-2)	Beryllium	0.37	J	0.37	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445036	6010C	AI5-107(0-2)	Beryllium	0.31	J	0.31	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445042	6010C	AI5-110(0-2)	Beryllium	0.37	J	0.37	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445044	6010C	AI5-110(2-6)	Beryllium	0.29	J	0.29	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445002	6010C	AI2-107(6-24)	Cadmium	0.3	J	0.3	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445003	6010C	AI2-109(0-2)	Cadmium	0.29	J	0.29	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445006	6010C	AI2-111(6-24)	Cadmium	0.35	J	0.35	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445007	6010C	AI2-112(0-2)	Cadmium	0.6	J	0.6	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445009	6010C	AI3-106(0-2)	Cadmium	0.33	J	0.33	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445010	6010C	AI3-106(6-24)	Cadmium	0.51	J	0.51	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445011	6010C	AI3-106(2-4)	Cadmium	0.11	J	0.11	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445013	6010C	AI3-107(6-24)	Cadmium	0.24	J	0.24	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445015	6010C	AI3-110(0-2)	Cadmium	0.26	J	0.26	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445016	6010C	AI3-110(6-24)	Cadmium	0.21	J	0.21	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445017	6010C	AI3-110(2-4)	Cadmium	0.14	J	0.14	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445028	6010C	AI5-106(0-6)	Cadmium	0.22	J	0.22	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445031	6010C	AI5-105(0-2)	Cadmium	0.53	J	0.53	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445034	6010C	DUP-AI5-1(0-2)	Cadmium	0.55	J	0.55	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445035	6010C	DUP-AI5-2(6-24)	Cadmium	0.48	J	0.48	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445040	6010C	AI5-108(6-24)	Cadmium	0.45	J	0.45	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445041	6010C	AI5-108(2-6)	Cadmium	0.15	J	0.15	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445042	6010C	AI5-110(0-2)	Cadmium	0.21	J	0.21	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445018	6010C	ER-AI3	Calcium	73.4	J	73.4	J	RL	ug/L
C1E12445_ADR_Rev2_rev	C1E120445032	6010C	AI5-105(6-24)	Calcium	3350	B	3350	J	FD	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445035	6010C	DUP-AI5-2(6-24)	Calcium	986	B	986	J	FD	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445045	6010C	ER-AI5	Calcium	34.1	J	34.1	J	RL	ug/L
C1E12445_ADR_Rev2_rev	C1E120445001	6010C	AI2-107(0-2)	Cobalt	5.2	J	5.2	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445007	6010C	AI2-112(0-2)	Cobalt	5.7	J	5.7	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445012	6010C	AI3-107(0-2)	Cobalt	5.4	J	5.4	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445013	6010C	AI3-107(6-24)	Cobalt	6	J	6	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445014	6010C	AI3-107(2-4)	Cobalt	5.5	J	5.5	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445015	6010C	AI3-110(0-2)	Cobalt	5.5	J	5.5	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445017	6010C	AI3-110(2-4)	Cobalt	5.2	J	5.2	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445030	6010C	AI5-106(2-6)	Cobalt	5	J	5	J	RL	mg/kg

Table 3a
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Ft. Totten Coast Guard Station
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Sample Delivery Group	Lab Sample ID	Analysis Method	Field Sample ID	Parameter Name	Lab Result	Lab Qual	Validated Result	Val Qual	Validation Reason Code	Result Units
C1E12445_ADR_Rev2_rev	C1E120445031	6010C	AI5-105(0-2)	Cobalt	3.6	J	3.6	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445032	6010C	AI5-105(6-24)	Cobalt	7.6		7.6	J	FD	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445033	6010C	AI5-105(2-6)	Cobalt	4.9	J	4.9	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445034	6010C	DUP-AI5-1(0-2)	Cobalt	3.8	J	3.8	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445035	6010C	DUP-AI5-2(6-24)	Cobalt	6.1		6.1	J	FD	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445036	6010C	AI5-107(0-2)	Cobalt	4	J	4	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445039	6010C	AI5-108(0-2)	Cobalt	4.7	J	4.7	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445042	6010C	AI5-110(0-2)	Cobalt	3.4	J	3.4	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445001	6010C	AI2-107(0-2)	Copper	46.9		46.9	J	MS-L	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445002	6010C	AI2-107(6-24)	Copper	46.4		46.4	J	MS-L	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445003	6010C	AI2-109(0-2)	Copper	75.9		75.9	J	MS-L	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445004	6010C	AI2-109(6-24)	Copper	28.6		28.6	J	MS-L	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445005	6010C	AI2-111(0-2)	Copper	51.6		51.6	J	MS-L	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445006	6010C	AI2-111(6-24)	Copper	75.1		75.1	J	MS-L	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445007	6010C	AI2-112(0-2)	Copper	42.2		42.2	J	MS-L	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445008	6010C	AI2-112(6-24)	Copper	17.4		17.4	J	MS-L	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445009	6010C	AI3-106(0-2)	Copper	31.7		31.7	J	MS-L	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445010	6010C	AI3-106(6-24)	Copper	47.9		47.9	J	MS-L	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445011	6010C	AI3-106(2-4)	Copper	166		166	J	MS-L	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445012	6010C	AI3-107(0-2)	Copper	37.8		37.8	J	MS-L	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445013	6010C	AI3-107(6-24)	Copper	29.3		29.3	J	MS-L	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445014	6010C	AI3-107(2-4)	Copper	24.3		24.3	J	MS-L	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445015	6010C	AI3-110(0-2)	Copper	27.8		27.8	J	MS-L	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445016	6010C	AI3-110(6-24)	Copper	28.6		28.6	J	MS-L	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445017	6010C	AI3-110(2-4)	Copper	36.4		36.4	J	MS-L	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445028	6010C	AI5-106(0-6)	Copper	21.6		21.6	J	MS-L	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445029	6010C	AI5-106(6-24)	Copper	17.7		17.7	J	MS-L	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445030	6010C	AI5-106(2-6)	Copper	32.9		32.9	J	MS-L	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445031	6010C	AI5-105(0-2)	Copper	90.7		90.7	J	MS-L	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445032	6010C	AI5-105(6-24)	Copper	66.9		66.9	J	MS-L, FD	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445033	6010C	AI5-105(2-6)	Copper	15.7		15.7	J	MS-L	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445034	6010C	DUP-AI5-1(0-2)	Copper	89.2		89.2	J	MS-L	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445035	6010C	DUP-AI5-2(6-24)	Copper	25.7		25.7	J	MS-L, FD	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445036	6010C	AI5-107(0-2)	Copper	69.4		69.4	J	MS-L	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445037	6010C	AI5-107(6-24)	Copper	18.7		18.7	J	MS-L	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445038	6010C	AI5-107(2-6)	Copper	17.4		17.4	J	MS-L	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445039	6010C	AI5-108(0-2)	Copper	27.3		27.3	J	MS-L	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445040	6010C	AI5-108(6-24)	Copper	18.1		18.1	J	MS-L	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445041	6010C	AI5-108(2-6)	Copper	24.3		24.3	J	MS-L	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445042	6010C	AI5-110(0-2)	Copper	44.6		44.6	J	MS-L	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445043	6010C	AI5-110(6-24)	Copper	19.5		19.5	J	MS-L	mg/kg

Table 3a
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Queens, New York

Sample Delivery Group	Lab Sample ID	Analysis Method	Field Sample ID	Parameter Name	Lab Result	Lab Qual	Validated Result	Val Qual	Validation Reason Code	Result Units
C1E12445_ADR_Rev2_rev	C1E120445044	6010C	AI5-110(2-6)	Copper	16.3		16.3	J	MS-L	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445001	6010C	AI2-107(0-2)	Lead	334		334	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445002	6010C	AI2-107(6-24)	Lead	225		225	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445003	6010C	AI2-109(0-2)	Lead	214		214	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445004	6010C	AI2-109(6-24)	Lead	27.4		27.4	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445005	6010C	AI2-111(0-2)	Lead	242		242	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445006	6010C	AI2-111(6-24)	Lead	207		207	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445007	6010C	AI2-112(0-2)	Lead	278		278	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445008	6010C	AI2-112(6-24)	Lead	108		108	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445009	6010C	AI3-106(0-2)	Lead	174		174	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445010	6010C	AI3-106(6-24)	Lead	212		212	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445011	6010C	AI3-106(2-4)	Lead	152		152	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445012	6010C	AI3-107(0-2)	Lead	411		411	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445013	6010C	AI3-107(6-24)	Lead	168		168	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445014	6010C	AI3-107(2-4)	Lead	55.9		55.9	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445015	6010C	AI3-110(0-2)	Lead	228		228	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445016	6010C	AI3-110(6-24)	Lead	122		122	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445017	6010C	AI3-110(2-4)	Lead	86.4		86.4	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445028	6010C	AI5-106(0-6)	Lead	143		143	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445029	6010C	AI5-106(6-24)	Lead	106		106	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445030	6010C	AI5-106(2-6)	Lead	81.6		81.6	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445031	6010C	AI5-105(0-2)	Lead	366		366	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445032	6010C	AI5-105(6-24)	Lead	106		106	J	MS-H, FD	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445033	6010C	AI5-105(2-6)	Lead	24.7		24.7	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445034	6010C	DUP-AI5-1(0-2)	Lead	360		360	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445035	6010C	DUP-AI5-2(6-24)	Lead	55.4		55.4	J	MS-H, FD	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445036	6010C	AI5-107(0-2)	Lead	587		587	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445037	6010C	AI5-107(6-24)	Lead	26.7		26.7	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445038	6010C	AI5-107(2-6)	Lead	8.5		8.5	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445039	6010C	AI5-108(0-2)	Lead	88		88	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445040	6010C	AI5-108(6-24)	Lead	85.6		85.6	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445041	6010C	AI5-108(2-6)	Lead	60.1		60.1	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445042	6010C	AI5-110(0-2)	Lead	55.3		55.3	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445043	6010C	AI5-110(6-24)	Lead	22.7		22.7	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445044	6010C	AI5-110(2-6)	Lead	5.3		5.3	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445031	6010C	AI5-105(0-2)	Magnesium	2420	B	2420	J	FD	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445032	6010C	AI5-105(6-24)	Magnesium	4010	B	4010	J	FD	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445034	6010C	DUP-AI5-1(0-2)	Magnesium	3550	B	3550	J	FD	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445035	6010C	DUP-AI5-2(6-24)	Magnesium	2260	B	2260	J	FD	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445001	6010C	AI2-107(0-2)	Manganese	332		332	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445002	6010C	AI2-107(6-24)	Manganese	319		319	J	MS-H	mg/kg

Table 3a
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Sample Delivery Group	Lab Sample ID	Analysis Method	Field Sample ID	Parameter Name	Lab Result	Lab Qual	Validated Result	Val Qual	Validation Reason Code	Result Units
C1E12445_ADR_Rev2_rev	C1E120445003	6010C	AI2-109(0-2)	Manganese	221		221	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445004	6010C	AI2-109(6-24)	Manganese	472		472	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445005	6010C	AI2-111(0-2)	Manganese	259		259	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445006	6010C	AI2-111(6-24)	Manganese	274		274	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445007	6010C	AI2-112(0-2)	Manganese	305		305	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445008	6010C	AI2-112(6-24)	Manganese	486		486	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445009	6010C	AI3-106(0-2)	Manganese	275		275	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445010	6010C	AI3-106(6-24)	Manganese	269		269	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445011	6010C	AI3-106(2-4)	Manganese	278		278	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445012	6010C	AI3-107(0-2)	Manganese	290		290	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445013	6010C	AI3-107(6-24)	Manganese	382		382	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445014	6010C	AI3-107(2-4)	Manganese	221		221	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445015	6010C	AI3-110(0-2)	Manganese	290		290	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445016	6010C	AI3-110(6-24)	Manganese	325		325	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445017	6010C	AI3-110(2-4)	Manganese	231		231	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445028	6010C	AI5-106(0-6)	Manganese	438		438	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445029	6010C	AI5-106(6-24)	Manganese	267		267	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445030	6010C	AI5-106(2-6)	Manganese	278		278	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445031	6010C	AI5-105(0-2)	Manganese	155		155	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445032	6010C	AI5-105(6-24)	Manganese	205		205	J	MS-H, FD	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445033	6010C	AI5-105(2-6)	Manganese	193		193	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445034	6010C	DUP-AI5-1(0-2)	Manganese	162		162	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445035	6010C	DUP-AI5-2(6-24)	Manganese	316		316	J	MS-H, FD	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445036	6010C	AI5-107(0-2)	Manganese	140		140	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445037	6010C	AI5-107(6-24)	Manganese	421		421	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445038	6010C	AI5-107(2-6)	Manganese	233		233	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445039	6010C	AI5-108(0-2)	Manganese	227		227	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445040	6010C	AI5-108(6-24)	Manganese	324		324	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445041	6010C	AI5-108(2-6)	Manganese	350		350	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445042	6010C	AI5-110(0-2)	Manganese	56		56	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445043	6010C	AI5-110(6-24)	Manganese	186		186	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445044	6010C	AI5-110(2-6)	Manganese	476		476	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445003	6010C	AI2-109(0-2)	Potassium	511	J	511	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445031	6010C	AI5-105(0-2)	Potassium	451	J	451	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445032	6010C	AI5-105(6-24)	Potassium	2290		2290	J	FD	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445034	6010C	DUP-AI5-1(0-2)	Potassium	535	J	535	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445035	6010C	DUP-AI5-2(6-24)	Potassium	848		848	J	FD	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445036	6010C	AI5-107(0-2)	Potassium	387	J	387	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445042	6010C	AI5-110(0-2)	Potassium	325	J	325	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445001	6010C	AI2-107(0-2)	Selenium	0.8	J	0.8	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445002	6010C	AI2-107(6-24)	Selenium	0.81	J	0.81	J	RL	mg/kg

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Sample Delivery Group	Lab Sample ID	Analysis Method	Field Sample ID	Parameter Name	Lab Result	Lab Qual	Validated Result	Val Qual	Validation Reason Code	Result Units
C1E12445_ADR_Rev2_rev	C1E120445003	6010C	AI2-109(0-2)	Selenium	0.63	J	0.63	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445005	6010C	AI2-111(0-2)	Selenium	0.77	J	0.77	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445006	6010C	AI2-111(6-24)	Selenium	0.91	J	0.91	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445007	6010C	AI2-112(0-2)	Selenium	0.65	J	0.65	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445010	6010C	AI3-106(6-24)	Selenium	0.76	J	0.76	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445011	6010C	AI3-106(2-4)	Selenium	0.47	J	0.47	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445013	6010C	AI3-107(6-24)	Selenium	0.49	J	0.49	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445014	6010C	AI3-107(2-4)	Selenium	0.46	J	0.46	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445015	6010C	AI3-110(0-2)	Selenium	0.45	J	0.45	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445016	6010C	AI3-110(6-24)	Selenium	0.37	J	0.37	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445017	6010C	AI3-110(2-4)	Selenium	0.44	J	0.44	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445031	6010C	AI5-105(0-2)	Selenium	0.65	J	0.65	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445032	6010C	AI5-105(6-24)	Selenium	0.64	J	0.64	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445034	6010C	DUP-AI5-1(0-2)	Selenium	0.64	J	0.64	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445036	6010C	AI5-107(0-2)	Selenium	0.69	J	0.69	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445041	6010C	AI5-108(2-6)	Selenium	0.45	J	0.45	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445043	6010C	AI5-110(6-24)	Selenium	0.68	J	0.68	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445001	6010C	AI2-107(0-2)	Silver	0.12	J	0.12	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445002	6010C	AI2-107(6-24)	Silver	0.11	J	0.11	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445003	6010C	AI2-109(0-2)	Silver	0.22	J	0.22	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445005	6010C	AI2-111(0-2)	Silver	0.21	J	0.21	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445006	6010C	AI2-111(6-24)	Silver	0.087	J	0.087	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445007	6010C	AI2-112(0-2)	Silver	0.1	J	0.1	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445009	6010C	AI3-106(0-2)	Silver	0.12	J	0.12	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445010	6010C	AI3-106(6-24)	Silver	0.1	J	0.1	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445011	6010C	AI3-106(2-4)	Silver	0.085	J	0.085	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445015	6010C	AI3-110(0-2)	Silver	0.48	J	0.48	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445016	6010C	AI3-110(6-24)	Silver	0.078	J	0.078	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445031	6010C	AI5-105(0-2)	Silver	0.19	J	0.19	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445034	6010C	DUP-AI5-1(0-2)	Silver	0.17	J	0.17	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445036	6010C	AI5-107(0-2)	Silver	0.22	J	0.22	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445042	6010C	AI5-110(0-2)	Silver	0.19	J	0.19	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445001	6010C	AI2-107(0-2)	Sodium	41.7	J	41.7	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445002	6010C	AI2-107(6-24)	Sodium	237	J	237	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445003	6010C	AI2-109(0-2)	Sodium	53.8	J	53.8	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445005	6010C	AI2-111(0-2)	Sodium	47.8	J	47.8	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445006	6010C	AI2-111(6-24)	Sodium	123	J	123	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445007	6010C	AI2-112(0-2)	Sodium	81.1	J	81.1	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445008	6010C	AI2-112(6-24)	Sodium	52.9	J	52.9	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445009	6010C	AI3-106(0-2)	Sodium	15.5	J	15.5	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445010	6010C	AI3-106(6-24)	Sodium	21.9	J	21.9	J	RL	mg/kg

Table 3a
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Sample Delivery Group	Lab Sample ID	Analysis Method	Field Sample ID	Parameter Name	Lab Result	Lab Qual	Validated Result	Val Qual	Validation Reason Code	Result Units
C1E12445_ADR_Rev2_rev	C1E120445011	6010C	AI3-106(2-4)	Sodium	88.7	J	88.7	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445012	6010C	AI3-107(0-2)	Sodium	55.3	J	55.3	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445013	6010C	AI3-107(6-24)	Sodium	102	J	102	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445014	6010C	AI3-107(2-4)	Sodium	57.3	J	57.3	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445015	6010C	AI3-110(0-2)	Sodium	33.6	J	33.6	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445016	6010C	AI3-110(6-24)	Sodium	31.1	J	31.1	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445017	6010C	AI3-110(2-4)	Sodium	29.2	J	29.2	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445028	6010C	AI5-106(0-6)	Sodium	226	J	226	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445029	6010C	AI5-106(6-24)	Sodium	207	J	207	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445030	6010C	AI5-106(2-6)	Sodium	410	J	410	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445031	6010C	AI5-105(0-2)	Sodium	206	J	206	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445032	6010C	AI5-105(6-24)	Sodium	373	J	373	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445033	6010C	AI5-105(2-6)	Sodium	155	J	155	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445034	6010C	DUP-AI5-1(0-2)	Sodium	201	J	201	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445035	6010C	DUP-AI5-2(6-24)	Sodium	64.2	J	64.2	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445036	6010C	AI5-107(0-2)	Sodium	45.9	J	45.9	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445037	6010C	AI5-107(6-24)	Sodium	310	J	310	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445038	6010C	AI5-107(2-6)	Sodium	370	J	370	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445039	6010C	AI5-108(0-2)	Sodium	129	J	129	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445040	6010C	AI5-108(6-24)	Sodium	72.7	J	72.7	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445041	6010C	AI5-108(2-6)	Sodium	114	J	114	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445042	6010C	AI5-110(0-2)	Sodium	286	J	286	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445043	6010C	AI5-110(6-24)	Sodium	267	J	267	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445044	6010C	AI5-110(2-6)	Sodium	100	J	100	J	RL	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445032	6010C	AI5-105(6-24)	Vanadium	28.3		28.3	J	FD	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445035	6010C	DUP-AI5-2(6-24)	Vanadium	21.8		21.8	J	FD	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445001	6010C	AI2-107(0-2)	Zinc	172	B	172	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445002	6010C	AI2-107(6-24)	Zinc	117	B	117	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445003	6010C	AI2-109(0-2)	Zinc	104	B	104	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445004	6010C	AI2-109(6-24)	Zinc	32	B	32	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445005	6010C	AI2-111(0-2)	Zinc	233	B	233	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445006	6010C	AI2-111(6-24)	Zinc	258	B	258	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445007	6010C	AI2-112(0-2)	Zinc	177	B	177	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445008	6010C	AI2-112(6-24)	Zinc	58	B	58	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445009	6010C	AI3-106(0-2)	Zinc	168	B	168	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445010	6010C	AI3-106(6-24)	Zinc	246	B	246	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445011	6010C	AI3-106(2-4)	Zinc	142	B	142	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445012	6010C	AI3-107(0-2)	Zinc	219	B	219	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445013	6010C	AI3-107(6-24)	Zinc	98.6	B	98.6	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445014	6010C	AI3-107(2-4)	Zinc	66.3	B	66.3	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445015	6010C	AI3-110(0-2)	Zinc	110	B	110	J	MS-H	mg/kg

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Sample Delivery Group	Lab Sample ID	Analysis Method	Field Sample ID	Parameter Name	Lab Result	Lab Qual	Validated Result	Val Qual	Validation Reason Code	Result Units
C1E12445_ADR_Rev2_rev	C1E120445016	6010C	AI3-110(6-24)	Zinc	91.2	B	91.2	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445017	6010C	AI3-110(2-4)	Zinc	72.1	B	72.1	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445028	6010C	AI5-106(0-6)	Zinc	120	B	120	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445029	6010C	AI5-106(6-24)	Zinc	126	B	126	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445030	6010C	AI5-106(2-6)	Zinc	61.9	B	61.9	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445031	6010C	AI5-105(0-2)	Zinc	158	B	158	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445032	6010C	AI5-105(6-24)	Zinc	71.3	B	71.3	J	MS-H, FD	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445033	6010C	AI5-105(2-6)	Zinc	38.3	B	38.3	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445034	6010C	DUP-AI5-1(0-2)	Zinc	167	B	167	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445035	6010C	DUP-AI5-2(6-24)	Zinc	507	B	507	J	MS-H, FD	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445036	6010C	AI5-107(0-2)	Zinc	283	B	283	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445037	6010C	AI5-107(6-24)	Zinc	31.5	B	31.5	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445038	6010C	AI5-107(2-6)	Zinc	38.1	B	38.1	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445039	6010C	AI5-108(0-2)	Zinc	213	B	213	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445040	6010C	AI5-108(6-24)	Zinc	339	B	339	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445041	6010C	AI5-108(2-6)	Zinc	195	B	195	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445042	6010C	AI5-110(0-2)	Zinc	45.7	B	45.7	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445043	6010C	AI5-110(6-24)	Zinc	41	B	41	J	MS-H	mg/kg
C1E12445_ADR_Rev2_rev	C1E120445044	6010C	AI5-110(2-6)	Zinc	24.2	B	24.2	J	MS-H	mg/kg
C1E13427_ADR_Rev2_rev	C1E130427001	6010C	AI2-108(0-2)	Antimony	5.7		5.7	J	MS-L, FD	mg/kg
C1E13427_ADR_Rev2_rev	C1E130427002	6010C	AI2-108(6-24)	Antimony	0.35	J	0.35	J	MS-L, FD, RL	mg/kg
C1E13427_ADR_Rev2_rev	C1E130427003	6010C	DUP-AI2-1(0-2)	Antimony	18.2		18.2	J	MS-L, FD	mg/kg
C1E13427_ADR_Rev2_rev	C1E130427004	6010C	DUP-AI2-2(6-24)	Antimony	24.1		24.1	J	MS-L, FD	mg/kg
C1E13427_ADR_Rev2_rev	C1E130427005	6010C	AI2-110(0-2)	Antimony	0.57	J	0.57	J	MS-L, RL	mg/kg
C1E13427_ADR_Rev2_rev	C1E130427006	6010C	AI2-110(6-24)	Antimony	0.48	U	0.48	UJ	MS-L	mg/kg
C1E13427_ADR_Rev2_rev	C1E130427005	6010C	AI2-110(0-2)	Beryllium	0.57	J	0.57	J	RL	mg/kg
C1E13427_ADR_Rev2_rev	C1E130427001	6010C	AI2-108(0-2)	Cadmium	0.65		0.65	J	FD	mg/kg
C1E13427_ADR_Rev2_rev	C1E130427002	6010C	AI2-108(6-24)	Cadmium	0.033	J	0.033	J	RL	mg/kg
C1E13427_ADR_Rev2_rev	C1E130427003	6010C	DUP-AI2-1(0-2)	Cadmium	0.52		0.52	J	FD	mg/kg
C1E13427_ADR_Rev2_rev	C1E130427005	6010C	AI2-110(0-2)	Cadmium	0.55	J	0.55	J	RL	mg/kg
C1E13427_ADR_Rev2_rev	C1E130427006	6010C	AI2-110(6-24)	Cadmium	0.086	J	0.086	J	RL	mg/kg
C1E13427_ADR_Rev2_rev	C1E130427002	6010C	AI2-108(6-24)	Calcium	2340	B	2340	J	FD	mg/kg
C1E13427_ADR_Rev2_rev	C1E130427004	6010C	DUP-AI2-2(6-24)	Calcium	1870	B	1870	J	FD	mg/kg
C1E13427_ADR_Rev2_rev	C1E130427007	6010C	ER-AI2	Calcium	112	J B	112	J	RL	ug/L
C1E13427_ADR_Rev2_rev	C1E130427005	6010C	AI2-110(0-2)	Cobalt	5.5	J	5.5	J	RL	mg/kg
C1E13427_ADR_Rev2_rev	C1E130427006	6010C	AI2-110(6-24)	Cobalt	5.8	J	5.8	J	RL	mg/kg
C1E13427_ADR_Rev2_rev	C1E130427001	6010C	AI2-108(0-2)	Copper	11500		11500	J	FD	mg/kg
C1E13427_ADR_Rev2_rev	C1E130427003	6010C	DUP-AI2-1(0-2)	Copper	958		958	J	FD	mg/kg
C1E13427_ADR_Rev2_rev	C1E130427002	6010C	AI2-108(6-24)	Lead	115		115	J	FD	mg/kg
C1E13427_ADR_Rev2_rev	C1E130427004	6010C	DUP-AI2-2(6-24)	Lead	282		282	J	FD	mg/kg
C1E13427_ADR_Rev2_rev	C1E130427001	6010C	AI2-108(0-2)	Manganese	84.8		84.8	J	FD	mg/kg

Table 3a
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Sample Delivery Group	Lab Sample ID	Analysis Method	Field Sample ID	Parameter Name	Lab Result	Lab Qual	Validated Result	Val Qual	Validation Reason Code	Result Units
C1E13427_ADR_Rev2_rev	C1E130427003	6010C	DUP-AI2-1(0-2)	Manganese	104		104	J	FD	mg/kg
C1E13427_ADR_Rev2_rev	C1E130427001	6010C	AI2-108(0-2)	Potassium	403	J	403	J	RL	mg/kg
C1E13427_ADR_Rev2_rev	C1E130427003	6010C	DUP-AI2-1(0-2)	Potassium	490	J	490	J	RL	mg/kg
C1E13427_ADR_Rev2_rev	C1E130427005	6010C	AI2-110(0-2)	Selenium	0.68	J	0.68	J	RL	mg/kg
C1E13427_ADR_Rev2_rev	C1E130427001	6010C	AI2-108(0-2)	Silver	0.34	J	0.34	J	RL	mg/kg
C1E13427_ADR_Rev2_rev	C1E130427003	6010C	DUP-AI2-1(0-2)	Silver	0.12	J	0.12	J	RL	mg/kg
C1E13427_ADR_Rev2_rev	C1E130427001	6010C	AI2-108(0-2)	Sodium	164	J	164	J	RL	mg/kg
C1E13427_ADR_Rev2_rev	C1E130427002	6010C	AI2-108(6-24)	Sodium	153	J	153	J	RL	mg/kg
C1E13427_ADR_Rev2_rev	C1E130427003	6010C	DUP-AI2-1(0-2)	Sodium	197	J	197	J	RL	mg/kg
C1E13427_ADR_Rev2_rev	C1E130427004	6010C	DUP-AI2-2(6-24)	Sodium	111	J	111	J	RL	mg/kg
C1E13427_ADR_Rev2_rev	C1E130427005	6010C	AI2-110(0-2)	Sodium	54.3	J	54.3	J	RL	mg/kg
C1E13427_ADR_Rev2_rev	C1E130427006	6010C	AI2-110(6-24)	Sodium	40.6	J	40.6	J	RL	mg/kg
C1E14504_ADR_rev2_rev	C1E140504001	6010C	AI2-101(0-2)"	Antimony	0.46	J	0.46	J	MS-L, RL	mg/kg
C1E14504_ADR_rev2_rev	C1E140504002	6010C	AI2-101(6-24)"	Antimony	0.37	U	0.37	UJ	MS-L	mg/kg
C1E14504_ADR_rev2_rev	C1E140504003	6010C	AI2-102(0-2)"	Antimony	1.1	J	1.1	J	MS-L, RL	mg/kg
C1E14504_ADR_rev2_rev	C1E140504004	6010C	AI2-102(6-24)"	Antimony	0.33	J	0.33	J	MS-L, RL	mg/kg
C1E14504_ADR_rev2_rev	C1E140504005	6010C	AI2-103(0-2)"	Antimony	0.57	J	0.57	J	MS-L, RL	mg/kg
C1E14504_ADR_rev2_rev	C1E140504006	6010C	AI2-103(6-24)"	Antimony	0.29	J	0.29	J	MS-L, RL	mg/kg
C1E14504_ADR_rev2_rev	C1E140504007	6010C	AI2-104(0-2)"	Antimony	0.63	J	0.63	J	MS-L, RL	mg/kg
C1E14504_ADR_rev2_rev	C1E140504008	6010C	AI2-104(6-24)"	Antimony	0.72	J	0.72	J	MS-L, RL	mg/kg
C1E14504_ADR_rev2_rev	C1E140504009	6010C	AI2-105(0-2)"	Antimony	0.47	U	0.47	UJ	MS-L	mg/kg
C1E14504_ADR_rev2_rev	C1E140504010	6010C	AI2-105(6-24)"	Antimony	0.43	U	0.43	UJ	MS-L	mg/kg
C1E14504_ADR_rev2_rev	C1E140504011	6010C	AI2-106(0-2)"	Antimony	0.37	J	0.37	J	MS-L, RL	mg/kg
C1E14504_ADR_rev2_rev	C1E140504012	6010C	AI2-106(6-24)"	Antimony	0.44	U	0.44	UJ	MS-L	mg/kg
C1E14504_ADR_rev2_rev	C1E140504002	6010C	AI2-101(6-24)"	Cadmium	0.17	J	0.17	J	RL	mg/kg
C1E14504_ADR_rev2_rev	C1E140504004	6010C	AI2-102(6-24)"	Cadmium	0.13	J	0.13	J	RL	mg/kg
C1E14504_ADR_rev2_rev	C1E140504006	6010C	AI2-103(6-24)"	Cadmium	0.072	J	0.072	J	RL	mg/kg
C1E14504_ADR_rev2_rev	C1E140504007	6010C	AI2-104(0-2)"	Cadmium	0.52	J	0.52	J	RL	mg/kg
C1E14504_ADR_rev2_rev	C1E140504008	6010C	AI2-104(6-24)"	Cadmium	0.036	J	0.036	J	RL	mg/kg
C1E14504_ADR_rev2_rev	C1E140504009	6010C	AI2-105(0-2)"	Cadmium	0.48	J	0.48	J	RL	mg/kg
C1E14504_ADR_rev2_rev	C1E140504010	6010C	AI2-105(6-24)"	Cadmium	0.086	J	0.086	J	RL	mg/kg
C1E14504_ADR_rev2_rev	C1E140504012	6010C	AI2-106(6-24)"	Cadmium	0.12	J	0.12	J	RL	mg/kg
C1E14504_ADR_rev2_rev	C1E140504005	6010C	AI2-103(0-2)"	Cobalt	5.8	J	5.8	J	RL	mg/kg
C1E14504_ADR_rev2_rev	C1E140504006	6010C	AI2-103(6-24)"	Cobalt	4.8	J	4.8	J	RL	mg/kg
C1E14504_ADR_rev2_rev	C1E140504007	6010C	AI2-104(0-2)"	Cobalt	5.6	J	5.6	J	RL	mg/kg
C1E14504_ADR_rev2_rev	C1E140504008	6010C	AI2-104(6-24)"	Cobalt	5.4	J	5.4	J	RL	mg/kg
C1E14504_ADR_rev2_rev	C1E140504004	6010C	AI2-102(6-24)"	Potassium	556	J	556	J	RL	mg/kg
C1E14504_ADR_rev2_rev	C1E140504005	6010C	AI2-103(0-2)"	Potassium	652	J	652	J	RL	mg/kg
C1E14504_ADR_rev2_rev	C1E140504006	6010C	AI2-103(6-24)"	Potassium	409	J	409	J	RL	mg/kg
C1E14504_ADR_rev2_rev	C1E140504008	6010C	AI2-104(6-24)"	Potassium	514	J	514	J	RL	mg/kg
C1E14504_ADR_rev2_rev	C1E140504003	6010C	AI2-102(0-2)"	Selenium	0.75	J	0.75	J	RL	mg/kg

Table 3a
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Sample Delivery Group	Lab Sample ID	Analysis Method	Field Sample ID	Parameter Name	Lab Result	Lab Qual	Validated Result	Val Qual	Validation Reason Code	Result Units
C1E14504_ADR_rev2_rev	C1E140504005	6010C	AI2-103(0-2)"	Selenium	0.62	J	0.62	J	RL	mg/kg
C1E14504_ADR_rev2_rev	C1E140504007	6010C	AI2-104(0-2)"	Selenium	0.47	J	0.47	J	RL	mg/kg
C1E14504_ADR_rev2_rev	C1E140504001	6010C	AI2-101(0-2)"	Silver	0.31	J	0.31	J	RL	mg/kg
C1E14504_ADR_rev2_rev	C1E140504003	6010C	AI2-102(0-2)"	Silver	0.45	J	0.45	J	RL	mg/kg
C1E14504_ADR_rev2_rev	C1E140504007	6010C	AI2-104(0-2)"	Silver	0.44	J	0.44	J	RL	mg/kg
C1E14504_ADR_rev2_rev	C1E140504011	6010C	AI2-106(0-2)"	Silver	0.085	J	0.085	J	RL	mg/kg
C1E14504_ADR_rev2_rev	C1E140504001	6010C	AI2-101(0-2)"	Sodium	383	J	383	J	RL	mg/kg
C1E14504_ADR_rev2_rev	C1E140504002	6010C	AI2-101(6-24)"	Sodium	153	J	153	J	RL	mg/kg
C1E14504_ADR_rev2_rev	C1E140504003	6010C	AI2-102(0-2)"	Sodium	91.3	J	91.3	J	RL	mg/kg
C1E14504_ADR_rev2_rev	C1E140504004	6010C	AI2-102(6-24)"	Sodium	76.7	J	76.7	J	RL	mg/kg
C1E14504_ADR_rev2_rev	C1E140504005	6010C	AI2-103(0-2)"	Sodium	65.5	J	65.5	J	RL	mg/kg
C1E14504_ADR_rev2_rev	C1E140504006	6010C	AI2-103(6-24)"	Sodium	98.7	J	98.7	J	RL	mg/kg
C1E14504_ADR_rev2_rev	C1E140504007	6010C	AI2-104(0-2)"	Sodium	67.6	J	67.6	J	RL	mg/kg
C1E14504_ADR_rev2_rev	C1E140504008	6010C	AI2-104(6-24)"	Sodium	214	J	214	J	RL	mg/kg
C1E14504_ADR_rev2_rev	C1E140504009	6010C	AI2-105(0-2)"	Sodium	77.3	J	77.3	J	RL	mg/kg
C1E14504_ADR_rev2_rev	C1E140504010	6010C	AI2-105(6-24)"	Sodium	54.2	J	54.2	J	RL	mg/kg
C1E14504_ADR_rev2_rev	C1E140504011	6010C	AI2-106(0-2)"	Sodium	290	J	290	J	RL	mg/kg
C1E14504_ADR_rev2_rev	C1E140504012	6010C	AI2-106(6-24)"	Sodium	106	J	106	J	RL	mg/kg
C1E10518_ADR_Rev2_rev	C1E100518004	7470A	MW-4	Mercury	0.039	J	0.039	J	RL	ug/L
C1E10518_ADR_Rev2_rev	C1E100518006	7470A	DUP-1	Mercury	0.044	J	0.044	J	RL	ug/L
C1E10518_ADR_Rev2_rev	C1E100518001	8260B	MW-1	2-Butanone	1.5	U	1.5	UJ	LCS-L	ug/L
C1E10518_ADR_Rev2_rev	C1E100518002	8260B	MW-2	2-Butanone	1.5	U	1.5	UJ	LCS-L	ug/L
C1E10518_ADR_Rev2_rev	C1E100518003	8260B	MW-3	2-Butanone	1.5	U	1.5	UJ	LCS-L	ug/L
C1E10518_ADR_Rev2_rev	C1E100518004	8260B	MW-4	2-Butanone	1.5	U	1.5	UJ	LCS-L	ug/L
C1E10518_ADR_Rev2_rev	C1E100518005	8260B	MW-5	2-Butanone	1.5	U	1.5	UJ	LCS-L	ug/L
C1E10518_ADR_Rev2_rev	C1E100518006	8260B	DUP-1	2-Butanone	1.5	U	1.5	UJ	LCS-L	ug/L
C1E10518_ADR_Rev2_rev	C1E100518007	8260B	TRIPBLANK-1	2-Butanone	1.5	U	1.5	UJ	LCS-L	ug/L
C1E10518_ADR_Rev2_rev	C1E100518001	8260B	MW-1	2-Hexanone	1	U	1	UJ	LCS-L	ug/L
C1E10518_ADR_Rev2_rev	C1E100518002	8260B	MW-2	2-Hexanone	1	U	1	UJ	LCS-L	ug/L
C1E10518_ADR_Rev2_rev	C1E100518003	8260B	MW-3	2-Hexanone	1	U	1	UJ	LCS-L	ug/L
C1E10518_ADR_Rev2_rev	C1E100518004	8260B	MW-4	2-Hexanone	1	U	1	UJ	LCS-L	ug/L
C1E10518_ADR_Rev2_rev	C1E100518005	8260B	MW-5	2-Hexanone	1	U	1	UJ	LCS-L	ug/L
C1E10518_ADR_Rev2_rev	C1E100518006	8260B	DUP-1	2-Hexanone	1	U	1	UJ	LCS-L	ug/L
C1E10518_ADR_Rev2_rev	C1E100518007	8260B	TRIPBLANK-1	2-Hexanone	1	U	1	UJ	LCS-L	ug/L
C1E10518_ADR_Rev2_rev	C1E100518001	8260B	MW-1	4-Methyl-2-pentanone	1	U	1	UJ	LCS-L	ug/L
C1E10518_ADR_Rev2_rev	C1E100518002	8260B	MW-2	4-Methyl-2-pentanone	1	U	1	UJ	LCS-L	ug/L
C1E10518_ADR_Rev2_rev	C1E100518003	8260B	MW-3	4-Methyl-2-pentanone	1	U	1	UJ	LCS-L	ug/L
C1E10518_ADR_Rev2_rev	C1E100518004	8260B	MW-4	4-Methyl-2-pentanone	1	U	1	UJ	LCS-L	ug/L
C1E10518_ADR_Rev2_rev	C1E100518005	8260B	MW-5	4-Methyl-2-pentanone	1	U	1	UJ	LCS-L	ug/L
C1E10518_ADR_Rev2_rev	C1E100518006	8260B	DUP-1	4-Methyl-2-pentanone	1	U	1	UJ	LCS-L	ug/L
C1E10518_ADR_Rev2_rev	C1E100518007	8260B	TRIPBLANK-1	4-Methyl-2-pentanone	1	U	1	UJ	LCS-L	ug/L

Table 3a
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Sample Delivery Group	Lab Sample ID	Analysis Method	Field Sample ID	Parameter Name	Lab Result	Lab Qual	Validated Result	Val Qual	Validation Reason Code	Result Units
C1E10518_ADR_Rev2_rev	C1E100518001	8260B	MW-1	Acetone	2	U	2	UJ	LCS-L	ug/L
C1E10518_ADR_Rev2_rev	C1E100518002	8260B	MW-2	Acetone	2	U	2	UJ	LCS-L	ug/L
C1E10518_ADR_Rev2_rev	C1E100518003	8260B	MW-3	Acetone	2	U	2	UJ	LCS-L	ug/L
C1E10518_ADR_Rev2_rev	C1E100518004	8260B	MW-4	Acetone	2	U	2	UJ	LCS-L	ug/L
C1E10518_ADR_Rev2_rev	C1E100518005	8260B	MW-5	Acetone	2	U	2	UJ	LCS-L	ug/L
C1E10518_ADR_Rev2_rev	C1E100518006	8260B	DUP-1	Acetone	2	U	2	UJ	LCS-L	ug/L
C1E10518_ADR_Rev2_rev	C1E100518007	8260B	TRIPBLANK-1	Acetone	2	U	2	UJ	LCS-L	ug/L
C1E10518_ADR_Rev2_rev	C1E100518004	8260B	MW-4	Chloroform	14		14	J	FD	ug/L
C1E10518_ADR_Rev2_rev	C1E100518006	8260B	DUP-1	Chloroform	1.5	U	1.5	UJ	FD	ug/L
C1E10518_ADR_Rev2_rev	C1E100518001	8260B	MW-1	Vinyl chloride	1.5	U	1.5	UJ	LCS-L	ug/L
C1E10518_ADR_Rev2_rev	C1E100518002	8260B	MW-2	Vinyl chloride	1.5	U	1.5	UJ	LCS-L	ug/L
C1E10518_ADR_Rev2_rev	C1E100518003	8260B	MW-3	Vinyl chloride	1.5	U	1.5	UJ	LCS-L	ug/L
C1E10518_ADR_Rev2_rev	C1E100518004	8260B	MW-4	Vinyl chloride	1.5	U	1.5	UJ	LCS-L	ug/L
C1E10518_ADR_Rev2_rev	C1E100518005	8260B	MW-5	Vinyl chloride	1.5	U	1.5	UJ	LCS-L	ug/L
C1E10518_ADR_Rev2_rev	C1E100518006	8260B	DUP-1	Vinyl chloride	1.5	U	1.5	UJ	LCS-L	ug/L
C1E10518_ADR_Rev2_rev	C1E100518007	8260B	TRIPBLANK-1	Vinyl chloride	1.5	U	1.5	UJ	LCS-L	ug/L
C1E10518_ADR_Rev2_rev	C1E100518006	8270D	DUP-1	Anthracene	0.023	J	0.023	J	RL	ug/L
C1E10518_ADR_Rev2_rev	C1E100518006	8270D	DUP-1	Benzo(a)anthracene	0.064	J	0.064	J	RL	ug/L
C1E10518_ADR_Rev2_rev	C1E100518005	8270D	MW-5	Benzo(a)pyrene	0.18	J	0.18	J	RL	ug/L
C1E10518_ADR_Rev2_rev	C1E100518006	8270D	DUP-1	Benzo(a)pyrene	0.066	J	0.066	J	RL	ug/L
C1E10518_ADR_Rev2_rev	C1E100518004	8270D	MW-4	Benzo(b)fluoranthene	0.033	J	0.033	J	RL	ug/L
C1E10518_ADR_Rev2_rev	C1E100518006	8270D	DUP-1	Benzo(b)fluoranthene	0.11	J	0.11	J	RL	ug/L
C1E10518_ADR_Rev2_rev	C1E100518006	8270D	DUP-1	Benzo(ghi)perylene	0.055	J	0.055	J	RL	ug/L
C1E10518_ADR_Rev2_rev	C1E100518006	8270D	DUP-1	Chrysene	0.084	J	0.084	J	RL	ug/L
C1E10518_ADR_Rev2_rev	C1E100518004	8270D	MW-4	Fluoranthene	0.044	J	0.044	J	RL	ug/L
C1E10518_ADR_Rev2_rev	C1E100518005	8270D	MW-5	Fluoranthene	0.04	J	0.04	J	RL	ug/L
C1E10518_ADR_Rev2_rev	C1E100518006	8270D	DUP-1	Fluoranthene	0.1	J	0.1	J	RL	ug/L
C1E10518_ADR_Rev2_rev	C1E100518006	8270D	DUP-1	Phenanthrene	0.044	J	0.044	J	RL	ug/L
C1E10518_ADR_Rev2_rev	C1E100518004	8270D	MW-4	Pyrene	0.037	J	0.037	J	RL	ug/L
C1E10518_ADR_Rev2_rev	C1E100518005	8270D	MW-5	Pyrene	0.044	J	0.044	J	RL	ug/L
C1E10518_ADR_Rev2_rev	C1E100518006	8270D	DUP-1	Pyrene	0.11	J	0.11	J	RL	ug/L
C1E12405_ADR_Rev2_rev	C1E120405001	8270D	AI3-101(0-2)	1-Methylnaphthalene	11	J	11	J	RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405002	8270D	AI3-101(6-24)	1-Methylnaphthalene	3.6	J	3.6	J	RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405003	8270D	AI3-102(0-2)	1-Methylnaphthalene	6.7	J	6.7	J	RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405004	8270D	AI3-102(6-24)	1-Methylnaphthalene	4.5	J	4.5	J	RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405005	8270D	AI3-103(0-2)	1-Methylnaphthalene	180	J	180	J	RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405007	8270D	AI3-104(0-2)	1-Methylnaphthalene	3.2	J	3.2	J	RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405008	8270D	AI3-104(6-24)	1-Methylnaphthalene	3.6	J	3.6	J	RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405011	8270D	AI3-108(0-2)	1-Methylnaphthalene	6.5	J	6.5	J	RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405012	8270D	AI3-108(6-24)	1-Methylnaphthalene	1	J	1	J	RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405013	8270D	AI3-109(0-2)	1-Methylnaphthalene	6.8	J	6.8	J	RL	ug/kg

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Sample Delivery Group	Lab Sample ID	Analysis Method	Field Sample ID	Parameter Name	Lab Result	Lab Qual	Validated Result	Val Qual	Validation Reason Code	Result Units
C1E12405_ADR_Rev2_rev	C1E120405014	8270D	AI3-109(6-24)	1-Methylnaphthalene	3.1	J	3.1	J	RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405015	8270D	AI3-111(0-2)	1-Methylnaphthalene	8.7	J	8.7	J	RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405017	8270D	AI3-112(0-2)	1-Methylnaphthalene	4.2	J	4.2	J	RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405019	8270D	DUP-AI3-1	1-Methylnaphthalene	0.91	J	0.91	J	RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405001	8270D	AI3-101(0-2)	2-Methylnaphthalene	13	J	13	J	MS-L, RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405002	8270D	AI3-101(6-24)	2-Methylnaphthalene	4	J	4	J	MS-L, RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405003	8270D	AI3-102(0-2)	2-Methylnaphthalene	9.4		9.4	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405004	8270D	AI3-102(6-24)	2-Methylnaphthalene	5.8	J	5.8	J	MS-L, RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405005	8270D	AI3-103(0-2)	2-Methylnaphthalene	220	J	220	J	MS-L, RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405006	8270D	AI3-103(6-24)	2-Methylnaphthalene	15	J	15	J	MS-L, RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405007	8270D	AI3-104(0-2)	2-Methylnaphthalene	3.9	J	3.9	J	MS-L, RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405008	8270D	AI3-104(6-24)	2-Methylnaphthalene	5.1	J	5.1	J	MS-L, RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405009	8270D	AI3-105(0-2)	2-Methylnaphthalene	16		16	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405010	8270D	AI3-105(6-24)	2-Methylnaphthalene	12		12	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405011	8270D	AI3-108(0-2)	2-Methylnaphthalene	7.9	J	7.9	J	MS-L, RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405012	8270D	AI3-108(6-24)	2-Methylnaphthalene	1.2	J	1.2	J	MS-L, RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405013	8270D	AI3-109(0-2)	2-Methylnaphthalene	8.7	J	8.7	J	MS-L, RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405014	8270D	AI3-109(6-24)	2-Methylnaphthalene	4.2	J	4.2	J	MS-L, RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405015	8270D	AI3-111(0-2)	2-Methylnaphthalene	15	J	15	J	MS-L, RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405016	8270D	AI3-111(6-24)	2-Methylnaphthalene	76		76	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405017	8270D	AI3-112(0-2)	2-Methylnaphthalene	5.4	J	5.4	J	MS-L, RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405018	8270D	AI3-112(6-12)	2-Methylnaphthalene	0.88	J	0.88	J	MS-L, RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405019	8270D	DUP-AI3-1	2-Methylnaphthalene	1	J	1	J	MS-L, RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405020	8270D	DUP-AI3-2	2-Methylnaphthalene	12	U	12	UJ	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405001	8270D	AI3-101(0-2)	Acenaphthene	35		35	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405002	8270D	AI3-101(6-24)	Acenaphthene	6.8	J	6.8	J	MS-L, RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405003	8270D	AI3-102(0-2)	Acenaphthene	11		11	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405004	8270D	AI3-102(6-24)	Acenaphthene	7.1	J	7.1	J	MS-L, RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405005	8270D	AI3-103(0-2)	Acenaphthene	94	J	94	J	MS-L, RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405006	8270D	AI3-103(6-24)	Acenaphthene	24	U	24	UJ	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405007	8270D	AI3-104(0-2)	Acenaphthene	2.9	J	2.9	J	MS-L, RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405008	8270D	AI3-104(6-24)	Acenaphthene	3.4	J	3.4	J	MS-L, RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405009	8270D	AI3-105(0-2)	Acenaphthene	11		11	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405010	8270D	AI3-105(6-24)	Acenaphthene	4.7	J	4.7	J	MS-L, RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405011	8270D	AI3-108(0-2)	Acenaphthene	7.8	U	7.8	UJ	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405012	8270D	AI3-108(6-24)	Acenaphthene	1.7	J	1.7	J	MS-L, RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405013	8270D	AI3-109(0-2)	Acenaphthene	16		16	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405014	8270D	AI3-109(6-24)	Acenaphthene	4	J	4	J	MS-L, RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405015	8270D	AI3-111(0-2)	Acenaphthene	11	U	11	UJ	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405016	8270D	AI3-111(6-24)	Acenaphthene	190		190	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405017	8270D	AI3-112(0-2)	Acenaphthene	3.3	J	3.3	J	MS-L, RL	ug/kg

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C1E12405_ADR_Rev2_rev	C1E120405018	8270D	AI3-112(6-12)	Acenaphthene	1.3	U	1.3	UJ	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405019	8270D	DUP-AI3-1	Acenaphthene	1.2	U	1.2	UJ	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405020	8270D	DUP-AI3-2	Acenaphthene	12	U	12	UJ	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405002	8270D	AI3-101(6-24)	Acenaphthylene	7.5	J	7.5	J	RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405005	8270D	AI3-103(0-2)	Acenaphthylene	190	J	190	J	RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405006	8270D	AI3-103(6-24)	Acenaphthylene	67	J	67	J	RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405011	8270D	AI3-108(0-2)	Acenaphthylene	42	J	42	J	RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405012	8270D	AI3-108(6-24)	Acenaphthylene	4.7	J	4.7	J	RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405018	8270D	AI3-112(6-12)	Acenaphthylene	3.1	J	3.1	J	RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405019	8270D	DUP-AI3-1	Acenaphthylene	5.5	J	5.5	J	RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405020	8270D	DUP-AI3-2	Acenaphthylene	41	J	41	J	RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405001	8270D	AI3-101(0-2)	Anthracene	140		140	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405002	8270D	AI3-101(6-24)	Anthracene	23		23	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405003	8270D	AI3-102(0-2)	Anthracene	120		120	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405004	8270D	AI3-102(6-24)	Anthracene	120		120	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405005	8270D	AI3-103(0-2)	Anthracene	390	J	390	J	MS-L, RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405006	8270D	AI3-103(6-24)	Anthracene	58	J	58	J	MS-L, RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405007	8270D	AI3-104(0-2)	Anthracene	18		18	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405008	8270D	AI3-104(6-24)	Anthracene	16		16	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405009	8270D	AI3-105(0-2)	Anthracene	91		91	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405010	8270D	AI3-105(6-24)	Anthracene	41		41	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405011	8270D	AI3-108(0-2)	Anthracene	41	J	41	J	MS-L, RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405012	8270D	AI3-108(6-24)	Anthracene	7.3	J	7.3	J	MS-L, RL, FD	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405013	8270D	AI3-109(0-2)	Anthracene	100		100	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405014	8270D	AI3-109(6-24)	Anthracene	25		25	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405015	8270D	AI3-111(0-2)	Anthracene	66	J	66	J	MS-L, RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405016	8270D	AI3-111(6-24)	Anthracene	670		670	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405017	8270D	AI3-112(0-2)	Anthracene	18		18	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405018	8270D	AI3-112(6-12)	Anthracene	2.2	J	2.2	J	MS-L, RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405019	8270D	DUP-AI3-1	Anthracene	3.5	J	3.5	J	MS-L, RL, FD	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405020	8270D	DUP-AI3-2	Anthracene	37	J	37	J	MS-L, RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405001	8270D	AI3-101(0-2)	Benzo(a)anthracene	680		680	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405002	8270D	AI3-101(6-24)	Benzo(a)anthracene	110		110	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405003	8270D	AI3-102(0-2)	Benzo(a)anthracene	450		450	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405004	8270D	AI3-102(6-24)	Benzo(a)anthracene	460		460	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405005	8270D	AI3-103(0-2)	Benzo(a)anthracene	1500		1500	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405006	8270D	AI3-103(6-24)	Benzo(a)anthracene	190		190	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405007	8270D	AI3-104(0-2)	Benzo(a)anthracene	64		64	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405008	8270D	AI3-104(6-24)	Benzo(a)anthracene	64		64	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405009	8270D	AI3-105(0-2)	Benzo(a)anthracene	350		350	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405010	8270D	AI3-105(6-24)	Benzo(a)anthracene	160		160	J	MS-L	ug/kg

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Sample Delivery Group	Lab Sample ID	Analysis Method	Field Sample ID	Parameter Name	Lab Result	Lab Qual	Validated Result	Val Qual	Validation Reason Code	Result Units
C1E12405_ADR_Rev2_rev	C1E120405011	8270D	AI3-108(0-2)	Benzo(a)anthracene	170		170	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405012	8270D	AI3-108(6-24)	Benzo(a)anthracene	36		36	J	MS-L, FD	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405013	8270D	AI3-109(0-2)	Benzo(a)anthracene	390		390	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405014	8270D	AI3-109(6-24)	Benzo(a)anthracene	110		110	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405015	8270D	AI3-111(0-2)	Benzo(a)anthracene	250		250	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405016	8270D	AI3-111(6-24)	Benzo(a)anthracene	1400		1400	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405017	8270D	AI3-112(0-2)	Benzo(a)anthracene	88		88	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405018	8270D	AI3-112(6-12)	Benzo(a)anthracene	7.1	J	7.1	J	MS-L, RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405019	8270D	DUP-AI3-1	Benzo(a)anthracene	17		17	J	MS-L, FD	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405020	8270D	DUP-AI3-2	Benzo(a)anthracene	170		170	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405001	8270D	AI3-101(0-2)	Benzo(a)pyrene	740		740	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405002	8270D	AI3-101(6-24)	Benzo(a)pyrene	120		120	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405003	8270D	AI3-102(0-2)	Benzo(a)pyrene	530		530	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405004	8270D	AI3-102(6-24)	Benzo(a)pyrene	540		540	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405005	8270D	AI3-103(0-2)	Benzo(a)pyrene	1800		1800	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405006	8270D	AI3-103(6-24)	Benzo(a)pyrene	240		240	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405007	8270D	AI3-104(0-2)	Benzo(a)pyrene	75		75	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405008	8270D	AI3-104(6-24)	Benzo(a)pyrene	70		70	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405009	8270D	AI3-105(0-2)	Benzo(a)pyrene	380		380	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405010	8270D	AI3-105(6-24)	Benzo(a)pyrene	180		180	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405011	8270D	AI3-108(0-2)	Benzo(a)pyrene	170		170	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405012	8270D	AI3-108(6-24)	Benzo(a)pyrene	38		38	J	MS-L, FD	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405013	8270D	AI3-109(0-2)	Benzo(a)pyrene	400		400	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405014	8270D	AI3-109(6-24)	Benzo(a)pyrene	120		120	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405015	8270D	AI3-111(0-2)	Benzo(a)pyrene	310		310	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405016	8270D	AI3-111(6-24)	Benzo(a)pyrene	1400		1400	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405017	8270D	AI3-112(0-2)	Benzo(a)pyrene	100		100	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405018	8270D	AI3-112(6-12)	Benzo(a)pyrene	11		11	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405019	8270D	DUP-AI3-1	Benzo(a)pyrene	18		18	J	MS-L, FD	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405020	8270D	DUP-AI3-2	Benzo(a)pyrene	190		190	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405001	8270D	AI3-101(0-2)	Benzo(b)fluoranthene	1300		1300	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405002	8270D	AI3-101(6-24)	Benzo(b)fluoranthene	200		200	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405003	8270D	AI3-102(0-2)	Benzo(b)fluoranthene	860		860	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405004	8270D	AI3-102(6-24)	Benzo(b)fluoranthene	880		880	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405005	8270D	AI3-103(0-2)	Benzo(b)fluoranthene	2900		2900	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405006	8270D	AI3-103(6-24)	Benzo(b)fluoranthene	340		340	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405007	8270D	AI3-104(0-2)	Benzo(b)fluoranthene	130		130	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405008	8270D	AI3-104(6-24)	Benzo(b)fluoranthene	130		130	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405009	8270D	AI3-105(0-2)	Benzo(b)fluoranthene	620		620	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405010	8270D	AI3-105(6-24)	Benzo(b)fluoranthene	270		270	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405011	8270D	AI3-108(0-2)	Benzo(b)fluoranthene	290		290	J	MS-L	ug/kg

Table 3a
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Sample Delivery Group	Lab Sample ID	Analysis Method	Field Sample ID	Parameter Name	Lab Result	Lab Qual	Validated Result	Val Qual	Validation Reason Code	Result Units
C1E12405_ADR_Rev2_rev	C1E120405012	8270D	AI3-108(6-24)	Benzo(b)fluoranthene	62		62	J	MS-L, FD	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405013	8270D	AI3-109(0-2)	Benzo(b)fluoranthene	620		620	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405014	8270D	AI3-109(6-24)	Benzo(b)fluoranthene	200		200	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405015	8270D	AI3-111(0-2)	Benzo(b)fluoranthene	500		500	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405016	8270D	AI3-111(6-24)	Benzo(b)fluoranthene	2200		2200	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405017	8270D	AI3-112(0-2)	Benzo(b)fluoranthene	170		170	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405018	8270D	AI3-112(6-12)	Benzo(b)fluoranthene	19		19	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405019	8270D	DUP-AI3-1	Benzo(b)fluoranthene	30		30	J	MS-L, FD	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405020	8270D	DUP-AI3-2	Benzo(b)fluoranthene	310		310	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405012	8270D	AI3-108(6-24)	Benzo(ghi)perylene	31		31	J	FD	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405019	8270D	DUP-AI3-1	Benzo(ghi)perylene	13		13	J	FD	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405001	8270D	AI3-101(0-2)	Chrysene	740		740	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405002	8270D	AI3-101(6-24)	Chrysene	110		110	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405003	8270D	AI3-102(0-2)	Chrysene	490		490	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405004	8270D	AI3-102(6-24)	Chrysene	480		480	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405005	8270D	AI3-103(0-2)	Chrysene	2000		2000	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405006	8270D	AI3-103(6-24)	Chrysene	200		200	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405007	8270D	AI3-104(0-2)	Chrysene	72		72	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405008	8270D	AI3-104(6-24)	Chrysene	74		74	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405009	8270D	AI3-105(0-2)	Chrysene	390		390	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405010	8270D	AI3-105(6-24)	Chrysene	190		190	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405011	8270D	AI3-108(0-2)	Chrysene	180		180	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405012	8270D	AI3-108(6-24)	Chrysene	46		46	J	MS-L, FD	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405013	8270D	AI3-109(0-2)	Chrysene	390		390	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405014	8270D	AI3-109(6-24)	Chrysene	120		120	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405015	8270D	AI3-111(0-2)	Chrysene	290		290	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405016	8270D	AI3-111(6-24)	Chrysene	1300		1300	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405017	8270D	AI3-112(0-2)	Chrysene	100		100	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405018	8270D	AI3-112(6-12)	Chrysene	11		11	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405019	8270D	DUP-AI3-1	Chrysene	18		18	J	MS-L, FD	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405020	8270D	DUP-AI3-2	Chrysene	200		200	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405006	8270D	AI3-103(6-24)	Dibenz(a,h)anthracene	45	J	45	J	RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405011	8270D	AI3-108(0-2)	Dibenz(a,h)anthracene	39	J	39	J	RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405012	8270D	DUP-A13-1	Dibenz(a,h)anthracene	2.5	J	2.5	UJ	FD	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405012	8270D	AI3-108(6-24)	Dibenz(a,h)anthracene	8.4		8.4	J	FD	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405015	8270D	AI3-111(0-2)	Dibenz(a,h)anthracene	58	J	58	J	RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405020	8270D	DUP-AI3-2	Dibenz(a,h)anthracene	41	J	41	J	RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405001	8270D	AI3-101(0-2)	Fluoranthene	1900		1900	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405002	8270D	AI3-101(6-24)	Fluoranthene	260		260	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405003	8270D	AI3-102(0-2)	Fluoranthene	940		940	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405004	8270D	AI3-102(6-24)	Fluoranthene	910		910	J	MS-L	ug/kg

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Sample Delivery Group	Lab Sample ID	Analysis Method	Field Sample ID	Parameter Name	Lab Result	Lab Qual	Validated Result	Val Qual	Validation Reason Code	Result Units
C1E12405_ADR_Rev2_rev	C1E120405005	8270D	AI3-103(0-2)	Fluoranthene	3300		3300	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405006	8270D	AI3-103(6-24)	Fluoranthene	310		310	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405007	8270D	AI3-104(0-2)	Fluoranthene	130		130	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405008	8270D	AI3-104(6-24)	Fluoranthene	140		140	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405009	8270D	AI3-105(0-2)	Fluoranthene	670		670	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405010	8270D	AI3-105(6-24)	Fluoranthene	230		230	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405011	8270D	AI3-108(0-2)	Fluoranthene	300		300	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405012	8270D	AI3-108(6-24)	Fluoranthene	75		75	J	MS-L, FD	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405013	8270D	AI3-109(0-2)	Fluoranthene	780		780	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405014	8270D	AI3-109(6-24)	Fluoranthene	210		210	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405015	8270D	AI3-111(0-2)	Fluoranthene	340		340	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405016	8270D	AI3-111(6-24)	Fluoranthene	2400		2400	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405017	8270D	AI3-112(0-2)	Fluoranthene	160		160	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405018	8270D	AI3-112(6-12)	Fluoranthene	14		14	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405019	8270D	DUP-AI3-1	Fluoranthene	28		28	J	MS-L, FD	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405020	8270D	DUP-AI3-2	Fluoranthene	290		290	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405001	8270D	AI3-101(0-2)	Fluorene	44		44	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405002	8270D	AI3-101(6-24)	Fluorene	8.1		8.1	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405003	8270D	AI3-102(0-2)	Fluorene	21		21	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405004	8270D	AI3-102(6-24)	Fluorene	24		24	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405005	8270D	AI3-103(0-2)	Fluorene	140	J	140	J	MS-L, RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405006	8270D	AI3-103(6-24)	Fluorene	40	U	40	UJ	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405007	8270D	AI3-104(0-2)	Fluorene	3.8	J	3.8	J	MS-L, RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405008	8270D	AI3-104(6-24)	Fluorene	4.8	J	4.8	J	MS-L, RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405009	8270D	AI3-105(0-2)	Fluorene	15		15	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405010	8270D	AI3-105(6-24)	Fluorene	8.9		8.9	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405011	8270D	AI3-108(0-2)	Fluorene	10	J	10	J	MS-L, RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405012	8270D	AI3-108(6-24)	Fluorene	2.3	J	2.3	J	MS-L, RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405013	8270D	AI3-109(0-2)	Fluorene	24		24	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405014	8270D	AI3-109(6-24)	Fluorene	6.7	J	6.7	J	MS-L, RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405015	8270D	AI3-111(0-2)	Fluorene	18	U	18	UJ	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405016	8270D	AI3-111(6-24)	Fluorene	210		210	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405017	8270D	AI3-112(0-2)	Fluorene	4.3	J	4.3	J	MS-L, RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405018	8270D	AI3-112(6-12)	Fluorene	2.2	U	2.2	UJ	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405019	8270D	DUP-AI3-1	Fluorene	2.1	U	2.1	UJ	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405020	8270D	DUP-AI3-2	Fluorene	20	U	20	UJ	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405012	8270D	AI3-108(6-24)	Indeno(1,2,3-cd)pyrene	29		29	J	FD	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405018	8270D	AI3-112(6-12)	Indeno(1,2,3-cd)pyrene	8.5	J	8.5	J	RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405019	8270D	DUP-AI3-1	Indeno(1,2,3-cd)pyrene	6.9	J	6.9	J	RL, FD	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405001	8270D	AI3-101(0-2)	Naphthalene	21		21	J	MS-L, LCS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405002	8270D	AI3-101(6-24)	Naphthalene	6.9	J	6.9	J	MS-L, LCS-L, RL	ug/kg

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Sample Delivery Group	Lab Sample ID	Analysis Method	Field Sample ID	Parameter Name	Lab Result	Lab Qual	Validated Result	Val Qual	Validation Reason Code	Result Units
C1E12405_ADR_Rev2_rev	C1E120405003	8270D	AI3-102(0-2)	Naphthalene	15		15	J	MS-L, LCS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405004	8270D	AI3-102(6-24)	Naphthalene	11		11	J	MS-L, LCS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405005	8270D	AI3-103(0-2)	Naphthalene	210	J	210	J	MS-L, LCS-L, RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405006	8270D	AI3-103(6-24)	Naphthalene	24	U	24	UJ	MS-L, LCS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405007	8270D	AI3-104(0-2)	Naphthalene	5.2	J	5.2	J	MS-L, LCS-L, RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405008	8270D	AI3-104(6-24)	Naphthalene	7	J	7	J	MS-L, LCS-L, RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405009	8270D	AI3-105(0-2)	Naphthalene	15		15	J	MS-L, LCS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405010	8270D	AI3-105(6-24)	Naphthalene	11		11	J	MS-L, LCS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405011	8270D	AI3-108(0-2)	Naphthalene	7.8	U	7.8	UJ	MS-L, LCS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405012	8270D	AI3-108(6-24)	Naphthalene	2.2	J	2.2	J	MS-L, LCS-L, RL, FD	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405013	8270D	AI3-109(0-2)	Naphthalene	14	J	14	J	MS-L, LCS-L, RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405014	8270D	AI3-109(6-24)	Naphthalene	6.1	J	6.1	J	MS-L, LCS-L, RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405015	8270D	AI3-111(0-2)	Naphthalene	19	J	19	J	MS-L, LCS-L, RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405016	8270D	AI3-111(6-24)	Naphthalene	100		100	J	MS-L, LCS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405017	8270D	AI3-112(0-2)	Naphthalene	7.2	J	7.2	J	MS-L, LCS-L, RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405018	8270D	AI3-112(6-12)	Naphthalene	1.3	U	1.3	UJ	MS-L, LCS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405019	8270D	DUP-AI3-1	Naphthalene	1.2	U	1.2	UJ	MS-L, LCS-L, FD	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405020	8270D	DUP-AI3-2	Naphthalene	12	U	12	UJ	MS-L, LCS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405001	8270D	AI3-101(0-2)	Phenanthrene	940		940	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405002	8270D	AI3-101(6-24)	Phenanthrene	160		160	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405003	8270D	AI3-102(0-2)	Phenanthrene	350		350	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405004	8270D	AI3-102(6-24)	Phenanthrene	350		350	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405005	8270D	AI3-103(0-2)	Phenanthrene	1900		1900	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405006	8270D	AI3-103(6-24)	Phenanthrene	180		180	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405007	8270D	AI3-104(0-2)	Phenanthrene	57		57	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405008	8270D	AI3-104(6-24)	Phenanthrene	73		73	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405009	8270D	AI3-105(0-2)	Phenanthrene	280		280	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405010	8270D	AI3-105(6-24)	Phenanthrene	91		91	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405011	8270D	AI3-108(0-2)	Phenanthrene	140		140	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405012	8270D	AI3-108(6-24)	Phenanthrene	44		44	J	MS-L, FD	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405013	8270D	AI3-109(0-2)	Phenanthrene	360		360	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405014	8270D	AI3-109(6-24)	Phenanthrene	89		89	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405015	8270D	AI3-111(0-2)	Phenanthrene	180		180	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405016	8270D	AI3-111(6-24)	Phenanthrene	1800		1800	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405017	8270D	AI3-112(0-2)	Phenanthrene	58		58	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405018	8270D	AI3-112(6-12)	Phenanthrene	5.9	J	5.9	J	MS-L, RL	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405019	8270D	DUP-AI3-1	Phenanthrene	11		11	J	MS-L, FD	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405020	8270D	DUP-AI3-2	Phenanthrene	140		140	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405001	8270D	AI3-101(0-2)	Pyrene	1300		1300	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405002	8270D	AI3-101(6-24)	Pyrene	200		200	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405003	8270D	AI3-102(0-2)	Pyrene	740		740	J	MS-L	ug/kg

Table 3a
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Sample Delivery Group	Lab Sample ID	Analysis Method	Field Sample ID	Parameter Name	Lab Result	Lab Qual	Validated Result	Val Qual	Validation Reason Code	Result Units
C1E12405_ADR_Rev2_rev	C1E120405004	8270D	AI3-102(6-24)	Pyrene	680		680	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405005	8270D	AI3-103(0-2)	Pyrene	3100		3100	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405006	8270D	AI3-103(6-24)	Pyrene	260		260	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405007	8270D	AI3-104(0-2)	Pyrene	100		100	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405008	8270D	AI3-104(6-24)	Pyrene	110		110	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405009	8270D	AI3-105(0-2)	Pyrene	520		520	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405010	8270D	AI3-105(6-24)	Pyrene	200		200	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405011	8270D	AI3-108(0-2)	Pyrene	250		250	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405012	8270D	AI3-108(6-24)	Pyrene	61		61	J	MS-L, FD	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405013	8270D	AI3-109(0-2)	Pyrene	610		610	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405014	8270D	AI3-109(6-24)	Pyrene	170		170	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405015	8270D	AI3-111(0-2)	Pyrene	340		340	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405016	8270D	AI3-111(6-24)	Pyrene	1900		1900	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405017	8270D	AI3-112(0-2)	Pyrene	130		130	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405018	8270D	AI3-112(6-12)	Pyrene	11		11	J	MS-L	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405019	8270D	DUP-AI3-1	Pyrene	24		24	J	MS-L, FD	ug/kg
C1E12405_ADR_Rev2_rev	C1E120405020	8270D	DUP-AI3-2	Pyrene	250		250	J	MS-L	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445002	8270D	AI2-107(6-24)	1-Methylnaphthalene	24	J	24	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445003	8270D	AI2-109(0-2)	1-Methylnaphthalene	3.8	J	3.8	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445005	8270D	AI2-111(0-2)	1-Methylnaphthalene	11	J	11	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445006	8270D	AI2-111(6-24)	1-Methylnaphthalene	6.3	J	6.3	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445007	8270D	AI2-112(0-2)	1-Methylnaphthalene	14	J	14	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445012	8270D	AI3-107(0-2)	1-Methylnaphthalene	6.5	J	6.5	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445013	8270D	AI3-107(6-24)	1-Methylnaphthalene	3	J	3	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445015	8270D	AI3-110(0-2)	1-Methylnaphthalene	6.9	J	6.9	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445016	8270D	AI3-110(6-24)	1-Methylnaphthalene	6.8	J	6.8	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445021	8270D	AI4-106(0-2)	1-Methylnaphthalene	110	J	110	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445022	8270D	AI4-106(6-24)	1-Methylnaphthalene	16	J	16	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445023	8270D	AI4-112(0-2)	1-Methylnaphthalene	8.5	J	8.5	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445024	8270D	AI4-112(6-24)	1-Methylnaphthalene	1.4	J	1.4	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445025	8270D	AI4-115(0-2)	1-Methylnaphthalene	2.3	J	2.3	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445026	8270D	AI4-115(6-24)	1-Methylnaphthalene	2.5	J	2.5	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445027	8270D	DUP-AI4-1	1-Methylnaphthalene	3.4	J	3.4	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445002	8270D	AI2-107(6-24)	2-Methylnaphthalene	15	J	15	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445003	8270D	AI2-109(0-2)	2-Methylnaphthalene	5.3	J	5.3	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445005	8270D	AI2-111(0-2)	2-Methylnaphthalene	11	J	11	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445006	8270D	AI2-111(6-24)	2-Methylnaphthalene	6.2	J	6.2	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445012	8270D	AI3-107(0-2)	2-Methylnaphthalene	9	J	9	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445013	8270D	AI3-107(6-24)	2-Methylnaphthalene	3.8	J	3.8	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445021	8270D	AI4-106(0-2)	2-Methylnaphthalene	140	J	140	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445022	8270D	AI4-106(6-24)	2-Methylnaphthalene	32	J	32	J	RL	ug/kg

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C1E12445_ADR_Rev2_rev	C1E120445023	8270D	AI4-112(0-2)	2-Methylnaphthalene	11	J	11	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445024	8270D	AI4-112(6-24)	2-Methylnaphthalene	2.5	J	2.5	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445025	8270D	AI4-115(0-2)	2-Methylnaphthalene	2.8	J	2.8	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445026	8270D	AI4-115(6-24)	2-Methylnaphthalene	3	J	3	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445027	8270D	DUP-AI4-1	2-Methylnaphthalene	4.4	J	4.4	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445002	8270D	AI2-107(6-24)	Acenaphthene	5.4	J	5.4	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445003	8270D	AI2-109(0-2)	Acenaphthene	1.1	J	1.1	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445005	8270D	AI2-111(0-2)	Acenaphthene	6.4	J	6.4	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445007	8270D	AI2-112(0-2)	Acenaphthene	8.3	J	8.3	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445009	8270D	AI3-106(0-2)	Acenaphthene	5.8	J	5.8	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445012	8270D	AI3-107(0-2)	Acenaphthene	6	J	6	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445013	8270D	AI3-107(6-24)	Acenaphthene	2.3	J	2.3	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445016	8270D	AI3-110(6-24)	Acenaphthene	5.6	J	5.6	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445019	8270D	AI4-105(0-2)	Acenaphthene	8.8	J	8.8	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445020	8270D	AI4-105(6-24)	Acenaphthene	4.2	J	4.2	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445021	8270D	AI4-106(0-2)	Acenaphthene	230	J	230	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445022	8270D	AI4-106(6-24)	Acenaphthene	43	J	43	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445023	8270D	AI4-112(0-2)	Acenaphthene	7.9	J	7.9	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445024	8270D	AI4-112(6-24)	Acenaphthene	1.9	J	1.9	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445025	8270D	AI4-115(0-2)	Acenaphthene	2.6	J	2.6	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445026	8270D	AI4-115(6-24)	Acenaphthene	5.6	J	5.6	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445027	8270D	DUP-AI4-1	Acenaphthene	8.8	J	8.8	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445001	8270D	AI2-107(0-2)	Acenaphthylene	75	J	75	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445012	8270D	AI3-107(0-2)	Acenaphthylene	28	J	28	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445013	8270D	AI3-107(6-24)	Acenaphthylene	7.4	J	7.4	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445001	8270D	AI2-107(0-2)	Anthracene	64	J	64	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445008	8270D	AI2-112(6-24)	Anthracene	0.98	J	0.98	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445012	8270D	AI3-107(0-2)	Anthracene	34	J	34	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445025	8270D	A14-115(0-2)	Anthracene	17		17	J	FD	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445027	8270D	DUP-A14-1	Anthracene	30		30	J	FD	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445004	8270D	AI2-109(6-24)	Benzo(a)anthracene	6.4	J	6.4	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445008	8270D	AI2-112(6-24)	Benzo(a)anthracene	4.1	J	4.1	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445004	8270D	AI2-109(6-24)	Benzo(a)pyrene	6.8	J	6.8	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445008	8270D	AI2-112(6-24)	Benzo(a)pyrene	3.6	J	3.6	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445008	8270D	AI2-112(6-24)	Benzo(b)fluoranthene	6	J	6	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445004	8270D	AI2-109(6-24)	Benzo(ghi)perylene	4.7	J	4.7	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445008	8270D	AI2-112(6-24)	Benzo(ghi)perylene	2.6	J	2.6	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445018	8270D	ER-AI3	Benzo(ghi)perylene	0.032	U	0.032	UJ	LCS-RPD	ug/L
C1E12445_ADR_Rev2_rev	C1E120445004	8270D	AI2-109(6-24)	Chrysene	5.2	J	5.2	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445008	8270D	AI2-112(6-24)	Chrysene	3.4	J	3.4	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445012	8270D	AI3-107(0-2)	Dibenz(a,h)anthracene	27	J	27	J	RL	ug/kg

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Sample Delivery Group	Lab Sample ID	Analysis Method	Field Sample ID	Parameter Name	Lab Result	Lab Qual	Validated Result	Val Qual	Validation Reason Code	Result Units
C1E12445_ADR_Rev2_rev	C1E120445013	8270D	AI3-107(6-24)	Dibenz(a,h)anthracene	8.4	J	8.4	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445026	8270D	AI4-115(6-24)	Dibenz(a,h)anthracene	14	J	14	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445008	8270D	AI2-112(6-24)	Fluoranthene	4.4	J	4.4	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445025	8270D	A14-115(0-2)	Fluoranthene	160		160	J	FD	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445027	8270D	DUP-A14-1	Fluoranthene	22		220	J	FD	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445003	8270D	AI2-109(0-2)	Fluorene	1.6	J	1.6	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445005	8270D	AI2-111(0-2)	Fluorene	6.9	J	6.9	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445007	8270D	AI2-112(0-2)	Fluorene	12	J	12	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445009	8270D	AI3-106(0-2)	Fluorene	5.5	J	5.5	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445012	8270D	AI3-107(0-2)	Fluorene	8.2	J	8.2	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445013	8270D	AI3-107(6-24)	Fluorene	2.3	J	2.3	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445016	8270D	AI3-110(6-24)	Fluorene	7.4	J	7.4	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445020	8270D	AI4-105(6-24)	Fluorene	6.6	J	6.6	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445022	8270D	AI4-106(6-24)	Fluorene	91	J	91	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445023	8270D	AI4-112(0-2)	Fluorene	12	J	12	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445024	8270D	AI4-112(6-24)	Fluorene	3.3	J	3.3	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445025	8270D	AI4-115(0-2)	Fluorene	3.1	J	3.1	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445026	8270D	AI4-115(6-24)	Fluorene	6	J	6	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445027	8270D	DUP-AI4-1	Fluorene	9.2	J	9.2	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445001	8270D	AI2-107(0-2)	Indeno(1,2,3-cd)pyrene	180	J	180	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445004	8270D	AI2-109(6-24)	Indeno(1,2,3-cd)pyrene	4.2	J	4.2	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445008	8270D	AI2-112(6-24)	Indeno(1,2,3-cd)pyrene	3.1	J	3.1	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445002	8270D	AI2-107(6-24)	Naphthalene	12	J	12	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445003	8270D	AI2-109(0-2)	Naphthalene	5.6	J	5.6	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445005	8270D	AI2-111(0-2)	Naphthalene	10	J	10	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445006	8270D	AI2-111(6-24)	Naphthalene	7.5	J	7.5	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445013	8270D	AI3-107(6-24)	Naphthalene	3.8	J	3.8	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445021	8270D	AI4-106(0-2)	Naphthalene	210	J	210	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445022	8270D	AI4-106(6-24)	Naphthalene	83	J	83	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445024	8270D	AI4-112(6-24)	Naphthalene	5.7	J	5.7	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445025	8270D	AI4-115(0-2)	Naphthalene	4.9	J	4.9	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445026	8270D	AI4-115(6-24)	Naphthalene	4	J	4	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445027	8270D	DUP-AI4-1	Naphthalene	6.5	J	6.5	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445001	8270D	AI2-107(0-2)	Phenanthrene	140	J	140	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445004	8270D	AI2-109(6-24)	Phenanthrene	2.8	J	2.8	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445008	8270D	AI2-112(6-24)	Phenanthrene	2.7	J	2.7	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445025	8270D	A14-115(0-2)	Phenanthrene	50		50	J	FD	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445027	8270D	DUP-A14-1	Phenanthrene	110		110	J	FD	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445004	8270D	AI2-109(6-24)	Pyrene	6.3	J	6.3	J	RL	ug/kg
C1E12445_ADR_Rev2_rev	C1E120445008	8270D	AI2-112(6-24)	Pyrene	3.7	J	3.7	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427001	8270D	AI2-108(0-2)	1-Methylnaphthalene	2.1	J	2.1	J	RL	ug/kg

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Sample Delivery Group	Lab Sample ID	Analysis Method	Field Sample ID	Parameter Name	Lab Result	Lab Qual	Validated Result	Val Qual	Validation Reason Code	Result Units
C1E13427_ADR_Rev2_rev	C1E130427002	8270D	AI2-108(6-24)	1-Methylnaphthalene	1.8	J	1.8	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427003	8270D	DUP-AI2-1(0-2)	1-Methylnaphthalene	2.4	J	2.4	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427006	8270D	AI2-110(6-24)	1-Methylnaphthalene	2	J	2	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427009	8270D	AI4-102(0-2)	1-Methylnaphthalene	6.8	J	6.8	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427010	8270D	AI4-102(6-24)	1-Methylnaphthalene	2.1	J	2.1	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427014	8270D	AI4-104(6-24)	1-Methylnaphthalene	4.7	J	4.7	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427015	8270D	AI4-107(0-2)	1-Methylnaphthalene	6.6	J	6.6	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427016	8270D	AI4-107(6-24)	1-Methylnaphthalene	3.7	J	3.7	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427018	8270D	AI4-108(6-24)	1-Methylnaphthalene	7.4	J	7.4	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427020	8270D	AI4-109(6-24)	1-Methylnaphthalene	3.7	J	3.7	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427022	8270D	AI4-110(6-24)	1-Methylnaphthalene	6.5	J	6.5	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427026	8270D	AI4-113(6-24)	1-Methylnaphthalene	0.86	J	0.86	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427027	8270D	AI4-114(0-2)	1-Methylnaphthalene	6.2	J	6.2	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427028	8270D	AI4-114(6-24)	1-Methylnaphthalene	1.1	J	1.1	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427001	8270D	AI2-108(0-2)	2-Methylnaphthalene	3.3	J	3.3	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427002	8270D	AI2-108(6-24)	2-Methylnaphthalene	1.6	J	1.6	J	RL, FD	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427003	8270D	DUP-AI2-1(0-2)	2-Methylnaphthalene	3.9	J	3.9	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427004	8270D	DUP-AI2-2(6-24)	2-Methylnaphthalene	1.1	J	1.1	J	RL, FD	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427006	8270D	AI2-110(6-24)	2-Methylnaphthalene	2.2	J	2.2	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427009	8270D	AI4-102(0-2)	2-Methylnaphthalene	9.6	J	9.6	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427010	8270D	AI4-102(6-24)	2-Methylnaphthalene	2.3	J	2.3	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427012	8270D	AI4-103(6-24)	2-Methylnaphthalene	5.9	J	5.9	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427014	8270D	AI4-104(6-24)	2-Methylnaphthalene	6.1	J	6.1	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427015	8270D	AI4-107(0-2)	2-Methylnaphthalene	7.6	J	7.6	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427016	8270D	AI4-107(6-24)	2-Methylnaphthalene	5.1	J	5.1	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427020	8270D	AI4-109(6-24)	2-Methylnaphthalene	4.2	J	4.2	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427025	8270D	AI4-113(0-2)	2-Methylnaphthalene	6.1	J	6.1	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427026	8270D	AI4-113(6-24)	2-Methylnaphthalene	1.4	J	1.4	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427027	8270D	AI4-114(0-2)	2-Methylnaphthalene	6.6	J	6.6	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427028	8270D	AI4-114(6-24)	2-Methylnaphthalene	1.4	J	1.4	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427001	8270D	AI2-108(0-2)	Acenaphthene	3.8	J	3.8	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427002	8270D	AI2-108(6-24)	Acenaphthene	6.4	J	6.4	J	RL, FD	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427003	8270D	DUP-AI2-1(0-2)	Acenaphthene	3.2	J	3.2	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427004	8270D	DUP-AI2-2(6-24)	Acenaphthene	0.87	J	0.87	J	RL, FD	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427006	8270D	AI2-110(6-24)	Acenaphthene	7.6	J	7.6	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427009	8270D	AI4-102(0-2)	Acenaphthene	5.8	J	5.8	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427011	8270D	AI4-103(0-2)	Acenaphthene	9.8	J	9.8	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427012	8270D	AI4-103(6-24)	Acenaphthene	3	J	3	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427013	8270D	AI4-104(0-2)	Acenaphthene	4.4	J	4.4	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427018	8270D	AI4-108(6-24)	Acenaphthene	24	J	24	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427020	8270D	AI4-109(6-24)	Acenaphthene	3.1	J	3.1	J	RL	ug/kg

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C1E13427_ADR_Rev2_rev	C1E130427022	8270D	AI4-110(6-24)	Acenaphthene	3.2	J	3.2	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427026	8270D	AI4-113(6-24)	Acenaphthene	3.6	J	3.6	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427028	8270D	AI4-114(6-24)	Acenaphthene	2.8	J	2.8	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427002	8270D	AI2-108(6-24)	Acenaphthylene	3.6	J	3.6	J	RL, FD	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427004	8270D	DUP-AI2-2(6-24)	Acenaphthylene	4.2	J	4.2	J	RL, FD	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427006	8270D	AI2-110(6-24)	Acenaphthylene	2.5	J	2.5	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427004	8270D	DUP-AI2-2(6-24)	Anthracene	5.4	J	5.4	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427005	8270D	AI2-110(0-2)	Anthracene	35	J	35	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427014	8270D	AI4-104(6-24)	Anthracene	5.7	J	5.7	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427005	8270D	AI2-110(0-2)	Benzo(a)anthracene	160	J	160	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427005	8270D	AI2-110(0-2)	Benzo(a)pyrene	240	J	240	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427005	8270D	AI2-110(0-2)	Benzo(ghi)perylene	190	J	190	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427007	8270D	ER-AI2	Benzo(ghi)perylene	0.032	U	0.032	UJ	LCS-RPD	ug/L
C1E13427_ADR_Rev2_rev	C1E130427008	8270D	ER-AI4	Benzo(ghi)perylene	0.032	U	0.032	UJ	LCS-RPD	ug/L
C1E13427_ADR_Rev2_rev	C1E130427005	8270D	AI2-110(0-2)	Chrysene	210	J	210	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427006	8270D	AI2-110(6-24)	Dibenz(a,h)anthracene	3.6	J	3.6	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427002	8270D	AI2-108(6-24)	Fluoranthene	87		87	J	FD	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427004	8270D	DUP-AI2-2(6-24)	Fluoranthene	58		58	J	FD	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427001	8270D	AI2-108(0-2)	Fluorene	4.5	J	4.5	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427002	8270D	AI2-108(6-24)	Fluorene	3.7	J	3.7	J	RL, FD	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427003	8270D	DUP-AI2-1(0-2)	Fluorene	3.6	J	3.6	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427004	8270D	DUP-AI2-2(6-24)	Fluorene	1.6	J	1.6	J	RL, FD	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427006	8270D	AI2-110(6-24)	Fluorene	5.4	J	5.4	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427009	8270D	AI4-102(0-2)	Fluorene	7.2	J	7.2	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427010	8270D	AI4-102(6-24)	Fluorene	2.6	J	2.6	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427012	8270D	AI4-103(6-24)	Fluorene	7	J	7	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427013	8270D	AI4-104(0-2)	Fluorene	5.4	J	5.4	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427014	8270D	AI4-104(6-24)	Fluorene	1.4	J	1.4	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427016	8270D	AI4-107(6-24)	Fluorene	2.1	J	2.1	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427018	8270D	AI4-108(6-24)	Fluorene	50	J	50	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427020	8270D	AI4-109(6-24)	Fluorene	3.2	J	3.2	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427022	8270D	AI4-110(6-24)	Fluorene	4	J	4	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427026	8270D	AI4-113(6-24)	Fluorene	3.6	J	3.6	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427028	8270D	AI4-114(6-24)	Fluorene	2.8	J	2.8	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427005	8270D	AI2-110(0-2)	Indeno(1,2,3-cd)pyrene	180	J	180	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427002	8270D	AI2-108(6-24)	Naphthalene	4	J	4	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427004	8270D	DUP-AI2-2(6-24)	Naphthalene	3.2	J	3.2	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427006	8270D	AI2-110(6-24)	Naphthalene	2.1	J	2.1	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427009	8270D	AI4-102(0-2)	Naphthalene	11	J	11	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427010	8270D	AI4-102(6-24)	Naphthalene	3.4	J	3.4	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427012	8270D	AI4-103(6-24)	Naphthalene	7.4	J	7.4	J	RL	ug/kg

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C1E13427_ADR_Rev2_rev	C1E130427014	8270D	AI4-104(6-24)	Naphthalene	4.6	J	4.6	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427015	8270D	AI4-107(0-2)	Naphthalene	8.4	J	8.4	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427016	8270D	AI4-107(6-24)	Naphthalene	5.9	J	5.9	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427018	8270D	AI4-108(6-24)	Naphthalene	24	J	24	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427020	8270D	AI4-109(6-24)	Naphthalene	4	J	4	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427022	8270D	AI4-110(6-24)	Naphthalene	4.1	J	4.1	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427025	8270D	AI4-113(0-2)	Naphthalene	7.7	J	7.7	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427026	8270D	AI4-113(6-24)	Naphthalene	3.2	J	3.2	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427028	8270D	AI4-114(6-24)	Naphthalene	1.9	J	1.9	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427001	8270D	AI2-108(0-2)	Phenanthrene	28		28	J	FD	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427002	8270D	AI2-108(6-24)	Phenanthrene	58		58	J	FD	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427003	8270D	DUP-AI2-1(0-2)	Phenanthrene	19		19	J	FD	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427004	8270D	DUP-AI2-2(6-24)	Phenanthrene	21		21	J	FD	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427005	8270D	AI2-110(0-2)	Phenanthrene	140	J	140	J	RL	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427002	8270D	AI2-108(6-24)	Pyrene	90		90	J	FD	ug/kg
C1E13427_ADR_Rev2_rev	C1E130427004	8270D	DUP-AI2-2(6-24)	Pyrene	59		59	J	FD	ug/kg
C1E14504_ADR_rev2_rev	C1E140504001	8270D	AI2-101(0-2)"	1-Methylnaphthalene	11.9	J	11.9	J	RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504004	8270D	AI2-102(6-24)"	1-Methylnaphthalene	1.3	J	1.3	J	RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504005	8270D	AI2-103(0-2)"	1-Methylnaphthalene	10	J	10	J	RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504006	8270D	AI2-103(6-24)"	1-Methylnaphthalene	1.8	J	1.8	J	RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504007	8270D	AI2-104(0-2)"	1-Methylnaphthalene	6.6	J	6.6	J	RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504008	8270D	AI2-104(6-24)"	1-Methylnaphthalene	1.1	J	1.1	J	RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504009	8270D	AI2-105(0-2)"	1-Methylnaphthalene	2.3	J	2.3	J	RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504010	8270D	AI2-105(6-24)"	1-Methylnaphthalene	1	J	1	J	RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504001	8270D	AI2-101(0-2)"	2-Methylnaphthalene	13.8	J	13.8	J	MS-L, RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504002	8270D	AI2-101(6-24)"	2-Methylnaphthalene	5.7	U	5.7	UJ	MS-L	ug/kg
C1E14504_ADR_rev2_rev	C1E140504003	8270D	AI2-102(0-2)"	2-Methylnaphthalene	2.7	U	2.7	UJ	MS-L	ug/kg
C1E14504_ADR_rev2_rev	C1E140504004	8270D	AI2-102(6-24)"	2-Methylnaphthalene	1.9	J	1.9	J	MS-L, RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504005	8270D	AI2-103(0-2)"	2-Methylnaphthalene	16	J	16	J	MS-L, RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504006	8270D	AI2-103(6-24)"	2-Methylnaphthalene	3.2	J	3.2	J	MS-L, RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504007	8270D	AI2-104(0-2)"	2-Methylnaphthalene	7.6	J	7.6	J	MS-L, RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504008	8270D	AI2-104(6-24)"	2-Methylnaphthalene	1.6	J	1.6	J	MS-L, RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504009	8270D	AI2-105(0-2)"	2-Methylnaphthalene	4.3	J	4.3	J	MS-L, RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504010	8270D	AI2-105(6-24)"	2-Methylnaphthalene	1.6	J	1.6	J	MS-L, RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504011	8270D	AI2-106(0-2)"	2-Methylnaphthalene	24	U	24	UJ	MS-L	ug/kg
C1E14504_ADR_rev2_rev	C1E140504012	8270D	AI2-106(6-24)"	2-Methylnaphthalene	6.8	J	6.8	J	MS-L, RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504001	8270D	AI2-101(0-2)"	Acenaphthene	11	J	11	J	RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504003	8270D	AI2-102(0-2)"	Acenaphthene	9	J	9	J	RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504004	8270D	AI2-102(6-24)"	Acenaphthene	1.1	J	1.1	J	RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504005	8270D	AI2-103(0-2)"	Acenaphthene	15	J	15	J	RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504006	8270D	AI2-103(6-24)"	Acenaphthene	2	J	2	J	RL	ug/kg

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Queens, New York

Sample Delivery Group	Lab Sample ID	Analysis Method	Field Sample ID	Parameter Name	Lab Result	Lab Qual	Validated Result	Val Qual	Validation Reason Code	Result Units
C1E14504_ADR_rev2_rev	C1E140504007	8270D	AI2-104(0-2)"	Acenaphthene	7.9	J	7.9	J	RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504008	8270D	AI2-104(6-24)"	Acenaphthene	2.6	J	2.6	J	RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504009	8270D	AI2-105(0-2)"	Acenaphthene	3.7	J	3.7	J	RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504010	8270D	AI2-105(6-24)"	Acenaphthene	1.8	J	1.8	J	RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504002	8270D	AI2-101(6-24)"	Acenaphthylene	15	J	15	J	RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504004	8270D	AI2-102(6-24)"	Acenaphthylene	4.7	J	4.7	J	RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504011	8270D	AI2-106(0-2)"	Acenaphthylene	31	J	31	J	RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504002	8270D	AI2-101(6-24)"	Anthracene	10	J	10	J	RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504004	8270D	AI2-102(6-24)"	Anthracene	6.2	J	6.2	J	RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504011	8270D	AI2-106(0-2)"	Anthracene	22	J	22	J	RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504012	8270D	AI2-106(6-24)"	Anthracene	6.7	J	6.7	J	RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504011	8270D	AI2-106(0-2)"	Benzo(a)anthracene	110	J	110	J	RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504011	8270D	AI2-106(0-2)"	Benzo(a)pyrene	120	J	120	J	RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504011	8270D	AI2-106(0-2)"	Benzo(b)fluoranthene	35	J	35	J	RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504001	8270D	AI2-101(0-2)"	Benzo(k)fluoranthene	170		170	J	MS-L	ug/kg
C1E14504_ADR_rev2_rev	C1E140504002	8270D	AI2-101(6-24)"	Benzo(k)fluoranthene	27	J	27	J	MS-L, RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504003	8270D	AI2-102(0-2)"	Benzo(k)fluoranthene	110		110	J	MS-L	ug/kg
C1E14504_ADR_rev2_rev	C1E140504004	8270D	AI2-102(6-24)"	Benzo(k)fluoranthene	17		17	J	MS-L	ug/kg
C1E14504_ADR_rev2_rev	C1E140504005	8270D	AI2-103(0-2)"	Benzo(k)fluoranthene	320		320	J	MS-L	ug/kg
C1E14504_ADR_rev2_rev	C1E140504006	8270D	AI2-103(6-24)"	Benzo(k)fluoranthene	47		47	J	MS-L	ug/kg
C1E14504_ADR_rev2_rev	C1E140504007	8270D	AI2-104(0-2)"	Benzo(k)fluoranthene	140		140	J	MS-L	ug/kg
C1E14504_ADR_rev2_rev	C1E140504008	8270D	AI2-104(6-24)"	Benzo(k)fluoranthene	60		60	J	MS-L	ug/kg
C1E14504_ADR_rev2_rev	C1E140504009	8270D	AI2-105(0-2)"	Benzo(k)fluoranthene	73		73	J	MS-L	ug/kg
C1E14504_ADR_rev2_rev	C1E140504010	8270D	AI2-105(6-24)"	Benzo(k)fluoranthene	19		19	J	MS-L	ug/kg
C1E14504_ADR_rev2_rev	C1E140504011	8270D	AI2-106(0-2)"	Benzo(k)fluoranthene	47	J	47	J	MS-L, RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504012	8270D	AI2-106(6-24)"	Benzo(k)fluoranthene	13		13	J	MS-L	ug/kg
C1E14504_ADR_rev2_rev	C1E140504011	8270D	AI2-106(0-2)"	Chrysene	150	J	150	J	RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504002	8270D	AI2-101(6-24)"	Dibenz(a,h)anthracene	17	J	17	J	RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504011	8270D	AI2-106(0-2)"	Dibenz(a,h)anthracene	27	J	27	J	RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504001	8270D	AI2-101(0-2)"	Fluorene	15	J	15	J	RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504003	8270D	AI2-102(0-2)"	Fluorene	10	J	10	J	RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504004	8270D	AI2-102(6-24)"	Fluorene	2.1	J	2.1	J	RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504006	8270D	AI2-103(6-24)"	Fluorene	3.6	J	3.6	J	RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504007	8270D	AI2-104(0-2)"	Fluorene	9.6	J	9.6	J	RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504008	8270D	AI2-104(6-24)"	Fluorene	3.3	J	3.3	J	RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504009	8270D	AI2-105(0-2)"	Fluorene	6.2	J	6.2	J	RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504010	8270D	AI2-105(6-24)"	Fluorene	2.4	J	2.4	J	RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504011	8270D	AI2-106(0-2)"	Indeno(1,2,3-cd)pyrene	110	J	110	J	RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504001	8270D	AI2-101(0-2)"	Naphthalene	20		20	J	MS-L	ug/kg
C1E14504_ADR_rev2_rev	C1E140504002	8270D	AI2-101(6-24)"	Naphthalene	5.7	U	5.7	UJ	MS-L	ug/kg
C1E14504_ADR_rev2_rev	C1E140504003	8270D	AI2-102(0-2)"	Naphthalene	12	J	12	J	MS-L, RL	ug/kg

Table 3a
Data Validation Action Summary - Test America
May 2011 Groundwater and Soil
Supplemental Remedial Investigation
Ft. Totten Coast Guard Station
Queens, New York

Sample Delivery Group	Lab Sample ID	Analysis Method	Field Sample ID	Parameter Name	Lab Result	Lab Qual	Validated Result	Val Qual	Validation Reason Code	Result Units
C1E14504_ADR_rev2_rev	C1E140504004	8270D	AI2-102(6-24)"	Naphthalene	2.2	J	2.2	J	MS-L, RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504005	8270D	AI2-103(0-2)"	Naphthalene	32		32	J	MS-L	ug/kg
C1E14504_ADR_rev2_rev	C1E140504006	8270D	AI2-103(6-24)"	Naphthalene	8.6		8.6	J	MS-L	ug/kg
C1E14504_ADR_rev2_rev	C1E140504007	8270D	AI2-104(0-2)"	Naphthalene	11	J	11	J	MS-L, RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504008	8270D	AI2-104(6-24)"	Naphthalene	3.4	J	3.4	J	MS-L, RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504009	8270D	AI2-105(0-2)"	Naphthalene	10		10	J	MS-L	ug/kg
C1E14504_ADR_rev2_rev	C1E140504010	8270D	AI2-105(6-24)"	Naphthalene	4.4	J	4.4	J	MS-L, RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504011	8270D	AI2-106(0-2)"	Naphthalene	24	U	24	UJ	MS-L	ug/kg
C1E14504_ADR_rev2_rev	C1E140504012	8270D	AI2-106(6-24)"	Naphthalene	3.4	J	3.4	J	MS-L, RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504001	8270D	AI2-101(0-2)"	Phenanthrene	180		180	J	MS-L	ug/kg
C1E14504_ADR_rev2_rev	C1E140504002	8270D	AI2-101(6-24)"	Phenanthrene	32	J	32	J	MS-L, RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504003	8270D	AI2-102(0-2)"	Phenanthrene	160		160	J	MS-L	ug/kg
C1E14504_ADR_rev2_rev	C1E140504004	8270D	AI2-102(6-24)"	Phenanthrene	26		26	J	MS-L	ug/kg
C1E14504_ADR_rev2_rev	C1E140504005	8270D	AI2-103(0-2)"	Phenanthrene	260		260	J	MS-L	ug/kg
C1E14504_ADR_rev2_rev	C1E140504006	8270D	AI2-103(6-24)"	Phenanthrene	34		34	J	MS-L	ug/kg
C1E14504_ADR_rev2_rev	C1E140504007	8270D	AI2-104(0-2)"	Phenanthrene	210		210	J	MS-L	ug/kg
C1E14504_ADR_rev2_rev	C1E140504008	8270D	AI2-104(6-24)"	Phenanthrene	29		29	J	MS-L	ug/kg
C1E14504_ADR_rev2_rev	C1E140504009	8270D	AI2-105(0-2)"	Phenanthrene	74		74	J	MS-L	ug/kg
C1E14504_ADR_rev2_rev	C1E140504010	8270D	AI2-105(6-24)"	Phenanthrene	22		22	J	MS-L	ug/kg
C1E14504_ADR_rev2_rev	C1E140504011	8270D	AI2-106(0-2)"	Phenanthrene	87	J	87	J	MS-L, RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504012	8270D	AI2-106(6-24)"	Phenanthrene	28		28	J	MS-L	ug/kg
C1E14504_ADR_rev2_rev	C1E140504001	8270D	AI2-101(0-2)"	Pyrene	420		420	J	MS-L	ug/kg
C1E14504_ADR_rev2_rev	C1E140504002	8270D	AI2-101(6-24)"	Pyrene	85		85	J	MS-L	ug/kg
C1E14504_ADR_rev2_rev	C1E140504003	8270D	AI2-102(0-2)"	Pyrene	300		300	J	MS-L	ug/kg
C1E14504_ADR_rev2_rev	C1E140504004	8270D	AI2-102(6-24)"	Pyrene	51		51	J	MS-L	ug/kg
C1E14504_ADR_rev2_rev	C1E140504005	8270D	AI2-103(0-2)"	Pyrene	620		620	J	MS-L	ug/kg
C1E14504_ADR_rev2_rev	C1E140504006	8270D	AI2-103(6-24)"	Pyrene	140		140	J	MS-L	ug/kg
C1E14504_ADR_rev2_rev	C1E140504007	8270D	AI2-104(0-2)"	Pyrene	290		290	J	MS-L	ug/kg
C1E14504_ADR_rev2_rev	C1E140504008	8270D	AI2-104(6-24)"	Pyrene	90		90	J	MS-L	ug/kg
C1E14504_ADR_rev2_rev	C1E140504009	8270D	AI2-105(0-2)"	Pyrene	260		260	J	MS-L	ug/kg
C1E14504_ADR_rev2_rev	C1E140504010	8270D	AI2-105(6-24)"	Pyrene	70		70	J	MS-L	ug/kg
C1E14504_ADR_rev2_rev	C1E140504011	8270D	AI2-106(0-2)"	Pyrene	150	J	150	J	MS-L, RL	ug/kg
C1E14504_ADR_rev2_rev	C1E140504012	8270D	AI2-106(6-24)"	Pyrene	39		39	J	MS-L	ug/kg

Units:

NG/G = nanrogram per gram

Validation Qualifier:

U = not detected, value is the limit of detection (LOD)

J = value is estimated

Validation Reason Codes:

BL1 = Method Blank Qualifier

FD = Field Duplicate limit exceeded

LCS-L = LCS recovery low

LCS-RPD = LCS-LCSD RPD limit exceeded

MS-H = MS and/or MSD recovery high

MS-L = MS and/or MSD recovery low

RL = Value reported above the MDL but below the laboratory reporting limit

Prepared by / Date: KJC 10/04/11

Checked by / Date: MJW 10/6/11

Table 3b
Data Validation Action Summary - Frontier Mercury Speciation
May 2011 Soil
Supplemental Remedial Investigation
Ft. Totten Coast Guard Station
Queens, New York

Sample Delivery Group	Lab Sample ID	Analysis Method	Field Sample ID	Parameter Name	Lab Result	Lab Qualifier	Validated Result	Validation Qualifier	Validation Reason Code	Result Units
1105165	1105165-01	1630	AI2-107(0-2)	Methyl mercury	6.02	D	6.02	J	MS-L	NG/G
1105165	1105165-02	1630	AI2-107(6-24)	Methyl mercury	1.03	D	1.03	J	MS-L	NG/G
1105165	1105165-03	1630	AI2-109(0-2)	Methyl mercury	4.86	D	4.86	J	MS-L	NG/G
1105165	1105165-04	1630	AI2-109(6-24)	Methyl mercury	0.083	D	0.083	J	MS-L	NG/G
1105165	1105165-05	1630	AI2-111(0-2)	Methyl mercury	11	D	11	J	MS-L	NG/G
1105165	1105165-06	1630	AI2-111(6-24)	Methyl mercury	1.39	D	1.39	J	MS-L	NG/G
1105165	1105165-07	1630	AI2-112(0-2)	Methyl mercury	0.737	D	0.737	J	MS-L	NG/G
1105165	1105165-08	1630	AI2-112(6-24)	Methyl mercury	0.063	D,U	0.063	UJ	MS-L	NG/G
1105165	1105165-09	1630	AI3-104(0-2)	Methyl mercury	1.06	D	1.06	J	MS-L	NG/G
1105165	1105165-10	1630	AI3-104(6-24)	Methyl mercury	0.354	D	0.354	J	MS-L	NG/G
1105165	1105165-11	1630	AI3-105(0-2)	Methyl mercury	0.79	D	0.79	J	MS-L	NG/G
1105165	1105165-12	1630	AI3-105(6-24)	Methyl mercury	0.781	D	0.781	J	MS-L	NG/G
1105165	1105165-13	1630	AI3-111(0-2)	Methyl mercury	2.26	D	2.26	J	MS-L	NG/G
1105165	1105165-14	1630	AI3-111(6-24)	Methyl mercury	0.238	D	0.238	J	MS-L	NG/G
1105165	1105165-15	1630	AI3-112(0-2)	Methyl mercury	2.05	D	2.05	J	MS-L	NG/G
1105165	1105165-16	1630	AI3-112(6-24)	Methyl mercury	0.179	D	0.179	J	MS-L	NG/G
1105165	1105165-17	1630	AI4-105(0-2)	Methyl mercury	0.708	D	0.708	J	MS-L	NG/G
1105165	1105165-18	1630	AI4-105(6-24)	Methyl mercury	0.322	D	0.322	J	MS-L	NG/G
1105165	1105165-19	1630	AI4-106(0-2)	Methyl mercury	0.535	D	0.535	J	MS-L	NG/G
1105165	1105165-20	1630	AI4-106(6-24)	Methyl mercury	0.31	D	0.31	J	MS-L	NG/G
1105165	1105165-21	1630	AI4-112(0-2)	Methyl mercury	0.464	D	0.464	J	MS-L	NG/G
1105165	1105165-22	1630	AI4-112(6-24)	Methyl mercury	0.409	D	0.409	J	MS-L, MS-RPD	NG/G
1105165	1105165-23	1630	AI4-115(0-2)	Methyl mercury	0.38	D	0.38	J	MS-L	NG/G
1105165	1105165-24	1630	AI4-115(6-24)	Methyl mercury	0.639	D	0.639	J	MS-L	NG/G
1105165	1105165-25	1630	DUP-AI4-1	Methyl mercury	0.293	D	0.293	J	MS-L	NG/G
1105165	1105165-26	1630	AI5-105(0-2)	Methyl mercury	0.169	D	0.169	J	MS-L	NG/G
1105165	1105165-27	1630	AI5-105(6-24)	Methyl mercury	0.209	D	0.209	J	MS-L	NG/G
1105165	1105165-28	1630	AI5-106(0-2)	Methyl mercury	0.059	D,U	0.059	UJ	MS-L	NG/G
1105165	1105165-29	1630	AI5-106(6-24)	Methyl mercury	0.062	D,U	0.062	UJ	MS-L	NG/G
1105165	1105165-30	1630	DUP-AI5-1(0-2)	Methyl mercury	0.153	D	0.153	J	MS-L	NG/G

Units:
NG/G = nanrogram per gram

Validation Reason Codes:
MS-L = MS and/or MSD recovery low
MS-RPD = MS/MSD RPD limit exceeded

Prepared by / Date: KJC 10/04/11
Checked by / Date: CSR 10/5/11

Validation Qualifier:
U = not detected, value is the limit of detection (LOD)
J = value is estimated

Table 4a
Final Result Summaries - TestAmerica
May 2011 Soil
Supplemental Remedial Investigation
Ft. Totten Coast Guard Station
Queens, New York

		Loc Name	AI2-101		AI2-101		AI2-102		AI2-102		AI2-103		AI2-103		AI2-104		AI2-104		AI2-105	
		Field Sample ID	AI2-101(0-2)"		AI2-101(6-24)"		AI2-102(0-2)"		AI2-102(6-24)"		AI2-103(0-2)"		AI2-103(6-24)"		AI2-104(0-2)"		AI2-104(6-24)"		AI2-105(0-2)"	
		Field Sample Date	05/13/11		05/13/11		05/13/11		05/13/11		05/13/11		05/13/11		05/13/11		05/13/11		05/13/11	
		QC Code	FS		FS		FS		FS		FS		FS		FS		FS		FS	
		Lab Sample Delivery Group	C1E14504		C1E14504		C1E14504		C1E14504		C1E14504		C1E14504		C1E14504		C1E14504		C1E14504	
Frac	**Method**	**Analyte**	**Units**	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
N	8270D	1-Methylnaphthalene	ug/kg	11.9	J	5.7	U	2.7	U	1.3	J	10	J	1.8	J	6.6	J	1.1	J	2.3	J
N	8270D	2-Methylnaphthalene	ug/kg	13.8	J	5.7	UJ	2.7	UJ	1.9	J	16	J	3.2	J	7.6	J	1.6	J	4.3	J
N	8270D	Acenaphthene	ug/kg	11	J	5.7	U	9	J	1.1	J	15	J	2	J	7.9	J	2.6	J	3.7	J
N	8270D	Acenaphthylene	ug/kg	69		15	J	24		4.7	J	120		32		26		9.4		56	
N	8270D	Anthracene	ug/kg	61		10	J	38		6.2	J	98		19		41		17		34	
N	8270D	Benzo(a)anthracene	ug/kg	270		59		180		32		440		100		180		71		190	
N	8270D	Benzo(a)pyrene	ug/kg	330		70		200		38		520		120		220		150		230	
N	8270D	Benzo(b)fluoranthene	ug/kg	320		51		190		30		480		120		210		230		230	
N	8270D	Benzo(ghi)perylene	ug/kg	400		87		210		46		590		130		260		140		260	
N	8270D	Benzo(k)fluoranthene	ug/kg	170	J	27	J	110	J	17	J	320	J	47	J	140	J	60	J	73	J
N	8270D	Chrysene	ug/kg	360		73		210		43		460		120		240		120		210	
N	8270D	Dibenz(a,h)anthracene	ug/kg	93		17	J	52		11		130		31		66		39		65	
N	8270D	Fluoranthene	ug/kg	530		99		360		65		810		160		440		90		340	
N	8270D	Fluorene	ug/kg	15	J	9.5	U	10	J	2.1	J	21		3.6	J	9.6	J	3.3	J	6.2	J
N	8270D	Indeno(1,2,3-cd)pyrene	ug/kg	300		64		160		34		440		99		200		110		200	
N	8270D	Naphthalene	ug/kg	20	J	5.7	UJ	12	J	2.2	J	32	J	8.6	J	11	J	3.4	J	10	J
N	8270D	Phenanthrene	ug/kg	180	J	32	J	160	J	26	J	260	J	34	J	210	J	29	J	74	J
N	8270D	Pyrene	ug/kg	420	J	85	J	300	J	51	J	620	J	140	J	290	J	90	J	260	J

Notes:
T = Total
N = Normal
FS = field sample
FD = field duplicate
U = not detected, value is the limit of detection (LOD)
J = value is estimated
mg/kg = milligram per kilogram
ug/kg = microgram per kilogram

Table 4a
Final Result Summaries - TestAmerica
May 2011 Soil
Supplemental Remedial Investigation
Ft. Totten Coast Guard Station
Queens, New York

		Loc Name	AI2-105		AI2-106		AI2-106		AI2-107		AI2-107		AI2-108		AI2-108		AI2-108		AI2-108	
		Field Sample ID	AI2-105(6-24)"		AI2-106(0-2)"		AI2-106(6-24)"		AI2-107(0-2)		AI2-107(6-24)		AI2-108(0-2)		AI2-108(6-24)		DUP-AI2-1(0-2)		DUP-AI2-2(6-24)	
		Field Sample Date	05/13/11		05/13/11		05/13/11		05/11/11		05/11/11		05/12/11		05/12/11		05/12/11		05/12/11	
		QC Code	FS		FS		FS		FS		FS		FS		FS		FD		FD	
		Lab Sample Delivery Group	C1E14504		C1E14504		C1E14504		C1E12445		C1E12445		C1E13427		C1E13427		C1E13427		C1E13427	
Frac	**Method**	**Analyte**	**Units**	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
N	8270D	1-Methylnaphthalene	ug/kg	1	J	24	U	14		29	U	24	J	2.1	J	1.8	J	2.4	J	1.2	U
N	8270D	2-Methylnaphthalene	ug/kg	1.6	J	24	UJ	6.8	J	29	U	15	J	3.3	J	1.6	J	3.9	J	1.1	J
N	8270D	Acenaphthene	ug/kg	1.8	J	24	U	1.1	U	29	U	5.4	J	3.8	J	6.4	J	3.2	J	0.87	J
N	8270D	Acenaphthylene	ug/kg	15		31	J	7.7		75	J	89		47		3.6	J	50		4.2	J
N	8270D	Anthracene	ug/kg	8.1		22	J	6.7	J	64	J	54		55		8.9		55		5.4	J
N	8270D	Benzo(a)anthracene	ug/kg	51		110	J	25		230		240		31		49		31		37	
N	8270D	Benzo(a)pyrene	ug/kg	57		120	J	31		270		310		41		49		43		44	
N	8270D	Benzo(b)fluoranthene	ug/kg	58		35	J	30		430		450		80		77		81		65	
N	8270D	Benzo(ghi)perylene	ug/kg	63		180		43		210		220		81		36		72		34	
N	8270D	Benzo(k)fluoranthene	ug/kg	19	J	47	J	13	J	49	U	9.6	U	1.8	U	1.9	U	1.8	U	1.9	U
N	8270D	Chrysene	ug/kg	56		150	J	37		240		290		44		52		53		46	
N	8270D	Dibenz(a,h)anthracene	ug/kg	16		27	J	9.8		58	U	60		13		11		11		9.4	
N	8270D	Fluoranthene	ug/kg	83		220		52		390		440		74		87	J	61		58	J
N	8270D	Fluorene	ug/kg	2.4	J	40	U	1.9	U	49	U	9.6	U	4.5	J	3.7	J	3.6	J	1.6	J
N	8270D	Indeno(1,2,3-cd)pyrene	ug/kg	52		110	J	32		180	J	190		53		32		51		28	
N	8270D	Naphthalene	ug/kg	4.4	J	24	UJ	3.4	J	29	U	12	J	8.1		4	J	7.7		3.2	J
N	8270D	Phenanthrene	ug/kg	22	J	87	J	28	J	140	J	140		28	J	58	J	19	J	21	J
N	8270D	Pyrene	ug/kg	70	J	150	J	39	J	340		350		78		90	J	78		59	J

Notes:
T = Total
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FD = field duplicate
U = not detected, value is the limit of detection (LOD)
J = value is estimated
mg/kg = milligram per kilogram
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Table 4a
Final Result Summaries - TestAmerica
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		Loc Name	AI2-109		AI2-109		AI2-110		AI2-110		AI2-111		AI2-111		AI2-112		AI2-112		AI3-101	
		Field Sample ID	AI2-109(0-2)		AI2-109(6-24)		AI2-110(0-2)		AI2-110(6-24)		AI2-111(0-2)		AI2-111(6-24)		AI2-112(0-2)		AI2-112(6-24)		AI3-101(0-2)	
		Field Sample Date	05/11/11		05/11/11		05/12/11		05/12/11		05/11/11		05/11/11		05/11/11		05/11/11		05/10/11	
		QC Code	FS		FS		FS		FS		FS		FS		FS		FS		FS	
		Lab Sample Delivery Group	C1E12445		C1E12445		C1E13427		C1E13427		C1E12445		C1E12445		C1E12445		C1E12445		C1E12405	
Frac	**Method**	**Analyte**	**Units**	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
N	8270D	1-Methylnaphthalene	ug/kg	3.8	J	1.2	U	37	U	2	J	11	J	6.3	J	14	J	1.2	U	11	J
N	8270D	2-Methylnaphthalene	ug/kg	5.3	J	1.2	U	37	U	2.2	J	11	J	6.2	J	19		1.2	U	13	J
N	8270D	Acenaphthene	ug/kg	1.1	J	1.2	U	37	U	7.6	J	6.4	J	35		8.3	J	1.2	U	35	J
N	8270D	Acenaphthylene	ug/kg	10		2	U	62	U	2.5	J	24		8.1		37		2	U	28	
N	8270D	Anthracene	ug/kg	11		1.2	U	35	J	15		25		82		38		0.98	J	140	J
N	8270D	Benzo(a)anthracene	ug/kg	42		6.4	J	160	J	39		100		160		130		4.1	J	680	J
N	8270D	Benzo(a)pyrene	ug/kg	48		6.8	J	240	J	39		120		160		140		3.6	J	740	J
N	8270D	Benzo(b)fluoranthene	ug/kg	86		11		370		54		190		230		240		6	J	1300	J
N	8270D	Benzo(ghi)perylene	ug/kg	42		4.7	J	190	J	28		95		100		120		2.6	J	680	
N	8270D	Benzo(k)fluoranthene	ug/kg	1.8	U	2	U	62	U	2	U	3.9	U	1.9	U	4.2	U	2	U	3.9	U
N	8270D	Chrysene	ug/kg	53		5.2	J	210	J	38		130		160		160		3.4	J	740	J
N	8270D	Dibenz(a,h)anthracene	ug/kg	7.8		2.4	U	74	U	3.6	J	25		27		32		2.4	U	180	
N	8270D	Fluoranthene	ug/kg	92		8.4		320		77		210		440		270		4.4	J	1900	J
N	8270D	Fluorene	ug/kg	1.6	J	2	U	62	U	5.4	J	6.9	J	27		12	J	2	U	44	J
N	8270D	Indeno(1,2,3-cd)pyrene	ug/kg	34		4.2	J	180	J	23		78		88		97		3.1	J	620	
N	8270D	Naphthalene	ug/kg	5.6	J	1.2	U	37	U	2.1	J	10	J	7.5	J	19		1.2	U	21	J
N	8270D	Phenanthrene	ug/kg	32		2.8	J	140	J	65		98		360		130		2.7	J	940	J
N	8270D	Pyrene	ug/kg	62		6.3	J	320		75		170		320		220		3.7	J	1300	J

Notes:
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J = value is estimated
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ug/kg = microgram per kilogram

Table 4a
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		Loc Name		AI3-101		AI3-102		AI3-102		AI3-103		AI3-103		AI3-104		AI3-104		AI3-105		AI3-105	
		Field Sample ID		AI3-101(6-24)		AI3-102(0-2)		AI3-102(6-24)		AI3-103(0-2)		AI3-103(6-24)		AI3-104(0-2)		AI3-104(6-24)		AI3-105(0-2)		AI3-105(6-24)	
		Field Sample Date		05/10/11		05/10/11		05/10/11		05/10/11		05/10/11		05/10/11		05/10/11		05/10/11		05/10/11	
		QC Code		FS		FS		FS		FS		FS		FS		FS		FS		FS	
		Lab Sample Delivery Group		C1E12405		C1E12405		C1E12405		C1E12405		C1E12405		C1E12405		C1E12405		C1E12405		C1E12405	
Frac	**Method**	**Analyte**	**Units**	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
N	8270D	1-Methylnaphthalene	ug/kg	3.6	J	6.7	J	4.5	J	180	J	24	U	3.2	J	3.6	J	15		9.3	
N	8270D	2-Methylnaphthalene	ug/kg	4	J	9.4	J	5.8	J	220	J	15	J	3.9	J	5.1	J	16	J	12	J
N	8270D	Acenaphthene	ug/kg	6.8	J	11	J	7.1	J	94	J	24	UJ	2.9	J	3.4	J	11	J	4.7	J
N	8270D	Acenaphthylene	ug/kg	7.5	J	210		220		190	J	67	J	19		17		98		60	
N	8270D	Anthracene	ug/kg	23	J	120	J	120	J	390	J	58	J	18	J	16	J	91	J	41	J
N	8270D	Benzo(a)anthracene	ug/kg	110	J	450	J	460	J	1500	J	190	J	64	J	64	J	350	J	160	J
N	8270D	Benzo(a)pyrene	ug/kg	120	J	530	J	540	J	1800	J	240	J	75	J	70	J	380	J	180	J
N	8270D	Benzo(b)fluoranthene	ug/kg	200	J	860	J	880	J	2900	J	340	J	130	J	130	J	620	J	270	J
N	8270D	Benzo(ghi)perylene	ug/kg	110		440		400		1600		220		70		69		320		140	
N	8270D	Benzo(k)fluoranthene	ug/kg	2	U	2	U	2	U	210	U	40	U	1.9	U	1.9	U	2	U	2	U
N	8270D	Chrysene	ug/kg	110	J	490	J	480	J	2000	J	200	J	72	J	74	J	390	J	190	J
N	8270D	Dibenz(a,h)anthracene	ug/kg	30		150		130		250	U	45	J	17		14		100		43	
N	8270D	Fluoranthene	ug/kg	260	J	940	J	910	J	3300	J	310	J	130	J	140	J	670	J	230	J
N	8270D	Fluorene	ug/kg	8.1	J	21	J	24	J	140	J	40	UJ	3.8	J	4.8	J	15	J	8.9	J
N	8270D	Indeno(1,2,3-cd)pyrene	ug/kg	96		470		390		1200		160		70		61		310		120	
N	8270D	Naphthalene	ug/kg	6.9	J	15	J	11	J	210	J	24	UJ	5.2	J	7	J	15	J	11	J
N	8270D	Phenanthrene	ug/kg	160	J	350	J	350	J	1900	J	180	J	57	J	73	J	280	J	91	J
N	8270D	Pyrene	ug/kg	200	J	740	J	680	J	3100	J	260	J	100	J	110	J	520	J	200	J

Notes:
T = Total
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J = value is estimated
mg/kg = milligram per kilogram
ug/kg = microgram per kilogram

Table 4a
Final Result Summaries - TestAmerica
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		Loc Name	AI3-106		AI3-106		AI3-107		AI3-107		AI3-108		AI3-108		AI3-108		AI3-108		AI3-109	
		Field Sample ID	AI3-106(0-2)		AI3-106(6-24)		AI3-107(0-2)		AI3-107(6-24)		AI3-108(0-2)		AI3-108(6-24)		DUP-AI3-1		DUP-AI3-2		AI3-109(0-2)	
		Field Sample Date	05/11/11		05/11/11		05/11/11		05/11/11		05/10/11		05/10/11		05/10/11		05/10/11		05/10/11	
		QC Code	FS		FS		FS		FS		FS		FS		FD		FD		FS	
		Lab Sample Delivery Group	C1E12445		C1E12445		C1E12445		C1E12445		C1E12405		C1E12405		C1E12405		C1E12405		C1E12405	
Frac	**Method**	**Analyte**	**Units**	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
N	8270D	1-Methylnaphthalene	ug/kg	15		39		6.5	J	3	J	6.5	J	1	J	0.91	J	12	U	6.8	J
N	8270D	2-Methylnaphthalene	ug/kg	48		140		9	J	3.8	J	7.9	J	1.2	J	1	J	12	UJ	8.7	J
N	8270D	Acenaphthene	ug/kg	5.8	J	12		6	J	2.3	J	7.8	UJ	1.7	J	1.2	UJ	12	UJ	16	J
N	8270D	Acenaphthylene	ug/kg	18		12		28	J	7.4	J	42	J	4.7	J	5.5	J	41	J	76	
N	8270D	Anthracene	ug/kg	22		47		34	J	8.7		41	J	7.3	J	3.5	J	37	J	100	J
N	8270D	Benzo(a)anthracene	ug/kg	100		88		110		39		170	J	36	J	17	J	170	J	390	J
N	8270D	Benzo(a)pyrene	ug/kg	120		79		140		45		170	J	38	J	18	J	190	J	400	J
N	8270D	Benzo(b)fluoranthene	ug/kg	200		130		210		66		290	J	62	J	30	J	310	J	620	J
N	8270D	Benzo(ghi)perylene	ug/kg	94		70		130		40		140		31	J	13	J	150		310	
N	8270D	Benzo(k)fluoranthene	ug/kg	2	U	1.9	U	13	U	2.2	U	13	U	2	U	2.1	U	20	U	3.9	U
N	8270D	Chrysene	ug/kg	100		87		140		41		180	J	46	J	18	J	200	J	390	J
N	8270D	Dibenz(a,h)anthracene	ug/kg	23		16		27	J	8.4	J	39	J	8.4	J	2.5	UJ	41	J	37	
N	8270D	Fluoranthene	ug/kg	180		170		200		65		300	J	75	J	28	J	290	J	780	J
N	8270D	Fluorene	ug/kg	5.5	J	17		8.2	J	2.3	J	10	J	2.3	J	2.1	UJ	20	UJ	24	J
N	8270D	Indeno(1,2,3-cd)pyrene	ug/kg	83		61		100		29		130		29	J	6.9	J	120		290	
N	8270D	Naphthalene	ug/kg	19		53		7.5	U	3.8	J	7.8	UJ	2.2	J	1.2	UJ	12	UJ	14	J
N	8270D	Phenanthrene	ug/kg	84		160		96		29		140	J	44	J	11	J	140	J	360	J
N	8270D	Pyrene	ug/kg	170		130		190		63		250	J	61	J	24	J	250	J	610	J

Notes:
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Table 4a
Final Result Summaries - TestAmerica
May 2011 Soil
Supplemental Remedial Investigation
Ft. Totten Coast Guard Station
Queens, New York

		Loc Name	AI3-109		AI3-110		AI3-110		AI3-111		AI3-111		AI3-112		AI3-112		AI4-102		AI4-102	
		Field Sample ID	AI3-109(6-24)		AI3-110(0-2)		AI3-110(6-24)		AI3-111(0-2)		AI3-111(6-24)		AI3-112(0-2)		AI3-112(6-12)		AI4-102(0-2)		AI4-102(6-24)	
		Field Sample Date	05/10/11		05/11/11		05/11/11		05/10/11		05/10/11		05/10/11		05/10/11		05/12/11		05/12/11	
		QC Code	FS		FS		FS		FS		FS		FS		FS		FS		FS	
		Lab Sample Delivery Group	C1E12405		C1E12445		C1E12445		C1E12405		C1E12405		C1E12405		C1E12405		C1E13427		C1E13427	
Frac	**Method**	**Analyte**	**Units**	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
N	8270D	1-Methylnaphthalene	ug/kg	3.1	J	6.9	J	6.8	J	8.7	J	65		4.2	J	1.3	U	6.8	J	2.1	J
N	8270D	2-Methylnaphthalene	ug/kg	4.2	J	11		14		15	J	76	J	5.4	J	0.88	J	9.6	J	2.3	J
N	8270D	Acenaphthene	ug/kg	4	J	8.3		5.6	J	11	UJ	190	J	3.3	J	1.3	UJ	5.8	J	1.1	U
N	8270D	Acenaphthylene	ug/kg	28		79		58		110		560		23		3.1	J	65		21	
N	8270D	Anthracene	ug/kg	25	J	59		38		66	J	670	J	18	J	2.2	J	42		12	
N	8270D	Benzo(a)anthracene	ug/kg	110	J	220		170		250	J	1400	J	88	J	7.1	J	190		79	
N	8270D	Benzo(a)pyrene	ug/kg	120	J	270		200		310	J	1400	J	100	J	11	J	250		100	
N	8270D	Benzo(b)fluoranthene	ug/kg	200	J	420		330		500	J	2200	J	170	J	19	J	370		150	
N	8270D	Benzo(ghi)perylene	ug/kg	85		230		150		250		980		82		8.9		220		83	
N	8270D	Benzo(k)fluoranthene	ug/kg	2	U	2	U	1.9	U	18	U	9.3	U	2	U	2.2	U	3.8	U	1.9	U
N	8270D	Chrysene	ug/kg	120	J	220		160		290	J	1300	J	100	J	11	J	230		82	
N	8270D	Dibenz(a,h)anthracene	ug/kg	24		68		41		58	J	230		25		2.6	U	51		15	
N	8270D	Fluoranthene	ug/kg	210	J	330		210		340	J	2400	J	160	J	14	J	370		110	
N	8270D	Fluorene	ug/kg	6.7	J	11		7.4	J	18	UJ	210	J	4.3	J	2.2	UJ	7.2	J	2.6	J
N	8270D	Indeno(1,2,3-cd)pyrene	ug/kg	74		210		140		210		890		75		8.5	J	180		70	
N	8270D	Naphthalene	ug/kg	6.1	J	9.5		11		19	J	100	J	7.2	J	1.3	UJ	11	J	3.4	J
N	8270D	Phenanthrene	ug/kg	89	J	110		69		180	J	1800	J	58	J	5.9	J	130		33	
N	8270D	Pyrene	ug/kg	170	J	280		200		340	J	1900	J	130	J	11	J	350		120	

Notes:
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Table 4a
Final Result Summaries - TestAmerica
May 2011 Soil
Supplemental Remedial Investigation
Ft. Totten Coast Guard Station
Queens, New York

			Loc Name	AI4-103		AI4-103		AI4-104		AI4-104		AI4-105		AI4-105		AI4-106		AI4-106		AI4-107	
			Field Sample ID	AI4-103(0-2)		AI4-103(6-24)		AI4-104(0-2)		AI4-104(6-24)		AI4-105(0-2)		AI4-105(6-24)		AI4-106(0-2)		AI4-106(6-24)		AI4-107(0-2)	
			Field Sample Date	05/12/11		05/12/11		05/12/11		05/12/11		05/11/11		05/11/11		05/11/11		05/11/11		05/12/11	
			QC Code	FS		FS		FS		FS		FS		FS		FS		FS		FS	
			Lab Sample Delivery Group	C1E13427		C1E13427		C1E13427		C1E13427		C1E12445		C1E12445		C1E12445		C1E12445		C1E13427	
Frac	**Method**	**Analyte**	**Units**	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
N	8270D	1-Methylnaphthalene	ug/kg	23		7.9		29		4.7	J	27		8		110	J	16	J	6.6	J
N	8270D	2-Methylnaphthalene	ug/kg	22		5.9	J	36		6.1	J	35		10		140	J	32	J	7.6	J
N	8270D	Acenaphthene	ug/kg	9.8	J	3	J	4.4	J	1.2	U	8.8	J	4.2	J	230	J	43	J	9.2	
N	8270D	Acenaphthylene	ug/kg	160		51		35		13		250		110		3300		1500		34	
N	8270D	Anthracene	ug/kg	86		22		21		5.7	J	100		40		1400		620		29	
N	8270D	Benzo(a)anthracene	ug/kg	330		120		99		29		560		240		7300		4700		110	
N	8270D	Benzo(a)pyrene	ug/kg	420		160		130		43		770		360		9800		6400		140	
N	8270D	Benzo(b)fluoranthene	ug/kg	730		220		200		64		1300		580		15000		8800		210	
N	8270D	Benzo(ghi)perylene	ug/kg	340		120		120		41		750		350		9100		5300		140	
N	8270D	Benzo(k)fluoranthene	ug/kg	800		1.9	U	2	U	1.9	U	3.9	U	1.9	U	76	U	27	U	2.1	U
N	8270D	Chrysene	ug/kg	600		160		120		39		570		290		8200		4300		140	
N	8270D	Dibenz(a,h)anthracene	ug/kg	81		22		22		10		170		77		2000		1200		27	
N	8270D	Fluoranthene	ug/kg	950		220		180		51		970		410		16000		6600		230	
N	8270D	Fluorene	ug/kg	19		7	J	5.4	J	1.4	J	19		6.6	J	300		91	J	8.7	
N	8270D	Indeno(1,2,3-cd)pyrene	ug/kg	290		100		99		35		660		290		7400		4400		110	
N	8270D	Naphthalene	ug/kg	22		7.4	J	25		4.6	J	31		12		210	J	83	J	8.4	J
N	8270D	Phenanthrene	ug/kg	330		100		75		15		220		69		5200		1100		110	
N	8270D	Pyrene	ug/kg	1000		270		200		57		860		360		14000		6100		230	

Notes:
T = Total
N = Normal
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FD = field duplicate
U = not detected, value is the limit of detection (LOD)
J = value is estimated
mg/kg = milligram per kilogram
ug/kg = microgram per kilogram

Table 4a
Final Result Summaries - TestAmerica
May 2011 Soil
Supplemental Remedial Investigation
Ft. Totten Coast Guard Station
Queens, New York

			Loc Name	AI4-107		AI4-108		AI4-108		AI4-109		AI4-109		AI4-110		AI4-110		AI4-111		AI4-111	
			Field Sample ID	AI4-107(6-24)		AI4-108(0-2)		AI4-108(6-24)		AI4-109(0-2)		AI4-109(6-24)		AI4-110(0-2)		AI4-110(6-24)		AI4-111(0-2)		AI4-111(6-24)	
			Field Sample Date	05/12/11		05/12/11		05/12/11		05/12/11		05/12/11		05/12/11		05/12/11		05/12/11		05/12/11	
			QC Code	FS		FS		FS		FS		FS		FS		FS		FS		FS	
			Lab Sample Delivery Group	C1E13427		C1E13427		C1E13427		C1E13427		C1E13427		C1E13427		C1E13427		C1E13427		C1E13427	
Frac	**Method**	**Analyte**	**Units**	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
N	8270D	1-Methylnaphthalene	ug/kg	3.7	J	9.5		17.4	U	17.1		3.7	J	14.4		6.5	J	459		25	
N	8270D	2-Methylnaphthalene	ug/kg	5.1	J	12.3		17.4	U	21		4.2	J	12.6		8.9		803		37.5	
N	8270D	Acenaphthene	ug/kg	1.2	U	12		27	J	11		3.1	J	53		3.2	J	200		120	
N	8270D	Acenaphthylene	ug/kg	27		170		410		43		8		99		19		100		34	
N	8270D	Anthracene	ug/kg	17		160		380		41		8.8		120		12		4000		210	
N	8270D	Benzo(a)anthracene	ug/kg	73		350		1300		220		43		460		51		6000		410	
N	8270D	Benzo(a)pyrene	ug/kg	95		510		980		270		56		540		68		4600		350	
N	8270D	Benzo(b)fluoranthene	ug/kg	140		1200		4100	J	440		93		760		94		2900		320	
N	8270D	Benzo(ghi)perylene	ug/kg	97		450		760		200		49		390		53		2600		300	
N	8270D	Benzo(k)fluoranthene	ug/kg	2	U	2	U	29	U	1.8	U	2	U	2	U	2	U	1400		200	
N	8270D	Chrysene	ug/kg	79		570		3200	J	290		60		490		57		4700		380	
N	8270D	Dibenz(a,h)anthracene	ug/kg	17		130		240		57		13		110		11		1300		110	
N	8270D	Fluoranthene	ug/kg	130		650		5800	J	380		81		1000		85		11000		860	
N	8270D	Fluorene	ug/kg	2.1	J	17		50	J	10		3.2	J	40		4	J	1900		94	
N	8270D	Indeno(1,2,3-cd)pyrene	ug/kg	76		430		700		180		47		330		47		2500		270	
N	8270D	Naphthalene	ug/kg	5.9	J	17		24	J	17		4	J	16		4.1	J	1900		42	
N	8270D	Phenanthrene	ug/kg	40		190		410		140		33		660		50		12000		640	
N	8270D	Pyrene	ug/kg	120		620		5900	J	350		81		870		84		9200		480	

Notes:
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Table 4a
Final Result Summaries - TestAmerica
May 2011 Soil
Supplemental Remedial Investigation
Ft. Totten Coast Guard Station
Queens, New York

		Loc Name	AI4-112		AI4-112		AI4-113		AI4-113		AI4-114		AI4-114		AI4-115		AI4-115		AI4-115	
		Field Sample ID	AI4-112(0-2)		AI4-112(6-24)		AI4-113(0-2)		AI4-113(6-24)		AI4-114(0-2)		AI4-114(6-24)		AI4-115(0-2)		AI4-115(6-24)		DUP-AI4-1	
		Field Sample Date	05/11/11		05/11/11		05/12/11		05/12/11		05/12/11		05/12/11		05/11/11		05/11/11		05/11/11	
		QC Code	FS		FS		FS		FS		FS		FS		FS		FS		FD	
		Lab Sample Delivery Group	C1E12445		C1E12445		C1E13427		C1E13427		C1E13427		C1E13427		C1E12445		C1E12445		C1E12445	
Frac	**Method**	**Analyte**	**Units**	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
N	8270D	1-Methylnaphthalene	ug/kg	8.5	J	1.4	J	9.4		0.86	J	6.2	J	1.1	J	2.3	J	2.5	J	3.4	J
N	8270D	2-Methylnaphthalene	ug/kg	11	J	2.5	J	6.1	J	1.4	J	6.6	J	1.4	J	2.8	J	3	J	4.4	J
N	8270D	Acenaphthene	ug/kg	7.9	J	1.9	J	8.8		3.6	J	8.5		2.8	J	2.6	J	5.6	J	8.8	J
N	8270D	Acenaphthylene	ug/kg	130		39		130		67		130		14		25		16		29	
N	8270D	Anthracene	ug/kg	65		17		62		30		72		12		17	J	20		30	J
N	8270D	Benzo(a)anthracene	ug/kg	300		96		360		200		290		51		96		69		110	
N	8270D	Benzo(a)pyrene	ug/kg	450		140		490		240		420		65		130		94		140	
N	8270D	Benzo(b)fluoranthene	ug/kg	670		210		540		240		600		97		190		140		210	
N	8270D	Benzo(ghi)perylene	ug/kg	430		130		610		280		330		50		100		69		110	
N	8270D	Benzo(k)fluoranthene	ug/kg	3.8	U	1.9	U	170		100		2	U	2	U	4	U	3.8	U	4	U
N	8270D	Chrysene	ug/kg	300		82		410		190		330		65		110		84		120	
N	8270D	Dibenz(a,h)anthracene	ug/kg	98		29		180		78		99		12		24		14	J	24	
N	8270D	Fluoranthene	ug/kg	390		98		890		320		550		100		160	J	140		220	J
N	8270D	Fluorene	ug/kg	12	J	3.3	J	11		3.6	J	14		2.8	J	3.1	J	6	J	9.2	J
N	8270D	Indeno(1,2,3-cd)pyrene	ug/kg	350		110		510		240		300		44		85		59		90	
N	8270D	Naphthalene	ug/kg	19		5.7	J	7.7	J	3.2	J	9.7		1.9	J	4.9	J	4	J	6.5	J
N	8270D	Phenanthrene	ug/kg	110		22		230		30		200		50		50	J	67		110	J
N	8270D	Pyrene	ug/kg	390		110		550		230		470		95		130		120		170	

Notes:
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mg/kg = milligram per kilogram
ug/kg = microgram per kilogram

Prepared by / Date: KJC 10/04/11
Checked by / Date: MJW 10/06/11

Table 4
Final Result Summaries - TestAmerica
May 2011 Soil
Supplemental Remedial Investigation
Ft. Totten Coast Guard Station
Queens, New York

			Loc Name	AI2-101		AI2-101		AI2-102		AI2-102		AI2-103		AI2-103		AI2-104	
			Field Sample ID	AI2-101(0-2)"		AI2-101(6-24)"		AI2-102(0-2)"		AI2-102(6-24)"		AI2-103(0-2)"		AI2-103(6-24)"		AI2-104(0-2)"	
			Field Sample Date	05/13/11		05/13/11		05/13/11		05/13/11		05/13/11		05/13/11		05/13/11	
			QC Code	FS		FS		FS		FS		FS		FS		FS	
			Lab Sample Delivery Group	C1E14504		C1E14504		C1E14504		C1E14504		C1E14504		C1E14504		C1E14504	
Frac	**Method**	**Analyte**	**Units**	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
T	6010C	Aluminum	mg/kg	10800		10900		8450		9490		8860		9150		8860	
T	6010C	Antimony	mg/kg	0.46	J	0.37	UJ	1.1	J	0.33	J	0.57	J	0.29	J	0.63	J
T	6010C	Arsenic	mg/kg	5.5		3.2		6.5		4.4		6		2.9		6.4	
T	6010C	Barium	mg/kg	113		70.8		87.5		52.3		95.2		79.5		82.5	
T	6010C	Beryllium	mg/kg	0.56		0.59		0.61		0.57		0.75		0.87		0.66	
T	6010C	Cadmium	mg/kg	1.1		0.17	J	0.69		0.13	J	0.68		0.072	J	0.52	J
T	6010C	Calcium	mg/kg	7440		2080		6300		1560		3970		4390		3330	
T	6010C	Chromium	mg/kg	21.4		21.8		17.7		17.1		18.4		15.3		17.3	
T	6010C	Cobalt	mg/kg	9.5		7.2		7.7		6.7		5.8	J	4.8	J	5.6	J
T	6010C	Copper	mg/kg	53.4		25.4		46.6		19.2		35		19.6		31.8	
T	6010C	Iron	mg/kg	19400		16400		18600		15100		13500		11800		13600	
T	6010C	Lead	mg/kg	223		40.3		180		57.6		195		73.2		295	
T	6010C	Magnesium	mg/kg	4490		3230		2520		2310		2260		2220		2000	
T	6010C	Manganese	mg/kg	391		316		406		283		524		557		415	
T	6010C	Nickel	mg/kg	23.1		21.3		22.7		16.4		20.5		15		18.7	
T	6010C	Potassium	mg/kg	1050		802		782		556	J	652	J	409	J	698	
T	6010C	Selenium	mg/kg	0.99	U	0.65	U	0.75	J	0.8	U	0.62	J	0.83	U	0.47	J
T	6010C	Silver	mg/kg	0.31	J	0.093	U	0.45	J	0.11	U	0.13	U	0.12	U	0.44	J
T	6010C	Sodium	mg/kg	383	J	153	J	91.3	J	76.7	J	65.5	J	98.7	J	67.6	J
T	6010C	Thallium	mg/kg	1.4	U	0.93	U	1.3	U	1.1	U	1.3	U	1.2	U	1.2	U
T	6010C	Vanadium	mg/kg	61.7		30.6		36.8		25.3		33.6		20		35.1	
T	6010C	Zinc	mg/kg	301		57		264		64.7		149		42.3		187	
T	7471B	Mercury	mg/kg	0.41		0.11		0.32		0.083		0.5		0.46		0.34	

Notes:
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Table 4
Final Result Summaries - TestAmerica
May 2011 Soil
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Ft. Totten Coast Guard Station
Queens, New York

			Loc Name	AI2-104		AI2-105		AI2-105		AI2-106		AI2-106		AI2-107		AI2-107	
			Field Sample ID	AI2-104(6-24)"		AI2-105(0-2)"		AI2-105(6-24)"		AI2-106(0-2)"		AI2-106(6-24)"		AI2-107(0-2)		AI2-107(6-24)	
			Field Sample Date	05/13/11		05/13/11		05/13/11		05/13/11		05/13/11		05/11/11		05/11/11	
			QC Code	FS		FS		FS		FS		FS		FS		FS	
			Lab Sample Delivery Group	C1E14504		C1E14504		C1E14504		C1E14504		C1E14504		C1E12445		C1E12445	
Frac	**Method**	**Analyte**	**Units**	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
T	6010C	Aluminum	mg/kg	9690		8190		9180		7340		8040		5890		8770	
T	6010C	Antimony	mg/kg	0.72	J	0.47	UJ	0.43	UJ	0.37	J	0.44	UJ	0.61	J	0.2	J
T	6010C	Arsenic	mg/kg	3.4		4.7		3.1		4.4		3.3		3.3		4.2	
T	6010C	Barium	mg/kg	102		68.4		66		85.7		66.9		87.9		94	
T	6010C	Beryllium	mg/kg	0.8		0.58		0.7		0.5		0.55		0.37	J	0.63	
T	6010C	Cadmium	mg/kg	0.036	J	0.48	J	0.086	J	0.63		0.12	J	1.9		0.3	J
T	6010C	Calcium	mg/kg	2320		2740		1560		5020		2630		14600		3780	
T	6010C	Chromium	mg/kg	16.2		19.9		17.7		14		24.8		23.7		26	
T	6010C	Cobalt	mg/kg	5.4	J	6.3		6		6.2		7.4		5.2	J	6.5	
T	6010C	Copper	mg/kg	18.5		26.2		23.7		40.3		29.3		46.9	J	46.4	J
T	6010C	Iron	mg/kg	13000		14100		13100		13300		14000		13200		15300	
T	6010C	Lead	mg/kg	123		73.2		29.8		170		53.6		334	J	225	J
T	6010C	Magnesium	mg/kg	2380		2540		2420		2690		3030		5140		2850	
T	6010C	Manganese	mg/kg	532		380		435		265		369		332	J	319	J
T	6010C	Nickel	mg/kg	16.6		21.3		18.1		16.6		22.2		17.3		19.4	
T	6010C	Potassium	mg/kg	514	J	1190		725		791		1110		928		623	
T	6010C	Selenium	mg/kg	0.78	U	0.82	U	0.75	U	0.73	U	0.77	U	0.8	J	0.81	J
T	6010C	Silver	mg/kg	0.11	U	0.12	U	0.11	U	0.085	J	0.11	U	0.12	J	0.11	J
T	6010C	Sodium	mg/kg	214	J	77.3	J	54.2	J	290	J	106	J	41.7	J	237	J
T	6010C	Thallium	mg/kg	1.1	U	1.2	U	1.1	U	1	U	1.1	U	1.4	U	1.2	U
T	6010C	Vanadium	mg/kg	21.3		34.3		23.6		37.9		25.2		23.9		27.5	
T	6010C	Zinc	mg/kg	46.3		92.6		45.2		145		63		172	J	117	J
T	7471B	Mercury	mg/kg	0.18		0.3		0.39		1.1		0.29					

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Table 4
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May 2011 Soil
Supplemental Remedial Investigation
Ft. Totten Coast Guard Station
Queens, New York

			Loc Name	AI2-108		AI2-108		AI2-108		AI2-108		AI2-109		AI2-109		AI2-110	
			Field Sample ID	AI2-108(0-2)		AI2-108(6-24)		DUP-AI2-1(0-2)		DUP-AI2-2(6-24)		AI2-109(0-2)		AI2-109(6-24)		AI2-110(0-2)	
			Field Sample Date	05/12/11		05/12/11		05/12/11		05/12/11		05/11/11		05/11/11		05/12/11	
			QC Code	FS		FS		FD		FD		FS		FS		FS	
			Lab Sample Delivery Group	C1E13427		C1E13427		C1E13427		C1E13427		C1E12445		C1E12445		C1E13427	
Frac	**Method**	**Analyte**	**Units**	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
T	6010C	Aluminum	mg/kg	4070		8700		4510		8540		4800		10400		7440	
T	6010C	Antimony	mg/kg	5.7	J	0.35	J	18.2	J	24.1	J	0.63	J	0.48	UJ	0.57	J
T	6010C	Arsenic	mg/kg	11.7		3.1		11.3		3.8		4.2		2.3		5.5	
T	6010C	Barium	mg/kg	71.4		70.3		63.3		69.9		64.9		71.3		113	
T	6010C	Beryllium	mg/kg	0.51		0.61		0.49		0.61		0.48		0.89		0.57	J
T	6010C	Cadmium	mg/kg	0.65	J	0.033	J	0.52	J	0.081	U	0.29	J	0.096	U	0.55	J
T	6010C	Calcium	mg/kg	2220		2340	J	2520		1870	J	2110		873		5050	
T	6010C	Chromium	mg/kg	9.8		16.2		9		16.7		10.2		19.4		19	
T	6010C	Cobalt	mg/kg	6.8		6.4		6.2		6.4		6.6		6		5.5	J
T	6010C	Copper	mg/kg	11500	J	59.6		958	J	55.8		75.9	J	28.6	J	46.6	
T	6010C	Iron	mg/kg	10000		14600		11800		14400		11100		14900		14900	
T	6010C	Lead	mg/kg	418		115	J	380		282	J	214	J	27.4	J	315	
T	6010C	Magnesium	mg/kg	916		2780		1330		2670		1260		2170		2130	
T	6010C	Manganese	mg/kg	84.8	J	378		104	J	372		221	J	472	J	401	
T	6010C	Nickel	mg/kg	18.8		17		18.8		18.5		17.6		16.9		18.6	
T	6010C	Potassium	mg/kg	403	J	725		490	J	714		511	J	617		859	
T	6010C	Selenium	mg/kg	1.5		0.73	U	1.3		0.71	U	0.63	J	0.84	U	0.68	J
T	6010C	Silver	mg/kg	0.34	J	0.1	U	0.12	J	0.1	U	0.22	J	0.12	U	0.15	U
T	6010C	Sodium	mg/kg	164	J	153	J	197	J	111	J	53.8	J	72.2	U	54.3	J
T	6010C	Thallium	mg/kg	0.95	U	1	U	1	U	1	U	1.1	U	1.2	U	1.5	U
T	6010C	Vanadium	mg/kg	21		22.5		20.5		20.8		26.3		20.3		30.6	
T	6010C	Zinc	mg/kg	256		70.2		213		75.2		104	J	32	J	197	
T	7471B	Mercury	mg/kg														

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Table 4
Final Result Summaries - TestAmerica
May 2011 Soil
Supplemental Remedial Investigation
Ft. Totten Coast Guard Station
Queens, New York

			Loc Name	AI2-110		AI2-111		AI2-111		AI2-112		AI2-112		AI3-101		AI3-101	
			Field Sample ID	AI2-110(6-24)		AI2-111(0-2)		AI2-111(6-24)		AI2-112(0-2)		AI2-112(6-24)		AI3-101(0-2)		AI3-101(6-24)	
			Field Sample Date	05/12/11		05/11/11		05/11/11		05/11/11		05/11/11		05/10/11		05/10/11	
			QC Code	FS		FS		FS		FS		FS		FS		FS	
			Lab Sample Delivery Group	C1E13427		C1E12445		C1E12445		C1E12445		C1E12445		C1E12405		C1E12405	
Frac	**Method**	**Analyte**	**Units**	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
T	6010C	Aluminum	mg/kg	10800		6320		6920		6290		9830		10300		11500	
T	6010C	Antimony	mg/kg	0.48	UJ	0.87	J	0.86	J	0.58	J	0.48	UJ	0.53	J	0.47	UJ
T	6010C	Arsenic	mg/kg	3.2		5.1		5.5		5.2		2.6		6.1		4.4	
T	6010C	Barium	mg/kg	78.1		80.5		63.6		138		89.9		41.4		41.4	
T	6010C	Beryllium	mg/kg	0.82		0.48		0.5		0.44	J	0.75		0.65		0.73	
T	6010C	Cadmium	mg/kg	0.086	J	0.71		0.35	J	0.6	J	0.095	U	0.12	J	0.04	J
T	6010C	Calcium	mg/kg	837		4010		6550		4010		1990		468	J	314	J
T	6010C	Chromium	mg/kg	19.1		14.6		16.3		15.4		20.3		23.8		22.1	
T	6010C	Cobalt	mg/kg	5.8	J	6		6.9		5.7	J	6.9		5.2	J	5	J
T	6010C	Copper	mg/kg	18.3		51.6	J	75.1	J	42.2	J	17.4	J	28.4		19.4	
T	6010C	Iron	mg/kg	14300		12100		13100		13100		14300		16500		16500	
T	6010C	Lead	mg/kg	51.6		242	J	207	J	278	J	108	J	86.7	J	30.7	J
T	6010C	Magnesium	mg/kg	2350		2430		4720		1770		2600		2490	J	2570	J
T	6010C	Manganese	mg/kg	541		259	J	274	J	305	J	486	J	206		188	
T	6010C	Nickel	mg/kg	16.2		17.4		21.5		16.8		19.7		19.6		17.9	
T	6010C	Potassium	mg/kg	602		679		642		786		872		839		651	
T	6010C	Selenium	mg/kg	0.83	U	0.77	J	0.91	J	0.65	J	0.83	U	0.47	J	0.83	U
T	6010C	Silver	mg/kg	0.12	U	0.21	J	0.087	J	0.1	J	0.12	U	0.12	U	0.12	U
T	6010C	Sodium	mg/kg	40.6	J	47.8	J	123	J	81.1	J	52.9	J	46	J	32.6	J
T	6010C	Thallium	mg/kg	1.2	U	1.2	U	1.1	U	1.2	U	1.2	U	1.2	U	1.2	U
T	6010C	Vanadium	mg/kg	22.7		30.7		23.4		28.9		21.7		47		28.6	
T	6010C	Zinc	mg/kg	77.3		233	J	258	J	177	J	58	J	54.4	J	42.3	J
T	7471B	Mercury	mg/kg														

Notes:
T = Total
N = Normal
FS = field sample
FD = field duplicate
U = not detected, value is the limit of detection (LOD)
J = value is estimated
mg/kg = milligram per kilogram
ug/kg = microgram per kilogram

Table 4
Final Result Summaries - TestAmerica
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			Loc Name	AI3-102		AI3-102		AI3-103		AI3-103		AI3-104		AI3-104		AI3-105	
			Field Sample ID	AI3-102(0-2)		AI3-102(6-24)		AI3-103(0-2)		AI3-103(6-24)		AI3-104(0-2)		AI3-104(6-24)		AI3-105(0-2)	
			Field Sample Date	05/10/11		05/10/11		05/10/11		05/10/11		05/10/11		05/10/11		05/10/11	
			QC Code	FS		FS		FS		FS		FS		FS		FS	
			Lab Sample Delivery Group	C1E12405		C1E12405		C1E12405		C1E12405		C1E12405		C1E12405		C1E12405	
Frac	**Method**	**Analyte**	**Units**	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
T	6010C	Aluminum	mg/kg	9890		10500		38200		10900		9260		8610		11100	
T	6010C	Antimony	mg/kg	0.47	UJ	0.43	UJ	2.1	J	0.29	J	0.45	UJ	0.2	J	0.45	J
T	6010C	Arsenic	mg/kg	6.3		5.5		53.7		17.4		6		5.1		132	
T	6010C	Barium	mg/kg	48		46.9		390		105		47.8		40.1		70.5	
T	6010C	Beryllium	mg/kg	0.71		0.78		2.7		0.57		0.62		0.6		0.8	
T	6010C	Cadmium	mg/kg	0.14	J	0.083	J	8.6		0.5	J	0.13	J	0.099	J	0.27	J
T	6010C	Calcium	mg/kg	1020	J	814	J	15000	J	2420	J	692	J	450	J	852	J
T	6010C	Chromium	mg/kg	20.1		19.4		136		20.3		17		16.9		56.4	
T	6010C	Cobalt	mg/kg	5.6	J	5.8		23.7	J	4.3	J	5.1	J	6		5.3	J
T	6010C	Copper	mg/kg	23.8		23.4		268		37.6		19.5		22.3		85	
T	6010C	Iron	mg/kg	15000		14800		62600		14200		13900		14700		15300	
T	6010C	Lead	mg/kg	73.3	J	44.7	J	2140	J	265	J	102	J	132	J	170	J
T	6010C	Magnesium	mg/kg	2470	J	2470	J	9140	J	1820	J	2090	J	1990	J	2120	J
T	6010C	Manganese	mg/kg	272		281		1140		217		224		293		244	
T	6010C	Nickel	mg/kg	18.2		19		78.5		14.2		13.9		14.4		17	
T	6010C	Potassium	mg/kg	604		576		3950		672		622		717		558	J
T	6010C	Selenium	mg/kg	0.4	J	0.42	J	3.2	J	0.41	J	0.79	U	0.76	U	0.57	J
T	6010C	Silver	mg/kg	0.12	U	0.11	U	0.83	J	0.11	U	0.11	U	0.11	U	0.12	U
T	6010C	Sodium	mg/kg	54.5	J	51.7	J	932	J	115	J	23.8	J	65.5	U	38.7	J
T	6010C	Thallium	mg/kg	1.2	U	1.1	U	5.9	U	1.1	U	1.1	U	1.1	U	1.2	U
T	6010C	Vanadium	mg/kg	30.6		24.3		154		30.7		24		23.3		32.5	
T	6010C	Zinc	mg/kg	68.9	J	59.1	J	1370	J	179	J	69.8	J	63.5	J	112	J
T	7471B	Mercury	mg/kg														

Notes:
T = Total
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Table 4
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			Loc Name	AI3-105		AI3-106		AI3-106		AI3-106		AI3-107		AI3-107		AI3-107	
			Field Sample ID	AI3-105(6-24)		AI3-106(0-2)		AI3-106(2-4)		AI3-106(6-24)		AI3-107(0-2)		AI3-107(2-4)		AI3-107(6-24)	
			Field Sample Date	05/10/11		05/11/11		05/11/11		05/11/11		05/11/11		05/11/11		05/11/11	
			QC Code	FS		FS		FS		FS		FS		FS		FS	
			Lab Sample Delivery Group	C1E12405		C1E12445		C1E12445		C1E12445		C1E12445		C1E12445		C1E12445	
Frac	**Method**	**Analyte**	**Units**	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
T	6010C	Aluminum	mg/kg	11500		7660		6650		8340		7840		9230		10100	
T	6010C	Antimony	mg/kg	0.21	J	0.46	J	1.2	J	0.42	J	0.54	J	0.19	J	0.37	J
T	6010C	Arsenic	mg/kg	18.9		5.6		4.2		10.4		6.6		3.4		7.7	
T	6010C	Barium	mg/kg	75.3		51.7		48.1		49.3		55.7		57.3		55.7	
T	6010C	Beryllium	mg/kg	0.79		0.48		0.44		0.5		0.56	J	0.56		0.53	
T	6010C	Cadmium	mg/kg	0.21	J	0.33	J	0.11	J	0.51	J	0.75		0.091	U	0.24	J
T	6010C	Calcium	mg/kg	1260	J	2520		3270		5840		2490		1910		5100	
T	6010C	Chromium	mg/kg	26.2		20.4		15.1		19.1		23.3		17.9		21	
T	6010C	Cobalt	mg/kg	5.8		5.9		6		6.7		5.4	J	5.5	J	6	J
T	6010C	Copper	mg/kg	33.6		31.7	J	166	J	47.9	J	37.8	J	24.3	J	29.3	J
T	6010C	Iron	mg/kg	15600		15000		17300		16500		15400		14500		17300	
T	6010C	Lead	mg/kg	114	J	174	J	152	J	212	J	411	J	55.9	J	168	J
T	6010C	Magnesium	mg/kg	2530	J	2400		3150		3610		2260		2400		2720	
T	6010C	Manganese	mg/kg	210		275	J	278	J	269	J	290	J	221	J	382	J
T	6010C	Nickel	mg/kg	18.5		17.7		25.6		18.8		18.1		16.1		17.6	
T	6010C	Potassium	mg/kg	534	J	1230		797		824		924		706		863	
T	6010C	Selenium	mg/kg	0.8	U	0.8	U	0.47	J	0.76	J	1	U	0.46	J	0.49	J
T	6010C	Silver	mg/kg	0.11	U	0.12	J	0.085	J	0.1	J	0.15	U	0.11	U	0.12	U
T	6010C	Sodium	mg/kg	58.6	J	15.5	J	88.7	J	21.9	J	55.3	J	57.3	J	102	J
T	6010C	Thallium	mg/kg	1.1	U	1.1	U	1.1	U	1.1	U	1.5	U	1.1	U	1.2	U
T	6010C	Vanadium	mg/kg	25.6		25.3		20.4		36.7		24.7		22.1		29.3	
T	6010C	Zinc	mg/kg	97.3	J	168	J	142	J	246	J	219	J	66.3	J	98.6	J
T	7471B	Mercury	mg/kg														

Notes:
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J = value is estimated
mg/kg = milligram per kilogram
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Table 4
Final Result Summaries - TestAmerica
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Queens, New York

			Loc Name	AI3-108		AI3-108		AI3-108		AI3-108		AI3-109		AI3-109		AI3-110	
			Field Sample ID	AI3-108(0-2)		AI3-108(6-24)		DUP-AI3-1		DUP-AI3-2		AI3-109(0-2)		AI3-109(6-24)		AI3-110(0-2)	
			Field Sample Date	05/10/11		05/10/11		05/10/11		05/10/11		05/10/11		05/10/11		05/11/11	
			QC Code	FS		FS		FD		FD		FS		FS		FS	
			Lab Sample Delivery Group	C1E12405		C1E12405		C1E12405		C1E12405		C1E12405		C1E12405		C1E12445	
Frac	**Method**	**Analyte**	**Units**	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
T	6010C	Aluminum	mg/kg	10700		11300		9950		9740		9690		10200		7480	
T	6010C	Antimony	mg/kg	0.41	J	0.44	UJ	0.45	J	0.44	UJ	0.44	UJ	0.45	UJ	0.56	J
T	6010C	Arsenic	mg/kg	7.3	J	2.8	J	6.2	J	2.3	J	4.6		4.3		6.3	
T	6010C	Barium	mg/kg	44.7		49.8		42.7		43.8		47.4		42.4		52.8	
T	6010C	Beryllium	mg/kg	0.8		0.87		0.76		0.81		0.68		0.74		0.48	J
T	6010C	Cadmium	mg/kg	0.12	J	0.034	J	0.12	J	0.088	U	0.22	J	0.16	J	0.26	J
T	6010C	Calcium	mg/kg	415	J	267	J	400	J	237	J	962	J	582	J	2320	
T	6010C	Chromium	mg/kg	18.5	J	16.4		17.2	J	13.9		21		19.6		24.4	
T	6010C	Cobalt	mg/kg	3.7	J	4.1	J	3.4	J	3.5	J	6.5		6.3		5.5	J
T	6010C	Copper	mg/kg	34.2	J	12.6	J	31.4	J	10	J	20.6		22		27.8	J
T	6010C	Iron	mg/kg	13400	J	12200		12300	J	10600		14600		14500		14600	
T	6010C	Lead	mg/kg	111	J	21.3	J	104	J	16.4	J	76.8	J	55.7	J	228	J
T	6010C	Magnesium	mg/kg	2050	J	2120	J	1900	J	1800	J	2550	J	2430	J	2250	
T	6010C	Manganese	mg/kg	170	J	245	J	157	J	213	J	335		307		290	J
T	6010C	Nickel	mg/kg	14.9	J	13.3		13.9	J	11.5		19.1		17.2		16.3	
T	6010C	Potassium	mg/kg	406	J	356	J	385	J	306	J	691		503	J	1120	
T	6010C	Selenium	mg/kg	0.9	J	0.77	U	0.5	J	0.77	U	0.78	U	0.78	U	0.45	J
T	6010C	Silver	mg/kg	0.14	U	0.11	U	0.12	U	0.11	U	0.11	U	0.11	U	0.48	J
T	6010C	Sodium	mg/kg	45.1	J	66.3	U	28.9	J	16.2	J	51.4	J	109	J	33.6	J
T	6010C	Thallium	mg/kg	1.4	U	1.1	U	1.2	U	1.1	U	1.1	U	1.1	U	1.2	U
T	6010C	Vanadium	mg/kg	35.2	J	19.8	J	32.6	J	16.6	J	39.8		34.9		23.1	
T	6010C	Zinc	mg/kg	50.3	J	40.3	J	48.2	J	34.6	J	69.2	J	53.8	J	110	J
T	7471B	Mercury	mg/kg														

Notes:
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ug/kg = microgram per kilogram

Table 4
Final Result Summaries - TestAmerica
May 2011 Soil
Supplemental Remedial Investigation
Ft. Totten Coast Guard Station
Queens, New York

			Loc Name	AI3-110		AI3-110		AI3-111		AI3-111		AI3-112		AI3-112		AI4-101	
			Field Sample ID	AI3-110(2-4)		AI3-110(6-24)		AI3-111(0-2)		AI3-111(6-24)		AI3-112(0-2)		AI3-112(6-12)		AI4-101(0-2)	
			Field Sample Date	05/11/11		05/11/11		05/10/11		05/10/11		05/10/11		05/10/11		05/10/11	
			QC Code	FS		FS		FS		FS		FS		FS		FS	
			Lab Sample Delivery Group	C1E12445		C1E12445		C1E12405		C1E12405		C1E12405		C1E12405		C1E12405	
Frac	**Method**	**Analyte**	**Units**	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
T	6010C	Aluminum	mg/kg	5940		9210		9400		9610		11900		12500		7610	
T	6010C	Antimony	mg/kg	0.24	J	0.4	J	0.41	J	0.44	UJ	0.22	J	0.5	UJ	0.22	J
T	6010C	Arsenic	mg/kg	5.3		8.4		22.5		6.7		8.2		2.6		3.6	
T	6010C	Barium	mg/kg	53		56.2		56.8		76.8		52.4		57.3		64.1	
T	6010C	Beryllium	mg/kg	0.45		0.53		0.6		0.65		0.86		1.1		0.4	U
T	6010C	Cadmium	mg/kg	0.14	J	0.21	J	0.59		0.19	J	0.066	J	0.099	U	0.19	J
T	6010C	Calcium	mg/kg	2180		1960		2610	J	6690	J	530	J	331	J	6900	J
T	6010C	Chromium	mg/kg	15.3		20.1		18.8		24.5		23.3		22.1		17.3	
T	6010C	Cobalt	mg/kg	5.2	J	6.1		3.9	J	7.7		5.8	J	6.8		5.6	J
T	6010C	Copper	mg/kg	36.4	J	28.6	J	36.3		27.8		28.9		9.8		29	
T	6010C	Iron	mg/kg	12900		15700		13400		16500		16100		14800		12700	
T	6010C	Lead	mg/kg	86.4	J	122	J	150	J	68.2	J	99.6	J	15.5	J	94.6	J
T	6010C	Magnesium	mg/kg	2340		2310		1800	J	6390	J	2620	J	2590	J	5090	J
T	6010C	Manganese	mg/kg	231	J	325	J	222		324		340		463		351	
T	6010C	Nickel	mg/kg	16.6		17.2		13.6		22.5		18.4		18.7		15.8	
T	6010C	Potassium	mg/kg	1040		938		553		1770		677		544	J	919	
T	6010C	Selenium	mg/kg	0.44	J	0.37	J	0.48	J	0.76	U	0.73	J	0.87	U	0.81	U
T	6010C	Silver	mg/kg	0.11	U	0.078	J	0.097	U	0.11	U	0.12	U	0.12	U	0.12	U
T	6010C	Sodium	mg/kg	29.2	J	31.1	J	554		436	J	56.8	J	19	J	172	J
T	6010C	Thallium	mg/kg	1.1	U	1.1	U	0.97	U	1.1	U	1.2	U	1.2	U	1.2	U
T	6010C	Vanadium	mg/kg	20		27		33.3		32		35.4		25.3		21.1	
T	6010C	Zinc	mg/kg	72.1	J	91.2	J	274	J	127	J	53.3	J	45	J	116	J
T	7471B	Mercury	mg/kg														

Notes:
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Table 4
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May 2011 Soil
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			Loc Name	AI4-101		AI5-101		AI5-101		AI5-101		AI5-102		AI5-102		AI5-102	
			Field Sample ID	AI4-101(6-24)		AI5-101(0-6)		AI5-101(2-6)		AI5-101(6-24)		AI5-102(0-2)		AI5-102(2-6)		AI5-102(6-24)	
			Field Sample Date	05/10/11		05/10/11		05/10/11		05/10/11		05/10/11		05/10/11		05/10/11	
			QC Code	FS		FS		FS		FS		FS		FS		FS	
			Lab Sample Delivery Group	C1E12405		C1E12405		C1E12405		C1E12405		C1E12405		C1E12405		C1E12405	
Frac	**Method**	**Analyte**	**Units**	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
T	6010C	Aluminum	mg/kg	10300		4100		6850		9430		2160		7740		5700	
T	6010C	Antimony	mg/kg	0.37	UJ	0.24	J	0.43	UJ	0.42	UJ	0.42	UJ	0.42	UJ	0.43	UJ
T	6010C	Arsenic	mg/kg	3.1		13.3		2.5		3.9		2.9		1.9		2	
T	6010C	Barium	mg/kg	69.4		42.7		27.2		31.8		49.8		24.1		15.8	J
T	6010C	Beryllium	mg/kg	0.54	U	0.32	U	0.33	U	0.34	U	0.22	U	0.34	U	0.29	U
T	6010C	Cadmium	mg/kg	0.055	J	0.48	J	0.086	U	0.084	U	0.072	J	0.084	U	0.085	U
T	6010C	Calcium	mg/kg	3360	J	11100	J	1280	J	508	J	10600	J	4960	J	567	J
T	6010C	Chromium	mg/kg	20.7		11.6		19.9		18.6		7.1		19.1		10.5	
T	6010C	Cobalt	mg/kg	6.2		4	J	3.6	J	5.4		2.7	J	11.4		15.8	
T	6010C	Copper	mg/kg	19.6		38		13.9		10.4		17.3		14.1		7.4	
T	6010C	Iron	mg/kg	13900		7720		11200		14800		3870		11900		9160	
T	6010C	Lead	mg/kg	39	J	81.9	J	7.5	J	7.6	J	21.2	J	5.5	J	4.1	J
T	6010C	Magnesium	mg/kg	3680	J	1240	J	2020	J	2390	J	760	J	2340	J	1210	J
T	6010C	Manganese	mg/kg	476		101		103		143		48		209		253	
T	6010C	Nickel	mg/kg	16.8		12.2		11.3		11.4		8.4		19.1		9.8	
T	6010C	Potassium	mg/kg	724		401	J	587		688		326	J	647		507	J
T	6010C	Selenium	mg/kg	0.65	U	0.63	J	0.75	U	0.73	U	0.73	U	0.73	U	0.75	U
T	6010C	Silver	mg/kg	0.093	U	0.12	U	0.11	U	0.1	U	0.1	U	0.1	U	0.11	U
T	6010C	Sodium	mg/kg	360	J	235	J	70.3	J	567		431	J	185	J	70.4	J
T	6010C	Thallium	mg/kg	0.93	U	1.2	U	1.1	U	1	U	1	U	1	U	1.1	U
T	6010C	Vanadium	mg/kg	22.4		19.2		17.9		24		11.1		22.5		16.5	
T	6010C	Zinc	mg/kg	61.3	J	80.2	J	30.2	J	31.7	J	26.6	J	29	J	19.4	J
T	7471B	Mercury	mg/kg														

Notes:
T = Total
N = Normal
FS = field sample
FD = field duplicate
U = not detected, value is the limit of detection (LOD)
J = value is estimated
mg/kg = milligram per kilogram
ug/kg = microgram per kilogram

Table 4
Final Result Summaries - TestAmerica
May 2011 Soil
Supplemental Remedial Investigation
Ft. Totten Coast Guard Station
Queens, New York

			Loc Name	AI5-103		AI5-103		AI5-103		AI5-104		AI5-104		AI5-104		AI5-105	
			Field Sample ID	AI5-103(0-2)		AI5-103(2-6)		AI5-103(6-24)		AI5-104(0-2)		AI5-104(2-6)		AI5-104(6-24)		AI5-105(0-2)	
			Field Sample Date	05/10/11		05/10/11		05/10/11		05/10/11		05/10/11		05/10/11		05/11/11	
			QC Code	FS		FS		FS		FS		FS		FS		FS	
			Lab Sample Delivery Group	C1E12405		C1E12405		C1E12405		C1E12405		C1E12405		C1E12405		C1E12445	
Frac	**Method**	**Analyte**	**Units**	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
T	6010C	Aluminum	mg/kg	2930		6530		9580		3740		6260		15200		5360	
T	6010C	Antimony	mg/kg	0.4	UJ	0.45	UJ	0.44	UJ	0.4	UJ	0.44	UJ	0.47	UJ	1.2	J
T	6010C	Arsenic	mg/kg	1.7		2		2.4		2.8		2.4		2.9		3.9	
T	6010C	Barium	mg/kg	23.5		32.2		84.1		45.9		32.5		156		55.8	
T	6010C	Beryllium	mg/kg	0.19	U	0.35	U	0.49	U	0.22	U	0.33	U	0.72		0.36	J
T	6010C	Cadmium	mg/kg	0.054	J	0.089	U	0.088	U	0.037	J	0.088	U	0.094	U	0.53	J
T	6010C	Calcium	mg/kg	27200	J	980	J	4700	J	15800	J	1260	J	2940	J	30500	
T	6010C	Chromium	mg/kg	7.6		14.1		28.9		5.6		15.8		45.2		18.1	
T	6010C	Cobalt	mg/kg	3	J	4.4	J	8.5		4.1	J	5.3	J	13.4		3.6	J
T	6010C	Copper	mg/kg	11.7		28.8		24.9		23.7		12		35.7		90.7	J
T	6010C	Iron	mg/kg	6670		12000		17700		6180		13000		25200		9240	
T	6010C	Lead	mg/kg	53.3	J	78.3	J	39.6	J	22.6	J	18.8	J	72.8	J	366	J
T	6010C	Magnesium	mg/kg	12700	J	1880	J	5540	J	1550	J	2200	J	7280	J	2420	J
T	6010C	Manganese	mg/kg	160		177		339		78.7		190		510		155	J
T	6010C	Nickel	mg/kg	14		11.3		25.5		10.5		11.9		36.4		13.9	
T	6010C	Potassium	mg/kg	427	J	711		2880		486	J	1030		5320		451	J
T	6010C	Selenium	mg/kg	0.7	U	0.78	U	0.77	U	0.69	U	0.77	U	0.83	U	0.65	J
T	6010C	Silver	mg/kg	0.1	U	0.11	U	0.11	U	0.072	J	0.11	U	0.12	U	0.19	J
T	6010C	Sodium	mg/kg	179	J	97.1	J	488	J	379	J	97.1	J	451	J	206	J
T	6010C	Thallium	mg/kg	1	U	1.1	U	1.1	U	0.99	U	1.1	U	1.2	U	1.1	U
T	6010C	Vanadium	mg/kg	40.1		17.2		30.7		20.1		20.6		44.9		15.1	
T	6010C	Zinc	mg/kg	29.9	J	92.3	J	53.2	J	28.6	J	38.9	J	116	J	158	J
T	7471B	Mercury	mg/kg														

Notes:
T = Total
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J = value is estimated
mg/kg = milligram per kilogram
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Table 4
Final Result Summaries - TestAmerica
May 2011 Soil
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Ft. Totten Coast Guard Station
Queens, New York

			Loc Name	AI5-105		AI5-105		AI5-105		AI5-105		AI5-106		AI5-106		AI5-106	
			Field Sample ID	AI5-105(2-6)		AI5-105(6-24)		DUP-AI5-1(0-2)		DUP-AI5-2(6-24)		AI5-106(0-6)		AI5-106(2-6)		AI5-106(6-24)	
			Field Sample Date	05/11/11		05/11/11		05/11/11		05/11/11		05/11/11		05/11/11		05/11/11	
			QC Code	FS		FS		FD		FD		FS		FS		FS	
			Lab Sample Delivery Group	C1E12445		C1E12445		C1E12445		C1E12445		C1E12445		C1E12445		C1E12445	
Frac	**Method**	**Analyte**	**Units**	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
T	6010C	Aluminum	mg/kg	7290		8080		6050		8590		7520		7220		9590	
T	6010C	Antimony	mg/kg	0.45	UJ	0.25	J	0.74	J	0.35	J	0.44	UJ	0.31	J	1.9	J
T	6010C	Arsenic	mg/kg	2		2.2	J	3.8		3.1	J	3		2.3		3.4	
T	6010C	Barium	mg/kg	43.6		71.3	J	51.5		41.8	J	47.3		43.3		50.7	
T	6010C	Beryllium	mg/kg	0.44	J	0.45		0.37	J	0.49		0.46		0.5		0.48	
T	6010C	Cadmium	mg/kg	0.091	U	0.088	U	0.55	J	0.48	J	0.22	J	0.09	U	0.088	U
T	6010C	Calcium	mg/kg	1070		3350	J	35300		986	J	8170		2570		865	
T	6010C	Chromium	mg/kg	20		21.1		18.9		18.2		17.7		15.7		19.8	
T	6010C	Cobalt	mg/kg	4.9	J	7.6	J	3.8	J	6.1	J	13		5	J	5.8	
T	6010C	Copper	mg/kg	15.7	J	66.9	J	89.2	J	25.7	J	21.6	J	32.9	J	17.7	J
T	6010C	Iron	mg/kg	13400		17200		9160		19000		15600		14000		16500	
T	6010C	Lead	mg/kg	24.7	J	106	J	360	J	55.4	J	143	J	81.6	J	106	J
T	6010C	Magnesium	mg/kg	2420		4010	J	3550	J	2260	J	2340		2300		2530	
T	6010C	Manganese	mg/kg	193	J	205	J	162	J	316	J	438	J	278	J	267	J
T	6010C	Nickel	mg/kg	14.2		19.7		14.3		16.1		18.9		13.5		18.3	
T	6010C	Potassium	mg/kg	1230		2290	J	535	J	848	J	1280		873		1140	
T	6010C	Selenium	mg/kg	0.79	U	0.64	J	0.64	J	0.78	U	0.77	U	0.79	U	0.77	U
T	6010C	Silver	mg/kg	0.11	U	0.11	U	0.17	J	0.11	U	0.11	U	0.11	U	0.11	U
T	6010C	Sodium	mg/kg	155	J	373	J	201	J	64.2	J	226	J	410	J	207	J
T	6010C	Thallium	mg/kg	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U
T	6010C	Vanadium	mg/kg	20.7		28.3	J	17.2		21.8	J	22		17.4		24.3	
T	6010C	Zinc	mg/kg	38.3	J	71.3	J	167	J	507	J	120	J	61.9	J	126	J
T	7471B	Mercury	mg/kg														

Notes:
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J = value is estimated
mg/kg = milligram per kilogram
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Table 4
Final Result Summaries - TestAmerica
May 2011 Soil
Supplemental Remedial Investigation
Ft. Totten Coast Guard Station
Queens, New York

			Loc Name	AI5-107		AI5-107		AI5-107		AI5-108		AI5-108		AI5-108		AI5-109	
			Field Sample ID	AI5-107(0-2)		AI5-107(2-6)		AI5-107(6-24)		AI5-108(0-2)		AI5-108(2-6)		AI5-108(6-24)		AI5-109(0-2)	
			Field Sample Date	05/11/11		05/11/11		05/11/11		05/11/11		05/11/11		05/11/11		05/10/11	
			QC Code	FS		FS		FS		FS		FS		FS		FS	
			Lab Sample Delivery Group	C1E12445		C1E12445		C1E12445		C1E12445		C1E12445		C1E12445		C1E12405	
Frac	**Method**	**Analyte**	**Units**	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
T	6010C	Aluminum	mg/kg	4570		8740		7700		7660		9770		7970		6070	
T	6010C	Antimony	mg/kg	1.4	J	1.1	J	0.44	UJ	0.44	UJ	0.25	J	0.2	J	0.43	J
T	6010C	Arsenic	mg/kg	3.1		1.6		2.8		3.2		3.5		3.2		5.5	
T	6010C	Barium	mg/kg	47.7		68.3		48.9		53.4		43		39		56.8	
T	6010C	Beryllium	mg/kg	0.31	J	0.53		0.47		0.48		0.51		0.46		0.37	U
T	6010C	Cadmium	mg/kg	1.7		0.087	U	0.087	U	0.74		0.15	J	0.45	J	0.47	J
T	6010C	Calcium	mg/kg	16000		1660		661		6140		1900		1070		3250	J
T	6010C	Chromium	mg/kg	29.7		24.9		17.8		15.4		19.8		17.6		18.2	
T	6010C	Cobalt	mg/kg	4	J	9.3		6.5		4.7	J	6.6		6.3		5.7	J
T	6010C	Copper	mg/kg	69.4	J	17.4	J	18.7	J	27.3	J	24.3	J	18.1	J	227	
T	6010C	Iron	mg/kg	8850		16900		17300		14000		20100		22100		13600	
T	6010C	Lead	mg/kg	587	J	8.5	J	26.7	J	88	J	60.1	J	85.6	J	350	J
T	6010C	Magnesium	mg/kg	1780		3270		2140		2030		2450		2090		2010	J
T	6010C	Manganese	mg/kg	140	J	233	J	421	J	227	J	350	J	324	J	206	
T	6010C	Nickel	mg/kg	22.8		25.7		20.3		14.2		18.1		15.8		21.3	
T	6010C	Potassium	mg/kg	387	J	2260		1140		688		837		805		836	
T	6010C	Selenium	mg/kg	0.69	J	0.76	U	0.76	U	0.78	U	0.45	J	0.77	U	0.83	U
T	6010C	Silver	mg/kg	0.22	J	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	J
T	6010C	Sodium	mg/kg	45.9	J	370	J	310	J	129	J	114	J	72.7	J	496	J
T	6010C	Thallium	mg/kg	1.2	U	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U	1.2	U
T	6010C	Vanadium	mg/kg	36.1		28.7		23.4		20.1		24		21.5		27.2	
T	6010C	Zinc	mg/kg	283	J	38.1	J	31.5	J	213	J	195	J	339	J	316	J
T	7471B	Mercury	mg/kg														

Notes:
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J = value is estimated
mg/kg = milligram per kilogram
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Table 4
Final Result Summaries - TestAmerica
May 2011 Soil
Supplemental Remedial Investigation
Ft. Totten Coast Guard Station
Queens, New York

			Loc Name	AI5-109		AI5-109		AI5-110		AI5-110		AI5-110	
			Field Sample ID	AI5-109(2-6)		AI5-109(6-24)		AI5-110(0-2)		AI5-110(2-6)		AI5-110(6-24)	
			Field Sample Date	05/10/11		05/10/11		05/11/11		05/11/11		05/11/11	
			QC Code	FS		FS		FS		FS		FS	
			Lab Sample Delivery Group	C1E12405		C1E12405		C1E12445		C1E12445		C1E12445	
Frac	**Method**	**Analyte**	**Units**	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
T	6010C	Aluminum	mg/kg	8210		8610		2990		3660		9370	
T	6010C	Antimony	mg/kg	0.41	UJ	0.43	UJ	0.25	J	0.46	UJ	0.44	UJ
T	6010C	Arsenic	mg/kg	2.3		2.7		6.5		2		2.8	
T	6010C	Barium	mg/kg	36.6		40.9		53.8		102		46.5	
T	6010C	Beryllium	mg/kg	0.36	U	0.4	U	0.37	J	0.29	J	0.51	
T	6010C	Cadmium	mg/kg	0.21	J	0.097	J	0.21	J	0.093	U	0.088	U
T	6010C	Calcium	mg/kg	14900	J	1540	J	4660		629		2070	
T	6010C	Chromium	mg/kg	12.5		18.1		7.3		11.4		19.9	
T	6010C	Cobalt	mg/kg	3.1	J	4.7	J	3.4	J	5.9		6.8	
T	6010C	Copper	mg/kg	13.8		21.1		44.6	J	16.3	J	19.5	J
T	6010C	Iron	mg/kg	10200		13900		6140		14800		16900	
T	6010C	Lead	mg/kg	35.5	J	56	J	55.3	J	5.3	J	22.7	J
T	6010C	Magnesium	mg/kg	2150	J	2290	J	706		1170		2990	
T	6010C	Manganese	mg/kg	129		186		56	J	476	J	186	J
T	6010C	Nickel	mg/kg	10.4		14.3		12		13.6		18.7	
T	6010C	Potassium	mg/kg	431	J	775		325	J	712		1180	
T	6010C	Selenium	mg/kg	0.72	U	0.75	U	1.9		0.81	U	0.68	J
T	6010C	Silver	mg/kg	0.1	U	0.11	U	0.19	J	0.12	U	0.11	U
T	6010C	Sodium	mg/kg	356	J	435	J	286	J	100	J	267	J
T	6010C	Thallium	mg/kg	1	U	1.1	U	1.2	U	1.2	U	1.1	U
T	6010C	Vanadium	mg/kg	16.3		22.5		14.9		11.5		25.6	
T	6010C	Zinc	mg/kg	261	J	58.4	J	45.7	J	24.2	J	41	J
T	7471B	Mercury	mg/kg										

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mg/kg = milligram per kilogram
ug/kg = microgram per kilogram

Prepared by / Date: KJC 10/04/11
Checked by / Date: MJW 10/06/11

Table 4
Final Result Summaries - TestAmerica
May 2011 Groundwater
Supplemental Remedial Investigation
Ft. Totten Coast Guard Station
Queens, New York

			Loc Name	MW-1		MW-2		MW-3		MW-4		MW-4		MW-5	
			Field Sample ID	MW-1		MW-2		MW-3		DUP-1		MW-4		MW-5	
			Field Sample Date	05/09/11		05/09/11		05/09/11		05/09/11		05/09/11		05/09/11	
			QC Code	FS		FS		FS		FD		FS		FS	
			Lab Sample Delivery Group	C1E10518		C1E10518		C1E10518		C1E10518		C1E10518		C1E10518	
Frac	**Method**	**Analyte**	**Units**	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
N	8260B	1,1,1-Trichloroethane	ug/L	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
N	8260B	1,1,2,2-Tetrachloroethane	ug/L	1	U	1	U	1	U	1	U	1	U	1	U
N	8260B	1,1,2-Trichloroethane	ug/L	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
N	8260B	1,1-Dichloroethane	ug/L	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
N	8260B	1,1-Dichloroethene	ug/L	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
N	8260B	1,2,4-Trichlorobenzene	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
N	8260B	1,2-Dichlorobenzene	ug/L	1	U	1	U	1	U	1	U	1	U	1	U
N	8260B	1,2-Dichloroethane	ug/L	1	U	1	U	1	U	1	U	1	U	1	U
N	8260B	1,2-Dichloroethene (total)	ug/L	1	U	1	U	1	U	1	U	1	U	1	U
N	8260B	1,2-Dichloropropane	ug/L	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
N	8260B	1,3-Dichlorobenzene	ug/L	1	U	1	U	1	U	1	U	1	U	1	U
N	8260B	1,4-Dichlorobenzene	ug/L	1	U	1	U	1	U	1	U	1	U	1	U
N	8260B	2-Butanone	ug/L	1.5	UJ	1.5	UJ	1.5	UJ	1.5	UJ	1.5	UJ	1.5	UJ
N	8260B	2-Hexanone	ug/L	1	UJ	1	UJ	1	UJ	1	UJ	1	UJ	1	UJ
N	8260B	4-Methyl-2-pentanone	ug/L	1	UJ	1	UJ	1	UJ	1	UJ	1	UJ	1	UJ
N	8260B	Acetone	ug/L	2	UJ	2	UJ	2	UJ	2	UJ	2	UJ	2	UJ
N	8260B	Benzene	ug/L	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
N	8260B	Bromobenzene	ug/L	1	U	1	U	1	U	1	U	1	U	1	U
N	8260B	Bromodichloromethane	ug/L	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
N	8260B	Bromoform	ug/L	2	U	2	U	2	U	2	U	2	U	2	U
N	8260B	Bromomethane	ug/L	2	U	2	U	2	U	2	U	2	U	2	U
N	8260B	Carbon disulfide	ug/L	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
N	8260B	Carbon tetrachloride	ug/L	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
N	8260B	Chlorobenzene	ug/L	1	U	1	U	1	U	1	U	1	U	1	U
N	8260B	Chlorodibromomethane	ug/L	1	U	1	U	1	U	1	U	1	U	1	U
N	8260B	Chloroethane	ug/L	1	U	1	U	1	U	1	U	1	U	1	U
N	8260B	Chloroform	ug/L	1.5	U	14		1.5	U	1.5	UJ	14	J	1.5	U
N	8260B	Chloromethane	ug/L	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
N	8260B	cis-1,3-Dichloropropene	ug/L	1	U	1	U	1	U	1	U	1	U	1	U
N	8260B	Ethyl benzene	ug/L	1	U	1	U	1	U	1	U	1	U	1	U
N	8260B	Methylene chloride	ug/L	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
N	8260B	Styrene	ug/L	1	U	1	U	1	U	1	U	1	U	1	U
N	8260B	Tetrachloroethene	ug/L	1	U	1	U	1	U	1	U	1	U	1	U
N	8260B	Toluene	ug/L	1	U	1	U	1	U	1	U	1	U	1	U
N	8260B	trans-1,3-Dichloropropene	ug/L	1	U	1	U	1	U	1	U	1	U	1	U
N	8260B	Trichloroethene	ug/L	1	U	1	U	1	U	1	U	1	U	1	U
N	8260B	Vinyl chloride	ug/L	1.5	UJ	1.5	UJ	1.5	UJ	1.5	UJ	1.5	UJ	1.5	UJ
N	8260B	Xylenes, Total	ug/L	3	U	3	U	3	U	3	U	3	U	3	U
N	8270D	1-Methylnaphthalene	ug/L	0.028	U	0.028	U	0.029	U	0.028	U	0.028	U	0.028	U
N	8270D	2-Methylnaphthalene	ug/L	0.019	U	0.019	U	0.019	U	0.019	U	0.019	U	0.019	U
N	8270D	Acenaphthene	ug/L	0.028	U	0.028	U	0.029	U	0.028	U	0.028	U	0.028	U
N	8270D	Acenaphthylene	ug/L	0.028	U	0.028	U	0.029	U	0.028	U	0.028	U	0.028	U
N	8270D	Anthracene	ug/L	0.028	U	0.028	U	0.029	U	0.023	J	0.028	U	0.028	U
N	8270D	Benzo(a)anthracene	ug/L	0.028	U	0.028	U	0.029	U	0.064	J	0.028	U	0.22	
N	8270D	Benzo(a)pyrene	ug/L	0.028	U	0.028	U	0.029	U	0.066	J	0.028	U	0.18	J

Table 4
Final Result Summaries - TestAmerica
May 2011 Groundwater
Supplemental Remedial Investigation
Ft. Totten Coast Guard Station
Queens, New York

			Loc Name	MW-1		MW-2		MW-3		MW-4		MW-4		MW-5	
			Field Sample ID	MW-1		MW-2		MW-3		DUP-1		MW-4		MW-5	
			Field Sample Date	05/09/11		05/09/11		05/09/11		05/09/11		05/09/11		05/09/11	
			QC Code	FS		FS		FS		FD		FS		FS	
			Lab Sample Delivery Group	C1E10518		C1E10518		C1E10518		C1E10518		C1E10518		C1E10518	
Frac	**Method**	**Analyte**	**Units**	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
N	8270D	Benzo(b)fluoranthene	ug/L	0.028	U	0.028	U	0.029	U	0.11	J	0.033	J	0.24	
N	8270D	Benzo(ghi)perylene	ug/L	0.028	U	0.028	U	0.029	U	0.055	J	0.028	U	0.31	
N	8270D	Benzo(k)fluoranthene	ug/L	0.095	U	0.094	U	0.096	U	0.095	U	0.095	U	0.28	
N	8270D	Chrysene	ug/L	0.028	U	0.028	U	0.029	U	0.084	J	0.028	U	0.23	
N	8270D	Dibenz(a,h)anthracene	ug/L	0.028	U	0.028	U	0.029	U	0.028	U	0.028	U	0.26	
N	8270D	Fluoranthene	ug/L	0.028	U	0.028	U	0.029	U	0.1	J	0.044	J	0.04	J
N	8270D	Fluorene	ug/L	0.028	U	0.028	U	0.029	U	0.028	U	0.028	U	0.028	U
N	8270D	Indeno(1,2,3-cd)pyrene	ug/L	0.028	U	0.028	U	0.029	U	0.028	U	0.028	U	0.27	
N	8270D	Naphthalene	ug/L	0.028	U	0.028	U	0.029	U	0.028	U	0.028	U	0.028	U
N	8270D	Phenanthrene	ug/L	0.095	U	0.094	U	0.096	U	0.044	J	0.095	U	0.095	U
N	8270D	Pyrene	ug/L	0.028	U	0.028	U	0.029	U	0.11	J	0.037	J	0.044	J
T	6010C	Aluminum	ug/L	72.9	J	64.1	J	66.1	J	85.3	J	111	J	65.6	J
T	6010C	Antimony	ug/L	3	U	3	U	3	U	1.3	J	3	U	3	U
T	6010C	Arsenic	ug/L	5	U	5	U	5	U	5	U	5	U	5	U
T	6010C	Barium	ug/L	48.8	J	6.6	J	55.5	J	49.5	J	50.9	J	47.1	J
T	6010C	Beryllium	ug/L	1	U	1	U	1	U	1	U	1	U	1	U
T	6010C	Cadmium	ug/L	0.8	U	0.8	U	0.8	U	0.8	U	0.8	U	0.8	U
T	6010C	Calcium	ug/L	17000		12400		52500		72100		72100		26300	
T	6010C	Chromium	ug/L	2.5	U	1.3	J	5.9		4	J	4.3	J	1	J
T	6010C	Cobalt	ug/L	2.5	U	2.5	U	2.5	U	0.85	J	0.8	J	2.5	U
T	6010C	Copper	ug/L	5	U	5	U	5	U	12.3	J	13.3	J	5	U
T	6010C	Iron	ug/L	40	U	40	U	40	U	44.7	J	108	J	40	U
T	6010C	Lead	ug/L	3	U	3	U	3	U	3	U	1.8	J	3	U
T	6010C	Magnesium	ug/L	9440		4080	J	22400		21800		22300		17100	
T	6010C	Manganese	ug/L	3.8	J	2	U	2	U	7.8	J	8.3	J	19.9	
T	6010C	Nickel	ug/L	4.1	J	3	U	3	U	14.4	J	13.3	J	7.6	J
T	6010C	Potassium	ug/L	2000	J	948	J	1660	J	3430	J	3420	J	1360	J
T	6010C	Selenium	ug/L	6	U	6	U	6	U	6	U	6	U	6	U
T	6010C	Silver	ug/L	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U
T	6010C	Sodium	ug/L	31700		7020		9830		83300		85600		36600	
T	6010C	Thallium	ug/L	12	U	12	U	12	U	12	U	12	U	12	U
T	6010C	Vanadium	ug/L	5	U	5	U	5	U	2.4	J	5	U	5	U
T	6010C	Zinc	ug/L	12	U	12	U	12	U	29.8		32.6		12	U
T	7470A	Mercury	ug/L	0.075	U	0.075	U	0.075	U	0.044	J	0.039	J	0.075	U

Notes:

T = Total
N = Normal
FS = field sample
FD = field duplicate
U = not detected, value is the limit of detection (LOD)
J = value is estimated
ug/L = microgram per liter

Prepared by / Date: KJC 10/04/11
Checked by / Date: MJW 10/06/11

Table 4b
Final Result Summaries - Frontier Mercury Speciation
May 2011 Soil
Supplemental Remedial Investigation
Ft. Totten Coast Guard Station
Queens, New York

			Loc Name	AI2-107		AI2-107		AI2-109		AI2-109		AI2-111		AI2-111		AI2-112		AI2-112	
			Field Sample ID	AI2-107(0-2)		AI2-107(6-24)		AI2-109(0-2)		AI2-109(6-24)		AI2-111(0-2)		AI2-111(6-24)		AI2-112(0-2)		AI2-112(6-24)	
			Field Sample Date	05/11/11		05/11/11		05/11/11		05/11/11		05/11/11		05/11/11		05/11/11		05/11/11	
			QC Code	FS		FS		FS		FS		FS		FS		FS		FS	
			Lab Sample Delivery Group	1105165		1105165		1105165		1105165		1105165		1105165		1105165		1105165	
Frac	**Method**	**Analyte**	**Units**	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
T	1630	Methyl mercury	NG/G	6.02	J	1.03	J	4.86	J	0.083	J	11	J	1.39	J	0.737	J	0.063	UJ
T	1631E	Elemental Mercury	NG/G	0.3	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.3	U
T	1631E	Mercury	NG/G	323	J	165	J	2080	J	374	J	1630	J	1760	J	358	J	81.9	J

Notes:
T = Total
FS = field sample
FD = field duplicate
U = not detected, value is the limit of detection (LOD)
J = value is estimated
NG/G = nanogram per gram

Table 4b
Final Result Summaries - Frontier Mercury Speciation
May 2011 Soil
Supplemental Remedial Investigation
Ft. Totten Coast Guard Station
Queens, New York

			Loc Name	AI3-104		AI3-104		AI3-105		AI3-105		AI3-111		AI3-111		AI3-112		AI3-112	
			Field Sample ID	AI3-104(0-2)		AI3-104(6-24)		AI3-105(0-2)		AI3-105(6-24)		AI3-111(0-2)		AI3-111(6-24)		AI3-112(0-2)		AI3-112(6-24)	
			Field Sample Date	05/10/11		05/10/11		05/10/11		05/10/11		05/10/11		05/10/11		05/10/11		05/10/11	
			QC Code	FS		FS		FS		FS		FS		FS		FS		FS	
			Lab Sample Delivery Group	1105165		1105165		1105165		1105165		1105165		1105165		1105165		1105165	
Frac	**Method**	**Analyte**	**Units**	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
T	1630	Methyl mercury	NG/G	1.06	J	0.354	J	0.79	J	0.781	J	2.26	J	0.238	J	2.05	J	0.179	J
T	1631E	Elemental Mercury	NG/G	0.3	U	0.3	U	0.4	U	0.3	U	0.3	U	0.2	U	0.3	U	0.3	U
T	1631E	Mercury	NG/G	250	J	262	J	673	J	299	J	378	J	357	J	885	J	128	J

Notes:
T = Total
FS = field sample
FD = field duplicate
U = not detected, value is the limit of detection (LOD)
J = value is estimated
NG/G = nanogram per gram

Table 4b
Final Result Summaries - Frontier Mercury Speciation
May 2011 Soil
Supplemental Remedial Investigation
Ft. Totten Coast Guard Station
Queens, New York

			Loc Name	AI4-105		AI4-105		AI4-106		AI4-106		AI4-112		AI4-112		AI4-115		AI4-115	
			Field Sample ID	AI4-105(0-2)		AI4-105(6-24)		AI4-106(0-2)		AI4-106(6-24)		AI4-112(0-2)		AI4-112(6-24)		AI4-115(0-2)		AI4-115(6-24)	
			Field Sample Date	05/11/11		05/11/11		05/11/11		05/11/11		05/11/11		05/11/11		05/11/11		05/11/11	
			QC Code	FS		FS		FS		FS		FS		FS		FS		FS	
			Lab Sample Delivery Group	1105165		1105165		1105165		1105165		1105165		1105165		1105165		1105165	
Frac	**Method**	**Analyte**	**Units**	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
T	1630	Methyl mercury	NG/G	0.708	J	0.322	J	0.535	J	0.31	J	0.464	J	0.409	J	0.38	J	0.639	J
T	1631E	Elemental Mercury	NG/G	0.3	U	0.2	U	0.4	U	0.3	U	0.4	U	0.3	U	0.4	U	0.3	U
T	1631E	Mercury	NG/G	190	J	93.8	J	181	J	66.1	J	117	J	77.5	J	86.4	J	65.4	J

Notes:
T = Total
FS = field sample
FD = field duplicate
U = not detected, value is the limit of detection (LOD)
J = value is estimated
NG/G = nanogram per gram

Table 4b
Final Result Summaries - Frontier Mercury Speciation
May 2011 Soil
Supplemental Remedial Investigation
Ft. Totten Coast Guard Station
Queens, New York

			Loc Name	AI4-115		AI5-105		AI5-105		AI5-105		AI5-106		AI5-106	
			Field Sample ID	DUP-AI4-1		AI5-105(0-2)		AI5-105(6-24)		DUP-AI5-1(0-2)		AI5-106(0-2)		AI5-106(6-24)	
			Field Sample Date	05/11/11		05/11/11		05/11/11		05/11/11		05/11/11		05/11/11	
			QC Code	FD		FS		FS		FD		FS		FS	
			Lab Sample Delivery Group	1105165		1105165		1105165		1105165		1105165		1105165	
Frac	**Method**	**Analyte**	**Units**	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
T	1630	Methyl mercury	NG/G	0.293	J	0.169	J	0.209	J	0.153	J	0.059	UJ	0.062	UJ
T	1631E	Elemental Mercury	NG/G	0.3	U	0.4	U	0.3	U	0.3	U	0.3	U	0.3	U
T	1631E	Mercury	NG/G	82.6	J	280	J	1720	J	348	J	178	J	1260	J

Notes:
T = Total
FS = field sample
FD = field duplicate
U = not detected, value is the limit of detection (LOD)
J = value is estimated
NG/G = nanogram per gram

Prepared by / Date: KJC 10/04/11
Checked by / Date: CSR 10/5/11

DATA VALIDATION REPORT

CHECKLISTS AND NOTES

YES NO N/A

I. PACKAGE COMPLETENESS AND DELIVERABLES

Mike Washburn 9/8/11

CASE NUMBER: C1E100518 LAB: Test America

SITE NAME: Fort Totten - Queens, NY

1.0 Data Completeness and Deliverables

1.1 Has all data been submitted in CLP deliverable format or CLP Forms Equivalent? [✓] ___ ___

ACTION: If not, note the effect on review of the data in the Data Assessment narrative.

2.0 Cover Letter, SDG Narrative

2.1 Is a laboratory narrative, and/or cover letter signed release present? [✓] ___ ___

2.2 Are case number and SDG number(s) contained in the narrative or cover letter? [✓] ___ ___

ACTION: If not, note the effect on review of the data in the Data Assessment narrative.

II. VOLATILE ANALYSES

1.0 Traffic Reports and Laboratory Narrative

1.1 Are the Traffic Reports, and/or Chain of Custodies from the field samplers present for all samples sign release present? [✓] ___ ___

ACTION: If no, contact the laboratory/sampling team for replacement of missing or illegible copies.

1.2 Is a sampling trip report present (if required)? [ ] ___ [✓]

1.3 Sample Conditions/Problems

YES NO N/A

1.3.1 Do the Traffic Reports, Chain of Custodies, or Lab Narrative indicate any problems with sample receipt, condition of samples, analytical problems or special notations affecting the quality of the data? ___ ☑ ___

ACTION: If all the VOA vials for a sample have air bubbles or the VOA vial analyzed had air bubbles, flag all positive results "J" and all non-detects "R".

ACTION: If any sample analyzed as a soil, other than TCLP, contains 50%-90% water, all data should be flagged as estimated ("J"). If a soil sample, other than TCLP, contains more than 90% water, flag all positive results "J" and all non-detects "R".

ACTION: If samples were not iced or if the ice was melted upon receipt at the laboratory and the temperature of the cooler was elevated (>10°C), flag all positive results "J" and all non-detects non"UJ".

2.0 Holding Times

2.1 Have any volatile holding times, determined from date of collection to date of analysis, been exceeded? ___ ☑ ___

The maximum holding time for aqueous samples is 14 days.

The maximum holding time for soils non aqueous samples is 14 days.

NOTE: If unpreserved, aqueous samples maintained at 4°C for aromatic hydrocarbons analysis must be analyzed within 7 days. If preserved with HCL acid to a pH<2 and stored at 4°C, then aqueous samples must be analyzed within 14 days from time of collection. For non-aqueous samples for volatile components that are frozen (less than 7°C) or are properly cooled (4°C ± 2°C) and perserved with $NaHSO_4$, the maximum holding time is 14 days from sample collection. If

YES NO N/A

uncertain about preservation, contact the laboratory /sampling team to determine whether or not samples were preserved.

ACTION: Qualify sample results according to Table 1:

Table 1. Holding Time Actions for Trace Volatile Analysis

Matrix	Preserved	Criteria	Action	
			Detected Associated Compounds	Non-Detected Associated Compounds
Aqueous	No	≤7 days	No qualifications	
	No	> 7 days	J	R
	Yes	≤14 days	No qualifications	
	Yes	> 14 days	J	R
Non Aqueous	No	≤ 14 days	J	R
	Yes	≤ 14 days	No qualifications	
	Yes/No	> 14 days	J	R

3.0 Surrogate Recovery (CLP Form II Equivalent)

3.1 Have the volatile surrogate recoveries been listed on Surrogate Recovery forms for each of the following matrices:

a. Water [✓] ___ ___

b. Soil [ ] ___ ✓

3.2 If so, are all the samples listed on the appropriate Surrogate Recovery forms for each matrix:

a. Water [✓] ___ ___

b. Soil [ ] ___ ✓

ACTION: If large errors exist, deliverables are unavailable or information is missing, document the effect(s) in Data

YES NO N/A

Assessments and contact the laboratory/project officer/appropriate official for an explanation /resubmittal,make any necessary corrections and document effect in the Data Assessment.

3.3 Were the surrogate recovery limits followed per Table 2. If Table 2 criteria were not followed, the laboratory may use in-house performance criteria (per SW-846, Method 8000C, sectiom 9.7). Other compounds may be used as surrogates, depending upon the analysis requirements. [✓] ___ ___

Table 2. Surrogate Spike Recovery Limits for Water and Soil/Sediments

DMC	Recovery Limits (%)Water	Recovery Limits Soil/Sediment
4-Bromofluorobenzene	80-120	70-130
Dibromofluoromethane	80-120	70-130
Toluene-d_8	80-120	70-130
Dichloroethane-d_4	80-120	70-130

Note: Use above table if laboratory did not provide in house recovery criteria.

Note: Other compounds may be used as surrogated depending upon the analysis requirements.

3.4 Were outliers marked correctly with an asterisk? [ ] ___ [✓]

ACTION: Circle all outliers with a red pencil.

3.5 Were one or more volatile surrogate recoveries out of specification for any sample or method blank. Table 2. [ ] [✓] ___

If yes, were samples reanalyzed? [ ] ___ [✓]

Were method blanks reanalyzed? [ ] ___ [✓]

YES NO N/A

ACTION: If all surrogate recoveries are > 10% but 1 or more compounds do not meet method specifications:

1. Flag all positive results as estimated ("J").
2. Flag all non-detects as estimated detection limits ("UJ") when recoveries are less than the lower acceptance limit.
3. If recoveries are greater than the upper acceptance limit, do not qualify non-detects, but qualify positive results as estimated "J".

If any surrogate has a recovery of < 10%:

1. Positive results are qualified with ("J").
2. Non-detects for that should be qualified as unusable ("R").

NOTE: Professional judgement should be used to qualify data that have method blank surrogate recoveries out of specification in both original and reanalyses. The basic concern is whether the blank problems represent an isolated problem with the blank alone or whether there is a fundamental problem with the analytical process. If one or more samples in the batch show acceptable surrogate recoveries, the reviewer may choose the blank problem to be an isolated occurrence.

3.6 Are there any transcription/calculation errors between raw data and reported data? [ ] [✓] [ ]

Calculated MW-1 RE-1

ACTION: If large errors exist, take action as specified in section 3.2 above.

4.0 Laboratory Control Sample(Form III/Equivalent)

4.1 Is the LCS prepared, extracted, analyzed, and reported once for every 20 field samples of a similar matrix, per SDG. [✓] [ ] [ ]

YES NO N/A

Note: LCS consists of an aliquot of a clean (control) matrix similar to the sample matrix and of the same weight or volume.

ACTION: If any Laboratory Control Sample data are missing, call the lab for explanation /resubmittals. Make note in the data assessment.

4.2 Were the Laboratory Control Samples analyzed at the required frequency for each of the following matrices:

A. Water [✓] ___ ___

B. Soil [ ] ___ ✓

C. Med Soil [ ] ___ ✓

Note: The LCS is spiked with the same analytes at the same concentrations as the matrix spike (SW-846 8000C, Section 9.5). If different make note in data assessment. Matrix/LCS spiking standards should be prepared from volatile organic compounds which are representative of the compounds being investigating. At a minimum, the matrix spike should include 1,1-dichloroethene, trichloroethene, chlorobenzene, toluene, and benzene.

ACTION: If any MS/MD, MS/MSD or replicate data are missing, take the action specified in 3.2 above.

4.3 Have in house LCS recovery limits been developed (Method 8000C, Sect 9.7). [✓] ___ ___

4.4 If in house limits are not developed, are LCS acceptance recovery limits between 70 - 130% (Method 8000c Sect 9.5)? [ ] ✓ ✓

Acetone (58), 2-butanone (65), 4-M-2-pentanone (70), VC (78) mrr 10/4/11

4.5 Were one or more of the volatile LCS recoveries outside the in house laboratory recovery criteria for spiked analytes? If in house limits are not present use 70 - 130% recovery limits.

[ ] ✓ ___

YES NO N/A

Table 3. LCS Actions for Volatile Analysis

Criteria	Action	
	Detected Spiked Compounds	**Non-Detected Spiked Compounds**
%R > Upper Acceptance Limit	J	No Qualifiers
%R < Lower Acceptance Limit	J	UJ
Lower Acceptance Limit ≤ %R	No Qualifications	

5.0 Matrix Spikes(Form III or equivalent)

5.1 Are all data for matrix spike and matrix duplicate or matrix spike duplicate (MS/MD or MS/MSD) present and complete for each matrix? [ ] ___ ✓

NOTE: The laboratory should use one matrix spike and a duplicate analysis of an unspiked field sample if target analytes are expected in the sample. If the sample is not expected to contain target analytes, a MS/MSD should be analyzed (SW-846, Method 8260B, Sect 8.4.2).

5.2 Have MS/MD or MS/MSD results been summarized on modified CLP Form III? [ ] ___ ✓

ACTION: If any data are missing take action as specified in section 3.2 above.

5.3 Were matrix spikes analyzed at the required frequency for each of the following matrices? (One MS/MD, MS/MSD or laboratory replicate must be performed for every 20 samples

YES NO N/A

of similar matrix or concentration level. Laboratories analyzing one to ten samples per month are required to analyze at least one MS per month [page 8000C, section 9.5.])

a. Water [ ] ___ ✓

b. Waste [ ] ___ ✓

c. Soil/Solid [ ] ___ ✓

Note: The LCS is spiked with the same analytes at the same concentrations as the matrix spike (SW-846 8000C, Section 9.5). If different make note in data assessment. Matrix/LCS spiking standards should be prepared from volatile organic compounds which are representative of the compounds being investigating. At a minimum, the matrix spike should include 1,1-dichloroethene, trichloroethene, chlorobenzene, toluene, and benzene. The concentration of the LCS should be determined as described SW-Method 8000C Section 9.5.

ACTION: If any MS/MD, MS/MSD or replicate data are missing, take the action specified in 3.2 above.

5.4 Have in house MS recovery limits been developed (Method 8000C, Sect 9.7)for each matrix. [✓] ___ ___

5.5 Were one or more of the volatile MS/MSD recoveries outside of the in-house laboratory recovery criteria for spiked analytes? If none are present, then use 70-130% recovery as per SW-846, 8000C, Sect. 9.5.4. [ ] ___ ✓

ACTION: Circle all outliers with a red pencil.

NOTE: If any individual % recovery in the MS (or MSD) falls outside the designated range for recovery the reviewer should determine if there is a matrix effect. A matrix effect is indicated if the LCS data are within limits but the MS data exceeds the limits.

YES NO N/A

NOTE: No qualification of data is necessary on MS and MSD data alone. However, using informed professional judgement, the data reviewer may use MS and MSD resuts in conjunction with other QC criteria to determine the need for some qualificatios.

Note: The data reviewer should first try to determine to what extent the results of the MS and MSD affect the associated data. This determination should be made with regard to he MS and MSD sample itself, as welll as specific analytes for all samples associated with the MS and MSD.

Note: In those instances where it can be determned that the results of the MS and MSD affect only the sample spiked, limit qualification to this sample only. However, it may be determined through the MS and MSD results that a laboratory is having a systematic problem in the analysis of one or more analytes that affect all associated samples, and the reviewer must use professional judgement to qualify the data from all associated samples.

Note: The reviewer must use professional judgement to determine the need for qualification of non-spiked compounds.

ACTION: Follow criteria in Table 4 when professional judgement deems qualification of sample.

Table 4. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Actions for Volatile Analysis

Criteria	Action	
	Detected Spiked Compounds	Non-Detected Spiked Compounds
%R > Upper Acceptance Limit	J	No Qualifiers
%R < Lower Acceptance Limit	J	UJ
Lower Acceptance Limit ≤ %R	No Qualifications	

YES NO N/A

6.0 Blank (CLP Form IV Equivalent)

6.1 Is the Method Blank Summary form present? [✓] ___ ___

6.2 Frequency of Analysis: Has a method blank been analyzed for every 20 (or less) samples of similar matrix or concentration or each extraction batch? [✓] ___ ___

6.3 Has a method blank been analyzed for each GC/MS system used ? [✓] ___ ___

ACTION: If any blank data are missing, take action as specified above (section 3.2). If blank data is not available, reject (R) all associated positive data. However, using professional judgement, the data reviewer may substitute field blank data for missing method blank data.

6.4 Chromatography: review the blank raw data - chromatograms, quant reports or data system printouts.

Is the chromatographic performance (baseline stability) for each instrument acceptable for volatile organic compounds? [✓] ___ ___

7.0 Contamination

NOTE: "Water blanks", "drill blanks" and "distilled water blanks" are validated like any other sample and are not used to qualify the data. Do not confuse them with the other QC blanks discussed below.

7.1 Do any method/instrument/reagent blanks have positive results for target analytes and/or TICs? When applied as described below, the contaminant concentration in these blanks are multiplied by the sample dilution factor and corrected for percent moisture where necessary. [ ] [✓] ___

YES NO N/A

7.2 Do any field/rinse blanks have positive volatile organic compound results? ___ ☑ ___

ACTION: Prepare a list of the samples associated with each of the contaminated blanks. (Attach a separate sheet.)

NOTE: All field blank results associated to a particular group of samples (may exceed one per case or one per day) may be used to qualify data. Blanks may not be qualified because of contamination in another blank. Field blanks must be qualified forsurrogate, or calibration QC problems.

ACTION: Follow the directions in Table 5 below to qualify sample results due to contamination. Use the largest value from all the associated blanks.

Table 5. Volatile Organic Analysis Blank Contamination Criteria

Blank Type	Blank Result	Sample Result	Action for Samples
Method, Storage, Field, Trip, Instrument**	Detects	Not detected	No qualification
	< CRQL*	< CRQL	Report CRQL value with a U
		≥ CRQL	Use professional judgement
	> CRQL*	< CRQL	Report CRQL value with a U
		≥ CRQL and < blank contamination	Report the concentration for the sample with a U, or quanity the data as unusable R
		≥ CRQL and ≥ blank contamination	Use professional judgement
	= CRQL*	< CRQL	Report CRQL value with a U
		≥ CRQL	Use professional judgement
	Gross contam-ination	Detects	Qualify results as unusable R

* 2x the CRQL for methylene chloride, 2-butanone, and acetone

** Qualifications based on instrument blank results affect only the sample analyzed immediately after the sample that has target compounds that exceed the calibration range or non-target compounds that exceed 100 ug/L.

NOTE: If gross blank contamination exists(e.g., saturated peaks, "hump-o-grams," "junk" peaks), all affected positive compounds in the associated samples should be qualified as unusable "R", due to interference. Non-detected volatile organic target compounds do not require qualification unless the contamination is so high that it interferes with the analyses of non-detected compounds.

YES NO N/A

7.3 Are there field/rinse/equipment blanks associated with every sample? [✓] ___ ___

ACTION: For low level samples, note in data assessment that there is no associated field/rinse/equipment blank. Exception: samples taken from a drinking water tap do not have associated field blanks.

8.0 GC/MS Apparatus and Materials

8.1 Did the lab use the proper gas chromatographic column(s) for analysis of volatiles by Method 8260B? Check raw data, instrument logs or contact the lab to determine what type of column(s) was (were) used. [✓] ___ ___

NOTE: For the analysis of volatiles, the method requires requires the use of 60 m. x 0.75 mm capillary column, coated with VOCOL(Supelco) or equivalent column. (see SW-846, page 8260B-7, section 4.9.2)

ACTION: If the specified column, or equivalent, was not used, document the effects in the Data Assessment. Use professional judgement to determine the acceptability of the data.

9.0 GC/MS Instrument Performance Check (CLP Form V Equivalent)

9.1 Are the GC/MS Instrument Performance Check forms present for Bromofluorobenzene (BFB), and do these forms list the associated samples with date/time analyzed? [✓] ___ ___

9.2 Are the enhanced bar graph spectrum and mass/charge (m/z) listing for the BFB provided for each twelve hour shift? [✓] ___ ___

9.3 Has an instrument performance check solution (BFB)

YES NO N/A

been analyzed for every twelve hours of sample analysis per instrument?(see Table 4, SW-846, page 8260B-36) [✓] ___ ___

ACTION: List date, time, instrument ID, and sample analyses for which no associated GC/MS GC/MS tuning data are available.

ACTION: If the laboratory/project officer cannot provide missing data, reject ("R") all data generated outside an acceptable twelve hour calibration interval.

ACTION: If mass assignment is in error, flag all associated sample data as unusable, "R".

9.4 Have the ion abundances been normalized to m/z 95? [✓] ___ ___

9.5 Have the ion abundance criteria been met for each instrument used? [✓] ___ ___

ACTION: List all data which do not meet ion abundance criteria (attach a separate sheet).

ACTION: If ion abundance criteria are not met, take action as specified in section 3.2.

9.6 Are there any transcription/calculation errors between mass lists and reported values? (Check at least two values but if errors are found, check more.) ___ [✓] ___

9.7 Have the appropriate number of significant figures (two) been reported? [✓] ___ ___

ACTION: If large errors exist, take action as specified in section 3.2.

9.8 Are the spectra of the mass calibration compounds acceptable. [✓] ___ ___

ACTION: Use professional judgement to determine wheather associated data should be accepted, qualified, or rejected.

YES NO N/A

10.0 Target Analytes (CLP Form I Equivalent)

10.1 Are the Organic Analysis reporting forms present with required header information on each page, for each of the following:

		YES	NO	N/A
a.	Samples and/or fractions as appropriate	[✓]	___	___
b.	Matrix spikes and matrix spike duplicates	[ ]	___	✓
c.	Blanks	[✓]	___	___
d.	Laboratory Control Samples	[✓]	___	___

10.2 Are the reconstructed Ion Chromatograms, mass spectra for the identified compounds, and the data system printouts (Quant Reports) included in the sample package for each of the following?

		YES	NO	N/A
a.	Samples and/or fractions as appropriate	[✓]	___	___
b.	Matrix spikes and matrix spike duplicates (Mass spectra not required)	[ ]	___	✓
c.	Blanks	[✓]	___	___
d.	Laboratory Control Samples	[✓]	___	___

ACTION: If any data are missing, take action specified in 3.2 above.

10.3 Is chromatographic performance acceptable with respect to:

	YES	NO	N/A
Baseline stability?	[✓]	___	___

	YES	NO	N/A
Resolution?	☑		
Peak shape?	☑		
Full-scale graph (attenuation)?	☑		

Other:_____

ACTION: Use professional judgement to determine the acceptability of the data.

10.4 Are the lab-generated standard mass spectra of identified volatile compounds present for each sample? ☑

ACTION: If any mass spectra are missing, take action specified in 3.2 above. If the lab does not generate their own standard spectra, make a note in the Data Assessment. If spectra are missing, contact the lab.

10.5 Is the RRT of each reported compound within 0.06 RRT units of the standard RRT in the continuing calibration? ☑

10.6 Are all ions present in the standard mass spectrum at a relative intensity greater than 10% (of the most abundant ion) also present in the sample mass spectrum? ☑

10.7 Do the relative intensities of the characteristic ions in the sample agree within ± 30% of the corresponding relative intensities in the reference spectrum? ☑

ACTION: Use professional judgement to determine acceptability of data. If it is determined that incorrect identifications were made, all such data should be rejected ("R"), flagged ("N") - Presumptive evidence of the presence of the compound) or changed to non detected ("U") at the calculated detection limit. In order to be

YES NO N/A

positively identified, the data must comply with the criteria listed in 9.6, 9.7, and 9.8.

ACTION: When sample carry-over is a possibility, professional judgement should be used to determine if instrument cross-contamination has affected any positive compound identification.

11.0 Tentatively Identified Compounds (TIC) (CLP Form I/TIC Equivalent)

11.1 If Tentatively Identified Compound were required for this project, are all Tentatively Identified Compound reporting forms present; and do listed TICs include scan number or retention time, estimated concentration and a qualifier? [ ] ___ ✓

NOTE: Add "N" qualifier to all TICs which have CAS number, if missing.

NOTE: Have the project officer/appropriate official check the project plan to determine if lab was required to identify non-target analytes (SW-846, page 8260B-23, Sect. 7.6.2).

11.2 Are the mass spectra for the tentatively identified compounds and associated "best match" spectra included in the sample package for each of the following:

a. Samples and/or fractions as appropriate [ ] ___ ✓

b. Blanks [ ] ___ ✓

ACTION: If any TIC data are missing, take action specified in 3.2 above.

ACTION: Add "JN" qualifier only to analytes identified by a CAS#.

NOTE: If TICs are present in the associated blanks take action as specified in section 3.2 above.

YES NO N/A

11.3 Are any priority pollutants listed as TIC compounds (i.e., an BNA compound listed as a VOA TIC)? [ ] ___ ✓

ACTION: 1. Flag with "R" any target compound listed as a TIC.

2. Make sure all rejected compounds are properly reported if they are target compounds.

11.4 Are all ions present in the reference mass spectrum with a relative intensity greater than 10% (of the most abundant ion) also present in the sample mass spectrum? [ ] ___ ✓

11.5 Do TIC and "best match" standard relative ion intensities agree within ± 20%? [ ] ___ ✓

ACTION: Use professional judgement to determine acceptability of TIC identifications. If it is determined that an incorrect identification was made, change the identification to "unknown" or to some less specific identification (example: "C3 substituted benzene") as appropriate. Also, when a compound is not found in any blank, but is a suspected artifact of a common laboratory contaminant, the result should be qualified as unusable, "R". (Common lab contaminants: CO_2(M/E 44), Siloxanes (M/E 73), Hexane, Aldol Condensation Products, Solvent Preservatives, and related byproducts).

12.0 Compound Quantitation and Reported Detection Limits

12.1 Are there any transcription/calculation errors in organic analysis reporting form results? Check at least two positive values. Verify that the correct internal standard, quantitation ion, and average initial RRF/CF were used to calculate organic analysis reporting form result. Were any errors found? [ ] ✓ ___

NOTE: Structural isomers with similar mass spectra, but insufficient GC resolution (i.e. percent valley between the two peaks > 25%) should be

YES NO N/A

reported as isomeric pairs. The reviewer should check the raw data to ensure that all such isomers were included in the quantitation (i.e., add the areas of the two coeluting peaks to calculate the total concentration).

12.2 Are the method CRQL's adjusted to reflect sample dilutions and, for soils, sample moisture? [✓] ___ ___

ACTION: If errors are large, take action as specified in section 3.2 above.

ACTION: When a sample is analyzed at more than one dilution, the lowest detection limits are used (unless a QC exceedance dictates the use of the higher detection limit from the diluted sample data). Replace concentrations that exceed the calibration range in the original analysis by crossing out the "E" and it's associated value on the original reporting form (if present) and substituting the data from the analysis of the diluted sample. Specify which organic analysis reporting form is to be used, then draw a red "X" across the entire page of all reporting forms that should not be used, including any in the summary package.

13.0 Standards Data (GC/MS)

13.1 Are the Reconstructed Ion Chromatograms, and data system printouts (Quant Reports) present for initial and continuing calibration? [✓] ___ ___

ACTION: If any calibration standard data are missing, take action specified in section 3.2 above.

14.0 GC/MS Initial Calibration (CLP Form VI Equivalent)

YES NO N/A

14.1 Are the Initial Calibration reporting forms present and complete for the volatile fraction? ☑ ___ ___

ACTION: If any calibration forms or standard raw data are missing, take action specified in section 3.2 above.

ACTION: If the percent relative standard deviation (% RSD) is > 20%, (8000C-39)qualify positive results for that analyte "J". When % RSD > 90%,. Qualify all positive results for that analyte "J" and all non-detects results for that analyte "R".

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14.2 Are all average RRFs > 0.050? ☑ ☑ ___

NOTE: (Method Requirement) For SPCC compounds, the individual RRF values must be ≥ the values in the following list. If individual RRF values reported are below the listed values document in the Data Assessment.

Chloromethane	0.10
1,1-Dichloroethane	0.10
Bromoform	0.10
Chlorobenzene	0.30
1,1,2,2-Tetrachloroethane	0.30

ACTION: Circle all outliers with red pencil.

ACTION: For any target analyte with average RRF < 0.05, or for the requirements for the 5 compounds in 14.2 above, qualify all positive results for that analyte "J" and all non-detect results for that analyte "R".

14.3 Are response factors stable over the concentration range of the calibration. ☑ ___ ___

NOTE: (Method Requirement) For the following CCC compounds, the %RSD values must be ≤ 30.0%. If %RSD values reported are > 30.0% document in the Data Assessment.

YES NO N/A

1,1-Dichloroethene
Chloroform
1,2-Dichloropropane
Toluene
Ethylbenzene
Vinyl chloride

ACTION: Circle all outliers with a red pencil.

ACTION: If the % RSD is > 20.0%, or > 30% for the 6 compounds in 14.3 above, qualify positive results for that analyte "J" and non-detects using professional judgement. When RSD > 90%, qualify all positive results for that analyte "J" and all non-detect results for that analyte "R".

NOTE: The above data qualification action applies regardless of method requirements.

NOTE: Analytes previously qualified "U" due to blank contamination are still considered as "hits" when qualifying for calibration criteria.

14.4 Was the % RSD determined using RRF or CF? [✓] ___ ___

If no, what method was used to determine the linearity of the initial calibration? Document any effects to the case in the Data Assessment.

14.5 Are there any transcription/calculation errors in the reporting of RRF or % RSD? (Check at least two values but if errors are found, check more.) [ ] [✓] ___

ACTION: Circle errors with a red pencil.

ACTION: If errors are large, take action as specified in section 3.2 above.

15.0 GC/MS Calibration Verification (CLP Form VII Equivalent)

YES NO N/A

15.1 Are the Calibration Verification reporting forms present and complete for all compounds of interest? [✓] ___ ___

15.2 Has a calibration verification standard been analyzed for every twelve hours of sample analysis per instrument? [✓] ___ ___

ACTION: List below all sample analyses that were not within twelve hours of a calibration verification analysis for each instrument used.

ACTION: If any forms are missing or no calibration verification standard has been analyzed twelve hours prior to sample analysis, take action as specified in section 3.2 above. If calibration verification data are not available, flag all associated sample data as unusable ("R").

15.3 Was the % D determined from the calibration verification determined using RRF or CF? [✓] ___ ___

If no, what method was used to determine the calibration verification? Document any effects to the case in the Data Assessment.

15.4 Do any volatile compounds have a % D (difference or drift) between the initial and continuing RRF or CF which exceeds 20% (SW-846, page 8260B-19, section 7.4.5.2). ~~[✓]~~ ✓ ___

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NOTE: (Method Requirement) For the following CCC compounds, the %D values must be ≤ 20.0%. If %D values reported are > 20.0% document in the Data Assessment.

1,1-Dichloroethene
Chloroform
1,2-Dichloropropane
Toluene
Ethylbenzene
Vinyl chloride

YES NO N/A

ACTION: Circle all outliers with a red pencil.

ACTION: Qualify both positive results and non-detects for the outlier compound(s) as estimated, "J". When %D is above 90%, qualify all positive results for that analyte "J" and all non-detect results for that analyte "R".

NOTE: The above data qualification action applies regardless of method requirements.

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15.5 Do any volatile compounds have a RRF < 0.05? ~~N/A~~ ✓ ___

NOTE: (Method Requirement) For SPCC compounds, the individual RRF values must be ≥ the values in the following list for each calibration verification. If average RRF values reported are below the listed values document in the data assessment.

Chloromethane	0.10
1,1-Dichloroethane	0.10
Bromoform	0.10
Chlorobenzene	0.30
1,1,2,2-Tetrachloroethane	0.30

ACTION: Circle all outliers with a red pencil.

ACTION: If RRF < 0.05, or < the the requirements for the 5 compounds is section 15.5 above, qualify all positive results for that analyte "J" and all non-detect results for that analyte "R".

NOTE: The above data qualification action applies regardless of method requirements.

16.0 Internal Standards (CLP Form VIII Equivalent)

16.1 Are the internal standard (IS) areas on the internal standard reporting forms of every sample and blank within the upper and lower limits (-50% to + 100%) for each initial mid-point calibration (SW-846, 8260B-20, Sect. 7.4.7)? ✓ ___ ___

YES NO N/A

ACTION: If errors are large or information is missing, take action as specified in section 3.2 above.

ACTION: List each outlying internal standard below.

Sample ID	IS #	Area Lower Limit	Area Upper Limit

(Attach additional sheets if necessary.)

ACTION: 1. If the internal standard area count is outside the upper or lower limit, flag with "J" all positive results quantitated with this internal standard.

2. Do not qualify non-detects when the associated IS are counts area > + 100%.

3. If the IS area is below the lower limit (< -50%), qualify all associated non-detects (U-values) "J".

4. If extremely low area counts are reported (< -25%) or if performance exhibits a major abrupt drop off, flag all associated non-detects as unusable "R" and positive results as estimated "J".

16.2 Are the retention times of all internal standards within 30 seconds of the associated initial mid-point calibration standard (SW-846, 8260B-20, Sect. 7.4.6)? [✓] ___ ___

ACTION: Professional judgement should be used to qualify data if the retention times differ by more than 30 seconds.

YES NO N/A

17.0 Field Duplicates

17.1 Were any field duplicates submitted for volatile analysis? ☑ ___ ___

ACTION: Compare the reported results for field duplicates and calculate the relative percent difference.

ACTION: Any gross variation between field duplicate results must be addressed in the Data Assessment. However, if large differences exist, take action specified in section 3.2 above.

Chloroform detected @ 14 in sample

Non-Detected in Dup

Both sample & dup qualified estimated (J/UJ)

RPD: 161%

(1001 - 1290)

TestAmerica Pittsburgh

INITIAL CALIBRATION DATA

Start Cal Date : 23-MAY-2011 10:31
End Cal Date : 23-MAY-2011 12:55
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\PITSVR06\D\chem\hp4.i\4052311d.b\8260bh2o.m
Last Edit : 23-May-2011 12:54 hp4.i

Compound	5.0000 Level 1 / 250.0000 Level 7	10.0000 Level 2	25.0000 Level 3	40.0000 Level 4	50.0000 Level 5	125.0000 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2	
27 2,2-Dichloropropane	0.20507	0.20377	0.22089	0.21593	0.20886	0.22270						
	0.19931						AVRG		0.21093		4.27387	
28 cis-1,2-dichloroethene	0.30045	0.28633	0.28909	0.28669	0.28056	0.30592						
	0.31110						AVRG		0.29431		3.90486	
32 Vinyl Acetate	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-
31 2-Butanone	0.15880	0.12732	0.13914	0.10230	0.14409	0.16047						
	0.13261						AVRG		0.13782		14.49073	
M 29 1,2-Dichloroethene (total)	0.29118	0.27893	0.28211	0.27824	0.27135	0.30175						
	0.30343						AVRG		0.28671		4.30691	
35 Tetrahydrofuran	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-
33 Ethyl Acetate	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-

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1095

C1E100518

(1001 - 1290)

TestAmerica Pittsburgh

INITIAL CALIBRATION DATA

Start Cal Date : 23-MAY-2011 10:31
End Cal Date : 23-MAY-2011 12:55
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\PITSVR06\D\chem\hp4.i\40523lld.b\8260bh2o.m
Last Edit : 23-May-2011 12:54 hp4.i

Compound	5.0000 Level 1 / 250.0000 Level 7	10.0000 Level 2	25.0000 Level 3	40.0000 Level 4	50.0000 Level 5	125.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
30 Bromochloromethane	0.13171	0.12376	0.13004	0.12721	0.12562	0.13487						
	0.13522						AVRG		0.12978		3.43860	
37 Chloroform	0.44081	0.41310	0.41383	0.40796	0.40252	0.43796						
	0.44422						AVRG		0.42291		4.11718	
38 1,1,1-Trichloroethane	0.32592	0.31439	0.33793	0.33288	0.32553	0.35826						
	0.35489						AVRG		0.33568		4.77709	
102 Cyclohexane	0.61161	0.59118	0.59885	0.58088	0.56516	0.63810						
	0.62894						AVRG		0.60210		4.31629	
34 Propionitrile	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-
41 Carbon Tetrachloride	0.25991	0.25886	0.28473	0.28928	0.28535	0.32527						
	0.33186						AVRG		0.29075		9.84556	
40 1,1-Dichloropropene	0.39688	0.36562	0.38042	0.37064	0.36791	0.41054						
	0.41531						AVRG		0.38676		5.36661	

1096

C1E100518

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RRF Calculations

VOCs

Fort Totten

Analyte	IS	L1 5	L2 10	L3 25	L4 40	L5 50	L6 125	L7 250
cis-1,2-dce	FB	0.300449	---	0.289089	0.286689	0.280565	0.305924	0.3111017
chloroform	FB	0.440812	---	0.413833	0.407957	0.402521	0.437955	0.4442082
		---	---	---	---	---	---	---
		---	---	---	---	---	---	---
		---	---	---	---	---	---	---
		---	---	---	---	---	---	---
		---	---	---	---	---	---	---
		---	---	---	---	---	---	---

Initial Calibration Calculation

	I	II	III	IV	V	VI	VII	Average	SD	%RSD
cis-1,2-dce	0.30045	0.28633	0.28909	0.28669	0.28056	0.30592	0.3111	0.294306	0.011492	3.90
chloroform	0.44081	0.4131	0.41383	0.40796	0.40252	0.43796	0.44422	0.422914	0.017412	4.12

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TestAmerica Pittsburgh

VOLATILE REPORT SW-846 Method

Data file : \\PITSVR06\D\chem\hp4.i\4052311d.b\40523005.D
Lab Smp Id: ic Client Smp ID: vstd5
Inj Date : 23-MAY-2011 10:31
Operator : 034635 Inst ID: hp4.i
Smp Info : ic 5ml 5
Misc Info : ic,4052311d.b,8260bh2o.m,2-padep.sub
Comment :
Method : \\PITSVR06\D\chem\hp4.i\4052311d.b\8260bh2o.m
Meth Date : 23-May-2011 13:01 journetp Quant Type: ISTD
Cal Date : 23-MAY-2011 12:55 Cal File: 40523011.D
Als bottle: 3 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 2-padep.sub
Target Version: 4.14
Processing Host: PITPC-088

Concentration Formula: Amt * DF * (Vf/Vo)/Vi * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vf	5.000	FinalVolume
Vo	5.000	Sample Volume
Vi	5.000	Purge Volume
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)
* 46 Fluorobenzene	96	7.669	7.670	(1.000)	1286876	250.000	
* 69 Chlorobenzene-d5	119	10.753	10.754	(1.000)	289081	250.000	(Q)
* 92 1,4-Dichlorobenzene-d4	152	13.083	13.084	(1.000)	503468	250.000	(Q)
$ 39 Dibromofluoromethane	113	6.927	6.928	(0.903)	30560	25.0000	27.84
$ 43 1,2-Dichloroethane-d4	65	7.298	7.299	(0.952)	42869	25.0000	31.20
$ 59 Toluene-d8	98	9.312	9.312	(0.866)	143997	25.0000	29.76
$ 80 Bromofluorobenzene	95	11.934	11.922	(1.110)	52595	25.0000	30.49
1 Dichlorodifluoromethane	85	1.786	1.788	(0.233)	35204	25.0000	26.63
2 Chloromethane	50	1.975	1.988	(0.258)	49443	25.0000	25.48
3 Vinyl Chloride	62	2.121	2.152	(0.277)	44379	25.0000	25.39
4 Bromomethane	94	2.510	2.511	(0.327)	14782	25.0000	27.13
5 Chloroethane	64	2.632	2.639	(0.343)	14553	25.0000	28.24
6 Trichlorofluoromethane	101	2.997	2.974	(0.391)	52894	25.0000	26.36 (QM)
101 1,1,2-trichlorotrifluoroethane	101	3.843	3.807	(0.501)	37720	25.0000	27.07 (M)
12 1,1-Dichloroethene	96	3.794	3.770	(0.495)	34310	25.0000	25.09
13 Acetone	43	3.970	4.002	(0.518)	19065	25.0000	51.82
15 Carbon Disulfide	76	4.122	4.111	(0.538)	56334	25.0000	38.93
155 Methyl acetate	43	4.494	4.506	(0.586)	34743	25.0000	26.39
18 Methylene Chloride	84	4.591	4.628	(0.599)	46457	25.0000	29.69 (QM)
19 trans-1,2-Dichloroethene	96	5.011	4.999	(0.653)	36278	25.0000	25.25
20 Methyl tert-butyl ether	73	5.053	5.072	(0.659)	102761	25.0000	26.44

MJW 6/8/11

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)
	24 1,1-Dichloroethane	63	5.595	5.595	(0.730)	67634	25.0000	25.55
	27 2,2-Dichloropropane	77	6.343	6.344	(0.827)	26390	25.0000	24.30
	28 cis-1,2-dichloroethene	96	6.355	6.350	(0.829)	38664	25.0000	25.52
M	29 1,2-Dichloroethene (total)	96				74942	50.0000	50.77
	30 Bromochloromethane	128	6.629	6.636	(0.864)	16950	25.0000	25.37
	31 2-Butanone	43	6.416	6.417	(0.837)	20435	25.0000	28.80
	37 Chloroform	83	6.744	6.745	(0.879)	56727	25.0000	26.06
	102 Cyclohexane	56	6.994	7.001	(0.912)	78707	25.0000	25.39
	38 1,1,1-Trichloroethane	97	6.939	6.940	(0.905)	41942	25.0000	24.27
	40 1,1-Dichloropropene	75	7.128	7.128	(0.929)	51073	25.0000	25.65
	41 Carbon Tetrachloride	117	7.122	7.128	(0.929)	33447	25.0000	22.35
	42 Benzene	78	7.365	7.360	(0.960)	152547	25.0000	25.98
	45 1,2-Dichloroethane	62	7.383	7.384	(0.963)	44546	25.0000	26.11
	47 Trichloroethene	130	8.065	8.059	(1.052)	36479	25.0000	25.56
	156 Methyl cyclohexane	83	8.259	8.260	(1.077)	74643	25.0000	25.09
	49 1,2-Dichloropropane	63	8.296	8.296	(1.082)	38451	25.0000	25.98 (Q)
	50 Dibromomethane	93	8.424	8.418	(1.098)	19514	25.0000	26.00
	53 Bromodichloromethane	83	8.588	8.582	(1.120)	27578	25.0000	20.66
	57 cis-1,3-Dichloropropene	75	9.044	9.039	(1.179)	40736	25.0000	21.38
	58 4-Methyl-2-Pentanone	43	9.202	9.203	(0.856)	32825	25.0000	25.94
	60 Toluene	91	9.379	9.379	(0.872)	156593	25.0000	26.71
	61 trans-1,3-Dichloropropene	75	9.604	9.592	(0.893)	34322	25.0000	21.35
	63 1,3-Dichloropropane	76	9.950	9.945	(0.925)	55846	25.0000	28.14
	64 1,1,2-Trichloroethane	97	9.786	9.781	(0.910)	30282	25.0000	28.43
	65 Tetrachloroethene	164	9.926	9.927	(0.923)	31551	25.0000	28.15
	66 2-Hexanone	43	10.060	10.030	(0.936)	18974	25.0000	22.22
	67 Dibromochloromethane	129	10.176	10.176	(0.946)	17075	25.0000	20.15
	68 1,2-Dibromoethane	107	10.297	10.292	(0.958)	28203	25.0000	27.14
	70 Chlorobenzene	112	10.784	10.785	(1.003)	107885	25.0000	28.75
	71 1,1,1,2-Tetrachloroethane	131	10.863	10.864	(1.010)	25624	25.0000	23.98 (Q)
	72 Ethylbenzene	106	10.887	10.888	(1.012)	57158	25.0000	27.14
	73 m + p-Xylene	106	11.009	11.004	(1.024)	145374	50.0000	55.55
	74 Xylene-o	106	11.404	11.399	(1.061)	68507	25.0000	27.13
M	75 Xylenes (total)	106				213881	75.0000	82.69
	76 Styrene	104	11.423	11.411	(1.062)	106625	25.0000	25.68
	77 Bromoform	173	11.611	11.606	(1.080)	9717	25.0000	46.88
	78 Isopropylbenzene	105	11.769	11.764	(1.094)	178529	25.0000	26.43
	79 Bromobenzene	156	12.092	12.080	(0.924)	41027	25.0000	26.57
	81 n-Propylbenzene	120	12.183	12.178	(0.931)	50224	25.0000	25.04 (Q)
	82 2-Chlorotoluene	126	12.274	12.275	(0.938)	40336	25.0000	25.19
	83 1,1,2,2-Tetrachloroethane	83	12.061	12.056	(0.922)	39499	25.0000	25.79
	84 1,2,3-Trichloropropane	110	12.116	12.111	(0.926)	12581	25.0000	26.60
	85 4-Chlorotoluene	126	12.384	12.378	(0.947)	51933	25.0000	28.04 (Q)
	86 1,3,5-Trimethylbenzene	105	12.363	12.354	(0.944)	145799	25.0000	24.96
	87 tert-Butylbenzene	119	12.682	12.683	(0.969)	125657	25.0000	24.55
	88 1,2,4-Trimethylbenzene	105	12.731	12.731	(0.973)	147621	25.0000	24.61
	89 sec-Butylbenzene	105	12.901	12.902	(0.986)	198810	25.0000	24.53
	90 4-Isopropyltoluene	119	13.047	13.042	(0.997)	163940	25.0000	24.42
	91 1,3-Dichlorobenzene	146	13.023	13.023	(0.995)	82058	25.0000	25.76
	93 1,4-Dichlorobenzene	146	13.114	13.115	(1.002)	91134	25.0000	26.92
	94 n-Butylbenzene	91	13.467	13.455	(1.029)	150059	25.0000	23.49
	95 1,2-Dichlorobenzene	146	13.497	13.486	(1.032)	82405	25.0000	26.67
	96 1,2-Dibromo-3-chloropropane	157	14.276	14.271	(1.091)	3879	25.0000	64.77
	97 1,2,4-Trichlorobenzene	180	15.121	15.110	(1.156)	53525	25.0000	25.54

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VOLATILE REPORT SW-846 Method

Data file : \\PITSVR06\D\chem\hp4.i\4052311d.b\40523007.D
Lab Smp Id: ic Client Smp ID: vstd25
Inj Date : 23-MAY-2011 11:18
Operator : 034635 Inst ID: hp4.i
Smp Info : ic 5ml 25
Misc Info : ic,4052311d.b,8260bh2o.m,2-padep.sub
Comment :
Method : \\PITSVR06\D\chem\hp4.i\4052311d.b\8260bh2o.m
Meth Date : 23-May-2011 13:01 journetp Quant Type: ISTD
Cal Date : 23-MAY-2011 12:55 Cal File: 40523011.D
Als bottle: 5 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 2-padep.sub
Target Version: 4.14
Processing Host: PITPC-088

Concentration Formula: Amt * DF * (Vf/Vo)/Vi * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vf	5.000	FinalVolume
Vo	5.000	Sample Volume
Vi	5.000	Purge Volume
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	
*	46 Fluorobenzene	96	7.673	7.670	(1.000)	1311901	250.000		
*	69 Chlorobenzene-d5	119	10.752	10.754	(1.000)	300103	250.000		(Q)
*	92 1,4-Dichlorobenzene-d4	152	13.081	13.084	(1.000)	519911	250.000		(Q)
$	39 Dibromofluoromethane	113	6.931	6.928	(0.903)	135216	125.000	120.8	
$	43 1,2-Dichloroethane-d4	65	7.302	7.299	(0.952)	167010	125.000	119.2	
$	59 Toluene-d8	98	9.309	9.312	(0.866)	610530	125.000	121.6	
$	80 Bromofluorobenzene	95	11.925	11.922	(1.109)	217105	125.000	121.2	
	1 Dichlorodifluoromethane	85	1.790	1.788	(0.233)	169245	125.000	125.6	
	2 Chloromethane	50	1.973	1.988	(0.257)	242650	125.000	122.6	
	3 Vinyl Chloride	62	2.131	2.152	(0.278)	221394	125.000	124.3	
	4 Bromomethane	94	2.508	2.511	(0.327)	72220	125.000	130.0	
	5 Chloroethane	64	2.642	2.639	(0.344)	68169	125.000	129.7	
	6 Trichlorofluoromethane	101	3.001	2.974	(0.391)	259491	125.000	126.8	(Q)
	101 1,1,2-trichlorotrifluoroethane	101	3.846	3.807	(0.501)	177939	125.000	125.3	
	12 1,1-Dichloroethene	96	3.791	3.770	(0.494)	170465	125.000	122.3	
	13 Acetone	43	3.974	4.002	(0.518)	91722	125.000	141.2	
	15 Carbon Disulfide	76	4.126	4.111	(0.538)	386745	125.000	118.4	
	155 Methyl acetate	43	4.497	4.506	(0.586)	153698	125.000	123.2	
	18 Methylene Chloride	84	4.601	4.628	(0.600)	195572	125.000	122.6	
	19 trans-1,2-Dichloroethene	96	5.014	4.999	(0.654)	180471	125.000	123.2	
	20 Methyl tert-butyl ether	73	5.063	5.072	(0.660)	477920	125.000	120.6	

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	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)
24	1,1-Dichloroethane	63	5.604	5.595	(0.730)	328398	125.000	121.7
27	2,2-Dichloropropane	77	6.347	6.344	(0.827)	144896	125.000	130.9
28	cis-1,2-dichloroethene	96	6.353	6.350	(0.828)	189628	125.000	122.8
M 29	1,2-Dichloroethene (total)	96				370099	250.000	246.0
30	Bromochloromethane	128	6.639	6.636	(0.865)	85302	125.000	125.2
31	2-Butanone	43	6.413	6.417	(0.836)	91271	125.000	136.2
37	Chloroform	83	6.748	6.745	(0.879)	271454	125.000	122.3
102	Cyclohexane	56	7.004	7.001	(0.913)	392814	125.000	124.3
38	1,1,1-Trichloroethane	97	6.943	6.940	(0.905)	221664	125.000	125.8
40	1,1-Dichloropropene	75	7.131	7.128	(0.929)	249537	125.000	123.0
41	Carbon Tetrachloride	117	7.131	7.128	(0.929)	186767	125.000	122.4
42	Benzene	78	7.362	7.360	(0.960)	730429	125.000	122.0
45	1,2-Dichloroethane	62	7.387	7.384	(0.963)	213335	125.000	122.6
47	Trichloroethene	130	8.062	8.059	(1.051)	180330	125.000	123.9
156	Methyl cyclohexane	83	8.257	8.260	(1.076)	380763	125.000	125.6
49	1,2-Dichloropropane	63	8.293	8.296	(1.081)	178785	125.000	118.5
50	Dibromomethane	93	8.421	8.418	(1.098)	93635	125.000	122.4
53	Bromodichloromethane	83	8.585	8.582	(1.119)	160991	125.000	118.3
57	cis-1,3-Dichloropropene	75	9.042	9.039	(1.178)	229267	125.000	118.0
58	4-Methyl-2-Pentanone	43	9.206	9.203	(0.856)	166416	125.000	126.6
60	Toluene	91	9.376	9.379	(0.872)	748643	125.000	123.0
61	trans-1,3-Dichloropropene	75	9.601	9.592	(0.893)	207021	125.000	124.0
63	1,3-Dichloropropane	76	9.948	9.945	(0.925)	258080	125.000	125.3
64	1,1,2-Trichloroethane	97	9.784	9.781	(0.910)	138510	125.000	125.3
65	Tetrachloroethene	164	9.930	9.927	(0.924)	146725	125.000	126.1
66	2-Hexanone	43	10.033	10.030	(0.933)	122105	125.000	137.7
67	Dibromochloromethane	129	10.179	10.176	(0.947)	106573	125.000	121.2
68	1,2-Dibromoethane	107	10.295	10.292	(0.958)	136322	125.000	126.3
70	Chlorobenzene	112	10.781	10.785	(1.003)	482402	125.000	123.8
71	1,1,1,2-Tetrachloroethane	131	10.860	10.864	(1.010)	138166	125.000	124.5
72	Ethylbenzene	106	10.885	10.888	(1.012)	279460	125.000	127.8
73	m + p-Xylene	106	11.000	11.004	(1.023)	685443	250.000	252.3
74	Xylene-o	106	11.402	11.399	(1.061)	333611	125.000	127.3
M 75	Xylenes (total)	106				1019054	375.000	379.5
76	Styrene	104	11.414	11.411	(1.062)	542948	125.000	126.0
77	Bromoform	173	11.609	11.606	(1.080)	61521	125.000	116.9
78	Isopropylbenzene	105	11.767	11.764	(1.094)	882753	125.000	125.9
79	Bromobenzene	156	12.083	12.080	(0.924)	196369	125.000	123.2
81	n-Propylbenzene	120	12.175	12.178	(0.931)	259309	125.000	125.2(Q)
82	2-Chlorotoluene	126	12.272	12.275	(0.938)	207169	125.000	125.3
83	1,1,2,2-Tetrachloroethane	83	12.053	12.056	(0.921)	194507	125.000	123.0
84	1,2,3-Trichloropropane	110	12.108	12.111	(0.926)	61292	125.000	125.5
85	4-Chlorotoluene	126	12.381	12.378	(0.947)	226527	125.000	118.4(Q)
86	1,3,5-Trimethylbenzene	105	12.351	12.354	(0.944)	727989	125.000	120.7
87	tert-Butylbenzene	119	12.679	12.683	(0.969)	637009	125.000	120.5
88	1,2,4-Trimethylbenzene	105	12.728	12.731	(0.973)	747828	125.000	120.7
89	sec-Butylbenzene	105	12.898	12.902	(0.986)	1019877	125.000	121.9
90	4-Isopropyltoluene	119	13.044	13.042	(0.997)	854022	125.000	123.2
91	1,3-Dichlorobenzene	146	13.020	13.023	(0.995)	404589	125.000	123.0
93	1,4-Dichlorobenzene	146	13.105	13.115	(1.002)	427839	125.000	122.4
94	n-Butylbenzene	91	13.458	13.455	(1.029)	810770	125.000	122.9
95	1,2-Dichlorobenzene	146	13.489	13.486	(1.031)	393085	125.000	123.2
96	1,2-Dibromo-3-chloropropane	157	14.273	14.271	(1.091)	27006	125.000	116.6
97	1,2,4-Trichlorobenzene	180	15.113	15.110	(1.155)	272826	125.000	126.1

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VOLATILE REPORT SW-846 Method

Data file : \\PITSVR06\D\chem\hp4.i\4052311d.b\40523008.D
Lab Smp Id: ic Client Smp ID: vstd40
Inj Date : 23-MAY-2011 11:45
Operator : 034635 Inst ID: hp4.i
Smp Info : icis 5ml 40
Misc Info : ic,4052311d.b,8260bh2o.m,2-padep.sub
Comment :
Method : \\PITSVR06\D\chem\hp4.i\4052311d.b\8260bh2o.m
Meth Date : 23-May-2011 13:01 journetp Quant Type: ISTD
Cal Date : 23-MAY-2011 12:55 Cal File: 40523011.D
Als bottle: 6 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 2-padep.sub
Target Version: 4.14
Processing Host: PITPC-088

Concentration Formula: Amt * DF * (Vf/Vo)/Vi * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vf	5.000	FinalVolume
Vo	5.000	Sample Volume
Vi	5.000	Purge Volume
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	
* 46 Fluorobenzene	96	7.671	7.670	(1.000)	1411103	250.000		
* 69 Chlorobenzene-d5	119	10.749	10.754	(1.000)	327109	250.000		(Q)
* 92 1,4-Dichlorobenzene-d4	152	13.085	13.084	(1.000)	556219	250.000		(Q)
$ 39 Dibromofluoromethane	113	6.929	6.928	(0.903)	231946	200.000	192.7	
$ 43 1,2-Dichloroethane-d4	65	7.300	7.299	(0.952)	277422	200.000	184.1	
$ 59 Toluene-d8	98	9.314	9.312	(0.866)	1065827	200.000	194.7	
$ 80 Bromofluorobenzene	95	11.924	11.922	(1.109)	376205	200.000	192.8	
1 Dichlorodifluoromethane	85	1.795	1.788	(0.234)	286592	200.000	197.7	
2 Chloromethane	50	1.977	1.988	(0.258)	417271	200.000	196.1	
3 Vinyl Chloride	62	2.135	2.152	(0.278)	380144	200.000	198.4	
4 Bromomethane	94	2.512	2.511	(0.328)	117225	200.000	196.2	
5 Chloroethane	64	2.646	2.639	(0.345)	114029	200.000	201.8	
6 Trichlorofluoromethane	101	3.023	2.974	(0.394)	457487	200.000	207.9	
101 1,1,2-trichlorotrifluoroethane	101	3.857	3.807	(0.503)	296510	200.000	194.1	
12 1,1-Dichloroethene	96	3.784	3.770	(0.493)	284268	200.000	189.6	
13 Acetone	43	3.954	4.002	(0.515)	95969	200.000	138.0	
15 Carbon Disulfide	76	4.143	4.111	(0.540)	743444	200.000	191.2	
155 Methyl acetate	43	4.496	4.506	(0.586)	223858	200.000	166.8	
18 Methylene Chloride	84	4.605	4.628	(0.600)	323162	200.000	188.4	
19 trans-1,2-Dichloroethene	96	5.013	4.999	(0.653)	304564	200.000	193.3	
20 Methyl tert-butyl ether	73	5.055	5.072	(0.659)	794946	200.000	186.6	

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	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)
24	1,1-Dichloroethane	63	5.603	5.595	(0.730)	566704	200.000	195.2
27	2,2-Dichloropropane	77	6.345	6.344	(0.827)	243763	200.000	204.7
28	cis-1,2-dichloroethene	96	6.357	6.350	(0.829)	323638	200.000	194.8
M 29	1,2-Dichloroethene (total)	96				628202	400.000	388.1
30	Bromochloromethane	128	6.643	6.636	(0.866)	143601	200.000	196.0
31	2-Butanone	43	6.406	6.417	(0.835)	115483	200.000	148.4
37	Chloroform	83	6.747	6.745	(0.879)	460535	200.000	192.9
102	Cyclohexane	56	7.002	7.001	(0.913)	655745	200.000	193.0
38	1,1,1-Trichloroethane	97	6.941	6.940	(0.905)	375779	200.000	198.3
40	1,1-Dichloropropene	75	7.130	7.128	(0.929)	418414	200.000	191.7
41	Carbon Tetrachloride	117	7.130	7.128	(0.929)	326568	200.000	199.0
42	Benzene	78	7.361	7.360	(0.960)	1236459	200.000	192.0
45	1,2-Dichloroethane	62	7.385	7.384	(0.963)	356168	200.000	190.4
47	Trichloroethene	130	8.061	8.059	(1.051)	301845	200.000	192.8
156	Methyl cyclohexane	83	8.261	8.260	(1.077)	627869	200.000	192.5
49	1,2-Dichloropropane	63	8.298	8.296	(1.082)	310443	200.000	191.3
50	Dibromomethane	93	8.419	8.418	(1.098)	156088	200.000	189.6
53	Bromodichloromethane	83	8.584	8.582	(1.119)	292233	200.000	199.6
57	cis-1,3-Dichloropropene	75	9.040	9.039	(1.178)	414922	200.000	198.6
58	4-Methyl-2-Pentanone	43	9.198	9.203	(0.856)	257000	200.000	179.4
60	Toluene	91	9.381	9.379	(0.873)	1303691	200.000	196.5
61	trans-1,3-Dichloropropene	75	9.594	9.592	(0.892)	366214	200.000	201.3
63	1,3-Dichloropropane	76	9.946	9.945	(0.925)	427528	200.000	190.4
64	1,1,2-Trichloroethane	97	9.782	9.781	(0.910)	228113	200.000	189.3
65	Tetrachloroethene	164	9.928	9.927	(0.924)	249462	200.000	196.7
66	2-Hexanone	43	10.032	10.030	(0.933)	165483	200.000	171.2
67	Dibromochloromethane	129	10.178	10.176	(0.947)	191716	200.000	199.9
68	1,2-Dibromoethane	107	10.293	10.292	(0.958)	223944	200.000	190.4
70	Chlorobenzene	112	10.786	10.785	(1.003)	828806	200.000	195.2
71	1,1,1,2-Tetrachloroethane	131	10.859	10.864	(1.010)	247924	200.000	205.0
72	Ethylbenzene	106	10.883	10.888	(1.012)	463981	200.000	194.7
73	m + p-Xylene	106	10.999	11.004	(1.023)	1163598	400.000	392.9
74	Xylene-o	106	11.400	11.399	(1.061)	567539	200.000	198.6
M 75	Xylenes (total)	106				1731137	600.000	591.5
76	Styrene	104	11.413	11.411	(1.062)	942160	200.000	200.6
77	Bromoform	173	11.607	11.606	(1.080)	112217	300.000	174.0
78	Isopropylbenzene	105	11.765	11.764	(1.095)	1510676	200.000	197.6
79	Bromobenzene	156	12.082	12.080	(0.923)	324814	200.000	190.2
81	n-Propylbenzene	120	12.173	12.178	(0.930)	427137	200.000	192.7(Q)
82	2-Chlorotoluene	126	12.270	12.275	(0.938)	347840	200.000	196.6
83	1,1,2,2-Tetrachloroethane	83	12.057	12.056	(0.921)	306397	200.000	181.1
84	1,2,3-Trichloropropane	110	12.106	12.111	(0.925)	93941	200.000	179.8
85	4-Chlorotoluene	126	12.380	12.378	(0.946)	382073	200.000	186.7(Q)
86	1,3,5-Trimethylbenzene	105	12.349	12.354	(0.944)	1246056	200.000	193.1
87	tert-Butylbenzene	119	12.678	12.683	(0.969)	1109518	200.000	196.2
88	1,2,4-Trimethylbenzene	105	12.727	12.731	(0.973)	1284322	200.000	193.8
89	sec-Butylbenzene	105	12.897	12.902	(0.986)	1746241	200.000	195.0
90	4-Isopropyltoluene	119	13.043	13.042	(0.997)	1447503	200.000	195.1
91	1,3-Dichlorobenzene	146	13.019	13.023	(0.995)	680176	200.000	193.3
93	1,4-Dichlorobenzene	146	13.110	13.115	(1.002)	714562	200.000	191.0
94	n-Butylbenzene	91	13.457	13.455	(1.028)	1375203	200.000	194.8
95	1,2-Dichlorobenzene	146	13.487	13.486	(1.031)	652416	200.000	191.2
96	1,2-Dibromo-3-chloropropane	157	14.272	14.271	(1.091)	44653	200.000	152.2
97	1,2,4-Trichlorobenzene	180	15.111	15.110	(1.155)	437714	200.000	189.0

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VOLATILE REPORT SW-846 Method

Data file : \\PITSVR06\D\chem\hp4.i\4052311d.b\40523009.D
Lab Smp Id: ic Client Smp ID: vstd50
Inj Date : 23-MAY-2011 12:08
Operator : 034635 Inst ID: hp4.i
Smp Info : ic 5ml 50
Misc Info : ic,4052311d.b,8260bh2o.m,2-padep.sub
Comment :
Method : \\PITSVR06\D\chem\hp4.i\4052311d.b\8260bh2o.m
Meth Date : 23-May-2011 13:01 journetp Quant Type: ISTD
Cal Date : 23-MAY-2011 12:55 Cal File: 40523011.D
Als bottle: 9 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 2-padep.sub
Target Version: 4.14
Processing Host: PITPC-088

Concentration Formula: Amt * DF * (Vf/Vo)/Vi * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vf	5.000	FinalVolume
Vo	5.000	Sample Volume
Vi	5.000	Purge Volume
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng)	AMOUNTS ON-COL (ng)	
*	46 Fluorobenzene	96	7.676	7.670	(1.000)	1421476	250.000		
*	69 Chlorobenzene-d5	119	10.754	10.754	(1.000)	332506	250.000		(Q)
*	92 1,4-Dichlorobenzene-d4	152	13.084	13.084	(1.000)	540558	250.000		(Q)
$	39 Dibromofluoromethane	113	6.934	6.928	(0.903)	291733	250.000	240.6	
$	43 1,2-Dichloroethane-d4	65	7.305	7.299	(0.952)	366296	250.000	241.3	
$	59 Toluene-d8	98	9.312	9.312	(0.866)	1362867	250.000	244.9	
$	80 Bromofluorobenzene	95	11.922	11.922	(1.109)	403975	250.000	244.0	
	1 Dichlorodifluoromethane	85	1.793	1.788	(0.234)	340895	250.000	233.5	
	2 Chloromethane	50	1.976	1.988	(0.257)	521183	250.000	243.1	
	3 Vinyl Chloride	62	2.134	2.152	(0.278)	460866	250.000	238.7	
	4 Bromomethane	94	2.517	2.511	(0.328)	149589	250.000	248.6	
	5 Chloroethane	64	2.645	2.639	(0.345)	140052	250.000	246.0	
	6 Trichlorofluoromethane	101	3.016	2.974	(0.393)	572496	250.000	258.2	
	101 1,1,2-trichlorotrifluoroethane	101	3.856	3.807	(0.502)	357761	250.000	232.4	
	12 1,1-Dichloroethene	96	3.801	3.770	(0.495)	355052	250.000	235.1	
	13 Acetone	43	3.959	4.002	(0.516)	172200	250.000	230.6	
	15 Carbon Disulfide	76	4.142	4.111	(0.540)	964076	250.000	238.3	
	155 Methyl acetate	43	4.500	4.506	(0.586)	339336	250.000	251.0	
	18 Methylene Chloride	84	4.604	4.628	(0.600)	385026	250.000	222.8	
	19 trans-1,2-Dichloroethene	96	5.018	4.999	(0.654)	372609	250.000	234.8	
	20 Methyl tert-butyl ether	73	5.060	5.072	(0.659)	1043767	250.000	243.2	

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	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)
24	1,1-Dichloroethane	63	5.608	5.595	(0.731)	688419	250.000	235.4
27	2,2-Dichloropropane	77	6.350	6.344	(0.827)	296890	250.000	247.5
28	cis-1,2-dichloroethene	96	6.362	6.350	(0.829)	398816	250.000	238.3
M 29	1,2-Dichloroethene (total)	96				771425	500.000	473.1
30	Bromochloromethane	128	6.642	6.636	(0.865)	178562	250.000	242.0
31	2-Butanone	43	6.411	6.417	(0.835)	204820	250.000	261.4
37	Chloroform	83	6.751	6.745	(0.880)	572174	250.000	237.9
102	Cyclohexane	56	7.007	7.001	(0.913)	803344	250.000	234.6
38	1,1,1-Trichloroethane	97	6.946	6.940	(0.905)	462734	250.000	242.4
40	1,1-Dichloropropene	75	7.135	7.128	(0.929)	522976	250.000	237.8
41	Carbon Tetrachloride	117	7.135	7.128	(0.929)	405620	250.000	245.4
42	Benzene	78	7.366	7.360	(0.960)	1549241	250.000	238.9
45	1,2-Dichloroethane	62	7.390	7.384	(0.963)	461428	250.000	244.8
47	Trichloroethene	130	8.065	8.059	(1.051)	380402	250.000	241.2
156	Methyl cyclohexane	83	8.260	8.260	(1.076)	763850	250.000	232.5
49	1,2-Dichloropropane	63	8.297	8.296	(1.081)	404534	250.000	247.4
50	Dibromomethane	93	8.418	8.418	(1.097)	208535	250.000	251.6
53	Bromodichloromethane	83	8.589	8.582	(1.119)	377516	250.000	256.0
57	cis-1,3-Dichloropropene	75	9.039	9.039	(1.178)	548504	250.000	260.6
58	4-Methyl-2-Pentanone	43	9.203	9.203	(0.856)	402629	250.000	276.6
60	Toluene	91	9.379	9.379	(0.872)	1663766	250.000	246.8
61	trans-1,3-Dichloropropene	75	9.598	9.592	(0.893)	501539	250.000	271.3
63	1,3-Dichloropropane	76	9.951	9.945	(0.925)	580507	250.000	254.4
64	1,1,2-Trichloroethane	97	9.781	9.781	(0.909)	309038	250.000	252.2
65	Tetrachloroethene	164	9.927	9.927	(0.923)	312291	250.000	242.2
66	2-Hexanone	43	10.030	10.030	(0.933)	289395	250.000	294.6
67	Dibromochloromethane	129	10.176	10.176	(0.946)	265495	250.000	272.4
68	1,2-Dibromoethane	107	10.292	10.292	(0.957)	309609	250.000	259.0
70	Chlorobenzene	112	10.785	10.785	(1.003)	1037125	250.000	240.3
71	1,1,1,2-Tetrachloroethane	131	10.858	10.864	(1.010)	312649	250.000	254.3
72	Ethylbenzene	106	10.888	10.888	(1.012)	589922	250.000	243.5
73	m + p-Xylene	106	11.004	11.004	(1.023)	1471944	500.000	489.0
74	Xylene-o	106	11.399	11.399	(1.060)	706214	250.000	243.2
M 75	Xylenes (total)	106				2178158	750.000	732.2
76	Styrene	104	11.411	11.411	(1.061)	1195361	250.000	250.3
77	Bromoform	173	11.606	11.606	(1.079)	165522	250.000	238.8
78	Isopropylbenzene	105	11.764	11.764	(1.094)	1872727	250.000	241.0
79	Bromobenzene	156	12.080	12.080	(0.923)	413220	250.000	249.3
81	n-Propylbenzene	120	12.178	12.178	(0.931)	530249	250.000	246.2(Q)
82	2-Chlorotoluene	126	12.269	12.275	(0.938)	427796	250.000	248.8
83	1,1,2,2-Tetrachloroethane	83	12.056	12.056	(0.921)	434520	250.000	264.3
84	1,2,3-Trichloropropane	110	12.105	12.111	(0.925)	133398	250.000	262.7
85	4-Chlorotoluene	126	12.379	12.378	(0.946)	475419	250.000	239.1(Q)
86	1,3,5-Trimethylbenzene	105	12.348	12.354	(0.944)	1537701	250.000	245.2
87	tert-Butylbenzene	119	12.677	12.683	(0.969)	1363773	250.000	248.2
88	1,2,4-Trimethylbenzene	105	12.725	12.731	(0.973)	1569473	250.000	243.7
89	sec-Butylbenzene	105	12.902	12.902	(0.986)	2093826	250.000	240.6
90	4-Isopropyltoluene	119	13.042	13.042	(0.997)	1756564	250.000	243.7
91	1,3-Dichlorobenzene	146	13.017	13.023	(0.995)	835948	250.000	244.5
93	1,4-Dichlorobenzene	146	13.109	13.115	(1.002)	870788	250.000	239.5
94	n-Butylbenzene	91	13.455	13.455	(1.028)	1656159	250.000	241.4
95	1,2-Dichlorobenzene	146	13.486	13.486	(1.031)	806350	250.000	243.1
96	1,2-Dibromo-3-chloropropane	157	14.270	14.271	(1.091)	67248	250.000	210.9
97	1,2,4-Trichlorobenzene	180	15.110	15.110	(1.155)	538442	250.000	239.3

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VOLATILE REPORT SW-846 Method

Data file : \\PITSVR06\D\chem\hp4.i\4052311d.b\40523010.D
Lab Smp Id: ic Client Smp ID: vstd125
Inj Date : 23-MAY-2011 12:31
Operator : 034635 Inst ID: hp4.i
Smp Info : ic 5ml 125
Misc Info : ic,4052311d.b,8260bh2o.m,2-padep.sub
Comment :
Method : \\PITSVR06\D\chem\hp4.i\4052311d.b\8260bh2o.m
Meth Date : 23-May-2011 13:01 journetp Quant Type: ISTD
Cal Date : 23-MAY-2011 12:55 Cal File: 40523011.D
Als bottle: 10 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 2-padep.sub
Target Version: 4.14
Processing Host: PITPC-088

Concentration Formula: Amt * DF * (Vf/Vo)/Vi * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vf	5.000	FinalVolume
Vo	5.000	Sample Volume
Vi	5.000	Purge Volume
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	
*	46 Fluorobenzene	96	7.671	7.670	(1.000)	1393092	250.000		
*	69 Chlorobenzene-d5	119	10.755	10.754	(1.000)	358038	250.000		
*	92 1,4-Dichlorobenzene-d4	152	13.085	13.084	(1.000)	545547	250.000		(Q)
$	39 Dibromofluoromethane	113	6.929	6.928	(0.903)	747246	625.000	629.0	
$	43 1,2-Dichloroethane-d4	65	7.300	7.299	(0.952)	888854	625.000	597.5	
$	59 Toluene-d8	98	9.313	9.312	(0.866)	3408570	625.000	568.8	
$	80 Bromofluorobenzene	95	11.923	11.922	(1.109)	1214634	625.000	568.6	
	1 Dichlorodifluoromethane	85	1.788	1.788	(0.233)	909294	625.000	635.5	
	2 Chloromethane	50	1.983	1.988	(0.259)	1317336	625.000	627.0	
	3 Vinyl Chloride	62	2.147	2.152	(0.280)	1221475	625.000	645.6	
	4 Bromomethane	94	2.512	2.511	(0.328)	342242	625.000	580.3	
	5 Chloroethane	64	2.640	2.639	(0.344)	324439	625.000	581.5	
	6 Trichlorofluoromethane	101	2.993	2.974	(0.390)	1327666	625.000	611.1	
	101 1,1,2-trichlorotrifluoroethane	101	3.838	3.807	(0.500)	960108	625.000	636.5	
	12 1,1-Dichloroethene	96	3.802	3.770	(0.496)	985193	625.000	665.6	
	13 Acetone	43	3.972	4.002	(0.518)	456399	625.000	652.3	
	15 Carbon Disulfide	76	4.130	4.111	(0.538)	2780434	625.000	636.0	
	155 Methyl acetate	43	4.501	4.506	(0.587)	947039	625.000	714.9	
	18 Methylene Chloride	84	4.599	4.628	(0.600)	1024793	625.000	605.1	
	19 trans-1,2-Dichloroethene	96	5.012	4.999	(0.653)	1036359	625.000	666.3	
	20 Methyl tert-butyl ether	73	5.061	5.072	(0.660)	2832518	625.000	673.4	

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	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)
24	1,1-Dichloroethane	63	5.602	5.595	(0.730)	1888370	625.000	659.0
27	2,2-Dichloropropane	77	6.345	6.344	(0.827)	775591	625.000	659.8
28	cis-1,2-dichloroethene	96	6.357	6.350	(0.829)	1065451	625.000	649.7
M 29	1,2-Dichloroethene (total)	96				2101810	1250.00	1316
30	Bromochloromethane	128	6.637	6.636	(0.865)	469706	625.000	649.5
31	2-Butanone	43	6.405	6.417	(0.835)	558860	625.000	727.7
37	Chloroform	83	6.746	6.745	(0.879)	1525280	625.000	647.2
102	Cyclohexane	56	7.002	7.001	(0.913)	2222322	625.000	662.4
38	1,1,1-Trichloroethane	97	6.941	6.940	(0.905)	1247707	625.000	667.0
40	1,1-Dichloropropene	75	7.129	7.128	(0.929)	1429792	625.000	663.4
41	Carbon Tetrachloride	117	7.129	7.128	(0.929)	1132820	625.000	699.2
42	Benzene	78	7.360	7.360	(0.960)	4110162	625.000	646.7
45	1,2-Dichloroethane	62	7.385	7.384	(0.963)	1185320	625.000	641.7
47	Trichloroethene	130	8.060	8.059	(1.051)	1000857	625.000	647.7
156	Methyl cyclohexane	83	8.261	8.260	(1.077)	2151178	625.000	668.0
49	1,2-Dichloropropane	63	8.297	8.296	(1.082)	1035244	625.000	646.2
50	Dibromomethane	93	8.419	8.418	(1.098)	535178	625.000	658.6
53	Bromodichloromethane	83	8.583	8.582	(1.119)	1040147	625.000	719.7
57	cis-1,3-Dichloropropene	75	9.039	9.039	(1.178)	1453824	625.000	704.9
58	4-Methyl-2-Pentanone	43	9.198	9.203	(0.855)	1085825	625.000	692.7
60	Toluene	91	9.380	9.379	(0.872)	4351687	625.000	599.4
61	trans-1,3-Dichloropropene	75	9.593	9.592	(0.892)	1334275	625.000	670.2
63	1,3-Dichloropropane	76	9.946	9.945	(0.925)	1467469	625.000	597.1
64	1,1,2-Trichloroethane	97	9.782	9.781	(0.910)	790227	625.000	599.0
65	Tetrachloroethene	164	9.928	9.927	(0.923)	803603	625.000	578.9
66	2-Hexanone	43	10.031	10.030	(0.933)	760060	625.000	718.6
67	Dibromochloromethane	129	10.177	10.176	(0.946)	757061	625.000	721.4
68	1,2-Dibromoethane	107	10.293	10.292	(0.957)	819020	625.000	636.3
70	Chlorobenzene	112	10.779	10.785	(1.002)	2719587	625.000	585.2
71	1,1,1,2-Tetrachloroethane	131	10.858	10.864	(1.010)	829265	625.000	626.5
72	Ethylbenzene	106	10.889	10.888	(1.012)	1552668	625.000	595.2
73	m + p-Xylene	106	11.004	11.004	(1.023)	3893929	1250.00	1201
74	Xylene-o	106	11.400	11.399	(1.060)	1889296	625.000	604.1
M 75	Xylenes (total)	106				5783225	1875.00	1805
76	Styrene	104	11.412	11.411	(1.061)	3211250	625.000	624.6
77	Bromoform	173	11.601	11.606	(1.079)	509972	625.000	643.7
78	Isopropylbenzene	105	11.765	11.764	(1.094)	5071758	625.000	606.2
79	Bromobenzene	156	12.081	12.080	(0.923)	1066905	625.000	637.7
81	n-Propylbenzene	120	12.179	12.178	(0.931)	1416982	625.000	651.9
82	2-Chlorotoluene	126	12.270	12.275	(0.938)	1116240	625.000	643.2
83	1,1,2,2-Tetrachloroethane	83	12.057	12.056	(0.921)	1164862	625.000	702.0
84	1,2,3-Trichloropropane	110	12.106	12.111	(0.925)	353607	625.000	689.9
85	4-Chlorotoluene	126	12.379	12.378	(0.946)	1246870	625.000	621.3 (Q)
86	1,3,5-Trimethylbenzene	105	12.349	12.354	(0.944)	4169964	625.000	658.8
87	tert-Butylbenzene	119	12.677	12.683	(0.969)	3664807	625.000	660.9
88	1,2,4-Trimethylbenzene	105	12.726	12.731	(0.973)	4292370	625.000	660.4
89	sec-Butylbenzene	105	12.896	12.902	(0.986)	5814252	625.000	662.1
90	4-Isopropyltoluene	119	13.042	13.042	(0.997)	4842202	625.000	665.5
91	1,3-Dichlorobenzene	146	13.018	13.023	(0.995)	2239078	625.000	648.8
93	1,4-Dichlorobenzene	146	13.109	13.115	(1.002)	2311718	625.000	630.1
94	n-Butylbenzene	91	13.456	13.455	(1.028)	4696276	625.000	678.4
95	1,2-Dichlorobenzene	146	13.486	13.486	(1.031)	2145038	625.000	640.8
96	1,2-Dibromo-3-chloropropane	157	14.271	14.271	(1.091)	216948	625.000	670.5
97	1,2,4-Trichlorobenzene	180	15.105	15.110	(1.154)	1474199	625.000	649.2

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VOLATILE REPORT SW-846 Method

Data file : \\PITSVR06\D\chem\hp4.i\4052311d.b\40523011.D
Lab Smp Id: ic Client Smp ID: vstd250
Inj Date : 23-MAY-2011 12:55
Operator : 034635 Inst ID: hp4.i
Smp Info : ic 5ml 250
Misc Info : ic,4052311d.b,8260bh2o.m,2-padep.sub
Comment :
Method : \\PITSVR06\D\chem\hp4.i\4052311d.b\8260bh2o.m
Meth Date : 23-May-2011 13:01 journetp Quant Type: ISTD
Cal Date : 23-MAY-2011 12:55 Cal File: 40523011.D
Als bottle: 11 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 2-padep.sub
Target Version: 4.14
Processing Host: PITPC-088

Concentration Formula: Amt * DF * (Vf/Vo)/Vi * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vf	5.000	FinalVolume
Vo	5.000	Sample Volume
Vi	5.000	Purge Volume
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng)	AMOUNTS ON-COL (ng)
* 46 Fluorobenzene	96	7.670	7.670	(1.000)	1507307	250.000	
* 69 Chlorobenzene-d5	119	10.754	10.754	(1.000)	391518	250.000	
* 92 1,4-Dichlorobenzene-d4	152	13.084	13.084	(1.000)	602646	250.000	
$ 39 Dibromofluoromethane	113	6.928	6.928	(0.903)	1665112	1250.00	1295
$ 43 1,2-Dichloroethane-d4	65	7.299	7.299	(0.952)	1912664	1250.00	1188
$ 59 Toluene-d8	98	9.312	9.312	(0.866)	7744525	1250.00	1182
$ 80 Bromofluorobenzene	95	11.922	11.922	(1.109)	2773069	1250.00	1187
1 Dichlorodifluoromethane	85	1.787	1.788	(0.233)	1902724	1250.00	1229
2 Chloromethane	50	1.988	1.988	(0.259)	3052144	1250.00	1343
3 Vinyl Chloride	62	2.152	2.152	(0.281)	2677932	1250.00	1308
4 Bromomethane	94	2.511	2.511	(0.327)	768928	1250.00	1205
5 Chloroethane	64	2.639	2.639	(0.344)	679611	1250.00	1126
6 Trichlorofluoromethane	101	2.973	2.974	(0.388)	1276143	1250.00	542.9 (M)
101 1,1,2-trichlorotrifluoroethane	101	3.807	3.807	(0.496)	2037266	1250.00	1248
12 1,1-Dichloroethene	96	3.770	3.770	(0.492)	2165035	1250.00	1352
13 Acetone	43	4.001	4.002	(0.522)	842603	1250.00	1242
15 Carbon Disulfide	76	4.111	4.111	(0.536)	6311359	1250.00	1248
155 Methyl acetate	43	4.506	4.506	(0.588)	1636124	1250.00	1141
18 Methylene Chloride	84	4.628	4.628	(0.603)	2247381	1250.00	1226
19 trans-1,2-Dichloroethene	96	4.999	4.999	(0.652)	2228929	1250.00	1324
20 Methyl tert-butyl ether	73	5.072	5.072	(0.661)	5813227	1250.00	1277

MSW 6/8/11

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng)	AMOUNTS ON-COL (ng)
24	1,1-Dichloroethane	63	5.595	5.595	(0.730)	4143097	1250.00	1336
27	2,2-Dichloropropane	77	6.344	6.344	(0.827)	1502134	1250.00	1181
28	cis-1,2-dichloroethene	96	6.350	6.350	(0.828)	2344629	1250.00	1321
M 29	1,2-Dichloroethene (total)	96				4573558	2500.00	2646
30	Bromochloromethane	128	6.636	6.636	(0.865)	1019101	1250.00	1302
31	2-Butanone	43	6.417	6.417	(0.837)	999384	1250.00	1203
37	Chloroform	83	6.745	6.745	(0.879)	3347902	1250.00	1313
102	Cyclohexane	56	7.001	7.001	(0.913)	4740045	1250.00	1306
38	1,1,1-Trichloroethane	97	6.940	6.940	(0.905)	2674624	1250.00	1322
40	1,1-Dichloropropene	75	7.128	7.128	(0.929)	3129996	1250.00	1342
41	Carbon Tetrachloride	117	7.128	7.128	(0.929)	2501050	1250.00	1427
42	Benzene	78	7.360	7.360	(0.960)	9265186	1250.00	1347
45	1,2-Dichloroethane	62	7.384	7.384	(0.963)	2581569	1250.00	1292
47	Trichloroethene	130	8.059	8.059	(1.051)	2179657	1250.00	1304
156	Methyl cyclohexane	83	8.260	8.260	(1.077)	4609962	1250.00	1323
49	1,2-Dichloropropane	63	8.296	8.296	(1.082)	2368956	1250.00	1366
50	Dibromomethane	93	8.418	8.418	(1.098)	1125090	1250.00	1280
53	Bromodichloromethane	83	8.582	8.582	(1.119)	2381014	1250.00	1523
57	cis-1,3-Dichloropropene	75	9.039	9.039	(1.178)	3325543	1250.00	1490
58	4-Methyl-2-Pentanone	43	9.203	9.203	(0.856)	1891879	1250.00	1104
60	Toluene	91	9.379	9.379	(0.872)	9949191	1250.00	1253
61	trans-1,3-Dichloropropene	75	9.592	9.592	(0.892)	2963783	1250.00	1361
63	1,3-Dichloropropane	76	9.945	9.945	(0.925)	3072291	1250.00	1143
64	1,1,2-Trichloroethane	97	9.781	9.781	(0.909)	1629235	1250.00	1129
65	Tetrachloroethene	164	9.927	9.927	(0.923)	1729089	1250.00	1139
66	2-Hexanone	43	10.030	10.030	(0.933)	1335694	1250.00	1155
67	Dibromochloromethane	129	10.176	10.176	(0.946)	1666586	1250.00	1452
68	1,2-Dibromoethane	107	10.292	10.292	(0.957)	1620317	1250.00	1151
70	Chlorobenzene	112	10.785	10.785	(1.003)	6004221	1250.00	1162
71	1,1,1,2-Tetrachloroethane	131	10.864	10.864	(1.010)	1895866	1250.00	1310
72	Ethylbenzene	106	10.888	10.888	(1.012)	3435065	1250.00	1204
73	m + p-Xylene	106	11.004	11.004	(1.023)	8202957	2500.00	2314
74	Xylene-o	106	11.399	11.399	(1.060)	4061954	1250.00	1188
M 75	Xylenes (total)	106				12264911	3750.00	3501
76	Styrene	104	11.411	11.411	(1.061)	7039775	1250.00	1252
77	Bromoform	173	11.606	11.606	(1.079)	1054544	1250.00	1246
78	Isopropylbenzene	105	11.764	11.764	(1.094)	11515095	1250.00	1259
79	Bromobenzene	156	12.080	12.080	(0.923)	2348942	1250.00	1271
81	n-Propylbenzene	120	12.178	12.178	(0.931)	3121787	1250.00	1300
82	2-Chlorotoluene	126	12.275	12.275	(0.938)	2480103	1250.00	1294
83	1,1,2,2-Tetrachloroethane	83	12.056	12.056	(0.921)	2146197	1250.00	1171
84	1,2,3-Trichloropropane	110	12.111	12.111	(0.926)	628697	1250.00	1110
85	4-Chlorotoluene	126	12.378	12.378	(0.946)	2833900	1250.00	1278
86	1,3,5-Trimethylbenzene	105	12.354	12.354	(0.944)	9409597	1250.00	1346
87	tert-Butylbenzene	119	12.683	12.683	(0.969)	8228925	1250.00	1343
88	1,2,4-Trimethylbenzene	105	12.731	12.731	(0.973)	9932579	1250.00	1383
89	sec-Butylbenzene	105	12.902	12.902	(0.986)	13246633	1250.00	1366
90	4-Isopropyltoluene	119	13.042	13.042	(0.997)	10721393	1250.00	1334
91	1,3-Dichlorobenzene	146	13.023	13.023	(0.995)	4879890	1250.00	1280
93	1,4-Dichlorobenzene	146	13.115	13.115	(1.002)	5188145	1250.00	1280
94	n-Butylbenzene	91	13.455	13.455	(1.028)	10676260	1250.00	1396
95	1,2-Dichlorobenzene	146	13.486	13.486	(1.031)	4696869	1250.00	1270
96	1,2-Dibromo-3-chloropropane	157	14.270	14.271	(1.091)	390394	1250.00	1235
97	1,2,4-Trichlorobenzene	180	15.110	15.110	(1.155)	3193491	1250.00	1273

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VOLATILE REPORT SW-846 Method

Data file : \\PITSVR06\D\chem\hp4.i\4051911d.b\4051921.D
Lab Smp Id: mh6rl1ae Client Smp ID: MW-2
Inj Date : 19-MAY-2011 17:21
Operator : 034635 Inst ID: hp4.i
Smp Info : c1e100518-002 5ml
Misc Info : mh6rl1ae,4051911d.b,8260bh2o.m,2-padep.sub
Comment :
Method : \\PITSVR06\D\chem\hp4.i\4051911d.b\8260bh2o.m
Meth Date : 19-May-2011 09:54 journetp Quant Type: ISTD
Cal Date : 15-MAY-2011 13:50 Cal File: 4051505.D
Als bottle: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 2-padep.sub
Target Version: 4.14
Processing Host: PITPC-088

Concentration Formula: Amt * DF * (Vf/Vo)/Vi * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vf	5.000	FinalVolume
Vo	5.000	Sample Volume
Vi	5.000	Purge Volume
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	CONCENTRATIONS FINAL (UG/L)
* 46 Fluorobenzene	96	7.681	7.670	(1.000)	1411070	250.000	
* 69 Chlorobenzene-d5	119	10.760	10.754	(1.000)	342132	250.000	
* 92 1,4-Dichlorobenzene-d4	152	13.090	13.084	(1.000)	509633	250.000	
$ 39 Dibromofluoromethane	113	6.945	6.928	(0.904)	308739	250.417	50.08
$ 43 1,2-Dichloroethane-d4	65	7.310	7.299	(0.952)	373174	245.727	49.14
$ 59 Toluene-d8	98	9.318	9.313	(0.866)	1386359	245.403	49.08
$ 80 Bromofluorobenzene	95	11.928	11.922	(1.109)	478539	246.922	49.38
1 Dichlorodifluoromethane	85	Compound Not Detected.					
2 Chloromethane	50	Compound Not Detected.					
3 Vinyl Chloride	62	Compound Not Detected.					
4 Bromomethane	94	Compound Not Detected.					
5 Chloroethane	64	Compound Not Detected.					
6 Trichlorofluoromethane	101	Compound Not Detected.					
101 1,1,2-trichlorotrifluoroethane	101	Compound Not Detected.					
12 1,1-Dichloroethene	96	Compound Not Detected.					
13 Acetone	43	Compound Not Detected.					
15 Carbon Disulfide	76	Compound Not Detected.					
155 Methyl acetate	43	Compound Not Detected.					
18 Methylene Chloride	84	Compound Not Detected.					
19 trans-1,2-Dichloroethene	96	Compound Not Detected.					
20 Methyl tert-butyl ether	73	Compound Not Detected.					

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	CONCENTRATIONS FINAL (UG/L)
24	1,1-Dichloroethane	63	Compound Not Detected.					
27	2,2-Dichloropropane	77	Compound Not Detected.					
28	cis-1,2-dichloroethene	96	Compound Not Detected.					
M 29	1,2-Dichloroethene (total)	96	Compound Not Detected.					
30	Bromochloromethane	128	Compound Not Detected.					
31	2-Butanone	43	Compound Not Detected.					
37	Chloroform	83	6.757	6.745	(0.880)	173983	71.4774 ✓	14.30 ✓
102	Cyclohexane	56	Compound Not Detected.					
38	1,1,1-Trichloroethane	97	Compound Not Detected.					
40	1,1-Dichloropropene	75	Compound Not Detected.					
41	Carbon Tetrachloride	117	Compound Not Detected.					
42	Benzene	78	Compound Not Detected.					
45	1,2-Dichloroethane	62	Compound Not Detected.					
47	Trichloroethene	130	Compound Not Detected.					
156	Methyl cyclohexane	83	Compound Not Detected.					
49	1,2-Dichloropropane	63	Compound Not Detected.					
50	Dibromomethane	93	Compound Not Detected.					
53	Bromodichloromethane	83	Compound Not Detected.					
57	cis-1,3-Dichloropropene	75	Compound Not Detected.					
58	4-Methyl-2-Pentanone	43	Compound Not Detected.					
60	Toluene	91	Compound Not Detected.					
61	trans-1,3-Dichloropropene	75	Compound Not Detected.					
63	1,3-Dichloropropane	76	Compound Not Detected.					
64	1,1,2-Trichloroethane	97	Compound Not Detected.					
65	Tetrachloroethene	164	Compound Not Detected.					
66	2-Hexanone	43	Compound Not Detected.					
67	Dibromochloromethane	129	Compound Not Detected.					
68	1,2-Dibromoethane	107	Compound Not Detected.					
70	Chlorobenzene	112	Compound Not Detected.					
71	1,1,1,2-Tetrachloroethane	131	Compound Not Detected.					
72	Ethylbenzene	106	Compound Not Detected.					
73	m + p-Xylene	106	Compound Not Detected.					
74	Xylene-o	106	Compound Not Detected.					
M 75	Xylenes (total)	106	Compound Not Detected.					
76	Styrene	104	Compound Not Detected.					
77	Bromoform	173	Compound Not Detected.					
78	Isopropylbenzene	105	Compound Not Detected.					
79	Bromobenzene	156	Compound Not Detected.					
81	n-Propylbenzene	120	Compound Not Detected.					
82	2-Chlorotoluene	126	Compound Not Detected.					
83	1,1,2,2-Tetrachloroethane	83	Compound Not Detected.					
84	1,2,3-Trichloropropane	110	Compound Not Detected.					
85	4-Chlorotoluene	126	Compound Not Detected.					
86	1,3,5-Trimethylbenzene	105	Compound Not Detected.					
87	tert-Butylbenzene	119	Compound Not Detected.					
88	1,2,4-Trimethylbenzene	105	Compound Not Detected.					
89	sec-Butylbenzene	105	Compound Not Detected.					
90	4-Isopropyltoluene	119	Compound Not Detected.					
91	1,3-Dichlorobenzene	146	Compound Not Detected.					
93	1,4-Dichlorobenzene	146	Compound Not Detected.					
94	n-Butylbenzene	91	Compound Not Detected.					
95	1,2-Dichlorobenzene	146	Compound Not Detected.					
96	1,2-Dibromo-3-chloropropane	157	Compound Not Detected.					
97	1,2,4-Trichlorobenzene	180	Compound Not Detected.					

$\frac{173983 (250)}{1411070 (0.43125)} = \frac{71.4774 \text{ ng}}{5 \text{ ml}} = 14.30 \text{ mg/l}$

MJW 9/8/11

TestAmerica Pittsburgh

VOLATILE REPORT SW-846 Method

Data file : \\PITSVR06\D\chem\hp4.i\4051911d.b\4051923.D
Lab Smp Id: mh6rn1ae Client Smp ID: MW-4
Inj Date : 19-MAY-2011 18:07
Operator : 034635 Inst ID: hp4.i
Smp Info : c1e100518-004 5ml
Misc Info : mh6rn1ae,4051911d.b,8260bh2o.m,2-padep.sub
Comment :
Method : \\PITSVR06\D\chem\hp4.i\4051911d.b\8260bh2o.m
Meth Date : 19-May-2011 09:54 journetp Quant Type: ISTD
Cal Date : 15-MAY-2011 13:50 Cal File: 4051505.D
Als bottle: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 2-padep.sub
Target Version: 4.14
Processing Host: PITPC-088

Concentration Formula: Amt * DF * (Vf/Vo)/Vi * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vf	5.000	FinalVolume
Vo	5.000	Sample Volume
Vi	5.000	Purge Volume
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (UG/L)	
* 46 Fluorobenzene	96	7.681	7.670	(1.000)	1335610	250.000		
* 69 Chlorobenzene-d5	119	10.759	10.754	(1.000)	317663	250.000		(Q)
* 92 1,4-Dichlorobenzene-d4	152	13.089	13.084	(1.000)	473794	250.000		
$ 39 Dibromofluoromethane	113	6.939	6.928	(0.903)	292252	250.437	50.09	
$ 43 1,2-Dichloroethane-d4	65	7.310	7.299	(0.952)	355445	247.277	49.46	
$ 59 Toluene-d8	98	9.318	9.313	(0.866)	1305038	248.803	49.76	
$ 80 Bromofluorobenzene	95	11.928	11.922	(1.109)	445016	247.312	49.46	
1 Dichlorodifluoromethane	85	Compound Not Detected.						
2 Chloromethane	50	Compound Not Detected.						
3 Vinyl Chloride	62	Compound Not Detected.						
4 Bromomethane	94	Compound Not Detected.						
5 Chloroethane	64	Compound Not Detected.						
6 Trichlorofluoromethane	101	Compound Not Detected.						
101 1,1,2-trichlorotrifluoroethane	101	Compound Not Detected.						
12 1,1-Dichloroethene	96	Compound Not Detected.						
13 Acetone	43	Compound Not Detected.						
15 Carbon Disulfide	76	Compound Not Detected.						
155 Methyl acetate	43	Compound Not Detected.						
18 Methylene Chloride	84	Compound Not Detected.						
19 trans-1,2-Dichloroethene	96	Compound Not Detected.						
20 Methyl tert-butyl ether	73	Compound Not Detected.						

MJW 9/8/11

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	CONCENTRATIONS FINAL (UG/L)
24	1,1-Dichloroethane	63	Compound Not Detected.					
27	2,2-Dichloropropane	77	Compound Not Detected.					
28	cis-1,2-dichloroethene	96	Compound Not Detected.					
M 29	1,2-Dichloroethene (total)	96	Compound Not Detected.					
30	Bromochloromethane	128	Compound Not Detected.					
31	2-Butanone	43	Compound Not Detected.					
37	Chloroform	83	6.757	6.745	(0.880)	162025	70.3255	14.06
102	Cyclohexane	56	Compound Not Detected.					
38	1,1,1-Trichloroethane	97	Compound Not Detected.					
40	1,1-Dichloropropene	75	Compound Not Detected.					
41	Carbon Tetrachloride	117	Compound Not Detected.					
42	Benzene	78	Compound Not Detected.					
45	1,2-Dichloroethane	62	Compound Not Detected.					
47	Trichloroethene	130	Compound Not Detected.					
156	Methyl cyclohexane	83	Compound Not Detected.					
49	1,2-Dichloropropane	63	Compound Not Detected.					
50	Dibromomethane	93	Compound Not Detected.					
53	Bromodichloromethane	83	Compound Not Detected.					
57	cis-1,3-Dichloropropene	75	Compound Not Detected.					
58	4-Methyl-2-Pentanone	43	Compound Not Detected.					
60	Toluene	91	Compound Not Detected.					
61	trans-1,3-Dichloropropene	75	Compound Not Detected.					
63	1,3-Dichloropropane	76	Compound Not Detected.					
64	1,1,2-Trichloroethane	97	Compound Not Detected.					
65	Tetrachloroethene	164	Compound Not Detected.					
66	2-Hexanone	43	Compound Not Detected.					
67	Dibromochloromethane	129	Compound Not Detected.					
68	1,2-Dibromoethane	107	Compound Not Detected.					
70	Chlorobenzene	112	Compound Not Detected.					
71	1,1,1,2-Tetrachloroethane	131	Compound Not Detected.					
72	Ethylbenzene	106	Compound Not Detected.					
73	m + p-Xylene	106	Compound Not Detected.					
74	Xylene-o	106	Compound Not Detected.					
M 75	Xylenes (total)	106	Compound Not Detected.					
76	Styrene	104	Compound Not Detected.					
77	Bromoform	173	Compound Not Detected.					
78	Isopropylbenzene	105	Compound Not Detected.					
79	Bromobenzene	156	Compound Not Detected.					
81	n-Propylbenzene	120	Compound Not Detected.					
82	2-Chlorotoluene	126	Compound Not Detected.					
83	1,1,2,2-Tetrachloroethane	83	Compound Not Detected.					
84	1,2,3-Trichloropropane	110	Compound Not Detected.					
85	4-Chlorotoluene	126	Compound Not Detected.					
86	1,3,5-Trimethylbenzene	105	Compound Not Detected.					
87	tert-Butylbenzene	119	Compound Not Detected.					
88	1,2,4-Trimethylbenzene	105	Compound Not Detected.					
89	sec-Butylbenzene	105	Compound Not Detected.					
90	4-Isopropyltoluene	119	Compound Not Detected.					
91	1,3-Dichlorobenzene	146	Compound Not Detected.					
93	1,4-Dichlorobenzene	146	Compound Not Detected.					
94	n-Butylbenzene	91	Compound Not Detected.					
95	1,2-Dichlorobenzene	146	Compound Not Detected.					
96	1,2-Dibromo-3-chloropropane	157	Compound Not Detected.					
97	1,2,4-Trichlorobenzene	180	Compound Not Detected.					

$\frac{162025\ (250)}{1335610\ (0.43125)} = \frac{70.3256\ ng}{5\ ml} = 14.06\ ng/L$

MJW 9/8/11

Data File: \\PITSVR06\D\chem\hp4.i\4052311d.b\40523001.D

Date : 23-MAY-2011 08:18

Client ID: BFB

Instrument: hp4.i

Sample Info: BFB 1UL

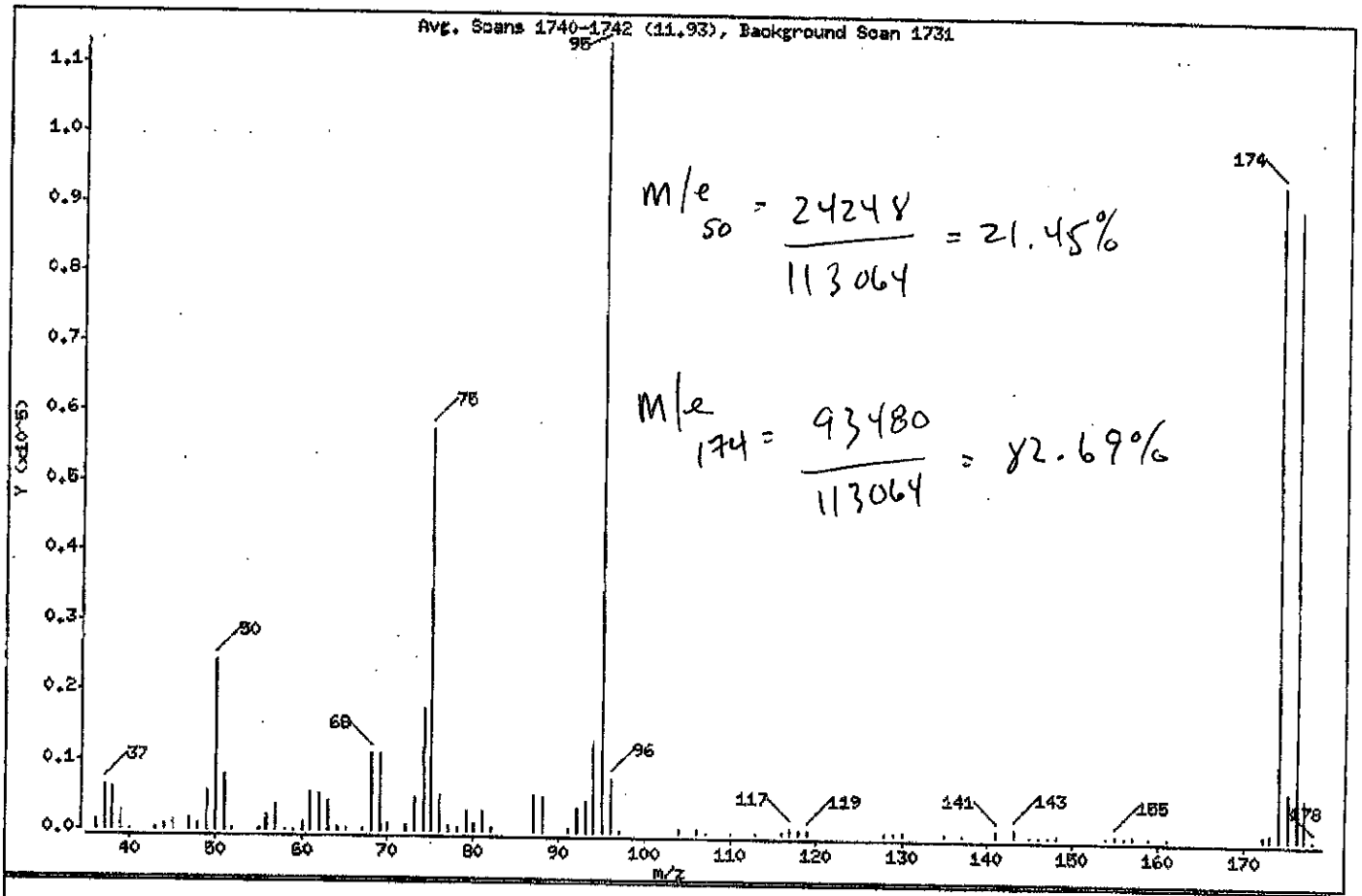
Volume Injected (uL): 1.0

Operator: 034636

Column phase: DB624 20m

Column diameter: 0.18

1 bfb



$$m/e_{50} = \frac{24248}{113064} = 21.45\%$$

$$m/e_{174} = \frac{93480}{113064} = 82.69\%$$

m/e	ION ABUNDANCE CRITERIA	* RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	21.45
75	30.00 - 60.00% of mass 95	50.75
96	5.00 - 9.00% of mass 95	6.57
173	Less than 2.00% of mass 174	0.69 (0.84)
174	50.00 - 100.00% of mass 95	82.68
175	5.00 - 9.00% of mass 174	5.89 (7.12)
176	95.00 - 101.00% of mass 174	79.78 (96.49)
177	5.00 - 9.00% of mass 176	5.32 (6.67)

MJW 9/8/11

Data File: \\PITSVR06\D\chem\hp4.i\4052311d.b\40523001.D

Date : 23-MAY-2011 08:18

Client ID: BFB

Instrument: hp4.i

Sample Info: BFB 1UL

Volume Injected (uL): 1.0

Operator: 034635

Column phase: DB624 20m

Column diameter: 0.18

Data File: 40523001.D

Spectrum: Avg. Scans 1740-1742 (11.93), Background Scan 1731

Location of Maximum: 95.00

Number of points: 82

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	1184	62.00	5112	91.00	436	141.00	909
37.00	6127	63.00	4173	92.00	3271	143.00	1067
38.00	5855	64.00	421	93.00	4525	145.00	71
39.00	2484	65.00	366	94.00	12914	146.00	89
40.00	41	67.00	366	95.00	113064	147.00	110
43.00	131	68.00	10932	96.00	7424	148.00	279
44.00	815	69.00	10923	97.00	269	154.00	73
45.00	1191	70.00	983	104.00	423	155.00	176
47.00	1689	72.00	672	106.00	560	156.00	83
48.00	665	73.00	4568	107.00	78	157.00	143
49.00	5531	74.00	17408	110.00	69	159.00	69
50.00	24248	75.00	57376	113.00	70	161.00	73
51.00	7892	76.00	5160	116.00	352	172.00	524
52.00	330	77.00	769	117.00	686	173.00	784
55.00	217	78.00	437	118.00	549	174.00	93480
56.00	2048	79.00	2761	119.00	567	175.00	6655
57.00	3670	80.00	910	128.00	282	176.00	90200
58.00	89	81.00	2861	129.00	389	177.00	6012
59.00	97	82.00	569	130.00	407	178.00	80
60.00	973	87.00	5193	135.00	229		
61.00	5533	88.00	5042	137.00	70		

MJW 9/8/11

SW846 8260B SURROGATE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Watermark Environmental

Lab Code: TALPIT SDG No:

Lot #: C1E100518

Extraction: XXI15QKD4

	CLIENT ID.	SRG01	SRG02	SRG03	SRG04	TOT OUT
01	MW-1	98	99	102	98	00
02	MW-1 RE-1	97 ✓	106 ✓	98 ✓	98 ✓	00
03	MW-2	98	98	99	100	00
04	MW-2 RE-1	97	104	95	100	00
05	MW-3	99	99	102	99	00
06	MW-3 RE-1	97	108	99	99	00
07	MW-4	99	100	99	100	00
08	MW-4 RE-1	100	106	95	100	00
09	MW-5	99	98	99	99	00
10	MW-5 RE-1	98	105	95	100	00
11	DUP-1	100	97	98	100	00
12	DUP-1 RE-1	101	105	94	99	00
13	TRIPBLANK-1	97	99	100	100	00
14	TRIPBLANK-1 RE-1	97	106	94	101	00
15	METHOD BLK. MJLME1AA	102	100	99	99	00
16	METHOD BLK. MJPEW1AA	90	94	91	90	00
17	LCS MJLME1AC	98	98	102	96	00
18	LCS MJPEW1AC	95	97	97	96	00
19	LCSD MJPEW1AD	92	96	99	98	00

SURROGATES		QC LIMITS
SRG01	= 1,2-Dichloroethane-d4	(70-120)
SRG02	= Toluene-d8	(85-120)
SRG03	= 4-Bromofluorobenzene	(75-120)
SRG04	= Dibromofluoromethane	(85-115)

MSW 9/8/11

\# Column to be used to flag recovery values
* Values outside of required QC Limits
D System monitoring Compound diluted out

FORM II

TestAmerica Pittsburgh

VOLATILE REPORT SW-846 Method

Data file : \\PITSVR06\D\chem\hp4.i\4052311d.b\40523019.D
Lab Smp Id: mh6rk2a3 Client Smp ID: MW-1
Inj Date : 23-MAY-2011 17:37
Operator : 034635 Inst ID: hp4.i
Smp Info : c1e100518-001 5ml
Misc Info : mh6rk2a3,4052311d.b,8260bh2o.m,2.sub
Comment :
Method : \\PITSVR06\D\chem\hp4.i\4052311d.b\8260bh2o.m
Meth Date : 24-May-2011 08:54 journetp Quant Type: ISTD
Cal Date : 23-MAY-2011 12:55 Cal File: 40523011.D
Als bottle: 19
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 2.sub
Target Version: 4.14
Processing Host: PITPC-088

Concentration Formula: Amt * DF * (Vf/Vo)/Vi * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vf	5.000	FinalVolume
Vo	5.000	Sample Volume
Vi	5.000	Purge Volume
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (UG/L)	
*	46 Fluorobenzene	96	7.682	7.671	(1.000)	1365539	250.000		
*	69 Chlorobenzene-d5	119	10.754	10.749	(1.000)	303377	250.000		(Q)
*	92 1,4-Dichlorobenzene-d4	152	13.090	13.085	(1.000)	437886	250.000		
$	39 Dibromofluoromethane	113	6.939	6.929	(0.903)	285717	245.345	49.07	
$	43 1,2-Dichloroethane-d4	65	7.311	7.300	(0.952)	354814	243.322	48.66	
$	59 Toluene-d8	98	9.318	9.314	(0.866)	1341187	264.156	52.83	
$	80 Bromofluorobenzene	95	11.928	11.924	(1.109)	444409	245.516	49.10	
	5 Chloroethane	64	Compound Not Detected.						

QC Flag Legend

Q - Qualifier signal failed the ratio test.

$\frac{444409\,(250)}{303377\,(1.4916\overline{3})} = 245.51559 / 250.00 = 98.2\%$

MW
9/8/11

SW846 8260B CHECK SAMPLE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Watermark Environmental

Lab Code: TALPIT SDG No:

Lot #: C1E190000 WO #: MJLME1AC
BATCH: 1139238

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENT. (ug/L)	% REC	QC LIMITS REC	QUAL
1,1-Dichloroethene	40.0	37.9	95	70 - 130	
Trichloroethene	40.0	36.8	92	70 - 125	
Benzene	40.0	38.1	95	80 - 120	
Toluene	40.0	38.1	95	75 - 120	
Chlorobenzene	40.0	37.2	93	80 - 120	
Acetone	40.0	23.3	58	40 - 140	
Bromodichloromethane	40.0	40.1	100	75 - 120	
Bromoform	40.0	35.5	89	70 - 130	
Bromomethane	40.0	41.1	103	30 - 145	
2-Butanone	40.0	26.1	65	30 - 150	
Bromochloromethane	40.0	36.7	92	65 - 130	
Carbon disulfide	40.0	37.0	92	35 - 160	
Carbon tetrachloride	40.0	38.0	95	65 - 140	
Chloroform	40.0	38.2	95	65 - 135	
Chloromethane	40.0	33.6	84	40 - 125	
1,2-Dibromo-3-chloropropa	40.0	33.8	84	50 - 130	
1,2-Dibromoethane	40.0	34.7	87	80 - 120	
1,3-Dichlorobenzene	40.0	37.1	93	75 - 125	
1,4-Dichlorobenzene	40.0	37.1	93	75 - 125	
1,2-Dichlorobenzene	40.0	37.4	94	70 - 120	
Dichlorodifluoromethane	40.0	39.9	100	30 - 155	
1,1-Dichloroethane	40.0	38.4	96	70 - 135	
1,2-Dichloroethane	40.0	38.5	96	70 - 130	
trans-1,2-Dichloroethene	40.0	37.1	93	60 - 140	
cis-1,2-Dichloroethene	40.0	37.6	94	70 - 125	
1,2-Dichloroethene (total	80.0	74.8	93	70 - 130	
1,2-Dichloropropane	40.0	38.1	95	75 - 125	
cis-1,3-Dichloropropene	40.0	38.5	96	70 - 130	
trans-1,3-Dichloropropene	40.0	38.0	95	55 - 140	
Ethylbenzene	40.0	37.8	94	75 - 125	
2-Hexanone	40.0	28.1	70	55 - 130	

(Continued on next page)

MW 9/30/11

SW846 8260B CHECK SAMPLE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Watermark Environmental

Lab Code: TALPIT SDG No:

Lot #: C1E190000 WO #: MJLME1AC
BATCH: 1139238

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENT. (ug/L)	% REC	QC LIMITS REC	QUAL
Methylene chloride	40.0	38.7	97	55 - 140	
4-Methyl-2-pentanone	40.0	27.9	70	60 - 135	
Naphthalene	40.0	33.6	84	55 - 140	
Styrene	40.0	39.4	99	65 - 135	
1,1,1,2-Tetrachloroethane	40.0	38.4	96	80 - 130	
1,1,2,2-Tetrachloroethane	40.0	31.9	80	65 - 130	
Tetrachloroethene	40.0	36.0	90	45 - 150	
1,1,2-Trichloroethane	40.0	35.6	89	75 - 125	
1,1,1-Trichloroethane	40.0	39.0	97	65 - 130	
Trichlorofluoromethane	40.0	51.6	129	60 - 145	
Xylenes (total)	120	114	95	75 - 130	
o-Xylene	40.0	38.1	95	80 - 120	
m-Xylene & p-Xylene	80.0	75.9	95	75 - 130	
Vinyl chloride	40.0	31.2	78	50 - 145	
Methyl tert-butyl ether (	40.0	33.7	84	65 - 125	
Isopropylbenzene	40.0	38.0	95	75 - 125	
1,1-Dichloropropene	40.0	38.1	95	75 - 130	
1,2,3-Trichlorobenzene	40.0	38.2	95	55 - 140	
1,2,3-Trichloropropane	40.0	30.9	77	75 - 125	
1,2,4-Trichlorobenzene	40.0	38.8	97	65 - 135	
1,3-Dichloropropane	40.0	36.1	90	75 - 125	
2,2-Dichloropropane	40.0	41.1	103	70 - 135	
2-Chlorotoluene	40.0	36.8	92	75 - 125	
4-Chlorotoluene	40.0	36.4	91	75 - 130	
Bromobenzene	40.0	35.7	89	75 - 125	
Dibromomethane	40.0	37.7	94	75 - 125	
Hexachlorobutadiene	40.0	40.7	102	50 - 140	
n-Butylbenzene	40.0	38.3	96	70 - 135	
n-Propylbenzene	40.0	36.7	92	70 - 130	
p-Isopropyltoluene	40.0	37.3	93	75 - 130	
sec-Butylbenzene	40.0	36.7	92	70 - 125	

NT

(Continued on next page)

MJW 9/30/11

Field Dup

lab_sample_id	field_sample_id	param_name	final_result	final_qualifier	difference	Average	RPD
C1E100518004	MW-4	Chloroform	14		12.5	7.75	161%
C1E100518006	DUP-1	Chloroform	1.5	U			

YES NO N/A

E - The concentration of this analyte exceeds the calibration range of the instrument.

A - Indicates a Tentatively Identified Compound (TIC) is a suspected adol-condensation product.

X,Y,Z- Laboratory defined flags. The data reviewer must change these qualifiers during validation so that the data user may understand their impact on the data.

I. PACKAGE COMPLETENESS AND DELIVERABLES

Mike Washburn 9/8/11

CASE NUMBER: C1E100518 LAB: Test America

SITE NAME: Fort Totten - Queens, NY

1.0 Data Completeness and Deliverables

1.1 Has all data been submitted in CLP deliverable format? ☑ ___ ___

ACTION: If not, note the effect on review of the data in the data assessment narrative.

2.0 Cover Letter, SDG Narrative

2.1 Is a laboratory narrative or cover letter present? ☑ ___ ___

2.2 Are case number and SDG number(s) contained in the narrative or cover letter? ☑ ___ ___

YES NO N/A

II. SEMIVOLATILE ANALYSES

1.0 Traffic Reports and Laboratory Narrative

1.1 Are the Traffic Report Forms present for all samples? ☑ ___ ___

ACTION: If no, contact lab for replacement of missing or illegible copies.

1.2 Do the Traffic Reports or Lab Narrative indicate any problems with sample receipt, condition of samples, analytical problems or special notations affecting the quality of the data? ___ ☑ ___

2 Sample received with 1 of 2 bottles broken

ACTION: If any sample analyzed as a soil, other than TCLP, contains 50%-90% water, all data should be flagged as estimated ("J"). If a soil sample, other than TCLP, contains more than 90% water, all non-detects data are qualified as unusable (R), and detects are flagged "J".

ACTION: If samples were not iced, or if the ice was melted upon arrival at the laboratory and the cooler temperature was elevated (10°C), flag all positive results "J" and all non-detects "UJ".

2.0 Holding Times

2.1 Have any semivolatile technical holding times, determined from date of collection to date of extraction, been exceeded? ___ ☑ ___

Continuous extraction of water samples for semivolatile analysis must be started within **7** days of the date of collection. Soil/sediment samples must be extracted within **14** days of collection. Extracts must be analyzed within

YES NO N/A

40 days of the date of extraction.

Table of Holding Time Violations

Sample ID	Sample Matrix	Date Sampled (See Traffic Report)	Date Lab Received	Date Extracted	Date Analyzed

ACTION: If technical holding times are exceeded, flag all positive results as estimated ("J") and sample quantitation limits as estimated ("UJ"), and document in the narrative that holding times were exceeded.

If analyses were done more than 14 days beyond holding time, either on the first analysis or upon re analysis, the reviewer must use professional judgement to determine the reliability of the data and the effects of additional storage on the sample results. At a minimum, all results should be qualified "J", but the reviewer may determine that non-detect data are unusable ("R"). If holding times are exceeded by more than 28 days, all non-detect data are unusable (R).

	YES	NO	N/A

3.0 Surrogate Recovery (Form II/Equivalent)

3.1 Have the semi volatile surrogate recoveries been listed on CLP Surrogate Recovery forms (Form II) for each of the following matrices:

a. Low Water	[✓]	___	___
b. Low/Med Soil	[ ]	___	✓

3.2 If so, are all the samples listed on the appropriate Surrogate Recovery Summary forms for each matrix:

a. Low Water	[✓]	___	___
b. Low/Med Soil	[ ]	___	✓

ACTION: If CLP deliverables are unavailable, document the effect(s) in data assessments. In some cases the lab may have to be contacted to obtain the data necessary to complete the validation.

3.3 Were outliers marked correctly with an asterisk?	[ ]	___	✓

ACTION: Circle all outliers in red.

3.4 Were two or more base neutral OR acid surrogate recoveries out of specification for any sample or method blank (Reviewer should use lab in house recovery limits. Use surrogate recovery limits from USEPA National Functional Guidlines January 2005 page 130, if in house limits are not available. See Method 8000B-43 or 80000C-24).	[ ]	✓	___

Note: Examine lab in house limits for reasonableness.

If yes, were samples re-analyzed?	[ ]	___	✓

	YES	NO	N/A
Were method blanks re-analyzed?	[ ]	___	✓

ACTION: If all surrogate recoveries are > 10% but two within the base-neutral or acid fraction do not meet method specifications, for the affected fraction only (i.e. either base-neutral or acid compounds):

1. Flag all positive results as estimated ("J").

2. Flag all non-detects as estimated detection limits ("UJ") when recoveries are less than the lower acceptance limit.

3. If recoveries are greater than the upper acceptance limit, do not qualify non-detects.

If any base-neutral or acid surrogate has a recovery of < 10%:

1. Positive results for the fraction with < 10% surrogate recovery are qualified with "J".

2. Non-detects for that fraction should be qualified as unusable (R) .

NOTE: Professional judgement should be used to qualify data that have method blank surrogate recoveries out of specification in both original and reanalyses. Check the internal standard areas.

3.5 Are there any transcription/calculation errors between raw data and Form II?	___	[✓]	___

ACTION: If large errors exist, call lab for explanation/resubmittal, make any necessary corrections and document

YES NO N/A

effect in data assessments.

4.0 Matrix Spikes (Form III/Equivalent)

4.1 Have the semivolatile Matrix Spike and Matrix Spike Duplicate/or duplicate unspiked Sample recoveries been listed on the Recovery Form (Form III)? [ ] ___ ✓

NOTE: Method 3500B/page 4 states the spiking compounds:

Base/neutrals	Acids
1,2,4-Trichlorobenzene	Pentachlorophenol
Acenaphthene	Phenol
2,4-Dinitrotoluene	2-Chlorophenol
Pyrene	4-Chloro-3-methylphenol
N-Nitroso-di-n-propylamine	4-Nitrophenol
1,4-Dichlorobenzene	

Note: Some projects may require the spiking of specific compounds of interest.

Note: See Method 8270D-sec 8.4.2 for deciding on whether to prepare and analyze duplicate samples or a martix spike/matrix spike duplicate. If samples are expected to contain target analytes, then laboratory may use one matrix spike and a duplicate analysis of an unspiked field sample. If samples are not expected to contain target analytes, laboratory should use a matrix spike and matrix spike duplicate pair.

4.2 Were matrix spikes analyzed at the required frequency for each of the following matrices:

a. Low Water [ ] ___ ✓

b. Low Solid [ ] ___ ✓

c. Med Solid [ ] ___ ✓

YES NO N/A

ACTION: If any matrix spike data are missing, take the action specified in 3.2 above. It may be necessary to contact the lab to obtain the required data.

NOTE: If the data has not been reported on CLP equivalent form, then the laboratory must provide the information necessary to evaluate the spike recoveries in the MS and MSD. The required data which should have been provided by the lab include the analytes and concentrations used for spiking, background concentrations of the spiked analytes (i.e., concentrations in unspiked sample), methods and equations used to calculate the QC acceptance criteria for the spiked analytes, percent recovery data for all spiked analytes.

The data reviewer must verify that all reported equations and percent recoveries are correct before proceeding to the next section.

4.3 Were matrix spikes performed at concentration equal to 100ug/L for acid compounds, and 200ug/l for base compounds (Method 3500B-4), or those specified in project plan. [ ] ___ ✓

4.4 How many semivolatile spike recoveries are outside Laboratory in house MS/MSD recovery limits (use recovery limits values in Method 8270D-43&44 Table 6 if in house values not available).

Water

___ NA out of ___

Solids

___ NA out of ___

YES NO N/A

4.5 How many RPD's for matrix spike and matrix spike duplicate recoveries are outside QC limits?

Water	Solids
NA out of	NA out of

ACTION: Circle all outliers with red pencil.

ACTION: No action is taken on MS/MSD data alone. However, using informed professional judgement, the data reviewer may use the matrix spike and matrix spike duplicate results in conjunction with other QC criteria to determine the need for some qualification of the data.

4.6 Was a Laboratory Control Sample (LCS) analyzed with each analytical batch? [✓] ___ ___

NOTE: When the results of the matrix spike analysis indicate a potential problem due to the sample matrix itself, the LCS results are used to verify that the laboratory can perform the analysis in a clean matrix.

5.0 Blanks (Form IV/Equivalent)

5.1 Is the Method Blank Summary (Form IV) present? [✓] ___ ___

5.2 Frequency of Analysis:

Has a reagent/method blank analysis been reported per 20 samples of similar matrix, or concentration level, and for each extraction batch? ✓ ___ ___

5.3 Has a method blank been analyzed either after

YES NO N/A

the calibration standard or at any other time during the analytical shift for each GC/MS system used ? [✓] ___ ___

ACTION: If any method blank data are missing, call lab for explanation/resubmittal. If not available, use professional judgement to determine if the associated sample data should be qualified.

5.4 Chromatography: review the blank raw data - chromatograms (RICs), quant reports or data system printouts and spectra.

Is the chromatographic performance (baseline stability) for each instrument acceptable for the semivolatiles? [✓] ___ ___

ACTION: Use professional judgement to determine the effect on the data.

6.0 Contamination

NOTE: "Water blanks", "drill blanks" and "distilled water blanks" are validated like any other sample and are not used to qualify the data. Do not confuse them with the other QC blanks discussed below.

6.1 Do any method/instrument/reagent blanks have positive results for target analytes and/or TICs? When applied as described below, the contaminant concentration in these blanks are multiplied by the sample dilution factor and corrected for percent moisture where necessary. ___ [✓] ___

6.2 Do any field/rinse/ blanks have positive results for target analytes and/or TICs (if required, see section 10 below)? ___ [✓] ___

YES NO N/A

ACTION: Prepare a list of the samples associated with each of the contaminated blanks. (Attach a separate sheet.)

NOTE: All field blank results associated to a particular group of samples (may exceed one per case) must be used to qualify data. Blanks may not be qualified because of contamination in another blank. Field Blanks must be qualified for outlying surrogates, poor spectra, instrument performance or calibration QC problems.

ACTION: Follow the directions in the table below to qualify sample results due to contamination. Use the largest value from all the associated blanks. If gross contamination exists, all data in the associated samples should be qualified as unusable (R).

YES NO N/A

Blank Action for Semivolatile Analyses

Blank Type	Blank Result	Sample Result	Action for Samples
Method, Field	Detects	Not detected	No qualification required
	< CRQL *	< CRQL	Report CRQL value with a U
		≥ CRQL	No qualification required
	= CRQL *	< CRQL	Report CRQL value with a U
		≥ CRQL	No qualification required
	> CRQL *	< CRQL	Report CRQL value with a U
		≥ CRQL and < blank contamination	Report concentration of sample with a U
		≥ CRQL and ≥ blank contamination	No qualification required

NOTE: Analytes qualified "U" for blank contamination are still considered as "hits" when qualifying for calibration criteria.

NOTE: If the laboratory did not report TIC analyses, check the project plans to verify whether or not it was required.

6.3 Are there field/rinse/equipment blanks associated with every sample? [ ] ✓ ___

ACTION: For low level samples, note in data assessment that there is no associated field/rinse/equipment blank. Exception: samples taken from a drinking water tap do not have associated field blanks.

6.4 Was a instrument blank analyzed after each sample/dilution which contained a target compound

	YES	NO	N/A
that exceeded the initial calibration range.	[ ]	✓	
6.5 Does the instrument blank have positive results for target analytes and/or TICs?		[✓]	

Note: Use professional judgement to determine if carryover occurred and qualify analytes accordingly.

7.0 GC/MS Apparatus and Materials

	YES	NO	N/A
7.1 Did the lab use the proper gas chromatographic column for analysis of semivolatiles by Method 8270D? Check raw data, instrument logs or contact the lab to determine what type of column was used. The method requires the use of 30 m x 0.25 mm ID (or 0.32 mm ID), silicone-coated, fused silica, capillary column.	[✓]		

ACTION: If the specified column, or equivalent, was not used, document the effects in the data assessment. Use professional judgement to determine the acceptability of the data.

8.0 GC/MS Instrument Performance Check (Form V/Equivalent)

	YES	NO	N/A
8.1 Are the GC/MS Instrument Performance Check Forms (Form V) present for decafluorotriphenylphosphine (DFTPP)?	[✓]		

NOTE: The performance solution should also contain 4,4-DDT, pentachlorophenol, and benzidine to verify injection port inertness and column performance. The degradation of DDT to DDE and DDD must be less than 20% total and the response of pentachlorophenol and benzidine should be within normal ranges for these compounds (based upon lab experience) and show no peak degradation or tailing before samples are analyzed. (see section 5.5

YES NO N/A

page 8270D-12).

8.2 Are the enhanced bar graph spectrum and mass/charge (m/z) listing for the DFTPP provided for each twelve hour shift? [✓] ___ ___

8.3 Has an instrument performance check solution been analyzed for every twelve hours of sample analysis per instrument? [✓] ___ ___

ACTION: List date, time, instrument ID, and sample analyses for which no associated GC/MS tuning data are available.

DATE	TIME	INSTRUMENT	SAMPLE NUMBERS
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

ACTION: If lab cannot provide missing data, reject ("R") all data generated outside an acceptable twelve hour calibration interval.

ACTION: If mass assignment is in error, flag all associated sample data as unusable (R).

8.4 Have the ion abundances been normalized to m/z 198? [✓] ___ ___

8.5 Have the ion abundance criteria been met for each instrument used? [✓] ___ ___

ACTION: List all data which do not meet ion abundance criteria (attach a separate sheet).

	YES	NO	N/A
ACTION: If ion abundance criteria are not met, take action specified in section 3.2			
8.6 Are there any transcription/calculation errors between mass lists and Form Vs? (Check at least two values but if errors are found, check more.)		✓	
8.7 Have the appropriate number of significant figures (two) been reported?	✓		
ACTION: If large errors exist, call lab for explanation/resubmittal, make necessary corrections and document effect in data assessments.			
8.8 Are the spectra of the mass calibration compound acceptable?	✓		
ACTION: Use professional judgement to determine whether associated data should be accepted, qualified, or rejected.			
9.0 Target Analytes			
9.1 Are the Organic Analysis Data Sheets (Form I) present with required header information on each page, for each of the following:			
a. Samples and/or fractions as appropriate	✓		
b. Matrix spikes and matrix spike duplicates			✓
c. Blanks	✓		
9.2 Has any special cleanup, such as GPC, been performed on all soil/sediment sample extracts (see section 7.2, page 8270D-14)?			✓

	YES	NO	N/A

ACTION: If data suggests that extract cleanup was not performed, use professional judgement. Make note in the data assessment narrative.

9.3 Are the Reconstructed Ion Chromatograms, mass spectra for the identified compounds, and the data system printouts (Quant Reports) included in the sample package for each of the following?

a. Samples and/or fractions as appropriate	[✓]	___	___
b. Matrix spikes and matrix spike duplicates (Mass spectra not required)	[ ]	___	✓
c. Blanks	[✓]	___	___

ACTION: If any data are missing, take action specified in 3.2 above.

9.4 Are the response factors shown in the Quant Report?	[ ]	✓	___
9.5 Is chromatographic performance acceptable with respect to:			
Baseline stability?	[✓]	___	___
Resolution?	[✓]	___	___
Peak shape?	[✓]	___	___
Full-scale graph (attenuation)?	[✓]	___	___
Other:_____	[ ]	___	___

ACTION: Use professional judgement to determine the acceptability of the data.

9.6 Are the lab-generated standard mass spectra of identified semivolatile compounds present for

	YES	NO	N/A
each sample?	☑		

ACTION: If any mass spectra are missing, take action specified in 3.2 above. If the lab does not generate their own standard spectra, make a note in the data assessment narrative. If spectra are missing, reject all positive data.

9.7 Is the RRT of each reported compound within 0.06 RRT units of the standard RRT in the continuing calibration?	☑		
9.8 Are all ions present in the standard mass spectrum at a relative intensity greater than 10% (of the most abundant ion) also present in the sample mass spectrum?	☑		
9.9 Do the relative intensities of the characteristic ions in the sample agree within ± 30% of the corresponding relative intensities in the reference spectrum?	☑		

ACTION: Use professional judgement to determine acceptability of data. If it is determined that incorrect identifications were made, all such data should be rejected (R), flagged "N" (Presumptive evidence of the presence of the compound) or changed to not detected (U) at the calculated detection limit. In order to be positively identified, the data must comply with the criteria listed in 9.7, 9.8, and 9.9.

ACTION: When sample carry-over is a possibility, professional judgement should be used to determine if instrument cross-contamination has affected any positive compound identification.

YES NO N/A

10.0 Tentatively Identified Compounds (TIC)

10.1 If Tentatively Identified Compounds were required for this project, are all Form Is, Part B present; and do listed TICs include scan number or retention time, estimated concentration and "JN" qualifier?

NOTE: Review sampling reports to determine if the lab was required to identify non target analytes (refer to section 7.6.2,page 8270D-21).

10.2 Are the mass spectra for the tentatively identified compounds and associated "best match" spectra included in the sample package for each of the following: [ ] ___ ✓

a. Samples and/or fractions as appropriate [ ] ___ ✓

b. Blanks [ ] ___ ✓

ACTION: If any TIC data are missing, take action specified in 3.2 above.

ACTION: Add "JN" qualifier only to analytes identified by CAS #.

10.3 Are any target compounds from one fraction listed as TIC compounds in another (e.g., an acid compound listed as a base neutral TIC)? ___ [ ] ✓

ACTION: i. Flag with "R" any target compound listed as a TIC.

ii. Make sure all rejected compounds are properly reported in the other fraction.

10.4 Are all ions present in the reference mass spectrum with a relative intensity greater than 10% (of the most abundant ion) also present in the

	YES	NO	N/A
sample mass spectrum?	[ ]	___	✓
10.5 Do TIC and "best match" standard relative ion intensities agree within ± 20%?	[ ]	___	✓

ACTION: Use professional judgement to determine acceptability of TIC identifications. If it is determined that an incorrect identification was made, change the identification to "unknown" or to some less specific identification (example: "C3 substituted benzene") as appropriate and remove "JN". Also, when a compound is not found in any blank, but is a suspected artifact of a common laboratory contaminant, the result should be qualified as unusable, "R."

11.0 Compound Quantitation and Reported Detection Limits

11.1 Are there any transcription/calculation errors in Form I results? Check at least two positive values. Verify that the correct internal standard, quantitation ion, and RRF were used to calculate Form I result. Were any errors found?	___	[✓]	___

NOTE: Structural isomers with similar mass spectra, but insufficient GC resolution (i.e. percent valley between the two peaks > 25%) should be reported as isomeric pairs. The reviewer should check the raw data to ensure that all such isomers were included in the quantitation (i.e., add the areas of the two coeluting peaks to calculate the total concentration).

11.2 Are the method detection limits adjusted to reflect sample dilutions and, for soils, sample moisture?	[✓]	___	___

YES NO N/A

ACTION: If errors are large, call lab for explanation/resubmittal, make any necessary corrections and document effect in data assessments.

ACTION: When a sample is analyzed at more than one dilution, the lowest detection limits are used (unless a QC exceedance dictates the use of the higher detection limit from the diluted sample data). Replace concentrations that exceed the calibration range in the original analysis by crossing out the "E" and it's associated value on the original Form I (if present) and substituting the data from the analysis of the diluted sample. Specify which Form I is to be used, then draw a red " X" across the entire page of all Form I's that should not be used, including any in the summary package.

12.0 Standards Data (GC/MS)

12.1 Are the Reconstructed Ion Chromatograms, and data system printouts (Quant, Reports) present for initial and continuing calibration? [✓] ___ ___

ACTION: If any calibration standard data are missing, take action specified in 3.2 above.

13.0 GC/MS Initial Calibration (Form VI/Equivalent)

13.1 Is the Initial Calibration Form (Form VI/ Equivalent) present and complete for the semivolatile fraction? [✓] ___ ___

ACTION: If any calibration forms or standard row data are missing, take action specified in 3.2 above.

13.2 Are all base neutral or acid RRFs > 0.050? [✓] ___ ___

YES NO N/A

Check the **average RRFs** of the four System Performance Check Compounds (SPCCs): N-nitroso-di-n-propylamine, hexachlorocyclopentadiene, 2,4-dinitrophenol, and 4-nitrophenol. These compounds must have **average RRFs** greater than or equal to 0.05 before running samples and should not show any peak tailing.

ACTION: Circle all outliers in red.

ACTION: For any target analyte with **average RRF <0.05**

1. "R" all non-detects;

2. "J" all positive results.

13.3 Are response factors for base neutral or acid target analytes stable over the concentration range of the calibration (% Relative standard deviation [%RSD] < 15.0%)? ☑ ___ ___

NOTE: The % RSD for each individual Calibration Check Compound (CCC, Method 8270D-40 see Table 4) must be less than 30% before analysis can begin. If grater 30%, the lab must clean and recalibrate the instrument.

CALIBRATION CHECK COMPOUNDS

Base/Neutral Fraction	Acid Fraction
Acenaphthene	4-Chloro-3-methylphenol
1,4-Dichlorobenzene	2,4-Dichlorophenol
Hexachlorobutadiene	2-Nitrophenol
Diphenylamine	Phenol
Di-n-octyl phthalate	Pentachlorophenol
Fluoranthene	2,4,6-Trichlorophenol

YES NO N/A

Benzo(a)pyrene

ACTION: If the %RSD for any CCC >30% and no corrective action taken, then "J" qualify all positive hits and "UJ" qualify all non-detects.

ACTION: Circle all outliers in red.

ACTION: If the % RSD is $\geq$ 15.0%, qualify positive results for that analyte "J" and non-detects using professional judgement. When RSD > 90%, flag all non- detect results for that analyte "R," unusable. Alternatively, the lab should calculate first or second order regression fit of the calibration curve and select the fit which introduces the least amount of error.

NOTE: Analytes previously qualified "U" due to blank contamination are still considered as "hits" when qualifying for calibration criteria.

13.4 Did the laboratory calculate the calibration curve by the least squares regression fit? ___ [✓] ___

13.5 Are there any transcription/calculation errors in the reporting of average response factors (RRF) or % RSD? (Check at least two values but if errors are found, check more.) ___ [✓] ___

ACTION: Circle Errors in red.

ACTION: If errors are large, call lab for explanation/resubmittal, make any necessary corrections and note errors in data assessments.

13.5 Do the target compounds for this SDG include Pesticides? [ ] ✓ ___

YES NO N/A

13.6 If the pesticide compounds include DDT, was the percent breakdown of DDT to DDD and DDE greater than 20%? ___ [ ] ✓

ACTION: If DDT percent breakdown exceeds 20%:

i. Qualify all positive results for DDT with "J". If DDT was not detected, but DDD and DDE results are positive, qualify the quantitation limit for DDT as unusable, "R".

ii. Qualify all positive results for DDD and DDE as presumptively present at an approximate concentration "JN".

14.0 GC/MS Calibration Verification (Form VII/Equivalent)

14.1 Are the Calibration Verification Forms (Form VII) present and complete for all compounds of interest? [✓] ___ ___

14.2 Has a calibration verification standard been analyzed for every twelve hours of sample analysis per instrument? [✓] ___ ___

ACTION: List below all sample analyses that were not within twelve hours of a calibration verification analysis for each instrument used.

_____

_____

_____

ACTION: If any forms are missing or no calibration verification standard has been analyzed within twelve hours of every sample analysis,

YES NO N/A

call lab for explanation/resubmittal. If continuing calibration data are not available, flag all associated sample data as unusable ("R").

14.3 Do any of the SPCCs have an RRF <0.05? ___ [✓] ___

If YES, make a note in data assessment if the lab did not take corrective action specified in section 7.4.4, page 8270D-18. [ ]

14.4 Do any of the CCCs have a %D between the initial and continuing RRF which exceeds 20.0%?

ACTION: If yes, make a note in data assessment.

14.5 Do any semivolatile compounds have a % Difference (% D) between the initial and continuing RRF which exceeds 20.0%? ___ [✓] ___

ACTION: Circle all outliers in red.

ACTION: Qualify both positive results and non-detects for the outlier compound(s) as estimated (J). When %D is above 90%, qualify all non-detects for that analyte as "R", unusable.

14.6 Do any semivolatile compounds have a RRF < 0.05? ___ [✓] ___

ACTION: Circle all outliers in red.

ACTION: If RRF < 0.05, qualify as unusable ("R") associated non-detects and "J" associated positive values.

14.7 Are there any transcription/calculation errors in the reporting of average response factors (RRF) or percent difference (%D) between initial and continuing RRFs? (Check at least two values but if errors are found, check more). ___ [✓] ___

YES NO N/A

ACTION: Circle errors in red.

ACTION: If errors are large, call lab for explanation/resubmittal, make any necessary corrections and document effect(s) in the data assessments.

15.0 Internal Standards (Form VIII)

15.1 Are the internal standard areas (Form VIII) of every sample and blank within the upper and lower limits (-50% to + 100%) for each continuing calibration? ☑ ___ ___

ACTION: List each outlying internal standard below.

Sample ID	IS #	Area	LowerLimit	Upper Limit

(Attach additional sheets if necessary.)

Note: Check Table 5, 8270D-41 for associated analytes.

ACTION: i. If the internal standard area count is outside the upper or lower limit, flag with "J" all positive results and non-detects (U values) quantitated with this internal standard.

ii. Non-detects associated with IS > 100% should not be qualified.

YES NO N/A

iii. If the IS area is below the lower limit (<50%), qualify all associated non-detects (U-values) "J". If extremely low area counts are reported (<25%) or if performance exhibits a major abrupt drop off, flag all associated non-detects as unusable (R).

15.2 Are the retention times of all internal standards within 30 seconds of the associated calibration standard? [✓] ___ ___

ACTION: Professional judgement should be used to qualify data if the retention times differ by more than 30 seconds.

16.0 Laboratory Control Samples (LCS)

16.1 Were any LCS samples run in order to verify analytes which failed criteria for spike recovery? [ ] [✓] ___

16.2 Did the lab spike LCS sample spiked with the same analytes and the same concentrations as the matrix spike? [✓] ___ ___

16.3 Were the mean and standard deviation of all analytes within the QC acceptance ranges as shown in Table 6, 8270D-43? [✓] ___ ___

ACTION: If the recovery of any analyte falls out of the designated range, the analytical results for that compound is suspect and should be qualified "J" in the unspiked samples.

17.0 Field Duplicates

17.1 Were any field duplicates submitted for semivolatile analysis? [✓] ___ ___

YES NO N/A

ACTION: Compare the reported results for field duplicates and calculate the relative percent difference.

ACTION: Any gross variation between field duplicate results must be addressed in the reviewer narrative. However, if large differences exist, identification of field duplicates should be confirmed by contacting the sampler.

All results are below the reporting limits

SW846 8270D Low Level SURROGATE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Watermark Environmental

Lab Code: TALPIT SDG No:

Lot #: C1E100518

Extraction: XXI49I#D4

	CLIENT ID.	SRG01	SRG02	SRG03	SRG04	SRG05	SRG06	TOT OUT
01	MW-1	62	61	67	70	56	88	00
02	MW-2	53	43	55	70	62	84	00
03	MW-3	51	46	52 ✓	61	58	81	00
04	MW-4	64	58	65	69	66	88 ✓	00
05	MW-5	65	60	66	65	62	95	00
06	DUP-1	53	45	52	67	59	80	00
07	TRIPBLANK-1	52	48	56	69	61	84	00
08	METHOD BLK. MJDVD1AA	69	77	79	86	73	86	00
09	LCS MJDVD1AC	72	81	79	90	75	81	00
10	LCSD MJDVD1AD	73	82	78	90	73	83	00

SURROGATES		QC LIMITS
SRG01	= 2-Fluorobiphenyl	(50-110)
SRG02	= 2-Fluorophenol	(25-110)
SRG03	= Phenol-d5	(10-115)
SRG04	= 2,4,6-Tribromophenol	(40-125)
SRG05	= Nitrobenzene-d5	(40-110)
SRG06	= Terphenyl-d14	(50-135)

\# Column to be used to flag recovery values
* Values outside of required QC Limits
D System monitoring Compound diluted out

MW 9/8/11

FORM II

TestAmerica Pittsburgh

Semivolatile REPORT SW-846 Method 8270

Data file : \\PITSVR06\D\chem\731.i\V051511D.b\V0515018.D
Lab Smp Id: MH6RM1AG Client Smp ID: MW-3
Inj Date : 15-MAY-2011 13:50
Operator : 003200 Inst ID: 731.i
Smp Info : C1E100518-003 5/13/11 h2o(1133213) dod
Misc Info : MH6RM1AG,V051511D.b,8270d.m,pah.sub
Comment :
Method : \\PITSVR06\D\chem\731.i\V051511D.b\8270d.m
Meth Date : 16-May-2011 05:28 piccolinov Quant Type: ISTD
Cal Date : 13-APR-2011 04:03 Cal File: V0413IC8.D
Als bottle: 20
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pah.sub
Target Version: 4.14
Processing Host: PITPC-502

Concentration Formula: Amt * DF * Uf * Vt/(Vo * Vi) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1040.000	Volume of sample extracted (mL)
Vi	2.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	CONCENTRATIONS FINAL (ug/L)
* 1	1,4-Dichlorobenzene-d4	152	4.429	4.431	(1.000)	159229	8.00000	
* 2	Naphthalene-d8	136	5.401	5.398	(1.000)	643396	8.00000	
* 3	Acenaphthene-d10	164	6.742	6.744	(1.000)	384979	8.00000	
* 4	Phenanthrene-d10	188	7.880	7.877	(1.000)	624609	8.00000	
* 5	Chrysene-d12	240	9.904	9.907	(1.000)	471955	8.00000	
* 6	Perylene-d12	264	11.203	11.210	(1.000)	416267	8.00000	
51	Naphthalene	128	Compound Not Detected.					
79	Acenaphthylene	152	Compound Not Detected.					
82	Acenaphthene	153	Compound Not Detected.					
94	Fluorene	166	Compound Not Detected.					
115	Phenanthrene	178	Compound Not Detected.					
116	Anthracene	178	Compound Not Detected.					
123	Fluoranthene	202	Compound Not Detected.					
125	Pyrene	202	Compound Not Detected.					
136	Benzo(a)Anthracene	228	Compound Not Detected.					
137	Chrysene	228	Compound Not Detected.					
141	Benzo(b)fluoranthene	252	Compound Not Detected.					
142	Benzo(k)fluoranthene	252	Compound Not Detected.					
146	Benzo(a)pyrene	252	Compound Not Detected.					
149	Indeno(1,2,3-cd)pyrene	276	Compound Not Detected.					

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Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	CONCENTRATIONS FINAL (ug/L)
150 Dibenz(a,h)anthracene	278	Compound Not Detected.					
151 Benzo(g,h,i)perylene	276	Compound Not Detected.					
$ 154 Nitrobenzene-d5	82	4.845	4.848	(0.897)	635753	23.1611	11.135
$ 155 2-Fluorobiphenyl	172	6.224	6.226	(0.923)	1321877	20.5470	9.8784
$ 156 Terphenyl-d14	244	9.092	9.095	(0.918)	1670179	32.3963	15.575
$ 157 Phenol-d5	99	4.172	4.175	(0.942)	878183	31.4829	15.136
$ 158 2-Fluorophenol	112	3.403	3.411	(0.768)	542720	27.3371	13.143
$ 159 2,4,6-Tribromophenol	330	7.346	7.348	(0.932)	248993	36.5573	17.576
$ 186 2-Chlorophenol-d4	132	4.253	4.255	(0.960)	754871	28.0513	13.486
$ 187 1,2-Dichlorobenzene-d4	152	4.546	4.549	(1.027)	382994	18.3773	8.8353

$$[\text{Phenol-15}] = \frac{878183\,(8)}{159229\quad(1.40145)} = \frac{31.4829}{60} = 52.47\%$$

MJW 9/8/11

TestAmerica Pittsburgh

Semivolatile REPORT SW-846 Method 8270

Data file : \\PITSVR06\D\chem\731.i\V051711D.b\V0517002.D
Lab Smp Id: MH6RN1AG Client Smp ID: MW-4
Inj Date : 17-MAY-2011 12:21
Operator : 003200 Inst ID: 731.i
Smp Info : C1E100518-004 5/13/11 h2o(1133213) dod
Misc Info : MH6RN1AG,V051711D.b,8270d.m,pah.sub
Comment :
Method : \\PITSVR06\D\chem\731.i\V051711D.b\8270d.m
Meth Date : 18-May-2011 06:31 piccolinov Quant Type: ISTD
Cal Date : 16-MAY-2011 14:49 Cal File: V0516IC8.D
Als bottle: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pah.sub
Target Version: 4.14
Processing Host: PITPC-502

Concentration Formula: Amt * DF * Uf * Vt/(Vo * Vi) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1050.000	Volume of sample extracted (mL)
Vi	2.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	FINAL (ug/L)
* 1	1,4-Dichlorobenzene-d4	152	4.517	4.525	(1.000)	140765	8.00000	
* 2	Naphthalene-d8	136	5.479	5.492	(1.000)	568578	8.00000	
* 3	Acenaphthene-d10	164	6.820	6.828	(1.000)	364135	8.00000	
* 4	Phenanthrene-d10	188	7.957	7.966	(1.000)	621201	8.00000	
* 5	Chrysene-d12	240	10.025	10.028	(1.000)	639508	8.00000	
* 6	Perylene-d12	264	11.392	11.395	(1.000)	653835	8.00000	
51	Naphthalene	128	Compound Not Detected.					
79	Acenaphthylene	152	Compound Not Detected.					
82	Acenaphthene	153	Compound Not Detected.					
94	Fluorene	166	Compound Not Detected.					
115	Phenanthrene	178	Compound Not Detected.					
116	Anthracene	178	Compound Not Detected.					
123	Fluoranthene	202	8.892	8.900	(1.117)	9241	0.09230	0.043954
125	Pyrene	202	9.069	9.082	(0.905)	7386	0.07681	0.036574
136	Benzo(a)Anthracene	228	Compound Not Detected.					
137	Chrysene	228	Compound Not Detected.					
141	Benzo(b)fluoranthene	252	10.992	10.984	(0.965)	8140	0.06880	0.032761
142	Benzo(k)fluoranthene	252	Compound Not Detected.					
146	Benzo(a)pyrene	252	Compound Not Detected.					
149	Indeno(1,2,3-cd)pyrene	276	Compound Not Detected.					

MJW 9/8/11

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	CONCENTRATIONS FINAL (ug/L)
150 Dibenz(a,h)anthracene	278	Compound Not Detected.					
151 Benzo(g,h,i)perylene	276	Compound Not Detected.					
$ 154 Nitrobenzene-d5	82	4.934	4.942	(0.901)	710382	26.3434	12.544
$ 155 2-Fluorobiphenyl	172	6.301	6.309	(0.924)	1538294	25.4294	12.109
$ 156 Terphenyl-d14	244	9.175	9.189	(0.915)	2323243	35.0815	16.705
$ 157 Phenol-d5	99	4.250	4.258	(0.941)	998550	39.1617	18.648
$ 158 2-Fluorophenol	112	3.497	3.510	(0.774)	673946	35.0212	16.677
$ 159 2,4,6-Tribromophenol	330	7.423	7.431	(0.933)	309112	41.2670	19.651
$ 186 2-Chlorophenol-d4	132	4.341	4.354	(0.961)	870769	35.6708	16.986
$ 187 1,2-Dichlorobenzene-d4	152	4.635	4.643	(1.026)	439530	24.1543	11.502

[2-Chlorophenol-d4]

$$\frac{870769(8)}{(1.38735)} = 35.6707/60 = 59.5\%$$

[Nitrobenzene-d5]

$$\frac{710382(8)}{(0.37942)} = 26.34339/30 = 87.8\%$$

MJW
9/8/11

Data File: \\PITSVR06\DATA\chem\731.i\V051711D.b\V0517DF2.D

Date : 17-MAY-2011 09:43

Client ID: DFTPP

Instrument: 731.i

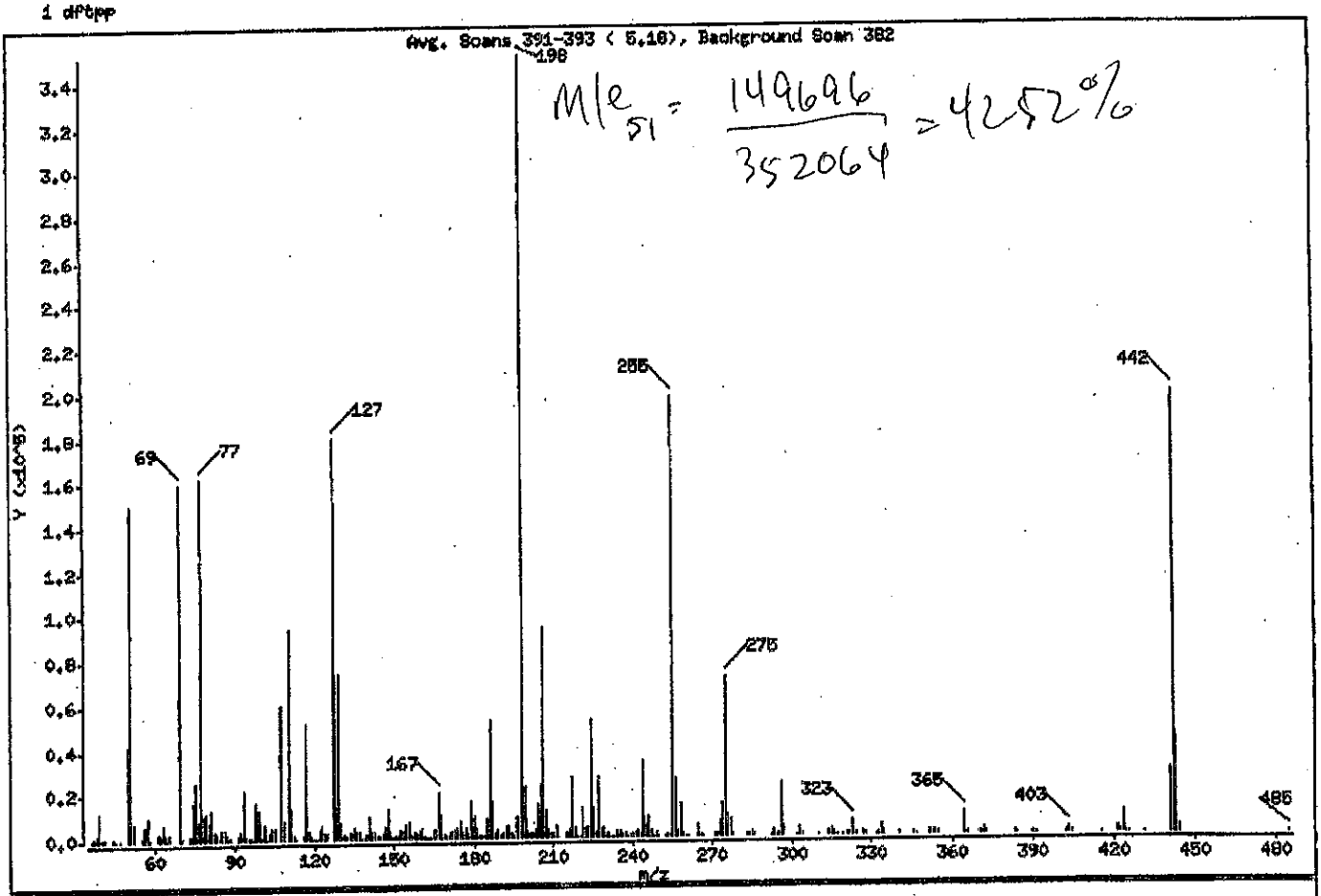
Sample Info: DFTPP 11465

Operator: 003200

Column phase: db-5ms

Column diameter: 0.25

1 dFTPP



$M/e_{51} = \frac{149696}{352064} = 42.52\%$

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	30.00 - 60.00% of mass 198	42.52 ✓
68	Less than 2.00% of mass 69	0.00 (0.00)
69	Mass 69 relative abundance	45.34
70	Less than 2.00% of mass 69	0.23 (0.50)
127	40.00 - 60.00% of mass 198	50.97
197	Less than 1.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	6.34
275	10.00 - 30.00% of mass 198	20.31
365	Greater than 1.00% of mass 198	2.70
441	Present, but less than mass 443	7.96
442	Greater than 40.00% of mass 198	56.35
443	17.00 - 23.00% of mass 442	12.01 (21.31)

MJW 9/1/11

Data File: \\PITSVR06\D\chem\731.i\V051711D.b\V0517DF2.D

Date : 17-MAY-2011 09:43

Client ID: DFTPP

Instrument: 731.i

Sample Info: DFTPP 11465

Operator: 003200

Column phase: db-5ms

Column diameter: 0.25

Data File: V0517DF2.D

Spectrum: Avg. Scans 391-393 (5.18), Background Scan 382

Location of Maximum: 198.00

Number of points: 271

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	221	124.00	2660	195.00	940	272.00	1088
37.00	890	125.00	2178	196.00	9141	273.00	6629
38.00	2142	127.00	179456	198.00	352064	274.00	14185
39.00	12539	128.00	14699	199.00	22312	275.00	71488
40.00	847	129.00	73392	200.00	2485	276.00	9332
41.00	421	130.00	7324	201.00	1810	277.00	6901
44.00	910	131.00	1340	202.00	1565	278.00	1097
45.00	282	132.00	827	203.00	3014	283.00	598
47.00	211	134.00	2356	204.00	14357	284.00	413
50.00	42328	135.00	5229	205.00	23496	285.00	1420
51.00	149696	136.00	2952	206.00	94000	286.00	543
52.00	7205	137.00	3480	207.00	12306	292.00	300
55.00	645	138.00	194	208.00	3496	293.00	2078
56.00	8313	139.00	229	209.00	1258	294.00	298
57.00	9946	140.00	1279	210.00	1781	295.00	982
58.00	270	141.00	9678	211.00	4815	296.00	23776
61.00	2764	142.00	3547	212.00	214	297.00	4191
62.00	1986	143.00	2325	215.00	1468	302.00	333
63.00	6562	144.00	571	216.00	2976	303.00	3027
64.00	702	146.00	1640	217.00	26880	304.00	931
65.00	2612	147.00	4457	218.00	3721	310.00	260
69.00	159616	148.00	12704	219.00	246	314.00	1532
70.00	804	149.00	3259	220.00	299	315.00	2164
73.00	1702	150.00	396	221.00	12631	316.00	1515
74.00	15784	151.00	1002	222.00	3833	317.00	172
75.00	24920	152.00	946	223.00	4366	319.00	170
76.00	8152	153.00	3223	224.00	52936	321.00	979
77.00	162048	154.00	2915	225.00	12762	322.00	472
78.00	10858	155.00	5968	226.00	1813	323.00	6730
79.00	11304	156.00	7119	227.00	26312	324.00	869
80.00	7575	157.00	1094	228.00	3567	327.00	1308
81.00	13004	158.00	2217	229.00	4373	328.00	1020
82.00	2973	159.00	1916	230.00	428	332.00	171
83.00	2203	160.00	2886	231.00	1848	333.00	704
84.00	260	161.00	4446	232.00	269	334.00	4086

MJW 9/8/11

Data File: \\PITSVR06\D\chem\731.i\V051511D.b\V051101F1.D

Date : 15-MAY-2011 10:56

Client ID: DFTPP

Instrument: 731.i

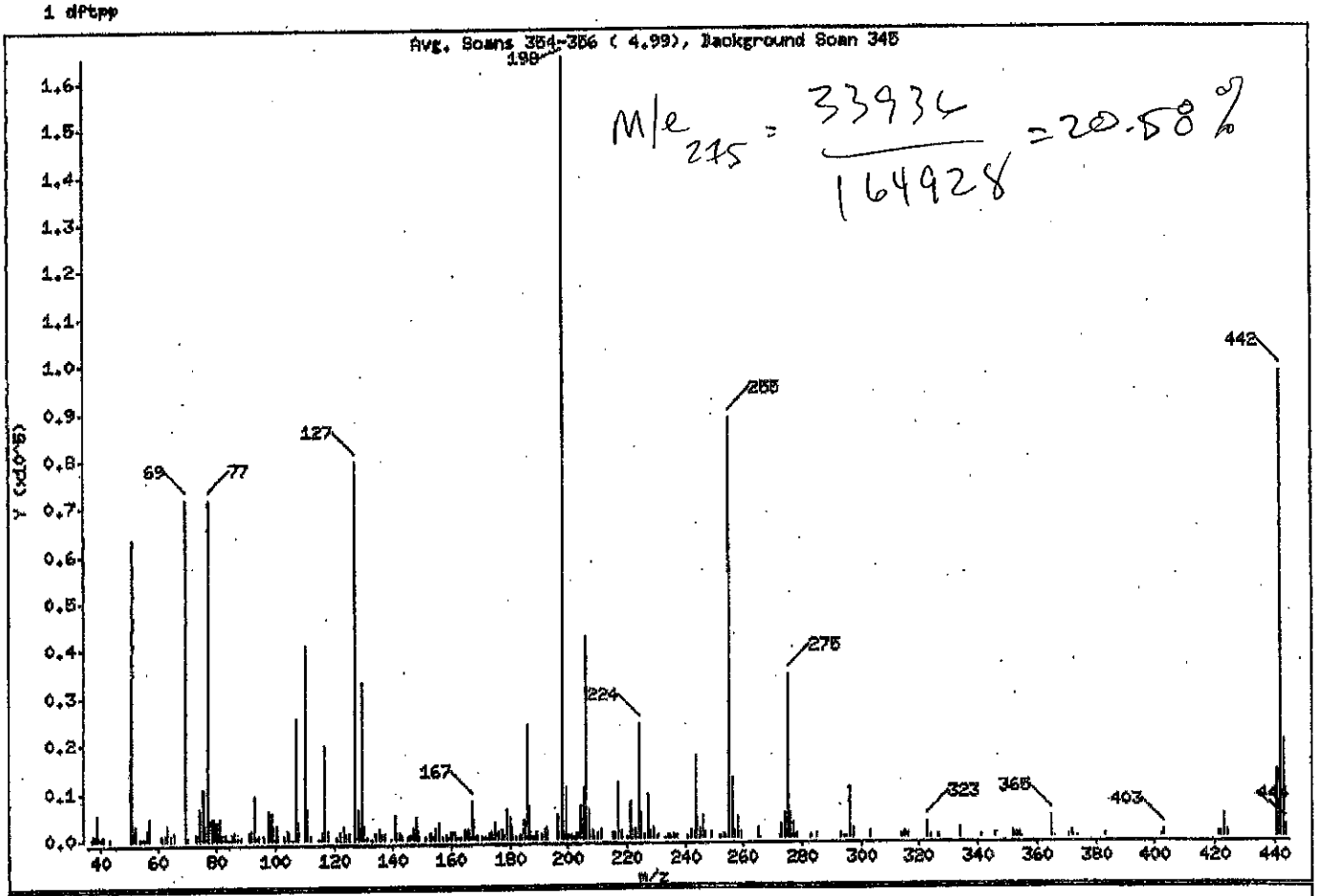
Sample Info: DFTPP 11465

Operator: 003200

Column phase: db-5ms

Column diameter: 0.25

1 dftpp



m/e 215 = 33934 / 164928 = 20.58%

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	30.00 - 60.00% of mass 198	38.40
68	Less than 2.00% of mass 69	0.00 (0.00)
69	Mass 69 relative abundance	43.43
70	Less than 2.00% of mass 69	0.25 (0.58)
127	40.00 - 60.00% of mass 198	46.32
197	Less than 1.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	6.46
275	10.00 - 30.00% of mass 198	20.58 ✓
365	Greater than 1.00% of mass 198	2.59
441	Present, but less than mass 443	8.37
442	Greater than 40.00% of mass 198	89.42
443	17.00 - 23.00% of mass 442	12.22 (20.67)

MW 9/8/11

Data File: \\PITSVR06\D\chem\731.i\V0511511D.b\V0515DF1.D

Date : 15-MAY-2011 10:56

Client ID: DFTPP

Instrument: 731.i

Sample Info: DFTPP 11465

Operator: 003200

Column phase: db-5ms

Column diameter: 0.25

Data File: V0515DF1.D
Spectrum: Avg. Scans 354-356 (4.99), Background Scan 345
Location of Maximum: 198.00
Number of points: 220

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.00	269	117.00	19808	184.00	815	265.00	68456
38.00	1084	118.00	1969	185.00	3774	266.00	12543
39.00	5236	121.00	196	186.00	24064	267.00	1589
40.00	318	122.00	1678	187.00	6868	268.00	4302
41.00	784	123.00	2647	198.00	826	269.00	952
43.00	854	124.00	1089	189.00	1608	265.00	1961
50.00	17528	125.00	1267	191.00	812	266.00	171
51.00	63328	127.00	79688	192.00	1902	272.00	219
52.00	2986	128.00	6085	193.00	2121	273.00	2706
54.00	210	129.00	33168	196.00	4995	274.00	8002
55.00	414	130.00	2945	198.00	164928	275.00	33936
56.00	2222	131.00	426	199.00	10667	276.00	4794
57.00	4575	133.00	169	200.00	651	277.00	3079
61.00	924	134.00	1246	201.00	902	278.00	571
62.00	1153	135.00	2172	202.00	261	283.00	266
63.00	2983	136.00	1042	203.00	1295	285.00	812
64.00	780	137.00	986	204.00	6737	293.00	943
65.00	1482	139.00	168	205.00	10785	294.00	175
69.00	71624	141.00	4768	206.00	42304	295.00	177
70.00	412	142.00	1438	207.00	6134	296.00	10590
73.00	1118	143.00	1026	208.00	1635	297.00	1903
74.00	6623	145.00	293	209.00	496	303.00	1162
75.00	10459	146.00	915	210.00	1098	314.00	240
76.00	3023	147.00	2108	211.00	1870	315.00	990
77.00	71672	148.00	4532	215.00	1181	316.00	645
78.00	4462	149.00	1805	216.00	1097	323.00	2884
79.00	4601	151.00	400	217.00	11644	324.00	435
80.00	3776	153.00	1265	218.00	1419	326.00	198
81.00	4699	154.00	892	220.00	268	327.00	376
82.00	1097	155.00	2385	221.00	7689	334.00	2077
83.00	1084	156.00	3298	222.00	1382	341.00	251
84.00	175	157.00	453	223.00	1797	346.00	670
85.00	1149	158.00	678	224.00	23912	352.00	1113
86.00	1637	159.00	556	225.00	5246	353.00	832
87.00	311	160.00	1442	226.00	680	354.00	799

MJW 9/8/11

TestAmerica Pittsburgh

Semivolatile REPORT SW-846 Method 8270

Data file : \\PITSVR06\D\chem\731.i\V051711D.b\V0517003.D
Lab Smp Id: MH6RP1AG Client Smp ID: MW-5
Inj Date : 17-MAY-2011 12:44
Operator : 003200 Inst ID: 731.i
Smp Info : C1E100518-005 5/13/11 h2o(1133213) dod
Misc Info : MH6RP1AG,V051711D.b,8270d.m,pah.sub
Comment :
Method : \\PITSVR06\D\chem\731.i\V051711D.b\8270d.m
Meth Date : 18-May-2011 06:31 piccolinov Quant Type: ISTD
Cal Date : 16-MAY-2011 14:49 Cal File: V0516IC8.D
Als bottle: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pah.sub
Target Version: 4.14
Processing Host: PITPC-502

Concentration Formula: Amt * DF * Uf * Vt/(Vo * Vi) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1050.000	Volume of sample extracted (mL)
Vi	2.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	CONCENTRATIONS FINAL (ug/L)
* 1	1,4-Dichlorobenzene-d4	152	4.520	4.525	(1.000)	147619	8.00000	
* 2	Naphthalene-d8	136	5.487	5.492	(1.000)	588160	8.00000	
* 3	Acenaphthene-d10	164	6.827	6.828	(1.000)	352481	8.00000	
* 4	Phenanthrene-d10	188	7.960	7.966	(1.000)	656214	8.00000	
* 5	Chrysene-d12	240	10.033	10.028	(1.000)	665416	8.00000	
* 6	Perylene-d12	264	11.406	11.395	(1.000)	695074	8.00000	
51	Naphthalene	128	Compound Not Detected.					
79	Acenaphthylene	152	Compound Not Detected.					
82	Acenaphthene	153	Compound Not Detected.					
94	Fluorene	166	Compound Not Detected.					
115	Phenanthrene	178	Compound Not Detected.					
116	Anthracene	178	Compound Not Detected.					
123	Fluoranthene	202	8.895	8.900	(1.117)	8832	0.08351	0.039768
125	Pyrene	202	9.071	9.082	(0.904)	9227	0.09221	0.043911
136	Benzo(a)Anthracene	228	10.022	10.022	(0.999)	45270	0.45925	0.21869
137	Chrysene	228	10.054	10.049	(1.002)	46454	0.48979 ✓	0.23323 ✓
141	Benzo(b)fluoranthene	252	10.994	10.984	(0.964)	62438	0.50365	0.23983
142	Benzo(k)fluoranthene	252	11.016	11.011	(0.966)	68288	0.59259	0.28210
146	Benzo(a)pyrene	252	11.342	11.336	(0.994)	34366	0.38213	0.18197
149	Indeno(1,2,3-cd)pyrene	276	12.779	12.763	(1.120)	60064	0.57446	0.27355 (M)

$[\text{Chrysene}] = \frac{46454\,(8)}{665416\ (1.14827)} = 0.48979\ \text{ng} = 0.23323\ \text{ng/L}$

MJW 9/8/11

Watermark Environmental

Client Sample ID: MW-5

GC/MS Semivolatiles

Lot-Sample #...:	C1E100518-005	Work Order #...:	MH6RP1AG	Matrix.....:	WATER
Date Sampled...:	05/09/11 15:50	Date Received..:	05/10/11 09:30	MS Run #.....:	
Prep Date.....:	05/13/11	Analysis Date..:	05/17/11		
Prep Batch #...:	1133213	Analysis Time..:	12:44		
Dilution Factor:	0.95	Initial Wgt/Vol:	1050 mL	Final Wgt/Vol..:	1 mL
Analyst ID.....:	003200	Instrument ID..:	731		
		Method.....:	SW846 8270D Low L		

PARAMETER	RESULT	LOQ	UNITS	DL
Acenaphthene	0.028 U	0.19	ug/L	0.014
Acenaphthylene	0.028 U	0.19	ug/L	0.014
Anthracene	0.028 U	0.19	ug/L	0.015
Benzo(a)anthracene	0.22	0.19	ug/L	0.014
Benzo(b)fluoranthene	0.24	0.19	ug/L	0.015
Benzo(k)fluoranthene	0.28	0.19	ug/L	0.052
Benzo(ghi)perylene	0.31	0.19	ug/L	0.014
Benzo(a)pyrene	0.18 J	0.19	ug/L	0.013
Chrysene	0.23	0.19	ug/L	0.013
Dibenzo(a,h)anthracene	0.26	0.19	ug/L	0.015
Fluoranthene	0.040 J	0.19	ug/L	0.015
Fluorene	0.028 U	0.19	ug/L	0.021
Indeno(1,2,3-cd)pyrene	0.27	0.19	ug/L	0.019
Naphthalene	0.028 U	0.19	ug/L	0.013
Phenanthrene	0.095 U	0.19	ug/L	0.041
Pyrene	0.044 J	0.19	ug/L	0.015

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorobiphenyl	65	(50 - 110)
2-Fluorophenol	60	(20 - 110)
Phenol-d5	66	(10 - 115)
2,4,6-Tribromophenol	65	(40 - 125)
Nitrobenzene-d5	62	(40 - 110)
Terphenyl-d14	95	(50 - 135)

NOTE(S):

J Estimated result. Result is less than RL.

MLW 9/8/27 MLW 9/14/11
9/9/11

TestAmerica Pittsburgh

Semivolatile REPORT SW-846 Method 8270

Data file : \\PITSVR06\D\chem\731.i\V051511D.b\V0515021.D
Lab Smp Id: MH6RQ1AG Client Smp ID: DUP-1
Inj Date : 15-MAY-2011 14:53
Operator : 003200 Inst ID: 731.i
Smp Info : C1E100518-006 5/13/11 h2o(1133213) dod
Misc Info : MH6RQ1AG,V051511D.b,8270d.m,pah.sub
Comment :
Method : \\PITSVR06\D\chem\731.i\V051511D.b\8270d.m
Meth Date : 16-May-2011 05:28 piccolinov Quant Type: ISTD
Cal Date : 13-APR-2011 04:03 Cal File: V0413IC8.D
Als bottle: 23
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pah.sub
Target Version: 4.14
Processing Host: PITPC-502

Concentration Formula: Amt * DF * Uf * Vt/(Vo * Vi) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1050.000	Volume of sample extracted (mL)
Vi	2.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	CONCENTRATIONS FINAL (ug/L)
* 1	1,4-Dichlorobenzene-d4	152	4.427	4.431	(1.000)	158760	8.00000	
* 2	Naphthalene-d8	136	5.394	5.398	(1.000)	660419	8.00000	
* 3	Acenaphthene-d10	164	6.741	6.744	(1.000)	371194	8.00000	
* 4	Phenanthrene-d10	188	7.878	7.877	(1.000)	593940	8.00000	
* 5	Chrysene-d12	240	9.908	9.907	(1.000)	432969	8.00000	
* 6	Perylene-d12	264	11.201	11.210	(1.000)	403899	8.00000	
51	Naphthalene	128	Compound Not Detected.					
79	Acenaphthylene	152	Compound Not Detected.					
82	Acenaphthene	153	Compound Not Detected.					
94	Fluorene	166	Compound Not Detected.					
115	Phenanthrene	178	7.894	7.898	(1.002)	7928	0.09143	0.043537
116	Anthracene	178	7.932	7.935	(1.007)	4154	0.04793	0.022824
123	Fluoranthene	202	8.808	8.812	(1.118)	19545	0.21782	0.10372
125	Pyrene	202	8.984	8.988	(0.907)	17014	0.23763	0.11318
136	Benzo(a)Anthracene	228	9.898	9.901	(0.999)	8421	0.13367	0.063653
137	Chrysene	228	9.924	9.928	(1.002)	10684	0.17546	0.083553
141	Benzo(b)fluoranthene	252	10.811	10.815	(0.965)	15387	0.23036	0.10970
142	Benzo(k)fluoranthene	252	10.838	10.842	(0.968)	7568	0.10552	0.050246
146	Benzo(a)pyrene	252	11.137	11.146	(0.994)	7350	0.13861	0.066003
149	Indeno(1,2,3-cd)pyrene	276	Compound Not Detected.					

[fluoranthene] = 19545 (8) / 593940 (1.20868 (1.2893)) = 0.21782 ng = 0.10372 ng/mL

MJW 9/7/11

Watermark Environmental

Client Sample ID: DUP-1

GC/MS Semivolatiles

Lot-Sample #...:	C1E100518-006	Work Order #...:	MH6RQ1AG	Matrix.....:	WATER
Date Sampled...:	05/09/11 14:30	Date Received..:	05/10/11 09:30	MS Run #.....:	
Prep Date.....:	05/13/11	Analysis Date..:	05/15/11		
Prep Batch #...:	1133213	Analysis Time..:	14:53		
Dilution Factor:	0.95	Initial Wgt/Vol:	1050 mL	Final Wgt/Vol..:	1 mL
Analyst ID.....:	003200	Instrument ID..:	731		
		Method.....:	SW846 8270D Low L		

PARAMETER	RESULT	LOQ	UNITS	DL
Acenaphthene	0.028 U	0.19	ug/L	0.014
Acenaphthylene	0.028 U	0.19	ug/L	0.014
Anthracene	0.023 J	0.19	ug/L	0.015
Benzo(a)anthracene	0.064 J	0.19	ug/L	0.014
Benzo(b)fluoranthene	0.11 J	0.19	ug/L	0.015
Benzo(k)fluoranthene	0.095 U	0.19	ug/L	0.052
Benzo(ghi)perylene	0.055 J	0.19	ug/L	0.014
Benzo(a)pyrene	0.066 J	0.19	ug/L	0.013
Chrysene	0.084 J	0.19	ug/L	0.013
Dibenzo(a,h)anthracene	0.028 U	0.19	ug/L	0.015
Fluoranthene	0.10 J	0.19	ug/L	0.015
Fluorene	0.028 U	0.19	ug/L	0.021
Indeno(1,2,3-cd)pyrene	0.028 U	0.19	ug/L	0.019
Naphthalene	0.028 U	0.19	ug/L	0.013
Phenanthrene	0.044 J	0.19	ug/L	0.041
Pyrene	0.11 J	0.19	ug/L	0.015

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorobiphenyl	53	(50 - 110)
2-Fluorophenol	45	(20 - 110)
Phenol-d5	52	(10 - 115)
2,4,6-Tribromophenol	67	(40 - 125)
Nitrobenzene-d5	59	(40 - 110)
Terphenyl-d14	80	(50 - 135)

NOTE(S):

J Estimated result. Result is less than RL.

MJW 9/8/11

(2001 - 2367)

TestAmerica Pittsburgh

INITIAL CALIBRATION DATA

Start Cal Date : 13-APR-2011 01:28
End Cal Date : 13-APR-2011 04:03
Quant Method : ISTD
Origin : Included
Target Version : 4.14
Integrator : HP RTE
Method file : \\PITSVR06\D\chem\731.i\V041311D.b\8270d.m
Last Edit : 13-Apr-2011 05:45 731.i

Compound	0.4000000 Level 1 / 60.0000 Level 7	2.0000 Level 2 / 80.0000 Level 8	4.0000 Level 3	10.0000 Level 4	20.0000 Level 5	40.0000 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2	
117 Dinoseb	+++++ / +++++	+++++ / +++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
118 Disulfoton	+++++ / +++++	+++++ / +++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
119 Carbazole	0.91344 / 1.00181	0.97437 / 1.06006	1.01526	1.00061	1.03299	1.02190	AVRG		1.00256		4.38188	
120 Di-n-Butylphthalate	1.12512 / 1.35031	1.17101 / 1.28352	1.19123	1.26136	1.30997	1.32479	AVRG		1.25216		6.45658	
121 4-Nitroquinoline 1-oxide	+++++ / +++++	+++++ / +++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
122 Methapyrilene	+++++ / +++++	+++++ / +++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
123 Fluoranthene	1.11775 / 1.26350	1.16108 / 1.28639	1.18513	1.16198	1.25758	1.21527	AVRG		1.20858		4.77168	

MJW 9/8/11

2212

C1E100518

TestAmerica Pittsburgh

INITIAL CALIBRATION DATA

Start Cal Date : 16-MAY-2011 12:14
End Cal Date : 16-MAY-2011 14:49
Quant Method : ISTD
Origin : Included
Target Version : 4.14
Integrator : HP RTE
Method file : \\PITSVR06\D\chem\731.i\V051611D.b\8270d.m
Last Edit : 17-May-2011 07:59 731.i

Compound	0.4000000 Level 1	2.0000 Level 2	4.0000 Level 3	10.0000 Level 4	20.0000 Level 5	40.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
	60.0000 Level 7	80.0000 Level 8										
137 Chrysene	1.07459	1.13534	1.15717	1.13218	1.12437	1.13441						
	1.21587	1.14823					AVRG		1.14027		3.43747	
138 4,4'-Methylene bis(o-chloroan	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++	+++++					AVRG		0.000e+000		0.000e+000	<-
139 bis(2-ethylhexyl)Phthalate	0.91134	0.80703	0.84603	0.82003	0.84914	0.85704						
	0.86572	0.87253					AVRG		0.85362		3.76445	
140 Di-n-octylphthalate	1.21594	1.25498	1.31827	1.41057	1.48405	1.43611						
	1.49935	1.41393					AVRG		1.37915		7.58774	
141 Benzo(b)fluoranthene	1.40578	1.35016	1.39448	1.35235	1.50543	1.44981						
	1.53952	1.58396					AVRG		1.44769		6.04054	
204 6-Methylchrysene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++	+++++					AVRG		0.000e+000		0.000e+000	<-
142 Benzo(k)fluoranthene	1.28281	1.28610	1.28347	1.41281	1.30601	1.34219						
	1.39450	1.45760					AVRG		1.34569		5.05370	

MJW 9/8/11

RRF Calculations

$ VOCs

Fort Totten

Analyte	IS	L1 0.4	L4 10	L8 80
chrysene	CD12	1.07459	1.132183	1.1482269
fluoranthene	PD10	1.117754	1.181976	1.2863934
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MSW
9/8/11

Initial Calibration Calculation

	I	II	III	IV	V	VI	VII	VIII	Average	SD	%RSD
Chrysene	1.07459	1.13534	1.15717	1.13218	1.12437	1.13441	1.21587	1.14823	1.14027	0.039197	3.44
Fluoranthene	1.11775	1.16108	1.18513	1.18198	1.25758	1.21527	1.2635	1.28639	1.208585	0.057669	4.77

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Semivolatile REPORT SW-846 Method 8270

Data file : \\PITSVR06\D\chem\731.i\V051611D.b\V0516IC1.D
Lab Smp Id: SSTD0.4 Client Smp ID: SSTD0.4
Inj Date : 16-MAY-2011 12:14
Operator : 003200 Inst ID: 731.i
Smp Info : IC 999
Misc Info : SSTD0.4,V051611D.b,8270d.m,padepi.sub,1,1
Comment :
Method : \\PITSVR06\D\chem\731.i\V051611D.b\8270d.m
Meth Date : 17-May-2011 07:59 731.i Quant Type: ISTD
Cal Date : 16-MAY-2011 12:14 Cal File: V0516IC1.D
Als bottle: 2 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: padepi.sub
Target Version: 4.14

	Compounds	QUANT HIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 1	1,4-Dichlorobenzene-d4	152	4.526	4.526	(1.000)	131371	8.00000	
* 2	Naphthalene-d8	136	5.493	5.493	(1.000)	544729	8.00000	
* 3	Acenaphthene-d10	164	6.834	6.834	(1.000)	348443	8.00000	
* 4	Phenanthrene-d10	188	7.977	7.977	(1.000)	624908	8.00000	
* 5	Chrysene-d12	240	10.039	10.039	(1.000)	675160	8.00000	
* 6	Perylene-d12	264	11.412	11.412	(1.000)	664341	8.00000	
198	1,4-Dioxane	88	1.347	1.347	(0.298)	2125	0.40000	0.40772(M)
10	N-Nitrosodimethylamine	74	1.855	1.855	(0.410)	2982	0.40000	0.38453(M)
9	Pyridine	79	1.946	1.946	(0.430)	5365	0.40000	0.35663(M)
16	Methyl methanesulfonate	80	3.351	3.351	(0.740)	4645	0.40000	0.44292
206	Benzaldehyde	77	4.184	4.184	(0.924)	4663	0.40000	0.36626
21	Aniline	93	4.269	4.269	(0.943)	13889	0.40000	0.43388
22	Phenol	94	4.264	4.264	(0.942)	11825	0.40000	0.41484
23	bis(2-Chloroethyl)ether	93	4.328	4.328	(0.956)	8163	0.40000	0.43202
24	2-Chlorophenol	128	4.360	4.360	(0.963)	11077	0.40000	0.47092
26	1,3-Dichlorobenzene	146	4.483	4.483	(0.991)	12139	0.40000	0.45088
27	1,4-Dichlorobenzene	146	4.537	4.537	(1.002)	12796	0.40000	0.46483
28	1,2-Dichlorobenzene	146	4.654	4.654	(1.028)	11382	0.40000	0.43481
217	Indene	116	4.724	4.724	(1.044)	13886	0.40000	0.36473
29	Benzyl Alcohol	108	4.627	4.627	(1.022)	5603	0.40000	0.38071
30	3-Methylphenol	108	4.718	4.718	(1.042)	8862	0.40000	0.42856
31	2,2'-oxybis(1-Chloropropane)	45	4.740	4.740	(1.047)	11126	0.40000	0.40913
37	Acetophenone	105	4.825	4.825	(1.066)	12785	0.40000	0.41119
32	N-Nitroso-di-n-propylamine	70	4.836	4.836	(1.068)	5691	0.40000	0.39038
192	4-Methylphenol	108	4.836	4.836	(1.068)	8305	0.40000	0.40158
34	Hexachloroethane	117	4.911	4.911	(1.085)	5308	0.40000	0.45900
35	Nitrobenzene	77	4.953	4.953	(0.902)	9544	0.40000	0.39622
36	N-Nitrosopyrrolidine	100	4.804	4.804	(1.061)	3498	0.40000	0.37063
41	Isophorone	82	5.140	5.140	(0.936)	16105	0.40000	0.38481
42	2-Nitrophenol	139	5.199	5.199	(0.947)	4450	0.40000	0.33781
43	2,4-Dimethylphenol	107	5.236	5.236	(0.953)	8619	0.40000	0.36300
44	bis(2-Chloroethoxy)methane	93	5.306	5.306	(0.966)	10991	0.40000	0.43223
48	2,4-Dichlorophenol	162	5.381	5.381	(0.980)	7811	0.40000	0.37861
49	Benzoic Acid	122	5.263	5.263	(0.958)	25318	2.00000	1.8230(M)

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	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
50	1,2,4-Trichlorobenzene	180	5.450	5.450	(0.992)	9731	0.40000	0.38571
51	Naphthalene	128	5.509	5.509	(1.003)	30790	0.40000	0.42437
52	4-Chloroaniline	127	5.546	5.546	(1.010)	11596	0.40000	0.37657
54	2,6-Dichlorophenol	162	5.552	5.552	(1.011)	7442	0.40000	0.36916
56	Hexachlorobutadiene	225	5.610	5.610	(1.021)	5466	0.40000	0.37169
208	Caprolactam	113	5.776	5.776	(1.052)	2151	0.40000	0.34403
59	4-Chloro-3-Methylphenol	107	5.910	5.910	(1.076)	6781	0.40000	0.32674
62	2-Methylnaphthalene	142	6.032	6.032	(1.098)	18705	0.40000	0.38242
63	1-Methylnaphthalene	142	6.107	6.107	(1.112)	18438	0.40000	0.39558
64	Hexachlorocyclopentadiene	237	6.166	6.166	(0.902)	6768	0.40000	0.36283
65	1,2,4,5-Tetrachlorobenzene	216	6.166	6.166	(0.902)	8920	0.40000	0.35038
66	2,4,6-Trichlorophenol	196	6.246	6.246	(0.914)	6240	0.40000	0.36275
67	2,4,5-Trichlorophenol	196	6.273	6.273	(0.918)	6268	0.40000	0.33318
209	1,1'-Biphenyl	154	6.390	6.390	(0.935)	24855	0.40000	0.30644
70	2-Chloronaphthalene	162	6.406	6.406	(0.937)	19222	0.40000	0.37430
73	2-Nitroaniline	65	6.476	6.476	(0.948)	5237	0.40000	0.34819
76	Dimethylphthalate	163	6.615	6.615	(0.968)	21553	0.40000	0.36626
78	2,6-Dinitrotoluene	165	6.657	6.657	(0.974)	4410	0.40000	0.34558
79	Acenaphthylene	152	6.722	6.722	(0.984)	26925	0.40000	0.34109
81	3-Nitroaniline	138	6.786	6.786	(0.993)	5499	0.40000	0.37588
82	Acenaphthene	153	6.860	6.860	(1.004)	18070	0.40000	0.35949
83	2,4-Dinitrophenol	184	6.866	6.866	(1.005)	12467	2.00000	1.5322
85	4-Nitrophenol	109	6.909	6.909	(1.011)	18462	2.00000	1.7195
86	Dibenzofuran	168	6.989	6.989	(1.023)	25298	0.40000	0.34267
87	2,4-Dinitrotoluene	165	6.967	6.967	(1.020)	6490	0.40000	0.36231
91	2,3,5,6-Tetrachlorophenol	232	7.053	7.053	(1.032)	4832	0.40000	0.33738
88	2,3,4,6-Tetrachlorophenol	232	7.085	7.085	(1.037)	4380	0.40000	0.29387
92	2-Naphthylamine	143	7.106	7.106	(1.040)	16861	0.40000	0.45894
93	Diethylphthalate	149	7.154	7.154	(1.047)	24092	0.40000	0.38570
94	Fluorene	166	7.256	7.256	(1.062)	22455	0.40000	0.35679
95	4-Chlorophenyl-phenylether	204	7.250	7.250	(1.061)	11479	0.40000	0.37593
96	4-Nitroaniline	138	7.250	7.250	(1.061)	5973	0.40000	0.37001
98	4,6-Dinitro-2-methylphenol	198	7.282	7.282	(0.913)	12849	2.00000	1.2954
99	N-Nitrosodiphenylamine (1)	169	7.336	7.336	(0.920)	13173	0.40000	0.34056
100	1,2-Diphenylhydrazine	77	7.368	7.368	(0.924)	23001	0.40000	0.38582
106	4-Bromophenyl-phenylether	248	7.624	7.624	(0.956)	6073	0.40000	0.36968
107	Hexachlorobenzene	284	7.683	7.683	(0.963)	6157	0.40000	0.36992
210	Atrazine	200	7.737	7.737	(0.970)	6037	0.40000	0.38480
111	Pentachlorophenol	266	7.827	7.827	(0.981)	23707	2.00000	2.1472
115	Phenanthrene	178	7.993	7.993	(1.002)	40492	0.40000	0.43395
116	Anthracene	178	8.030	8.030	(1.007)	32210	0.40000	0.35092
119	Carbazole	167	8.148	8.148	(1.021)	31113	0.40000	0.37992
120	Di-n-Butylphthalate	149	8.404	8.404	(1.054)	36499	0.40000	0.35223
123	Fluoranthene	202	8.912	8.912	(1.117)	34996	0.40000	0.34749
124	Benzidine	184	8.997	8.997	(0.896)	10039	0.40000	0.25099
125	Pyrene	202	9.088	9.088	(0.905)	35636	0.40000	0.35100
131	Butylbenzylphthalate	149	9.564	9.564	(0.953)	18489	0.40000	0.36937
135	3,3'-Dichlorobenzidine	252	9.996	9.996	(0.996)	12005	0.40000	0.33442
136	Benzo(a)Anthracene	228	10.028	10.028	(0.999)	42329	0.40000	0.42322
137	Chrysene	228	10.055	10.055	(1.002)	36276	0.40000	0.37696
139	bis(2-ethylhexyl)Phthalate	149	10.007	10.007	(0.997)	30765	0.40000	0.42705
140	Di-n-ootylphthalate	149	10.536	10.536	(0.923)	40390	0.40000	0.35266 (M)
141	Benzo(b)fluoranthene	252	10.995	10.995	(0.963)	46696	0.40000	0.38842
142	Benzo(k)fluoranthene	252	11.017	11.017	(0.965)	42611	0.40000	0.36131

MJV 9/8/11

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Semivolatile REPORT SW-846 Method 8270

Data file : \\PITSVR06\D\chem\731.i\V051611D.b\V0516IC4.D
Lab Smp Id: SSTD10 Client Smp ID: SSTD10
Inj Date : 16-MAY-2011 13:21
Operator : 003200 Inst ID: 731.i
Smp Info : IC 1002
Misc Info : SSTD10,V051611D.b,8270d.m,padepi.sub,1,4
Comment :
Method : \\PITSVR06\D\chem\731.i\V051611D.b\8270d.m
Meth Date : 17-May-2011 07:59 731.i Quant Type: ISTD
Cal Date : 16-MAY-2011 13:21 Cal File: V0516IC4.D
Als bottle: 5 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: padepi.sub
Target Version: 4.14

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 1	1,4-Dichlorobenzene-d4	152	4.520	4.520	(1.000)	133555	8.00000	
* 2	Naphthalene-d8	136	5.487	5.487	(1.000)	550436	8.00000	
* 3	Acenaphthene-d10	164	6.828	6.828	(1.000)	338200	0.00000	
* 4	Phenanthrene-d10	188	7.971	7.971	(1.000)	635943	8.00000	
* 5	Chrysene-d12	240	10.028	10.028	(1.000)	684981	8.00000	
* 6	Perylene-d12	264	11.401	11.401	(1.000)	698365	8.00000	
198	1,4-Dioxane	88	1.331	1.331	(0.295)	54354	10.0000	10.258
10	N-Nitrosodimethylamine	74	1.807	1.807	(0.400)	79850	10.0000	10.129
9	Pyridine	79	1.839	1.839	(0.407)	159444	10.0000	10.425 (M)
16	Methyl methanesulfonate	80	3.334	3.334	(0.738)	110222	10.0000	10.338
206	Benzaldehyde	77	4.178	4.178	(0.924)	154354	10.0000	11.926
21	Aniline	93	4.269	4.269	(0.944)	336706	10.0000	10.346
22	Phenol	94	4.264	4.264	(0.943)	290791	10.0000	10.035
23	bis(2-Chloroethyl)ether	93	4.323	4.323	(0.956)	191935	10.0000	9.9919
24	2-Chlorophenol	128	4.360	4.360	(0.965)	229416	10.0000	9.5938
26	1,3-Dichlorobenzene	146	4.478	4.478	(0.991)	268961	10.0000	9.8268
27	1,4-Dichlorobenzene	146	4.536	4.536	(1.004)	273915	10.0000	9.7875
28	1,2-Dichlorobenzene	146	4.649	4.649	(1.028)	260163	10.0000	9.7762
217	Indene	116	4.718	4.718	(1.044)	392158	10.0000	10.132
29	Benzyl Alcohol	108	4.627	4.627	(1.024)	149656	10.0000	10.002
30	2-Methylphenol	108	4.718	4.718	(1.044)	213088	10.0000	10.136
31	2,2'-oxybis(1-Chloropropane)	45	4.739	4.739	(1.048)	278467	10.0000	10.072
37	Acetophenone	105	4.825	4.825	(1.067)	320505	10.0000	10.139
32	N-Nitroso-di-n-propylamine	70	4.830	4.830	(1.069)	150034	10.0000	10.124
192	4-Methylphenol	108	4.830	4.830	(1.069)	214716	10.0000	10.213
34	Hexachloroethane	117	4.910	4.910	(1.086)	116541	10.0000	9.9130
35	Nitrobenzene	77	4.953	4.953	(0.903)	245169	10.0000	10.073
36	N-Nitrosopyrrolidine	100	4.798	4.798	(1.061)	96437	10.0000	10.051
41	Isophorone	82	5.135	5.135	(0.936)	413839	10.0000	9.7858
42	2-Nitrophenol	139	5.199	5.199	(0.947)	135390	10.0000	10.171
43	2,4-Dimethylphenol	107	5.231	5.231	(0.953)	246414	10.0000	10.270
44	bis(2-Chloroethoxy)methane	93	5.300	5.300	(0.966)	252114	10.0000	9.8119
48	2,4-Dichlorophenol	162	5.300	5.300	(0.981)	205948	10.0000	9.8791
49	Benzoic Acid	122	5.290	5.290	(0.964)	277075	20.0000	19.744

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	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	AMOUNTS ON-COL (NG)
50	1,2,4-Trichlorobenzene	180	5.445	5.445	(0.992)	249554	10.0000	9.7890
51	Naphthalene	128	5.503	5.503	(1.003)	691662	10.0000	9.4342
52	4-Chloroaniline	127	5.541	5.541	(1.010)	308110	10.0000	9.9018
54	2,6-Dichlorophenol	162	5.551	5.551	(1.012)	204300	10.0000	10.029
56	Hexachlorobutadiene	225	5.610	5.610	(1.022)	141255	10.0000	9.5057
208	Caprolactam	113	5.776	5.776	(1.053)	65239	10.0000	10.326
59	4-Chloro-3-Methylphenol	107	5.909	5.909	(1.077)	210743	10.0000	10.049
62	2-Methylnaphthalene	142	6.032	6.032	(1.099)	477552	10.0000	9.6621
63	1-Methylnaphthalene	142	6.107	6.107	(1.113)	445592	10.0000	9.4610
64	Hexachlorocyclopentadiene	237	6.160	6.160	(0.902)	175608	10.0000	9.6993
65	1,2,4,5-Tetrachlorobenzene	216	6.160	6.160	(0.902)	236114	10.0000	9.5555
66	2,4,6-Trichlorophenol	196	6.246	6.246	(0.915)	158474	10.0000	9.4916
67	2,4,5-Trichlorophenol	196	6.273	6.273	(0.919)	180811	10.0000	9.9021
209	1,1'-Biphenyl	154	6.385	6.385	(0.935)	592513	10.0000	9.4913
70	2-Chloronaphthalene	162	6.401	6.401	(0.937)	482592	10.0000	9.6818
73	2-Nitroaniline	65	6.470	6.470	(0.948)	141286	10.0000	9.6782
76	Dimethylphthalate	163	6.614	6.614	(0.969)	564373	10.0000	9.8812
78	2,6-Dinitrotoluene	165	6.657	6.657	(0.975)	121454	10.0000	9.8058
79	Acenaphthylene	152	6.721	6.721	(0.984)	742313	10.0000	9.6886
81	3-Nitroaniline	138	6.785	6.785	(0.994)	138458	10.0000	9.7508
82	Acenaphthene	153	6.855	6.855	(1.004)	481259	10.0000	9.8642
83	2,4-Dinitrophenol	184	6.866	6.866	(1.005)	160043	20.0000	20.265
85	4-Nitrophenol	109	6.908	6.908	(1.012)	215245	20.0000	20.655
86	Dibenzofuran	168	6.988	6.988	(1.023)	707895	10.0000	9.8791
87	2,4-Dinitrotoluene	165	6.967	6.967	(1.020)	178109	10.0000	10.260
91	2,3,5,6-Tetrachlorophenol	232	7.047	7.047	(1.032)	127583	10.0000	9.1779
88	2,3,4,6-Tetrachlorophenol	232	7.079	7.079	(1.037)	138141	10.0000	9.5490
92	2-Naphthylamine	143	7.101	7.101	(1.040)	380652	10.0000	10.675
93	Diethylphthalate	149	7.149	7.149	(1.047)	593294	10.0000	9.7859
94	Fluorene	166	7.250	7.250	(1.062)	564377	10.0000	9.4979
95	4-Chlorophenyl-phenylether	204	7.245	7.245	(1.061)	290200	10.0000	9.7917
96	4-Nitroaniline	138	7.250	7.250	(1.062)	160922	10.0000	10.270
98	4,6-Dinitro-2-methylphenol	198	7.277	7.277	(0.913)	209638	20.0000	20.769
99	N-Nitrosodiphenylamine (1)	169	7.330	7.330	(0.920)	387820	10.0000	9.8523
100	1,2-Diphenylhydrazine	77	7.362	7.362	(0.924)	587491	10.0000	9.6837
106	4-Bromophenyl-phenylether	248	7.619	7.619	(0.956)	158166	10.0000	9.4609
107	Hexachlorobenzene	284	7.678	7.678	(0.963)	158145	10.0000	9.3367
210	Atrazine	200	7.731	7.731	(0.970)	163390	10.0000	10.234
111	Pentachlorophenol	266	7.822	7.822	(0.981)	211740	20.0000	18.845
115	Phenanthrene	178	7.987	7.987	(1.002)	889286	10.0000	9.3650
116	Anthracene	178	8.025	8.025	(1.007)	894334	10.0000	9.5743
119	Carbazole	167	8.142	8.142	(1.021)	810881	10.0000	9.7300
120	Di-n-Butylphthalate	149	8.399	8.399	(1.054)	1070051	10.0000	10.147
123	Fluoranthene	202	8.906	8.906	(1.117)	989600	10.0000	9.6556
124	Benzidine	184	8.992	8.992	(0.897)	458859	10.0000	11.308
125	Pyrene	202	9.083	9.083	(0.906)	1045189	10.0000	10.147
131	Butylbenzylphthalate	149	9.553	9.553	(0.953)	511589	10.0000	10.074
135	3,3'-Dichlorobenzidine	252	9.985	9.985	(0.996)	365073	10.0000	9.7495
136	Benzo(a)Anthracene	228	10.023	10.023	(0.999)	961504	10.0000	9.4756
137	Chrysene	228	10.049	10.049	(1.002)	969405	10.0000	9.9291
139	bis(2-ethylhexyl)Phthalate	149	9.996	9.996	(0.997)	702130	10.0000	9.6065
140	Di-n-octylphthalate	149	10.525	10.525	(0.923)	1231363	10.0000	10.228
141	Benzo(b)fluoranthene	252	10.990	10.990	(0.964)	1180546	10.0000	9.3415
142	Benzo(k)fluoranthene	252	11.011	11.011	(0.966)	1233318	10.0000	10.499

MJW 9/8/11

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Semivolatile REPORT SW-846 Method 8270

Data file : \\PITSVR06\D\chem\731.i\V051611D.b\V0516IC8.D
Lab Smp Id: SSTD80 Client Smp ID: SSTD80
Inj Date : 16-MAY-2011 14:49
Operator : 003200 Inst ID: 731.i
Smp Info : IC 1006
Misc Info : SSTD80,V051611D.b,8270d.m,padepi.sub,1,8
Comment :
Method : \\PITSVR06\D\chem\731.i\V051611D.b\8270d.m
Meth Date : 17-May-2011 07:59 731.i Quant Type: ISTD
Cal Date : 16-MAY-2011 14:49 Cal File: V0516IC8.D
Als bottle: 9 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: padepi.sub
Target Version: 4.14

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)	
* 1	1,4-Dichlorobenzene-d4	152	4.520	4.520	(1.000)	126319	8.00000		
* 2	Naphthalene-d8	136	5.487	5.487	(1.000)	513950	8.00000		
* 3	Acenaphthene-d10	164	6.828	6.828	(1.000)	317131	8.00000		
* 4	Phenanthrene-d10	188	7.966	7.966	(1.000)	582284	8.00000		
* 5	Chrysene-d12	240	10.028	10.028	(1.000)	675671	8.00000		(MH)
* 6	Perylene-d12	264	11.396	11.396	(1.000)	686307	8.00000		
198	1,4-Dioxane	88	1.331	1.331	(0.295)	389644	80.0000	77.751	
10	N-Nitrosodimethylamine	74	1.806	1.806	(0.400)	592848	80.0000	79.506	
9	Pyridine	79	1.833	1.833	(0.406)	1111058	80.0000	76.809	
16	Methyl methanesulfonate	80	3.334	3.334	(0.738)	743617	80.0000	73.742	
206	Benzaldehyde	77	4.178	4.178	(0.924)	760563	80.0000	62.129	
21	Aniline	93	4.269	4.269	(0.944)	2334744	80.0000	75.853	
22	Phenol	94	4.269	4.269	(0.944)	2145480	80.0000	78.278	
23	bis(2-Chloroethyl)ether	93	4.328	4.328	(0.957)	1399608	80.0000	77.036	
24	2-Chlorophenol	128	4.360	4.360	(0.965)	1764366	80.0000	78.010	
26	1,3-Dichlorobenzene	146	4.478	4.478	(0.991)	2006281	80.0000	77.501	
27	1,4-Dichlorobenzene	146	4.536	4.536	(1.004)	2062410	80.0000	77.915	
28	1,2-Dichlorobenzene	146	4.648	4.648	(1.028)	1998240	80.0000	79.389	
217	Indene	116	4.718	4.718	(1.044)	2992589	80.0000	81.748	
29	Benzyl Alcohol	108	4.627	4.627	(1.024)	1154451	80.0000	81.579	
30	2-Methylphenol	108	4.723	4.723	(1.045)	1576656	80.0000	79.296	
31	2,2'-oxybis(1-Chloropropane)	45	4.734	4.734	(1.047)	2048457	80.0000	78.339	
37	Acetophenone	105	4.830	4.830	(1.069)	2327313	80.0000	77.844	
32	N-Nitroso-di-n-propylamine	70	4.835	4.835	(1.070)	1087461	80.0000	77.580	
192	4-Methylphenol	108	4.835	4.835	(1.070)	1572140	80.0000	79.060	
34	Hexachloroethane	117	4.910	4.910	(1.086)	857183	80.0000	77.089	
35	Nitrobenzene	77	4.953	4.953	(0.903)	1789325	80.0000	78.733	
36	N-Nitrosopyrrolidine	100	4.809	4.809	(1.064)	744527	80.0000	82.041	
41	Isophorone	82	5.135	5.135	(0.936)	3290018	80.0000	83.320	
42	2-Nitrophenol	139	5.199	5.199	(0.947)	1064739	80.0000	85.667	
43	2,4-Dimethylphenol	107	5.236	5.236	(0.954)	1840550	80.0000	82.160	
44	bis(2-Chloroethoxy)methane	93	5.300	5.300	(0.966)	1936231	80.0000	80.705	
48	2,4-Dichlorophenol	162	5.380	5.380	(0.981)	1656670	80.0000	85.110	
49	Benzoic Acid	122	5.322	5.322	(0.970)	1005557	80.0000	76.742	

MJW 5/18/11

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
50	1,2,4-Trichlorobenzene	180	5.444	5.444	(0.992)	1978773	80.0000	83.130
51	Naphthalene	128	5.503	5.503	(1.003)	5728862	80.0000	83.688
52	4-Chloroaniline	127	5.541	5.541	(1.010)	2389737	80.0000	82.252
54	2,6-Dichlorophenol	162	5.551	5.551	(1.012)	1581072	80.0000	83.127
56	Hexachlorobutadiene	225	5.610	5.610	(1.022)	1136508	80.0000	81.911
208	Caprolactam	113	5.808	5.808	(1.058)	498502	80.0000	84.506
59	4-Chloro-3-Methylphenol	107	5.915	5.915	(1.078)	1626480	80.0000	83.064
62	2-Methylnaphthalene	142	6.032	6.032	(1.099)	3931042	80.0000	85.182
63	1-Methylnaphthalene	142	6.107	6.107	(1.113)	3796113	80.0000	86.322
64	Hexachlorocyclopentadiene	237	6.160	6.160	(0.902)	1504335	80.0000	88.609
65	1,2,4,5-Tetrachlorobenzene	216	6.160	6.160	(0.902)	1950495	80.0000	84.180
66	2,4,6-Trichlorophenol	196	6.246	6.246	(0.915)	1410817	80.0000	90.112
67	2,4,5-Trichlorophenol	196	6.273	6.273	(0.919)	1478792	80.0000	86.366
209	1,1'-Biphenyl	154	6.385	6.385	(0.935)	5090616	80.0000	86.963
70	2-Chloronaphthalene	162	6.401	6.401	(0.937)	4044097	80.0000	86.524
73	2-Nitroaniline	65	6.476	6.476	(0.948)	1121369	80.0000	81.918
76	Dimethylphthalate	163	6.614	6.614	(0.969)	4453503	80.0000	83.153
78	2,6-Dinitrotoluene	165	6.657	6.657	(0.975)	970002	80.0000	83.618
79	Acenaphthylene	152	6.721	6.721	(0.984)	6205763	80.0000	86.378
81	3-Nitroaniline	138	6.785	6.785	(0.994)	1117449	80.0000	83.924
82	Acenaphthene	153	6.855	6.855	(1.004)	3936997	80.0000	86.056
83	2,4-Dinitrophenol	184	6.865	6.865	(1.005)	702231	80.0000	94.826
85	4-Nitrophenol	109	6.914	6.914	(1.013)	764534	80.0000	78.239
86	Dibenzofuran	168	6.983	6.983	(1.023)	5972774	80.0000	88.891
87	2,4-Dinitrotoluene	165	6.967	6.967	(1.020)	1381420	80.0000	84.864
91	2,3,5,6-Tetrachlorophenol	232	7.047	7.047	(1.032)	1215365	80.0000	93.237
88	2,3,4,6-Tetrachlorophenol	232	7.079	7.079	(1.037)	1260934	80.0000	92.953
92	2-Naphthylamine	143	7.101	7.101	(1.040)	2054790	80.0000	61.452
93	Diethylphthalate	149	7.154	7.154	(1.048)	4712442	80.0000	82.892
94	Fluorene	166	7.250	7.250	(1.062)	4832182	80.0000	86.724
95	4-Chlorophenyl-phenylether	204	7.245	7.245	(1.061)	2410091	80.0000	86.722
96	4-Nitroaniline	138	7.255	7.255	(1.063)	1219521	80.0000	83.004
98	4,6-Dinitro-2-methylphenol	198	7.282	7.282	(0.914)	895970	80.0000	96.945
99	N-Nitrosodiphenylamine (1)	169	7.330	7.330	(0.920)	3228674	80.0000	89.581
100	1,2-Diphenylhydrazine	77	7.362	7.362	(0.924)	4721285	80.0000	84.993
106	4-Bromophenyl-phenylether	248	7.619	7.619	(0.956)	1377245	80.0000	89.973
107	Hexachlorobenzene	284	7.677	7.677	(0.964)	1442310	80.0000	92.999
210	Atrazine	200	7.736	7.736	(0.971)	1105439	80.0000	75.618
111	Pentachlorophenol	266	7.822	7.822	(0.982)	944970	80.0000	91.851
115	Phenanthrene	178	7.987	7.987	(1.003)	7025030	80.0000	80.797
116	Anthracene	178	8.025	8.025	(1.007)	7184941	80.0000	84.007
119	Carbazole	167	8.142	8.142	(1.022)	6663849	80.0000	87.330
120	Di-n-Butylphthalate	149	8.393	8.393	(1.054)	7414400	80.0000	76.791
123	Fluoranthene	202	8.901	8.901	(1.117)	7798520	80.0000	83.102
124	Benzidine	184	8.997	8.997	(0.897)	3284042	80.0000	82.044 (M)
125	Pyrene	202	9.077	9.077	(0.905)	8016476	80.0000	78.900 (M)
131	Butylbenzylphthalate	149	9.553	9.553	(0.953)	4058202	80.0000	81.013 (M)
135	3,3'-Dichlorobenzidine	252	9.985	9.985	(0.996)	3277330	80.0000	91.228 (M)
136	Benzo(a)Anthracene	228	10.017	10.017	(0.999)	8293252	80.0000	82.856 (M)
137	Chrysene	228	10.049	10.049	(1.002)	7758236	80.0000	80.558 (M)
139	bis(2-ethylhexyl) Phthalate	149	9.996	9.996	(0.997)	5096121	80.0000	81.782 (M)
140	Di-n-octylphthalate	149	10.519	10.519	(0.923)	9703877	80.0000	82.017
141	Benzo(b)fluoranthene	252	10.995	10.995	(0.965)	10870044	80.0000	87.530
142	Benzo(k)fluoranthene	252	11.016	11.016	(0.967)	10003642	80.0000	86.653

MJW 9/8/11

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Semivolatile REPORT SW-846 Method 8270

Data file : \\PITSVR06\D\chem\731.i\V041311D.b\V0413IC1.D
Lab Smp Id: SSTD0.4 Client Smp ID: SSTD0.4
Inj Date : 13-APR-2011 01:28
Operator : 003200 Inst ID: 731.i
Smp Info : IC 999
Misc Info : SSTD0.4,V041311D.b,8270d.m,padepi.sub,1,1
Comment :
Method : \\PITSVR06\D\chem\731.i\V041311D.b\8270d.m
Meth Date : 13-Apr-2011 05:45 731.i Quant Type: ISTD
Cal Date : 13-APR-2011 01:28 Cal File: V0413IC1.D
Als bottle: 2 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: padepi.sub
Target Version: 4.14

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	AMOUNTS ON-COL (NG)
* 1	1,4-Dichlorobenzene-d4	152	4.478	4.478	(1.000)	164050	8.00000	
* 2	Naphthalene-d8	136	5.440	5.440	(1.000)	735958	8.00000	
* 3	Acenaphthene-d10	164	6.780	6.780	(1.000)	473249	8.00000	
* 4	Phenanthrene-d10	188	7.913	7.913	(1.000)	817067	8.00000	
* 5	Chrysene-d12	240	9.943	9.943	(1.000)	669354	8.00000	
* 6	Perylene-d12	264	11.263	11.263	(1.000)	644891	8.00000	
198	1,4-Dioxane	88	1.331	1.331	(0.297)	3189	0.40000	0.56443 (M)
10	N-Nitrosodimethylamine	74	1.780	1.780	(0.398)	3766	0.40000	0.45122 (M)
9	Pyridine	79	1.898	1.898	(0.424)	3360	0.40000	0.21296 (M)
16	Methyl methanesulfonate	80	3.297	3.297	(0.736)	4585	0.40000	0.39661
206	Benzaldehyde	77	4.136	4.136	(0.924)	4022	0.40000	1.8601
21	Aniline	93	4.222	4.222	(0.943)	15170	0.40000	0.40940
22	Phenol	94	4.222	4.222	(0.943)	13919	0.40000	0.42170
23	bis(2-Chloroethyl)ether	93	4.280	4.280	(0.956)	9190	0.40000	0.40480
24	2-Chlorophenol	128	4.312	4.312	(0.963)	11658	0.40000	0.41317
26	1,3-Dichlorobenzene	146	4.430	4.430	(0.989)	13061	0.40000	0.39505
27	1,4-Dichlorobenzene	146	4.489	4.489	(1.002)	15396	0.40000	0.44632
28	1,2-Dichlorobenzene	146	4.606	4.606	(1.029)	13833	0.40000	0.42155
217	Indene	116	4.670	4.670	(1.043)	19267	0.40000	0.40780
29	Benzyl Alcohol	108	4.579	4.579	(1.023)	6377	0.40000	0.38552
30	2-Methylphenol	108	4.676	4.676	(1.044)	9907	0.40000	0.41288
31	2,2'-oxybis(1-Chloropropane)	45	4.692	4.692	(1.048)	15449	0.48000	0.42887
37	Acetophenone	105	4.782	4.782	(1.068)	15227	0.40000	0.42507
32	N-Nitroso-di-n-propylamine	70	4.788	4.788	(1.069)	7570	0.40000	0.44436
192	4-Methylphenol	108	4.788	4.788	(1.069)	10175	0.40000	0.42043
34	Hexachloroethane	117	4.863	4.863	(1.086)	5348	0.40000	0.37624
35	Nitrobenzene	77	4.905	4.905	(0.902)	11929	0.40000	0.39996
36	N-Nitrosopyrrolidine	100	4.756	4.756	(1.062)	3619	0.40000	0.33888
41	Isophorone	82	5.087	5.087	(0.935)	20609	0.40000	0.40490
42	2-Nitrophenol	139	5.151	5.151	(0.947)	6057	0.40000	0.35082
43	2,4-Dimethylphenol	107	5.188	5.188	(0.954)	11721	0.40000	0.39941
44	bis(2-Chloroethoxy)methane	93	5.258	5.258	(0.967)	12597	0.40000	0.38938
48	2,4-Dichlorophenol	162	5.333	5.333	(0.980)	10471	0.40000	0.38696
49	Benzoic Acid	122	5.216	5.216	(0.959)	26667	2.00000	1.6639 (M)

MS 9/8/11

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
50	1,2,4-Trichlorobenzene	180	5.402	5.402	(0.993)	14290	0.40000	0.41530
51	Naphthalene	128	5.456	5.456	(1.003)	40137	0.40000	0.42135
52	4-Chloroaniline	127	5.498	5.498	(1.011)	14583	0.40000	0.37895
54	2,6-Dichlorophenol	162	5.504	5.504	(1.012)	9917	0.40000	0.38079
56	Hexachlorobutadiene	225	5.562	5.562	(1.023)	7993	0.40000	0.41123
208	Caprolactam	113	5.728	5.728	(1.053)	2407	0.40000	0.35574
59	4-Chloro-3-Methylphenol	107	5.862	5.862	(1.078)	10383	0.40000	0.40778
62	2-Methylnaphthalene	142	5.984	5.984	(1.100)	25768	0.40000	0.39645
63	1-Methylnaphthalene	142	6.059	6.059	(1.114)	26500	0.40000	0.42214
64	Hexachlorocyclopentadiene	237	6.118	6.118	(0.902)	8510	0.40000	0.34843
65	1,2,4,5-Tetrachlorobenzene	216	6.118	6.118	(0.902)	12953	0.40000	0.38362
66	2,4,6-Trichlorophenol	196	6.198	6.198	(0.914)	8528	0.40000	0.37342
67	2,4,5-Trichlorophenol	196	6.225	6.225	(0.918)	7891	0.40000	0.32890
209	1,1'-Biphenyl	154	6.337	6.337	(0.935)	32523	0.40000	0.37851
70	2-Chloronaphthalene	162	6.353	6.353	(0.937)	26433	0.40000	0.38521
73	2-Nitroaniline	65	6.428	6.428	(0.948)	5820	0.40000	0.34070
76	Dimethylphthalate	163	6.567	6.567	(0.968)	29053	0.40000	0.40766
78	2,6-Dinitrotoluene	165	6.610	6.610	(0.975)	4701	0.40000	0.30159
79	Acenaphthylene	152	6.674	6.674	(0.984)	38615	0.40000	0.36281
81	3-Nitroaniline	138	6.732	6.732	(0.993)	5698	0.40000	0.32806
82	Acenaphthene	153	6.802	6.802	(1.003)	27455	0.40000	0.40750
83	2,4-Dinitrophenol	184	6.813	6.813	(1.005)	12771	2.00000	2.2307
85	4-Nitrophenol	109	6.855	6.855	(1.011)	16005	2.00000	1.7077
86	Dibenzofuran	168	6.935	6.935	(1.023)	40135	0.40000	0.40429
87	2,4-Dinitrotoluene	165	6.914	6.914	(1.020)	5665	0.40000	0.27410
91	2,3,5,6-Tetrachlorophenol	232	6.994	6.994	(1.032)	6480	0.40000	0.34751
88	2,3,4,6-Tetrachlorophenol	232	7.032	7.032	(1.037)	7098	0.40000	0.37764
92	2-Naphthylamine	143	7.048	7.048	(1.039)	22165	0.40000	0.43068
93	Diethylphthalate	149	7.101	7.101	(1.047)	28542	0.40000	0.38990
94	Fluorene	166	7.197	7.197	(1.061)	29914	0.40000	0.39319
95	4-Chlorophenyl-phenylether	204	7.192	7.192	(1.061)	15052	0.40000	0.39366
96	4-Nitroaniline	138	7.197	7.197	(1.061)	5640	0.40000	0.32350
98	4,6-Dinitro-2-methylphenol	198	7.229	7.229	(0.914)	15301	2.00000	1.1411
99	N-Nitrosodiphenylamine (1)	169	7.283	7.283	(0.920)	17784	0.40000	0.35467
100	1,2-Diphenylhydrazine	77	7.315	7.315	(0.924)	26665	0.40000	0.35340
106	4-Bromophenyl-phenylether	248	7.566	7.566	(0.956)	7578	0.40000	0.34571
107	Hexachlorobenzene	284	7.630	7.630	(0.964)	7605	0.40000	0.34832
210	Atrazine	200	7.683	7.683	(0.971)	7257	0.40000	0.37798
111	Pentachlorophenol	266	7.769	7.769	(0.982)	21235	2.00000	1.5570
115	Phenanthrene	178	7.934	7.934	(1.003)	45615	0.40000	0.38239
116	Anthracene	178	7.972	7.972	(1.007)	43561	0.40000	0.36537
119	Carbazole	167	8.009	8.009	(1.012)	37317	0.40000	0.36444
120	Di-n-Butylphthalate	149	8.346	8.346	(1.055)	45965	0.40000	0.35942
123	Fluoranthene	202	8.848	8.848	(1.118)	45664	0.40000	0.36994
124	Benzidine	184	8.933	8.933	(0.898)	5859	0.40000	0.14918 (M)
125	Pyrene	202	9.019	9.019	(0.907)	45085	0.40000	0.41453
131	Butylbenzylphthalate	149	9.489	9.489	(0.954)	20916	0.40000	0.42965
135	3,3'-Dichlorobenzidine	252	9.900	9.900	(0.996)	12088	0.40000	0.35493
136	Benzo(a)Anthracene	228	9.932	9.932	(0.999)	40238	0.40000	0.41316
137	Chrysene	228	9.959	9.959	(1.002)	36938	0.40000	0.39239
139	bis(2-ethylhexyl)Phthalate	149	9.916	9.916	(0.997)	33341	0.40000	0.47460
140	Di-n-octylphthalate	149	10.424	10.424	(0.926)	50643	0.40000	0.42509
141	Benzo(b)fluoranthene	252	10.862	10.862	(0.964)	37669	0.40000	0.35321
142	Benzo(k)fluoranthene	252	10.889	10.889	(0.967)	45322	0.40000	0.39577

MJW 9/8/11

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Semivolatile REPORT SW-846 Method 8270

Data file : \\PITSVR06\D\chem\731.i\V041311D.b\V0413IC4.D
Lab Smp Id: SSTD10 Client Smp ID: SSTD10
Inj Date : 13-APR-2011 02:34
Operator : 003200 Inst ID: 731.i
Smp Info : IC 1002
Misc Info : SSTD10,V041311D.b,8270d.m,padepi.sub,1,4
Comment :
Method : \\PITSVR06\D\chem\731.i\V041311D.b\8270d.m
Meth Date : 13-Apr-2011 05:45 731.i Quant Type: ISTD
Cal Date : 13-APR-2011 02:34 Cal File: V0413IC4.D
Als bottle: 5 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: padepi.sub
Target Version: 4.14

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 1	1,4-Dichlorobenzene-d4	152	4.480	4.480	(1.000)	166166	8.00000	
* 2	Naphthalene-d8	136	5.447	5.447	(1.000)	696162	8.00000	
* 3	Acenaphthene-d10	164	6.782	6.782	(1.000)	413378	8.00000	
* 4	Phenanthrene-d10	188	7.915	7.915	(1.000)	699452	8.00000	
* 5	Chrysene-d12	240	9.939	9.939	(1.000)	663086	8.00000	
* 6	Perylene-d12	264	11.259	11.259	(1.000)	651298	8.00000	
198	1,4-Dioxane	88	1.296	1.296	(0.289)	55832	10.0000	9.7566(M)
10	N-Nitrosodimethylamine	74	1.750	1.750	(0.391)	79626	10.0000	9.4194
9	Pyridine	79	1.793	1.793	(0.400)	167478	10.0000	10.480(M)
16	Methyl methanesulfonate	80	3.288	3.288	(0.734)	117790	10.0000	10.060
206	Benzaldehyde	77	4.138	4.138	(0.924)	170206	10.0000	8.1810
21	Aniline	93	4.223	4.223	(0.943)	383660	10.0000	10.223
22	Phenol	94	4.223	4.223	(0.943)	340977	10.0000	10.199
23	bis(2-Chloroethyl)ether	93	4.282	4.282	(0.956)	228869	10.0000	9.9533
24	2-Chlorophenol	128	4.319	4.319	(0.964)	291041	10.0000	10.184
26	1,3-Dichlorobenzene	146	4.437	4.437	(0.990)	332893	10.0000	9.9412
27	1,4-Dichlorobenzene	146	4.490	4.490	(1.002)	342123	10.0000	9.7920
28	1,2-Dichlorobenzene	146	4.608	4.608	(1.029)	325210	10.0000	9.7848
217	Indene	116	4.677	4.677	(1.044)	467718	10.0000	9.7740
29	Benzyl Alcohol	108	4.586	4.586	(1.024)	170514	10.0000	10.178
30	2-Methylphenol	108	4.677	4.677	(1.044)	244704	10.0000	10.069
31	2,2'-oxybis(1-Chloropropane)	45	4.693	4.693	(1.048)	357417	10.0000	9.7961
37	Acetophenone	105	4.784	4.784	(1.068)	361548	10.0000	9.9648
32	N-Nitroso-di-n-propylamine	70	4.789	4.789	(1.069)	176985	10.0000	10.257
192	4-Methylphenol	108	4.789	4.789	(1.069)	248906	10.0000	10.154
34	Hexachloroethane	117	4.870	4.870	(1.087)	144408	10.0000	10.030
35	Nitrobenzene	77	4.912	4.912	(0.902)	285411	10.0000	10.116
36	N-Nitrosopyrrolidine	100	4.757	4.757	(1.062)	109903	10.0000	10.160
41	Isophorone	82	5.094	5.094	(0.935)	485051	10.0000	10.074
42	2-Nitrophenol	139	5.153	5.153	(0.946)	165139	10.0000	10.112
43	2,4-Dimethylphenol	107	5.190	5.190	(0.953)	280455	10.0000	10.103
44	bis(2-Chloroethoxy)methane	93	5.260	5.260	(0.966)	308218	10.0000	10.072
48	2,4-Dichlorophenol	162	5.340	5.340	(0.980)	260006	10.0000	10.158
49	Benzoic Acid	122	5.249	5.249	(0.964)	297376	20.0000	19.616

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	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	AMOUNTS ON-COL (NG)
50	1,2,4-Trichlorobenzene	180	5.404	5.404	(0.992)	323042	10.0000	9.9251
51	Naphthalene	128	5.463	5.463	(1.003)	884138	10.0000	9.8121
52	4-Chloroaniline	127	5.500	5.500	(1.010)	364384	10.0000	10.010
54	2,6-Dichlorophenol	162	5.511	5.511	(1.012)	247557	10.0000	10.049
56	Hexachlorobutadiene	225	5.569	5.569	(1.023)	179837	10.0000	9.7813
208	Caprolactam	113	5.735	5.735	(1.053)	63489	10.0000	9.9196
59	4-Chloro-3-Methylphenol	107	5.869	5.869	(1.077)	237947	10.0000	9.8793
62	2-Methylnaphthalene	142	5.986	5.986	(1.099)	605350	10.0000	9.8459
63	1-Methylnaphthalene	142	6.061	6.061	(1.113)	591274	10.0000	9.9574
64	Hexachlorocyclopentadiene	237	6.120	6.120	(0.902)	218317	10.0000	10.233
65	1,2,4,5-Tetrachlorobenzene	216	6.120	6.120	(0.902)	306393	10.0000	10.388
66	2,4,6-Trichlorophenol	196	6.200	6.200	(0.914)	201180	10.0000	10.085
67	2,4,5-Trichlorophenol	196	6.226	6.226	(0.918)	215894	10.0000	10.302
209	1,1'-Biphenyl	154	6.344	6.344	(0.935)	777707	10.0000	10.362
70	2-Chloronaphthalene	162	6.355	6.355	(0.937)	609691	10.0000	10.172
73	2-Nitroaniline	65	6.424	6.424	(0.947)	154446	10.0000	10.351
76	Dimethylphthalate	163	6.568	6.568	(0.968)	617741	10.0000	9.9234
78	2,6-Dinitrotoluene	165	6.611	6.611	(0.975)	145608	10.0000	10.694
79	Acenaphthylene	152	6.675	6.675	(0.984)	944658	10.0000	10.161
81	3-Nitroaniline	138	6.739	6.739	(0.994)	155344	10.0000	10.239
82	Acenaphthene	153	6.809	6.809	(1.004)	600421	10.0000	10.202
83	2,4-Dinitrophenol	184	6.819	6.819	(1.006)	170524	20.0000	19.730
05	4-Nitrophenol	109	6.857	6.857	(1.011)	165055	20.0000	20.161
86	Dibenzofuran	160	6.937	6.937	(1.023)	870861	10.0000	10.043
87	2,4-Dinitrotoluene	165	6.916	6.916	(1.020)	189363	10.0000	10.489
91	2,3,5,6-Tetrachlorophenol	232	6.996	6.996	(1.032)	162447	10.0000	9.9735
88	2,3,4,6-Tetrachlorophenol	232	7.033	7.033	(1.037)	159328	10.0000	9.7046
92	2-Naphthylamine	143	7.055	7.055	(1.040)	467445	10.0000	10.398
93	Diethylphthalate	149	7.103	7.103	(1.047)	638875	10.0000	9.9915
94	Fluorene	166	7.199	7.199	(1.061)	674177	10.0000	10.145
95	4-Chlorophenyl-phenylether	204	7.193	7.193	(1.061)	345778	10.0000	10.353
96	4-Nitroaniline	138	7.199	7.199	(1.061)	159778	10.0000	10.492
98	4,6-Dinitro-2-methylphenol	198	7.231	7.231	(0.914)	225907	20.0000	19.680
99	N-Nitrosodiphenylamine (1)	169	7.284	7.284	(0.920)	433112	10.0000	10.090
100	1,2-Diphenylhydrazine	77	7.316	7.316	(0.924)	671968	10.0000	10.403
106	4-Bromophenyl-phenylether	248	7.567	7.567	(0.956)	190178	10.0000	10.135
107	Hexachlorobenzene	284	7.626	7.626	(0.964)	181011	10.0000	9.6045
210	Atrazine	200	7.680	7.680	(0.970)	169188	10.0000	10.294
111	Pentachlorophenol	266	7.770	7.770	(0.982)	229336	20.0000	19.643
115	Phenanthrene	178	7.931	7.931	(1.002)	1011299	10.0000	9.9032
116	Anthracene	178	7.973	7.973	(1.007)	1018840	10.0000	9.9824
119	Carbazole	167	8.091	8.091	(1.022)	874845	10.0000	9.9806
120	Di-n-Butylphthalate	149	8.342	8.342	(1.054)	1102830	10.0000	10.073
123	Fluoranthene	202	8.844	8.844	(1.117)	1033419	10.0000	9.7798
124	Benzidine	184	8.935	8.935	(0.899)	379523	10.0000	9.7544
125	Pyrene	202	9.020	9.020	(0.908)	1044082	10.0000	9.5216
131	Butylbenzylphthalate	149	9.485	9.485	(0.954)	471259	10.0000	9.7719
135	3,3'-Dichlorobenzidine	252	9.902	9.902	(0.996)	327107	10.0000	9.6953
136	Benzo(a)Anthracene	228	9.934	9.934	(0.999)	931614	10.0000	9.6561
137	Chrysene	228	9.961	9.961	(1.002)	899240	10.0000	9.6429
139	bis(2-ethylhexyl)Phthalate	149	9.913	9.913	(0.997)	678610	10.0000	9.7512
140	Di-n-octylphthalate	149	10.420	10.420	(0.925)	1162712	10.0000	9.6636
141	Benzo(b)fluoranthene	252	10.858	10.858	(0.964)	1147367	10.0000	10.652
142	Benzo(k)fluoranthene	252	10.885	10.885	(0.967)	1062031	10.0000	9.1828

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Semivolatile REPORT SW-846 Method 8270

Data file : \\PITSVR06\D\chem\731.i\V041311D.b\V0413IC8.D
Lab Smp Id: SSTD80 Client Smp ID: SSTD80
Inj Date : 13-APR-2011 04:03
Operator : 003200 Inst ID: 731.i
Smp Info : IC 1006
Misc Info : SSTD80,V041311D.b,8270d.m,padepi.sub,1,8
Comment :
Method : \\PITSVR06\D\chem\731.i\V041311D.b\8270d.m
Meth Date : 13-Apr-2011 05:45 731.i Quant Type: ISTD
Cal Date : 13-APR-2011 04:03 Cal File: V0413IC8.D
Als bottle: 9 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: padepi.sub
Target Version: 4.14

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)	
* 1	1,4-Dichlorobenzene-d4	152	4.476	4.476	(1.000)	138110	8.00000		
* 2	Naphthalene-d8	136	5.443	5.443	(1.000)	575622	8.00000		
* 3	Acenaphthene-d10	164	6.778	6.778	(1.000)	337630	8.00000		
* 4	Phenanthrene-d10	188	7.911	7.911	(1.000)	564137	8.00000		
* 5	Chrysene-d12	240	9.936	9.936	(1.000)	607420	8.00000		(MH)
* 6	Perylene-d12	264	11.250	11.250	(1.000)	650453	8.00000		
198	1,4-Dioxane	88	1.297	1.297	(0.290)	357893	80.0000	75.246	
10	N-Nitrosodimethylamine	74	1.757	1.757	(0.393)	537338	80.0000	76.477	
9	Pyridine	79	1.778	1.778	(0.397)	1047533	80.0000	78.869	
16	Methyl methanesulfonate	80	3.290	3.290	(0.735)	715152	80.0000	73.484	
206	Benzaldehyde	77	4.134	4.134	(0.924)	687386	80.0000	78.016	
21	Aniline	93	4.225	4.225	(0.944)	2243418	80.0000	71.920	
22	Phenol	94	4.225	4.225	(0.944)	1949867	80.0000	70.173	
23	bis(2-Chloroethyl)ether	93	4.284	4.284	(0.957)	1435188	80.0000	75.094	
24	2-Chlorophenol	128	4.321	4.321	(0.965)	1794616	80.0000	75.552	
26	1,3-Dichlorobenzene	146	4.433	4.433	(0.990)	2150661	80.0000	77.272	
27	1,4-Dichlorobenzene	146	4.492	4.492	(1.004)	2184650	80.0000	75.230	
28	1,2-Dichlorobenzene	146	4.604	4.604	(1.029)	2040610	80.0000	73.870	
217	Indene	116	4.674	4.674	(1.044)	3022788	80.0000	76.000	
29	Benzyl Alcohol	108	4.588	4.588	(1.025)	1052598	80.0000	75.590	
30	2-Methylphenol	108	4.684	4.684	(1.047)	1524664	80.0000	75.480	
31	2,2'-oxybis(1-Chloropropane)	45	4.695	4.695	(1.049)	2238508	80.0000	73.817	
37	Acetophenone	105	4.786	4.786	(1.069)	2170549	80.0000	71.976	
32	N-Nitroso-di-n-propylamine	70	4.791	4.791	(1.070)	1015424	80.0000	70.804	
192	4-Methylphenol	108	4.796	4.796	(1.072)	1420057	80.0000	69.701	
34	Hexachloroethane	117	4.866	4.866	(1.087)	936608	80.0000	78.271	
35	Nitrobenzene	77	4.914	4.914	(0.903)	1790789	80.0000	76.764	
36	N-Nitrosopyrrolidine	100	4.770	4.770	(1.066)	725268	80.0000	80.672	
41	Isophorone	82	5.096	5.096	(0.936)	3039771	80.0000	76.357	
42	2-Nitrophenol	139	5.154	5.154	(0.947)	1090877	80.0000	80.784	
43	2,4-Dimethylphenol	107	5.192	5.192	(0.954)	1751761	80.0000	76.322	
44	bis(2-Chloroethoxy)methane	93	5.261	5.261	(0.967)	1938648	80.0000	76.616	
48	2,4-Dichlorophenol	162	5.336	5.336	(0.980)	1524665	80.0000	76.763	
49	Benzoic Acid	122	5.277	5.277	(0.970)	1121246	80.0000	89.450	(M)

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
50	1,2,4-Trichlorobenzene	180	5.405	5.405	(0.993)	2060285	80.0000	76.556
51	Naphthalene	128	5.459	5.459	(1.003)	5776637	80.0000	77.534
52	4-Chloroaniline	127	5.496	5.496	(1.010)	2272357	80.0000	76.497
54	2,6-Dichlorophenol	162	5.507	5.507	(1.012)	1554228	80.0000	76.302
56	Hexachlorobutadiene	225	5.566	5.566	(1.023)	1189168	80.0000	78.223
208	Caprolactam	113	5.763	5.763	(1.059)	439784	80.0000	83.101
59	4-Chloro-3-Methylphenol	107	5.870	5.870	(1.079)	1503132	80.0000	75.477
62	2-Methylnaphthalene	142	5.982	5.982	(1.099)	3977196	80.0000	78.235
63	1-Methylnaphthalene	142	6.057	6.057	(1.113)	3773047	80.0000	76.846
64	Hexachlorocyclopentadiene	237	6.116	6.116	(0.902)	1475972	80.0000	84.706
65	1,2,4,5-Tetrachlorobenzene	216	6.116	6.116	(0.902)	1879557	80.0000	78.025
66	2,4,6-Trichlorophenol	196	6.201	6.201	(0.915)	1296736	80.0000	79.589
67	2,4,5-Trichlorophenol	196	6.228	6.228	(0.919)	1421749	80.0000	83.062
209	1,1'-Biphenyl	154	6.340	6.340	(0.935)	4899697	80.0000	79.930
70	2-Chloronaphthalene	162	6.356	6.356	(0.938)	3938505	80.0000	80.450
73	2-Nitroaniline	65	6.426	6.426	(0.948)	969891	80.0000	79.583
76	Dimethylphthalate	163	6.565	6.565	(0.968)	4095189	80.0000	80.544
78	2,6-Dinitrotoluene	165	6.607	6.607	(0.975)	926201	80.0000	83.287
79	Acenaphthylene	152	6.671	6.671	(0.984)	6405697	80.0000	84.361
81	3-Nitroaniline	138	6.736	6.736	(0.994)	1034719	80.0000	83.502
82	Acenaphthene	153	6.805	6.805	(1.004)	3799559	80.0000	79.047
83	2,4-Dinitrophenol	184	6.816	6.816	(1.006)	656924	80.0000	80.260
85	4-Nitrophenol	109	6.864	6.864	(1.013)	572130	80.0000	85.564
86	Dibenzofuran	168	6.933	6.933	(1.023)	5769966	80.0000	81.470
87	2,4-Dinitrotoluene	165	6.917	6.917	(1.020)	1297074	80.0000	87.967
91	2,3,5,6-Tetrachlorophenol	232	6.997	6.997	(1.032)	1161657	80.0000	87.322
88	2,3,4,6-Tetrachlorophenol	232	7.029	7.029	(1.037)	1128491	80.0000	84.157
92	2-Naphthylamine	143	7.051	7.051	(1.040)	2460864	80.0000	67.024
93	Diethylphthalate	149	7.104	7.104	(1.048)	4213144	80.0000	80.673
94	Fluorene	166	7.195	7.195	(1.061)	4272413	80.0000	78.714
95	4-Chlorophenyl-phenylether	204	7.190	7.190	(1.061)	2192322	80.0000	80.367
96	4-Nitroaniline	138	7.206	7.206	(1.063)	1043502	80.0000	83.894
98	4,6-Dinitro-2-methylphenol	198	7.227	7.227	(0.914)	828881	80.0000	89.530
99	N-Nitrosodiphenylamine (1)	169	7.280	7.280	(0.920)	2957554	80.0000	85.428
100	1,2-Diphenylhydrazine	77	7.313	7.313	(0.924)	4229771	80.0000	81.192
106	4-Bromophenyl-phenylether	248	7.564	7.564	(0.956)	1276535	80.0000	84.346
107	Hexachlorobenzene	284	7.622	7.622	(0.964)	1312742	80.0000	87.082
210	Atrazine	200	7.681	7.681	(0.971)	1123229	80.0000	84.733
111	Pentachlorophenol	266	7.767	7.767	(0.982)	921436	80.0000	97.855
115	Phenanthrene	178	7.927	7.927	(1.002)	7014007	80.0000	85.160
116	Anthracene	178	7.970	7.970	(1.007)	6987662	80.0000	84.886
119	Carbazole	167	8.087	8.087	(1.022)	5980183	80.0000	84.588
120	Di-n-Butylphthalate	149	8.338	8.338	(1.054)	7240821	80.0000	82.003
123	Fluoranthene	202	8.848	8.848	(1.117)	7257021	80.0000	85.150
124	Benzidine	184	8.931	8.931	(0.899)	3276990	80.0000	91.943 (M)
125	Pyrene	202	9.017	9.017	(0.908)	7669546	80.0000	76.353 (M)
131	Butylbenzylphthalate	149	9.481	9.481	(0.954)	3338531	80.0000	75.571 (M)
135	3,3'-Dichlorobenzidine	252	9.898	9.898	(0.996)	2610070	80.0000	84.451 (M)
136	Benzo(a)Anthracene	228	9.930	9.930	(0.999)	7391793	80.0000	83.636 (M)
137	Chrysene	228	9.957	9.957	(1.002)	7186654	80.0000	84.128 (M)
139	bis(2-ethylhexyl)Phthalate	149	9.909	9.909	(0.997)	4790313	80.0000	75.142 (M)
140	Di-n-octylphthalate	149	10.411	10.411	(0.926)	9041163	80.0000	75.241
141	Benzo(b)fluoranthene	252	10.860	10.860	(0.965)	8096254	80.0000	82.703
142	Benzo(k)fluoranthene	252	10.886	10.886	(0.968)	9239007	80.0000	79.988

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Semivolatile REPORT SW-846 Method 8270

Data file : \\PITSVR06\D\chem\731.i\V051511D.b\V05150CC.D
Lab Smp Id: SSTD4.0 Client Smp ID: SSTD4.0
Inj Date : 15-MAY-2011 11:15
Operator : 003200 Inst ID: 731.i
Smp Info : CCVIS 11440
Misc Info : SSTD4.0,V051511D.b,8270d.m,pah.sub,2,3
Comment :
Method : \\PITSVR06\D\chem\731.i\V051511D.b\8270d.m
Meth Date : 16-May-2011 05:27 piccolinov Quant Type: ISTD
Cal Date : 13-APR-2011 04:03 Cal File: V0413IC8.D
Als bottle: 2 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pah.sub
Target Version: 4.14
Processing Host: PITPC-502

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 1	1,4-Dichlorobenzene-d4	152	4.431	4.431	(1.000)	153734	8.00000	
* 2	Naphthalene-d8	136	5.398	5.398	(1.000)	618351	8.00000	
* 3	Acenaphthene-d10	164	6.744	6.744	(1.000)	382901	8.00000	
* 4	Phenanthrene-d10	188	7.877	7.877	(1.000)	634474	8.00000	
* 5	Chrysene-d12	240	9.907	9.907	(1.000)	492261	8.00000	
* 6	Perylene-d12	264	11.210	11.210	(1.000)	425102	8.00000	
51	Naphthalene	128	5.414	5.414	(1.003)	322903	4.00000	4.0345
79	Acenaphthylene	152	6.632	6.632	(0.983)	324641	4.00000	3.7699
82	Acenaphthene	153	6.766	6.766	(1.003)	213112	4.00000	3.9094
94	Fluorene	166	7.161	7.161	(1.062)	238512	4.00000	3.8747
115	Phenanthrene	178	7.898	7.898	(1.003)	347591	4.00000	3.7524
116	Anthracene	178	7.935	7.935	(1.007)	364712	4.00000	3.9394
123	Fluoranthene	202	8.812	8.812	(1.119)	357646	4.00000	3.7312
125	Pyrene	202	8.988	8.988	(0.907)	372263	4.00000	4.5730
136	Benzo(a)Anthracene	228	9.901	9.901	(0.999)	274017	4.00000	3.8258
137	Chrysene	228	9.928	9.928	(1.002)	259324	4.00000	3.7458
141	Benzo(b)fluoranthene	252	10.815	10.815	(0.965)	279810	4.00000	3.9802
142	Benzo(k)fluoranthene	252	10.842	10.842	(0.967)	285305	4.00000	3.7795
146	Benzo(a)pyrene	252	11.146	11.146	(0.994)	212940	4.00000	3.8153
149	Indeno(1,2,3-cd)pyrene	276	12.508	12.508	(1.116)	234371	4.00000	3.5296
150	Dibenz(a,h)anthracene	278	12.519	12.519	(1.117)	202330	4.00000	3.6071
151	Benzo(g,h,i)perylene	276	12.898	12.898	(1.151)	192065	4.00000	3.3760
$ 154	Nitrobenzene-d5	82	4.848	4.848	(0.898)	114832	4.00000	4.3529
$ 155	2-Fluorobiphenyl	172	6.226	6.226	(0.923)	247858	4.00000	3.8736
$ 156	Terphenyl-d14	244	9.095	9.095	(0.918)	240857	4.00000	4.4792
$ 157	Phenol-d5	99	4.175	4.175	(0.942)	118730	4.00000	4.4086
$ 158	2-Fluorophenol	112	3.411	3.411	(0.770)	84975	4.00000	4.4332
$ 159	2,4,6-Tribromophenol	330	7.348	7.348	(0.933)	27881	4.00000	4.0299
$ 186	2-Chlorophenol-d4	132	4.255	4.255	(0.960)	109047	4.00000	4.1971
$ 187	1,2-Dichlorobenzene-d4	152	4.549	4.549	(1.027)	80496	4.00000	4.0005

MJW
9/8/11

TestAmerica Pittsburgh

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 731.i
Lab File ID: V05150CC.D
Analysis Type:
Lab Sample ID: SSTD4.0
Method: \\PITSVR06\D\chem\731.i\V051511D.b\8270d.m

Injection Date: 15-MAY-2011 11:15
Init. Cal. Date(s): 13-APR-2011 13-APR-2011
Init. Cal. Times: 01:28 04:03
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF4	CCAL RRF4	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
51 Naphthalene	1.03547	1.04440	1.04440	0.700	-0.86272	20.00000	Averaged
79 Acenaphthylene	1.79917	1.69569	1.69569	0.900	5.75157	20.00000	Averaged
82 Acenaphthene	1.13893	1.11314	1.11314	0.900	2.26425	20.00000	Averaged
94 Fluorene	1.28609	1.24582	1.24582	0.900	3.13175	20.00000	Averaged
115 Phenanthrene	1.16798	1.09568	1.09568	0.700	6.18974	20.00000	Averaged
116 Anthracene	1.16735	1.14965	1.14965	0.700	1.51615	20.00000	Averaged
123 Fluoranthene	1.20858	1.12738 ✓	1.12738	0.600	6.71917 ✓	20.00000	Averaged
125 Pyrene	1.32296	1.51246	1.51246	0.600	-14.32410	20.00000	Averaged
136 Benzo(a)Anthracene	1.16401	1.11330	1.11330	0.800	4.35624	20.00000	Averaged
137 Chrysene	1.12509	1.05360 ✓	1.05360	0.700	6.35360 ✓	20.00000	Averaged
141 Benzo(b)fluoranthene	1.32300	1.31644	1.31644	0.700	0.49580	20.00000	Averaged
142 Benzo(k)fluoranthene	1.42061	1.34229	1.34229	0.700	5.51292	20.00000	Averaged
146 Benzo(a)pyrene	1.05032	1.00183	1.00183	0.700	4.61641	20.00000	Averaged
149 Indeno(1,2,3-cd)pyrene	1.24962	1.10266	1.10266	0.500	11.76071	20.00000	Averaged
150 Dibenz(a,h)anthracene	1.05561	0.95191	0.95191	0.400	9.82349	20.00000	Averaged
151 Benzo(g,h,i)perylene	1.07065	0.90362	0.90362	0.500	15.60108	20.00000	Averaged
$ 154 Nitrobenzene-d5	0.34130	0.37141	0.37141	0.010	-8.82186	20.00000	Averaged
$ 155 2-Fluorobiphenyl	1.33589	1.29463	1.29463	0.010	3.16083	20.00000	Averaged
$ 156 Terphenyl-d14	0.87389	0.97857	0.97857	0.010	-11.97917	20.00000	Averaged
$ 157 Phenol-d5	1.40145	1.54462	1.54462	0.010	-10.21550	20.00000	Averaged
$ 158 2-Fluorophenol	0.99745	1.10548	1.10548	0.010	-10.83088	20.00000	Averaged
$ 159 2,4,6-Tribromophenol	0.08724	0.08789	0.08789	0.010	-0.74653	20.00000	Averaged
$ 186 2-Chlorophenol-d4	1.35203	1.41865	1.41865	0.010	-4.92668	20.00000	Averaged
$ 187 1,2-Dichlorobenzene-d4	1.04707	1.04721	1.04721	0.010	-0.01319	20.00000	Averaged

Chrysene RRF = $\frac{259324\,(8)}{492261\,(4)} = 1.0536$ $\quad \%D = 1 - \frac{RRF}{RRF} \cdot 100$ $\quad \%D = 1 - \frac{1.0536}{1.12509} = 6.35\%$

Fluoranthene RRF: $\frac{357646\,(8)}{634474\,(4)} = 1.127377$ $\quad \%D = 1 - \frac{1.127377}{1.20858} = 6.719\%$

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YES NO N/A

E - The concentration of this analyte exceeds the calibration range of the instrument.

A - Indicates a Tentatively Identified Compound (TIC) is a suspected adol-condensation product.

X,Y,Z- Laboratory defined flags. The data reviewer must change these qualifiers during validation so that the data user may understand their impact on the data.

I. PACKAGE COMPLETENESS AND DELIVERABLES

SDG
CASE NUMBER: C1E120405 LAB: TestAmerica

SITE NAME: Ft. Totten

1.0 Data Completeness and Deliverables

1.1 Has all data been submitted in CLP deliverable format? [V] ___ ___

ACTION: If not, note the effect on review of the data in the data assessment narrative.

2.0 Cover Letter, SDG Narrative

2.1 Is a laboratory narrative or cover letter present? [V] ___ ___

2.2 Are case number and SDG number(s) contained in the narrative or cover letter? [V] ___ ___

YES NO N/A

II. SEMIVOLATILE ANALYSES

1.0 Traffic Reports and Laboratory Narrative

1.1 Are the Traffic Report Forms present for all samples? ☑ ___ ___

ACTION: If no, contact lab for replacement of missing or illegible copies.

1.2 Do the Traffic Reports or Lab Narrative indicate any problems with sample receipt, condition of samples, analytical problems or special notations affecting the quality of the data? ___ ☑ ___

ACTION: If any sample analyzed as a soil, other than TCLP, contains 50%-90% water, all data should be flagged as estimated ("J"). If a soil sample, other than TCLP, contains more than 90% water, all non-detects data are qualified as unusable (R), and detects are flagged "J".

ACTION: If samples were not iced, or if the ice was melted upon arrival at the laboratory and the cooler temperature was elevated (10°C), flag all positive results "J" and all non-detects "UJ".

2.0 Holding Times

2.1 Have any semivolatile technical holding times, determined from date of collection to date of extraction, been exceeded? ___ ☑ ___

Continuous extraction of water samples for semivolatile analysis must be started within **7** days of the date of collection. Soil/sediment samples must be extracted within **14** days of collection. Extracts must be analyzed within

YES NO N/A

40 days of the date of extraction.

Table of Holding Time Violations

Sample ID	Sample Matrix	Date Sampled	Date Lab Received (See Traffic Report)	Date Extracted	Date Analyzed

ACTION: If technical holding times are exceeded, flag all positive results as estimated ("J") and sample quantitation limits as estimated ("UJ"), and document in the narrative that holding times were exceeded.

If analyses were done more than 14 days beyond holding time, either on the first analysis or upon re analysis, the reviewer must use professional judgement to determine the reliability of the data and the effects of additional storage on the sample results. At a minimum, all results should be qualified "J", but the reviewer may determine that non-detect data are unusable ("R"). If holding times are exceeded by more than 28 days, all non-detect data are unusable (R).

	YES	NO	N/A
3.0 Surrogate Recovery (Form II/Equivalent)			
3.1 Have the semi volatile surrogate recoveries been listed on CLP Surrogate Recovery forms (Form II) for each of the following matrices:			
a. Low Water	[ ]	___	✓
b. Low/Med Soil	[✓]	___	___
3.2 If so, are all the samples listed on the appropriate Surrogate Recovery Summary forms for each matrix:			
a. Low Water	[ ]	___	✓
b. Low/Med Soil	[✓]	___	___
ACTION: If CLP deliverables are unavailable, document the effect(s) in data assessments. In some cases the lab may have to be contacted to obtain the data necessary to complete the validation.			
3.3 Were outliers marked correctly with an asterisk?	[ ]	___	✓
ACTION: Circle all outliers in red.			
3.4 Were two or more base neutral OR acid surrogate recoveries out of specification for any sample or method blank (Reviewer should use lab in house recovery limits. Use surrogate recovery limits from USEPA National Functional Guidlines January 2005 page 130, if in house limits are not available. See Method 8000B-43 or 80000C-24).	[ ]	✓	___
Note: Examine lab in house limits for reasonableness.			
If yes, were samples re-analyzed?	[ ]	___	✓

	YES	NO	N/A
Were method blanks re-analyzed?	[ ]	___	✓

ACTION: If all surrogate recoveries are > 10% but two within the base-neutral or acid fraction do not meet method specifications, for the affected fraction only (i.e. either base-neutral or acid compounds):

1. Flag all positive results as estimated ("J").

2. Flag all non-detects as estimated detection limits ("UJ") when recoveries are less than the lower acceptance limit.

3. If recoveries are greater than the upper acceptance limit, do not qualify non-detects.

If any base-neutral or acid surrogate has a recovery of < 10%:

1. Positive results for the fraction with < 10% surrogate recovery are qualified with "J".

2. Non-detects for that fraction should be qualified as unusable (R) .

NOTE: Professional judgement should be used to qualify data that have method blank surrogate recoveries out of specification in both original and reanalyses. Check the internal standard areas.

3.5 Are there any transcription/calculation errors between raw data and Form II?	___	[✓]	___

ACTION: If large errors exist, call lab for explanation/resubmittal, make any necessary corrections and document

YES NO N/A

effect in data assessments.

4.0 Matrix Spikes (Form III/Equivalent)

4.1 Have the semivolatile Matrix Spike and Matrix Spike Duplicate/or duplicate unspiked Sample recoveries been listed on the Recovery Form (Form III)? [✓] ___ ___

NOTE: Method 3500B/page 4 states the spiking compounds:

Base/neutrals	Acids
1,2,4-Trichlorobenzene	Pentachlorophenol
Acenaphthene	Phenol
2,4-Dinitrotoluene	2-Chlorophenol
Pyrene	4-Chloro-3-methylphenol
N-Nitroso-di-n-propylamine	4-Nitrophenol
1,4-Dichlorobenzene	

Note: Some projects may require the spiking of specific compounds of interest.

Note: See Method 8270D-sec 8.4.2 for deciding on whether to prepare and analyze duplicate samples or a martix spike/matrix spike duplicate. If samples are expected to contain target analytes, then laboratory may use one matrix spike and a duplicate analysis of an unspiked field sample. If samples are not expected to contain target analytes, laboratory should use a matrix spike and matrix spike duplicate pair.

4.2 Were matrix spikes analyzed at the required frequency for each of the following matrices:

a. Low Water [ ] ___ [✓]

b. Low Solid [✓] ___ ___

c. Med Solid [✓] ___ ___

YES NO N/A

ACTION: If any matrix spike data are missing, take the action specified in 3.2 above. It may be necessary to contact the lab to obtain the required data.

NOTE: If the data has not been reported on CLP equivalent form, then the laboratory must provide the information necessary to evaluate the spike recoveries in the MS and MSD. The required data which should have been provided by the lab include the analytes and concentrations used for spiking, background concentrations of the spiked analytes (i.e., concentrations in unspiked sample), methods and equations used to calculate the QC acceptance criteria for the spiked analytes, percent recovery data for all spiked analytes.

The data reviewer must verify that all reported equations and percent recoveries are correct before proceeding to the next section.

4.3 Were matrix spikes performed at concentration equal to 100ug/L for acid compounds, and 200ug/l for base compounds (Method 3500B-4), or those specified in project plan. ☑ ___ ___

4.4 How many semivolatile spike recoveries are outside Laboratory in house MS/MSD recovery limits (use recovery limits values in Method 8270D-43&44 Table 6 if in house values not available).

Water

___ out of ___

Solids

9 out of 18

YES NO N/A

4.5 How many RPD's for matrix spike and matrix spike duplicate recoveries are outside QC limits?

Water	Solids
___ ~~out~~ of ___	0 out of 18

ACTION: Circle all outliers with red pencil.

ACTION: No action is taken on MS/MSD data alone. However, using informed professional judgement, the data reviewer may use the matrix spike and matrix spike duplicate results in conjunction with other QC criteria to determine the need for some qualification of the data.

4.6 Was a Laboratory Control Sample (LCS) analyzed with each analytical batch? [Y] ___ ___

NOTE: When the results of the matrix spike analysis indicate a potential problem due to the sample matrix itself, the LCS results are used to verify that the laboratory can perform the analysis in a clean matrix.

5.0 Blanks (Form IV/Equivalent)

5.1 Is the Method Blank Summary (Form IV) present? [Y] ___ ___

5.2 Frequency of Analysis:

Has a reagent/method blank analysis been reported per 20 samples of similar matrix, or concentration level, and for each extraction batch? [Y] ___ ___

5.3 Has a method blank been analyzed either after

YES NO N/A

the calibration standard or at any other time during the analytical shift for each GC/MS system used ? ☑ ___ ___

ACTION: If any method blank data are missing, call lab for explanation/resubmittal. If not available, use professional judgement to determine if the associated sample data should be qualified.

5.4 Chromatography: review the blank raw data - chromatograms (RICs), quant reports or data system printouts and spectra.

Is the chromatographic performance (baseline stability) for each instrument acceptable for the semivolatiles? ☑ ___ ___

ACTION: Use professional judgement to determine the effect on the data.

6.0 Contamination

NOTE: "Water blanks", "drill blanks" and "distilled water blanks" are validated like any other sample and are not used to qualify the data. Do not confuse them with the other QC blanks discussed below.

6.1 Do any method/instrument/reagent blanks have positive results for target analytes and/or TICs? When applied as described below, the contaminant concentration in these blanks are multiplied by the sample dilution factor and corrected for percent moisture where necessary. ___ ☑ ___

6.2 Do any field/rinse/ blanks have positive results for target analytes and/or TICs (if required, see section 10 below)? ___ ☑ ___

YES NO N/A

ACTION: Prepare a list of the samples associated with each of the contaminated blanks. (Attach a separate sheet.)

NOTE: All field blank results associated to a particular group of samples (may exceed one per case) must be used to qualify data. Blanks may not be qualified because of contamination in another blank. Field Blanks must be qualified for outlying surrogates, poor spectra, instrument performance or calibration QC problems.

ACTION: Follow the directions in the table below to qualify sample results due to contamination. Use the largest value from all the associated blanks. If gross contamination exists, all data in the associated samples should be qualified as unusable (R).

YES NO N/A

Blank Action for Semivolatile Analyses

Blank Type	Blank Result	Sample Result	Action for Samples
Method, Field	Detects	Not detected	No qualification required
	< CRQL *	< CRQL	Report CRQL value with a U
		≥ CRQL	No qualification required
	= CRQL *	< CRQL	Report CRQL value with a U
		≥ CRQL	No qualification required
	> CRQL *	< CRQL	Report CRQL value with a U
		≥ CRQL and < blank contamination	Report concentration of sample with a U
		≥ CRQL and ≥ blank contamination	No qualification required

NOTE: Analytes qualified "U" for blank contamination are still considered as "hits" when qualifying for calibration criteria.

NOTE: If the laboratory did not report TIC analyses, check the project plans to verify whether or not it was required.

6.3 Are there field/rinse/equipment blanks associated with every sample? [ ] [✓] [ ]

ACTION: For low level samples, note in data assessment that there is no associated field/rinse/equipment blank. Exception: samples taken from a drinking water tap do not have associated field blanks.

6.4 Was a instrument blank analyzed after each sample/dilution which contained a target compound

	YES	NO	N/A
that exceeded the initial calibration range.	[ ]	✓	
6.5 Does the instrument blank have positive results for target analytes and/or TICs?		[✓]	

Note: Use professional judgement to determine if carryover occurred and qualify analytes accordingly.

7.0 GC/MS Apparatus and Materials

	YES	NO	N/A
7.1 Did the lab use the proper gas chromatographic column for analysis of semivolatiles by Method 8270D? Check raw data, instrument logs or contact the lab to determine what type of column was used. The method requires the use of 30 m x 0.25 mm ID (or 0.32 mm ID), silicone-coated, fused silica, capillary column.	[✓]		

ACTION: If the specified column, or equivalent, was not used, document the effects in the data assessment. Use professional judgement to determine the acceptability of the data.

8.0 GC/MS Instrument Performance Check (Form V/Equivalent)

	YES	NO	N/A
8.1 Are the GC/MS Instrument Performance Check Forms (Form V) present for decafluorotriphenylphosphine (DFTPP)?	[✓]		

NOTE: The performance solution should also contain 4,4-DDT, pentachlorophenol, and benzidine to verify injection port inertness and column performance. The degradation of DDT to DDE and DDD must be less than 20% total and the response of pentachlorophenol and benzidine should be within normal ranges for these compounds (based upon lab experience) and show no peak degradation or tailing before samples are analyzed. (see section 5.5

YES NO N/A

page 8270D-12).

8.2 Are the enhanced bar graph spectrum and mass/charge (m/z) listing for the DFTPP provided for each twelve hour shift? [✓] ___ ___

8.3 Has an instrument performance check solution been analyzed for every twelve hours of sample analysis per instrument? [✓] ___ ___

ACTION: List date, time, instrument ID, and sample analyses for which no associated GC/MS tuning data are available.

DATE	TIME	INSTRUMENT	SAMPLE NUMBERS
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

ACTION: If lab cannot provide missing data, reject ("R") all data generated outside an acceptable twelve hour calibration interval.

ACTION: If mass assignment is in error, flag all associated sample data as unusable (R).

8.4 Have the ion abundances been normalized to m/z 198? [✓] ___ ___

8.5 Have the ion abundance criteria been met for each instrument used? [✓] ___ ___

ACTION: List all data which do not meet ion abundance criteria (attach a separate sheet).

	YES	NO	N/A
ACTION: If ion abundance criteria are not met, take action specified in section 3.2			
8.6 Are there any transcription/calculation errors between mass lists and Form Vs? (Check at least two values but if errors are found, check more.)		✓	
8.7 Have the appropriate number of significant figures (two) been reported?	✓		
ACTION: If large errors exist, call lab for explanation/resubmittal, make necessary corrections and document effect in data assessments.			
8.8 Are the spectra of the mass calibration compound acceptable?	✓		
ACTION: Use professional judgement to determine whether associated data should be accepted, qualified, or rejected.			

9.0 Target Analytes

9.1 Are the Organic Analysis Data Sheets (Form I) present with required header information on each page, for each of the following:			
a. Samples and/or fractions as appropriate	✓		
b. Matrix spikes and matrix spike duplicates	✓		
c. Blanks	✓		
9.2 Has any special cleanup, such as GPC, been performed on all soil/sediment sample extracts (see section 7.2, page 8270D-14)?		✓	

	YES	NO	N/A

ACTION: If data suggests that extract cleanup was not performed, use professional judgement. Make note in the data assessment narrative.

9.3 Are the Reconstructed Ion Chromatograms, mass spectra for the identified compounds, and the data system printouts (Quant Reports) included in the sample package for each of the following?

a. Samples and/or fractions as appropriate	☑		
b. Matrix spikes and matrix spike duplicates (Mass spectra not required)	☑		
c. Blanks	☑		

ACTION: If any data are missing, take action specified in 3.2 above.

9.4 Are the response factors shown in the Quant Report?	☐	☑	

9.5 Is chromatographic performance acceptable with respect to:

Baseline stability?	☑		
Resolution?	☑		
Peak shape?	☑		
Full-scale graph (attenuation)?	☑		
Other:_____	☐		

ACTION: Use professional judgement to determine the acceptability of the data.

9.6 Are the lab-generated standard mass spectra of identified semivolatile compounds present for

	YES	NO	N/A
each sample?	☑		

ACTION: If any mass spectra are missing, take action specified in 3.2 above. If the lab does not generate their own standard spectra, make a note in the data assessment narrative. If spectra are missing, reject all positive data.

9.7 Is the RRT of each reported compound within 0.06 RRT units of the standard RRT in the continuing calibration?	☑		
9.8 Are all ions present in the standard mass spectrum at a relative intensity greater than 10% (of the most abundant ion) also present in the sample mass spectrum?	☑		
9.9 Do the relative intensities of the characteristic ions in the sample agree within ± 30% of the corresponding relative intensities in the reference spectrum?	☑		

ACTION: Use professional judgement to determine acceptability of data. If it is determined that incorrect identifications were made, all such data should be rejected (R), flagged "N" (Presumptive evidence of the presence of the compound) or changed to not detected (U) at the calculated detection limit. In order to be positively identified, the data must comply with the criteria listed in 9.7, 9.8, and 9.9.

ACTION: When sample carry-over is a possibility, professional judgement should be used to determine if instrument cross-contamination has affected any positive compound identification.

YES NO N/A

10.0 Tentatively Identified Compounds (TIC)

10.1 If Tentatively Identified Compounds were required for this project, are all Form Is, Part B present; and do listed TICs include scan number or retention time, estimated concentration and "JN" qualifier?

NOTE: Review sampling reports to determine if the lab was required to identify non target analytes (refer to section 7.6.2,page 8270D-21).

10.2 Are the mass spectra for the tentatively identified compounds and associated "best match" spectra included in the sample package for each of the following: [ ] ___ ✓

a. Samples and/or fractions as appropriate [ ] ___ ✓

b. Blanks [ ] ___ ✓

ACTION: If any TIC data are missing, take action specified in 3.2 above.

ACTION: Add "JN" qualifier only to analytes identified by CAS #.

10.3 Are any target compounds from one fraction listed as TIC compounds in another (e.g., an acid compound listed as a base neutral TIC)? ___ [ ] ✓

ACTION: i. Flag with "R" any target compound listed as a TIC.

ii. Make sure all rejected compounds are properly reported in the other fraction.

10.4 Are all ions present in the reference mass spectrum with a relative intensity greater than 10% (of the most abundant ion) also present in the

	YES	NO	N/A
sample mass spectrum?	[ ]	___	✓
10.5 Do TIC and "best match" standard relative ion intensities agree within ± 20%?	[ ]	___	✓

ACTION: Use professional judgement to determine acceptability of TIC identifications. If it is determined that an incorrect identification was made, change the identification to "unknown" or to some less specific identification (example: "C3 substituted benzene") as appropriate and remove "JN". Also, when a compound is not found in any blank, but is a suspected artifact of a common laboratory contaminant, the result should be qualified as unusable, "R."

11.0 Compound Quantitation and Reported Detection Limits

	YES	NO	N/A
11.1 Are there any transcription/calculation errors in Form I results? Check at least two positive values. Verify that the correct internal standard, quantitation ion, and RRF were used to calculate Form I result. Were any errors found?	___	[✓]	___

NOTE: Structural isomers with similar mass spectra, but insufficient GC resolution (i.e. percent valley between the two peaks > 25%) should be reported as isomeric pairs. The reviewer should check the raw data to ensure that all such isomers were included in the quantitation (i.e., add the areas of the two coeluting peaks to calculate the total concentration).

	YES	NO	N/A
11.2 Are the method detection limits adjusted to reflect sample dilutions and, for soils, sample moisture?	[✓]	___	___

YES NO N/A

ACTION: If errors are large, call lab for explanation/resubmittal, make any necessary corrections and document effect in data assessments.

ACTION: When a sample is analyzed at more than one dilution, the lowest detection limits are used (unless a QC exceedance dictates the use of the higher detection limit from the diluted sample data). Replace concentrations that exceed the calibration range in the original analysis by crossing out the "E" and it's associated value on the original Form I (if present) and substituting the data from the analysis of the diluted sample. Specify which Form I is to be used, then draw a red " X" across the entire page of all Form I's that should not be used, including any in the summary package.

12.0 Standards Data (GC/MS)

12.1 Are the Reconstructed Ion Chromatograms, and data system printouts (Quant, Reports) present for initial and continuing calibration? [✓] ___ ___

ACTION: If any calibration standard data are missing, take action specified in 3.2 above.

13.0 GC/MS Initial Calibration (Form VI/Equivalent)

13.1 Is the Initial Calibration Form (Form VI/ Equivalent) present and complete for the semivolatile fraction? [✓] ___ ___

ACTION: If any calibration forms or standard row data are missing, take action specified in 3.2 above.

13.2 Are all base neutral or acid RRFs > 0.050? [✓] ___ ___

YES NO N/A

Check the **average RRFs** of the four System Performance Check Compounds (SPCCs): N-nitroso-di-n-propylamine, hexachlorocyclopentadiene, 2,4-dinitrophenol, and 4-nitrophenol. These compounds must have **average RRFs** greater than or equal to 0.05 before running samples and should not show any peak tailing.

ACTION: Circle all outliers in red.

ACTION: For any target analyte with **average RRF <0.05**

1. "R" all non-detects;

2. "J" all positive results.

13.3 Are response factors for base neutral or acid target analytes stable over the concentration range of the calibration (% Relative standard deviation [%RSD] < 15.0%)? [ ] ✓ ___

NOTE: The % RSD for each individual Calibration Check Compound (CCC, Method 8270D-40 see Table 4) must be less than 30% before analysis can begin. If grater 30%, the lab must clean and recalibrate the instrument.

CALIBRATION CHECK COMPOUNDS

Base/Neutral Fraction	Acid Fraction
Acenaphthene	4-Chloro-3-methylphenol
1,4-Dichlorobenzene	2,4-Dichlorophenol
Hexachlorobutadiene	2-Nitrophenol
Diphenylamine	Phenol
Di-n-octyl phthalate	Pentachlorophenol
Fluoranthene	2,4,6-Trichlorophenol

YES NO N/A

Benzo(a)pyrene

ACTION: If the %RSD for any CCC >30% and no corrective action taken, then "J" qualify all positive hits and "UJ" qualify all non-detects.

ACTION: Circle all outliers in red.

ACTION: If the % RSD is $\geq$ 15.0%, qualify positive results for that analyte "J" and non-detects using professional judgement. When RSD > 90%, flag all non-detect results for that analyte "R," unusable. Alternatively, the lab should calculate first or second order regression fit of the calibration curve and select the fit which introduces the least amount of error.

NOTE: Analytes previously qualified "U" due to blank contamination are still considered as "hits" when qualifying for calibration criteria.

13.4 Did the laboratory calculate the calibration curve by the least squares regression fit? ___ [✓] ___

13.5 Are there any transcription/calculation errors in the reporting of average response factors (RRF) or % RSD? (Check at least two values but if errors are found, check more.) ___ [✓] ___

ACTION: Circle Errors in red.

ACTION: If errors are large, call lab for explanation/resubmittal, make any necessary corrections and note errors in data assessments.

13.5 Do the target compounds for this SDG include Pesticides? [ ] [✓] ___

YES NO N/A

13.6 If the pesticide compounds include DDT, was the percent breakdown of DDT to DDD and DDE greater than 20%? ___ [ ] ✓

ACTION: If DDT percent breakdown exceeds 20%:

i. Qualify all positive results for DDT with "J". If DDT was not detected, but DDD and DDE results are positive, qualify the quantitation limit for DDT as unusable, "R".

ii. Qualify all positive results for DDD and DDE as presumptively present at an approximate concentration "JN".

14.0 GC/MS Calibration Verification (Form VII/Equivalent)

14.1 Are the Calibration Verification Forms (Form VII) present and complete for all compounds of interest? [✓] ___ ___

14.2 Has a calibration verification standard been analyzed for every twelve hours of sample analysis per instrument? [✓] ___ ___

ACTION: List below all sample analyses that were not within twelve hours of a calibration verification analysis for each instrument used.

_____

_____

_____

ACTION: If any forms are missing or no calibration verification standard has been analyzed within twelve hours of every sample analysis,

	YES	NO	N/A
call lab for explanation/resubmittal. If continuing calibration data are not available, flag all associated sample data as unusable ("R").			
14.3 Do any of the SPCCs have an RRF <0.05?	___	[✓]	___
If YES, make a note in data assessment if the lab did not take corrective action specified in section 7.4.4, page 8270D-18.	[ ]	___	✓
14.4 Do any of the CCCs have a %D between the initial and continuing RRF which exceeds 20.0%?			
ACTION: If yes, make a note in data assessment.			
14.5 Do any semivolatile compounds have a % Difference (% D) between the initial and continuing RRF which exceeds 20.0%?	___	[✓]	___
ACTION: Circle all outliers in red.			
ACTION: Qualify both positive results and non-detects for the outlier compound(s) as estimated (J). When %D is above 90%, qualify all non-detects for that analyte as "R", unusable.			
14.6 Do any semivolatile compounds have a RRF < 0.05?	___	[✓]	___
ACTION: Circle all outliers in red.			
ACTION: If RRF < 0.05, qualify as unusable ("R") associated non-detects and "J" associated positive values.			
14.7 Are there any transcription/calculation errors in the reporting of average response factors (RRF) or percent difference (%D) between initial and continuing RRFs? (Check at least two values but if errors are found, check more).	___	[✓]	___

YES NO N/A

ACTION: Circle errors in red.

ACTION: If errors are large, call lab for explanation/resubmittal, make any necessary corrections and document effect(s) in the data assessments.

15.0 Internal Standards (Form VIII)

15.1 Are the internal standard areas (Form VIII) of every sample and blank within the upper and lower limits (-50% to + 100%) for each continuing calibration? ☑ ___ ___

ACTION: List each outlying internal standard below.

Sample ID	IS #	Area	LowerLimit	Upper Limit

(Attach additional sheets if necessary.)

Note: Check Table 5, 8270D-41 for associated analytes.

ACTION: i. If the internal standard area count is outside the upper or lower limit, flag with "J" all positive results and non-detects (U values) quantitated with this internal standard.

ii. Non-detects associated with IS > 100% should not be qualified.

YES NO N/A

iii. If the IS area is below the lower limit (<50%), qualify all associated non-detects (U-values) "J". If extremely low area counts are reported (<25%) or if performance exhibits a major abrupt drop off, flag all associated non-detects as unusable (R).

15.2 Are the retention times of all internal standards within 30 seconds of the associated calibration standard? [✓] ___ ___

ACTION: Professional judgement should be used to qualify data if the retention times differ by more than 30 seconds.

16.0 Laboratory Control Samples (LCS)

16.1 Were any LCS samples run in order to verify analytes which failed criteria for spike recovery? [✓] ___ ___

16.2 Did the lab spike LCS sample spiked with the same analytes and the same concentrations as the matrix spike? [ ] [✓] ___

16.3 Were the mean and standard deviation of all analytes within the QC acceptance ranges as shown in Table 6, 8270D-43? [✓] ___ ___

ACTION: If the recovery of any analyte falls out of the designated range, the analytical results for that compound is suspect and should be qualified "J" in the unspiked samples.

17.0 Field Duplicates

17.1 Were any field duplicates submitted for semivolatile analysis? [✓] ___ ___

YES NO N/A

ACTION: Compare the reported results for field duplicates and calculate the relative percent difference.

ACTION: Any gross variation between field duplicate results must be addressed in the reviewer narrative. However, if large differences exist, identification of field duplicates should be confirmed by contacting the sampler.

Notes on attached calc. page

Test America Pittsburgh

Semivolatile REPORT SW-846 Method 8270

Data file : \\pitsvr06\D\chem\731.i\2011\V051411D.b\V0514025.D
Lab Smp Id: MH90W1AF Client Smp ID: AI3-104(6-24)
Inj Date : 14-MAY-2011 18:26
Operator : 003200 Inst ID: 731.i
Smp Info : C1E120405-008 5/13/11 soil(1133021) dod
Misc Info : MH90W1AF,V051411D.b,8270d.m,pah.sub
Comment :
Method : \\pitsvr06\D\chem\731.i\2011\V051411D.b\8270d.m
Meth Date : 07-Sep-2011 16:32 campisin Quant Type: ISTD
Cal Date : 13-APR-2011 04:03 Cal File: V0413IC8.D
Als bottle: 27
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pah.sub
Target Version: 4.14
Processing Host: PITPC-732

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws)*gpc * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	500.000	Volume of final extract (uL)(1000 low, 2
Vi	2.000	Volume injected (uL)
Ws	15.100	Weight of sample extracted (g)
gpc	1.000	gpc correction factor
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	CONCENTRATIONS FINAL (ug/kg)
* 1	1,4-Dichlorobenzene-d4	152	4.388	4.386	(1.000)	119622	8.00000	
* 2	Naphthalene-d8	136	5.361	5.358	(1.000)	460782	8.00000	
* 3	Acenaphthene-d10	164	6.702	6.699	(1.000)	268237	8.00000	
* 4	Phenanthrene-d10	188	7.839	7.837	(1.000)	433495	8.00000	
* 5	Chrysene-d12	240	9.875	9.867	(1.000)	439532	8.00000	
* 6	Perylene-d12	264	11.168	11.149	(1.000)	510460	8.00000	
51	Naphthalene	128	5.377	5.374	(1.003)	22424	0.37599	6.2249
62	2-Methylnaphthalene	142	5.906	5.903	(1.102)	11057	0.27171	4.4985(M)
63	1-Methylnaphthalene	142	5.980	5.978	(1.116)	7619	0.19385	3.2094(M)
79	Acenaphthylene	152	6.595	6.587	(0.984)	53646	0.88927	14.723
82	Acenaphthene	153	6.728	6.725	(1.004)	6960	0.18226	3.0175
94	Fluorene	166	7.118	7.115	(1.062)	11189	0.25947	4.2959
115	Phenanthrene	178	7.855	7.853	(1.002)	248733	3.93011	65.060
116	Anthracene	178	7.893	7.890	(1.007)	52946	0.83702	13.858
123	Fluoranthene	202	8.769	8.766	(1.119)	478110	7.30057	120.87
125	Pyrene	202	8.945	8.942	(0.906)	422892	5.81812	96.326
136	Benzo(a)Anthracene	228	9.864	9.856	(0.999)	218721	3.42007	56.624
137	Chrysene	228	9.896	9.888	(1.002)	246306	3.98463	65.971
141	Benzo(b)fluoranthene	252	10.778	10.759	(0.965)	573180	6.78986	112.41
142	Benzo(k)fluoranthene	252	Compound Not Detected.					

MV 9/16/11

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	CONCENTRATIONS FINAL (ug/kg)
146 Benzo(a)pyrene	252	11.109	11.090	(0.995)	252967	3.77461	62.493
149 Indeno(1,2,3-cd)pyrene	276	12.455	12.425	(1.115)	259159	3.25024	53.812
150 Dibenz(a,h)anthracene	278	12.466	12.442	(1.116)	52209	0.77512	12.833
151 Benzo(g,h,i)perylene	276	12.850	12.805	(1.151)	254496	3.72530	61.677
$ 154 Nitrobenzene-d5	82	4.810	4.808	(0.897)	544037	27.6746	458.19
$ 155 2-Fluorobiphenyl	172	6.189	6.186	(0.923)	1199558	26.7607	443.06
$ 156 Terphenyl-d14	244	9.052	9.055	(0.917)	1404898	29.2609	484.45
$ 157 Phenol-d5	99	4.143	4.129	(0.944)	861996	41.1345 ✓	681.03 ✓
$ 158 2-Fluorophenol	112	3.373	3.360	(0.769)	572779	38.4039	635.83
$ 159 2,4,6-Tribromophenol	330	7.311	7.302	(0.933)	248081	52.4813	868.90
$ 186 2-Chlorophenol-d4	132	4.223	4.209	(0.962)	805998	39.8681	660.07
$ 187 1,2-Dichlorobenzene-d4	152	4.506	4.503	(1.027)	360117	23.0009	380.81

QC Flag Legend

M - Compound response manually integrated.

$$[\text{Phenol-d5}] = \frac{861996\ (8)}{119622\ (1.40145)} = 41.1345\ \text{ng} \cdot 500/30.2 = 681.034\ \text{ug/kg}$$ ~~685.575~~

MJW 9/16/11

Test America Pittsburgh

Semivolatile REPORT SW-846 Method 8270

Data file : \\pitsvr06\D\chem\731.i\2011\V051411D.b\V0514028.D
Lab Smp Id: MH9011AF Client Smp ID: AI3-108(0-2)
Inj Date : 14-MAY-2011 19:27
Operator : 003200 Inst ID: 731.i
Smp Info : C1E120405-011 X5 5/13/11 soil(1133021) dod
Misc Info : MH9011AF,V051411D.b,8270d.m,pah.sub
Comment :
Method : \\pitsvr06\D\chem\731.i\2011\V051411D.b\8270d.m
Meth Date : 07-Sep-2011 16:32 campisin Quant Type: ISTD
Cal Date : 13-APR-2011 04:03 Cal File: V0413IC8.D
Als bottle: 30
Dil Factor: 5.00000
Integrator: HP RTE Compound Sublist: pah.sub
Target Version: 4.14
Processing Host: PITPC-732

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws)*gpc * CpndVariable

Name	Value	Description
DF	5.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	500.000	Volume of final extract (uL)(1000 low, 2
Vi	2.000	Volume injected (uL)
Ws	15.000	Weight of sample extracted (g)
gpc	1.000	gpc correction factor
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	FINAL (ug/kg)
* 1	1,4-Dichlorobenzene-d4	152	4.388	4.386	(1.000)	112543	8.00000	
* 2	Naphthalene-d8	136	5.355	5.358	(1.000)	462832	8.00000	
* 3	Acenaphthene-d10	164	6.696	6.699	(1.000)	268296	8.00000	
* 4	Phenanthrene-d10	188	7.834	7.837	(1.000)	435996	8.00000	
* 5	Chrysene-d12	240	9.869	9.867	(1.000)	446266	8.00000	
* 6	Perylene-d12	264	11.162	11.149	(1.000)	518405	8.00000	
51	Naphthalene	128	Compound Not Detected.					
62	2-Methylnaphthalene	142	5.900	5.903	(1.102)	2490	0.06092	5.0764(M)
63	1-Methylnaphthalene	142	5.975	5.978	(1.116)	1977	0.05008	4.1732(M)
79	Acenaphthylene	152	6.589	6.587	(0.984)	19719	0.32680	27.234
82	Acenaphthene	153	Compound Not Detected.					
94	Fluorene	166	7.118	7.115	(1.063)	3472	0.08050	6.7081
115	Phenanthrene	178	7.850	7.853	(1.002)	70870	1.11336	92.780
116	Anthracene	178	7.887	7.890	(1.007)	20104	0.31600	26.333
123	Fluoranthene	202	8.763	8.766	(1.119)	152617	2.31704	193.09
125	Pyrene	202	8.940	8.942	(0.906)	144544	1.95862	163.22
136	Benzo(a)Anthracene	228	9.864	9.856	(0.999)	86587	1.33350	111.12
137	Chrysene	228	9.891	9.888	(1.002)	88299	1.40691	117.24
141	Benzo(b)fluoranthene	252	10.772	10.759	(0.965)	190393	2.22082	185.07
142	Benzo(k)fluoranthene	252	Compound Not Detected.					

MJ 9/16/11

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	FINAL (ug/kg)
146 Benzo(a)pyrene	252	11.098	11.090	(0.994)	90910	1.33571	111.31
149 Indeno(1,2,3-cd)pyrene	276	12.444	12.425	(1.115)	80111	0.98931	82.443
150 Dibenz(a,h)anthracene	278	12.450	12.442	(1.115)	20658	0.30200	25.166
151 Benzo(g,h,i)perylene	276	12.834	12.805	(1.150)	76824	1.10731	92.276
$ 154 Nitrobenzene-d5	82	4.805	4.808	(0.897)	104280	5.28112	440.09
$ 155 2-Fluorobiphenyl	172	6.183	6.186	(0.923)	249983	5.57559 ✓	464.63 ✓
$ 156 Terphenyl-d14	244	9.047	9.055	(0.917)	270556	5.55005	462.50
$ 157 Phenol-d5	99	4.143	4.129	(0.944)	164285	8.33281	694.40
$ 158 2-Fluorophenol	112	3.368	3.360	(0.768)	100212	7.14169	595.14
$ 159 2,4,6-Tribromophenol	330	7.305	7.302	(0.932)	51607	10.8548	904.57
$ 186 2-Chlorophenol-d4	132	4.217	4.209	(0.961)	146472	7.70084	641.74
$ 187 1,2-Dichlorobenzene-d4	152	4.506	4.503	(1.027)	66504	4.51484	376.24

QC Flag Legend

M - Compound response manually integrated.

[2-Fluorabiphenyl] = $\frac{249983\ (8)}{\cancel{462832}\ (\cancel{0.87389})}$ = 5.575587 ng = 46463 ug/kg

268296 1.33689

MJW
9/16/11

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: C1E120405 Work Order #...: MJC851AC Matrix.....: SOLID
LCS Lot-Sample#: C1E130000-021
Prep Date.....: 05/13/11 Analysis Date..: 05/14/11
Prep Batch #...: 1133021 Analysis Time..: 10:28
Dilution Factor: 1 Initial Wgt/Vol: 15 g Final Wgt/Vol..: 0.5 mL
Analyst ID.....: 003200 Instrument ID..: 731

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
Acenaphthene	73	(45 - 110)	SW846 8270D Low Leve
Pyrene	69	(45 - 125)	SW846 8270D Low Leve
Acenaphthylene	64	(45 - 105)	SW846 8270D Low Leve
Anthracene	65	(55 - 105)	SW846 8270D Low Leve
Benzo(a)anthracene	70	(50 - 110)	SW846 8270D Low Leve
Benzo(b)fluoranthene	67	(45 - 115)	SW846 8270D Low Leve
Benzo(k)fluoranthene	64	(45 - 125)	SW846 8270D Low Leve
Benzo(ghi)perylene	62	(40 - 125)	SW846 8270D Low Leve
Benzo(a)pyrene	67	(50 - 110)	SW846 8270D Low Leve
Chrysene	66	(55 - 110)	SW846 8270D Low Leve
Dibenzo(a,h)anthracene	62	(40 - 125)	SW846 8270D Low Leve
Fluoranthene	64	(55 - 115)	SW846 8270D Low Leve
Fluorene	65	(50 - 110)	SW846 8270D Low Leve
Indeno(1,2,3-cd)pyrene	63	(40 - 120)	SW846 8270D Low Leve
2-Methylnaphthalene	60	(45 - 105)	SW846 8270D Low Leve
Naphthalene	58	(40 - 105)	SW846 8270D Low Leve
Phenanthrene	65	(50 - 110)	SW846 8270D Low Leve
1-Methylnaphthalene	61	(10 - 140)	SW846 8270D Low Leve

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorobiphenyl	57	(45 - 105)
2-Fluorophenol	61	(35 - 105)
Phenol-d5	62	(40 - 100)
2,4,6-Tribromophenol	75	(35 - 125)
Nitrobenzene-d5	57	(35 - 100)
Terphenyl-d14	69	(30 - 125)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MJW 9/30/11

SW846 8270D Low Level MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Watermark Environmental

Lab Code: TALPIT SDG No:

Matrix Spike ID: AI3-111(6-24) Level: (low/med) LOW

Lot #: C1E120405 WO #: MH9061CM
BATCH: 1133021

COMPOUND	SPIKE ADDED (ug/kg)	SAMPLE CONCENT. (ug/kg)	MS CONCENT. (ug/kg)	MS % REC	LIMITS REC	QUAL
Acenaphthene •	743	190	506	42*	45 - 110	a
Pyrene •	743	1900	1510	0*	45 - 125	a
Acenaphthylene •	743	560	1130	77	45 - 105	
Anthracene •	743	670	807	19*	55 - 105	a
Benzo(a)anthracene •	743	1400	1420	0*	50 - 110	a
Benzo(b)fluoranthene •	743	2200	2130	0*	45 - 115	a
Benzo(k)fluoranthene	743	9.3 U	843	113	45 - 125	
Benzo(ghi)perylene	743	980	1460	65	40 - 125	
Benzo(a)pyrene •	743	1400	1720	37*	50 - 110	a
Chrysene •	743	1300	1490	31*	55 - 110	a
Fluoranthene •	743	2400	1710	0*	55 - 115	a
Fluorene •	743	210	593	52	50 - 110	
Indeno(1,2,3-cd)pyrene	743	890	1390	67	40 - 120	
2-Methylnaphthalene •	743	76	507	58	45 - 105	
Naphthalene •	743	100	515	56	40 - 105	
Phenanthrene •	743	1800	930	0*	50 - 110	a
Dibenzo(a,h)anthracene	743	230	731	68	40 - 125	
1-Methylnaphthalene	743	65	521	61	10 - 140	

NOTES(S):

a Spiked analyte recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 0 outside limits
Spike Recovery: 9 out of 18 outside limits

COMMENTS:

FORM III

MJW 9/16/11

SW846 8270D Low Level MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Watermark Environmental

Lab Code: TALPIT SDG No:

Matrix Spike ID: AI3-111(6-24) Level:(low/med) LOW

Lot #: C1E120405 WO #: MH9061CN
BATCH: 1133021

COMPOUND	SPIKE ADDED (ug/kg)	MSD CONCENT. (ug/kg)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	QUAL
Acenaphthene	743	535	46	5.7	30	45 - 110	
Pyrene	743	1560	0*	0.0	30	45 - 125	a
Acenaphthylene	743	1190	86	5.6	30	45 - 105	
Anthracene	743	852	25*	5.4	30	55 - 105	a
Benzo(a)anthracene	743	1490	7*	0.0	30	50 - 110	a
Benzo(b)fluoranthene	743	2070	0*	0.0	30	45 - 115	a
Benzo(k)fluoranthene	743	945 MJC 9/12/11	127*	11	30	45 - 125	a
Benzo(ghi)perylene	743	1530	75	5.0	30	40 - 125	
Benzo(a)pyrene	743	1750	41*	1.6	30	50 - 110	a
Chrysene	743	1620	48*	8.1	30	55 - 110	a
Fluoranthene	743	1870	0*	0.0	30	55 - 115	a
Fluorene	743	626	56	5.4	30	50 - 110	
Indeno(1,2,3-cd)pyrene	743	1390	67	0.10	30	40 - 120	
2-Methylnaphthalene	743	521	60	2.7	30	45 - 105	
Naphthalene	743	520	56	0.92	30	40 - 105	
Phenanthrene	743	985	0*	0.0	30	50 - 110	a
Dibenzo(a,h)anthracene	743	837	82	13	30	40 - 125	
1-Methylnaphthalene	743	542	64	3.9	30	10 - 140	

NOTES(S):

Results and reporting limits have been adjusted for dry weight.

a Spiked analyte recovery is outside stated control limits.

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 18 outside limits
Spike Recovery: 9 out of 18 outside limits

COMMENTS:

FORM III

MJC 9/16/11

Data File: \\PITSVR06\D\ohem\731.i\V041311D.b\V0413DF1.D

Date : 13-APR-2011 01:11

Client ID: DFTPP050

Instrument: 731.i

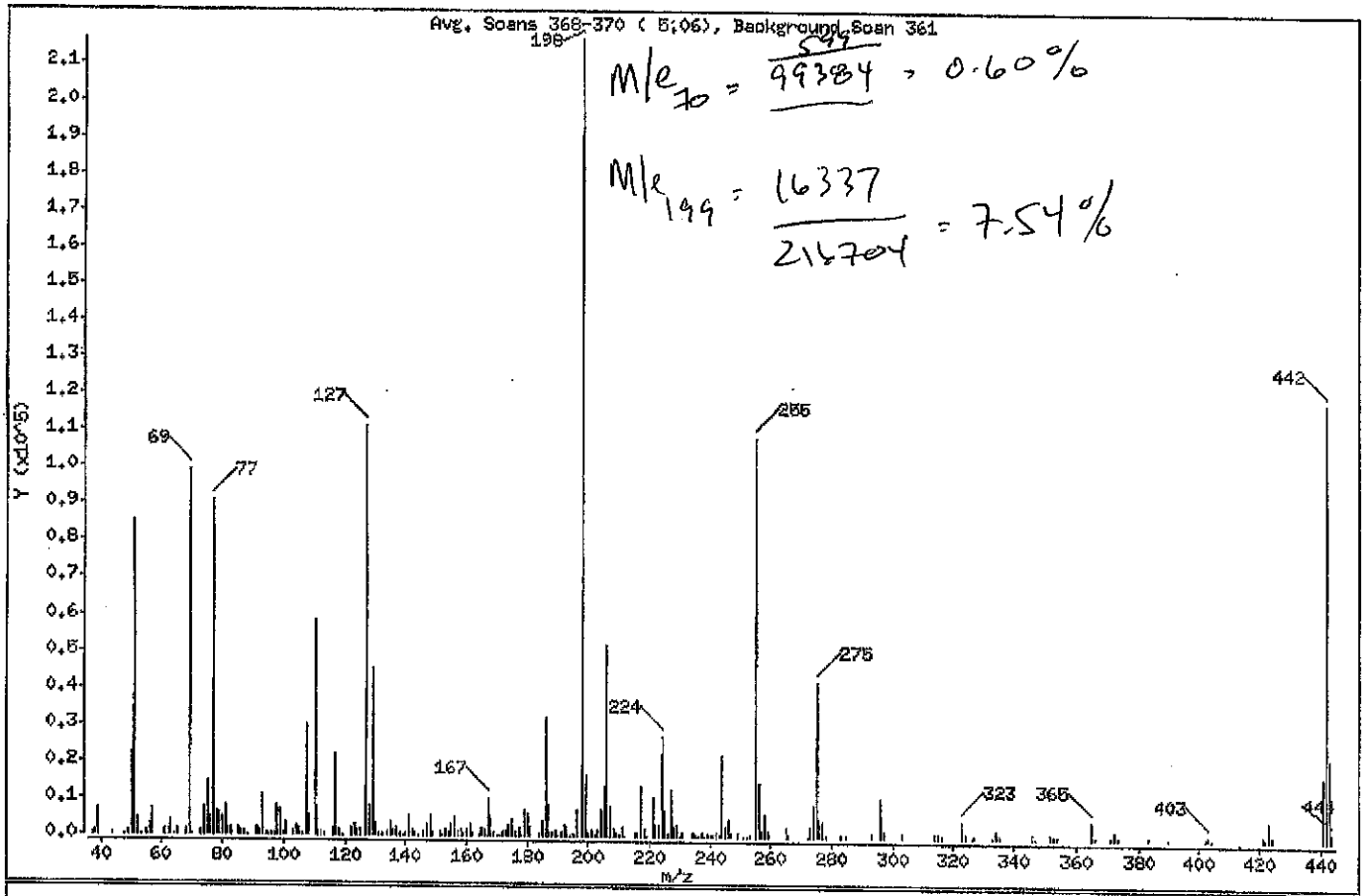
Sample Info: DFTPP 4732

Operator: 003200

Column phase: db-5ms

Column diameter: 0.25

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	30.00 - 60.00% of mass 198	39.21
68	Less than 2.00% of mass 69	0.68 (1.48)
69	Mass 69 relative abundance	45.86
70	Less than 2.00% of mass 69	0.28 (0.60) ✓
127	40.00 - 60.00% of mass 198	51.18
197	Less than 1.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	7.54 ✓
275	10.00 - 30.00% of mass 198	19.40
365	Greater than 1.00% of Mass 198	2.03
441	Present, but less than mass 443	7.81
442	Greater than 40.00% of mass 198	54.71
443	17.00 - 23.00% of mass 442	10.20 (18.65)

MJW 9/16/11

Data File: \\PITSVR06\D\chem\731.i\V041311D.b\V0413DF1.D

Date : 13-APR-2011 01:11

Client ID: DFTPP050

Instrument: 731.i

Sample Info: DFTPP 4732

Operator: 003200

Column phase: db-5ms

Column diameter: 0.25

Data File: V0413DF1.D

Spectrum: Avg. Scans 368-370 (5.06), Background Scan 361

Location of Maximum: 198.00

Number of points: 231

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.00	442	117.00	22016	184.00	617	249.00	1128
38.00	1241	118.00	1636	185.00	4194	251.00	200
39.00	7165	119.00	242	186.00	31736	252.00	232
44.00	273	122.00	1845	187.00	8551	253.00	364
48.00	190	123.00	3027	188.00	908	255.00	108304
49.00	984	124.00	1478	189.00	1705	256.00	14652
50.00	22608	125.00	1537	190.00	180	257.00	1506
51.00	84960	127.00	110904	191.00	912	258.00	6217
52.00	4722	128.00	8153	192.00	2935	259.00	1357
53.00	202	129.00	45384	193.00	2377	265.00	2666
55.00	1090	130.00	3702	194.00	220	266.00	398
56.00	2840	131.00	668	195.00	436	272.00	172
57.00	6815	132.00	340	196.00	7158	273.00	2329
61.00	1260	134.00	995	198.00	216704	274.00	8396
62.00	1418	135.00	3623	199.00	16337	275.00	42032
63.00	3936	136.00	1388	200.00	1208	276.00	4836
64.00	168	137.00	2094	201.00	1659	277.00	3801
65.00	1300	138.00	552	202.00	580	278.00	514
68.00	1466	139.00	187	203.00	1362	283.00	260
69.00	99384	140.00	378	204.00	6743	285.00	265
70.00	599	141.00	5351	205.00	13367	293.00	779
73.00	875	142.00	1735	206.00	51680	296.00	10548
74.00	7602	143.00	1210	207.00	7910	297.00	1455
75.00	14406	144.00	224	208.00	2235	303.00	1209
76.00	5216	146.00	894	209.00	906	314.00	791
77.00	90662	147.00	2998	210.00	596	315.00	1105
78.00	6341	148.00	5641	211.00	2604	316.00	549
79.00	6188	149.00	1014	212.00	192	323.00	4449
80.00	4772	151.00	970	215.00	845	324.00	928
81.00	8127	152.00	221	216.00	1188	326.00	229
82.00	1783	153.00	1654	217.00	13257	327.00	479
83.00	2181	154.00	1148	218.00	1898	333.00	196
85.00	1804	155.00	2903	219.00	195	334.00	2056
86.00	1576	156.00	5126	221.00	10618	335.00	327
87.00	1187	157.00	1078	222.00	2624	346.00	908

MJW 9/16/11

Data File: \\PITSVR06\D\chem\731.i\V0514i1D.b\V0514DF1.D

Date : 14-MAY-2011 09:30

Client ID: DFTPP

Sample Info: DFTPP 11465

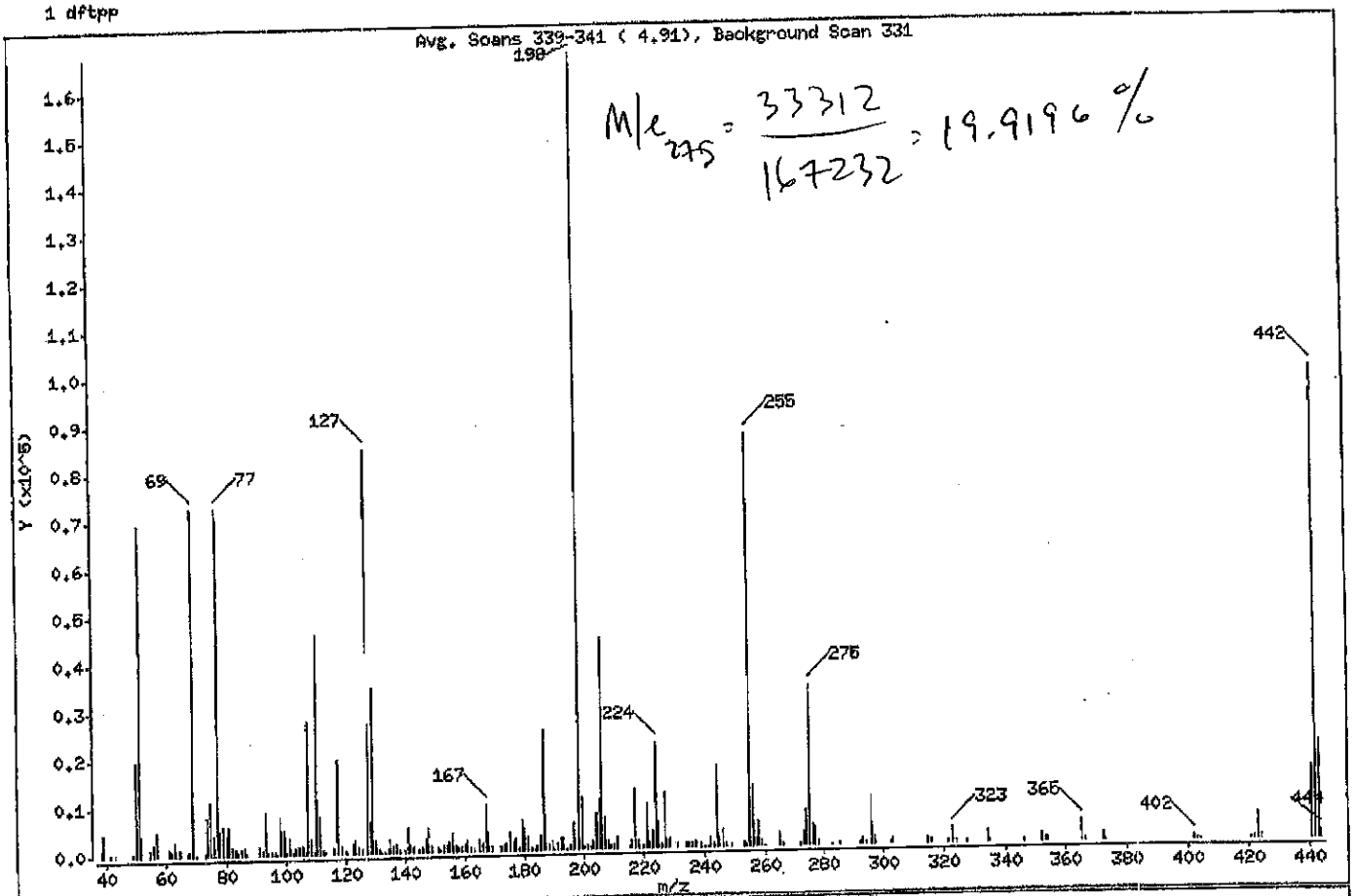
Instrument: 731.i

Operator: 003200

Column phase: db-5ms

Column diameter: 0.25

1 dftpp



$M/e_{275} = \frac{33312}{167232} = 19.9196\ \%$

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	30.00 - 60.00% of mass 198	41.28
68	Less than 2.00% of mass 69	0.41 (0.94)
69	Mass 69 relative abundance	43.36
70	Less than 2.00% of mass 69	0.11 (0.25)
127	40.00 - 60.00% of mass 198	50.65
197	Less than 1.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	6.53
275	10.00 - 30.00% of mass 198	19.92 ✓
365	Greater than 1.00% of mass 198	2.45
441	Present, but less than mass 443	8.98
442	Greater than 40.00% of mass 198	59.25
443	17.00 - 23.00% of mass 442	12.17 (20.55)

MW
9/16/11

Data File: \\PITSVR06\D\ohem\731.i\V0514i1D.b\V0514DF1.D

Date : 14-MAY-2011 09:30

Client ID: DFTPP

Instrument: 731.i

Sample Info: DFTPP 11465

Operator: 003200

Column phase: db-5ms

Column diameter: 0.25

Data File: V0514DF1.D

Spectrum: Avg. Scans 339-341 (4.91), Background Scan 331

Location of Maximum: 198.00

Number of points: 226

m/z	Y	m/z	Y	m/z	Y	m/z	Y
38.00	1098	116.00	1097	182.00	232	249.00	289
39.00	4446	117.00	19424	183.00	175	253.00	920
41.00	241	118.00	1536	184.00	649	254.00	346
43.00	482	120.00	230	185.00	3136	255.00	86336
49.00	394	122.00	1871	186.00	24864	256.00	12571
50.00	19552	123.00	2790	187.00	7293	257.00	1445
51.00	69032	124.00	1226	188.00	1161	258.00	4939
52.00	4061	125.00	895	189.00	1680	259.00	1099
55.00	1111	127.00	84696	190.00	181	260.00	172
56.00	2369	128.00	6522	191.00	1046	265.00	2644
57.00	4911	129.00	34584	192.00	2481	266.00	264
61.00	1168	130.00	2723	193.00	2437	272.00	193
62.00	939	131.00	824	194.00	182	273.00	2584
63.00	2535	132.00	500	195.00	587	274.00	7460
65.00	1094	133.00	186	196.00	5414	275.00	33312
67.00	315	134.00	822	198.00	167232	276.00	4290
68.00	680	135.00	2692	199.00	10917	277.00	3993
69.00	72520	136.00	1141	200.00	408	278.00	707
70.00	181	137.00	1487	201.00	885	283.00	167
73.00	226	138.00	209	202.00	356	285.00	205
74.00	7566	140.00	214	203.00	1443	292.00	203
75.00	11110	141.00	5025	204.00	7263	293.00	1137
76.00	3681	142.00	1475	205.00	10474	294.00	244
77.00	72808	143.00	1077	206.00	44176	296.00	9816
78.00	5096	145.00	198	207.00	6601	297.00	1712
79.00	5715	146.00	952	208.00	1655	302.00	203
80.00	3811	147.00	2548	209.00	790	303.00	1077
81.00	5764	148.00	5155	210.00	928	315.00	1173
82.00	1556	149.00	1005	211.00	2453	316.00	605
83.00	1143	151.00	921	215.00	224	321.00	611
84.00	396	152.00	404	216.00	1519	322.00	229
85.00	1035	153.00	1200	217.00	12414	323.00	2987
86.00	1663	154.00	1113	218.00	1530	324.00	254
87.00	472	155.00	2039	220.00	264	328.00	215
91.00	1547	156.00	3902	221.00	9063	334.00	2153

MPW 9/12/11

Watermark Environmental

Client Sample ID: AI3-105(0-2)

GC/MS Semivolatiles

Lot-Sample #...:	C1E120405-009	Work Order #...:	MH90X1AF	Matrix.....:	SOLID
Date Sampled...:	05/10/11	Date Received..:	05/11/11	MS Run #.....:	1133011
Prep Date.....:	05/13/11	Analysis Date..:	05/14/11		
Prep Batch #...:	1133021	Analysis Time..:	18:46		
Dilution Factor:	1	Initial Wgt/Vol:	15 g	Final Wgt/Vol..:	0.5 mL
% Moisture....:	18	Analyst ID.....:	003200	Instrument ID..:	731
		Method.....:	SW846 8270D Low L		

PARAMETER	RESULT	LOQ	UNITS	DL
Acenaphthene	11	8.2	ug/kg	0.79
Acenaphthylene	98	8.2	ug/kg	0.94
Anthracene	91	8.2	ug/kg	0.80
Benzo(a)anthracene	350	8.2	ug/kg	1.0
Benzo(b)fluoranthene	620	8.2	ug/kg	1.3
Benzo(k)fluoranthene	2.0 U	8.2	ug/kg	1.7
Benzo(ghi)perylene	320	8.2	ug/kg	0.81
Benzo(a)pyrene	380	8.2	ug/kg	0.82
Chrysene	390	8.2	ug/kg	0.97
Dibenzo(a,h)anthracene	100	8.2	ug/kg	0.91
Fluoranthene	670	8.2	ug/kg	0.87
Fluorene	15	8.2	ug/kg	1.1
Indeno(1,2,3-cd)pyrene	310	8.2	ug/kg	0.84
Naphthalene	15	8.2	ug/kg	0.71
Phenanthrene	280	8.2	ug/kg	1.3
Pyrene	520	8.2	ug/kg	0.83
2-Methylnaphthalene	16	8.2	ug/kg	0.74
1-Methylnaphthalene	15	8.2	ug/kg	0.87

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorobiphenyl	74	(45 - 105)
2-Fluorophenol	66	(35 - 105)
Phenol-d5	72	(40 - 100)
2,4,6-Tribromophenol	109	(35 - 125)
Nitrobenzene-d5	69	(35 - 100)
Terphenyl-d14	84	(30 - 125)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

MJW 9/16/11

Test America Pittsburgh

Semivolatile REPORT SW-846 Method 8270

Data file : \\pitsvr06\D\chem\731.i\2011\V051411D.b\V0514026.D
Lab Smp Id: MH90X1AF Client Smp ID: AI3-105(0-2)
Inj Date : 14-MAY-2011 18:46
Operator : 003200 Inst ID: 731.i
Smp Info : C1E120405-009 5/13/11 soil(1133021) dod
Misc Info : MH90X1AF,V051411D.b,8270d.m,pah.sub
Comment :
Method : \\pitsvr06\D\chem\731.i\2011\V051411D.b\8270d.m
Meth Date : 07-Sep-2011 16:32 campisin Quant Type: ISTD
Cal Date : 13-APR-2011 04:03 Cal File: V0413IC8.D
Als bottle: 28
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pah.sub
Target Version: 4.14
Processing Host: PITPC-732

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws)*gpc * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	500.000	Volume of final extract (uL)(1000 low, 2
Vi	2.000	Volume injected (uL)
Ws	15.000	Weight of sample extracted (g)
gpc	1.000	gpc correction factor
Cpnd Variable		Local Compound Variable

[anthracene] = 283666 (8) / 438434 (146735) = 4.43396 ng = 73.899 ug/kg / .88 = 90.12

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	CONCENTRATIONS FINAL (ug/kg)
* 1 1,4-Dichlorobenzene-d4	152	4.392	4.386	(1.000)	118409	8.00000	
* 2 Naphthalene-d8	136	5.359	5.358	(1.000)	465179	8.00000	
* 3 Acenaphthene-d10	164	6.699	6.699	(1.000)	266325	8.00000	
* 4 Phenanthrene-d10	188	7.837	7.837	(1.000)	438434	8.00000	
* 5 Chrysene-d12	240	9.878	9.867	(1.000)	466413	8.00000	
* 6 Perylene-d12	264	11.182	11.149	(1.000)	548124	8.00000	
51 Naphthalene	128	5.375	5.374	(1.003)	44996	0.74732	12.455
62 2-Methylnaphthalene	142	5.903	5.903	(1.102)	32358	0.78763	13.127(M)
63 1-Methylnaphthalene	142	5.978	5.978	(1.116)	29862	0.75260	12.543(M)
79 Acenaphthylene	152	6.593	6.587	(0.984)	286137	4.77727	79.621
82 Acenaphthene	153	6.726	6.725	(1.004)	20662	0.54494	9.0824
94 Fluorene	166	7.121	7.115	(1.063)	31600	0.73806	12.301
115 Phenanthrene	178	7.853	7.853	(1.002)	892567	13.9442	232.40
116 Anthracene	178	7.896	7.890	(1.007)	283666	4.43396	73.899
123 Fluoranthene	202	8.772	8.766	(1.119)	2165876	32.6996	544.99
125 Pyrene	202	8.948	8.942	(0.906)	1965336	25.4806	424.68
136 Benzo(a)Anthracene	228	9.873	9.856	(0.999)	1168310	17.2156	286.93
137 Chrysene	228	9.899	9.888	(1.002)	1249494	19.0488	317.48
141 Benzo(b)fluoranthene	252	10.792	10.759	(0.965)	2734070	30.1621	502.70
142 Benzo(k)fluoranthene	252	Compound Not Detected.					

MW 9/16/11

Watermark Environmental

Client Sample ID: AI3-109(0-2)

GC/MS Semivolatiles

Lot-Sample #...:	C1E120405-013	Work Order #...:	MH9031AF	Matrix.....:	SOLID
Date Sampled...:	05/10/11	Date Received..:	05/11/11	MS Run #.....:	1133011
Prep Date.....:	05/13/11	Analysis Date..:	05/14/11		
Prep Batch #...:	1133021	Analysis Time..:	20:08		
Dilution Factor:	1.97	Initial Wgt/Vol:	15.2 g	Final Wgt/Vol..:	0.5 mL
% Moisture.....:	16	Analyst ID.....:	003200	Instrument ID..:	731
		Method.....:	SW846 8270D Low L		

PARAMETER	RESULT	LOQ	UNITS	DL
Acenaphthene	16	16	ug/kg	1.5
Acenaphthylene	76	16	ug/kg	1.8
Anthracene	100	16	ug/kg	1.5
Benzo(a)anthracene	390	16	ug/kg	2.0
Benzo(b)fluoranthene	620	16	ug/kg	2.5
Benzo(k)fluoranthene	3.9 U	16	ug/kg	3.2
Benzo(ghi)perylene	310	16	ug/kg	1.6
Benzo(a)pyrene	400	16	ug/kg	1.6
Chrysene	390 ✓	16	ug/kg	1.9
Dibenzo(a,h)anthracene	37	16	ug/kg	1.7
Fluoranthene	780	16	ug/kg	1.7
Fluorene	24	16	ug/kg	2.1
Indeno(1,2,3-cd)pyrene	290	16	ug/kg	1.6
Naphthalene	14 J	16	ug/kg	1.4
Phenanthrene	360	16	ug/kg	2.5
Pyrene	610	16	ug/kg	1.6
2-Methylnaphthalene	8.7 J	16	ug/kg	1.4
1-Methylnaphthalene	6.8 J	16	ug/kg	1.7

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorobiphenyl	67	(45 - 105)
2-Fluorophenol	68	(35 - 105)
Phenol-d5	69	(40 - 100)
2,4,6-Tribromophenol	87	(35 - 125)
Nitrobenzene-d5	64	(35 - 100)
Terphenyl-d14	69	(30 - 125)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

MSV 9/16/11

Test America Pittsburgh

Semivolatile REPORT SW-846 Method 8270

Data file : \\pitsvr06\D\chem\731.i\2011\V051411D.b\V0514030.D
Lab Smp Id: MH9031AF Client Smp ID: AI3-109(0-2)
Inj Date : 14-MAY-2011 20:08
Operator : 003200 Inst ID: 731.i
Smp Info : C1E120405-013 X2 5/13/11 soil(1133021) dod
Misc Info : MH9031AF,V051411D.b,8270d.m,pah.sub
Comment :
Method : \\pitsvr06\D\chem\731.i\2011\V051411D.b\8270d.m
Meth Date : 07-Sep-2011 16:32 campisin Quant Type: ISTD
Cal Date : 13-APR-2011 04:03 Cal File: V0413IC8.D
Als bottle: 32
Dil Factor: 2.00000
Integrator: HP RTE Compound Sublist: pah.sub
Target Version: 4.14
Processing Host: PITPC-732

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws)*gpc * CpndVariable

Name	Value	Description
DF	2.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	500.000	Volume of final extract (uL) (1000 low, 2
Vi	2.000	Volume injected (uL)
Ws	15.200	Weight of sample extracted (g)
gpc	1.000	gpc correction factor
Cpnd Variable		Local Compound Variable

[Chrysene] = 575477(8) / 415958(1.12509)
= 9.0374 ng
= 323.60 ng/kg

0.84

= 385.2 ng/kg

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	FINAL (ug/kg)
* 1 1,4-Dichlorobenzene-d4	152	4.390	4.386	(1.000)	115851	8.00000	
* 2 Naphthalene-d8	136	5.357	5.358	(1.000)	451376	8.00000	
* 3 Acenaphthene-d10	164	6.698	6.699	(1.000)	261495	8.00000	
* 4 Phenanthrene-d10	188	7.836	7.837	(1.000)	407409	8.00000	
* 5 Chrysene-d12	240	9.871	9.867	(1.000)	415958	8.00000	
* 6 Perylene-d12	264	11.164	11.149	(1.000)	501176	8.00000	
51 Naphthalene	128	5.373	5.374	(1.003)	20790	0.35585	11.706
62 2-Methylnaphthalene	142	5.902	5.903	(1.102)	8880	0.22276	7.3276 (M)
63 1-Methylnaphthalene	142	5.976	5.978	(1.116)	6707	0.17420	5.7304 (M)
79 Acenaphthylene	152	6.591	6.587	(0.984)	113976	1.93806	63.752
82 Acenaphthene	153	6.719	6.725	(1.003)	15479	0.41579	13.677
94 Fluorene	166	7.114	7.115	(1.062)	36076	0.62029	20.404
115 Phenanthrene	178	7.852	7.853	(1.002)	543649	9.13995	300.66
116 Anthracene	178	7.889	7.890	(1.007)	154636	2.60117	85.565
123 Fluoranthene	202	8.765	8.766	(1.119)	1220093	19.8233	652.08
125 Pyrene	202	8.941	8.942	(0.906)	1067236	15.5151	510.36
136 Benzo(a)Anthracene	228	9.860	9.856	(0.999)	594570	9.82399	323.16
137 Chrysene	228	9.892	9.888	(1.002)	575477	9.83744 ✓	323.60 ✓
141 Benzo(b)fluoranthene	252	10.774	10.759	(0.965)	1303128	15.7227	517.20
142 Benzo(k)fluoranthene	252	Compound Not Detected.					

MJW
8/16/11

TestAmerica Pittsburgh

INITIAL CALIBRATION DATA

Start Cal Date : 13-APR-2011 01:28
End Cal Date : 13-APR-2011 04:03
Quant Method : ISTD
Origin : Included
Target Version : 4.14
Integrator : HP RTE
Method file : \\PITSVR06\D\chem\731.i\V041311D.b\8270d.m
Last Edit : 13-Apr-2011 05:45 731.i

Compound	0.4000000 Level 1	2.0000 Level 2	4.0000 Level 3	10.0000 Level 4	20.0000 Level 5	40.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
	60.0000 Level 7	80.0000 Level 8										
137 Chrysene	1.10369	1.09681	1.10981	1.08492	1.10095	1.17423	AVRG		1.12509		3.35260	
	1.14714	1.18314										
138 4,4'-Methylene bis(o-chloroan	+++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
	+++++	+++++										
139 bis(2-ethylhexyl)Phthalate	0.99621	0.87954	0.76601	0.81873	0.82440	0.84096	AVRG		0.83962		8.56260	
	0.80251	0.78863										
140 Di-n-octylphthalate	1.57059	1.58466	1.50319	1.42818	1.47786	1.45384	AVRG		1.47790		4.81049	
	1.41488	1.38998										
141 Benzo(b)fluoranthene	1.16823	1.27505	1.22138	1.40933	1.46859	1.36299	AVRG		1.32300		7.50315	
	1.31071	1.36770										
204 6-Methylchrysene	+++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
	+++++	+++++										
142 Benzo(k)fluoranthene	1.40557	1.49172	1.50675	1.30451	1.33302	1.41527	AVRG		1.42061		5.21189	
	1.48763	1.42040										

MJ 9/16/11

TestAmerica Pittsburgh

INITIAL CALIBRATION DATA

Start Cal Date : 13-APR-2011 01:28
End Cal Date : 13-APR-2011 04:03
Quant Method : ISTD
Origin : Included
Target Version : 4.14
Integrator : HP RTE
Method file : \\PITSVR06\D\chem\731.i\V041311D.b\8270d.m
Last Edit : 13-Apr-2011 05:45 731.i

Compound	0.4000000 Level 1	2.0000 Level 2	4.0000 Level 3	10.0000 Level 4	20.0000 Level 5	40.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
	60.0000 Level 7	80.0000 Level 8										
92 2-Naphthylamine	0.93672	1.00357	0.98739	0.90463	0.87892	0.81863						
	0.70108	0.72886					AVRG		0.86998		12.92039	
93 Diethylphthalate	1.20621	1.23505	1.25765	1.23640	1.25112	1.26065						
	1.20463	1.24786					AVRG		1.23745		1.75481	
94 Fluorene	1.26420	1.33061	1.30159	1.30472	1.30044	1.29653						
	1.22524	1.26541					AVRG		1.28609		2.54417	
95 4-Chlorophenyl-phenylether	0.63611	0.65846	0.65016	0.66918	0.63469	0.64249						
	0.63048	0.64933					AVRG		0.64636		2.02433	
96 4-Nitroaniline	0.23835	0.29260	0.29326	0.30921	0.31301	0.30834						
	0.29372	0.30907					AVRG		0.29472		8.23183	
97 5-Nitro-o-toluidine	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++	+++++					AVRG		0.000e+000		0.000e+000	<-
98 4,6-Dinitro-2-methylphenol	+++++	0.10550	0.11786	0.12919	0.13797	0.13816						
	0.14343	0.14693					AVRG		0.13129		11.35571	

MSW 4/14/11

(1001 - 1638)

1476

C1E120405r

Calibration Calculations

SVOC

Ft. Totten

Analyte	IS	L1 .4	L2 2	L3 4	L4 10	L5 20	L6 40	L7 60	L8 80	L9	Ave.	%SD	%RSD
Fluorene	AD10	1.264197	1.330614	1.301592	1.304718	1.300437	1.296532	1.2252385	1.265413	---	1.286093	3.3	2.5
Chrysene	CD10	1.103691	1.096811	1.10981	1.084915	1.100951	1.174232	1.1471442	1.183144	---	1.125087	3.8	3.4
		---	---	---	---	---	---	---	---	---	0	0	0
		---	---	---	---	---	---	---	---	---	0	0	0
		---	---	---	---	---	---	---	---	---	0	0	0
		---	---	---	---	---	---	---	---	---	0	0	0
		---	---	---	---	---	---	---	---	---	0	0	0
		---	---	---	---	---	---	---	---	---	0	0	0

MJW 4/16/11

Calibration Calculations

SVOC

Ft. Totten

Analyte	IS	Area	RRF
Fluorene	AD10	29914	1.264197
Chrysene	CD10	36938	1.103691
0	0		---
0	0		---
0	0		---
0	0		---
0	0		---
0	0		---

IS	Area	IS AMT	CAL AMT
AD10	473249	8	0.4
CD10	669354	8	0.4
0			0.4
0			0.4
0			0.4
0			0.4

MJ 8/16/10

Calibration Calculations
SVOC
Ft. Totten

Analyte	IS	Area	RRF
Fluorene	AD10	149430	1.330614
Chrysene	CD10	174326	1.096811
0	0		---
0	0		---
0	0		---
0	0		---
0	0		---
0	0		---

IS	Area	IS AMT	CAL AMT
AD10	449206	8	2
CD10	635756	8	2
0		0	2
0		0	2
0		0	2
0		0	2

MW 6/16/11

Calibration Calculations
SVOC
Ft. Totten

Analyte	IS	Area	RRF
Fluorene	AD10	275590	1.301592
Chrysene	CD10	369038	1.10981
0	0		---
0	0		---
0	0		---
0	0		---
0	0		---
0	0		---

IS	Area	IS AMT	CAL AMT
AD10	423466	8	4
CD10	665047	8	4
0		0	4
0		0	4
0		0	4
0		0	4

MW 4/26/11

Calibration Calculations

SVOC

Ft. Totten

Analyte	IS	Area	RRF
Fluorene	AD10	674177	1.304718
Chrysene	CD10	899240	1.084915
0	0		---
0	0		---
0	0		---
0	0		---
0	0		---
0	0		---

IS	Area	IS AMT	CAL AMT
AD10	413378	8	10
CD10	663086	8	10
0		0	10
0		0	10
0		0	10
0		0	10

mbw 8/12/11

Calibration Calculations
SVOC
Ft. Totten

Analyte	IS	Area	RRF
Fluorene	AD10	1317938	1.300437
Chrysene	CD10	1828635	1.100951
0	0		---
0	0		---
0	0		---
0	0		---
0	0		---
0	0		---

IS	Area	IS AMT	CAL AMT
AD10	405383	8	20
CD10	664384	8	20
0		0	20
0		0	20
0		0	20
0		0	20

4/16/11

Calibration Calculations
SVOC
Ft. Totten

Analyte	IS	Area	RRF
Fluorene	AD10	2326944	1.296532
Chrysene	CD10	3481697	1.174232
0	0		---
0	0		---
0	0		---
0	0		---
0	0		---
0	0		---

IS	Area	IS AMT	CAL AMT
AD10	358949	8	40
CD10	593017	8	40
0		0	40
0		0	40
0		0	40
0		0	40

mjw 4/16/11

Calibration Calculations

SVOC

Ft. Totten

Analyte	IS	Area	RRF
Fluorene	AD10	3251060	1.225238
Chrysene	CD10	5117694	1.147144
0	0		---
0	0		---
0	0		---
0	0		---
0	0		---
0	0		---

IS	Area	IS AMT	CAL AMT
AD10	353788	8	60
CD10	594833	8	60
0		0	60
0		0	60
0		0	60
0		0	60

4/16/11

Calibration Calculations
SVOC
Ft. Totten

Analyte	IS	Area	RRF
Fluorene	AD10	4272413	1.265413
Chrysene	CD10	7186654	1.183144
0	0		---
0	0		---
0	0		---
0	0		---
0	0		---
0	0		---

IS	Area	IS AMT	CAL AMT
AD10	337630	8	80
CD10	607420	8	80
0		0	80
0		0	80
0		0	80
0		0	80

MJV 4/16/11

Test America Pittsburgh

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 731.i
Lab File ID: V05140CC.D
Analysis Type:
Lab Sample ID: SSTD4.0
Method: \\pitsvr06\D\chem\731.i\2011\V051411D.b\8270d.m

Injection Date: 14-MAY-2011 09:46
Init. Cal. Date(s): 13-APR-2011 13-APR-2011
Init. Cal. Times: 01:28 04:03
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF4	CCAL RRF4	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
51 Naphthalene	1.03547	0.98669	0.98669	0.700	4.71082	20.00000	Averaged
62 2-Methylnaphthalene	0.70653	0.70618	0.70618	0.400	0.05017	20.00000	Averaged
63 1-Methylnaphthalene	0.68238	0.69807	0.69807	0.010	-2.29968	20.00000	Averaged
79 Acenaphthylene	1.79917	1.72514	1.72514	0.900	4.11481	20.00000	Averaged
82 Acenaphthene	1.13893	1.09432	1.09432	0.900	3.91704	20.00000	Averaged
94 Fluorene	1.28609	1.28050	1.28050	0.900	0.43470	20.00000	Averaged
115 Phenanthrene	1.16798	1.14005	1.14005	0.700	2.39128	20.00000	Averaged
116 Anthracene	1.16735	1.15974	1.15974	0.700	0.65192	20.00000	Averaged
123 Fluoranthene	1.20858	1.17145	1.17145	0.600	3.07223	20.00000	Averaged
125 Pyrene	1.32296	1.42332	1.42332	0.600	-7.58641	20.00000	Averaged
136 Benzo(a)Anthracene	1.16401	1.19107	1.19107	0.800	-2.32468	20.00000	Averaged
137 Chrysene	1.12509	1.10221	1.10221	0.700	2.03373	20.00000	Averaged
141 Benzo(b)fluoranthene	1.32300	1.47604	1.47604	0.700	-11.56821	20.00000	Averaged
142 Benzo(k)fluoranthene	1.42061	1.26652	1.26652	0.700	10.84657	20.00000	Averaged
146 Benzo(a)pyrene	1.05032	1.02259	1.02259	0.700	2.63996	20.00000	Averaged
149 Indeno(1,2,3-cd)pyrene	1.24962	1.18905	1.18905	0.500	4.84704	20.00000	Averaged
150 Dibenz(a,h)anthracene	1.05561	0.97101	0.97101	0.400	8.01477	20.00000	Averaged
151 Benzo(g,h,i)perylene	1.07065	0.98201	0.98201	0.500	8.27940	20.00000	Averaged
$ 154 Nitrobenzene-d5	0.34130	0.35583	0.35583	0.010	-4.25710	20.00000	Averaged
$ 155 2-Fluorobiphenyl	1.33689	1.23701	1.23701	0.010	7.47118	20.00000	Averaged
$ 156 Terphenyl-d14	0.87389	0.91283	0.91283	0.010	-4.45562	20.00000	Averaged
$ 157 Phenol-d5	1.40145	1.43634	1.43634	0.010	-2.48971	20.00000	Averaged
$ 158 2-Fluorophenol	0.99745	1.02514	1.02514	0.010	-2.77614	20.00000	Averaged
$ 159 2,4,6-Tribromophenol	0.08724	0.08881	0.08881	0.010	-1.80538	20.00000	Averaged
$ 186 2-Chlorophenol-d4	1.35203	1.37217	1.37217	0.010	-1.48906	20.00000	Averaged
$ 187 1,2-Dichlorobenzene-d4	1.04707	1.05753	1.05753	0.010	-0.99899	20.00000	Averaged

$\%D_C = 1 - \frac{1.10221}{1.12509} = 2.03\%$

$\%D_P = 1 - \frac{1.42332}{1.32296} = -7.58\%$

MW 9/16/11

Test America Pittsburgh

Semivolatile REPORT SW-846 Method 8270

Data file : \\pitsvr06\D\chem\731.i\2011\V051411D.b\V05140CC.D
Lab Smp Id: SSTD4.0 Client Smp ID: SSTD4.0
Inj Date : 14-MAY-2011 09:46
Operator : 003200 Inst ID: 731.i
Smp Info : CCVIS 11440
Misc Info : SSTD4.0,V051411D.b,8270d.m,pah.sub,2,3
Comment :
Method : \\pitsvr06\D\chem\731.i\2011\V051411D.b\8270d.m
Meth Date : 07-Sep-2011 15:27 731.i Quant Type: ISTD
Cal Date : 13-APR-2011 04:03 Cal File: V0413IC8.D
Als bottle: 2 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pah.sub
Target Version: 4.14
Processing Host: PITPC-732

$RF_{Pyrene} = \frac{484292 (8)}{680508 (4)} = 1.42332$

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 1 1,4-Dichlorobenzene-d4	152	4.386	4.386	(1.000)	163053	8.00000	
* 2 Naphthalene-d8	136	5.358	5.358	(1.000)	687433	8.00000	
* 3 Acenaphthene-d10	164	6.699	6.699	(1.000)	447551	8.00000	
* 4 Phenanthrene-d10	188	7.837	7.837	(1.000)	777857	8.00000	
* 5 Chrysene-d12	240	9.867	9.867	(1.000)	680508	8.00000	
* 6 Perylene-d12	264	11.149	11.149	(1.000)	607329	8.00000	
51 Naphthalene	128	5.374	5.374	(1.003)	339141	4.00000	3.8116
62 2-Methylnaphthalene	142	5.903	5.903	(1.102)	242724	4.00000	3.9580(M)
63 1-Methylnaphthalene	142	5.978	5.978	(1.116)	239938	4.00000	4.0920(M)
79 Acenaphthylene	152	6.587	6.587	(0.983)	386044	4.00000	3.8354
82 Acenaphthene	153	6.725	6.725	(1.004)	244882	4.00000	3.8433
94 Fluorene	166	7.115	7.115	(1.062)	286545	4.00000	3.9826
115 Phenanthrene	178	7.853	7.853	(1.002)	443397	4.00000	3.9043
116 Anthracene	178	7.890	7.890	(1.007)	451056	4.00000	3.9739
123 Fluoranthene	202	8.766	8.766	(1.119)	455612	4.00000	3.8771
125 Pyrene	202	8.942	8.942	(0.906)	484292	4.00000	4.3034
136 Benzo(a)Anthracene	228	9.856	9.856	(0.999)	405265	4.00000	4.0930
137 Chrysene	228	9.888	9.888	(1.002)	375030	4.00000	3.9186
141 Benzo(b)fluoranthene	252	10.759	10.759	(0.965)	448222	4.00000	4.4627
142 Benzo(k)fluoranthene	252	10.785	10.785	(0.967)	384597	4.00000	3.5661
146 Benzo(a)pyrene	252	11.090	11.090	(0.995)	310524	4.00000	3.8544
149 Indeno(1,2,3-cd)pyrene	276	12.425	12.425	(1.115)	361073	4.00000	3.8061
150 Dibenz(a,h)anthracene	278	12.442	12.442	(1.116)	294860	4.00000	3.6794
151 Benzo(g,h,i)perylene	276	12.805	12.805	(1.149)	298201	4.00000	3.6688
$ 154 Nitrobenzene-d5	82	4.808	4.808	(0.897)	122306	4.00000	4.1703
$ 155 2-Fluorobiphenyl	172	6.186	6.186	(0.923)	276812	4.00000	3.7012
$ 156 Terphenyl-d14	244	9.055	9.055	(0.918)	310593	4.00000	4.1782
$ 157 Phenol-d5	99	4.129	4.129	(0.942)	117100	4.00000	4.0996
$ 158 2-Fluorophenol	112	3.360	3.360	(0.766)	83576	4.00000	4.1110
$ 159 2,4,6-Tribromophenol	330	7.302	7.302	(0.932)	34541	4.00000	4.0722
$ 186 2-Chlorophenol-d4	132	4.209	4.209	(0.960)	111868	4.00000	4.0596
$ 187 1,2-Dichlorobenzene-d4	152	4.503	4.503	(1.027)	86217	4.00000	4.0400

$RF_{Chry} = \frac{375030 (8)}{680508 (4)} = 1.102206$

Field Dup

lab_sample_id	field_sample_id	param_name	final_result	final_qualifier	difference	Average	RPD
C1E120405012	AI3-108(6-24)	1-Methylnaphthalene	1	J	0.09	0.955	9%
C1E120405019	DUP-AI3-1	1-Methylnaphthalene	0.91	J			
C1E120405012	AI3-108(6-24)	2-Methylnaphthalene	1.2	J	0.2	1.1	18%
C1E120405019	DUP-AI3-1	2-Methylnaphthalene	1	J			
C1E120405012	AI3-108(6-24)	Acenaphthene	1.7	J	0.5	1.45	34%
C1E120405019	DUP-AI3-1	Acenaphthene	1.2	UJ			
C1E120405012	AI3-108(6-24)	Acenaphthylene	4.7	J	0.8	5.1	16%
C1E120405019	DUP-AI3-1	Acenaphthylene	5.5	J			
C1E120405012	AI3-108(6-24)	Anthracene	7.3	J	3.8	5.4	70%
C1E120405019	DUP-AI3-1	Anthracene	3.5	J			
C1E120405012	AI3-108(6-24)	Benzo(a)anthracene	36	J	19	26.5	72%
C1E120405019	DUP-AI3-1	Benzo(a)anthracene	17	J			
C1E120405012	AI3-108(6-24)	Benzo(a)pyrene	38	J	20	28	71%
C1E120405019	DUP-AI3-1	Benzo(a)pyrene	18	J			
C1E120405012	AI3-108(6-24)	Benzo(b)fluoranthene	62	J	32	46	70%
C1E120405019	DUP-AI3-1	Benzo(b)fluoranthene	30	J			
C1E120405012	AI3-108(6-24)	Benzo(ghi)perylene	31		18	22	82%
C1E120405019	DUP-AI3-1	Benzo(ghi)perylene	13				
C1E120405012	AI3-108(6-24)	Chrysene	46	J	28	32	88%
C1E120405019	DUP-AI3-1	Chrysene	18	J			
C1E120405012	AI3-108(6-24)	Dibenz(a,h)anthracene	8.4		5.9	5.45	108%
C1E120405019	DUP-AI3-1	Dibenz(a,h)anthracene	2.5	U			
C1E120405012	AI3-108(6-24)	Fluoranthene	75	J	47	51.5	91%
C1E120405019	DUP-AI3-1	Fluoranthene	28	J			
C1E120405012	AI3-108(6-24)	Fluorene	2.3	J	0.2	2.2	9%
C1E120405019	DUP-AI3-1	Fluorene	2.1	UJ			
C1E120405012	AI3-108(6-24)	Indeno(1,2,3-cd)pyrene	29		22.1	17.95	123%
C1E120405019	DUP-AI3-1	Indeno(1,2,3-cd)pyrene	6.9	J			
C1E120405012	AI3-108(6-24)	Naphthalene	2.2	J	1	1.7	59%
C1E120405019	DUP-AI3-1	Naphthalene	1.2	UJ			
C1E120405012	AI3-108(6-24)	Phenanthrene	44	J	33	27.5	120%
C1E120405019	DUP-AI3-1	Phenanthrene	11	J			
C1E120405012	AI3-108(6-24)	Pyrene	61	J	37	42.5	87%
C1E120405019	DUP-AI3-1	Pyrene	24	J			

MJW 4/30/11

Field Dup

lab_sample_id	field_sample_id	param_name	final_result	final_qualifier	difference	Average	RPD
C1E120405011	AI3-108(0-2)	Acenaphthylene	42	J	1	41.5	2%
C1E120405020	DUP-AI3-2	Acenaphthylene	41	J			
C1E120405011	AI3-108(0-2)	Anthracene	41	J	4	39	10%
C1E120405020	DUP-AI3-2	Anthracene	37	J			
C1E120405011	AI3-108(0-2)	Benzo(a)anthracene	170	J	0	170	0%
C1E120405020	DUP-AI3-2	Benzo(a)anthracene	170	J			
C1E120405011	AI3-108(0-2)	Benzo(a)pyrene	170	J	20	180	11%
C1E120405020	DUP-AI3-2	Benzo(a)pyrene	190	J			
C1E120405011	AI3-108(0-2)	Benzo(b)fluoranthene	290	J	20	300	7%
C1E120405020	DUP-AI3-2	Benzo(b)fluoranthene	310	J			
C1E120405011	AI3-108(0-2)	Benzo(ghi)perylene	140		10	145	7%
C1E120405020	DUP-AI3-2	Benzo(ghi)perylene	150				
C1E120405011	AI3-108(0-2)	Chrysene	180	J	20	190	11%
C1E120405020	DUP-AI3-2	Chrysene	200	J			
C1E120405011	AI3-108(0-2)	Dibenz(a,h)anthracene	39	J	2	40	5%
C1E120405020	DUP-AI3-2	Dibenz(a,h)anthracene	41	J			
C1E120405011	AI3-108(0-2)	Fluoranthene	300	J	10	295	3%
C1E120405020	DUP-AI3-2	Fluoranthene	290	J			
C1E120405011	AI3-108(0-2)	Indeno(1,2,3-cd)pyrene	130		10	125	8%
C1E120405020	DUP-AI3-2	Indeno(1,2,3-cd)pyrene	120				
C1E120405011	AI3-108(0-2)	Phenanthrene	140	J	0	140	0%
C1E120405020	DUP-AI3-2	Phenanthrene	140	J			
C1E120405011	AI3-108(0-2)	Pyrene	250	J	0	250	0%
C1E120405020	DUP-AI3-2	Pyrene	250	J			

MJW 9/20/11

YES NO N/A

E - The concentration of this analyte exceeds the calibration range of the instrument.

A - Indicates a Tentatively Identified Compound (TIC) is a suspected adol-condensation product.

X,Y,Z- Laboratory defined flags. The data reviewer must change these qualifiers during validation so that the data user may understand their impact on the data.

I. PACKAGE COMPLETENESS AND DELIVERABLES

Mike Wachburn 9/9/11

CASE NUMBER: C1E120445 LAB: Test America

SITE NAME: Fort Totten, Queens, NY

1.0 Data Completeness and Deliverables

1.1 Has all data been submitted in CLP deliverable format? [✓] ___ ___

ACTION: If not, note the effect on review of the data in the data assessment narrative.

2.0 Cover Letter, SDG Narrative

2.1 Is a laboratory narrative or cover letter present? [✓] ___ ___

2.2 Are case number and SDG number(s) contained in the narrative or cover letter? [✓] ___ ___

YES NO N/A

II. SEMIVOLATILE ANALYSES

1.0 Traffic Reports and Laboratory Narrative

1.1 Are the Traffic Report Forms present for all samples? ☑ ___ ___

ACTION: If no, contact lab for replacement of missing or illegible copies.

1.2 Do the Traffic Reports or Lab Narrative indicate any problems with sample receipt, condition of samples, analytical problems or special notations affecting the quality of the data? ___ ☑ ___

ACTION: If any sample analyzed as a soil, other than TCLP, contains 50%-90% water, all data should be flagged as estimated ("J"). If a soil sample, other than TCLP, contains more than 90% water, all non-detects data are qualified as unusable (R), and detects are flagged "J".

ACTION: If samples were not iced, or if the ice was melted upon arrival at the laboratory and the cooler temperature was elevated (10°C), flag all positive results "J" and all non-detects "UJ".

2.0 Holding Times

2.1 Have any semivolatile technical holding times, determined from date of collection to date of extraction, been exceeded? ___ ☑ ___

Continuous extraction of water samples for semivolatile analysis must be started within **7** days of the date of collection. Soil/sediment samples must be extracted within **14** days of collection. Extracts must be analyzed within

YES NO N/A

40 days of the date of extraction.

Table of Holding Time Violations

Sample ID	Sample Matrix	Date Sampled	Date Lab Received (See Traffic Report)	Date Extracted	Date Analyzed

ACTION: If technical holding times are exceeded, flag all positive results as estimated ("J") and sample quantitation limits as estimated ("UJ"), and document in the narrative that holding times were exceeded.

If analyses were done more than 14 days beyond holding time, either on the first analysis or upon re analysis, the reviewer must use professional judgement to determine the reliability of the data and the effects of additional storage on the sample results. At a minimum, all results should be qualified "J", but the reviewer may determine that non-detect data are unusable ("R"). If holding times are exceeded by more than 28 days, all non-detect data are unusable (R).

	YES	NO	N/A

3.0 Surrogate Recovery (Form II/Equivalent)

3.1 Have the semi volatile surrogate recoveries been listed on CLP Surrogate Recovery forms (Form II) for each of the following matrices:

a.	Low Water	[ ]	___	✓
b.	Low/Med Soil	[✓]	___	___

3.2 If so, are all the samples listed on the appropriate Surrogate Recovery Summary forms for each matrix:

a.	Low Water	[ ]	___	✓
b.	Low/Med Soil	[✓]	___	___

ACTION: If CLP deliverables are unavailable, document the effect(s) in data assessments. In some cases the lab may have to be contacted to obtain the data necessary to complete the validation.

3.3 Were outliers marked correctly with an asterisk? [ ] ___ ✓
no outliers

ACTION: Circle all outliers in red.

3.4 Were two or more base neutral OR acid surrogate recoveries out of specification for any sample or method blank (Reviewer should use lab in house recovery limits. Use surrogate recovery limits from USEPA National Functional Guidlines January 2005 page 130, if in house limits are not available. See Method 8000B-43 or 80000C-24). [ ] ✓ ___

Note: Examine lab in house limits for reasonableness.

If yes, were samples re-analyzed? [ ] ___ ✓

	YES	NO	N/A
Were method blanks re-analyzed?	[ ]	___	✓

ACTION: If all surrogate recoveries are > 10% but two within the base-neutral or acid fraction do not meet method specifications, for the affected fraction only (i.e. either base-neutral or acid compounds):

1. Flag all positive results as estimated ("J").

2. Flag all non-detects as estimated detection limits ("UJ") when recoveries are less than the lower acceptance limit.

3. If recoveries are greater than the upper acceptance limit, do not qualify non-detects.

If any base-neutral or acid surrogate has a recovery of < 10%:

1. Positive results for the fraction with < 10% surrogate recovery are qualified with "J".

2. Non-detects for that fraction should be qualified as unusable (R) .

NOTE: Professional judgement should be used to qualify data that have method blank surrogate recoveries out of specification in both original and reanalyses. Check the internal standard areas.

3.5 Are there any transcription/calculation errors between raw data and Form II?	___	[✓]	___

ACTION: If large errors exist, call lab for explanation/resubmittal, make any necessary corrections and document

YES NO N/A

effect in data assessments.

4.0 Matrix Spikes (Form III/Equivalent)

4.1 Have the semivolatile Matrix Spike and Matrix Spike Duplicate/or duplicate unspiked Sample recoveries been listed on the Recovery Form (Form III)? [✓] ___ ___

NOTE: Method 3500B/page 4 states the spiking compounds:

Base/neutrals	Acids
1,2,4-Trichlorobenzene	Pentachlorophenol
Acenaphthene	Phenol
2,4-Dinitrotoluene	2-Chlorophenol
Pyrene	4-Chloro-3-methylphenol
N-Nitroso-di-n-propylamine	4-Nitrophenol
1,4-Dichlorobenzene	

Note: Some projects may require the spiking of specific compounds of interest.

Note: See Method 8270D-sec 8.4.2 for deciding on whether to prepare and analyze duplicate samples or a martix spike/matrix spike duplicate. If samples are expected to contain target analytes, then laboratory may use one matrix spike and a duplicate analysis of an unspiked field sample. If samples are not expected to contain target analytes, laboratory should use a matrix spike and matrix spike duplicate pair.

4.2 Were matrix spikes analyzed at the required frequency for each of the following matrices:

a. Low Water [ ] ___ [✓]

b. Low Solid [✓] ___ ___

c. Med Solid [✓] ___ ___

YES NO N/A

ACTION: If any matrix spike data are missing, take the action specified in 3.2 above. It may be necessary to contact the lab to obtain the required data.

NOTE: If the data has not been reported on CLP equivalent form, then the laboratory must provide the information necessary to evaluate the spike recoveries in the MS and MSD. The required data which should have been provided by the lab include the analytes and concentrations used for spiking, background concentrations of the spiked analytes (i.e., concentrations in unspiked sample), methods and equations used to calculate the QC acceptance criteria for the spiked analytes, percent recovery data for all spiked analytes.

The data reviewer must verify that all reported equations and percent recoveries are correct before proceeding to the next section.

4.3 Were matrix spikes performed at concentration equal to 100ug/L for acid compounds, and 200ug/l for base compounds (Method 3500B-4), or those specified in project plan. [✓] ___ ___

4.4 How many semivolatile spike recoveries are outside Laboratory in house MS/MSD recovery limits (use recovery limits values in Method 8270D-43&44 Table 6 if in house values not available).

Water	Solids
___ out of ___	0 out of ___

YES NO N/A

4.5 How many RPD's for matrix spike and matrix spike duplicate recoveries are outside QC limits?

Water	Solids
____ out of ____	0 out of ____

ACTION: Circle all outliers with red pencil.

ACTION: No action is taken on MS/MSD data alone. However, using informed professional judgement, the data reviewer may use the matrix spike and matrix spike duplicate results in conjunction with other QC criteria to determine the need for some qualification of the data.

4.6 Was a Laboratory Control Sample (LCS) analyzed with each analytical batch? [✓] ___ ___

NOTE: When the results of the matrix spike analysis indicate a potential problem due to the sample matrix itself, the LCS results are used to verify that the laboratory can perform the analysis in a clean matrix.

5.0 Blanks (Form IV/Equivalent)

5.1 Is the Method Blank Summary (Form IV) present? [✓] ___ ___

5.2 Frequency of Analysis:

Has a reagent/method blank analysis been reported per 20 samples of similar matrix, or concentration level, and for each extraction batch? [✓] ___ ___

5.3 Has a method blank been analyzed either after

YES NO N/A

the calibration standard or at any other time during the analytical shift for each GC/MS system used ? [✓] ___ ___

ACTION: If any method blank data are missing, call lab for explanation/resubmittal. If not available, use professional judgement to determine if the associated sample data should be qualified.

5.4 Chromatography: review the blank raw data - chromatograms (RICs), quant reports or data system printouts and spectra.

Is the chromatographic performance (baseline stability) for each instrument acceptable for the semivolatiles? [✓] ___ ___

ACTION: Use professional judgement to determine the effect on the data.

6.0 Contamination

NOTE: "Water blanks", "drill blanks" and "distilled water blanks" are validated like any other sample and are not used to qualify the data. Do not confuse them with the other QC blanks discussed below.

6.1 Do any method/instrument/reagent blanks have positive results for target analytes and/or TICs? When applied as described below, the contaminant concentration in these blanks are multiplied by the sample dilution factor and corrected for percent moisture where necessary. ___ [✓] ___

6.2 Do any field/rinse/ blanks have positive results for target analytes and/or TICs (if required, see section 10 below)? ___ [✓] ___

YES NO N/A

ACTION: Prepare a list of the samples associated with each of the contaminated blanks. (Attach a separate sheet.)

NOTE: All field blank results associated to a particular group of samples (may exceed one per case) must be used to qualify data. Blanks may not be qualified because of contamination in another blank. Field Blanks must be qualified for outlying surrogates, poor spectra, instrument performance or calibration QC problems.

ACTION: Follow the directions in the table below to qualify sample results due to contamination. Use the largest value from all the associated blanks. If gross contamination exists, all data in the associated samples should be qualified as unusable (R).

YES NO N/A

Blank Action for Semivolatile Analyses

Blank Type	Blank Result	Sample Result	Action for Samples
Method, Field	Detects	Not detected	No qualification required
	< CRQL *	< CRQL	Report CRQL value with a U
		≥ CRQL	No qualification required
	= CRQL *	< CRQL	Report CRQL value with a U
		≥ CRQL	No qualification required
	> CRQL *	< CRQL	Report CRQL value with a U
		≥ CRQL and < blank contamination	Report concentration of sample with a U
		≥ CRQL and ≥ blank contamination	No qualification required

NOTE: Analytes qualified "U" for blank contamination are still considered as "hits" when qualifying for calibration criteria.

NOTE: If the laboratory did not report TIC analyses, check the project plans to verify whether or not it was required.

6.3 Are there field/rinse/equipment blanks associated with every sample? ☑ ___ ___

ACTION: For low level samples, note in data assessment that there is no associated field/rinse/equipment blank. Exception: samples taken from a drinking water tap do not have associated field blanks.

6.4 Was a instrument blank analyzed after each sample/dilution which contained a target compound

	YES	NO	N/A
that exceeded the initial calibration range.	☑		
6.5 Does the instrument blank have positive results for target analytes and/or TICs?		☑	

Note: Use professional judgement to determine if carryover occurred and qualify analytes accordingly.

7.0 GC/MS Apparatus and Materials

	YES	NO	N/A
7.1 Did the lab use the proper gas chromatographic column for analysis of semivolatiles by Method 8270D? Check raw data, instrument logs or contact the lab to determine what type of column was used. The method requires the use of 30 m x 0.25 mm ID (or 0.32 mm ID), silicone-coated, fused silica, capillary column.	☑		

ACTION: If the specified column, or equivalent, was not used, document the effects in the data assessment. Use professional judgement to determine the acceptability of the data.

8.0 GC/MS Instrument Performance Check (Form V/Equivalent)

	YES	NO	N/A
8.1 Are the GC/MS Instrument Performance Check Forms (Form V) present for decafluorotriphenylphosphine (DFTPP)?	☑		

NOTE: The performance solution should also contain 4,4-DDT, pentachlorophenol, and benzidine to verify injection port inertness and column performance. The degradation of DDT to DDE and DDD must be less than 20% total and the response of pentachlorophenol and benzidine should be within normal ranges for these compounds (based upon lab experience) and show no peak degradation or tailing before samples are analyzed. (see section 5.5

YES NO N/A

page 8270D-12).

8.2 Are the enhanced bar graph spectrum and mass/charge (m/z) listing for the DFTPP provided for each twelve hour shift? [✓] ___ ___

8.3 Has an instrument performance check solution been analyzed for every twelve hours of sample analysis per instrument? [✓] ___ ___

ACTION: List date, time, instrument ID, and sample analyses for which no associated GC/MS tuning data are available.

DATE	TIME	INSTRUMENT	SAMPLE NUMBERS

ACTION: If lab cannot provide missing data, reject ("R") all data generated outside an acceptable twelve hour calibration interval.

ACTION: If mass assignment is in error, flag all associated sample data as unusable (R).

8.4 Have the ion abundances been normalized to m/z 198? [✓] ___ ___

8.5 Have the ion abundance criteria been met for each instrument used? [✓] ___ ___

ACTION: List all data which do not meet ion abundance criteria (attach a separate sheet).

	YES	NO	N/A
ACTION: If ion abundance criteria are not met, take action specified in section 3.2			
8.6 Are there any transcription/calculation errors between mass lists and Form Vs? (Check at least two values but if errors are found, check more.)	___	[✓]	___
8.7 Have the appropriate number of significant figures (two) been reported?	[✓]	___	___
ACTION: If large errors exist, call lab for explanation/resubmittal, make necessary corrections and document effect in data assessments.			
8.8 Are the spectra of the mass calibration compound acceptable?	[✓]	___	___
ACTION: Use professional judgement to determine whether associated data should be accepted, qualified, or rejected.			
9.0 Target Analytes			
9.1 Are the Organic Analysis Data Sheets (Form I) present with required header information on each page, for each of the following:			
a. Samples and/or fractions as appropriate	[✓]	___	___
b. Matrix spikes and matrix spike duplicates	[✓]	___	___
c. Blanks	[✓]	___	___
9.2 Has any special cleanup, such as GPC, been performed on all soil/sediment sample extracts (see section 7.2, page 8270D-14)?	[ ]	✓	___

	YES	NO	N/A

ACTION: If data suggests that extract cleanup was not performed, use professional judgement. Make note in the data assessment narrative.

9.3 Are the Reconstructed Ion Chromatograms, mass spectra for the identified compounds, and the data system printouts (Quant Reports) included in the sample package for each of the following?

a. Samples and/or fractions as appropriate	[✓]	___	___
b. Matrix spikes and matrix spike duplicates (Mass spectra not required)	[✓]	___	___
c. Blanks	[✓]	___	___

ACTION: If any data are missing, take action specified in 3.2 above.

9.4 Are the response factors shown in the Quant Report?	[✓]	___	___

9.5 Is chromatographic performance acceptable with respect to:

Baseline stability?	[✓]	___	___
Resolution?	[✓]	___	___
Peak shape?	[✓]	___	___
Full-scale graph (attenuation)?	[✓]	___	___
Other:_____	[ ]	___	___

ACTION: Use professional judgement to determine the acceptability of the data.

9.6 Are the lab-generated standard mass spectra of identified semivolatile compounds present for

	YES	NO	N/A
each sample?	☑		

ACTION: If any mass spectra are missing, take action specified in 3.2 above. If the lab does not generate their own standard spectra, make a note in the data assessment narrative. If spectra are missing, reject all positive data.

9.7 Is the RRT of each reported compound within 0.06 RRT units of the standard RRT in the continuing calibration?	☑		
9.8 Are all ions present in the standard mass spectrum at a relative intensity greater than 10% (of the most abundant ion) also present in the sample mass spectrum?	☑		
9.9 Do the relative intensities of the characteristic ions in the sample agree within ± 30% of the corresponding relative intensities in the reference spectrum?	☑		

ACTION: Use professional judgement to determine acceptability of data. If it is determined that incorrect identifications were made, all such data should be rejected (R), flagged "N" (Presumptive evidence of the presence of the compound) or changed to not detected (U) at the calculated detection limit. In order to be positively identified, the data must comply with the criteria listed in 9.7, 9.8, and 9.9.

ACTION: When sample carry-over is a possibility, professional judgement should be used to determine if instrument cross-contamination has affected any positive compound identification.

YES NO N/A

10.0 Tentatively Identified Compounds (TIC)

10.1 If Tentatively Identified Compounds were required for this project, are all Form Is, Part B present; and do listed TICs include scan number or retention time, estimated concentration and "JN" qualifier?

NOTE: Review sampling reports to determine if the lab was required to identify non target analytes (refer to section 7.6.2,page 8270D-21).

10.2 Are the mass spectra for the tentatively identified compounds and associated "best match" spectra included in the sample package for each of the following: [ ] ___ ✓

a. Samples and/or fractions as appropriate [ ] ___ ✓

b. Blanks [ ] ___ ✓

ACTION: If any TIC data are missing, take action specified in 3.2 above.

ACTION: Add "JN" qualifier only to analytes identified by CAS #.

10.3 Are any target compounds from one fraction listed as TIC compounds in another (e.g., an acid compound listed as a base neutral TIC)? ___ [ ] ✓

ACTION: i. Flag with "R" any target compound listed as a TIC.

ii. Make sure all rejected compounds are properly reported in the other fraction.

10.4 Are all ions present in the reference mass spectrum with a relative intensity greater than 10% (of the most abundant ion) also present in the

	YES	NO	N/A
sample mass spectrum?	[ ]	___	✓
10.5 Do TIC and "best match" standard relative ion intensities agree within ± 20%?	[ ]	___	✓

ACTION: Use professional judgement to determine acceptability of TIC identifications. If it is determined that an incorrect identification was made, change the identification to "unknown" or to some less specific identification (example: "C3 substituted benzene") as appropriate and remove "JN". Also, when a compound is not found in any blank, but is a suspected artifact of a common laboratory contaminant, the result should be qualified as unusable, "R."

11.0 Compound Quantitation and Reported Detection Limits

	YES	NO	N/A
11.1 Are there any transcription/calculation errors in Form I results? Check at least two positive values. Verify that the correct internal standard, quantitation ion, and RRF were used to calculate Form I result. Were any errors found?	___	[✓]	___

NOTE: Structural isomers with similar mass spectra, but insufficient GC resolution (i.e. percent valley between the two peaks > 25%) should be reported as isomeric pairs. The reviewer should check the raw data to ensure that all such isomers were included in the quantitation (i.e., add the areas of the two coeluting peaks to calculate the total concentration).

	YES	NO	N/A
11.2 Are the method detection limits adjusted to reflect sample dilutions and, for soils, sample moisture?	[✓]	___	___

YES NO N/A

ACTION: If errors are large, call lab for explanation/resubmittal, make any necessary corrections and document effect in data assessments.

ACTION: When a sample is analyzed at more than one dilution, the lowest detection limits are used (unless a QC exceedance dictates the use of the higher detection limit from the diluted sample data). Replace concentrations that exceed the calibration range in the original analysis by crossing out the "E" and it's associated value on the original Form I (if present) and substituting the data from the analysis of the diluted sample. Specify which Form I is to be used, then draw a red " X" across the entire page of all Form I's that should not be used, including any in the summary package. ____

12.0 Standards Data (GC/MS)

12.1 Are the Reconstructed Ion Chromatograms, and data system printouts (Quant, Reports) present for initial and continuing calibration? ☑ ___ ___

ACTION: If any calibration standard data are missing, take action specified in 3.2 above.

13.0 GC/MS Initial Calibration (Form VI/Equivalent)

13.1 Is the Initial Calibration Form (Form VI/ Equivalent) present and complete for the semivolatile fraction? ☑ ___ ___

ACTION: If any calibration forms or standard row data are missing, take action specified in 3.2 above.

13.2 Are all base neutral or acid RRFs > 0.050? ☑ ___ ___

YES NO N/A

Check the **average RRFs** of the four System Performance Check Compounds (SPCCs): N-nitroso-di-n-propylamine, hexachlorocyclopentadiene, 2,4-dinitrophenol, and 4-nitrophenol. These compounds must have **average RRFs** greater than or equal to 0.05 before running samples and should not show any peak tailing.

ACTION: Circle all outliers in red.

ACTION: For any target analyte with **average RRF <0.05**

1. "R" all non-detects;

2. "J" all positive results.

13.3 Are response factors for base neutral or acid target analytes stable over the concentration range of the calibration (% Relative standard deviation [%RSD] < 15.0%)? ☑ ___ ___

NOTE: The % RSD for each individual Calibration Check Compound (CCC, Method 8270D-40 see Table 4) must be less than 30% before analysis can begin. If grater 30%, the lab must clean and recalibrate the instrument.

CALIBRATION CHECK COMPOUNDS

Base/Neutral Fraction	Acid Fraction
Acenaphthene	4-Chloro-3-methylphenol
1,4-Dichlorobenzene	2,4-Dichlorophenol
Hexachlorobutadiene	2-Nitrophenol
Diphenylamine	Phenol
Di-n-octyl phthalate	Pentachlorophenol
Fluoranthene	2,4,6-Trichlorophenol

YES NO N/A

Benzo(a)pyrene

ACTION: If the %RSD for any CCC >30% and no corrective action taken, then "J" qualify all positive hits and "UJ" qualify all non-detects.

ACTION: Circle all outliers in red.

ACTION: If the % RSD is ≥ 15.0%, qualify positive results for that analyte "J" and non-detects using professional judgement. When RSD > 90%, flag all non- detect results for that analyte "R," unusable. Alternatively, the lab should calculate first or second order regression fit of the calibration curve and select the fit which introduces the least amount of error.

NOTE: Analytes previously qualified "U" due to blank contamination are still considered as "hits" when qualifying for calibration criteria.

13.4 Did the laboratory calculate the calibration curve by the least squares regression fit? ___ [✓] ___

13.5 Are there any transcription/calculation errors in the reporting of average response factors (RRF) or % RSD? (Check at least two values but if errors are found, check more.) ___ [✓] ___

ACTION: Circle Errors in red.

ACTION: If errors are large, call lab for explanation/resubmittal, make any necessary corrections and note errors in data assessments.

13.5 Do the target compounds for this SDG include Pesticides? [ ] ✓ ___

YES NO N/A

13.6 If the pesticide compounds include DDT, was the percent breakdown of DDT to DDD and DDE greater than 20%? ___ [ ] ✓

ACTION: If DDT percent breakdown exceeds 20%:

i. Qualify all positive results for DDT with "J". If DDT was not detected, but DDD and DDE results are positive, qualify the quantitation limit for DDT as unusable, "R".

ii. Qualify all positive results for DDD and DDE as presumptively present at an approximate concentration "JN".

14.0 GC/MS Calibration Verification (Form VII/Equivalent)

14.1 Are the Calibration Verification Forms (Form VII) present and complete for all compounds of interest? [✓] ___ ___

14.2 Has a calibration verification standard been analyzed for every twelve hours of sample analysis per instrument? [✓] ___ ___

ACTION: List below all sample analyses that were not within twelve hours of a calibration verification analysis for each instrument used.

_____

_____

_____

ACTION: If any forms are missing or no calibration verification standard has been analyzed within twelve hours of every sample analysis,

	YES	NO	N/A
call lab for explanation/resubmittal. If continuing calibration data are not available, flag all associated sample data as unusable ("R").			
14.3 Do any of the SPCCs have an RRF <0.05?	___	[✓]	___
If YES, make a note in data assessment if the lab did not take corrective action specified in section 7.4.4, page 8270D-18.	[ ]	___	✓
14.4 Do any of the CCCs have a %D between the initial and continuing RRF which exceeds 20.0%?			
ACTION: If yes, make a note in data assessment.			
14.5 Do any semivolatile compounds have a % Difference (% D) between the initial and continuing RRF which exceeds 20.0%?	___	[✓]	___
ACTION: Circle all outliers in red.			
ACTION: Qualify both positive results and non-detects for the outlier compound(s) as estimated (J). When %D is above 90%, qualify all non-detects for that analyte as "R", unusable.			
14.6 Do any semivolatile compounds have a RRF < 0.05?	___	[✓]	___
ACTION: Circle all outliers in red.			
ACTION: If RRF < 0.05, qualify as unusable ("R") associated non-detects and "J" associated positive values.			
14.7 Are there any transcription/calculation errors in the reporting of average response factors (RRF) or percent difference (%D) between initial and continuing RRFs? (Check at least two values but if errors are found, check more).	___	[✓]	___

YES NO N/A

ACTION: Circle errors in red.

ACTION: If errors are large, call lab for explanation/resubmittal, make any necessary corrections and document effect(s) in the data assessments.

15.0 Internal Standards (Form VIII)

15.1 Are the internal standard areas (Form VIII) of every sample and blank within the upper and lower limits (-50% to + 100%) for each continuing calibration? ☑ ___ ___

ACTION: List each outlying internal standard below.

Sample ID	IS #	Area	LowerLimit	Upper Limit

(Attach additional sheets if necessary.)

Note: Check Table 5, 8270D-41 for associated analytes.

ACTION: i. If the internal standard area count is outside the upper or lower limit, flag with "J" all positive results and non-detects (U values) quantitated with this internal standard.

ii. Non-detects associated with IS > 100% should not be qualified.

YES NO N/A

iii. If the IS area is below the lower limit (<50%), qualify all associated non-detects (U-values) "J". If extremely low area counts are reported (<25%) or if performance exhibits a major abrupt drop off, flag all associated non-detects as unusable (R).

15.2 Are the retention times of all internal standards within 30 seconds of the associated calibration standard? [✓] ___ ___

ACTION: Professional judgement should be used to qualify data if the retention times differ by more than 30 seconds.

16.0 Laboratory Control Samples (LCS)

16.1 Were any LCS samples run in order to verify analytes which failed criteria for spike recovery? [ ] ✓ ___

16.2 Did the lab spike LCS sample spiked with the same analytes and the same concentrations as the matrix spike? [ ] ✓ ___

16.3 Were the mean and standard deviation of all analytes within the QC acceptance ranges as shown in Table 6, 8270D-43? [✓] ___ ___

ACTION: If the recovery of any analyte falls out of the designated range, the analytical results for that compound is suspect and should be qualified "J" in the unspiked samples.

17.0 Field Duplicates

17.1 Were any field duplicates submitted for semivolatile analysis? [✓] ___ ___

YES NO N/A

ACTION: Compare the reported results for field duplicates and calculate the relative percent difference.

ACTION: Any gross variation between field duplicate results must be addressed in the reviewer narrative. However, if large differences exist, identification of field duplicates should be confirmed by contacting the sampler.

Sample A-14-115(0-2)

RPD exceeded limit of for

Antracene - 55

phenathrene - 75

fluoranthene - 32

TestAmerica Pittsburgh

Semivolatile REPORT SW-846 Method 8270

Data file : \\PITSVR06\D\chem\731.i\V051311D.b\V0513024.D
Lab Smp Id: MJAFH1AF Client Smp ID: AI2-109(0-2)
Inj Date : 13-MAY-2011 21:15
Operator : 003200 Inst ID: 731.i
Smp Info : C1E120445-003 5/13/11 soil(1133022) dod
Misc Info : MJAFH1AF,V051311D.b,8270d.m,pah.sub
Comment :
Method : \\PITSVR06\D\chem\731.i\V051311D.b\8270d.m
Meth Date : 14-May-2011 04:56 piccolinov Quant Type: ISTD
Cal Date : 13-APR-2011 04:03 Cal File: V0413IC8.D
Als bottle: 26
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pah.sub
Target Version: 4.14
Processing Host: PITPC-502

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws)*gpc * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	500.000	Volume of final extract (uL)(1000 low, 2
Vi	2.000	Volume injected (uL)
Ws	15.200	Weight of sample extracted (g)
gpc	1.000	gpc correction factor
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	CONCENTRATIONS FINAL (ug/kg)	
* 1	1,4-Dichlorobenzene-d4	152	4.388	4.404	(1.000)	116996	8.00000		
* 2	Naphthalene-d8	136	5.350	5.365	(1.000)	505612	8.00000		(M)
* 3	Acenaphthene-d10	164	6.674	6.695	(1.000)	335310	8.00000		
* 4	Phenanthrene-d10	188	7.802	7.828	(1.000)	631778	8.00000		
* 5	Chrysene-d12	240	9.880	9.890	(1.000)	751627	8.00000		
* 6	Perylene-d12	264	11.183	11.188	(1.000)	882661	8.00000		
51	Naphthalene	128	5.366	5.381	(1.003)	20267	0.30969	5.0936	
79	Acenaphthylene	152	6.568	6.589	(0.984)	43109	0.57166	9.4023	
82	Acenaphthene	153	6.701	6.722	(1.004)	5927	0.12416	2.0421	
94	Fluorene	166	7.091	7.112	(1.062)	4773	0.08854	1.4563	
115	Phenanthrene	178	7.823	7.844	(1.003)	165958	1.79924	29.593	
116	Anthracene	178	7.860	7.881	(1.008)	54339	0.58944	9.6946	
123	Fluoranthene	202	8.736	8.752	(1.120)	487492	5.10759	84.006	
125	Pyrene	202	8.913	8.928	(0.902)	430629	3.46453	56.982	
136	Benzo(a)Anthracene	228	9.869	9.879	(0.999)	252702	2.31069	38.005	
137	Chrysene	228	9.901	9.906	(1.002)	312154	2.95305	48.570	
141	Benzo(b)fluoranthene	252	10.799	10.804	(0.966)	696242	4.76977	78.450	
142	Benzo(k)fluoranthene	252	Compound Not Detected.						
146	Benzo(a)pyrene	252	11.130	11.129	(0.995)	307822	2.65629	43.689	

MJW 9/9/11

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	CONCENTRATIONS FINAL (ug/kg)
149 Indeno(1,2,3-cd)pyrene	276	12.439	12.454	(1.112)	259230	1.88019	30.924
150 Dibenz(a,h)anthracene	278	12.449	12.465	(1.113)	50704	0.43535	7.1603
151 Benzo(g,h,i)perylene	276	12.823	12.834	(1.147)	272925	2.31042	38.000
$ 154 Nitrobenzene-d5	82	4.805	4.820	(0.898)	576577	26.7293	439.63
$ 155 2-Fluorobiphenyl	172	6.167	6.188	(0.924)	1501192	26.7907	440.64
$ 156 Terphenyl-d14	244	9.025	9.041	(0.913)	2187252	26.6397 ✓	438.15 ✓
$ 157 Phenol-d5	99	4.137	4.142	(0.943)	813996	39.7158	653.22
$ 158 2-Fluorophenol	112	3.378	3.383	(0.770)	534091	36.6137	602.20
$ 159 2,4,6-Tribromophenol	330	7.278	7.294	(0.933)	333512	48.4108	796.23
$ 186 2-Chlorophenol-d4	132	4.217	4.227	(0.961)	796195	40.2671	662.29
$ 187 1,2-Dichlorobenzene-d4	152	4.505	4.521	(1.027)	379949	24.8123	408.10

QC Flag Legend

M - Compound response manually integrated.

$$[\text{terphenyl-d14}] = \frac{2187252(8)}{751627\ (0.87384)} = 26.6397\ \text{ng} = 438.15\ \text{ng/L}$$

MJW 9/9/11

TestAmerica Pittsburgh

Semivolatile REPORT SW-846 Method 8270

Data file : \\PITSVR06\D\chem\731.i\V051311D.b\V0513030.D
Lab Smp Id: MJAF11AF Client Smp ID: AI2-112(0-2)
Inj Date : 13-MAY-2011 23:36
Operator : 003200 Inst ID: 731.i
Smp Info : C1E120445-007 X2 5/13/11 soil(1133022) dod
Misc Info : MJAF11AF,V051311D.b,8270d.m,pah.sub
Comment :
Method : \\PITSVR06\D\chem\731.i\V051311D.b\8270d.m
Meth Date : 14-May-2011 04:56 piccolinov Quant Type: ISTD
Cal Date : 13-APR-2011 04:03 Cal File: V0413IC8.D
Als bottle: 32
Dil Factor: 2.00000
Integrator: HP RTE Compound Sublist: pah.sub
Target Version: 4.14
Processing Host: PITPC-502

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws)*gpc * CpndVariable

Name	Value	Description
DF	2.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	500.000	Volume of final extract (uL)(1000 low, 2
Vi	2.000	Volume injected (uL)
Ws	15.000	Weight of sample extracted (g)
gpc	1.000	gpc correction factor
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	FINAL (ug/kg)
* 1	1,4-Dichlorobenzene-d4	152	4.391	4.404	(1.000)	107798	8.00000	
* 2	Naphthalene-d8	136	5.352	5.365	(1.000)	448149	8.00000	
* 3	Acenaphthene-d10	164	6.677	6.695	(1.000)	290447	8.00000	
* 4	Phenanthrene-d10	188	7.804	7.820	(1.000)	529824	8.00000	
* 5	Chrysene-d12	240	9.893	9.890	(1.000)	583312	8.00000	
* 6	Perylene-d12	264	11.218	11.180	(1.000)	690949	8.00000	
51	Naphthalene	128	5.368	5.381	(1.003)	25562	0.44068	14.689
79	Acenaphthylene	152	6.570	6.589	(0.984)	56873	0.87068	29.022
82	Acenaphthene	153	6.699	6.722	(1.003)	8162	0.19739	6.5796
94	Fluorene	166	7.094	7.112	(1.062)	13046	0.27940	9.3134
115	Phenanthrene	178	7.820	7.844	(1.002)	235310	3.04204	101.40
116	Anthracene	178	7.858	7.881	(1.007)	69630	0.90064	30.021
123	Fluoranthene	202	8.739	8.752	(1.120)	511682	6.39266	213.09
125	Pyrene	202	8.916	8.928	(0.901)	501451	5.19841	173.28
136	Benzo(a)Anthracene	228	9.888	9.879	(0.999)	254465	2.99821	99.940
137	Chrysene	228	9.915	9.906	(1.002)	316123	3.85353	128.45
141	Benzo(b)fluoranthene	252	10.828	10.804	(0.965)	537506	5.57917	185.97
142	Benzo(k)fluoranthene	252	Compound Not Detected.					
146	Benzo(a)pyrene	252	11.154	11.129	(0.994)	309890	3.41610	113.87

MJW 5/9/11

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	CONCENTRATIONS FINAL (ug/kg)
149 Indeno(1,2,3-cd)pyrene	276	12.468	12.454	(1.111)	240776	2.30502	76.834
150 Dibenz(a,h)anthracene	278	12.468	12.465	(1.111)	68315	0.74930	24.977
151 Benzo(g,h,i)perylene	276	12.842	12.834	(1.145)	270123	2.92117	97.372
$ 154 Nitrobenzene-d5	82	4.808	4.820	(0.898)	287050	15.0135	500.45
$ 155 2-Fluorobiphenyl	172	6.170	6.188	(0.924)	715524	14.7418	491.39
$ 156 Terphenyl-d14	244	9.033	9.041	(0.913)	1002755	15.7372	524.57
$ 157 Phenol-d5	99	4.140	4.142	(0.943)	442593	23.4372	781.24
$ 158 2-Fluorophenol	112	3.381	3.383	(0.770)	282906	21.0490 ✓	701.63 ✓
$ 159 2,4,6-Tribromophenol	330	7.276	7.294	(0.932)	164026	28.3907	946.36
$ 186 2-Chlorophenol-d4	132	4.225	4.227	(0.962)	401099	22.0162	733.87
$ 187 1,2-Dichlorobenzene-d4	152	4.508	4.521	(1.027)	177973	12.6141	420.47

$$[2\text{-Fluorophenol}] = \frac{282906\ (8)}{107498\ (0.99745)} = 21.04894 \text{ mg} = 701.63 \text{ mg/L}$$

MSW
9/8/11

Data File: \\PITSVR06\D\chem\731.i\V051311D.b\V0513DF1.D

Date : 13-MAY-2011 11:45

Client ID: DFTPP050

Instrument: 731.i

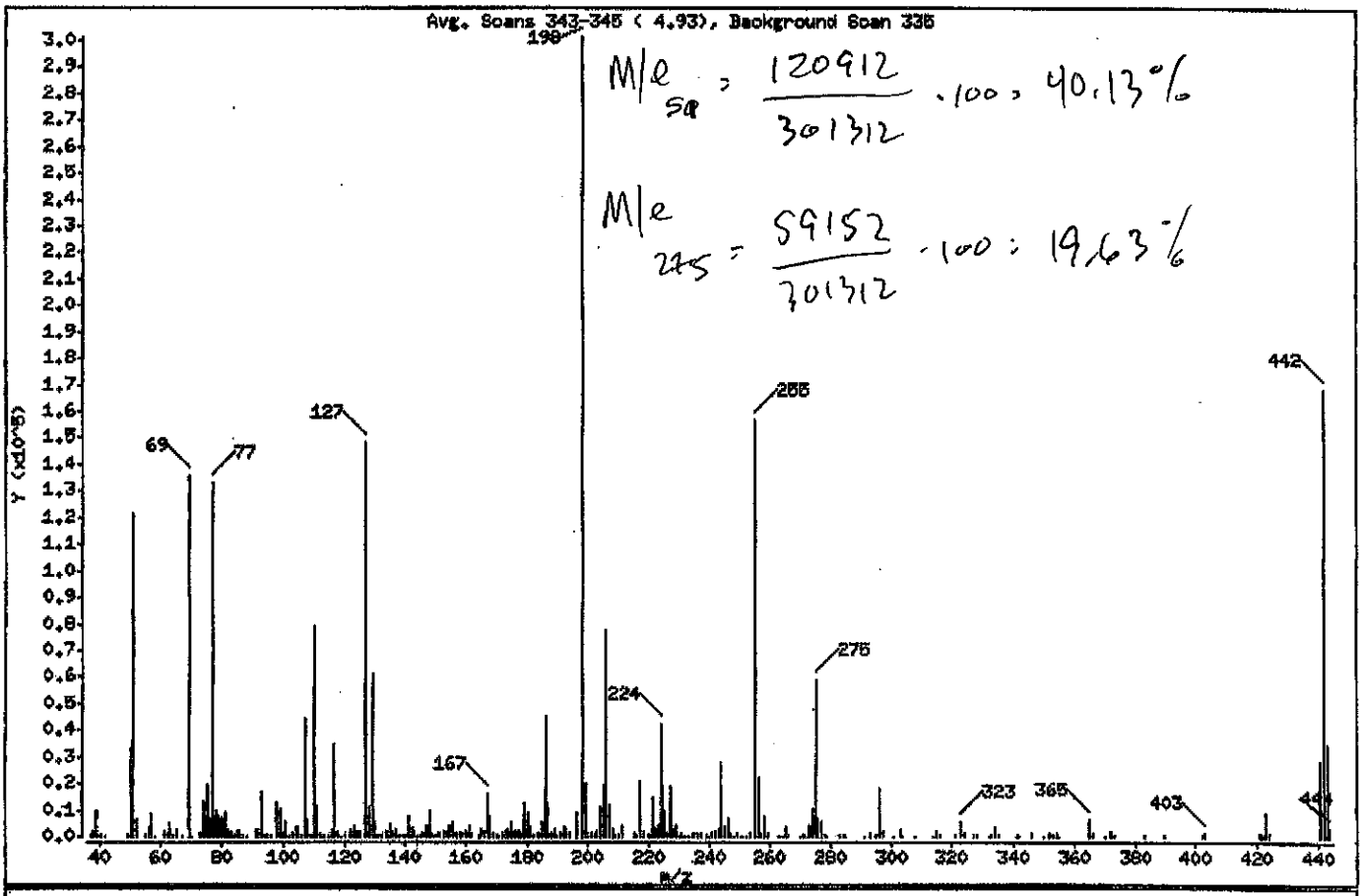
Sample Info: DFTPP 11465

Operator: 003200

Column phase: db-5ms

Column diameter: 0.25

1 dftpp



M/e 198 = 120912 / 301312 · 100 = 40.13%

M/e 275 = 59152 / 301312 · 100 = 19.63%

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	30.00 - 60.00% of mass 198	40.13 ✓
68	Less than 2.00% of mass 69	0.00 (0.00)
69	Mass 69 relative abundance	45.09
70	Less than 2.00% of mass 69	0.08 (0.18)
127	40.00 - 60.00% of mass 198	49.19
197	Less than 1.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	6.73
275	10.00 - 30.00% of mass 198	19.63 ✓
365	Greater than 1.00% of mass 198	2.03
441	Present, but less than mass 443	9.38
442	Greater than 40.00% of mass 198	88.82
443	17.00 - 23.00% of mass 442	11.45 (20.51)

MJW 9/12/11

TestAmerica Pittsburgh

Semivolatile REPORT SW-846 Method 8270

Data file : \\PITSVR06\D\chem\731.i\V051411D.b\V0514011.D
Lab Smp Id: MJAG71AA Client Smp ID: AI4-105(6-24)
Inj Date : 14-MAY-2011 14:18
Operator : 003200 Inst ID: 731.i
Smp Info : C1E120445-020 5/13/11 soil(1133022) dod
Misc Info : MJAG71AA,V051411D.b,8270d.m,pah.sub
Comment :
Method : \\PITSVR06\D\chem\731.i\V051411D.b\8270d.m
Meth Date : 15-May-2011 02:53 piccolinov Quant Type: ISTD
Cal Date : 13-APR-2011 04:03 Cal File: V0413IC8.D
Als bottle: 13
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pah.sub
Target Version: 4.14
Processing Host: PITPC-502

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws)*gpc * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	500.000	Volume of final extract (uL) (1000 low, 2
Vi	2.000	Volume injected (uL)
Ws	15.000	Weight of sample extracted (g)
gpc	1.000	gpc correction factor
Cpnd Variable		Local Compound Variable

[fluorene] = 16237 (8)
287171 (128609)
= 0.3517092
= 5.86182 mg/L

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	FINAL (ug/kg)
* 1	1,4-Dichlorobenzene-d4	152	4.393	4.386	(1.000)	117488	8.00000	
* 2	Naphthalene-d8	136	5.365	5.358	(1.000)	475898	8.00000	
* 3	Acenaphthene-d10	164	6.706	6.699	(1.000)	287171	8.00000	
* 4	Phenanthrene-d10	188	7.839	7.837	(1.000)	509352	8.00000	
* 5	Chrysene-d12	240	9.879	9.867	(1.000)	556689	8.00000	
* 6	Perylene-d12	264	11.172	11.149	(1.000)	632142	8.00000	
51	Naphthalene	128	5.381	5.374	(1.003)	39211	0.63657	10.610
79	Acenaphthylene	152	6.594	6.587	(0.983)	371491	5.75208	95.868
82	Acenaphthene	153	6.727	6.725	(1.003)	9199	0.22500	3.7501
94	Fluorene	166	7.123	7.115	(1.062)	16237	0.35171 ✓	5.8618 ✓
115	Phenanthrene	178	7.860	7.853	(1.003)	275602	3.70612	61.769
116	Anthracene	178	7.897	7.890	(1.007)	160918	2.16509	36.085
123	Fluoranthene	202	8.774	8.766	(1.119)	1670974	21.7152	361.92
125	Pyrene	202	8.950	8.942	(0.906)	1750200	19.0116	316.86
136	Benzo(a)Anthracene	228	9.869	9.856	(0.999)	1042083	12.8654	214.42
137	Chrysene	228	9.895	9.888	(1.002)	1197859	15.3002	255.00
141	Benzo(b)fluoranthene	252	10.782	10.759	(0.965)	3232270	30.9189	515.32
142	Benzo(k)fluoranthene	252	Compound Not Detected.					
146	Benzo(a)pyrene	252	11.113	11.090	(0.995)	1599505	19.2726	321.21

TestAmerica Pittsburgh

Semivolatile REPORT SW-846 Method 8270

Data file : \\PITSVR06\D\chem\731.i\V051411D.b\V0514012.D
Lab Smp Id: MJAG91AA Client Smp ID: AI4-106(0-2)
Inj Date : 14-MAY-2011 14:38
Operator : 003200 Inst ID: 731.i
Smp Info : C1E120445-021 X40 5/13/11 soil(1133022) dod
Misc Info : MJAG91AA,V051411D.b,8270d.m,pah.sub
Comment :
Method : \\PITSVR06\D\chem\731.i\V051411D.b\8270d.m
Meth Date : 15-May-2011 02:53 piccolinov Quant Type: ISTD
Cal Date : 13-APR-2011 04:03 Cal File: V0413IC8.D
Als bottle: 14
Dil Factor: 40.00000
Integrator: HP RTE Compound Sublist: pah.sub
Target Version: 4.14
Processing Host: PITPC-502

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws)*gpc * CpndVariable

Name	Value	Description
DF	40.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	500.000	Volume of final extract (uL)(1000 low, 2
Vi	2.000	Volume injected (uL)
Ws	15.000	Weight of sample extracted (g)
gpc	1.000	gpc correction factor
Cpnd Variable		Local Compound Variable

[Chrysene] = 768644(8)
503745(1.12509)
= 10.849686 ng
= 7233.124

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	CONCENTRATIONS FINAL (ug/kg)
* 1	1,4-Dichlorobenzene-d4	152	4.387	4.386	(1.000)	126626	8.00000	
* 2	Naphthalene-d8	136	5.354	5.358	(1.000)	493935	8.00000	
* 3	Acenaphthene-d10	164	6.695	6.699	(1.000)	296744	8.00000	
* 4	Phenanthrene-d10	188	7.833	7.837	(1.000)	504426	8.00000	
* 5	Chrysene-d12	240	9.868	9.867	(1.000)	503745	8.00000	
* 6	Perylene-d12	264	11.150	11.149	(1.000)	573065	8.00000	
51	Naphthalene	128	5.370	5.374	(1.003)	18135	0.28366	189.11
79	Acenaphthylene	152	6.588	6.587	(0.984)	289409	4.33658	2891.0
82	Acenaphthene	153	6.721	6.725	(1.004)	13022	0.30824	205.49
94	Fluorene	166	7.117	7.115	(1.063)	18644	0.39082	260.54
115	Phenanthrene	178	7.849	7.853	(1.002)	507938	6.89714	4598.1
116	Anthracene	178	7.891	7.890	(1.008)	133844	1.81840	1212.3
123	Fluoranthene	202	8.762	8.766	(1.119)	1652044	21.6789	14452
125	Pyrene	202	8.938	8.942	(0.906)	1594221	19.1373	12758
136	Benzo(a)Anthracene	228	9.857	9.856	(0.999)	710265	9.69046	6460.3
137	Chrysene	228	9.884	9.888	(1.002)	768644	10.8497 ✓	7233.1 ✓
141	Benzo(b)fluoranthene	252	10.765	10.759	(0.966)	1938878	20.4587	13639
142	Benzo(k)fluoranthene	252	Compound Not Detected.					
146	Benzo(a)pyrene	252	11.097	11.090	(0.995)	973071	12.9333	8622.2

MJW 9/12/11

Calibration Calculations
SVOC
Ft. Totten

Analyte	IS	L1 .4	L2 2	L3 4	L4 10	L5 20	L6 40	L7 60	L8 80	L9	Ave.	%SD	%RSD
Fluorene	AD10	1.264197	1.330614	1.301592	1.304718	1.300437	1.296532	1.2252385	1.265413	---	1.286093	3.3	2.5
Chrysene	CD10	1.103691	1.096811	1.10981	1.084915	1.100951	1.174232	1.1471442	1.183144	---	1.125087	3.8	3.4
		---	---	---	---	---	---	---	---	---	0	0	0
		---	---	---	---	---	---	---	---	---	0	0	0
		---	---	---	---	---	---	---	---	---	0	0	0
		---	---	---	---	---	---	---	---	---	0	0	0
		---	---	---	---	---	---	---	---	---	0	0	0
		---	---	---	---	---	---	---	---	---	0	0	0

MJ 9/12/11

Calibration Calculations
SVOC
Ft. Totten

Analyte	IS	Area	RRF
Fluorene	AD10	29914	1.264197
Chrysene	CD10	36938	1.103691
0	0		---
0	0		---
0	0		---
0	0		---
0	0		---
0	0		---

IS	Area	IS AMT	CAL AMT
AD10	473249	8	0.4
CD10	669354	8	0.4
0			0.4
0			0.4
0			0.4
0			0.4

Calibration Calculations
SVOC
Ft. Totten

Analyte	IS	Area	RRF
Fluorene	AD10	149430	1.330614
Chrysene	CD10	174326	1.096811
0	0		---
0	0		---
0	0		---
0	0		---
0	0		---
0	0		---

IS	Area	IS AMT	CAL AMT
AD10	449206	8	2
CD10	635756	8	2
0		0	2
0		0	2
0		0	2
0		0	2

MJW 9/12/11

Calibration Calculations
SVOC
Ft. Totten

Analyte	IS	Area	RRF
Fluorene	AD10	275590	1.301592
Chrysene	CD10	369038	1.10981
0	0		---
0	0		---
0	0		---
0	0		---
0	0		---
0	0		---

IS	Area	IS AMT	CAL AMT
AD10	423466	8	4
CD10	665047	8	4
0		0	4
0		0	4
0		0	4
0		0	4

MJW 9/12/11

Calibration Calculations
SVOC
Ft. Totten

Analyte	IS	Area	RRF
Fluorene	AD10	674177	1.304718
Chrysene	CD10	899240	1.084915
0	0		---
0	0		---
0	0		---
0	0		---
0	0		---
0	0		---

IS	Area	IS AMT	CAL AMT
AD10	413378	8	10
CD10	663086	8	10
0		0	10
0		0	10
0		0	10
0		0	10

MJW 4/12/11

Calibration Calculations
SVOC
Ft. Totten

Analyte	IS	Area	RRF
Fluorene	AD10	1317938	1.300437
Chrysene	CD10	1828635	1.100951
0	0		---
0	0		---
0	0		---
0	0		---
0	0		---
0	0		---

IS	Area	IS AMT	CAL AMT
AD10	405383	8	20
CD10	664384	8	20
0		0	20
0		0	20
0		0	20
0		0	20

Calibration Calculations
SVOC
Ft. Totten

Analyte	IS	Area	RRF
Fluorene	AD10	2326944	1.296532
Chrysene	CD10	3481697	1.174232
0	0		---
0	0		---
0	0		---
0	0		---
0	0		---
0	0		---

IS	Area	IS AMT	CAL AMT
AD10	358949	8	40
CD10	593017	8	40
0		0	40
0		0	40
0		0	40
0		0	40

Calibration Calculations
SVOC
Ft. Totten

Analyte	IS	Area	RRF
Fluorene	AD10	3251060	1.225238
Chrysene	CD10	5117694	1.147144
0	0		---
0	0		---
0	0		---
0	0		---
0	0		---
0	0		---

IS	Area	IS AMT	CAL AMT
AD10	353788	8	60
CD10	594833	8	60
0		0	60
0		0	60
0		0	60
0		0	60

Calibration Calculations
SVOC
Ft. Totten

Analyte	IS	Area	RRF
Fluorene	AD10	4272413	1.265413
Chrysene	CD10	7186654	1.183144
0	0		---
0	0		---
0	0		---
0	0		---
0	0		---
0	0		---

IS	Area	IS AMT	CAL AMT
AD10	337630	8	80
CD10	607420	8	80
0		0	80
0		0	80
0		0	80
0		0	80

DUSR Calculations
VOC SDG C2487
LOOHN'S DRY CLEARNERS

Analyte	IS	Area	RRF
Fluorene	AD10		---
Chrysene	CD10		---
0	0		---
0	0		---
0	0		---
0	0		---
0	0		---
0	0		---

IS	Area	IS AMT	CAL AMT
AD10		8	20
CD10		8	20
0		0	20
0		0	20
0		0	20
0		0	20

MW 8/12/11

(1001 - 1714)

TestAmerica Pittsburgh

INITIAL CALIBRATION DATA

Start Cal Date : 13-APR-2011 01:28
End Cal Date : 13-APR-2011 04:03
Quant Method : ISTD
Origin : Included
Target Version : 4.14
Integrator : HP RTE
Method file : \\PITSVR06\D\chem\731.i\V041311D.b\8270d.m
Last Edit : 13-Apr-2011 05:45 731.i

Compound	0.4000000 Level 1 / 60.0000 Level 7	2.0000 Level 2 / 80.0000 Level 8	4.0000 Level 3	10.0000 Level 4	20.0000 Level 5	40.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
137 Chrysene	1.10369	1.09681	1.10981	1.08492	1.10095	1.17423						
	1.14714	1.18314					AVRG		1.12509		3.35260	
138 4,4'-Methylene bis(o-chloroan	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++	+++++					AVRG		0.000e+000		0.000e+000	<-
139 bis(2-ethylhexyl)Phthalate	0.99621	0.87954	0.76601	0.81873	0.82440	0.84096						
	0.80251	0.78863					AVRG		0.83962		8.56260	
140 Di-n-octylphthalate	1.57059	1.58466	1.50319	1.42818	1.47786	1.45384						
	1.41488	1.38998					AVRG		1.47790		4.81049	
141 Benzo(b)fluoranthene	1.16823	1.27505	1.22138	1.40933	1.46859	1.36299						
	1.31071	1.36770					AVRG		1.32300		7.50315	
204 6-Methylchrysene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++	+++++					AVRG		0.000e+000		0.000e+000	<-
142 Benzo(k)fluoranthene	1.40557	1.49172	1.50675	1.30451	1.33302	1.41527						
	1.48763	1.42040					AVRG		1.42061		5.21189	

MJ 4/12/11

1481

C1E120445

TestAmerica Pittsburgh

INITIAL CALIBRATION DATA

Start Cal Date : 13-APR-2011 01:28
End Cal Date : 13-APR-2011 04:03
Quant Method : ISTD
Origin : Included
Target Version : 4.14
Integrator : HP RTE
Method file : \\PITSVR06\D\chem\731.i\V041311D.b\8270d.m
Last Edit : 13-Apr-2011 05:45 731.i

Compound	0.4000000 Level 1	2.0000 Level 2	4.0000 Level 3	10.0000 Level 4	20.0000 Level 5	40.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	60.0000 Level 7	80.0000 Level 8									
92 2-Naphthylamine	0.93672	1.00357	0.98739	0.90463	0.87892	0.81863					
	0.70108	0.72886					AVRG		0.86998		12.92039
93 Diethylphthalate	1.20621	1.23505	1.25765	1.23640	1.25112	1.26065					
	1.20463	1.24786					AVRG		1.23745		1.75481
94 Fluorene	✓1.26420	✓1.33061	✓1.30159	✓1.30472	✓1.30044	✓1.29653					
	✓1.22524	✓1.26541					AVRG		✓1.28609		✓2.54417
95 4-Chlorophenyl-phenylether	0.63611	0.65846	0.65016	0.66918	0.63469	0.64249					
	0.63048	0.64933					AVRG		0.64636		2.02433
96 4-Nitroaniline	0.23835	0.29280	0.29326	0.30921	0.31301	0.30834					
	0.29372	0.30907					AVRG		0.29472		8.23183
97 5-Nitro-o-toluidine	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000 <-
98 4,6-Dinitro-2-methylphenol	+++++	0.10550	0.11786	0.12919	0.13797	0.13816					
	0.14343	0.14693					AVRG		0.13129		11.35571

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Data file : \\PITSVR06\D\chem\731.i\V041311D.b\V0413IC1.D
Lab Smp Id: SSTD0.4 Client Smp ID: SSTD0.4
Inj Date : 13-APR-2011 01:28
Operator : 003200 Inst ID: 731.i
Smp Info : IC 999
Misc Info : SSTD0.4,V041311D.b,8270d.m,padepi.sub,1,1
Comment :
Method : \\PITSVR06\D\chem\731.i\V041311D.b\8270d.m
Meth Date : 13-Apr-2011 05:45 731.i Quant Type: ISTD
Cal Date : 13-APR-2011 01:28 Cal File: V0413IC1.D
Als bottle: 2 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: padepi.sub
Target Version: 4.14

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 1	1,4-Dichlorobenzene-d4	152	4.478	4.478	(1.000)	164058	8.00000	
* 2	Naphthalene-d8	136	5.440	5.440	(1.000)	735958	8.00000	
* 3	Acenaphthene-d10	164	6.780	6.780	(1.000)	473249	8.00000	
* 4	Phenanthrene-d10	188	7.913	7.913	(1.000)	817067	8.00000	
* 5	Chrysene-d12	240	9.943	9.943	(1.000)	669354	8.00000	
* 6	Perylene-d12	264	11.263	11.263	(1.000)	644891	8.00000	
198	1,4-Dioxane	88	1.331	1.331	(0.297)	3189	0.40000	0.56443(M)
10	N-Nitrosodimethylamine	74	1.780	1.780	(0.398)	3766	0.40000	0.45122(M)
9	Pyridine	79	1.898	1.898	(0.424)	3360	0.40000	0.21296(M)
16	Methyl methanesulfonate	80	3.297	3.297	(0.736)	4585	0.40000	0.39661
206	Benzaldehyde	77	4.136	4.136	(0.924)	4022	0.40000	1.8601
21	Aniline	93	4.222	4.222	(0.943)	15170	0.40000	0.40940
22	Phenol	94	4.222	4.222	(0.943)	13919	0.40000	0.42170
23	bis(2-Chloroethyl)ether	93	4.280	4.280	(0.956)	9190	0.40000	0.40480
24	2-Chlorophenol	128	4.312	4.312	(0.963)	11658	0.40000	0.41317
26	1,3-Dichlorobenzene	146	4.430	4.430	(0.989)	13061	0.40000	0.39505
27	1,4-Dichlorobenzene	146	4.489	4.489	(1.002)	15396	0.40000	0.44632
28	1,2-Dichlorobenzene	146	4.606	4.606	(1.029)	13833	0.40000	0.42155
217	Indene	116	4.670	4.670	(1.043)	19267	0.40000	0.40780
29	Benzyl Alcohol	108	4.579	4.579	(1.023)	6377	0.40000	0.38552
30	2-Methylphenol	108	4.676	4.676	(1.044)	9907	0.40000	0.41288
31	2,2'-oxybis(1-Chloropropane)	45	4.692	4.692	(1.048)	15449	0.40000	0.42807
37	Acetophenone	105	4.782	4.782	(1.068)	15227	0.40000	0.42507
32	N-Nitroso-di-n-propylamine	70	4.788	4.788	(1.069)	7670	0.40000	0.44436
192	4-Methylphenol	108	4.788	4.788	(1.069)	10175	0.40000	0.42043
34	Hexachloroethane	117	4.863	4.863	(1.086)	5348	0.40000	0.37624
35	Nitrobenzene	77	4.905	4.905	(0.902)	11929	0.40000	0.39995
36	N-Nitrosopyrrolidine	100	4.756	4.756	(1.062)	3619	0.40000	0.33088
41	Isophorone	82	5.087	5.087	(0.935)	20609	0.40000	0.40490
42	2-Nitrophenol	139	5.151	5.151	(0.947)	6057	0.40000	0.35082
43	2,4-Dimethylphenol	107	5.188	5.188	(0.954)	11721	0.40000	0.39941
44	bis(2-Chloroethoxy)methane	93	5.258	5.258	(0.967)	12597	0.40000	0.38938
48	2,4-Dichlorophenol	162	5.333	5.333	(0.980)	10471	0.40000	0.38696
49	Benzoic Acid	122	5.215	5.215	(0.959)	26667	2.00000	1.6639(M)

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	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
50	1,2,4-Trichlorobenzene	180	5.402	5.402	(0.993)	14290	0.40000	0.41530
51	Naphthalene	128	5.456	5.456	(1.003)	40137	0.40000	0.42135
52	4-Chloroaniline	127	5.498	5.498	(1.011)	14583	0.40000	0.37895
54	2,6-Dichlorophenol	162	5.504	5.504	(1.012)	9917	0.40000	0.38079
56	Hexachlorobutadiene	225	5.562	5.562	(1.023)	7993	0.40000	0.41123
208	Caprolactam	113	5.728	5.728	(1.053)	2407	0.40000	0.35574
59	4-Chloro-3-Methylphenol	107	5.862	5.862	(1.078)	10383	0.40000	0.40778
62	2-Methylnaphthalene	142	5.984	5.984	(1.100)	25768	0.40000	0.39645
63	1-Methylnaphthalene	142	6.059	6.059	(1.114)	26500	0.40000	0.42214
64	Hexachlorocyclopentadiene	237	6.118	6.118	(0.902)	8510	0.40000	0.34843
65	1,2,4,5-Tetrachlorobenzene	216	6.118	6.118	(0.902)	12953	0.40000	0.38362
66	2,4,6-Trichlorophenol	196	6.198	6.198	(0.914)	8528	0.40000	0.37342
67	2,4,5-Trichlorophenol	196	6.225	6.225	(0.918)	7891	0.40000	0.32890
209	1,1'-Biphenyl	154	6.337	6.337	(0.935)	32523	0.40000	0.37851
70	2-Chloronaphthalene	162	6.353	6.353	(0.937)	25433	0.40000	0.38521
73	2-Nitroaniline	65	6.428	6.428	(0.948)	5820	0.40000	0.34070
76	Dimethylphthalate	163	6.567	6.567	(0.968)	29053	0.40000	0.40766
78	2,6-Dinitrotoluene	165	6.610	6.610	(0.975)	4701	0.40000	0.30159
79	Acenaphthylene	152	6.674	6.674	(0.984)	30615	0.40000	0.36281
81	3-Nitroaniline	138	6.732	6.732	(0.993)	5698	0.40000	0.32806
82	Acenaphthene	153	6.802	6.802	(1.003)	27455	0.40000	0.40750
83	2,4-Dinitrophenol	184	6.813	6.813	(1.005)	12771	2.00000	2.2307
85	4-Nitrophenol	109	6.855	6.855	(1.011)	16005	2.00000	1.7077
86	Dibenzofuran	168	6.935	6.935	(1.023)	40135	0.40000	0.40429
87	2,4-Dinitrotoluene	165	6.914	6.914	(1.020)	5665	0.40000	0.27410
91	2,3,5,6-Tetrachlorophenol	232	6.994	6.994	(1.032)	6480	0.40000	0.34751
88	2,3,4,6-Tetrachlorophenol	232	7.032	7.032	(1.037)	7098	0.40000	0.37764
92	2-Naphthylamine	143	7.048	7.048	(1.039)	22165	0.40000	0.43068
93	Diethylphthalate	149	7.101	7.101	(1.047)	28542	0.40000	0.38990
94	Fluorene	166	7.197	7.197	(1.061)	29914	0.40000	0.39319
95	4-Chlorophenyl-phenylether	204	7.192	7.192	(1.061)	15052	0.40000	0.39366
96	4-Nitroaniline	138	7.197	7.197	(1.061)	5640	0.40000	0.32350
98	4,6-Dinitro-2-methylphenol	198	7.229	7.229	(0.914)	15301	2.00000	1.1411
99	N-Nitrosodiphenylamine (1)	169	7.283	7.283	(0.920)	17784	0.40000	0.35467
100	1,2-Diphenylhydrazine	77	7.315	7.315	(0.924)	26665	0.40000	0.35340
106	4-Bromophenyl-phenylether	248	7.566	7.566	(8.956)	7578	0.40000	0.34571
107	Hexachlorobenzene	284	7.630	7.630	(0.964)	7605	0.40000	0.34832
210	Atrazine	200	7.683	7.683	(0.971)	7257	0.40000	0.37798
111	Pentachlorophenol	266	7.769	7.769	(0.982)	21235	2.00000	1.5570
115	Phenanthrene	178	7.934	7.934	(1.003)	45615	0.40000	0.38239
116	Anthracene	178	7.972	7.972	(1.007)	43561	0.40000	0.36537
119	Carbazole	167	8.089	8.089	(1.022)	37317	0.40000	0.36444
120	Di-n-Butylphthalate	149	8.346	8.346	(1.055)	45965	0.40000	0.35942
123	Fluoranthene	202	8.848	8.848	(1.118)	45664	0.40000	0.36994
124	Benzidine	184	8.933	8.933	(0.898)	5859	0.40000	0.14918 (M)
125	Pyrene	202	9.019	9.019	(0.907)	45885	0.40000	0.41453
131	Butylbenzylphthalate	149	9.489	9.489	(0.954)	20916	0.40000	0.42965
135	3,3'-Dichlorobenzidine	252	9.900	9.900	(0.996)	12088	0.40000	0.35493
136	Benzo(a)Anthracene	228	9.932	9.932	(0.999)	40238	0.40000	0.41316
137	Chrysene	228	9.959	9.959	(1.002)	36938	0.40000	0.39239
139	bis(2-ethylhexyl) Phthalate	149	9.916	9.916	(0.997)	33341	0.40000	0.47460
140	Di-n-octylphthalate	149	10.424	10.424	(0.926)	50643	0.40000	0.42509
141	Benzo(b)fluoranthene	252	10.862	10.862	(0.964)	37669	0.40000	0.35321
142	Benzo(k)fluoranthene	252	10.889	10.889	(0.967)	45322	0.40000	0.39577

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Data file : \\PITSVR06\D\chem\731.i\V041311D.b\V0413IC2.D
Lab Smp Id: SSTD2.0 Client Smp ID: SSTD2.0
Inj Date : 13-APR-2011 01:50
Operator : 003200 Inst ID: 731.i
Smp Info : IC 1000
Misc Info : SSTD2.0,V041311D.b,8270d.m,padepi.sub,1,2
Comment :
Method : \\PITSVR06\D\chem\731.i\V041311D.b\8270d.m
Meth Date : 13-Apr-2011 05:45 731.i Quant Type: ISTD
Cal Date : 13-APR-2011 01:50 Cal File: V0413IC2.D
Als bottle: 3 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: padepi.sub
Target Version: 4.14

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 1	1,4-Dichlorobenzene-d4	152	4.476	4.476	(1.000)	164738	8.00000	
* 2	Naphthalene-d8	136	5.443	5.443	(1.000)	711749	8.00000	
* 3	Acenaphthene-d10	164	6.779	6.779	(1.000)	449206	8.00000	
* 4	Phenanthrene-d10	188	7.911	7.911	(1.000)	781213	8.00000	
* 5	Chrysene-d12	240	9.941	9.941	(1.000)	635756	8.00000	
* 6	Perylene-d12	264	11.255	11.255	(1.000)	606896	8.00000	
198	1,4-Dioxane	88	1.303	1.303	(0.291)	12627	2.00000	2.2257(M)
10	N-Nitrosodimethylamine	74	1.757	1.757	(0.393)	16620	2.00000	1.9831
9	Pyridine	79	1.821	1.821	(0.407)	30663	2.00000	1.9355(M)
16	Methyl methanesulfonate	80	3.290	3.290	(0.735)	25165	2.00000	2.1678
206	Benzaldehyde	77	4.134	4.134	(0.924)	25238	2.00000	2.4169(M)
21	Aniline	93	4.220	4.220	(0.943)	76105	2.00000	2.0454
22	Phenol	94	4.220	4.220	(0.943)	68522	2.00000	2.0674
23	bis(2-Chloroethyl)ether	93	4.279	4.279	(0.956)	47465	2.00000	2.0821
24	2-Chlorophenol	128	4.311	4.311	(0.963)	57362	2.00000	2.0246
26	1,3-Dichlorobenzene	146	4.433	4.433	(0.990)	68301	2.00000	2.0573
27	1,4-Dichlorobenzene	146	4.487	4.487	(1.002)	67831	2.00000	1.9582
28	1,2-Dichlorobenzene	146	4.604	4.604	(1.029)	68062	2.00000	2.0656
217	Indene	116	4.668	4.668	(1.043)	99978	2.00000	2.1074
29	Benzyl Alcohol	108	4.583	4.583	(1.024)	31951	2.00000	1.9236
30	2-Methylphenol	108	4.674	4.674	(1.044)	47616	2.00000	1.9762
31	2,2'-oxybis(1-Chloropropane)	45	4.690	4.690	(1.048)	78238	2.00000	2.1629
37	Acetophenone	105	4.775	4.775	(1.067)	77790	2.00000	2.1626
32	N-Nitroso-di-n-propylamine	70	4.786	4.786	(1.069)	35064	2.00000	2.0498
192	4-Methylphenol	108	4.786	4.786	(1.069)	53944	2.00000	2.2198
34	Hexachloroethane	117	4.866	4.866	(1.087)	29965	2.00000	2.0994
35	Nitrobenzene	77	4.904	4.904	(0.901)	58700	2.00000	2.0350
36	N-Nitrosopyrrolidine	100	4.754	4.754	(1.062)	22235	2.00000	2.0734
41	Isophorone	82	5.091	5.091	(0.935)	102763	2.00000	2.0876
42	2-Nitrophenol	139	5.149	5.149	(0.946)	32186	2.00000	1.9276
43	2,4-Dimethylphenol	107	5.187	5.187	(0.953)	56310	2.00000	1.9841
44	bis(2-Chloroethoxy)methane	93	5.256	5.256	(0.966)	66537	2.00000	2.1266
48	2,4-Dichlorophenol	162	5.331	5.331	(0.979)	53119	2.00000	2.0298
49	Benzoic Acid	122	5.224	5.224	(0.960)	51581	4.00000	3.3280(M)

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	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
50	1,2,4-Trichlorobenzene	180	5.400	5.400	(0.992)	68936	2.00000	2.0716
51	Naphthalene	128	5.454	5.454	(1.002)	185617	2.00000	2.0148
52	4-Chloroaniline	127	5.497	5.497	(1.010)	78888	2.00000	2.1197
54	2,6-Dichlorophenol	162	5.502	5.502	(1.011)	52954	2.00000	2.1025
56	Hexachlorobutadiene	225	5.561	5.561	(1.022)	38748	2.00000	2.0613
208	Caprolactam	113	5.726	5.726	(1.052)	12950	2.00000	1.9790
59	4-Chloro-3-Methylphenol	107	5.860	5.860	(1.077)	49667	2.00000	2.0170
62	2-Methylnaphthalene	142	5.983	5.983	(1.099)	132774	2.00000	2.1122
63	1-Methylnaphthalene	142	6.057	6.057	(1.113)	120847	2.00000	1.9906
64	Hexachlorocyclopentadiene	237	6.111	6.111	(0.901)	40261	2.00000	1.7366
65	1,2,4,5-Tetrachlorobenzene	216	6.116	6.116	(0.902)	65518	2.00000	2.0442
66	2,4,6-Trichlorophenol	196	6.196	6.196	(0.914)	46124	2.00000	2.1278
67	2,4,5-Trichlorophenol	196	6.223	6.223	(0.918)	45434	2.00000	1.9951
209	1,1'-Biphenyl	154	6.335	6.335	(0.935)	167081	2.00000	2.0486
70	2-Chloronaphthalene	162	6.351	6.351	(0.937)	127869	2.00000	1.9632
73	2-Nitroaniline	65	6.421	6.421	(0.947)	33714	2.00000	2.0792
76	Dimethylphthalate	163	6.565	6.565	(0.968)	138428	2.00000	2.0463
78	2,6-Dinitrotoluene	165	6.608	6.608	(0.975)	28791	2.00000	1.9459
79	Acenaphthylene	152	6.672	6.672	(0.984)	204368	2.00000	2.0229
81	3-Nitroaniline	138	6.731	6.731	(0.993)	32411	2.00000	1.9659
82	Acenaphthene	153	6.800	6.800	(1.003)	131850	2.00000	2.0617
83	2,4-Dinitrophenol	184	6.816	6.816	(1.006)	26015	4.00000	3.6683
85	4-Nitrophenol	109	6.853	6.853	(1.011)	32203	4.00000	3.6198
86	Dibenzofuran	168	6.934	6.934	(1.023)	192584	2.00000	2.0438
87	2,4-Dinitrotoluene	165	6.912	6.912	(1.020)	37854	2.00000	1.9296
91	2,3,5,6-Tetrachlorophenol	232	6.998	6.998	(1.032)	33241	2.00000	1.8781
88	2,3,4,6-Tetrachlorophenol	232	7.030	7.030	(1.037)	35002	2.00000	1.9619 (M)
92	2-Naphthylamine	143	7.051	7.051	(1.040)	112702	2.00000	2.3071 (M)
93	Diethylphthalate	149	7.099	7.099	(1.047)	138698	2.00000	1.9961
94	Fluorene	166	7.195	7.195	(1.061)	149430	2.00000	2.0692
95	4-Chlorophenyl-phenylether	204	7.195	7.195	(1.061)	73946	2.00000	2.0374
96	4-Nitroaniline	138	7.195	7.195	(1.061)	32882	2.00000	1.9870
98	4,6-Dinitro-2-methylphenol	198	7.227	7.227	(0.914)	41208	4.00000	3.2142
99	N-Nitrosodiphenylamine (1)	169	7.281	7.281	(0.920)	93413	2.00000	1.9485
100	1,2-Diphenylhydrazine	77	7.313	7.313	(0.924)	146027	2.00000	2.0242
106	4-Bromophenyl-phenylether	248	7.564	7.564	(0.956)	40519	2.00000	1.9333
107	Hexachlorobenzene	284	7.623	7.623	(0.964)	41831	2.00000	2.0038
210	Atrazine	200	7.681	7.681	(0.971)	34613	2.00000	1.8856
111	Pentachlorophenol	266	7.767	7.767	(0.982)	42915	4.00000	3.2911
115	Phenanthrene	178	7.933	7.933	(1.003)	217164	2.00000	1.9040
116	Anthracene	178	7.970	7.970	(1.007)	219380	2.00000	1.9245
119	Carbazole	167	8.087	8.087	(1.022)	190298	2.00000	1.9438
120	Di-n-Butylphthalate	149	8.344	8.344	(1.055)	228703	2.00000	1.8704
123	Fluoranthene	202	8.841	8.841	(1.117)	226762	2.00000	1.9214
124	Benzidine	184	8.932	8.932	(0.898)	60284	2.00000	1.6160 (M)
125	Pyrene	202	9.017	9.017	(0.907)	235736	2.00000	2.2422
131	Butylbenzylphthalate	149	9.487	9.487	(0.954)	104637	2.00000	2.2630
135	3,3'-Dichlorobenzidine	252	9.898	9.898	(0.996)	61492	2.00000	1.9010
136	Benzo(a)Anthracene	228	9.930	9.930	(0.999)	187711	2.00000	2.0292
137	Chrysene	228	9.957	9.957	(1.002)	174336	2.00000	1.9497
139	bis(2-ethylhexyl) Phthalate	149	9.914	9.914	(0.997)	139793	2.00000	2.0951
140	Di-n-octylphthalate	149	10.417	10.417	(0.925)	240431	2.00000	2.1445
141	Benzo(b)fluoranthene	252	10.855	10.855	(0.964)	193455	2.00000	1.9275
142	Benzo(k)fluoranthene	252	10.881	10.881	(0.967)	226329	2.00000	2.1001

4/12/11

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	AMOUNTS ON-COL (NG)
143	7,12-dimethylbenz[a]anthracen	256	10.844	10.844	(0.963)	93992	2.00000	2.0546
146	Benzo(a)pyrene	252	11.197	11.197	(0.995)	156726	2.00000	1.9670
149	Indeno(1,2,3-cd)pyrene	276	12.575	12.575	(1.117)	185430	2.00000	1.9560
150	Dibenz(a,h)anthracene	278	12.586	12.586	(1.118)	149394	2.00000	1.8655
151	Benzo(g,h,i)perylene	276	12.970	12.970	(1.152)	158071	2.00000	1.9560
$ 154	Nitrobenzene-d5	82	4.893	4.893	(0.899)	62062	2.00000	2.0438
$ 155	2-Fluorobiphenyl	172	6.260	6.260	(0.924)	150950	2.00000	2.0109
$ 156	Terphenyl-d14	244	9.124	9.124	(0.918)	146258	2.00000	2.1060
$ 157	Phenol-d5	99	4.209	4.209	(0.940)	59443	2.00000	2.0598
$ 158	2-Fluorophenol	112	3.456	3.456	(0.772)	39979	2.00000	1.9464
$ 159	2,4,6-Tribromophenol	330	7.377	7.377	(0.932)	13946	2.00000	1.6371
$ 186	2-Chlorophenol-d4	132	4.300	4.300	(0.961)	55230	2.00000	1.9837
$ 187	1,2-Dichlorobenzene-d4	152	4.594	4.594	(1.026)	44121	2.00000	2.0463

QC Flag Legend

M - Compound response manually integrated.

TestAmerica Pittsburgh

Semivolatile REPORT SW-846 Method 8270

Data file : \\PITSVR06\D\chem\731.i\V041311D.b\V0413IC3.D
Lab Smp Id: SSTD4.0 Client Smp ID: SSTD4.0
Inj Date : 13-APR-2011 02:12
Operator : 003200 Inst ID: 731.i
Smp Info : ICIS 9445
Misc Info : SSTD4.0,V041311D.b,8270d.m,padepi.sub,1,3
Comment :
Method : \\PITSVR06\D\chem\731.i\V041311D.b\8270d.m
Meth Date : 13-Apr-2011 05:45 731.i Quant Type: ISTD
Cal Date : 13-APR-2011 02:12 Cal File: V0413IC3.D
Als bottle: 4 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: padepi.sub
Target Version: 4.14

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 1	1,4-Dichlorobenzene-d4	152	4.482	4.482	(1.000)	160245	8.00000	
* 2	Naphthalene-d8	136	5.444	5.444	(1.000)	686313	8.00000	
* 3	Acenaphthene-d10	164	6.785	6.785	(1.000)	423466	8.00000	
* 4	Phenanthrene-d10	188	7.917	7.917	(1.000)	721400	8.00000	
* 5	Chrysene-d12	240	9.942	9.942	(1.000)	565047	8.00000	
* 6	Perylene-d12	264	11.262	11.262	(1.000)	633701	8.00000	
198	1,4-Dioxane	88	1.309	1.309	(0.292)	23135	4.00000	4.1922(M)
10	N-Nitrosodimethylamine	74	1.758	1.758	(0.392)	34923	4.00000	4.2839
9	Pyridine	79	1.811	1.811	(0.404)	63107	4.00000	4.0950(M)
16	Methyl methanesulfonate	80	3.296	3.296	(0.735)	47403	4.00000	4.1980
206	Benzaldehyde	77	4.135	4.135	(0.923)	52744	4.00000	3.3009
21	Aniline	93	4.226	4.226	(0.943)	155195	4.00000	4.2880
22	Phenol	94	4.221	4.221	(0.942)	141090	4.00000	4.3762
23	bis(2-Chloroethyl)ether	93	4.285	4.285	(0.956)	91813	4.00000	4.1404
24	2-Chlorophenol	128	4.317	4.317	(0.963)	113636	4.00000	4.1232
26	1,3-Dichlorobenzene	146	4.434	4.434	(0.989)	129312	4.00000	4.0043
27	1,4-Dichlorobenzene	146	4.493	4.493	(1.002)	139851	4.00000	4.1506
28	1,2-Dichlorobenzene	146	4.611	4.611	(1.029)	133865	4.00000	4.1765
217	Indene	116	4.675	4.675	(1.043)	190713	4.00000	4.1326
29	Benzyl Alcohol	108	4.589	4.589	(1.024)	69508	4.00000	4.3021
30	2-Methylphenol	108	4.680	4.680	(1.044)	98302	4.00000	4.1943
31	2,2'-oxybis(1-Chloropropane)	45	4.696	4.696	(1.048)	145948	4.00000	4.1480
37	Acetophenone	105	4.782	4.782	(1.067)	149836	4.00000	4.2823
32	N-Nitroso-di-n-propylamine	70	4.792	4.792	(1.069)	70786	4.00000	4.2540
192	4-Methylphenol	108	4.792	4.792	(1.069)	101552	4.00000	4.2960
34	Hexachloroethane	117	4.867	4.867	(1.086)	53747	4.00000	3.8711
35	Nitrobenzene	77	4.910	4.910	(0.902)	115988	4.00000	4.1701(M)
36	N-Nitrosopyrrolidine	100	4.755	4.755	(1.061)	40557	4.00000	3.8880
41	Isophorone	82	5.091	5.091	(0.935)	189041	4.00000	3.9827
42	2-Nitrophenol	139	5.156	5.156	(0.947)	65366	4.00000	4.0599
43	2,4-Dimethylphenol	107	5.193	5.193	(0.954)	110024	4.00000	4.0205
44	bis(2-Chloroethoxy)methane	93	5.262	5.262	(0.967)	122001	4.00000	4.0439
48	2,4-Dichlorophenol	162	5.337	5.337	(0.980)	106844	4.00000	4.2340
49	Benzoic Acid	122	5.236	5.236	(0.962)	149492	10.0000	10.002(M)

MJW 4/12/11

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	AMOUNTS ON-COL (NG)
50	1,2,4-Trichlorobenzene	180	5.407	5.407	(0.993)	129888	4.00000	4.0479
51	Naphthalene	128	5.460	5.460	(1.003)	356193	4.00000	4.0097
52	4-Chloroaniline	127	5.503	5.503	(1.011)	149811	4.00000	4.1746
54	2,6-Dichlorophenol	162	5.508	5.508	(1.012)	102449	4.00000	4.2184
56	Hexachlorobutadiene	225	5.567	5.567	(1.023)	69766	4.00000	3.8490
208	Caprolactam	113	5.732	5.732	(1.053)	24129	4.00000	3.8240
59	4-Chloro-3-Methylphenol	107	5.866	5.866	(1.078)	99092	4.00000	4.1732
62	2-Methylnaphthalene	142	5.989	5.989	(1.100)	242879	4.00000	4.0071
63	1-Methylnaphthalene	142	6.064	6.064	(1.114)	238679	4.00000	4.0772
64	Hexachlorocyclopentadiene	237	6.117	6.117	(0.902)	88469	4.00000	4.0481
65	1,2,4,5-Tetrachlorobenzene	216	6.122	6.122	(0.902)	124767	4.00000	4.1295
66	2,4,6-Trichlorophenol	196	6.203	6.203	(0.914)	79525	4.00000	3.8916
67	2,4,5-Trichlorophenol	196	6.229	6.229	(0.918)	88664	4.00000	4.1300
209	1,1'-Biphenyl	154	6.341	6.341	(0.935)	308826	4.00000	4.0168
70	2-Chloronaphthalene	162	6.358	6.358	(0.937)	250412	4.00000	4.0782
73	2-Nitroaniline	65	6.427	6.427	(0.947)	62014	4.00000	4.0870
76	Dimethylphthalate	163	6.571	6.571	(0.969)	250890	4.00000	3.9343
78	2,6-Dinitrotoluene	165	6.614	6.614	(0.975)	55284	4.00000	3.9636
79	Acenaphthylene	152	6.673	6.673	(0.983)	374585	4.00000	3.9332
81	3-Nitroaniline	138	6.737	6.737	(0.993)	62008	4.00000	3.9897
82	Acenaphthene	153	6.806	6.806	(1.003)	235292	4.00000	3.9028
83	2,4-Dinitrophenol	184	6.817	6.817	(1.005)	83382	10.0000	10.056
85	4-Nitrophenol	109	6.860	6.860	(1.011)	85319	10.0000	10.173
86	Dibenzofuran	168	6.940	6.940	(1.023)	357657	4.00000	4.0263
87	2,4-Dinitrotoluene	165	6.918	6.918	(1.020)	76529	4.00000	4.1381
91	2,3,5,6-Tetrachlorophenol	232	6.999	6.999	(1.031)	64820	4.00000	3.8849
88	2,3,4,6-Tetrachlorophenol	232	7.036	7.036	(1.037)	64504	4.00000	3.8353
92	2-Naphthylamine	143	7.052	7.052	(1.039)	209064	4.00000	4.5399
93	Diethylphthalate	149	7.105	7.105	(1.047)	266286	4.00000	4.0653
94	Fluorene	166	7.202	7.202	(1.061)	275590	4.00000	4.0482
95	4-Chlorophenyl-phenylether	204	7.196	7.196	(1.061)	137660	4.00000	4.0235
96	4-Nitroaniline	138	7.202	7.202	(1.061)	62093	4.00000	3.9802
98	4,6-Dinitro-2-methylphenol	198	7.228	7.228	(0.913)	106281	10.0000	8.9771
99	N-Nitrosodiphenylamine (1)	169	7.287	7.287	(0.920)	176949	4.00000	3.9969
100	1,2-Diphenylhydrazine	77	7.319	7.319	(0.924)	266871	4.00000	4.0059
106	4-Bromophenyl-phenylether	248	7.570	7.570	(0.956)	77170	4.00000	3.9874
107	Hexachlorobenzene	284	7.629	7.629	(0.964)	76439	4.00000	3.9652
210	Atrazine	200	7.682	7.682	(0.970)	65563	4.00000	3.8677
111	Pentachlorophenol	266	7.773	7.773	(0.982)	115650	10.0000	9.6044
115	Phenanthrene	178	7.933	7.933	(1.002)	416449	4.00000	3.9540
116	Anthracene	178	7.976	7.976	(1.007)	418520	4.00000	3.9758
119	Carbazole	167	8.094	8.094	(1.022)	366206	4.00000	4.0507
120	Di-n-Butylphthalate	149	8.350	8.350	(1.055)	429675	4.00000	3.8053
123	Fluoranthene	202	8.847	8.847	(1.117)	427475	4.00000	3.9224
124	Benzidine	184	8.938	8.938	(0.899)	135262	4.00000	3.4662
125	Pyrene	202	9.023	9.023	(0.908)	441416	4.00000	4.0136
131	Butylbenzylphthalate	149	9.488	9.488	(0.954)	187881	4.00000	3.8844
135	3,3'-Dichlorobenzidine	252	9.905	9.905	(0.996)	130856	4.00000	3.8671
136	Benzo(a)Anthracene	228	9.937	9.937	(0.999)	371283	4.00000	3.8370
137	Chrysene	228	9.963	9.963	(1.002)	369038	4.00000	3.9457
139	bis(2-ethylhexyl)Phthalate	149	9.915	9.915	(0.997)	254716	4.00000	3.6493
140	Di-n-octylphthalate	149	10.423	10.423	(0.926)	476285	4.00000	4.0684
141	Benzo(b)fluoranthene	252	10.861	10.861	(0.964)	386996	4.00000	3.6928
142	Benzo(k)fluoranthene	252	10.888	10.888	(0.967)	477413	4.00000	4.2425

MW 4/12/11

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Semivolatile REPORT SW-846 Method 8270

Data file : \\PITSVR06\D\chem\731.i\V041311D.b\V0413IC4.D
Lab Smp Id: SSTD10 Client Smp ID: SSTD10
Inj Date : 13-APR-2011 02:34
Operator : 003200 Inst ID: 731.i
Smp Info : IC 1002
Misc Info : SSTD10,V041311D.b,8270d.m,padepi.sub,1,4
Comment :
Method : \\PITSVR06\D\chem\731.i\V041311D.b\8270d.m
Meth Date : 13-Apr-2011 05:45 731.i Quant Type: ISTD
Cal Date : 13-APR-2011 02:34 Cal File: V0413IC4.D
Als bottle: 5 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: padepi.sub
Target Version: 4.14

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 1 1,4-Dichlorobenzene-d4	152	4.480	4.480	(1.000)	166166	8.00000	
* 2 Naphthalene-d8	136	5.447	5.447	(1.000)	696162	8.00000	
* 3 Acenaphthene-d10	164	6.782	6.782	(1.000)	413378	8.00000	
* 4 Phenanthrene-d10	188	7.915	7.915	(1.000)	699452	8.00000	
* 5 Chrysene-d12	240	9.939	9.939	(1.000)	663086	8.00000	
* 6 Perylene-d12	264	11.259	11.259	(1.000)	651298	8.00000	
198 1,4-Dioxane	88	1.296	1.296	(0.289)	55832	10.0000	9.7566(M)
10 N-Nitrosodimethylamine	74	1.750	1.750	(0.391)	79626	10.0000	9.4194
9 Pyridine	79	1.793	1.793	(0.400)	167478	10.0000	10.480(M)
16 Methyl methanesulfonate	80	3.288	3.288	(0.734)	117790	10.0000	10.060
206 Benzaldehyde	77	4.138	4.138	(0.924)	170206	10.0000	8.1810
21 Aniline	93	4.223	4.223	(0.943)	383560	10.0000	10.223
22 Phenol	94	4.223	4.223	(0.943)	340977	10.0000	10.199
23 bis(2-Chloroethyl)ether	93	4.282	4.282	(0.956)	228869	10.0000	9.9533
24 2-Chlorophenol	128	4.319	4.319	(0.964)	291041	10.0000	10.184
26 1,3-Dichlorobenzene	146	4.437	4.437	(0.990)	332893	10.0000	9.9412
27 1,4-Dichlorobenzene	146	4.490	4.490	(1.002)	342123	10.0000	9.7920
28 1,2-Dichlorobenzene	146	4.608	4.608	(1.029)	325210	10.0000	9.7848
217 Indene	116	4.677	4.677	(1.044)	467718	10.0000	9.7740
29 Benzyl Alcohol	108	4.586	4.586	(1.024)	170514	10.0000	10.178
30 2-Methylphenol	108	4.677	4.677	(1.044)	244704	10.0000	10.069
31 2,2'-oxybis(1-Chloropropane)	45	4.693	4.693	(1.048)	357417	10.0000	9.7961
37 Acetophenone	105	4.784	4.784	(1.068)	361548	10.0000	9.9648
32 N-Nitroso-di-n-propylamine	70	4.789	4.789	(1.069)	176985	10.0000	10.257
192 4-Methylphenol	108	4.789	4.789	(1.069)	248906	10.0000	10.154
34 Hexachloroethane	117	4.870	4.870	(1.087)	144408	10.0000	10.030
35 Nitrobenzene	77	4.912	4.912	(0.902)	285411	10.0000	10.116
36 N-Nitrosopyrrolidine	100	4.757	4.757	(1.062)	109903	10.0000	10.160
41 Isophorone	82	5.094	5.094	(0.935)	405051	10.0000	10.074
42 2-Nitrophenol	139	5.153	5.153	(0.946)	165139	10.0000	10.112
43 2,4-Dimethylphenol	107	5.190	5.190	(0.953)	280455	10.0000	10.103
44 bis(2-Chloroethoxy)methane	93	5.260	5.260	(0.966)	308218	10.0000	10.072
48 2,4-Dichlorophenol	162	5.340	5.340	(0.980)	260006	10.0000	10.158
49 Benzoic Acid	122	5.249	5.249	(0.964)	297376	20.0000	19.616

MJW 4/12/11

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
50	1,2,4-Trichlorobenzene	180	5.404	5.404	(0.992)	323042	10.0000	9.9251
51	Naphthalene	128	5.463	5.463	(1.003)	884138	10.0000	9.8121
52	4-Chloroaniline	127	5.500	5.500	(1.010)	364384	10.0000	10.010
54	2,6-Dichlorophenol	162	5.511	5.511	(1.012)	247557	10.0000	10.049
56	Hexachlorobutadiene	225	5.569	5.569	(1.023)	179037	10.0000	9.7813
208	Caprolactam	113	5.735	5.735	(1.053)	63489	10.0000	9.9196
59	4-Chloro-3-Methylphenol	107	5.869	5.869	(1.077)	237947	10.0000	9.8793
62	2-Methylnaphthalene	142	5.986	5.906	(1.099)	605350	10.0000	9.8459
63	1-Methylnaphthalene	142	6.061	6.061	(1.113)	591274	10.0000	9.9574
64	Hexachlorocyclopentadiene	237	6.120	6.120	(0.902)	218317	10.0000	10.233
65	1,2,4,5-Tetrachloxobenzene	216	6.120	6.120	(0.902)	306393	10.0000	10.388
66	2,4,6-Trichlorophenol	196	6.200	6.200	(0.914)	201180	10.0000	10.085
67	2,4,5-Trichlorophenol	196	6.226	6.226	(0.918)	215894	10.0000	10.302
209	1,1'-Biphenyl	154	6.344	6.344	(0.935)	777707	10.0000	10.362
70	2-Chloronaphthalene	162	6.355	6.355	(0.937)	609691	10.0000	10.172
73	2-Nitroaniline	65	6.424	6.424	(0.947)	154446	10.0000	10.351
76	Dimethylphthalate	163	6.568	6.568	(0.968)	617741	10.0000	9.9234
78	2,6-Dinitrotoluene	165	6.611	6.611	(0.975)	145608	10.0000	10.694
79	Acenaphthylene	152	6.675	6.675	(0.984)	944658	10.0000	10.161
81	3-Nitroaniline	138	6.739	6.739	(0.994)	155344	10.0000	10.239
82	Acenaphthene	153	6.809	6.809	(1.004)	600421	10.0000	10.202
83	2,4-Dinitrophenol	184	6.819	6.819	(1.006)	170524	20.0000	19.730
85	4-Nitrophenol	109	6.857	6.857	(1.011)	165055	20.0000	20.161
86	Dibenzofuran	168	6.937	6.937	(1.023)	870861	10.0000	10.043
87	2,4-Dinitrotoluene	165	6.916	6.916	(1.020)	189363	10.0000	10.489
91	2,3,5,6-Tetrachlorophenol	232	6.996	6.996	(1.032)	162447	10.0000	9.9735
88	2,3,4,6-Tetrachlorophenol	232	7.033	7.033	(1.037)	159328	10.0000	9.7046
92	2-Naphthylamine	143	7.055	7.055	(1.040)	467445	10.0000	10.398
93	Diethylphthalate	149	7.103	7.103	(1.047)	638875	10.0000	9.9915
94	Fluorene	166	7.199	7.199	(1.061)	674177	10.0000	10.145
96	4-Chlorophenyl-phenylether	204	7.193	7.193	(1.061)	345778	10.0000	10.353
96	4-Nitroaniline	138	7.199	7.199	(1.061)	159778	10.0000	10.492
98	4,6-Dinitro-2-methylphenol	198	7.231	7.231	(0.914)	225907	20.0000	19.680
99	N-Nitrosodiphenylamine (1)	169	7.284	7.284	(0.920)	433112	10.0000	10.098
100	1,2-Diphenylhydrazine	77	7.316	7.316	(0.924)	671968	10.0000	10.403
106	4-Bromophenyl-phenylether	248	7.567	7.567	(0.956)	190178	10.0000	10.135
107	Hexachlorobenzene	284	7.626	7.626	(0.964)	181011	10.0000	9.6845
210	Atrazine	200	7.680	7.680	(0.970)	169188	10.0000	10.294
111	Pentachlorophenol	266	7.770	7.770	(0.982)	229336	20.0000	19.643
115	Phenanthrene	178	7.931	7.931	(1.002)	1011299	10.0000	9.9032
116	Anthracene	178	7.973	7.973	(1.007)	1018840	10.0000	9.9824
119	Carbazole	167	8.091	8.091	(1.022)	874845	10.0000	9.9806
120	Di-n-Butylphthalate	149	8.342	8.342	(1.054)	1102830	10.0000	10.073
123	Fluoranthene	202	8.844	8.844	(1.117)	1033419	10.0000	9.7798
124	Benzidine	184	8.935	8.935	(0.899)	379523	10.0000	9.7544
125	Pyrene	202	9.020	9.020	(0.908)	1044082	10.0000	9.5216
131	Butylbenzylphthalate	149	9.485	9.485	(0.954)	471259	10.0000	9.7719
135	3,3'-Dichlorobenzidine	252	9.902	9.902	(0.996)	327107	10.0000	9.6953
136	Benzo(a)Anthracene	228	9.934	9.934	(0.999)	931614	10.0000	9.6561
137	Chrysene	228	9.961	9.961	(1.002)	899240	10.0000	9.6429
139	bis(2-ethylhexyl)Phthalate	149	9.913	9.913	(0.997)	678610	10.0000	9.7512
140	Di-n-octylphthalate	149	10.420	10.420	(0.925)	1162712	10.0000	9.6636
141	Benzo(b)fluoranthene	252	10.858	10.858	(0.964)	1147367	10.0000	10.652
142	Benzo(k)fluoranthene	252	10.885	10.885	(0.967)	1062031	10.0000	9.1028

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Data file : \\PITSVR06\D\chem\731.i\V041311D.b\V0413IC5.D
Lab Smp Id: SSTD20 Client Smp ID: SSTD20
Inj Date : 13-APR-2011 02:56
Operator : 003200 Inst ID: 731.i
Smp Info : IC 1003
Misc Info : SSTD20,V041311D.b,8270d.m,padepi.sub,1,5
Comment :
Method : \\PITSVR06\D\chem\731.i\V041311D.b\8270d.m
Meth Date : 13-Apr-2011 05:45 731.i Quant Type: ISTD
Cal Date : 13-APR-2011 02:56 Cal File: V0413IC5.D
Als bottle: 6 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: padepi.sub
Target Version: 4.14

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 1	1,4-Dichlorobenzene-d4	152	4.478	4.478	(1.000)	154488	8.00000	
* 2	Naphthalene-d8	136	5.440	5.440	(1.000)	662740	8.00000	
* 3	Acenaphthene-d10	164	6.775	6.775	(1.000)	405383	8.00000	
* 4	Phenanthrene-d10	188	7.913	7.913	(1.000)	683849	8.00000	
* 5	Chrysene-d12	240	9.938	9.938	(1.000)	664384	8.00000	
* 6	Perylene-d12	264	11.252	11.252	(1.000)	656686	8.00000	
198	1,4-Dioxane	88	1.289	1.289	(0.268)	100367	20.0000	20.368
10	N-Nitrosodimethylamine	74	1.743	1.743	(0.389)	156858	20.0000	19.958
9	Pyridine	79	1.775	1.775	(0.396)	305763	20.0000	20.580
16	Methyl methanesulfonate	80	3.287	3.287	(0.734)	226315	20.0000	20.789
206	Benzaldehyde	77	4.131	4.131	(0.922)	315733	20.0000	19.341
21	Aniline	93	4.222	4.222	(0.943)	720646	20.0000	20.653
22	Phenol	94	4.222	4.222	(0.943)	634539	20.0000	20.415
23	bis(2-Chloroethyl)ether	93	4.201	4.281	(0.956)	442258	20.0000	20.687
24	2-Chlorophenol	128	4.313	4.313	(0.963)	530976	20.0000	20.205
26	1,3-Dichlorobenzene	146	4.430	4.430	(0.989)	642225	20.0000	20.628
27	1,4-Dichlorobenzene	146	4.489	4.489	(1.002)	659974	20.0000	20.317
28	1,2-Dichlorobenzene	146	4.606	4.606	(1.029)	641789	20.0000	20.770
217	Indene	116	4.671	4.671	(1.043)	898025	20.0000	20.185
29	Benzyl Alcohol	108	4.585	4.585	(1.024)	330772	20.0000	21.235
30	2-Methylphenol	108	4.676	4.676	(1.044)	467238	20.0000	20.679
31	2,2'-oxybis(1-Chloropropane)	45	4.692	4.692	(1.048)	684288	20.0000	20.173
37	Acetophenone	105	4.783	4.783	(1.068)	682915	20.0000	20.245
32	N-Nitroso-di-n-propylamine	70	4.788	4.788	(1.069)	323702	20.0000	20.178
192	4-Methylphenol	108	4.788	4.788	(1.069)	460794	20.0000	20.220
34	Hexachloroethane	117	4.863	4.063	(1.086)	280452	20.0000	20.952
35	Nitrobenzene	77	4.906	4.906	(0.902)	545295	20.0000	20.302
36	N-Nitrosopyrrolidine	100	4.756	4.756	(1.062)	213427	20.0000	21.223
41	Isophorone	82	5.087	5.087	(0.935)	931453	20.0000	20.322
42	2-Nitrophenol	139	5.151	5.151	(0.947)	323105	20.0000	20.782
43	2,4-Dimethylphenol	107	5.189	5.189	(0.954)	547624	20.0000	20.723
44	bis(2-Chloroethoxy)methane	93	5.258	5.258	(0.967)	587303	20.0000	20.159
48	2,4-Dichlorophenol	162	5.333	5.333	(0.980)	482296	20.0000	19.792
49	Benzoic Acid	122	5.253	5.253	(0.966)	446564	30.0000	30.943 (M)

MJW 4/12/11

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	AMOUNTS ON-COL (NG)
50	1,2,4-Trichlorobenzene	180	5.402	5.402	(0.993)	621722	20.0000	20.065
51	Naphthalene	128	5.456	5.456	(1.003)	1701848	20.0000	19.040
52	4-Chloroaniline	127	5.493	5.493	(1.010)	709404	20.0000	20.471
54	2,6-Dichlorophenol	162	5.504	5.504	(1.012)	466261	20.0000	19.881
56	Hexachlorobutadiene	225	5.563	5.563	(1.023)	354746	20.0000	20.268
208	Caprolactam	113	5.739	5.739	(1.055)	127430	20.0000	20.914
59	4-Chloro-3-Methylphenol	107	5.862	5.862	(1.078)	464195	20.0000	20.245
62	2-Methylnaphthalene	142	5.985	5.985	(1.100)	1168284	20.0000	19.960
63	1-Methylnaphthalene	142	6.059	6.059	(1.114)	1133089	20.0000	20.044
64	Hexachlorocyclopentadiene	237	6.113	6.113	(0.902)	438648	20.0000	20.966
65	1,2,4,5-Tetrachlorobenzene	216	6.113	6.113	(0.902)	570750	20.0000	19.733
66	2,4,6-Trichlorophenol	196	6.198	6.198	(0.915)	397326	20.0000	20.311
67	2,4,5-Trichlorophenol	196	6.225	6.225	(0.919)	424429	20.0000	20.652
209	1,1'-Biphenyl	154	6.337	6.337	(0.935)	1462473	20.0000	19.870
70	2-Chloronaphthalene	162	6.353	6.353	(0.938)	1175653	20.0000	20.001
73	2-Nitroaniline	65	6.423	6.423	(0.948)	312336	20.0000	21.345
76	Dimethylphthalate	163	6.562	6.562	(0.968)	1203133	20.0000	19.708
78	2,6-Dinitrotoluene	165	6.604	6.604	(0.975)	285379	20.0000	21.373
79	Acenaphthylene	152	6.668	6.668	(0.984)	1871707	20.0000	20.530
81	3-Nitroaniline	138	6.733	6.733	(0.994)	312496	20.0000	21.004
82	Acenaphthene	153	6.802	6.802	(1.004)	1143029	20.0000	19.805
83	2,4-Dinitrophenol	184	6.813	6.813	(1.006)	264055	30.0000	30.113
85	4-Nitrophenol	109	6.855	6.855	(1.012)	245994	30.0000	30.641
86	Dibenzofuran	168	6.936	6.936	(1.024)	1686722	20.0000	19.835
87	2,4-Dinitrotoluene	165	6.914	6.914	(1.020)	380135	20.0000	21.472
91	2,3,5,6-Tetrachlorophenol	232	6.994	6.994	(1.032)	323035	20.0000	20.224
88	2,3,4,6-Tetrachlorophenol	232	7.026	7.026	(1.037)	328053	20.0000	20.425
92	2-Naphthylamine	143	7.048	7.048	(1.040)	890751	20.0000	20.206
93	Diethylphthalate	149	7.101	7.101	(1.048)	1267952	20.0000	20.221
94	Fluorene	166	7.197	7.197	(1.062)	1317938	20.0000	20.223
95	4-Chlorophenyl-phenylether	204	7.192	7.192	(1.061)	643231	20.0000	19.639
96	4-Nitroaniline	138	7.197	7.197	(1.062)	317224	20.0000	21.241
98	4,6-Dinitro-2-methylphenol	198	7.224	7.224	(0.913)	353807	30.0000	31.526
99	N-Nitrosodiphenylamine (1)	169	7.278	7.278	(0.920)	864679	20.0000	20.604
100	1,2-Diphenylhydrazine	77	7.310	7.310	(0.924)	1282678	20.0000	20.311
106	4-Bromophenyl-phenylether	248	7.566	7.566	(0.956)	372833	20.0000	20.322
107	Hexachlorobenzene	284	7.625	7.625	(0.964)	367067	20.0000	20.087
210	Atrazine	200	7.678	7.678	(0.970)	342631	20.0000	21.322
111	Pentachlorophenol	266	7.769	7.769	(0.982)	354960	30.0000	31.097
115	Phenanthrene	178	7.929	7.929	(1.002)	2019692	20.0000	20.229
116	Anthracene	178	7.967	7.967	(1.007)	2046758	20.0000	20.511
119	Carbazole	167	8.084	8.084	(1.022)	1766024	20.0000	20.607
120	Di-n-Butylphthalate	149	8.341	8.341	(1.054)	2239549	20.0000	20.923
123	Fluoranthene	202	8.837	8.837	(1.117)	2149993	20.0000	20.811
124	Benzidine	184	8.928	8.928	(0.898)	799668	20.0000	20.513
125	Pyrene	202	9.014	9.014	(0.907)	2124923	20.0000	19.340
131	Butylbenzylphthalate	149	9.478	9.478	(0.954)	950439	20.0000	19.670
135	3,3'-Dichlorobenzidine	252	9.895	9.895	(0.996)	690214	20.0000	20.418
136	Benzo(a)Anthracene	228	9.927	9.927	(0.999)	1951993	20.0000	20.193
137	Chrysene	228	9.954	9.954	(1.002)	1828635	20.0000	19.571
139	bis(2-ethylhexyl)Phthalate	149	9.906	9.906	(0.997)	1369295	20.0000	19.637
140	Di-n-octylphthalate	149	10.413	10.413	(0.925)	2426230	20.0000	20.000
141	Benzo(b)fluoranthene	252	10.851	10.851	(0.964)	2411001	20.0000	22.201
142	Benzo(k)fluoranthene	252	10.878	10.878	(0.967)	2188431	20.0000	18.767

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Semivolatile REPORT SW-846 Method 8270

Data file : \\PITSVR06\D\chem\731.i\V041311D.b\V0413IC6.D
Lab Smp Id: SSTD40 Client Smp ID: SSTD40
Inj Date : 13-APR-2011 03:18
Operator : 003200 Inst ID: 731.i
Smp Info : IC 1004
Misc Info : SSTD40,V041311D.b,8270d.m,padepi.sub,1,6
Comment :
Method : \\PITSVR06\D\chem\731.i\V041311D.b\8270d.m
Meth Date : 13-Apr-2011 05:45 731.i Quant Type: ISTD
Cal Date : 13-APR-2011 03:18 Cal File: V0413IC6.D
Als bottle: 7 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: padepi.sub
Target Version: 4.14

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 1	1,4-Dichlorobenzene-d4	152	4.474	4.474	(1.000)	144454	8.00000	
* 2	Naphthalene-d8	136	5.435	5.435	(1.000)	598404	8.00000	
* 3	Acenaphthene-d10	164	6.771	6.771	(1.000)	358949	8.00000	
* 4	Phenanthrene-d10	188	7.903	7.903	(1.000)	626318	8.00000	
* 5	Chrysene-d12	240	9.928	9.928	(1.000)	593017	8.00000	
* 6	Perylene-d12	264	11.242	11.242	(1.000)	612594	8.00000	
198	1,4-Dioxane	88	1.290	1.290	(0.288)	188537	40.0000	37.898
10	N-Nitrosodimethylamine	74	1.744	1.744	(0.390)	281076	40.0000	38.248
9	Pyridine	79	1.771	1.771	(0.396)	532727	40.0000	38.348
16	Methyl methanesulfonate	80	3.282	3.282	(0.734)	387258	40.0000	38.044
206	Benzaldehyde	77	4.132	4.132	(0.924)	487657	40.0000	41.101
21	Aniline	93	4.217	4.217	(0.943)	1266820	40.0000	38.828
22	Phenol	94	4.217	4.217	(0.943)	1119252	40.0000	38.511
23	bis(2-Chloroethyl)ether	93	4.276	4.276	(0.956)	766964	40.0000	38.368
24	2-Chlorophenol	128	4.313	4.313	(0.964)	958112	40.0000	38.564
26	1,3-Dichlorobenzene	146	4.426	4.426	(0.989)	1149612	40.0000	39.491
27	1,4-Dichlorobenzene	146	4.484	4.484	(1.002)	1154098	40.0000	37.997
28	1,2-Dichlorobenzene	146	4.602	4.602	(1.029)	1105728	40.0000	38.269
217	Indene	116	4.666	4.666	(1.043)	1628755	40.0000	39.152
29	Benzyl Alcohol	108	4.580	4.580	(1.024)	580063	40.0000	39.826
30	2-Methylphenol	108	4.677	4.677	(1.045)	821511	40.0000	38.884
31	2,2'-oxybis(1-Chloropropane)	45	4.687	4.687	(1.048)	1184296	40.0000	37.338
37	Acetophenone	105	4.778	4.778	(1.068)	1185208	40.0000	37.575
32	N-Nitroso-di-n-propylamine	70	4.783	4.783	(1.069)	567974	40.0000	37.865
192	4-Methylphenol	108	4.783	4.783	(1.069)	797316	40.0000	37.416
34	Hexachloroethane	117	4.858	4.858	(1.086)	493197	40.0000	39.406
35	Nitrobenzene	77	4.906	4.906	(0.903)	950196	40.0000	39.181
36	N-Nitrosopyrrolidine	100	4.757	4.757	(1.063)	384926	40.0000	40.935
41	Isophorone	82	5.080	5.080	(0.936)	1639905	40.0000	39.625
42	2-Nitrophenol	139	5.147	5.147	(0.947)	589236	40.0000	41.974
43	2,4-Dimethylphenol	107	5.184	5.184	(0.954)	962179	40.0000	40.325
44	bis(2-Chloroethoxy)methane	93	5.254	5.254	(0.967)	1045054	40.0000	39.729
48	2,4-Dichlorophenol	162	5.328	5.328	(0.980)	887001	40.0000	40.314
49	Benzoic Acid	122	5.254	5.254	(0.967)	576226	40.0000	44.220

MJW 4/12/11

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	AMOUNTS ON-COL (NG)
50	1,2,4-Trichlorobenzene	180	5.398	5.398	(0.993)	1094731	40.0000	39.129
51	Naphthalene	128	5.451	5.451	(1.003)	3101599	40.0000	40.045
52	4-Chloroaniline	127	5.494	5.494	(1.011)	1256811	40.0000	40.166
54	2,6-Dichlorophenol	162	5.499	5.499	(1.012)	849626	40.0000	40.123
56	Hexachlorobutadiene	225	5.558	5.558	(1.023)	643176	40.0000	40.697
208	Caprolactam	113	5.745	5.745	(1.057)	231421	40.0000	42.064
59	4-Chloro-3-Methylphenol	107	5.863	5.863	(1.079)	838467	40.0000	40.499
62	2-Methylnaphthalene	142	5.980	5.980	(1.100)	2103371	40.0000	39.800
63	1-Methylnaphthalene	142	6.055	6.055	(1.114)	1992220	40.0000	39.031
64	Hexachlorocyclopentadiene	237	6.108	6.108	(0.902)	801570	40.0000	43.270
65	1,2,4,5-Tetrachlorobenzene	216	6.108	6.108	(0.902)	1033128	40.0000	40.340
66	2,4,6-Trichlorophenol	196	6.194	6.194	(0.915)	701297	40.0000	40.487
67	2,4,5-Trichlorophenol	196	6.221	6.221	(0.919)	762487	40.0000	41.901
209	1,1'-Biphenyl	154	6.333	6.333	(0.935)	2656152	40.0000	40.757
70	2-Chloronaphthalene	162	6.349	6.349	(0.938)	2143392	40.0000	41.182
73	2-Nitroaniline	65	6.418	6.418	(0.948)	534368	40.0000	41.243
76	Dimethylphthalate	163	6.562	6.562	(0.969)	2196232	40.0000	40.630
78	2,6-Dinitrotoluene	165	6.605	6.606	(0.976)	510222	40.0000	43.156
79	Acenaphthylene	152	6.664	6.664	(0.984)	3293718	40.0000	40.801
81	3-Nitroaniline	138	6.728	6.728	(0.994)	560858	40.0000	42.573
82	Acenaphthene	153	6.797	6.797	(1.004)	2062433	40.0000	40.359
83	2,4-Dinitrophenol	184	6.808	6.808	(1.006)	325626	40.0000	40.842
85	4-Nitrophenol	109	6.851	6.851	(1.012)	299004	40.0000	42.061
86	Dibenzofuran	168	6.926	6.926	(1.023)	2969073	40.0000	39.432
87	2,4-Dinitrotoluene	165	6.910	6.910	(1.021)	673888	40.0000	42.988
91	2,3,5,6-Tetrachlorophenol	232	6.990	6.990	(1.032)	599228	40.0000	42.369
88	2,3,4,6-Tetrachlorophenol	232	7.022	7.022	(1.037)	600512	40.0000	42.123
92	2-Naphthylamine	143	7.043	7.043	(1.040)	1469240	40.0000	37.639
93	Diethylphthalate	149	7.097	7.097	(1.048)	2262542	40.0000	40.750
94	Fluorene	166	7.187	7.187	(1.062)	2326944	40.0000	40.325
95	4-Chlorophenyl-phenylether	204	7.187	7.187	(1.062)	1153105	40.0000	39.760
96	4-Nitroaniline	138	7.193	7.193	(1.062)	553393	40.0000	41.848
98	4,6-Dinitro-2-methylphenol	198	7.220	7.220	(0.913)	432645	40.0000	42.092
99	N-Nitrosodiphenylamine (1)	169	7.273	7.273	(0.920)	1544581	40.0000	40.186
100	1,2-Diphenylhydrazine	77	7.305	7.305	(0.924)	2362050	40.0000	40.839
106	4-Bromophenyl-phenylether	248	7.556	7.556	(0.956)	690578	40.0000	41.099
107	Hexachlorobenzene	284	7.620	7.620	(0.964)	687924	40.0000	41.103
210	Atrazine	200	7.674	7.674	(0.971)	570907	40.0000	39.341
111	Pentachlorophenol	266	7.759	7.759	(0.982)	447336	40.0000	42.790
115	Phenanthrene	178	7.925	7.925	(1.003)	3649226	40.0000	39.908
116	Anthracene	178	7.962	7.962	(1.007)	3664052	40.0000	40.092
119	Carbazole	167	8.080	8.080	(1.022)	3200181	40.0000	40.772
120	Di-n-Butylphthalate	149	8.336	8.336	(1.055)	4148689	40.0000	42.320
123	Fluoranthene	202	8.833	8.833	(1.118)	3805739	40.0000	40.221
124	Benzidine	184	8.924	8.924	(0.899)	1465490	40.0000	42.116
125	Pyrene	202	9.009	9.009	(0.907)	3896463	40.0000	39.732
131	Butylbenzylphthalate	149	9.474	9.474	(0.954)	1685683	40.0000	39.084
135	3,3'-Dichlorobenzidine	252	9.891	9.891	(0.996)	1274495	40.0000	42.239
136	Benzo(a)Anthracene	228	9.923	9.923	(0.999)	3396746	40.0000	39.367
137	Chrysene	228	9.949	9.949	(1.002)	3481697	40.0000	41.747
139	bis(2-ethylhexyl)Phthalate	149	9.901	9.901	(0.997)	2493504	40.0000	40.063
140	Di-n-octylphthalate	149	10.403	10.403	(0.925)	4453083	40.0000	39.349
141	Benzo(b)fluoranthene	252	10.847	10.847	(0.965)	4174802	40.0000	41.209
142	Benzo(k)fluoranthene	252	10.874	10.874	(0.967)	4334925	40.0000	39.850

TestAmerica Pittsburgh

Semivolatile REPORT SW-846 Method 8270

Data file : \\PITSVR06\D\chem\731.i\V041311D.b\V0413IC7.D
Lab Smp Id: SSTD60 Client Smp ID: SSTD60
Inj Date : 13-APR-2011 03:40
Operator : 003200 Inst ID: 731.i
Smp Info : IC 1005
Misc Info : SSTD60,V041311D.b,8270d.m,padepi.sub,1,7
Comment :
Method : \\PITSVR06\D\chem\731.i\V041311D.b\8270d.m
Meth Date : 13-Apr-2011 05:45 731.i Quant Type: ISTD
Cal Date : 13-APR-2011 03:40 Cal File: V0413IC7.D
Als bottle: 8 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: padepi.sub
Target Version: 4.14

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)	
* 1	1,4-Dichlorobenzene-d4	152	4.476	4.476	(1.000)	135242	8.00000		
* 2	Naphthalene-d8	136	5.438	5.438	(1.000)	568417	8.00000		
* 3	Acenaphthene-d10	164	6.773	6.773	(1.000)	353788	8.00000		
* 4	Phenanthrene-d10	188	7.906	7.906	(1.000)	589157	8.00000		
* 5	Chrysene-d12	240	9.930	9.930	(1.000)	594633	8.00000		(MH)
* 6	Perylene-d12	264	11.239	11.239	(1.000)	652482	8.00000		
198	1,4-Dioxane	88	1.287	1.287	(0.288)	267433	60.0000	57.420	
10	N-Nitrosodimethylamine	74	1.741	1.741	(0.389)	395232	60.0000	57.445	
9	Pyridine	79	1.762	1.762	(0.394)	770131	60.0000	59.213	
16	Methyl methanesulfonate	80	3.285	3.285	(0.734)	548929	60.0000	57.600	
206	Benzaldehyde	77	4.129	4.129	(0.922)	588434	60.0000	62.183	
21	Aniline	93	4.220	4.220	(0.943)	1754082	60.0000	57.425	
22	Phenol	94	4.220	4.220	(0.943)	1530274	60.0000	56.240	
23	bis(2-Chloroethyl)ether	93	4.278	4.278	(0.956)	1105283	60.0000	59.058	
24	2-Chlorophenol	128	4.316	4.316	(0.964)	1371699	60.0000	58.972	
26	1,3-Dichlorobenzene	146	4.428	4.428	(0.989)	1641650	60.0000	60.234	
27	1,4-Dichlorobenzene	146	4.487	4.487	(1.002)	1675592	60.0000	58.924	
28	1,2-Dichlorobenzene	146	4.604	4.604	(1.029)	1577826	60.0000	58.328	
217	Indene	116	4.668	4.668	(1.043)	2285980	60.0000	58.694	
29	Benzyl Alcohol	108	4.583	4.583	(1.024)	800825	60.0000	58.729	
30	2-Methylphenol	108	4.679	4.679	(1.045)	1156739	60.0000	58.480	
31	2,2'-oxybis(1-Chloropropane)	45	4.690	4.690	(1.048)	1719303	60.0000	57.898	
37	Acetophenone	105	4.781	4.781	(1.068)	1661364	60.0000	56.259	
32	N-Nitroso-di-n-propylamine	70	4.786	4.786	(1.069)	787292	60.0000	56.061	
192	4-Methylphenol	108	4.786	4.786	(1.069)	1115529	60.0000	55.915	
34	Hexachloroethane	117	4.861	4.861	(1.086)	722605	60.0000	61.667	
35	Nitrobenzene	77	4.909	4.909	(0.903)	1346692	60.0000	58.459	
36	N-Nitrosopyrrolidine	100	4.759	4.759	(1.063)	546742	60.0000	62.104	
41	Isophorone	82	5.090	5.090	(0.936)	2310604	60.0000	58.777	
42	2-Nitrophenol	139	5.149	5.149	(0.947)	827857	60.0000	62.083	
43	2,4-Dimethylphenol	107	5.187	5.187	(0.954)	1353973	60.0000	59.739	
44	bis(2-Chloroethoxy)methane	93	5.256	5.256	(0.967)	1478443	60.0000	59.170	
48	2,4-Dichlorophenol	162	5.331	5.331	(0.980)	1236943	60.0000	59.185	
49	Benzoic Acid	122	5.267	5.267	(0.969)	816896	60.0000	65.996	(M)

MJW 9/12/11

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	AMOUNTS ON-COL (NG)
50	1,2,4-Trichlorobenzene	180	5.400	5.400	(0.993)	1567440	60.0000	58.981
51	Naphthalene	128	5.454	5.454	(1.003)	4384637	60.0000	59.596
52	4-Chloroaniline	127	5.496	5.496	(1.011)	1741759	60.0000	58.602
54	2,6-Dichlorophenol	162	5.502	5.502	(1.012)	1190436	60.0000	59.183
56	Hexachlorobutadiene	225	5.560	5.560	(1.023)	893768	60.0000	59.537
208	Caprolactam	113	5.753	5.753	(1.058)	325196	60.0000	62.228
59	4-Chloro-3-Methylphenol	107	5.865	5.865	(1.079)	1147703	60.0000	58.360
62	2-Methylnaphthalene	142	5.983	5.983	(1.100)	2998327	60.0000	59.727
63	1-Methylnaphthalene	142	6.057	6.057	(1.114)	2896818	60.0000	59.748
64	Hexachlorocyclopentadiene	237	6.111	6.111	(0.902)	1135358	60.0000	62.182
65	1,2,4,5-Tetrachlorobenzene	216	6.111	6.111	(0.902)	1479035	60.0000	58.626
66	2,4,6-Trichlorophenol	196	6.196	6.196	(0.915)	1022920	60.0000	59.916
67	2,4,5-Trichlorophenol	196	6.223	6.223	(0.919)	1075188	60.0000	59.947
209	1,1'-Biphenyl	154	6.335	6.335	(0.935)	3767134	60.0000	58.647
70	2-Chloronaphthalene	162	6.351	6.351	(0.938)	3026945	60.0000	59.006
73	2-Nitroaniline	65	6.421	6.421	(0.948)	740318	60.0000	57.972
76	Dimethylphthalate	163	6.559	6.559	(0.968)	3112939	60.0000	58.429
78	2,6-Dinitrotoluene	165	6.602	6.602	(0.975)	716027	60.0000	61.447
79	Acenaphthylene	152	6.666	6.666	(0.984)	4683356	60.0000	58.862
81	3-Nitroaniline	138	6.730	6.730	(0.994)	792547	60.0000	61.037
82	Acenaphthene	153	6.800	6.800	(1.004)	2922730	60.0000	58.028
83	2,4-Dinitrophenol	184	6.811	6.811	(1.006)	483486	60.0000	59.100
85	4-Nitrophenol	109	6.853	6.853	(1.012)	451218	60.0000	64.400
86	Dibenzofuran	168	6.928	6.928	(1.023)	4277043	60.0000	57.632
87	2,4-Dinitrotoluene	165	6.912	6.912	(1.021)	944324	60.0000	61.118
91	2,3,5,6-Tetrachlorophenol	232	6.992	6.992	(1.032)	887970	60.0000	63.700
90	2,3,4,6-Tetrachlorophenol	232	7.024	7.024	(1.037)	859387	60.0000	61.161
92	2-Naphthylamine	143	7.046	7.046	(1.040)	1860254	60.0000	48.352
93	Diethylphthalate	149	7.099	7.099	(1.048)	3196304	60.0000	58.409
94	Fluorene	166	7.190	7.190	(1.062)	3251060	60.0000	57.161
95	4-Chlorophenyl-phenylether	204	7.190	7.190	(1.062)	1672929	60.0000	58.526
96	4-Nitroaniline	138	7.195	7.195	(1.062)	779358	60.0000	59.796
98	4,6-Dinitro-2-methylphenol	198	7.222	7.222	(0.914)	633767	60.0000	65.548
99	N-Nitrosodiphenylamine (1)	169	7.275	7.275	(0.920)	2230394	60.0000	61.689
100	1,2-Diphenylhydrazine	77	7.307	7.307	(0.924)	3300916	60.0000	60.671
106	4-Bromophenyl-phenylether	248	7.558	7.558	(0.956)	1005990	60.0000	63.647
107	Hexachlorobenzene	284	7.617	7.617	(0.964)	989058	60.0000	62.824
210	Atrazine	200	7.676	7.676	(0.971)	836577	60.0000	60.429
111	Pentachlorophenol	266	7.761	7.761	(0.982)	664717	60.0000	67.594
115	Phenanthrene	178	7.927	7.927	(1.003)	5364797	60.0000	62.370
116	Anthracene	178	7.964	7.964	(1.007)	5380949	60.0000	62.592
119	Carbazole	167	8.082	8.082	(1.022)	4426673	60.0000	59.955
120	Di-n-Butylphthalate	149	8.333	8.333	(1.054)	5966569	60.0000	64.703
123	Fluoranthene	202	8.835	8.835	(1.118)	5582982	60.0000	62.726
124	Benzidine	184	8.926	8.926	(0.899)	2349953	60.0000	67.328 (M)
125	Pyrene	202	9.012	9.012	(0.907)	5738234	60.0000	58.335 (M)
131	Butylbenzylphthalate	149	9.476	9.476	(0.954)	2442287	60.0000	56.453 (M)
135	3,3'-Dichlorobenzidine	252	9.893	9.893	(0.996)	1985538	60.0000	65.603 (M)
136	Benzo(a)Anthracene	228	9.925	9.925	(0.999)	5132582	60.0000	59.303 (M)
137	Chrysene	228	9.952	9.952	(1.002)	5117694	60.0000	61.176 (M)
139	bis(2-ethylhexyl)Phthalate	149	9.904	9.904	(0.997)	3580180	60.0000	57.348 (M)
140	Di-n-octylphthalate	149	10.406	10.406	(0.926)	6923898	60.0000	57.442
141	Benzo(b)fluoranthene	252	10.849	10.849	(0.965)	6414086	60.0000	59.442
142	Benzo(k)fluoranthene	252	10.876	10.876	(0.968)	7279896	60.0000	62.831

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Semivolatile REPORT SW-846 Method 8270

Data file : \\PITSVR06\D\chem\731.i\V041311D.b\V0413IC8.D
Lab Smp Id: SSTD80 Client Smp ID: SSTD80
Inj Date : 13-APR-2011 04:03
Operator : 003200 Inst ID: 731.i
Smp Info : IC 1006
Misc Info : SSTD80,V041311D.b,8270d.m,padepi.sub,1,8
Comment :
Method : \\PITSVR06\D\chem\731.i\V041311D.b\8270d.m
Meth Date : 13-Apr-2011 05:45 731.i Quant Type: ISTD
Cal Date : 13-APR-2011 04:03 Cal File: V0413IC8.D
Als bottle: 9 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: padepi.sub
Target Version: 4.14

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)	
* 1	1,4-Dichlorobenzene-d4	152	4.476	4.476	(1.000)	138110	8.00000		
* 2	Naphthalene-d8	136	5.443	5.443	(1.000)	575622	8.00000		
* 3	Acenaphthene-d10	164	6.778	6.778	(1.000)	337630	8.00000		
* 4	Phenanthrene-d10	188	7.911	7.911	(1.000)	564137	8.00000		
* 5	Chrysene-d12	240	9.936	9.936	(1.000)	607420	8.00000		(MH)
* 6	Perylene-d12	264	11.250	11.250	(1.000)	650453	8.00000		
198	1,4-Dioxane	88	1.297	1.297	(0.290)	357893	80.0000	75.246	
10	N-Nitrosodimethylamine	74	1.757	1.757	(0.393)	537338	80.0000	76.477	
9	Pyridine	79	1.778	1.778	(0.397)	1047533	80.0000	78.869	
16	Methyl methanesulfonate	80	3.290	3.290	(0.735)	715152	80.0000	73.484	
206	Benzaldehyde	77	4.134	4.134	(0.924)	687386	80.0000	78.016	
21	Aniline	93	4.225	4.225	(0.944)	2243410	80.0000	71.920	
22	Phenol	94	4.225	4.225	(0.944)	1949867	80.0000	70.173	
23	bis(2-Chloroethyl)ether	93	4.284	4.284	(0.957)	1435188	80.0000	75.094	
24	2-Chlorophenol	128	4.321	4.321	(0.965)	1794616	80.0000	75.552	
26	1,3-Dichlorobenzene	146	4.433	4.433	(0.990)	2150661	80.0000	77.272	
27	1,4-Dichlorobenzene	146	4.492	4.492	(1.004)	2104650	80.0000	75.230	
28	1,2-Dichlorobenzene	146	4.604	4.604	(1.029)	2040618	80.0000	73.870	
217	Indene	116	4.674	4.674	(1.044)	3022788	80.0000	76.000	
29	Benzyl Alcohol	108	4.588	4.588	(1.025)	1052598	80.0000	75.590	
30	2-Methylphenol	108	4.684	4.684	(1.047)	1524664	80.0000	75.480	
31	2,2'-oxybis(1-Chloropropane)	45	4.695	4.695	(1.049)	2238500	80.0000	73.817	
37	Acetophenone	105	4.786	4.786	(1.069)	2170549	80.0000	71.976	
32	N-Nitroso-di-n-propylamine	70	4.791	4.791	(1.070)	1015424	80.0000	70.804	
192	4-Methylphenol	108	4.796	4.796	(1.072)	1420057	80.0000	69.701	
34	Hexachloroethane	117	4.866	4.866	(1.087)	936608	80.0000	78.271	
35	Nitrobenzene	77	4.914	4.914	(0.903)	1790789	80.0000	76.764	
36	N-Nitrosopyrrolidine	100	4.770	4.770	(1.066)	725268	80.0000	80.672	
41	Isophorone	82	5.096	5.096	(0.936)	3039771	80.0000	76.357	
42	2-Nitrophenol	139	5.154	5.154	(0.947)	1090877	80.0000	80.784	
43	2,4-Dimethylphenol	107	5.192	5.192	(0.954)	1751761	80.0000	76.322	
44	bis(2-Chloroethoxy)methane	93	5.261	5.261	(0.967)	1938648	80.0000	76.616	
48	2,4-Dichlorophenol	162	5.336	5.336	(0.980)	1624665	80.0000	76.763	
49	Benzoic Acid	122	5.277	5.277	(0.970)	1121246	80.0000	89.450	(M)

M/W 4/12/11

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
50	1,2,4-Trichlorobenzene	180	5.405	5.405	(0.993)	2060285	80.0000	76.556
51	Naphthalene	128	5.459	5.459	(1.003)	5776637	80.0000	77.534
52	4-Chloroaniline	127	5.496	5.496	(1.010)	2272357	80.0000	75.497
54	2,6-Dichlorophenol	162	5.507	5.507	(1.012)	1554228	80.0000	76.302
56	Hexachlorobutadiene	225	5.566	5.566	(1.023)	1189168	80.0000	78.223
208	Caprolactam	113	5.763	5.763	(1.059)	439784	80.0000	83.101
59	4-Chloro-3-Methylphenol	107	5.870	5.870	(1.079)	1503132	80.0000	75.477
62	2-Methylnaphthalene	142	5.982	5.982	(1.099)	3977196	80.0000	78.235
63	1-Methylnaphthalene	142	6.057	6.057	(1.113)	3773047	80.0000	76.846
64	Hexachlorocyclopentadiene	237	6.116	6.116	(0.902)	1475972	80.0000	84.706
65	1,2,4,5-Tetrachlorobenzene	216	6.116	6.116	(0.902)	1879557	80.0000	78.025
66	2,4,6-Trichlorophenol	196	6.201	6.201	(0.915)	1296736	80.0000	79.589
67	2,4,5-Trichlorophenol	196	6.228	6.228	(0.919)	1421749	80.0000	83.062
209	1,1'-Biphenyl	154	6.340	6.340	(0.935)	4899697	80.0000	79.930
70	2-Chloronaphthalene	162	6.356	6.356	(0.938)	3938505	80.0000	80.450
73	2-Nitroaniline	65	6.426	6.426	(0.948)	969891	80.0000	79.583
76	Dimethylphthalate	163	6.565	6.565	(0.968)	4095189	80.0000	80.544
78	2,6-Dinitrotoluene	165	6.607	6.607	(0.976)	926201	80.0000	83.287
79	Acenaphthylene	152	6.671	6.671	(0.984)	6405697	80.0000	84.361
81	3-Nitroaniline	138	6.736	6.736	(0.994)	1034719	80.0000	83.502
82	Acenaphthene	153	6.805	6.805	(1.004)	3799559	80.0000	79.047
83	2,4-Dinitrophenol	184	6.816	6.816	(1.006)	656924	80.0000	80.260
05	4-Nitrophenol	109	6.864	6.864	(1.013)	572130	80.0000	85.564
86	Dibenzofuran	168	6.933	6.933	(1.023)	5769966	80.0000	81.470
87	2,4-Dinitrotoluene	165	6.917	6.917	(1.020)	1297074	80.0000	87.967
91	2,3,5,6-Tetrachlorophenol	232	6.997	6.997	(1.032)	1161657	80.0000	87.322
88	2,3,4,6-Tetrachlorophenol	232	7.029	7.029	(1.037)	1128491	80.0000	84.157
92	2-Naphthylamine	143	7.051	7.051	(1.040)	2460864	80.0000	67.024
93	Diethylphthalate	149	7.104	7.104	(1.048)	4213144	80.0000	80.673
94	Fluorene	166	7.195	7.195	(1.061)	4272413	80.0000	78.714
95	4-Chlorophenyl-phenylether	204	7.190	7.190	(1.061)	2192322	80.0000	80.367
96	4-Nitroaniline	138	7.206	7.206	(1.063)	1043502	80.0000	83.894
98	4,6-Dinitro-2-methylphenol	198	7.227	7.227	(0.914)	828881	80.0000	89.530
99	N-Nitrosodiphenylamine (1)	169	7.280	7.280	(0.920)	2957554	80.0000	85.428
100	1,2-Diphenylhydrazine	77	7.313	7.313	(0.924)	4229771	80.0000	81.192
106	4-Bromophenyl-phenylether	248	7.564	7.564	(0.956)	1276535	80.0000	84.346
107	Hexachlorobenzene	284	7.622	7.622	(0.964)	1312742	80.0000	87.082
210	Atrazine	200	7.681	7.681	(0.971)	1123229	80.0000	84.733
111	Pentachlorophenol	266	7.767	7.767	(0.982)	921436	80.0000	97.855
115	Phenanthrene	178	7.927	7.927	(1.002)	7014007	80.0000	85.160
116	Anthracene	178	7.970	7.970	(1.007)	6987662	80.0000	84.886
119	Carbazole	167	8.087	8.087	(1.022)	5980183	80.0000	84.588
120	Di-n-Butylphthalate	149	8.338	8.338	(1.054)	7240821	80.0000	82.003
123	Fluoranthene	202	8.840	8.840	(1.117)	7257021	80.0000	85.150
124	Benzidine	184	8.931	8.931	(0.899)	3276990	80.0000	91.943 (M)
125	Pyrene	202	9.017	9.017	(0.908)	7669546	80.0000	76.353 (M)
131	Butylbenzylphthalate	149	9.481	9.481	(0.954)	3336531	80.0000	75.671 (M)
135	3,3'-Dichlorobenzidine	252	9.898	9.898	(0.996)	2610070	80.0000	84.451 (M)
136	Benzo(a)Anthracene	228	9.930	9.930	(0.999)	7391793	80.0000	93.636 (M)
137	Chrysene	228	9.957	9.957	(1.002)	7186654	80.0000	84.128 (M)
139	bis(2-ethylhexyl)Phthalate	149	9.909	9.909	(0.997)	4790313	80.0000	75.142 (M)
140	Di-n-octylphthalate	149	10.411	10.411	(0.925)	9041163	80.0000	75.241
141	Benzo(b)fluoranthene	252	10.860	10.860	(0.966)	8896254	80.0000	82.703
142	Benzo(k)fluoranthene	252	10.886	10.886	(0.968)	9239007	80.0000	79.988

M/W 4/12/11

TestAmerica Pittsburgh

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 731.i
Lab File ID: V05140CC.D
Analysis Type:
Lab Sample ID: SSTD4.0
Method: \\PITSVR06\D\chem\731.i\V051411D.b\8270d.m

Injection Date: 14-MAY-2011 09:46
Init. Cal. Date(s): 13-APR-2011 13-APR-2011
Init. Cal. Times: 01:28 04:03
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF4	CCAL RRF4	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
51 Naphthalene	1.03547	0.98669	0.98669	0.700	4.71082	20.00000	Averaged
79 Acenaphthylene	1.79917	1.72514	1.72514	0.900	4.11481	20.00000	Averaged
82 Acenaphthene	1.13893	1.09432	1.09432	0.900	3.91704	20.00000	Averaged
94 Fluorene	1.28609	1.28050	1.28050	0.900	0.43470	20.00000	Averaged
115 Phenanthrene	1.16798	1.14005	1.14005	0.700	2.39128	20.00000	Averaged
116 Anthracene	1.16735	1.15974	1.15974	0.700	0.65192	20.00000	Averaged
123 Fluoranthene	1.20858	1.17145	1.17145	0.600	3.07223	20.00000	Averaged
125 Pyrene	1.32296	1.42332	1.42332	0.600	-7.59641	20.00000	Averaged
136 Benzo(a)Anthracene	1.16401	1.19107	1.19107	0.800	-2.32468	20.00000	Averaged
137 Chrysene	✓1.12509	1.10221	✓1.10221	0.700	✓2.03373	20.00000	Averaged
141 Benzo(b)fluoranthene	1.32300	1.47604	1.47604	0.700	-11.56821	20.00000	Averaged
142 Benzo(k)fluoranthene	1.42061	1.26652	1.26652	0.700	10.84657	20.00000	Averaged
146 Benzo(a)pyrene	1.05032	1.02259	1.02259	0.700	2.63996	20.00000	Averaged
149 Indeno(1,2,3-cd)pyrene	1.24962	1.18905	1.18905	0.500	4.84704	20.00000	Averaged
150 Dibenz(a,h)anthracene	1.05561	0.97101	0.97101	0.400	8.01477	20.00000	Averaged
151 Benzo(g,h,i)perylene	1.07065	0.98201	0.98201	0.500	8.27940	20.00000	Averaged
$ 154 Nitrobenzene-d5	0.34130	0.35583	0.35583	0.010	-4.25710	20.00000	Averaged
$ 155 2-Fluorobiphenyl	1.33689	1.23701	1.23701	0.010	7.47118	20.00000	Averaged
$ 156 Terphenyl-d14	0.87389	0.91283	0.91283	0.010	-4.45562	20.00000	Averaged
$ 157 Phenol-d5	1.40145	1.43634	1.43634	0.010	-2.48971	20.00000	Averaged
$ 158 2-Fluorophenol	0.99745	1.02514	1.02514	0.010	-2.77614	20.00000	Averaged
$ 159 2,4,6-Tribromophenol	0.08724	0.08881	0.08881	0.010	-1.80538	20.00000	Averaged
$ 186 2-Chlorophenol-d4	1.35203	1.37217	1.37217	0.010	-1.48906	20.00000	Averaged
$ 187 1,2-Dichlorobenzene-d4	1.04707	1.05753	1.05753	0.010	-0.99899	20.00000	Averaged

$\frac{1.12509}{1.10221} - 1 = 2.08\%$

mdw 9/12/11

TestAmerica Pittsburgh

Semivolatile REPORT SW-846 Method 8270

Data file : \\PITSVR06\D\chem\731.i\V051411D.b\V05140CC.D
Lab Smp Id: SSTD4.0 Client Smp ID: SSTD4.0
Inj Date : 14-MAY-2011 09:46
Operator : 003200 Inst ID: 731.i
Smp Info : CCVIS 11440
Misc Info : SSTD4.0,V051411D.b,8270d.m,pah.sub,2,3
Comment :
Method : \\PITSVR06\D\chem\731.i\V051411D.b\8270d.m
Meth Date : 14-May-2011 10:13 piccolinov Quant Type: ISTD
Cal Date : 13-APR-2011 04:03 Cal File: V0413IC8.D
Als bottle: 2 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pah.sub
Target Version: 4.14
Processing Host: PITPC-502

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	AMOUNTS ON-COL (NG)
* 1 1,4-Dichlorobenzene-d4	152	4.386	4.386	(1.000)	163053	8.00000	
* 2 Naphthalene-d8	136	5.358	5.358	(1.000)	687433	8.00000	
* 3 Acenaphthene-d10	164	6.699	6.699	(1.000)	447551	8.00000	
* 4 Phenanthrene-d10	188	7.837	7.837	(1.000)	777857	8.00000	
* 5 Chrysene-d12	240	9.867	9.867	(1.000)	680508	8.00000	
* 6 Perylene-d12	264	11.149	11.149	(1.000)	607329	8.00000	
51 Naphthalene	128	5.374	5.374	(1.003)	339141	4.00000	3.8116
79 Acenaphthylene	152	6.587	6.587	(0.983)	386044	4.00000	3.8354
82 Acenaphthene	153	6.725	6.725	(1.004)	244882	4.00000	3.8433
94 Fluorene	166	7.115	7.115	(1.062)	286545	4.00000	3.9826
115 Phenanthrene	178	7.853	7.853	(1.002)	443397	4.00000	3.9043
116 Anthracene	178	7.890	7.890	(1.007)	451056	4.00000	3.9739
123 Fluoranthene	202	8.766	8.766	(1.119)	455612	4.00000	3.8771
125 Pyrene	202	8.942	8.942	(0.906)	484292	4.00000	4.3034
136 Benzo(a)Anthracene	228	9.856	9.856	(0.999)	405265	4.00000	4.0930
137 Chrysene	228	9.888	9.888	(1.002)	375030	4.00000	3.9186
141 Benzo(b)fluoranthene	252	10.759	10.759	(0.965)	448222	4.00000	4.4627
142 Benzo(k)fluoranthene	252	10.785	10.785	(0.967)	384597	4.00000	3.5661
146 Benzo(a)pyrene	252	11.090	11.090	(0.995)	310524	4.00000	3.8944
149 Indeno(1,2,3-cd)pyrene	276	12.425	12.425	(1.115)	361073	4.00000	3.8061
150 Dibenz(a,h)anthracene	278	12.442	12.442	(1.116)	294860	4.00000	3.6794
151 Benzo(g,h,i)perylene	276	12.805	12.805	(1.149)	298201	4.00000	3.6688
$ 154 Nitrobenzene-d5	82	4.808	4.808	(0.897)	122306	4.00000	4.1703
$ 155 2-Fluorobiphenyl	172	6.186	6.186	(0.923)	276812	4.00000	3.7012
$ 156 Terphenyl-d14	244	9.055	9.055	(0.918)	310593	4.00000	4.1782
$ 157 Phenol-d5	99	4.129	4.129	(0.942)	117100	4.00000	4.0996
$ 158 2-Fluorophenol	112	3.360	3.360	(0.766)	83576	4.00000	4.1110
$ 159 2,4,6-Tribromophenol	330	7.302	7.302	(0.932)	34541	4.00000	4.0722
$ 186 2-Chlorophenol-d4	132	4.209	4.209	(0.960)	111868	4.00000	4.0596
$ 187 1,2-Dichlorobenzene-d4	152	4.503	4.503	(1.027)	86217	4.00000	4.0400

[chrysene] = 375030 (8) / 1.12509 (680508) = 3.916841

Chrysene$_{rrf40}$ = 375030 (8) / ~~1.125~~ 680508 (4) = 1.10221

MJW 9/12/11

TestAmerica Pittsburgh

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 731.i
Lab File ID: V05190CC.D
Analysis Type:
Lab Sample ID: SSTD4.0
Method: \\PITSVR06\D\chem\731.i\V051911D.b\8270d.m

Injection Date: 19-MAY-2011 11:22
Init. Cal. Date(s): 16-MAY-2011 16-MAY-2011
Init. Cal. Times: 12:14 14:49
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF4	CCAL RRF4	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
51 Naphthalene	1.06555	1.02051	1.02051	0.700	4.22683	20.00000	Averaged
79 Acenaphthylene	1.81235	1.75742	1.75742	0.900	3.03121	20.00000	Averaged
82 Acenaphthene	1.15407	1.09144	1.09144	0.900	5.42737	20.00000	Averaged
94 Fluorene	1.40559	1.26120	1.26120	0.900	10.27245	20.00000	Averaged
115 Phenanthrene	1.19456	1.10892	1.10892	0.700	7.16895	20.00000	Averaged
116 Anthracene	1.17507	1.13856	1.13856	0.700	3.10722	20.00000	Averaged
123 Fluoranthene	1.28930	1.13657	1.13657	0.600	11.84615	20.00000	Averaged
125 Pyrene	1.20299	1.43863	1.43863	0.600	-19.58771	20.00000	Averaged
136 Benzo(a)Anthracene	1.18510	1.16518	1.16518	0.800	1.68153	20.00000	Averaged
137 Chrysene	1.14027	1.06327	1.06327	0.700	6.75296	20.00000	Averaged
141 Benzo(b)fluoranthene	1.44769	1.41419	1.41419	0.700	2.31409	20.00000	Averaged
142 Benzo(k)fluoranthene	1.34569	1.27800	1.27800	0.700	5.02994	20.00000	Averaged
146 Benzo(a)pyrene	1.05019	1.03012	1.03012	0.700	1.91141	20.00000	Averaged
149 Indeno(1,2,3-cd)pyrene	1.22098	1.18841	1.18841	0.500	2.66747	20.00000	Averaged
150 Dibenz(a,h)anthracene	1.03610	1.04044	1.04044	0.400	-0.41931	20.00000	Averaged
151 Benzo(g,h,i)perylene	1.01794	1.01241	1.01241	0.500	0.54265	20.00000	Averaged
$ 154 Nitrobenzene-d5	0.37942	0.36911	0.36911	0.010	2.71664	20.00000	Averaged
$ 155 2-Fluorobiphenyl	1.36655	1.32258	1.32258	0.010	3.21733	20.00000	Averaged
$ 156 Terphenyl-d14	0.82844	0.93586	0.93586	0.010	-12.96682	20.00000	Averaged
$ 157 Phenol-d5	1.44912	1.43011	1.43011	0.010	1.31194	20.00000	Averaged
$ 158 2-Fluorophenol	1.09368	1.11956	1.11956	0.010	-2.36620	20.00000	Averaged
$ 159 2,4,6-Tribromophenol	4.00000	4.46066	0.08551	0.010	-11.51641	20.00000	Quadratic
$ 186 2-Chlorophenol-d4	1.38735	1.41522	1.41522	0.010	-2.00894	20.00000	Averaged
$ 187 1,2-Dichlorobenzene-d4	1.03416	1.05333	1.05333	0.010	-1.85380	20.00000	Averaged

$$\left(\frac{1.26120}{1.40559} - 1\right) \cdot 100\% = 10.27\%$$

MJW 9/12/11

TestAmerica Pittsburgh

Semivolatile REPORT SW-846 Method 8270

Data file : \\PITSVR06\D\chem\731.i\V051911D.b\V05190CC.D
Lab Smp Id: SSTD4.0 Client Smp ID: SSTD4.0
Inj Date : 19-MAY-2011 11:22
Operator : 003200 Inst ID: 731.i
Smp Info : CCVIS 13562
Misc Info : SSTD4.0,V051911D.b,8270d.m,padepi.sub,2,3
Comment :
Method : \\PITSVR06\D\chem\731.i\V051911D.b\8270d.m
Meth Date : 20-May-2011 05:36 piccolinov Quant Type: ISTD
Cal Date : 16-MAY-2011 14:49 Cal File: V0516IC8.D
Als bottle: 2 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: padepi.sub
Target Version: 4.14
Processing Host: PITPC-502

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)	
* 1	1,4-Dichlorobenzene-d4	152	4.520	4.520	(1.000)	191808	8.00000		
* 2	Naphthalene-d8	136	5.492	5.492	(1.000)	727698	8.00000		
* 3	Acenaphthene-d10	164	6.838	6.838	(1.000)	405237	8.00000		
* 4	Phenanthrene-d10	188	7.981	7.981	(1.000)	668572	8.00000		(M)
* 5	Chrysene-d12	240	10.038	10.038	(1.000)	521415	8.00000		(M)
* 6	Perylene-d12	264	11.411	11.411	(1.000)	462035	8.00000		(M)
198	1,4-Dioxane	88	1.341	1.341	(0.297)	33426	4.00000	4.3926	
10	N-Nitrosodimethylamine	74	1.801	1.801	(0.398)	49494	4.00000	4.3713	
9	Pyridine	79	1.843	1.843	(0.408)	94757	4.00000	4.3141	(M)
16	Methyl methanesulfonate	80	3.328	3.328	(0.736)	60307	4.00000	3.9385	
206	Benzaldehyde	77	4.178	4.178	(0.924)	91886	4.00000	3.9155	
21	Aniline	93	4.263	4.263	(0.943)	187239	4.00000	4.0062	
22	Phenol	94	4.263	4.263	(0.943)	156787	4.00000	4.0076	
23	bis(2-Chloroethyl)ether	93	4.322	4.322	(0.956)	105347	4.00000	3.8186	
24	2-Chlorophenol	128	4.359	4.359	(0.965)	138089	4.00000	4.0209	
26	1,3-Dichlorobenzene	146	4.477	4.477	(0.991)	151390	4.00000	3.8813	
27	1,4-Dichlorobenzene	146	4.536	4.536	(1.004)	157901	4.00000	3.9286	
28	1,2-Dichlorobenzene	146	4.653	4.653	(1.030)	147305	4.00000	3.8542	
217	Indene	116	4.717	4.717	(1.044)	219831	4.00000	3.9548	
29	Benzyl Alcohol	108	4.626	4.626	(1.024)	80940	4.00000	3.7668	
30	2-Methylphenol	108	4.723	4.723	(1.045)	115343	4.00000	3.8204	
31	2,2'-oxybis(1-Chloropropane)	45	4.739	4.739	(1.048)	154368	4.00000	3.8879	
37	Acetophenone	105	4.824	4.824	(1.067)	165677	4.00000	3.6495	
32	N-Nitroso-di-n-propylamine	70	4.829	4.829	(1.069)	84191	4.00000	3.9555	
192	4-Methylphenol	108	4.835	4.835	(1.070)	114159	4.00000	3.7808	
34	Hexachloroethane	117	4.910	4.910	(1.086)	66421	4.00000	3.9339	
35	Nitrobenzene	77	4.952	4.952	(0.902)	127240	4.00000	3.9542	
36	N-Nitrosopyrrolidine	100	4.803	4.803	(1.063)	51481	4.00000	3.7360	
41	Isophorone	82	5.139	5.139	(0.936)	210490	4.00000	3.7649	
42	2-Nitrophenol	139	5.198	5.198	(0.947)	72220	4.00000	4.1039	
43	2,4-Dimethylphenol	107	5.235	5.235	(0.953)	121875	4.00000	3.8424	
44	bis(2-Chloroethoxy)methane	93	5.305	5.305	(0.966)	129998	4.00000	3.8269	
48	2,4-Dichlorophenol	162	5.385	5.385	(0.981)	110308	4.00000	4.0024	

MJW 4/12/11

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	AMOUNTS ON-COL (NG)
49 Benzoic Acid	122	5.284	5.284	(0.962)	179575	10.0000	9.6793
50 1,2,4-Trichlorobenzene	180	5.455	5.455	(0.993)	138869	4.00000	4.1204
51 Naphthalene	128	5.508	5.508	(1.003)	371311	4.00000	3.8309
52 4-Chloroaniline	127	5.545	5.545	(1.010)	157393	4.00000	3.8260
54 2,6-Dichlorophenol	162	5.556	5.556	(1.012)	107413	4.00000	3.9886
56 Hexachlorobutadiene	225	5.615	5.615	(1.022)	79117	4.00000	4.0272
208 Caprolactam	113	5.786	5.786	(1.053)	30354	4.00000	3.6342
59 4-Chloro-3-Methylphenol	107	5.919	5.919	(1.078)	108004	4.00000	3.8956
62 2-Methylnaphthalene	142	6.042	6.042	(1.100)	243443	4.00000	3.7257
63 1-Methylnaphthalene	142	6.117	6.117	(1.114)	229890	4.00000	3.6921
64 Hexachlorocyclopentadiene	237	6.170	6.170	(0.902)	92143	4.00000	4.2474
65 1,2,4,5-Tetrachlorobenzene	216	6.170	6.170	(0.902)	125351	4.00000	4.2337
66 2,4,6-Trichlorophenol	196	6.256	6.256	(0.915)	87523	4.00000	4.3749
67 2,4,5-Trichlorophenol	196	6.283	6.283	(0.919)	86768	4.00000	3.9658
209 1,1'-Biphenyl	154	6.395	6.395	(0.935)	281513	4.00000	3.8972
70 2-Chloronaphthalene	162	6.411	6.411	(0.938)	240548	4.00000	4.0276
73 2-Nitroaniline	65	6.486	6.486	(0.948)	69277	4.00000	3.9605
76 Dimethylphthalate	163	6.624	6.624	(0.969)	247545	4.00000	3.6171
78 2,6-Dinitrotoluene	165	6.667	6.667	(0.975)	54841	4.00000	3.6952
79 Acenaphthylene	152	6.731	6.731	(0.984)	356085	4.00000	3.8788
81 3-Nitroaniline	138	6.795	6.795	(0.994)	58906	4.00000	3.4622
82 Acenaphthene	153	6.865	6.865	(1.004)	221145	4.00000	3.7829
83 2,4-Dinitrophenol	184	6.876	6.876	(1.006)	80818	10.0000	8.2644
85 4-Nitrophenol	109	6.918	6.918	(1.012)	106642	10.0000	8.5405
86 Dibenzofuran	168	6.998	6.998	(1.023)	325783	4.00000	3.7944
87 2,4-Dinitrotoluene	165	6.977	6.977	(1.020)	73469	4.00000	3.5321
91 2,3,5,6-Tetrachlorophenol	232	7.057	7.057	(1.032)	60495	4.00000	3.6319
88 2,3,4,6-Tetrachlorophenol	232	7.095	7.095	(1.037)	65967	4.00000	3.8056
92 2-Naphthylamine	143	7.111	7.111	(1.040)	183378	4.00000	3.8328 (M)
93 Diethylphthalate	149	7.164	7.164	(1.048)	269608	4.00000	3.7113
94 Fluorene	166	7.260	7.260	(1.062)	255542	4.00000	3.5891
95 4-Chlorophenyl-phenylether	204	7.255	7.255	(1.061)	131315	4.00000	3.6978
96 4-Nitroaniline	138	7.260	7.260	(1.062)	65515	4.00000	3.4896
98 4,6-Dinitro-2-methylphenol	198	7.292	7.292	(0.914)	110017	10.0000	9.8708
99 N-Nitrosodiphenylamine (1)	169	7.346	7.346	(0.920)	163493	4.00000	3.9507
100 1,2-Diphenylhydrazine	77	7.378	7.378	(0.924)	263834	4.00000	4.1366
106 4-Bromophenyl-phenylether	248	7.634	7.634	(0.956)	69584	4.00000	3.9591
107 Hexachlorobenzene	284	7.693	7.693	(0.964)	68862	4.00000	3.8671
210 Atrazine	200	7.746	7.746	(0.971)	66751	4.00000	3.9768
111 Pentachlorophenol	266	7.837	7.837	(0.982)	102488	10.0000	8.6762 (M)
115 Phenanthrene	178	8.003	8.003	(1.003)	370696	4.00000	3.7132
116 Anthracene	178	8.040	8.040	(1.007)	380603	4.00000	3.8757 (M)
119 Carbazole	167	8.158	8.158	(1.022)	321976	4.00000	3.6749
120 Di-n-Butylphthalate	149	8.409	8.409	(1.054)	416194	4.00000	3.7542
123 Fluoranthene	202	8.916	8.916	(1.117)	379938	4.00000	3.5262
124 Benzidine	184	9.007	9.007	(0.897)	128662	4.00000	3.9540 (M)
125 Pyrene	202	9.098	9.098	(0.906)	375062	4.00000	4.7835
131 Butylbenzylphthalate	149	9.563	9.563	(0.953)	171993	4.00000	4.4492
135 3,3'-Dichlorobenzidine	252	9.995	9.995	(0.996)	107639	4.00000	3.8826
136 Benzo(a)Anthracene	228	10.027	10.027	(0.999)	303770	4.00000	3.9327
137 Chrysene	228	10.054	10.054	(1.002)	277202	4.00000	3.7299
139 bis(2-ethylhexyl)Phthalate	149	10.001	10.001	(0.996)	238651	4.00000	4.2895
140 Di-n-octylphthalate	149	10.530	10.530	(0.923)	377677	4.00000	4.7416
141 Benzo(b)fluoranthene	252	10.994	10.994	(0.963)	326702	4.00000	3.9074

Fluorene RRF40 = 255542(S) / 405237(4) = 1587 ≥ 126119 ✓

MW 9/12/11

Watermark Environmental

Client Sample ID: DUP-AI4-1

GC/MS Semivolatiles

Lot-Sample #...:	C1E120445-027	Work Order #...:	MJAHL1AA	Matrix.....:	SOLID
Date Sampled...:	05/11/11 12:15	Date Received..:	05/12/11 09:30	MS Run #.....:	1133013
Prep Date.....:	05/13/11	Analysis Date..:	05/13/11		
Prep Batch #...:	1133023	Analysis Time..:	20:04		
Dilution Factor:	1.99	Initial Wgt/Vol:	15.1 g	Final Wgt/Vol..:	0.5 mL
% Moisture.....:	16	Analyst ID.....:	003200	Instrument ID..:	731
		Method.....:	SW846 8270D Low L		

PARAMETER	RESULT	LOQ	UNITS	DL
Chrysene	120	16	ug/kg	1.9
Dibenzo(a,h)anthracene	24	16	ug/kg	1.8
Fluoranthene	220 J	16	ug/kg	1.7
Acenaphthene	8.8 J	16	ug/kg	1.5
Acenaphthylene	29	16	ug/kg	1.8
Anthracene	30 J	16	ug/kg	1.5
Benzo(a)anthracene	110	16	ug/kg	2.0
Benzo(b)fluoranthene	210	16	ug/kg	2.5
Benzo(k)fluoranthene	4.0 U	16	ug/kg	3.2
Benzo(ghi)perylene	110	16	ug/kg	1.6
Benzo(a)pyrene	140	16	ug/kg	1.6
Fluorene	9.2 J	16	ug/kg	2.1
Indeno(1,2,3-cd)pyrene	90	16	ug/kg	1.6
Naphthalene	6.5 J	16	ug/kg	1.4
Phenanthrene	110 J	16	ug/kg	2.5
Pyrene	170	16	ug/kg	1.6

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorobiphenyl	62	(45 - 105)
2-Fluorophenol	63	(35 - 105)
Phenol-d5	70	(40 - 100)
2,4,6-Tribromophenol	82	(35 - 125)
Nitrobenzene-d5	66	(35 - 100)
Terphenyl-d14	68	(30 - 125)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

MJW 9/12/11

Watermark Environmental

Client Sample ID: AI4-115(0-2)

GC/MS Semivolatiles

Lot-Sample #...:	C1E120445-025	Work Order #...:	MJAHH1AA	Matrix.....:	SOLID
Date Sampled...:	05/11/11 12:15	Date Received..:	05/12/11 09:30	MS Run #.....:	1133013
Prep Date.....:	05/13/11	Analysis Date..:	05/13/11		
Prep Batch #...:	1133023	Analysis Time..:	18:29		
Dilution Factor:	1.97	Initial Wgt/Vol:	15.2 g	Final Wgt/Vol..:	0.5 mL
% Moisture.....:	17	Analyst ID.....:	003200	Instrument ID..:	731
		Method.....:	SW846 8270D Low L		

PARAMETER	RESULT	LOQ	UNITS	DL
Acenaphthene	2.6 J	16	ug/kg	1.5
Acenaphthylene	25	16	ug/kg	1.8
Anthracene	17 J	16	ug/kg	1.6
Benzo(a)anthracene	96	16	ug/kg	2.0
Benzo(b)fluoranthene	190	16	ug/kg	2.5
Benzo(k)fluoranthene	4.0 U	16	ug/kg	3.2
Benzo(ghi)perylene	100	16	ug/kg	1.6
Benzo(a)pyrene	130	16	ug/kg	1.6
Chrysene	110	16	ug/kg	1.9
Dibenzo(a,h)anthracene	24	16	ug/kg	1.8
Fluoranthene	160 J	16	ug/kg	1.7
Fluorene	3.1 J	16	ug/kg	2.1
Indeno(1,2,3-cd)pyrene	85	16	ug/kg	1.6
Naphthalene	4.9 J	16	ug/kg	1.4
Phenanthrene	50 J	16	ug/kg	2.5
Pyrene	130	16	ug/kg	1.6

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorobiphenyl	69	(45 - 105)
2-Fluorophenol	68	(35 - 105)
Phenol-d5	72	(40 - 100)
2,4,6-Tribromophenol	82	(35 - 125)
Nitrobenzene-d5	70	(35 - 100)
Terphenyl-d14	71	(30 - 125)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

MJW 5/12/11

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: C1E120445 Work Order #...: MJGH11AC-LCS Matrix.....: WATER
LCS Lot-Sample#: C1E160000-214 MJGH11AD-LCSD
Prep Date.....: 05/16/11 Analysis Date..: 05/17/11
Prep Batch #...: 1136214 Analysis Time..: 12:02
Dilution Factor: 1 Initial Wgt/Vol: 1000 mL Final Wgt/Vol..: 1 mL
Analyst ID.....: 045183 Instrument ID..: 71

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Acenaphthene	87	(45 - 110)			SW846 8270D Low Leve
	88	(45 - 110)	1.1	(0-30)	SW846 8270D Low Leve
Pyrene	89	(50 - 130)			SW846 8270D Low Leve
	95	(50 - 130)	6.3	(0-30)	SW846 8270D Low Leve
Acenaphthylene	91	(50 - 105)			SW846 8270D Low Leve
	92	(50 - 105)	1.4	(0-30)	SW846 8270D Low Leve
Anthracene	91	(55 - 110)			SW846 8270D Low Leve
	88	(55 - 110)	3.6	(0-30)	SW846 8270D Low Leve
Benzo(a)anthracene	87	(55 - 110)			SW846 8270D Low Leve
	82	(55 - 110)	5.0	(0-30)	SW846 8270D Low Leve
Benzo(b)fluoranthene	88	(45 - 120)			SW846 8270D Low Leve
	81	(45 - 120)	8.1	(0-30)	SW846 8270D Low Leve
Benzo(k)fluoranthene	93	(45 - 125)			SW846 8270D Low Leve
	80	(45 - 125)	15	(0-30)	SW846 8270D Low Leve
Benzo(ghi)perylene	110	(40 - 125)			SW846 8270D Low Leve
	86	(40 - 125)	24	(0-30)	SW846 8270D Low Leve
Benzo(a)pyrene	93	(55 - 110)			SW846 8270D Low Leve
	84	(55 - 110)	11	(0-30)	SW846 8270D Low Leve
Chrysene	95	(55 - 110)			SW846 8270D Low Leve
	83	(55 - 110)	14	(0-30)	SW846 8270D Low Leve
Dibenzo(a,h)anthracene	108	(40 - 125)			SW846 8270D Low Leve
	89	(40 - 125)	19	(0-30)	SW846 8270D Low Leve
Fluoranthene	86	(55 - 115)			SW846 8270D Low Leve
	80	(55 - 115)	7.9	(0-30)	SW846 8270D Low Leve
Fluorene	85	(50 - 110)			SW846 8270D Low Leve
	85	(50 - 110)	0.64	(0-30)	SW846 8270D Low Leve
Indeno(1,2,3-cd)pyrene	109	(45 - 125)			SW846 8270D Low Leve
	90	(45 - 125)	19	(0-30)	SW846 8270D Low Leve
2-Methylnaphthalene	85	(45 - 105)			SW846 8270D Low Leve
	79	(45 - 105)	7.4	(0-30)	SW846 8270D Low Leve
Naphthalene	85	(40 - 100)			SW846 8270D Low Leve
	80	(40 - 100)	5.4	(0-30)	SW846 8270D Low Leve
Phenanthrene	86	(50 - 115)			SW846 8270D Low Leve
	86	(50 - 115)	0.010	(0-30)	SW846 8270D Low Leve
1-Methylnaphthalene	86	(10 - 140)			SW846 8270D Low Leve
	79	(10 - 140)	9.0	(0-30)	SW846 8270D Low Leve

(Continued on next page)

MJW 9/30/11

Field Dup

lab_sample_id	field_sample_id	param_name	final_result	final_qualifier	difference	Average	RPD
C1E120445025	AI4-115(0-2)	Acenaphthylene	25		4	27	15%
C1E120445027	DUP-AI4-1	Acenaphthylene	29				
C1E120445025	AI4-115(0-2)	Anthracene	17		13	23.5	55%
C1E120445027	DUP-AI4-1	Anthracene	30				
C1E120445025	AI4-115(0-2)	Benzo(a)anthracene	96		14	103	14%
C1E120445027	DUP-AI4-1	Benzo(a)anthracene	110				
C1E120445025	AI4-115(0-2)	Benzo(a)pyrene	130		10	135	7%
C1E120445027	DUP-AI4-1	Benzo(a)pyrene	140				
C1E120445025	AI4-115(0-2)	Benzo(b)fluoranthene	190		20	200	10%
C1E120445027	DUP-AI4-1	Benzo(b)fluoranthene	210				
C1E120445025	AI4-115(0-2)	Benzo(ghi)perylene	100		10	105	10%
C1E120445027	DUP-AI4-1	Benzo(ghi)perylene	110				
C1E120445025	AI4-115(0-2)	Chrysene	110		10	115	9%
C1E120445027	DUP-AI4-1	Chrysene	120				
C1E120445025	AI4-115(0-2)	Dibenz(a,h)anthracene	24		0	24	0%
C1E120445027	DUP-AI4-1	Dibenz(a,h)anthracene	24				
C1E120445025	AI4-115(0-2)	Fluoranthene	160		60	190	32%
C1E120445027	DUP-AI4-1	Fluoranthene	220				
C1E120445025	AI4-115(0-2)	Indeno(1,2,3-cd)pyrene	85		5	87.5	6%
C1E120445027	DUP-AI4-1	Indeno(1,2,3-cd)pyrene	90				
C1E120445025	AI4-115(0-2)	Naphthalene	4.9	J	1.6	5.7	28%
C1E120445027	DUP-AI4-1	Naphthalene	6.5	J			
C1E120445025	AI4-115(0-2)	Phenanthrene	50		60	80	75%
C1E120445027	DUP-AI4-1	Phenanthrene	110				
C1E120445025	AI4-115(0-2)	Pyrene	130		40	150	27%
C1E120445027	DUP-AI4-1	Pyrene	170				

MJW
9/30/11

YES NO N/A

E - The concentration of this analyte exceeds the calibration range of the instrument.

A - Indicates a Tentatively Identified Compound (TIC) is a suspected adol-condensation product.

X,Y,Z- Laboratory defined flags. The data reviewer must change these qualifiers during validation so that the data user may understand their impact on the data.

I. PACKAGE COMPLETENESS AND DELIVERABLES

SDG
CASE NUMBER: C1E130427 LAB: Test America

SITE NAME: ft. Totten
Mike Washburn 9/

1.0 Data Completeness and Deliverables

1.1 Has all data been submitted in CLP deliverable format? ☑ ___ ___

ACTION: If not, note the effect on review of the data in the data assessment narrative.

2.0 Cover Letter, SDG Narrative

2.1 Is a laboratory narrative or cover letter present? ☑ ___ ___

2.2 Are case number and SDG number(s) contained in the narrative or cover letter? ☑ ___ ___

YES NO N/A

II. SEMIVOLATILE ANALYSES

1.0 Traffic Reports and Laboratory Narrative

1.1 Are the Traffic Report Forms present for all samples? ☑ ___ ___

ACTION: If no, contact lab for replacement of missing or illegible copies.

1.2 Do the Traffic Reports or Lab Narrative indicate any problems with sample receipt, condition of samples, analytical problems or special notations affecting the quality of the data? ___ ☑ ___

ACTION: If any sample analyzed as a soil, other than TCLP, contains 50%-90% water, all data should be flagged as estimated ("J"). If a soil sample, other than TCLP, contains more than 90% water, all non-detects data are qualified as unusable (R), and detects are flagged "J".

ACTION: If samples were not iced, or if the ice was melted upon arrival at the laboratory and the cooler temperature was elevated (10°C), flag all positive results "J" and all non-detects "UJ".

2.0 Holding Times

2.1 Have any semivolatile technical holding times, determined from date of collection to date of extraction, been exceeded? ___ ☑ ___

Continuous extraction of water samples for semivolatile analysis must be started within **7** days of the date of collection. Soil/sediment samples must be extracted within **14** days of collection. Extracts must be analyzed within

YES NO N/A

40 days of the date of extraction.

Table of Holding Time Violations

Sample ID	Sample Matrix	Date Sampled	Date Lab Received (See Traffic Report)	Date Extracted	Date Analyzed

ACTION: If technical holding times are exceeded, flag all positive results as estimated ("J") and sample quantitation limits as estimated ("UJ"), and document in the narrative that holding times were exceeded.

If analyses were done more than 14 days beyond holding time, either on the first analysis or upon re analysis, the reviewer must use professional judgement to determine the reliability of the data and the effects of additional storage on the sample results. At a minimum, all results should be qualified "J", but the reviewer may determine that non-detect data are unusable ("R"). If holding times are exceeded by more than 28 days, all non-detect data are unusable (R).

	YES	NO	N/A
3.0 Surrogate Recovery (Form II/Equivalent)			
3.1 Have the semi volatile surrogate recoveries been listed on CLP Surrogate Recovery forms (Form II) for each of the following matrices:			
a. Low Water	[ ]	___	✓
b. Low/Med Soil	[✓]	___	___
3.2 If so, are <u>all the samples listed</u> on the appropriate Surrogate Recovery Summary forms for each matrix:			
a. Low Water	[ ]	___	✓
b. Low/Med Soil	[✓]	___	___
ACTION: If CLP deliverables are unavailable, document the effect(s) in data assessments. In some cases the lab may have to be contacted to obtain the data necessary to complete the validation.			
3.3 Were outliers marked correctly with an asterisk?	[ ]	___	✓
ACTION: Circle all outliers in red.			
3.4 Were two or more base neutral <u>OR</u> acid surrogate recoveries out of specification for any sample or method blank (Reviewer should use lab in house recovery limits. Use surrogate recovery limits from USEPA National Functional Guidlines January 2005 page 130, if in house limits are not available. See Method 8000B-43 or 80000C-24).	[ ]	___	✓
Note: Examine lab in house limits for reasonableness.			
If yes, were samples re-analyzed?	[ ]	___	✓

	YES	NO	N/A
Were method blanks re-analyzed?	[ ]	___	✓

ACTION: If all surrogate recoveries are > 10% but two within the base-neutral or acid fraction do not meet method specifications, for the affected fraction only (i.e. either base-neutral or acid compounds):

1. Flag all positive results as estimated ("J").

2. Flag all non-detects as estimated detection limits ("UJ") when recoveries are less than the lower acceptance limit.

3. If recoveries are greater than the upper acceptance limit, do not qualify non-detects.

If any base-neutral or acid surrogate has a recovery of < 10%:

1. Positive results for the fraction with < 10% surrogate recovery are qualified with "J".

2. Non-detects for that fraction should be qualified as unusable (R) .

NOTE: Professional judgement should be used to qualify data that have method blank surrogate recoveries out of specification in both original and reanalyses. Check the internal standard areas.

3.5 Are there any transcription/calculation errors between raw data and Form II?	___	[✓]	___

ACTION: If large errors exist, call lab for explanation/resubmittal, make any necessary corrections and document

YES NO N/A

effect in data assessments.

4.0 Matrix Spikes (Form III/Equivalent)

4.1 Have the semivolatile Matrix Spike and Matrix Spike Duplicate/or duplicate unspiked Sample recoveries been listed on the Recovery Form (Form III)? [✓] ___ ___

NOTE: Method 3500B/page 4 states the spiking compounds:

Base/neutrals	Acids
1,2,4-Trichlorobenzene	Pentachlorophenol
Acenaphthene	Phenol
2,4-Dinitrotoluene	2-Chlorophenol
Pyrene	4-Chloro-3-methylphenol
N-Nitroso-di-n-propylamine	4-Nitrophenol
1,4-Dichlorobenzene	

Note: Some projects may require the spiking of specific compounds of interest.

Note: See Method 8270D-sec 8.4.2 for deciding on whether to prepare and analyze duplicate samples or a martix spike/matrix spike duplicate. If samples are expected to contain target analytes, then laboratory may use one matrix spike and a duplicate analysis of an unspiked field sample. If samples are not expected to contain target analytes, laboratory should use a matrix spike and matrix spike duplicate pair.

4.2 Were matrix spikes analyzed at the required frequency for each of the following matrices:

a. Low Water [ ] ___ [✓]

b. Low Solid [✓] ___ ___

c. Med Solid [ ] ___ [✓]

YES NO N/A

ACTION: If any matrix spike data are missing, take the action specified in 3.2 above. It may be necessary to contact the lab to obtain the required data.

NOTE: If the data has not been reported on CLP equivalent form, then the laboratory must provide the information necessary to evaluate the spike recoveries in the MS and MSD. The required data which should have been provided by the lab include the analytes and concentrations used for spiking, background concentrations of the spiked analytes (i.e., concentrations in unspiked sample), methods and equations used to calculate the QC acceptance criteria for the spiked analytes, percent recovery data for all spiked analytes.

The data reviewer must verify that all reported equations and percent recoveries are correct before proceeding to the next section.

4.3 Were matrix spikes performed at concentration equal to 100ug/L for acid compounds, and 200ug/l for base compounds (Method 3500B-4), or those specified in project plan. [ ] ✓ ___

4.4 How many semivolatile spike recoveries are outside Laboratory in house MS/MSD recovery limits (use recovery limits values in Method 8270D-43&44 Table 6 if in house values not available).

Water	Solids
____ out of ____	____ out of ____

Spiked compounds diluted out of Sample

YES NO N/A

4.5 How many RPD's for matrix spike and matrix spike duplicate recoveries are outside QC limits?

Spiked compounds diluted out of sample

Water ____ out of ____

Solids ____ out of ____

ACTION: Circle all outliers with red pencil.

ACTION: No action is taken on MS/MSD data alone. However, using informed professional judgement, the data reviewer may use the matrix spike and matrix spike duplicate results in conjunction with other QC criteria to determine the need for some qualification of the data.

4.6 Was a Laboratory Control Sample (LCS) analyzed with each analytical batch? [✓] ___ ___

NOTE: When the results of the matrix spike analysis indicate a potential problem due to the sample matrix itself, the LCS results are used to verify that the laboratory can perform the analysis in a clean matrix.

5.0 Blanks (Form IV/Equivalent)

5.1 Is the Method Blank Summary (Form IV) present? [✓] ___ ___

5.2 Frequency of Analysis:

Has a reagent/method blank analysis been reported per 20 samples of similar matrix, or concentration level, and for each extraction batch? [✓] ___ ___

5.3 Has a method blank been analyzed either after

YES NO N/A

the calibration standard or at any other time during the analytical shift for each GC/MS system used ? [✓] ___ ___

ACTION: If any method blank data are missing, call lab for explanation/resubmittal. If not available, use professional judgement to determine if the associated sample data should be qualified.

5.4 Chromatography: review the blank raw data - chromatograms (RICs), quant reports or data system printouts and spectra.

Is the chromatographic performance (baseline stability) for each instrument acceptable for the semivolatiles? [✓] ___ ___

ACTION: Use professional judgement to determine the effect on the data.

6.0 Contamination

NOTE: "Water blanks", "drill blanks" and "distilled water blanks" are validated like any other sample and are not used to qualify the data. Do not confuse them with the other QC blanks discussed below.

6.1 Do any method/instrument/reagent blanks have positive results for target analytes and/or TICs? When applied as described below, the contaminant concentration in these blanks are multiplied by the sample dilution factor and corrected for percent moisture where necessary. ___ [✓] ___

6.2 Do any field/rinse/ blanks have positive results for target analytes and/or TICs (if required, see section 10 below)? ___ [✓] ___

YES NO N/A

ACTION: Prepare a list of the samples associated with each of the contaminated blanks. (Attach a separate sheet.)

NOTE: All field blank results associated to a particular group of samples (may exceed one per case) must be used to qualify data. Blanks may not be qualified because of contamination in another blank. Field Blanks must be qualified for outlying surrogates, poor spectra, instrument performance or calibration QC problems.

ACTION: Follow the directions in the table below to qualify sample results due to contamination. Use the largest value from all the associated blanks. If gross contamination exists, all data in the associated samples should be qualified as unusable (R).

YES NO N/A

Blank Action for Semivolatile Analyses

Blank Type	Blank Result	Sample Result	Action for Samples
Method, Field	Detects	Not detected	No qualification required
	< CRQL *	< CRQL	Report CRQL value with a U
		≥ CRQL	No qualification required
	= CRQL *	< CRQL	Report CRQL value with a U
		≥ CRQL	No qualification required
	> CRQL *	< CRQL	Report CRQL value with a U
		≥ CRQL and < blank contamination	Report concentration of sample with a U
		≥ CRQL and ≥ blank contamination	No qualification required

NOTE: Analytes qualified "U" for blank contamination are still considered as "hits" when qualifying for calibration criteria.

NOTE: If the laboratory did not report TIC analyses, check the project plans to verify whether or not it was required.

6.3 Are there field/rinse/equipment blanks associated with every sample? ☑ ___ ___

ACTION: For low level samples, note in data assessment that there is no associated field/rinse/equipment blank. Exception: samples taken from a drinking water tap do not have associated field blanks.

6.4 Was a instrument blank analyzed after each sample/dilution which contained a target compound

	YES	NO	N/A
that exceeded the initial calibration range.	[ ]	✓	
6.5 Does the instrument blank have positive results for target analytes and/or TICs?		[ ]	✓

Note: Use professional judgement to determine if carryover occurred and qualify analytes accordingly.

7.0 GC/MS Apparatus and Materials

	YES	NO	N/A
7.1 Did the lab use the proper gas chromatographic column for analysis of semivolatiles by Method 8270D? Check raw data, instrument logs or contact the lab to determine what type of column was used. The method requires the use of 30 m x 0.25 mm ID (or 0.32 mm ID), silicone-coated, fused silica, capillary column.	[✓]		

ACTION: If the specified column, or equivalent, was not used, document the effects in the data assessment. Use professional judgement to determine the acceptability of the data.

8.0 GC/MS Instrument Performance Check (Form V/Equivalent)

	YES	NO	N/A
8.1 Are the GC/MS Instrument Performance Check Forms (Form V) present for decafluorotriphenylphosphine (DFTPP)?	[✓]		

NOTE: The performance solution should also contain 4,4-DDT, pentachlorophenol, and benzidine to verify injection port inertness and column performance. The degradation of DDT to DDE and DDD must be less than 20% total and the response of pentachlorophenol and benzidine should be within normal ranges for these compounds (based upon lab experience) and show no peak degradation or tailing before samples are analyzed. (see section 5.5

YES NO N/A

page 8270D-12).

8.2 Are the enhanced bar graph spectrum and mass/charge (m/z) listing for the DFTPP provided for each twelve hour shift? [✓] ___ ___

8.3 Has an instrument performance check solution been analyzed for every twelve hours of sample analysis per instrument? [✓] ___ ___

ACTION: List date, time, instrument ID, and sample analyses for which no associated GC/MS tuning data are available.

DATE	TIME	INSTRUMENT	SAMPLE NUMBERS

ACTION: If lab cannot provide missing data, reject ("R") all data generated outside an acceptable twelve hour calibration interval.

ACTION: If mass assignment is in error, flag all associated sample data as unusable (R).

8.4 Have the ion abundances been normalized to m/z 198? [✓] ___ ___

8.5 Have the ion abundance criteria been met for each instrument used? [✓] ___ ___

ACTION: List all data which do not meet ion abundance criteria (attach a separate sheet).

	YES	NO	N/A
ACTION: If ion abundance criteria are not met, take action specified in section 3.2			
8.6 Are there any transcription/calculation errors between mass lists and Form Vs? (Check at least two values but if errors are found, check more.)	___	✓	___
8.7 Have the appropriate number of significant figures (two) been reported?	✓	___	___
ACTION: If large errors exist, call lab for explanation/resubmittal, make necessary corrections and document effect in data assessments.			
8.8 Are the spectra of the mass calibration compound acceptable?	✓	___	___
ACTION: Use professional judgement to determine whether associated data should be accepted, qualified, or rejected.			
9.0 Target Analytes			
9.1 Are the Organic Analysis Data Sheets (Form I) present with required header information on each page, for each of the following:			
a. Samples and/or fractions as appropriate	✓	___	___
b. Matrix spikes and matrix spike duplicates	✓	___	___
c. Blanks	✓	___	___
9.2 Has any special cleanup, such as GPC, been performed on all soil/sediment sample extracts (see section 7.2, page 8270D-14)?		___	✓

	YES	NO	N/A

ACTION: If data suggests that extract cleanup was not performed, use professional judgement. Make note in the data assessment narrative.

9.3 Are the Reconstructed Ion Chromatograms, mass spectra for the identified compounds, and the data system printouts (Quant Reports) included in the sample package for each of the following?

a. Samples and/or fractions as appropriate	[✓]	___	___
b. Matrix spikes and matrix spike duplicates (Mass spectra not required)	[✓]	___	___
c. Blanks	[✓]	___	___

ACTION: If any data are missing, take action specified in 3.2 above.

9.4 Are the response factors shown in the Quant Report?	[ ]	✓	___
9.5 Is chromatographic performance acceptable with respect to:			
Baseline stability?	[✓]	___	___
Resolution?	[✓]	___	___
Peak shape?	[✓]	___	___
Full-scale graph (attenuation)?	[✓]	___	___
Other:_____	[ ]	___	___

ACTION: Use professional judgement to determine the acceptability of the data.

9.6 Are the lab-generated standard mass spectra of identified semivolatile compounds present for

	YES	NO	N/A
each sample?	[✓]	___	___

ACTION: If any mass spectra are missing, take action specified in 3.2 above. If the lab does not generate their own standard spectra, make a note in the data assessment narrative. If spectra are missing, reject all positive data.

9.7 Is the RRT of each reported compound within 0.06 RRT units of the standard RRT in the continuing calibration?	[✓]	___	___
9.8 Are all ions present in the standard mass spectrum at a relative intensity greater than 10% (of the most abundant ion) also present in the sample mass spectrum?	[✓]	___	___
9.9 Do the relative intensities of the characteristic ions in the sample agree within ± 30% of the corresponding relative intensities in the reference spectrum?	[✓]	___	___

ACTION: Use professional judgement to determine acceptability of data. If it is determined that incorrect identifications were made, all such data should be rejected (R), flagged "N" (Presumptive evidence of the presence of the compound) or changed to not detected (U) at the calculated detection limit. In order to be positively identified, the data must comply with the criteria listed in 9.7, 9.8, and 9.9.

ACTION: When sample carry-over is a possibility, professional judgement should be used to determine if instrument cross-contamination has affected any positive compound identification.

	YES	NO	N/A

10.0 Tentatively Identified Compounds (TIC)

10.1 If Tentatively Identified Compounds were required for this project, are all Form Is, Part B present; and do listed TICs include scan number or retention time, estimated concentration and "JN" qualifier?

NOTE: Review sampling reports to determine if the lab was required to identify non target analytes (refer to section 7.6.2,page 8270D-21).

10.2 Are the mass spectra for the tentatively identified compounds and associated "best match" spectra included in the sample package for each of the following: [ ] ___ ✓

a. Samples and/or fractions as appropriate [ ] ___ ✓

b. Blanks [ ] ___ ✓

ACTION: If any TIC data are missing, take action specified in 3.2 above.

ACTION: Add "JN" qualifier only to analytes identified by CAS #.

10.3 Are any target compounds from one fraction listed as TIC compounds in another (e.g., an acid compound listed as a base neutral TIC)? ___ [ ] ✓

ACTION: i. Flag with "R" any target compound listed as a TIC.

ii. Make sure all rejected compounds are properly reported in the other fraction.

10.4 Are all ions present in the reference mass spectrum with a relative intensity greater than 10% (of the most abundant ion) also present in the

	YES	NO	N/A
sample mass spectrum?	[ ]	___	✓
10.5 Do TIC and "best match" standard relative ion intensities agree within ± 20%?	[ ]	___	✓

ACTION: Use professional judgement to determine acceptability of TIC identifications. If it is determined that an incorrect identification was made, change the identification to "unknown" or to some less specific identification (example: "C3 substituted benzene") as appropriate and remove "JN". Also, when a compound is not found in any blank, but is a suspected artifact of a common laboratory contaminant, the result should be qualified as unusable, "R."

11.0 Compound Quantitation and Reported Detection Limits

11.1 Are there any transcription/calculation errors in Form I results? Check at least two positive values. Verify that the correct internal standard, quantitation ion, and RRF were used to calculate Form I result. Were any errors found?	___	[✓]	___
11.2 Are the method detection limits adjusted to reflect sample dilutions and, for soils, sample moisture?	[✓]	___	___

NOTE: Structural isomers with similar mass spectra, but insufficient GC resolution (i.e. percent valley between the two peaks > 25%) should be reported as isomeric pairs. The reviewer should check the raw data to ensure that all such isomers were included in the quantitation (i.e., add the areas of the two coeluting peaks to calculate the total concentration).

YES NO N/A

ACTION: If errors are large, call lab for explanation/resubmittal, make any necessary corrections and document effect in data assessments.

ACTION: When a sample is analyzed at more than one dilution, the lowest detection limits are used (unless a QC exceedance dictates the use of the higher detection limit from the diluted sample data). Replace concentrations that exceed the calibration range in the original analysis by crossing out the "E" and it's associated value on the original Form I (if present) and substituting the data from the analysis of the diluted sample. Specify which Form I is to be used, then draw a red " X" across the entire page of all Form I's that should not be used, including any in the summary package.

12.0 Standards Data (GC/MS)

12.1 Are the Reconstructed Ion Chromatograms, and data system printouts (Quant, Reports) present for initial and continuing calibration? ☑ ___ ___

ACTION: If any calibration standard data are missing, take action specified in 3.2 above.

13.0 GC/MS Initial Calibration (Form VI/Equivalent)

13.1 Is the Initial Calibration Form (Form VI/ Equivalent) present and complete for the semivolatile fraction? ☑ ___ ___

ACTION: If any calibration forms or standard row data are missing, take action specified in 3.2 above.

13.2 Are all base neutral or acid RRFs > 0.050? ☑ ___ ___

YES NO N/A

Check the **average RRFs** of the four System Performance Check Compounds (SPCCs): N-nitroso-di-n-propylamine, hexachlorocyclopentadiene, 2,4-dinitrophenol, and 4-nitrophenol. These compounds must have **average RRFs** greater than or equal to 0.05 before running samples and should not show any peak tailing.

ACTION: Circle all outliers in red.

ACTION: For any target analyte with **average RRF <0.05**

1. "R" all non-detects;

2. "J" all positive results.

13.3 Are response factors for base neutral or acid target analytes stable over the concentration range of the calibration (% Relative standard deviation [%RSD] < 15.0%)? ☑ ___ ___

NOTE: The % RSD for each individual Calibration Check Compound (CCC, Method 8270D-40 see Table 4) must be less than 30% before analysis can begin. If grater 30%, the lab must clean and recalibrate the instrument.

CALIBRATION CHECK COMPOUNDS

Base/Neutral Fraction	Acid Fraction
Acenaphthene	4-Chloro-3-methylphenol
1,4-Dichlorobenzene	2,4-Dichlorophenol
Hexachlorobutadiene	2-Nitrophenol
Diphenylamine	Phenol
Di-n-octyl phthalate	Pentachlorophenol
Fluoranthene	2,4,6-Trichlorophenol

YES NO N/A

Benzo(a)pyrene

ACTION: If the %RSD for any CCC >30% and no corrective action taken, then "J" qualify all positive hits and "UJ" qualify all non-detects.

ACTION: Circle all outliers in red.

ACTION: If the % RSD is ≥ 15.0%, qualify positive results for that analyte "J" and non-detects using professional judgement. When RSD > 90%, flag all non- detect results for that analyte "R," unusable. Alternatively, the lab should calculate first or second order regression fit of the calibration curve and select the fit which introduces the least amount of error.

NOTE: Analytes previously qualified "U" due to blank contamination are still considered as "hits" when qualifying for calibration criteria.

13.4 Did the laboratory calculate the calibration curve by the least squares regression fit? ___ [✓] ___

13.5 Are there any transcription/calculation errors in the reporting of average response factors (RRF) or % RSD? (Check at least two values but if errors are found, check more.) ___ [✓] ___

ACTION: Circle Errors in red.

ACTION: If errors are large, call lab for explanation/resubmittal, make any necessary corrections and note errors in data assessments.

13.5 Do the target compounds for this SDG include Pesticides? [ ] ✓ ___

YES NO N/A

13.6 If the pesticide compounds include DDT, was the percent breakdown of DDT to DDD and DDE greater than 20%? ___ [✓] ___

ACTION: If DDT percent breakdown exceeds 20%:

i. Qualify all positive results for DDT with "J". If DDT was not detected, but DDD and DDE results are positive, qualify the quantitation limit for DDT as unusable, "R".

ii. Qualify all positive results for DDD and DDE as presumptively present at an approximate concentration "JN".

14.0 GC/MS Calibration Verification (Form VII/Equivalent)

14.1 Are the Calibration Verification Forms (Form VII) present and complete for all compounds of interest? [✓] ___ ___

14.2 Has a calibration verification standard been analyzed for every twelve hours of sample analysis per instrument? [✓] ___ ___

ACTION: List below all sample analyses that were not within twelve hours of a calibration verification analysis for each instrument used.

_____

_____

_____

ACTION: If any forms are missing or no calibration verification standard has been analyzed within twelve hours of every sample analysis,

	YES	NO	N/A
call lab for explanation/resubmittal. If continuing calibration data are not available, flag all associated sample data as unusable ("R").			
14.3 Do any of the SPCCs have an RRF <0.05?	___	[✓]	___
If YES, make a note in data assessment if the lab did not take corrective action specified in section 7.4.4, page 8270D-18.	[ ]	___	✓
14.4 Do any of the CCCs have a %D between the initial and continuing RRF which exceeds 20.0%?			
ACTION: If yes, make a note in data assessment.			
14.5 Do any semivolatile compounds have a % Difference (% D) between the initial and continuing RRF which exceeds 20.0%?	___	[✓]	___
ACTION: Circle all outliers in red.			
ACTION: Qualify both positive results and non-detects for the outlier compound(s) as estimated (J). When %D is above 90%, qualify all non-detects for that analyte as "R", unusable.			
14.6 Do any semivolatile compounds have a RRF < 0.05?	___	[✓]	___
ACTION: Circle all outliers in red.			
ACTION: If RRF < 0.05, qualify as unusable ("R") associated non-detects and "J" associated positive values.			
14.7 Are there any transcription/calculation errors in the reporting of average response factors (RRF) or percent difference (%D) between initial and continuing RRFs? (Check at least two values but if errors are found, check more).	___	[✓]	___

YES NO N/A

ACTION: Circle errors in red.

ACTION: If errors are large, call lab for explanation/resubmittal, make any necessary corrections and document effect(s) in the data assessments.

15.0 Internal Standards (Form VIII)

15.1 Are the internal standard areas (Form VIII) of every sample and blank within the upper and lower limits (-50% to + 100%) for each continuing calibration? ☑ ___ ___

ACTION: List each outlying internal standard below.

Sample ID	IS #	Area	LowerLimit	Upper Limit

(Attach additional sheets if necessary.)

Note: Check Table 5, 8270D-41 for associated analytes.

ACTION: i. If the internal standard area count is outside the upper or lower limit, flag with "J" all positive results and non-detects (U values) quantitated with this internal standard.

ii. Non-detects associated with IS > 100% should not be qualified.

YES NO N/A

iii. If the IS area is below the lower limit (<50%), qualify all associated non-detects (U-values) "J". If extremely low area counts are reported (<25%) or if performance exhibits a major abrupt drop off, flag all associated non-detects as unusable (R).

15.2 Are the retention times of all internal standards within 30 seconds of the associated calibration standard? [✓] ___ ___

ACTION: Professional judgement should be used to qualify data if the retention times differ by more than 30 seconds.

16.0 Laboratory Control Samples (LCS)

16.1 Were any LCS samples run in order to verify analytes which failed criteria for spike recovery? [✓] ___ ___

16.2 Did the lab spike LCS sample spiked with the same analytes and the same concentrations as the matrix spike? [ ] [✓] ___

16.3 Were the mean and standard deviation of all analytes within the QC acceptance ranges as shown in Table 6, 8270D-43? [✓] ___ ___

ACTION: If the recovery of any analyte falls out of the designated range, the analytical results for that compound is suspect and should be qualified "J" in the unspiked samples.

17.0 Field Duplicates

17.1 Were any field duplicates submitted for semivolatile analysis? [✓] ___ ___

YES NO N/A

ACTION: Compare the reported results for field duplicates and calculate the relative percent difference.

ACTION: Any gross variation between field duplicate results must be addressed in the reviewer narrative. However, if large differences exist, identification of field duplicates should be confirmed by contacting the sampler.

Phenanthrene - RPD = 38% (0-2)

Flouranthene - RPD = 40% (6-24)

Antracene - RPD = 49% (6-24)

phenanthrene - RPD = 94% (6-24)

Pyrene - RPD = 42% (6-24)

Addition al values are on attached calc sheet.

SW846 8270D Low Level SURROGATE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Watermark Environmental

Lab Code: TALPIT SDG No:

Lot #: C1E130427

Extraction: XXA4FI#D4

	CLIENT ID.	SRG01	SRG02	SRG03	SRG04	SRG05	SRG06	TOT OUT
01	AI2-108(0-2)	79	68	79	79	74	86	00
02	AI2-108(6-24)	76	59	68	71	71	86	00
03	DUP-AI2-1(0-2)	88	75	87	86	84	104	00
04	DUP-AI2-2(6-24)	83	73	83	82	80	93	00
05	AI2-110(0-2)	0 D	0 D	0 D	0 D	0 D	0 D	06
06	AI2-110(6-24)	78	78	87	88	74	89	00
07	AI4-102(0-2)	77	72	78	84	78	76	00
08	AI4-102(6-24)	84	77	86	86	80	94	00
09	AI4-103(0-2)	73	67	75	79	72	75	00
10	AI4-103(6-24)	85	77	84	85	75	95	00
11	AI4-104(0-2)	72	74	82	80	68	83	00
12	AI4-104(6-24)	77	81	84	81	76	90	00
13	AI4-107(0-2)	75	69	74	89	69	87	00
14	AI4-107(6-24)	73	68	77	88	72	85	00
15	AI4-108(0-2)	79	70	79	91	72	85	00
16	AI4-108(6-24)	79	72	80	88	72	63	00
17	AI4-108(6-24) RE-1	0 D	0 D	0 D	0 D	0 D	0 D	06
18	AI4-109(0-2)	73	61	66	74	62	74	00
19	AI4-109(6-24)	72	71	75	78	71	79	00
20	AI4-110(0-2)	83	72	77	83	74	81	00
21	AI4-110(6-24)	74	71	73	76	74	75	00
22	AI4-111(0-2)	72	68	74	85	68	47	00
23	AI4-111(0-2) RE-1	0 D	0 D	0 D	0 D	0 D	0 D	06
24	AI4-111(6-24)	63	56	60	80	60	58	00
25	AI4-113(0-2)	60	54	58	78	59	54	00
26	AI4-113(6-24)	65	56	62	75	61	55	00
27	AI4-114(0-2)	69	60	65	76	59	77	00

\# Column to be used to flag recovery values
* Values outside of required QC Limits
D System monitoring Compound diluted out

FORM II

MJW 9/19/11

Watermark Environmental

Client Sample ID: AI2-108(6-24)

GC/MS Semivolatiles

Lot-Sample #...:	C1E130427-002	Work Order #...:	MJDKF1AF	Matrix.....:	SOLID
Date Sampled...:	05/12/11	Date Received..:	05/13/11	MS Run #.....:	1138002
Prep Date.....:	05/18/11	Analysis Date..:	05/18/11		
Prep Batch #...:	1138010	Analysis Time..:	18:46		
Dilution Factor:	1	Initial Wgt/Vol:	15 g	Final Wgt/Vol..:	0.5 mL
% Moisture.....:	13	Analyst ID.....:	003200	Instrument ID..:	731
		Method.....:	SW846 8270D Low L		

PARAMETER	RESULT	LOQ	UNITS	DL
2-Methylnaphthalene	1.6 J	7.7	ug/kg	0.69
1-Methylnaphthalene	1.8 J	7.7	ug/kg	0.82
Dibenzo(a,h)anthracene	11	7.7	ug/kg	0.85
Fluoranthene	87	7.7	ug/kg	0.82
Acenaphthene	6.4 J	7.7	ug/kg	0.74
Acenaphthylene	3.6 J	7.7	ug/kg	0.88
Anthracene	8.9	7.7	ug/kg	0.75
Benzo(a)anthracene	49	7.7	ug/kg	0.96
Benzo(b)fluoranthene	77	7.7	ug/kg	1.2
Benzo(k)fluoranthene	1.9 U	7.7	ug/kg	1.5
Benzo(ghi)perylene	36	7.7	ug/kg	0.76
Benzo(a)pyrene	49	7.7	ug/kg	0.77
Chrysene	52	7.7	ug/kg	0.91
Fluorene	3.7 J	7.7	ug/kg	1.0
Indeno(1,2,3-cd)pyrene	32	7.7	ug/kg	0.79
Naphthalene	4.0 J	7.7	ug/kg	0.66
Phenanthrene	58	7.7	ug/kg	1.2
Pyrene	90	7.7	ug/kg	0.77

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorobiphenyl	76	(45 - 105)
2-Fluorophenol	59	(35 - 105)
Phenol-d5	68	(40 - 100)
2,4,6-Tribromophenol	71	(35 - 125)
Nitrobenzene-d5	71	(35 - 100)
Terphenyl-d14	86	(30 - 125)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

MJW 9/19/11

Watermark Environmental

Client Sample ID: AI2-110(6-24)

GC/MS Semivolatiles

Lot-Sample #...:	C1E130427-006	Work Order #...:	MJDKN1AF	Matrix.....:	SOLID
Date Sampled...:	05/12/11	Date Received..:	05/13/11	MS Run #.....:	1138002
Prep Date.....:	05/18/11	Analysis Date..:	05/18/11		
Prep Batch #...:	1138010	Analysis Time..:	21:04		
Dilution Factor:	0.99	Initial Wgt/Vol:	15.2 g	Final Wgt/Vol..:	0.5 mL
% Moisture.....:	19	Analyst ID.....:	003200	Instrument ID..:	731
		Method.....:	SW846 8270D Low L		

PARAMETER	RESULT	LOQ	UNITS	DL
2-Methylnaphthalene	2.2 J	8.2	ug/kg	0.73
1-Methylnaphthalene	2.0 J	8.2	ug/kg	0.87
Dibenzo(a,h)anthracene	3.6 J	8.2	ug/kg	0.90
Fluoranthene	77	8.2	ug/kg	0.87
Acenaphthene	7.6 J	8.2	ug/kg	0.78
Acenaphthylene	2.5 J	8.2	ug/kg	0.93
Anthracene	15	8.2	ug/kg	0.79
Benzo(a)anthracene	39	8.2	ug/kg	1.0
Benzo(b)fluoranthene	54	8.2	ug/kg	1.3
Benzo(k)fluoranthene	2.0 U	8.2	ug/kg	1.6
Benzo(ghi)perylene	28	8.2	ug/kg	0.81
Benzo(a)pyrene	39	8.2	ug/kg	0.81
Chrysene	38	8.2	ug/kg	0.97
Fluorene	5.4 J	8.2	ug/kg	1.1
Indeno(1,2,3-cd)pyrene	23	8.2	ug/kg	0.84
Naphthalene	2.1 J	8.2	ug/kg	0.70
Phenanthrene	65	8.2	ug/kg	1.3
Pyrene	75	8.2	ug/kg	0.82

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorobiphenyl	78	(45 - 105)
2-Fluorophenol	78	(35 - 105)
Phenol-d5	87	(40 - 100)
2,4,6-Tribromophenol	88	(35 - 125)
Nitrobenzene-d5	74	(35 - 100)
Terphenyl-d14	89	(30 - 125)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

MJW 9/19/11

Watermark Environmental

Client Sample ID: AI4-104(0-2)

GC/MS Semivolatiles

Lot-Sample #...:	C1E130427-013	Work Order #...:	MJDLT1AA	Matrix.....:	SOLID
Date Sampled...:	05/12/11	Date Received..:	05/13/11	MS Run #.....:	1138002
Prep Date.....:	05/18/11	Analysis Date..:	05/18/11		
Prep Batch #...:	1138010	Analysis Time..:	23:00		
Dilution Factor:	1	Initial Wgt/Vol:	15 g	Final Wgt/Vol..:	0.5 mL
% Moisture.....:	15	Analyst ID.....:	003200	Instrument ID..:	731
		Method.....:	SW846 8270D Low L		

PARAMETER	RESULT	LOQ	UNITS	DL
2-Methylnaphthalene	36	7.9	ug/kg	0.70
1-Methylnaphthalene	29	7.9	ug/kg	0.83
Phenanthrene	75	7.9	ug/kg	1.2
Pyrene	200	7.9	ug/kg	0.79
Acenaphthene	4.4 J	7.9	ug/kg	0.75
Acenaphthylene	35	7.9	ug/kg	0.90
Anthracene	21	7.9	ug/kg	0.77
Benzo(a)anthracene	99	7.9	ug/kg	0.98
Benzo(b)fluoranthene	200	7.9	ug/kg	1.2
Benzo(k)fluoranthene	2.0 U	7.9	ug/kg	1.6
Benzo(ghi)perylene	120	7.9	ug/kg	0.78
Benzo(a)pyrene	130	7.9	ug/kg	0.78
Chrysene	120	7.9	ug/kg	0.93
Dibenzo(a,h)anthracene	22	7.9	ug/kg	0.87
Fluoranthene	180	7.9	ug/kg	0.84
Fluorene	5.4 J	7.9	ug/kg	1.0
Indeno(1,2,3-cd)pyrene	99	7.9	ug/kg	0.81
Naphthalene	25	7.9	ug/kg	0.67

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorobiphenyl	72	(45 - 105)
2-Fluorophenol	74	(35 - 105)
Phenol-d5	82	(40 - 100)
2,4,6-Tribromophenol	80	(35 - 125)
Nitrobenzene-d5	68	(35 - 100)
Terphenyl-d14	83	(30 - 125)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

MJW 9/19/11

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	CONCENTRATIONS FINAL (ug/kg)
146 Benzo(a)pyrene	252	11.324	11.364	(0.994)	518637	6.86597	114.43
149 Indeno(1,2,3-cd)pyrene	276	12.750	12.811	(1.120)	443363	5.04844	84.141
150 Dibenz(a,h)anthracene	278	12.755	12.822	(1.120)	82413	1.10587	18.431
151 Benzo(g,h,i)perylene	276	13.167	13.233	(1.156)	444831	6.07549	101.26
$ 154 Nitrobenzene-d5	82	4.945	4.953	(0.900)	699901	27.3640	456.07
$ 155 2-Fluorobiphenyl	172	6.318	6.337	(0.924)	1552480	28.9485	482.47(M)
$ 156 Terphenyl-d14	244	9.187	9.216	(0.916)	1839086	33.3985	556.64
$ 157 Phenol-d5	99	4.261	4.264	(0.941)	1131562	49.0333 ✓	817.22 ✓
$ 158 2-Fluorophenol	112	3.508	3.505	(0.775)	770344	44.2295	737.16
$ 159 2,4,6-Tribromophenol	330	7.440	7.464	(0.933)	322794	47.8852	798.08
$ 186 2-Chlorophenol-d4	132	4.352	4.360	(0.961)	1023856	46.3416	772.36
$ 187 1,2-Dichlorobenzene-d4	152	4.646	4.654	(1.026)	446886	27.1347	452.24

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

$$[\text{Phenol-d5}] = \frac{1131562\ (8)}{127401\ (1.44912)} = 49.033\ \text{ng} = 817.22$$

MJ~ 9/19/11

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	CONCENTRATIONS FINAL (ug/kg)
146 Benzo(a)pyrene	252	11.328	11.364	(0.994)	141615	1.91364	31.474
149 Indeno(1,2,3-cd)pyrene	276	12.760	12.811	(1.120)	99114	1.15198	18.947
150 Dibenz(a,h)anthracene	278	12.770	12.822	(1.121)	12913	0.17687	2.9090
151 Benzo(g,h,i)perylene	276	13.171	13.233	(1.156)	101058	1.40887	23.172 (M)
$ 154 Nitrobenzene-d5	82	4.944	4.953	(0.900)	757448	29.7079	488.62
$ 155 2-Fluorobiphenyl	172	6.323	6.337	(0.924)	1758602	31.2561	514.08
$ 156 Terphenyl-d14	244	9.191	9.216	(0.916)	2006588	35.7871 ✓	588.60 ✓
$ 157 Phenol-d5	99	4.266	4.264	(0.942)	1260562	52.4278	862.30
$ 158 2-Fluorophenol	112	3.507	3.505	(0.775)	848085	46.7359	768.68
$ 159 2,4,6-Tribromophenol	330	7.444	7.464	(0.933)	353945	52.6232	865.51
$ 186 2-Chlorophenol-d4	132	4.357	4.360	(0.962)	1119081	48.6159	799.60
$ 187 1,2-Dichlorobenzene-d4	152	4.645	4.654	(1.026)	499038	29.0834	478.35

QC Flag Legend

M - Compound response manually integrated.

$$[\text{Terphenyl-d14}] = \frac{2006588\ (8)}{541453\ (0.828414)} = 35.787088\ \text{ng} = 588.603\ \frac{\text{ng}}{\text{L}}$$

mlw 9/19/11

Data File: \\PITSVR06\D\chem\731.i\V051611D.b\V0516DF1.D

Date : 16-MAY-2011 11:55

Client ID: DFTPP050

Instrument: 731.i

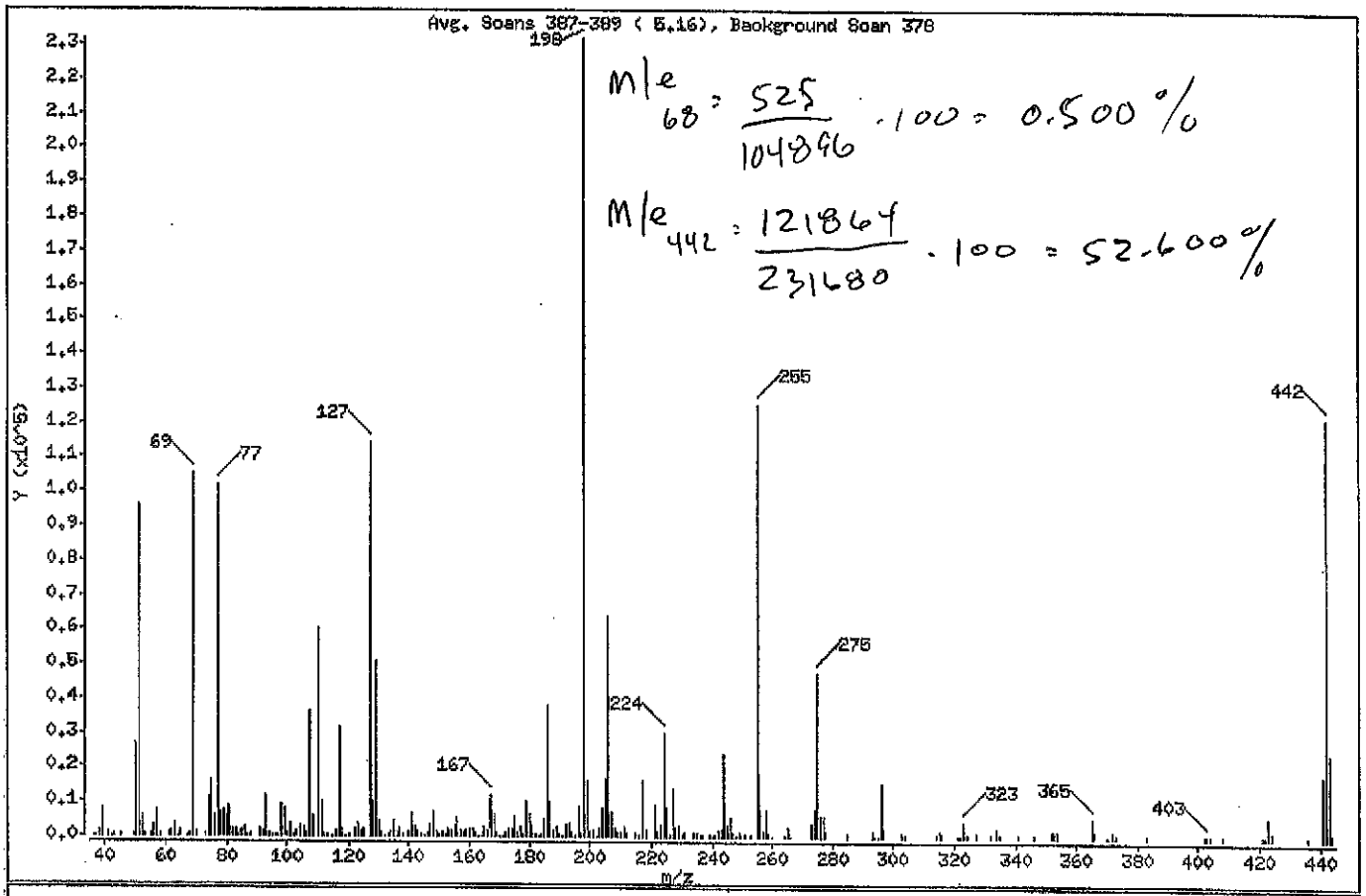
Sample Info: DFTPP 11465

Operator: 003200

Column phase: db-5ms

Column diameter: 0.25

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	30.00 - 60.00% of mass 198	41.48
68	Less than 2.00% of mass 69	0.23 (0.50) ✓
69	Mass 69 relative abundance	45.28
70	Less than 2.00% of mass 69	0.48 (1.06)
127	40.00 - 60.00% of mass 198	49.19
197	Less than 1.00% of mass 198	0.62
199	5.00 - 9.00% of mass 198	6.86
275	10.00 - 30.00% of mass 198	20.38
365	Greater than 1.00% of mass 198	2.32
441	Present, but less than mass 443	7.84
442	Greater than 40.00% of mass 198	52.60 ✓
443	17.00 - 23.00% of mass 442	10.60 (20.15)

MJW
9/19/11

Data File: \\FITSVR06\D\chem\731.i\V051611D.b\V0516DF1.D

Date : 16-MAY-2011 11:55

Client ID: DFTPP050

Instrument: 731.i

Sample Info: DFTPP 11465

Operator: 003200

Column phase: db-5ms

Column diameter: 0.25

Data File: V0516DF1.D

Spectrum: Avg. Scans 387-389 (5.16), Background Scan 378

Location of Maximum: 198.00

Number of points: 249

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	181	113.00	385	180.00	6464	251.00	746
37.00	169	115.00	184	181.00	3191	253.00	657
38.00	1746	116.00	1568	182.00	367	255.00	124920
39.00	8227	117.00	31360	183.00	223	256.00	18128
41.00	1009	118.00	2264	184.00	287	257.00	1492
42.00	244	119.00	202	185.00	4947	258.00	7198
43.00	631	120.00	626	186.00	37608	259.00	1254
45.00	580	122.00	2334	187.00	10031	260.00	257
49.00	289	123.00	3937	188.00	1745	264.00	176
50.00	26736	124.00	1620	189.00	2584	265.00	2840
51.00	96112	125.00	2020	190.00	276	266.00	198
52.00	5623	127.00	113968	191.00	264	273.00	3774
53.00	410	128.00	9879	192.00	3447	274.00	8022
55.00	546	129.00	50432	193.00	3603	275.00	47224
56.00	3088	130.00	4272	194.00	922	276.00	6989
57.00	7285	131.00	988	195.00	215	277.00	5941
58.00	372	132.00	219	196.00	8551	278.00	1464
61.00	1260	133.00	458	197.00	1196	295.00	841
62.00	1494	134.00	1076	198.00	231680	293.00	1556
63.00	3638	135.00	4360	199.00	16883	294.00	268
64.00	193	136.00	1232	200.00	1808	295.00	252
65.00	1636	137.00	2331	201.00	1463	296.00	15358
67.00	219	138.00	283	202.00	201	297.00	2158
68.00	525	140.00	893	203.00	1947	303.00	1220
69.00	104896	141.00	6171	204.00	8135	304.00	433
70.00	1110	142.00	2768	205.00	16568	314.00	641
73.00	778	143.00	1357	206.00	63960	315.00	1441
74.00	11250	144.00	278	207.00	6946	316.00	832
75.00	16037	145.00	190	208.00	2182	321.00	168
76.00	5625	146.00	1318	209.00	1086	322.00	173
77.00	101592	147.00	3313	210.00	877	323.00	4520
78.00	6790	148.00	7134	211.00	2710	324.00	700
79.00	7447	149.00	1243	212.00	883	327.00	941
80.00	5726	150.00	533	215.00	1015	332.00	452
81.00	8483	151.00	977	216.00	332	334.00	2128

MJW 6/19/11

Data File: \\PITSVR06\D\chem\731.i\V051611D.b\V0516DF1.D

Date : 16-MAY-2011 11:55

Client ID: DFTPP050

Instrument: 731.i

Sample Info: DFTPP 11465

Operator: 003200

Column phase: db-5ms

Column diameter: 0.25

Data File: V0516DF1.D

Spectrum: Avg. Scans 387-389 (5.16), Background Scan 378

Location of Maximum: 198.00

Number of points: 249

m/z	Y	m/z	Y	m/z	Y	m/z	Y
82.00	1932	152.00	444	217.00	16097	335.00	282
83.00	1988	153.00	2343	218.00	2232	341.00	750
84.00	415	154.00	1395	221.00	9177	346.00	502
85.00	1623	155.00	3146	222.00	1764	352.00	1555
86.00	2759	156.00	5309	223.00	3240	353.00	910
87.00	498	157.00	1828	224.00	30048	354.00	1524
88.00	623	158.00	1188	225.00	9530	365.00	5376
91.00	2208	159.00	1496	226.00	749	366.00	1408
92.00	1642	160.00	1905	227.00	13795	370.00	173
93.00	11677	161.00	2028	228.00	2680	372.00	1520
94.00	847	162.00	942	229.00	3215	373.00	452
95.00	448	163.00	266	230.00	750	383.00	291
96.00	753	164.00	175	231.00	918	402.00	541
97.00	412	165.00	2582	234.00	1223	403.00	793
98.00	8904	166.00	1527	235.00	1054	404.00	361
99.00	8210	167.00	11719	236.00	784	408.00	302
100.00	901	168.00	6314	237.00	769	421.00	538
101.00	3549	169.00	1078	239.00	445	422.00	415
102.00	313	170.00	183	240.00	188	423.00	5994
103.00	1527	171.00	177	241.00	740	424.00	1348
104.00	3344	172.00	1109	242.00	1488	436.00	268
105.00	2408	173.00	2146	243.00	2352	441.00	18168
106.00	1081	174.00	2055	244.00	24128	442.00	121864
107.00	36272	175.00	5878	245.00	3234	443.00	24560
108.00	6018	176.00	1206	246.00	5116	444.00	1797
110.00	60264	177.00	2856	247.00	1231		
111.00	10222	178.00	455	248.00	222		
112.00	1001	179.00	9981	249.00	1041		

MJW 9/19/11

Watermark Environmental

Client Sample ID: AI4-109(0-2)

GC/MS Semivolatiles

Lot-Sample #...:	C1E130427-019	Work Order #...:	MJDL51AA	Matrix.....:	SOLID
Date Sampled...:	05/12/11	Date Received..:	05/13/11	MS Run #.....:	1138002
Prep Date.....:	05/18/11	Analysis Date..:	05/19/11		
Prep Batch #...:	1138010	Analysis Time..:	13:38		
Dilution Factor:	1	Initial Wgt/Vol:	15 g	Final Wgt/Vol..:	0.5 mL
% Moisture.....:	7.9	Analyst ID.....:	003200	Instrument ID..:	731
		Method.....:	SW846 8270D Low L		

PARAMETER	RESULT	LOQ	UNITS	DL
2-Methylnaphthalene	21.0	7.3	ug/kg	0.65
1-Methylnaphthalene	17.1	7.3	ug/kg	0.77
Phenanthrene	140	7.3	ug/kg	1.2
Pyrene	350 ✓	7.3	ug/kg	0.73
Acenaphthene	11	7.3	ug/kg	0.70
Acenaphthylene	43	7.3	ug/kg	0.83
Anthracene	41	7.3	ug/kg	0.71
Benzo(a)anthracene	220	7.3	ug/kg	0.91
Benzo(b)fluoranthene	440	7.3	ug/kg	1.1
Benzo(k)fluoranthene	1.8 U	7.3	ug/kg	1.5
Benzo(ghi)perylene	200	7.3	ug/kg	0.72
Benzo(a)pyrene	270	7.3	ug/kg	0.72
Chrysene	290	7.3	ug/kg	0.86
Dibenzo(a,h)anthracene	57	7.3	ug/kg	0.81
Fluoranthene	380 ✓	7.3	ug/kg	0.77
Fluorene	10 ✓	7.3	ug/kg	0.95
Indeno(1,2,3-cd)pyrene	180	7.3	ug/kg	0.75
Naphthalene	17	7.3	ug/kg	0.62

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorobiphenyl	73	(45 - 105)
2-Fluorophenol	61	(35 - 105)
Phenol-d5	66	(40 - 100)
2,4,6-Tribromophenol	74	(35 - 125)
Nitrobenzene-d5	62	(35 - 100)
Terphenyl-d14	74	(30 - 125)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

MJW
9/19/11

Test America Pittsburgh

Semivolatile REPORT SW-846 Method 8270

Data file : \\pitsvr06\D\chem\731.i\2011\V051911D.b\V0519003.D
Lab Smp Id: MJDL51AA Client Smp ID: AI4-109(0-2)
Inj Date : 19-MAY-2011 13:38
Operator : 003200 Inst ID: 731.i
Smp Info : C1E130427-019 5/18/11 soil(1138010) dod
Misc Info : MJDL51AA,V051911D.b,8270d.m,pah.sub
Comment :
Method : \\pitsvr06\D\chem\731.i\2011\V051911D.b\8270d.m
Meth Date : 08-Sep-2011 13:57 731.i Quant Type: ISTD
Cal Date : 16-MAY-2011 14:49 Cal File: V0516IC8.D
Als bottle: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pah.sub
Target Version: 4.14
Processing Host: PITPC-732

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws)*gpc * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	500.000	Volume of final extract (uL) (1000 low, 2
Vi	2.000	Volume injected (uL)
Ws	15.000	Weight of sample extracted (g)
gpc	1.000	gpc correction factor
Cpnd Variable		Local Compound Variable

[Flourene] = 27628(8)
1.40554(276527)
= 0.56865 ng
= 9.4775 mg/kg
0.921
= 10.29 mg/kg

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	FINAL (ug/kg)
* 1	1,4-Dichlorobenzene-d4	152	4.519	4.520	(1.000)	150183	8.00000	
* 2	Naphthalene-d8	136	5.492	5.492	(1.000)	550075	8.00000	
* 3	Acenaphthene-d10	164	6.833	6.838	(1.000)	276527	8.00000	
* 4	Phenanthrene-d10	188	7.976	7.981	(1.000)	463915	8.00000	
* 5	Chrysene-d12	240	10.038	10.038	(1.000)	478598	8.00000	
* 6	Perylene-d12	264	11.411	11.411	(1.000)	538218	8.00000	
51	Naphthalene	128	5.508	5.508	(1.003)	68781	0.93878	15.646
62	2-Methylnaphthalene	142	6.037	6.042	(1.099)	57285	1.15979	19.330(M)
63	1-Methylnaphthalene	142	6.111	6.117	(1.113)	44353	0.94234	15.706(M)
79	Acenaphthylene	152	6.726	6.731	(0.984)	149472	2.38600	39.766
82	Acenaphthene	153	6.859	6.865	(1.004)	23240	0.58258	9.7097
94	Fluorene	166	7.255	7.260	(1.062)	27620	0.56865 ✓	9.4775 ✓
115	Phenanthrene	178	7.992	8.003	(1.002)	528204	7.62512	127.08
116	Anthracene	178	8.034	8.040	(1.007)	155539	2.28259	38.043
123	Fluoranthene	202	8.911	8.916	(1.117)	1552984	20.7714	346.19
125	Pyrene	202	9.087	9.098	(0.905)	1407488	19.5569 ✓	325.95 ✓
136	Benzo(a)Anthracene	228	10.027	10.027	(0.999)	871878	12.2976	204.96
137	Chrysene	228	10.054	10.054	(1.002)	1082610	15.8702	264.50
141	Benzo(b)fluoranthene	252	10.999	10.994	(0.964)	2374032	24.3831	406.38
142	Benzo(k)fluoranthene	252	Compound Not Detected.					

[Pyrene] = 1407488(8)
1.20299(478598)
= 19.55698 ng
= 325.9497 mg/kg
0.921
= 353.9 mg/kg

TestAmerica Pittsburgh

INITIAL CALIBRATION DATA

Start Cal Date : 16-MAY-2011 12:14
End Cal Date : 16-MAY-2011 14:49
Quant Method : ISTD
Origin : Included
Target Version : 4.14
Integrator : HP RTE
Method file : \\PITSVR06\D\chem\731.i\V051611D.b\8270d.m
Last Edit : 17-May-2011 07:59 731.i

Compound	0.4000000 Level 1 / 60.0000 Level 7	2.0000 Level 2 / 80.0000 Level 8	4.0000 Level 3	10.0000 Level 4	20.0000 Level 5	40.0000 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2	
92 2-Naphthylamine	16861	81449	170200	380652	698065	1157934						
	1662726	2054790					QUAD	-0.04473	1.12848	0.06436	0.99972	
93 Diethylphthalate	1.38284	1.36341	1.40750	1.40342	1.44595	1.49261						
	1.49128	1.48596					AVRG		1.43412		3.61335	
94 Fluorene	✓1.28888	✓1.29432	✓1.34756	✓1.33501	✓1.41109	✓1.49512						
	✓1.54898	✓1.52372					AVRG		✓1.40559		✓7.45755	
95 4-Chlorophenyl-phenylether	0.65887	0.63164	0.66637	0.68646	0.70863	0.73936						
	0.75718	0.75997					AVRG		0.70106		6.85329	
96 4-Nitroaniline	0.34284	0.33668	0.35632	0.38066	0.39082	0.38167						
	0.39150	0.38455					AVRG		0.37063		5.93659	
97 5-Nitro-o-toluidine	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++	+++++					AVRG		0.000e+000		0.000e+000	<-
98 4,6-Dinitro-2-methylphenol	+++++	0.09462	0.12249	0.13186	0.14117	0.14300						
	0.14656	0.15387					AVRG		0.13337		14.90277	

M/W 5/19/11

TestAmerica Pittsburgh

INITIAL CALIBRATION DATA

Start Cal Date : 16-MAY-2011 12:14
End Cal Date : 16-MAY-2011 14:49
Quant Method : ISTD
Origin : Included
Target Version : 4.14
Integrator : HP RTE
Method file : \\PITSVR06\D\chem\731.i\V051611D.b\8270d.m
Last Edit : 17-May-2011 07:59 731.i

Compound	0.4000000 Level 1	2.0000 Level 2	4.0000 Level 3	10.0000 Level 4	20.0000 Level 5	40.0000 Level 6	60.0000 Level 7	80.0000 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
137 Chrysene	✓1.07459	✓1.13534	✓1.15717	✓1.13218	✓1.12437	✓1.13441	✓1.21587	✓1.14823	AVRG		✓1.14027		✓ 3.43747	
138 4,4'-Methylene bis(o-chloroan	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
139 bis(2-ethylhexyl)Phthalate	0.91134	0.80703	0.84603	0.82003	0.84914	0.85704	0.86572	0.87263	AVRG		0.85362		3.76445	
140 Di-n-octylphthalate	1.21594	1.25498	1.31827	1.41057	1.48405	1.43611	1.49935	1.41393	AVRG		1.37915		7.58774	
141 Benzo(b)fluoranthene	1.40578	1.35016	1.39448	1.35235	1.50543	1.44981	1.53952	1.58396	AVRG		1.44769		6.04054	
204 6-Methylchrysene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
142 Benzo(k)fluoranthene	1.28281	1.28610	1.28347	1.41281	1.30601	1.34219	1.39450	1.45760	AVRG		1.34569		5.05370	

MJV 6/19/11

TestAmerica Pittsburgh

Semivolatile REPORT SW-846 Method 8270

Data file : \\PITSVR06\D\chem\731.i\V051611D.b\V0516IC1.D
Lab Smp Id: SSTD0.4 Client Smp ID: SSTD0.4
Inj Date : 16-MAY-2011 12:14
Operator : 003200 Inst ID: 731.i
Smp Info : IC 999
Misc Info : SSTD0.4,V051611D.b,8270d.m,padepi.sub,1,1
Comment :
Method : \\PITSVR06\D\chem\731.i\V051611D.b\8270d.m
Meth Date : 17-May-2011 07:59 731.i Quant Type: ISTD
Cal Date : 16-MAY-2011 12:14 Cal File: V0516IC1.D
Als bottle: 2 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: padepi.sub
Target Version: 4.14

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 1	1,4-Dichlorobenzene-d4	152	4.526	4.526	(1.000)	131371	8.00000	
* 2	Naphthalene-d8	136	5.493	5.493	(1.000)	544729	8.00000	
* 3	Acenaphthene-d10	164	6.834	6.834	(1.000)	348443	8.00000	
* 4	Phenanthrene-d10	188	7.977	7.977	(1.000)	624908	8.00000	
* 5	Chrysene-d12	240	10.039	10.039	(1.000)	675160	8.00000	
* 6	Perylene-d12	264	11.412	11.412	(1.000)	664341	8.00000	
198	1,4-Dioxane	88	1.347	1.347	(0.298)	2125	0.40000	0.40772(M)
10	N-Nitrosodimethylamine	74	1.855	1.855	(0.410)	2982	0.40000	0.38453(M)
9	Pyridine	79	1.946	1.946	(0.430)	5365	0.40000	0.35663(M)
16	Methyl methanesulfonate	80	3.351	3.351	(0.740)	4645	0.40000	0.44292
206	Benzaldehyde	77	4.184	4.184	(0.924)	4663	0.40000	0.36626
21	Aniline	93	4.269	4.269	(0.943)	13889	0.40000	0.43308
22	Phenol	94	4.264	4.264	(0.942)	11825	0.40000	0.41484
23	bis(2-Chloroethyl)ether	93	4.328	4.328	(0.956)	8163	0.40000	0.43202
24	2-Chlorophenol	128	4.360	4.360	(0.963)	11077	0.40000	0.47092
26	1,3-Dichlorobenzene	146	4.483	4.483	(0.991)	12139	0.40000	0.45088
27	1,4-Dichlorobenzene	146	4.537	4.537	(1.002)	12796	0.40000	0.46483
28	1,2-Dichlorobenzene	146	4.654	4.654	(1.028)	11382	0.40000	0.43481
217	Indene	116	4.724	4.724	(1.044)	13886	0.40000	0.36473
29	Benzyl Alcohol	108	4.627	4.627	(1.022)	5603	0.40000	0.38071
30	2-Methylphenol	108	4.718	4.718	(1.042)	8862	0.40000	0.42856
31	2,2'-oxybis(1-Chloropropane)	45	4.740	4.740	(1.047)	11126	0.40000	0.40913
37	Acetophenone	105	4.825	4.825	(1.066)	12785	0.40000	0.41119
32	N-Nitroso-di-n-propylamine	70	4.836	4.836	(1.068)	5691	0.40000	0.39038
192	4-Methylphenol	108	4.836	4.836	(1.068)	8305	0.40000	0.40158
34	Hexachloroethane	117	4.911	4.911	(1.085)	5308	0.40000	0.45900
35	Nitrobenzene	77	4.953	4.953	(0.902)	9544	0.40000	0.39622
36	N-Nitrosopyrrolidine	100	4.804	4.804	(1.061)	3498	0.40000	0.37063
41	Isophorone	82	5.140	5.140	(0.936)	16105	0.40000	0.38481
42	2-Nitrophenol	139	5.199	5.199	(0.947)	4450	0.40000	0.33781
43	2,4-Dimethylphenol	107	5.236	5.236	(0.953)	8619	0.40000	0.36300
44	bis(2-Chloroethoxy)methane	93	5.306	5.306	(0.966)	10991	0.40000	0.43223
48	2,4-Dichlorophenol	162	5.301	5.301	(0.980)	7811	0.40000	0.37861
49	Benzoic Acid	122	5.263	5.263	(0.958)	25318	2.00000	1.8230(M)

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	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
50	1,2,4-Trichlorobenzene	180	5.450	5.450	(0.992)	9731	0.40000	0.38571
51	Naphthalene	128	5.509	5.509	(1.003)	30790	0.40000	0.42437
52	4-Chloroaniline	127	5.546	5.546	(1.010)	11596	0.40000	0.37657
54	2,6-Dichlorophenol	162	5.552	5.552	(1.011)	7442	0.40000	0.36916
56	Hexachlorobutadiene	225	5.610	5.610	(1.021)	6466	0.40000	0.37169
208	Caprolactam	113	5.776	5.776	(1.052)	2151	0.40000	0.34403
59	4-Chloro-3-Methylphenol	107	5.910	5.910	(1.076)	6781	0.40000	0.32674
62	2-Methylnaphthalene	142	6.032	6.032	(1.098)	18705	0.40000	0.38242
63	1-Methylnaphthalene	142	6.107	6.107	(1.112)	18438	0.40000	0.39558
64	Hexachlorocyclopentadiene	237	6.166	6.166	(0.902)	6768	0.40000	0.36283
65	1,2,4,5-Tetrachlorobenzene	216	6.166	6.166	(0.902)	8920	0.40000	0.35038
66	2,4,6-Trichlorophenol	196	6.246	6.246	(0.914)	6240	0.40000	0.36275
67	2,4,5-Trichlorophenol	196	6.273	6.273	(0.918)	6268	0.40000	0.33318
209	1,1'-Biphenyl	154	6.390	6.390	(0.935)	24855	0.40000	0.38644
70	2-Chloronaphthalene	162	6.406	6.406	(0.937)	19222	0.40000	0.37430
73	2-Nitroaniline	65	6.476	6.476	(0.948)	5237	0.40000	0.34819
76	Dimethylphthalate	163	6.615	6.615	(0.968)	21553	0.40000	0.36626
78	2,6-Dinitrotoluene	165	6.657	6.657	(0.974)	4410	0.40000	0.34558
79	Acenaphthylene	152	6.722	6.722	(0.984)	26925	0.40000	0.34109
81	3-Nitroaniline	138	6.786	6.786	(0.993)	5499	0.40000	0.37588
82	Acenaphthene	153	6.860	6.860	(1.004)	18070	0.40000	0.35949
83	2,4-Dinitrophenol	184	6.866	6.865	(1.005)	12467	2.00000	1.5322
85	4-Nitrophenol	109	6.909	6.909	(1.011)	18462	2.00000	1.7195
86	Dibenzofuran	168	6.989	6.989	(1.023)	25298	0.40000	0.34267
87	2,4-Dinitrotoluene	165	6.967	6.967	(1.020)	6480	0.40000	0.36231
91	2,3,5,6-Tetrachlorophenol	232	7.053	7.053	(1.032)	4832	0.40000	0.33738
88	2,3,4,6-Tetrachlorophenol	232	7.085	7.085	(1.037)	4380	0.40000	0.29387
92	2-Naphthylamine	143	7.106	7.106	(1.040)	16861	0.40000	0.45894
93	Diethylphthalate	149	7.154	7.154	(1.047)	24092	0.40000	0.38570
94	Fluorene	166	7.256	7.256	(1.062)	22455	0.40000	0.36679
95	4-Chlorophenyl-phenylether	204	7.250	7.250	(1.061)	11479	0.40000	0.37593
96	4-Nitroaniline	138	7.250	7.250	(1.061)	5973	0.40000	0.37001
98	4,6-Dinitro-2-methylphenol	198	7.282	7.282	(0.913)	12849	2.00000	1.2954
99	N-Nitrosodiphenylamine (1)	169	7.336	7.336	(0.920)	13173	0.40000	0.34056
100	1,2-Diphenylhydrazine	77	7.368	7.368	(0.924)	23001	0.40000	0.38582
106	4-Bromophenyl-phenylether	248	7.624	7.624	(0.956)	6073	0.40000	0.36968
107	Hexachlorobenzene	284	7.683	7.683	(0.963)	6157	0.40000	0.36992
210	Atrazine	200	7.737	7.737	(0.970)	6037	0.40000	0.38480
111	Pentachlorophenol	266	7.827	7.827	(0.981)	23707	2.00000	2.1472
115	Phenanthrene	178	7.993	7.993	(1.002)	40492	0.40000	0.43395
116	Anthracene	178	8.030	8.030	(1.007)	32210	0.40000	0.35092
119	Carbazole	167	8.148	8.148	(1.021)	31113	0.40000	0.37992
120	Di-n-Butylphthalate	149	8.404	8.404	(1.054)	36499	0.40000	0.35223
123	Fluoranthene	202	8.912	8.912	(1.117)	34996	0.40000	0.34749
124	Benzidine	184	8.997	8.997	(0.896)	10039	0.40000	0.25099
125	Pyrene	202	9.088	9.088	(0.905)	35636	0.40000	0.35100
131	Butylbenzylphthalate	149	9.564	9.564	(0.953)	18489	0.40000	0.36937
135	3,3'-Dichlorobenzidine	252	9.996	9.996	(0.996)	12005	0.40000	0.33442
136	Benzo(a)Anthracene	228	10.028	10.028	(0.999)	42329	0.40000	0.42322
137	Chrysene	228	10.055	10.055	(1.002)	36276	0.40000	0.37696
139	bis(2-ethylhexyl)Phthalate	149	10.007	10.007	(0.997)	30765	0.40000	0.42705
140	Di-n-octylphthalate	149	10.536	10.536	(0.923)	40390	0.40000	0.35266 (M)
141	Benzo(b)fluoranthene	252	10.995	10.995	(0.963)	46696	0.40000	0.38842
142	Benzo(k)fluoranthene	252	11.017	11.017	(0.965)	42611	0.40000	0.38131

MSW 9/19/11

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Semivolatile REPORT SW-846 Method 8270

Data file : \\PITSVR06\D\chem\731.i\V051611D.b\V0516IC2.D
Lab Smp Id: SSTD2.0 Client Smp ID: SSTD2.0
Inj Date : 16-MAY-2011 12:36
Operator : 003200 Inst ID: 731.i
Smp Info : IC 1000
Misc Info : SSTD2.0,V051611D.b,8270d.m,padepi.sub,1,2
Comment :
Method : \\PITSVR06\D\chem\731.i\V051611D.b\8270d.m
Meth Date : 17-May-2011 07:59 731.i Quant Type: ISTD
Cal Date : 16-MAY-2011 12:36 Cal File: V0516IC2.D
Als bottle: 3 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: padepi.sub
Target Version: 4.14

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 1	1,4-Dichlorobenzene-d4	152	4.521	4.521	(1.000)	134219	8.00000	
* 2	Naphthalene-d8	136	5.488	5.488	(1.000)	510941	8.00000	
* 3	Acenaphthene-d10	164	6.829	6.829	(1.000)	311879	8.00000	
* 4	Phenanthrene-d10	188	7.972	7.972	(1.000)	579719	8.00000	
* 5	Chrysene-d12	240	10.034	10.034	(1.000)	620496	8.00000	
* 6	Perylene-d12	264	11.407	11.407	(1.000)	642127	8.00000	
198	1,4-Dioxane	88	1.342	1.342	(0.297)	9846	2.00000	1.8490
10	N-Nitrosodimethylamine	74	1.834	1.834	(0.406)	15466	2.00000	1.9520 (M)
9	Pyridine	79	1.882	1.882	(0.416)	29043	2.00000	1.8896 (M)
16	Methyl methanesulfonate	80	3.335	3.335	(0.738)	21383	2.00000	1.9957
206	Benzaldehyde	77	4.179	4.179	(0.924)	19023	2.00000	1.4625
21	Aniline	93	4.270	4.270	(0.944)	62346	2.00000	1.9063
22	Phenol	94	4.264	4.264	(0.943)	54610	2.00000	1.8752
23	bis(2-Chloroethyl)ether	93	4.323	4.323	(0.956)	37551	2.00000	1.9452
24	2-Chlorophenol	128	4.361	4.361	(0.965)	42711	2.00000	1.7773
26	1,3-Dichlorobenzene	146	4.478	4.478	(0.991)	53464	2.00000	1.9437
27	1,4-Dichlorobenzene	146	4.537	4.537	(1.004)	53438	2.00000	1.9000
28	1,2-Dichlorobenzene	146	4.654	4.654	(1.030)	51505	2.00000	1.9258
217	Indene	116	4.718	4.718	(1.044)	74751	2.00000	1.9218
29	Benzyl Alcohol	108	4.628	4.628	(1.024)	28755	2.00000	1.9124
30	2-Methylphenol	108	4.718	4.718	(1.044)	37490	2.00000	1.7745
31	2,2'-oxybis(1-Chloropropane)	45	4.734	4.734	(1.047)	55025	2.00000	1.9805
37	Acetophenone	105	4.825	4.825	(1.067)	61751	2.00000	1.9439
32	N-Nitroso-di-n-propylamine	70	4.831	4.831	(1.069)	28836	2.00000	1.9361
192	4-Methylphenol	108	4.831	4.831	(1.069)	38766	2.00000	1.8347
34	Hexachloroethane	117	4.911	4.911	(1.086)	21422	2.00000	1.8131
35	Nitrobenzene	77	4.954	4.954	(0.903)	47217	2.00000	2.0098
36	N-Nitrosopyrrolidine	100	4.799	4.799	(1.061)	17629	2.00000	1.8282
41	Isophorone	82	5.135	5.135	(0.936)	75699	2.00000	1.9284
42	2-Nitrophenol	139	5.199	5.199	(0.947)	23564	2.00000	1.9071
43	2,4-Dimethylphenol	107	5.231	5.231	(0.953)	42047	2.00000	1.8880
44	bis(2-Chloroethoxy)methane	93	5.301	5.301	(0.966)	45034	2.00000	1.8881
48	2,4-Dichlorophenol	162	5.381	5.381	(0.981)	39224	2.00000	2.0270
49	Benzoic Acid	122	5.263	5.263	(0.959)	45044	4.00000	3.4579 (M)

MW 9/19/11

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
50	1,2,4-Trichlorobenzene	180	5.450	5.450	(0.993)	48472	2.00000	2.0483
51	Naphthalene	128	5.504	5.504	(1.003)	134451	2.00000	1.9756
52	4-Chloroaniline	127	5.541	5.541	(1.010)	59703	2.00000	2.0670
54	2,6-Dichlorophenol	162	5.552	5.552	(1.012)	38443	2.00000	2.0331
56	Hexachlorobutadiene	225	5.611	5.611	(1.022)	29760	2.00000	2.1575
208	Caprolactam	113	5.771	5.771	(1.052)	10720	2.00000	1.8279
59	4-Chloro-3-Methylphenol	107	5.910	5.910	(1.077)	38457	2.00000	1.9756
62	2-Methylnaphthalene	142	6.033	6.033	(1.099)	92782	2.00000	2.0223
63	1-Methylnaphthalene	142	6.107	6.107	(1.113)	86413	2.00000	1.9766
64	Hexachlorocyclopentadiene	237	6.161	6.161	(0.902)	30316	2.00000	1.8157
65	1,2,4,5-Tetrachlorobenzene	216	6.166	6.166	(0.903)	46191	2.00000	2.0271
66	2,4,6-Trichlorophenol	196	6.246	6.246	(0.915)	29042	2.00000	1.8862
67	2,4,5-Trichlorophenol	196	6.273	6.273	(0.919)	34334	2.00000	2.0390
209	1,1'-Biphenyl	154	6.385	6.385	(0.935)	109236	2.00000	1.8975
70	2-Chloronaphthalene	162	6.401	6.401	(0.937)	87766	2.00000	1.9094
73	2-Nitroaniline	65	6.476	6.476	(0.948)	26977	2.00000	2.0039
76	Dimethylphthalate	163	6.615	6.615	(0.969)	104911	2.00000	1.9918
78	2,6-Dinitrotoluene	165	6.658	6.658	(0.975)	21424	2.00000	1.8757
79	Acenaphthylene	152	6.722	6.722	(0.984)	134328	2.00000	1.9012
81	3-Nitroaniline	138	6.786	6.786	(0.994)	24337	2.00000	1.8586
82	Acenaphthene	153	6.855	6.855	(1.004)	86308	2.00000	1.9183
83	2,4-Dinitrophenol	184	6.866	6.866	(1.005)	24472	4.00000	3.3602
85	4-Nitrophenol	109	6.903	6.903	(1.011)	38459	4.00000	4.0020
86	Dibenzofuran	168	6.989	6.989	(1.023)	127437	2.00000	1.9206
87	2,4-Dinitrotoluene	165	6.967	6.967	(1.020)	29390	2.00000	1.8359
91	2,3,5,6-Tetrachlorophenol	232	7.048	7.048	(1.032)	22972	2.00000	1.7920
88	2,3,4,6-Tetrachlorophenol	232	7.080	7.080	(1.037)	25456	2.00000	1.9082
92	2-Naphthylamine	143	7.101	7.101	(1.040)	81449	2.00000	2.4769 (M)
93	Diethylphthalate	149	7.149	7.149	(1.047)	106305	2.00000	1.9014
94	Fluorene	166	7.251	7.251	(1.062)	100918	2.00000	1.8417
95	4-Chlorophenyl-phenylether	204	7.245	7.245	(1.061)	49249	2.00000	1.8020
96	4-Nitroaniline	138	7.251	7.251	(1.062)	26251	2.00000	1.8168
98	4,6-Dinitro-2-methylphenol	198	7.277	7.277	(0.913)	27426	4.00000	2.9806
99	N-Nitrosodiphenylamine (1)	169	7.336	7.336	(0.920)	68788	2.00000	1.9170
100	1,2-Diphenylhydrazine	77	7.368	7.368	(0.924)	108883	2.00000	1.9688
106	4-Bromophenyl-phenylether	248	7.625	7.625	(0.956)	28293	2.00000	1.8565
107	Hexachlorobenzene	284	7.683	7.683	(0.964)	26800	2.00000	1.7357
210	Atrazine	200	7.731	7.731	(0.970)	29395	2.00000	2.0197
111	Pentachlorophenol	266	7.828	7.828	(0.982)	30058	4.00000	2.9346
115	Phenanthrene	178	7.988	7.988	(1.002)	165814	2.00000	1.9155
116	Anthracene	178	8.031	8.031	(1.007)	165057	2.00000	1.9478
119	Carbazole	167	8.143	8.143	(1.021)	141963	2.00000	1.8687
120	Di-n-Butylphthalate	149	8.399	8.399	(1.054)	183399	2.00000	1.9078
123	Fluoranthene	202	8.907	8.907	(1.117)	175011	2.00000	1.8732
124	Benzidine	184	8.997	8.997	(0.897)	62700	2.00000	1.7057 (M)
125	Pyrene	202	9.088	9.088	(0.906)	180724	2.00000	1.9369
131	Butylbenzylphthalate	149	9.558	9.558	(0.953)	88691	2.00000	1.9280
135	3,3'-Dichlorobenzidine	252	9.991	9.991	(0.996)	57974	2.00000	1.7573
136	Benzo(a)Anthracene	228	10.023	10.023	(0.999)	179191	2.00000	1.9494
137	Chrysene	228	10.055	10.055	(1.002)	176119	2.00000	1.9914 (M)
139	bis(2-ethylhexyl) Phthalate	149	10.002	10.002	(0.997)	125189	2.00000	1.8908 (M)
140	Di-n-octylphthalate	149	10.536	10.536	(0.924)	201464	2.00000	1.8199 (M)
141	Benzo(b)fluoranthene	252	10.995	10.995	(0.964)	216743	2.00000	1.8652
142	Benzo(k)fluoranthene	252	11.017	11.017	(0.966)	206460	2.00000	1.9114

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Semivolatile REPORT SW-846 Method 8270

Data file : \\PITSVR06\D\chem\731.i\V051611D.b\V0516IC3.D
Lab Smp Id: SSTD4.0 Client Smp ID: SSTD4.0
Inj Date : 16-MAY-2011 12:58
Operator : 003200 Inst ID: 731.i
Smp Info : ICIS 11440
Misc Info : SSTD4.0,V051611D.b,8270d.m,padepi.sub,1,3
Comment :
Method : \\PITSVR06\D\chem\731.i\V051611D.b\8270d.m
Meth Date : 17-May-2011 07:59 731.i Quant Type: ISTD
Cal Date : 16-MAY-2011 12:58 Cal File: V0516IC3.D
Als bottle: 4 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: padepi.sub
Target Version: 4.14

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 1	1,4-Dichlorobenzene-d4	152	4.520	4.520	(1.000)	146209	8.00000	
* 2	Naphthalene-d8	136	5.487	5.487	(1.000)	594962	8.00000	
* 3	Acenaphthene-d10	164	6.828	6.828	(1.000)	357048	8.00000	
* 4	Phenanthrene-d10	188	7.971	7.971	(1.000)	676360	8.00000	
* 5	Chrysene-d12	240	10.033	10.033	(1.000)	700572	8.00000	
* 6	Perylene-d12	264	11.412	11.412	(1.000)	734741	8.00000	
198	1,4-Dioxane	88	1.331	1.331	(0.295)	24781	4.00000	4.2722
10	N-Nitrosodimethylamine	74	1.812	1.812	(0.401)	33053	4.00000	3.8297
9	Pyridine	79	1.855	1.855	(0.410)	71463	4.00000	4.2683 (M)
16	Methyl methanesulfonate	80	3.334	3.334	(0.738)	44969	4.00000	3.8528
206	Benzaldehyde	77	4.178	4.178	(0.924)	73214	4.00000	5.1671
21	Aniline	93	4.264	4.264	(0.943)	141087	4.00000	3.9602
22	Phenol	94	4.264	4.264	(0.943)	123368	4.00000	3.8868
23	bis(2-Chloroethyl)ether	93	4.323	4.323	(0.956)	85422	4.00000	4.0621
24	2-Chlorophenol	128	4.360	4.360	(0.965)	104204	4.00000	3.9805
26	1,3-Dichlorobenzene	146	4.478	4.478	(0.991)	117618	4.00000	3.9254
27	1,4-Dichlorobenzene	146	4.536	4.536	(1.004)	116390	4.00000	3.7989
28	1,2-Dichlorobenzene	146	4.649	4.649	(1.028)	116511	4.00000	3.9992
217	Indene	116	4.718	4.718	(1.044)	168768	4.00000	3.9830
29	Benzyl Alcohol	108	4.627	4.627	(1.024)	67644	4.00000	4.1298
30	2-Methylphenol	108	4.718	4.718	(1.044)	85481	4.00000	3.7143
31	2,2'-oxybis(1-Chloropropane)	45	4.734	4.734	(1.047)	119708	4.00000	3.9552
37	Acetophenone	105	4.825	4.825	(1.067)	141658	4.00000	4.0936
32	N-Nitroso-di-n-propylamine	70	4.830	4.830	(1.069)	66935	4.00000	4.1256
192	4-Methylphenol	108	4.830	4.830	(1.069)	90713	4.00000	3.9412
34	Hexachloroethane	117	4.910	4.910	(1.086)	52671	4.00000	4.0924
35	Nitrobenzene	77	4.953	4.953	(0.903)	104883	4.00000	3.9866
36	N-Nitrosopyrrolidine	100	4.798	4.798	(1.061)	41455	4.00000	3.9466
41	Isophorone	82	5.135	5.135	(0.936)	177712	4.00000	3.8877
42	2-Nitrophenol	139	5.199	5.199	(0.947)	55720	4.00000	3.8727
43	2,4-Dimethylphenol	107	5.231	5.231	(0.953)	102428	4.00000	3.9497
44	bis(2-Chloroethoxy)methane	93	5.300	5.300	(0.966)	108945	4.00000	3.9226
48	2,4-Dichlorophenol	162	5.380	5.380	(0.981)	81551	4.00000	3.6192
49	Benzoic Acid	122	5.274	5.274	(0.961)	144386	10.0000	9.5188 (M)

MJW 4/14/11

	Compounds	QUANT STG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
50	1,2,4-Trichlorobenzene	180	5.450	5.450	(0.993)	106875	4.00000	3.8785
51	Naphthalene	128	5.503	5.503	(1.003)	302958	4.00000	3.8230
52	4-Chloroaniline	127	5.541	5.541	(1.010)	127410	4.00000	3.7882
54	2,6-Dichlorophenol	162	5.551	5.551	(1.012)	83865	4.00000	3.8089
56	Hexachlorobutadiene	225	5.610	5.610	(1.022)	62603	4.00000	3.8976
208	Caprolactam	113	5.776	5.776	(1.053)	26429	4.00000	3.8702
59	4-Chloro-3-Methylphenol	107	5.909	5.909	(1.077)	89558	4.00000	3.9509
62	2-Methylnaphthalene	142	6.032	6.032	(1.099)	203037	4.00000	3.8005
63	1-Methylnaphthalene	142	6.107	6.107	(1.113)	190774	4.00000	3.7474
64	Hexachlorocyclopentadiene	237	6.160	6.160	(0.902)	70118	4.00000	3.6684
65	1,2,4,5-Tetrachlorobenzene	216	6.160	6.160	(0.902)	105797	4.00000	4.0556
66	2,4,6-Trichlorophenol	196	6.246	6.246	(0.915)	66752	4.00000	3.7870
67	2,4,5-Trichlorophenol	196	6.273	6.273	(0.919)	73813	4.00000	3.8290
209	1,1'-Biphenyl	154	6.385	6.385	(0.935)	251184	4.00000	3.8112
70	2-Chloronaphthalene	162	6.401	6.401	(0.937)	203404	4.00000	3.8653
73	2-Nitroaniline	65	6.470	6.470	(0.948)	64495	4.00000	4.1848
76	Dimethylphthalate	163	6.614	6.614	(0.969)	235522	4.00000	3.9059
78	2,6-Dinitrotoluene	165	6.657	6.657	(0.975)	53269	4.00000	4.0738
79	Acenaphthylene	152	6.721	6.721	(0.984)	320222	4.00000	3.9589
81	3-Nitroaniline	138	6.785	6.785	(0.994)	57219	4.00000	3.8169
82	Acenaphthene	153	6.855	6.855	(1.004)	202562	4.00000	3.9327
83	2,4-Dinitrophenol	184	6.866	6.866	(1.005)	73425	10.0000	8.8065
85	4-Nitrophenol	109	6.903	6.903	(1.011)	111799	10.0000	10.162
86	Dibenzofuran	168	6.988	6.988	(1.023)	283141	4.00000	3.7428
87	2,4-Dinitrotoluene	165	6.967	6.967	(1.020)	73917	4.00000	4.0332
91	2,3,5,6-Tetrachlorophenol	232	7.047	7.047	(1.032)	54031	4.00000	3.6816
88	2,3,4,6-Tetrachlorophenol	232	7.079	7.079	(1.037)	61419	4.00000	4.0215
92	2-Naphthylamine	143	7.101	7.101	(1.040)	170200	4.00000	4.5210
93	Diethylphthalate	149	7.149	7.149	(1.047)	251272	4.00000	3.9257
94	Fluorene	166	7.250	7.250	(1.062)	240671	4.00000	3.8348
95	4-Chlorophenyl-phenylether	204	7.245	7.245	(1.061)	118963	4.00000	3.8021
96	4-Nitroaniline	138	7.250	7.250	(1.062)	63611	4.00000	3.8455
98	4,6-Dinitro-2-methylphenol	198	7.277	7.277	(0.913)	103560	10.0000	9.6467
99	N-Nitrosodiphenylamine (1)	169	7.330	7.330	(0.920)	160987	4.00000	3.8454
100	1,2-Diphenylhydrazine	77	7.368	7.368	(0.924)	252338	4.00000	3.9108
106	4-Bromophenyl-phenylether	248	7.619	7.619	(0.956)	67931	4.00000	3.8206
107	Hexachlorobenzene	284	7.683	7.683	(0.964)	66113	4.00000	3.6700
210	Atrazine	200	7.731	7.731	(0.970)	70679	4.00000	4.1623
111	Pentachlorophenol	266	7.822	7.822	(0.981)	106778	10.0000	8.9352
115	Phenanthrene	178	7.987	7.987	(1.002)	374842	4.00000	3.7115
116	Anthracene	178	8.025	8.025	(1.007)	376510	4.00000	3.7899
119	Carbazole	167	8.142	8.142	(1.021)	341986	4.00000	3.6584
120	Di-n-Butylphthalate	149	8.399	8.399	(1.054)	438772	4.00000	3.9123
123	Fluoranthene	202	8.906	8.906	(1.117)	424675	4.00000	3.8960
124	Benzidine	184	8.997	8.997	(0.897)	181442	4.00000	4.3718 (M)
125	Pyrene	202	9.083	9.083	(0.905)	427566	4.00000	4.0586
131	Butylbenzylphthalate	149	9.558	9.558	(0.953)	212007	4.00000	4.0818
135	3,3'-Dichlorobenzidine	252	9.991	9.991	(0.996)	143123	4.00000	3.8424
136	Benzo(a)Anthracene	228	10.028	10.028	(0.999)	399498	4.00000	3.8494
137	Chrysene	228	10.055	10.055	(1.002)	405341	4.00000	4.0593
139	bis(2-ethylhexyl)Phthalate	149	10.007	10.007	(0.997)	296352	4.00000	3.9644
140	Di-n-octylphthalate	149	10.536	10.536	(0.923)	484292	4.00000	3.8234
141	Benzo(b)fluoranthene	252	10.995	10.995	(0.963)	512292	4.00000	3.8530
142	Benzo(k)fluoranthene	252	11.022	11.022	(0.966)	471510	4.00000	3.8151

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Semivolatile REPORT SW-846 Method 8270

Data file : \\PITSVR06\D\chem\731.i\V051611D.b\V0516IC4.D
Lab Smp Id: SSTD10 Client Smp ID: SSTD10
Inj Date : 16-MAY-2011 13:21
Operator : 003200 Inst ID: 731.i
Smp Info : IC 1002
Misc Info : SSTD10,V051611D.b,8270d.m,padepi.sub,1,4
Comment :
Method : \\PITSVR06\D\chem\731.i\V051611D.b\8270d.m
Meth Date : 17-May-2011 07:59 731.i Quant Type: ISTD
Cal Date : 16-MAY-2011 13:21 Cal File: V0516IC4.D
Als bottle: 5 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: padepi.sub
Target Version: 4.14

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 1	1,4-Dichlorobenzene-d4	152	4.520	4.520	(1.000)	133555	8.00000	
* 2	Naphthalene-d8	136	5.487	5.487	(1.000)	550436	8.00000	
* 3	Acenaphthene-d10	164	6.828	6.828	(1.000)	338200	8.00000	
* 4	Phenanthrene-d10	188	7.971	7.971	(1.000)	635943	8.00000	
* 5	Chrysene-d12	240	10.028	10.028	(1.000)	684981	8.00000	
* 6	Perylene-d12	264	11.401	11.401	(1.000)	698365	8.00000	
198	1,4-Dioxane	88	1.331	1.331	(0.295)	54354	10.0000	10.258
10	N-Nitrosodimethylamine	74	1.807	1.807	(0.400)	79858	10.0000	10.129
9	Pyridine	79	1.839	1.839	(0.407)	159444	10.0000	10.425 (M)
16	Methyl methanesulfonate	80	3.334	3.334	(0.738)	110222	10.0000	10.338
206	Benzaldehyde	77	4.178	4.178	(0.924)	154354	10.0000	11.926
21	Aniline	93	4.269	4.269	(0.944)	336705	10.0000	10.346
22	Phenol	94	4.264	4.264	(0.943)	290791	10.0000	10.035
23	bis(2-Chloroethyl)ether	93	4.323	4.323	(0.956)	191935	10.0000	9.9919
24	2-Chlorophenol	128	4.360	4.360	(0.965)	229416	10.0000	9.5938
26	1,3-Dichlorobenzene	146	4.478	4.478	(0.991)	268961	10.0000	9.8268
27	1,4-Dichlorobenzene	146	4.536	4.536	(1.004)	273915	10.0000	9.7875
28	1,2-Dichlorobenzene	146	4.649	4.649	(1.028)	260163	10.0000	9.7762
217	Indene	116	4.718	4.718	(1.044)	392158	10.0000	10.132
29	Benzyl Alcohol	108	4.627	4.627	(1.024)	149656	10.0000	10.002
30	2-Methylphenol	108	4.718	4.718	(1.044)	213088	10.0000	10.136
31	2,2'-oxybis(1-Chloropropane)	45	4.739	4.739	(1.048)	278467	10.0000	10.072
37	Acetophenone	105	4.825	4.825	(1.067)	320505	10.0000	10.139
32	N-Nitroso-di-n-propylamine	70	4.830	4.830	(1.069)	150034	10.0000	10.124
192	4-Methylphenol	108	4.830	4.830	(1.069)	214715	10.0000	10.213
34	Hexachloroethane	117	4.910	4.910	(1.086)	116541	10.0000	9.9130
35	Nitrobenzene	77	4.953	4.953	(0.903)	245169	10.0000	10.073
36	N-Nitrosopyrrolidine	100	4.798	4.798	(1.061)	96437	10.0000	10.051
41	Isophorone	82	5.135	5.135	(0.936)	413839	10.0000	9.7858
42	2-Nitrophenol	139	5.199	5.199	(0.947)	135390	10.0000	10.171
43	2,4-Dimethylphenol	107	5.231	5.231	(0.953)	246414	10.0000	10.270
44	bis(2-Chloroethoxy)methane	93	5.300	5.300	(0.966)	252114	10.0000	9.8119
48	2,4-Dichlorophenol	162	5.380	5.380	(0.981)	205948	10.0000	9.8791
49	Benzoic Acid	122	5.290	5.290	(0.964)	277075	20.0000	19.744

MLW 9/16 9/19/11

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
50	1,2,4-Trichlorobenzene	180	5.445	5.445	(0.992)	249554	10.0000	9.7890
51	Naphthalene	128	5.503	5.503	(1.003)	691662	10.0000	9.4342
52	4-Chloroaniline	127	5.541	5.541	(1.010)	308110	10.0000	9.9018
54	2,6-Dichlorophenol	162	5.551	5.551	(1.012)	204300	10.0000	10.029
56	Hexachlorobutadiene	225	5.610	5.610	(1.022)	141255	10.0000	9.5057
208	Caprolactam	113	5.776	5.776	(1.053)	65239	10.0000	10.326
59	4-Chloro-3-Methylphenol	107	5.909	5.909	(1.077)	210743	10.0000	10.049
62	2-Methylnaphthalene	142	6.032	6.032	(1.099)	477552	10.0000	9.6621
63	1-Methylnaphthalene	142	6.107	6.107	(1.113)	445592	10.0000	9.4610
64	Hexachlorocyclopentadiene	237	6.160	6.160	(0.902)	175608	10.0000	9.6993
65	1,2,4,5-Tetrachlorobenzene	216	6.160	6.160	(0.902)	236114	10.0000	9.5555
66	2,4,6-Trichlorophenol	196	6.246	6.246	(0.915)	158474	10.0000	9.4916
67	2,4,5-Trichlorophenol	196	6.273	6.273	(0.919)	180811	10.0000	9.9021
209	1,1'-Biphenyl	154	6.385	6.385	(0.935)	592513	10.0000	9.4913
70	2-Chloronaphthalene	162	6.401	6.401	(0.937)	482592	10.0000	9.6818
73	2-Nitroaniline	65	6.470	6.470	(0.948)	141286	10.0000	9.6782
76	Dimethylphthalate	163	6.614	6.614	(0.969)	564373	10.0000	9.8812
78	2,6-Dinitrotoluene	165	6.657	6.657	(0.975)	121454	10.0000	9.8058
79	Acenaphthylene	152	6.721	6.721	(0.984)	742313	10.0000	9.6886
81	3-Nitroaniline	138	6.785	6.785	(0.994)	138458	10.0000	9.7508
82	Acenaphthene	153	6.855	6.855	(1.004)	481259	10.0000	9.8642
83	2,4-Dinitrophenol	184	6.866	6.866	(1.005)	160043	20.0000	20.265
85	4-Nitrophenol	109	6.908	6.908	(1.012)	215245	20.0000	20.655
86	Dibenzofuran	168	6.988	6.988	(1.023)	707895	10.0000	9.8791
87	2,4-Dinitrotoluene	165	6.967	6.967	(1.020)	178109	10.0000	10.260
91	2,3,5,6-Tetrachlorophenol	232	7.047	7.047	(1.032)	127583	10.0000	9.1779
88	2,3,4,6-Tetrachlorophenol	232	7.079	7.079	(1.037)	138141	10.0000	9.5490
92	2-Naphthylamine	143	7.101	7.101	(1.040)	380652	10.0000	10.675
93	Diethylphthalate	149	7.149	7.149	(1.047)	593294	10.0000	9.7859
94	Fluorene	166	7.250	7.250	(1.062)	564377	10.0000	9.4979
95	4-Chlorophenyl-phenylether	204	7.245	7.245	(1.061)	290200	10.0000	9.7917
96	4-Nitroaniline	138	7.250	7.250	(1.062)	160922	10.0000	10.270
98	4,6-Dinitro-2-methylphenol	198	7.277	7.277	(0.913)	209638	20.0000	20.769
99	N-Nitrosodiphenylamine (1)	169	7.330	7.330	(0.920)	387820	10.0000	9.8523
100	1,2-Diphenylhydrazine	77	7.362	7.362	(0.924)	587491	10.0000	9.6837
106	4-Bromophenyl-phenylether	248	7.619	7.619	(0.956)	158166	10.0000	9.4609
107	Hexachlorobenzene	284	7.678	7.678	(0.963)	158145	10.0000	9.3367
210	Atrazine	200	7.731	7.731	(0.970)	163390	10.0000	10.234
111	Pentachlorophenol	266	7.822	7.822	(0.981)	211740	20.0000	18.845
115	Phenanthrene	178	7.987	7.987	(1.002)	889286	10.0000	9.3650
116	Anthracene	178	8.025	8.025	(1.007)	894334	10.0000	9.5743
119	Carbazole	167	8.142	8.142	(1.021)	810881	10.0000	9.7300
120	Di-n-Butylphthalate	149	8.399	8.399	(1.054)	1070051	10.0000	10.147
123	Fluoranthene	202	8.906	8.906	(1.117)	989600	10.0000	9.6556
124	Benzidine	184	8.992	8.992	(0.897)	458859	10.0000	11.308
125	Pyrene	202	9.083	9.083	(0.906)	1045189	10.0000	10.147
131	Butylbenzylphthalate	149	9.553	9.553	(0.953)	511589	10.0000	10.074
135	3,3'-Dichlorobenzidine	252	9.985	9.985	(0.996)	355073	10.0000	9.7495
136	Benzo(a)Anthracene	228	10.023	10.023	(0.999)	961504	10.0000	9.4756
137	Chrysene	228	10.049	10.049	(1.002)	969405	10.0000	9.9291
139	bis(2-ethylhexyl)Phthalate	149	9.996	9.996	(0.997)	702130	10.0000	9.6065
140	Di-n-octylphthalate	149	10.525	10.525	(0.923)	1231363	10.0000	10.228
141	Benzo(b)fluoranthene	252	10.990	10.990	(0.964)	1180546	10.0000	9.3415
142	Benzo(k)fluoranthene	252	11.011	11.011	(0.966)	1233318	10.0000	10.499

m/w 5/18/11

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Semivolatile REPORT SW-846 Method 8270

Data file : \\PITSVR06\D\chem\731.i\V051611D.b\V0516IC5.D
Lab Smp Id: SSTD20 Client Smp ID: SSTD20
Inj Date : 16-MAY-2011 13:43
Operator : 003200 Inst ID: 731.i
Smp Info : IC 1003
Misc Info : SSTD20,V051611D.b,8270d.m,padepi.sub,1,5
Comment :
Method : \\PITSVR06\D\chem\731.i\V051611D.b\8270d.m
Meth Date : 17-May-2011 07:59 731.i Quant Type: ISTD
Cal Date : 16-MAY-2011 13:43 Cal File: V0516IC5.D
Als bottle: 6 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: padepi.sub
Target Version: 4.14

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 1	1,4-Dichlorobenzene-d4	152	4.524	4.524	(1.000)	134715	8.00000	
* 2	Naphthalene-d8	136	5.485	5.485	(1.000)	553644	8.00000	
* 3	Acenaphthene-d10	164	6.832	6.832	(1.000)	343336	8.00000	
* 4	Phenanthrene-d10	180	7.970	7.970	(1.000)	650920	8.00000	
* 5	Chrysene-d12	240	10.026	10.026	(1.000)	713321	8.00000	
* 6	Perylene-d12	264	11.394	11.394	(1.000)	736702	8.00000	
198	1,4-Dioxane	88	1.335	1.335	(0.295)	107449	20.0000	20.104
10	N-Nitrosodimethylamine	74	1.805	1.805	(0.399)	167861	20.0000	21.108
9	Pyridine	79	1.837	1.837	(0.406)	330166	20.0000	21.402 (M)
16	Methyl methanesulfonate	80	3.333	3.333	(0.737)	212378	20.0000	19.748
206	Benzaldehyde	77	4.177	4.177	(0.923)	310600	20.0000	23.791
21	Aniline	93	4.267	4.267	(0.943)	671639	20.0000	20.461
22	Phenol	94	4.262	4.262	(0.942)	612612	20.0000	20.958
23	bis(2-Chloroethyl)ether	93	4.326	4.326	(0.956)	387154	20.0000	19.981
24	2-Chlorophenol	128	4.358	4.358	(0.963)	485057	20.0000	20.110
26	1,3-Dichlorobenzene	146	4.476	4.476	(0.989)	545165	20.0000	19.747
27	1,4-Dichlorobenzene	146	4.535	4.535	(1.002)	569092	20.0000	20.188
28	1,2-Dichlorobenzene	146	4.652	4.652	(1.028)	531796	20.0000	19.811
217	Indene	116	4.716	4.716	(1.043)	804732	20.0000	20.613
29	Benzyl Alcohol	108	4.625	4.625	(1.022)	312923	20.0000	20.734
30	2-Methylphenol	108	4.722	4.722	(1.044)	441454	20.0000	20.819
31	2,2'-oxybis(1-Chloropropane)	45	4.738	4.738	(1.047)	569223	20.0000	20.412
37	Acetophenone	105	4.823	4.823	(1.066)	648192	20.0000	20.329
32	N-Nitroso-di-n-propylamine	70	4.828	4.828	(1.067)	309477	20.0000	20.702
192	4-Methylphenol	108	4.834	4.834	(1.068)	438673	20.0000	20.685
34	Hexachloroethane	117	4.908	4.908	(1.085)	234640	20.0000	19.787
35	Nitrobenzene	77	4.951	4.951	(0.903)	494574	20.0000	20.202
36	N-Nitrosopyrrolidine	100	4.802	4.802	(1.061)	203284	20.0000	21.004
41	Isophorone	82	5.133	5.133	(0.936)	876703	20.0000	20.611
42	2-Nitrophenol	139	5.197	5.197	(0.947)	283762	20.0000	21.194
43	2,4-Dimethylphenol	107	5.234	5.234	(0.954)	506532	20.0000	20.990
44	bis(2-Chloroethoxy)methane	93	5.304	5.304	(0.967)	514942	30.0000	19.925
48	2,4-Dichlorophenol	162	5.379	5.379	(0.981)	434533	20.0000	20.723
49	Benzoic Acid	122	5.298	5.298	(0.966)	439666	30.0000	31.149

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	AMOUNTS ON-COL (NG)
50	1,2,4-Trichlorobenzene	180	5.448	5.448	(0.993)	520370	20.0000	20.294
51	Naphthalene	128	5.501	5.501	(1.003)	1446129	20.0000	19.611
52	4-Chloroaniline	127	5.544	5.544	(1.011)	636902	20.0000	20.350
54	2,6-Dichlorophenol	162	5.550	5.550	(1.012)	417610	20.0000	20.382
56	Hexachlorobutadiene	225	5.608	5.608	(1.022)	302293	20.0000	20.225
208	Caprolactam	113	5.785	5.785	(1.055)	132765	20.0000	20.892
59	4-Chloro-3-Methylphenol	107	5.907	5.907	(1.077)	442324	20.0000	20.970
62	2-Methylnaphthalene	142	6.030	6.030	(1.099)	979820	20.0000	19.710
63	1-Methylnaphthalene	142	6.105	6.105	(1.113)	953983	20.0000	20.138
64	Hexachlorocyclopentadiene	237	6.159	6.159	(0.901)	374561	20.0000	20.378
65	1,2,4,5-Tetrachlorobenzene	216	6.164	6.164	(0.902)	506651	20.0000	20.197
66	2,4,6-Trichlorophenol	196	6.244	6.244	(0.914)	346034	20.0000	20.415
67	2,4,5-Trichlorophenol	196	6.271	6.271	(0.918)	370996	20.0000	20.014
209	1,1'-Biphenyl	154	6.388	6.388	(0.935)	1260765	20.0000	19.894
70	2-Chloronaphthalene	162	6.404	6.404	(0.937)	1001423	20.0000	19.790
73	2-Nitroaniline	65	6.474	6.474	(0.948)	300064	20.0000	20.301
76	Dimethylphthalate	163	6.613	6.613	(0.968)	1175856	20.0000	20.279
78	2,6-Dinitrotoluene	165	6.655	6.655	(0.974)	263588	20.0000	20.963
79	Acenaphthylene	152	6.719	6.719	(0.984)	1575915	20.0000	20.261
81	3-Nitroaniline	138	6.784	6.784	(0.993)	297706	20.0000	20.652
82	Acenaphthene	153	6.853	6.853	(1.003)	992688	20.0000	20.042
83	2,4-Dinitrophenol	184	6.864	6.864	(1.005)	259537	30.0000	32.372
85	4-Nitrophenol	109	6.906	6.906	(1.011)	329529	30.0000	31.149
86	Dibenzofuran	168	6.987	6.987	(1.023)	1449675	20.0000	19.928
87	2,4-Dinitrotoluene	165	6.965	6.965	(1.020)	352216	20.0000	19.986
91	2,3,5,6-Tetrachlorophenol	232	7.045	7.045	(1.031)	289357	20.0000	20.504
88	2,3,4,6-Tetrachlorophenol	232	7.083	7.083	(1.037)	295952	20.0000	20.152
92	2-Naphthylamine	143	7.099	7.099	(1.039)	698065	20.0000	19.283
93	Diethylphthalate	149	7.152	7.152	(1.047)	1241121	20.0000	20.165
94	Fluorene	166	7.248	7.248	(1.061)	1211198	20.0000	20.078
95	4-Chlorophenyl-phenylether	204	7.243	7.243	(1.060)	608245	20.0000	20.216
96	4-Nitroaniline	138	7.248	7.248	(1.061)	335457	20.0000	21.090
98	4,6-Dinitro-2-methylphenol	198	7.280	7.280	(0.914)	344576	30.0000	33.352
99	N-Nitrosodiphenylamine (1)	169	7.334	7.334	(0.920)	814357	20.0000	20.212
100	1,2-Diphenylhydrazine	77	7.366	7.366	(0.924)	1255564	20.0000	20.219
106	4-Bromophenyl-phenylether	248	7.622	7.622	(0.956)	337336	20.0000	19.714
107	Hexachlorobenzene	284	7.681	7.681	(0.964)	347605	20.0000	20.050
210	Atrazine	200	7.734	7.734	(0.971)	339258	20.0000	20.760
111	Pentachlorophenol	266	7.825	7.825	(0.982)	347251	30.0000	30.194
115	Phenanthrene	178	7.986	7.986	(1.002)	1876503	20.0000	19.306
116	Anthracene	178	8.028	8.028	(1.007)	1942008	20.0000	20.312
119	Carbazole	167	8.146	8.146	(1.022)	1704207	20.0000	19.979
120	Di-n-Butylphthalate	149	8.397	8.397	(1.054)	2248780	20.0000	20.835
123	Fluoranthene	202	8.904	8.904	(1.117)	2148603	20.0000	20.482
124	Benzidine	184	8.990	8.990	(0.897)	964334	20.0000	22.820
125	Pyrene	202	9.081	9.081	(0.906)	2225666	20.0000	20.749
131	Butylbenzylphthalate	149	9.551	9.551	(0.953)	1094041	20.0000	20.687
135	3,3'-Dichlorobenzidine	252	9.984	9.984	(0.996)	786012	20.0000	20.725
136	Benzo(a)Anthracene	228	10.016	10.016	(0.999)	2066484	20.0000	19.666
137	Chrysene	228	10.048	10.048	(1.002)	2005095	20.0000	19.721
139	bis(2-ethylhexyl)Phthalate	149	9.994	9.994	(0.997)	1514274	20.0000	19.895
140	Di-n-octylphthalate	149	10.523	10.523	(0.924)	2729555	20.0000	21.521
141	Benzo(b)fluoranthene	252	10.982	10.982	(0.964)	2768872	20.0000	20.798
142	Benzo(k)fluoranthene	252	11.009	11.009	(0.966)	2402086	20.0008	19.410

MW 9/19/11

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Data file : \\PITSVR06\D\chem\731.i\V051611D.b\V0516IC6.D
Lab Smp Id: SSTD40 Client Smp ID: SSTD40
Inj Date : 16-MAY-2011 14:05
Operator : 003200 Inst ID: 731.i
Smp Info : IC 1004
Misc Info : SSTD40,V051611D.b,8270d.m,padepi.sub,1,6
Comment :
Method : \\PITSVR06\D\chem\731.i\V051611D.b\8270d.m
Meth Date : 17-May-2011 07:59 731.i Quant Type: ISTD
Cal Date : 16-MAY-2011 14:05 Cal File: V0516IC6.D
Als bottle: 7 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: padepi.sub
Target Version: 4.14

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)	
* 1	1,4-Dichlorobenzene-d4	152	4.527	4.527	(1.000)	328799	8.00000		
* 2	Naphthalene-d8	136	5.493	5.493	(1.000)	526865	8.00000		
* 3	Acenaphthene-d10	164	6.834	6.834	(1.000)	319493	8.00000		
* 4	Phenanthrene-d10	188	7.972	7.972	(1.000)	594732	8.00000		
* 5	Chrysene-d12	240	10.034	10.034	(1.000)	688637	8.00000		(MH)
* 6	Perylene-d12	264	11.407	11.407	(1.000)	715899	8.00000		
198	1,4-Dioxane	88	1.327	1.327	(0.293)	200661	40.0000	39.269	
10	N-Nitrosodimethylamine	74	1.802	1.802	(0.398)	304220	40.0000	40.013	
9	Pyridine	79	1.834	1.834	(0.405)	595126	40.0000	40.350	
16	Methyl methanesulfonate	80	3.330	3.330	(0.736)	405194	40.0000	39.408	
206	Benzaldehyde	77	4.179	4.179	(0.923)	496911	40.0000	39.810	
21	Aniline	93	4.270	4.270	(0.943)	1228445	40.0000	39.142	
22	Phenol	94	4.265	4.265	(0.942)	1118486	40.0000	40.022	
23	bis(2-Chloroethyl)ether	93	4.329	4.329	(0.956)	712173	40.0000	38.444	
24	2-Chlorophenol	128	4.361	4.361	(0.963)	910903	40.0000	39.499	
26	1,3-Dichlorobenzene	146	4.478	4.478	(0.989)	1024662	40.0000	38.820	
27	1,4-Dichlorobenzene	146	4.537	4.537	(1.002)	1042417	40.0000	38.623	
28	1,2-Dichlorobenzene	146	4.655	4.655	(1.028)	997951	40.0000	38.885	
217	Indane	116	4.719	4.719	(1.042)	1514559	40.0000	40.576	
29	Benzyl Alcohol	108	4.633	4.633	(1.024)	562279	40.0000	38.968	
30	2-Methylphenol	108	4.724	4.724	(1.044)	824239	40.0000	40.656	
31	2,2'-oxybis(1-Chloropropane)	45	4.740	4.740	(1.047)	1046634	40.0000	39.256	
37	Acetophenone	105	4.831	4.831	(1.067)	1177703	40.0000	38.633	
32	N-Nitroso-di-n-propylamine	70	4.836	4.836	(1.068)	561011	40.0000	39.252	
192	4-Methylphenol	108	4.836	4.836	(1.068)	822886	40.0000	40.585	
34	Hexachloroethane	117	4.911	4.911	(1.085)	439333	40.0000	38.750	
35	Nitrobenzene	77	4.954	4.954	(0.902)	910800	40.0000	39.094	
36	N-Nitrosopyrrolidine	100	4.804	4.804	(1.061)	376204	40.0000	40.657	
41	Isophorone	82	5.136	5.136	(0.935)	1624814	40.0000	40.140	
42	2-Nitrophenol	139	5.200	5.200	(0.947)	520506	40.0000	40.852	
43	2,4-Dimethylphenol	107	5.237	5.237	(0.953)	946448	40.0000	41.213	
44	bis(2-Chloroethoxy)methane	93	5.306	5.306	(0.966)	968102	40.0000	39.363	
48	2,4-Dichlorophenol	162	5.381	5.381	(0.980)	805687	40.0000	40.377	
49	Benzoic Acid	122	5.306	5.306	(0.966)	605955	40.0000	45.112	

MJW 9/19/11

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
50	1,2,4-Trichlorobenzene	180	5.451	5.451	(0.992)	961630	40.0000	39.408
51	Naphthalene	128	5.509	5.509	(1.003)	2771424	40.0000	39.493
52	4-Chloroaniline	127	5.547	5.547	(1.010)	1183174	40.0000	39.725
54	2,6-Dichlorophenol	162	5.552	5.552	(1.011)	783181	40.0000	40.167
56	Hexachlorobutadiene	225	5.611	5.611	(1.021)	566434	40.0000	39.752
208	Caprolactam	113	5.793	5.793	(1.054)	255160	40.0000	42.194
59	4-Chloro-3-Methylphenol	107	5.915	5.915	(1.077)	839540	40.0000	41.824
62	2-Methylnaphthalene	142	6.033	6.033	(1.098)	1910639	40.0000	40.387
63	1-Methylnaphthalene	142	6.108	6.108	(1.112)	1802042	40.0000	39.973
64	Hexachlorocyclopentadiene	237	6.161	6.161	(0.902)	733283	40.0000	42.873
65	1,2,4,5-Tetrachlorobenzene	216	6.167	6.167	(0.902)	960507	40.0000	41.147
66	2,4,6-Trichlorophenol	196	6.252	6.252	(0.915)	655340	40.0000	41.549
67	2,4,5-Trichlorophenol	196	6.279	6.279	(0.919)	711590	40.0000	41.252
209	1,1'-Biphenyl	154	6.391	6.391	(0.935)	2449720	40.0000	41.539
70	2-Chloronaphthalene	162	6.407	6.407	(0.937)	1964933	40.0000	41.729
73	2-Nitroaniline	65	6.476	6.476	(0.948)	568523	40.0000	41.225
76	Dimethylphthalate	163	6.615	6.615	(0.968)	2218151	40.0000	41.110
78	2,6-Dinitrotoluene	165	6.663	6.663	(0.975)	491300	40.0000	41.989
79	Acenaphthylene	152	6.722	6.722	(0.984)	3028346	40.0000	41.840
81	3-Nitroaniline	138	6.792	6.792	(0.994)	558103	40.0000	41.605
82	Acenaphthene	153	6.856	6.856	(1.003)	1898634	40.0000	41.194
83	2,4-Dinitrophenol	184	6.866	6.866	(1.005)	322963	40.0000	43.289
85	4-Nitrophenol	109	6.914	6.914	(1.012)	415761	40.0000	42.232
86	Dibenzofuran	168	6.989	6.989	(1.023)	2841172	40.0000	41.972
87	2,4-Dinitrotoluene	165	6.968	6.968	(1.020)	671950	40.0000	40.974
91	2,3,5,6-Tetrachlorophenol	232	7.048	7.048	(1.031)	560739	40.0000	42.699
88	2,3,4,6-Tetrachlorophenol	232	7.085	7.085	(1.037)	576526	40.0000	42.186
92	2-Naphthylamine	143	7.107	7.107	(1.040)	1157934	40.0000	34.374
93	Diethylphthalate	149	7.155	7.155	(1.047)	2384395	40.0000	41.631
94	Fluorene	166	7.251	7.251	(1.061)	2388407	40.0000	42.548
95	4-Chlorophenyl-phenylether	204	7.246	7.246	(1.060)	1181103	40.0000	42.185
96	4-Nitroaniline	138	7.256	7.256	(1.062)	609702	40.0000	41.192
98	4,6-Dinitro-2-methylphenol	198	7.283	7.283	(0.914)	425226	40.0000	45.047
99	N-Nitrosodiphenylamine (1)	169	7.337	7.337	(0.920)	1540128	40.0000	41.837
100	1,2-Diphenylhydrazine	77	7.369	7.369	(0.924)	2295353	40.0000	40.456
106	4-Bromophenyl-phenylether	248	7.625	7.625	(0.956)	659370	40.0000	42.174
107	Hexachlorobenzene	284	7.684	7.684	(0.964)	686413	40.0000	43.333
210	Atrazine	200	7.737	7.737	(0.971)	600447	40.0000	40.214
111	Pentachlorophenol	266	7.828	7.828	(0.982)	446606	40.0000	42.502
115	Phenanthrene	178	7.994	7.994	(1.003)	3707444	40.0000	41.748
116	Anthracene	178	8.031	8.031	(1.007)	3761012	40.0000	43.054
119	Carbazole	167	8.149	8.149	(1.022)	3210923	40.0000	41.198
120	Di-n-Butylphthalate	149	8.400	8.400	(1.054)	4333586	40.0000	43.943
123	Fluoranthene	202	8.907	8.907	(1.117)	4110470	40.0000	42.885
124	Benzidine	184	8.998	8.998	(0.897)	1740841	40.0000	42.672 (M)
125	Pyrene	202	9.083	9.083	(0.905)	4278250	40.0000	41.314 (M)
131	Butylbenzylphthalate	149	9.559	9.559	(0.953)	2076293	40.0000	40.668 (M)
135	3,3'-Dichlorobenzidine	252	9.992	9.992	(0.996)	1542209	40.0000	42.121 (M)
136	Benzo(a)Anthracene	228	10.024	10.024	(0.999)	4046444	40.0000	39.666 (M)
137	Chrysene	228	10.056	10.056	(1.002)	3905978	40.0000	39.794 (M)
139	bis(2-ethylhexyl)Phthalate	149	10.002	10.002	(0.997)	2950941	40.0000	40.160 (M)
140	Di-n-octylphthalate	149	10.531	10.531	(0.923)	5140535	40.0000	41.652
141	Benzo(b)fluoranthene	252	10.996	10.996	(0.964)	5189597	40.0000	40.059
142	Benzo(k)fluoranthene	252	11.023	11.023	(0.966)	4804361	40.0000	39.896

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Semivolatile REPORT SW-846 Method 8270

Data file : \\PITSVR06\D\chem\731.i\V051611D.b\V0516IC7.D
Lab Smp Id: SSTD60 Client Smp ID: SSTD60
Inj Date : 16-MAY-2011 14:27
Operator : 003200 Inst ID: 731.i
Smp Info : IC 1005
Misc Info : SSTD60,V051611D.b,8270d.m,padepi.sub,1,7
Comment :
Method : \\PITSVR06\D\chem\731.i\V051611D.b\8270d.m
Meth Date : 17-May-2011 07:59 731.i Quant Type: ISTD
Cal Date : 16-MAY-2011 14:27 Cal File: V0516IC7.D
Als bottle: 8 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: padepi.sub
Target Version: 4.14

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)	
* 1	1,4-Dichlorobenzene-d4	152	4.530	4.530	(1.000)	124313	8.00000		
* 2	Naphthalene-d8	136	5.492	5.492	(1.000)	514336	8.00000		
* 3	Acenaphthene-d10	164	6.838	6.838	(1.000)	318657	8.00000		
* 4	Phenanthrene-d10	188	7.976	7.976	(1.000)	598197	8.00000		
* 5	Chrysene-d12	240	10.038	10.038	(1.000)	682177	8.00000		(MH)
* 6	Perylene-d12	264	11.411	11.411	(1.000)	709789	8.00000		
198	1,4-Dioxane	88	1.330	1.330	(0.294)	296933	60.0000	60.207	
10	N-Nitrosodimethylamine	74	1.816	1.816	(0.401)	459098	60.0000	62.562	
9	Pyridine	79	1.838	1.838	(0.406)	866957	60.0000	60.901	
16	Methyl methanesulfonate	80	3.339	3.339	(0.737)	597606	60.0000	60.209	
206	Benzaldehyde	77	4.183	4.183	(0.923)	655844	60.0000	54.439	
21	Aniline	93	4.274	4.274	(0.943)	1795030	60.0000	59.260	
22	Phenol	94	4.274	4.274	(0.943)	1655133	60.0000	61.362	
23	bis(2-Chloroethyl)ether	93	4.333	4.333	(0.956)	1082995	60.0000	60.571	
24	2-Chlorophenol	128	4.370	4.370	(0.965)	1350803	60.0000	60.688	
26	1,3-Dichlorobenzene	146	4.482	4.482	(0.989)	1544358	60.0000	60.620	
27	1,4-Dichlorobenzene	146	4.541	4.541	(1.002)	1579465	60.0000	60.633	
28	1,2-Dichlorobenzene	146	4.658	4.658	(1.028)	1512331	60.0000	61.054	
217	Indene	116	4.723	4.723	(1.042)	2272705	60.0000	63.085	
29	Benzyl Alcohol	108	4.637	4.637	(1.024)	859536	60.0000	61.719	
30	2-Methylphenol	108	4.728	4.728	(1.044)	1233431	60.0000	63.035	
31	2,2'-oxybis(1-Chloropropane)	45	4.744	4.744	(1.047)	1558900	60.0000	60.579	
37	Acetophenone	105	4.835	4.835	(1.067)	1778444	60.0000	60.445	
32	N-Nitroso-di-n-propylamine	70	4.840	4.840	(1.068)	849289	60.0000	61.566	
192	4-Methylphenol	108	4.840	4.840	(1.068)	1215253	60.0000	62.099	
34	Hexachloroethane	117	4.915	4.915	(1.085)	663021	60.0000	60.589	
35	Nitrobenzene	77	4.963	4.963	(0.904)	1349582	60.0000	59.339	
36	N-Nitrosopyrrolidine	100	4.813	4.813	(1.062)	576261	60.0000	64.524	
41	Isophorone	82	5.139	5.139	(0.936)	2484192	60.0000	62.865	
42	2-Nitrophenol	139	5.203	5.203	(0.947)	794653	60.0000	63.888	
43	2,4-Dimethylphenol	107	5.241	5.241	(0.954)	1381689	60.0000	61.631	
44	bis(2-Chloroethoxy)methane	93	5.310	5.310	(0.967)	1475709	60.0000	61.463	
48	2,4-Dichlorophenol	162	5.385	5.385	(0.981)	1212947	60.0000	62.268	
49	Benzoic Acid	122	5.321	5.321	(0.969)	912289	60.0000	69.572	

MJW 6/1/9/11

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
50	1,2,4-Trichlorobenzene	180	5.454	5.454	(0.993)	1463596	60.0000	61.440
51	Naphthalene	128	5.513	5.513	(1.004)	4266960	60.0000	62.286
52	4-Chloroaniline	127	5.551	5.551	(1.011)	1830198	60.0000	62.946
54	2,6-Dichlorophenol	162	5.561	5.561	(1.013)	1191154	60.0000	62.579
56	Hexachlorobutadiene	225	5.616	5.615	(1.022)	864881	60.0000	62.287
208	Caprolactam	113	5.807	5.807	(1.057)	378995	60.0000	64.199
69	4-Chloro-3-Methylphenol	107	5.919	5.919	(1.078)	1258466	60.0000	64.221
62	2-Methylnaphthalene	142	6.037	6.037	(1.099)	2927636	60.0000	63.391
63	1-Methylnaphthalene	142	6.111	6.111	(1.113)	2784497	60.0000	63.271
64	Hexachlorocyclopentadiene	237	6.165	6.165	(0.902)	1125572	60.0000	65.981
65	1,2,4,5-Tetrachlorobenzene	216	6.170	6.170	(0.902)	1467137	60.0000	63.016
66	2,4,6-Trichlorophenol	196	6.256	6.256	(0.915)	1008295	60.0000	64.094
67	2,4,5-Trichlorophenol	196	6.282	6.282	(0.919)	1123685	60.0000	65.313
209	1,1'-Biphenyl	154	6.396	6.395	(0.935)	3751526	60.0000	63.780
70	2-Chloronaphthalene	162	6.411	6.411	(0.938)	2989119	60.0000	63.646
73	2-Nitroaniline	65	6.480	6.480	(0.948)	861515	60.0000	62.634
76	Dimethylphthalate	163	6.619	6.619	(0.968)	3366809	60.0000	62.662
78	2,6-Dinitrotoluene	165	6.667	6.667	(0.975)	740348	60.0000	63.439
79	Acenaphthylene	152	6.726	6.726	(0.984)	4761565	60.0000	65.959
81	3-Nitroaniline	138	6.795	6.795	(0.994)	866920	60.0000	64.796
82	Acenaphthene	153	6.859	6.859	(1.003)	2936982	60.0000	63.890
83	2,4-Dinitrophenol	184	6.875	6.875	(1.005)	514934	60.0000	69.201
85	4-Nitrophenol	109	6.918	6.918	(1.012)	600146	60.0000	61.122
86	Dibenzofuran	168	6.993	6.993	(1.023)	4450177	60.0000	65.914
87	2,4-Dinitrotoluene	165	6.977	6.977	(1.020)	1037803	60.0000	63.450
91	2,3,5,6-Tetrachlorophenol	232	7.057	7.057	(1.032)	914926	60.0000	69.853
88	2,3,4,6-Tetrachlorophenol	232	7.089	7.089	(1.037)	921574	60.0000	67.611
92	2-Naphthylamine	143	7.110	7.110	(1.040)	1662726	60.0000	49.488
93	Diethylphthalate	149	7.159	7.159	(1.047)	3564054	60.0000	62.391
94	Fluorene	166	7.255	7.255	(1.061)	3701959	60.0000	66.121
95	4-Chlorophenyl-phenylether	204	7.249	7.249	(1.060)	1809602	60.0000	64.803
96	4-Nitroaniline	138	7.265	7.265	(1.062)	935649	60.0000	63.378
98	4,6-Dinitro-2-methylphenol	198	7.287	7.287	(0.914)	657553	60.0000	69.255
99	N-Nitrosodiphenylamine (1)	169	7.340	7.340	(0.920)	2371020	60.0000	64.035
100	1,2-Diphenylhydrazine	77	7.372	7.372	(0.924)	3493131	60.0000	61.211
106	4-Bromophenyl-phenylether	248	7.629	7.629	(0.956)	1020530	60.0000	64.896
107	Hexachlorobenzene	284	7.687	7.687	(0.964)	1059075	60.0000	66.472
210	Atrazine	200	7.741	7.741	(0.971)	879150	60.0000	58.539
111	Pentachlorophenol	266	7.832	7.832	(0.982)	722850	60.0000	68.392
115	Phenanthrene	178	7.997	7.997	(1.003)	5755894	60.0000	64.439
116	Anthracene	178	8.035	8.035	(1.007)	5809020	60.0000	66.113
119	Carbazole	167	8.152	8.152	(1.022)	4975108	60.0000	63.464
120	Di-n-Butylphthalate	149	8.403	8.403	(1.054)	6302918	60.0000	64.349
123	Fluoranthene	202	8.911	8.911	(1.117)	6479329	60.0000	67.208
124	Benzidine	184	9.002	9.002	(0.897)	2576482	60.0000	63.754 (M)
125	Pyrene	202	9.092	9.092	(0.906)	6574155	60.0000	64.087 (M)
131	Butylbenzylphthalate	149	9.562	9.562	(0.953)	3098178	60.0000	61.259 (M)
135	3,3'-Dichlorobenzidine	252	9.995	9.995	(0.996)	2437757	60.0000	67.210 (M)
136	Benzo(a)Anthracene	228	10.033	10.033	(0.999)	6379695	60.0000	63.130 (M)
137	Chrysene	228	10.059	10.059	(1.002)	6220773	60.0000	63.978 (M)
139	bis(2-ethylhexyl) Phthalate	149	10.006	10.006	(0.997)	4429298	60.0000	60.850 (M)
140	Di-n-octylphthalate	149	10.535	10.535	(0.923)	7981669	60.0000	65.229
141	Benzo(b)fluoranthene	252	11.010	11.010	(0.965)	8195508	60.0000	63.806
142	Benzo(k)fluoranthene	252	11.032	11.032	(0.967)	7423481	60.0000	62.176

TestAmerica Pittsburgh

Semivolatile REPORT SW-846 Method 8270

Data file : \\PITSVR06\D\chem\731.i\V051611D.b\V0516IC8.D
Lab Smp Id: SSTD80 Client Smp ID: SSTD80
Inj Date : 16-MAY-2011 14:49
Operator : 003200 Inst ID: 731.i
Smp Info : IC 1006
Misc Info : SSTD80,V051611D.b,8270d.m,padepi.sub,1,8
Comment :
Method : \\PITSVR06\D\chem\731.i\V051611D.b\8270d.m
Meth Date : 17-May-2011 07:59 731.i Quant Type: ISTD
Cal Date : 16-MAY-2011 14:49 Cal File: V0516IC8.D
Als bottle: 9 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: padepi.sub
Target Version: 4.14

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)	
* 1	1,4-Dichlorobenzene-d4	152	4.520	4.520	(1.000)	126319	8.00000		
* 2	Naphthalene-d8	136	5.487	5.487	(1.000)	513950	8.00000		
* 3	Acenaphthene-d10	164	6.828	6.828	(1.000)	317131	8.00000		
* 4	Phenanthrene-d10	188	7.966	7.966	(1.000)	582284	8.00000		
* 5	Chrysene-d12	240	10.028	10.028	(1.000)	675671	8.00000		(MH)
* 6	Perylene-d12	264	11.396	11.396	(1.000)	686307	8.00000		
198	1,4-Dioxane	88	1.331	1.331	(0.295)	389644	80.0000	77.751	
10	N-Nitrosodimethylamine	74	1.806	1.806	(0.400)	592848	80.0000	79.506	
9	Pyridine	79	1.833	1.833	(0.406)	1111058	80.0000	76.809	
16	Methyl methanesulfonate	80	3.334	3.334	(0.738)	743617	80.0000	73.742	
206	Benzaldehyde	77	4.178	4.178	(0.924)	760563	80.0000	62.129	
21	Aniline	93	4.269	4.269	(0.944)	2334744	80.0000	75.853	
22	Phenol	94	4.269	4.269	(0.944)	2145480	80.0000	78.278	
23	bis(2-Chloroethyl)ether	93	4.328	4.328	(0.957)	1399608	80.0000	77.036	
24	2-Chlorophenol	128	4.360	4.360	(0.965)	1764366	80.0000	78.010	
26	1,3-Dichlorobenzene	146	4.478	4.478	(0.991)	2005261	80.0000	77.501	
27	1,4-Dichlorobenzene	146	4.536	4.536	(1.004)	2062410	80.0000	77.915	
28	1,2-Dichlorobenzene	146	4.648	4.648	(1.028)	1998240	80.0000	79.389	
217	Indene	116	4.718	4.718	(1.044)	2992589	80.0000	81.748	
29	Benzyl Alcohol	108	4.627	4.627	(1.024)	1164451	80.0000	81.579	
30	2-Methylphenol	108	4.723	4.723	(1.045)	1576656	80.0000	79.296	
31	2,2'-oxybis(1-Chloropropane)	45	4.734	4.734	(1.047)	2048457	80.0000	78.339	
37	Acetophenone	105	4.830	4.830	(1.069)	2327313	80.0000	77.844	
32	N-Nitroso-di-n-propylamine	70	4.835	4.835	(1.070)	1087461	80.0000	77.580	
192	4-Methylphenol	108	4.835	4.835	(1.070)	1572140	80.0000	79.060	
34	Hexachloroethane	117	4.910	4.910	(1.086)	857183	80.0000	77.089	
35	Nitrobenzene	77	4.953	4.953	(0.903)	1789325	80.0000	78.733	
36	N-Nitrosopyrrolidine	100	4.809	4.809	(1.064)	744527	80.0000	82.041	
41	Isophorone	82	5.135	5.135	(0.936)	3290018	80.0000	83.320	
42	2-Nitrophenol	139	5.199	5.199	(0.947)	1064739	80.0000	85.667	
43	2,4-Dimethylphenol	107	5.236	5.236	(0.954)	1840550	80.0000	82.160	
44	bis(2-Chloroethoxy)methane	93	5.300	5.300	(0.966)	1936231	80.0000	80.705	
48	2,4-Dichlorophenol	162	5.380	5.380	(0.981)	1656670	80.0000	85.110	
49	Benzoic Acid	122	5.322	5.322	(0.970)	1005557	00.0000	76.742	

MW 5/19/11

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
50	1,2,4-Trichlorobenzene	180	5.444	5.444	(0.992)	1978773	80.0000	83.130
51	Naphthalene	128	5.503	5.503	(1.003)	5728862	80.0000	83.688
52	4-Chloroaniline	127	5.541	5.541	(1.010)	2389737	80.0000	82.252
54	2,6-Dichlorophenol	162	5.551	5.551	(1.012)	1581072	80.0000	83.127
56	Hexachlorobutadiene	225	5.610	5.610	(1.022)	1136508	80.0000	81.911
208	Caprolactam	113	5.808	5.808	(1.058)	498502	80.0000	84.506
59	4-Chloro-3-Methylphenol	107	5.915	5.915	(1.078)	1626480	80.0000	83.064
62	2-Methylnaphthalene	142	6.032	6.032	(1.099)	3931042	80.0000	85.182
63	1-Methylnaphthalene	142	6.107	6.107	(1.113)	3796113	80.0000	86.322
64	Hexachlorocyclopentadiene	237	6.160	6.160	(0.902)	1504335	80.0000	88.609
65	1,2,4,5-Tetrachlorobenzene	216	6.160	6.160	(0.902)	1950495	80.0000	84.180
66	2,4,6-Trichlorophenol	196	6.246	6.246	(0.915)	1410817	80.0000	90.112
67	2,4,5-Trichlorophenol	196	6.273	6.273	(0.919)	1478792	80.0000	86.366
209	1,1'-Biphenyl	154	6.385	6.385	(0.935)	5090616	80.0000	86.963
70	2-Chloronaphthalene	162	6.401	6.401	(0.937)	4044097	80.0000	86.524
73	2-Nitroaniline	65	6.476	6.476	(0.948)	1121369	80.0000	81.918
76	Dimethylphthalate	163	6.614	6.614	(0.969)	4453503	80.0000	83.153
78	2,6-Dinitrotoluene	165	6.657	6.657	(0.975)	970002	80.0000	83.518
79	Acenaphthylene	152	6.721	6.721	(0.984)	6205763	80.0000	86.378
81	3-Nitroaniline	138	6.785	6.786	(0.994)	1117449	80.0000	83.924
82	Acenaphthene	153	6.855	6.855	(1.004)	3936997	80.0000	86.056
83	2,4-Dinitrophenol	184	6.865	6.865	(1.005)	702231	80.0000	94.826
85	4-Nitrophenol	109	6.914	6.914	(1.013)	764534	80.0000	78.239
86	Dibenzofuran	168	6.983	6.983	(1.023)	5972774	80.0000	88.891
87	2,4-Dinitrotoluene	165	6.967	6.967	(1.020)	1381420	80.0000	84.864
91	2,3,5,6-Tetrachlorophenol	232	7.047	7.047	(1.032)	1215365	80.0000	93.237
88	2,3,4,6-Tetrachlorophenol	232	7.079	7.079	(1.037)	1260934	80.0000	92.953
92	2-Naphthylamine	143	7.101	7.101	(1.040)	2054790	80.0000	61.452
93	Diethylphthalate	149	7.154	7.154	(1.048)	4712442	80.0000	82.892
94	Fluorene	166	7.250	7.250	(1.062)	4832182	80.0000	86.724
95	4-Chlorophenyl-phenylether	204	7.245	7.245	(1.061)	2410091	80.0000	86.722
96	4-Nitroaniline	138	7.255	7.255	(1.063)	1219521	80.0000	83.004
98	4,6-Dinitro-2-methylphenol	198	7.282	7.282	(0.914)	895970	80.0000	96.945
99	N-Nitrosodiphenylamine (1)	169	7.330	7.330	(0.920)	3228674	80.0000	89.581
100	1,2-Diphenylhydrazine	77	7.362	7.362	(0.924)	4721285	80.0000	84.993
106	4-Bromophenyl-phenylether	248	7.619	7.619	(0.956)	1377245	80.0000	89.973
107	Hexachlorobenzene	284	7.677	7.677	(0.964)	1442310	80.0000	92.999
210	Atrazine	200	7.736	7.736	(0.971)	1105439	80.0000	75.618
111	Pentachlorophenol	266	7.822	7.822	(0.982)	944970	80.0000	91.851
115	Phenanthrene	178	7.987	7.987	(1.003)	7026030	80.0000	80.797
116	Anthracene	178	8.025	8.025	(1.007)	7184941	80.0000	84.007
119	Carbazole	167	8.142	8.142	(1.022)	6663849	80.0000	87.330
120	Di-n-Butylphthalate	149	8.393	8.393	(1.054)	7414400	80.0000	76.791
123	Fluoranthene	202	8.901	8.901	(1.117)	7798520	80.0000	83.102
124	Benzidine	184	8.997	8.997	(0.097)	3284042	80.0000	82.044 (M)
125	Pyrene	202	9.077	9.077	(0.905)	8016476	80.0000	78.900 (M)
131	Butylbenzylphthalate	149	9.553	9.553	(0.953)	4058202	80.0000	81.013 (M)
135	3,3'-Dichlorobenzidine	252	9.985	9.985	(0.996)	3277330	80.0000	91.228 (M)
136	Benzo(a)Anthracene	228	10.017	10.017	(0.999)	8293252	80.0000	82.856 (M)
137	Chrysene	228	10.049	10.049	(1.002)	7758236	80.0000	80.558 (M)
139	bis(2-ethylhexyl)Phthalate	149	9.996	9.996	(0.997)	5896121	80.0000	81.782 (M)
140	Di-n-octylphthalate	149	10.519	10.519	(0.923)	9703877	80.0000	82.017
141	Benzo(b)fluoranthene	252	10.995	10.995	(0.965)	10870844	80.0000	87.530
142	Benzo(k)fluoranthene	252	11.016	11.016	(0.967)	10003642	80.0000	86.653

MW 5/19/11

Test America Pittsburgh

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 71.i
Lab File ID: S0517CCC.D
Analysis Type:
Lab Sample ID: sstd4
Method: \\pitsvr06\D\chem\71.i\2011\s051711.b\8270D.m

Injection Date: 17-MAY-2011 10:24
Init. Cal. Date(s): 02-MAY-2011 02-MAY-2011
Init. Cal. Times: 13:58 16:59
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF4	CCAL RRF4	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
70 2-Chloronaphthalene	1.17529	1.18345	1.18345	0.800	-0.69421	20.00000	Averaged
73 2-Nitroaniline	0.31982	0.31664	0.31664	0.010	0.99452	20.00000	Averaged
76 Dimethylphthalate	1.28005	1.22419	1.22419	0.010	4.36385	20.00000	Averaged
78 2,6-Dinitrotoluene	0.28778	0.27128	0.27128	0.200	5.73451	20.00000	Averaged
79 Acenaphthylene	1.67850	1.77199	1.77199	0.900	5.66995	20.00000	Averaged
81 3-Nitroaniline	0.31305	0.28679	0.28679	0.010	8.38929	20.00000	Averaged
82 Acenaphthene	1.20240	1.14369	1.14369	0.900	4.88344	20.00000	Averaged
83 2,4-Dinitrophenol	0.20500	0.17601	0.17601	0.010	14.14368	20.00000	Averaged
85 4-Nitrophenol	0.17205	0.17726	0.17726	0.010	-3.00519	20.00000	Averaged
86 Dibenzofuran	1.77769	1.71843	1.71843	0.800	3.33358	20.00000	Averaged
87 2,4-Dinitrotoluene	0.40134	0.38262	0.38262	0.200	4.66414	20.00000	Averaged
92 2-Naphthylamine	4.00000	3.67108	0.89210	0.010	8.22302	20.00000	Quadratic
91 2,3,5,6-Tetrachlorophenol	0.41193	0.34622	0.34622	0.010	15.95278	20.00000	Averaged
88 2,3,4,6-Tetrachlorophenol	0.36885	0.37037	0.37037	0.010	-0.41052	20.00000	Averaged
93 Diethylphthalate	1.32603	1.21458	1.21458	0.010	8.40496	20.00000	Averaged
94 Fluorene	1.38617	1.30115	1.30115	0.900	6.13391	20.00000	Averaged
95 4-Chlorophenyl-phenylether	0.75757	0.72768	0.72768	0.400	3.94474	20.00000	Averaged
96 4-Nitroaniline	0.32665	0.29328	0.29328	0.010	10.21680	20.00000	Averaged
98 4,6-Dinitro-2-methylphenol	0.14926	0.13935	0.13935	0.010	6.63626	20.00000	Averaged
99 N-Nitrosodiphenylamine (1)	0.54749	0.54473	0.54473	0.010	0.50405	20.00000	Averaged
100 1,2-Diphenylhydrazine	0.76441	0.76933	0.76933	0.010	-0.64408	20.00000	Averaged
106 4-Bromophenyl-phenylether	0.23235	0.22377	0.22377	0.100	3.69589	20.00000	Averaged
107 Hexachlorobenzene	0.22469	0.22088	0.22088	0.100	1.69679	20.00000	Averaged
210 Atrazine	0.20485	0.19537	0.19537	0.010	4.62681	20.00000	Averaged
111 Pentachlorophenol	0.16283	0.15196	0.15196	0.050	6.68042	20.00000	Averaged
115 Phenanthrene	1.20211	1.09194	1.09194	0.700	9.16500	20.00000	Averaged
116 Anthracene	1.13334	1.08860	1.08860	0.700	3.94758	20.00000	Averaged
119 Carbazole	0.98990	0.96763	0.96763	0.010	2.24932	20.00000	Averaged
120 Di-n-Butylphthalate	1.23444	1.11609	1.11609	0.010	9.58739	20.00000	Averaged
123 Fluoranthene	1.23712	1.16912	1.16912	0.600	5.49616	20.00000	Averaged
124 Benzidine	0.31600	0.42344	0.42344	0.010	-33.99848	20.00000	Averaged <- NT
125 Pyrene	1.37459	1.34727	1.34727	0.600	1.98755	20.00000	Averaged
131 Butylbenzylphthalate	0.55315	0.51181	0.51181	0.010	7.47310	20.00000	Averaged
135 3,3'-Dichlorobenzidine	0.38545	0.35585	0.35585	0.010	7.67970	20.00000	Averaged
136 Benzo(a)Anthracene	1.27015	1.12669	1.12669	0.800	11.29512	20.00000	Averaged
137 Chrysene	1.17424	1.21853	1.21853	0.700	-3.77196	20.00000	Averaged
139 bis(2-ethylhexyl)Phthalate	0.78790	0.64707	0.64707	0.010	17.87401	20.00000	Averaged
140 Di-n-octylphthalate	1.60551	1.37486	1.37486	0.010	14.36622	20.00000	Averaged
141 Benzo(b)fluoranthene	4.00000	3.26776	1.23273	0.700	18.30600	20.00000	Quadratic
142 Benzo(k)fluoranthene	1.55356	1.65205	1.65205	0.700	-6.33940	20.00000	Averaged
143 7,12-dimethylbenz[a]anthrac	0.64428	0.54708	0.54708	0.010	15.08704	20.00000	Averaged
146 Benzo(a)pyrene	1.07676	1.02004	1.02004	0.700	5.26806	20.00000	Averaged

MJW 9/19/11

Test America Pittsburgh

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 71.i
Lab File ID: S0517CCC.D
Analysis Type:
Lab Sample ID: sstd4
Method: \\pitsvr06\D\chem\71.i\2011\s051711.b\8270D.m

Injection Date: 17-MAY-2011 10:24
Init. Cal. Date(s): 02-MAY-2011 02-MAY-2011
Init. Cal. Times: 13:58 16:59
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF4	CCAL RRF4	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
149 Indeno(1,2,3-cd)pyrene	1.04335	1.02177	1.02177	0.500	2.06839	20.00000	Averaged
150 Dibenz(a,h)anthracene	0.86291	0.81953	0.81953	0.400	5.02814	20.00000	Averaged
151 Benzo(g,h,i)perylene	0.84675	0.87439	0.87439	0.500	-3.26390	20.00000	Averaged
$ 154 Nitrobenzene-d5	0.38243	0.37066	0.37066	0.010	3.07859	20.00000	Averaged
$ 155 2-Fluorobiphenyl	1.43236	1.43221	1.43221	0.010	0.01055	20.00000	Averaged
$ 156 Terphenyl-d14	0.94146	0.90009	0.90009	0.010	4.39460	20.00000	Averaged
$ 157 Phenol-d5	1.62750	1.49773	1.49773	0.010	7.97361	20.00000	Averaged
$ 158 2-Fluorophenol	1.16706	1.07752	1.07752	0.010	7.67200	20.00000	Averaged
$ 159 2,4,6-Tribromophenol	0.08724	0.08016	0.08016	0.010	8.10969	20.00000	Averaged
$ 186 2-Chlorophenol-d4	1.43500	1.36689	1.36689	0.010	4.74638	20.00000	Averaged
$ 187 1,2-Dichlorobenzene-d4	1.02413	1.00481	1.00481	0.010	1.88725	20.00000	Averaged

Chrysene $RRF = \frac{258344\,(8)}{424026\,(4)} = \left(\frac{1.218529}{1.17424} - 1\right) \cdot 100 = 9.05\%$

$\left(\frac{1.17424}{1.218529} - 1\right) \cdot 100 = -3.6\%$

Flouene $RRF = \frac{183189\,(8)}{281581\,(4)} = \left(\frac{1.38617}{1.301146} - 1\right) \cdot 100 = 6.5\%$

MJW 9/19/11

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
49 Benzoic Acid	122	4.881	4.881	(0.969)	134777	10.0000	9.1092 (M)
50 1,2,4-Trichlorobenzene	180	5.004	5.004	(0.994)	89178	4.00000	4.0308
51 Naphthalene	128	5.052	5.052	(1.003)	266955	4.00000	3.8602
52 4-Chloroaniline	127	5.105	5.105	(1.014)	107844	4.00000	3.8050
54 2,6-Dichlorophenol	162	5.111	5.111	(1.015)	65362	4.00000	3.5022
56 Hexachlorobutadiene	225	5.169	5.169	(1.027)	53899	4.00000	4.0551 (Q)
208 Caprolactam	113	5.335	5.335	(1.059)	21158	4.00000	3.2972
59 4-Chloro-3-Methylphenol	107	5.479	5.479	(1.088)	70040	4.00000	3.3095
62 2-Methylnaphthalene	142	5.575	5.575	(1.107)	160587	4.00000	3.6791
63 1-Methylnaphthalene	142	5.650	5.650	(1.122)	162216	4.00000	3.7181
64 Hexachlorocyclopentadiene	237	5.709	5.709	(0.898)	58049	4.00000	4.1404
65 1,2,4,5-Tetrachlorobenzene	216	5.709	5.709	(0.898)	92764	4.00000	4.2231
66 2,4,6-Trichlorophenol	196	5.794	5.794	(0.912)	56661	4.00000	3.7181
67 2,4,5-Trichlorophenol	196	5.816	5.816	(0.915)	61327	4.00000	4.1222
209 1,1'-Biphenyl	154	5.933	5.933	(0.934)	217999	4.00000	4.0721
70 2-Chloronaphthalene	162	5.939	5.939	(0.934)	166619	4.00000	4.0278
73 2-Nitroaniline	65	6.019	6.019	(0.947)	44580	4.00000	3.9602
76 Dimethylphthalate	163	6.168	6.168	(0.971)	172355	4.00000	3.8254
78 2,6-Dinitrotoluene	165	6.206	6.206	(0.976)	38193	4.00000	3.7706
79 Acenaphthylene	152	6.248	6.248	(0.983)	249480	4.00000	3.7732 (Q)
81 3-Nitroaniline	138	6.323	6.323	(0.995)	40377	4.00000	3.6644
82 Acenaphthene	153	6.382	6.382	(1.004)	161020	4.00000	3.8047
83 2,4-Dinitrophenol	184	6.403	6.403	(1.008)	61950	10.0000	8.5856
85 4-Nitrophenol	109	6.462	6.462	(1.017)	62393	10.0000	10.300
86 Dibenzofuran	168	6.510	6.510	(1.024)	241939	4.00000	3.8666
87 2,4-Dinitrotoluene	165	6.505	6.505	(1.024)	53869	4.00000	3.8134
92 2-Naphthylamine	143	6.628	6.628	(1.043)	125599	4.00000	3.6711
91 2,3,5,6-Tetrachlorophenol	232	6.580	6.580	(1.035)	48744	4.00000	3.3619
88 2,3,4,6-Tetrachlorophenol	232	6.612	6.612	(1.040)	52144	4.00000	4.0164
93 Diethylphthalate	149	6.702	6.702	(1.055)	171001	4.00000	3.6538
94 Fluorene	166	6.772	6.772	(1.066)	183189	4.00000	3.7546
95 4-Chlorophenyl-phenylether	204	6.777	6.777	(1.066)	102451	4.00000	3.8422
96 4-Nitroaniline	138	6.783	6.783	(1.067)	41291	4.00000	3.5913
98 4,6-Dinitro-2-methylphenol	198	6.809	6.809	(0.911)	83208	10.0000	9.3364
99 N-Nitrosodiphenylamine (1)	169	6.868	6.868	(0.919)	130105	4.00000	3.9798
100 1,2-Diphenylhydrazine	77	6.895	6.895	(0.923)	183748	4.00000	4.0258
106 4-Bromophenyl-phenylether	248	7.146	7.146	(0.956)	53445	4.00000	3.8522
107 Hexachlorobenzene	284	7.189	7.189	(0.962)	52755	4.00000	3.9321
210 Atrazine	200	7.274	7.274	(0.974)	46662	4.00000	3.8149
111 Pentachlorophenol	266	7.338	7.338	(0.982)	90734	10.0000	9.3320 (Q)
115 Phenanthrene	178	7.488	7.488	(1.002)	260801	4.00000	3.6334
116 Anthracene	178	7.531	7.531	(1.008)	260003	4.00000	3.8421
119 Carbazole	167	7.653	7.653	(1.024)	231111	4.00000	3.9100 (Q)
120 Di-n-Butylphthalate	149	7.931	7.931	(1.061)	266569	4.00000	3.6165
123 Fluoranthene	202	8.385	8.385	(1.122)	279236	4.00000	3.7802
124 Benzidine	184	8.492	8.492	(0.897)	89774	4.00000	5.3599
125 Pyrene	202	8.556	8.556	(0.904)	285638	4.00000	3.9205
131 Butylbenzylphthalate	149	9.053	9.053	(0.957)	108511	4.00000	3.7011
135 3,3'-Dichlorobenzidine	252	9.443	9.443	(0.998)	75444	4.00000	3.6928
136 Benzo(a)Anthracene	228	9.459	9.459	(0.999)	238872	4.00000	3.5482
137 Chrysene	228	9.486	9.486	(1.002)	258344	4.00000	4.1509
139 bis(2-ethylhexyl)Phthalate	149	9.491	9.491	(1.003)	137188	4.00000	3.2850
140 Di-n-octylphthalate	149	9.951	9.951	(0.943)	223049	4.00000	3.4254
141 Benzo(b)fluoranthene	252	10.239	10.239	(0.971)	199991	4.00000	3.2678

Test America Pittsburgh

Semivolatile REPORT SW-846 Method 8270

Data file : \\pitsvr06\D\chem\71.i\2011\s051711.b\S0517CCC.D
Lab Smp Id: sstd4 Client Smp ID: sstd4
Inj Date : 17-MAY-2011 10:24
Operator : 045183sab Inst ID: 71.i
Smp Info : CCVIS 11440 svllSSTD4i 00012 8270D
Misc Info : sstd4,s051711.b,8270D.m,4-rooti.sub,2,3
Comment :
Method : \\pitsvr06\D\chem\71.i\2011\s051711.b\8270D.m
Meth Date : 08-Sep-2011 14:24 71.i Quant Type: ISTD
Cal Date : 02-MAY-2011 16:59 Cal File: S0502IC8.D
Als bottle: 2 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 4-rooti.sub
Target Version: 4.14
Processing Host: PITPC-732

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 1	1,4-Dichlorobenzene-d4	152	4.074	4.074	(1.000)	129623	8.00000	
* 2	Naphthalene-d8	136	5.036	5.036	(1.000)	509481	8.00000	
* 3	Acenaphthene-d10	164	6.355	6.355	(1.000)	281581	8.00000	
* 4	Phenanthrene-d10	188	7.472	7.472	(1.000)	477684	8.00000	
* 5	Chrysene-d12	240	9.464	9.464	(1.000)	424026	8.00000	
* 6	Perylene-d12	264	10.549	10.549	(1.000)	324468	8.00000	
198	1,4-Dioxane	88	0.783	0.783	(0.192)	25776	4.00000	3.4954 (M)
10	N-Nitrosodimethylamine	74	1.104	1.104	(0.271)	42123	4.00000	3.8248
9	Pyridine	79	1.136	1.136	(0.279)	76197	4.00000	3.7706
16	Methyl methanesulfonate	80	2.829	2.829	(0.695)	41631	4.00000	3.9093
206	Benzaldehyde	77	3.722	3.722	(0.913)	58182	4.00000	3.4186
21	Aniline	93	3.823	3.823	(0.938)	127435	4.00000	3.7193
22	Phenol	94	3.839	3.839	(0.942)	106699	4.00000	3.4202
23	bis(2-Chloroethyl)ether	93	3.893	3.893	(0.955)	82825	4.00000	3.8457
24	2-Chlorophenol	128	3.909	3.909	(0.959)	89457	4.00000	3.7678
26	1,3-Dichlorobenzene	146	4.026	4.026	(0.988)	100426	4.00000	3.9030
27	1,4-Dichlorobenzene	146	4.085	4.085	(1.003)	102272	4.00000	3.8638
28	1,2-Dichlorobenzene	146	4.202	4.202	(1.031)	97225	4.00000	3.8885
29	Benzyl Alcohol	108	4.197	4.197	(1.030)	50188	4.00000	3.2039
30	2-Methylphenol	108	4.299	4.299	(1.055)	79704	4.00000	3.5580
31	2,2'-oxybis(1-Chloropropane)	45	4.309	4.309	(1.058)	82179	4.00000	3.7097
217	Indene	116	4.272	4.272	(1.049)	151236	4.00000	3.7149
37	Acetophenone	105	4.389	4.389	(1.077)	124071	4.00000	3.8023
32	N-Nitroso-di-n-propylamine	70	4.400	4.400	(1.080)	57350	4.00000	3.4615
192	4-Methylphenol	108	4.416	4.416	(1.084)	76174	4.00000	3.4388
34	Hexachloroethane	117	4.459	4.459	(1.094)	38799	4.00000	3.8733
35	Nitrobenzene	77	4.507	4.507	(0.895)	92102	4.00000	3.9237
36	N-Nitrosopyrrolidine	100	4.363	4.363	(1.071)	36462	4.00000	3.2612
41	Isophorone	82	4.699	4.699	(0.933)	150446	4.00000	3.5523
42	2-Nitrophenol	139	4.753	4.753	(0.944)	47313	4.00000	3.8261
43	2,4-Dimethylphenol	107	4.811	4.811	(0.955)	78056	4.00000	3.3518
44	bis(2-Chloroethoxy)methane	93	4.875	4.875	(0.968)	98934	4.00000	3.8369
48	2,4-Dichlorophenol	162	4.940	4.940	(0.981)	72630	4.00000	3.7524

MJW
9/14/11

Field Dup

lab_sample_id	field_sample_id	param_name	final_result	final_qualifier	difference	Average	RPD
C1E130427002	AI2-108(6-24)	2-Methylnaphthalene	1.6	J	0.5	1.35	37%
C1E130427004	DUP-AI2-2(6-24)	2-Methylnaphthalene	1.1	J			
C1E130427002	AI2-108(6-24)	Acenaphthene	6.4	J	5.53	3.635	152%
C1E130427004	DUP-AI2-2(6-24)	Acenaphthene	0.87	J			
C1E130427002	AI2-108(6-24)	Acenaphthylene	3.6	J	0.6	3.9	15%
C1E130427004	DUP-AI2-2(6-24)	Acenaphthylene	4.2	J			
C1E130427002	AI2-108(6-24)	Anthracene	8.9		3.5	7.15	49%
C1E130427004	DUP-AI2-2(6-24)	Anthracene	5.4	J			
C1E130427002	AI2-108(6-24)	Benzo(a)anthracene	49		12	43	28%
C1E130427004	DUP-AI2-2(6-24)	Benzo(a)anthracene	37				
C1E130427002	AI2-108(6-24)	Benzo(a)pyrene	49		5	46.5	11%
C1E130427004	DUP-AI2-2(6-24)	Benzo(a)pyrene	44				
C1E130427002	AI2-108(6-24)	Benzo(b)fluoranthene	77		12	71	17%
C1E130427004	DUP-AI2-2(6-24)	Benzo(b)fluoranthene	65				
C1E130427002	AI2-108(6-24)	Benzo(ghi)perylene	36		2	35	6%
C1E130427004	DUP-AI2-2(6-24)	Benzo(ghi)perylene	34				
C1E130427002	AI2-108(6-24)	Benzo(k)fluoranthene	1.9	U	0	1.9	0%
C1E130427004	DUP-AI2-2(6-24)	Benzo(k)fluoranthene	1.9	U			
C1E130427002	AI2-108(6-24)	Chrysene	52		6	49	12%
C1E130427004	DUP-AI2-2(6-24)	Chrysene	46				
C1E130427002	AI2-108(6-24)	Dibenz(a,h)anthracene	11		1.6	10.2	16%
C1E130427004	DUP-AI2-2(6-24)	Dibenz(a,h)anthracene	9.4				
C1E130427002	AI2-108(6-24)	Fluoranthene	87		29	72.5	40%
C1E130427004	DUP-AI2-2(6-24)	Fluoranthene	58				
C1E130427002	AI2-108(6-24)	Fluorene	3.7	J	2.1	2.65	79%
C1E130427004	DUP-AI2-2(6-24)	Fluorene	1.6	J			
C1E130427002	AI2-108(6-24)	Indeno(1,2,3-cd)pyrene	32		4	30	13%
C1E130427004	DUP-AI2-2(6-24)	Indeno(1,2,3-cd)pyrene	28				
C1E130427002	AI2-108(6-24)	Naphthalene	4	J	0.8	3.6	22%
C1E130427004	DUP-AI2-2(6-24)	Naphthalene	3.2	J			
C1E130427002	AI2-108(6-24)	Phenanthrene	58		37	39.5	94%
C1E130427004	DUP-AI2-2(6-24)	Phenanthrene	21				
C1E130427002	AI2-108(6-24)	Pyrene	90		31	74.5	42%
C1E130427004	DUP-AI2-2(6-24)	Pyrene	59				

MJW 9/30/11

Field Dup

lab_sample_id	field_sample_id	param_name	final_result	final_qualifier	difference	Average	RPD
C1E130427001	AI2-108(0-2)	1-Methylnaphthalene	2.1	J	0.3	2.25	13%
C1E130427003	DUP-AI2-1(0-2)	1-Methylnaphthalene	2.4	J			
C1E130427001	AI2-108(0-2)	2-Methylnaphthalene	3.3	J	0.6	3.6	17%
C1E130427003	DUP-AI2-1(0-2)	2-Methylnaphthalene	3.9	J			
C1E130427001	AI2-108(0-2)	Acenaphthene	3.8	J	0.6	3.5	17%
C1E130427003	DUP-AI2-1(0-2)	Acenaphthene	3.2	J			
C1E130427001	AI2-108(0-2)	Acenaphthylene	47		3	48.5	6%
C1E130427003	DUP-AI2-1(0-2)	Acenaphthylene	50				
C1E130427001	AI2-108(0-2)	Anthracene	55		0	55	0%
C1E130427003	DUP-AI2-1(0-2)	Anthracene	55				
C1E130427001	AI2-108(0-2)	Benzo(a)anthracene	31		0	31	0%
C1E130427003	DUP-AI2-1(0-2)	Benzo(a)anthracene	31				
C1E130427001	AI2-108(0-2)	Benzo(a)pyrene	41		2	42	5%
C1E130427003	DUP-AI2-1(0-2)	Benzo(a)pyrene	43				
C1E130427001	AI2-108(0-2)	Benzo(b)fluoranthene	80		1	80.5	1%
C1E130427003	DUP-AI2-1(0-2)	Benzo(b)fluoranthene	81				
C1E130427001	AI2-108(0-2)	Benzo(ghi)perylene	81		9	76.5	12%
C1E130427003	DUP-AI2-1(0-2)	Benzo(ghi)perylene	72				
C1E130427001	AI2-108(0-2)	Chrysene	44		9	48.5	19%
C1E130427003	DUP-AI2-1(0-2)	Chrysene	53				
C1E130427001	AI2-108(0-2)	Dibenz(a,h)anthracene	13		2	12	17%
C1E130427003	DUP-AI2-1(0-2)	Dibenz(a,h)anthracene	11				
C1E130427001	AI2-108(0-2)	Fluoranthene	74		13	67.5	19%
C1E130427003	DUP-AI2-1(0-2)	Fluoranthene	61				
C1E130427001	AI2-108(0-2)	Fluorene	4.5	J	0.9	4.05	22%
C1E130427003	DUP-AI2-1(0-2)	Fluorene	3.6	J			
C1E130427001	AI2-108(0-2)	Indeno(1,2,3-cd)pyrene	53		2	52	4%
C1E130427003	DUP-AI2-1(0-2)	Indeno(1,2,3-cd)pyrene	51				
C1E130427001	AI2-108(0-2)	Naphthalene	8.1		0.4	7.9	5%
C1E130427003	DUP-AI2-1(0-2)	Naphthalene	7.7				
C1E130427001	AI2-108(0-2)	Phenanthrene	28		9	23.5	38%
C1E130427003	DUP-AI2-1(0-2)	Phenanthrene	19				
C1E130427001	AI2-108(0-2)	Pyrene	78		0	78	0%
C1E130427003	DUP-AI2-1(0-2)	Pyrene	78				

MJW
9/30/11

SW846 8270D Low Level MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Watermark Environmental

Lab Code: TALPIT SDG No:

Matrix Spike ID: AI2-110(0-2) Level:(low/med) LOW

Lot #: C1E130427 WO #: MJDKL1CM
BATCH: 1138010

COMPOUND	SPIKE ADDED (ug/kg)	SAMPLE CONCENT. (ug/kg)	MS CONCENT. (ug/kg)	MS % REC	LIMITS REC	QUAL
Acenaphthene	997	37 U		0*	45 - 110	NC DIL
Pyrene	997	320		0*	45 - 125	NC DIL
Acenaphthylene	997	62 U		0*	45 - 105	NC DIL
Anthracene	997	35		0*	55 - 105	NC DIL
Benzo(a)anthracene	997	160		0*	50 - 110	NC DIL
Benzo(b)fluoranthene	997	370		0*	45 - 115	NC DIL
Benzo(k)fluoranthene	997	62 U		0*	45 - 125	NC DIL
Benzo(ghi)perylene	997	190		0*	40 - 125	NC DIL
Benzo(a)pyrene	997	240		0*	50 - 110	NC DIL
Chrysene	997	210		0*	55 - 110	NC DIL
Fluoranthene	997	320		0*	55 - 115	NC DIL
Fluorene	997	62 U		0*	50 - 110	NC DIL
Indeno(1,2,3-cd)pyrene	997	180		0*	40 - 120	NC DIL
2-Methylnaphthalene	997	37 U		0*	45 - 105	NC DIL
Naphthalene	997	37 U		0*	40 - 105	NC DIL
Phenanthrene	997	140		0*	50 - 110	NC DIL
Dibenzo(a,h)anthracene	997	74 U		0*	40 - 125	NC DIL
1-Methylnaphthalene	997	37 U		0*	10 - 140	NC DIL

NOTES(S):

NC The recovery and/or RPD were not calculated.

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 0 outside limits
Spike Recovery: 18 out of 18 outside limits

COMMENTS:

FORM III

SW846 8270D Low Level MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Watermark Environmental

Lab Code: TALPIT SDG No:

Matrix Spike ID: AI2-110(0-2) Level:(low/med) LOW

Lot #: C1E130427 WO #: MJDKL1CN
BATCH: 1138010

COMPOUND	SPIKE ADDED (ug/kg)	MSD CONCENT. (ug/kg)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	QUAL
Acenaphthene	997		0*		30	45 - 110	NC DIL
Pyrene	997		0*		30	45 - 125	NC DIL
Acenaphthylene	997		0*		30	45 - 105	NC DIL
Anthracene	997		0*		30	55 - 105	NC DIL
Benzo(a)anthracene	997		0*		30	50 - 110	NC DIL
Benzo(b)fluoranthene	997		0*		30	45 - 115	NC DIL
Benzo(k)fluoranthene	997		0*		30	45 - 125	NC DIL
Benzo(ghi)perylene	997		0*		30	40 - 125	NC DIL
Benzo(a)pyrene	997		0*		30	50 - 110	NC DIL
Chrysene	997		0*		30	55 - 110	NC DIL
Fluoranthene	997		0*		30	55 - 115	NC DIL
Fluorene	997		0*		30	50 - 110	NC DIL
Indeno(1,2,3-cd)pyrene	997		0*		30	40 - 120	NC DIL
2-Methylnaphthalene	997		0*		30	45 - 105	NC DIL
Naphthalene	997		0*		30	40 - 105	NC DIL
Phenanthrene	997		0*		30	50 - 110	NC DIL
Dibenzo(a,h)anthracene	997		0*		30	40 - 125	NC DIL
1-Methylnaphthalene	997		0*		30	10 - 140	NC DIL

NOTES(S):

NC The recovery and/or RPD were not calculated.

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 18 outside limits
Spike Recovery: 18 out of 18 outside limits

COMMENTS:

FORM III

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: C1E130427 Work Order #...: MJGH11AC-LCS Matrix.....: WATER
LCS Lot-Sample#: C1E160000-214 MJGH11AD-LCSD
Prep Date.....: 05/16/11 Analysis Date..: 05/17/11
Prep Batch #...: 1136214 Analysis Time..: 12:02
Dilution Factor: 1 Initial Wgt/Vol: 1000 mL Final Wgt/Vol..: 1 mL
Analyst ID.....: 045183 Instrument ID..: 71

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Acenaphthene	87	(45 - 110)			SW846 8270D Low Leve
	88	(45 - 110)	1.1	(0-30)	SW846 8270D Low Leve
Pyrene	89	(50 - 130)			SW846 8270D Low Leve
	95	(50 - 130)	6.3	(0-30)	SW846 8270D Low Leve
Acenaphthylene	91	(50 - 105)			SW846 8270D Low Leve
	92	(50 - 105)	1.4	(0-30)	SW846 8270D Low Leve
Anthracene	91	(55 - 110)			SW846 8270D Low Leve
	88	(55 - 110)	3.6	(0-30)	SW846 8270D Low Leve
Benzo(a)anthracene	87	(55 - 110)			SW846 8270D Low Leve
	82	(55 - 110)	5.0	(0-30)	SW846 8270D Low Leve
Benzo(b)fluoranthene	88	(45 - 120)			SW846 8270D Low Leve
	81	(45 - 120)	8.1	(0-30)	SW846 8270D Low Leve
Benzo(k)fluoranthene	93	(45 - 125)			SW846 8270D Low Leve
	80	(45 - 125)	15	(0-30)	SW846 8270D Low Leve
Benzo(ghi)perylene	110	(40 - 125)			SW846 8270D Low Leve
	86	(40 - 125)	24	(0-30)	SW846 8270D Low Leve
Benzo(a)pyrene	93	(55 - 110)			SW846 8270D Low Leve
	84	(55 - 110)	11	(0-30)	SW846 8270D Low Leve
Chrysene	95	(55 - 110)			SW846 8270D Low Leve
	83	(55 - 110)	14	(0-30)	SW846 8270D Low Leve
Dibenzo(a,h)anthracene	108	(40 - 125)			SW846 8270D Low Leve
	89	(40 - 125)	19	(0-30)	SW846 8270D Low Leve
Fluoranthene	86	(55 - 115)			SW846 8270D Low Leve
	80	(55 - 115)	7.9	(0-30)	SW846 8270D Low Leve
Fluorene	85	(50 - 110)			SW846 8270D Low Leve
	85	(50 - 110)	0.64	(0-30)	SW846 8270D Low Leve
Indeno(1,2,3-cd)pyrene	109	(45 - 125)			SW846 8270D Low Leve
	90	(45 - 125)	19	(0-30)	SW846 8270D Low Leve
Naphthalene	85	(40 - 100)			SW846 8270D Low Leve
	80	(40 - 100)	5.4	(0-30)	SW846 8270D Low Leve
Phenanthrene	86	(50 - 115)			SW846 8270D Low Leve
	86	(50 - 115)	0.010	(0-30)	SW846 8270D Low Leve
2-Methylnaphthalene	85	(45 - 105)			SW846 8270D Low Leve
	79	(45 - 105)	7.4	(0-30)	SW846 8270D Low Leve
1-Methylnaphthalene	86	(10 - 140)			SW846 8270D Low Leve
	79	(10 - 140)	9.0	(0-30)	SW846 8270D Low Leve

(Continued on next page)

MJW
6/30/11

YES NO N/A

E - The concentration of this analyte exceeds the calibration range of the instrument.

A - Indicates a Tentatively Identified Compound (TIC) is a suspected adol-condensation product.

X,Y,Z- Laboratory defined flags. The data reviewer must change these qualifiers during validation so that the data user may understand their impact on the data.

I. PACKAGE COMPLETENESS AND DELIVERABLES

SDG CIE140504 ~~CIE14050~~ CASE NUMBER: _____ LAB: Test America

SITE NAME: Ft. Totten

Mike Washburn 9/20/11

1.0 Data Completeness and Deliverables

1.1 Has all data been submitted in CLP deliverable format? [✓] ___ ___

ACTION: If not, note the effect on review of the data in the data assessment narrative.

2.0 Cover Letter, SDG Narrative

2.1 Is a laboratory narrative or cover letter present? [✓] ___ ___

2.2 Are case number and SDG number(s) contained in the narrative or cover letter? [✓] ___ ___

YES NO N/A

II. SEMIVOLATILE ANALYSES

1.0 Traffic Reports and Laboratory Narrative

1.1 Are the Traffic Report Forms present for all samples? ☑ ___ ___

ACTION: If no, contact lab for replacement of missing or illegible copies.

1.2 Do the Traffic Reports or Lab Narrative indicate any problems with sample receipt, condition of samples, analytical problems or special notations affecting the quality of the data? ___ ☑ ___

ACTION: If any sample analyzed as a soil, other than TCLP, contains 50%-90% water, all data should be flagged as estimated ("J"). If a soil sample, other than TCLP, contains more than 90% water, all non-detects data are qualified as unusable (R), and detects are flagged "J".

ACTION: If samples were not iced, or if the ice was melted upon arrival at the laboratory and the cooler temperature was elevated (10°C), flag all positive results "J" and all non-detects "UJ".

2.0 Holding Times

2.1 Have any semivolatile technical holding times, determined from date of collection to date of extraction, been exceeded? ___ ☑ ___

Continuous extraction of water samples for semivolatile analysis must be started within **7** days of the date of collection. Soil/sediment samples must be extracted within **14** days of collection. Extracts must be analyzed within

YES NO N/A

40 days of the date of extraction.

Table of Holding Time Violations

Sample ID	Sample Matrix	Date Sampled (See Traffic Report)	Date Lab Received	Date Extracted	Date Analyzed

ACTION: If technical holding times are exceeded, flag all positive results as estimated ("J") and sample quantitation limits as estimated ("UJ"), and document in the narrative that holding times were exceeded.

If analyses were done more than 14 days beyond holding time, either on the first analysis or upon re analysis, the reviewer must use professional judgement to determine the reliability of the data and the effects of additional storage on the sample results. At a minimum, all results should be qualified "J", but the reviewer may determine that non-detect data are unusable ("R"). If holding times are exceeded by more than 28 days, all non-detect data are unusable (R).

	YES	NO	N/A
3.0 Surrogate Recovery (Form II/Equivalent)			
3.1 Have the semi volatile surrogate recoveries been listed on CLP Surrogate Recovery forms (Form II) for each of the following matrices:			
a. Low Water	[ ]	___	✓
b. Low/Med Soil	[✓]	___	___
3.2 If so, are all the samples listed on the appropriate Surrogate Recovery Summary forms for each matrix:			
a. Low Water	[ ]	___	✓
b. Low/Med Soil	[✓]	___	___
ACTION: If CLP deliverables are unavailable, document the effect(s) in data assessments. In some cases the lab may have to be contacted to obtain the data necessary to complete the validation.			
3.3 Were outliers marked correctly with an asterisk?	[ ]	___	✓
ACTION: Circle all outliers in red.			
3.4 Were two or more base neutral OR acid surrogate recoveries out of specification for any sample or method blank (Reviewer should use lab in house recovery limits. Use surrogate recovery limits from USEPA National Functional Guidlines January 2005 page 130, if in house limits are not available. See Method 8000B-43 or 80000C-24).	[ ]	✓	___
Note: Examine lab in house limits for reasonableness.			
If yes, were samples re-analyzed?	[ ]	___	✓

	YES	NO	N/A
Were method blanks re-analyzed?	[ ]	___	✓

ACTION: If all surrogate recoveries are > 10% but two within the base-neutral or acid fraction do not meet method specifications, for the affected fraction only (i.e. either base-neutral or acid compounds):

1. Flag all positive results as estimated ("J").

2. Flag all non-detects as estimated detection limits ("UJ") when recoveries are less than the lower acceptance limit.

3. If recoveries are greater than the upper acceptance limit, do not qualify non-detects.

If any base-neutral or acid surrogate has a recovery of < 10%:

1. Positive results for the fraction with < 10% surrogate recovery are qualified with "J".

2. Non-detects for that fraction should be qualified as unusable (R) .

NOTE: Professional judgement should be used to qualify data that have method blank surrogate recoveries out of specification in both original and reanalyses. Check the internal standard areas.

3.5 Are there any transcription/calculation errors between raw data and Form II?	___	[✓]	___

ACTION: If large errors exist, call lab for explanation/resubmittal, make any necessary corrections and document

YES NO N/A

effect in data assessments.

4.0 Matrix Spikes (Form III/Equivalent)

4.1 Have the semivolatile Matrix Spike and Matrix Spike Duplicate/or duplicate unspiked Sample recoveries been listed on the Recovery Form (Form III)? [✓] ___ ___

NOTE: Method 3500B/page 4 states the spiking compounds:

Base/neutrals	Acids
1,2,4-Trichlorobenzene	Pentachlorophenol
Acenaphthene	Phenol
2,4-Dinitrotoluene	2-Chlorophenol
Pyrene	4-Chloro-3-methylphenol
N-Nitroso-di-n-propylamine	4-Nitrophenol
1,4-Dichlorobenzene	

Note: Some projects may require the spiking of specific compounds of interest.

Note: See Method 8270D-sec 8.4.2 for deciding on whether to prepare and analyze duplicate samples or a martix spike/matrix spike duplicate. If samples are expected to contain target analytes, then laboratory may use one matrix spike and a duplicate analysis of an unspiked field sample. If samples are not expected to contain target analytes, laboratory should use a matrix spike and matrix spike duplicate pair.

4.2 Were matrix spikes analyzed at the required frequency for each of the following matrices:

a. Low Water [ ] ___ [✓]

b. Low Solid [✓] ___ ___

c. Med Solid [ ] ___ [✓]

YES NO N/A

ACTION: If any matrix spike data are missing, take the action specified in 3.2 above. It may be necessary to contact the lab to obtain the required data.

NOTE: If the data has not been reported on CLP equivalent form, then the laboratory must provide the information necessary to evaluate the spike recoveries in the MS and MSD. The required data which should have been provided by the lab include the analytes and concentrations used for spiking, background concentrations of the spiked analytes (i.e., concentrations in unspiked sample), methods and equations used to calculate the QC acceptance criteria for the spiked analytes, percent recovery data for all spiked analytes.

The data reviewer must verify that all reported equations and percent recoveries are correct before proceeding to the next section.

4.3 Were matrix spikes performed at concentration equal to 100ug/L for acid compounds, and 200ug/l for base compounds (Method 3500B-4), or those specified in project plan. [ ] ✓ ___

4.4 How many semivolatile spike recoveries are outside Laboratory in house MS/MSD recovery limits (use recovery limits values in Method 8270D-43&44 Table 6 if in house values not available).

Water	Solids
NA out of ___	0 out of 18

YES NO N/A

4.5 How many RPD's for matrix spike and matrix spike duplicate recoveries are outside QC limits?

Water	Solids
___ NA out of ___	0 out of 18

ACTION: Circle all outliers with red pencil.

ACTION: No action is taken on MS/MSD data alone. However, using informed professional judgement, the data reviewer may use the matrix spike and matrix spike duplicate results in conjunction with other QC criteria to determine the need for some qualification of the data.

4.6 Was a Laboratory Control Sample (LCS) analyzed with each analytical batch? [✓] ___ ___

NOTE: When the results of the matrix spike analysis indicate a potential problem due to the sample matrix itself, the LCS results are used to verify that the laboratory can perform the analysis in a clean matrix.

5.0 Blanks (Form IV/Equivalent)

5.1 Is the Method Blank Summary (Form IV) present? [✓] ___ ___

5.2 Frequency of Analysis:

Has a reagent/method blank analysis been reported per 20 samples of similar matrix, or concentration level, and for each extraction batch? [✓] ___ ___

5.3 Has a method blank been analyzed either after

	YES	NO	N/A
the calibration standard or at any other time during the analytical shift for each GC/MS system used ?	☑		

ACTION: If any method blank data are missing, call lab for explanation/resubmittal. If not available, use professional judgement to determine if the associated sample data should be qualified.

5.4 Chromatography: review the blank raw data - chromatograms (RICs), quant reports or data system printouts and spectra.			
Is the chromatographic performance (baseline stability) for each instrument acceptable for the semivolatiles?	☑		

ACTION: Use professional judgement to determine the effect on the data.

6.0 Contamination

NOTE: "Water blanks", "drill blanks" and "distilled water blanks" are validated like any other sample and are not used to qualify the data. Do not confuse them with the other QC blanks discussed below.

6.1 Do any method/instrument/reagent blanks have positive results for target analytes and/or TICs? When applied as described below, the contaminant concentration in these blanks are multiplied by the sample dilution factor and corrected for percent moisture where necessary.		☑	
6.2 Do any field/rinse/ blanks have positive results for target analytes and/or TICs (if required, see section 10 below)?			☑

YES NO N/A

ACTION: Prepare a list of the samples associated with each of the contaminated blanks. (Attach a separate sheet.)

NOTE: All field blank results associated to a particular group of samples (may exceed one per case) must be used to qualify data. Blanks may not be qualified because of contamination in another blank. Field Blanks must be qualified for outlying surrogates, poor spectra, instrument performance or calibration QC problems.

ACTION: Follow the directions in the table below to qualify sample results due to contamination. Use the largest value from all the associated blanks. If gross contamination exists, all data in the associated samples should be qualified as unusable (R).

YES NO N/A

Blank Action for Semivolatile Analyses

Blank Type	Blank Result	Sample Result	Action for Samples
Method, Field	Detects	Not detected	No qualification required
	< CRQL *	< CRQL	Report CRQL value with a U
		≥ CRQL	No qualification required
	= CRQL *	< CRQL	Report CRQL value with a U
		≥ CRQL	No qualification required
	> CRQL *	< CRQL	Report CRQL value with a U
		≥ CRQL and < blank contamination	Report concentration of sample with a U
		≥ CRQL and ≥ blank contamination	No qualification required

NOTE: Analytes qualified "U" for blank contamination are still considered as "hits" when qualifying for calibration criteria.

NOTE: If the laboratory did not report TIC analyses, check the project plans to verify whether or not it was required.

6.3 Are there field/rinse/equipment blanks associated with every sample? ☐ ✓ ___

ACTION: For low level samples, note in data assessment that there is no associated field/rinse/equipment blank. Exception: samples taken from a drinking water tap do not have associated field blanks.

6.4 Was a instrument blank analyzed after each sample/dilution which contained a target compound

	YES	NO	N/A
that exceeded the initial calibration range.	[ ]	___	✓
6.5 Does the instrument blank have positive results for target analytes and/or TICs?	___	[ ]	✓

Note: Use professional judgement to determine if carryover occurred and qualify analytes accordingly.

7.0 GC/MS Apparatus and Materials

	YES	NO	N/A
7.1 Did the lab use the proper gas chromatographic column for analysis of semivolatiles by Method 8270D? Check raw data, instrument logs or contact the lab to determine what type of column was used. The method requires the use of 30 m x 0.25 mm ID (or 0.32 mm ID), silicone-coated, fused silica, capillary column.	☑	___	___

ACTION: If the specified column, or equivalent, was not used, document the effects in the data assessment. Use professional judgement to determine the acceptability of the data.

8.0 GC/MS Instrument Performance Check (Form V/Equivalent)

	YES	NO	N/A
8.1 Are the GC/MS Instrument Performance Check Forms (Form V) present for decafluorotriphenylphosphine (DFTPP)?	☑	___	___

NOTE: The performance solution should also contain 4,4-DDT, pentachlorophenol, and benzidine to verify injection port inertness and column performance. The degradation of DDT to DDE and DDD must be less than 20% total and the response of pentachlorophenol and benzidine should be within normal ranges for these compounds (based upon lab experience) and show no peak degradation or tailing before samples are analyzed. (see section 5.5

YES NO N/A

page 8270D-12).

8.2 Are the enhanced bar graph spectrum and mass/charge (m/z) listing for the DFTPP provided for each twelve hour shift? [✓] ___ ___

8.3 Has an instrument performance check solution been analyzed for every twelve hours of sample analysis per instrument? [✓] ___ ___

ACTION: List date, time, instrument ID, and sample analyses for which no associated GC/MS tuning data are available.

DATE	TIME	INSTRUMENT	SAMPLE NUMBERS

ACTION: If lab cannot provide missing data, reject ("R") all data generated outside an acceptable twelve hour calibration interval.

ACTION: If mass assignment is in error, flag all associated sample data as unusable (R).

8.4 Have the ion abundances been normalized to m/z 198? [✓] ___ ___

8.5 Have the ion abundance criteria been met for each instrument used? [✓] ___ ___

ACTION: List all data which do not meet ion abundance criteria (attach a separate sheet).

	YES	NO	N/A
ACTION: If ion abundance criteria are not met, take action specified in section 3.2			
8.6 Are there any transcription/calculation errors between mass lists and Form Vs? (Check at least two values but if errors are found, check more.)	___	✓	___
8.7 Have the appropriate number of significant figures (two) been reported?	✓	___	___
ACTION: If large errors exist, call lab for explanation/resubmittal, make necessary corrections and document effect in data assessments.			
8.8 Are the spectra of the mass calibration compound acceptable?	✓	___	___
ACTION: Use professional judgement to determine whether associated data should be accepted, qualified, or rejected.			
9.0 Target Analytes			
9.1 Are the Organic Analysis Data Sheets (Form I) present with required header information on each page, for each of the following:			
a. Samples and/or fractions as appropriate	✓	___	___
b. Matrix spikes and matrix spike duplicates	✓	___	___
c. Blanks	✓	___	___
9.2 Has any special cleanup, such as GPC, been performed on all soil/sediment sample extracts (see section 7.2, page 8270D-14)?	___	___	✓

	YES	NO	N/A

ACTION: If data suggests that extract cleanup was not performed, use professional judgement. Make note in the data assessment narrative.

9.3 Are the Reconstructed Ion Chromatograms, mass spectra for the identified compounds, and the data system printouts (Quant Reports) included in the sample package for each of the following?

a. Samples and/or fractions as appropriate	☑		
b. Matrix spikes and matrix spike duplicates (Mass spectra not required)	☑		
c. Blanks	☑		

ACTION: If any data are missing, take action specified in 3.2 above.

9.4 Are the response factors shown in the Quant Report?	☐	☑	

9.5 Is chromatographic performance acceptable with respect to:

Baseline stability?	☑		
Resolution?	☑		
Peak shape?	☑		
Full-scale graph (attenuation)?	☑		
Other:_____	☐		☑

ACTION: Use professional judgement to determine the acceptability of the data.

9.6 Are the lab-generated standard mass spectra of identified semivolatile compounds present for

	YES	NO	N/A
each sample?	☑		

ACTION: If any mass spectra are missing, take action specified in 3.2 above. If the lab does not generate their own standard spectra, make a note in the data assessment narrative. If spectra are missing, reject all positive data.

9.7 Is the RRT of each reported compound within 0.06 RRT units of the standard RRT in the continuing calibration?	☑		
9.8 Are all ions present in the standard mass spectrum at a relative intensity greater than 10% (of the most abundant ion) also present in the sample mass spectrum?	☑		
9.9 Do the relative intensities of the characteristic ions in the sample agree within ± 30% of the corresponding relative intensities in the reference spectrum?	☑		

ACTION: Use professional judgement to determine acceptability of data. If it is determined that incorrect identifications were made, all such data should be rejected (R), flagged "N" (Presumptive evidence of the presence of the compound) or changed to not detected (U) at the calculated detection limit. In order to be positively identified, the data must comply with the criteria listed in 9.7, 9.8, and 9.9.

ACTION: When sample carry-over is a possibility, professional judgement should be used to determine if instrument cross-contamination has affected any positive compound identification.

YES NO N/A

10.0 Tentatively Identified Compounds (TIC)

10.1 If Tentatively Identified Compounds were required for this project, are all Form Is, Part B present; and do listed TICs include scan number or retention time, estimated concentration and "JN" qualifier?

NOTE: Review sampling reports to determine if the lab was required to identify non target analytes (refer to section 7.6.2,page 8270D-21).

10.2 Are the mass spectra for the tentatively identified compounds and associated "best match" spectra included in the sample package for each of the following: [ ] ___ ✓

a. Samples and/or fractions as appropriate [ ] ___ ✓

b. Blanks [ ] ___ ✓

ACTION: If any TIC data are missing, take action specified in 3.2 above.

ACTION: Add "JN" qualifier only to analytes identified by CAS #.

10.3 Are any target compounds from one fraction listed as TIC compounds in another (e.g., an acid compound listed as a base neutral TIC)? ___ [ ] ✓

ACTION: i. Flag with "R" any target compound listed as a TIC.

ii. Make sure all rejected compounds are properly reported in the other fraction.

10.4 Are all ions present in the reference mass spectrum with a relative intensity greater than 10% (of the most abundant ion) also present in the

	YES	NO	N/A
sample mass spectrum?	[ ]	___	✓
10.5 Do TIC and "best match" standard relative ion intensities agree within ± 20%?	[ ]	___	✓

ACTION: Use professional judgement to determine acceptability of TIC identifications. If it is determined that an incorrect identification was made, change the identification to "unknown" or to some less specific identification (example: "C3 substituted benzene") as appropriate and remove "JN". Also, when a compound is not found in any blank, but is a suspected artifact of a common laboratory contaminant, the result should be qualified as unusable, "R."

11.0 Compound Quantitation and Reported Detection Limits

11.1 Are there any transcription/calculation errors in Form I results? Check at least two positive values. Verify that the correct internal standard, quantitation ion, and RRF were used to calculate Form I result. Were any errors found?	___	[✓]	___

NOTE: Structural isomers with similar mass spectra, but insufficient GC resolution (i.e. percent valley between the two peaks > 25%) should be reported as isomeric pairs. The reviewer should check the raw data to ensure that all such isomers were included in the quantitation (i.e., add the areas of the two coeluting peaks to calculate the total concentration).

11.2 Are the method detection limits adjusted to reflect sample dilutions and, for soils, sample moisture?	[✓]	___	___

YES NO N/A

ACTION: If errors are large, call lab for explanation/resubmittal, make any necessary corrections and document effect in data assessments.

ACTION: When a sample is analyzed at more than one dilution, the lowest detection limits are used (unless a QC exceedance dictates the use of the higher detection limit from the diluted sample data). Replace concentrations that exceed the calibration range in the original analysis by crossing out the "E" and it's associated value on the original Form I (if present) and substituting the data from the analysis of the diluted sample. Specify which Form I is to be used, then draw a red " X" across the entire page of all Form I's that should not be used, including any in the summary package.

12.0 Standards Data (GC/MS)

12.1 Are the Reconstructed Ion Chromatograms, and data system printouts (Quant, Reports) present for initial and continuing calibration? [✓] ___ ___

ACTION: If any calibration standard data are missing, take action specified in 3.2 above.

13.0 GC/MS Initial Calibration (Form VI/Equivalent)

13.1 Is the Initial Calibration Form (Form VI/ Equivalent) present and complete for the semivolatile fraction? [✓] ___ ___

ACTION: If any calibration forms or standard row data are missing, take action specified in 3.2 above.

13.2 Are all base neutral or acid RRFs > 0.050? [✓] ___ ___

YES NO N/A

Check the **average RRFs** of the four System Performance Check Compounds (SPCCs): N-nitroso-di-n-propylamine, hexachlorocyclopentadiene, 2,4-dinitrophenol, and 4-nitrophenol. These compounds must have **average RRFs** greater than or equal to 0.05 before running samples and should not show any peak tailing.

ACTION: Circle all outliers in red.

ACTION: For any target analyte with **average RRF <0.05**

1. "R" all non-detects;

2. "J" all positive results.

13.3 Are response factors for base neutral or acid target analytes stable over the concentration range of the calibration (% Relative standard deviation [%RSD] < 15.0%)? ☑ ___ ___

NOTE: The % RSD for each individual Calibration Check Compound (CCC, Method 8270D-40 see Table 4) must be less than 30% before analysis can begin. If grater 30%, the lab must clean and recalibrate the instrument.

CALIBRATION CHECK COMPOUNDS

Base/Neutral Fraction	Acid Fraction
Acenaphthene	4-Chloro-3-methylphenol
1,4-Dichlorobenzene	2,4-Dichlorophenol
Hexachlorobutadiene	2-Nitrophenol
Diphenylamine	Phenol
Di-n-octyl phthalate	Pentachlorophenol
Fluoranthene	2,4,6-Trichlorophenol

YES NO N/A

Benzo(a)pyrene

ACTION: If the %RSD for any CCC >30% and no corrective action taken, then "J" qualify all positive hits and "UJ" qualify all non-detects.

ACTION: Circle all outliers in red.

ACTION: If the % RSD is $\geq$ 15.0%, qualify positive results for that analyte "J" and non-detects using professional judgement. When RSD > 90%, flag all non- detect results for that analyte "R," unusable. Alternatively, the lab should calculate first or second order regression fit of the calibration curve and select the fit which introduces the least amount of error.

NOTE: Analytes previously qualified "U" due to blank contamination are still considered as "hits" when qualifying for calibration criteria.

13.4 Did the laboratory calculate the calibration curve by the least squares regression fit? ___ ☑ ___

13.5 Are there any transcription/calculation errors in the reporting of average response factors (RRF) or % RSD? (Check at least two values but if errors are found, check more.) ___ ☑ ___

ACTION: Circle Errors in red.

ACTION: If errors are large, call lab for explanation/resubmittal, make any necessary corrections and note errors in data assessments.

13.5 Do the target compounds for this SDG include Pesticides? ___ ✓ ___

YES NO N/A

13.6 If the pesticide compounds include DDT, was the percent breakdown of DDT to DDD and DDE greater than 20%? ___ [ ] [✓]

ACTION: If DDT percent breakdown exceeds 20%:

i. Qualify all positive results for DDT with "J". If DDT was not detected, but DDD and DDE results are positive, qualify the quantitation limit for DDT as unusable, "R".

ii. Qualify all positive results for DDD and DDE as presumptively present at an approximate concentration "JN".

14.0 GC/MS Calibration Verification (Form VII/Equivalent)

14.1 Are the Calibration Verification Forms (Form VII) present and complete for all compounds of interest? [✓] ___ ___

14.2 Has a calibration verification standard been analyzed for every twelve hours of sample analysis per instrument? [✓] ___ ___

ACTION: List below all sample analyses that were not within twelve hours of a calibration verification analysis for each instrument used.

_____

_____

_____

ACTION: If any forms are missing or no calibration verification standard has been analyzed within twelve hours of every sample analysis,

	YES	NO	N/A
call lab for explanation/resubmittal. If continuing calibration data are not available, flag all associated sample data as unusable ("R").			
14.3 Do any of the SPCCs have an RRF <0.05?	___	[✓]	___
If YES, make a note in data assessment if the lab did not take corrective action specified in section 7.4.4, page 8270D-18.	[ ]	___	✓
14.4 Do any of the CCCs have a %D between the initial and continuing RRF which exceeds 20.0%?			
ACTION: If yes, make a note in data assessment.			
14.5 Do any semivolatile compounds have a % Difference (% D) between the initial and continuing RRF which exceeds 20.0%?	___	[✓]	___
ACTION: Circle all outliers in red.			
ACTION: Qualify both positive results and non-detects for the outlier compound(s) as estimated (J). When %D is above 90%, qualify all non-detects for that analyte as "R", unusable.			
14.6 Do any semivolatile compounds have a RRF < 0.05?	___	[✓]	___
ACTION: Circle all outliers in red.			
ACTION: If RRF < 0.05, qualify as unusable ("R") associated non-detects and "J" associated positive values.			
14.7 Are there any transcription/calculation errors in the reporting of average response factors (RRF) or percent difference (%D) between initial and continuing RRFs? (Check at least two values but if errors are found, check more).	___	[✓]	___

YES NO N/A

ACTION: Circle errors in red.

ACTION: If errors are large, call lab for explanation/resubmittal, make any necessary corrections and document effect(s) in the data assessments.

15.0 Internal Standards (Form VIII)

15.1 Are the internal standard areas (Form VIII) of every sample and blank within the upper and lower limits (-50% to + 100%) for each continuing calibration? ☑ ___ ___

ACTION: List each outlying internal standard below.

Sample ID	IS #	Area	LowerLimit	Upper Limit

(Attach additional sheets if necessary.)

Note: Check Table 5, 8270D-41 for associated analytes.

ACTION: i. If the internal standard area count is outside the upper or lower limit, flag with "J" all positive results and non-detects (U values) quantitated with this internal standard.

ii. Non-detects associated with IS > 100% should not be qualified.

YES NO N/A

iii. If the IS area is below the lower limit (<50%), qualify all associated non-detects (U-values) "J". If extremely low area counts are reported (<25%) or if performance exhibits a major abrupt drop off, flag all associated non-detects as unusable (R).

15.2 Are the retention times of all internal standards within 30 seconds of the associated calibration standard? [✓] ___ ___

ACTION: Professional judgement should be used to qualify data if the retention times differ by more than 30 seconds.

16.0 Laboratory Control Samples (LCS)

16.1 Were any LCS samples run in order to verify analytes which failed criteria for spike recovery? [ ] ___ ✓

16.2 Did the lab spike LCS sample spiked with the same analytes and the same concentrations as the matrix spike? [ ] ✓ ___

16.3 Were the mean and standard deviation of all analytes within the QC acceptance ranges as shown in Table 6, 8270D-43? [✓] ___ ___

ACTION: If the recovery of any analyte falls out of the designated range, the analytical results for that compound is suspect and should be qualified "J" in the unspiked samples.

17.0 Field Duplicates

17.1 Were any field duplicates submitted for semivolatile analysis? [ ] ✓ ___

YES NO N/A

ACTION: Compare the reported results for field duplicates and calculate the relative percent difference.

ACTION: Any gross variation between field duplicate results must be addressed in the reviewer narrative. However, if large differences exist, identification of field duplicates should be confirmed by contacting the sampler.

SW846 8270D Low Level SURROGATE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Watermark Environmental

Lab Code: TALPIT SDG No:

Lot #: C1E140504

Extraction: XXA4FI#D4

	CLIENT ID.	SRG01	SRG02	SRG03	SRG04	SRG05	SRG06	TOT OUT
01	AI2-101(0-2")	74	65	70	87	70	65	00
02	AI2-101(6-24")	75	75	75	81	76	65	00
03	AI2-102(0-2")	78	71	74	87	75	74	00
04	AI2-102(6-24")	71 ✓	65 ✓	69 ✓	83 ✓	69 ✓	68 ✓	00
05	AI2-103(0-2")	76	65	71	86	74	64	00
06	AI2-103(6-24")	73	67	69	84	73	64	00
07	AI2-104(0-2")	66 ✓	59 ✓	65 ✓	76 ✓	65 ✓	58 ✓	00
08	AI2-104(6-24")	60	51	55	65	60	51	00
09	AI2-105(0-2")	51	37	46	72	45	55	00
10	AI2-105(6-24")	58	51	56	68	55	56	00
11	AI2-106(0-2")	0 D	0 D	0 D	0 D	0 D	0 D	06
12	AI2-106(6-24")	69	65	68	80	66	63	00
13	METHOD BLK, MJJF91AA	69	73	77	78	69	78	00
14	LCS MJJF91AC	65	69	70	75	66	67	00
15	AI2-102(0-2") D	62	55	60	72	59	55	00
16	AI2-102(0-2") S	68	58	61	77	65	59	00

SURROGATES		QC LIMITS
SRG01	= 2-Fluorobiphenyl	(45-105)
SRG02	= 2-Fluorophenol	(35-105)
SRG03	= Phenol-d5	(40-100)
SRG04	= 2,4,6-Tribromophenol	(35-125)
SRG05	= Nitrobenzene-d5	(35-100)
SRG06	= Terphenyl-d14	(30-125)

\# Column to be used to flag recovery values
* Values outside of required QC Limits
D System monitoring Compound diluted out

FORM II

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	FINAL (ug/kg)
142 Benzo(k)fluoranthene	252	10.300	10.312	(0.971)	260486	3.45417	115.14(M)
146 Benzo(a)pyrene	252	10.562	10.568	(0.995)	283748	5.42874	180.96
149 Indeno(1,2,3-cd)pyrene	276	11.662	11.663	(1.099)	244756	4.83270	161.09
150 Dibenz(a,h)anthracene	278	11.678	11.674	(1.101)	67644	1.61491	53.830
151 Benzo(g,h,i)perylene	276	11.978	11.963	(1.129)	263854	6.41943	213.98
$ 154 Nitrobenzene-d5	82	4.504	4.489	(0.891)	170620	12.9169	430.56
$ 155 2-Fluorobiphenyl	172	5.893	5.873	(0.922)	379579	13.1150	437.17
$ 156 Terphenyl-d14	244	8.724	8.715	(0.917)	432656	11.5109	383.70
$ 157 Phenol-d5	99	3.836	3.816	(0.941)	276394	19.3895	646.32
$ 158 2-Fluorophenol	112	3.003	2.993	(0.737)	179772	17.5868	586.22
$ 159 2,4,6-Tribromophenol	330	6.988	6.973	(0.930)	67889	22.8313	761.04
$ 186 2-Chlorophenol-d4	132	3.900	3.885	(0.957)	225685	17.9560 ✓	598.53 ✓
$ 187 1,2-Dichlorobenzene-d4	152	4.194	4.179	(1.029)	104521	11.6521	388.40

QC Flag Legend

Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.

$$[\text{2-chlorophenol-d4}] = \frac{225685\ (8)}{70070\ (1.435)} = 17.956\ \text{ng} = 598.53\ \text{ng/kg}$$

MJ 9/20/11

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	CONCENTRATIONS FINAL (ug/kg)
142 Benzo(k)fluoranthene	252	10.313	10.312	(0.971)	57661	0.89542	14.727(M)
146 Benzo(a)pyrene	252	10.570	10.568	(0.995)	89093	1.99617	32.832
149 Indeno(1,2,3-cd)pyrene	276	11.665	11.663	(1.098)	75715	1.75076	28.795
150 Dibenz(a,h)anthracene	278	11.681	11.674	(1.100)	19876	0.55569	9.1397
151 Benzo(g,h,i)perylene	276	11.980	11.963	(1.128)	83720	2.38533	39.232
$ 154 Nitrobenzene-d5	82	4.506	4.489	(0.891)	343876	27.5218	452.66
$ 155 2-Fluorobiphenyl	172	5.890	5.873	(0.921)	762096	28.4215	467.46
$ 156 Terphenyl-d14	244	8.727	8.715	(0.917)	878723	27.2052	447.45
$ 157 Phenol-d5	99	3.833	3.816	(0.940)	569252	41.5134 ✓	682.79
$ 158 2-Fluorophenol	112	3.005	2.993	(0.737)	385546	39.2091	644.89
$ 159 2,4,6-Tribromophenol	330	6.991	6.973	(0.930)	140012	49.5329	814.69
$ 186 2-Chlorophenol-d4	132	3.897	3.885	(0.955)	462440	38.2480	629.08
$ 187 1,2-Dichlorobenzene-d4	152	4.197	4.179	(1.029)	212821	24.6639	405.66

QC Flag Legend

Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.

$$[\text{Phenol-D5}] = \frac{569252\ (8)}{67404\ (1.62750)} = 41.51336\ \text{ng} = 682.785\ \text{ug/kg}$$

MW 9/20/11

Data File: \\PITSVR06\D\ohem\71.i\a051811.b\80518DF2.D

Date : 18-MAY-2011 12:46

Client ID: DFTPP02

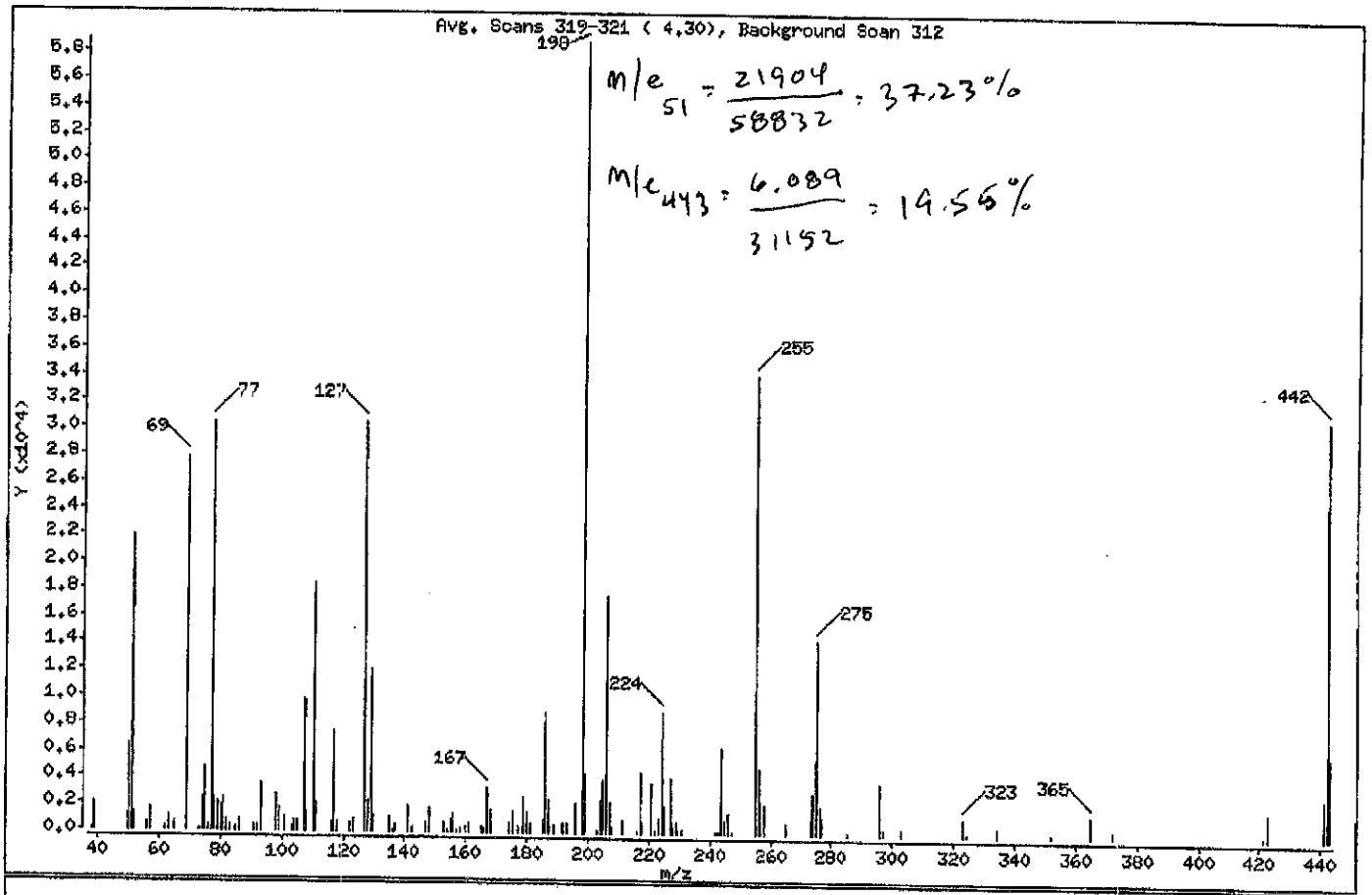
Instrument: 71.i

Sample Info: DFTPP 11468 svdftpp50i_00006

Operator: 045183sab

Column phase:
1 dftpp

Column diameter: 0.32



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	30.00 - 60.00% of mass 198	37.23 ✓
68	Less than 2.00% of mass 69	0.00 (0.00)
69	Mass 69 relative abundance	47.23
70	Less than 2.00% of mass 69	0.00 (0.00)
127	40.00 - 60.00% of mass 198	51.76
197	Less than 1.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	7.38
275	10.00 - 30.00% of mass 198	24.44
365	Greater than 1.00% of mass 198	2.64
441	Present, but less than mass 443	5.07
442	40.00 - 100.00% of mass 198	52.95
443	17.00 - 23.00% of mass 442	10.35 (19.55) ✓

MJV 4/18 4/20/11

Data File: \\PITSVR06\D\ohem\71.i\s051811.b\S0518DF2.D

Date : 18-MAY-2011 12:46

Client ID: DFTPP02

Instrument: 71.i

Sample Info: DFTPP 11465 svdftpp50i_00006

Operator: 045183sab

Column phase:

Column diameter: 0.32

Data File: S0518DF2.D

Spectrum: Avg. Scans 319-321 (4.30), Background Scan 312

Location of Maximum: 198.00

Number of points: 131

m/z	Y	m/z	Y	m/z	Y	m/z	Y
38.00	173	107.00	9744	174.00	709	231.00	247
39.00	1995	108.00	1453	175.00	1432	242.00	196
50.00	6349	110.00	18368	177.00	398	243.00	188
51.00	21904	111.00	2210	179.00	2566	244.00	6309
52.00	1296	116.00	700	180.00	1547	245.00	900
56.00	486	117.00	7486	181.00	718	246.00	1455
57.00	1676	118.00	615	185.00	1009	247.00	169
62.00	289	122.00	663	186.00	8904	255.00	34024
63.00	1043	123.00	951	187.00	2486	256.00	4869
65.00	625	127.00	30448	189.00	505	257.00	185
69.00	27784	128.00	2355	192.00	736	268.00	2207
73.00	173	129.00	12055	193.00	667	269.00	749
74.00	2425	130.00	1262	196.00	2156	273.00	1146
75.00	4694	135.00	1040	198.00	58832	274.00	2946
76.00	426	136.00	192	199.00	4339	275.00	14380
77.00	30392	137.00	544	203.00	188	276.00	1988
78.00	2427	141.00	1850	204.00	2440	277.00	1266
79.00	2175	142.00	272	205.00	3886	285.00	170
80.00	1850	143.00	376	206.00	17576	296.00	3822
81.00	2459	147.00	618	207.00	2321	297.00	443
82.00	759	148.00	1822	208.00	426	303.00	381
83.00	491	153.00	637	211.00	949	323.00	1207
85.00	336	154.00	178	216.00	171	324.00	168
86.00	752	155.00	954	217.00	4398	334.00	515
91.00	414	156.00	1331	218.00	748	352.00	169
92.00	469	157.00	167	221.00	3712	365.00	1552
93.00	3580	158.00	284	222.00	175	372.00	437
98.00	2746	160.00	363	223.00	1092	421.00	173
99.00	1761	161.00	714	224.00	8934	423.00	1891
101.00	1019	165.00	393	226.00	2064	441.00	2980
103.00	365	166.00	233	227.00	3998	442.00	31152
104.00	877	167.00	3208	228.00	379	443.00	6089
105.00	853	168.00	1614	229.00	765		

MJW 9/20/11

Watermark Environmental

Client Sample ID: AI2-102(6-24")

GC/MS Semivolatiles

Lot-Sample #...:	C1E140504-004	**Work Order #...:**	MJFW11AG	**Matrix.....:**	SOLID
Date Sampled...:	05/13/11	**Date Received..:**	05/14/11	**MS Run #.....:**	1138004
Prep Date.....:	05/18/11	**Analysis Date..:**	05/18/11		
Prep Batch #...:	1138011	**Analysis Time..:**	15:54		
Dilution Factor:	0.99	**Initial Wgt/Vol:**	15.2 g	**Final Wgt/Vol..:**	0.5 mL
% Moisture.....:	14	**Analyst ID.....:**	045183	**Instrument ID..:**	71
		Method.....:	SW846 8270D Low L		

PARAMETER	RESULT	LOQ	UNITS	DL
2-Methylnaphthalene	1.9 J	7.7	ug/kg	0.69
1-Methylnaphthalene	1.3 J	7.7	ug/kg	0.82
Benzo(ghi)perylene	46	7.7	ug/kg	0.77
Benzo(a)pyrene	38	7.7	ug/kg	0.77
Chrysene	43 ✓	7.7	ug/kg	0.92
Dibenzo(a,h)anthracene	11	7.7	ug/kg	0.86
Fluoranthene	65	7.7	ug/kg	0.82
Fluorene	2.1 J ✓	7.7	ug/kg	1.0
Indeno(1,2,3-cd)pyrene	34	7.7	ug/kg	0.79
Naphthalene	2.2 J	7.7	ug/kg	0.66
Phenanthrene	26	7.7	ug/kg	1.2
Pyrene	51	7.7	ug/kg	0.78
Acenaphthene	1.1 J	7.7	ug/kg	0.74
Acenaphthylene	4.7 J	7.7	ug/kg	0.88
Anthracene	6.2 J	7.7	ug/kg	0.75
Benzo(a)anthracene	32	7.7	ug/kg	0.97
Benzo(b)fluoranthene	30	7.7	ug/kg	1.2
Benzo(k)fluoranthene	17	7.7	ug/kg	1.6

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorobiphenyl	71	(45 - 105)
2-Fluorophenol	65	(35 - 105)
Phenol-d5	69	(40 - 100)
2,4,6-Tribromophenol	83	(35 - 125)
Nitrobenzene-d5	69	(35 - 100)
Terphenyl-d14	68	(30 - 125)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

MJW 6/20/11

TestAmerica Pittsburgh

Semivolatile REPORT SW-846 Method 8270

Data file : \\PITSVR06\D\chem\71.i\2011\s051811.b\S0518009.D
Lab Smp Id: MJFW11AG Client Smp ID: AI2-102(6-24")
Inj Date : 18-MAY-2011 15:54
Operator : 045183sab Inst ID: 71.i
Smp Info : c1e140504-004 5/18/11 42soil (1138011)
Misc Info : mjfw11ag,s051811.b,8270D.m,4-42pahn.sub,
Comment :
Method : \\PITSVR06\D\chem\71.i\2011\s051811.b\8270D.m
Meth Date : 07-Sep-2011 14:19 bachas Quant Type: ISTD
Cal Date : 02-MAY-2011 16:59 Cal File: S0502IC8.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 4-42pahn.sub
Target Version: 4.14
Processing Host: PITPC-501

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws)*1*gpc * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	500.000	Volume of final extract (uL)
Vi	2.000	Volume injected (uL)
Ws	15.200	Weight of sample extracted (g)
gpc	1.000	GPC Correction Factor
Cpnd Variable		Local Compound Variable

[Fluorene] = 2861 (8) / 149762 (1.38617)

(1000 low, 2 = 0.1102527 ng

= 1.813367 ng / 0.86 ICS

= 2.10856 mg/kg

[Chrysene] = 90102 (8) / 274464 (1.17424) = 2.23657 ng

= 36.78567 mg/kcs / 0.86 = 42.77 mg/kcs

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	FINAL (ug/kg)
* 1 1,4-Dichlorobenzene-d4	152	4.079	4.062	(1.000)	67404	8.00000	
* 2 Naphthalene-d8	136	5.057	5.039	(1.000)	261375	8.00000	
* 3 Acenaphthene-d10	164	6.392	6.375	(1.000)	149762	8.00000	
* 4 Phenanthrene-d10	188	7.514	7.497	(1.000)	259217	8.00000	
* 5 Chrysene-d12	240	9.517	9.505	(1.000)	274464	8.00000	
* 6 Perylene-d12	264	10.623	10.616	(1.000)	331601	8.00000	
51 Naphthalene	128	5.073	5.055	(1.003)	4137	0.11661	1.9179(M)
62 2-Methylnaphthalene	142	5.602	5.584	(1.108)	2299	0.09780	1.6085(M)
63 1-Methylnaphthalene	142	5.676	5.659	(1.123)	1565	0.06992	1.1500(M)
79 Acenaphthylene	152	6.285	6.262	(0.983)	8632	0.24546	4.0372
82 Acenaphthene	153	6.419	6.401	(1.004)	1309	0.05815	0.95648(Q)
94 Fluorene	166	6.809	6.791	(1.065)	2861	0.11025 ✓	1.8134(M) ✓
115 Phenanthrene	178	7.535	7.518	(1.003)	52164	1.33922	22.027
116 Anthracene	178	7.573	7.555	(1.008)	11917	0.32451	5.3374
123 Fluoranthene	202	8.433	8.415	(1.122)	135420	3.37830	55.564
125 Pyrene	202	8.604	8.586	(0.904)	124182	2.63324	43.310
136 Benzo(a)Anthracene	228	9.507	9.500	(0.999)	72625	1.66662	27.411
137 Chrysene	228	9.533	9.521	(1.002)	90102	2.23657 ✓	36.786 ✓
141 Benzo(b)fluoranthene	252	10.303	10.296	(0.970)	106488	1.57332	25.877(M)

TestAmerica Pittsburgh

INITIAL CALIBRATION DATA

Start Cal Date : 02-MAY-2011 13:58
End Cal Date : 02-MAY-2011 16:59
Quant Method : ISTD
Origin : Included
Target Version : 4.14
Integrator : HP RTE
Method file : \\PITSVR06\D\chem\71.i\s050211.b\8270D.m
Last Edit : 09-May-2011 11:02 bachas

Compound	0.4000000 Level 1	2.0000 Level 2	4.0000 Level 3	10.0000 Level 4	20.0000 Level 5	40.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	60.0000 Level 7	80.0000 Level 8									
92 2-Naphthylamine	10541	53201	112531	213205	376301	577287					
	+++++	+++++					QUAD	-0.03386	1.01444	0.20232	0.99973
93 Diethylphthalate	1.44750	1.30765	1.35110	1.29932	1.34108	1.27658					
	1.26230	1.32270					AVRG		1.32603		4.33954
94 Fluorene	1.42863	1.34545	1.35689	1.36778	1.43150	1.37773					
	1.39774	1.38366					AVRG		1.38617		2.26865
95 4-Chlorophenyl-phenylether	0.76790	0.74797	0.75145	0.74720	0.77174	0.76148					
	0.76638	0.74641					AVRG		0.75757		1.37732
96 4-Nitroaniline	0.30402	0.30141	0.35171	0.33673	0.35492	0.31927					
	0.30538	0.33978					AVRG		0.32665		6.70462
97 5-Nitro-o-toluidine	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000 <-
98 4,6-Dinitro-2-methylphenol	+++++	0.11486	0.15005	0.14780	0.15838	0.15484					
	0.15309	0.16578					AVRG		0.14926		10.89924

MJ 9/20/11

(1001 - 1502)

TestAmerica Pittsburgh

INITIAL CALIBRATION DATA

Start Cal Date : 02-MAY-2011 13:58
End Cal Date : 02-MAY-2011 16:59
Quant Method : ISTD
Origin : Included
Target Version : 4.14
Integrator : HP RTE
Method file : \\PITSVR06\D\chem\71.i\s050211.b\8270D.m
Last Edit : 09-May-2011 11:02 bachas

Compound	0.4000000 Level 1 / 60.0000 Level 7	2.0000 Level 2 / 80.0000 Level 8	4.0000 Level 3	10.0000 Level 4	20.0000 Level 5	40.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
137 Chrysene	1.17975	1.16036	1.17662	1.16072	1.19127	1.19155						
	1.14988	1.18376					AVRG		1.17424		1.32131	
138 4,4'-Methylene bis(o-chloroan	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++	+++++					AVRG		0.000e+000		0.000e+000	<-
139 bis(2-ethylhexyl)Phthalate	0.76046	0.71256	0.77323	0.81149	0.81302	0.85084						
	0.81392	0.76771					AVRG		0.78790		5.44392	
140 Di-n-octylphthalate	1.33500	1.31741	1.52403	1.61407	1.74953	1.71809						
	1.73234	1.85363					AVRG		1.60551		12.32202	
141 Benzo(b)fluoranthene	17303	98071	232742	456240	865667	1653218						
	2635429	4958968					QUAD	-0.03605	0.72843	-0.01175	0.59949	
204 6-Methylchrysene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++	+++++					AVRG		0.000e+000		0.000e+000	<-
142 Benzo(k)fluoranthene	1.64068	1.29763	1.35756	1.52005	1.78304	1.58957						
	1.69026	1.54968					AVRG		1.55356		10.47256	

mlw 9/20/11

1344

C1E140504r

TestAmerica Pittsburgh

Semivolatile REPORT SW-846 Method 8270

Data file : \\PITSVR06\D\chem\71.i\s050211.b\S0502IC1.D
Lab Smp Id: sstd0.4 Client Smp ID: sstd0.4
Inj Date : 02-MAY-2011 14:17
Operator : 045183sab Inst ID: 71.i
Smp Info : IC 999 sv11SSTD0.4i 00001
Misc Info : sstd0.4,s050211.b,8270D.m,4-rooti.sub,1,1
Comment :
Method : \\PITSVR06\D\chem\71.i\s050211.b\8270D.m
Meth Date : 09-May-2011 11:06 bachas Quant Type: ISTD
Cal Date : 02-MAY-2011 16:59 Cal File: S0502IC8.D
Als bottle: 3 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 4-rooti.sub
Target Version: 4.14
Processing Host: PITPC-501

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 1	1,4-Dichlorobenzene-d4	152	4.104	4.099	(1.000)	81078	8.00000	
* 2	Naphthalene-d8	136	5.060	5.061	(1.000)	344352	8.00000	
* 3	Acenaphthene-d10	164	6.379	6.386	(1.000)	207682	8.00000	
* 4	Phenanthrene-d10	188	7.496	7.502	(1.000)	375656	8.00000	
* 5	Chrysene-d12	240	9.494	9.500	(1.000)	360705	8.00000	
* 6	Perylene-d12	264	10.594	10.595	(1.000)	284016	8.00000	
198	1,4-Dioxane	88	0.850	0.830	(0.207)	1702	0.40000	0.36899(QM)
10	N-Nitrosodimethylamine	74	1.176	1.166	(0.287)	2479	0.40000	0.35986(Q)
9	Pyridine	79	1.235	1.182	(0.301)	4649	0.40000	0.36780(QM)
16	Methyl methanesulfonate	80	2.875	2.865	(0.701)	2634	0.40000	0.39544
206	Benzaldehyde	77	3.751	3.752	(0.914)	2635	0.40000	1.4878
21	Aniline	93	3.853	3.853	(0.939)	9109	0.40000	0.42503
22	Phenol	94	3.869	3.875	(0.943)	8152	0.40000	0.41777
23	bis(2-Chloroethyl)ether	93	3.917	3.923	(0.954)	5481	0.40000	0.40686
24	2-Chlorophenol	128	3.938	3.939	(0.960)	6216	0.40000	0.41857
26	1,3-Dichlorobenzene	146	4.056	4.056	(0.988)	6938	0.40000	0.43109
27	1,4-Dichlorobenzene	146	4.114	4.115	(1.003)	7025	0.40000	0.42431
28	1,2-Dichlorobenzene	146	4.227	4.227	(1.030)	6577	0.40000	0.42055
29	Benzyl Alcohol	108	4.221	4.227	(1.029)	4048	0.40000	0.41315
30	2-Methylphenol	108	4.323	4.334	(1.053)	5846	0.40000	0.41722
31	2,2'-oxybis(1-Chloropropane)	45	4.333	4.334	(1.056)	5901	0.40000	0.42588
217	Indene	116	4.296	4.297	(1.047)	10319	0.40000	0.40524
37	Acetophenone	105	4.414	4.420	(1.075)	8652	0.40000	0.42391
32	N-Nitroso-di-n-propylamine	70	4.430	4.436	(1.079)	3920	0.40000	0.37826
192	4-Methylphenol	108	4.440	4.446	(1.082)	5604	0.40000	0.40446
34	Hexachloroethane	117	4.488	4.484	(1.094)	2410	0.40000	0.38464
35	Nitrobenzene	77	4.536	4.537	(0.897)	6543	0.40000	0.41241
36	N-Nitrosopyrrolidine	100	4.387	4.409	(1.069)	2701	0.40000	0.38623
41	Isophorone	82	4.723	4.730	(0.933)	11857	0.40000	0.41422
42	2-Nitrophenol	139	4.777	4.778	(0.944)	2867	0.40000	0.34303
43	2,4-Dimethylphenol	107	4.830	4.836	(0.955)	6406	0.40000	0.40699
44	bis(2-Chloroethoxy)methane	93	4.900	4.901	(0.968)	7264	0.40000	0.41681
48	2,4-Dichlorophenol	162	4.964	4.965	(0.981)	5530	0.40000	0.42271

MJW 4/20/11

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
49	Benzoic Acid	122	4.873	4.965	(0.963)	16550	2.00000	1.6550
50	1,2,4-Trichlorobenzene	180	5.028	5.023	(0.994)	6342	0.40000	0.42412
51	Naphthalene	128	5.076	5.077	(1.003)	20178	0.40000	0.43170
52	4-Chloroaniline	127	5.124	5.130	(1.013)	7500	0.40000	0.39151
54	2,6-Dichlorophenol	162	5.129	5.136	(1.014)	5112	0.40000	0.40526
56	Hexachlorobutadiene	225	5.108	5.169	(1.025)	3509	0.40000	0.39060(Q)
208	Caprolactam	113	5.354	5.419	(1.058)	1443	0.40000	0.33271
59	4-Chloro-3-Methylphenol	107	5.498	5.510	(1.087)	5735	0.40000	0.40094
62	2-Methylnaphthalene	142	5.599	5.600	(1.107)	12407	0.40000	0.40060
63	1-Methylnaphthalene	142	5.674	5.675	(1.121)	11347	0.40000	0.38480
64	Hexachlorocyclopentadiene	237	5.733	5.734	(0.899)	3364	0.40000	0.32532
65	1,2,4,5-Tetrachlorobenzene	216	5.728	5.734	(0.898)	6759	0.40000	0.41719
66	2,4,6-Trichlorophenol	196	5.819	5.819	(0.912)	3986	0.40000	0.35463
67	2,4,5-Trichlorophenol	196	5.840	5.851	(0.915)	4514	0.40000	0.41138
209	1,1'-Biphenyl	154	5.957	5.958	(0.934)	15459	0.40000	0.39152
70	2-Chloronaphthalene	162	5.963	5.964	(0.935)	12675	0.40000	0.41542
73	2-Nitroaniline	65	6.038	6.049	(0.946)	3214	0.40000	0.38710
76	Dimethylphthalate	163	6.192	6.199	(0.971)	13520	0.40000	0.40685
78	2,6-Dinitrotoluene	165	6.225	6.236	(0.976)	2313	0.40000	0.30960
79	Acenaphthylene	152	6.273	6.273	(0.983)	19203	0.40000	0.39377
81	3-Nitroaniline	138	6.347	6.359	(0.995)	2933	0.40000	0.36090(Q)
82	Acenaphthene	153	6.406	6.407	(1.004)	12522	0.40000	0.40116
83	2,4-Dinitrophenol	184	6.428	6.439	(1.008)	5434	2.00000	1.0211
85	4-Nitrophenol	109	6.481	6.498	(1.016)	6706	2.00000	1.5010
86	Dibenzofuran	168	6.534	6.541	(1.024)	19433	0.40000	0.42109
87	2,4-Dinitrotoluene	165	6.529	6.541	(1.023)	3566	0.40000	0.34226(Q)
92	2-Naphthylamine	143	6.652	6.658	(1.043)	10541	0.40000	0.14520
91	2,3,5,6-Tetrachlorophenol	232	6.604	6.610	(1.035)	3872	0.40000	0.36208
88	2,3,4,6-Tetrachlorophenol	232	6.631	6.642	(1.039)	3951	0.40000	0.41262
93	Diethylphthalate	149	6.721	6.733	(1.054)	15031	0.40000	0.43664
94	Fluorene	166	6.791	6.802	(1.064)	14835	0.40000	0.41225
95	4-Chlorophenyl-phenylether	204	6.801	6.808	(1.066)	7974	0.40000	0.40546
96	4-Nitroaniline	138	6.801	6.818	(1.066)	3157	0.40000	0.37229
98	4,6-Dinitro-2-methylphenol	198	6.834	6.845	(0.912)	9035	2.00000	1.2891
99	N-Nitrosodiphenylamine (1)	169	6.887	6.893	(0.919)	10218	0.40000	0.39745
100	1,2-Diphenylhydrazine	77	6.919	6.925	(0.923)	14964	0.40000	0.41689
106	4-Bromophenyl-phenylether	248	7.170	7.171	(0.957)	4265	0.40000	0.39090
107	Hexachlorobenzene	284	7.213	7.219	(0.962)	4159	0.40000	0.39419
210	Atrazine	200	7.293	7.305	(0.973)	3925	0.40000	0.40805
111	Pentachlorophenol	266	7.362	7.369	(0.982)	13769	2.00000	1.8008(Q)
115	Phenanthrene	178	7.512	7.524	(1.002)	22640	0.40000	0.40122
116	Anthracene	178	7.555	7.561	(1.008)	21591	0.40000	0.40571
119	Carbazole	167	7.678	7.684	(1.024)	21472	0.40000	0.46194
120	Di-n-Butylphthalate	149	7.955	7.956	(1.061)	22400	0.40000	0.38644
123	Fluoranthene	202	8.409	8.416	(1.122)	24204	0.40000	0.41665
124	Benzidine	184	8.511	8.523	(0.896)	2830	0.40000	0.19862(M)
125	Pyrene	202	8.580	8.587	(0.904)	25387	0.40000	0.40962
131	Butylbenzylphthalate	149	9.077	9.083	(0.956)	9711	0.40000	0.38937
135	3,3'-Dichlorobenzidine	252	9.467	9.473	(0.997)	6049	0.40000	0.34806
136	Benzo(a)Anthracene	228	9.489	9.495	(0.999)	23282	0.40000	0.40654
137	Chrysene	228	9.515	9.521	(1.002)	21277	0.40000	0.40188
139	bis(2-ethylhexyl)Phthalate	149	9.515	9.516	(1.002)	13715	0.40000	0.38606
140	Di-n-octylphthalate	149	9.980	9.986	(0.942)	18950	0.40000	0.33260(QM)
141	Benzo(b)fluoranthene	252	10.274	10.291	(0.970)	17303	0.40000	0.066303

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Semivolatile REPORT SW-846 Method 8270

Data file : \\PITSVR06\D\chem\71.i\s050211.b\S0502IC2.D
Lab Smp Id: sstd2.0 Client Smp ID: sstd2.0
Inj Date : 02-MAY-2011 14:37
Operator : 045183sab Inst ID: 71.i
Smp Info : IC 1000 sv11SSTD2i_00001
Misc Info : sstd2.0,s050211.b,8270D.m,4-rooti.sub,1,2
Comment :
Method : \\PITSVR06\D\chem\71.i\s050211.b\8270D.m
Meth Date : 09-May-2011 11:06 bachas Quant Type: ISTD
Cal Date : 02-MAY-2011 16:59 Cal File: S0502IC8.D
Als bottle: 4 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 4-rooti.sub
Target Version: 4.14
Processing Host: PITPC-501

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 1	1,4-Dichlorobenzene-d4	152	4.102	4.099	(1.000)	78180	8.00000	
* 2	Naphthalene-d8	136	5.058	5.061	(1.000)	324813	8.00000	
* 3	Acenaphthene-d10	164	6.378	6.386	(1.000)	200114	8.00000	
* 4	Phenanthrene-d10	188	7.494	7.502	(1.000)	358954	8.00000	
* 5	Chrysene-d12	240	9.487	9.500	(1.000)	344355	8.00000	
* 6	Perylene-d12	264	10.582	10.595	(1.000)	271831	8.00000	
198	1,4-Dioxane	88	0.833	0.830	(0.203)	11660	2.00000	2.6216(M)
10	N-Nitrosodimethylamine	74	1.169	1.166	(0.285)	13222	2.00000	1.9905
9	Pyridine	79	1.212	1.182	(0.296)	24843	2.00000	2.0383(M)
16	Methyl methanesulfonate	80	2.868	2.865	(0.699)	13088	2.00000	2.0377
206	Benzaldehyde	77	3.750	3.752	(0.914)	13197	2.00000	2.0606
21	Aniline	93	3.846	3.853	(0.937)	40469	2.00000	1.9583
22	Phenol	94	3.867	3.875	(0.943)	37577	2.00000	1.9971
23	bis(2-Chloroethyl)ether	93	3.915	3.923	(0.954)	26121	2.00000	2.0109
24	2-Chlorophenol	128	3.937	3.939	(0.960)	28439	2.00000	1.9860
26	1,3-Dichlorobenzene	146	4.054	4.056	(0.988)	30510	2.00000	1.9660
27	1,4-Dichlorobenzene	146	4.113	4.115	(1.003)	31388	2.00000	1.9661
28	1,2-Dichlorobenzene	146	4.225	4.227	(1.030)	31335	2.00000	2.0779
29	Benzyl Alcohol	108	4.220	4.227	(1.029)	18133	2.00000	1.9193
30	2-Methylphenol	108	4.321	4.334	(1.053)	27528	2.00000	2.0374
31	2,2'-oxybis(1-Chloropropane)	45	4.332	4.334	(1.056)	26580	2.00000	1.9894
217	Indene	116	4.295	4.297	(1.047)	48564	2.00000	1.9778
37	Acetophenone	105	4.412	4.420	(1.076)	39389	2.00000	2.0014
32	N-Nitroso-di-n-propylamine	70	4.423	4.436	(1.078)	20876	2.00000	2.0891
192	4-Methylphenol	108	4.433	4.446	(1.081)	27346	2.00000	2.0468
34	Hexachloroethane	117	4.487	4.484	(1.094)	12691	2.00000	2.1006
35	Nitrobenzene	77	4.535	4.537	(0.897)	29122	2.00000	1.9460
36	N-Nitrosopyrrolidine	100	4.385	4.409	(1.069)	13595	2.00000	2.0161
41	Isophorone	82	4.722	4.730	(0.933)	54006	2.00000	2.0002
42	2-Nitrophenol	139	4.775	4.778	(0.944)	14456	2.00000	1.8336
43	2,4-Dimethylphenol	107	4.829	4.836	(0.955)	28262	2.00000	1.9036
44	bis(2-Chloroethoxy)methane	93	4.898	4.901	(0.968)	32825	2.00000	1.9968
48	2,4-Dichlorophenol	162	4.962	4.965	(0.981)	24118	2.00000	1.9545

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	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
49	Benzoic Acid	122	4.877	4.965	(0.964)	31790	4.00000	3.3702
50	1,2,4-Trichlorobenzene	180	5.021	5.023	(0.993)	27960	2.00000	1.9823
51	Naphthalene	128	5.074	5.077	(1.003)	87545	2.00000	1.9856
52	4-Chloroaniline	127	5.123	5.130	(1.013)	35066	2.00000	1.9406
54	2,6-Dichlorophenol	162	5.128	5.136	(1.014)	23042	2.00000	1.9366
56	Hexachlorobutadiene	225	5.187	5.189	(1.025)	17052	2.00000	2.0123(Q)
208	Caprolactam	113	5.347	5.419	(1.057)	7832	2.00000	1.9144
59	4-Chloro-3-Methylphenol	107	5.497	5.510	(1.087)	26217	2.00000	1.9431
62	2-Methylnaphthalene	142	5.598	5.600	(1.107)	58940	2.00000	2.0175
63	1-Methylnaphthalene	142	5.667	5.675	(1.120)	55644	2.00000	2.0005
64	Hexachlorocyclopentadiene	237	5.726	5.734	(0.898)	17466	2.00000	1.7529
65	1,2,4,5-Tetrachlorobenzene	216	5.726	5.734	(0.898)	31155	2.00000	1.9957
66	2,4,6-Trichlorophenol	196	5.812	5.819	(0.911)	19067	2.00000	1.7605
67	2,4,5-Trichlorophenol	196	5.838	5.851	(0.915)	20481	2.00000	1.9371
209	1,1'-Biphenyl	154	5.951	5.958	(0.933)	73318	2.00000	1.9271
70	2-Chloronaphthalene	162	5.961	5.964	(0.935)	56440	2.00000	1.9198
73	2-Nitroaniline	65	6.036	6.049	(0.946)	15326	2.00000	1.9157
76	Dimethylphthalate	163	6.186	6.199	(0.970)	63794	2.00000	1.9923
78	2,6-Dinitrotoluene	165	6.223	6.236	(0.976)	13029	2.00000	1.8099
79	Acenaphthylene	152	6.271	6.273	(0.983)	91282	2.00000	1.9426(Q)
81	3-Nitroaniline	138	6.346	6.359	(0.995)	14425	2.00000	1.8421
82	Acenaphthene	153	6.399	6.407	(1.003)	57700	2.00000	1.9184
83	2,4-Dinitrophenol	184	6.426	6.439	(1.008)	11529	4.00000	2.2483
85	4-Nitrophenol	109	6.479	6.498	(1.016)	16987	4.00000	3.9461
86	Dibenzofuran	168	6.533	6.541	(1.024)	86423	2.00000	1.9435
87	2,4-Dinitrotoluene	165	6.532	6.541	(1.023)	19636	2.00000	1.9559
92	2-Naphthylamine	143	6.645	6.658	(1.042)	53201	2.00000	2.0011
91	2,3,5,6-Tetrachlorophenol	232	6.597	6.610	(1.034)	18275	2.00000	1.7736
88	2,3,4,6-Tetrachlorophenol	232	6.629	6.642	(1.039)	17473	2.00000	1.8938
93	Diethylphthalate	149	6.720	6.733	(1.054)	65420	2.00000	1.9723
94	Fluorene	166	6.789	6.802	(1.064)	67311	2.00000	1.9412
95	4-Chlorophenyl-phenylether	204	6.800	6.808	(1.066)	37420	2.00000	1.9747
96	4-Nitroaniline	138	6.800	6.818	(1.066)	15079	2.00000	1.8454
98	4,6-Dinitro-2-methylphenol	198	6.832	6.845	(0.912)	20615	4.00000	3.0782
99	N-Nitrosodiphenylamine (1)	169	6.885	6.893	(0.919)	48420	2.00000	1.9710
100	1,2-Diphenylhydrazine	77	6.912	6.925	(0.922)	66497	2.00000	1.9388
106	4-Bromophenyl-phenylether	248	7.163	7.171	(0.956)	19982	2.00000	1.9166
107	Hexachlorobenzene	284	7.211	7.219	(0.962)	18913	2.00000	1.8760
210	Atrazine	200	7.291	7.305	(0.973)	19243	2.00000	2.0936
111	Pentachlorophenol	266	7.356	7.369	(0.981)	24494	4.00000	3.3525(Q)
115	Phenanthrene	178	7.510	7.524	(1.002)	99657	2.00000	1.8476
116	Anthracene	178	7.548	7.561	(1.007)	100586	2.00000	1.9780
119	Carbazole	167	7.671	7.684	(1.024)	91076	2.00000	2.0505(Q)
120	Di-n-Butylphthalate	149	7.949	7.956	(1.061)	106469	2.00000	1.9222
123	Fluoranthene	202	8.408	8.416	(1.122)	112315	2.00000	2.0234
124	Benzidine	184	8.509	8.523	(0.897)	27016	2.00000	1.9862
125	Pyrene	202	8.579	8.587	(0.904)	116127	2.00000	1.9626
131	Butylbenzylphthalate	149	9.070	9.083	(0.956)	46048	2.00000	1.9340
135	3,3'-Dichlorobenzidine	252	9.460	9.473	(0.997)	31013	2.00000	1.8692
136	Benzo(a)Anthracene	228	9.482	9.495	(0.999)	100160	2.00000	1.8320
137	Chrysene	228	9.508	9.521	(1.002)	99894	2.00000	1.9764
139	bis(2-ethylhexyl)Phthalate	149	9.508	9.516	(1.002)	61343	2.00000	1.8087
140	Di-n-octylphthalate	149	9.973	9.986	(0.942)	89528	2.00000	1.6411(M)
141	Benzo(b)fluoranthene	252	10.267	10.291	(0.970)	98071	2.00000	1.8018

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Semivolatile REPORT SW-846 Method 8270

Data file : \\PITSVR06\D\chem\71.i\s050211.b\S0502IC3.D
Lab Smp Id: sstd4 Client Smp ID: sstd4
Inj Date : 02-MAY-2011 13:58
Operator : 045183sab Inst ID: 71.i
Smp Info : CCVIS 10911 svl1SSTD4i_00001
Misc Info : sstd4,s050211.b,8270D.m,4-rooti.sub,1,3
Comment :
Method : \\PITSVR06\D\chem\71.i\s050211.b\8270D.m
Meth Date : 09-May-2011 11:06 bachas Quant Type: ISTD
Cal Date : 02-MAY-2011 16:59 Cal File: S0502IC8.D
Als bottle: 2 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 4-rooti.sub
Target Version: 4.14
Processing Host: PITPC-501

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 1	1,4-Dichlorobenzene-d4	152	4.104	4.099	(1.000)	85771	8.00000	
* 2	Naphthalene-d8	136	5.060	5.061	(1.000)	364823	8.00000	
* 3	Acenaphthene-d10	164	6.385	6.386	(1.000)	218547	8.00000	
* 4	Phenanthrene-d10	188	7.496	7.502	(1.000)	406371	8.00000	
* 5	Chrysene-d12	240	9.494	9.500	(1.000)	400020	8.00000	
* 6	Perylene-d12	264	10.595	10.595	(1.000)	304706	8.00000	
198	1,4-Dioxane	88	0.824	0.830	(0.201)	19624	4.00000	4.0217
10	N-Nitrosodimethylamine	74	1.150	1.166	(0.280)	30641	4.00000	4.2046
9	Pyridine	79	1.182	1.102	(0.288)	54783	4.00000	4.0969
16	Methyl methanesulfonate	80	2.870	2.865	(0.699)	30169	4.00000	4.2814
206	Benzaldehyde	77	3.757	3.752	(0.915)	40430	4.00000	3.5363
21	Aniline	93	3.847	3.853	(0.938)	94788	4.00000	4.1809
22	Phenol	94	3.869	3.875	(0.943)	84887	4.00000	4.1123
23	bis(2-Chloroethyl)ether	93	3.922	3.923	(0.956)	60176	4.00000	4.2226
24	2-Chlorophenol	128	3.938	3.939	(0.960)	62779	4.00000	3.9961
26	1,3-Dichlorobenzene	146	4.056	4.056	(0.988)	67405	4.00000	3.9590
27	1,4-Dichlorobenzene	146	4.115	4.115	(1.003)	70381	4.00000	4.0184
28	1,2-Dichlorobenzene	146	4.227	4.227	(1.030)	65713	4.00000	3.9719
29	Benzyl Alcohol	108	4.221	4.227	(1.029)	43149	4.00000	4.1629
30	2-Methylphenol	108	4.323	4.334	(1.053)	59516	4.00000	4.0151
31	2,2'-oxybis(1-Chloropropane)	45	4.334	4.334	(1.056)	60355	4.00000	4.1175
217	Indene	116	4.296	4.297	(1.047)	107862	4.00000	4.0041
37	Acetophenone	105	4.414	4.420	(1.075)	87262	4.00000	4.0415
32	N-Nitroso-di-n-propylamine	70	4.430	4.436	(1.079)	45002	4.00000	4.1049
192	4-Methylphenol	108	4.440	4.446	(1.082)	59633	4.00000	4.0685
34	Hexachloroethane	117	4.489	4.484	(1.094)	26814	4.00000	4.0454
35	Nitrobenzene	77	4.537	4.537	(0.897)	68843	4.00000	4.0958
36	N-Nitrosopyrrolidine	100	4.387	4.409	(1.069)	30014	4.00000	4.0570
41	Isophorone	82	4.724	4.730	(0.933)	121131	4.00000	3.9942
42	2-Nitrophenol	139	4.782	4.778	(0.945)	35497	4.00000	4.0088
43	2,4-Dimethylphenol	107	4.836	4.836	(0.956)	64199	4.00000	3.8499
44	bis(2-Chloroethoxy)methane	93	4.900	4.901	(0.968)	74256	4.00000	4.0218
48	2,4-Dichlorophenol	162	4.964	4.965	(0.981)	53292	4.00000	3.8450

MJW 9/20/11

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
49	Benzoic Acid	122	4.900	4.965	(0.968)	104513	10.0000	9.8647(MH)
50	1,2,4-Trichlorobenzene	180	5.028	5.023	(0.994)	60036	4.00000	3.7896
51	Naphthalene	128	5.076	5.077	(1.003)	188500	4.00000	3.8066
52	4-Chloroaniline	127	5.124	5.130	(1.013)	80851	4.00000	3.9837
54	2,6-Dichlorophenol	162	5.135	5.136	(1.015)	51871	4.00000	3.8814
56	Hexachlorobutadiene	225	5.194	5.189	(1.026)	36955	4.00000	3.8828(Q)
208	Caprolactam	113	5.359	5.419	(1.059)	20005	4.00000	4.3537
59	4-Chloro-3-Methylphenol	107	5.504	5.510	(1.088)	61129	4.00000	4.0338
62	2-Methylnaphthalene	142	5.600	5.600	(1.107)	125980	4.00000	3.8394
63	1-Methylnaphthalene	142	5.674	5.675	(1.121)	124573	4.00000	3.9875
64	Hexachlorocyclopentadiene	237	5.733	5.734	(0.898)	42124	4.00000	3.8711
65	1,2,4,5-Tetrachlorobenzene	216	5.733	5.734	(0.898)	66628	4.00000	3.9081
66	2,4,6-Trichlorophenol	196	5.819	5.819	(0.911)	44653	4.00000	3.7753
67	2,4,5-Trichlorophenol	196	5.840	5.851	(0.915)	48549	4.00000	4.2046
209	1,1'-Biphenyl	154	5.958	5.958	(0.933)	166563	4.00000	4.0087
70	2-Chloronaphthalene	162	5.963	5.964	(0.934)	129039	4.00000	4.0190
73	2-Nitroaniline	65	6.043	6.049	(0.946)	35406	4.00000	4.0524
76	Dimethylphthalate	163	6.193	6.199	(0.970)	140195	4.00000	4.0091
78	2,6-Dinitrotoluene	165	6.230	6.236	(0.976)	31725	4.00000	4.0354
79	Acenaphthylene	152	6.273	6.273	(0.982)	205726	4.00000	4.0089
81	3-Nitroaniline	138	6.348	6.359	(0.994)	35479	4.00000	4.1486
82	Acenaphthene	153	6.406	6.407	(1.003)	130082	4.00000	3.9602
83	2,4-Dinitrophenol	184	6.428	6.439	(1.007)	52445	10.0000	9.3647
85	4-Nitrophenol	109	6.481	6.498	(1.015)	52657	10.0000	11.200
86	Dibenzofuran	168	6.535	6.541	(1.023)	190978	4.00000	3.9325
87	2,4-Dinitrotoluene	165	6.529	6.541	(1.023)	44035	4.00000	4.0893
92	2-Naphthylamine	143	6.652	6.658	(1.042)	112531	4.00000	4.3370
91	2,3,5,6-Tetrachlorophenol	232	6.604	6.610	(1.034)	41795	4.00000	3.7140
88	2,3,4,6-Tetrachlorophenol	232	6.636	6.642	(1.039)	42418	4.00000	4.2096
93	Diethylphthalate	149	6.727	6.733	(1.054)	147639	4.00000	4.0756
94	Fluorene	166	6.796	6.802	(1.064)	148272	4.00000	3.9155
95	4-Chlorophenyl-phenylether	204	6.802	6.808	(1.065)	82114	4.00000	3.9677
96	4-Nitroaniline	138	6.802	6.818	(1.065)	38433	4.00000	4.3069
98	4,6-Dinitro-2-methylphenol	198	6.834	6.845	(0.912)	76221	10.0000	10.053
99	N-Nitrosodiphenylamine (1)	169	6.887	6.893	(0.919)	107443	4.00000	3.8634
100	1,2-Diphenylhydrazine	77	6.919	6.925	(0.923)	152734	4.00000	3.9335
106	4-Bromophenyl-phenylether	248	7.170	7.171	(0.957)	45097	4.00000	3.8209
107	Hexachlorobenzene	284	7.218	7.219	(0.963)	44500	4.00000	3.8989
210	Atraxine	200	7.293	7.305	(0.973)	42752	4.00000	4.1086
111	Pentachlorophenol	266	7.363	7.369	(0.982)	81060	10.0000	9.8000(Q)
115	Phenanthrene	178	7.518	7.524	(1.003)	227302	4.00000	3.7224
116	Anthracene	178	7.555	7.561	(1.008)	226185	4.00000	3.9289
119	Carbazole	167	7.678	7.684	(1.024)	210457	4.00000	4.1854
120	Di-n-Butylphthalate	149	7.956	7.956	(1.061)	245883	4.00000	3.9213
123	Fluoranthene	202	8.415	8.416	(1.123)	257693	4.00000	4.1007
124	Benzidine	184	8.517	8.523	(0.897)	64849	4.00000	4.1042
125	Pyrene	202	8.581	8.587	(0.904)	257477	4.00000	3.7460
131	Butylbenzylphthalate	149	9.077	9.083	(0.956)	107125	4.00000	3.8731
135	3,3'-Dichlorobenzidine	252	9.467	9.473	(0.997)	75265	4.00000	3.9051
136	Benzo(a)Anthracene	228	9.489	9.495	(0.999)	235013	4.00000	3.7004
137	Chrysene	228	9.515	9.521	(1.002)	235335	4.00000	4.0081
139	bis(2-ethylhexyl)Phthalate	149	9.515	9.516	(1.002)	154654	4.00000	3.9255
140	Di-n-octylphthalate	149	9.980	9.986	(0.942)	232190	4.00000	3.7970
141	Benzo(b)fluoranthene	252	10.279	10.291	(0.970)	232742	4.00000	4.1079

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Semivolatile REPORT SW-846 Method 8270

Data file : \\PITSVR06\D\chem\71.i\s050211.b\S0502IC4.D
Lab Smp Id: sstd10 Client Smp ID: sstd10
Inj Date : 02-MAY-2011 14:56
Operator : 045183sab Inst ID: 71.i
Smp Info : IC 1002 sv11SSTD10i 00001
Misc Info : sstd10,s050211.b,8270D.m,4-rooti.sub,1,4
Comment :
Method : \\PITSVR06\D\chem\71.i\s050211.b\8270D.m
Meth Date : 09-May-2011 11:06 bachas Quant Type: ISTD
Cal Date : 02-MAY-2011 16:59 Cal File: S0502IC8.D
Als bottle: 5 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 4-rooti.sub
Target Version: 4.14
Processing Host: PITPC-501

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 1	1,4-Dichlorobenzene-d4	152	4.099	4.099	(1.000)	77898	8.00000	
* 2	Naphthalene-d8	136	5.060	5.061	(1.000)	335596	8.00000	
* 3	Acenaphthene-d10	164	6.380	6.386	(1.000)	201054	8.00000	
* 4	Phenanthrene-d10	188	7.496	7.502	(1.000)	360876	8.00000	
* 5	Chrysene-d12	240	9.489	9.500	(1.000)	334343	8.00000	
* 6	Perylene-d12	264	10.584	10.595	(1.000)	246681	8.00000	
198	1,4-Dioxane	88	0.830	0.830	(0.202)	43644	10.0000	9.8483
10	N-Nitrosodimethylamine	74	1.161	1.166	(0.283)	68042	10.0000	10.280
9	Pyridine	79	1.187	1.182	(0.290)	126694	10.0000	10.432(M)
16	Methyl methanesulfonate	80	2.865	2.865	(0.699)	65529	10.0000	10.239
206	Benzaldehyde	77	3.752	3.752	(0.915)	103773	10.0000	9.0584
21	Aniline	93	3.848	3.853	(0.939)	210864	10.0000	10.241
22	Phenol	94	3.869	3.875	(0.944)	191920	10.0000	10.237
23	bis(2-Chloroethyl)ether	93	3.917	3.923	(0.956)	132378	10.0000	10.228
24	2-Chlorophenol	128	3.939	3.939	(0.961)	145696	10.0000	10.211
26	1,3-Dichlorobenzene	146	4.056	4.056	(0.990)	155483	10.0000	10.055
27	1,4-Dichlorobenzene	146	4.115	4.115	(1.004)	161176	10.0000	10.132
28	1,2-Dichlorobenzene	146	4.227	4.227	(1.031)	151737	10.0000	10.098
29	Benzyl Alcohol	108	4.222	4.227	(1.030)	94765	10.0000	10.067
30	2-Methylphenol	108	4.323	4.334	(1.055)	137147	10.0000	10.188
31	2,2'-oxybis(1-Chloropropane)	45	4.334	4.334	(1.057)	137570	10.0000	10.334
217	Indene	116	4.297	4.297	(1.048)	251457	10.0000	10.278
37	Acetophenone	105	4.414	4.420	(1.077)	201267	10.0000	10.264
32	N-Nitroso-di-n-propylamine	70	4.425	4.436	(1.079)	102287	10.0000	10.273
192	4-Methylphenol	108	4.435	4.446	(1.082)	136334	10.0000	10.241
34	Hexachloroethane	117	4.484	4.484	(1.094)	60696	10.0000	10.003
35	Nitrobenzene	77	4.532	4.537	(0.896)	153717	10.0000	9.9418
36	N-Nitrosopyrrolidine	100	4.387	4.409	(1.070)	69026	10.0000	10.273
41	Isophorone	82	4.719	4.730	(0.932)	272374	10.0000	9.7636
42	2-Nitrophenol	139	4.777	4.778	(0.944)	80036	10.0000	9.8259
43	2,4-Dimethylphenol	107	4.831	4.836	(0.955)	152946	10.0000	9.9706
44	bis(2-Chloroethoxy)methane	93	4.900	4.901	(0.968)	165967	10.0000	9.7717
48	2,4-Dichlorophenol	162	4.959	4.965	(0.980)	124104	10.0000	9.7340

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	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
49	Benzoic Acid	122	4.911	4.965	(0.970)	190899	20.0000	19.588(M)
50	1,2,4-Trichlorobenzene	180	5.023	5.023	(0.993)	141590	10.0000	9.7158
51	Naphthalene	128	5.077	5.077	(1.003)	437118	10.0000	9.5959
52	4-Chloroaniline	127	5.125	5.130	(1.013)	189043	10.0000	10.126
54	2,6-Dichlorophenol	162	5.130	5.136	(1.014)	119526	10.0000	9.7228
56	Hexachlorobutadiene	225	5.189	5.189	(1.025)	85873	10.0000	9.7739(Q)
208	Caprolactam	113	5.365	5.419	(1.060)	44603	10.0000	10.552
59	4-Chloro-3-Methylphenol	107	5.499	5.510	(1.087)	135564	10.0000	9.7246
62	2-Methylnaphthalene	142	5.600	5.600	(1.107)	293399	10.0000	9.7205
63	1-Methylnaphthalene	142	5.669	5.675	(1.120)	276580	10.0000	9.6241
64	Hexachlorocyclopentadiene	237	5.728	5.734	(0.898)	103760	10.0000	10.365
65	1,2,4,5-Tetrachlorobenzene	216	5.728	5.734	(0.898)	156855	10.0000	10.001
66	2,4,6-Trichlorophenol	196	5.819	5.819	(0.912)	103284	10.0000	9.4921
67	2,4,5-Trichlorophenol	196	5.840	5.851	(0.915)	109600	10.0000	10.318
209	1,1'-Biphenyl	154	5.953	5.958	(0.933)	381231	10.0000	9.9734
70	2-Chloronaphthalene	162	5.963	5.964	(0.935)	292915	10.0000	9.9168
73	2-Nitroaniline	65	6.038	6.049	(0.946)	82090	10.0000	10.213
76	Dimethylphthalate	163	6.188	6.199	(0.970)	322512	10.0000	10.026
78	2,6-Dinitrotoluene	165	6.225	6.236	(0.976)	73537	10.0000	10.168
79	Acenaphthylene	152	6.273	6.273	(0.983)	462349	10.0000	9.7934(Q)
81	3-Nitroaniline	138	6.348	6.359	(0.995)	80472	10.0000	10.228
82	Acenaphthene	153	6.407	6.407	(1.004)	299656	10.0000	9.9163
83	2,4-Dinitrophenol	184	6.428	6.439	(1.008)	92298	20.0000	17.915
85	4-Nitrophenol	109	6.481	6.498	(1.016)	93733	20.0000	21.672
86	Dibenzofuran	168	6.535	6.541	(1.024)	442161	10.0000	9.8969
87	2,4-Dinitrotoluene	165	6.530	6.541	(1.023)	101469	10.0000	10.060
92	2-Naphthylamine	143	6.652	6.658	(1.043)	213205	10.0000	10.155
91	2,3,5,6-Tetrachlorophenol	232	6.599	6.610	(1.034)	95816	10.0000	9.2553
88	2,3,4,6-Tetrachlorophenol	232	6.631	6.642	(1.039)	94086	10.0000	10.150
93	Diethylphthalate	149	6.722	6.733	(1.054)	326543	10.0000	9.7986
94	Fluorene	166	6.791	6.802	(1.064)	343747	10.0000	9.8673
95	4-Chlorophenyl-phenylether	204	6.802	6.808	(1.066)	187784	10.0000	9.8631
96	4-Nitroaniline	138	6.802	6.818	(1.066)	84626	10.0000	10.308
98	4,6-Dinitro-2-methylphenol	198	6.834	6.845	(0.912)	133345	20.0000	19.805
99	N-Nitrosodiphenylamine (1)	169	6.887	6.893	(0.919)	247051	10.0000	10.003
100	1,2-Diphenylhydrazine	77	6.920	6.925	(0.923)	340743	10.0000	9.8818
106	4-Bromophenyl-phenylether	248	7.165	7.171	(0.956)	103525	10.0000	9.8770
107	Hexachlorobenzene	284	7.213	7.219	(0.962)	101046	10.0000	9.9693
210	Atrazine	200	7.293	7.305	(0.973)	99073	10.0000	10.722
111	Pentachlorophenol	266	7.363	7.369	(0.982)	144055	20.0000	19.612(Q)
115	Phenanthrene	178	7.513	7.524	(1.002)	519739	10.0000	9.5846
116	Anthracene	178	7.580	7.561	(1.007)	503228	10.0000	9.8432
119	Carbazole	167	7.673	7.684	(1.024)	449548	10.0000	10.067
120	Di-n-Butylphthalate	149	7.956	7.956	(1.061)	555396	10.0000	9.9739
123	Fluoranthene	202	8.410	8.416	(1.122)	580230	10.0000	10.397
124	Benzidine	184	8.511	8.523	(0.897)	123134	10.0000	9.3237(M)
125	Pyrene	202	8.581	8.587	(0.904)	578899	10.0000	10.077
131	Butylbenzylphthalate	149	9.072	9.083	(0.956)	236141	10.0000	10.215
135	3,3'-Dichlorobenzidine	252	9.468	9.473	(0.998)	160885	10.0000	9.9873
136	Benzo(a)Anthracene	228	9.484	9.495	(0.999)	521807	10.0000	9.8300
137	Chrysene	228	9.510	9.521	(1.002)	485100	10.0000	9.8849
139	bis(2-ethylhexyl)Phthalate	149	9.510	9.516	(1.002)	339144	10.0000	10.299
140	Di-n-octylphthalate	149	9.975	9.986	(0.942)	497699	10.0000	10.053(MH)
141	Benzo(b)fluoranthene	252	10.269	10.291	(0.970)	456240	10.0000	10.168

m/w 9/20/11

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Semivolatile REPORT SW-846 Method 8270

Data file : \\PITSVR06\D\chem\71.i\s050211.b\S0502IC5.D
Lab Smp Id: sstd20 Client Smp ID: sstd20
Inj Date : 02-MAY-2011 15:16
Operator : 045183sab Inst ID: 71.i
Smp Info : IC 1003 sv11SSTD20i_00001
Misc Info : sstd20,s050211.b,8270D.m,4-rooti.sub,1,5
Comment :
Method : \\PITSVR06\D\chem\71.i\s050211.b\8270D.m
Meth Date : 09-May-2011 11:06 bachas Quant Type: ISTD
Cal Date : 02-MAY-2011 16:59 Cal File: S0502IC8.D
Als bottle: 6 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 4-rooti.sub
Target Version: 4.14
Processing Host: PITPC-501

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 1	1,4-Dichlorobenzene-d4	152	4.106	4.099	(1.000)	83258	8.00000	(Q)
* 2	Naphthalene-d8	136	5.062	5.061	(1.000)	343648	8.00000	
* 3	Acenaphthene-d10	164	6.382	6.386	(1.000)	208248	8.00000	
* 4	Phenanthrene-d10	188	7.498	7.502	(1.000)	380370	8.00000	
* 5	Chrysene-d12	240	9.496	9.500	(1.000)	341333	8.00000	
* 6	Perylene-d12	264	10.586	10.595	(1.000)	232908	8.00000	
198	1,4-Dioxane	88	0.831	0.830	(0.203)	94005	20.0000	19.847(M)
10	N-Nitrosodimethylamine	74	1.163	1.166	(0.283)	145162	20.0000	20.521
9	Pyridine	79	1.184	1.182	(0.288)	264008	20.0000	20.340
16	Methyl methanesulfonate	80	2.867	2.865	(0.698)	138813	20.0000	20.294
206	Benzaldehyde	77	3.753	3.752	(0.914)	203270	20.0000	19.113
21	Aniline	93	3.850	3.853	(0.938)	448699	20.0000	20.388
22	Phenol	94	3.871	3.875	(0.943)	405457	20.0000	20.235
23	bis(2-Chloroethyl)ether	93	3.919	3.923	(0.954)	278004	20.0000	20.096
24	2-Chlorophenol	128	3.940	3.939	(0.960)	307501	20.0000	20.164
26	1,3-Dichlorobenzene	146	4.058	4.056	(0.908)	331444	20.0000	20.055
27	1,4-Dichlorobenzene	146	4.117	4.115	(1.003)	338131	20.0000	19.888
28	1,2-Dichlorobenzene	146	4.229	4.227	(1.030)	324213	20.0000	20.188
29	Benzyl Alcohol	108	4.224	4.227	(1.029)	202122	20.0000	20.089
30	2-Methylphenol	108	4.325	4.334	(1.053)	288014	20.0000	20.017
31	2,2'-oxybis(1-Chloropropane)	45	4.336	4.334	(1.056)	284543	20.0000	19.998
217	Indene	116	4.298	4.297	(1.047)	524883	20.0000	20.073
37	Acetophenone	105	4.416	4.420	(1.075)	413690	20.0000	19.738
32	N-Nitroso-di-n-propylamine	70	4.432	4.436	(1.079)	212198	20.0000	19.940
192	4-Methylphenol	108	4.443	4.446	(1.082)	285519	20.0000	20.068
34	Hexachloroethane	117	4.485	4.484	(1.092)	128799	20.0000	20.018
35	Nitrobenzene	77	4.539	4.537	(0.897)	318201	20.0000	20.098
36	N-Nitrosopyrrolidine	100	4.395	4.409	(1.070)	148437	20.0000	20.670
41	Isophorone	82	4.726	4.730	(0.934)	572920	20.0000	20.056
42	2-Nitrophenol	139	4.779	4.778	(0.944)	175925	20.0000	21.092
43	2,4-Dimethylphenol	107	4.833	4.836	(0.955)	323063	20.0000	20.567
44	bis(2-Chloroethoxy)methane	93	4.902	4.901	(0.968)	348347	20.0000	20.029
48	2,4-Dichlorophenol	162	4.966	4.965	(0.981)	259014	20.0000	19.839

mlw 9/20/11

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
49	Benzoic Acid	122	4.929	4.965	(0.974)	310537	30.0000	31.117(M)
50	1,2,4-Trichlorobenzene	180	5.025	5.023	(0.993)	300256	20.0000	20.120
51	Naphthalene	128	5.078	5.077	(1.003)	933909	20.0000	20.021
52	4-Chloroaniline	127	5.126	5.130	(1.013)	392310	20.0000	20.521
54	2,6-Dichlorophenol	162	5.137	5.136	(1.015)	257396	20.0000	20.447
56	Hexachlorobutadiene	225	5.190	5.189	(1.025)	163026	20.0000	20.415(Q)
208	Caprolactam	113	5.377	5.419	(1.062)	94847	20.0000	21.913(Q)
59	4-Chloro-3-Methylphenol	107	5.506	5.510	(1.088)	291844	20.0000	20.445
62	2-Methylnaphthalene	142	5.602	5.600	(1.107)	618608	20.0000	20.014
63	1-Methylnaphthalene	142	5.677	5.675	(1.121)	602359	20.0000	20.469
64	Hexachlorocyclopentadiene	237	5.735	5.734	(0.899)	225904	20.0000	21.787
65	1,2,4,5-Tetrachlorobenzene	216	5.730	5.734	(0.898)	334128	20.0000	20.568
66	2,4,6-Trichlorophenol	196	5.821	5.819	(0.912)	227986	20.0000	20.229
67	2,4,5-Trichlorophenol	196	5.848	5.851	(0.916)	233679	20.0000	21.238
209	1,1'-Biphenyl	154	5.954	5.958	(0.933)	810711	20.0000	20.476
70	2-Chloronaphthalene	162	5.965	5.964	(0.935)	621580	20.0000	20.317
73	2-Nitroaniline	65	6.040	6.049	(0.946)	176193	20.0000	21.164
76	Dimethylphthalate	163	6.195	6.199	(0.971)	691690	20.0000	20.758
78	2,6-Dinitrotoluene	165	6.232	6.236	(0.977)	161072	20.0000	21.502
79	Acenaphthylene	152	6.275	6.273	(0.983)	1008174	20.0000	20.617(Q)
81	3-Nitroaniline	138	6.350	6.359	(0.995)	175957	20.0000	21.592
82	Acenaphthene	153	6.408	6.407	(1.004)	638023	20.0000	20.384
83	2,4-Dinitrophenol	184	6.430	6.439	(1.008)	162234	30.0000	30.401
85	4-Nitrophenol	109	6.489	6.498	(1.017)	149723	30.0000	33.422
86	Dibenzofuran	168	6.537	6.541	(1.024)	941086	20.0000	20.337
87	2,4-Dinitrotoluene	165	6.531	6.541	(1.023)	222085	20.0000	21.258
92	2-Naphthylamine	143	6.654	6.658	(1.043)	376301	20.0000	19.679
91	2,3,5,6-Tetrachlorophenol	232	6.606	6.610	(1.035)	221533	20.0000	20.660
88	2,3,4,6-Tetrachlorophenol	232	6.638	6.642	(1.040)	196130	20.0000	20.427
93	Diethylphthalate	149	6.729	6.733	(1.054)	698193	20.0000	20.227
94	Fluorene	166	6.798	6.802	(1.065)	745269	20.0000	20.654
95	4-Chlorophenyl-phenylether	204	6.804	6.808	(1.066)	401784	20.0000	20.374
96	4-Nitroaniline	138	6.809	6.818	(1.067)	184779	20.0000	21.731
98	4,6-Dinitro-2-methylphenol	198	6.836	6.845	(0.912)	225906	30.0000	31.833
99	N-Nitrosodiphenylamine (1)	169	6.889	6.893	(0.919)	521153	20.0000	20.020
100	1,2-Diphenylhydrazine	77	6.921	6.925	(0.923)	704035	20.0000	19.371
106	4-Bromophenyl-phenylether	248	7.172	7.171	(0.957)	223527	20.0000	20.233
107	Hexachlorobenzene	284	7.215	7.219	(0.962)	215201	20.0000	20.144
210	Atrazine	200	7.301	7.305	(0.974)	209255	20.0000	21.485
111	Pentachlorophenol	266	7.365	7.369	(0.982)	234594	30.0000	30.301(QM)
115	Phenanthrene	178	7.520	7.524	(1.003)	1151425	20.0000	20.145
116	Anthracene	178	7.557	7.561	(1.008)	1092929	20.0000	20.282
119	Carbazole	167	7.680	7.684	(1.024)	967204	20.0000	20.550
120	Di-n-Butylphthalate	149	7.958	7.956	(1.061)	1218094	20.0000	20.754
123	Fluoranthene	202	8.417	8.416	(1.123)	1229890	20.0000	20.909
124	Benzidine	184	8.519	8.523	(0.897)	263754	20.0000	19.562(M)
125	Pyrene	202	8.583	8.587	(0.904)	1227311	20.0000	20.926
131	Butylbenzylphthalate	149	9.080	9.083	(0.956)	507145	20.0000	21.488
135	3,3'-Dichlorobenzidine	252	9.470	9.473	(0.997)	337928	20.0000	20.548
136	Benzo(a)Anthracene	228	9.486	9.495	(0.999)	1034930	20.0000	19.097
137	Chrysene	228	9.518	9.521	(1.002)	1016546	20.0000	20.290
139	bis(2-ethylhexyl)Phthalate	149	9.512	9.516	(1.002)	693778	20.0000	20.638(M)
140	Di-n-octylphthalate	149	9.977	9.986	(0.942)	1018699	20.0000	21.794(MH)
141	Benzo(b)fluoranthene	252	10.276	10.291	(0.971)	865667	20.0000	20.072

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Semivolatile REPORT SW-846 Method 8270

Data file : \\PITSVR06\D\chem\71.i\s050211.b\S0502IC6.D
Lab Smp Id: sstd40 Client Smp ID: sstd40
Inj Date : 02-MAY-2011 15:36
Operator : 045183sab Inst ID: 71.i
Smp Info : IC 1004 sv11SSTD40i_00001
Misc Info : sstd40,s050211.b,8270D.m,4-rooti.sub,1,6
Comment :
Method : \\PITSVR06\D\chem\71.i\s050211.b\8270D.m
Meth Date : 09-May-2011 11:06 bachas Quant Type: ISTD
Cal Date : 02-MAY-2011 16:59 Cal File: S0502IC8.D
Als bottle: 7 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 4-rooti.sub
Target Version: 4.14
Processing Host: PITPC-501

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 1	1,4-Dichlorobenzene-d4	152	4.102	4.099	(1.000)	74905	8.00000	(Q)
* 2	Naphthalene-d8	136	5.063	5.061	(1.000)	299838	8.00000	
* 3	Acenaphthene-d10	164	6.383	6.386	(1.000)	187419	8.00000	
* 4	Phenanthrene-d10	188	7.499	7.502	(1.000)	326684	8.00000	
* 5	Chrysene-d12	240	9.497	9.500	(1.000)	288243	8.00000	
* 6	Perylene-d12	264	10.592	10.595	(1.000)	201761	8.00000	
198	1,4-Dioxane	88	0.827	0.830	(0.202)	160708	40.0000	37.713(M)
10	N-Nitrosodimethylamine	74	1.163	1.166	(0.284)	250690	40.0000	39.390
9	Pyridine	79	1.179	1.182	(0.288)	457687	40.0000	39.193(M)
16	Methyl methanesulfonate	80	2.868	2.865	(0.699)	234809	40.0000	38.156
206	Benzaldehyde	77	3.754	3.752	(0.915)	312356	40.0000	41.375
21	Aniline	93	3.850	3.853	(0.939)	750220	40.0000	37.891
22	Phenol	94	3.872	3.875	(0.944)	681047	40.0000	37.779
23	bis(2-Chloroethyl)ether	93	3.925	3.923	(0.957)	473432	40.0000	38.040
24	2-Chlorophenol	128	3.941	3.939	(0.961)	530237	40.0000	38.647
26	1,3-Dichlorobenzene	146	4.059	4.056	(0.990)	575425	40.0000	38.701
27	1,4-Dichlorobenzene	146	4.118	4.115	(1.004)	596606	40.0000	39.004
28	1,2-Dichlorobenzene	146	4.230	4.227	(1.031)	560749	40.0000	38.810
29	Benzyl Alcohol	108	4.224	4.227	(1.030)	352583	40.0000	38.951
30	2-Methylphenol	108	4.331	4.334	(1.056)	495847	40.0000	38.304
31	2,2'-oxybis(1-Chloropropane)	45	4.337	4.334	(1.057)	489594	40.0000	38.246
217	Indene	116	4.299	4.297	(1.040)	907969	40.0000	38.595
37	Acetophenone	105	4.417	4.420	(1.077)	720356	40.0000	38.203
32	N-Nitroso-di-n-propylamine	70	4.433	4.436	(1.081)	374478	40.0000	39.113
192	4-Methylphenol	108	4.443	4.446	(1.083)	487710	40.0000	38.101
34	Hexachloroethane	117	4.486	4.484	(1.094)	227929	40.0000	39.376
35	Nitrobenzene	77	4.540	4.537	(0.897)	550308	40.0000	39.836
36	N-Nitrosopyrrolidine	100	4.401	4.409	(1.073)	259242	40.0000	40.125
41	Isophorone	82	4.727	4.730	(0.934)	1001064	40.0000	40.164
42	2-Nitrophenol	139	4.780	4.778	(0.944)	310692	40.0000	42.692
43	2,4-Dimethylphenol	107	4.833	4.836	(0.955)	558373	40.0000	40.742
44	bis(2-Chloroethoxy)methane	93	4.903	4.901	(0.968)	611717	40.0000	40.312
48	2,4-Dichlorophenol	162	4.967	4.965	(0.981)	464757	40.0000	40.800

MJW 9/20/11

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	AMOUNTS ON-COL (NG)
49 Benzoic Acid	122	4.935	4.965	(0.975)	378083	40.0000	43.420(M)
50 1,2,4-Trichlorobenzene	180	5.026	5.023	(0.993)	528327	40.0000	40.577
51 Naphthalene	128	5.079	5.077	(1.003)	1624821	40.0000	39.923
52 4-Chloroaniline	127	5.127	5.130	(1.013)	681588	40.0000	40.862
54 2,6-Dichlorophenol	162	5.138	5.136	(1.015)	448941	40.0000	40.874
56 Hexachlorobutadiene	225	5.191	5.189	(1.025)	325818	40.0000	41.652(Q)
208 Caprolactam	113	5.394	5.419	(1.065)	148384	40.0000	39.292(Q)
59 4-Chloro-3-Methylphenol	107	5.507	5.510	(1.088)	504661	40.0000	40.519
62 2-Methylnaphthalene	142	5.603	5.600	(1.107)	1093097	40.0000	40.534
63 1-Methylnaphthalene	142	5.677	5.675	(1.121)	1037725	40.0000	40.416
64 Hexachlorocyclopentadiene	237	5.731	5.734	(0.898)	402655	40.0000	43.149
65 1,2,4,5-Tetrachlorobenzene	216	5.731	5.734	(0.898)	583731	40.0000	39.926
66 2,4,6-Trichlorophenol	196	5.822	5.819	(0.912)	414053	40.0000	40.821
67 2,4,5-Trichlorophenol	196	5.848	5.851	(0.916)	393649	40.0000	39.754
209 1,1'-Biphenyl	154	5.955	5.958	(0.933)	1452304	40.0000	40.758
70 2-Chloronaphthalene	162	5.966	5.964	(0.935)	1089878	40.0000	39.583
73 2-Nitroaniline	65	6.046	6.049	(0.947)	297904	40.0000	39.760
76 Dimethylphthalate	163	6.196	6.199	(0.971)	1175769	40.0000	39.208
78 2,6-Dinitrotoluene	165	6.233	6.236	(0.977)	278732	40.0000	41.343
79 Acenaphthylene	152	6.276	6.273	(0.983)	1753632	40.0000	39.848(Q)
81 3-Nitroaniline	138	6.356	6.359	(0.996)	297709	40.0000	40.593
82 Acenaphthene	153	6.409	6.407	(1.004)	1140907	40.0000	40.502
83 2,4-Dinitrophenol	184	6.431	6.439	(1.008)	191554	40.0000	39.885
85 4-Nitrophenol	109	6.489	6.498	(1.017)	172355	40.0000	42.750
86 Dibenzofuran	168	6.538	6.541	(1.024)	1638736	40.0000	39.348
87 2,4-Dinitrotoluene	165	6.532	6.541	(1.023)	381930	40.0000	40.621
92 2-Naphthylamine	143	6.655	6.658	(1.043)	577267	40.0000	40.083
91 2,3,5,6-Tetrachlorophenol	232	6.607	6.610	(1.035)	406433	40.0000	42.115
88 2,3,4,6-Tetrachlorophenol	232	6.639	6.642	(1.040)	340189	40.0000	39.368
93 Diethylphthalate	149	6.730	6.733	(1.054)	1196280	40.0000	38.508
94 Fluorene	166	6.799	6.802	(1.065)	1291064	40.0000	39.756
95 4-Chlorophenyl-phenylether	204	6.805	6.808	(1.066)	713575	40.0000	40.206
96 4-Nitroaniline	138	6.810	6.818	(1.067)	299182	40.0000	39.095
98 4,6-Dinitro-2-methylphenol	198	6.842	6.845	(0.912)	252919	40.0000	41.496
99 N-Nitrosodiphenylamine (1)	169	6.895	6.893	(0.920)	916034	40.0000	40.973
100 1,2-Diphenylhydrazine	77	6.922	6.925	(0.923)	1186776	40.0000	38.020
106 4-Bromophenyl-phenylether	248	7.173	7.171	(0.957)	391269	40.0000	41.237
107 Hexachlorobenzene	284	7.221	7.219	(0.963)	377815	40.0000	41.177
210 Atrazine	200	7.301	7.305	(0.974)	320614	40.0000	38.328
111 Pentachlorophenol	266	7.366	7.369	(0.982)	277166	40.0000	41.603(QM)
115 Phenanthrene	178	7.521	7.524	(1.003)	2001719	40.0000	40.777(M)
116 Anthracene	178	7.558	7.561	(1.008)	1833016	40.0000	39.607
119 Carbazole	167	7.681	7.684	(1.024)	1554564	40.0000	38.457
120 Di-n-Butylphthalate	149	7.959	7.956	(1.061)	2049686	40.0000	40.661
123 Fluoranthene	202	8.418	8.416	(1.123)	1960424	40.0000	38.964
124 Benzidine	184	8.519	8.523	(0.897)	494288	40.0000	43.413(M)
125 Pyrene	202	8.584	8.587	(0.904)	2060648	40.0000	41.768
131 Butylbenzylphthalate	149	9.080	9.083	(0.956)	832972	40.0000	41.794
135 3,3'-Dichlorobenzidine	252	9.470	9.473	(0.997)	582110	40.0000	41.915
136 Benzo(a)Anthracene	228	9.492	9.495	(0.999)	1887363	40.0000	41.241
137 Chrysene	228	9.510	9.521	(1.002)	1717280	40.0000	40.590
139 bis(2-ethylhexyl)Phthalate	149	9.513	9.516	(1.002)	1226241	40.0000	43.195
140 Di-n-octylphthalate	149	9.978	9.986	(0.942)	1733218	40.0000	42.805(M)
141 Benzo(b)fluoranthene	252	10.277	10.291	(0.970)	1653218	40.0000	41.151

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Semivolatile REPORT SW-846 Method 8270

Data file : \\PITSVR06\D\chem\71.i\s050211.b\S0502IC7.D
Lab Smp Id: sstd60 Client Smp ID: sstd60
Inj Date : 02-MAY-2011 16:40
Operator : 045183sab Inst ID: 71.i
Smp Info : IC 1005 sv11SSTD60i 00001
Misc Info : sstd60,s050211.b,8270D.m,4-rooti.sub,1,7
Comment :
Method : \\PITSVR06\D\chem\71.i\s050211.b\8270D.m
Meth Date : 09-May-2011 11:06 bachas Quant Type: ISTD
Cal Date : 02-MAY-2011 16:59 Cal File: S0502IC8.D
Als bottle: 8 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 4-rooti.sub
Target Version: 4.14
Processing Host: PITPC-501

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)	
* 1	1,4-Dichlorobenzene-d4	152	4.089	4.099	(1.000)	74517	8.00000		(Q)
* 2	Naphthalene-d8	136	5.056	5.061	(1.000)	309546	8.00000		
* 3	Acenaphthene-d10	164	6.381	6.386	(1.000)	194833	8.00000		
* 4	Phenanthrene-d10	188	7.497	7.502	(1.000)	329811	8.00000		
* 5	Chrysene-d12	240	9.511	9.500	(1.000)	290685	8.00000		(H)
* 6	Perylene-d12	264	10.628	10.595	(1.000)	206653	8.00000		
198	1,4-Dioxane	88	0.793	0.830	(0.194)	222557	60.0000	52.499	
10	N-Nitrosodimethylamine	74	1.124	1.166	(0.275)	377587	60.0000	59.639	
9	Pyridine	79	1.140	1.182	(0.279)	683581	60.0000	58.842	(M)
16	Methyl methanesulfonate	80	2.844	2.865	(0.696)	353464	60.0000	57.737	
206	Benzaldehyde	77	3.736	3.752	(0.914)	396639	60.0000	60.687	
21	Aniline	93	3.838	3.853	(0.939)	1121873	60.0000	56.957	
22	Phenol	94	3.859	3.875	(0.944)	1041430	60.0000	58.070	
23	bis(2-Chloroethyl)ether	93	3.907	3.923	(0.956)	719341	60.0000	58.100	
24	2-Chlorophenol	128	3.928	3.939	(0.961)	798752	60.0000	58.302	
26	1,3-Dichlorobenzene	146	4.046	4.056	(0.990)	873791	60.0000	59.073	
27	1,4-Dichlorobenzene	146	4.105	4.115	(1.004)	895300	60.0000	58.837	
28	1,2-Dichlorobenzene	146	4.217	4.227	(1.031)	835397	60.0000	58.120	
29	Benzyl Alcohol	108	4.217	4.227	(1.031)	531148	60.0000	58.983	
30	2-Methylphenol	108	4.334	4.334	(1.057)	741764	60.0000	57.599	
31	2,2'-oxybis(1-Chloropropane)	45	4.324	4.334	(1.057)	740263	60.0000	58.129	
217	Indene	116	4.286	4.297	(1.048)	1380481	60.0000	58.986	
37	Acetophenone	105	4.409	4.420	(1.078)	1088621	60.0000	58.034	
32	N-Nitroso-di-n-propylamine	70	4.425	4.436	(1.082)	562098	60.0000	59.016	
192	4-Methylphenol	108	4.436	4.446	(1.085)	752126	60.0000	59.064	
34	Hexachloroethane	117	4.473	4.484	(1.094)	343010	60.0000	59.565	
35	Nitrobenzene	77	4.532	4.537	(0.896)	855712	60.0000	60.001	
36	N-Nitrosopyrrolidine	100	4.393	4.409	(1.074)	401432	60.0000	62.457	
41	Isophorone	82	4.719	4.730	(0.933)	1510660	60.0000	59.019	
42	2-Nitrophenol	139	4.773	4.778	(0.944)	477567	60.0000	63.564	
43	2,4-Dimethylphenol	107	4.826	4.836	(0.955)	856792	60.0000	60.555	
44	bis(2-Chloroethoxy)methane	93	4.895	4.901	(0.968)	916572	60.0000	58.507	
48	2,4-Dichlorophenol	162	4.960	4.965	(0.981)	703800	60.0000	59.847	

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Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	AMOUNTS ON-COL (NG)
49 Benzoic Acid	122	4.944	4.965	(0.978)	587964	60.0000	65.406(M)
50 1,2,4-Trichlorobenzene	180	5.018	5.023	(0.993)	816530	60.0000	60.745
51 Naphthalene	128	5.072	5.077	(1.003)	2555736	60.0000	60.027
52 4-Chloroaniline	127	5.120	5.130	(1.013)	1026669	60.0000	59.620
54 2,6-Dichlorophenol	162	5.130	5.136	(1.015)	680743	60.0000	60.035
56 Hexachlorobutadiene	225	5.184	5.189	(1.025)	486100	60.0000	60.441(Q)
208 Caprolactam	113	5.403	5.419	(1.069)	219322	60.0000	56.254(Q)
59 4-Chloro-3-Methylphenol	107	5.504	5.510	(1.089)	781356	60.0000	60.767
62 2-Methylnaphthalene	142	5.595	5.600	(1.107)	1693826	60.0000	60.840
63 1-Methylnaphthalene	142	5.670	5.675	(1.122)	1617463	60.0000	61.019
64 Hexachlorocyclopentadiene	237	5.729	5.734	(0.898)	631015	60.0000	65.047
65 1,2,4,5-Tetrachlorobenzene	216	5.729	5.734	(0.898)	892408	60.0000	58.716
66 2,4,6-Trichlorophenol	196	5.820	5.819	(0.912)	713582	60.0000	67.674
67 2,4,5-Trichlorophenol	196	5.846	5.851	(0.916)	572818	60.0000	55.647
209 1,1'-Biphenyl	154	5.953	5.958	(0.933)	2232943	60.0000	60.281
70 2-Chloronaphthalene	162	5.964	5.964	(0.935)	1709897	60.0000	59.736
73 2-Nitroaniline	65	6.044	6.049	(0.947)	461031	60.0000	59.190
76 Dimethylphthalate	163	6.194	6.199	(0.971)	1801013	60.0000	57.772
78 2,6-Dinitrotoluene	165	6.231	6.236	(0.977)	425223	60.0000	60.672
79 Acenaphthylene	152	6.274	6.273	(0.983)	2787983	60.0000	60.940
81 3-Nitroaniline	138	6.354	6.359	(0.996)	442831	60.0000	58.083
82 Acenaphthene	153	6.407	6.407	(1.004)	1780646	60.0000	60.007
83 2,4-Dinitrophenol	184	6.434	6.439	(1.008)	304454	60.0000	60.981
85 4-Nitrophenol	109	6.493	6.498	(1.018)	241802	60.0000	57.693
86 Dibenzofuran	168	6.535	6.541	(1.024)	2616169	60.0000	60.428
87 2,4-Dinitrotoluene	165	6.535	6.541	(1.024)	586527	60.0000	60.008
92 2-Naphthylamine	143	6.653	6.658	(1.043)	746650	60.0000	54.600
91 2,3,5,6-Tetrachlorophenol	232	6.605	6.610	(1.035)	688505	60.0000	68.629
88 2,3,4,6-Tetrachlorophenol	232	6.637	6.642	(1.040)	506251	60.0000	56.356
93 Diethylphthalate	149	6.728	6.733	(1.054)	1844529	60.0000	57.116
94 Fluorene	166	6.797	6.802	(1.065)	2042449	60.0000	60.501
95 4-Chlorophenyl-phenylether	204	6.803	6.808	(1.066)	1119876	60.0000	60.698
96 4-Nitroaniline	138	6.813	6.810	(1.068)	446239	60.0000	56.093
98 4,6-Dinitro-2-methylphenol	198	6.840	6.845	(0.912)	378680	60.0000	61.540
99 N-Nitrosodiphenylamine (1)	169	6.893	6.893	(0.919)	1377868	60.0000	61.046
100 1,2-Diphenylhydrazine	77	6.920	6.925	(0.923)	2099095	60.0000	65.609
106 4-Bromophenyl-phenylether	248	7.166	7.171	(0.956)	601823	60.0000	62.826
107 Hexachlorobenzene	284	7.214	7.219	(0.962)	577862	60.0000	62.383
210 Atrazine	200	7.299	7.305	(0.974)	514170	60.0000	60.884
111 Pentachlorophenol	266	7.363	7.369	(0.982)	449377	60.0000	66.940(QM)
115 Phenanthrene	178	7.518	7.524	(1.003)	3176667	60.0000	64.099(M)
116 Anthracene	178	7.556	7.561	(1.008)	2877721	60.0000	61.590
119 Carbazole	167	7.679	7.684	(1.024)	2299100	60.0000	56.337
120 Di-n-Butylphthalate	149	7.956	7.956	(1.061)	3092247	60.0000	60.762
123 Fluoranthene	202	8.411	8.416	(1.122)	2942945	60.0000	57.703
124 Benzidine	184	8.517	8.523	(0.096)	670629	60.0000	59.103(M)
125 Pyrene	202	8.581	8.587	(0.902)	3027297	60.0000	60.611(M)
131 Butylbenzylphthalate	149	9.078	9.083	(0.955)	1192878	60.0000	59.350(M)
135 3,3'-Dichlorobenzidine	252	9.484	9.473	(0.997)	906370	60.0000	64.715(M)
136 Benzo(a)Anthracene	228	9.500	9.495	(0.999)	3031586	60.0000	65.687(M)
137 Chrysene	228	9.527	9.521	(1.002)	2506886	60.0000	58.755(QM)
139 bis(2-ethylhexyl)Phthalate	149	9.527	9.516	(1.002)	1774465	60.0000	61.981(M)
140 Di-n-octylphthalate	149	10.008	9.986	(0.942)	2684955	60.0000	64.740(M)
141 Benzo(b)fluoranthene	252	10.312	10.291	(0.970)	2635429	60.0000	58.742

m/w 5/20/11

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Semivolatile REPORT SW-846 Method 8270

Data file : \\PITSVR06\D\chem\71.i\s050211.b\S0502IC8.D
Lab Smp Id: sstd80 Client Smp ID: sstd80
Inj Date : 02-MAY-2011 16:59
Operator : 045183sab Inst ID: 71.i
Smp Info : IC 1006 svl1SSTD80i 00001
Misc Info : sstd80,s050211.b,8270D.m,4-rooti.sub,1,8
Comment :
Method : \\PITSVR06\D\chem\71.i\s050211.b\8270D.m
Meth Date : 09-May-2011 11:06 bachas Quant Type: ISTD
Cal Date : 02-MAY-2011 16:59 Cal File: S0502IC8.D
Als bottle: 9 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 4-rooti.sub
Target Version: 4.14
Processing Host: PITPC-501

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 1	1,4-Dichlorobenzene-d4	152	4.099	4.099	(1.000)	80701	8.00000	(Q)
* 2	Naphthalene-d8	136	5.061	5.061	(1.000)	345003	8.00000	
* 3	Acenaphthene-d10	164	6.386	6.386	(1.000)	220515	8.00000	
* 4	Phenanthrene-d10	188	7.502	7.502	(1.000)	402621	8.00000	
* 5	Chrysene-d12	240	9.500	9.500	(1.000)	348062	8.00000	(H)
* 6	Perylene-d12	264	10.595	10.595	(1.000)	338228	8.00000	
198	1,4-Dioxane	88	0.830	0.830	(0.203)	354924	80.0000	77.307
10	N-Nitrosodimethylamine	74	1.166	1.166	(0.285)	560098	80.0000	81.687(A)
9	Pyridine	79	1.182	1.182	(0.289)	1022984	80.0000	81.310(AM)
16	Methyl methanesulfonate	80	2.865	2.865	(0.699)	513104	80.0000	77.391
206	Benzaldehyde	77	3.752	3.752	(0.915)	505390	80.0000	79.074
21	Aniline	93	3.853	3.853	(0.940)	1660417	80.0000	77.838
22	Phenol	94	3.875	3.875	(0.945)	1524542	80.0000	78.495
23	bis(2-Chloroethyl)ether	93	3.923	3.923	(0.957)	1045689	80.0000	77.986
24	2-Chlorophenol	128	3.939	3.939	(0.961)	1175828	80.0000	79.547
26	1,3-Dichlorobenzene	146	4.056	4.056	(0.990)	1267611	80.0000	79.131
27	1,4-Dichlorobenzene	146	4.115	4.115	(1.004)	1302781	80.0000	79.055
28	1,2-Dichlorobenzene	146	4.227	4.227	(1.031)	1193626	80.0000	76.680
29	Benzyl Alcohol	108	4.227	4.227	(1.031)	779271	80.0000	79.906
30	2-Methylphenol	108	4.334	4.334	(1.057)	1112677	80.0000	79.781
31	2,2'-oxybis(1-Chloropropane)	45	4.334	4.334	(1.057)	1051473	80.0000	76.240
217	Indene	116	4.297	4.297	(1.048)	2063234	80.0000	81.403(A)
37	Acetophenone	105	4.420	4.420	(1.078)	1614653	80.0000	79.481
32	N-Nitroso-di-n-propylamine	70	4.436	4.436	(1.082)	823397	80.0000	79.825
192	4-Methylphenol	108	4.446	4.446	(1.085)	1085459	80.0000	78.708
34	Hexachloroethane	117	4.484	4.484	(1.094)	494136	80.0000	79.233
35	Nitrobenzene	77	4.537	4.537	(0.897)	1242376	80.0000	78.161
36	N-Nitrosopyrrolidine	100	4.409	4.409	(1.076)	505173	80.0000	72.575
41	Isophorone	82	4.730	4.730	(0.935)	2291835	80.0000	79.913
42	2-Nitrophenol	139	4.778	4.778	(0.944)	709762	80.0000	84.760(A)
43	2,4-Dimethylphenol	107	4.836	4.836	(0.956)	1280555	80.0000	81.204(A)
44	bis(2-Chloroethoxy)methane	93	4.901	4.901	(0.968)	1386489	80.0000	79.407
48	2,4-Dichlorophenol	162	4.965	4.965	(0.981)	1071532	80.0000	81.753(A)

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	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
49	Benzoic Acid	122	4.965	4.965	(0.981)	922775	80.0000	92.102(AM)
50	1,2,4-Trichlorobenzene	180	5.023	5.023	(0.993)	1194638	80.0000	79.740
51	Naphthalene	128	5.077	5.077	(1.003)	3760542	80.0000	80.303(A)
52	4-Chloroaniline	127	5.130	5.130	(1.014)	1537220	80.0000	80.093(A)
54	2,6-Dichlorophenol	162	5.136	5.136	(1.015)	1042543	80.0000	82.493(A)
56	Hexachlorobutadiene	225	5.189	5.189	(1.025)	719948	80.0000	79.989(Q)
208	Caprolactam	113	5.419	5.419	(1.071)	365643	80.0000	84.146(AQ)
59	4-Chloro-3-Methylphenol	107	5.510	5.510	(1.089)	1143282	80.0000	79.777
62	2-Methylnaphthalene	142	5.600	5.600	(1.107)	2556264	80.0000	82.381(A)
63	1-Methylnaphthalene	142	5.675	5.675	(1.121)	2428838	80.0000	82.211(A)
64	Hexachlorocyclopentadiene	237	5.734	5.734	(0.898)	925648	80.0000	84.306(A)
65	1,2,4,5-Tetrachlorobenzene	216	5.734	5.734	(0.898)	1344395	80.0000	78.152
66	2,4,6-Trichlorophenol	196	5.819	5.819	(0.911)	1126844	80.0000	94.421(A)
67	2,4,5-Trichlorophenol	196	5.851	5.851	(0.916)	873188	80.0000	74.947
209	1,1'-Biphenyl	154	5.958	5.958	(0.933)	3389930	80.0000	80.857(A)
70	2-Chloronaphthalene	162	5.964	5.964	(0.934)	2602209	80.0000	80.324(A)
73	2-Nitroaniline	65	6.049	6.049	(0.947)	706148	80.0000	80.101(A)
76	Dimethylphthalate	163	6.199	6.199	(0.971)	2625307	80.0000	80.074(A)
78	2,6-Dinitrotoluene	165	6.236	6.236	(0.977)	745977	80.0000	94.042(A)
79	Acenaphthylene	152	6.273	6.273	(0.982)	4225100	80.0000	81.597(AQ)
81	3-Nitroaniline	138	6.359	6.359	(0.996)	727737	80.0000	84.336(A)
82	Acenaphthene	153	6.407	6.407	(1.003)	2680713	80.0000	80.882(A)
83	2,4-Dinitrophenol	184	6.439	6.439	(1.008)	515770	80.0000	91.275(A)
85	4-Nitrophenol	109	6.498	6.498	(1.018)	347203	80.0000	73.193(Q)
86	Dibenzofuran	168	6.541	6.541	(1.024)	3900565	80.0000	79.602
87	2,4-Dinitrotoluene	165	6.541	6.541	(1.024)	937647	80.0000	84.758(A)
92	2-Naphthylamine	143	6.658	6.658	(1.043)	1197816	80.0000	91.568(A)
91	2,3,5,6-Tetrachlorophenol	232	6.610	6.610	(1.035)	1021278	80.0000	89.944(A)
88	2,3,4,6-Tetrachlorophenol	232	6.642	6.642	(1.040)	821008	80.0000	80.751(A)
93	Diethylphthalate	149	6.733	6.733	(1.054)	2916758	80.0000	79.799
94	Fluorene	166	6.802	6.802	(1.065)	3051170	80.0000	79.855
95	4-Chlorophenyl-phenylether	204	6.808	6.808	(1.066)	1645954	80.0000	78.822
96	4-Nitroaniline	138	6.818	6.818	(1.068)	749273	80.0000	83.216(A)
90	4,6-Dinitro-2-methylphenol	198	6.845	6.845	(0.912)	667470	80.0000	88.856(A)
99	N-Nitrosodiphenylamine (1)	169	6.893	6.893	(0.919)	2230558	80.0000	80.952(A)
100	1,2-Diphenylhydrazine	77	6.925	6.925	(0.923)	3039581	80.0000	79.010
106	4-Bromophenyl-phenylether	248	7.171	7.171	(0.956)	965283	80.0000	82.546(A)
107	Hexachlorobenzene	284	7.219	7.219	(0.962)	930484	80.0000	82.284(A)
210	Atrazine	200	7.305	7.305	(0.974)	648714	80.0000	62.925
111	Pentachlorophenol	266	7.369	7.369	(0.982)	742901	80.0000	90.652(AQM)
115	Phenanthrene	178	7.524	7.524	(1.003)	5270987	80.0000	87.124(AM)
116	Anthracene	178	7.561	7.561	(1.008)	4560247	80.0000	79.951
119	Carbazole	167	7.604	7.604	(1.024)	3343517	80.0000	67.113
120	Di-n-Butylphthalate	149	7.956	7.956	(1.061)	5110208	80.0000	82.255(AM)
123	Fluoranthene	202	8.416	8.416	(1.122)	4485198	80.0000	72.038
124	Benzidine	184	8.523	8.523	(0.897)	1117595	80.0000	81.288(AM)
125	Pyrene	202	8.587	8.587	(0.904)	4543854	80.0000	75.978(M)
131	Butylbenzylphthalate	149	9.083	9.083	(0.956)	1851027	80.0000	76.914(M)
135	3,3'-Dichlorobenzidine	252	9.473	9.473	(0.997)	1430601	80.0000	85.307(AM)
136	Benzo(a)Anthracene	228	9.495	9.495	(0.999)	4769689	80.0000	86.311(AM)
137	Chrysene	228	9.521	9.521	(1.002)	4120221	80.0000	80.649(AM)
139	bis(2-ethylhexyl)Phthalate	149	9.516	9.516	(1.002)	2672123	80.0000	77.950(M)
140	Di-n-octylphthalate	149	9.986	9.986	(0.943)	4415866	80.0000	92.363(AM)
141	Benzo(b)fluoranthene	252	10.291	10.291	(0.971)	4958968	80.0000	80.290(AM)

MJW 5/20/11

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CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 71.i
Lab File ID: S0518CCC.D
Analysis Type:
Lab Sample ID: sstd4
Method: \\PITSVR06\D\chem\71.i\2011\s051811.b\8270D.m

Injection Date: 18-MAY-2011 12:59
Init. Cal. Date(s): 02-MAY-2011 02-MAY-2011
Init. Cal. Times: 13:58 16:59
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF4	CCAL RRF4	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
51 Naphthalene	1.08589	1.05876	1.05876	0.700	2.49817	20.00000	Averaged
62 2-Methylnaphthalene	0.71952	0.69459	0.69459	0.400	3.46597	20.00000	Averaged
63 1-Methylnaphthalene	0.68507	0.64760	0.64760	0.010	5.46969	20.00000	Averaged
79 Acenaphthylene	1.87850	1.78674	1.78674	0.900	4.88500	20.00000	Averaged
82 Acenaphthene	1.20240	1.15118	1.15118	0.900	4.25991	20.00000	Averaged
94 Fluorene	1.38617 ✓	1.29455 ✓	1.29455	0.900	6.60989 ✓	20.00000	Averaged
115 Phenanthrene	1.20211	1.08605	1.08605	0.700	9.65508	20.00000	Averaged
116 Anthracene	1.13334	1.08098	1.08098	0.700	4.61997	20.00000	Averaged
123 Fluoranthene	1.23712	1.20094	1.20094	0.600	2.92480	20.00000	Averaged
125 Pyrene	1.37459	1.34575	1.34575	0.600	2.09788	20.00000	Averaged
136 Benzo(a)Anthracene	1.27015	1.18439	1.18439	0.800	6.75179	20.00000	Averaged
137 Chrysene	1.17424 ✓	1.17814 ✓	1.17814	0.700	-0.33240 ✓	20.00000	Averaged
141 Benzo(b)fluoranthene	4.00000	3.28970	1.24041	0.700	17.75761	20.00000	Quadratic
142 Benzo(k)fluoranthene	1.55356	1.55801	1.55801	0.700	-0.28672	20.00000	Averaged
146 Benzo(a)pyrene	1.07676	1.00398	1.00398	0.700	6.75959	20.00000	Averaged
149 Indeno(1,2,3-cd)pyrene	1.04335	1.06209	1.06209	0.500	-1.79604	20.00000	Averaged
150 Dibenz(a,h)anthracene	0.86291	0.85062	0.85062	0.400	1.42456	20.00000	Averaged
151 Benzo(g,h,i)perylene	0.84675	0.90632	0.90632	0.500	-7.03525	20.00000	Averaged
$ 154 Nitrobenzene-d5	0.38243	0.38876	0.38876	0.010	-1.65521	20.00000	Averaged
$ 155 2-Fluorobiphenyl	1.43236	1.41875	1.41875	0.010	0.94989	20.00000	Averaged
$ 156 Terphenyl-d14	0.94146	0.90504	0.90504	0.010	3.86854	20.00000	Averaged
$ 157 Phenol-d5	1.62750	1.62465	1.62465	0.010	0.17488	20.00000	Averaged
$ 158 2-Fluorophenol	1.16706	1.16304	1.16304	0.010	0.34469	20.00000	Averaged
$ 159 2,4,6-Tribromophenol	0.08724	0.08084	0.08084	0.010	7.33273	20.00000	Averaged
$ 186 2-Chlorophenol-d4	1.43500	1.42807	1.42807	0.010	0.48288	20.00000	Averaged
$ 187 1,2-Dichlorobenzene-d4	1.02413	1.04923	1.04923	0.010	-2.45041	20.00000	Averaged

$RRF_{Chrysene} = \frac{258150\,(8)}{438233\,(4)} = 1.17814$ $\quad \%D = \left(\frac{1.17814}{1.17424} - 1\right) \times 100 = 0.332\%$

$RRF_{Fluorene} = \frac{188549\,(8)}{291297\,(4)} = 1.294548$ $\quad \%D = \left(\frac{1.294548}{1.38617} - 1\right) \times 100 = 6.609\%$

MJW 9/20/11

TestAmerica Pittsburgh

Semivolatile REPORT SW-846 Method 8270

Data file : \\PITSVR06\D\chem\71.i\2011\s051811.b\S0518CCC.D
Lab Smp Id: sstd4 Client Smp ID: sstd4
Inj Date : 18-MAY-2011 12:59
Operator : 045183sab Inst ID: 71.i
Smp Info : CCVIS 13562 svl1SSTD4i_00012 8270D
Misc Info : sstd4,s051811.b,8270D.m,4-42pahn.sub,2,3
Comment :
Method : \\PITSVR06\D\chem\71.i\2011\s051811.b\8270D.m
Meth Date : 07-Sep-2011 13:54 71.i Quant Type: ISTD
Cal Date : 02-MAY-2011 16:59 Cal File: S0502IC8.D
Als bottle: 2 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 4-42pahn.sub
Target Version: 4.14
Processing Host: PITPC-501

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 1 1,4-Dichlorobenzene-d4	152	4.062	4.062	(1.000)	125473	8.00000	
* 2 Naphthalene-d8	136	5.039	5.039	(1.000)	510990	8.00000	
* 3 Acenaphthene-d10	164	6.375	6.375	(1.000)	291297	8.00000	
* 4 Phenanthrene-d10	188	7.497	7.497	(1.000)	491492	8.00000	
* 5 Chrysene-d12	240	9.505	9.505	(1.000)	438233	8.00000	
* 6 Perylene-d12	264	10.616	10.616	(1.000)	342065	8.00000	
51 Naphthalene	128	5.055	5.055	(1.003)	270509	4.00000	3.9001
62 2-Methylnaphthalene	142	5.584	5.584	(1.108)	177463	4.00000	3.8614
63 1-Methylnaphthalene	142	5.659	5.659	(1.123)	165458	4.00000	3.7812
79 Acenaphthylene	152	6.262	6.262	(0.982)	260236	4.00000	3.8046 (Q)
82 Acenaphthene	153	6.401	6.401	(1.004)	167668	4.00000	3.8296
94 Fluorene	166	6.791	6.791	(1.065)	188549	4.00000	3.7356
115 Phenanthrene	178	7.518	7.518	(1.003)	266092	4.00000	3.6138
116 Anthracene	178	7.555	7.555	(1.008)	265646	4.00000	3.8152
123 Fluoranthene	202	8.415	8.415	(1.123)	295125	4.00000	3.8830
125 Pyrene	202	8.586	8.586	(0.903)	294876	4.00000	3.9161
136 Benzo(a)Anthracene	228	9.500	9.500	(0.999)	259520	4.00000	3.7299
137 Chrysene	228	9.521	9.521	(1.002)	258150	4.00000	4.0133
141 Benzo(b)fluoranthene	252	10.296	10.296	(0.970)	212151	4.00000	3.2897 (H)
142 Benzo(k)fluoranthene	252	10.312	10.312	(0.971)	266471	4.00000	4.0115
146 Benzo(a)pyrene	252	10.568	10.568	(0.995)	171713	4.00000	3.7296
149 Indeno(1,2,3-cd)pyrene	276	11.663	11.663	(1.099)	181652	4.00000	4.0718
150 Dibenz(a,h)anthracene	278	11.674	11.674	(1.100)	145484	4.00000	3.9430
151 Benzo(g,h,i)perylene	276	11.963	11.963	(1.127)	155010	4.00000	4.2814
$ 154 Nitrobenzene-d5	82	4.489	4.489	(0.891)	99326	4.00000	4.0662
$ 155 2-Fluorobiphenyl	172	5.873	5.873	(0.921)	206639	4.00000	3.9620
$ 156 Terphenyl-d14	244	8.715	8.715	(0.917)	198310	4.00000	3.8452
$ 157 Phenol-d5	99	3.816	3.816	(0.940)	101925	4.00000	3.9930
$ 158 2-Fluorophenol	112	2.993	2.993	(0.737)	72965	4.00000	3.9862
$ 159 2,4,6-Tribromophenol	330	6.973	6.973	(0.930)	19866	4.00000	3.7067
$ 186 2-Chlorophenol-d4	132	3.885	3.885	(0.957)	89592	4.00000	3.9807
$ 187 1,2-Dichlorobenzene-d4	152	4.179	4.179	(1.029)	65825	4.00000	4.0980

SW846 8270D Low Level MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Watermark Environmental

Lab Code: TALPIT SDG No:

Matrix Spike ID: AI2-102(0-2") Level: (low/med) LOW

Lot #: C1E140504 WO #: MJFW01A5
BATCH: 1138011

COMPOUND	SPIKE ADDED (ug/kg)	SAMPLE CONCENT. (ug/kg)	MS CONCENT. (ug/kg)	MS % REC	LIMITS REC	QUAL
Acenaphthene	909	9.0	623	68	45 - 110	
Pyrene	909	300	803	55	45 - 125	
Acenaphthylene	909	24	675	72	45 - 105	
Anthracene	909	38	674	70	55 - 105	
Benzo(a)anthracene	909	180	762	64	50 - 110	
Benzo(b)fluoranthene	909	190	809	68	45 - 115	
Benzo(k)fluoranthene	909	110	646	59	45 - 125	
Benzo(ghi)perylene	909	210	1290	118	40 - 125	
Benzo(a)pyrene	909	200	856	73	50 - 110	
Chrysene	909	210	878	73	55 - 110	
Fluoranthene	909	360	986	68	55 - 115	
Fluorene	909	10	612	66	50 - 110	
Indeno(1,2,3-cd)pyrene	909	160	1140	107	40 - 120	
2-Methylnaphthalene	909	2.7 U	593	65	45 - 105	
Naphthalene	909	12	574	62	40 - 105	
Phenanthrene	909	160	748	65	50 - 110	
Dibenzo(a,h)anthracene	909	52	1040	109	40 - 125	
1-Methylnaphthalene	909	2.7 U	610	67	10 - 140	

NOTES(S):

Results and reporting limits have been adjusted for dry weight.

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 0 outside limits
Spike Recovery: 0 out of 18 outside limits

COMMENTS:

FORM III

MJW 9/29/11

SW846 8270D Low Level MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Watermark Environmental

Lab Code: TALPIT SDG No:

Matrix Spike ID: AI2-102(0-2") Level:(low/med) LOW

Lot #: C1E140504 WO #: MJFW01A6
BATCH: 1138011

COMPOUND	SPIKE ADDED (ug/kg)	MSD CONCENT. (ug/kg)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	QUAL
Acenaphthene	773	585	74	6.4	30	45 - 110	
Pyrene	909	736	48	8.6	30	45 - 125	
Acenaphthylene	909	622	66	8.2	30	45 - 105	
Anthracene	909	632	65	6.6	30	55 - 105	
Benzo(a)anthracene	909	729	60	4.4	30	50 - 110	
Benzo(b)fluoranthene	909	746	61	8.2	30	45 - 115	
Benzo(k)fluoranthene	909	554	49	15	30	45 - 125	
Benzo(ghi)perylene	909	1250	114	3.2	30	40 - 125	
Benzo(a)pyrene	909	790	65	8.1	30	50 - 110	
Chrysene	909	792	64	10	30	55 - 110	
Fluoranthene	909	937	63	5.1	30	55 - 115	
Fluorene	909	574	62	6.4	30	50 - 110	
Indeno(1,2,3-cd)pyrene	909	1080	101	4.9	30	40 - 120	
2-Methylnaphthalene	909	531	58	11	30	45 - 105	
Naphthalene	909	531	57	7.7	30	40 - 105	
Phenanthrene	909	692	59	7.9	30	50 - 110	
Dibenzo(a,h)anthracene	909	1000	104	3.9	30	40 - 125	
1-Methylnaphthalene	909	568	62	7.1	30	10 - 140	

NOTES(S):

Results and reporting limits have been adjusted for dry weight.

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 18 outside limits
Spike Recovery: 0 out of 18 outside limits

COMMENTS:

FORM III

MJW 9/29/11

Site: Ft. Totten, Queens NY

Case #:

SDG #: C1E100518

Samples: **Soil** **Water**

Mike Washburn 9/12/2011

	YES	NO	N/A
A.I.1 Contract Compliance Screening Report			
Present?	[ ]	___	✓
ACTION: If no, contact RSCC/PO.			
A.I.2 Record of Communication (from RSCC)			
Present?	[ ]	___	✓
ACTION: If no, request from the RSCC.			
A.1.3 Sampling Trip Report			
Present and complete?	[ ]	___	✓
ACTION: If no, contact RSCC/PO.			
A.I.4 Chain of Custody/Sample Traffic Report			
Present?	[✓]	___	___
Legible?	[✓]	___	___
Signature of sample custodian present?	[✓]	___	___
ACTION: If no, contact RSCC/WAM/PO.			
A.I.5 Cover Page			
Present?	[✓]	___	___
Is the Cover Page properly filled in and the verbatim signed by the lab manager or the manager's designee?	[✓]	___	___
Do the sample identification numbers on the Cover Page agree with sample Identification numbers on:			
(a) Traffic Report Sheet?	[✓]	___	___

	YES	NO	N/A
(b) Form I's?	[✓]	___	___
Is the number of samples on the Cover Page the same as the number of samples on the Traffic Report sheet and the Regional Record of Communication (ROC) for the data Case?	[✓]	___	___

ACTION:
If no for any of the above, prepare Telephone Record Log and contact RSCC/PO for re-submittal of the corrected Cover Page from the laboratory.

A.1.6 **SDG Narrative, DC-1 & DC-2 Form**

Is the SDG Narrative present?	[✓]	___	___
Is Sample Log-In Sheet(Form DC-1) present and complete?	[✓]	___	___
Is Complete SDG Inventory Sheet(Form DC-2) present and complete?	[___]	___	✓

ACTION:
If no, write in the Contract-Problems/ Non-Compliance Section of the Data Review Narrative.

A.1.7 **Form I to XV**

A.1.7.1 Are all the Form I through Form XV labeled with:

Laboratory Name?	[___]	✓	___
Laboratory Code?	[___]	✓	___
RAS/Non-RAS Case No.?	[___]	✓	___
SDG No.?	[✓]	___	___

		YES	NO	N/A
	Contract No.?	[ ]	[✓]	

ACTION:
If no for any of the above, note under Contract Problem/Non-Compliance Section of the "Data Review Narrative" and contact PO for corrected Form(s) from the laboratory.

A.1.7.2 After comparing values on Forms I-IX against the raw data, do any computation/ transcription errors exceed 10% of the reported values on the Forms for:

(a) all analytes analyzed by ICP-AES?		[✓]	
(b) all analytes analyzed by ICP-MS?		[ ]	✓
(c) Mercury?	~~✓~~ MJV 9/12/11	~~✓~~ [✓]	
(d) Cyanide?		[✓]	

ACTION:
If yes, prepare Telephone Record Log and contact CLP PO/TOPO for the corrected data from the laboratory.

A.1.8 Raw Data

Data shall not be validated without the hard/electronic copies of the associated raw data for samples and QC samples.

A.1.8.1 Digestion/Distillation Log

	YES	NO	N/A
Digestion Log for ICP-AES (Form XII)present?	[✓]		
Digestion Log for ICP-MS (Form XII) present?	[ ]		✓
Digestion Log for mercury (Form XII) present?	[✓]		
Distillation Log for cyanide (Form XII) present?	[ ]		✓

Are pH values for metals and

	YES	NO	N/A
cyanide reported for each aqueous sample?	[ ]	_	✓
Are percent solids calculations present for soils/sediments?	[ ]	_	✓
Are preparation dates present on the sample preparation logs/bench sheets?	[✓]	_	_

NOTE:
Digestion/Distillation log must include weights, volumes, and dilutions used to obtain the reported results.

A.1.8.2 Is the analytical instrument real-time printouts present for:

ICP-AES?	[✓]	_	_
ICP-MS?	[ ]	_	✓
Mercury?	[✓]	_	_
Cyanide?	[ ]	_	✓

Are all laboratory bench sheets and instrument raw data printouts necessary to support all sample analyses and QC operations:

Legible?	[✓]	_	_
Properly labeled?	[✓]	_	_

Are all field samples, QC samples and field QC samples present on:

Digestion/Distillation log?	[✓]	_	_
Instrument Printouts?	[✓]	_	_

ACTION:
If no for any of the above questions in Section A.1.8.1 and Section A.1.8.2, write Telephone Record Log and contact TOPO/PO for re-submittal from the laboratory.

		YES	NO	N/A
A.1.9	**Technical Holding Times**: (Aqueous and soil samples) (Examine sample Traffic Reports and digestion/distillation logs to determine the holding time from the sample collection date to the sample preparation date.)			
A.1.9.1	Cyanide distillation(14 days)exceeded?	_	[_]	[✓]
	Mercury analysis(28 days) exceeded?	_	[✓]	_
	Other Metals analysis(180 days)exceeded?	___	___	[✓] _

ACTION:
If yes, reject (R) and red-line non-detects and flag as estimated (J)results ≥ MDL even if sample(s) was preserved properly.

NOTE:
In addition to qualifying the data, a list of all samples and analytes which exceeded the holding times must be prepared. Report for each sample the number of days that were exceeded. (Subtract the sample collection date from the sample preparation date). Attach this list to the data review narrative.

A.1.9.2	Is pH of aqueous samples for:			
	Metals Analysis ≤ 2?	[✓]	___	___
	Cyanide Analysis ≥ 12?	[_]	_	[✓]

ACTION:
If no for any of the above, flag non-detects as "R" and detects as "J".

A.1.9.3	Is the cooler temperature ≤ 10 C°?	[✓]	_	_

ACTION:
If cooler temperature is >10 ^{0}C , flag non-detects as "UJ" and detects as "J".

A.1.10 **Final Data Correctness - Form I**

A.1.10.1 Are Form I's for all samples

	YES	NO	N/A
present and complete?	[✓]	___	___

ACTION:
If no, prepare Telephone Record Log and contact CLP PO/TOPO for submittal from the laboratory.

A.1.10.2 Verify there are no calculation and transcription errors in the results reported on Form I's. Circle on each Form I all results that are incorrect.

Is the calculation error less than 10% of the correct result?	[✓]	___	___
Are results on Form I's reported in correct units (ug/L for aqueous and MG/KG for soils)?	[✓]	___	___
Are results on Form I'S reported by correct significant figures?	[✓]	___	___
Are soil sample results on Form I's corrected for percent solids?	[___]	___	✓
Are all "less than MDL" values reported by the CRQLs and coded with "U"?	[✓]	___	___
Are values less than the CRQLs but greater than or equal to the MDLs flagged with "J"?	[✓]	___	___
Are appropriate contractual quality control and Method qualifiers used?	[✓]	___	___

ACTION:
If no for any of the above questions, prepare Telephone Record Log, and contact CLP PO/TOPO for corrected data.

A.1.10.3 Do EPA sample identification numbers and the corresponding laboratory sample identification numbers match on the Cover Page, Form I's and in the raw data? [___] ___ ✓

Was a brief physical description

	YES	NO	N/A
of the samples before and after digestion given on the Form I's?	[___]	✓	___
Was any sample result outside the mercury/cyanide calibration range or the ICP-AES/ICP-MS linear range diluted and noted on the Form I?	[___]	✓	___

ACTION:
If no for any of the above, note under the Contract-Problem/Non-Compliance Section of the Data Review Narrative.

A.1.11 **Initial Calibration**

A.1.11.1	Is a record of at least 2 point (A blank and a standard)calibration present for ICP-AES analysis?	[✓]	___	___
	Is a record of at least 2 point (a blank and a standard)calibration present for ICP-MS analysis?	[___]	___	✓
	Is a record of at least 5 point calibration (a blank & 4 standards)present for Hg analysis?	[✓]	___	___
	Is a record of at least 4 point calibration (a blank & 4 standards)present for cyanide?	[___]	___	✓

ACTION:
If incomplete or no initial calibration was performed, reject (R) and red-line the associated data (detects & non-detects).

	Is one initial calibration standard at the CRQL level for cyanide and mercury?	[✓]	___	___

ACTION:
If no, write in the Contract Problem/ Non-Compliance Section of the Data Review Narrative.

A.1.11.2 Is the curve correlation coefficient $\geq$ 0.995 for:

		YES	NO	N/A
	Mercury Analysis?	[✓]	___	___
	Cyanide Analysis?	[___]	___	✓
	ICP-AES(more than 2 point Calib.)?	[___]	___	✓
	ICP-MS (more than 2 point calib.)?	[___]	___	✓

ACTION:
If no, qualify the associated sample results ≥ MDL as estimated "J" and non-detects as "UJ".

NOTE:
The correlation coefficient shall be calculated by the data validator using standard concentrations and the corresponding instrument response (e.g. absorbance, peak area, peak height, etc.).

A.1.12 **Initial and Continuing Calibration Verification- Form IIA**

A.1.12.1	Present and complete for every metal and cyanide?	[✓]	___	___
	Present and complete for ICP-AES and ICP-MS when both these methods were used for the same analyte?	[___]	___	✓

ACTION:
If no for any of the above, prepare a Telephone Record Log and contact PO/TOPO for re-submittal from the laboratory.

A.1.12.2	Was a Continuing Calibration Verification performed every 10 samples or every 2 hours whichever is more frequent?	[✓]	___	___

ACTION:
If no for any of the above, write in the Contract-Problem/Non-Compliance Section of the Data Review Narrative.

A.1.12.3	Was an ICV or a mid-range standard distilled and analyzed with each batch of cyanide samples?	[___]	___	✓

	YES	NO	N/A

ACTION:
If no for any of the above, write in the Contract-Problem/Non-Compliance Section of the Data Review Narrative and qualify results ≥ MDL as estimated (J).

A.1.12.2 Circle on each Form IIA all percent recoveries that are outside the contract windows.

Are ICV/CCVs within control limits for:

Metals - 90-110%R?	[✓]	___	___
Hg - 80-120%R?	[✓]	___	___
Cyanide - 85-115%R?	[___]	___	✓

ACTION:
If no, qualify all samples between a previous technically acceptable CCV standard and a subsequent technically acceptable CCV standard as follows as follows:

Qualify as estimated (J) all detects and non-detects, if the ICV/CCV %R is between 75-89%(65-79% for Hg; 70-84% for CN). Qualify only positive results(≥ MDL) as "J" if the ICV/CCV %R is between 111-125%(121-135% for Hg;116-130% for CN). Reject (R) and red-line only detects if the recovery is greater than 125% (135% for Hg; 130% for CN). Reject (R) and red-line all associated results (hits and non-detects)if the recovery is less than 75%(65% for Hg;70% for CN).

NOTE:
For ICV that does not fall within the acceptance limits, qualify all samples reported from the analytical run.

A.1.12.3 Was the distilled ICV or mid-range standard for cyanide within acceptance limits (85-115%)? [___] ___ ✓

ACTION:
If no, Qualify all cyanide results ≥ MDL as "J".

A.1.13 **CRQL Standard Analysis - Form IIB**

A.1.13.1 For each ICP-AES run, was a CRI

	YES	NO	N/A
(CRQL or MDL when MDL > CRQL) standard analyzed? (Note:CRI is not required for Al, Ba, Ca, Fe, Mg, Na and K.)	[ ]		
For each ICP-MS run, was a CRI (CRQL or MDL when MDL > CRQL) standard analyzed for each mass/isotope used for the analysis?	[✓]		
For each mercury run, was a CRQL standard analyzed?	[✓]		
For each cyanide run, was a CRQL standard analyzed?	[ ]		✓

ACTION:
If no for any of the above, write this deficiency in the Contract Problems/ Non-Compliance Section of the Data Review Narrative, inform CLP PO and flag results in the affected ranges (detects <2xCRQL)as J and non-detects UJ.

The affected ranges are:
ICP-AES Analysis - *True Value ± CRQL
ICP-MS Analysis - *True Value ± CRQL
Mercury Analysis - *True Value ± CRQL
Cyanide Analysis - *True Value ± CRQL
* True value of the CRQL Standard

A.1.13.2	Was a CRQL standard analyzed after the ICV/ICB, before the final CCV/CCB and once every 20 analytical samples in the analytical run for each analysis?	[ ]	✓	

ACTION:
If no, write in the Contract Problem/ Non-Compliance Section of the "Data Review Narrative".

A.1.13.3 Circle on each Form IIB all percent recoveries that are outside the acceptance windows.

	YES	NO	N/A
Is the CRQL standard within control limits for:			
Metals(ICP-AES/ICP-MS)- 70 - 130%?	[✓]	___	___
Mercury- 70 - 130%?	[✓]	___	___
Cyanide - 70 - 130%?	[___]	___	✓

ACTION:
If no, flag detects <2xCRQL as "J" and non-detects as "UJ" if the CRQL standard recovery is between 50-69%. Flag(J) only detects <2xCRQL if the recovery is between 131% and ≤180%. If the recovery is less than 150%, reject(R) and red-line non-detects and detects < 2xCRQL, and flag (J) detects between 2xCRQL and ICV/CCV. Reject and red-line only detects <2xCRQL and flag (J)detects ≥ 2xCRQL but < ICV/CCV if the recovery is > 180%.

NOTE:
1. Qualify all field samples analyzed between a previous technically acceptable analysis of the CRQL standard and a subsequent acceptable analysis of the CRQL standard
2. Flag (J) or reject (R) only the final sample results on Form I's when **Sample raw data** are within the affected ranges and the CRQL standard is outside the acceptance windows.
3. The samples and the CRQL standard must be analyzed in the same analytical run.

A.1.14 Initial and Continuing Calibration Blanks - Form III

		YES	NO	N/A
A.1.14.1	Present and complete for all the instruments used for the metals and cyanide analyses?	[✓]	___	___
	Was an initial Calibration Blank analyzed after ICV?	[✓]	___	___
	Was a continuing Calibration Blank analyzed after every CCV and every 10 samples or every 2 hours, whichever is more frequent?	[✓]	___	___
	Were the ICB & CCB values ≥ MDL but < CRQL reported on Form III and flagged "J" by			

		YES	NO	N/A
	using MDLs from direct analysis(Preparation Method "NP1")? (Check Form III against the raw data)	[___]	✓	___

used 'B' qualifier

ACTION:
If no, inform CLP PO/TOPO and make a note in the Contract-Problems/Non-Compliance Section of the "Data Review Narrative".

A.1.14.2 Circle with red pencil on each Form III all Calib. Blank values that are:

≥ MDL but ≤ CRQL

> CRQL

A.1.14.2.1	When MDL < CRQL, is any Calib. Blank value ≥ MDL but ≤ CRQL?	___	[✓]	___

ACTION:
If yes, change sample results ≥ MDL but ≤ CRQL to the CRQL with a "U". Do not qualify non-detects.

A.1.14.2.2	When MDL < CRQL, is any Calib. Blank value > CRQL?	___	[✓]	___

ACTION:
If yes, reject (R) and red line the associated sample results > CRQL but <ICB/CCB Blank Result. Flag as "J" detects > ICB/CCB blank value but < 10xICB/CCB value. Change the sample results ≥ MDL but ≤ the CRQL to CRQL with a "U".

A.1.14.2.3	Is any Calibration Blank value below the negative CRQL?	✓	[___]	___

ACTION:
If yes, flag (J) as estimated all associated sample results ≥ CRQL but <10xCRQL.

Al contamination @ 25.8 mg/L. 5x action level = 129 mg/L. All sample below reporting limit but above MDL and below action level changed to non-detect.

No action required for Na blank contamination

Potassium in sample MW-2 below the action level of 5x blank contamination. Detected in blank 223 mg/L 5x action level 1115 mg/L

NOTE:

1. For ICB that does not meet the technical QC Criteria, apply the action to all samples

	YES	NO	N/A

reported from the analytical run.
2. For CCBs that do not meet the technical QC criteria, apply the action to all samples analyzed between a previous technically acceptable analysis of CCB and a subsequent technically acceptable analysis of the CCB in the analytical run.,

A.1.15 **Preparation Blank - FORM III**

NOTE:The Preparation Blank for mercury is the same as the calibration blank.

A.1.15.1 Was one Preparation Blank prepared with and analyzed for:

Each Sample Delivery Group (SDG)?	[✓]	___	___
Each batch of the SDG samples digested/distilled?	[✓]	___	___
Each matrix type?	[✓]	___	___
All instruments used for metals and cyanide analyses?	[✓]	___	___

ACTION:
If no for any of the above, flag as estimated (J) all the associated positive data <10xMDL for which the Preparation Blank was not analyzed.

NOTE:
If only one blank was analyzed for more than 20 samples, then the first 20 samples analyzed are not estimated(J),but all additional samples must be qualified (J).

A.1.15.2 Circle with red pencil on each Form III all Prep. Blank values that are:

≥ MDL but ≤ CRQL, and

> CRQL

A.1.15.2.1 When MDL < CRQL, is any preparation blank value ≥ MDL but ≤ CRQL? ___ [✓] ___

ACTION:
If yes, change sample result ≥ MDL

	YES	NO	N/A

but ≤ CRQL to CRQL with a "U".

A.1.15.2.2 When the MDL ≤ CRQL, is any Preparation Blank value greater than its CRQL? ___ [✓] ___

If yes, is the Prep. Blank value greater than the value of the associated Field Blank collected and analyzed with the SDG samples? ___ [___] ✓

If yes, is the lowest concentration of that analyte in the associated samples less than 10 times the Preparation Blank value? ___ [___] ✓

ACTION:
If yes, reject (R) and red-line all associated sample results greater than the CRQL but less than the Prep.Blank value. Flag as "J" detects > Prep. Blank value but <10xPrep.Blank. If the sample result ≥ MDL but ≤ CRQL, replace it with CRQL-U.

If the Prep. Blank value is less than the same analyte value in the Field Blank, do not qualify the sample results due to the Prep. Blank criteria.

method blanks non-detect

~~Prep blank conc Na 520 ug/L, 5x action level 2600, All sample results for Na greater than 2600 ug/L.~~

MJW 9/14/11

NOTE:
Convert soil sample result to mg/Kg on wet weight basis to compare with the soil Prep. Blank result on Form III.

A.1.15.2.3 Is the Prep. Blank concentration below the negative CRQL? ___ [✓] ___

ACTION:
If yes, flag (J) all associated sample results less than 10xCRQL. Qualify non-detects as estimated (UJ).

A.1.15.2.4 When the MDL is greater than the CRQL, is the preparation blank concentration on Form III greater than two times the MDL? ___ [___] ✓

ACTION:

		YES	NO	N/A
	If yes, reject (R) and red-line all positive sample results with sample raw data less than 10 times the Preparation Blank value.			

A.1.16 **ICP-AES/ICP-MS Interference Check Sample (ICS)- Form IV**

NOTE: Not required for CN, Hg, Al, Ca, Fe and Mg.

A.1.16.1	Present and complete?	[✓]	___	___
	Was ICS analyzed at the beginning and end of each analytical run, and once for every 20 analytical samples?	[___]	___	✓
	Was ICS analyzed at the beginning of the ICP-MS analytical run?	[___]	___	✓

ACTION:
If no, flag as estimated (J) all sample results.

A.1.16.2 **ICP-AES Method**

A.1.16.2.1	**ICSA Solution:** For ICP-AES, are the ICSA "Found" analyte values within the control limits ± of CRQL of the true/established mean value?	[✓]	___	___
	If no for any of the above, is the sample concentration of Al, Ca, Fe, or Mg in the same units (ug/L or MG/KG) greater than or equal to its respective concentration in the ICSA Solution on Form IV?	[___]	___	✓

ACTION:
If yes, apply the following action to all samples analyzed between a previous technically acceptable analysis of the ICS and a subsequent technically acceptable analysis of the ICS in the analytical run:

Flag (J) as estimated only sample results ≥MDL

	YES	NO	N/A

for which the ICSA "Found" value is greater than (True value+CRQL). Do not qualify non-detects. If the ICSA "Found" value is less than (True value-CRQL), flag non-detects as "UJ" and detects as "J".

A.1.16.2.3 **ICSAB Solution**

For ICP-AES, are all analyte results in ICSAB within the control limits of 80-120 of the true/established mean value? [✓] ___ ___

If no for any of the above, is the sample concentration of Al, Ca, Fe, or Mg in the same units (ug/L or MG/KG) greater than or equal to its respective concentration in the ICSAB Solution on Form IV? [___] ___ ✓

ACTION:
If yes, apply the following action to all samples analyzed between a previous technically acceptable analysis of the ICS and a subsequent technically acceptable analysis of the ICS in the analytical run:

Flag (J) as estimated those associated sample results ≥ MDL for which the ICSAB analyte recovery is greater than 120% but ≤ 150%. If the ICSAB recovery falls within 50-79%, qualify sample results ≥ MDL as "J" and non-detects as "UJ". Reject (R) and red-line all sample results (detects & non-detects) for which the ICSAB analyte recovery is less than 50%. If the recovery is above 150%, reject (R) and red-line only positive results.

A.1.16.3 **ICP-MS Method**

A.1.16.3.1 **ICSA Solution:**

For ICP-MS, are the ICSA "Found" analyte values within the control limits of ±CRQL of the true/established mean value? [___] ___ ✓

ACTION:
If no, apply the following action to all samples reported from the analytical run:

Flag (J) as estimated only sample results ≥ MDL if the ICSA "Found" value is greater than (True value+CRQL). Do not qualify non-detects. If the ICSA "Found" value is less than (True value-CRQL), flag the associated sample detects as "J" and non-detects as "UJ".

		YES	NO	N/A
A.1.16.3.3	**ICSAB Solution** For ICP-MS, are all analyte results in ICSAB within the control limits of 80-120% of the true/established mean value, whichever is greater?	[___]	___	✓

ACTION:
If no, apply the following action to all samples reported from the analytical run:

Flag (J) as estimated those associated sample results ≥ MDL for which the ICSAB analyte recovery is greater than 120% but ≤ 150%. If the ICSAB recovery falls within 50-79% flag (J) as estimated the associated sample results ≥ MDL. Reject (R) and red-line those all sample detects and non-detects for which the ICSAB analyte recovery is less than 50%. If the recovery is above 150%, reject (R) and red-line only detects (≥ MDL).

A.1.17 **Spiked Sample Recovery: Pre-Digestion/Pre-Distillation)-Form V A**
Note: Not required for Ca, Mg, K, and Na (both matrices); Al and Fe (soil only)

A.1.17.1 Was Matrix Spike analysis performed:

	YES	NO	N/A
For each matrix type?	[✓]	___	___
For each SDG?	[✓]	___	___
On one of the SDG samples?	[✓]	___	___
For each concentration range (i.e., low, med., high)?	[___]	___	✓
For each analytical Method (ICP-AES, ICP-MS, Hg, CN) used?	[___]	✓	✓
Was a spiked sample prepared and analyzed with the SDG samples?	[✓]	___	___

ACTION:
If no for any of the above, flag as estimated (J) all the positive data for which a spiked sample was not analyzed.

NOTE:
If more than one spiked sample were analyzed for one SDG, then qualify the associated data based on the worst spiked sample analysis.

		YES	NO	N/A
A.1.17.2	Was a field blank or PE sample used for the spiked sample analysis?	___	[✓]	___
	ACTION: If yes, flag (J) as estimated positive data of the associated SDG samples for which field blank or PE sample was used for the spiked sample analysis.			
A.1.17.3	Circle on each Form VA all spike recoveries that are outside the control limits (75-125%) that have sample concentrations less than four times the added spike concentrations.			
	Are all recoveries within the control limits when sample concentrations are less than or equal to four times the spike concentrations?	[✓]	___	___
	NOTE: Disregard the out of control spike recoveries for analytes whose concentrations are greater than or equal to four times the spike added.			
	Are results outside the control limits (75-125%)flagged with Lab Qualifier "N" on Form I's and Form VA?	[___]	___	✓
	ACTION: If no for any of the above, write in the Contract - Problems/Non-Compliance Section of the Data Review Narrative.			
A.1.17.4	**Aqueous**			
	Are any spike recoveries:			
	(a) less than 30%?	___	[✓]	___
	(b) between 30-74%?	___	[✓]	___
	(c) between 126-150%?	___	[✓]	___
	(d) greater than 150%?	___	[✓]	___
	ACTION: If the matrix spike recovery is less than 30%,reject (R) and red-line all associated aqueous data (detects & non-detects). If between 30-74%, qualify all associated aqueous data ≥ MDL as "J" and non-detects			

		YES	NO	N/A
	as "UJ". If between 126-150%, flag (J) all data ≥ MDL as "J". If greater than 150%, reject (R) and red-line all associated data ≥ MDL.			
	(**NOTE**:Replace "N" with "J", "R" as appropriate.)			
A.1.17.5	**Soil/Sediment**			
	Are any spike recoveries:			
	(a) less than 10%?	___	[___]	✓
	(b) between 10-74%?	___	[___]	✓
	(c) between 126-200%?	___	[___]	✓
	(d) greater than 200%?	___	[___]	✓
	ACTION: If yes for any of the above, proceed as follows:			
	If the matrix spike recovery is less than 10%, reject (R) and red-line all associated data (detects & non-detects); if between 10-74%, qualify all associated data ≥ MDL as "J" and non-detects as "UJ"; if between 126-200%, flag (J) all associated data ≥ MDL as "J" If greater than 200%, reject (R) and red-line all associated data ≥ MDL. (**NOTE**:Replace "N" with "J" or "R" as appropriate.)			
A.1.18	**Lab Duplicates) - Form VI**			
A.1.18.1	Was the lab duplicate analysis performed:			
	For each SDG?	[___]	___	✓
	On one of the SDG samples?	[___]	___	✓
	For each matrix type?	[___]	___	✓
	For each concentration range (low or med.)?	[___]	___	✓
	For each analytical Method (ICP-AES/ICP-MS, Hg, CN) Used?	[___]	___	✓
	Was a lab duplicate prepared and analyzed with the SDG samples?	[___]	___	✓

		YES	NO	N/A
	ACTION: If no for any of the above, flag (J) as estimated all the SDG sample results (detects & non-detects) for which the lab duplicate analysis was not performed.			
	NOTE: If more than one lab duplicate sample were analyzed for an SDG, then qualify the associated samples based on the worst lab duplicate analysis.			
A.1.18.2	Was a Field Blank or PE sample used for the Lab Duplicate analysis?	___	[___]	✓
	ACTION: If yes, flag as estimated (J) all SDG sample results (hits & non-detects) for which Field Blank or PE sample was used for duplicate analysis.			
A.1.18.3	Circle on each Form VI all values that are: RPD > 20%, or Absolute Difference > CRQL			
	Are all values within control limits (RPD ≤ 20% or absolute difference ≤ ±CRQL)?	[___]	___	✓
	If no, are all results outside the control limits flagged with an "*" (Lab Qualifier)on Form VI and on all Form I's?	[___]	___	✓
	ACTION: If no, write in the Contract-Problems/ Non-Compliance Section of the Data Review Narrative.			
	NOTE: The laboratory is not required to report on Form VI the RPD when both values are non-detects.			
A.1.18.4	**Aqueous**			
A.1.18.4.1	When sample and duplicate values are both ≥ 5xCRQL (substitute MDL for CRQL when MDL > CRQL),			

	YES	NO	N/A
is any RPD > 20% but < 100%?	___	[___]	✓
is any RPD ≥ 100%?	___	[___]	___

ACTION:
If the RPD is > 20% but < 100%, flag (J) as estimated the associated sample data ≥ CRQL. If the RPD is ≥ 100%, reject (R) and red-line the associated sample data ≥ CRQL.

(**NOTE**:Replace "*" with "J" or "R" as appropriate.)

A.1.18.4.2 When the sample and/or duplicate value <5xCRQL (substitute MDL for CRQL when MDL >CRQL), is the absolute difference between sample and duplicate values:

> ± CRQL?	___	[___]	✓
> ± 2xCRQL?	___	[___]	✓

ACTION:
If the absolute difference is > CRQL, flag as estimated all the associated sample results ≥ MDL but < 5xCRQL as "J" and non-detects as "UJ". If the absolute difference is > 2xCRQL, reject (R) and red-line all the associated non-detects and detects ≥ MDL but < 5xCRQL.

NOTE:
1. Replace "*" with "J", "UJ" or "R" as appropriate.)
2. If one value is >CRQL and the other value is non-detect, calculate the absolute difference between the value > CRQL and the MDL, and use this difference to qualify sample results.

A.1.18.5 **Soil/Sediment**

A.1.18.5.1 When sample and duplicate values are both ≥ 5xCRQL (substitute MDL for CRQL when MDL > CRQL),

is any RPD ≥ 35% but < 120%?	___	[___]	✓
is any RPD ≥ 120%?	___	[___]	✓

ACTION:
If the RPD is ≥ 35% and < 120%, flag (J) as estimated the associated sample

		YES	NO	N/A
	data ≥ CRQL. If the RPD is ≥ 120%, reject (R)and red-line the associated sample data ≥ CRQL.			
A.1.18.5.2	When the sample and/or duplicate value <5xCRQL(substitute MDL for CRQL when MDL > CRQL), is the absolute difference between sample and duplicate:			
	> ± 2 x CRQL?	___	[___]	✓
	> ± 4 x CRQL	___	[___]	✓

ACTION:
If the absolute difference is > 2 x CRQL, flag all the associated sample results ≥ MDL but < 5xCRQL as "J" and non-detects as "UJ". If the absolute difference is > 4xCRQL, reject (R) and red-line all the associated non-detects and detects ≥ MDL but <5xCRQL.

NOTE:
1. Replace "*" with "J", "UJ" or "R" as appropriate.)
2. If one value is >CRQL and the other value is non-detect, calculate the absolute difference between the value > CRQL and the MDL, and use this difference to qualify sample results.

A.1.19 Field Duplicates

Aqueous Field Duplicates

A.1.19.1	Was an aqueous Field Duplicate pair collected and analyzed? (Check Sampling Trip Report)	[✓] 10/4/11	___	✓

ACTION:
If yes, prepare a Form (Appendix A.4) for each aqueous Field Duplicate pair. Report the sample and Field Duplicate results on Appendix A.4 from their respective Form I's. Calculate and report RPD on Appendix A.4 when sample and its Field Duplicate values are both > 5xCRQL. Calculate and report the absolute difference on Appendix A.4 when at least one value (sample or duplicate) is <5xCRQL. Evaluate the aqueous Field Duplicate analysis in accordance with the

	YES	NO	N/A

QC criteria stated in Sections A.1.19.2 and A.1.19.3.

NOTE:
1. Do not transfer "*" from Form I's to Appendix A.4.
2. Do not calculate RPD when both values are non-detects.
3. Substitute MDL for CRQL when MDL > CRQL.
4. If one value is >CRQL and the other value is non-detect, calculate the absolute difference between the value > CRQL and the MDL, and use this the criteria to qualify the results.

Fe RPD - 82.9%

MW-4 Fe estimated exceed QC limit of 30.

A.1.19.2 Circle all values on the Form (Appendix A.4) for Field Duplicates that have:

RPD ≥ 20% or

Difference > ± CRQL

When sample and duplicate values are both ≥5xCRQL (substitute MDL for CRQL when MDL > CRQL),

is any RPD ≥ 20%? * ~~✓~~ START [ ] ✓

is any RPD ≥ 100%? ___ * [~~✓~~] START ✓ ___

ACTION:
If the RPD is >20% but < 100%, flag (J) only the associated sample and its Field Duplicate results ≥ CRQL. If the RPD is ≥ 100%, reject(R) and red-line only the associated sample and its Field Duplicate result ≥ CRQL.

X MW-4 Fe only

A.1.19.3 When the sample and/or duplicate value(s) <5xCRQL (substitute MDL for CRQL when MDL >CRQL), is the absolute difference between sample and duplicate:

> ± CRQL? ___ * ✓ START [ ] ___

> ± 2 x CRQL? ___ * ✓ START [ ] ___

ACTION:
If the absolute difference is > CRQL, flag detects ≥ MDL but < 5xCRQL as "J" and non-detects as "UJ". If the difference is > 2xCRQL, reject (R) and red-line non-detects

		YES	NO	N/A
	and results ≥ MDL but <5xCRQL of the sample and its Field Duplicate.			

Soil/Sediment Field Duplicates

A.1.19.4	Was a soil field duplicate pair collected and analyzed? (Check Sampling Trip Report)	[___]	___	✓

ACTION:
If yes, for each soil Field Duplicate pair proceed as follows:

Prepare Appendix A.4 for each Field Duplicate pair. Report on Appendix A.4 all sample and its Field Duplicate results in MG/KG from their respective Form I's. Calculate and report RPD when sample and its duplicate values are both greater than 5xCRQL. Calculate and report the absolute difference when at least one value (sample or duplicate) is < 5xCRQL. Evaluate the Field Duplicate analysis in accordance with the QC Criteria stated in Sections A.1.19.5 and A.1.19.6.

NOTE:
1. Do not transfer "*" from Form I's to Appendix A.4.
2. Do not calculate RPD when both values are non-detects.
3. Substitute MDL for CRQL when MDL > CRQL.
4. If one value is >CRQL and the other value is non-detect, calculate the absolute difference between the value > CRQL and the MDL, and apply the criteria to qualify the results.

A.1.19.5	Circle on each Appendix A.4 all values that have:			
	RPD ≥ 35%, or Difference > ± 2xCRQL When sample and duplicate values are both ≥ 5xCRQL (substitute MDL for CRQL when MDL > CRQL),			
	is any RPD ≥ 35% but < 120%?	___	[___]	✓
	is any RPD ≥ 120%?	___	[___]	✓

ACTION:
If the RPD is ≥ 35% but < 120%,

		YES	NO	N/A
	flag only the associated sample and its Field Duplicate results ≥ CRQL as "J". If the RPD is ≥ 120%, reject (R) and red-line only the sample and its Field Duplicate results ≥ CRQL.			
A.1.19.6	When the sample and/or duplicate value(s) <5xCRQL (substitute MDL for CRQL when MDL > CRQL), is the absolute difference between sample and Field Duplicate:			
	> ± 2 x CRQL?	___	[___]	✓
	> ± 4 x CRQL?	___	[___]	✓

ACTION:
If the absolute difference is > 2xCRQL, flag Sample and its Field Duplicate resuts ≥ MDL but <5xCRQL as "J" and non-detects as "UJ". If the difference is >4xCRQL, reject(R) and red-line non-detects and detects ≥ MDL but <5xCRQL of the sample and its Field Duplicate.

A.1.20 **Laboratory Control Sample (LCS) - Form VII**

A.1.20.1	Was one LCS prepared and analyzed for:			
	Each SDG?	[✓]	___	___
	Each matrix type?	[✓]	___	___
	Each batch samples digested/distilled?	[✓]	___	___
	For each Method(ICP-AES,ICP-MS,Hg,CN) used?	[___]	___	✓
	Was an LCS prepared and analyzed with the samples?	[✓]	___	___

ACTION:
If no for any of the above, prepare Telephone Record Log and contact CLP PO or TOPO for submittal of the LCS results. Flag (J) as estimated all the data for which an LCS was not analyzed.

NOTE:
If only one LCS was analyzed for

	YES	NO	N/A

more than 20 samples, then the first 20 samples analyzed are not flagged(J), but all additional samples must be qualified (J).

A.1.20.2 **Aqueous LCS**

Circle on each Form VII the LCS percent recoveries outside control limits 80-120%.

NOTE: 1.Use digested ICV as LCS for aqueous mercury
2.Use distilled ICV as LCS for aqueous cyanide

Is any LCS recovery:

Less than 50%?	___	[✓]	___
Between 50% and 79%?	___	[✓]	___
Between 121% and 150%?	___	[✓]	___
Greater than 150%?	___	[✓]	___

ACTION:
If the LCS recovery is less than 50%, reject (R) and red-line all associated sample data (detects & non-detects); for a recovery between 50-79%, flag detects as "J" all non-detects as "UJ". if the LCS recovery is between 121-150%, flag only detects as "J". if the recovery is greater than 150%, reject (R) and red-line all detects.

A.1.20.3 **Solid LCS**

If an analyte's MDL is equal to or greater than the true value of LCS, disregard the "Action" below for that analyte even though the LCS is out of control limits.

Is the LCS "Found" value greater than the Upper Control Limit reported on Form VII?	___	[___]	✓

ACTION:

		YES	NO	N/A
	If yes, flag (J) all the associated detects ≥ MDL as estimated (J).			
	Is the LCS "Found" value lower than the Lower Control Limit reported on Form VII?	___	[___]	✓
	ACTION: If yes, flag detects as "J" and non-dectes as "UJ".			
A.1.21	**ICP-AES/ICP-MS Serial Dilution - Form VIII** **NOTE:** Serial dilution analysis is required only when the initial concentration is equal to or greater than 50 x MDL.			
A.1.21.1	Was a Serial Dilution analysis performed:			
	For each SDG?	[✓]	___	___
	On one of the SDG samples?	[✓]	___	___
	For each matrix type?	[✓]	___	___
	For each concentration range (low or med.)?	[___]	___	✓
	Was a Serial Dilution sample analyzed with the SDG samples?	[✓]	___	___
	ACTION: If no for any of the above, flag as estimated (J) detects ≥ MDL of all the SDG samples for which the ICP Serial Dilution Analysis was not performed.			
A.1.21.2	Was a Field Blank or PE sample used for the Serial Dilution Analysis?	___	[✓]	___
	ACTION: If yes, flag as estimated (J) detects ≥ MDL of all the SDG samples			
A.1.21.3	Circle on Form VIII the Percent Differences (%D) between sample results and its dilution results that are outside the control limits ± 10%			

		YES	NO	N/A
	when initial concentrations ≥ 50 x MDLs.			
	Are results outside the control limits flagged with an "E"(Lab Qualifier) on Form VIII and all Form I's?	[___]	___	✓
	ACTION: If no, write in the Contract-Problem/ Non-Compliance Section of the Data Review Narrative.			
A.1.21.4	Are any %D values:			
	> 10%?	___	[✓]	___
	≥ 100%?	___	[✓]	___
	ACTION: If the Percent Difference (%D) is greater than 10%, flag (J) as estimated all associated samples whose **raw data** ≥ MDL; if the %D is ≥ 100%, reject (R) and red-line all associated samples with **raw data** ≥ MDL.			
	(**NOTE**:Replace "E" with "J" or "R" as appropriate.)			
A.1.22	**Total/Dissolved or Inorganic/Total Analytes**			
A.1.22.1	Were any analyses performed for dissolved as well as total analytes on the same sample(s)?	___	[✓]	___
	Were any analyses performed for inorganic as well as total analytes on the same sample(s)?	___	[✓]	___
	ACTION: If yes, prepare a Form (Appendix A.5) to compare the differences between dissolved (or inorganic)and total analyte concentrations. Compute each difference on Appendix A.5 as a percent of the total analyte only when both of the following conditions are fulfilled: (1) The dissolved(or inorganic)concentration is greater than total concentration, and (2) greater than or equal to 5xMDL.			
A.1.22.2	Is any dissolved (or inorganic) concentration greater than its total concentration by more than 20%?	___	[___]	✓

		YES	NO	N/A
A.1.22.3	Is any dissolved(or inorganic) concentration greater than its total concentration by more than 50%?	___	[___]	✓

ACTION:
If the percent difference is greater than 20%, flag (J) both dissolved/inorganic and total concentrations as estimated. If the difference is more than 50%, reject (R) and red-line both the values.

A.1.23 **Field Blank - Form I**
NOTE: Designate "Field Blank" as such on Form I

A.1.23.1	Was a Field/Rinsate Bank collected and analyzed with the SDG samples?	[___]	✓	___
	If yes, is any Field/Rinsate Blank absolute value of an analyte on Form I greater than its CRQL(or 2xMDL when MDL>CRQL)?	___	[___]	✓
	If yes, circle the Field Blank value on Form I that is greater than the CRQL, (or 2 x MDL when MDL > CRQL).			
	Is any Field Blank value greater than CRQL also greater than the Preparation Blank value?	___	[___]	✓
	If yes, is the Field Blank value (> CRQL and > the prep. blank value) already rejected due to other QC criteria?	[___]	___	✓

ACTION:
If the Field Blank value was not rejected, reject all associated sample data (except the Field Blank results)greater than the CRQL but less than the Field Blank value. Reject on Form I's the soil sample results whose raw values in ug/L in the instrument printout are greater than the CRQL but less than the Field Blank value in ug/L. Flag as "J" detects between the Field Blank value and 10xField Blank value. If the sample result $\geq$ MDL but $\leq$ CRQL, replace it with CRQL-U.

If the Field Blank value is less than the

		YES	NO	N/A
	Prep.Blank value, do not qualify the sample results due to the Field Blank criteria.			

NOTE:
1. Field Blank result previously rejected due to other criteria cannot be used to qualify field samples.
2. Do not use Rinsate Blank associated with soils to qualify water samples and vice versa.

A.1.24 **Verification of Instrumental Parameters - Form IX, XA, XB, XI**

A.1.24.1	Is verification report present for:			
	Method Detection Limits (Form IX-Annually)?	[✓]	___	___
	ICP-AES Interelement Correction Factors (Form XA & XB -Quarterly)?	[✓]	___	___
	ICP-AES & ICP-MS Linear Ranges (Form XI-Quarterly)?	[✓]	___	___

ACTION:
If no, contact CLP PO/TOPO for submittal from the laboratory.

A.1.24.2 **Method Detection Limits - Form IX**

A.1.24.2.1	Are MDLs present on Form IX for:			
	All the analytes?	[✓]	___	___
	All the instruments used?	[✓]	___	___
	Digested and undigested samples and Calib.Blanks?	[✓]	___	___
	ICP-AES and ICP-MS when both instruments are used for the same analyte?	[___]	___	✓

ACTION:
If no for any of the above, prepare Telephone Record Log and contact CLP PO/TOPO for submittal of the MDLs from the laboratory. Report to CLP PO and write in the Contract Problems/ Non-Compliance Section of the Data Review Narrative if the MDL concentration is not less than ½ CRQL.

		YES	NO	N/A
A.1.24.2.2	Is MDL greater than the CRQL for any analyte?	___	[✓]	___
	If yes, is the analyte concentration on Form I greater than 5 x MDL for the sample analyzed on the instrument whose MDL exceeds CRQL?	[___]	___	✓
	ACTION: If no, flag as estimated (J) all values less than five times MDL for the analyte whose MDL exceeds the CRQL.			
A.1.24.3	**Linear Ranges - Form XI**			
A.1.24.3.1	Was any sample result higher than the high linear range for ICP-AES or ICP-MS?	___	[✓]	___
	Was any sample result higher than the highest calibration standard for mercury or cyanide?	___	[✓]	___
	If yes for any of the above, was the sample diluted to obtain the result reported on Form I?	[___]	___	✓
	ACTION: If no, flag (J) as estimated the affected detects (≥ MDL) reported on Form I.			
A.1.25	**ICP-MS Tune Analysis - Form XIV**			
A.1.25.1	Was the ICP-MS instrument tuned prior to calibration?	[___]	___	✓
	ACTION: If no, reject (R) and red-line all sample data for which tuning was not performed.			
A.1.25.2	Was the tuning solution analyzed or scanned at least five times consecutively?	[___]	___	✓
	Were all the required isotopes spanning the analytical range present in the tuning solution?	[___]	___	✓
	Was the mass resolution within			

		YES	NO	N/A
	0.1 amu for each isotope in the tuning solution?	[___]	___	✓
	Was %RSD less than 5% for each isotope of each analyte in the tuning solution?	[___]	___	✓

ACTION:
If no for any of the above, qualify all results ≥ MDL associated with that Tune as estimated "J", and all non-detects associated with that Tune as "UJ".

A.1.26 **ICP-MS Internal Standards - Form XV**

A.1.26.1	Were the Internal Standards added to all the samples and all QC samples and calibration standards (except the Tuning Solution)?	[___]	___	✓
	Were all the target analyte masses bracketed by the masses of the five internal standards?	[___]	___	✓

ACTION:
If none of the Internal Standards was added to the samples, reject (R) and red-line all the associated sample data (detects & non-detects). If internal standards were used but did not cover all the analyte masses, reject (R) and red-line only the analyte results not bracketed by the internal standard masses.

A.1.26.2	Was the intensity of an Internal Standard in each sample within 60-125% of the intensity of the same Internal Standard in the calibration blank?	[___]	___	✓
	If no, was the original sample diluted two fold, Internal Standard added and the sample re-analyzed?	[___]	___	✓
	Was the %RI for the two fold diluted sample within the acceptance limits (60-125%)?	[___]	___	✓

ACTION:
If no for any of the above, flag detects as "J" and non-detects "UJ" of all the analytes with atomic masses between the

atomic mass of the internal standard lighter

than the affected internal standard, and the atomic mass of the internal standard heavier than the affected internal standard.

A.1.27 **Percent Solids of Sediments**

A.1.27.1 Are percent solids in sediment(s):

< 50%? ___ [___] ✓

ACTION:
If yes, qualify as estimated (J) all detects and non-detects of a sample that has percent solids less than 50%(i.e.,moisture content greater than 50%).

NOTE:
Flag(J) only the sample results that were not previously flagged due to other QC criteria.

Inorganic Data Review Narrative

Case# _____ **Site:** ft. totten **Matrix: Soil** ___

SDG# C1E100518 **Lab:** TAL **Water** ✓

Sampling Team: _____ **Reviewer:** Mike Washburn **Other** _____

Sr. Reviewer Chris Ricardi 10/5/11

A.2.1 **Data Validation Flags:**
The following flags may have been applied in red by the data validator and must be considered by the data user.

J - This flag indicates the result qualified as **estimated**

R and Red-Line - A red-line drawn through a sample result indicates **unusable** value. The red-lined data are known to contain significant errors based on documented information and must not be used by the data user.

U - This data validation qualifier is applied to sample results ≥ MDL when associated blank is contaminated

Fully Usable Data - The results that do not carry "J" or "red-line" are fully **usable**.

A.2.2 **Laboratory Qualifiers:**
The CLP laboratory applies a contractual qualifier on all

Form I'S and the QC Form when a QC analysis is outside the control limits. These qualifiers are not applied on the Lotus or XLS spreadsheets. These qualifiers and their meanings are as follows:

N: This qualifier indicates the lack of accuracy in the reported result, and is applied when matrix spiked sample recovery is outside the control limits.

E: This qualifier indicates the the presence of interference, and is applied when the ICP serial dilution is outside the control limits.

*: This qualifier indicate the lack of precision , and is pplied on Fom I'S and Form VI when the Lab Duplicate analysis is outside the control limits.

U: This is a concentration qualifier that laboratory applies to a non-detected result which is essentially less than the Method Detection Limit(MDL). A non-detected result of an analyte is indicated by the Contract Required Quantitation Limit (CRQL) of that analyte suffixed with "U".

J: This is also a concentration qualifier that laboratory applies to a positive result below the CRQL.

NOTE: The laboratory qualifiers are crossed out and replaced with the appropriate data validation qualifiers (J, R or U) by the data validator.

A.2.3.1 **Data Case Description**:

A.2.3.2 **CSF Audit**:

A.2.3.3 **Technical Review:**

A.2.3.4 **Contract-Problem/Non-Compliance:**

HWSS Reviewer: _____ Date:_____
Signature

Contractor Reviewer: _____ Date:_____
Signature

Verified by: _____ Date:_____
Signature

Contract Laboratory Program
REGION II/LABORATORY COMMUNICATION SYSTEM

Telephone Record Log

CASE #
SDG #

Date of Call: _____

ESAT Reviewer/Date: _____

Type of Analysis: ___Inorganic_____

Laboratory Name: _____

Lab Contact: _____

Call Initiated By: ___Laboratory _X_Region II

Inquiry made in reference to data for the following sample number(s):

Summary of Questions/Issues Discussed:

Summary of Resolution:

Signature

Date: _____

FIELD DUPLICATES

Sample No. **Field Duplicate No.** **Sample Matrix:**

Lab Code: **Case No. :** **SDG No.:**

% Solids Sample: **% Solids Duplicate:**

Concentration Units (ug/l or mg/kg dry weight):

	Action Limit	Sample Concentration	C	Duplicate Concentration	C	RPD	Difference	Q	M
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead									
Magnesium									
Manganese									

					YES	NO	N/A		
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

Total/Dissolved Concentrations

Lab Code **Case No.** **SDG No.** **Sample Matrix: Water**

Concentration: ug/L

ANALYTE	TOTAL	C	DISSOLVED	C	DIFFERENCE	Q	M
ALUMINUM							
ARSENIC							
BARIUM							
BERYLLIUM							
CADMIUM							
CALCIUM							
CHROMIUM							
COBALT							
COPPER							
IRON							
LEAD							
MAGNESIUM							
MAGNESE							
MERCURY							
NICKEL							

POTASSIUM							
SELENIUM							
SILVER							
SODIUM							
THALLIUM							
VANADIUM							
ZINC							
CYANIDE							

CONTRACT LABORATORY PROGRAM
CLP RAS RE-ANALYSIS REQUEST/APPROVAL RECORD

SECTION A (TO BE COMPLETED BY REGIONAL SENDING OFFICIAL)

Initiated By:

Name, Affiliation, Phone Number

_____

Case Number: _____
- OLM
- OLC
- ILM

Details of Re-Analysis Request:

- Laboratory Name /Contract Number: _____
- Affected Sample Number(s) and Fraction(s): _____
- Reason for Re-Analysis: _____
- Contract Statement of Work Citation*: _____
  _____
- Comments: _____
  _____

* PROVIDE SOW CITATION THAT SUPPORTS THIS REQUEST

RE-ANALYSIS Billable ( ) Not Billable ( )

- Approved By: _____ Date: _____
  Authorized Regional Sending CLP PO Signature

SECTION B (TO BE COMPLETED BY SMO)

Name of SMO Contact _____ Date: _____

Date of Laboratory Notification (Verbal): _____

Re-analysis Start Date: _____ Data Due Date: _____

Return completed form to:
Sample Management Office (SMO)

Distribtion: (1) CLP PO Copy (2) Regional Sending Official Copy (3) SMO File Copy (4) Laboratory Copy
Final 9/3/99

CLP DATA ASSESSMENT SUMMARY FORM (INORGANICS)

Type of Review: _____ Date:_____ Case# _____SDG#___

Site: _____ Lab Name: _____

Reviewer's Initials:_____ Number of Samples:_____

Analytes Rejected (R) Due to Exceeding Review Criteria

	Holding Time	CRQL Std	Blanks	ICS	Spike Recovery	Dup. Lab.	Dup. Field	LCS	ICP Serial Dilution	% Solids	Internal Std. ICP-MS	Tuning ICP-MS	Total Analytes	Rejection %
ICP-AES														
ICP-MS														
Mercury														
Cyanide														
Total														

Analytes Flagged (J) as Estimated Due to Exceeding Review Criteria

	Holding Time	CRQL Std	Blanks	ICS	Spike Recovery	Dup. Lab.	Dup. Field	LCS	ICP Serial Dilution	% Solids	Internal Std. ICP-MS	Tuning ICP-MS	Total Analytes	Rejection %
ICP-AES														
ICP-MS														
Mercury														
Cyanide														
Total														

Method: METTRACE Sample Name: CCB3 Operator: RJG
Run Time: 05/27/11 17:55:19
Comment: TESTAMERICA PITTSBURGH ICP METALS ANALYSIS-INST TRACEICP
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00012	.02346	.00047	.00249	-.00007	.00016	.00437
SDev	.00040	.00257	.00133	.00047	.00007	.00009	.00306
%RSD	333.48	10.948	284.89	18.824	105.82	58.884	70.159
#1	.00056	.02122	.00147	.00299	-.00004	.00012	.00218
#2	-.00020	.02627	.00097	.00242	-.00002	.00009	.00787
#3	-.00001	.02289	-.00104	.00206	-.00014	.00026	.00306
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.00500	.20000	.01000	.20000	.20000	.00400	5.0000
Low	-.00500	-.20000	-.01000	-.20000	-.20000	-.00400	-5.0000

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.00012	-.00012	.00010	-.00074	-.00222	.20171	.00549
SDev	.00014	.00051	.00024	.00006	.00190	.00253	.00064
%RSD	117.71	425.80	243.35	8.4283	85.765	1.2567	11.732
#1	-.00021	.00042	.00038	-.00074	-.00013	.20360	.00474
#2	.00004	-.00020	-.00005	-.00067	-.00266	.20270	.00586
#3	-.00018	-.00058	-.00004	-.00080	-.00385	.19883	.00585
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.00500	.05000	.00500	.02500	.10000	5.0000	5.0000
Low	-.00500	-.05000	-.00500	-.02500	-.10000	-5.0000	-5.0000

Elem	MN	MO	NA	NI	PB/1	PB/2	PB
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00004	.00367	-.29292	-.00006	-.00047	.00012	-.00007
SDev	.00003	.00166	.19876	.00026	.00346	.00087	.00098
%RSD	68.451	45.346	67.852	455.36	733.38	702.04	1317.6
#1	.00006	.00554	-.10203	.00023	-.00206	-.00045	-.00099
#2	.00001	.00313	-.27803	-.00029	-.00285	.00112	-.00020
#3	.00006	.00234	-.49871	-.00012	.00349	-.00030	.00096
Errors	LC Pass	LC Pass	LC Pass	LC Pass	NOCHECK	NOCHECK	LC Pass
High	.01500	.04000	5.0000	.04000			.00300
Low	-.01500	-.04000	-5.0000	-.04000			-.00300

Elem	SB/1	SB/2	SB	SE/1	SE/2	SE	SI
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00066	.00041	.00049	-.00222	-.00158	-.00179	-.00092
SDev	.00264	.00106	.00034	.00301	.00250	.00068	.00094
%RSD	402.74	260.23	69.948	135.46	158.70	38.078	103.11
#1	-.00013	.00027	.00013	-.00516	.00069	-.00126	-.00181
#2	.00360	-.00057	.00082	-.00235	-.00116	-.00155	.00007

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Analysis Report 05/27/11 07:13:48 PM page 1

Method: METTRACE Sample Name: CCB4 Operator: RJG
Run Time: 05/27/11 19:07:48
Comment: TESTAMERICA PITTSBURGH ICP METALS ANALYSIS-INST TRACEICP
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00006	.02580	-.00098	.00223	-.00017	.00034	-.00562
SDev	.00030	.00161	.00031	.00138	.00005	.00006	.00212
%RSD	504.79	6.2493	31.752	61.889	27.819	17.434	37.755
#1	-.00025	.02420	-.00072	.00381	-.00019	.00029	-.00689
#2	.00008	.02578	-.00132	.00164	-.00011	.00041	-.00317
#3	.00034	.02743	-.00089	.00125	-.00020	.00033	-.00681
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.00500	.20000	.01000	.20000	.20000	.00400	5.0000
Low	-.00500	-.20000	-.01000	-.20000	-.20000	-.00400	-5.0000

Elem	CD	CO	CR	CU	FE	K	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.00015	.00023	.00006	-.00114	.00128	.19049	.00472
SDev	.00015	.00010	.00010	.00001	.00152	.00608	.00001
%RSD	101.59	41.698	163.17	1.2136	118.49	3.1908	.11193
#1	-.00021	.00026	.00003	-.00115	.00004	.19743	.00472
#2	.00002	.00012	.00017	-.00114	.00298	.18610	.00471
#3	-.00027	.00031	-.00002	-.00113	.00084	.18793	.00472
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.00500	.05000	.00500	.02500	.10000	5.0000	5.0000
Low	-.00500	-.05000	-.00500	-.02500	-.10000	-5.0000	-5.0000

Elem	MN	MO	NA	NI	PB/1	PB/2	PB
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.00001	.00398	-.36417	-.00023	.00031	-.00038	-.00015
SDev	.00003	.00117	.04420	.00049	.00201	.00092	.00087
%RSD	207.12	29.444	12.138	218.22	656.61	240.77	569.41
#1	.00000	.00526	-.31672	.00011	-.00183	.00011	-.00054
#2	-.00005	.00370	-.37160	-.00079	.00060	-.00144	-.00076
#3	.00000	.00296	-.40418	.00000	.00215	.00019	.00084
Errors	LC Pass	LC Pass	LC Pass	LC Pass	NOCHECK	NOCHECK	LC Pass
High	.01500	.04000	5.0000	.04000			.00300
Low	-.01500	-.04000	-5.0000	-.04000			-.00300

Elem	SB/1	SB/2	SB	SE/1	SE/2	SE	SI
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00120	-.00098	-.00026	-.00162	-.00066	-.00098	-.00429
SDev	.00100	.00036	.00013	.00153	.00074	.00096	.00373
%RSD	82.942	36.613	49.740	94.614	112.00	97.802	86.841
#1	.00177	-.00129	-.00027	.00015	.00002	.00006	-.00249
#2	.00005	-.00059	-.00037	-.00256	-.00145	-.00182	-.00858

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Analysis Report 05/27/11 08:26:20 PM page 1

Method: METTRACE Sample Name: CCB5 Operator: RJG
Run Time: 05/27/11 20:20:20
Comment: TESTAMERICA PITTSBURGH ICP METALS ANALYSIS-INST TRACEICP
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00002	.01992	-.00019	.00309	-.00013	.00052	-.00599
SDev	.00011	.00257	.00052	.00053	.00006	.00003	.00055
%RSD	512.42	12.876	277.87	17.327	47.607	6.4171	9.1907
#1	-.00010	.02106	.00038	.00338	-.00017	.00048	-.00635
#2	.00009	.02173	-.00066	.00341	-.00017	.00051	-.00627
#3	.00007	.01699	-.00029	.00247	-.00006	.00055	-.00536
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.00500	.20000	.01000	.20000	.20000	.00400	5.0000
Low	-.00500	-.20000	-.01000	-.20000	-.20000	-.00400	-5.0000

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.00018	.00015	-.00006	-.00100	.00009	.22250	.00471
SDev	.00010	.00034	.00019	.00013	.00184	.00330	.00110
%RSD	53.164	230.63	301.02	13.216	2034.4	1.4825	23.227
#1	-.00009	-.00023	-.00028	-.00092	-.00191	.21869	.00362
#2	-.00028	.00043	.00004	-.00115	.00048	.22429	.00471
#3	-.00018	.00024	.00005	-.00092	.00170	.22451	.00581
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.00500	.05000	.00500	.02500	.10000	5.0000	5.0000
Low	-.00500	-.05000	-.00500	-.02500	-.10000	-5.0000	-5.0000

Elem	MN	MO	NA	NI	PB/1	PB/2	PB
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00000	.00424	-.40859	.00009	-.00146	.00112	.00026
SDev	.00000	.00142	.14912	.00069	.00125	.00121	.00039
%RSD	85.457	33.401	36.497	725.23	86.177	107.83	147.93
#1	.00000	.00541	-.57352	.00062	-.00078	.00042	.00002
#2	.00000	.00466	-.28327	-.00068	-.00069	.00042	.00005
#3	.00000	.00267	-.36897	.00034	-.00290	.00252	.00071
Errors	LC Pass	LC Pass	LC Pass	LC Pass	NOCHECK	NOCHECK	LC Pass
High	.01500	.04000	5.0000	.04000			.00300
Low	-.01500	-.04000	-5.0000	-.04000			-.00300

Elem	SB/1	SB/2	SB	SE/1	SE/2	SE	SI
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00291	-.00115	.00020	-.00260	-.00078	-.00139	-.00457
SDev	.00024	.00056	.00031	.00046	.00237	.00167	.00342
%RSD	8.1660	48.995	154.43	17.628	303.78	120.32	74.804
#1	.00264	-.00052	.00053	-.00269	.00125	-.00006	-.00248
#2	.00297	-.00161	-.00008	-.00210	-.00021	-.00084	-.00271

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Watermark Environmental

Client Sample ID: MW-1

TOTAL Metals

Lot-Sample #...: C1E100518-001 Matrix.....: WATER
Date Sampled...: 05/09/11 Date Received..: 05/10/11

PARAMETER	RESULT	LOQ	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 1132109						
Aluminum	~~72.9 J~~ 80 U	200	ug/L	SW846 6010C	05/12-05/27/11	MH6RK1AC
		Dilution Factor: 1		Analysis Time..: 18:01	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 41.8	
Antimony	3.0 U	10.0	ug/L	SW846 6010C	05/12-05/27/11	MH6RK1AD
		Dilution Factor: 1		Analysis Time..: 18:01	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 1.3	
Arsenic	5.0 U	10.0	ug/L	SW846 6010C	05/12-05/27/11	MH6RK1AE
		Dilution Factor: 1		Analysis Time..: 18:01	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 2.7	
Barium	48.8 J	200	ug/L	SW846 6010C	05/12-05/27/11	MH6RK1AF
		Dilution Factor: 1		Analysis Time..: 18:01	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 2.3	
Beryllium	1.0 U	4.0	ug/L	SW846 6010C	05/12-05/27/11	MH6RK1AG
		Dilution Factor: 1		Analysis Time..: 18:01	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 0.70	
Cadmium	0.80 U	5.0	ug/L	SW846 6010C	05/12-05/27/11	MH6RK1AH
		Dilution Factor: 1		Analysis Time..: 18:01	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 0.25	
Calcium	17000	5000	ug/L	SW846 6010C	05/12-05/27/11	MH6RK1AJ
		Dilution Factor: 1		Analysis Time..: 18:01	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 9.7	
Chromium	2.5 U	5.0	ug/L	SW846 6010C	05/12-05/27/11	MH6RK1AK
		Dilution Factor: 1		Analysis Time..: 18:01	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 0.57	
Cobalt	2.5 U	50.0	ug/L	SW846 6010C	05/12-05/27/11	MH6RK1AL
		Dilution Factor: 1		Analysis Time..: 18:01	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 0.52	

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MJW 6/14/11

Watermark Environmental

Client Sample ID: MW-2

TOTAL Metals

Lot-Sample #...: C1E100518-002 Matrix.....: WATER
Date Sampled...: 05/09/11 Date Received..: 05/10/11

PARAMETER	RESULT	LOQ	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 1132109						
Aluminum	~~64.1~~ 80 J U	200	ug/L	SW846 6010C	05/12-05/27/11	MH6RL1AH
		Dilution Factor: 1		Analysis Time..: 18:49	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 41.8	
Antimony	3.0 U	10.0	ug/L	SW846 6010C	05/12-05/27/11	MH6RL1AJ
		Dilution Factor: 1		Analysis Time..: 18:49	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 1.3	
Arsenic	5.0 U	10.0	ug/L	SW846 6010C	05/12-05/27/11	MH6RL1AK
		Dilution Factor: 1		Analysis Time..: 18:49	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 2.7	
Barium	6.6 J	200	ug/L	SW846 6010C	05/12-05/27/11	MH6RL1AL
		Dilution Factor: 1		Analysis Time..: 18:49	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 2.3	
Beryllium	1.0 U	4.0	ug/L	SW846 6010C	05/12-05/27/11	MH6RL1AM
		Dilution Factor: 1		Analysis Time..: 18:49	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 0.70	
Cadmium	0.80 U	5.0	ug/L	SW846 6010C	05/12-05/27/11	MH6RL1AN
		Dilution Factor: 1		Analysis Time..: 18:49	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 0.25	
Calcium	12400	5000	ug/L	SW846 6010C	05/12-05/27/11	MH6RL1AP
		Dilution Factor: 1		Analysis Time..: 18:49	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 9.7	
Chromium	1.3 J	5.0	ug/L	SW846 6010C	05/12-05/27/11	MH6RL1AQ
		Dilution Factor: 1		Analysis Time..: 18:49	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 0.57	
Cobalt	2.5 U	50.0	ug/L	SW846 6010C	05/12-05/27/11	MH6RL1AR
		Dilution Factor: 1		Analysis Time..: 18:49	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 0.52	

(Continued on next page)

MSW 6/14/11

Watermark Environmental

Client Sample ID: MW-2

TOTAL Metals

Lot-Sample #...: C1E100518-002 Matrix.....: WATER

PARAMETER	RESULT	LOQ	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Copper	5.0 U	25.0	ug/L	SW846 6010C	05/12-05/27/11	MH6RL1AT
		Dilution Factor: 1		Analysis Time..: 18:49	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 2.7	
Iron	40.0 U	100	ug/L	SW846 6010C	05/12-05/27/11	MH6RL1AU
		Dilution Factor: 1		Analysis Time..: 18:49	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 22.2	
Lead	3.0 U	10.0	ug/L	SW846 6010C	05/12-05/27/11	MH6RL1AV
		Dilution Factor: 1		Analysis Time..: 18:49	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 1.6	
Magnesium	4080 J	5000	ug/L	SW846 6010C	05/12-05/27/11	MH6RL1AW
		Dilution Factor: 1		Analysis Time..: 18:49	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 20.7	
Manganese	2.0 U	15.0	ug/L	SW846 6010C	05/12-05/27/11	MH6RL1AX
		Dilution Factor: 1		Analysis Time..: 18:49	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 0.68	
Nickel	3.0 U	40.0	ug/L	SW846 6010C	05/12-05/27/11	MH6RL1A0
		Dilution Factor: 1		Analysis Time..: 18:49	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 1.6	
Potassium	948 J U 1500	5000	ug/L	SW846 6010C	05/12-05/27/11	MH6RL1A1
		Dilution Factor: 1		Analysis Time..: 18:49	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 750	
Sodium	7020	5000	ug/L	SW846 6010C	05/12-05/27/11	MH6RL1A2
		Dilution Factor: 1		Analysis Time..: 18:49	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 215	
Silver	1.2 U	5.0	ug/L	SW846 6010C	05/12-05/27/11	MH6RL1A3
		Dilution Factor: 1		Analysis Time..: 18:49	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 0.68	
Selenium	6.0 U	10.0	ug/L	SW846 6010C	05/12-06/03/11	MH6RL1A4
		Dilution Factor: 1		Analysis Time..: 19:13	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 3.3	

(Continued on next page)

MSW 4/14/11

Watermark Environmental

Client Sample ID: MW-3

TOTAL Metals

Lot-Sample #...: C1E100518-003 Matrix.....: WATER
Date Sampled...: 05/09/11 Date Received..: 05/10/11

PARAMETER	RESULT	LOQ	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 1132109						
Aluminum	~~66.1~~ 80 J U	200	ug/L	SW846 6010C	05/12-05/27/11	MH6RM1AH
		Dilution Factor: 1		Analysis Time..: 18:55	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 41.8	
Antimony	3.0 U	10.0	ug/L	SW846 6010C	05/12-05/27/11	MH6RM1AJ
		Dilution Factor: 1		Analysis Time..: 18:55	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 1.3	
Arsenic	5.0 U	10.0	ug/L	SW846 6010C	05/12-05/27/11	MH6RM1AK
		Dilution Factor: 1		Analysis Time..: 18:55	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 2.7	
Barium	55.5 J	200	ug/L	SW846 6010C	05/12-05/27/11	MH6RM1AL
		Dilution Factor: 1		Analysis Time..: 18:55	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 2.3	
Beryllium	1.0 U	4.0	ug/L	SW846 6010C	05/12-05/27/11	MH6RM1AM
		Dilution Factor: 1		Analysis Time..: 18:55	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 0.70	
Cadmium	0.80 U	5.0	ug/L	SW846 6010C	05/12-05/27/11	MH6RM1AN
		Dilution Factor: 1		Analysis Time..: 18:55	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 0.25	
Calcium	52500	5000	ug/L	SW846 6010C	05/12-05/27/11	MH6RM1AP
		Dilution Factor: 1		Analysis Time..: 18:55	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 9.7	
Chromium	5.9	5.0	ug/L	SW846 6010C	05/12-05/27/11	MH6RM1AQ
		Dilution Factor: 1		Analysis Time..: 18:55	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 0.57	
Cobalt	2.5 U	50.0	ug/L	SW846 6010C	05/12-05/27/11	MH6RM1AR
		Dilution Factor: 1		Analysis Time..: 18:55	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 0.52	

(Continued on next page)

MW 4/14/11

Watermark Environmental

Client Sample ID: MW-4

TOTAL Metals

Lot-Sample #...: C1E100518-004 Matrix.....: WATER
Date Sampled...: 05/09/11 Date Received..: 05/10/11

PARAMETER	RESULT	LOQ	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 1132109						
Aluminum	~~111~~ J U Bo	200	ug/L	SW846 6010C	05/12-05/27/11	MH6RN1AH
		Dilution Factor: 1		Analysis Time..: 19:13	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 41.8	
Antimony	3.0 U	10.0	ug/L	SW846 6010C	05/12-05/27/11	MH6RN1AJ
		Dilution Factor: 1		Analysis Time..: 19:13	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 1.3	
Arsenic	5.0 U	10.0	ug/L	SW846 6010C	05/12-05/27/11	MH6RN1AK
		Dilution Factor: 1		Analysis Time..: 19:13	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 2.7	
Barium	50.9 J	200	ug/L	SW846 6010C	05/12-05/27/11	MH6RN1AL
		Dilution Factor: 1		Analysis Time..: 19:13	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 2.3	
Beryllium	1.0 U	4.0	ug/L	SW846 6010C	05/12-05/27/11	MH6RN1AM
		Dilution Factor: 1		Analysis Time..: 19:13	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 0.70	
Cadmium	0.80 U	5.0	ug/L	SW846 6010C	05/12-05/27/11	MH6RN1AN
		Dilution Factor: 1		Analysis Time..: 19:13	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 0.25	
Calcium	72100	5000	ug/L	SW846 6010C	05/12-05/27/11	MH6RN1AP
		Dilution Factor: 1		Analysis Time..: 19:13	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 9.7	
Chromium	4.3 J	5.0	ug/L	SW846 6010C	05/12-05/27/11	MH6RN1AQ
		Dilution Factor: 1		Analysis Time..: 19:13	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 0.57	
Cobalt	0.80 J	50.0	ug/L	SW846 6010C	05/12-05/27/11	MH6RN1AR
		Dilution Factor: 1		Analysis Time..: 19:13	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 0.52	

(Continued on next page)

MJW 4/14/11

Watermark Environmental

Client Sample ID: MW-4

TOTAL Metals

Lot-Sample #...: C1E100518-004 Matrix.....: WATER

PARAMETER	RESULT	LOQ	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Copper	13.3 J	25.0	ug/L	SW846 6010C	05/12-05/27/11	MH6RN1AT
		Dilution Factor: 1		Analysis Time..: 19:13	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 2.7	
Iron	108 J	100	ug/L	SW846 6010C	05/12-05/27/11	MH6RN1AU
		Dilution Factor: 1		Analysis Time..: 19:13	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 22.2	
Lead	1.8 J	10.0	ug/L	SW846 6010C	05/12-05/27/11	MH6RN1AV
		Dilution Factor: 1		Analysis Time..: 19:13	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 1.6	
Magnesium	22300	5000	ug/L	SW846 6010C	05/12-05/27/11	MH6RN1AW
		Dilution Factor: 1		Analysis Time..: 19:13	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 20.7	
Manganese	8.3 J	15.0	ug/L	SW846 6010C	05/12-05/27/11	MH6RN1AX
		Dilution Factor: 1		Analysis Time..: 19:13	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 0.68	
Nickel	13.3 J	40.0	ug/L	SW846 6010C	05/12-05/27/11	MH6RN1A0
		Dilution Factor: 1		Analysis Time..: 19:13	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 1.6	
Potassium	3420 J	5000	ug/L	SW846 6010C	05/12-05/27/11	MH6RN1A1
		Dilution Factor: 1		Analysis Time..: 19:13	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 750	
Sodium	85600	5000	ug/L	SW846 6010C	05/12-05/27/11	MH6RN1A2
		Dilution Factor: 1		Analysis Time..: 19:13	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 215	
Silver	1.2 U	5.0	ug/L	SW846 6010C	05/12-05/27/11	MH6RN1A3
		Dilution Factor: 1		Analysis Time..: 19:13	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 0.68	
Selenium	6.0 U	10.0	ug/L	SW846 6010C	05/12-06/03/11	MH6RN1A4
		Dilution Factor: 1		Analysis Time..: 19:25	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 3.3	

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MJW 9/14/11

Watermark Environmental

Client Sample ID: MW-5

TOTAL Metals

Lot-Sample #...: C1E100518-005 **Matrix.....:** WATER
Date Sampled...: 05/09/11 **Date Received..:** 05/10/11

PARAMETER	RESULT	LOQ	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 1132109						
Aluminum	~~65.6~~ J U 80	**200**	**ug/L**	**SW846 6010C**	**05/12-05/27/11**	**MH6RP1AH**
		Dilution Factor: 1		Analysis Time..: 19:19	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 41.8	
Antimony	**3.0 U**	**10.0**	**ug/L**	**SW846 6010C**	**05/12-05/27/11**	**MH6RP1AJ**
		Dilution Factor: 1		Analysis Time..: 19:19	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 1.3	
Arsenic	**5.0 U**	**10.0**	**ug/L**	**SW846 6010C**	**05/12-05/27/11**	**MH6RP1AK**
		Dilution Factor: 1		Analysis Time..: 19:19	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 2.7	
Barium	**47.1 J**	**200**	**ug/L**	**SW846 6010C**	**05/12-05/27/11**	**MH6RP1AL**
		Dilution Factor: 1		Analysis Time..: 19:19	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 2.3	
Beryllium	**1.0 U**	**4.0**	**ug/L**	**SW846 6010C**	**05/12-05/27/11**	**MH6RP1AM**
		Dilution Factor: 1		Analysis Time..: 19:19	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 0.70	
Cadmium	**0.80 U**	**5.0**	**ug/L**	**SW846 6010C**	**05/12-05/27/11**	**MH6RP1AN**
		Dilution Factor: 1		Analysis Time..: 19:19	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 0.25	
Calcium	**26300**	**5000**	**ug/L**	**SW846 6010C**	**05/12-05/27/11**	**MH6RP1AP**
		Dilution Factor: 1		Analysis Time..: 19:19	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 9.7	
Chromium	**1.0 J**	**5.0**	**ug/L**	**SW846 6010C**	**05/12-05/27/11**	**MH6RP1AQ**
		Dilution Factor: 1		Analysis Time..: 19:19	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 0.57	
Cobalt	**2.5 U**	**50.0**	**ug/L**	**SW846 6010C**	**05/12-05/27/11**	**MH6RP1AR**
		Dilution Factor: 1		Analysis Time..: 19:19	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 0.52	

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MW 6/14/11

Watermark ronmental

Client Sample ID: DUP-1

TOTAL Metals

Lot-Sample #...: C1E100518-006 Matrix.....: WATER
Date Sampled...: 05/09/11 Date Received..: 05/10/11

PARAMETER	RESULT	LOQ	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 1132109						
Aluminum	85.3 J U	200	ug/L	SW846 6010C	05/12-05/27/11	MH6RQ1AH
		Dilution Factor: 1		Analysis Time..: 19:25	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 41.8	
Antimony	1.3 J	10.0	ug/L	SW846 6010C	05/12-05/27/11	MH6RQ1AJ
		Dilution Factor: 1		Analysis Time..: 19:25	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 1.3	
Arsenic	5.0 U	10.0	ug/L	SW846 6010C	05/12-05/27/11	MH6RQ1AK
		Dilution Factor: 1		Analysis Time..: 19:25	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 2.7	
Barium	49.5 J	200	ug/L	SW846 6010C	05/12-05/27/11	MH6RQ1AL
		Dilution Factor: 1		Analysis Time..: 19:25	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 2.3	
Beryllium	1.0 U	4.0	ug/L	SW846 6010C	05/12-05/27/11	MH6RQ1AM
		Dilution Factor: 1		Analysis Time..: 19:25	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 0.70	
Cadmium	0.80 U	5.0	ug/L	SW846 6010C	05/12-05/27/11	MH6RQ1AN
		Dilution Factor: 1		Analysis Time..: 19:25	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 0.25	
Calcium	72100	5000	ug/L	SW846 6010C	05/12-05/27/11	MH6RQ1AP
		Dilution Factor: 1		Analysis Time..: 19:25	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 9.7	
Chromium	4.0 J	5.0	ug/L	SW846 6010C	05/12-05/27/11	MH6RQ1AQ
		Dilution Factor: 1		Analysis Time..: 19:25	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 0.57	
Cobalt	0.85 J	50.0	ug/L	SW846 6010C	05/12-05/27/11	MH6RQ1AR
		Dilution Factor: 1		Analysis Time..: 19:25	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1132068	DL.....: 0.52	

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MSW 6/14/11

Field Dup

field_sample_id	param_name	final_result	final_qualifier	difference	average	RPD
DUP-1	Calcium	72100		0	72100	0%
MW-4	Calcium	72100				
DUP-1	Iron	44.7	J	63.3	76.35	83%
MW-4	Iron	108				
DUP-1	Magnesium	21800		500	22050	2%
MW-4	Magnesium	22300				
DUP-1	Sodium	83300		2300	84450	3%
MW-4	Sodium	85600				
DUP-1	Zinc	29.8		2.8	31.2	9%
MW-4	Zinc	32.6				

MJW
10/4/11

Site: Ft. Totten

Case #:

SDG #: C1E120405

Samples: (Soil) **Water**

Mike Washburn
9/23/11

	YES	NO	N/A
A.I.1 Contract Compliance Screening Report			
Present?	[ ]	___	✓
ACTION: If no, contact RSCC/PO.			
A.I.2 Record of Communication (from RSCC)			
Present?	[ ]	___	✓
ACTION: If no, request from the RSCC.			
A.1.3 Sampling Trip Report			
Present and complete?	[ ]	___	✓
ACTION: If no, contact RSCC/PO.			
A.I.4 Chain of Custody/Sample Traffic Report			
Present?	[✓]	___	___
Legible?	[✓]	___	___
Signature of sample custodian present?	[✓]	___	___
ACTION: If no, contact RSCC/WAM/PO.			
A.I.5 Cover Page			
Present?	[✓]	___	___
Is the Cover Page properly filled in and the verbatim signed by the lab manager or the manager's designee?	[✓]	___	___
Do the sample identification numbers on the Cover Page agree with sample Identification numbers on:			
(a) Traffic Report Sheet?	[✓]	___	___

	YES	NO	N/A
(b) Form I's?	[✓]		
Is the number of samples on the Cover Page the same as the number of samples on the Traffic Report sheet and the Regional Record of Communication (ROC) for the data Case?	[✓]		

ACTION:
If no for any of the above, prepare Telephone Record Log and contact RSCC/PO for re-submittal of the corrected Cover Page from the laboratory.

A.1.6 **SDG Narrative, DC-1 & DC-2 Form**

	YES	NO	N/A
Is the SDG Narrative present?	[✓]		
Is Sample Log-In Sheet(Form DC-1) present and complete?	[✓]		
Is Complete SDG Inventory Sheet(Form DC-2) present and complete?	[ ]		✓

ACTION:
If no, write in the Contract-Problems/ Non-Compliance Section of the Data Review Narrative.

A.1.7 **Form I to XV**

A.1.7.1 Are all the Form I through Form XV labeled with:

	YES	NO	N/A
Laboratory Name?	[✓]		
Laboratory Code?	mjr 4/23/11 [✓]		✓
RAS/Non-RAS Case No.?	[ ]		✓
SDG No.?	[✓]		

		YES	NO	N/A
	Contract No.?	[ ]	___	✓

ACTION:
If no for any of the above, note under Contract Problem/Non-Compliance Section of the "Data Review Narrative" and contact PO for corrected Form(s) from the laboratory.

A.1.7.2 After comparing values on Forms I-IX against the raw data, do any computation/ transcription errors exceed 10% of the reported values on the Forms for:

(a) all analytes analyzed by ICP-AES?	___	[✓]	___
(b) all analytes analyzed by ICP-MS?	_	[ ]	✓
(c) Mercury?	_	[ ]	✓
(d) Cyanide?	_	[ ]	✓

ACTION:
If yes, prepare Telephone Record Log and contact CLP PO/TOPO for the corrected data from the laboratory.

A.1.8 Raw Data

Data shall not be validated without the hard/electronic copies of the associated raw data for samples and QC samples.

A.1.8.1 Digestion/Distillation Log

Digestion Log for ICP-AES (Form XII)present?	[✓]	___	___
Digestion Log for ICP-MS (Form XII) present?	[ ]	___	✓
Digestion Log for mercury (Form XII) present?	[ ]	___	✓
Distillation Log for cyanide (Form XII) present?	[ ]	___	✓

Are pH values for metals and

	YES	NO	N/A
cyanide reported for each aqueous sample?	[ ]	✓	
Are percent solids calculations present for soils/sediments?	[✓]		
Are preparation dates present on the sample preparation logs/bench sheets?	[✓]		

NOTE:
Digestion/Distillation log must include weights, volumes, and dilutions used to obtain the reported results.

A.1.8.2 Is the analytical instrument real-time printouts present for:

ICP-AES?	[✓]		
ICP-MS?	[ ]	✓	
Mercury?	[ ]	✓	
Cyanide?	[ ]		✓

Are all laboratory bench sheets and instrument raw data printouts necessary to support all sample analyses and QC operations:

Legible?	[✓]		
Properly labeled?	[✓]		

Are all field samples, QC samples and field QC samples present on:

Digestion/Distillation log?	[✓]		
Instrument Printouts?	[✓]		

ACTION:
If no for any of the above questions in Section A.1.8.1 and Section A.1.8.2, write Telephone Record Log and contact TOPO/PO for re-submittal from the laboratory.

		YES	NO	N/A
A.1.9 **Technical Holding Times**: (Aqueous and soil samples) (Examine sample Traffic Reports and digestion/distillation logs to determine the holding time from the sample collection date to the sample preparation date.)				
A.1.9.1	Cyanide distillation(14 days)exceeded?	___	[ ]	[✓]
	Mercury analysis(28 days) exceeded?	___	[ ]	[✓]
	Other Metals analysis(180 days)exceeded?	___	[✓]	___

ACTION:
If yes, reject (R) and red-line non-detects and flag as estimated (J)results ≥ MDL even if sample(s) was preserved properly.

NOTE:
In addition to qualifying the data, a list of all samples and analytes which exceeded the holding times must be prepared. Report for each sample the number of days that were exceeded. (Subtract the sample collection date from the sample preparation date). Attach this list to the data review narrative.

A.1.9.2	Is pH of aqueous samples for:			
	Metals Analysis ≤ 2?	[✓]	___	___
	Cyanide Analysis ≥ 12?	[ ]	___	[✓]

ACTION:
If no for any of the above, flag non-detects as "R" and detects as "J".

A.1.9.3	Is the cooler temperature ≤ 10 C°?	[✓]	___	___

ACTION:
If cooler temperature is >10 ^{0}C , flag non-detects as "UJ" and detects as "J".

A.1.10 **Final Data Correctness - Form I**

A.1.10.1 Are Form I's for all samples

	YES	NO	N/A
present and complete?	[✓]	___	___

ACTION:
If no, prepare Telephone Record Log and contact CLP PO/TOPO for submittal from the laboratory.

A.1.10.2 Verify there are no calculation and transcription errors in the results reported on Form I's. Circle on each Form I all results that are incorrect.

Is the calculation error less than 10% of the correct result?	[✓]	__	__
Are results on Form I's reported in correct units (ug/L for aqueous and MG/KG for soils)?	[✓]	___	___
Are results on Form I'S reported by correct significant figures?	[___]	___	__
Are soil sample results on Form I's corrected for percent solids?	[✓]	___	___
Are all "less than MDL" values reported by the CRQLs and coded with "U"?	[✓]	___	___
Are values less than the CRQLs but greater than or equal to the MDLs flagged with "J"?	[✓]	___	___
Are appropriate contractual quality control and Method qualifiers used?	[✓]	___	___

ACTION:
If no for any of the above questions, prepare Telephone Record Log, and contact CLP PO/TOPO for corrected data.

A.1.10.3 Do EPA sample identification numbers and the corresponding laboratory sample identification numbers match on the Cover Page, Form I's and in the raw data? [___] ___ ✓

Was a brief physical description

	YES	NO	N/A
of the samples before and after digestion given on the Form I's?	[___]	✓	
Was any sample result outside the mercury/cyanide calibration range or the ICP-AES/ICP-MS linear range diluted and noted on the Form I?	[✓]		

ACTION:
If no for any of the above, note under the Contract-Problem/Non-Compliance Section of the Data Review Narrative.

A.1.11 **Initial Calibration**

A.1.11.1	Is a record of at least 2 point (A blank and a standard)calibration present for ICP-AES analysis?	[✓]		
	Is a record of at least 2 point (a blank and a standard)calibration present for ICP-MS analysis?	[___]		✓
	Is a record of at least 5 point calibration (a blank & 4 standards)present for Hg analysis?	[___]		✓
	Is a record of at least 4 point calibration (a blank & 4 standards)present for cyanide?	[___]		✓

ACTION:
If incomplete or no initial calibration was performed, reject (R) and red-line the associated data (detects & non-detects).

	Is one initial calibration standard at the CRQL level for cyanide and mercury?	[___]		✓

ACTION:
If no, write in the Contract Problem/ Non-Compliance Section of the Data Review Narrative.

A.1.11.2 Is the curve correlation coefficient $\geq$ 0.995 for:

		YES	NO	N/A
	Mercury Analysis?	[___]	___	✓
	Cyanide Analysis?	[___]	___	✓
	ICP-AES(more than 2 point Calib.)?	[___]	___	✓
	ICP-MS (more than 2 point calib.)?	[___]	___	✓

ACTION:
If no, qualify the associated sample results ≥ MDL as estimated "J" and non-detects as "UJ".

NOTE:
The correlation coefficient shall be calculated by the data validator using standard concentrations and the corresponding instrument response (e.g. absorbance, peak area, peak height, etc.).

A.1.12 **Initial and Continuing Calibration Verification- Form IIA**

A.1.12.1	Present and complete for every metal and cyanide?	[✓]	___	___
	Present and complete for ICP-AES and ICP-MS when both these methods were used for the same analyte?	[___]	___	✓

ACTION:
If no for any of the above, prepare a Telephone Record Log and contact PO/TOPO for re-submittal from the laboratory.

A.1.12.2	Was a Continuing Calibration Verification performed every 10 samples or every 2 hours whichever is more frequent?	[✓]	___	___

ACTION:
If no for any of the above, write in the Contract-Problem/Non-Compliance Section of the Data Review Narrative.

A.1.12.3	Was an ICV or a mid-range standard distilled and analyzed with each batch of cyanide samples?	[___]	___	✓

	YES	NO	N/A

ACTION:
If no for any of the above, write in the Contract-Problem/Non-Compliance Section of the Data Review Narrative and qualify results ≥ MDL as estimated (J).

A.1.12.2 Circle on each Form IIA all percent recoveries that are outside the contract windows.

Are ICV/CCVs within control limits for:

Metals - 90-110%R?	[✓]	___	___
Hg - 80-120%R?	[___]	___	✓
Cyanide - 85-115%R?	[___]	___	✓

ACTION:
If no, qualify all samples between a previous technically acceptable CCV standard and a subsequent technically acceptable CCV standard as follows as follows:

Qualify as estimated (J) all detects and non-detects, if the ICV/CCV %R is between 75-89%(65-79% for Hg; 70-84% for CN). Qualify only positive results(≥ MDL) as "J" if the ICV/CCV %R is between 111-125%(121-135% for Hg;116-130% for CN). Reject (R) and red-line only detects if the recovery is greater than 125% (135% for Hg; 130% for CN). Reject (R) and red-line all associated results (hits and non-detects)if the recovery is less than 75%(65% for Hg;70% for CN).

NOTE:
For ICV that does not fall within the acceptance limits, qualify all samples reported from the analytical run.

A.1.12.3 Was the distilled ICV or mid-range standard for cyanide within acceptance limits (85-115%)? [___] ___ ✓

ACTION:
If no, Qualify all cyanide results ≥ MDL as "J".

A.1.13 **CRQL Standard Analysis - Form IIB**

A.1.13.1 For each ICP-AES run, was a CRI

	YES	NO	N/A
(CRQL or MDL when MDL > CRQL) standard analyzed? **(Note:CRI is not required for Al, Ba, Ca, Fe, Mg, Na and K.)**	[✓]	___	___
For each ICP-MS run, was a CRI (CRQL or MDL when MDL > CRQL) standard analyzed for each mass/isotope used for the analysis?	[___]	___	✓ ___
For each mercury run, was a CRQL standard analyzed?	[___]	___	✓
For each cyanide run, was a CRQL standard analyzed?	[___]	___	✓

ACTION:
If no for any of the above, write this deficiency in the Contract Problems/ Non-Compliance Section of the Data Review Narrative, inform CLP PO and flag results in the affected ranges (detects <2xCRQL)as J and non-detects UJ.

The affected ranges are:
ICP-AES Analysis - *True Value ± CRQL
ICP-MS Analysis - *True Value ± CRQL
Mercury Analysis - *True Value ± CRQL
Cyanide Analysis - *True Value ± CRQL
*** True value of the CRQL Standard**

A.1.13.2 Was a CRQL standard analyzed after the ICV/ICB, before the final CCV/CCB and once every 20 analytical samples in the analytical run for each analysis? [___] ✓ ___

ACTION:
If no, write in the Contract Problem/ Non-Compliance Section of the "Data Review Narrative".

A.1.13.3 Circle on each Form IIB all percent recoveries that are outside the acceptance windows.

	YES	NO	N/A
Is the CRQL standard within control limits for:			
Metals(ICP-AES/ICP-MS)- 70 - 130%?	[✓]	___	___
Mercury- 70 - 130%?	[___]	___	✓
Cyanide - 70 - 130%?	[___]	___	✓

ACTION:
If no, flag detects <2xCRQL as "J" and non-detects as "UJ" if the CRQL standard recovery is between 50-69%. Flag(J) only detects <2xCRQL if the recovery is between 131% and ≤180%. If the recovery is less than 150%, reject(R) and red-line non-detects and detects < 2xCRQL, and flag (J) detects between 2xCRQL and ICV/CCV. Reject and red-line only detects <2xCRQL and flag (J)detects ≥ 2xCRQL but < ICV/CCV if the recovery is > 180%.

NOTE:
1. Qualify all field samples analyzed between a previous technically acceptable analysis of the CRQL standard and a subsequent acceptable analysis of the CRQL standard
2. Flag (J) or reject (R) only the final sample results on Form I's when **Sample raw data** are within the affected ranges and the CRQL standard is outside the acceptance windows.
3. The samples and the CRQL standard must be analyzed in the same analytical run.

A.1.14 Initial and Continuing Calibration Blanks - Form III

		YES	NO	N/A
A.1.14.1	Present and complete for all the instruments used for the metals and cyanide analyses?	[✓]	___	___
	Was an initial Calibration Blank analyzed after ICV?	[✓]	___	___
	Was a continuing Calibration Blank analyzed after every CCV and every 10 samples or every 2 hours, whichever is more frequent?	[✓]	___	___
	Were the ICB & CCB values ≥ MDL but < CRQL reported on Form III and flagged "J" by			

		YES	NO	N/A
	using MDLs from direct analysis(Preparation Method "NP1")? (Check Form III against the raw data)	[___]	___	___ ✓

ACTION:
If no, inform CLP PO/TOPO and make a note in the Contract-Problems/Non-Compliance Section of the "Data Review Narrative".

A.1.14.2 Circle with red pencil on each Form III all Calib. Blank values that are:

≥ MDL but ≤ CRQL

> CRQL

A.1.14.2.1	When MDL < CRQL, is any Calib. Blank value ≥ MDL but ≤ CRQL?	___	[___]	___ ✓

ACTION:
If yes, change sample results ≥ MDL but ≤ CRQL to the CRQL with a "U". Do not qualify non-detects.

A.1.14.2.2	When MDL < CRQL, is any Calib. Blank value > CRQL?	___	[___]	___ ✓

ACTION:
If yes, reject (R) and red line the associated sample results > CRQL but <ICB/CCB Blank Result. Flag as "J" detects > ICB/CCB blank value but < 10xICB/CCB value. Change the sample results ≥ MDL but ≤ the CRQL to CRQL with a "U".

A.1.14.2.3	Is any Calibration Blank value below the negative CRQL?	___	[___]	___ ✓

ACTION:
If yes, flag (J) as estimated all associated sample results ≥ CRQL but <10xCRQL.

NOTE:

1. For ICB that does not meet the technical QC Criteria, apply the action to all samples

	YES	NO	N/A

reported from the analytical run.
2. For CCBs that do not meet the technical QC criteria, apply the action to all samples analyzed between a previous technically acceptable analysis of CCB and a subsequent technically acceptable analysis of the CCB in the analytical run.,

A.1.15 **Preparation Blank - FORM III**

NOTE:The Preparation Blank for mercury is the same as the calibration blank.

A.1.15.1 Was one Preparation Blank prepared with and analyzed for:

Each Sample Delivery Group (SDG)?	[✓]	___	___
Each batch of the SDG samples digested/distilled?	[✓]	___	___
Each matrix type?	[✓]	___	___
All instruments used for metals and cyanide analyses?	[___]	___	✓

ACTION:
If no for any of the above, flag as estimated (J) all the associated positive data <10xMDL for which the Preparation Blank was not analyzed.

NOTE:
If only one blank was analyzed for more than 20 samples, then the first 20 samples analyzed are not estimated(J),but all additional samples must be qualified (J).

Al - 5.1 - Sx - 25.5
Be: 0.11 - Sx - .55
Ca: 42.4 Sx: 212
Fe: 11.2 Sx: 56
Mg: 11.2 Sx: 56
Mn: 0.064 Sx: 0.32

A.1.15.2 Circle with red pencil on each Form III all Prep. Blank values that are:

≥ MDL but ≤ CRQL, and

> CRQL

A.1.15.2.1 When MDL < CRQL, is any preparation blank value ≥ MDL but ≤ CRQL? ___ [___] ✓

ACTION:
If yes, change sample result ≥ MDL

	YES	NO	N/A

but ≤ CRQL to CRQL with a "U".

A.1.15.2.2 When the MDL ≤ CRQL, is any Preparation Blank value greater than its CRQL? ___ [___] ___

If yes, is the Prep. Blank value greater than the value of the associated Field Blank collected and analyzed with the SDG samples? ___ [___] ___

If yes, is the lowest concentration of that analyte in the associated samples less than 10 times the Preparation Blank value? ___ [___] ___

ACTION:
If yes, reject (R) and red-line all associated sample results greater than the CRQL but less than the Prep.Blank value. Flag as "J" detects > Prep. Blank value but <10xPrep.Blank. If the sample result ≥ MDL but ≤ CRQL, replace it with CRQL-U.

If the Prep. Blank value is less than the same analyte value in the Field Blank, do not qualify the sample results due to the Prep. Blank criteria.

NOTE:
Convert soil sample result to mg/Kg on wet weight basis to compare with the soil Prep. Blank result on Form III.

A.1.15.2.3 Is the Prep. Blank concentration below the negative CRQL? ___ [___] ___

ACTION:
If yes, flag (J) all associated sample results less than 10xCRQL. Qualify non-detects as estimated (UJ).

A.1.15.2.4 When the MDL is greater than the CRQL, is the preparation blank concentration on Form III greater than two times the MDL? ___ [___] ___

ACTION:

		YES	NO	N/A
	If yes, reject (R) and red-line all positive sample results with sample raw data less than 10 times the Preparation Blank value.			

A.1.16 **ICP-AES/ICP-MS Interference Check Sample (ICS)- Form IV**

NOTE: Not required for CN, Hg, Al, Ca, Fe and Mg.

		YES	NO	N/A
A.1.16.1	Present and complete?	[✓]		
	Was ICS analyzed at the beginning and end of each analytical run, and once for every 20 analytical samples?	[ ]	✓	
	Was ICS analyzed at the beginning of the ICP-MS analytical run?	[ ]		✓

ACTION:
If no, flag as estimated (J) all sample results.

A.1.16.2 **ICP-AES Method**

		YES	NO	N/A
A.1.16.2.1	**ICSA Solution:** For ICP-AES, are the ICSA "Found" analyte values within the control limits ± of CRQL of the true/established mean value?	[ ]	✓	
	If no for any of the above, is the sample concentration of Al, Ca, Fe, or Mg in the same units (ug/L or MG/KG) greater than or equal to its respective concentration in the ICSA Solution on Form IV?	[ ]	✓	

ACTION:
If yes, apply the following action to all samples analyzed between a previous technically acceptable analysis of the ICS and a subsequent technically acceptable analysis of the ICS in the analytical run:

Flag (J) as estimated only sample results ≥MDL

	YES	NO	N/A

for which the ICSA "Found" value is greater than (True value+CRQL). Do not qualify non-detects. If the ICSA "Found" value is less than (True value-CRQL), flag non-detects as "UJ" and detects as "J".

A.1.16.2.3 **ICSAB Solution**

For ICP-AES, are all analyte results in ICSAB within the control limits of 80-120 of the true/established mean value? [✓] ___ ___

If no for any of the above, is the sample concentration of Al, Ca, Fe, or Mg in the same units (ug/L or MG/KG) greater than or equal to its respective concentration in the ICSAB Solution on Form IV? [___] ___ ✓

ACTION:
If yes, apply the following action to all samples analyzed between a previous technically acceptable analysis of the ICS and a subsequent technically acceptable analysis of the ICS in the analytical run:

Flag (J) as estimated those associated sample results ≥ MDL for which the ICSAB analyte recovery is greater than 120% but ≤ 150%. If the ICSAB recovery falls within 50-79%, qualify sample results ≥ MDL as "J" and non-detects as "UJ". Reject (R) and red-line all sample results (detects & non-detects) for which the ICSAB analyte recovery is less than 50%. If the recovery is above 150%, reject (R) and red-line only positive results.

A.1.16.3 **ICP-MS Method**

A.1.16.3.1 **ICSA Solution:**

For ICP-MS, are the ICSA "Found" analyte values within the control limits of ±CRQL of the true/established mean value? [___] ___ ✓

ACTION:
If no, apply the following action to all samples reported from the analytical run:

Flag (J) as estimated only sample results ≥ MDL if the ICSA "Found" value is greater than (True value+CRQL). Do not qualify non-detects. If the ICSA "Found" value is less than (True value-CRQL), flag the associated sample detects as "J" and non-detects as "UJ".

		YES	NO	N/A
A.1.16.3.3	**ICSAB Solution** For ICP-MS, are all analyte results in ICSAB within the control limits of 80-120% of the true/established mean value, whichever is greater?	[___]	___	✓

ACTION:
If no, apply the following action to all samples reported from the analytical run:

Flag (J) as estimated those associated sample results ≥ MDL for which the ICSAB analyte recovery is greater than 120% but ≤ 150%. If the ICSAB recovery falls within 50-79% flag (J) as estimated the associated sample results ≥ MDL. Reject (R) and red-line those all sample detects and non-detects for which the ICSAB analyte recovery is less than 50%. If the recovery is above 150%, reject (R) and red-line only detects (≥ MDL).

A.1.17 **Spiked Sample Recovery: Pre-Digestion/Pre-Distillation)-Form V A**
Note: Not required for Ca, Mg, K, and Na (both matrices); Al and Fe (soil only)

A.1.17.1	Was Matrix Spike analysis performed:			
	For each matrix type?	[✓]	___	___
	For each SDG?	[✓]	___	___
	On one of the SDG samples?	[✓]	___	___
	For each concentration range (i.e., low, med., high)?	[___]	✓	___
	For each analytical Method (ICP-AES, ICP-MS, Hg, CN) used?	[✓]	___	___
	Was a spiked sample prepared and analyzed with the SDG samples?	[✓]	___	___

ACTION:
If no for any of the above, flag as estimated (J) all the positive data for which a spiked sample was not analyzed.

NOTE:
If more than one spiked sample were analyzed for one SDG, then qualify the associated data based on the worst spiked sample analysis.

		YES	NO	N/A
A.1.17.2	Was a field blank or PE sample used for the spiked sample analysis?	___	[✓]	___

ACTION:
If yes, flag (J) as estimated positive data of the associated SDG samples for which field blank or PE sample was used for the spiked sample analysis.

A.1.17.3	Circle on each Form VA all spike recoveries that are outside the control limits (75-125%) that have sample concentrations less than four times the added spike concentrations.			
	Are all recoveries within the control limits when sample concentrations are less than or equal to four times the spike concentrations?	[___]	✓	___

NOTE:
Disregard the out of control spike recoveries for analytes whose concentrations are greater than or equal to four times the spike added.

	Are results outside the control limits (75-125%) flagged with Lab Qualifier "N" on Form I's and Form VA?	[✓]	___	___

ACTION:
If no for any of the above, write in the Contract - Problems/Non-Compliance Section of the Data Review Narrative.

A.1.17.4 **Aqueous**

Are any spike recoveries:

(a) less than 30%?	___	*[✓]	✓
(b) between 30-74%?	*✓	[___]	✓
(c) between 126-150%?	*✓	[___]	✓
(d) greater than 150%?	___	*[✓]	✓

ACTION:
If the matrix spike recovery is less than 30%, reject (R) and red-line all associated aqueous data (detects & non-detects). If between 30-74%, qualify all associated aqueous data ≥ MDL as "J" and non-detects

*
MJW 9/23/11

	YES	NO	N/A

as "UJ". If between 126-150%, flag (J) all data ≥ MDL as "J". If greater than 150%, reject (R) and red-line all associated data ≥ MDL.

(**NOTE**:Replace "N" with "J", "R" as appropriate.)

A.1.17.5 **Soil/Sediment**

Are any spike recoveries:

(a) less than 10%?	___	[✓]	___
(b) between 10-74%?	✓	[___]	___
(c) between 126-200%?	✓	[___]	___
(d) greater than 200%?	___	[✓]	___

ACTION:
If yes for any of the above, proceed as follows:

If the matrix spike recovery is less than 10%, reject (R) and red-line all associated data (detects & non-detects); if between 10-74%, qualify all associated data ≥ MDL as "J" and non-detects as "UJ"; if between 126-200%, flag (J) all associated data ≥ MDL as "J" If greater than 200%, reject (R) and red-line all associated data ≥ MDL.
(**NOTE**:Replace "N" with "J" or "R" as appropriate.)

	MS	MSD
Antimony	73	79
	46	49
Calcium	51	79
	175	122
Lead		131
		149
Magnesium	144	
Zinc		136

A.1.18 **Lab Duplicates) - Form VI**

A.1.18.1 Was the lab duplicate analysis performed:

For each SDG?	[___]	✓	___
On one of the SDG samples?	[___]	✓	___
For each matrix type?	[___]	✓	___
For each concentration range (low or med.)?	[___]	✓	___
For each analytical Method (ICP-AES/ICP-MS, Hg, CN) Used?	[___]	✓	___
Was a lab duplicate prepared and analyzed with the SDG samples?	[___]	✓	___

		YES	NO	N/A
	ACTION: If no for any of the above, flag (J) as estimated all the SDG sample results (detects & non-detects) for which the lab duplicate analysis was not performed.			
	NOTE: If more than one lab duplicate sample were analyzed for an SDG, then qualify the associated samples based on the worst lab duplicate analysis.			
A.1.18.2	Was a Field Blank or PE sample used for the Lab Duplicate analysis?	___	[✓]	___
	ACTION: If yes, flag as estimated (J) all SDG sample results (hits & non-detects) for which Field Blank or PE sample was used for duplicate analysis.			
A.1.18.3	Circle on each Form VI all values that are: RPD > 20%, or Absolute Difference > CRQL			
	Are all values within control limits (RPD ≤ 20% or absolute difference ≤ ±CRQL)?	[___]	___	✓
	If no, are all results outside the control limits flagged with an "*" (Lab Qualifier)on Form VI and on all Form I's?	[___]	___	✓
	ACTION: If no, write in the Contract-Problems/ Non-Compliance Section of the Data Review Narrative.			
	NOTE: The laboratory is not required to report on Form VI the RPD when both values are non-detects.			
A.1.18.4	**Aqueous**			
A.1.18.4.1	When sample and duplicate values are both ≥ 5xCRQL (substitute MDL for CRQL when MDL > CRQL),			

	YES	NO	N/A
is any RPD > 20% but < 100%?	___	[___]	✓
is any RPD ≥ 100%?	___	[___]	___

ACTION:
If the RPD is > 20% but < 100%, flag (J) as estimated the associated sample data ≥ CRQL. If the RPD is ≥ 100%, reject (R) and red-line the associated sample data ≥ CRQL.

(**NOTE:**Replace "*" with "J" or "R" as appropriate.)

A.1.18.4.2 When the sample and/or duplicate value <5xCRQL (substitute MDL for CRQL when MDL >CRQL), is the absolute difference between sample and duplicate values:

> ± CRQL?	___	[___]	✓
> ± 2xCRQL?	___	[___]	✓

ACTION:
If the absolute difference is > CRQL, flag as estimated all the associated sample results ≥ MDL but < 5xCRQL as "J" and non-detects as "UJ". If the absolute difference is > 2xCRQL, reject (R) and red-line all the associated non-detects and detects ≥ MDL but < 5xCRQL.

NOTE:
1. Replace "*" with "J", "UJ" or "R" as appropriate.)
2. If one value is >CRQL and the other value is non-detect, calculate the absolute difference between the value > CRQL and the MDL, and use this difference to qualify sample results.

A.1.18.5 **Soil/Sediment**

A.1.18.5.1 When sample and duplicate values are both ≥ 5xCRQL (substitute MDL for CRQL when MDL > CRQL),

is any RPD ≥ 35% but < 120%?	___	[___]	✓
is any RPD ≥ 120%?	___	[___]	✓

ACTION:
If the RPD is ≥ 35% and < 120%, flag (J) as estimated the associated sample

	YES	NO	N/A

data ≥ CRQL. If the RPD is ≥ 120%, reject (R) and red-line the associated sample data ≥ CRQL.

A.1.18.5.2 When the sample and/or duplicate value <5xCRQL (substitute MDL for CRQL when MDL > CRQL), is the absolute difference between sample and duplicate:

> ± 2 x CRQL?	___	[___]	✓
> ± 4 x CRQL	___	[___]	___

ACTION:
If the absolute difference is > 2 x CRQL, flag all the associated sample results ≥ MDL but < 5xCRQL as "J" and non-detects as "UJ". If the absolute difference is > 4xCRQL, reject (R) and red-line all the associated non-detects and detects ≥ MDL but <5xCRQL.

NOTE:
1. Replace "*" with "J", "UJ" or "R" as appropriate.)
2. If one value is >CRQL and the other value is non-detect, calculate the absolute difference between the value > CRQL and the MDL, and use this difference to qualify sample results.

A.1.19 Field Duplicates

Aqueous Field Duplicates

A.1.19.1 Was an aqueous Field Duplicate pair collected and analyzed? (Check Sampling Trip Report)	[✓]	___	✓

MJV 9/28/11

ACTION:
If yes, prepare a Form (Appendix A.4) for each aqueous Field Duplicate pair. Report the sample and Field Duplicate results on Appendix A.4 from their respective Form I's. Calculate and report RPD on Appendix A.4 when sample and its Field Duplicate values are both > 5xCRQL. Calculate and report the absolute difference on Appendix A.4 when at least one value (sample or duplicate) is <5xCRQL. Evaluate the aqueous Field Duplicate analysis in accordance with the

	YES	NO	N/A

QC criteria stated in Sections A.1.19.2 and A.1.19.3.

NOTE:
1. Do not transfer "*" from Form I's to Appendix A.4.
2. Do not calculate RPD when both values are non-detects.
3. Substitute MDL for CRQL when MDL > CRQL.
4. If one value is >CRQL and the other value is non-detect, calculate the absolute difference between the value > CRQL and the MDL, and use this the criteria to qualify the results.

A.1.19.2 Circle all values on the Form (Appendix A.4) for Field Duplicates that have:

RPD $\geq$ 20% or

Difference $>$ $\pm$ CRQL

When sample and duplicate values are both $\geq$5xCRQL (substitute MDL for CRQL when MDL > CRQL),

is any RPD $\geq$ 20%?	___	[___]	___ ✓
is any RPD $\geq$ 100%?	___	[___]	___ ✓

ACTION:
If the RPD is >20% but < 100%, flag (J) only the associated sample and its Field Duplicate results $\geq$ CRQL. If the RPD is $\geq$ 100%, reject(R) and red-line only the associated sample and its Field Duplicate result $\geq$ CRQL.

A.1.19.3 When the sample and/or duplicate value(s) <5xCRQL (substitute MDL for CRQL when MDL >CRQL), is the absolute difference between sample and duplicate:

$>$ $\pm$ CRQL?	___	[___]	___ ✓
$>$ $\pm$ 2 x CRQL?	___	[___]	___ ✓

ACTION:
If the absolute difference is > CRQL, flag detects $\geq$ MDL but < 5xCRQL as "J" and non-detects as "UJ". If the difference is > 2xCRQL, reject (R) and red-line non-detects

		YES	NO	N/A
	and results ≥ MDL but <5xCRQL of the sample and its Field Duplicate.			

Soil/Sediment Field Duplicates

A.1.19.4	Was a soil field duplicate pair collected and analyzed? (Check Sampling Trip Report)	[✓]	___	___

ACTION:
If yes, for each soil Field Duplicate pair proceed as follows:

Prepare Appendix A.4 for each Field Duplicate pair. Report on Appendix A.4 all sample and its Field Duplicate results in MG/KG from their respective Form I's. Calculate and report RPD when sample and its duplicate values are both greater than 5xCRQL. Calculate and report the absolute difference when at least one value (sample or duplicate)is < 5xCRQL. Evaluate the Field Duplicate analysis in accordance with the QC Criteria stated in Sections A.1.19.5 and A.1.19.6.

NOTE:
1. Do not transfer "*" from Form I's to Appendix A.4.
2. Do not calculate RPD when both values are non-detects.
3. Substitute MDL for CRQL when MDL > CRQL.
4. If one value is >CRQL and the other value is non-detect, calculate the absolute difference between the value > CRQL and the MDL, and apply the criteria to qualify the results.

A.1.19.5	Circle on each Appendix A.4 all values that have: RPD ≥ 35%, or Difference > ± 2xCRQL When sample and duplicate values are both ≥ 5xCRQL (substitute MDL for CRQL when MDL > CRQL),			
	is any RPD ≥ 35% but < 120%?	✓	[___]	___
	is any RPD ≥ 120%?	✓	[___]	___

ACTION:
If the RPD is ≥ 35% but < 120%,

		YES	NO	N/A
	flag only the associated sample and its Field Duplicate results ≥ CRQL as "J". If the RPD is ≥ 120%, reject (R) and red-line only the sample and its Field Duplicate results ≥ CRQL.			
A.1.19.6	When the sample and/or duplicate value(s) <5xCRQL (substitute MDL for CRQL when MDL > CRQL), is the absolute difference between sample and Field Duplicate:			
	> ± 2 x CRQL?	___	[✓]	___
	> ± 4 x CRQL?	___	[✓]	___
	ACTION: If the absolute difference is > 2xCRQL, flag Sample and its Field Duplicate resuts ≥ MDL but <5xCRQL as "J" and non-detects as "UJ". If the difference is >4xCRQL, reject(R) and red-line non-detects and detects ≥ MDL but <5xCRQL of the sample and its Field Duplicate.			
A.1.20	**Laboratory Control Sample (LCS)- Form VII**			
A.1.20.1	Was one LCS prepared and analyzed for:			
	Each SDG?	[✓]	___	___
	Each matrix type?	[✓]	___	___
	Each batch samples digested/distilled?	[✓]	___	___
	For each Method(ICP-AES,ICP-MS,Hg,CN) used?	[✓]	___	___
	Was an LCS prepared and analyzed with the samples?	[✓]	___	___
	ACTION: If no for any of the above, prepare Telephone Record Log and contact CLP PO or TOPO for submittal of the LCS results. Flag (J) as estimated all the data for which an LCS was not analyzed.			
	NOTE: If only one LCS was analyzed for			

	YES	NO	N/A

more than 20 samples, then the first 20 samples analyzed are not flagged(J), but all additional samples must be qualified (J).

A.1.20.2 **Aqueous LCS**

Circle on each Form VII the LCS percent recoveries outside control limits 80-120%.

NOTE: 1.Use digested ICV as LCS for aqueous mercury
2.Use distilled ICV as LCS for aqueous cyanide

Is any LCS recovery:

Less than 50%?	___	[___]	___
Between 50% and 79%?	___	[___]	___
Between 121% and 150%?	___	[___]	___
Greater than 150%?	___	[___]	___

ACTION:
If the LCS recovery is less than 50%, reject (R) and red-line all associated sample data (detects & non-detects); for a recovery between 50-79%, flag detects as "J" all non-detects as "UJ". if the LCS recovery is between 121-150%, flag only detects as "J". if the recovery is greater than 150%, reject (R) and red-line all detects.

A.1.20.3 **Solid LCS**

If an analyte's MDL is equal to or greater than the true value of LCS, disregard the "Action" below for that analyte even though the LCS is out of control limits.

Is the LCS "Found" value greater than the Upper Control Limit reported on Form VII?	___	[✓]	___

ACTION:

		YES	NO	N/A
	If yes, flag (J) all the associated detects ≥ MDL as estimated (J).			
	Is the LCS "Found" value lower than the Lower Control Limit reported on Form VII?	___	[✓]	___
	ACTION: If yes, flag detects as "J" and non-dectes as "UJ".			
A.1.21	**ICP-AES/ICP-MS Serial Dilution - Form VIII** **NOTE:** Serial dilution analysis is required only when the initial concentration is equal to or greater than 50 x MDL.			
A.1.21.1	Was a Serial Dilution analysis performed:			
	For each SDG?	[✓]	___	___
	On one of the SDG samples?	[✓]	___	___
	For each matrix type?	[✓]	___	___
	For each concentration range (low or med.)?	[✓]	___	___
	Was a Serial Dilution sample analyzed with the SDG samples?	[✓]	___	___
	ACTION: If no for any of the above, flag as estimated (J) detects ≥ MDL of all the SDG samples for which the ICP Serial Dilution Analysis was not performed.			
A.1.21.2	Was a Field Blank or PE sample used for the Serial Dilution Analysis?	___	[✓]	___
	ACTION: If yes, flag as estimated (J) detects ≥ MDL of all the SDG samples			
A.1.21.3	Circle on Form VIII the Percent Differences (%D) between sample results and its dilution results that are outside the control limits ± 10%			

		YES	NO	N/A
	when initial concentrations ≥ 50 x MDLs.			
	Are results outside the control limits flagged with an "E"(Lab Qualifier) on Form VIII and all Form I's?	[✓]	___	___
	ACTION: If no, write in the Contract-Problem/ Non-Compliance Section of the Data Review Narrative.			
A.1.21.4	Are any %D values:			
	> 10%?	✓	[___]	___
	≥ 100%?	✓	[___]	___
	ACTION: If the Percent Difference (%D) is greater than 10%, flag (J) as estimated all associated samples whose **raw data** ≥ MDL; if the %D is ≥ 100%, reject (R) and red-line all associated samples with **raw data** ≥ MDL. (**NOTE:**Replace "E" with "J" or "R" as appropriate.)	Iron - 10.1% Thallium - 100%		
A.1.22	**Total/Dissolved or Inorganic/Total Analytes**			
A.1.22.1	Were any analyses performed for dissolved as well as total analytes on the same sample(s)?	___	[✓]	___
	Were any analyses performed for inorganic as well as total analytes on the same sample(s)?	___	[✓]	___
	ACTION: If yes, prepare a Form (Appendix A.5) to compare the differences between dissolved (or inorganic)and total analyte concentrations. Compute each difference on Appendix A.5 as a percent of the total analyte only when both of the following conditions are fulfilled: (1) The dissolved(or inorganic)concentration is greater than total concentration, and (2) greater than or equal to 5xMDL.			
A.1.22.2	Is any dissolved (or inorganic) concentration greater than its total concentration by more than 20%?	___	[___]	✓ ___

		YES	NO	N/A
A.1.22.3	Is any dissolved(or inorganic) concentration greater than its total concentration by more than 50%?	___	[___]	✓

ACTION:
If the percent difference is greater than 20%, flag (J) both dissolved/inorganic and total concentrations as estimated. If the difference is more than 50%, reject (R) and red-line both the values.

A.1.23 **Field Blank - Form I**
NOTE: Designate "Field Blank" as such on Form I

A.1.23.1	Was a Field/Rinsate Bank collected and analyzed with the SDG samples?	[___]	✓	___
	If yes, is any Field/Rinsate Blank absolute value of an analyte on Form I greater than its CRQL(or 2xMDL when MDL>CRQL)?	___	[___]	✓
	If yes, circle the Field Blank value on Form I that is greater than the CRQL, (or 2 x MDL when MDL > CRQL).			
	Is any Field Blank value greater than CRQL also greater than the Preparation Blank value?	___	[___]	✓
	If yes, is the Field Blank value (> CRQL and > the prep. blank value) already rejected due to other QC criteria?	[___]	___	✓

ACTION:
If the Field Blank value was not rejected, reject all associated sample data (except the Field Blank results)greater than the CRQL but less than the Field Blank value. Reject on Form I's the soil sample results whose raw values in ug/L in the instrument printout are greater than the CRQL but less than the Field Blank value in ug/L. Flag as "J" detects between the Field Blank value and 10xField Blank value. If the sample result $\geq$ MDL but $\leq$ CRQL, replace it with CRQL-U.

If the Field Blank value is less than the

		YES	NO	N/A
	Prep.Blank value, do not qualify the sample results due to the Field Blank criteria.			

NOTE:
1. Field Blank result previously rejected due to other criteria cannot be used to qualify field samples.
2. Do not use Rinsate Blank associated with soils to qualify water samples and vice versa.

A.1.24 **Verification of Instrumental Parameters - Form IX, XA, XB, XI**

A.1.24.1 Is verification report present for:

Method Detection Limits (Form IX-Annually)?	[✓]	___	___
ICP-AES Interelement Correction Factors (Form XA & XB -Quarterly)?	[✓]	___	___
ICP-AES & ICP-MS Linear Ranges (Form XI-Quarterly)?	[✓]	___	___

ACTION:
If no, contact CLP PO/TOPO for submittal from the laboratory.

A.1.24.2 **Method Detection Limits - Form IX**

A.1.24.2.1 Are MDLs present on Form IX for:

All the analytes?	[✓]	___	___
All the instruments used?	[✓]	___	___
Digested and undigested samples and Calib.Blanks?	[✓]	___	___
ICP-AES and ICP-MS when both instruments are used for the same analyte?	[___]	___	✓

ACTION:
If no for any of the above, prepare Telephone Record Log and contact CLP PO/TOPO for submittal of the MDLs from the laboratory. Report to CLP PO and write in the Contract Problems/ Non-Compliance Section of the Data Review Narrative if the MDL concentration is not less than ½ CRQL.

		YES	NO	N/A
A.1.24.2.2	Is MDL greater than the CRQL for any analyte?	___	[✓]	___
	If yes, is the analyte concentration on Form I greater than 5 x MDL for the sample analyzed on the instrument whose MDL exceeds CRQL?	[___]	___	✓
	ACTION: If no, flag as estimated (J) all values less than five times MDL for the analyte whose MDL exceeds the CRQL.			
A.1.24.3	**Linear Ranges - Form XI**			
A.1.24.3.1	Was any sample result higher than the high linear range for ICP-AES or ICP-MS?	___	[✓]	___
	Was any sample result higher than the highest calibration standard for mercury or cyanide?	___	[___]	✓
	If yes for any of the above, was the sample diluted to obtain the result reported on Form I?	[___]	___	✓
	ACTION: If no, flag (J) as estimated the affected detects (≥ MDL) reported on Form I.			
A.1.25	**ICP-MS Tune Analysis - Form XIV**			
A.1.25.1	Was the ICP-MS instrument tuned prior to calibration?	[___]	___	✓
	ACTION: If no, reject (R) and red-line all sample data for which tuning was not performed.			
A.1.25.2	Was the tuning solution analyzed or scanned at least five times consecutively?	[___]	___	✓
	Were all the required isotopes spanning the analytical range present in the tuning solution?	[___]	___	✓
	Was the mass resolution within			

	YES	NO	N/A
0.1 amu for each isotope in the tuning solution?	[___]	___	✓
Was %RSD less than 5% for each isotope of each analyte in the tuning solution?	[___]	___	✓

ACTION:
If no for any of the above, qualify all results ≥ MDL associated with that Tune as estimated "J", and all non-detects associated with that Tune as "UJ".

A.1.26 **ICP-MS Internal Standards - Form XV**

A.1.26.1 Were the Internal Standards added to all the samples and all QC samples and calibration standards (except the Tuning Solution)?	[___]	___	✓
Were all the target analyte masses bracketed by the masses of the five internal standards?	[___]	___	✓

ACTION:
If none of the Internal Standards was added to the samples, reject (R) and red-line all the associated sample data (detects & non-detects). If internal standards were used but did not cover all the analyte masses, reject (R) and red-line only the analyte results not bracketed by the internal standard masses.

A.1.26.2 Was the intensity of an Internal Standard in each sample within 60-125% of the intensity of the same Internal Standard in the calibration blank?	[___]	___	✓
If no, was the original sample diluted two fold, Internal Standard added and the sample re-analyzed?	[___]	___	✓
Was the %RI for the two fold diluted sample within the acceptance limits (60-125%)?	[___]	___	✓

ACTION:
If no for any of the above, flag detects as "J" and non-detects "UJ" of all the analytes with atomic masses between the

atomic mass of the internal standard lighter

than the affected internal standard, and the atomic mass of the internal standard heavier than the affected internal standard.

A.1.27 **Percent Solids of Sediments**

A.1.27.1 Are percent solids in sediment(s):

< 50%? ___ [✓] ___

ACTION:
If yes, qualify as estimated (J) all detects and non-detects of a sample that has percent solids less than 50%(i.e.,moisture content greater than 50%).

NOTE:
Flag(J) only the sample results that were not previously flagged due to other QC criteria.

Inorganic Data Review Narrative

Case# _____ **Site:** _____ **Matrix: Soil** ____

SDG# _____ **Lab:** _____ **Water** ____

Sampling Team: _____ **Reviewer:** _____ **Other** _____

A.2.1 **Data Validation Flags:**
The following flags may have been applied in red by the data validator and must be considered by the data user.

J - This flag indicates the result qualified as **estimated**

R and Red-Line - A red-line drawn through a sample result indicates **unusable** value. The red-lined data are known to contain significant errors based on documented information and must not be used by the data user.

U - This data validation qualifier is applied to sample results ≥ MDL when associated blank is contaminated

Fully Usable Data - The results that do not carry "J" or "red-line" are fully **usable**.

A.2.2 **Laboratory Qualifiers:**
The CLP laboratory applies a contractual qualifier on all

Form I'S and the QC Form when a QC analysis is outside the control limits. These qualifiers are not applied on the Lotus or XLS spreadsheets. These qualifiers and their meanings are as follows:

N: This qualifier indicates the lack of accuracy in the reported result, and is applied when matrix spiked sample recovery is outside the control limits.

E: This qualifier indicates the the presence of interference, and is applied when the ICP serial dilution is outside the control limits.

*: This qualifier indicate the lack of precision , and is pplied on Fom I'S and Form VI when the Lab Duplicate analysis is outside the control limits.

U: This is a concentration qualifier that laboratory applies to a non-detected result which is essentially less than the Method Detection Limit(MDL). A non-detected result of an analyte is indicated by the Contract Required Quantitation Limit (CRQL) of that analyte suffixed with "U".

J: This is also a concentration qualifier that laboratory applies to a positive result below the CRQL.

NOTE: The laboratory qualifiers are crossed out and replaced with the appropriate data validation qualifiers (J, R or U) by the data validator.

A.2.3.1 **Data Case Description**:

A.2.3.2 **CSF Audit**:

A.2.3.3 **Technical Review:**

A.2.3.4 **Contract-Problem/Non-Compliance:**

HWSS Reviewer: _____ Date:_____
Signature

Contractor Reviewer: _____ Date:_____
Signature

Verified by: _____ Date:_____
Signature

Contract Laboratory Program
REGION II/LABORATORY COMMUNICATION SYSTEM

Telephone Record Log

CASE #
SDG #

Date of Call: _____

ESAT Reviewer/Date: _____

Type of Analysis: ___Inorganic_____

Laboratory Name: _____

Lab Contact: _____

Call Initiated By: ___Laboratory _X_Region II

Inquiry made in reference to data for the following sample number(s):

Summary of Questions/Issues Discussed:

Summary of Resolution:

Signature Date: _____

FIELD DUPLICATES

Sample No. **Field Duplicate No.** **Sample Matrix:**

Lab Code: **Case No. :** **SDG No.:**

% Solids Sample: **% Solids Duplicate:**

Concentration Units (ug/l or mg/kg dry weight):

	Action Limit	Sample Concentration	C	Duplicate Concentration	C	RPD	Difference	Q	M
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead									
Magnesium									
Manganese									

					YES	NO	N/A		
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vauadium									
Zinc									
Cyanide									

Total/Dissolved Concentrations

Lab Code **Case No.** **SDG No.** **Sample Matrix: Water**

Concentration: ug/L

ANALYTE	TOTAL	C	DISSOLVED	C	DIFFERENCE	Q	M
ALUMINUM							
ARSENIC							
BARIUM							
BERYLLIUM							
CADMIUM							
CALCIUM							
CHROMIUM							
COBALT							
COPPER							
IRON							
LEAD							
MAGNESIUM							
MAGNESE							
MERCURY							
NICKEL							

POTASSIUM							
SELENIUM							
SILVER							
SODIUM							
THALLIUM							
VANADIUM							
ZINC							
CYANIDE							

CONTRACT LABORATORY PROGRAM
CLP RAS RE-ANALYSIS REQUEST/APPROVAL RECORD

SECTION A (TO BE COMPLETED BY REGIONAL SENDING OFFICIAL)

Initiated By:

Name, Affiliation, Phone Number

_____

Case Number: _____
- OLM
- OLC
- ILM

Details of Re-Analysis Request:

- Laboratory Name /Contract Number: _____
- Affected Sample Number(s) and Fraction(s): _____
- Reason for Re-Analysis: _____
- Contract Statement of Work Citation*: _____
  _____
- Comments: _____
- _____
  * PROVIDE SOW CITATION THAT SUPPORTS THIS REQUEST

RE-ANALYSIS Billable ( ) Not Billable ( )

- Approved By: _____ Date: _____
  Authorized Regional Sending CLP PO Signature

SECTION B (TO BE COMPLETED BY SMO)

Name of SMO Contact _____ Date: _____

Date of Laboratory Notification (Verbal): _____

Re-analysis Start Date: _____ Data Due Date: _____

Return completed form to:
Sample Management Office (SMO)

Distribtion: (1) CLP PO Copy (2) Regional Sending Official Copy (3) SMO File Copy (4) Laboratory Copy
Final 9/3/99

CLP DATA ASSESSMENT SUMMARY FORM (INORGANICS)

Type of Review: _____ Date:_____ Case# _____SDG#___

Site: _____ Lab Name: _____

Reviewer's Initials:_____ Number of Samples:_____

Analytes Rejected (R) Due to Exceeding Review Criteria

	Holding Time	CRQL Std	Blanks	ICS	Spike Recovery	Dup. Lab.	Dup. Field	LCS	ICP Serial Dilution	% Solids	Internal Std. ICP-MS	Tuning ICP-MS	Total Analytes	Rejection %
ICP-AES														
ICP-MS														
Mercury														
Cyanide														
Total														

Analytes Flagged (J) as Estimated Due to Exceeding Review Criteria

	Holding Time	CRQL Std	Blanks	ICS	Spike Recovery	Dup. Lab.	Dup. Field	LCS	ICP Serial Dilution	% Solids	Internal Std. ICP-MS	Tuning ICP-MS	Total Analytes	Rejection %
ICP-AES														
ICP-MS														
Mercury														
Cyanide														
Total														

Watermark Environmental

Client Sample ID: AI5-102(0-2)

TOTAL Metals

Lot-Sample #...: C1E120405-024 Matrix.....: SOLID
Date Sampled...: 05/10/11 Date Received..: 05/11/11
% Moisture.....: 10

PARAMETER	RESULT	LOQ	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 1133297						
Aluminum	2160 B	20.8	mg/kg	SW846 6010C	05/13-06/09/11	MH91H1AL
		Dilution Factor: 0.93		Analysis Time..: 03:01	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1133175	DL.....: 4.3	
Antimony	0.42 U	1.0	mg/kg	SW846 6010C	05/13-06/09/11	MH91H1AM
		Dilution Factor: 0.93		Analysis Time..: 03:01	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1133175	DL.....: 0.17	
Arsenic	2.9 ✓	1.0	mg/kg	SW846 6010C	05/13-06/09/11	MH91H1AN
		Dilution Factor: 0.93		Analysis Time..: 03:01	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1133175	DL.....: 0.23	
Barium	49.8	20.8	mg/kg	SW846 6010C	05/13-06/09/11	MH91H1AP
		Dilution Factor: 0.93		Analysis Time..: 03:01	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1133175	DL.....: 0.24	
Beryllium	0.22 J	0.42	mg/kg	SW846 6010C	05/13-06/09/11	MH91H1AQ
		Dilution Factor: 0.93		Analysis Time..: 20:00	Analyst ID.....: 22952	
		Instrument ID..: 6500ICP		MS Run #.....: 1133175	DL.....: 0.076	
Cadmium	0.072 J	0.52	mg/kg	SW846 6010C	05/13-06/09/11	MH91H1AR
		Dilution Factor: 0.93		Analysis Time..: 20:00	Analyst ID.....: 22952	
		Instrument ID..: 6500ICP		MS Run #.....: 1133175	DL.....: 0.026	
Calcium	10600 B	519	mg/kg	SW846 6010C	05/13-06/09/11	MH91H1AT
		Dilution Factor: 0.93		Analysis Time..: 03:01	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1133175	DL.....: 1.0	
Chromium	7.1 ✓	0.52	mg/kg	SW846 6010C	05/13-06/09/11	MH91H1AU
		Dilution Factor: 0.93		Analysis Time..: 03:01	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1133175	DL.....: 0.088	
Cobalt	2.7 J	5.2	mg/kg	SW846 6010C	05/13-06/09/11	MH91H1AV
		Dilution Factor: 0.93		Analysis Time..: 03:01	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1133175	DL.....: 0.092	

(Continued on next page)

MJW 9/23/11

$[As] = 27.79 \frac{ug}{L} \times \frac{0.1\,L}{1.07g} \times \frac{1}{0.9} = 2.885 \frac{ug}{g}$

Analysis Report 06/09/11 03:07:53 AM page 1

Method: METTRACE Sample Name: MH91H Operator: RJG
Run Time: 06/09/11 03:01:53
Comment: TESTAMERICA PITTSBURGH ICP METALS ANALYSIS-INST TRACEICP
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00020	20.768	.02779	.02097	.48005	.00362	102.08
SDev	.00030	.399	.00059	.00076	.00892	.00014	1.81
%RSD	153.67	1.9213	2.1200	3.6068	1.8576	3.7652	1.7687
#1	.00051	21.228	.02848	.02149	.49034	.00346	104.16
#2	-.00010	20.556	.02746	.02010	.47531	.00370	101.09
#3	.00018	20.519	.02745	.02132	.47451	.00370	100.99
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	2.0000	250.00	1.0000	4.0000	4.0000	4.0000	250.00
Low	-.00500	-.20000	-.01000	-.20000	-.20000	-.00400	-5.0000

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00102	.02594	.06885	.16674	38.594	3.1369	7.3228
SDev	.00009	.00065	.00143	.00315	.700	.0805	.1256
%RSD	9.2945	2.5004	2.0758	1.8896	1.8137	2.5648	1.7152
#1	.00105	.02658	.07048	.17036	39.402	3.2298	7.4678
#2	.00091	.02528	.06784	.16518	38.207	3.0912	7.2509
#3	.00109	.02596	.06822	.16467	38.173	3.0897	7.2496
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	1.0000	4.0000	4.0000	4.0000	250.00	250.00	250.00
Low	-.00500	-.05000	-.00500	-.02500	-.10000	-5.0000	-5.0000

Elem	MN	MO	NA	NI	PB/1	PB/2	PB
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.46213	.01271	4.1548	.08084	.20224	.20472	.20389
SDev	.00834	.00090	.0556	.00129	.00578	.00379	.00444
%RSD	1.8056	7.1193	1.3377	1.5926	2.8596	1.8531	2.1791
#1	.47176	.01235	4.0930	.08231	.20890	.20900	.20897
#2	.45743	.01373	4.1706	.07993	.19924	.20338	.20200
#3	.45719	.01203	4.2008	.08027	.19857	.20177	.20070
Errors	LC Pass	LC Pass	LC Pass	LC Pass	NOCHECK	NOCHECK	LC Pass
High	10.000	4.0000	250.00	4.0000			1.0000
Low	-.01500	-.04000	-5.0000	-.04000			-.00300

Elem	SB/1	SB/2	SB	SE/1	SE/2	SE	SI
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00253	.00134	.00174	.00202	.00338	.00293	H10.036
SDev	.00160	.00388	.00218	.00185	.00195	.00083	.189
%RSD	62.975	290.17	125.89	91.436	57.577	28.355	1.8794
#1	.00084	.00568	.00407	.00416	.00153	.00241	H10.254
#2	.00276	-.00177	-.00026	.00083	.00542	.00389	H9.9289

$[Cr] = 68.85 \frac{ug}{L} \cdot \frac{0.1\,L}{1.07g} \cdot \frac{1}{0.9} = 7.149 \frac{mg}{kg}$

MJW 9/23/11

Watermark Environmental

Client Sample ID: AI5-103(2-6)

TOTAL Metals

Lot-Sample #...: C1E120405-029
Date Sampled...: 05/10/11 Date Received..: 05/11/11
% Moisture.....: 14
Matrix.....: SOLID

PARAMETER	RESULT	LOQ	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 1133297						
Aluminum	6530 B	22.3	mg/kg	SW846 6010C	05/13-06/09/11	MH91P1AP
		Dilution Factor: 0.96		Analysis Time..: 03:32	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1133175	DL.....: 4.7	
Antimony	0.45 U	1.1	mg/kg	SW846 6010C	05/13-06/09/11	MH91P1AQ
		Dilution Factor: 0.96		Analysis Time..: 03:32	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1133175	DL.....: 0.18	
Arsenic	2.0	1.1	mg/kg	SW846 6010C	05/13-06/09/11	MH91P1AR
		Dilution Factor: 0.96		Analysis Time..: 03:32	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1133175	DL.....: 0.25	
Barium	32.2 ✓	22.3	mg/kg	SW846 6010C	05/13-06/09/11	MH91P1AT
		Dilution Factor: 0.96		Analysis Time..: 03:32	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1133175	DL.....: 0.26	
Beryllium	0.35 J	0.45	mg/kg	SW846 6010C	05/13-06/09/11	MH91P1AU
		Dilution Factor: 0.96		Analysis Time..: 20:35	Analyst ID.....: 22952	
		Instrument ID..: 6500ICP		MS Run #.....: 1133175	DL.....: 0.082	
Cadmium	0.089 U	0.56	mg/kg	SW846 6010C	05/13-06/09/11	MH91P1AV
		Dilution Factor: 0.96		Analysis Time..: 20:35	Analyst ID.....: 22952	
		Instrument ID..: 6500ICP		MS Run #.....: 1133175	DL.....: 0.028	
Calcium	980 B	557	mg/kg	SW846 6010C	05/13-06/09/11	MH91P1AW
		Dilution Factor: 0.96		Analysis Time..: 03:32	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1133175	DL.....: 1.1	
Chromium	14.1	0.56	mg/kg	SW846 6010C	05/13-06/09/11	MH91P1AX
		Dilution Factor: 0.96		Analysis Time..: 03:32	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1133175	DL.....: 0.095	
Cobalt	4.4 J	5.6	mg/kg	SW846 6010C	05/13-06/09/11	MH91P1A0
		Dilution Factor: 0.96		Analysis Time..: 03:32	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1133175	DL.....: 0.099	

(Continued on next page)

MJW 9/27/11

$[Ba] = 288.98 \frac{mg}{L} \cdot \frac{0.1\,L}{1.04\,g} \cdot \frac{1}{0.86} = 32.31$

Analysis Report 06/09/11 03:38:12 AM page 1

Method: METTRACE Sample Name: MH91P Operator: RJG
Run Time: 06/09/11 03:32:12
Comment: TESTAMERICA PITTSBURGH ICP METALS ANALYSIS-INST TRACEICP
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.00057	58.622	.01807	.00920	.28898	.00516	8.8007
SDev	.00076	.060	.00075	.00050	.00050	.00009	.0214
%RSD	134.15	.10265	4.1495	5.4739	.17362	1.6653	.24312
#1	-.00106	58.691	.01822	.00909	.28939	.00507	8.7760
#2	.00031	58.596	.01873	.00975	.28914	.00517	8.8142
#3	-.00096	58.579	.01726	.00876	.28842	.00524	8.8118
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	2.0000	250.00	1.0000	4.0000	4.0000	4.0000	250.00
Low	-.00500	-.20000	-.01000	-.20000	-.20000	-.00400	-5.0000

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00164	.03948	.12662	.25838	111.02	6.3858	16.915
SDev	.00012	.00034	.00069	.00055	.19	.0164	.045
%RSD	7.5231	.86518	.54141	.21078	.17106	.25718	.26311
#1	.00178	.03954	.12607	.25883	110.80	6.4046	16.864
#2	.00161	.03979	.12739	.25855	111.15	6.3784	16.948
#3	.00154	.03911	.12641	.25777	111.11	6.3744	16.933
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	1.0000	4.0000	4.0000	4.0000	250.00	250.00	250.00
Low	-.00500	-.05000	-.00500	-.02500	-.10000	-5.0000	-5.0000

Elem	MN	MO	NA	NI	PB/1	PB/2	PB
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.5854	.00227	.87174	.10108	.70052	.70441	.70312
SDev	.0031	.00104	.02728	.00088	.00711	.00122	.00194
%RSD	.19795	45.623	3.1291	.87395	1.0152	.17360	.27644
#1	1.5820	.00213	.85222	.10044	.69324	.70572	.70156
#2	1.5882	.00337	.86011	.10209	.70746	.70422	.70530
#3	1.5859	.00131	.90291	.10070	.70088	.70329	.70249
Errors	LC Pass	LC Pass	LC Pass	LC Pass	NOCHECK	NOCHECK	LC Pass
High	10.000	4.0000	250.00	4.0000			1.0000
Low	-.01500	-.04000	-5.0000	-.04000			-.00300

Elem	SB/1	SB/2	SB	SE/1	SE/2	SE	SI
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.00020	.00124	.00076	-.00076	-.00058	-.00064	1.9145
SDev	.00391	.00229	.00026	.00218	.00207	.00106	.0056
%RSD	1977.4	184.94	34.421	286.11	354.81	164.71	.29397
#1	.00319	-.00090	.00046	-.00320	.00137	-.00015	1.9126
#2	-.00447	.00366	.00095	-.00008	-.00274	-.00186	1.9208

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: C1E120405 **Matrix.....:** SOLID

PARAMETER	RESULT	LOQ	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: C1E130000-294 **Prep Batch #...:** 1133294						
Aluminum	**8.0 U**	**20.0**	**mg/kg**	**SW846 6010C**	**05/13-06/08/11**	**MJEFN1AE**
		Dilution Factor: 1				
		Analysis Time..: 21:53		Analyst ID.....: 022952	Instrument ID..: TRA	
Antimony	**0.40 U**	**1.0**	**mg/kg**	**SW846 6010C**	**05/13-06/08/11**	**MJEFN1AF**
		Dilution Factor: 1				
		Analysis Time..: 21:53		Analyst ID.....: 022952	Instrument ID..: TRA	
Arsenic	**0.60 U**	**1.0**	**mg/kg**	**SW846 6010C**	**05/13-06/08/11**	**MJEFN1AG**
		Dilution Factor: 1				
		Analysis Time..: 21:53		Analyst ID.....: 022952	Instrument ID..: TRA	
Barium	**0.50 U**	**20.0**	**mg/kg**	**SW846 6010C**	**05/13-06/08/11**	**MJEFN1AH**
		Dilution Factor: 1				
		Analysis Time..: 21:53		Analyst ID.....: 022952	Instrument ID..: TRA	
Beryllium	**0.11 J**	**0.40**	**mg/kg**	**SW846 6010C**	**05/13-06/08/11**	**MJEFN1AJ**
		Dilution Factor: 1				
		Analysis Time..: 21:53		Analyst ID.....: 022952	Instrument ID..: TRA	
Cadmium	**0.080 U**	**0.50**	**mg/kg**	**SW846 6010C**	**05/13-06/09/11**	**MJEFN1AK**
		Dilution Factor: 1				
		Analysis Time..: 15:48		Analyst ID.....: 22952	Instrument ID..: 650	
Calcium	**42.4 J**	**500**	**mg/kg**	**SW846 6010C**	**05/13-06/08/11**	**MJEFN1AL**
		Dilution Factor: 1				
		Analysis Time..: 21:53		Analyst ID.....: 022952	Instrument ID..: TRA	
Chromium	**0.30 U**	**0.50**	**mg/kg**	**SW846 6010C**	**05/13-06/08/11**	**MJEFN1AM**
		Dilution Factor: 1				
		Analysis Time..: 21:53		Analyst ID.....: 022952	Instrument ID..: TRA	
Cobalt	**0.30 U**	**5.0**	**mg/kg**	**SW846 6010C**	**05/13-06/08/11**	**MJEFN1AN**
		Dilution Factor: 1				
		Analysis Time..: 21:53		Analyst ID.....: 022952	Instrument ID..: TRA	
Copper	**0.70 U**	**2.5**	**mg/kg**	**SW846 6010C**	**05/13-06/08/11**	**MJEFN1AP**
		Dilution Factor: 1				
		Analysis Time..: 21:53		Analyst ID.....: 022952	Instrument ID..: TRA	
Iron	**11.2**	**10.0**	**mg/kg**	**SW846 6010C**	**05/13-06/09/11**	**MJEFN1AQ**
		Dilution Factor: 1				
		Analysis Time..: 15:48		Analyst ID.....: 22952	Instrument ID..: 650	

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METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: C1E120405 Matrix.....: SOLID

PARAMETER	RESULT	LOQ	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Lead	0.30 U	1.0	mg/kg	SW846 6010C	05/13-06/08/11	MJEFN1AR
		Dilution Factor: 1				
		Analysis Time..: 21:53		Analyst ID.....: 022952	Instrument ID..: TRA	
Magnesium	11.1 J	500	mg/kg	SW846 6010C	05/13-06/08/11	MJEFN1AT
		Dilution Factor: 1				
		Analysis Time..: 21:53		Analyst ID.....: 022952	Instrument ID..: TRA	
Manganese	0.058 J	1.5	mg/kg	SW846 6010C	05/13-06/08/11	MJEFN1AU
		Dilution Factor: 1				
		Analysis Time..: 21:53		Analyst ID.....: 022952	Instrument ID..: TRA	
Nickel	0.50 U	4.0	mg/kg	SW846 6010C	05/13-06/08/11	MJEFN1AV
		Dilution Factor: 1				
		Analysis Time..: 21:53		Analyst ID.....: 022952	Instrument ID..: TRA	
Potassium	150 U	500	mg/kg	SW846 6010C	05/13-06/08/11	MJEFN1AW
		Dilution Factor: 1				
		Analysis Time..: 21:53		Analyst ID.....: 022952	Instrument ID..: TRA	
Sodium	60.0 U	500	mg/kg	SW846 6010C	05/13-06/08/11	MJEFN1AX
		Dilution Factor: 1				
		Analysis Time..: 21:53		Analyst ID.....: 022952	Instrument ID..: TRA	
Silver	0.10 U	0.50	mg/kg	SW846 6010C	05/13-06/08/11	MJEFN1A0
		Dilution Factor: 1				
		Analysis Time..: 21:53		Analyst ID.....: 022952	Instrument ID..: TRA	
Selenium	0.70 U	1.0	mg/kg	SW846 6010C	05/13-06/08/11	MJEFN1A1
		Dilution Factor: 1				
		Analysis Time..: 21:53		Analyst ID.....: 022952	Instrument ID..: TRA	
Thallium	1.0 U	2.0	mg/kg	SW846 6010C	05/13-06/09/11	MJEFN1AA
		Dilution Factor: 1				
		Analysis Time..: 15:48		Analyst ID.....: 22952	Instrument ID..: 650	
Vanadium	0.50 U	5.0	mg/kg	SW846 6010C	05/13-06/08/11	MJEFN1AC
		Dilution Factor: 1				
		Analysis Time..: 21:53		Analyst ID.....: 022952	Instrument ID..: TRA	
Zinc	1.0 U	2.0	mg/kg	SW846 6010C	05/13-06/08/11	MJEFN1AD
		Dilution Factor: 1				
		Analysis Time..: 21:53		Analyst ID.....: 022952	Instrument ID..: TRA	

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METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: C1E120405 **Matrix.....:** SOLID

PARAMETER	RESULT	LOQ	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: C1E130000-297 **Prep Batch #...:** 1133297						
Aluminum	5.1 J	20.0	mg/kg	SW846 6010C	05/13-06/09/11	MJEF11AA
		Dilution Factor: 1				
		Analysis Time..: 01:30		Analyst ID.....: 022952	Instrument ID..: TRA	
Antimony	0.40 U	1.0	mg/kg	SW846 6010C	05/13-06/09/11	MJEF11AC
		Dilution Factor: 1				
		Analysis Time..: 01:30		Analyst ID.....: 022952	Instrument ID..: TRA	
Arsenic	0.60 U	1.0	mg/kg	SW846 6010C	05/13-06/09/11	MJEF11AD
		Dilution Factor: 1				
		Analysis Time..: 01:30		Analyst ID.....: 022952	Instrument ID..: TRA	
Barium	0.50 U	20.0	mg/kg	SW846 6010C	05/13-06/09/11	MJEF11AE
		Dilution Factor: 1				
		Analysis Time..: 01:30		Analyst ID.....: 022952	Instrument ID..: TRA	
Beryllium	0.15 U	0.40	mg/kg	SW846 6010C	05/13-06/09/11	MJEF11AF
		Dilution Factor: 1				
		Analysis Time..: 18:46		Analyst ID.....: 22952	Instrument ID..: 650	
Cadmium	0.080 U	0.50	mg/kg	SW846 6010C	05/13-06/09/11	MJEF11AG
		Dilution Factor: 1				
		Analysis Time..: 18:46		Analyst ID.....: 22952	Instrument ID..: 650	
Calcium	42.2 J	500	mg/kg	SW846 6010C	05/13-06/09/11	MJEF11AH
		Dilution Factor: 1				
		Analysis Time..: 01:30		Analyst ID.....: 022952	Instrument ID..: TRA	
Chromium	0.30 U	0.50	mg/kg	SW846 6010C	05/13-06/09/11	MJEF11AJ
		Dilution Factor: 1				
		Analysis Time..: 01:30		Analyst ID.....: 022952	Instrument ID..: TRA	
Cobalt	0.30 U	5.0	mg/kg	SW846 6010C	05/13-06/09/11	MJEF11AK
		Dilution Factor: 1				
		Analysis Time..: 01:30		Analyst ID.....: 022952	Instrument ID..: TRA	
Copper	0.70 U	2.5	mg/kg	SW846 6010C	05/13-06/09/11	MJEF11AL
		Dilution Factor: 1				
		Analysis Time..: 01:30		Analyst ID.....: 022952	Instrument ID..: TRA	
Iron	4.0 J	10.0	mg/kg	SW846 6010C	05/13-06/09/11	MJEF11AM
		Dilution Factor: 1				
		Analysis Time..: 18:46		Analyst ID.....: 22952	Instrument ID..: 650	

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METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: C1E120405 **Matrix.....:** SOLID

PARAMETER	RESULT	LOQ	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Lead	0.30 U	1.0	mg/kg	SW846 6010C	05/13-06/09/11	MJEF11AN
		Dilution Factor: 1				
		Analysis Time..: 01:30		Analyst ID.....: 022952	Instrument ID..: TRA	
Magnesium	11.2 J	500	mg/kg	SW846 6010C	05/13-06/09/11	MJEF11AP
		Dilution Factor: 1				
		Analysis Time..: 01:30		Analyst ID.....: 022952	Instrument ID..: TRA	
Manganese	0.064 J	1.5	mg/kg	SW846 6010C	05/13-06/09/11	MJEF11AQ
		Dilution Factor: 1				
		Analysis Time..: 01:30		Analyst ID.....: 022952	Instrument ID..: TRA	
Nickel	0.50 U	4.0	mg/kg	SW846 6010C	05/13-06/09/11	MJEF11AR
		Dilution Factor: 1				
		Analysis Time..: 01:30		Analyst ID.....: 022952	Instrument ID..: TRA	
Potassium	150 U	500	mg/kg	SW846 6010C	05/13-06/09/11	MJEF11AT
		Dilution Factor: 1				
		Analysis Time..: 01:30		Analyst ID.....: 022952	Instrument ID..: TRA	
Sodium	60.0 U	500	mg/kg	SW846 6010C	05/13-06/09/11	MJEF11AU
		Dilution Factor: 1				
		Analysis Time..: 01:30		Analyst ID.....: 022952	Instrument ID..: TRA	
Silver	0.10 U	0.50	mg/kg	SW846 6010C	05/13-06/09/11	MJEF11AV
		Dilution Factor: 1				
		Analysis Time..: 01:30		Analyst ID.....: 022952	Instrument ID..: TRA	
Selenium	0.70 U	1.0	mg/kg	SW846 6010C	05/13-06/09/11	MJEF11AW
		Dilution Factor: 1				
		Analysis Time..: 01:30		Analyst ID.....: 022952	Instrument ID..: TRA	
Thallium	1.0 U	2.0	mg/kg	SW846 6010C	05/13-06/09/11	MJEF11AX
		Dilution Factor: 1				
		Analysis Time..: 18:46		Analyst ID.....: 22952	Instrument ID..: 650	
Vanadium	0.50 U	5.0	mg/kg	SW846 6010C	05/13-06/09/11	MJEF11A0
		Dilution Factor: 1				
		Analysis Time..: 01:30		Analyst ID.....: 022952	Instrument ID..: TRA	
Zinc	1.0 U	2.0	mg/kg	SW846 6010C	05/13-06/09/11	MJEF11A1
		Dilution Factor: 1				
		Analysis Time..: 01:30		Analyst ID.....: 022952	Instrument ID..: TRA	

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

J Estimated result. Result is less than RL.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: C1E120405
Date Sampled...: 05/10/11 **Date Received..:** 05/11/11 **Matrix.....:** SOLID

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: C1E120405-016 **Prep Batch #...:** 1133294						**% Moisture.....:** 10	
Aluminum	NC	(80 - 120)			SW846 6010C	05/13-06/08/11	MH9061CP
	NC	(80 - 120)		(0-20)	SW846 6010C	05/13-06/08/11	MH9061CQ
		Dilution Factor: 0.93					
		Analysis Time..: 23:11			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1133174					
Antimony	46 N	(80 - 120)			SW846 6010C	05/13-06/08/11	MH9061CR
	49 N	(80 - 120)	5.4	(0-20)	SW846 6010C	05/13-06/08/11	MH9061CT
		Dilution Factor: 0.93					
		Analysis Time..: 23:11			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1133174					
Arsenic	95	(80 - 120)			SW846 6010C	05/13-06/08/11	MH9061CU
	94	(80 - 120)	1.2	(0-20)	SW846 6010C	05/13-06/08/11	MH9061CV
		Dilution Factor: 4.65					
		Analysis Time..: 23:23			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1133174					
Barium	88	(80 - 120)			SW846 6010C	05/13-06/08/11	MH9061CW
	85	(80 - 120)	2.4	(0-20)	SW846 6010C	05/13-06/08/11	MH9061CX
		Dilution Factor: 0.93					
		Analysis Time..: 23:11			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1133174					
Beryllium	86	(80 - 120)			SW846 6010C	05/13-06/08/11	MH9061C0
	86	(80 - 120)	0.30	(0-20)	SW846 6010C	05/13-06/08/11	MH9061C1
		Dilution Factor: 0.93					
		Analysis Time..: 23:11			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1133174					
Cadmium	82	(80 - 120)			SW846 6010C	05/13-06/09/11	MH9061C2
	82	(80 - 120)	0.25	(0-20)	SW846 6010C	05/13-06/09/11	MH9061C3
		Dilution Factor: 0.93					
		Analysis Time..: 16:53			Instrument ID..: 6500ICP	Analyst ID.....: 22952	
		MS Run #.....: 1133174					
Calcium	175 N	(80 - 120)			SW846 6010C	05/13-06/08/11	MH9061C4
	122 N	(80 - 120)	19	(0-20)	SW846 6010C	05/13-06/08/11	MH9061C5
		Dilution Factor: 0.93					
		Analysis Time..: 23:11			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1133174					

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MJW 9/23/11

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: C1E120405 **Matrix.....:** SOLID
Date Sampled...: 05/10/11 **Date Received..:** 05/11/11

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Chromium	92	(80 - 120)			SW846 6010C	05/13-06/08/11	MH9061C6
	100	(80 - 120)	4.0	(0-20)	SW846 6010C	05/13-06/08/11	MH9061C7
		Dilution Factor: 0.93					
		Analysis Time..: 23:11			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1133174					
Cobalt	81	(80 - 120)			SW846 6010C	05/13-06/08/11	MH9061C8
	80	(80 - 120)	0.58	(0-20)	SW846 6010C	05/13-06/08/11	MH9061C9
		Dilution Factor: 0.93					
		Analysis Time..: 23:11			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1133174					
Copper	87	(80 - 120)			SW846 6010C	05/13-06/08/11	MH9061DA
	93	(80 - 120)	2.9	(0-20)	SW846 6010C	05/13-06/08/11	MH9061DC
		Dilution Factor: 0.93					
		Analysis Time..: 23:11			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1133174					
Iron	NC	(80 - 120)			SW846 6010C	05/13-06/09/11	MH9061DD
	NC	(80 - 120)		(0-20)	SW846 6010C	05/13-06/09/11	MH9061DE
		Dilution Factor: 0.93					
		Analysis Time..: 16:53			Instrument ID..: 6500ICP	Analyst ID.....: 22952	
		MS Run #.....: 1133174					
Lead	102	(80 - 120)			SW846 6010C	05/13-06/08/11	MH9061DF
	149 N	(80 - 120)	18	(0-20)	SW846 6010C	05/13-06/08/11	MH9061DG
		Dilution Factor: 4.65					
		Analysis Time..: 23:23			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1133174					
Magnesium	144 N	(80 - 120)			SW846 6010C	05/13-06/08/11	MH9061DH
	105	(80 - 120)	16	(0-20)	SW846 6010C	05/13-06/08/11	MH9061DJ
		Dilution Factor: 0.93					
		Analysis Time..: 23:11			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1133174					
Manganese	NC	(80 - 120)			SW846 6010C	05/13-06/08/11	MH9061DK
	NC	(80 - 120)		(0-20)	SW846 6010C	05/13-06/08/11	MH9061DL
		Dilution Factor: 0.93					
		Analysis Time..: 23:11			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1133174					

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MW 9/23/11

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: C1E120405 **Matrix.....:** SOLID
Date Sampled...: 05/10/11 **Date Received..:** 05/11/11

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Zinc	93	(80 - 120)			SW846 6010C	05/13-06/08/11	MH9061CH
	136 N	(80 - 120)	12	(0-20)	SW846 6010C	05/13-06/08/11	MH9061CJ

Dilution Factor: 0.93
Analysis Time..: 23:11 Instrument ID..: TRACEICP Analyst ID.....: 022952
MS Run #.....: 1133174

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Results and reporting limits have been adjusted for dry weight.

NC The recovery and/or RPD were not calculated.

N Spiked analyte recovery is outside stated control limits.

MJW 9/23/11

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: C1E120405
Date Sampled...: 05/10/11 **Date Received..:** 05/11/11 **Matrix.....:** SOLID

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: C1E120405-021 **Prep Batch #...:** 1133297							
Aluminum						**% Moisture.....:** 13	
	NC	(80 - 120)			SW846 6010C	05/13-06/09/11	MH91D1A3
	NC	(80 - 120)		(0-20)	SW846 6010C	05/13-06/09/11	MH91D1A4
		Dilution Factor: 0.92					
		Analysis Time..: 02:01			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1133175					
Antimony	73 N	(80 - 120)			SW846 6010C	05/13-06/09/11	MH91D1A5
	79 N	(80 - 120)	8.6	(0-20)	SW846 6010C	05/13-06/09/11	MH91D1A6
		Dilution Factor: 0.92					
		Analysis Time..: 02:01			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1133175					
Arsenic	96	(80 - 120)			SW846 6010C	05/13-06/09/11	MH91D1A7
	97	(80 - 120)	2.6	(0-20)	SW846 6010C	05/13-06/09/11	MH91D1A8
		Dilution Factor: 4.6					
		Analysis Time..: 02:13			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1133175					
Barium	91	(80 - 120)			SW846 6010C	05/13-06/09/11	MH91D1A9
	97	(80 - 120)	5.6	(0-20)	SW846 6010C	05/13-06/09/11	MH91D1CA
		Dilution Factor: 0.92					
		Analysis Time..: 02:01			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1133175					
Beryllium	92	(80 - 120)			SW846 6010C	05/13-06/09/11	MH91D1CC
	93	(80 - 120)	2.1	(0-20)	SW846 6010C	05/13-06/09/11	MH91D1CD
		Dilution Factor: 0.92					
		Analysis Time..: 19:11			Instrument ID..: 6500ICP	Analyst ID.....: 22952	
		MS Run #.....: 1133175					
Cadmium	84	(80 - 120)			SW846 6010C	05/13-06/09/11	MH91D1CE
	88	(80 - 120)	5.5	(0-20)	SW846 6010C	05/13-06/09/11	MH91D1CF
		Dilution Factor: 0.92					
		Analysis Time..: 19:11			Instrument ID..: 6500ICP	Analyst ID.....: 22952	
		MS Run #.....: 1133175					
Calcium	51 N	(80 - 120)			SW846 6010C	05/13-06/09/11	MH91D1CG
	79 N	(80 - 120)	10	(0-20)	SW846 6010C	05/13-06/09/11	MH91D1CH
		Dilution Factor: 0.92					
		Analysis Time..: 02:01			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1133175					

(Continued on next page)

MDW 4/22/11

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: C1E120405 **Matrix.....:** SOLID
Date Sampled...: 05/10/11 **Date Received..:** 05/11/11

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Chromium	100	(80 - 120)			SW846 6010C	05/13-06/09/11	MH91D1CJ
	95	(80 - 120)	2.8	(0-20)	SW846 6010C	05/13-06/09/11	MH91D1CK
		Dilution Factor: 0.92					
		Analysis Time..: 02:01			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1133175					
Cobalt	87	(80 - 120)			SW846 6010C	05/13-06/09/11	MH91D1CL
	88	(80 - 120)	2.2	(0-20)	SW846 6010C	05/13-06/09/11	MH91D1CM
		Dilution Factor: 0.92					
		Analysis Time..: 02:01			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1133175					
Copper	86	(80 - 120)			SW846 6010C	05/13-06/09/11	MH91D1CN
	107	(80 - 120)	9.2	(0-20)	SW846 6010C	05/13-06/09/11	MH91D1CP
		Dilution Factor: 0.92					
		Analysis Time..: 02:01			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1133175					
Iron	NC	(80 - 120)			SW846 6010C	05/13-06/09/11	MH91D1CQ
	NC	(80 - 120)		(0-20)	SW846 6010C	05/13-06/09/11	MH91D1CR
		Dilution Factor: 0.92					
		Analysis Time..: 19:11			Instrument ID..: 6500ICP	Analyst ID.....: 22952	
		MS Run #.....: 1133175					
Lead	100	(80 - 120)			SW846 6010C	05/13-06/09/11	MH91D1CT
	131 N	(80 - 120)	12	(0-20)	SW846 6010C	05/13-06/09/11	MH91D1CU
		Dilution Factor: 4.6					
		Analysis Time..: 02:13			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1133175					
Magnesium	97	(80 - 120)			SW846 6010C	05/13-06/09/11	MH91D1CV
	96	(80 - 120)	0.04	(0-20)	SW846 6010C	05/13-06/09/11	MH91D1CW
		Dilution Factor: 0.92					
		Analysis Time..: 02:01			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1133175					
Manganese	89	(80 - 120)			SW846 6010C	05/13-06/09/11	MH91D1CX
	96	(80 - 120)	3.1	(0-20)	SW846 6010C	05/13-06/09/11	MH91D1C0
		Dilution Factor: 0.92					
		Analysis Time..: 02:01			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1133175					

(Continued on next page)

MJW 9/23/11

TestAmerica Pittsburgh

Metals Data Reporting Form

Serial Dilution RPD Report

Serial Dilution Sample ID: MH906P

Original Sample ID: MH906 **Client ID:** AI3-111(6-24)P

Matrix: Soil **Units:** mg/kg **Prep Date:** 5/13/2011 **Prep Batch:** 1133294

Weight: 1.02 **Volume:** 100 **Percent Moisture:** 10.313

Element	WL/ Mass	OS Conc	Q	Serial Dilution Conc	Q	Percent Diff	OS DF	Ser Dil DF	Instr	OS Anal Date	OS Anal Time	Ser Dil Anal Date	Ser Dil Anal Time
Cadmium	214.438	0.19	B	0.19	B	2.0	1	5	ICP	6/9/2011	16:43	6/9/2011	16:48
Iron	259.94	16100		17800	E	10.1	1	5	ICP	6/9/2011	16:43	6/9/2011	16:48
Thallium	190.856	0.25	B	1.1	U	100.0	1	5	ICP	6/9/2011	16:43	6/9/2011	16:48

Comments:

5.11.0

E Serial dilution percent difference not within limits
U Result is less than the MDL
B Result is between MDL and RL

Form 9 Equivalent

MJW 9/23/11

Field Dup

field_sample_id	param_name	final_result	final_qualifier	difference	average	RPD
AI3-108(6-24)	Aluminum	11300		1350	10625	13%
DUP-AI3-1	Aluminum	9950				
AI3-108(6-24)	Arsenic	2.8		3.4	4.5	76%
DUP-AI3-1	Arsenic	6.2				
AI3-108(6-24)	Barium	49.8		7.1	46.25	15%
DUP-AI3-1	Barium	42.7				
AI3-108(6-24)	Beryllium	0.87		0.11	0.815	13%
DUP-AI3-1	Beryllium	0.76				
AI3-108(6-24)	Chromium	16.4		0.8	16.8	5%
DUP-AI3-1	Chromium	17.2				
AI3-108(6-24)	Copper	12.6		18.8	22	85%
DUP-AI3-1	Copper	31.4				
AI3-108(6-24)	Iron	12200		100	12250	1%
DUP-AI3-1	Iron	12300				
AI3-108(6-24)	Lead	21.3	J	82.7	62.65	132%
DUP-AI3-1	Lead	104	J			
AI3-108(6-24)	Magnesium	2120	J	220	2010	11%
DUP-AI3-1	Magnesium	1900	J			
AI3-108(6-24)	Manganese	245		88	201	44%
DUP-AI3-1	Manganese	157				
AI3-108(6-24)	Nickel	13.3		0.6	13.6	4%
DUP-AI3-1	Nickel	13.9				
AI3-108(6-24)	Vanadium	19.8		12.8	26.2	49%
DUP-AI3-1	Vanadium	32.6				
AI3-108(6-24)	Zinc	40.3	J	7.9	44.25	18%
DUP-AI3-1	Zinc	48.2	J			

MJW
10/4/11

Field Dup

field_sample_id	param_name	final_result	final_qualifier	difference	average	RPD
AI3-108(0-2)	Aluminum	10700		960	10220	9%
DUP-AI3-2	Aluminum	9740				
AI3-108(0-2)	Arsenic	7.3		5	4.8	104%
DUP-AI3-2	Arsenic	2.3				
AI3-108(0-2)	Barium	44.7		0.9	44.25	2%
DUP-AI3-2	Barium	43.8				
AI3-108(0-2)	Beryllium	0.8		0.01	0.805	1%
DUP-AI3-2	Beryllium	0.81				
AI3-108(0-2)	Chromium	18.5		4.6	16.2	28%
DUP-AI3-2	Chromium	13.9				
AI3-108(0-2)	Copper	34.2		24.2	22.1	110%
DUP-AI3-2	Copper	10				
AI3-108(0-2)	Iron	13400		2800	12000	23%
DUP-AI3-2	Iron	10600				
AI3-108(0-2)	Lead	111	J	94.6	63.7	149%
DUP-AI3-2	Lead	16.4	J			
AI3-108(0-2)	Magnesium	2050	J	250	1925	13%
DUP-AI3-2	Magnesium	1800	J			
AI3-108(0-2)	Manganese	170		43	191.5	22%
DUP-AI3-2	Manganese	213				
AI3-108(0-2)	Nickel	14.9		3.4	13.2	26%
DUP-AI3-2	Nickel	11.5				
AI3-108(0-2)	Vanadium	35.2		18.6	25.9	72%
DUP-AI3-2	Vanadium	16.6				
AI3-108(0-2)	Zinc	50.3	J	15.7	42.45	37%
DUP-AI3-2	Zinc	34.6	J			

MJW
10/4/11

Site: Ft. Totten

Case #:

SDG #: C1E20445

Samples: (Soil) **Water**

Mike Washburn 4/15/11

	YES	NO	N/A
A.I.1 Contract Compliance Screening Report			
Present?	[ ]	___	✓
ACTION: If no, contact RSCC/PO.			
A.I.2 Record of Communication (from RSCC)			
Present?	[ ]	___	✓
ACTION: If no, request from the RSCC.			
A.1.3 Sampling Trip Report			
Present and complete?	MJW 9/15/M [ ]	___	✓
ACTION: If no, contact RSCC/PO.			
A.I.4 Chain of Custody/Sample Traffic Report			
Present?	[✓]	___	___
Legible?	[✓]	___	___
Signature of sample custodian present?	[✓]	___	___
ACTION: If no, contact RSCC/WAM/PO.			
A.I.5 Cover Page			
Present?	[✓]	___	___
Is the Cover Page properly filled in and the verbatim signed by the lab manager or the manager's designee?	[✓]	___	___
Do the sample identification numbers on the Cover Page agree with sample Identification numbers on:			
(a) Traffic Report Sheet?	[✓]	___	___

	YES	NO	N/A
(b) Form I's?	[✓]	___	___
Is the number of samples on the Cover Page the same as the number of samples on the Traffic Report sheet and the Regional Record of Communication (ROC) for the data Case?	[___]	___	✓

ACTION:
If no for any of the above, prepare Telephone Record Log and contact RSCC/PO for re-submittal of the corrected Cover Page from the laboratory.

A.1.6 **SDG Narrative, DC-1 & DC-2 Form**

Is the SDG Narrative present?	[✓]	___	___
Is Sample Log-In Sheet(Form DC-1) present and complete?	[✓]	___	___
Is Complete SDG Inventory Sheet(Form DC-2) present and complete?	[___]	___	✓

ACTION:
If no, write in the Contract-Problems/ Non-Compliance Section of the Data Review Narrative.

A.1.7 **Form I to XV**

A.1.7.1 Are all the Form I through Form XV labeled with:

Laboratory Name?	[✓]	___	___
Laboratory Code?	[___]	___	✓
RAS/Non-RAS Case No.?	[___]	___	✓
SDG No.?	[✓]	___	___

		YES	NO	N/A
	Contract No.?	[ ]	___	✓

ACTION:
If no for any of the above, note under Contract Problem/Non-Compliance Section of the "Data Review Narrative" and contact PO for corrected Form(s) from the laboratory.

A.1.7.2 After comparing values on Forms I-IX against the raw data, do any computation/ transcription errors exceed 10% of the reported values on the Forms for:

(a) all analytes analyzed by ICP-AES?	___	[✓]	___
(b) all analytes analyzed by ICP-MS?	_	[ ]	✓
(c) Mercury?	_	[✓]	✓
(d) Cyanide?	_	[ ]	✓

ACTION:
If yes, prepare Telephone Record Log and contact CLP PO/TOPO for the corrected data from the laboratory.

A.1.8 Raw Data

Data shall not be validated without the hard/electronic copies of the associated raw data for samples and QC samples.

A.1.8.1 Digestion/Distillation Log

Digestion Log for ICP-AES (Form XII)present?	[✓]	___	___
Digestion Log for ICP-MS (Form XII) present?	[ ]	___	✓
Digestion Log for mercury (Form XII) present?	[✓]	___	✓
Distillation Log for cyanide (Form XII) present?	[ ]	___	✓

Are pH values for metals and

	YES	NO	N/A
cyanide reported for each aqueous sample?	[ ]	_	✓
Are percent solids calculations present for soils/sediments?	☑	___	___
Are preparation dates present on the sample preparation logs/bench sheets?	✓	_	_

NOTE:
Digestion/Distillation log must include weights, volumes, and dilutions used to obtain the reported results.

A.1.8.2 Is the analytical instrument real-time printouts present for:

ICP-AES?	☑	_	_
ICP-MS?	[ ]	___	✓
Mercury?	~~☑~~	_	✓
Cyanide?	[ ]	___	✓

Are all laboratory bench sheets and instrument raw data printouts necessary to support all sample analyses and QC operations:

Legible?	☑	_	_
Properly labeled?	☑	_	_

Are all field samples, QC samples and field QC samples present on:

Digestion/Distillation log?	✓	___	___
Instrument Printouts?	☑	_	_

ACTION:
If no for any of the above questions in Section A.1.8.1 and Section A.1.8.2, write Telephone Record Log and contact TOPO/PO for re-submittal from the laboratory.

		YES	NO	N/A
A.1.9 **Technical Holding Times**: (Aqueous and soil samples) (Examine sample Traffic Reports and digestion/distillation logs to determine the holding time from the sample collection date to the sample preparation date.)				
A.1.9.1	Cyanide distillation(14 days)exceeded?	_	[_]	✓
	Mercury analysis(28 days) exceeded?	_	[✓]	✓
	Other Metals analysis(180 days)exceeded?	___	___ [✓]	_

ACTION:
If yes, reject (R) and red-line non-detects and flag as estimated (J)results ≥ MDL even if sample(s) was preserved properly.

NOTE:
In addition to qualifying the data, a list of all samples and analytes which exceeded the holding times must be prepared. Report for each sample the number of days that were exceeded. (Subtract the sample collection date from the sample preparation date). Attach this list to the data review narrative.

A.1.9.2	Is pH of aqueous samples for:			
	Metals Analysis ≤ 2?	[✓]	___	___
	Cyanide Analysis ≥ 12?	[_]	_	✓

ACTION:
If no for any of the above, flag non-detects as "R" and detects as "J".

A.1.9.3	Is the cooler temperature ≤ 10 C°?	[✓]	_	_

ACTION:
If cooler temperature is >10 ^{0}C , flag non-detects as "UJ" and detects as "J".

A.1.10 **Final Data Correctness - Form I**

A.1.10.1 Are Form I's for all samples

	YES	NO	N/A
present and complete?	[✓]	___	___

ACTION:
If no, prepare Telephone Record Log and contact CLP PO/TOPO for submittal from the laboratory.

A.1.10.2 Verify there are no calculation and transcription errors in the results reported on Form I's. Circle on each Form I all results that are incorrect.

Is the calculation error less than 10% of the correct result?	[✓]	__	__
Are results on Form I's reported in correct units (ug/L for aqueous and MG/KG for soils)?	[✓]	___	___
Are results on Form I'S reported by correct significant figures?	[✓]	___	__
Are soil sample results on Form I's corrected for percent solids?	[✓]	___	___
Are all "less than MDL" values reported by the CRQLs and coded with "U"?	[✓]	___	___
Are values less than the CRQLs but greater than or equal to the MDLs flagged with "J"?	[✓]	___	___
Are appropriate contractual quality control and Method qualifiers used?	[✓]	___	___

ACTION:
If no for any of the above questions, prepare Telephone Record Log, and contact CLP PO/TOPO for corrected data.

A.1.10.3 Do EPA sample identification numbers and the corresponding laboratory sample identification numbers match on the Cover Page, Form I's and in the raw data? [✓] ___ ___

Was a brief physical description

	YES	NO	N/A
of the samples before and after digestion given on the Form I's?	[___]	___	✓
Was any sample result outside the mercury/cyanide calibration range or the ICP-AES/ICP-MS linear range diluted and noted on the Form I?	[✓]	___	___

ACTION:
If no for any of the above, note under the Contract-Problem/Non-Compliance Section of the Data Review Narrative.

A.1.11 **Initial Calibration**

	YES	NO	N/A
A.1.11.1 Is a record of at least 2 point (A blank and a standard)calibration present for ICP-AES analysis?	[✓]	___	___
Is a record of at least 2 point (a blank and a standard)calibration present for ICP-MS analysis?	[___]	___	✓
Is a record of at least 5 point calibration (a blank & 4 standards)present for Hg analysis?	[✓]	___	✓
Is a record of at least 4 point calibration (a blank & 4 standards)present for cyanide?	[___]	___	✓

ACTION:
If incomplete or no initial calibration was performed, reject (R) and red-line the associated data (detects & non-detects).

Is one initial calibration standard at the CRQL level for cyanide and mercury?	[___]	___	✓

ACTION:
If no, write in the Contract Problem/ Non-Compliance Section of the Data Review Narrative.

A.1.11.2 Is the curve correlation coefficient $\geq$ 0.995 for:

	YES	NO	N/A
Mercury Analysis?	[___]	___	✓
Cyanide Analysis?	[___]	___	✓
ICP-AES(more than 2 point Calib.)?	[___]	___	✓
ICP-MS (more than 2 point calib.)?	[___]	___	✓

ACTION:
If no, qualify the associated sample results ≥ MDL as estimated "J" and non-detects as "UJ".

NOTE:
The correlation coefficient shall be calculated by the data validator using standard concentrations and the corresponding instrument response (e.g. absorbance, peak area, peak height, etc.).

A.1.12 **Initial and Continuing Calibration Verification- Form IIA**

A.1.12.1	Present and complete for every metal and cyanide?	[✓]	___	___
	Present and complete for ICP-AES and ICP-MS when both these methods were used for the same analyte?	[___]	___	✓

ACTION:
If no for any of the above, prepare a Telephone Record Log and contact PO/TOPO for re-submittal from the laboratory.

A.1.12.2	Was a Continuing Calibration Verification performed every 10 samples or every 2 hours whichever is more frequent?	[✓]	___	___

ACTION:
If no for any of the above, write in the Contract-Problem/Non-Compliance Section of the Data Review Narrative.

A.1.12.3	Was an ICV or a mid-range standard distilled and analyzed with each batch of cyanide samples?	[___]	___	✓

	YES	NO	N/A

ACTION:
If no for any of the above, write in the Contract-Problem/Non-Compliance Section of the Data Review Narrative and qualify results ≥ MDL as estimated (J).

A.1.12.2 Circle on each Form IIA all percent recoveries that are outside the contract windows.

Are ICV/CCVs within control limits for:

Metals - 90-110%R?	[✓]	___	___
Hg - 80-120%R?	[___]	___	✓
Cyanide - 85-115%R?	[___]	___	✓

ACTION:
If no, qualify all samples between a previous technically acceptable CCV standard and a subsequent technically acceptable CCV standard as follows as follows:

Qualify as estimated (J) all detects and non-detects, if the ICV/CCV %R is between 75-89%(65-79% for Hg; 70-84% for CN). Qualify only positive results(≥ MDL) as "J" if the ICV/CCV %R is between 111-125%(121-135% for Hg;116-130% for CN). Reject (R) and red-line only
detects if the recovery is greater than 125% (135% for Hg; 130% for CN). Reject (R) and red-line all associated results (hits and non-detects)if the recovery is less than 75%(65% for Hg;70% for CN).

NOTE:
For ICV that does not fall within the acceptance limits, qualify all samples reported from the analytical run.

A.1.12.3 Was the distilled ICV or mid-range standard for cyanide within acceptance limits (85-115%)? [___] ___ ✓

ACTION:
If no, Qualify all cyanide results ≥ MDL as "J".

A.1.13 **CRQL Standard Analysis - Form IIB**

A.1.13.1 For each ICP-AES run, was a CRI

	YES	NO	N/A
(CRQL or MDL when MDL > CRQL) standard analyzed? (Note:CRI is not required for Al, Ba, Ca, Fe, Mg, Na and K.)	[✓]	___	___
For each ICP-MS run, was a CRI (CRQL or MDL when MDL > CRQL) standard analyzed for each mass/isotope used for the analysis?	[✓]	___	___
For each mercury run, was a CRQL standard analyzed?	[___]	___	✓
For each cyanide run, was a CRQL standard analyzed?	[___]	___	✓

ACTION:
If no for any of the above, write this deficiency in the Contract Problems/ Non-Compliance Section of the Data Review Narrative, inform CLP PO and flag results in the affected ranges (detects <2xCRQL)as J and non-detects UJ.

The affected ranges are:
ICP-AES Analysis - *True Value ± CRQL
ICP-MS Analysis - *True Value ± CRQL
Mercury Analysis - *True Value ± CRQL
Cyanide Analysis - *True Value ± CRQL
* True value of the CRQL Standard

		YES	NO	N/A
A.1.13.2	Was a CRQL standard analyzed after the ICV/ICB, before the final CCV/CCB and once every 20 analytical samples in the analytical run for each analysis?	[___]	✓	___

ACTION:
If no, write in the Contract Problem/ Non-Compliance Section of the "Data Review Narrative".

A.1.13.3 Circle on each Form IIB all percent recoveries that are outside the acceptance windows.

	YES	NO	N/A
Is the CRQL standard within control limits for:			
Metals(ICP-AES/ICP-MS)- 70 - 130%?	[✓]	___	___
Mercury- 70 - 130%?	[___]	___	✓
Cyanide - 70 - 130%?	[___]	___	✓

ACTION:
If no, flag detects <2xCRQL as "J" and non-detects as "UJ" if the CRQL standard recovery is between 50-69%. Flag(J) only detects <2xCRQL if the recovery is between 131% and ≤180%. If the recovery is less than 150%, reject(R) and red-line non-detects and detects < 2xCRQL, and flag (J) detects between 2xCRQL and ICV/CCV. Reject and red-line only detects <2xCRQL and flag (J)detects ≥ 2xCRQL but < ICV/CCV if the recovery is > 180%.

NOTE:
1. Qualify all field samples analyzed between a previous technically acceptable analysis of the CRQL standard and a subsequent acceptable analysis of the CRQL standard
2. Flag (J) or reject (R) only the final sample results on Form I's when **Sample raw data** are within the affected ranges and the CRQL standard is outside the acceptance windows.
3. The samples and the CRQL standard must be analyzed in the same analytical run.

A.1.14 Initial and Continuing Calibration Blanks - Form III

		YES	NO	N/A
A.1.14.1	Present and complete for all the instruments used for the metals and cyanide analyses?	[✓]	___	___
	Was an initial Calibration Blank analyzed after ICV?	[✓]	___	___
	Was a continuing Calibration Blank analyzed after every CCV and every 10 samples or every 2 hours, whichever is more frequent?	[✓]	___	___
	Were the ICB & CCB values ≥ MDL but < CRQL reported on Form III and flagged "J" by			

		YES	NO	N/A
	using MDLs from direct analysis(Preparation Method "NP1")? (Check Form III against the raw data)	[___]	___	___ ✓

ACTION:
If no, inform CLP PO/TOPO and make a note in the Contract-Problems/Non-Compliance Section of the "Data Review Narrative".

A.1.14.2 Circle with red pencil on each Form III all Calib. Blank values that are:

≥ MDL but ≤ CRQL

> CRQL

A.1.14.2.1	When MDL < CRQL, is any Calib. Blank value ≥ MDL but ≤ CRQL?	___	[___]	___ ✓

ACTION:
If yes, change sample results ≥ MDL but ≤ CRQL to the CRQL with a "U". Do not qualify non-detects.

A.1.14.2.2	When MDL < CRQL, is any Calib. Blank value > CRQL?	___	[___]	___ ✓

ACTION:
If yes, reject (R) and red line the associated sample results > CRQL but <ICB/CCB Blank Result. Flag as "J" detects > ICB/CCB blank value but < 10xICB/CCB value. Change the sample results ≥ MDL but ≤ the CRQL to CRQL with a "U".

A.1.14.2.3	Is any Calibration Blank value below the negative CRQL?	___	[___]	___ ✓

ACTION:
If yes, flag (J) as estimated all associated sample results ≥ CRQL but <10xCRQL.

NOTE:

1. For ICB that does not meet the technical QC Criteria, apply the action to all samples

	YES	NO	N/A

reported from the analytical run.
2. For CCBs that do not meet the technical QC criteria, apply the action to all samples analyzed between a previous technically acceptable analysis of CCB and a subsequent technically acceptable analysis of the CCB in the analytical run.,

A.1.15 **Preparation Blank - FORM III**

NOTE: The Preparation Blank for mercury is the same as the calibration blank.

A.1.15.1 Was one Preparation Blank prepared with and analyzed for:

Each Sample Delivery Group (SDG)?	[✓]	___	___
Each batch of the SDG samples digested/distilled?	[✓]	___	___
Each matrix type?	[✓]	___	___
All instruments used for metals and cyanide analyses?	[✓]	___	___

ACTION:
If no for any of the above, flag as estimated (J) all the associated positive data <10xMDL for which the Preparation Blank was not analyzed.

NOTE:
If only one blank was analyzed for more than 20 samples, then the first 20 samples analyzed are not estimated(J), but all additional samples must be qualified (J).

Calcium: 27.7 mg/kg
5x - 138.5 mg/kg
Zinc: 1.2 mg/kg
5x - 6 mg/kg
Iron: 6.3 mg/kg
5x - 31.5 mg/kg
Magnesium: 6.0 mg/kg
5x - 30 mg/kg
NO ACTION required

A.1.15.2 Circle with red pencil on each Form III all Prep. Blank values that are:

≥ MDL but ≤ CRQL, and

> CRQL

A.1.15.2.1 When MDL < CRQL, is any preparation blank value ≥ MDL but ≤ CRQL? ___ [___] ✓

ACTION:
If yes, change sample result ≥ MDL

	YES	NO	N/A
but ≤ CRQL to CRQL with a "U".			
A.1.15.2.2 When the MDL ≤ CRQL, is any Preparation Blank value greater than its CRQL?	___	[___]	✓
If yes, is the Prep. Blank value greater than the value of the associated Field Blank collected and analyzed with the SDG samples?	___	[___]	✓
If yes, is the lowest concentration of that analyte in the associated samples less than 10 times the Preparation Blank value?	___	[___]	✓

ACTION:
If yes, reject (R) and red-line all associated sample results greater than the CRQL but less than the Prep.Blank value. Flag as "J" detects > Prep. Blank value but <10xPrep.Blank. If the sample result ≥ MDL but ≤ CRQL, replace it with CRQL-U.

If the Prep. Blank value is less than the same analyte value in the Field Blank, do not qualify the sample results due to the Prep. Blank criteria.

NOTE:
Convert soil sample result to mg/Kg on wet weight basis to compare with the soil Prep. Blank result on Form III.

A.1.15.2.3 Is the Prep. Blank concentration below the negative CRQL?	___	[___]	✓

ACTION:
If yes, flag (J) all associated sample results less than 10xCRQL. Qualify non-detects as estimated (UJ).

A.1.15.2.4 When the MDL is greater than the CRQL, is the preparation blank concentration on Form III greater than two times the MDL?	___	[___]	✓

ACTION:

		YES	NO	N/A
	If yes, reject (R) and red-line all positive sample results with sample raw data less than 10 times the Preparation Blank value.			

A.1.16 **ICP-AES/ICP-MS Interference Check Sample (ICS)- Form IV**

NOTE: Not required for CN, Hg, Al, Ca, Fe and Mg.

A.1.16.1	Present and complete?	[✓]	___	___
	Was ICS analyzed at the beginning and end of each analytical run, and once for every 20 analytical samples?	[___]	✓	___
	Was ICS analyzed at the beginning of the ICP-MS analytical run?	[___]	___	✓

ACTION:
If no, flag as estimated (J) all sample results.

A.1.16.2 **ICP-AES Method**

A.1.16.2.1	**ICSA Solution:** For ICP-AES, are the ICSA "Found" analyte values within the control limits ± of CRQL of the true/established mean value?	[✓]	___	___
	If no for any of the above, is the sample concentration of Al, Ca, Fe, or Mg in the same units (ug/L or MG/KG) greater than or equal to its respective concentration in the ICSA Solution on Form IV?	[___]	___	✓

ACTION:
If yes, apply the following action to all samples analyzed between a previous technically acceptable analysis of the ICS and a subsequent technically acceptable analysis of the ICS in the analytical run:

Flag (J) as estimated only sample results ≥MDL

	YES	NO	N/A

for which the ICSA "Found" value is greater than (True value+CRQL). Do not qualify non-detects. If the ICSA "Found" value is less than (True value-CRQL), flag non-detects as "UJ" and detects as "J".

A.1.16.2.3 **ICSAB Solution**

For ICP-AES, are all analyte results in ICSAB within the control limits of 80-120 of the true/established mean value? [✓] ___ ___

If no for any of the above, is the sample concentration of Al, Ca, Fe, or Mg in the same units (ug/L or MG/KG) greater than or equal to its respective concentration in the ICSAB Solution on Form IV? [___] ___ ✓

ACTION:
If yes, apply the following action to all samples analyzed between a previous technically acceptable analysis of the ICS and a subsequent technically acceptable analysis of the ICS in the analytical run:

Flag (J) as estimated those associated sample results ≥ MDL for which the ICSAB analyte recovery is greater than 120% but ≤ 150%. If the ICSAB recovery falls within 50-79%, qualify sample results ≥ MDL as "J" and non-detects as "UJ". Reject (R) and red-line all sample results (detects & non-detects) for which the ICSAB analyte recovery is less than 50%. If the recovery is above 150%, reject (R) and red-line only positive results.

A.1.16.3 **ICP-MS Method**

A.1.16.3.1 **ICSA Solution:**

For ICP-MS, are the ICSA "Found" analyte values within the control limits of ±CRQL of the true/established mean value? [___] ___ ✓

ACTION:
If no, apply the following action to all samples reported from the analytical run:

Flag (J) as estimated only sample results ≥ MDL if the ICSA "Found" value is greater than (True value+CRQL). Do not qualify non-detects. If the ICSA "Found" value is less than (True value-CRQL), flag the associated sample detects as "J" and non-detects as "UJ".

	YES	NO	N/A

A.1.16.3.3 **ICSAB Solution**

For ICP-MS, are all analyte results in ICSAB within the control limits of 80-120% of the true/established mean value, whichever is greater? [✓] ___ ___

ACTION:
If no, apply the following action to all samples reported from the analytical run:

Flag (J) as estimated those associated sample results ≥ MDL for which the ICSAB analyte recovery is greater than 120% but ≤ 150%. If the ICSAB recovery falls within 50-79% flag (J) as estimated the associated sample results ≥ MDL. Reject (R) and red-line those all sample detects and non-detects for which the ICSAB analyte recovery is less than 50%. If the recovery is above 150%, reject (R) and red-line only detects (≥ MDL).

A.1.17 **Spiked Sample Recovery: Pre-Digestion/Pre-Distillation)-Form V A**

Note:Not required for Ca,Mg,K,and Na(both matrices);Al and Fe (soil only)

A.1.17.1 Was Matrix Spike analysis performed:

For each matrix type?	[✓]	___	___
For each SDG?	[✓]	___	___
On one of the SDG samples?	[✓]	___	___
For each concentration range (i.e.,low, med., high)?	[___]	✓	___
For each analytical Method (ICP-AES,ICP-MS, Hg, CN)used?	[✓]	___	___
Was a spiked sample prepared and analyzed with the SDG samples?	[✓]	___	___

ACTION:
If no for any of the above, flag as estimated(J)all the positive data for which a spiked sample was not analyzed.

NOTE:
If more than one spiked sample were analyzed for one SDG, then qualify the associated data based on the worst spiked sample analysis.

		YES	NO	N/A
A.1.17.2	Was a field blank or PE sample used for the spiked sample analysis?	___	[✓]	___
	ACTION: If yes, flag (J) as estimated positive data of the associated SDG samples for which field blank or PE sample was used for the spiked sample analysis.	✓ Copper MS-213 MSD-194		
A.1.17.3	Circle on each Form VA all spike recoveries that are outside the control limits (75-125%) that have sample concentrations less than four times the added spike concentrations.	✓ Zinc - MS-123 MSD-134		
	Are all recoveries within the control limits when sample concentrations are less than or equal to four times the spike concentrations?	Max limit 120 Antimony MS-63 MSD-63	Copper-MSD-72 [___] ✓	___
	NOTE: Disregard the out of control spike recoveries for analytes whose concentrations are greater than or equal to four times the spike added.	Lead MS-189 MSD-149	Manganese MS-142 MSD-142	
	Are results outside the control limits (75-125%) flagged with Lab Qualifier "N" on Form I's and Form VA?	[✓]	___	___
	ACTION: If no for any of the above, write in the Contract - Problems/Non-Compliance Section of the Data Review Narrative.			
A.1.17.4	**Aqueous**			
	Are any spike recoveries:			
	(a) less than 30%?	___	[___]	✓
	(b) between 30-74%?	___	[___]	✓
	(c) between 126-150%?	___	[___]	✓
	(d) greater than 150%?	___	[___]	✓
	ACTION: If the matrix spike recovery is less than 30%, reject (R) and red-line all associated aqueous data (detects & non-detects). If between 30-74%, qualify all associated aqueous data ≥ MDL as "J" and non-detects			

		YES	NO	N/A
	as "UJ". If between 126-150%, flag (J) all data ≥ MDL as "J". If greater than 150%, reject (R) and red-line all associated data ≥ MDL.			
	(**NOTE**:Replace "N" with "J", "R" as appropriate.)			
A.1.17.5	**Soil/Sediment**			
	Are any spike recoveries:			
	(a) less than 10%?	___	[✓]	___
	(b) between 10-74%?	✓	[___]	___
	(c) between 126-200%?	✓	[___]	___
	(d) greater than 200%?	✓	[___]	___
	ACTION: If yes for any of the above, proceed as follows:			
	If the matrix spike recovery is less than 10%, reject (R) and red-line all associated data (detects & non-detects); if between 10-74%, qualify all associated data ≥ MDL as "J" and non-detects as "UJ"; if between 126-200%, flag (J) all associated data ≥ MDL as "J" If greater than 200%, reject (R) and red-line all associated data ≥ MDL. (**NOTE**:Replace "N" with "J" or "R" as appropriate.)			
A.1.18	**Lab Duplicates) - Form VI**			
A.1.18.1	Was the lab duplicate analysis performed:			
	For each SDG?	[___]	✓	___
	On one of the SDG samples?	[___]	✓	___
	For each matrix type?	[___]	✓	___
	For each concentration range (low or med.)?	[___]	✓	___
	For each analytical Method (ICP-AES/ICP-MS, Hg, CN) Used?	[___]	✓	___
	Was a lab duplicate prepared and analyzed with the SDG samples?	[___]	✓	___

		YES	NO	N/A
	ACTION: If no for any of the above, flag (J) as estimated all the SDG sample results (detects & non-detects) for which the lab duplicate analysis was not performed.			
	NOTE: If more than one lab duplicate sample were analyzed for an SDG, then qualify the associated samples based on the worst lab duplicate analysis.			
A.1.18.2	Was a Field Blank or PE sample used for the Lab Duplicate analysis?	___	[✓]	___
	ACTION: If yes, flag as estimated (J) all SDG sample results (hits & non-detects) for which Field Blank or PE sample was used for duplicate analysis.			
A.1.18.3	Circle on each Form VI all values that are: RPD > 20%, or Absolute Difference > CRQL			
	Are all values within control limits (RPD ≤ 20% or absolute difference ≤ ±CRQL)?	[___]	___	✓
	If no, are all results outside the control limits flagged with an "*" (Lab Qualifier)on Form VI and on all Form I's?	[___]	___	✓
	ACTION: If no, write in the Contract-Problems/ Non-Compliance Section of the Data Review Narrative.			
	NOTE: The laboratory is not required to report on Form VI the RPD when both values are non-detects.			
A.1.18.4	**Aqueous**			
A.1.18.4.1	When sample and duplicate values are both ≥ 5xCRQL (substitute MDL for CRQL when MDL > CRQL),			

	YES	NO	N/A
is any RPD > 20% but < 100%?	___	[___]	✓
is any RPD ≥ 100%?	___	[___]	✓

ACTION:
If the RPD is > 20% but < 100%, flag (J) as estimated the associated sample data ≥ CRQL. If the RPD is ≥ 100%, reject (R) and red-line the associated sample data ≥ CRQL.

(**NOTE:** Replace "*" with "J" or "R" as appropriate.)

A.1.18.4.2 When the sample and/or duplicate value <5xCRQL (substitute MDL for CRQL when MDL >CRQL), is the absolute difference between sample and duplicate values:

> ± CRQL?	___	[___]	✓
> ± 2xCRQL?	___	[___]	✓

ACTION:
If the absolute difference is > CRQL, flag as estimated all the associated sample results ≥ MDL but < 5xCRQL as "J" and non-detects as "UJ". If the absolute difference is > 2xCRQL, reject (R) and red-line all the associated non-detects and detects ≥ MDL but < 5xCRQL.

NOTE:
1. Replace "*" with "J", "UJ" or "R" as appropriate.)
2. If one value is >CRQL and the other value is non-detect, calculate the absolute difference between the value > CRQL and the MDL, and use this difference to qualify sample results.

A.1.18.5 **Soil/Sediment**

A.1.18.5.1 When sample and duplicate values are both ≥ 5xCRQL (substitute MDL for CRQL when MDL > CRQL),

is any RPD ≥ 35% but < 120%?	___	[___]	✓
is any RPD ≥ 120%?	___	[___]	✓

ACTION:
If the RPD is ≥ 35% and < 120%, flag (J) as estimated the associated sample

		YES	NO	N/A
	data ≥ CRQL. If the RPD is ≥ 120%, reject (R)and red-line the associated sample data ≥ CRQL.			
A.1.18.5.2	When the sample and/or duplicate value <5xCRQL(substitute MDL for CRQL when MDL > CRQL), is the absolute difference between sample and duplicate:			
	> ± 2 x CRQL?	___	[___]	✓ ___
	> ± 4 x CRQL	___	[___]	✓ ___

ACTION:
If the absolute difference is > 2 x CRQL, flag all the associated sample results ≥ MDL but < 5xCRQL as "J" and non-detects as "UJ". If the absolute difference is > 4xCRQL, reject (R) and red-line all the associated non-detects and detects ≥ MDL but <5xCRQL.

NOTE:
1. Replace "*" with "J", "UJ" or "R" as appropriate.)
2. If one value is >CRQL and the other value is non-detect, calculate the absolute difference between the value > CRQL and the MDL, and use this difference to qualify sample results.

A.1.19 Field Duplicates

Aqueous Field Duplicates

		YES	NO	N/A
A.1.19.1	Was an aqueous Field Duplicate pair collected and analyzed? (Check Sampling Trip Report)	[___]	___	✓ ___

ACTION:
If yes, prepare a Form (Appendix A.4) for each aqueous Field Duplicate pair. Report the sample and Field Duplicate results on Appendix A.4 from their respective Form I's. Calculate and report RPD on Appendix A.4 when sample and its Field Duplicate values are both > 5xCRQL. Calculate and report the absolute difference on Appendix A.4 when at least one value (sample or duplicate) is <5xCRQL. Evaluate the aqueous Field Duplicate analysis in accordance with the

	YES	NO	N/A

QC criteria stated in Sections A.1.19.2 and A.1.19.3.

NOTE:
1. Do not transfer "*" from Form I's to Appendix A.4.
2. Do not calculate RPD when both values are non-detects.
3. Substitute MDL for CRQL when MDL > CRQL.
4. If one value is >CRQL and the other value is non-detect, calculate the absolute difference between the value > CRQL and the MDL, and use this the criteria to qualify the results.

A.1.19.2 Circle all values on the Form (Appendix A.4) for Field Duplicates that have:

RPD ≥ 20% or

Difference > ± CRQL

When sample and duplicate values are both ≥5xCRQL (substitute MDL for CRQL when MDL > CRQL),

is any RPD ≥ 20%?	* ✓	[___]	✓
is any RPD ≥ 100%?	___	[___]	✓

ACTION:
If the RPD is >20% but < 100%, flag (J) only the associated sample and its Field Duplicate results ≥ CRQL. If the RPD is ≥ 100%, reject(R) and red-line only the associated sample and its Field Duplicate result ≥ CRQL.

A.1.19.3 When the sample and/or duplicate value(s) <5xCRQL (substitute MDL for CRQL when MDL >CRQL), is the absolute difference between sample and duplicate:

> ± CRQL?	___	* ✓ [___]	✓
> ± 2 x CRQL?	___	* ✓ [___]	✓

ACTION:
If the absolute difference is > CRQL, flag detects ≥ MDL but < 5xCRQL as "J" and non-detects as "UJ". If the difference is > 2xCRQL, reject (R) and red-line non-detects

* MJW 9/20/11

		YES	NO	N/A

and results ≥ MDL but <5xCRQL of the sample and its Field Duplicate.

Soil/Sediment Field Duplicates

A.1.19.4 Was a soil field duplicate pair collected and analyzed? (Check Sampling Trip Report) [✓] ___ ___

ACTION:
If yes, for each soil Field Duplicate pair proceed as follows:

Prepare Appendix A.4 for each Field Duplicate pair. Report on Appendix A.4 all sample and its Field Duplicate results in MG/KG from their respective Form I's. Calculate and report RPD when sample and its duplicate values are both greater than 5xCRQL. Calculate and report the absolute difference when at least one value (sample or duplicate)is < 5xCRQL. Evaluate the Field Duplicate analysis in accordance with the QC Criteria stated in Sections A.1.19.5 and A.1.19.6.

NOTE:
1. Do not transfer "*" from Form I's to Appendix A.4.
2. Do not calculate RPD when both values are non-detects.
3. Substitute MDL for CRQL when MDL > CRQL.
4. If one value is >CRQL and the other value is non-detect, calculate the absolute difference between the value > CRQL and the MDL, and apply the criteria to qualify the results.

A.1.19.5 Circle on each Appendix A.4 all values that have:

RPD ≥ 35%, or Difference > ± 2xCRQL
When sample and duplicate values are both ≥ 5xCRQL (substitute MDL for CRQL when MDL > CRQL),

is any RPD ≥ 35% but < 120%? ✓ [___] ___

is any RPD ≥ 120%? ✓ [✓] MV 10/4/11

ACTION:
If the RPD is ≥ 35% but < 120%,

		YES	NO	N/A
	flag only the associated sample and its Field Duplicate results ≥ CRQL as "J". If the RPD is ≥ 120%, reject (R) and red-line only the sample and its Field Duplicate results ≥ CRQL.			
A.1.19.6	When the sample and/or duplicate value(s) <5xCRQL (substitute MDL for CRQL when MDL > CRQL), is the absolute difference between sample and Field Duplicate:			
	> ± 2 x CRQL?	___	[✓]	___
	> ± 4 x CRQL?	___	[✓]	___
	ACTION: If the absolute difference is > 2xCRQL, flag Sample and its Field Duplicate resuts ≥ MDL but <5xCRQL as "J" and non-detects as "UJ". If the difference is >4xCRQL, reject(R) and red-line non-detects and detects ≥ MDL but <5xCRQL of the sample and its Field Duplicate.			
A.1.20	**Laboratory Control Sample (LCS)- Form VII**			
A.1.20.1	Was one LCS prepared and analyzed for:			
	Each SDG?	[✓]	___	___
	Each matrix type?	[✓]	___	___
	Each batch samples digested/distilled?	[✓]	___	___
	For each Method(ICP-AES,ICP-MS,Hg,CN) used?	[✓]	___	___
	Was an LCS prepared and analyzed with the samples?	[✓]	___	___
	ACTION: If no for any of the above, prepare Telephone Record Log and contact CLP PO or TOPO for submittal of the LCS results. Flag (J) as estimated all the data for which an LCS was not analyzed.			
	NOTE: If only one LCS was analyzed for			

	YES	NO	N/A

more than 20 samples, then the first 20 samples analyzed are not flagged(J), but all additional samples must be qualified (J).

A.1.20.2 **Aqueous LCS**

Circle on each Form VII the LCS percent recoveries outside control limits 80-120%.

NOTE: 1.Use digested ICV as LCS for aqueous mercury
2.Use distilled ICV as LCS for aqueous cyanide

Is any LCS recovery:

Less than 50%?	___	[___]	✓
Between 50% and 79%?	___	[___]	✓
Between 121% and 150%?	___	[___]	✓
Greater than 150%?	___	[___]	✓

ACTION:
If the LCS recovery is less than 50%, reject (R) and red-line all associated sample data (detects & non-detects); for a recovery between 50-79%, flag detects as "J" all non-detects as "UJ". if the LCS recovery is between 121-150%, flag only detects as "J". if the recovery is greater than 150%, reject (R) and red-line all detects.

A.1.20.3 **Solid LCS**

If an analyte's MDL is equal to or greater than the true value of LCS, disregard the "Action" below for that analyte even though the LCS is out of control limits.

Is the LCS "Found" value greater than the Upper Control Limit reported on Form VII?	___	[✓]	___

ACTION:

		YES	NO	N/A
	If yes, flag (J) all the associated detects ≥ MDL as estimated (J).			
	Is the LCS "Found" value lower than the Lower Control Limit reported on Form VII?	___	[✓]	___
	ACTION: If yes, flag detects as "J" and non-dectes as "UJ".			
A.1.21	**ICP-AES/ICP-MS Serial Dilution - Form VIII** **NOTE:** Serial dilution analysis is required only when the initial concentration is equal to or greater than 50 x MDL.			
A.1.21.1	Was a Serial Dilution analysis performed:			
	For each SDG?	[✓]	___	___
	On one of the SDG samples?	[✓]	___	___
	For each matrix type?	[✓]	___	___
	For each concentration range (low or med.)?	[✓]	___	___
	Was a Serial Dilution sample analyzed with the SDG samples?	[✓]	___	___
	ACTION: If no for any of the above, flag as estimated (J) detects ≥ MDL of all the SDG samples for which the ICP Serial Dilution Analysis was not performed.			
A.1.21.2	Was a Field Blank or PE sample used for the Serial Dilution Analysis?	___	[✓]	___
	ACTION: If yes, flag as estimated (J) detects ≥ MDL of all the SDG samples			
A.1.21.3	Circle on Form VIII the Percent Differences (%D) between sample results and its dilution results that are outside the control limits ± 10%			

		YES	NO	N/A
	when initial concentrations ≥ 50 x MDLs.			
	Are results outside the control limits flagged with an "E"(Lab Qualifier) on Form VIII and all Form I's?	[___]	~~✓~~ *	✓
	ACTION: If no, write in the Contract-Problem/ Non-Compliance Section of the Data Review Narrative.	~~Selenium - 100%~~ * ~~DUP A15 - 160%~~ *		
A.1.21.4	Are any %D values:			* mw 9/26/14
	> 10%?	___	[✓]	___
	≥ 100%?	✓	[___]	___
	ACTION: If the Percent Difference (%D) is greater than 10%, flag (J) as estimated all associated samples whose **raw data** ≥ MDL; if the %D is ≥ 100%, reject (R) and red-line **all** associated samples with **raw data** ≥ MDL. (**NOTE**:Replace "E" with "J" or "R" as appropriate.)			
A.1.22	**Total/Dissolved or Inorganic/Total Analytes**			
A.1.22.1	Were any analyses performed for dissolved as well as total analytes on the same sample(s)?	___	[✓]	___
	Were any analyses performed for inorganic as well as total analytes on the same sample(s)?	___	[✓]	___
	ACTION: If yes, prepare a Form (Appendix A.5) to compare the differences between dissolved (or inorganic)and total analyte concentrations. Compute each difference on Appendix A.5 as a percent of the total analyte only when both of the following conditions are fulfilled: (1) The dissolved(or inorganic)concentration is greater than total concentration, and (2) greater than or equal to 5xMDL.			
A.1.22.2	Is any dissolved (or inorganic) concentration greater than its total concentration by more than 20%?	___	[___]	✓

		YES	NO	N/A
A.1.22.3	Is any dissolved(or inorganic) concentration greater than its total concentration by more than 50%?	___	[___]	✓

ACTION:
If the percent difference is greater than 20%, flag (J) both dissolved/inorganic and total concentrations as estimated. If the difference is more than 50%, reject (R) and red-line both the values.

A.1.23 **Field Blank - Form I**
NOTE: Designate "Field Blank" as such on Form I

A.1.23.1	Was a Field/Rinsate Bank collected and analyzed with the SDG samples?	[✓]	___	✓ *
	If yes, is any Field/Rinsate Blank absolute value of an analyte on Form I greater than its CRQL(or 2xMDL when MDL>CRQL)?	___	[✓]	✓ *
	If yes, circle the Field Blank value on Form I that is greater than the CRQL, (or 2 x MDL when MDL > CRQL).			
	Is any Field Blank value greater than CRQL also greater than the Preparation Blank value?	___	[✓]	✓ *
	If yes, is the Field Blank value (> CRQL and > the prep. blank value) already rejected due to other QC criteria?	[___]	___	___ ✓ * MW 9/20/11

ACTION:
If the Field Blank value was not rejected, reject all associated sample data (except the Field Blank results)greater than the CRQL but less than the Field Blank value. Reject on Form I's the soil sample results whose raw values in ug/L in the instrument printout are greater than the CRQL but less than the Field Blank value in ug/L. Flag as "J" detects between the Field Blank value and 10xField Blank value. If the sample result ≥ MDL but ≤ CRQL, replace it with CRQL-U.

If the Field Blank value is less than the

		YES	NO	N/A
	Prep.Blank value, do not qualify the sample results due to the Field Blank criteria.			

NOTE:
1. Field Blank result previously rejected due to other criteria cannot be used to qualify field samples.
2. Do not use Rinsate Blank associated with soils to qualify water samples and vice versa.

A.1.24 **Verification of Instrumental Parameters - Form IX, XA, XB, XI**

A.1.24.1 Is verification report present for:

Method Detection Limits (Form IX-Annually)?	[✓]	___	___
ICP-AES Interelement Correction Factors (Form XA & XB -Quarterly)?	[✓]	___	___
ICP-AES & ICP-MS Linear Ranges (Form XI-Quarterly)?	[✓]	___	___

ACTION:
If no, contact CLP PO/TOPO for submittal from the laboratory.

A.1.24.2 **Method Detection Limits - Form IX**

A.1.24.2.1 Are MDLs present on Form IX for:

All the analytes?	[✓]	___	___
All the instruments used?	[✓]	___	___
Digested and undigested samples and Calib.Blanks?	[✓]	___	✓ NR 4/20/11
ICP-AES and ICP-MS when both instruments are used for the same analyte?	[___]	___	✓

ACTION:
If no for any of the above, prepare Telephone Record Log and contact CLP PO/TOPO for submittal of the MDLs from the laboratory. Report to CLP PO and write in the Contract Problems/ Non-Compliance Section of the Data Review Narrative if the MDL concentration is not less than ½ CRQL.

		YES	NO	N/A
A.1.24.2.2	Is MDL greater than the CRQL for any analyte?	___	[✓]	___
	If yes, is the analyte concentration on Form I greater than 5 x MDL for the sample analyzed on the instrument whose MDL exceeds CRQL?	[___]	___	✓
	ACTION: If no, flag as estimated (J) all values less than five times MDL for the analyte whose MDL exceeds the CRQL.			
A.1.24.3	**Linear Ranges - Form XI**			
A.1.24.3.1	Was any sample result higher than the high linear range for ICP-AES or ICP-MS?	___	[✓]	___
	Was any sample result higher than the highest calibration standard for mercury or cyanide?	___	[___]	✓
	If yes for any of the above, was the sample diluted to obtain the result reported on Form I?	[___]	___	✓
	ACTION: If no, flag (J) as estimated the affected detects (≥ MDL) reported on Form I.			
A.1.25	**ICP-MS Tune Analysis - Form XIV**			
A.1.25.1	Was the ICP-MS instrument tuned prior to calibration?	[___]	___	✓
	ACTION: If no, reject (R) and red-line all sample data for which tuning was not performed.			
A.1.25.2	Was the tuning solution analyzed or scanned at least five times consecutively?	[___]	___	✓
	Were all the required isotopes spanning the analytical range present in the tuning solution?	[___]	___	✓
	Was the mass resolution within			

		YES	NO	N/A
	0.1 amu for each isotope in the tuning solution?	[___]	___	✓
	Was %RSD less than 5% for each isotope of each analyte in the tuning solution?	[___]	___	✓

ACTION:
If no for any of the above, qualify all results ≥ MDL associated with that Tune as estimated "J", and all non-detects associated with that Tune as "UJ".

A.1.26 **ICP-MS Internal Standards - Form XV**

A.1.26.1	Were the Internal Standards added to all the samples and all QC samples and calibration standards (except the Tuning Solution)?	[___]	___	✓
	Were all the target analyte masses bracketed by the masses of the five internal standards?	[___]	___	✓

ACTION:
If none of the Internal Standards was added to the samples, reject (R) and red-line all the associated sample data (detects & non-detects). If internal standards were used but did not cover all the analyte masses, reject (R) and red-line only the analyte results not bracketed by the internal standard masses.

A.1.26.2	Was the intensity of an Internal Standard in each sample within 60-125% of the intensity of the same Internal Standard in the calibration blank?	[___]	___	✓
	If no, was the original sample diluted two fold, Internal Standard added and the sample re-analyzed?	[___]	___	✓
	Was the %RI for the two fold diluted sample within the acceptance limits (60-125%)?	[___]	___	✓

ACTION:
If no for any of the above, flag detects as "J" and non-detects "UJ" of all the analytes with atomic masses between the

atomic mass of the internal standard lighter

than the affected internal standard, and the atomic mass of the internal standard heavier than the affected internal standard.

A.1.27 **Percent Solids of Sediments**

A.1.27.1 Are percent solids in sediment(s):

< 50%? ___ [✓] ___

ACTION:
If yes, qualify as estimated (J) all detects and non-detects of a sample that has percent solids less than 50%(i.e.,moisture content greater than 50%).

NOTE:
Flag(J) only the sample results that were not previously flagged due to other QC criteria.

Inorganic Data Review Narrative

Case# _____ **Site:** Ft. Totten **Matrix: Soil** X

SDG# C1E120445 **Lab:** TestAmerica **Water** ____

Sampling Team: _____ **Reviewer:** Mike Washburn **Other** _____

A.2.1 **Data Validation Flags:**
The following flags may have been applied in red by the data validator and must be considered by the data user.

J - This flag indicates the result qualified as **estimated**

R and Red-Line - A red-line drawn through a sample result indicates **unusable** value. The red-lined data are known to contain significant errors based on documented information and must not be used by the data user.

U - This data validation qualifier is applied to sample results ≥ MDL when associated blank is contaminated

Fully Usable Data - The results that do not carry "J" or "red-line" are fully **usable**.

A.2.2 **Laboratory Qualifiers:**
The CLP laboratory applies a contractual qualifier on all

Form I'S and the QC Form when a QC analysis is outside the control limits. These qualifiers are not applied on the Lotus or XLS spreadsheets. These qualifiers and their meanings are as follows:

N: This qualifier indicates the lack of accuracy in the reported result, and is applied when matrix spiked sample recovery is outside the control limits.

E: This qualifier indicates the the presence of interference, and is applied when the ICP serial dilution is outside the control limits.

*: This qualifier indicate the lack of precision , and is pplied on Fom I'S and Form VI when the Lab Duplicate analysis is outside the control limits.

U: This is a concentration qualifier that laboratory applies to a non-detected result which is essentially less than the Method Detection Limit(MDL). A non-detected result of an analyte is indicated by the Contract Required Quantitation Limit (CRQL) of that analyte suffixed with "U".

J: This is also a concentration qualifier that laboratory applies to a positive result below the CRQL.

NOTE: The laboratory qualifiers are crossed out and replaced with the appropriate data validation qualifiers (J, R or U) by the data validator.

A.2.3.1 **Data Case Description**:

A.2.3.2 **CSF Audit**:

A.2.3.3 **Technical Review:**

A.2.3.4 **Contract-Problem/Non-Compliance:**

HWSS Reviewer: _____ Date:_____
Signature

Contractor Reviewer: _____ Date:_____
Signature

Verified by: _____ Date:_____
Signature

Contract Laboratory Program
REGION II/LABORATORY COMMUNICATION SYSTEM

Telephone Record Log

CASE #
SDG #

Date of Call: _____

ESAT Reviewer/Date: _____

Type of Analysis: ___Inorganic_____

Laboratory Name: _____

Lab Contact: _____

Call Initiated By: ___Laboratory _X_Region II

Inquiry made in reference to data for the following sample number(s):

Summary of Questions/Issues Discussed:

Summary of Resolution:

Signature

Date: _____

FIELD DUPLICATES

Sample No. **Field Duplicate No.** **Sample Matrix:**

Lab Code: **Case No. :** **SDG No.:**

% Solids Sample: **% Solids Duplicate:**

Concentration Units (ug/l or mg/kg dry weight):

	Action Limit	Sample Concentration	C	Duplicate Concentration	C	RPD	Difference	Q	M
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead									
Magnesium									
Manganese									

					YES	NO	N/A		
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

Total/Dissolved Concentrations

Lab Code **Case No.** **SDG No.** **Sample Matrix: Water**

Concentration: ug/L

ANALYTE	TOTAL	C	DISSOLVED	C	DIFFERENCE	Q	M
ALUMINUM							
ARSENIC							
BARIUM							
BERYLLIUM							
CADMIUM							
CALCIUM							
CHROMIUM							
COBALT							
COPPER							
IRON							
LEAD							
MAGNESIUM							
MAGNESE							
MERCURY							
NICKEL							

POTASSIUM							
SELENIUM							
SILVER							
SODIUM							
THALLIUM							
VANADIUM							
ZINC							
CYANIDE							

CONTRACT LABORATORY PROGRAM
CLP RAS RE-ANALYSIS REQUEST/APPROVAL RECORD

SECTION A (TO BE COMPLETED BY REGIONAL SENDING OFFICIAL)

Initiated By:

Name, Affiliation, Phone Number

_____

Case Number: _____
- OLM
- OLC
- ILM

Details of Re-Analysis Request:

- Laboratory Name /Contract Number: _____
- Affected Sample Number(s) and Fraction(s): _____
- Reason for Re-Analysis: _____
- Contract Statement of Work Citation*: _____
  _____
- Comments: _____
- _____
  * PROVIDE SOW CITATION THAT SUPPORTS THIS REQUEST

RE-ANALYSIS Billable ( ) Not Billable ( )

- Approved By: _____ Date: _____
  Authorized Regional Sending CLP PO Signature

SECTION B (TO BE COMPLETED BY SMO)

_____

Name of SMO Contact _____ Date: _____

Date of Laboratory Notification (Verbal): _____

Re-analysis Start Date: _____ Data Due Date: _____

Return completed form to:
Sample Management Office (SMO)

Distribtion: (1) CLP PO Copy (2) Regional Sending Official Copy (3) SMO File Copy (4) Laboratory Copy
Final 9/3/99

CLP DATA ASSESSMENT SUMMARY FORM (INORGANICS)

Type of Review: _____ Date:_____ Case# _____SDG#___

Site: _____ Lab Name: _____

Reviewer's Initials:_____ Number of Samples:_____

Analytes Rejected (R) Due to Exceeding Review Criteria

	Holding Time	CRQL Std	Blanks	ICS	Spike Recovery	Dup. Lab.	Dup. Field	LCS	ICP Serial Dilution	% Solids	Internal Std. ICP-MS	Tuning ICP-MS	Total Analytes	Rejection %
ICP-AES														
ICP-MS														
Mercury														
Cyanide														
Total														

Analytes Flagged (J) as Estimated Due to Exceeding Review Criteria

	Holding Time	CRQL Std	Blanks	ICS	Spike Recovery	Dup. Lab.	Dup. Field	LCS	ICP Serial Dilution	% Solids	Internal Std. ICP-MS	Tuning ICP-MS	Total Analytes	Rejection %
ICP-AES														
ICP-MS														
Mercury														
Cyanide														
Total														

Al 729

$75.\cancel{492}\ \frac{mg}{L} \times \frac{.1L}{1g} \times \frac{1}{.86} \times \frac{1000g}{\cancel{kg}} = \cancel{8836.279}\ 8805.69\ mg/kg$

As 0.03615

$\cancel{0.09489}\ \frac{mg}{L} \times \frac{.1L}{g} \times \frac{1}{.86} \times 1000\frac{\cancel{g}}{\cancel{kg}} = 4.203\ mg/kg$

Cr

$0.22480\ \frac{mg}{L} \times \frac{.1L}{g} \times \frac{1}{0.86} \times 1000\frac{\cancel{g}}{\cancel{kg}} = 26.14\ mg/kg$

Na

$2.0464\ \frac{mg}{L} \times \frac{.1L}{g} \times \frac{1}{0.86} \times 1000\frac{g}{\cancel{kg}} = 237.95\ mg/kg$

Sample

A12-107 (6-24)

TestAmerica Pittsburgh

Metals Data Reporting Form

Initial Calibration Blank Results

Instrument: ICPST **Units:** ug/L

Chart Number: T10527B.ARC

Standard Source: _____ **Standard ID:** _____

Element	WL/ Mass	Report Limit	ICB1 5/27/2011 2:50 PM Found	Q	Found	Q	Found	Q	Found	Q	Found	Q
Aluminum	308.215	200	41.8	U								
Antimony	220.353	10	1.6	U								
Arsenic	189.042	10	2.2	U								
Barium	493.409	200	2.3	U								
Beryllium	313.042	4	0.7	U								
Cadmium	226.502	5	2.5	U								
Calcium	317.933	5000	9.8	U								
Chromium	267.716	5	0.9	U								
Cobalt	228.616	50	0.9	U								
Copper	324.753	25	3.4	U								
Iron	271.441	100	29.8	U								
Lead	220.353	10	1.6	U								
Magnesium	279.078	5000	22.1	U								
Manganese	257.61	15	0.5	U								
Nickel	231.604	40	3.8	U								
Potassium	766.491	5000	750.0	U								
Silver	328.068	5	0.7	U								
Sodium	330.232	5000	-520.0	B								
Vanadium	292.402	50	1.9	U								

Sx = 2600 ug/L

2.6 mg/L

MJW 9/16/11

5.22.0

U Result is less than the MDL

B Result is between MDL and RL

Form 3 Equivalent

TestAmerica Pittsburgh

Metals Data Reporting Form

Continuing Calibration Blank Results

Instrument: ICPST **Units:** ug/L

Chart Number: T10527B.ARC

Standard Source: _____ **Standard ID:** _____

Element	WL/ Mass	Report Limit	CCB1 5/27/2011 3:26 PM Found	Q	CCB2 5/27/2011 4:41 PM Found	Q	CCB3 5/27/2011 5:55 PM Found	Q	CCB4 5/27/2011 7:07 PM Found	Q	CCB5 5/27/2011 8:20 PM Found	Q
Aluminum	308.215	200	41.8	U	41.8	U	41.8	U	41.8	U	41.8	U
Antimony	220.353	10	1.6	U	1.6	U	1.6	U	1.6	U	1.6	U
Arsenic	189.042	10	2.2	U	2.2	U	2.2	U	2.2	U	2.2	U
Barium	493.409	200	2.3	U	2.3	U	2.3	U	2.3	U	2.3	U
Beryllium	313.042	4	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U
Cadmium	226.502	5	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
Calcium	317.933	5000	9.8	U	9.8	U	9.8	U	9.8	U	9.8	U
Chromium	267.716	5	0.9	U	0.9	U	0.9	U	0.9	U	0.9	U
Cobalt	228.616	50	0.9	U	0.9	U	0.9	U	0.9	U	0.9	U
Copper	324.753	25	3.4	U	3.4	U	3.4	U	3.4	U	3.4	U
Iron	271.441	100	29.8	U	29.8	U	29.8	U	29.8	U	29.8	U
Lead	220.353	10	1.6	U	1.6	U	1.6	U	1.6	U	1.6	U
Magnesium	279.078	5000	22.1	U	22.1	U	22.1	U	22.1	U	22.1	U
Manganese	257.61	15	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Nickel	231.604	40	3.8	U	3.8	U	3.8	U	3.8	U	3.8	U
Potassium	766.491	5000	750.0	U	750.0	U	750.0	U	750.0	U	750.0	U
Silver	328.068	5	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U
Sodium	330.232	5000	**-370.0**	**B**	**-280.0**	**B**	**-290.0**	**B**	**-360.0**	**B**	**-410.0**	**B**
Vanadium	292.402	50	1.9	U	1.9	U	1.9	U	1.9	U	1.9	U

MJW 9/16/11

5.22.0

U Result is less than the MDL
B Result is between MDL and RL

Form 3 Equivalent

TestAmerica Pittsburgh

Metals Data Reporting Form

Continuing Calibration Blank Results

Instrument: ICPST **Units:** ug/L

Chart Number: T10527B.ARC

Standard Source: _____ **Standard ID:** _____

Element	WL/ Mass	Report Limit	CCB6 5/27/2011 9:32 PM Found	Q	CCB7 5/27/2011 10:45 PM Found	Q	CCB8 5/27/2011 11:58 PM Found	Q	CCB9 5/28/2011 1:10 AM Found	Q	CCB10 5/28/2011 2:23 AM Found	Q
Aluminum	308.215	200	41.8	U	41.8	U	41.8	U	41.8	U	41.8	U
Antimony	220.353	10	1.6	U	1.6	U	1.6	U	1.6	U	1.6	U
Arsenic	189.042	10	2.2	U	2.2	U	2.2	U	2.2	U	2.2	U
Barium	493.409	200	2.3	U	2.3	U	2.3	U	2.3	U	2.3	U
Beryllium	313.042	4	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U
Cadmium	226.502	5	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
Calcium	317.933	5000	9.8	U	9.8	U	9.8	U	9.8	U	9.8	U
Chromium	267.716	5	0.9	U	0.9	U	0.9	U	0.9	U	0.9	U
Cobalt	228.616	50	0.9	U	0.9	U	0.9	U	0.9	U	0.9	U
Copper	324.753	25	3.4	U	3.4	U	3.4	U	3.4	U	3.4	U
Iron	271.441	100	29.8	U	29.8	U	29.8	U	29.8	U	29.8	U
Lead	220.353	10	1.6	U	1.6	U	1.6	U	1.6	U	1.6	U
Magnesium	279.078	5000	22.1	U	22.1	U	22.1	U	22.1	U	22.1	U
Manganese	257.61	15	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Nickel	231.604	40	3.8	U	3.8	U	3.8	U	3.8	U	3.8	U
Potassium	766.491	5000	750.0	U	750.0	U	750.0	U	750.0	U	750.0	U
Silver	328.068	5	0.7	U	-0.9	B	0.7	U	0.7	U	0.7	U
Sodium	330.232	5000	-280.0	B	-440.0	B	-430.0	B	-500.0	B	-430.0	B
Vanadium	292.402	50	1.9	U	1.9	U	1.9	U	1.9	U	1.9	U

Silver SX = 4.5 mg/L

MJW 9/16/11

5.22.0

U Result is less than the MDL

B Result is between MDL and RL

Form 3 Equivalent

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: C1E120445 Matrix.....: SOLID

PARAMETER	RESULT	LOQ	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: C1E130000-207 Prep Batch #...: 1133207						
Aluminum	8.0 U	20.0	mg/kg	SW846 6010C	05/13-05/28/11	MJDT71AV
		Dilution Factor: 1				
		Analysis Time..: 00:34		Analyst ID.....: 022952	Instrument ID..: TRA	
Antimony	0.40 U	1.0	mg/kg	SW846 6010C	05/13-05/28/11	MJDT71AW
		Dilution Factor: 1				
		Analysis Time..: 00:34		Analyst ID.....: 022952	Instrument ID..: TRA	
Arsenic	0.60 U	1.0	mg/kg	SW846 6010C	05/13-05/28/11	MJDT71AX
		Dilution Factor: 1				
		Analysis Time..: 00:34		Analyst ID.....: 022952	Instrument ID..: TRA	
Barium	0.50 U	20.0	mg/kg	SW846 6010C	05/13-05/28/11	MJDT71A0
		Dilution Factor: 1				
		Analysis Time..: 00:34		Analyst ID.....: 022952	Instrument ID..: TRA	
Beryllium	0.15 U	0.40	mg/kg	SW846 6010C	05/13-05/28/11	MJDT71A1
		Dilution Factor: 1				
		Analysis Time..: 00:34		Analyst ID.....: 022952	Instrument ID..: TRA	
Cadmium	0.080 U	0.50	mg/kg	SW846 6010C	05/13-05/28/11	MJDT71AA
		Dilution Factor: 1				
		Analysis Time..: 00:34		Analyst ID.....: 022952	Instrument ID..: TRA	
Calcium	27.7 J	500	mg/kg	SW846 6010C	05/13-05/28/11	MJDT71AC
		Dilution Factor: 1				
		Analysis Time..: 00:34		Analyst ID.....: 022952	Instrument ID..: TRA	
Chromium	0.30 U	0.50	mg/kg	SW846 6010C	05/13-05/28/11	MJDT71AD
		Dilution Factor: 1				
		Analysis Time..: 00:34		Analyst ID.....: 022952	Instrument ID..: TRA	
Cobalt	0.30 U	5.0	mg/kg	SW846 6010C	05/13-05/28/11	MJDT71AE
		Dilution Factor: 1				
		Analysis Time..: 00:34		Analyst ID.....: 022952	Instrument ID..: TRA	
Copper	0.70 U	2.5	mg/kg	SW846 6010C	05/13-05/28/11	MJDT71AF
		Dilution Factor: 1				
		Analysis Time..: 00:34		Analyst ID.....: 022952	Instrument ID..: TRA	
Iron	6.3 J	10.0	mg/kg	SW846 6010C	05/13-05/28/11	MJDT71AG
		Dilution Factor: 1				
		Analysis Time..: 00:34		Analyst ID.....: 022952	Instrument ID..: TRA	

(Continued on next page)

MJW 9/20/11

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: C1E120445 Matrix.....: SOLID

PARAMETER	RESULT	LOQ	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Lead	0.30 U	1.0	mg/kg	SW846 6010C	05/13-05/28/11	MJDT71AH
		Dilution Factor: 1				
		Analysis Time..: 00:34		Analyst ID.....: 022952	Instrument ID..: TRA	
Magnesium	6.0 J	500	mg/kg	SW846 6010C	05/13-05/28/11	MJDT71AJ
		Dilution Factor: 1				
		Analysis Time..: 00:34		Analyst ID.....: 022952	Instrument ID..: TRA	
Manganese	0.20 U	1.5	mg/kg	SW846 6010C	05/13-05/28/11	MJDT71AK
		Dilution Factor: 1				
		Analysis Time..: 00:34		Analyst ID.....: 022952	Instrument ID..: TRA	
Nickel	0.50 U	4.0	mg/kg	SW846 6010C	05/13-05/28/11	MJDT71AL
		Dilution Factor: 1				
		Analysis Time..: 00:34		Analyst ID.....: 022952	Instrument ID..: TRA	
Potassium	150 U	500	mg/kg	SW846 6010C	05/13-05/28/11	MJDT71AM
		Dilution Factor: 1				
		Analysis Time..: 00:34		Analyst ID.....: 022952	Instrument ID..: TRA	
Sodium	60.0 U	500	mg/kg	SW846 6010C	05/13-05/28/11	MJDT71AN
		Dilution Factor: 1				
		Analysis Time..: 00:34		Analyst ID.....: 022952	Instrument ID..: TRA	
Silver	0.10 U	0.50	mg/kg	SW846 6010C	05/13-05/28/11	MJDT71AP
		Dilution Factor: 1				
		Analysis Time..: 00:34		Analyst ID.....: 022952	Instrument ID..: TRA	
Selenium	0.70 U	1.0	mg/kg	SW846 6010C	05/13-06/07/11	MJDT71AQ
		Dilution Factor: 1				
		Analysis Time..: 19:57		Analyst ID.....: 22952	Instrument ID..: 650	
Thallium	1.0 U	2.0	mg/kg	SW846 6010C	05/13-06/07/11	MJDT71AR
		Dilution Factor: 1				
		Analysis Time..: 19:57		Analyst ID.....: 22952	Instrument ID..: 650	
Vanadium	0.50 U	5.0	mg/kg	SW846 6010C	05/13-05/28/11	MJDT71AT
		Dilution Factor: 1				
		Analysis Time..: 00:34		Analyst ID.....: 022952	Instrument ID..: TRA	
Zinc	1.2 J	2.0	mg/kg	SW846 6010C	05/13-06/07/11	MJDT71AU
		Dilution Factor: 1				
		Analysis Time..: 19:57		Analyst ID.....: 22952	Instrument ID..: 650	

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

J Estimated result. Result is less than RL.

MSV
9/20/11

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: C1E120445 **Matrix.....:** SOLID
Date Sampled...: 05/11/11 **Date Received..:** 05/12/11

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Chromium	116	(80 - 120)			SW846 6010C	05/13-05/27/11	MJAH61A7
	112	(80 - 120)	0.16	(0-20)	SW846 6010C	05/13-05/27/11	MJAH61A8
		Dilution Factor: 0.97					
		Analysis Time..: 23:33			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1133124					
Cobalt	92	(80 - 120)			SW846 6010C	05/13-05/27/11	MJAH61A9
	89	(80 - 120)	0.69	(0-20)	SW846 6010C	05/13-05/27/11	MJAH61CA
		Dilution Factor: 0.97					
		Analysis Time..: 23:33			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1133124					
Copper	213 N	(80 - 120)			SW846 6010C	05/13-05/27/11	MJAH61CC
	194 N	(80 - 120)	2.6	(0-20)	SW846 6010C	05/13-05/27/11	MJAH61CD
		Dilution Factor: 0.97					
		Analysis Time..: 23:33			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1133124					
Iron	NC	(80 - 120)			SW846 6010C	05/13-05/27/11	MJAH61CE
	NC	(80 - 120)		(0-20)	SW846 6010C	05/13-05/27/11	MJAH61CF
		Dilution Factor: 0.97					
		Analysis Time..: 23:33			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1133124					
Lead	NC	(80 - 120)			SW846 6010C	05/13-05/27/11	MJAH61CG
	NC	(80 - 120)		(0-20)	SW846 6010C	05/13-05/28/11	MJAH61CH
		Dilution Factor: 4.85					
		Analysis Time..: 23:46			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1133124					
Magnesium	80	(80 - 120)			SW846 6010C	05/13-05/27/11	MJAH61CJ
	75 N	(80 - 120)	1.8	(0-20)	SW846 6010C	05/13-05/27/11	MJAH61CK
		Dilution Factor: 0.97					
		Analysis Time..: 23:33			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1133124					
Manganese	142 N	(80 - 120)			SW846 6010C	05/13-05/27/11	MJAH61CL
	142 N	(80 - 120)	0.94	(0-20)	SW846 6010C	05/13-05/27/11	MJAH61CM
		Dilution Factor: 0.97					
		Analysis Time..: 23:33			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1133124					

(Continued on next page)

MJW 9/20/11

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: C1E120445 **Matrix.....:** SOLID
Date Sampled...: 05/11/11 **Date Received..:** 05/12/11

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Zinc	123 N	(80 - 120)			SW846 6010C	05/13-06/07/11	MJAH61C5
	139 N	(80 - 120)	4.5	(0-20)	SW846 6010C	05/13-06/07/11	MJAH61C6

Dilution Factor: 0.97
Analysis Time..: 19:28 Instrument ID..: 6500ICP Analyst ID.....: 22952
MS Run #.....: 1133124

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Results and reporting limits have been adjusted for dry weight.

NC The recovery and/or RPD were not calculated.

N Spiked analyte recovery is outside stated control limits.

MJW 9/20/11

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: C1E120445 **Matrix.....:** SOLID
Date Sampled...: 05/11/11 **Date Received..:** 05/12/11

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: C1E120445-035 **Prep Batch #...:** 1133207						**% Moisture.....:** 12	
Aluminum	NC	(80 - 120)			SW846 6010C	05/13-05/28/11	MJAJD1DG
	NC	(80 - 120)		(0-20)	SW846 6010C	05/13-05/28/11	MJAJD1DH
		Dilution Factor: 0.98					
		Analysis Time..: 01:59			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1133125					
Antimony	63 N	(80 - 120)			SW846 6010C	05/13-05/28/11	MJAJD1DJ
	63 N	(80 - 120)	1.8	(0-20)	SW846 6010C	05/13-05/28/11	MJAJD1DK
		Dilution Factor: 0.98					
		Analysis Time..: 01:59			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1133125					
Arsenic	97	(80 - 120)			SW846 6010C	05/13-05/28/11	MJAJD1A3
	93	(80 - 120)	1.9	(0-20)	SW846 6010C	05/13-05/28/11	MJAJD1A4
		Dilution Factor: 4.9					
		Analysis Time..: 02:11			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1133125					
Barium	98	(80 - 120)			SW846 6010C	05/13-05/28/11	MJAJD1A5
	93	(80 - 120)	2.4	(0-20)	SW846 6010C	05/13-05/28/11	MJAJD1A6
		Dilution Factor: 0.98					
		Analysis Time..: 01:59			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1133125					
Beryllium	92	(80 - 120)			SW846 6010C	05/13-05/28/11	MJAJD1A7
	89	(80 - 120)	0.67	(0-20)	SW846 6010C	05/13-05/28/11	MJAJD1A8
		Dilution Factor: 0.98					
		Analysis Time..: 01:59			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1133125					
Cadmium	97	(80 - 120)			SW846 6010C	05/13-05/28/11	MJAJD1A9
	88	(80 - 120)	6.5	(0-20)	SW846 6010C	05/13-05/28/11	MJAJD1CA
		Dilution Factor: 0.98					
		Analysis Time..: 01:59			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1133125					
Calcium	99	(80 - 120)			SW846 6010C	05/13-05/28/11	MJAJD1CC
	92	(80 - 120)	4.3	(0-20)	SW846 6010C	05/13-05/28/11	MJAJD1CD
		Dilution Factor: 0.98					
		Analysis Time..: 01:59			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1133125					

(Continued on next page)

MJW 6/20/11

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: C1E120445 **Matrix.....:** SOLID
Date Sampled...: 05/11/11 **Date Received..:** 05/12/11

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Chromium	103	(80 - 120)			SW846 6010C	05/13-05/28/11	MJAJD1CE
	95	(80 - 120)	3.2	(0-20)	SW846 6010C	05/13-05/28/11	MJAJD1CF
		Dilution Factor: 0.98					
		Analysis Time..: 01:59			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1133125					
Cobalt	92	(80 - 120)			SW846 6010C	05/13-05/28/11	MJAJD1CG
	89	(80 - 120)	0.97	(0-20)	SW846 6010C	05/13-05/28/11	MJAJD1CH
		Dilution Factor: 0.98					
		Analysis Time..: 01:59			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1133125					
Copper	93	(80 - 120)			SW846 6010C	05/13-05/28/11	MJAJD1CJ
	72 N	(80 - 120)	11	(0-20)	SW846 6010C	05/13-05/28/11	MJAJD1CK
		Dilution Factor: 0.98					
		Analysis Time..: 01:59			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1133125					
Iron	NC	(80 - 120)			SW846 6010C	05/13-05/28/11	MJAJD1CL
	NC	(80 - 120)		(0-20)	SW846 6010C	05/13-05/28/11	MJAJD1CM
		Dilution Factor: 4.9					
		Analysis Time..: 02:11			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1133125					
Lead	189 N	(80 - 120)			SW846 6010C	05/13-05/28/11	MJAJD1CN
	149 N	(80 - 120)	14	(0-20)	SW846 6010C	05/13-05/28/11	MJAJD1CP
		Dilution Factor: 4.9					
		Analysis Time..: 02:11			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1133125					
Magnesium	95	(80 - 120)			SW846 6010C	05/13-05/28/11	MJAJD1CQ
	91	(80 - 120)	1.4	(0-20)	SW846 6010C	05/13-05/28/11	MJAJD1CR
		Dilution Factor: 0.98					
		Analysis Time..: 01:59			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1133125					
Manganese	NC	(80 - 120)			SW846 6010C	05/13-05/28/11	MJAJD1CT
	NC	(80 - 120)		(0-20)	SW846 6010C	05/13-05/28/11	MJAJD1CU
		Dilution Factor: 0.98					
		Analysis Time..: 01:59			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1133125					

(Continued on next page)

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Field Dup

field_sample_id	param_name	final_result	final_qualifier	difference	average	RPD
AI5-105(0-2)	**Aluminum**	**5360**		690	5705	12%
DUP-AI5-1(0-2)	**Aluminum**	**6050**				
AI5-105(0-2)	Arsenic	3.9		0.1	3.85	3%
DUP-AI5-1(0-2)	Arsenic	3.8				
AI5-105(0-2)	Barium	55.8		4.3	53.65	8%
DUP-AI5-1(0-2)	Barium	51.5				
AI5-105(0-2)	Calcium	30500		4800	32900	15%
DUP-AI5-1(0-2)	**Calcium**	**35300**				
AI5-105(0-2)	Chromium	18.1		0.8	18.5	4%
DUP-AI5-1(0-2)	Chromium	18.9				
AI5-105(0-2)	Copper	90.7	J	1.5	89.95	2%
DUP-AI5-1(0-2)	Copper	89.2	J			
AI5-105(0-2)	**Iron**	**9240**		80	9200	1%
DUP-AI5-1(0-2)	Iron	9160				
AI5-105(0-2)	Lead	366	J	6	363	2%
DUP-AI5-1(0-2)	Lead	360	J			
AI5-105(0-2)	Magnesium	2420		1130	2985	38%
DUP-AI5-1(0-2)	Magnesium	3550				
AI5-105(0-2)	Manganese	155		7	158.5	4%
DUP-AI5-1(0-2)	Manganese	162	J			
AI5-105(0-2)	Nickel	13.9		0.4	14.1	3%
DUP-AI5-1(0-2)	Nickel	14.3				
AI5-105(0-2)	Thallium	1.1	U	0	1.1	0%
DUP-AI5-1(0-2)	Thallium	1.1	U			
AI5-105(0-2)	Vanadium	15.1		2.1	16.15	13%
DUP-AI5-1(0-2)	Vanadium	17.2				
AI5-105(0-2)	Zinc	158	J	9	162.5	6%
DUP-AI5-1(0-2)	Zinc	167	J			

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Field Dup

field_sample_id	param_name	final_result	final_qualifier	difference	average	RPD
AI5-105(6-24)	**Aluminum**	**8080**		510	8335	6%
DUP-AI5-2(6-24)	**Aluminum**	**8590**				
AI5-105(6-24)	Arsenic	2.2		0.9	2.65	34%
DUP-AI5-2(6-24)	Arsenic	3.1				
AI5-105(6-24)	Barium	71.3		29.5	56.55	52%
DUP-AI5-2(6-24)	Barium	41.8				
AI5-105(6-24)	Beryllium	0.45		0.04	0.47	9%
DUP-AI5-2(6-24)	Beryllium	0.49				
AI5-105(6-24)	Calcium	3350		2364	2168	109%
DUP-AI5-2(6-24)	Calcium	986				
AI5-105(6-24)	Chromium	21.1		2.9	19.65	15%
DUP-AI5-2(6-24)	Chromium	18.2				
AI5-105(6-24)	Cobalt	7.6		1.5	6.85	22%
DUP-AI5-2(6-24)	Cobalt	6.1				
AI5-105(6-24)	Copper	66.9	J	41.2	46.3	89%
DUP-AI5-2(6-24)	Copper	25.7	J			
AI5-105(6-24)	**Iron**	**17200**		1800	18100	10%
DUP-AI5-2(6-24)	**Iron**	**19000**				
AI5-105(6-24)	Lead	106	J	50.6	80.7	63%
DUP-AI5-2(6-24)	Lead	55.4	J			
AI5-105(6-24)	Magnesium	4010		1750	3135	56%
DUP-AI5-2(6-24)	Magnesium	2260				
AI5-105(6-24)	Manganese	205		111	260.5	43%
DUP-AI5-2(6-24)	Manganese	316				
AI5-105(6-24)	Nickel	19.7		3.6	17.9	20%
DUP-AI5-2(6-24)	Nickel	16.1				
AI5-105(6-24)	Potassium	2290		1442	1569	92%
DUP-AI5-2(6-24)	Potassium	848				
AI5-105(6-24)	Vanadium	28.3		6.5	25.05	26%
DUP-AI5-2(6-24)	Vanadium	21.8				
AI5-105(6-24)	Zinc	71.3	J	435.7	289.15	151%
DUP-AI5-2(6-24)	Zinc	507	J			

MJW
10/5/11

Site: Ft. Totten

Case #:

SDG #: C1E140504

Samples: (Soil) **Water**

Mike Washburn 9/20/11

	YES	NO	N/A
A.I.1 Contract Compliance Screening Report			
Present?	[ ]	___	✓
ACTION: If no, contact RSCC/PO.			
A.I.2 Record of Communication (from RSCC)			
Present?	[ ]	___	✓
ACTION: If no, request from the RSCC.			
A.1.3 Sampling Trip Report			
Present and complete?	[ ]	___	✓
ACTION: If no, contact RSCC/PO.			
A.I.4 Chain of Custody/Sample Traffic Report			
Present?	[✓]	___	___
Legible?	[✓]	___	___
Signature of sample custodian present?	[✓]	___	___
ACTION: If no, contact RSCC/WAM/PO.			
A.I.5 Cover Page			
Present?	[✓]	___	___
Is the Cover Page properly filled in and the verbatim signed by the lab manager or the manager's designee?	[✓]	___	___
Do the sample identification numbers on the Cover Page agree with sample Identification numbers on:			
(a) Traffic Report Sheet?	[✓]	___	___

	YES	NO	N/A
(b) Form I's?	[✓]	___	___
Is the number of samples on the Cover Page the same as the number of samples on the Traffic Report sheet and the Regional Record of Communication (ROC) for the data Case?	[___]	___	___

ACTION:
If no for any of the above, prepare Telephone Record Log and contact RSCC/PO for re-submittal of the corrected Cover Page from the laboratory.

A.1.6 **SDG Narrative, DC-1 & DC-2 Form**

Is the SDG Narrative present?	[✓]	___	___
Is Sample Log-In Sheet(Form DC-1) present and complete?	[✓]	___	___
Is Complete SDG Inventory Sheet(Form DC-2) present and complete?	[___]	___	✓

ACTION:
If no, write in the Contract-Problems/ Non-Compliance Section of the Data Review Narrative.

A.1.7 **Form I to XV**

A.1.7.1 Are all the Form I through Form XV labeled with:

Laboratory Name?	[✓]	___	___
Laboratory Code?	[___]	✓	___
RAS/Non-RAS Case No.?	[___]	✓	___
SDG No.?	[✓]	___	___

		YES	NO	N/A
	Contract No.?	[ ]	✓	

ACTION:
If no for any of the above, note under Contract Problem/Non-Compliance Section of the "Data Review Narrative" and contact PO for corrected Form(s) from the laboratory.

A.1.7.2 After comparing values on Forms I-IX against the raw data, do any computation/ transcription errors exceed 10% of the reported values on the Forms for:

(a) all analytes analyzed by ICP-AES?		[✓]	
(b) all analytes analyzed by ICP-MS?		[ ]	✓
(c) Mercury?		[✓]	
(d) Cyanide?		[ ]	✓

ACTION:
If yes, prepare Telephone Record Log and contact CLP PO/TOPO for the corrected data from the laboratory.

A.1.8 Raw Data

Data shall not be validated without the hard/electronic copies of the associated raw data for samples and QC samples.

A.1.8.1 Digestion/Distillation Log

Digestion Log for ICP-AES (Form XII)present?	[✓]		
Digestion Log for ICP-MS (Form XII) present?	[ ]		✓
Digestion Log for mercury (Form XII) present?	[✓]		
Distillation Log for cyanide (Form XII) present?	[ ]		✓

Are pH values for metals and

	YES	NO	N/A
cyanide reported for each aqueous sample?	[✓]	_	_
Are percent solids calculations present for soils/sediments?	[✓]	___	___
Are preparation dates present on the sample preparation logs/bench sheets?	[✓]	_	_

NOTE:
Digestion/Distillation log must include weights, volumes, and dilutions used to obtain the reported results.

A.1.8.2 Is the analytical instrument real-time printouts present for:

ICP-AES?	[✓]	_	_
ICP-MS?	[ ]	___	✓
Mercury?	[✓]	_	_
Cyanide?	[ ]	___	✓

Are all laboratory bench sheets and instrument raw data printouts necessary to support all sample analyses and QC operations:

Legible?	[✓]	_	_
Properly labeled?	[✓]	_	_

Are all field samples, QC samples and field QC samples present on:

Digestion/Distillation log?	[✓]	___	___
Instrument Printouts?	[✓]	_	_

ACTION:
If no for any of the above questions in Section A.1.8.1 and Section A.1.8.2, write Telephone Record Log and contact TOPO/PO for re-submittal from the laboratory.

		YES	NO	N/A
A.1.9	**Technical Holding Times**: (Aqueous and soil samples) (Examine sample Traffic Reports and digestion/distillation logs to determine the holding time from the sample collection date to the sample preparation date.)			
A.1.9.1	Cyanide distillation(14 days)exceeded?	_	[ ]	✓
	Mercury analysis(28 days) exceeded?	_	[✓]	_
	Other Metals analysis(180 days)exceeded?	___	___ [✓]	_

ACTION:
If yes, reject (R) and red-line non-detects and flag as estimated (J)results ≥ MDL even if sample(s) was preserved properly.

NOTE:
In addition to qualifying the data, a list of all samples and analytes which exceeded the holding times must be prepared. Report for each sample the number of days that were exceeded. (Subtract the sample collection date from the sample preparation date). Attach this list to the data review narrative.

A.1.9.2	Is pH of aqueous samples for:			
	Metals Analysis ≤ 2?	[✓]	___	___
	Cyanide Analysis ≥ 12?	[ ]	_	✓

ACTION:
If no for any of the above, flag non-detects as "R" and detects as "J".

A.1.9.3	Is the cooler temperature ≤ 10 C°?	[✓]	_	_

ACTION:
If cooler temperature is >10 ^{0}C , flag non-detects as "UJ" and detects as "J".

A.1.10 **Final Data Correctness - Form I**

A.1.10.1 Are Form I's for all samples

	YES	NO	N/A
present and complete?	[✓]	___	___

ACTION:
If no, prepare Telephone Record Log and contact CLP PO/TOPO for submittal from the laboratory.

A.1.10.2 Verify there are no calculation and transcription errors in the results reported on Form I's. Circle on each Form I all results that are incorrect.

Is the calculation error less than 10% of the correct result?	[✓]	___	___
Are results on Form I's reported in correct units (ug/L for aqueous and MG/KG for soils)?	[✓]	___	___
Are results on Form I'S reported by correct significant figures?	[✓]	___	___
Are soil sample results on Form I's corrected for percent solids?	[✓]	___	___
Are all "less than MDL" values reported by the CRQLs and coded with "U"?	[✓]	___	___
Are values less than the CRQLs but greater than or equal to the MDLs flagged with "J"?	[✓]	___	___
Are appropriate contractual quality control and Method qualifiers used?	[✓]	___	___

ACTION:
If no for any of the above questions, prepare Telephone Record Log, and contact CLP PO/TOPO for corrected data.

A.1.10.3 Do EPA sample identification numbers and the corresponding laboratory sample identification numbers match on the Cover Page, Form I's and in the raw data? [___] ___ ✓

Was a brief physical description

	YES	NO	N/A
of the samples before and after digestion given on the Form I's?	[___]	✓	___
Was any sample result outside the mercury/cyanide calibration range or the ICP-AES/ICP-MS linear range diluted and noted on the Form I?	[___]	___	✓

ACTION:
If no for any of the above, note under the Contract-Problem/Non-Compliance Section of the Data Review Narrative.

A.1.11 **Initial Calibration**

		YES	NO	N/A
A.1.11.1	Is a record of at least 2 point (A blank and a standard)calibration present for ICP-AES analysis?	[✓]	___	___
	Is a record of at least 2 point (a blank and a standard)calibration present for ICP-MS analysis?	[✓]	___	✓
	Is a record of at least 5 point calibration (a blank & 4 standards)present for Hg analysis?	[✓]	___	___
	Is a record of at least 4 point calibration (a blank & 4 standards)present for cyanide?	[___]	___	✓

ACTION:
If incomplete or no initial calibration was performed, reject (R) and red-line the associated data (detects & non-detects).

	Is one initial calibration standard at the CRQL level for cyanide and mercury?	[___]	✓	___

ACTION:
If no, write in the Contract Problem/ Non-Compliance Section of the Data Review Narrative.

A.1.11.2 Is the curve correlation coefficient $\geq$ 0.995 for:

		YES	NO	N/A
	Mercury Analysis?	[✓]	___	___
	Cyanide Analysis?	[___]	___	✓
	ICP-AES(more than 2 point Calib.)?	[___]	___	✓
	ICP-MS (more than 2 point calib.)?	[___]	___	✓

ACTION:
If no, qualify the associated sample results ≥ MDL as estimated "J" and non-detects as "UJ".

NOTE:
The correlation coefficient shall be calculated by the data validator using standard concentrations and the corresponding instrument response (e.g. absorbance, peak area, peak height, etc.).

A.1.12 **Initial and Continuing Calibration Verification- Form IIA**

A.1.12.1	Present and complete for every metal and cyanide?	[✓]	___	___
	Present and complete for ICP-AES and ICP-MS when both these methods were used for the same analyte?	[___]	___	✓

ACTION:
If no for any of the above, prepare a Telephone Record Log and contact PO/TOPO for re-submittal from the laboratory.

A.1.12.2	Was a Continuing Calibration Verification performed every 10 samples or every 2 hours whichever is more frequent?	[✓]	___	___

ACTION:
If no for any of the above, write in the Contract-Problem/Non-Compliance Section of the Data Review Narrative.

A.1.12.3	Was an ICV or a mid-range standard distilled and analyzed with each batch of cyanide samples?	[___]	___	✓

	YES	NO	N/A

ACTION:
If no for any of the above, write in the Contract-Problem/Non-Compliance Section of the Data Review Narrative and qualify results ≥ MDL as estimated (J).

A.1.12.2 Circle on each Form IIA all percent recoveries that are outside the contract windows.

Are ICV/CCVs within control limits for:

Metals - 90-110%R?	[✓]	___	___
Hg - 80-120%R?	[✓]	___	___
Cyanide - 85-115%R?	[___]	___	✓

ACTION:
If no, qualify all samples between a previous technically acceptable CCV standard and a subsequent technically acceptable CCV standard as follows as follows:

Qualify as estimated (J) all detects and non-detects, if the ICV/CCV %R is between 75-89%(65-79% for Hg; 70-84% for CN). Qualify only positive results(≥ MDL) as "J" if the ICV/CCV %R is between 111-125%(121-135% for Hg;116-130% for CN). Reject (R) and red-line only detects if the recovery is greater than 125% (135% for Hg; 130% for CN). Reject (R) and red-line all associated results (hits and non-detects)if the recovery is less than 75%(65% for Hg;70% for CN).

NOTE:
For ICV that does not fall within the acceptance limits, qualify all samples reported from the analytical run.

A.1.12.3 Was the distilled ICV or mid-range standard for cyanide within acceptance limits (85-115%)? [___] ___ ✓

ACTION:
If no, Qualify all cyanide results ≥ MDL as "J".

A.1.13 **CRQL Standard Analysis - Form IIB**

A.1.13.1 For each ICP-AES run, was a CRI

	YES	NO	N/A
(CRQL or MDL when MDL > CRQL) standard analyzed? (Note:CRI is not required for Al, Ba, Ca, Fe, Mg, Na and K.)	[✓]	___	___
For each ICP-MS run, was a CRI (CRQL or MDL when MDL > CRQL) standard analyzed for each mass/isotope used for the analysis?	[✓]	___	___
For each mercury run, was a CRQL standard analyzed?	[✓]	___	___
For each cyanide run, was a CRQL standard analyzed?	[___]	___	✓

ACTION:
If no for any of the above, write this deficiency in the Contract Problems/ Non-Compliance Section of the Data Review Narrative, inform CLP PO and flag results in the affected ranges (detects <2xCRQL)as J and non-detects UJ.

The affected ranges are:
ICP-AES Analysis - *True Value ± CRQL
ICP-MS Analysis - *True Value ± CRQL
Mercury Analysis - *True Value ± CRQL
Cyanide Analysis - *True Value ± CRQL
* True value of the CRQL Standard

		YES	NO	N/A
A.1.13.2	Was a CRQL standard analyzed after the ICV/ICB, before the final CCV/CCB and once every 20 analytical samples in the analytical run for each analysis?	[___]	✓	___

ACTION:
If no, write in the Contract Problem/ Non-Compliance Section of the "Data Review Narrative".

A.1.13.3 Circle on each Form IIB all percent recoveries that are outside the acceptance windows.

	YES	NO	N/A
Is the CRQL standard within control limits for:			
Metals(ICP-AES/ICP-MS)- 70 - 130%?	[✓]	___	___
Mercury- 70 - 130%?	[✓]	___	___
Cyanide - 70 - 130%?	[___]	___	✓

ACTION:
If no, flag detects <2xCRQL as "J" and non-detects as "UJ" if the CRQL standard recovery is between 50-69%. Flag(J) only detects <2xCRQL if the recovery is between 131% and ≤180%. If the recovery is less than 150%, reject(R) and red-line non-detects and detects < 2xCRQL, and flag (J) detects between 2xCRQL and ICV/CCV. Reject and red-line only detects <2xCRQL and flag (J)detects ≥ 2xCRQL but < ICV/CCV if the recovery is > 180%.

NOTE:
1. Qualify all field samples analyzed between a previous technically acceptable analysis of the CRQL standard and a subsequent acceptable analysis of the CRQL standard
2. Flag (J) or reject (R) only the final sample results on Form I's when **Sample raw data** are within the affected ranges and the CRQL standard is outside the acceptance windows.
3. The samples and the CRQL standard must be analyzed in the same analytical run.

A.1.14 Initial and Continuing Calibration Blanks - Form III

A.1.14.1	Present and complete for all the instruments used for the metals and cyanide analyses?	[✓]	___	___
	Was an initial Calibration Blank analyzed after ICV?	[✓]	___	___
	Was a continuing Calibration Blank analyzed after every CCV and every 10 samples or every 2 hours, whichever is more frequent?	[✓]	___	___
	Were the ICB & CCB values ≥ MDL but < CRQL reported on Form III and flagged "J" by			

		YES	NO	N/A
	using MDLs from direct analysis(Preparation Method "NP1")? (Check Form III against the raw data)	[✓]	___	___

ACTION:
If no, inform CLP PO/TOPO and make a note in the Contract-Problems/Non-Compliance Section of the "Data Review Narrative".

A.1.14.2 Circle with red pencil on each Form III all Calib. Blank values that are:

≥ MDL but ≤ CRQL

> CRQL

A.1.14.2.1	When MDL < CRQL, is any Calib. Blank value ≥ MDL but ≤ CRQL?	___	[✓]	___

ACTION:
If yes, change sample results ≥ MDL but ≤ CRQL to the CRQL with a "U". Do not qualify non-detects.

A.1.14.2.2	When MDL < CRQL, is any Calib. Blank value > CRQL?	___	[✓]	___

ACTION:
If yes, reject (R) and red line the associated sample results > CRQL but <ICB/CCB Blank Result. Flag as "J" detects > ICB/CCB blank value but < 10xICB/CCB value. Change the sample results ≥ MDL but ≤ the CRQL to CRQL with a "U".

A.1.14.2.3	Is any Calibration Blank value below the negative CRQL?	___	[✓]	___

ACTION:
If yes, flag (J) as estimated all associated sample results ≥ CRQL but <10xCRQL.

NOTE:
1. For ICB that does not meet the technical QC Criteria, apply the action to all samples

	YES	NO	N/A

reported from the analytical run.
2. For CCBs that do not meet the technical QC criteria, apply the action to all samples analyzed between a previous technically acceptable analysis of CCB and a subsequent technically acceptable analysis of the CCB in the analytical run.,

A.1.15 **Preparation Blank - FORM III**

NOTE:The Preparation Blank for mercury is the same as the calibration blank.

A.1.15.1 Was one Preparation Blank prepared with and analyzed for:

Each Sample Delivery Group (SDG)?	[✓]	___	___
Each batch of the SDG samples digested/distilled?	[✓]	___	___
Each matrix type?	[✓]	___	___
All instruments used for metals and cyanide analyses?	[✓]	___	___

ACTION:
If no for any of the above, flag as estimated (J) all the associated positive data <10xMDL for which the Preparation Blank was not analyzed.

NOTE:
If only one blank was analyzed for more than 20 samples, then the first 20 samples analyzed are not estimated(J),but all additional samples must be qualified (J).

A.1.15.2 Circle with red pencil on each Form III all Prep. Blank values that are:

≥ MDL but ≤ CRQL, and

> CRQL

A.1.15.2.1 When MDL < CRQL, is any preparation blank value ≥ MDL but ≤ CRQL?	___	[✓]	___

ACTION:
If yes, change sample result ≥ MDL

		YES	NO	N/A
	but ≤ CRQL to CRQL with a "U".			
A.1.15.2.2	When the MDL ≤ CRQL, is any Preparation Blank value greater than its CRQL?	___	[✓]	___
	If yes, is the Prep. Blank value greater than the value of the associated Field Blank collected and analyzed with the SDG samples?	___	[___]	✓
	If yes, is the lowest concentration of that analyte in the associated samples less than 10 times the Preparation Blank value?	___	[___]	✓

ACTION:
If yes, reject (R) and red-line all associated sample results greater than the CRQL but less than the Prep.Blank value. Flag as "J" detects > Prep. Blank value but <10xPrep.Blank. If the sample result ≥ MDL but ≤ CRQL, replace it with CRQL-U.

If the Prep. Blank value is less than the same analyte value in the Field Blank, do not qualify the sample results due to the Prep. Blank criteria.

NOTE:
Convert soil sample result to mg/Kg on wet weight basis to compare with the soil Prep. Blank result on Form III.

A.1.15.2.3	Is the Prep. Blank concentration below the negative CRQL?	___	[✓]	___

ACTION:
If yes, flag (J) all associated sample results less than 10xCRQL. Qualify non-detects as estimated (UJ).

A.1.15.2.4	When the MDL is greater than the CRQL, is the preparation blank concentration on Form III greater than two times the MDL?	___	[___]	✓

ACTION:

		YES	NO	N/A
	If yes, reject (R) and red-line all positive sample results with sample raw data less than 10 times the Preparation Blank value.			

A.1.16 **ICP-AES/ICP-MS Interference Check Sample (ICS)- Form IV**

NOTE: Not required for CN, Hg, Al, Ca, Fe and Mg.

		YES	NO	N/A
A.1.16.1	Present and complete?	[✓]		
	Was ICS analyzed at the beginning and end of each analytical run, and once for every 20 analytical samples?	[ ]	✓	
	Was ICS analyzed at the beginning of the ICP-MS analytical run?	[ ]		✓

ACTION:
If no, flag as estimated (J) all sample results.

A.1.16.2 **ICP-AES Method**

		YES	NO	N/A
A.1.16.2.1	**ICSA Solution:** For ICP-AES, are the ICSA "Found" analyte values within the control limits ± of CRQL of the true/established mean value?	[✓]		
	If no for any of the above, is the sample concentration of Al, Ca, Fe, or Mg in the same units (ug/L or MG/KG) greater than or equal to its respective concentration in the ICSA Solution on Form IV?	[ ]		✓

ACTION:
If yes, apply the following action to all samples analyzed between a previous technically acceptable analysis of the ICS and a subsequent technically acceptable analysis of the ICS in the analytical run:

Flag (J) as estimated only sample results ≥MDL

	YES	NO	N/A

for which the ICSA "Found" value is greater than (True value+CRQL). Do not qualify non-detects. If the ICSA "Found" value is less than (True value-CRQL), flag non-detects as "UJ" and detects as "J".

A.1.16.2.3 **ICSAB Solution**

For ICP-AES, are all analyte results in ICSAB within the control limits of 80-120 of the true/established mean value? [✓] ___ ___

If no for any of the above, is the sample concentration of Al, Ca, Fe, or Mg in the same units (ug/L or MG/KG) greater than or equal to its respective concentration in the ICSAB Solution on Form IV? [___] ___ ✓

ACTION:
If yes, apply the following action to all samples analyzed between a previous technically acceptable analysis of the ICS and a subsequent technically acceptable analysis of the ICS in the analytical run:

Flag (J) as estimated those associated sample results ≥ MDL for which the ICSAB analyte recovery is greater than 120% but ≤ 150%. If the ICSAB recovery falls within 50-79%, qualify sample results ≥ MDL as "J" and non-detects as "UJ". Reject (R) and red-line all sample results (detects & non-detects) for which the ICSAB analyte recovery is less than 50%. If the recovery is above 150%, reject (R) and red-line only positive results.

A.1.16.3 **ICP-MS Method**

A.1.16.3.1 **ICSA Solution:**

For ICP-MS, are the ICSA "Found" analyte values within the control limits of ±CRQL of the true/established mean value? [___] ___ ___ ✓

ACTION:
If no, apply the following action to all samples reported from the analytical run:

Flag (J) as estimated only sample results ≥ MDL if the ICSA "Found" value is greater than (True value+CRQL). Do not qualify non-detects. If the ICSA "Found" value is less than (True value-CRQL), flag the associated sample detects as "J" and non-detects as "UJ".

		YES	NO	N/A
A.1.16.3.3	**ICSAB Solution** For ICP-MS, are all analyte results in ICSAB within the control limits of 80-120% of the true/established mean value, whichever is greater?	[___]	___	✓

ACTION:
If no, apply the following action to all samples reported from the analytical run:

Flag (J) as estimated those associated sample results ≥ MDL for which the ICSAB analyte recovery is greater than 120% but ≤ 150%. If the ICSAB recovery falls within 50-79% flag (J) as estimated the associated sample results ≥ MDL. Reject (R) and red-line those all sample detects and non-detects for which the ICSAB analyte recovery is less than 50%. If the recovery is above 150%, reject (R) and red-line only detects (≥ MDL).

A.1.17 **Spiked Sample Recovery: Pre-Digestion/Pre-Distillation)-Form V A**
Note: Not required for Ca, Mg, K, and Na (both matrices); Al and Fe (soil only)

A.1.17.1	Was Matrix Spike analysis performed:			
	For each matrix type?	[✓]	___	___
	For each SDG?	[✓]	___	___
	On one of the SDG samples?	[✓]	___	___
	For each concentration range (i.e., low, med., high)?	[✓]	___	___
	For each analytical Method (ICP-AES, ICP-MS, Hg, CN) used?	[✓]	___	___
	Was a spiked sample prepared and analyzed with the SDG samples?	[✓]	___	___

ACTION:
If no for any of the above, flag as estimated (J) all the positive data for which a spiked sample was not analyzed.

NOTE:
If more than one spiked sample were analyzed for one SDG, then qualify the associated data based on the worst spiked sample analysis.

		YES	NO	N/A
A.1.17.2	Was a field blank or PE sample used for the spiked sample analysis?	___	[✓]	___

ACTION:
If yes, flag (J) as estimated positive data of the associated SDG samples for which field blank or PE sample was used for the spiked sample analysis.

A.1.17.3 Circle on each Form VA all spike recoveries that are outside the control limits (75-125%) that have sample concentrations less than four times the added spike concentrations.

Are all recoveries within the control limits when sample concentrations are less than or equal to four times the spike concentrations? [___] ✓ ___

NOTE:
Disregard the out of control spike recoveries for analytes whose concentrations are greater than or equal to four times the spike added.

Antimony MS-68, MSD-71
~~Copper MS 78~~, Lower limit ~~80~~* 75
*MF

Are results outside the control limits (75-125%) flagged with Lab Qualifier "N" on Form I's and Form VA? [✓] ___ ___

ACTION:
If no for any of the above, write in the Contract - Problems/Non-Compliance Section of the Data Review Narrative.

A.1.17.4 **Aqueous**

Are any spike recoveries:

(a) less than 30%? ___ *[~~✓~~] ✓

(b) between 30-74%? *[~~✓~~] ✓

(c) between 126-150%? ___ *[~~✓~~] ✓

(d) greater than 150%? ___ *[~~✓~~] ✓

ACTION:
If the matrix spike recovery is less than 30%, reject (R) and red-line all associated aqueous data (detects & non-detects). If between 30-74%, qualify all associated aqueous data ≥ MDL as "J" and non-detects

* MJW 9/20/11

	YES	NO	N/A

as "UJ". If between 126-150%, flag (J) all data ≥ MDL as "J". If greater than 150%, reject (R) and red-line all associated data ≥ MDL.

(**NOTE**:Replace "N" with "J", "R" as appropriate.)

A.1.17.5 **Soil/Sediment**

Are any spike recoveries:

(a) less than 10%?	___	[✓]	___
(b) between 10-74%?	✓	[___]	___
(c) between 126-200%?	___	[✓]	___
(d) greater than 200%?	___	[✓]	___

ACTION:
If yes for any of the above, proceed as follows:

If the matrix spike recovery is less than 10%, reject (R) and red-line all associated data (detects & non-detects); if between 10-74%, qualify all associated data ≥ MDL as "J" and non-detects as "UJ"; if between 126-200%, flag (J) all associated data ≥ MDL as "J" If greater than 200%, reject (R) and red-line all associated data ≥ MDL.
(**NOTE**:Replace "N" with "J" or "R" as appropriate.)

A.1.18 **Lab Duplicates) - Form VI**

A.1.18.1 Was the lab duplicate analysis performed:

For each SDG?	[___]	✓	___
On one of the SDG samples?	[___]	✓	___
For each matrix type?	[___]	✓	___
For each concentration range (low or med.)?	[___]	✓	___
For each analytical Method (ICP-AES/ICP-MS, Hg, CN) Used?	[___]	✓	___
Was a lab duplicate prepared and analyzed with the SDG samples?	[___]	✓	___

		YES	NO	N/A
	ACTION: If no for any of the above, flag (J) as estimated all the SDG sample results (detects & non-detects) for which the lab duplicate analysis was not performed.			
	NOTE: If more than one lab duplicate sample were analyzed for an SDG, then qualify the associated samples based on the worst lab duplicate analysis.			
A.1.18.2	Was a Field Blank or PE sample used for the Lab Duplicate analysis?	___	[✓]	___
	ACTION: If yes, flag as estimated (J) all SDG sample results (hits & non-detects) for which Field Blank or PE sample was used for duplicate analysis.			
A.1.18.3	Circle on each Form VI all values that are: RPD > 20%, or Absolute Difference > CRQL			
	Are all values within control limits (RPD ≤ 20% or absolute difference ≤ ±CRQL)?	[___]	___	✓
	If no, are all results outside the control limits flagged with an "*" (Lab Qualifier)on Form VI and on all Form I's?	[___]	___	✓
	ACTION: If no, write in the Contract-Problems/ Non-Compliance Section of the Data Review Narrative.			
	NOTE: The laboratory is not required to report on Form VI the RPD when both values are non-detects.			
A.1.18.4	**Aqueous**			
A.1.18.4.1	When sample and duplicate values are both ≥ 5xCRQL (substitute MDL for CRQL when MDL > CRQL),			

	YES	NO	N/A
is any RPD > 20% but < 100%?	___	[___]	✓
is any RPD ≥ 100%?	___	[___]	✓

ACTION:
If the RPD is > 20% but < 100%, flag (J) as estimated the associated sample data ≥ CRQL. If the RPD is ≥ 100%, reject (R) and red-line the associated sample data ≥ CRQL.

(**NOTE**:Replace "*" with "J" or "R" as appropriate.)

A.1.18.4.2 When the sample and/or duplicate value <5xCRQL (substitute MDL for CRQL when MDL >CRQL), is the absolute difference between sample and duplicate values:

> ± CRQL?	___	[___]	✓
> ± 2xCRQL?	___	[___]	✓

ACTION:
If the absolute difference is > CRQL, flag as estimated all the associated sample results ≥ MDL but < 5xCRQL as "J" and non-detects as "UJ". If the absolute difference is > 2xCRQL, reject (R) and red-line all the associated non-detects and detects ≥ MDL but < 5xCRQL.

NOTE:
1. Replace "*" with "J", "UJ" or "R" as appropriate.)
2. If one value is >CRQL and the other value is non-detect, calculate the absolute difference between the value > CRQL and the MDL, and use this difference to qualify sample results.

A.1.18.5 **Soil/Sediment**

A.1.18.5.1 When sample and duplicate values are both ≥ 5xCRQL (substitute MDL for CRQL when MDL > CRQL),

is any RPD ≥ 35% but < 120%?	___	[___]	✓
is any RPD ≥ 120%?	___	[___]	✓

ACTION:
If the RPD is ≥ 35% and < 120%, flag (J) as estimated the associated sample

		YES	NO	N/A
	data ≥ CRQL. If the RPD is ≥ 120%, reject (R)and red-line the associated sample data ≥ CRQL.			
A.1.18.5.2	When the sample and/or duplicate value <5xCRQL(substitute MDL for CRQL when MDL > CRQL), is the absolute difference between sample and duplicate:			
	> ± 2 x CRQL?	___	[___]	✓
	> ± 4 x CRQL	___	[___]	✓

ACTION:
If the absolute difference is > 2 x CRQL, flag all the associated sample results ≥ MDL but < 5xCRQL as "J" and non-detects as "UJ". If the absolute difference is > 4xCRQL, reject (R) and red-line all the associated non-detects and detects ≥ MDL but <5xCRQL.

NOTE:
1. Replace "*" with "J", "UJ" or "R" as appropriate.)
2. If one value is >CRQL and the other value is non-detect, calculate the absolute difference between the value > CRQL and the MDL, and use this difference to qualify sample results.

A.1.19 Field Duplicates

Aqueous Field Duplicates

		YES	NO	N/A
A.1.19.1	Was an aqueous Field Duplicate pair collected and analyzed? (Check Sampling Trip Report)	[___]	✓	___

ACTION:
If yes, prepare a Form (Appendix A.4) for each aqueous Field Duplicate pair. Report the sample and Field Duplicate results on Appendix A.4 from their respective Form I's. Calculate and report RPD on Appendix A.4 when sample and its Field Duplicate values are both > 5xCRQL. Calculate and report the absolute difference on Appendix A.4 when at least one value (sample or duplicate) is <5xCRQL. Evaluate the aqueous Field Duplicate analysis in accordance with the

	YES	NO	N/A

QC criteria stated in Sections A.1.19.2 and A.1.19.3.

NOTE:
1. Do not transfer "*" from Form I's to Appendix A.4.
2. Do not calculate RPD when both values are non-detects.
3. Substitute MDL for CRQL when MDL > CRQL.
4. If one value is >CRQL and the other value is non-detect, calculate the absolute difference between the value > CRQL and the MDL, and use this the criteria to qualify the results.

A.1.19.2 Circle all values on the Form (Appendix A.4) for Field Duplicates that have:

RPD ≥ 20% or

Difference > ± CRQL

When sample and duplicate values are both ≥5xCRQL (substitute MDL for CRQL when MDL > CRQL),

is any RPD ≥ 20%?	___	[___]	✓
is any RPD ≥ 100%?	___	[___]	✓

ACTION:
If the RPD is >20% but < 100%, flag (J) only the associated sample and its Field Duplicate results ≥ CRQL. If the RPD is ≥ 100%, reject(R) and red-line only the associated sample and its Field Duplicate result ≥ CRQL.

A.1.19.3 When the sample and/or duplicate value(s) <5xCRQL (substitute MDL for CRQL when MDL >CRQL), is the absolute difference between sample and duplicate:

> ± CRQL?	___	[___]	✓
> ± 2 x CRQL?	___	[___]	✓

ACTION:
If the absolute difference is > CRQL, flag detects ≥ MDL but < 5xCRQL as "J" and non-detects as "UJ". If the difference is > 2xCRQL, reject (R) and red-line non-detects

		YES	NO	N/A
	and results ≥ MDL but <5xCRQL of the sample and its Field Duplicate.			

Soil/Sediment Field Duplicates

A.1.19.4	Was a soil field duplicate pair collected and analyzed? (Check Sampling Trip Report)	[___]	___	✓

ACTION:
If yes, for each soil Field Duplicate pair proceed as follows:

Prepare Appendix A.4 for each Field Duplicate pair. Report on Appendix A.4 all sample and its Field Duplicate results in MG/KG from their respective Form I's. Calculate and report RPD when sample and its duplicate values are both greater than 5xCRQL. Calculate and report the absolute difference when at least one value (sample or duplicate)is < 5xCRQL. Evaluate the Field Duplicate analysis in accordance with the QC Criteria stated in Sections A.1.19.5 and A.1.19.6.

NOTE:
1. Do not transfer "*" from Form I's to Appendix A.4.
2. Do not calculate RPD when both values are non-detects.
3. Substitute MDL for CRQL when MDL > CRQL.
4. If one value is >CRQL and the other value is non-detect, calculate the absolute difference between the value > CRQL and the MDL, and apply the criteria to qualify the results.

A.1.19.5	Circle on each Appendix A.4 all values that have: RPD ≥ 35%, or Difference > ± 2xCRQL When sample and duplicate values are both ≥ 5xCRQL (substitute MDL for CRQL when MDL > CRQL),			
	is any RPD ≥ 35% but < 120%?	___	[___]	✓
	is any RPD ≥ 120%?	___	[___]	✓

ACTION:
If the RPD is ≥ 35% but < 120%,

		YES	NO	N/A
	flag only the associated sample and its Field Duplicate results ≥ CRQL as "J". If the RPD is ≥ 120%, reject (R) and red-line only the sample and its Field Duplicate results ≥ CRQL.			
A.1.19.6	When the sample and/or duplicate value(s) <5xCRQL (substitute MDL for CRQL when MDL > CRQL), is the absolute difference between sample and Field Duplicate:			
	> ± 2 x CRQL?	___	[___]	✓
	> ± 4 x CRQL?	___	[___]	✓
	ACTION: If the absolute difference is > 2xCRQL, flag Sample and its Field Duplicate resuts ≥ MDL but <5xCRQL as "J" and non-detects as "UJ". If the difference is >4xCRQL, reject(R) and red-line non-detects and detects ≥ MDL but <5xCRQL of the sample and its Field Duplicate.			
A.1.20	**Laboratory Control Sample (LCS)- Form VII**			
A.1.20.1	Was one LCS prepared and analyzed for:			
	Each SDG?	[✓]	___	___
	Each matrix type?	[✓]	___	___
	Each batch samples digested/distilled?	[✓]	___	___
	For each Method(ICP-AES,ICP-MS,Hg,CN) used?	[✓]	___	___
	Was an LCS prepared and analyzed with the samples?	[✓]	___	___
	ACTION: If no for any of the above, prepare Telephone Record Log and contact CLP PO or TOPO for submittal of the LCS results. Flag (J) as estimated all the data for which an LCS was not analyzed.			
	NOTE: If only one LCS was analyzed for			

	YES	NO	N/A

more than 20 samples, then the first 20 samples analyzed are not flagged(J), but all additional samples must be qualified (J).

A.1.20.2 **Aqueous LCS**

Circle on each Form VII the LCS percent recoveries outside control limits 80-120%.

NOTE: 1.Use digested ICV as LCS for aqueous mercury
2.Use distilled ICV as LCS for aqueous cyanide

Is any LCS recovery:

	YES	NO	N/A
Less than 50%?	___	[___]	✓
Between 50% and 79%?	___	[___]	✓
Between 121% and 150%?	___	[___]	✓
Greater than 150%?	___	[___]	✓

ACTION:
If the LCS recovery is less than 50%, reject (R) and red-line all associated sample data (detects & non-detects); for a recovery between 50-79%, flag detects as "J" all non-detects as "UJ". if the LCS recovery is between 121-150%, flag only detects as "J". if the recovery is greater than 150%, reject (R) and red-line all detects.

A.1.20.3 **Solid LCS**

If an analyte's MDL is equal to or greater than the true value of LCS, disregard the "Action" below for that analyte even though the LCS is out of control limits.

	YES	NO	N/A
Is the LCS "Found" value greater than the Upper Control Limit reported on Form VII?	___	[✓]	___

ACTION:

		YES	NO	N/A
	If yes, flag (J) all the associated detects ≥ MDL as estimated (J).			
	Is the LCS "Found" value lower than the Lower Control Limit reported on Form VII?	___	[✓]	___
	ACTION: If yes, flag detects as "J" and non-dectes as "UJ".			
A.1.21	**ICP-AES/ICP-MS Serial Dilution - Form VIII** **NOTE:** Serial dilution analysis is required only when the initial concentration is equal to or greater than 50 x MDL.			
A.1.21.1	Was a Serial Dilution analysis performed:			
	For each SDG?	[___]*	✓	✓
	On one of the SDG samples?	[___]*	✓	✓
	For each matrix type?	[___]*	✓	✓
	For each concentration range (low or med.)?	[___]*	✓	✓
	Was a Serial Dilution sample analyzed with the SDG samples?	[___]*	✓	✓
	ACTION: If no for any of the above, flag as estimated (J) detects ≥ MDL of all the SDG samples for which the ICP Serial Dilution Analysis was not performed.	* MJW 9/20/11		
A.1.21.2	Was a Field Blank or PE sample used for the Serial Dilution Analysis?	___	[___]	✓
	ACTION: If yes, flag as estimated (J) detects ≥ MDL of all the SDG samples			
A.1.21.3	Circle on Form VIII the Percent Differences (%D) between sample results and its dilution results that are outside the control limits ± 10%			

		YES	NO	N/A
	when initial concentrations ≥ 50 x MDLs.			
	Are results outside the control limits flagged with an "E"(Lab Qualifier) on Form VIII and all Form I's?	[___]	___	✓
	ACTION: If no, write in the Contract-Problem/ Non-Compliance Section of the Data Review Narrative.			
A.1.21.4	Are any %D values:			
	> 10%?	___	[___]	✓
	≥ 100%?	___	[___]	✓
	ACTION: If the Percent Difference (%D) is greater than 10%, flag (J) as estimated all associated samples whose **raw data** ≥ MDL; if the %D is ≥ 100%, reject (R) and red-line all associated samples with **raw data** ≥ MDL.			
	(**NOTE**:Replace "E" with "J" or "R" as appropriate.)			
A.1.22	**Total/Dissolved or Inorganic/Total Analytes**			
A.1.22.1	Were any analyses performed for dissolved as well as total analytes on the same sample(s)?	___	[✓]	___
	Were any analyses performed for inorganic as well as total analytes on the same sample(s)?	___	[✓]	___
	ACTION: If yes, prepare a Form (Appendix A.5) to compare the differences between dissolved (or inorganic)and total analyte concentrations. Compute each difference on Appendix A.5 as a percent of the total analyte only when both of the following conditions are fulfilled:			
	(1) The dissolved(or inorganic)concentration is greater than total concentration, and (2) greater than or equal to 5xMDL.			
A.1.22.2	Is any dissolved (or inorganic) concentration greater than its total concentration by more than 20%?	___	[___]	✓

		YES	NO	N/A
A.1.22.3	Is any dissolved(or inorganic) concentration greater than its total concentration by more than 50%?	___	[___]	✓

ACTION:
If the percent difference is greater than 20%, flag (J) both dissolved/inorganic and total concentrations as estimated. If the difference is more than 50%, reject (R) and red-line both the values.

A.1.23 **Field Blank - Form I**
NOTE: Designate "Field Blank" as such on Form I

A.1.23.1	Was a Field/Rinsate Bank collected and analyzed with the SDG samples?	[___]	✓	___
	If yes, is any Field/Rinsate Blank absolute value of an analyte on Form I greater than its CRQL(or 2xMDL when MDL>CRQL)?	___	[___]	✓
	If yes, circle the Field Blank value on Form I that is greater than the CRQL, (or 2 x MDL when MDL > CRQL).			
	Is any Field Blank value greater than CRQL also greater than the Preparation Blank value?	___	[___]	✓
	If yes, is the Field Blank value (> CRQL and > the prep. blank value) already rejected due to other QC criteria?	[___]	___	✓

ACTION:
If the Field Blank value was not rejected, reject all associated sample data (except the Field Blank results)greater than the CRQL but less than the Field Blank value. Reject on Form I's the soil sample results whose raw values in ug/L in the instrument printout are greater than the CRQL but less than the Field Blank value in ug/L. Flag as "J" detects between the Field Blank value and 10xField Blank value. If the sample result $\geq$ MDL but $\leq$ CRQL, replace it with CRQL-U.

If the Field Blank value is less than the

	YES	NO	N/A
Prep.Blank value, do not qualify the sample results due to the Field Blank criteria.			

NOTE:
1. Field Blank result previously rejected due to other criteria cannot be used to qualify field samples.
2. Do not use Rinsate Blank associated with soils to qualify water samples and vice versa.

A.1.24 **Verification of Instrumental Parameters - Form IX, XA, XB, XI**

A.1.24.1 Is verification report present for:

	YES	NO	N/A
Method Detection Limits (Form IX-Annually)?	[✓]		✓ *
ICP-AES Interelement Correction Factors (Form XA & XB -Quarterly)?	[✓]		✓ *
ICP-AES & ICP-MS Linear Ranges (Form XI-Quarterly)?	[✓]		✓ *

ACTION:
If no, contact CLP PO/TOPO for submittal from the laboratory.

A.1.24.2 **Method Detection Limits - Form IX**

A.1.24.2.1 Are MDLs present on Form IX for:

	YES	NO	N/A
All the analytes?	[✓]		✓ *
All the instruments used?	[✓]		✓ *
Digested and undigested samples and Calib.Blanks?	[✓]		
ICP-AES and ICP-MS when both instruments are used for the same analyte?	[ ]		✓

*(M)~ 4(v)m

ACTION:
If no for any of the above, prepare Telephone Record Log and contact CLP PO/TOPO for submittal of the MDLs from the laboratory. Report to CLP PO and write in the Contract Problems/ Non-Compliance Section of the Data Review Narrative if the MDL concentration is not less than ½ CRQL.

		YES	NO	N/A
A.1.24.2.2	Is MDL greater than the CRQL for any analyte?	___	[✓]	___
	If yes, is the analyte concentration on Form I greater than 5 x MDL for the sample analyzed on the instrument whose MDL exceeds CRQL?	[___]	___	✓
	ACTION: If no, flag as estimated (J) all values less than five times MDL for the analyte whose MDL exceeds the CRQL.			
A.1.24.3	**Linear Ranges - Form XI**			
A.1.24.3.1	Was any sample result higher than the high linear range for ICP-AES or ICP-MS?	___	[✓]	___
	Was any sample result higher than the highest calibration standard for mercury or cyanide?	___	[✓]	___
	If yes for any of the above, was the sample diluted to obtain the result reported on Form I?	[___]	___	✓
	ACTION: If no, flag (J) as estimated the affected detects (≥ MDL) reported on Form I.			
A.1.25	**ICP-MS Tune Analysis - Form XIV**			
A.1.25.1	Was the ICP-MS instrument tuned prior to calibration?	[___]	___	✓
	ACTION: If no, reject (R) and red-line all sample data for which tuning was not performed.			
A.1.25.2	Was the tuning solution analyzed or scanned at least five times consecutively?	[___]	___	✓
	Were all the required isotopes spanning the analytical range present in the tuning solution?	[___]	___	✓
	Was the mass resolution within			

		YES	NO	N/A
	0.1 amu for each isotope in the tuning solution?	[___]	___	✓
	Was %RSD less than 5% for each isotope of each analyte in the tuning solution?	[___]	___	✓

ACTION:
If no for any of the above, qualify all results ≥ MDL associated with that Tune as estimated "J", and all non-detects associated with that Tune as "UJ".

A.1.26 **ICP-MS Internal Standards - Form XV**

A.1.26.1	Were the Internal Standards added to all the samples and all QC samples and calibration standards (except the Tuning Solution)?	[___]	___	✓
	Were all the target analyte masses bracketed by the masses of the five internal standards?	[___]	___	✓ ___

ACTION:
If none of the Internal Standards was added to the samples, reject (R) and red-line all the associated sample data (detects & non-detects). If internal standards were used but did not cover all the analyte masses, reject (R) and red-line only the analyte results not bracketed by the internal standard masses.

A.1.26.2	Was the intensity of an Internal Standard in each sample within 60-125% of the intensity of the same Internal Standard in the calibration blank?	[___]	___	✓
	If no, was the original sample diluted two fold, Internal Standard added and the sample re-analyzed?	[___]	___	✓
	Was the %RI for the two fold diluted sample within the acceptance limits (60-125%)?	[___]	___	✓

ACTION:
If no for any of the above, flag detects as "J" and non-detects "UJ" of all the analytes with atomic masses between the

atomic mass of the internal standard lighter

than the affected internal standard, and the atomic mass of the internal standard heavier than the affected internal standard.

A.1.27 **Percent Solids of Sediments**

A.1.27.1 Are percent solids in sediment(s):

< 50%? ___ [✓] ___

ACTION:
If yes, qualify as estimated (J) all detects and non-detects of a sample that has percent solids less than 50%(i.e.,moisture content greater than 50%).

NOTE:
Flag(J) only the sample results that were not previously flagged due to other QC criteria.

Inorganic Data Review Narrative

Case# _____ **Site:** Ft Totten **Matrix: Soil** ✓

SDG# C1E140504 **Lab:** Test America **Water** ___

Sampling Team: _____ **Reviewer:** Mike Washburn **Other** _____

A.2.1 **Data Validation Flags:**
The following flags may have been applied in red by the data validator and must be considered by the data user.

J - This flag indicates the result qualified as **estimated**

R and Red-Line - A red-line drawn through a sample result indicates **unusable** value. The red-lined data are known to contain significant errors based on documented information and must not be used by the data user.

U - This data validation qualifier is applied to sample results ≥ MDL when associated blank is contaminated

Fully Usable Data - The results that do not carry "J" or "red-line" are fully **usable**.

A.2.2 **Laboratory Qualifiers:**
The CLP laboratory applies a contractual qualifier on all

Form I'S and the QC Form when a QC analysis is outside the control limits. These qualifiers are not applied on the Lotus or XLS spreadsheets. These qualifiers and their meanings are as follows:

N: This qualifier indicates the lack of accuracy in the reported result, and is applied when matrix spiked sample recovery is outside the control limits.

E: This qualifier indicates the the presence of interference, and is applied when the ICP serial dilution is outside the control limits.

*: This qualifier indicate the lack of precision , and is pplied on Fom I'S and Form VI when the Lab Duplicate analysis is outside the control limits.

U: This is a concentration qualifier that laboratory applies to a non-detected result which is essentially less than the Method Detection Limit(MDL). A non-detected result of an analyte is indicated by the Contract Required Quantitation Limit (CRQL) of that analyte suffixed with "U".

J: This is also a concentration qualifier that laboratory applies to a positive result below the CRQL.

NOTE: The laboratory qualifiers are crossed out and replaced with the appropriate data validation qualifiers (J, R or U) by the data validator.

A.2.3.1 **Data Case Description**:

A.2.3.2 **CSF Audit**:

A.2.3.3 **Technical Review:**

A.2.3.4 **Contract-Problem/Non-Compliance:**

HWSS Reviewer: _____ Date:_____
Signature

Contractor Reviewer: _____ Date:_____
Signature

Verified by: _____ Date:_____
Signature

CASE #

SDG #

Contract Laboratory Program
REGION II/LABORATORY COMMUNICATION SYSTEM

Telephone Record Log

Date of Call: _____

ESAT Reviewer/Date: _____

Type of Analysis: ___Inorganic_____

Laboratory Name: _____

Lab Contact: _____

Call Initiated By: ___Laboratory _X_Region II

Inquiry made in reference to data for the following sample number(s):

Summary of Questions/Issues Discussed:

Summary of Resolution:

Signature Date: _____

FIELD DUPLICATES

Sample No. **Field Duplicate No.** **Sample Matrix:**

Lab Code: **Case No. :** **SDG No.:**

% Solids Sample: **% Solids Duplicate:**

Concentration Units (ug/l or mg/kg dry weight):

	Action Limit	Sample Concentration	C	Duplicate Concentration	C	RPD	Difference	Q	M
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead									
Magnesium									
Manganese									

					YES	NO	N/A		
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

Total/Dissolved Concentrations

Lab Code **Case No.** **SDG No.** **Sample Matrix: Water**

Concentration: ug/L

ANALYTE	TOTAL	C	DISSOLVED	C	DIFFERENCE	Q	M
ALUMINUM							
ARSENIC							
BARIUM							
BERYLLIUM							
CADMIUM							
CALCIUM							
CHROMIUM							
COBALT							
COPPER							
IRON							
LEAD							
MAGNESIUM							
MAGNESE							
MERCURY							
NICKEL							

POTASSIUM							
SELENIUM							
SILVER							
SODIUM							
THALLIUM							
VANADIUM							
ZINC							
CYANIDE							

CONTRACT LABORATORY PROGRAM
CLP RAS RE-ANALYSIS REQUEST/APPROVAL RECORD

SECTION A (TO BE COMPLETED BY REGIONAL SENDING OFFICIAL)

Initiated By:

Name, Affiliation, Phone Number

_____

Case Number: _____
- OLM
- OLC
- ILM

Details of Re-Analysis Request:

- Laboratory Name /Contract Number: _____
- Affected Sample Number(s) and Fraction(s): _____
- Reason for Re-Analysis: _____
- Contract Statement of Work Citation*: _____
  _____
- Comments: _____
- _____
  * PROVIDE SOW CITATION THAT SUPPORTS THIS REQUEST

RE-ANALYSIS Billable ( ) Not Billable ( )

- Approved By: _____ Date: _____
  Authorized Regional Sending CLP PO Signature

SECTION B (TO BE COMPLETED BY SMO)

Name of SMO Contact _____ Date: _____

Date of Laboratory Notification (Verbal): _____

Re-analysis Start Date: _____ Data Due Date: _____

Return completed form to:

Sample Management Office (SMO)

Distribtion: (1) CLP PO Copy (2) Regional Sending Official Copy (3) SMO File Copy (4) Laboratory Copy
Final 9/3/99

CLP DATA ASSESSMENT SUMMARY FORM (INORGANICS)

Type of Review: _____ Date:_____ Case# _____SDG#___

Site: _____ Lab Name: _____

Reviewer's Initials:_____ Number of Samples:_____

Analytes Rejected (R) Due to Exceeding Review Criteria

	Holding Time	CRQL Std	Blanks	ICS	Spike Recovery	Dup. Lab.	Dup. Field	LCS	ICP Serial Dilution	% Solids	Internal Std. ICP-MS	Tuning ICP-MS	Total Analytes	Rejection %
ICP-AES														
ICP-MS														
Mercury														
Cyanide														
Total														

Analytes Flagged (J) as Estimated Due to Exceeding Review Criteria

	Holding Time	CRQL Std	Blanks	ICS	Spike Recovery	Dup. Lab.	Dup. Field	LCS	ICP Serial Dilution	% Solids	Internal Std. ICP-MS	Tuning ICP-MS	Total Analytes	Rejection %
ICP-AES														
ICP-MS														
Mercury														
Cyanide														
Total														

Watermark Environmental

Client Sample ID: AI2-101(0-2")

TOTAL Metals

Lot-Sample #...: C1E140504-001 Matrix.....: SOLID
Date Sampled...: 05/13/11 Date Received..: 05/14/11
% Moisture.....: 33

PARAMETER	RESULT	LOQ	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 1137301						
Aluminum	10800	28.2	mg/kg	SW846 6010C	05/17-06/08/11	MJFWW1AC
		Dilution Factor: 0.94		Analysis Time..: 21:28	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1137189	DL.....: 5.9	
Antimony	0.46 J	1.4	mg/kg	SW846 6010C	05/17-06/08/11	MJFWW1AD
		Dilution Factor: 0.94		Analysis Time..: 21:28	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1137189	DL.....: 0.23	
Arsenic	5.5	1.4	mg/kg	SW846 6010C	05/17-06/08/11	MJFWW1AE
		Dilution Factor: 0.94		Analysis Time..: 21:28	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1137189	DL.....: 0.31	
Barium	113	28.2	mg/kg	SW846 6010C	05/17-06/08/11	MJFWW1AF
		Dilution Factor: 0.94		Analysis Time..: 21:28	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1137189	DL.....: 0.33	
Beryllium	0.56	0.56	mg/kg	SW846 6010C	05/17-06/08/11	MJFWW1AG
		Dilution Factor: 0.94		Analysis Time..: 21:28	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1137189	DL.....: 0.10	
Cadmium	1.1	0.70	mg/kg	SW846 6010C	05/17-06/09/11	MJFWW1AH
		Dilution Factor: 0.94		Analysis Time..: 15:38	Analyst ID.....: 22952	
		Instrument ID..: 6500ICP		MS Run #.....: 1137189	DL.....: 0.035	
Calcium	7440 B	704	mg/kg	SW846 6010C	05/17-06/08/11	MJFWW1AJ
		Dilution Factor: 0.94		Analysis Time..: 21:28	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1137189	DL.....: 1.4	
Chromium	21.4	0.70	mg/kg	SW846 6010C	05/17-06/08/11	MJFWW1AK
		Dilution Factor: 0.94		Analysis Time..: 21:28	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1137189	DL.....: 0.12	
Cobalt	9.5	7.0	mg/kg	SW846 6010C	05/17-06/08/11	MJFWW1AL
		Dilution Factor: 0.94		Analysis Time..: 21:28	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1137189	DL.....: 0.13	

(Continued on next page)

MJW 9/20/11

$Ca - 52800 \frac{mg}{L} \cdot \frac{0.1L}{0.67} \cdot \frac{1}{1.069} = 7434 mg/kg$

Analysis Report 06/08/11 09:34:48 PM page 1

Method: METTRACE Sample Name: MJFWW Operator: RJG
Run Time: 06/08/11 21:28:49
Comment: TESTAMERICA PITTSBURGH ICP METALS ANALYSIS-INST TRACEICP
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00221	76.811	.03919	.06775	.80369	.00402	52.800
SDev	.00049	.535	.00081	.00036	.00411	.00018	.271
%RSD	22.428	.69655	2.0630	.52684	.51150	4.3768	.51316
#1	.00258	77.425	.03999	.06795	.80835	.00382	53.111
#2	.00239	76.443	.03838	.06733	.80057	.00410	52.617
#3	.00165	76.567	.03920	.06795	.80216	.00414	52.672
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	2.0000	250.00	1.0000	4.0000	4.0000	4.0000	250.00
Low	-.00500	-.20000	-.01000	-.20000	-.20000	-.00400	-5.0000

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00939	.06767	.15189	.37926	147.20	7.4435	31.857
SDev	.00027	.00055	.00096	.00280	.87	.0663	.148
%RSD	2.8710	.80831	.62994	.73786	.59222	.89004	.46349
#1	.00968	.06817	.15299	.38247	148.20	7.5198	32.026
#2	.00935	.06709	.15131	.37732	146.59	7.4012	31.757
#3	.00915	.06776	.15137	.37800	146.81	7.4094	31.787
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	1.0000	4.0000	4.0000	4.0000	250.00	250.00	250.00
Low	-.00500	-.05000	-.00500	-.02500	-.10000	-5.0000	-5.0000

Elem	MN	MO	NA	NI	PB/1	PB/2	PB
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.7766	.00263	2.7167	.16412	1.5431	1.5661	H1.5585
SDev	.0141	.00069	.0586	.00039	.0093	.0237	.0188
%RSD	.50609	26.211	2.1554	.23573	.59998	1.5163	1.2075
#1	2.7926	.00222	2.7516	.16455	1.5537	1.5934	H1.5802
#2	2.7664	.00343	2.7494	.16379	1.5363	1.5551	H1.5488
#3	2.7708	.00224	2.6491	.16403	1.5395	1.5499	H1.5464
Errors	LC Pass	LC Pass	LC Pass	LC Pass	NOCHECK	NOCHECK	LC High
High	10.000	4.0000	250.00	4.0000			1.0000
Low	-.01500	-.04000	-5.0000	-.04000			-.00300

Elem	SB/1	SB/2	SB	SE/1	SE/2	SE	SI
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00305	.00334	.00324	.00067	.00324	.00238	2.7955
SDev	.00196	.00109	.00123	.00320	.00274	.00252	.0174
%RSD	64.153	32.529	37.804	479.47	84.461	105.85	.62226
#1	.00509	.00358	.00408	-.00303	.00179	.00018	2.8155
#2	.00120	.00216	.00184	.00242	.00154	.00183	2.7839

$AC - \frac{76811 mg}{L} \times \frac{0.1L}{1.069} \times \frac{1}{0.67} = 10,815 mg/g = 10,815 mg/kg$

Watermark Environmental

Client Sample ID: AI2-101(0-2")

TOTAL Metals

Lot-Sample #...: C1E140504-001 Matrix.....: SOLID

PARAMETER	RESULT	LOQ	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Thallium	1.4 U	2.8	mg/kg	SW846 6010C	05/17-06/09/11	MJFWW1A0
		Dilution Factor: 0.94		Analysis Time..: 15:38	Analyst ID.....: 22952	
		Instrument ID..: 6500ICP		MS Run #.....: 1137189	DL.....: 0.87	
Vanadium	61.7	7.0	mg/kg	SW846 6010C	05/17-06/08/11	MJFWW1A1
		Dilution Factor: 0.94		Analysis Time..: 21:28	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1137189	DL.....: 0.26	
Zinc	301	2.8	mg/kg	SW846 6010C	05/17-06/08/11	MJFWW1A2
		Dilution Factor: 0.94		Analysis Time..: 21:28	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 1137189	DL.....: 0.83	
Prep Batch #...: 1138022						
Mercury	0.41 ✓	0.049	mg/kg	SW846 7471B	05/18/11	MJFWW1A4
		Dilution Factor: 1		Analysis Time..: 00:00	Analyst ID.....: 031043	
		Instrument ID..: HGHYDRAI		MS Run #.....: 1138012	DL.....: 0.016	

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

B Method blank contamination. Analyte detected at a reportable level in blank.

C1E140504 - 3456 (2001 - 3468)

R10518A

William a Hoyle 5-18-11

Method: METHG Operator: Admin Date of Analysis: 18 May 2011 09:13:28

Seq ID	Type	Sample ID	Extended ID	Date	Conc.	Units	Strnd Conc	µ Abs	Method	Chapter
1390	S	blank - 1		18 May 2011 09:14:24	-	ppb	0.0000	326	METHG	R10518A
1391	S	.2ppb - 1	MET2959-11	18 May 2011 09:16:08	-	ppb	0.2000	1671	METHG	R10518A
1392	S	.5ppb - 1	MET2960-11	18 May 2011 09:17:55	-	ppb	0.5000	4768	METHG	R10518A
1393	S	1.0ppb - 1	MET2961-11	18 May 2011 09:19:55	-	ppb	1.0000	8659	METHG	R10518A
1394	S	5.0ppb - 1	MET 2962-11	18 May 2011 09:22:06	-	ppb	5.0000	37859	METHG	R10518A
1395	S	10.0ppb - 1	MET 2963-11	18 May 2011 09:24:26	-	ppb	10.0000	78245	METHG	R10518A
1396	C	ICV - 1	MET 2964-11	18 May 2011 09:27:07	(H)2.6636	ppb		20995	METHG	R10518A
1397	C	ICB - 1		18 May 2011 09:29:51	-0.0403	ppb		80	METHG	R10518A
1398	C	CRA - 1	MET 2965-11	18 May 2011 09:32:19	0.1803	ppb		1786	METHG	R10518A
1399	C	CCV - 1	MET 2966-11	18 May 2011 09:34:05	5.2524	ppb		41020	METHG	R10518A
1400	C	CCB - 1		18 May 2011 09:36:05	-0.0442	ppb		50	METHG	R10518A
1401	U	MJJGRB - 1	1138022	18 May 2011 09:38:40	-0.0111	ppb		306	METHG	R10518A
1402	U	MJJGRC - 1	MET2967-11	18 May 2011 09:40:26	2.7480	ppb		21648	METHG	R10518A
1403	U	MJFWW - 1		18 May 2011 09:42:13	1.6609	ppb		13239	METHG	R10518A
1404	U	MJFWWS - 1		18 May 2011 09:44:41	2.7660	ppb		21787	METHG	R10518A
1405	U	MJFWWD - 1		18 May 2011 09:46:57	2.7320	ppb		21524	METHG	R10518A
1406	U	MJFWX - 1		18 May 2011 09:49:19	0.5773	ppb		4857	METHG	R10518A
1407	U	MJFW0 - 1		18 May 2011 09:51:43	1.4490	ppb		11600	METHG	R10518A
1408	U	MJFW1 - 1		18 May 2011 09:53:52	0.4309	ppb		3725	METHG	R10518A
1409	U	MJFW2 - 1		18 May 2011 09:56:08	2.2277	ppb		17623	METHG	R10518A
1410	U	MJFW3 - 1		18 May 2011 09:58:17	2.2504	ppb		17799	METHG	R10518A
1411	C	CCV - 1		18 May 2011 10:00:40	5.1823	ppb		40478	METHG	R10518A
1412	C	CCB - 1		18 May 2011 10:03:03	-0.0394	ppb		87	METHG	R10518A
1413	U	MJFW4 - 1		18 May 2011 10:05:37	1.6453	ppb		13118	METHG	R10518A
1414	U	MJFW5 - 1		18 May 2011 10:07:24	0.9196	ppb		7505	METHG	R10518A
1415	U	MJFW6 - 1		18 May 2011 10:09:44	1.3924	ppb		11162	METHG	R10518A
1416	U	MJFW7 - 1		18 May 2011 10:11:57	2.0128	ppb		15961	METHG	R10518A
1417	U	MJFW8 - 1		18 May 2011 10:14:13	5.6389	ppb		44010	METHG	R10518A
1418	U	MJFW9 - 1		18 May 2011 10:16:34	1.5913	ppb		12701	METHG	R10518A
1419	U	MJJGVB - 1	1138023	18 May 2011 10:19:06	-0.0152	ppb		274	METHG	R10518A
1420	U	MJJGVC - 1	MET2968-11	18 May 2011 10:21:27	2.6306	ppb		20740	METHG	R10518A
1421	U	MJFJE - 1	WAN 5-18-11	18 May 2011 10:23:14	0.6649	ppb		5535	METHG	R10518A
1422	U	MJFMF - 1		18 May 2011 10:25:44	2.0264	ppb		16066	METHG	R10518A
1423	C	CCV - 1		18 May 2011 10:27:53	5.2247	ppb		40806	METHG	R10518A
1424	C	CCB - 1		18 May 2011 10:30:13	-0.0426	ppb		62	METHG	R10518A
1425	U	MJFMP - 1		18 May 2011 10:32:49	2.4530	ppb		19366	METHG	R10518A
1426	U	MJFM0 - 1		18 May 2011 10:34:37	1.8075	ppb		14373	METHG	R10518A
1427	U	MJFM4 - 1		18 May 2011 10:37:01	2.1241	ppb		16822	METHG	R10518A
1428	U	MJFM8 - 1		18 May 2011 10:39:18	1.6964	ppb		13514	METHG	R10518A
1429	U	MJFNF - 1		18 May 2011 10:41:39	1.6069	ppb		12821	METHG	R10518A
1430	U	MJFNJ - 1		18 May 2011 10:43:54	4.5124	ppb		35296	METHG	R10518A
1431	U	MJFNM - 1		18 May 2011 10:46:10	0.2873	ppb		2614	METHG	R10518A
1432	U	MJFNMS - 1		18 May 2011 10:48:41	1.4533	ppb		11633	METHG	R10518A
1433	U	MJFNMD - 1		18 May 2011 10:50:45	1.4886	ppb		11906	METHG	R10518A
1434	U	MJFNQ - 1		18 May 2011 10:53:02	3.0983	ppb		24358	METHG	R10518A
1435	C	CCV - 1		18 May 2011 10:55:19	5.3514	ppb		41786	METHG	R10518A
1436	C	CCB - 1		18 May 2011 10:57:43	-0.0339	ppb		129	METHG	R10518A
1437	U	MJFNV - 1		18 May 2011 11:00:19	1.7017	ppb		13555	METHG	R10518A
1438	U	MJFNX - 1		18 May 2011 11:02:05	0.2677	ppb		2462	METHG	R10518A
1439	U	MJFN0 - 1		18 May 2011 11:04:23	1.8548	ppb		14739	METHG	R10518A

$1.6609 \frac{mg}{L} \times \frac{0.1L}{0.1g} \times \frac{1}{0.67}$

$= 0.413 \frac{mg}{g}$ or $\frac{mg}{kg}$

18 May 2011 12:4

MJW 5/20/11

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: C1E140504 **Matrix.....:** SOLID
Date Sampled...: 05/12/11 **Date Received..:** 05/13/11

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: C1E130427-005 **Prep Batch #...:** 1137301						**% Moisture.....:** 33	
Aluminum	NC	(80 - 120)			SW846 6010C	05/17-06/08/11	MJDKL1CP
	NC	(80 - 120)		(0-20)	SW846 6010C	05/17-06/08/11	MJDKL1CQ
		Dilution Factor: 0.89					
		Analysis Time..: 19:33			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1137189					
Antimony	68 N	(80 - 120)			SW846 6010C	05/17-06/08/11	MJDKL1CR
	71 N	(80 - 120)	8.9	(0-20)	SW846 6010C	05/17-06/08/11	MJDKL1CT
		Dilution Factor: 0.89					
		Analysis Time..: 19:33			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1137189					
Arsenic	94	(80 - 120)			SW846 6010C	05/17-06/08/11	MJDKL1CU
	96	(80 - 120)	6.9	(0-20)	SW846 6010C	05/17-06/08/11	MJDKL1CV
		Dilution Factor: 4.45					
		Analysis Time..: 19:46			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1137189					
Barium	107	(80 - 120)			SW846 6010C	05/17-06/08/11	MJDKL1CW
	93	(80 - 120)	5.7	(0-20)	SW846 6010C	05/17-06/08/11	MJDKL1CX
		Dilution Factor: 0.89					
		Analysis Time..: 19:33			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1137189					
Beryllium	88	(80 - 120)			SW846 6010C	05/17-06/08/11	MJDKL1C0
	90	(80 - 120)	7.3	(0-20)	SW846 6010C	05/17-06/08/11	MJDKL1C1
		Dilution Factor: 0.89					
		Analysis Time..: 19:33			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1137189					
Cadmium	85	(80 - 120)			SW846 6010C	05/17-06/09/11	MJDKL1C2
	83	(80 - 120)	3.0	(0-20)	SW846 6010C	05/17-06/09/11	MJDKL1C3
		Dilution Factor: 0.89					
		Analysis Time..: 13:55			Instrument ID..: 6500ICP	Analyst ID.....: 22952	
		MS Run #.....: 1137189					
Calcium	97	(80 - 120)			SW846 6010C	05/17-06/08/11	MJDKL1C4
	100	(80 - 120)	4.4	(0-20)	SW846 6010C	05/17-06/08/11	MJDKL1C5
		Dilution Factor: 0.89					
		Analysis Time..: 19:33			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1137189					

(Continued on next page)

MJW 9/20/11

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: C1E140504 **Matrix.....:** SOLID
Date Sampled...: 05/12/11 **Date Received..:** 05/13/11

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Chromium	94	(80 - 120)			SW846 6010C	05/17-06/08/11	MJDKL1C6
	96	(80 - 120)	4.2	(0-20)	SW846 6010C	05/17-06/08/11	MJDKL1C7
		Dilution Factor: 0.89					
		Analysis Time..: 19:33			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1137189					
Cobalt	85	(80 - 120)			SW846 6010C	05/17-06/08/11	MJDKL1C8
	87	(80 - 120)	7.4	(0-20)	SW846 6010C	05/17-06/08/11	MJDKL1C9
		Dilution Factor: 0.89					
		Analysis Time..: 19:33			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1137189					
Copper	91	(80 - 120)			SW846 6010C	05/17-06/08/11	MJDKL1DA
	78 N	(80 - 120)	4.2	(0-20)	SW846 6010C	05/17-06/08/11	MJDKL1DC
		Dilution Factor: 0.89					
		Analysis Time..: 19:33			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1137189					
Iron	NC	(80 - 120)			SW846 6010C	05/17-06/09/11	MJDKL1DD
	NC	(80 - 120)		(0-20)	SW846 6010C	05/17-06/09/11	MJDKL1DE
		Dilution Factor: 0.89					
		Analysis Time..: 13:55			Instrument ID..: 6500ICP	Analyst ID.....: 22952	
		MS Run #.....: 1137189					
Lead	NC	(80 - 120)			SW846 6010C	05/17-06/08/11	MJDKL1DF
	NC	(80 - 120)		(0-20)	SW846 6010C	05/17-06/08/11	MJDKL1DG
		Dilution Factor: 4.45					
		Analysis Time..: 19:46			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1137189					
Magnesium	93	(80 - 120)			SW846 6010C	05/17-06/08/11	MJDKL1DH
	98	(80 - 120)	8.2	(0-20)	SW846 6010C	05/17-06/08/11	MJDKL1DJ
		Dilution Factor: 0.89					
		Analysis Time..: 19:33			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1137189					
Manganese	NC	(80 - 120)			SW846 6010C	05/17-06/08/11	MJDKL1DK
	NC	(80 - 120)		(0-20)	SW846 6010C	05/17-06/08/11	MJDKL1DL
		Dilution Factor: 0.89					
		Analysis Time..: 19:33			Instrument ID..: TRACEICP	Analyst ID.....: 022952	
		MS Run #.....: 1137189					

(Continued on next page)

MJW
9/20/11

CHEMIST REVIEW-VALIDATION CHECKLIST

Project: Ft Totten Site
Project #: 3650100186
Date: 9/12/11

Method(s): Mercury 1630 and 1631
Laboratory and SDG: Frontier 1105165
Reviewer: C Ricardi

☑ Chemist Review

1. Case Narrative and Data Package Completeness (COC Review)

No issues - Sample ID corrections made by lab on labels

2. Holding Time and Sample Preservation/Collection

Collected 5/10 and 5/11

Frozen MHg - 5/18, 5/24
(Total) Hg - 5/25
(elemental) Hg° - 6/2

3. QC Blanks All < MRL

4. Laboratory Control Sample Review All within limits

5. Field Duplicate Precision Dup A14-1 (A14-115(0-2) -25 and -23
Dup A15-1 (0-2) → A15-105(0-2) -30-26

OK
All <30

6. Lab Duplicate Precision Sample A12-107(0-2) RPD <30 ok
A13-111(0-2) -13, -19, -21, -30 Solids ok
A14-112(6-24)

All <30
ok

7. Matrix Spike Results (if applicable) 65-135% RPD 35
A12-107(0-2)
A14-112(6-24)
A12-107(6-24)
All %R + RPD within limits
except MeHg -01 MS/MSD1 MS 78 MSD 64%
J/UJ Re-run with 76-78%
-22 60/90
RPD = 40
A14-112(6-24)
A12-107(0-2)

8. Surrogate Recovery (if applicable)

NA

Results units = Ng/g
QAPP Specifies Mg/Kg

9. Internal Standard Recovery (if applicable)

NA

	Dup-AI4-1	AI4-115 (0-2")	RPD
Hg	86.4	82.6	4
Hg^0	ND	ND	
MeHg	0.38	0.293	26
%S	83.2	83	0

	Dup-AI5-1	AI5-105 (0-2")	
Hg	348	280	22
Hg^0	ND	ND	
MeHg	0.153	0.169	-10
%S	88.9	88.7	0

Ricardi, Christian

From: Patrick Garcia-Strickland [PatrickS@frontiergeosciences.com]
Sent: Thursday, September 29, 2011 6:39 PM
To: Ricardi, Christian
Cc: 'Elizabeth Martin'; Chatterton, Kelly
Subject: RE: QAPP Review

Chris,

For total mercury and methyl mercury the holding times below are correct. For elemental mercury there is no set guidance but we use 30 days if stored frozen.

Let me know if you have any other questions.

Thanks,

Patrick

From: Ricardi, Christian [mailto:CSRicardi@mactec.com]
Sent: Thursday, September 29, 2011 9:44 AM
To: Patrick Garcia-Strickland
Cc: 'Elizabeth Martin'; Chatterton, Kelly
Subject: FW: QAPP Review

Hi Patrick,

Here is the second question. During the planning process we had talked about holding times for the mercury speciation analyses. In January I sent the email below to Watermark based on our conversations when planning this project. I would like to call you again to go over the holding times to make sure that we have the right criteria set. According to the lab reports elemental Hg samples were run around 20 days after collection. Samples were frozen and would like to know if freezing samples effect the holding times?

Thanks,

Chris Ricardi, NRCC-EAC/ Senior Environmental Scientist
AMEC Environment & Infrastructure
511 Congress Street
Portland, Maine 04112-7050
207 775-5401 X3694
Fax 207 772-4762
csricardi@mactec.com

From: Ricardi, Christian
Sent: Thursday, January 20, 2011 12:04 PM
To: 'Elizabeth Martin'
Subject: RE: QAPP Review

Liz,

I talked to Patrick and he gave me the holding times below but the samples need to be frozen while held. There are no regulatory holding times for soils, but this is what they use.

Total Hg – 90 days
Methyl Hg – 180 days
Elemental Hg – 7 days

NO

CR 9/30/11

He also said that he has some references to procedures that are used with these methods that cover soil analysis, but there are no EPA method numbers. We should reference these methods as "modified EPA Method 1631E" for Total and modified 1630 for methyl. He will send us the soil procedures, but we may not get them today. I asked him to copy you in case they come today and I am gone.

Do you need anything else?

Chris

From: Elizabeth Martin [mailto:elizabeth.martin@watermarkenv.com]
Sent: Thursday, January 20, 2011 9:42 AM
To: Ricardi, Christian
Subject: RE: QAPP Review

I also need the holding time on the mercury soil sample.

Thanks!

From: Ricardi, Christian [mailto:CSRicardi@mactec.com]
Sent: Wednesday, January 19, 2011 7:08 PM
To: Elizabeth Martin
Subject: RE: QAPP Review

Hi Liz,

I am sorry I missed your call. I had to leave for most of the afternoon. But I am working tonight at home if you want to call now. If not, I plan to be in the office tomorrow until about 1 PM. I am out in the afternoon.

Chris

From: Elizabeth Martin [elizabeth.martin@watermarkenv.com]
Sent: Wednesday, January 19, 2011 2:05 PM
To: Ricardi, Christian
Subject: RE: QAPP Review

Hi Chris,

I've tried calling you a few times today and keep getting a busy signal. Could you give me a call when you are off the phone.

Thanks

Liz Martin, PG

Watermark
175 Cabot Street

Ricardi, Christian

From: Patrick Garcia-Strickland [PatrickS@frontiergeosciences.com]
Sent: Thursday, September 29, 2011 6:37 PM
To: Ricardi, Christian
Cc: 'Elizabeth Martin'; Chatterton, Kelly
Subject: RE: Mercury Methods and Costs for Analysis

Hi Chris,

The difference in MRLs for the methyl mercury and total mercury analysis are different since the sample was analyzed at an added dilution because of the concentration found. Also our system adjust the MDLs and MRLs based on the difference in mass used from the default mass of the preparation. That is where the other difference should be coming from.

As for the elemental mercury, I actually told you the wrong MDL and MRL values. They should be ten times lower than what I previously stated.

Best Regards,

Patrick Garcia-Strickland
Laboratory Director
Frontier Global Sciences, Inc.
patricks@frontiergs.com
206-957-1428

From: Ricardi, Christian [mailto:CSRicardi@mactec.com]
Sent: Thursday, September 29, 2011 9:43 AM
To: Patrick Garcia-Strickland
Cc: 'Elizabeth Martin'; Chatterton, Kelly
Subject: RE: Mercury Methods and Costs for Analysis

Hi Patrick,

I am trying to complete the review of the Watermark Ft Totten mercury data and have a couple questions. I am looking at the reporting limits for the three mercury fractions, and it does not look like they match up with what we had planned for the project. You sent me the limits in the email below when we were planning the analysis. It looks like they were identified as mg/kg in the project QAPP (see attached QAPP pages). But I assume that they should be ng/g (µg/kg). But I am not able to understand how the MRLs on the Analytical Results summary are being determined (see the attached copy of the first sample in the package).

I also want to talk to you again about the holding times that we should use for soils. I will send you a second email with that question.

I will call you soon.

Thanks,

Chris Ricardi, NRCC-EAC/ Senior Environmental Scientist
AMEC Environment & Infrastructure

511 Congress Street
Portland, Maine 04112-7050
207 775-5401 X3694
Fax 207 772-4762
csricardi@mactec.com

From: Patrick Garcia-Strickland [mailto:PatrickS@frontiergeosciences.com]
Sent: Tuesday, January 18, 2011 2:14 PM
To: Ricardi, Christian
Subject: Mercury Methods and Costs for Analysis

Hello Chris,

Sorry for the late reply, I was out yesterday. I received your message and below are the methods to be used reporting limits and cost:

Analyte	Method	Reporting Limit	Cost
Total Mercury	EPA 1631E	1.0 ng/g	$80 per sample
Methyl Mercury	EPA 1630	0.050 ng/g	$170 per sample
Elemental Mercury	Modified EPA 1631E	2.0 ng/g	$200 per sample

The costs would be the same for 2-20 samples. Anything over 20 we would apply a $10 discount. The standard turn around time is 20 business days, we could perform a 10 business day TAT for an added 50%.

I am including copies of Method 1631E and 1630. For the free elemental mercury analysis we use a purging process for several hours and then preferentially absorb the gaseous elemental mercury on a sorbent material after removing gaseous particulate and Hg(II) from the purged sample with special sorbent media. After the purging the sorbent material is analyzed according to EPA 1631.

If you need any other information, just let me know.

Best Regards,

Patrick Garcia-Strickland
Laboratory Director
Frontier Global Sciences Inc.
206-957-1428
PatrickS@frontiergs.com

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Forma

Measurement Performance Criteria Table (Continued)

Matrix	Soil
Analytical Group	Methyl Mercury
Concentration Level	low - medium

Sampling Procedure[1]	Analytical Method/SOP[2]	Data Quality Indicators (DQIs)	Measurement Performance Criteria	QC Sample and/or Activity Used to Assess Measurement Performance	QC Sample Assesses Error for Sampling (S), Analytical (A) or Both (S&A)
6B	EPA Method 1630 / 8A	Accuracy - Lab	A control limit of 65 - 135 % recovery and 35% RPD must be applied to the MS/MSD	Matrix Spike/Matrix Spike Duplicate	A
		Precision	A control limit of 69 - 131 % recovery and 31% RPD	Initial Precision and Recovery Sample	A
		Precision	A control limit of 67-133%	Ongoing Precision and Recovery Sample	A
		Accuracy	maximum detection < 0.1 ng/L average detection < 0.05 ng/L	Laboratory blank	A

[1]Reference number from QAPP_Worksheet_#21 (see Section 3.1.2).
[2]Reference number from QAPP_Worksheet_#23 (see Section 3.2).

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Measurement Performance Criteria Table (Continued)

Matrix	Soil
Analytical Group	Total and Elemental Mercury
Concentration Level	low - medium

Sampling Procedure[1]	Analytical Method/SOP[2]	Data Quality Indicators (DQIs)	Measurement Performance Criteria	QC Sample and/or Activity Used to Assess Measurement Performance	QC Sample Assesses Error for Sampling (S), Analytical (A) or Both (S&A)
6B	EPA Method 1631 E / 9A	Accuracy - Lab	A control limit of 71-125 % recovery and 24% RPD must be applied to the MS/MSD	Matrix Spike/Matrix Spike Duplicate	A
		Precision	A control limit of 79 - 121 % recovery and 21% RPD	Initial Precision and Recovery Sample	A
		Precision	A control limit of 77-123%	Ongoing Precision and Recovery Sample	A

[1]Reference number from QAPP Worksheet #21 (see Section 3.1.2).
[2]Reference number from QAPP Worksheet #23 (see Section 3.2).

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Matrix	Soil
Analytical Group	Total and Elemental Mercury
Concentration Level	NA
Sampling SOP	6B
Analytical Method/ SOP Reference	EPA Method 1631 E/9A
Sampler's Name	N/A
Field Sampling Organization	Watermark
Analytical Organization	Frontier
No. of Sample Locations	4

QC Sample:	Frequency/Number	Method/SOP QC Acceptance Limits	Corrective Action	Person(s) Responsible for Corrective Action	Data Quality Indicator (DQI)	Measurement Performance Criteria
Method Blank	1/Extraction batch	No target compounds 5% of the measured concentration of that analyte in associated samples	Reanalyze affected sample extracts. Qualify data as needed.	Frontier	Accuracy/Bias-Contamination	No target compounds 5% of the measured concentration of that analyte in associated samples
Laboratory Duplicate	1/Extraction batch	RPD ≤ 30%	If sufficient sample volume is available, reextract and reanalyze affected samples. If insufficient amount of sample is available, reanalyze extracts.	Frontier	Precision	RPD ≤30%
LCS	1/Extraction batch prior to sample analysis	control limit of 77 - 123% recovery	If sufficient sample volume is available, reextract and reanalyze affected samples. If insufficient amount of sample is available, reanalyze extracts.	Frontier	Accuracy/Bias	control limit of 77-123% recovery

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Matrix	Soil
Analytical Group	Methyl Mercury
Concentration Level	NA
Sampling SOP	6B
Analytical Method/ SOP Reference	EPA Method 1630/8A
Sampler's Name	N/A
Field Sampling Organization	Watermark
Analytical Organization	Frontier
No. of Sample Locations	4

QC Sample:	Frequency/Number	Method/SOP QC Acceptance Limits	Corrective Action	Person(s) Responsible for Corrective Action	Data Quality Indicator (DQI)	Measurement Performance Criteria
Method Blank	1/Extraction batch	No target compounds 5% of the measured concentration of that analyte in associated samples	Reanalyze affected sample extracts. Qualify data as needed.	Frontier	Accuracy/Bias-Contamination	No target compounds 5% of the measured concentration of that analyte in associated samples
Laboratory Duplicate	1/Extraction batch	RPD ≤ 30%	If sufficient sample volume is available, reextract and reanalyze affected samples. If insufficient amount of sample is available, reanalyze extracts.	Frontier	Precision	RPD ≤30%
LCS	1/Extraction batch prior to sample analysis	control limit of 77 - 123% recovery	If sufficient sample volume is available, reextract and reanalyze affected samples. If insufficient amount of sample is available, reanalyze extracts.	Frontier	Accuracy/Bias	control limit of 77-123% recovery

Should be ng/g or ug/kg

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QAPP Worksheet #15
(Continued)

Reference Limits and Evaluation Table

Matrix: Soil
Analytical Group: Mercury - Frontier
Concentration Level: NA

Analyte	CAS Number	Project Action Limit (mg/kg)	Project Quantitation Limit (mg/kg)	Analytical Method		Achievable Laboratory Limits	
				MDLs (mg/kg)	Method QLs (mg/kg)	MDLs (mg/kg)	QLs (mg/kg)
Methyl Mercury	22967-92-6	0.18	0.05				0.05
Elemental mercury	7439-97-6	0.18	2.0				2.0
Total Mercury	7439-97-6	0.18	1.0				1.0

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QAPP Worksheet #19
(UFP-QAPP Manual Section 3.1.1)

Analytical SOP Requirements Table

Matrix	Analytical Group	Concentration Level	Analytical and Preparation Method/SOP Reference [1]	Sample Volume	Containers (number, size, and type)	Preservation Requirements (chemical, temperature, light protected)	Maximum Holding Time (preparation/ analysis)
Soil	PAHs	low-medium	EPA Method SW-846 8270D Prep Method SW-846 3500 / 1A, 6A	125 grams	1 amber glass jar	4° C ± 2° C	14 days/40 days
Soil	Metals	low-medium	EPA Method SW-846 6010B Prep Method 3005A / 2A, 4A	125 grams	1 amber glass jar	4° C ± 2° C	6 months
Soil	Mercury – Test America	low-medium	EPA Method 7471A / 3A	Take from Metals Sample	Take from Metals Sample	4° C ± 2° C	28 days
Soil	Mercury – Frontier	low-medium	EPA Method 1630 and 1630 E, modified/ 8A, 9A	125 grams	1 amber glass jar	Frozen	7 days
Aqueous	PAHs	low-medium	EPA Method SW-846 8270D Prep Method SW-846 3500 / 1A, 6A	1Liter	2 Amber Glass Jars	4° C ± 2° C	7 days/40 days
Aqueous	Metals	low-medium	EPA Method SW-846 6010B Prep Method 3050B / 2A, 7A	500 milliter	1 plastic bottle	HNO_3; 4° C ± 2° C	6 months
Aqueous	Mercury	low-medium	EPA Method 7470A / 5A	Take from Metals Sample	Take from Metals Sample	HNO_3; 4° C ± 2° C	28 days/28 days
Aqueous	VOCs	low	EPA Method SW-846 8260B	50 ml	3 VOA Vials	HCL; 4° C ± 2° C	14 days

[1] Specify the appropriate reference letter or number from the Analytical SOP References table (Worksheet #23).

MeHg? only
when does HT begin?

FRONTIER™
GLOBAL SCIENCES

414 Pontius Ave North
Seattle, WA 98109
Ph: 206-622-6960
Fx: 206-622-6870

03 June 2011

Larry Pannell
Watermark
175 Cabot Street
Lowell, MA 01854

RE: Fort Totten

Enclosed are the analytical results for samples received by Frontier Global Sciences. All quality control measurements are within established control limits and there were no analytical difficulties encountered with the exception of those listed in the case narrative section of this report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kate Haney
Client Services Manager

FRONTIER GLOBAL SCIENCES

414 Pontius Ave North
Seattle, WA 98109
Ph: 206-622-6960
Fx: 206-622-6870

ANALYTICAL REPORT FOR SAMPLES

Laboratory: Frontier Global Sciences, Inc. **SDG:**

Client: Watermark **Project:** Fort Totten

Sample ID	Lab ID	Matrix	Date Sampled	Date Received
AI2-107(0-2)	1105165-01	Soil/Sediment	11-May-11 10:00	12-May-11 09:38
AI2-107(6-24)	1105165-02	Soil/Sediment	11-May-11 10:34	12-May-11 09:38
AI2-109(0-2)	1105165-03	Soil/Sediment	11-May-11 08:51	12-May-11 09:38
AI2-109(6-24)	1105165-04	Soil/Sediment	11-May-11 09:20	12-May-11 09:38
AI2-111(0-2)	1105165-05	Soil/Sediment	11-May-11 08:26	12-May-11 09:38
AI2-111(6-24)	1105165-06	Soil/Sediment	11-May-11 09:07	12-May-11 09:38
AI2-112(0-2)	1105165-07	Soil/Sediment	11-May-11 09:25	12-May-11 09:38
AI2-112(6-24)	1105165-08	Soil/Sediment	11-May-11 09:40	12-May-11 09:38
AI3-104(0-2)	1105165-09	Soil/Sediment	10-May-11 11:30	12-May-11 09:38
AI3-104(6-24)	1105165-10	Soil/Sediment	10-May-11 12:00	12-May-11 09:38
AI3-105(0-2)	1105165-11	Soil/Sediment	10-May-11 12:35	12-May-11 09:38
AI3-105(6-24)	1105165-12	Soil/Sediment	10-May-11 12:55	12-May-11 09:38
AI3-111(0-2)	1105165-13	Soil/Sediment	10-May-11 16:30	12-May-11 09:38
AI3-111(6-24)	1105165-14	Soil/Sediment	10-May-11 16:40	12-May-11 09:38
AI3-112(0-2)	1105165-15	Soil/Sediment	10-May-11 15:00	12-May-11 09:38
AI3-112(6-24)	1105165-16	Soil/Sediment	10-May-11 15:15	12-May-11 09:38
AI4-105(0-2)	1105165-17	Soil/Sediment	11-May-11 10:46	12-May-11 09:38
AI4-105(6-24)	1105165-18	Soil/Sediment	11-May-11 10:55	12-May-11 09:38
AI4-106(0-2)	1105165-19	Soil/Sediment	11-May-11 11:13	12-May-11 09:38
AI4-106(6-24)	1105165-20	Soil/Sediment	11-May-11 11:35	12-May-11 09:38
AI4-112(0-2)	1105165-21	Soil/Sediment	11-May-11 11:52	12-May-11 09:38
AI4-112(6-24)	1105165-22	Soil/Sediment	11-May-11 12:20	12-May-11 09:38
AI4-115(0-2)	1105165-23	Soil/Sediment	11-May-11 12:15	12-May-11 09:38
AI4-115(6-24)	1105165-24	Soil/Sediment	11-May-11 12:30	12-May-11 09:38

Frontier Global Sciences, Inc.

Kate Haney, Client Services Manager

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Sample ID	Lab ID	Matrix	Date Sampled	Date Received
DUP-A14-1	1105165-25	Soil/Sediment	11-May-11 12:15	12-May-11 09:38
AI5-105(0-2)	1105165-26	Soil/Sediment	11-May-11 09:40	12-May-11 09:38
AI5-105(6-24)	1105165-27	Soil/Sediment	11-May-11 10:00	12-May-11 09:38
AI5-106(0-2)	1105165-28	Soil/Sediment	11-May-11 08:55	12-May-11 09:38
AI5-106(6-24)	1105165-29	Soil/Sediment	11-May-11 09:00	12-May-11 09:38
DUP-AI5-1(0-2)	1105165-30	Soil/Sediment	11-May-11 09:45	12-May-11 09:38

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CASE NARRATIVE

SAMPLE RECEIPT

Thirty (30) samples were received at Frontier Global Sciences (FGS) on May 12th, 2011. The samples were submitted for elemental mercury, total mercury and methyl mercury determination. Samples were received within a sealed cooler with a temperature of -49.5°C.

Two samples were received labeled as AI2-112 (0-2). The sampled times were different on the sample label. One label listed the sampled time as 0925 and the other listed the sampled time as 0940. The sample with the sampled time listed as 0925 was logged in as sample AI2-112 (0-2) and the sample with the sampled time listed as 0940 was logged in as sample AI2-112 (6-24).

No other issues were associated with sample receipt.

SAMPLE PREPARATION AND ANALYSIS

Sample preparation and analysis for solid samples for total mercury was performed according EPA Method 1631E Modified.

Sample preparation and analysis for solid samples for methyl mercury was performed according to EPA Method 1630 Modified.

Sample preparation and analysis for solid samples for elemental mercury was performed according to EPA Method 1631E Modified.

Sample preparation and analysis for total solids was performed according to Standard Methods 2340B.

ANALYTICAL AND QUALITY CONTROL ISSUES

There were no further analytical difficulties and all quality control analyses were within acceptable limits except as flagged and described in the following report.

Frontier Global Sciences, Inc.

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CHAIN OF CUSTODY FORMS

1105165

Chain of Custody Record & Laboratory Analysis Request:
Air, Water, Sediments, Plant and Animal Tissue,
Hydrocarbon & Other Samples

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http://www.FrontierGS.com

Page 1 of 3

Client: Watermark	Contact: Larry Pannell
Address: 175 Cabot Street Lowell, MA 01854	Phone: Fax:
	E-mail:
Project Name: Fort Totten	Contract/PO: W11-5561
Report To: Larry Pannell	Invoice To: Watermark
Address: 175 Cabot Street Lowell, MA 01854	Address:
Phone: 978-452-9696 Fax: 978-453-9988	Phone: Fax:
E-mail: laurence.pannell@watermarkenv.com	E-mail:

FGS PM:
Date:
TAT (business days): 20 (std) 15 10 5 4 3 2 24 hrs. (For TAT < 10 days, contact PM, Surcharges apply for expedited TAT)
Saturday delivery? ☐ Y ☐ N (If yes, please contact PM)
EDD ☒ Y ☐ N
QA ☒ Standard ☐ High

No.	Engraved Bottle ID	Sample ID	# of Bottles	Matrix	Date & Time	Sampled By	Field Filtered (Y/N)	Field Preserved: HNO_3, HCl, BrCl, Other (%)	Analyses Requested: Total Mercury by EPA 1631E	Methyl Mercury by EPA 1630	Elemental Mercury				Comments
1		AI2-107 (0-2")	1	SS	5/11/11 1000	JPR	N	Frozen	✓	✓	✓				
2		AI2-107 (6-24")	1	SS	5/11/11 1034	JPR	N	Frozen	✓	✓	✓				
3		AI2-109 (0-2")	1	SS	5/11/11 0851	LJP	N	Frozen	✓	✓	✓				
4		AI2-109 (6-24")	1	SS	5/11/11 0920	JPR	N	Frozen	✓	✓	✓				
5		AI2-111 (0-2")	1	SS	5/11/11 0826	JPR	N	Frozen	✓	✓	✓				
6		AI2-111 (6-24")	1	SS	5/11/11 0907	JPR	N	Frozen	✓	✓	✓				
7		AI2-112 (0-2")	1	SS	5/11/11 0925	JPR	N	Frozen	✓	✓	✓				
8		* AI2-112 (6-24")	1	SS	5/11/11 0940	JPR	N	Frozen	✓	✓	✓				
9		AI3-104 (0-2")	1	SS	5/10/11 1130	LJP	N	Frozen	✓	✓	✓				
10		AI3-104 (6-24")	1	SS	5/10/11 1200	LJP	N	Frozen	✓	✓	✓				
11		AI3-105 (0-2")	1	SS	5/10/11 1235	JPR	N	Frozen	✓	✓	✓				
12		AI3-105 (6-24")	1	SS	5/10/11 1255	JPR	N	Frozen	✓	✓	✓				

For Laboratory Use Only		Matrix Codes:	Relinquished By:	Received By:	Received By:
COC Seal: intact	Comments: Therm 0268	FW: Fresh Water		Teresa Einhaus	
Cooler Temp: -49.5C	* was also labeled AI2-112 (0-2") matched by sample time	WW: Waste Water	Name:	Name: Teresa Einhaus	Name:
Carrier: FedEx		SB: Sea and Brackish Water	Organization:	Organization: FGS	Organization:
VTSR: 0938		SS: Soil and Sediment	Date & Time:	Date & Time: 5-12-11 1044	Date & Time:
# of Coolers: 1		TS: Plant and Animal Tissue	Tracking number: 4879 9675 2088		
		HC: Hydrocarbons			
		TR: Trap			
		OT: Other			

Sample Disposal:
☐ Return (shipping fees may apply)
☒ Standard Disposal – 30 Days after report
☐ Retain for ____ weeks after report (storage fees may apply)

By signing, you declare that you agree with FGS' terms and conditions, and that you authorize FGS to perform the specified analyses.

Customer Approval: [signature] Date: 5/11/11

Frontier Global Sciences, Inc.

[signature]

Kate Haney, Client Services Manager

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CHAIN OF CUSTODY FORMS

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Chain of Custody Record & Laboratory Analysis Request:
Air, Water, Sediments, Plant and Animal Tissue,
Hydrocarbon & Other Samples

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Fax: 206-622-6870
info@FrontierGS.com
http://www.FrontierGS.com

Page 2 of 3

Client: ~~Weston~~ Watermark	Contact: Larry Pannell		
Address: 175 Cabot Street Lowell, MA 01854	Phone: Fax:		
Project Name: Fort Totten	E-mail:		
Report To: Larry Pannell	Contract/PO: W11-5561		
Address: 175 Cabot Street Lowell, MA 01854	Invoice To: Watermark		
Phone: 978-452-9696 Fax: 978-453-7788	Address:		
E-mail: lawrence.pannell@watermarkenv.com	Phone: Fax:		
	E-mail:		

FGS PM:
Date:
TAT (business days): 20 (std) 15 10 5 4 3 2 24 hrs. (For TAT < 10 days, contact PM. Surcharges apply for expedited TAT)
Saturday delivery? ☐ Y ☐ N (If yes, please contact PM)
EDD ☑ Y ☐ N
QA ☑ Standard ☐ High

No.	Engraved Bottle ID	Sample ID	# of Bottles	Matrix	Date & Time	Sampled By	Field Filtered (Y/N)	Field Preserved: HNO_3, HCl, BrO, other (%)	Analyses Requested: Total Mercury by EPA 1631E	Methyl Mercury by EPA 1630	Elemental Mercury				Comments
1		AI3-111 (0-2")	1	SS	5/10/11 1630	JPR	N	Frozen	✓	✓	✓				
2		AI3-111 (6-24")	1	SS	5/10/11 1640	JPR	N	Frozen	✓	✓	✓				
3		AI3-112 (0-2")	1	SS	5/10/11 1500	JPR	N	Frozen	✓	✓	✓				
4		AI3-112 (6-24")	1	SS	5/10/11 1515	JPR	N	Frozen	✓	✓	✓				
5		AI4-105 (0-2")	1	SS	5/11/11 1046	LJP	N	Frozen	✓	✓	✓				
6		AI4-105 (6-24")	1	SS	5/11/11 1055	JPR	N	Frozen	✓	✓	✓				
7		AI4-106 (0-2")	1	SS	5/11/11 1113	JPR	N	Frozen	✓	✓	✓				
8		AI4-106 (6-24")	1	SS	5/11/11 1135	JPR	N	Frozen	✓	✓	✓				
9		AI4-112 (0-2")	1	SS	5/11/11 1152	JPR	N	Frozen	✓	✓	✓				
10		AI4-112 (6-24")	1	SS	5/11/11 1220	JPR	N	Frozen	✓	✓	✓				
11		AI4-115 (0-2")	1	SS	5/11/11 1215	LJP	N	Frozen	✓	✓	✓				
12		AI4-115 (6-24")	1	SS	5/11/11 1230	LJP	N	Frozen	✓	✓	✓				

For Laboratory Use Only		Matrix Codes:
COC Seal: Intact	Comments: Thermometer - 048	FW: Fresh Water WW: Waste Water SB: Sea and Brackish Water SS: Soil and Sediment TS: Plant and Animal Tissue HC: Hydrocarbons TR: Trap OT: Other
Cooler Temp: 4.9°C		
Carrier: Fed Ex		
VTSR: 5/9/11		
# of Coolers: 1		

	Relinquished By:	Received By:	Received By:
Name:		Name: Teresa Einhaus	Name:
Organization:		Organization: FGS	Organization:
Date & Time:		Date & Time: 5-12-11 1044	Date & Time:

Tracking number: 4879 9675 2088

Sample Disposal:
☐ Return (shipping fees may apply)
☑ Standard Disposal – 30 Days after report
☐ Retain for ____ weeks after report (storage fees may apply)

By signing, you declare that you agree with FGS' terms and conditions, and that you authorize FGS to perform the specified analyses.

Customer Approval: Kathy M. Rust Date: 5/11/11

Frontier Global Sciences, Inc.

Kate Haney

Kate Haney, Client Services Manager

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CHAIN OF CUSTODY FORMS

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Chain of Custody Record & Laboratory Analysis Request:
Air, Water, Sediments, Plant and Animal Tissue,
Hydrocarbon & Other Samples

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http://www.FrontierGS.com

Page 3 of 3

Client: Watermark	Contact: Larry Pannell
Address: 175 Cabot Street, Lowell, MA 01854	Phone: 978-452-9696 Fax: 978-453-9988
	E-mail:
Project Name: Fort Totten	Contract/PO: W11-5561
Report To: Larry Pannell	Invoice To: Watermark
Address: 175 Cabot Street, Lowell, MA 01854	Address:
Phone: 978-452-9696 Fax: 978-453-9988	Phone: Fax:
E-mail: Lawrence.pannell@watermarkenv.com	E-mail:

No.	Engraved Bottle ID	Sample ID	# of Bottles	Matrix	Date & Time	Sampled By	Field Filtered (Y/N)	Field Preserved: HNO_3, HCl, BrCl, Other (%)	Analyses Requested: Total Mercury by EPA 1631E	Methyl Mercury by EPA 1630	Elemental Mercury by EPA Elemental Mercury			
1		DUP-AI4-1	1	SS	5/11/11 1215	LJP	N	Frozen	✓	✓	✓			
2		AIS-105 (0-2")	1	SS	5/11/11 0940	EMP	N	Frozen	✓	✓	✓			
3		AIS-105 (6-24")	1	SS	5/11/11 1000	EMP	N	Frozen	✓	✓	✓			
4		AIS-106 (0-2")	1	SS	5/11/11 0855	EMP	N	Frozen	✓	✓	✓			
5		AIS-106 (6-24")	1	SS	5/11/11 0900	EMP	N	Frozen	✓	✓	✓			
6		DUP-AIS-1 (0-2")	1	SS	5/11/11 0945	EMP	N	Frozen	✓	✓	✓			
7														
8														
9														
10														
11														
12														

FGS PM:
Date:
TAT (business days): 20 (std) **15 10 5 4 3 2 24 hrs.**
(For TAT < 10 days, contact PM. Surcharges apply for expedited TAT)
Saturday delivery? ☐ Y ☒ N
(If yes, please contact PM)
EDD ☑ Y ☐ N
QA ☑ Standard ☐ High

Comments

For Laboratory Use Only	
COC Seal: Intact	Comments: Thermometer 0268 labeled "AIS-106 (0-6")"
Cooler Temp: 4.9±2C	
Carrier: Fed Ex	
VTSR: 0938	
# of Coolers: 1	

Matrix Codes:
FW: Fresh Water
WW: Waste Water
SB: Sea and Brackish Water
SS: Soil and Sediment
TS: Plant and Animal Tissue
HC: Hydrocarbons
TR: Trap
OT: Other

Relinquished By:	Received By:	Received By:
	Teresa Einhaus	
Name:	Name: Teresa Einhaus	Name:
Organization:	Organization: FGS	Organization:
Date & Time:	Date & Time: 5-12-11 1044	Date & Time:

Tracking number: 4879 9675 2088

Sample Disposal:
☐ Return (shipping fees may apply)
☑ Standard Disposal – 30 Days after report
☐ Retain for ____ weeks after report (storage fees may apply)

By signing, you declare that you agree with FGS' terms and conditions, and that you authorize FGS to perform the specified analyses.

Customer Approval: Lynda M Rutt Date: 5/11/11

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ANALYTICAL RESULTS

AI2-107(0-2)

Matrix: Soil/Sediment **Laboratory ID:** 1105165-01

Analyte	Result		MDL	MRL	Units	Dilution	Batch	Sequence	Analyzed	Method	Notes
% Solids	**69.1**		0.1	0.1	% by Weight	1	F105234		05/20/11	SM 2540B	O-04, O-09
Mercury	**323**		0.77	7.03	ng/g dry	100	F105233	1E25012	05/25/11	FGS-069	
Mercury (0)	ND		0.05	0.3	ng/g dry	100	F106024	1F02015	06/02/11	EPA 1631 Mod	
Methyl Mercury	**6.02**	J	0.128	0.823	ng/g dry	10	F105221	1E18010	05/18/11	EPA 1630 Mod	

MRLs do not match QAPP - Look like MDLs

* Samples run at dilutions See lab email cn 9/30/11

Total Hg = $\frac{1.0 \text{ ng/g} \times 100}{.691} = 0.144 \text{ ng/g}$

Elemental Mercury $\frac{2.0 \text{ ng/g} \times 100}{.691} = 289 \text{ ng/g}$

$MHg = \frac{.05 \text{ ng/g} \times 10}{.691} = 0.72 \text{ ng/g}$

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ANALYTICAL RESULTS

AI2-107(6-24)

Matrix: Soil/Sediment **Laboratory ID:** 1105165-02

Analyte	Result	MDL	MRL	Units	Dilution	Batch	Sequence	Analyzed	Method	Notes
% Solids	**84.2**	0.1	0.1	% by Weight	1	F105234		05/20/11	SM 2540B	O-04, O-09
Mercury	**165**	0.62	5.62	ng/g dry	100	F105233	1E25012	05/25/11	FGS-069	
Mercury (0)	ND	0.07	0.4	ng/g dry	100	F106024	1F02015	06/02/11	EPA 1631 Mod	
Methyl Mercury	**1.03** J	0.103	0.664	ng/g dry	10	F105221	1E18010	05/18/11	EPA 1630 Mod	

CM

9/30/11

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ANALYTICAL RESULTS

AI2-109(0-2)

Matrix: Soil/Sediment **Laboratory ID:** 1105165-03

Analyte	Result	MDL	MRL	Units	Dilution	Batch	Sequence	Analyzed	Method	Notes
% Solids	**88.2**	0.1	0.1	% by Weight	1	F105234		05/20/11	SM 2540B	O-04, O-09
Mercury	**2080**	12.0	109	ng/g dry	2000	F105233	1E25012	05/25/11	FGS-069	
Mercury (0)	ND	0.07	0.4	ng/g dry	100	F106024	1F02015	06/02/11	EPA 1631 Mod	
Methyl Mercury	**4.86** J	0.098	0.635	ng/g dry	10	F105221	1E18010	05/18/11	EPA 1630 Mod	

CN
9/30/11

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ANALYTICAL RESULTS

AI2-109(6-24)

Matrix: Soil/Sediment **Laboratory ID:** 1105165-04

Analyte	Result	MDL	MRL	Units	Dilution	Batch	Sequence	Analyzed	Method	Notes
% Solids	**81.8**	0.1	0.1	% by Weight	1	F105234		05/20/11	SM 2540B	O-04, O-09
Mercury	**374**	0.64	5.82	ng/g dry	100	F105233	1E25012	05/25/11	FGS-069	
Mercury (0)	ND	0.07	0.4	ng/g dry	100	F106024	1F02015	06/02/11	EPA 1631 Mod	
Methyl Mercury	**0.083** J	0.010	0.066	ng/g dry	0.95	F105301	1E24011	05/24/11	EPA 1630 Mod	

CN
9/30/11

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ANALYTICAL RESULTS

AI2-111(0-2)

Matrix: Soil/Sediment **Laboratory ID:** 1105165-05

Analyte	Result	MDL	MRL	Units	Dilution	Batch	Sequence	Analyzed	Method	Notes
% Solids	**84.0**	0.1	0.1	% by Weight	1	F105234		05/20/11	SM 2540B	O-04, O-09
Mercury	**1630**	3.20	29.2	ng/g dry	500	F105233	1E25012	05/25/11	FGS-069	
Mercury (0)	ND	0.07	0.4	ng/g dry	100	F106024	1F02015	06/02/11	EPA 1631 Mod	
Methyl Mercury	**11.0** J	0.522	3.36	ng/g dry	50	F105221	1E18010	05/18/11	EPA 1630 Mod	

CW
9/30/11

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Fx: 206-622-6870

ANALYTICAL RESULTS

AI2-111(6-24)

Matrix: Soil/Sediment **Laboratory ID:** 1105165-06

Analyte	Result	MDL	MRL	Units	Dilution	Batch	Sequence	Analyzed	Method	Notes
% Solids	**86.4**	0.1	0.1	% by Weight	1	F105234		05/20/11	SM 2540B	O-04, O-09
Mercury	**1760**	12.1	110	ng/g dry	2000	F105233	1E25012	05/25/11	FGS-069	
Mercury (0)	ND	0.06	0.4	ng/g dry	100	F106024	1F02015	06/02/11	EPA 1631 Mod	
Methyl Mercury	**1.39** J	0.010	0.063	ng/g dry	0.95	F105221	1E18010	05/18/11	EPA 1630 Mod	

CW
9/30/11

Frontier Global Sciences, Inc.

Kate Haney, Client Services Manager

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ANALYTICAL RESULTS

AI2-112(0-2)

Matrix: Soil/Sediment **Laboratory ID:** 1105165-07

Analyte	Result	MDL	MRL	Units	Dilution	Batch	Sequence	Analyzed	Method	Notes
% Solids	77.7	0.1	0.1	% by Weight	1	F105234		05/20/11	SM 2540B	O-04, O-09
Mercury	**358**	3.45	31.4	ng/g dry	500	F105233	1E25012	05/25/11	FGS-069	
Mercury (0)	ND	0.06	0.4	ng/g dry	100	F106024	1F02015	06/02/11	EPA 1631 Mod	
Methyl Mercury	**0.737** J	0.011	0.070	ng/g dry	0.95	F105221	1E18010	05/18/11	EPA 1630 Mod	

CW
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ANALYTICAL RESULTS

AI2-112(6-24)

Matrix: Soil/Sediment **Laboratory ID:** 1105165-08

Analyte	Result	MDL	MRL	Units	Dilution	Batch	Sequence	Analyzed	Method	Notes
% Solids	**83.4**	0.1	0.1	% by Weight	1	F105234		05/20/11	SM 2540B	O-04, O-09
Mercury	**81.9**	0.62	5.67	ng/g dry	100	F105233	1E25012	05/25/11	FGS-069	
Mercury (0)	ND	0.06	0.3	ng/g dry	100	F106024	1F02015	06/02/11	EPA 1631 Mod	
Methyl Mercury	ND U5	0.010	0.063	ng/g dry	0.95	F105221	1E18010	05/18/11	EPA 1630 Mod	

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ANALYTICAL RESULTS

AI3-104(0-2)

Matrix: Soil/Sediment **Laboratory ID:** 1105165-09

Analyte	Result	MDL	MRL	Units	Dilution	Batch	Sequence	Analyzed	Method	Notes
% Solids	**87.2**	0.1	0.1	% by Weight	1	F105234		05/20/11	SM 2540B	O-04, O-09
Mercury	**250**	2.96	26.9	ng/g dry	500	F105233	1E25012	05/25/11	FGS-069	
Mercury (0)	ND	0.05	0.3	ng/g dry	100	F106024	1F02015	06/02/11	EPA 1631 Mod	
Methyl Mercury	**1.06** J	0.098	0.631	ng/g dry	10	F105221	1E18010	05/18/11	EPA 1630 Mod	

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ANALYTICAL RESULTS

AI3-104(6-24)

Matrix: Soil/Sediment **Laboratory ID:** 1105165-10

Analyte	Result	MDL	MRL	Units	Dilution	Batch	Sequence	Analyzed	Method	Notes
% Solids	**88.2**	0.1	0.1	% by Weight	1	F105234		05/20/11	SM 2540B	O-04, O-09
Mercury	**262**	0.60	5.47	ng/g dry	100	F105233	1E25012	05/25/11	FGS-069	
Mercury (0)	ND	0.05	0.3	ng/g dry	100	F106024	1F02015	06/02/11	EPA 1631 Mod	
Methyl Mercury	**0.354** J	0.009	0.060	ng/g dry	0.95	F105221	1E18010	05/18/11	EPA 1630 Mod	

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ANALYTICAL RESULTS

AI3-105(0-2)

Matrix: Soil/Sediment **Laboratory ID:** 1105165-11

Analyte	Result	MDL	MRL	Units	Dilution	Batch	Sequence	Analyzed	Method	Notes
% Solids	**81.5**	0.1	0.1	% by Weight	1	F105234		05/20/11	SM 2540B	O-04, O-09
Mercury	**673**	3.21	29.2	ng/g dry	500	F105233	1E25012	05/25/11	FGS-069	
Mercury (0)	ND	0.06	0.4	ng/g dry	100	F106024	1F02015	06/02/11	EPA 1631 Mod	
Methyl Mercury	**0.790** J	0.010	0.066	ng/g dry	0.95	F105221	1E18010	05/18/11	EPA 1630 Mod	

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ANALYTICAL RESULTS

AI3-105(6-24)

Matrix: Soil/Sediment **Laboratory ID:** 1105165-12

Analyte	Result	MDL	MRL	Units	Dilution	Batch	Sequence	Analyzed	Method	Notes
% Solids	**84.9**	0.1	0.1	% by Weight	1	F105234		05/20/11	SM 2540B	O-04, O-09
Mercury	**299**	3.01	27.4	ng/g dry	500	F105233	1E25012	05/25/11	FGS-069	
Mercury (0)	ND	0.05	0.3	ng/g dry	100	F106024	1F02015	06/02/11	EPA 1631 Mod	
Methyl Mercury	**0.781** J	0.010	0.063	ng/g dry	0.95	F105221	1E18010	05/18/11	EPA 1630 Mod	

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ANALYTICAL RESULTS

AI3-111(0-2)

Matrix: Soil/Sediment **Laboratory ID:** 1105165-13

Analyte	Result	MDL	MRL	Units	Dilution	Batch	Sequence	Analyzed	Method	Notes
% Solids	**85.2**	0.1	0.1	% by Weight	1	F105234		05/20/11	SM 2540B	O-04, O-09
Mercury	**378**	12.6	115	ng/g dry	2000	F105233	1E25012	05/25/11	FGS-069	
Mercury (0)	ND	0.06	0.3	ng/g dry	100	F106024	1F02015	06/02/11	EPA 1631 Mod	
Methyl Mercury	**2.26** J	0.102	0.658	ng/g dry	10	F105221	1E18010	05/18/11	EPA 1630 Mod	

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ANALYTICAL RESULTS

AI3-111(6-24)

Matrix: Soil/Sediment **Laboratory ID:** 1105165-14

Analyte	Result	MDL	MRL	Units	Dilution	Batch	Sequence	Analyzed	Method	Notes
% Solids	**87.9**	0.1	0.1	% by Weight	1	F105234		05/20/11	SM 2540B	O-04, O-09
Mercury	**357**	3.03	27.6	ng/g dry	500	F105233	1E25012	05/25/11	FGS-069	
Mercury (0)	ND	0.04	0.2	ng/g dry	100	F106024	1F02015	06/02/11	EPA 1631 Mod	
Methyl Mercury	**0.238** J	0.010	0.061	ng/g dry	0.95	F105221	1E18010	05/18/11	EPA 1630 Mod	

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ANALYTICAL RESULTS

AI3-112(0-2)

Matrix: Soil/Sediment **Laboratory ID:** 1105165-15

Analyte	Result	MDL	MRL	Units	Dilution	Batch	Sequence	Analyzed	Method	Notes
% Solids	**80.4**	0.1	0.1	% by Weight	1	F105234		05/20/11	SM 2540B	O-04, O-09
Mercury	**885**	3.34	30.4	ng/g dry	500	F105233	1E25012	05/25/11	FGS-069	
Mercury (0)	ND	0.05	0.3	ng/g dry	100	F106024	1F02015	06/02/11	EPA 1631 Mod	
Methyl Mercury	**2.05** J	0.010	0.066	ng/g dry	0.95	F105221	1E18010	05/18/11	EPA 1630 Mod	

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ANALYTICAL RESULTS

AI3-112(6-24)

Matrix: Soil/Sediment **Laboratory ID:** 1105165-16

Analyte	Result	MDL	MRL	Units	Dilution	Batch	Sequence	Analyzed	Method	Notes
% Solids	**81.3**	0.1	0.1	% by Weight	1	F105234		05/20/11	SM 2540B	O-04, O-09
Mercury	**128**	3.25	29.6	ng/g dry	500	F105233	1E25012	05/25/11	FGS-069	
Mercury (0)	ND	0.04	0.3	ng/g dry	100	F106025	1F02016	06/02/11	EPA 1631 Mod	
Methyl Mercury	**0.179** J	0.010	0.066	ng/g dry	0.95	F105221	1E18010	05/18/11	EPA 1630 Mod	

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ANALYTICAL RESULTS

AI4-105(0-2)

Matrix: Soil/Sediment **Laboratory ID:** 1105165-17

Analyte	Resnlt	MDL	MRL	Units	Dilution	Batch	Sequence	Analyzed	Method	Notes
% Solids	**82.9**	0.1	0.1	% by Weight	1	F105234		05/20/11	SM 2540B	O-04, O-09
Mercury	**190**	3.15	28.7	ng/g dry	500	F105233	1E25012	05/25/11	FGS-069	
Mercury (0)	ND	0.06	0.3	ng/g dry	100	F106025	1F02016	06/02/11	EPA 1631 Mod	
Methyl Mercury	**0.708** J	0.010	0.065	ng/g dry	0.95	F105221	1E18010	05/18/11	EPA 1630 Mod	

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ANALYTICAL RESULTS

AI4-105(6-24)

Matrix: Soil/Sediment **Laboratory ID:** 1105165-18

Analyte	Result	MDL	MRL	Units	Dilution	Batch	Sequence	Analyzed	Method	Notes
% Solids	**89.3**	0.1	0.1	% by Weight	1	F105234		05/20/11	SM 2540B	O-04, O-09
Mercury	**93.8**	2.97	27.0	ng/g dry	500	F105233	1E25012	05/25/11	FGS-069	
Mercury (0)	ND	0.04	0.2	ng/g dry	100	F106025	1F02016	06/02/11	EPA 1631 Mod	
Methyl Mercury	**0.322** J	0.009	0.060	ng/g dry	0.95	F105221	1E18010	05/18/11	EPA 1630 Mod	

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ANALYTICAL RESULTS

AI4-106(0-2)

Matrix: Soil/Sediment **Laboratory ID:** 1105165-19

Analyte	Result	MDL	MRL	Units	Dilution	Batch	Sequence	Analyzed	Method	Notes
% Solids	**85.4**	0.1	0.1	% by Weight	1	F105234		05/20/11	SM 2540B	O-04, O-09
Mercury	**181**	3.12	28.4	ng/g dry	500	F105233	1E25012	05/25/11	FGS-069	
Mercury (0)	ND	0.07	0.4	ng/g dry	100	F106025	1F02016	06/02/11	EPA 1631 Mod	
Methyl Mercury	**0.535** J	0.010	0.062	ng/g dry	0.95	F105221	1E18010	05/18/11	EPA 1630 Mod	

CA

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ANALYTICAL RESULTS

AI4-106(6-24)

Matrix: Soil/Sediment **Laboratory ID:** 1105165-20

Analyte	Result	MDL	MRL	Units	Dilution	Batch	Sequence	Analyzed	Method	Notes
% Solids	**93.7**	0.1	0.1	% by Weight	1	F105234		05/20/11	SM 2540B	O-04, O-09
Mercury	**66.1**	2.77	25.2	ng/g dry	500	F105233	1E25012	05/25/11	FGS-069	
Mercury (0)	ND	0.05	0.3	ng/g dry	100	F106025	1F02016	06/02/11	EPA 1631 Mod	
Methyl Mercury	**0.310** J	0.009	0.056	ng/g dry	0.95	F105221	1E18010	05/18/11	EPA 1630 Mod	

CA

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ANALYTICAL RESULTS

AI4-112(0-2)

Matrix: Soil/Sediment **Laboratory ID:** 1105165-21

Analyte	Result	MDL	MRL	Units	Dilution	Batch	Sequence	Analyzed	Method	Notes
% Solids	**84.0**	0.1	0.1	% by Weight	1	F105234		05/20/11	SM 2540B	O-04, O-09
Mercury	**117**	0.63	5.72	ng/g dry	100	F105237	1E25011	05/25/11	FGS-069	
Mercury (0)	ND	0.06	0.4	ng/g dry	100	F106025	1F02016	06/02/11	EPA 1631 Mod	
Methyl Mercury	**0.464 J**	0.010	0.062	ng/g dry	0.95	F105301	1E24011	05/24/11	EPA 1630 Mod	

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ANALYTICAL RESULTS

AI4-112(6-24)

Matrix: Soil/Sediment **Laboratory ID:** 1105165-22

Analyte	Result	MDL	MRL	Units	Dilution	Batch	Sequence	Analyzed	Method	Notes
% Solids	**84.9**	0.1	0.1	% by Weight	1	F105234		05/20/11	SM 2540B	O-04, O-09
Mercury	**77.5**	0.61	5.54	ng/g dry	100	F105237	1E25011	05/25/11	FGS-069	
Mercury (0)	ND	0.06	0.3	ng/g dry	100	F106025	1F02016	06/02/11	EPA 1631 Mod	
Methyl Mercury	**0.409** J	0.010	0.062	ng/g dry	0.95	F105301	1E24011	05/24/11	EPA 1630 Mod	

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ANALYTICAL RESULTS

AI4-115(0-2)

Matrix: Soil/Sediment **Laboratory ID:** 1105165-23

Analyte	Result	MDL	MRL	Units	Dilution	Batch	Sequence	Analyzed	Method	Notes
% Solids	**83.2**	0.1	0.1	% by Weight	1	F105234		05/20/11	SM 2540B	O-04, O-09
Mercury	**86.4**	0.64	5.80	ng/g dry	100	F105237	1E25011	05/25/11	FGS-069	
Mercury (0)	ND	0.06	0.4	ng/g dry	100	F106025	1F02016	06/02/11	EPA 1631 Mod	
Methyl Mercury	**0.380** J	0.010	0.064	ng/g dry	0.95	F105301	1E24011	05/24/11	EPA 1630 Mod	

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ANALYTICAL RESULTS

AI4-115(6-24)

Matrix: Soil/Sediment **Laboratory ID:** 1105165-24

Analyte	Result	MDL	MRL	Units	Dilution	Batch	Sequence	Analyzed	Method	Notes
% Solids	**85.9**	0.1	0.1	% by Weight	1	F105234		05/20/11	SM 2540B	O-04, O-09
Mercury	**65.4**	0.62	5.68	ng/g dry	100	F105237	1E25011	05/25/11	FGS-069	
Mercury (0)	ND	0.06	0.3	ng/g dry	100	F106025	1F02016	06/02/11	EPA 1631 Mod	
Methyl Mercury	**0.639** J	0.010	0.063	ng/g dry	0.95	F105301	1E24011	05/24/11	EPA 1630 Mod	

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ANALYTICAL RESULTS

DUP-A14-1

Matrix: Soil/Sediment **Laboratory ID:** 1105165-25

Analyte	Result	MDL	MRL	Units	Dilution	Batch	Sequence	Analyzed	Method	Notes
% Solids	**83.0**	0.1	0.1	% by Weight	1	F105234		05/20/11	SM 2540B	O-04, O-09
Mercury	**82.6**	3.19	29.1	ng/g dry	500	F105237	1E25011	05/25/11	FGS-069	
Mercury (0)	ND	0.05	0.3	ng/g dry	100	F106025	1F02016	06/02/11	EPA 1631 Mod	
Methyl Mercury	**0.293** J	0.010	0.063	ng/g dry	0.95	F105301	1E24011	05/24/11	EPA 1630 Mod	

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ANALYTICAL RESULTS

AI5-105(0-2)

Matrix: Soil/Sediment **Laboratory ID:** 1105165-26

Analyte	Result	MDL	MRL	Units	Dilution	Batch	Sequence	Analyzed	Method	Notes
% Solids	**88.7**	0.1	0.1	% by Weight	1	F105234		05/20/11	SM 2540B	O-04, O-09
Mercury	**280**	2.93	26.7	ng/g dry	500	F105237	1E25011	05/25/11	FGS-069	
Mercury (0)	ND	0.06	0.4	ng/g dry	100	F106025	1F02016	06/02/11	EPA 1631 Mod	
Methyl Mercury	**0.169** J	0.009	0.059	ng/g dry	0.95	F105301	1E24011	05/24/11	EPA 1630 Mod	

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ANALYTICAL RESULTS

AI5-105(6-24)

Matrix: Soil/Sediment **Laboratory ID:** 1105165-27

Analyte	Result	MDL	MRL	Units	Dilution	Batch	Sequence	Analyzed	Method	Notes
% Solids	**87.8**	0.1	0.1	% by Weight	1	F105234		05/20/11	SM 2540B	O-04, O-09
Mercury	**1720**	3.05	27.8	ng/g dry	500	F105237	1E25011	05/25/11	FGS-069	
Mercury (0)	ND	0.05	0.3	ng/g dry	100	F106025	1F02016	06/02/11	EPA 1631 Mod	
Methyl Mercury	**0.209** J	0.009	0.061	ng/g dry	0.95	F105301	1E24011	05/24/11	EPA 1630 Mod	

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ANALYTICAL RESULTS

AI5-106(0-2)

Matrix: Soil/Sediment **Laboratory ID:** 1105165-28

Analyte	Result	MDL	MRL	Units	Dilution	Batch	Sequence	Analyzed	Method	Notes
% Solids	**89.8**	0.1	0.1	% by Weight	1	F105234		05/20/11	SM 2540B	O-04, O-09
Mercury	**178**	2.96	27.0	ng/g dry	500	F105237	1E25011	05/25/11	FGS-069	
Mercury (0)	ND	0.05	0.3	ng/g dry	100	F106025	1F02016	06/02/11	EPA 1631 Mod	
Methyl Mercury	ND UJ	0.009	0.059	ng/g dry	0.95	F105301	1E24011	05/24/11	EPA 1630 Mod	

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ANALYTICAL RESULTS

AI5-106(6-24)

Matrix: Soil/Sediment **Laboratory ID:** 1105165-29

Analyte	Result	MDL	MRL	Units	Dilution	Batch	Sequence	Analyzed	Method	Notes
% Solids	**87.0**	0.1	0.1	% by Weight	1	F105234		05/20/11	SM 2540B	O-04, O-09
Mercury	**1260**	3.04	27.7	ng/g dry	500	F105237	1E25011	05/25/11	FGS-069	
Mercury (0)	ND	0.05	0.3	ng/g dry	100	F106025	1F02016	06/02/11	EPA 1631 Mod	
Methyl Mercury	ND UJ	0.010	0.062	ng/g dry	0.95	F105301	1E24011	05/24/11	EPA 1630 Mod	

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ANALYTICAL RESULTS

DUP-AI5-1(0-2)

Matrix: Soil/Sediment **Laboratory ID:** 1105165-30

Analyte	Result	MDL	MRL	Units	Dilution	Batch	Sequence	Analyzed	Method	Notes
% Solids	**88.9**	0.1	0.1	% by Weight	1	F105234		05/20/11	SM 2540B	O-04, O-09
Mercury	**348**	2.93	26.6	ng/g dry	500	F105237	1E25011	05/25/11	FGS-069	
Mercury (0)	ND	0.05	0.3	ng/g dry	100	F106025	1F02016	06/02/11	EPA 1631 Mod	
Methyl Mercury	**0.153** J	0.009	0.059	ng/g dry	0.95	F105301	1E24011	05/24/11	EPA 1630 Mod	

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MATRIX DUPLICATES/TRIPLICATES

SOURCE: 1105165-01

9/12/11

Batch: F105221 **Sequence:** 1E18010

Preparation: Methylene Chloride Extraction for Methyl Hg **Lab Number:** F105221-DUP1

Analyte	Sample Concentration ng/g dry	Duplicate Concentration ng/g dry	MRL	% RPD	RPD Limit	Method	Notes
Methyl Mercury	6.017	6.522	0.815	8.05	25	EPA 1630 Mod	

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MATRIX DUPLICATES/TRIPLICATES

SOURCE: 1105165-01

Batch: F105233 **Sequence:** 1E25012

Preparation: Cold Aqua Regia Digestion for Hg **Lab Number:** F105233-DUP1

Analyte	Sample Concentration ng/g dry	Duplicate Concentration ng/g dry	MRL	% RPD	RPD Limit	Method	Notes
Mercury	322.9	283.7	7.04	12.9	25	FGS-069	

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MATRIX DUPLICATES/TRIPLICATES

SOURCE: 1105165-01

Batch: F105234 **Sequence:**

Preparation: Solids Analysis **Lab Number:** F105234-DUP1

Aualyte	Sample Concentration % by Weight	Duplicate Concentration % by Weight	MRL	% RPD	RPD Limit	Method	Notes
% Solids	69.1	71.4	0.1	3.27	10	SM 2540B	O-04, O-09

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MATRIX DUPLICATES/TRIPLICATES

SOURCE: 1105165-13

Batch: F105234 **Sequence:**

Preparation: Solids Analysis **Lab Number:** F105234-DUP2

Analyte	Sample Concentration % by Weight	Duplicate Concentration % by Weight	MRL	% RPD	RPD Limit	Method	Notes
% Solids	85.2	84.9	0.1	0.353	10	SM 2540B	O-04, O-09

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MATRIX DUPLICATES/TRIPLICATES

SOURCE: 1105165-19

Batch: F105234 **Sequence:**

Preparation: Solids Analysis **Lab Number:** F105234-DUP3

Analyte	Sample Concentration % by Weight	Duplicate Concentration % by Weight	MRL	% RPD	RPD Limit	Method	Notes
% Solids	85.4	85.3	0.1	0.117	10	SM 2540B	O-04, O-09

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MATRIX DUPLICATES/TRIPLICATES

SOURCE: 1105165-21

Batch: F105234 **Sequence:**

Preparation: Solids Analysis **Lab Number:** F105234-DUP4

Analyte	Sample Concentration % by Weight	Duplicate Concentration % by Weight	MRL	% RPD	RPD Limit	Method	Notes
% Solids	84.0	85.6	0.1	1.89	10	SM 2540B	O-04, O-09

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MATRIX DUPLICATES/TRIPLICATES

SOURCE: 1105165-30

Batch: F105234 **Sequence:**

Preparatiou: Solids Analysis **Lab Number:** F105234-DUP5

Analyte	Sample Concentration % by Weight	Duplicate Concentration % by Weight	MRL	% RPD	RPD Limit	Method	Notes
% Solids	88.9	88.6	0.1	0.338	10	SM 2540B	O-04, O-09

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MATRIX DUPLICATES/TRIPLICATES

SOURCE: 1105165-22

Batch: F105237 **Sequence:** 1E25011

Preparation: Cold Aqua Regia Digestion for Hg **Lab Number:** F105237-DUP1

Analyte	Sample Concentration ng/g dry	Duplicate Concentration ng/g dry	MRL	% RPD	RPD Limit	Method	Notes
Mercury	77.46	65.95	5.65	16.1	25	FGS-069	

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MATRIX DUPLICATES/TRIPLICATES

SOURCE: 1105165-22RE1

Batch: F105301 **Sequence:** 1E24011

Preparation: Methylene Chloride Extraction for Methyl Hg **Lab Number:** F105301-DUP1

Analyte	Sample Concentration ng/g dry	Duplicate Concentration ng/g dry	MRL	% RPD	RPD Limit	Method	Notes
Methyl Mercury	0.409	0.328	0.062	21.8	25	EPA 1630 Mod	

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MATRIX DUPLICATES/TRIPLICATES

SOURCE: 1105165-02

Batch: F106024 **Sequence:** 1F02015

Preparation: Elemental Hg Volatization **Lab Number:** F106024-DUP1

Analyte	Sample Concentration ng/g dry	Duplicate Concentration ng/g dry	MRL	% RPD	RPD Limit	Method	Notes
Mercury (0)	ND	ND	0.4	ND	24	EPA 1631 Mod	

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MATRIX DUPLICATES/TRIPLICATES

SOURCE: 1105165-19

Batch: F106025 **Sequence:** 1F02016

Preparation: Elemental Hg Volatization **Lab Number:** F106025-DUP1

Analyte	Sample Concentration ng/g dry	Duplicate Concentration ng/g dry	MRL	% RPD	RPD Limit	Method	Notes
Mercury (0)	ND	ND	0.4	ND	24	EPA 1631 Mod	

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MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY AND RPD

SOURCE: 1105165-01

✓ Calc check

Batch: F105221 **Sequence:** 1E18010

Preparation: Methylene Chloride Extraction for Methyl Hg **Lab Number:** F105221-MS/MSD1

Analyte	Sample Concentration (ng/g dry)	Spike Added (ng/g dry)	MS Concentration (ng/g dry)	MS % Recovery	Recovery Limits	Method	Notes
Methyl Mercury	6.017	7.0525	11.49	77.6	65 - 130	EPA 1630 Mod	

Analyte	Spike Added (ng/g dry)	MSD Concentration (ng/g dry)	MSD % Recovery	% RPD	Recovery Limits	RPD Limit	Method	Notes
Methyl Mercury	7.1079	10.59	64.3	18.8	65 - 130	25	EPA 1630 Mod	QM-07

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MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY AND RPD

SOURCE: 1105165-01

Batch: F105221 **Sequence:** 1E18010

Preparation: Methylene Chloride Extraction for Methyl Hg **Lab Number:** F105221-MS/MSD2

Analyte	Sample Concentration (ng/g dry)	Spike Added (ng/g dry)	MS Concentration (ng/g dry)	MS % Recovery	Recovery Limits	Method	Notes
Methyl Mercury	6.017	16.345	18.81	78.3	65 - 130	EPA 1630 Mod	

Analyte	Spike Added (ng/g dry)	MSD Concentration (ng/g dry)	MSD % Recovery	% RPD	Recovery Limits	RPD Limit	Method	Notes
Methyl Mercury	16.345	18.38	75.7	3.39	65 - 130	25	EPA 1630 Mod	

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MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY AND RPD

SOURCE: 1105165-01

9/12/11

Batch: F105233 **Sequence:** 1E25012

Preparation: Cold Aqua Regia Digestion for Hg **Lab Number:** F105233-MS/MSD1

Analyte	Sample Concentration (ng/g dry)	Spike Added (ng/g dry)	MS Concentration (ng/g dry)	MS % Recovery	Recovery Limits	Method	Notes
Mercury	322.9	278.30	593.5	97.2	75 - 125	FGS-069	

Analyte	Spike Added (ng/g dry)	MSD Concentration (ng/g dry)	MSD % Recovery	% RPD	Recovery Limits	RPD Limit	Method	Notes
Mercury	279.38	537.1	76.7	23.7	75 - 125	25	FGS-069	

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MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY AND RPD

SOURCE: 1105165-22

Batch: F105237 **Sequence:** 1E25011

Preparation: Cold Aqua Regia Digestion for Hg **Lab Number:** F105237-MS/MSD1

Analyte	Sample Concentration (ng/g dry)	Spike Added (ng/g dry)	MS Concentration (ng/g dry)	MS % Recovery	Recovery Limits	Method	Notes
Mercury	77.46	224.35	289.9	94.7	75 - 125	FGS-069	

Analyte	Spike Added (ng/g dry)	MSD Concentration (ng/g dry)	MSD % Recovery	% RPD	Recovery Limits	RPD Limit	Method	Notes
Mercury	225.21	270.0	85.5	10.2	75 - 125	25	FGS-069	

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MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY AND RPD

SOURCE: 1105165-22RE1

Batch: F105301 **Sequence:** 1E24011

Preparation: Methylene Chloride Extraction for Methyl Hg **Lab Number:** F105301-MS/MSD1

Analyte	Sample Concentration (ng/g dry)	Spike Added (ng/g dry)	MS Concentration (ng/g dry)	MS % Recovery	Recovery Limits	Method	Notes
Methyl Mercury	0.409	5.5559	5.425	90.3	65 - 130	EPA 1630 Mod	

Analyte	Spike Added (ng/g dry)	MSD Concentration (ng/g dry)	MSD % Recovery	% RPD	Recovery Limits	RPD Limit	Method	Notes
Methyl Mercury	5.5350	3.754	60.4	39.6	65 - 130	25	EPA 1630 Mod	QM-07, QR-08

Spike > 4X sample
→ Quals J/UJ
outside project Limits

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MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY AND RPD

SOURCE: 1105165-02

Batch: F106024 **Sequence:** 1F02015

Preparation: Elemental Hg Volatization **Lab Number:** F106024-MS/MSD1

Analyte	Sample Concentration (ng/g dry)	Spike Added (ng/g dry)	MS Concentration (ng/g dry)	MS % Recovery	Recovery Limits	Method	Notes
Mercury (0)	ND	2.0364	2.1	103	71 - 125	EPA 1631 Mod	

Analyte	Spike Added (ng/g dry)	MSD Concentration (ng/g dry)	MSD % Recovery	% RPD	Recovery Limits	RPD Limit	Method	Notes
Mercury (0)	2.0364	1.7	83.7	20.8	71 - 125	25	EPA 1631 Mod	

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MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY AND RPD

SOURCE: 1105165-19

CW 9/12/11

Batch: F106025 **Sequence:** 1F02016

Preparation: Elemental Hg Volatization **Lab Number:** F106025-MS/MSD1

Analyte	Sample Concentration (ng/g dry)	Spike Added (ng/g dry)	MS Concentration (ng/g dry)	MS % Recovery	Recovery Limits	Method	Notes
Mercury (0)	ND	1.9568	1.9	95.8	71 - 125	EPA 1631 Mod	

Analyte	Spike Added (ng/g dry)	MSD Concentration (ng/g dry)	MSD % Recovery	% RPD	Recovery Limits	RPD Limit	Method	Notes
Mercury (0)	1.9568	1.9	95.3	0.550	71 - 125	25	EPA 1631 Mod	

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LABORATORY CONTROL SAMPLE/ LABORATORY CONTROL SAMPLE DUPLICATE

RECOVERY AND RPD

CN 9/12/11

Batch: F105221 **Sequence:** 1E18010

Preparation: Methylene Chloride Extraction for Methyl Hg **Lab Number:** F105221-BS/BSD1

LCS Source: IAEA-405

Analyte	Spike Added (ng/g wet)	LCS Concentration (ng/g wet)	LCS % Recovery	Recovery Limits	Method	Notes
Methyl Mercury	5.3802	5.479	102	70 - 130	EPA 1630 Mod	

Analyte	Spike Added (ng/g wet)	LCSD Concentration (ng/g wet)	LCSD % Recovery	% RPD	Recovery Limits	RPD Limit	Method	Notes
Methyl Mercury	5.3802	5.175	96.2	5.72	70 - 130	25	EPA 1630 Mod	

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LABORATORY CONTROL SAMPLE/ LABORATORY CONTROL SAMPLE DUPLICATE

RECOVERY AND RPD

Batch: F105233 **Sequence:** 1E25012

Preparation: Cold Aqua Regia Digestion for Hg **Lab Number:** F105233-BS/BSD1

LCS Source: MESS-3

Analyte	Spike Added (ng/g wet)	LCS Concentration (ng/g wet)	LCS % Recovery	Recovery Limits	Method	Notes
Mercury	89.635	87.61	97.7	75 - 125	FGS-069	

Analyte	Spike Added (ng/g wet)	LCSD Concentration (ng/g wet)	LCSD % Recovery	% RPD	Recovery Limits	RPD Limit	Method	Notes
Mercury	89.635	84.90	94.7	3.14	75 - 125	25	FGS-069	

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LABORATORY CONTROL SAMPLE/ LABORATORY CONTROL SAMPLE DUPLICATE

RECOVERY AND RPD

Batch: F105237 **Sequence:** 1E25011

Preparation: Cold Aqua Regia Digestion for Hg **Lab Number:** F105237-BS/BSD1

LCS Source: MESS-3

Analyte	Spike Added (ng/g wet)	LCS Concentration (ng/g wet)	LCS % Recovery	Recovery Limits	Method	Notes
Mercury	89.635	87.67	97.8	75 - 125	FGS-069	

Analyte	Spike Added (ng/g wet)	LCSD Concentration (ng/g wet)	LCSD % Recovery	% RPD	Recovery Limits	RPD Limit	Method	Notes
Mercury	89.635	88.75	99.0	1.23	75 - 125	25	FGS-069	

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LABORATORY CONTROL SAMPLE/ LABORATORY CONTROL SAMPLE DUPLICATE

RECOVERY AND RPD

Batch: F105301 **Sequence:** 1E24011

Preparation: Methylene Chloride Extraction for Methyl Hg **Lab Number:** F105301-BS/BSD1

LCS Source: IAEA-405

Analyte	Spike Added (ng/g wet)	LCS Coucentration (ng/g wet)	LCS % Recovery	Recovery Limits	Method	Notes
Methyl Mercury	5.3802	4.879	90.7	70 - 130	EPA 1630 Mod	

Analyte	Spike Added (ng/g wet)	LCSD Concentration (ng/g wet)	LCSD % Recovery	% RPD	Recovery Limits	RPD Limit	Method	Notes
Methyl Mercury	5.3802	5.402	100	10.2	70 - 130	25	EPA 1630 Mod	

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LABORATORY CONTROL SAMPLE/ LABORATORY CONTROL SAMPLE DUPLICATE

RECOVERY AND RPD

CW 9/12/11

Batch: F106024 **Sequence:** 1F02015

Preparation: Elemental Hg Volatization **Lab Number:** F106024-BS/BSD1

LCS Source: LCS

Analyte	Spike Added (ng/g wet)	LCS Concentration (ng/g wet)	LCS % Recovery	Recovery Limits	Method	Notes
Mercury (0)	200.00	173.1	86.5	80 - 120	EPA 1631 Mod	

Analyte	Spike Added (ng/g wet)	LCSD Concentration (ng/g wet)	LCSD % Recovery	% RPD	Recovery Limits	RPD Limit	Method	Notes
Mercury (0)	200.00	181.5	90.8	4.75	80 - 120	24	EPA 1631 Mod	

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LABORATORY CONTROL SAMPLE/ LABORATORY CONTROL SAMPLE DUPLICATE

RECOVERY AND RPD

Batch: F106025 **Sequence:** 1F02016

Preparation: Elemental Hg Volatization **Lab Number:** F106025-BS/BSD1

LCS Source: LCS

Analyte	Spike Added (ng/g wet)	LCS Concentration (ng/g wet)	LCS % Recovery	Recovery Limits	Method	Notes
Mercury (0)	200.00	182.0	91.0	80 - 120	EPA 1631 Mod	

Analyte	Spike Added (ng/g wet)	LCSD Concentration (ng/g wet)	LCSD % Recovery	% RPD	Recovery Limits	RPD Limit	Method	Notes
Mercury (0)	200.00	185.9	93.0	2.16	80 - 120	24	EPA 1631 Mod	

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PREPARATION BLANKS

Instrument: Hg-15 **Sequence:** 1E18010

Preparation: Methylene Chloride Extraction for Methyl Hg

Lab Sample ID	Analyte	Found	MRL	Units	Batch	Method	Notes
F105221-BLK1	Methyl Mercury	0.001	0.050	ng/g wet	F105221	EPA 1630 Mod	
F105221-BLK2	Methyl Mercury	0.002	0.050	ng/g wet	F105221	EPA 1630 Mod	
F105221-BLK3	Methyl Mercury	-0.00009	0.050	ng/g wet	F105221	EPA 1630 Mod	

All < MRL

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PREPARATION BLANKS

Instrument: Hg-15 **Sequence:** 1E24011

Preparation: Methylene Chloride Extraction for Methyl Hg

Lab Sample ID	Analyte	Found	MRL	Units	Batch	Method	Notes
F105301-BLK1	Methyl Mercury	-0.0005	0.050	ng/g wet	F105301	EPA 1630 Mod	
F105301-BLK2	Methyl Mercury	0.0009	0.050	ng/g wet	F105301	EPA 1630 Mod	
F105301-BLK3	Methyl Mercury	0.0009	0.050	ng/g wet	F105301	EPA 1630 Mod	

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PREPARATION BLANKS

Instrument: Hg-08

Sequence: 1E25011

Preparation: Cold Aqua Regia Digestion for Hg

Lab Sample ID	Analyte	Found	MRL	Units	Batch	Method	Notes
F105237-BLK1	Mercury	0.06	1.00	ng/g wet	F105237	FGS-069	
F105237-BLK2	Mercury	0.04	1.00	ng/g wet	F105237	FGS-069	
F105237-BLK3	Mercury	0.01	1.00	ng/g wet	F105237	FGS-069	

< MRL

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PREPARATION BLANKS

Instrument: Hg-10

Sequence: 1E25012

Preparation: Cold Aqua Regia Digestion for Hg

Lab Sample ID	Analyte	Found	MRL	Units	Batch	Method	Notes
F105233-BLK1	Mercury	0.02	1.00	ng/g wet	F105233	FGS-069	
F105233-BLK2	Mercury	0.05	1.00	ng/g wet	F105233	FGS-069	
F105233-BLK3	Mercury	0.03	1.00	ng/g wet	F105233	FGS-069	

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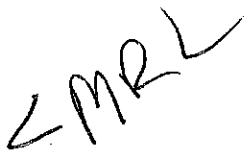
PREPARATION BLANKS

Instrument: Hg-16

Sequence: 1F02015

Preparation: Elemental Hg Volatization

Lab Sample ID	Analyte	Found	MRL	Units	Batch	Method	Notes
F106024-BLK1	Mercury (0)	-0.03	2.0	ng/g wet	F106024	EPA 1631 Mod	
F106024-BLK2	Mercury (0)	-0.1	2.0	ng/g wet	F106024	EPA 1631 Mod	
F106024-BLK3	Mercury (0)	-0.2	2.0	ng/g wet	F106024	EPA 1631 Mod	



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PREPARATION BLANKS

Instrument: Hg-17

Sequence: 1F02016

Preparation: Elemental Hg Volatization

Lab Sample ID	Analyte	Found	MRL	Units	Batch	Method	Notes
F106025-BLK1	Mercury (0)	0.2	2.0	ng/g wet	F106025	EPA 1631 Mod	
F106025-BLK2	Mercury (0)	0.3	2.0	ng/g wet	F106025	EPA 1631 Mod	
F106025-BLK3	Mercury (0)	0.1	2.0	ng/g wet	F106025	EPA 1631 Mod	

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Notes and Definitions

QR-08	The RPD value for the MS/MSD was outside of acceptance limits. Batch QC acceptable based on matrix duplicate and/or LCS/LCSD RPD values within control limits.
QM-07	The spike recovery was outside control limits for the MS and/or MSD. The batch was accepted based on LCS and LCSD recoveries within control limits and, when analysis permits, acceptable AS/ASD.
O-09	Total Solids are prepared at the same time as the preparation for the analyte(s) of interest in order to provide the most accurate dry mass correction.
O-04	This sample was analyzed outside of the recommended holding time.
DET	Analyte Detected
MDL	Minimum Detection Limit
MRL	Minimum Reporting Limit
ND	Analyte Not Detected at or above the reporting limit
wet	Sample results reported on a wet weight basis
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
RSD	Relative Standard Deviation

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Watermark

2012

DATA VALIDATION REPORT
NOVEMBER 2012 GROUNDWATER and SOIL
SUPPLEMENTAL REMEDIAL INVESTIGATION
FT. TOTTEN COAST GUARD STATION
QUEENS, NEW YORK

1.0 INTRODUCTION

Data validation was completed on soil and groundwater samples collected during the Supplemental Remedial Investigation sampling completed in November 2012. A summary of samples included in this review is presented on Table 1. Samples were analyzed by Test America Laboratories in Pittsburgh, Pennsylvania (TAL-PA) for one or more of the following U.S. Environmental Protection Agency (USEPA) analytical methods (USEPA, 1996):

- Semivolatile organic compound (SVOC) by USEPA Method SW846 8270D
- Total mercury by USEPA Method 7471B

Data validation was completed by the AMEC project chemist in accordance with the Site Specific Quality Assurance Project Plan (QAPP) for the Current CERCLA Phase – RI/FS (Watermark, 2010). Validation for SVOCs and total metals was completed using USEPA Region II guidelines (USEPA, 2005; USEPA, 2006) and New York State Department of Environmental Conservation (NYSDEC) Division of Environmental Remediation guidance for Data Usability Summary Reports (NYSDEC, 2010). Project specific quality control (QC) limits from the QAPP were used.

Under direction of the USACE, an initial data validation step was completed using the Staged Electronic Data Deliverable (SEDD) and Automated Data Review (ADR) software. The ADR system has a computerized data validation module that performs a subset of data validation checks specified in the USEPA and NYSDEC guidelines. Sample results and associated QC data are compared to project specific QC limits that are set up by the project chemist prior to running the validation module. The ADR assigns validation action codes to all results that are associated with QC measurements outside project QC goals, and the validation module applies data validation qualifiers to the final results. The data qualification actions are reviewed by the project chemist prior to accepting the final data. A summary of the ADR QC checks and applicable project specific QC limits for the project is presented in Table 2.

During the ADR review and/or Region II guideline validation the following data quality indicators were reviewed:

- Case Narrative
- Sample Collection and Holding Times
- QC Blanks
- Laboratory Control Samples (LCS)
- Matrix Spike/Matrix Spike Duplicates (MS/MSD)
- Laboratory and Field Duplicates
- Surrogate Spikes

- Reporting Limits
- Data Completeness
- Electronic Data Verification
- Instrument Performance Checks (Tune)
- Initial Calibrations
- Continuing Calibrations
- Internal Standards
- Calculation checks
- Raw data verification

Data qualifications were completed if necessary in accordance with the validation guidelines and professional judgment using the following qualifiers:

U = The target compound was not detected at concentrations greater than the associated limit of detection (LOD)
J = The reported concentration is considered an estimated value
UJ = The target compound was not detected and the limit of detection (LOD) is considered to be estimated

A summary of qualification actions are presented on Table 3. Table 3 includes validation action codes associated with results that are qualified during validation. Final results are presented on Table 4.

2.0 DATA VALIDATION ACTIONS AND OBSERVATIONS

With the exception of the items discussed below, quality control (QC) parameters and measurements checked during validation met requirements in the analytical method, validation guidelines, and quality assurance (QA) plan goals. Unless specified below, results are usable without qualification.

The ADR system assigns a validation reason code of RL to results for all analytes that are detected at concentrations between the method detection limit (MDL) and the reporting limit (RL). Results are qualified estimated (J) by the laboratory, and the J qualifier becomes the final qualifier in the final data.

2. 1 SVOCs

LCS

SDG 180-16821-1

The LCS associated with all samples had percent recoveries less than the lower QC limit of 60 for benzo(b)fluoranthene (55), dibenz(a,h)anthracene (52), indeno(1,2,3-cd)pyrene (55), and 1-methylnaphthalene (58), which may indicate low bias. Benzo(b)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, and 1-methylnaphthalene were not detected in associated samples and were qualified as estimated (UJ) at the reporting limit.

2.2 Total Mercury

MS/MSD

SDG 180-16821-1

The MS/MSD associated with sample AI3-208(6-11") had percent recoveries less than the lower QC limit of 75 for mercury (73/58), which may indicate low bias. Mercury was detected in all associated samples and results were qualified estimated (J).

The MS/MSD associated with sample AI3-207(6-12") had percent recoveries greater than the upper QC limit of 125 for mercury (176/172), which may indicate high bias. Mercury was detected in all associated samples and results were qualified estimated (J).

Data Validator:
Bradley B. LaForest, NRCC-EAC
Senior Scientist

January 4, 2013

Senior Review:
Michael J. Murphy
Principal Scientist

January 8, 2013

References:

U.S. Environmental Protection Agency (USEPA), 1996. "Test Methods for Evaluating Solid Waste"; Laboratory Manual Physical/Chemical Methods; Office of Solid Waste and Emergency Response; Washington, DC; SW-846; November 1986; Revision 4 -December 1996.

USEPA, 2005. "Validation of Metals Data for the Contract Laboratory Program (CLP)"; USEPA Region II; HW-2; Revision 13; September 2005.

USEPA, Region II, 2006. "Validating Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry SW-846 Method 8270D"; SOP No. HW-22, Revision 3; October 2006.

Watermark, 2010. "Site Specific Quality Assurance Project Plan"; Current CERCLA Phase – RI/FS; FUDS Project Name – Fort Totten Coast Guard Station; Formerly Used Defense Site, Queens, New York; March 2010.

New York State Department of Environmental Conservation (NYSDEC), 2010. "Technical Guidance for Site Investigation and Remediation-Appendix 2B"; DER-10; Division of Environmental Remediation; May 2010.

Table 1
Sample Summary
Data Validation Report - November 2012 Groundwater and Soil
Supplemental Remedial Investigation
Ft. Totten Coast Guard Station
Queens, New York

Location	Sample ID	Date Sampled	TestAmerica Lab Sample ID	8270D SVOCs	7471B Mercury
Soil					
AI3-218	AI3-218(2-3)"	11/28/2012	180-16821-1		1
AI3-218	AI3-218(4-6)"	11/28/2012	180-16821-2		1
AI3-218	AI3-218(6-12)"	11/28/2012	180-16821-3		1
AI3-213	AI3-213(2-3)"	11/28/2012	180-16821-4		1
AI3-213	AI3-FD-01	11/28/2012	180-16821-5		1
AI3-213	AI3-213(6-8)"	11/28/2012	180-16821-6		1
AI3-213	AI3-213(8-14)"	11/28/2012	180-16821-7		1
AI3-208	AI3-208(2-4)"	11/28/2012	180-16821-8		1
AI3-208	AI3-FD-02	11/28/2012	180-16821-9		1
AI3-208	AI3-208(6-11)"	11/28/2012	180-16821-10		1
AI3-203	AI3-203(3-4)"	11/28/2012	180-16821-11		1
AI3-203	AI3-203(6-12)"	11/28/2012	180-16821-12		1
AI3-202	AI3-202(2-3)"	11/28/2012	180-16821-13		1
AI3-202	AI3-202(5-6)"	11/28/2012	180-16821-14		1
AI3-202	AI3-202(6-12)"	11/28/2012	180-16821-15		1
AI3-207	AI3-207(2-4)"	11/28/2012	180-16821-16		1
AI3-207	AI3-FD-03	11/28/2012	180-16821-17		1
AI3-207	AI3-207(6-12)"	11/28/2012	180-16821-18		1
AI3-212	AI3-212(2-4)"	11/28/2012	180-16821-19		1
AI3-212	AI3-212(6-8)"	11/28/2012	180-16821-20		1
AI3-212	AI3-212(8-12)"	11/28/2012	180-16821-21		1
AI3-217	AI3-217(2-4)"	11/28/2012	180-16821-22		1
AI3-217	AI3-217(5-6)"	11/28/2012	180-16821-23		1
AI3-217	AI3-217(6-12)"	11/28/2012	180-16821-24		1
AI3-219	AI3-219(2-4)"	11/28/2012	180-16821-25		1
AI3-219	AI3-219(7-8)"	11/28/2012	180-16821-26		1
AI3-219	AI3-219(8-12)"	11/28/2012	180-16821-27		1
AI3-214	AI3-214(2-4)"	11/28/2012	180-16821-28		1
AI3-214	AI3-214(5-6)"	11/28/2012	180-16821-29		1
AI3-214	AI3-214(6-12)"	11/28/2012	180-16821-30		1
AI3-209	AI3-209(3-5)"	11/28/2012	180-16821-31		1
AI3-209	AI3-209(6-12)"	11/28/2012	180-16821-32		1
AI3-204	AI3-204(2-4)"	11/28/2012	180-16821-33		1
AI3-204	AI3-204(6-8)"	11/28/2012	180-16821-34		1
AI3-204	AI3-204(8-12)"	11/28/2012	180-16821-35		1
AI3-215	AI3-215(2-4)"	11/28/2012	180-16821-36		1
AI3-215	AI3-215(5-6)"	11/28/2012	180-16821-37		1
AI3-215	AI3-215(6-12)"	11/28/2012	180-16821-38		1
AI3-223	AI3-223(2-4)"	11/28/2012	180-16821-39		1
AI3-223	AI3-223(6-8)"	11/28/2012	180-16821-40		1
AI3-223	AI3-223(8-12)"	11/28/2012	180-16821-41		1
AI3-211	AI3-211(3-5)"	11/28/2012	180-16821-42		1
AI3-211	AI3-211(6-12)"	11/28/2012	180-16821-43		1
AI3-224	AI3-224(2-4)"	11/28/2012	180-16821-44		1
AI3-224	AI3-224(6-8)"	11/28/2012	180-16821-45		1
AI3-224	AI3-224(8-12)"	11/28/2012	180-16821-46		1
AI3-222	AI3-222(2-4)"	11/28/2012	180-16821-47		1
AI3-222	AI3-222(4-6)"	11/28/2012	180-16821-48		1
AI3-222	AI3-222(6-12)"	11/28/2012	180-16821-49		1
AI3-206	AI3-206(2-4)"	11/29/2012	180-16821-50		1
AI3-206	AI3-206(5-6)"	11/29/2012	180-16821-51		1
AI3-206	AI3-206(6-12)"	11/29/2012	180-16821-52		1
AI3-216	AI3-216(3-5)"	11/29/2012	180-16821-53		1
AI3-216	AI3-216(6-12)"	11/29/2012	180-16821-54		1

Table 1
Sample Summary
Data Validation Report - November 2012 Groundwater and Soil
Supplemental Remedial Investigation
Ft. Totten Coast Guard Station
Queens, New York

Location	Sample ID	Date Sampled	TestAmerica Lab Sample ID	8270D SVOCs	7471B Mercury
Groundwater					
MW-4R	MW-4R-FIL	11/28/2012	180-16821-55	18	
MW-4R	MW-4R-UNF	11/28/2012	180-16821-56	18	
MW-5	MW-5-UNF	11/28/2012	180-16821-57	18	
MW-5	FD-01	11/28/2012	180-16821-58	18	
MW-5	MW-5-FIL	11/28/2012	180-16821-59	18	

Notes:
Number listed under method indicates number of target analytes reported.

Prepared by / Date: KJC 01/02/13
Checked by / Date: BBL 01/04/13

DATA VALIDATION REPORT
NOVEMBER 2012 SOIL AND GROUNDWATER SUPPLEMENTAL REMEDIAL INVESTIGATION
FORT TOTTEN COAST GUARD STATION
QUEENS, NEW YORK

TABLE 2

SUMMARY OF ADR DATA QUALITY OBJECTIVES

Project Accuracy and Precision Report

eQapp Name: Watermark Fort Totten CGS - SEDD
Description: Watermark Fort Totten SEDD for TA Pittsburgh

Analyte Name	Analyte Label (CAS)	Lower Rejection (%)	Lower Recovery (%)	Upper Recovery (%)	Upper Rejection (%)	RPD (%)
Method: 1630 **Matrix: Soil**						
QC Type: Laboratory_Control_Sample						
METHYL MERCURY	22967-92-6		77.00	123.00		31.00
QC Type: Matrix_Spike						
METHYL MERCURY	22967-92-6		65.00	135.00		35.00
Method: 1631E **Matrix: Soil**						
QC Type: Laboratory_Control_Sample						
ELEMENTAL MERCURY	7439-97-6E		77.00	123.00		21.00
MERCURY	7439-97-6		77.00	123.00		21.00
QC Type: Matrix_Spike						
ELEMENTAL MERCURY	7439-97-6E		71.00	125.00		24.00
MERCURY	7439-97-6		71.00	125.00		24.00
Method: 6010C **Matrix: Soil**						
QC Type: Laboratory_Control_Sample						
ALUMINUM	7429-90-5		80.00	120.00		20.00
ANTIMONY	7440-36-0		80.00	120.00		20.00
ARSENIC	7440-38-2		80.00	120.00		20.00
BARIUM	7440-39-3		80.00	120.00		20.00
BERYLLIUM	7440-41-7		80.00	120.00		20.00
CADMIUM	7440-43-9		80.00	120.00		20.00
CALCIUM	7440-70-2		80.00	120.00		20.00
CHROMIUM	7440-47-3		80.00	120.00		20.00
COBALT	7440-48-4		80.00	120.00		20.00

Analyte Name	Analyte Label (CAS)	Lower Rejection (%)	Lower Recovery (%)	Upper Recovery (%)	Upper Rejection (%)	RPD (%)
Method: 6010C	**Matrix: Soil**					
QC Type: Laboratory_Control_Sample						
COPPER	7440-50-8		80.00	120.00		20.00
IRON	7439-89-6		80.00	120.00		20.00
LEAD	7439-92-1		80.00	120.00		20.00
MAGNESIUM	7439-95-4		80.00	120.00		20.00
MANGANESE	7439-96-5		80.00	120.00		20.00
NICKEL	7440-02-0		80.00	120.00		20.00
POTASSIUM	7440-09-7		80.00	120.00		20.00
SELENIUM	7782-49-2		80.00	120.00		20.00
SILVER	7440-22-4		80.00	120.00		20.00
SODIUM	7440-23-5		80.00	120.00		20.00
THALLIUM	7440-28-0		80.00	120.00		20.00
VANADIUM	7440-62-2		80.00	120.00		20.00
ZINC	7440-66-6		80.00	120.00		20.00
QC Type: Matrix_Spike						
ALUMINUM	7429-90-5		75.00	125.00		20.00
ANTIMONY	7440-36-0		75.00	125.00		20.00
ARSENIC	7440-38-2		75.00	125.00		20.00
BARIUM	7440-39-3		75.00	125.00		20.00
BERYLLIUM	7440-41-7		75.00	125.00		20.00
CADMIUM	7440-43-9		75.00	125.00		20.00
CALCIUM	7440-70-2		75.00	125.00		20.00
CHROMIUM	7440-47-3		75.00	125.00		20.00
COBALT	7440-48-4		75.00	125.00		20.00
COPPER	7440-50-8		75.00	125.00		20.00
IRON	7439-89-6		75.00	125.00		20.00
LEAD	7439-92-1		75.00	125.00		20.00
MAGNESIUM	7439-95-4		75.00	125.00		20.00
MANGANESE	7439-96-5		75.00	125.00		20.00
NICKEL	7440-02-0		75.00	125.00		20.00
POTASSIUM	7440-09-7		75.00	125.00		20.00
SELENIUM	7782-49-2		75.00	125.00		20.00

Analyte Name	Analyte Label (CAS)	Lower Rejection (%)	Lower Recovery (%)	Upper Recovery (%)	Upper Rejection (%)	RPD (%)
Method: 6010C	**Matrix: Soil**					
QC Type: Matrix_Spike						
SILVER	7440-22-4		75.00	125.00		20.00
SODIUM	7440-23-5		75.00	125.00		20.00
THALLIUM	7440-28-0		75.00	125.00		20.00
VANADIUM	7440-62-2		75.00	125.00		20.00
ZINC	7440-66-6		75.00	125.00		20.00
Method: 6010C	**Matrix: Water**					
QC Type: Laboratory_Control_Sample						
ALUMINUM	7429-90-5		80.00	120.00		20.00
ANTIMONY	7440-36-0		80.00	120.00		20.00
ARSENIC	7440-38-2		80.00	120.00		20.00
BARIUM	7440-39-3		80.00	120.00		20.00
BERYLLIUM	7440-41-7		80.00	120.00		20.00
CADMIUM	7440-43-9		80.00	120.00		20.00
CALCIUM	7440-70-2		80.00	120.00		20.00
CHROMIUM	7440-47-3		80.00	120.00		20.00
COBALT	7440-48-4		80.00	120.00		20.00
COPPER	7440-50-8		80.00	120.00		20.00
IRON	7439-89-6		80.00	120.00		20.00
LEAD	7439-92-1		80.00	120.00		20.00
MAGNESIUM	7439-95-4		80.00	120.00		20.00
MANGANESE	7439-96-5		80.00	120.00		20.00
NICKEL	7440-02-0		80.00	120.00		20.00
POTASSIUM	7440-09-7		80.00	120.00		20.00
SELENIUM	7782-49-2		80.00	120.00		20.00
SILVER	7440-22-4		80.00	120.00		20.00
SODIUM	7440-23-5		80.00	120.00		20.00
THALLIUM	7440-28-0		80.00	120.00		20.00
VANADIUM	7440-62-2		80.00	120.00		20.00
ZINC	7440-66-6		80.00	120.00		20.00

Analyte Name	Analyte Label (CAS)	Lower Rejection (%)	Lower Recovery (%)	Upper Recovery (%)	Upper Rejection (%)	RPD (%)
Method: 6010C	**Matrix: Water**					
QC Type: Matrix_Spike						
ALUMINUM	7429-90-5		75.00	125.00		20.00
ANTIMONY	7440-36-0		75.00	125.00		20.00
ARSENIC	7440-38-2		75.00	125.00		20.00
BARIUM	7440-39-3		75.00	125.00		20.00
BERYLLIUM	7440-41-7		75.00	125.00		20.00
CADMIUM	7440-43-9		75.00	125.00		20.00
CALCIUM	7440-70-2		75.00	125.00		20.00
CHROMIUM	7440-47-3		75.00	125.00		20.00
COBALT	7440-48-4		75.00	125.00		20.00
COPPER	7440-50-8		75.00	125.00		20.00
IRON	7439-89-6		75.00	125.00		20.00
LEAD	7439-92-1		75.00	125.00		20.00
MAGNESIUM	7439-95-4		75.00	125.00		20.00
MANGANESE	7439-96-5		75.00	125.00		20.00
NICKEL	7440-02-0		75.00	125.00		20.00
POTASSIUM	7440-09-7		75.00	125.00		20.00
SELENIUM	7782-49-2		75.00	125.00		20.00
SILVER	7440-22-4		75.00	125.00		20.00
SODIUM	7440-23-5		75.00	125.00		20.00
THALLIUM	7440-28-0		75.00	125.00		20.00
VANADIUM	7440-62-2		75.00	125.00		20.00
ZINC	7440-66-6		75.00	125.00		20.00
Method: 7470A	**Matrix: Water**					
QC Type: Laboratory_Control_Sample						
MERCURY	7439-97-6		80.00	120.00		20.00
QC Type: Matrix_Spike						
MERCURY	7439-97-6		75.00	125.00		20.00

Analyte Name	Analyte Label (CAS)	Lower Rejection (%)	Lower Recovery (%)	Upper Recovery (%)	Upper Rejection (%)	RPD (%)
Method: 7471B **Matrix: Soil**						
QC Type: Laboratory_Control_Sample						
MERCURY	7439-97-6		80.00	120.00		20.00
QC Type: Matrix_Spike						
MERCURY	7439-97-6		75.00	125.00		20.00
Method: 8260B **Matrix: Water**						
QC Type: Laboratory_Control_Sample						
1,1,1-TRICHLOROETHANE	71-55-6		80.00	120.00		20.00
1,1,2,2-TETRACHLOROETHANE	79-34-5		80.00	120.00		20.00
1,1,2-TRICHLOROETHANE	79-00-5		80.00	120.00		20.00
1,1-DICHLOROETHANE	75-34-3		80.00	120.00		20.00
1,1-DICHLOROETHENE	75-35-4		80.00	120.00		20.00
1,2,4-TRICHLOROBENZENE	120-82-1		80.00	120.00		20.00
1,2-DICHLOROBENZENE	95-50-1		80.00	120.00		20.00
1,2-DICHLOROETHANE	107-06-2		80.00	120.00		20.00
1,2-DICHLOROETHENE (TOTAL)	540-59-0		80.00	120.00		20.00
1,2-DICHLOROPROPANE	78-87-5		80.00	120.00		20.00
1,3-DICHLOROBENZENE	541-73-1		80.00	120.00		20.00
1,4-DICHLOROBENZENE	106-46-7		80.00	120.00		20.00
2-BUTANONE	78-93-3		80.00	120.00		20.00
2-HEXANONE	591-78-6		80.00	120.00		20.00
4-METHYL-2-PENTANONE	108-10-1		80.00	120.00		20.00
ACETONE	67-64-1		80.00	120.00		20.00
BENZENE	71-43-2		80.00	120.00		20.00
BROMOBENZENE	108-86-1		80.00	120.00		20.00
BROMODICHLOROMETHANE	75-27-4		80.00	120.00		20.00
BROMOFORM	75-25-2		80.00	120.00		20.00
BROMOMETHANE	74-83-9		80.00	120.00		20.00
CARBON DISULFIDE	75-15-0		80.00	120.00		20.00
CARBON TETRACHLORIDE	56-23-5		80.00	120.00		20.00
CHLOROBENZENE	108-90-7		80.00	120.00		20.00
CHLOROETHANE	75-00-3		80.00	120.00		20.00

Analyte Name	Analyte Label (CAS)	Lower Rejection (%)	Lower Recovery (%)	Upper Recovery (%)	Upper Rejection (%)	RPD (%)
Method: 8260B	**Matrix: Water**					
QC Type: Laboratory_Control_Sample						
CHLOROFORM	67-66-3		80.00	120.00		20.00
CHLOROMETHANE	74-87-3		80.00	120.00		20.00
CIS-1,3-DICHLOROPROPENE	10061-01-5		80.00	120.00		20.00
DIBROMOCHLOROMETHANE	124-48-1		80.00	120.00		20.00
ETHYLBENZENE	100-41-4		80.00	120.00		20.00
METHYLENE CHLORIDE	75-09-2		80.00	120.00		20.00
STYRENE	100-42-5		80.00	120.00		20.00
TETRACHLOROETHENE	127-18-4		80.00	120.00		20.00
TOLUENE	108-88-3		80.00	120.00		20.00
TOTAL XYLENES	1330-20-7		80.00	120.00		20.00
TRANS-1,3-DICHLOROPROPENE	10061-02-6		80.00	120.00		20.00
TRICHLOROETHENE	79-01-6		80.00	120.00		20.00
VINYL CHLORIDE	75-01-4		80.00	120.00		20.00
QC Type: Matrix_Spike						
1,1,1-TRICHLOROETHANE	71-55-6		75.00	125.00		20.00
1,1,2,2-TETRACHLOROETHANE	79-34-5		75.00	125.00		20.00
1,1,2-TRICHLOROETHANE	79-00-5		75.00	125.00		20.00
1,1-DICHLOROETHANE	75-34-3		75.00	125.00		20.00
1,1-DICHLOROETHENE	75-35-4		75.00	125.00		20.00
1,2,4-TRICHLOROBENZENE	120-82-1		75.00	125.00		20.00
1,2-DICHLOROBENZENE	95-50-1		75.00	125.00		20.00
1,2-DICHLOROETHANE	107-06-2		75.00	125.00		20.00
1,2-DICHLOROETHENE (TOTAL)	540-59-0		75.00	125.00		20.00
1,2-DICHLOROPROPANE	78-87-5		75.00	125.00		20.00
1,3-DICHLOROBENZENE	541-73-1		75.00	125.00		20.00
1,4-DICHLOROBENZENE	106-46-7		75.00	125.00		20.00
2-BUTANONE	78-93-3		75.00	125.00		20.00
2-HEXANONE	591-78-6		75.00	125.00		20.00
4-METHYL-2-PENTANONE	108-10-1		75.00	125.00		20.00
ACETONE	67-64-1		75.00	125.00		20.00
BENZENE	71-43-2		75.00	125.00		20.00

Analyte Name	Analyte Label (CAS)	Lower Rejection (%)	Lower Recovery (%)	Upper Recovery (%)	Upper Rejection (%)	RPD (%)
Method: 8260B	**Matrix: Water**					
QC Type: Matrix_Spike						
BROMOBENZENE	108-86-1		75.00	125.00		20.00
BROMODICHLOROMETHANE	75-27-4		75.00	125.00		20.00
BROMOFORM	75-25-2		75.00	125.00		20.00
BROMOMETHANE	74-83-9		75.00	125.00		20.00
CARBON DISULFIDE	75-15-0		75.00	125.00		20.00
CARBON TETRACHLORIDE	56-23-5		75.00	125.00		20.00
CHLOROBENZENE	108-90-7		75.00	125.00		20.00
CHLOROETHANE	75-00-3		75.00	125.00		20.00
CHLOROFORM	67-66-3		75.00	125.00		20.00
CHLOROMETHANE	74-87-3		75.00	125.00		20.00
CIS-1,3-DICHLOROPROPENE	10061-01-5		75.00	125.00		20.00
DIBROMOCHLOROMETHANE	124-48-1		75.00	125.00		20.00
ETHYLBENZENE	100-41-4		75.00	125.00		20.00
METHYLENE CHLORIDE	75-09-2		75.00	125.00		20.00
STYRENE	100-42-5		75.00	125.00		20.00
TETRACHLOROETHENE	127-18-4		75.00	125.00		20.00
TOLUENE	108-88-3		75.00	125.00		20.00
TOTAL XYLENES	1330-20-7		75.00	125.00		20.00
TRANS-1,3-DICHLOROPROPENE	10061-02-6		75.00	125.00		20.00
TRICHLOROETHENE	79-01-6		75.00	125.00		20.00
VINYL CHLORIDE	75-01-4		75.00	125.00		20.00
QC Type: Surrogate						
1,2-DICHLOROETHANE-D4	17060-07-0		75.00	125.00		
4-Bromofluorobenzene	460-00-4		75.00	125.00		
DIBROMOFLUOROMETHANE	1868-53-7		75.00	125.00		
TOLUENE-D8	2037-26-5		75.00	125.00		
Method: 8270D	**Matrix: Soil**					
QC Type: Laboratory_Control_Sample						
1-METHYLNAPHTHALENE	90-12-0		60.00	140.00		20.00
2-METHYLNAPHTHALENE	91-57-6		60.00	140.00		20.00

Analyte Name	Analyte Label (CAS)	Lower Rejection (%)	Lower Recovery (%)	Upper Recovery (%)	Upper Rejection (%)	RPD (%)
Method: 8270D	**Matrix: Soil**					
QC Type: Laboratory_Control_Sample						
ACENAPHTHENE	83-32-9		60.00	140.00		20.00
ACENAPHTHYLENE	208-96-8		60.00	140.00		20.00
ANTHRACENE	120-12-7		60.00	140.00		20.00
BENZO[A]ANTHRACENE	56-55-3		60.00	140.00		20.00
Benzo[a]pyrene	50-32-8		60.00	140.00		20.00
Benzo[b]fluoranthene	205-99-2		60.00	140.00		20.00
Benzo[g,h,i]perylene	191-24-2		60.00	140.00		20.00
Benzo[k]fluoranthene	207-08-9		60.00	140.00		20.00
CHRYSENE	218-01-9		60.00	140.00		20.00
Dibenzo[a,h]anthracene	53-70-3		60.00	140.00		20.00
FLUORANTHENE	206-44-0		60.00	140.00		20.00
FLUORENE	86-73-7		60.00	140.00		20.00
Indeno[1,2,3-cd]pyrene	193-39-5		60.00	140.00		20.00
NAPHTHALENE	91-20-3		60.00	140.00		20.00
PHENANTHRENE	85-01-8		60.00	140.00		20.00
PYRENE	129-00-0		60.00	140.00		20.00
QC Type: Matrix_Spike						
1-METHYLNAPHTHALENE	90-12-0		60.00	140.00		30.00
2-METHYLNAPHTHALENE	91-57-6		60.00	140.00		30.00
ACENAPHTHENE	83-32-9		60.00	140.00		30.00
ACENAPHTHYLENE	208-96-8		60.00	140.00		30.00
ANTHRACENE	120-12-7		60.00	140.00		30.00
BENZO[A]ANTHRACENE	56-55-3		60.00	140.00		30.00
Benzo[a]pyrene	50-32-8		60.00	140.00		30.00
Benzo[b]fluoranthene	205-99-2		60.00	140.00		30.00
Benzo[g,h,i]perylene	191-24-2		60.00	140.00		30.00
Benzo[k]fluoranthene	207-08-9		60.00	140.00		30.00
CHRYSENE	218-01-9		60.00	140.00		30.00
Dibenzo[a,h]anthracene	53-70-3		60.00	140.00		30.00
FLUORANTHENE	206-44-0		60.00	140.00		30.00
FLUORENE	86-73-7		60.00	140.00		30.00

Analyte Name	Analyte Label (CAS)	Lower Rejection (%)	Lower Recovery (%)	Upper Recovery (%)	Upper Rejection (%)	RPD (%)
Method: 8270D	**Matrix: Soil**					
QC Type: Matrix_Spike						
Indeno[1,2,3-cd]pyrene	193-39-5		60.00	140.00		30.00
NAPHTHALENE	91-20-3		60.00	140.00		30.00
PHENANTHRENE	85-01-8		60.00	140.00		30.00
PYRENE	129-00-0		60.00	140.00		30.00
QC Type: Surrogate						
2,4,6-TRIBROMOPHENOL	118-79-6		30.00	150.00		
2-FLUOROBIPHENYL	321-60-8		30.00	150.00		
2-FLUOROPHENOL	367-12-4		30.00	150.00		
Nitrobenzene-d5	4165-60-0		30.00	150.00		
PHENOL-D5	4165-62-2		30.00	150.00		
Terphenyl-d14	1718-51-0		30.00	150.00		
Method: 8270D	**Matrix: Water**					
QC Type: Laboratory_Control_Sample						
1-METHYLNAPHTHALENE	90-12-0		60.00	140.00		20.00
2-METHYLNAPHTHALENE	91-57-6		60.00	140.00		20.00
ACENAPHTHENE	83-32-9		60.00	140.00		20.00
ACENAPHTHYLENE	208-96-8		60.00	140.00		20.00
ANTHRACENE	120-12-7		60.00	140.00		20.00
BENZO[A]ANTHRACENE	56-55-3		60.00	140.00		20.00
Benzo[a]pyrene	50-32-8		60.00	140.00		20.00
Benzo[b]fluoranthene	205-99-2		60.00	140.00		20.00
Benzo[g,h,i]perylene	191-24-2		60.00	140.00		20.00
Benzo[k]fluoranthene	207-08-9		60.00	140.00		20.00
CHRYSENE	218-01-9		60.00	140.00		20.00
Dibenzo[a,h]anthracene	53-70-3		60.00	140.00		20.00
FLUORANTHENE	206-44-0		60.00	140.00		20.00
FLUORENE	86-73-7		60.00	140.00		20.00
Indeno[1,2,3-cd]pyrene	193-39-5		60.00	140.00		20.00
NAPHTHALENE	91-20-3		60.00	140.00		20.00
PHENANTHRENE	85-01-8		60.00	140.00		20.00

Analyte Name	Analyte Label (CAS)	Lower Rejection (%)	Lower Recovery (%)	Upper Recovery (%)	Upper Rejection (%)	RPD (%)
Method: 8270D	**Matrix: Water**					
QC Type: Laboratory_Control_Sample						
PYRENE	129-00-0		60.00	140.00		20.00
QC Type: Matrix_Spike						
1-METHYLNAPHTHALENE	90-12-0		60.00	140.00		20.00
2-METHYLNAPHTHALENE	91-57-6		60.00	140.00		20.00
ACENAPHTHENE	83-32-9		60.00	140.00		20.00
ACENAPHTHYLENE	208-96-8		60.00	140.00		20.00
ANTHRACENE	120-12-7		60.00	140.00		20.00
BENZO[A]ANTHRACENE	56-55-3		60.00	140.00		20.00
Benzo[a]pyrene	50-32-8		60.00	140.00		20.00
Benzo[b]fluoranthene	205-99-2		60.00	140.00		20.00
Benzo[g,h,i]perylene	191-24-2		60.00	140.00		20.00
Benzo[k]fluoranthene	207-08-9		60.00	140.00		20.00
CHRYSENE	218-01-9		60.00	140.00		20.00
Dibenzo[a,h]anthracene	53-70-3		60.00	140.00		20.00
FLUORANTHENE	206-44-0		60.00	140.00		20.00
FLUORENE	86-73-7		60.00	140.00		20.00
Indeno[1,2,3-cd]pyrene	193-39-5		60.00	140.00		20.00
NAPHTHALENE	91-20-3		60.00	140.00		20.00
PHENANTHRENE	85-01-8		60.00	140.00		20.00
PYRENE	129-00-0		60.00	140.00		20.00
QC Type: Surrogate						
2,4,6-TRIBROMOPHENOL	118-79-6		30.00	150.00		
2-FLUOROBIPHENYL	321-60-8		30.00	150.00		
2-FLUOROPHENOL	367-12-4		30.00	150.00		
Nitrobenzene-d5	4165-60-0		30.00	150.00		
PHENOL-D5	4165-62-2		30.00	150.00		
Terphenyl-d14	1718-51-0		30.00	150.00		

Project Criteria for Instrument Calibration

eQapp Name: Watermark Fort Totten CGS - SEDD
Description: Watermark Fort Totten SEDD for TA Pittsburgh

Target Analyte Name	Analyte Label (CAS)	Initial Calibration			Initial Calibration Verification					Continuing Calibration				
		Relative Response Factor	RSD (%)	Correlation Coefficient	Relative Response Factor	Lower Rejection Limit	Lower Limit	Upper Limit	Upper Rejection Limit	Relative Response Factor	Lower Rejection Limit	Lower Limit	Upper Limit	Upper Rejection Limit
Method: 1630														
METHYL MERCURY	22967-92-6						69.00	131.00				67.00	133.00	
Method: 1631E														
ELEMENTAL MERCURY	7439-97-6E													
MERCURY	7439-97-6						79.00	121.00				77.00	123.00	
Method: 6010C														
ALUMINUM	7429-90-5													
ANTIMONY	7440-36-0													
ARSENIC	7440-38-2													
BARIUM	7440-39-3													
BERYLLIUM	7440-41-7													
CADMIUM	7440-43-9													
CALCIUM	7440-70-2													
CHROMIUM	7440-47-3													
COBALT	7440-48-4													
COPPER	7440-50-8													
IRON	7439-89-6													
LEAD	7439-92-1													
MAGNESIUM	7439-95-4													
MANGANESE	7439-96-5													
NICKEL	7440-02-0													
POTASSIUM	7440-09-7													
SELENIUM	7782-49-2													
SILVER	7440-22-4													
SODIUM	7440-23-5													

Target Analyte Name	Analyte Label (CAS)	Initial Calibration			Initial Calibration Verification					Continuing Calibration				
		Relative Response Factor	RSD (%)	Correlation Coefficient	Relative Response Factor	Lower Rejection Limit	Lower Limit	Upper Limit	Upper Rejection Limit	Relative Response Factor	Lower Rejection Limit	Lower Limit	Upper Limit	Upper Rejection Limit
Method: 6010C														
THALLIUM	7440-28-0													
VANADIUM	7440-62-2													
ZINC	7440-66-6													
Method: 7470A														
MERCURY	7439-97-6						90.00	110.00				90.00	121.00	
Method: 7471B														
MERCURY	7439-97-6													
Method: 8260B														
1,1,1-TRICHLOROETHANE	71-55-6						75.00	125.00						
1,1,2,2-TETRACHLOROETHANE	79-34-5						75.00							
1,1,2-TRICHLOROETHANE	79-00-5						75.00							
1,1-DICHLOROETHANE	75-34-3						75.00							
1,1-DICHLOROETHENE	75-35-4						75.00							
1,2,4-TRICHLOROBENZENE	120-82-1						75.00	125.00						
1,2-DICHLOROBENZENE	95-50-1						75.00							
1,2-DICHLOROETHANE	107-06-2						75.00	125.00						
1,2-DICHLOROETHENE (TOTAL)	540-59-0						75.00	125.00						
1,2-DICHLOROPROPANE	78-87-5						75.00							
1,3-DICHLOROBENZENE	541-73-1						75.00	125.00						
1,4-DICHLOROBENZENE	106-46-7						75.00	125.00						
2-BUTANONE	78-93-3						75.00							
2-HEXANONE	591-78-6						75.00	125.00						
4-METHYL-2-PENTANONE	108-10-1						75.00	125.00						
ACETONE	67-64-1						75.00	125.00						
BENZENE	71-43-2						75.00	125.00						
BROMOBENZENE	108-86-1						75.00	125.00						
BROMODICHLOROMETHANE	75-27-4						75.00							
BROMOFORM	75-25-2						75.00							
BROMOMETHANE	74-83-9						75.00	125.00						
CARBON DISULFIDE	75-15-0						75.00	125.00						
CARBON TETRACHLORIDE	56-23-5						75.00	125.00						

Target Analyte Name	Analyte Label (CAS)	Initial Calibration			Initial Calibration Verification					Continuing Calibration				
		Relative Response Factor	RSD (%)	Correlation Coefficient	Relative Response Factor	Lower Rejection Limit	Lower Limit	Upper Limit	Upper Rejection Limit	Relative Response Factor	Lower Rejection Limit	Lower Limit	Upper Limit	Upper Rejection Limit
Method: 8260B														
CHLOROBENZENE	108-90-7						75.00	125.00						
CHLOROETHANE	75-00-3						75.00	125.00						
CHLOROFORM	67-66-3						75.00	125.00						
CHLOROMETHANE	74-87-3						75.00	125.00						
CIS-1,3-DICHLOROPROPENE	10061-01-5						75.00	125.00						
DIBROMOCHLOROMETHANE	124-48-1						75.00	125.00						
ETHYLBENZENE	100-41-4						75.00	125.00						
METHYLENE CHLORIDE	75-09-2						75.00	125.00						
STYRENE	100-42-5						75.00	125.00						
TETRACHLOROETHENE	127-18-4						75.00	125.00						
TOLUENE	108-88-3						75.00	125.00						
TOTAL XYLENES	1330-20-7						75.00	125.00						
TRANS-1,3-DICHLOROPROPENE	10061-02-6						75.00	125.00						
TRICHLOROETHENE	79-01-6						75.00							
VINYL CHLORIDE	75-01-4						75.00	125.00						
Method: 8270D														
1-METHYLNAPHTHALENE	90-12-0													
2-METHYLNAPHTHALENE	91-57-6													
ACENAPHTHENE	83-32-9													
ACENAPHTHYLENE	208-96-8													
ANTHRACENE	120-12-7													
BENZO[A]ANTHRACENE	56-55-3													
Benzo[a]pyrene	50-32-8													
Benzo[b]fluoranthene	205-99-2													
Benzo[g,h,i]perylene	191-24-2													
Benzo[k]fluoranthene	207-08-9													
CHRYSENE	218-01-9													
Dibenzo[a,h]anthracene	53-70-3													
FLUORANTHENE	206-44-0													
FLUORENE	86-73-7													
Indeno[1,2,3-cd]pyrene	193-39-5													
NAPHTHALENE	91-20-3													

Target Analyte Name	Analyte Label (CAS)	Initial Calibration			Initial Calibration Verification					Continuing Calibration				
		Relative Response Factor	RSD (%)	Correlation Coefficient	Relative Response Factor	Lower Rejection Limit	Lower Limit	Upper Limit	Upper Rejection Limit	Relative Response Factor	Lower Rejection Limit	Lower Limit	Upper Limit	Upper Rejection Limit
Method: 8270D														
PHENANTHRENE	85-01-8													
PYRENE	129-00-0													
Method: SM 2540B														
TOTAL SOLIDS	TSO													

Project Holding Time Report

eQapp Name: Watermark Fort Totten CGS - SEDD
Description: Watermark Fort Totten SEDD for TA Pittsburgh

Analyte Group	Sampling to Analysis (preserved)	Sampling to Analysis (unpreserved)	Sampling to Extraction (preserved)	Sampling to Extraction (unpreserved)	Sampling to Leaching	Leaching to Extraction	Leaching to Analysis	Extraction to Analysis	Units	Rejection Factor
Method: 1630		**Matrix: Soil**								
Target Analytes	180.00								Days	2.00
Method: 1631E		**Matrix: Soil**								
Target Analytes	30.00								Days	2.00
Method: 6010C		**Matrix: Soil**								
Primary	180.00								Days	2.00
Method: 6010C		**Matrix: Water**								
Primary	180.00								Days	2.00
Method: 7470A		**Matrix: Water**								
Primary	28.00								Days	2.00
Method: 7471B		**Matrix: Soil**								
Primary	28.00								Days	2.00
Method: 8260B		**Matrix: Water**								
Target Analytes	14.00	7.00							Days	2.00

Analyte Group	Sampling to Analysis (preserved)	Sampling to Analysis (unpreserved)	Sampling to Extraction (preserved)	Sampling to Extraction (unpreserved)	Sampling to Leaching	Leaching to Extraction	Leaching to Analysis	Extraction to Analysis	Units	Rejection Factor
Method: 8270D		**Matrix:** Soil								
Target Analytes				14.00				40.00	Days	2.00
Method: 8270D		**Matrix:** Water								
Target Analytes				7.00				40.00	Days	2.00
Method: SM 2540B		**Matrix:** Soil								
Target Analytes									Days	2.00

Project Target Analyte Reporting Limit, Blank Contamination, and Lab & Field Duplicate RPD Criteria

eQapp Name: Watermark Fort Totten CGS - SEDD
Description: Watermark Fort Totten SEDD for TA Pittsburgh

Target Analyte Name	Analyte Label (CAS)	Quantitation Limit	Detection Limit	Units	Blank Contamination Rule	LabDup RPD	FieldDup RPD
Method: 1630 **Matrix: Soil**							
METHYL MERCURY	22967-92-6	0.05		ug/Kg		30.00	30.00
Method: 1631E **Matrix: Soil**							
ELEMENTAL MERCURY	7439-97-6E	1.0		ug/Kg		30.00	30.00
MERCURY	7439-97-6	1.0		ug/Kg		30.00	30.00
Method: 6010C **Matrix: Soil**							
ALUMINUM	7429-90-5	20		mg/Kg	5.00	20.00	30.00
ANTIMONY	7440-36-0	1		mg/Kg	5.00	20.00	30.00
ARSENIC	7440-38-2	1	0.223	mg/Kg	5.00	20.00	30.00
BARIUM	7440-39-3	20	0.233	mg/Kg	5.00	20.00	30.00
BERYLLIUM	7440-41-7	0.4	0.0734	mg/Kg	5.00	20.00	30.00
CADMIUM	7440-43-9	0.5	0.0249	mg/Kg	5.00	20.00	30.00
CALCIUM	7440-70-2	500		mg/Kg	5.00	20.00	30.00
CHROMIUM	7440-47-3	0.5	0.085	mg/Kg	5.00	20.00	30.00
COBALT	7440-48-4	5.0		mg/Kg	5.00	20.00	30.00
COPPER	7440-50-8	2.5	0.342	mg/Kg	5.00	20.00	30.00
IRON	7439-89-6	10		mg/Kg	5.00	20.00	30.00
LEAD	7439-92-1	1.0	0.157	mg/Kg	5.00	20.00	30.00
MAGNESIUM	7439-95-4	500		mg/Kg	5.00	20.00	30.00
MANGANESE	7439-96-5	1.5	0.048	mg/Kg	5.00	20.00	30.00
NICKEL	7440-02-0	4	0.384	mg/Kg	5.00	20.00	30.00
POTASSIUM	7440-09-7	500		mg/Kg	5.00	20.00	30.00
SELENIUM	7782-49-2	1.0	0.33	mg/Kg	5.00	20.00	30.00
SILVER	7440-22-4	0.5	0.0654	mg/Kg	5.00	20.00	30.00
SODIUM	7440-23-5	500		mg/Kg	5.00	20.00	30.00
THALLIUM	7440-28-0	2.0		mg/Kg	5.00	20.00	30.00
VANADIUM	7440-62-2	5.0		mg/Kg	5.00	20.00	30.00
ZINC	7440-66-6	2.0	0.591	mg/Kg	5.00	20.00	30.00

Target Analyte Name	Analyte Label (CAS)	Quantitation Limit	Detection Limit	Units	Blank Contamination Rule	LabDup RPD	FieldDup RPD
Method: 6010C **Matrix: Water**							
ALUMINUM	7429-90-5	200	18	ug/L	5.00	20.00	30.00
ANTIMONY	7440-36-0	10	3.14	ug/L	5.00	20.00	30.00
ARSENIC	7440-38-2	10	2.74	ug/L	5.00	20.00	30.00
BARIUM	7440-39-3	200	2.33	ug/L	5.00	20.00	30.00
BERYLLIUM	7440-41-7	4	0.703	ug/L	5.00	20.00	30.00
CADMIUM	7440-43-9	5	0.249	ug/L	5.00	20.00	30.00
CALCIUM	7440-70-2	5000	34.5	ug/L	5.00	20.00	30.00
CHROMIUM	7440-47-3	5	0.57	ug/L	5.00	20.00	30.00
COBALT	7440-48-4	50	1.23	ug/L	5.00	20.00	30.00
COPPER	7440-50-8	25	2.71	ug/L	5.00	20.00	30.00
IRON	7439-89-6	100	22	ug/L	5.00	20.00	30.00
LEAD	7439-92-1	10	1.57	ug/L	5.00	20.00	30.00
MAGNESIUM	7439-95-4	5000	10.7	ug/L	5.00	20.00	30.00
MANGANESE	7439-96-5	15	0.68	ug/L	5.00	20.00	30.00
NICKEL	7440-02-0	40	1.56	ug/L	5.00	20.00	30.00
POTASSIUM	7440-09-7	5000	237	ug/L	5.00	20.00	30.00
SELENIUM	7782-49-2	10	3.3	ug/L	5.00	20.00	30.00
SILVER	7440-22-4	5	0.68	ug/L	5.00	20.00	30.00
SODIUM	7440-23-5	5000	91.6	ug/L	5.00	20.00	30.00
THALLIUM	7440-28-0	20	4.91	ug/L	5.00	20.00	30.00
VANADIUM	7440-62-2	50	1.11	ug/L	5.00	20.00	30.00
ZINC	7440-66-6	20	5.91	ug/L	5.00	20.00	30.00
Method: 7470A **Matrix: Water**							
MERCURY	7439-97-6	0.2	0.0384	ug/L	5.00	20.00	30.00
Method: 7471B **Matrix: Soil**							
MERCURY	7439-97-6	0.033	0.0109	mg/Kg	5.00	30.00	30.00
Method: 8260B **Matrix: Water**							
1,1,1-TRICHLOROETHANE	71-55-6	1		ug/L	5.00	30.00	30.00
1,1,2,2-TETRACHLOROETHANE	79-34-5	1		ug/L	5.00	30.00	30.00
1,1,2-TRICHLOROETHANE	79-00-5	1		ug/L	5.00	30.00	30.00
1,1-DICHLOROETHANE	75-34-3	1		ug/L	5.00	30.00	30.00
1,1-DICHLOROETHENE	75-35-4	1		ug/L	5.00	30.00	30.00

Target Analyte Name	Analyte Label (CAS)	Quantitation Limit	Detection Limit	Units	Blank Contamination Rule	LabDup RPD	FieldDup RPD
Method: 8260B **Matrix: Water**							
1,2,4-TRICHLOROBENZENE	120-82-1	1		ug/L	5.00	30.00	30.00
1,2-DICHLOROBENZENE	95-50-1	1		ug/L	5.00	30.00	30.00
1,2-DICHLOROETHANE	107-06-2	1		ug/L	5.00	30.00	30.00
1,2-DICHLOROETHENE (TOTAL)	540-59-0	1		ug/L	5.00	30.00	30.00
1,2-DICHLOROPROPANE	78-87-5	1		ug/L	5.00	30.00	30.00
1,3-DICHLOROBENZENE	541-73-1	1		ug/L	5.00	30.00	30.00
1,4-DICHLOROBENZENE	106-46-7	1		ug/L	5.00	30.00	30.00
2-BUTANONE	78-93-3	10		ug/L	5.00	30.00	30.00
2-HEXANONE	591-78-6	1		ug/L	5.00	30.00	30.00
4-METHYL-2-PENTANONE	108-10-1	10		ug/L	5.00	30.00	30.00
ACETONE	67-64-1	10		ug/L	5.00	30.00	30.00
BENZENE	71-43-2	1		ug/L	5.00	30.00	30.00
BROMOBENZENE	108-86-1	1		ug/L	5.00	30.00	30.00
BROMODICHLOROMETHANE	75-27-4	1		ug/L	5.00	30.00	30.00
BROMOFORM	75-25-2	1		ug/L	5.00	30.00	30.00
BROMOMETHANE	74-83-9	1		ug/L	5.00	30.00	30.00
CARBON DISULFIDE	75-15-0	1		ug/L	5.00	30.00	30.00
CARBON TETRACHLORIDE	56-23-5	1		ug/L	5.00	30.00	30.00
CHLOROBENZENE	108-90-7	1		ug/L	5.00	30.00	30.00
CHLOROETHANE	75-00-3	1		ug/L	5.00	30.00	30.00
CHLOROFORM	67-66-3	1		ug/L	5.00	30.00	30.00
CHLOROMETHANE	74-87-3	1		ug/L	5.00	30.00	30.00
CIS-1,3-DICHLOROPROPENE	10061-01-5	1		ug/L	5.00	30.00	30.00
DIBROMOCHLOROMETHANE	124-48-1	1		ug/L	5.00	30.00	30.00
ETHYLBENZENE	100-41-4	1		ug/L	5.00	30.00	30.00
METHYLENE CHLORIDE	75-09-2	1		ug/L	5.00	30.00	30.00
STYRENE	100-42-5	1		ug/L	5.00	30.00	30.00
TETRACHLOROETHENE	127-18-4	1		ug/L	5.00	30.00	30.00
TOLUENE	108-88-3	1		ug/L	5.00	30.00	30.00
TOTAL XYLENES	1330-20-7	1		ug/L	5.00	30.00	30.00
TRANS-1,3-DICHLOROPROPENE	10061-02-6	1		ug/L	5.00	30.00	30.00
TRICHLOROETHENE	79-01-6	1		ug/L	5.00	30.00	30.00
VINYL CHLORIDE	75-01-4	1		ug/L	5.00	30.00	30.00

Target Analyte Name	Analyte Label (CAS)	Quantitation Limit	Detection Limit	Units	Blank Contamination Rule	LabDup RPD	FieldDup RPD
Method: 8270D **Matrix: Soil**							
1-METHYLNAPHTHALENE	90-12-0	6.7	0.7119	ug/Kg	5.00	20.00	30.00
2-METHYLNAPHTHALENE	91-57-6	6.7	0.5999	ug/Kg	5.00	20.00	30.00
ACENAPHTHENE	83-32-9	6.7	0.6408	ug/Kg	5.00	20.00	30.00
ACENAPHTHYLENE	208-96-8	6.7	0.7641	ug/Kg	5.00	20.00	30.00
ANTHRACENE	120-12-7	6.7	0.6527	ug/Kg	5.00	20.00	30.00
BENZO[A]ANTHRACENE	56-55-3	6.7	0.836	ug/Kg	5.00	20.00	30.00
Benzo[a]pyrene	50-32-8	6.7	0.6675	ug/Kg	5.00	20.00	30.00
Benzo[b]fluoranthene	205-99-2	6.7	1.0488	ug/Kg	5.00	20.00	30.00
Benzo[g,h,i]perylene	191-24-2	6.7	1.3486	ug/Kg	5.00	20.00	30.00
Benzo[k]fluoranthene	207-08-9	6.7	0.6637	ug/Kg	5.00	20.00	30.00
CHRYSENE	218-01-9	6.7	0.7943	ug/Kg	5.00	20.00	30.00
Dibenzo[a,h]anthracene	53-70-3	6.7	0.7421	ug/Kg	5.00	20.00	30.00
FLUORANTHENE	206-44-0	6.7	0.7134	ug/Kg	5.00	20.00	30.00
FLUORENE	86-73-7	6.7	0.8793	ug/Kg	5.00	20.00	30.00
Indeno[1,2,3-cd]pyrene	193-39-5	6.7	0.6874	ug/Kg	5.00	20.00	30.00
NAPHTHALENE	91-20-3	6.7	0.575	ug/Kg	5.00	20.00	30.00
PHENANTHRENE	85-01-8	6.7	1.0612	ug/Kg	5.00	20.00	30.00
PYRENE	129-00-0	6.7	0.6746	ug/Kg	5.00	20.00	30.00
Method: 8270D **Matrix: Water**							
1-METHYLNAPHTHALENE	90-12-0	0.2	0.0138	ug/L	5.00	20.00	30.00
2-METHYLNAPHTHALENE	91-57-6	0.2	0.0122	ug/L	5.00	20.00	30.00
ACENAPHTHENE	83-32-9	0.2	0.0144	ug/L	5.00	20.00	30.00
ACENAPHTHYLENE	208-96-8	0.2	0.0144	ug/L	5.00	20.00	30.00
ANTHRACENE	120-12-7	0.2	0.0152	ug/L	5.00	20.00	30.00
BENZO[A]ANTHRACENE	56-55-3	0.2	0.0147	ug/L	5.00	20.00	30.00
Benzo[a]pyrene	50-32-8	0.2	0.0134	ug/L	5.00	20.00	30.00
Benzo[b]fluoranthene	205-99-2	0.2	0.0157	ug/L	5.00	20.00	30.00
Benzo[g,h,i]perylene	191-24-2	0.2	0.0547	ug/L	5.00	20.00	30.00
Benzo[k]fluoranthene	207-08-9	0.2	0.0151	ug/L	5.00	20.00	30.00
CHRYSENE	218-01-9	0.2	0.014	ug/L	5.00	20.00	30.00
Dibenzo[a,h]anthracene	53-70-3	0.2	0.0155	ug/L	5.00	20.00	30.00
FLUORANTHENE	206-44-0	0.2	0.0162	ug/L	5.00	20.00	30.00

Target Analyte Name	Analyte Label (CAS)	Quantitation Limit	Detection Limit	Units	Blank Contamination Rule	LabDup RPD	FieldDup RPD
Method: 8270D **Matrix: Water**							
FLUORENE	86-73-7	0.2	0.0216	ug/L	5.00	20.00	30.00
Indeno[1,2,3-cd]pyrene	193-39-5	0.2	0.0199	ug/L	5.00	20.00	30.00
NAPHTHALENE	91-20-3	0.2	0.014	ug/L	5.00	20.00	30.00
PHENANTHRENE	85-01-8	0.2	0.0427	ug/L	5.00	20.00	30.00
PYRENE	129-00-0	0.2	0.0157	ug/L	5.00	20.00	30.00
Method: SM 2540B **Matrix: Soil**							
TOTAL SOLIDS	TSO	1.0		%			30.00

Table 3
Data Validation Action Summary
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Queens, New York

Sample Delivery Group	Lab Sample ID	Analysis Method	Field Sample ID	Fraction	Parameter Name	Lab Result	Lab Qualifier	Validated Result	Validation Qualifier	Validation Reason Code	Result Units
180-16821-1	180-16821-1	7471B	AI3-218(2-3)"	T	Mercury	0.3		0.3	J	MS-L, MS-H	mg/Kg
180-16821-1	180-16821-10	7471B	AI3-208(6-11)"	T	Mercury	0.49	J	0.49	J	MS-L, MS-H	mg/Kg
180-16821-1	180-16821-11	7471B	AI3-203(3-4)"	T	Mercury	0.48		0.48	J	MS-L, MS-H	mg/Kg
180-16821-1	180-16821-12	7471B	AI3-203(6-12)"	T	Mercury	0.46		0.46	J	MS-L, MS-H	mg/Kg
180-16821-1	180-16821-13	7471B	AI3-202(2-3)"	T	Mercury	0.51		0.51	J	MS-L, MS-H	mg/Kg
180-16821-1	180-16821-14	7471B	AI3-202(5-6)"	T	Mercury	1.1		1.1	J	MS-L, MS-H	mg/Kg
180-16821-1	180-16821-15	7471B	AI3-202(6-12)"	T	Mercury	0.31		0.31	J	MS-L, MS-H	mg/Kg
180-16821-1	180-16821-16	7471B	AI3-207(2-4)"	T	Mercury	0.36		0.36	J	MS-L, MS-H	mg/Kg
180-16821-1	180-16821-17	7471B	AI3-FD-03	T	Mercury	0.36		0.36	J	MS-L, MS-H	mg/Kg
180-16821-1	180-16821-18	7471B	AI3-207(6-12)"	T	Mercury	0.74	J	0.74	J	MS-L, MS-H	mg/Kg
180-16821-1	180-16821-19	7471B	AI3-212(2-4)"	T	Mercury	0.29		0.29	J	MS-L, MS-H	mg/Kg
180-16821-1	180-16821-2	7471B	AI3-218(4-6)"	T	Mercury	0.33		0.33	J	MS-L, MS-H	mg/Kg
180-16821-1	180-16821-20	7471B	AI3-212(6-8)"	T	Mercury	0.42		0.42	J	MS-L, MS-H	mg/Kg
180-16821-1	180-16821-21	7471B	AI3-212(8-12)"	T	Mercury	0.23		0.23	J	MS-L, MS-H	mg/Kg
180-16821-1	180-16821-22	7471B	AI3-217(2-4)"	T	Mercury	0.33		0.33	J	MS-L, MS-H	mg/Kg
180-16821-1	180-16821-23	7471B	AI3-217(5-6)"	T	Mercury	0.51		0.51	J	MS-L, MS-H	mg/Kg
180-16821-1	180-16821-24	7471B	AI3-217(6-12)"	T	Mercury	0.5		0.5	J	MS-L, MS-H	mg/Kg
180-16821-1	180-16821-25	7471B	AI3-219(2-4)"	T	Mercury	0.41		0.41	J	MS-L, MS-H	mg/Kg
180-16821-1	180-16821-26	7471B	AI3-219(7-8)"	T	Mercury	0.51		0.51	J	MS-L, MS-H	mg/Kg
180-16821-1	180-16821-27	7471B	AI3-219(8-12)"	T	Mercury	0.73		0.73	J	MS-L, MS-H	mg/Kg
180-16821-1	180-16821-28	7471B	AI3-214(2-4)"	T	Mercury	0.62		0.62	J	MS-L, MS-H	mg/Kg
180-16821-1	180-16821-29	7471B	AI3-214(5-6)"	T	Mercury	0.84		0.84	J	MS-L, MS-H	mg/Kg
180-16821-1	180-16821-3	7471B	AI3-218(6-12)"	T	Mercury	0.46		0.46	J	MS-L, MS-H	mg/Kg
180-16821-1	180-16821-30	7471B	AI3-214(6-12)"	T	Mercury	0.37		0.37	J	MS-L, MS-H	mg/Kg
180-16821-1	180-16821-31	7471B	AI3-209(3-5)"	T	Mercury	0.42		0.42	J	MS-L, MS-H	mg/Kg
180-16821-1	180-16821-32	7471B	AI3-209(6-12)"	T	Mercury	0.54		0.54	J	MS-L, MS-H	mg/Kg
180-16821-1	180-16821-33	7471B	AI3-204(2-4)"	T	Mercury	0.4		0.4	J	MS-L, MS-H	mg/Kg
180-16821-1	180-16821-34	7471B	AI3-204(6-8)"	T	Mercury	0.36		0.36	J	MS-L, MS-H	mg/Kg
180-16821-1	180-16821-35	7471B	AI3-204(8-12)"	T	Mercury	0.5		0.5	J	MS-L, MS-H	mg/Kg
180-16821-1	180-16821-36	7471B	AI3-215(2-4)"	T	Mercury	0.43		0.43	J	MS-L, MS-H	mg/Kg
180-16821-1	180-16821-37	7471B	AI3-215(5-6)"	T	Mercury	0.48		0.48	J	MS-L, MS-H	mg/Kg
180-16821-1	180-16821-38	7471B	AI3-215(6-12)"	T	Mercury	0.55		0.55	J	MS-L, MS-H	mg/Kg
180-16821-1	180-16821-39	7471B	AI3-223(2-4)"	T	Mercury	0.19		0.19	J	MS-L, MS-H	mg/Kg
180-16821-1	180-16821-4	7471B	AI3-213(2-3)"	T	Mercury	0.32		0.32	J	MS-L, MS-H	mg/Kg
180-16821-1	180-16821-40	7471B	AI3-223(6-8)"	T	Mercury	0.19		0.19	J	MS-L, MS-H	mg/Kg
180-16821-1	180-16821-41	7471B	AI3-223(8-12)"	T	Mercury	0.15		0.15	J	MS-L, MS-H	mg/Kg
180-16821-1	180-16821-42	7471B	AI3-211(3-5)"	T	Mercury	0.33		0.33	J	MS-L, MS-H	mg/Kg
180-16821-1	180-16821-43	7471B	AI3-211(6-12)"	T	Mercury	0.59		0.59	J	MS-L, MS-H	mg/Kg

Table 3
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Sample Delivery Group	Lab Sample ID	Analysis Method	Field Sample ID	Fraction	Parameter Name	Lab Result	Lab Qualifier	Validated Result	Validation Qualifier	Validation Reason Code	Result Units
180-16821-1	180-16821-44	7471B	AI3-224(2-4)"	T	Mercury	0.4		0.4	J	MS-L, MS-H	mg/Kg
180-16821-1	180-16821-45	7471B	AI3-224(6-8)"	T	Mercury	0.5		0.5	J	MS-L, MS-H	mg/Kg
180-16821-1	180-16821-46	7471B	AI3-224(8-12)"	T	Mercury	0.65		0.65	J	MS-L, MS-H	mg/Kg
180-16821-1	180-16821-47	7471B	AI3-222(2-4)"	T	Mercury	0.28		0.28	J	MS-L, MS-H	mg/Kg
180-16821-1	180-16821-48	7471B	AI3-222(4-6)"	T	Mercury	0.34		0.34	J	MS-L, MS-H	mg/Kg
180-16821-1	180-16821-49	7471B	AI3-222(6-12)"	T	Mercury	0.66		0.66	J	MS-L, MS-H	mg/Kg
180-16821-1	180-16821-5	7471B	AI3-FD-01	T	Mercury	0.34		0.34	J	MS-L, MS-H	mg/Kg
180-16821-1	180-16821-50	7471B	AI3-206(2-4)"	T	Mercury	0.38		0.38	J	MS-L, MS-H	mg/Kg
180-16821-1	180-16821-51	7471B	AI3-206(5-6)"	T	Mercury	0.28		0.28	J	MS-L, MS-H	mg/Kg
180-16821-1	180-16821-52	7471B	AI3-206(6-12)"	T	Mercury	0.73		0.73	J	MS-L, MS-H	mg/Kg
180-16821-1	180-16821-53	7471B	AI3-216(3-5)"	T	Mercury	0.42		0.42	J	MS-L, MS-H	mg/Kg
180-16821-1	180-16821-54	7471B	AI3-216(6-12)"	T	Mercury	0.71		0.71	J	MS-L, MS-H	mg/Kg
180-16821-1	180-16821-55	8270D	MW-4R-FIL	D	1-Methylnaphthalene	0.048	U	0.048	UJ	LCS-L	ug/L
180-16821-1	180-16821-55	8270D	MW-4R-FIL	D	Benzo(b)fluoranthene	0.048	U	0.048	UJ	LCS-L	ug/L
180-16821-1	180-16821-55	8270D	MW-4R-FIL	D	Dibenz(a,h)anthracene	0.048	U	0.048	UJ	LCS-L	ug/L
180-16821-1	180-16821-55	8270D	MW-4R-FIL	D	Indeno(1,2,3-cd)pyrene	0.06	U	0.06	UJ	LCS-L	ug/L
180-16821-1	180-16821-56	8270D	MW-4R-UNF	N	1-Methylnaphthalene	0.044	U	0.044	UJ	LCS-L	ug/L
180-16821-1	180-16821-56	8270D	MW-4R-UNF	N	Benzo(b)fluoranthene	0.044	U	0.044	UJ	LCS-L	ug/L
180-16821-1	180-16821-56	8270D	MW-4R-UNF	N	Dibenz(a,h)anthracene	0.044	U	0.044	UJ	LCS-L	ug/L
180-16821-1	180-16821-56	8270D	MW-4R-UNF	N	Indeno(1,2,3-cd)pyrene	0.056	U	0.056	UJ	LCS-L	ug/L
180-16821-1	180-16821-57	8270D	MW-5-UNF	N	1-Methylnaphthalene	0.046	U	0.046	UJ	LCS-L	ug/L
180-16821-1	180-16821-57	8270D	MW-5-UNF	N	Benzo(b)fluoranthene	0.046	U	0.046	UJ	LCS-L	ug/L
180-16821-1	180-16821-57	8270D	MW-5-UNF	N	Dibenz(a,h)anthracene	0.046	U	0.046	UJ	LCS-L	ug/L
180-16821-1	180-16821-57	8270D	MW-5-UNF	N	Fluoranthene	0.039	J	0.039	J	RL	ug/L
180-16821-1	180-16821-57	8270D	MW-5-UNF	N	Indeno(1,2,3-cd)pyrene	0.057	U	0.057	UJ	LCS-L	ug/L
180-16821-1	180-16821-57	8270D	MW-5-UNF	N	Pyrene	0.032	J	0.032	J	RL	ug/L
180-16821-1	180-16821-58	8270D	FD-01	N	1-Methylnaphthalene	0.049	U	0.049	UJ	LCS-L	ug/L
180-16821-1	180-16821-58	8270D	FD-01	N	Benzo(b)fluoranthene	0.049	U	0.049	UJ	LCS-L	ug/L
180-16821-1	180-16821-58	8270D	FD-01	N	Dibenz(a,h)anthracene	0.049	U	0.049	UJ	LCS-L	ug/L
180-16821-1	180-16821-58	8270D	FD-01	N	Indeno(1,2,3-cd)pyrene	0.062	U	0.062	UJ	LCS-L	ug/L
180-16821-1	180-16821-59	8270D	MW-5-FIL	D	1-Methylnaphthalene	0.049	U	0.049	UJ	LCS-L	ug/L
180-16821-1	180-16821-59	8270D	MW-5-FIL	D	Benzo(b)fluoranthene	0.049	U	0.049	UJ	LCS-L	ug/L
180-16821-1	180-16821-59	8270D	MW-5-FIL	D	Dibenz(a,h)anthracene	0.049	U	0.049	UJ	LCS-L	ug/L
180-16821-1	180-16821-59	8270D	MW-5-FIL	D	Indeno(1,2,3-cd)pyrene	0.061	U	0.061	UJ	LCS-L	ug/L
180-16821-1	180-16821-6	7471B	AI3-213(6-8)"	T	Mercury	0.47		0.47	J	MS-L, MS-H	mg/Kg
180-16821-1	180-16821-7	7471B	AI3-213(8-14)"	T	Mercury	0.25		0.25	J	MS-L, MS-H	mg/Kg
180-16821-1	180-16821-8	7471B	AI3-208(2-4)"	T	Mercury	0.47		0.47	J	MS-L, MS-H	mg/Kg
180-16821-1	180-16821-9	7471B	AI3-FD-02	T	Mercury	0.45		0.45	J	MS-L, MS-H	mg/Kg

Table 3
Data Validation Action Summary
November 2012 Groundwater and Soil
Supplemental Remedial Investigation
Ft. Totten Coast Guard Station
Queens, New York

Sample Delivery Group	Lab Sample ID	Analysis Method	Field Sample ID	Fraction	Parameter Name	Lab Result	Lab Qualifier	Validated Result	Validation Qualifier	Validation Reason Code	Result Units

Fraction:
T = Total (unfiltered)
D = Dissolved
N = Normal

Validation Qualifier:
U = not detected, value is the limit of detection (LOD)
J = value is estimated

Units:
mg/Kg = milligram per kilogram
ug/L = microgram per liter

Validation Reason Codes:
LCS-L = LCS recovery low
MS-H = MS and/or MSD recovery high
MS-L = MS and/or MSD recovery low
RL = Value reported above the MDL but below the laboratory reporting limit

Prepared by / Date: KJC 01/04/13
Checked by / Date: BBL 01/04/13

Table 4
Final Result Summaries
November 2012 Groundwater and Soil
Supplemental Remedial Investigation
Ft. Totten Coast Guard Station
Queens, New York

		Loc Name	MW-4R		MW-4R		MW-5		MW-5		MW-5	
		Field Sample ID	MW-4R-FIL		MW-4R-UNF		FD-01		MW-5-FIL		MW-5-UNF	
		Field Sample Date	11/28/12		11/28/12		11/28/12		11/28/12		11/28/12	
		QC Code	FS		FS		FD		FS		FS	
		Lab Sample Delivery Group	180-16821-1		180-16821-1		180-16821-1		180-16821-1		180-16821-1	
Method	**Analyte**	**Units**	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
8270D	1-Methylnaphthalene	ug/L	0.048	UJ	0.044	UJ	0.049	UJ	0.049	UJ	0.046	UJ
8270D	2-Methylnaphthalene	ug/L	0.036	U	0.033	U	0.037	U	0.037	U	0.034	U
8270D	Acenaphthene	ug/L	0.048	U	0.044	U	0.049	U	0.049	U	0.046	U
8270D	Acenaphthylene	ug/L	0.048	U	0.044	U	0.049	U	0.049	U	0.046	U
8270D	Anthracene	ug/L	0.048	U	0.044	U	0.049	U	0.049	U	0.046	U
8270D	Benzo(a)anthracene	ug/L	0.048	U	0.044	U	0.049	U	0.049	U	0.046	U
8270D	Benzo(a)pyrene	ug/L	0.048	U	0.044	U	0.049	U	0.049	U	0.046	U
8270D	Benzo(b)fluoranthene	ug/L	0.048	UJ	0.044	UJ	0.049	UJ	0.049	UJ	0.046	UJ
8270D	Benzo(ghi)perylene	ug/L	0.048	U	0.044	U	0.049	U	0.049	U	0.046	U
8270D	Benzo(k)fluoranthene	ug/L	0.12	U	0.11	U	0.12	U	0.12	U	0.11	U
8270D	Chrysene	ug/L	0.048	U	0.044	U	0.049	U	0.049	U	0.046	U
8270D	Dibenz(a,h)anthracene	ug/L	0.048	UJ	0.044	UJ	0.049	UJ	0.049	UJ	0.046	UJ
8270D	Fluoranthene	ug/L	0.048	U	0.044	U	0.049	U	0.049	U	0.039	J
8270D	Fluorene	ug/L	0.06	U	0.056	U	0.062	U	0.061	U	0.057	U
8270D	Indeno(1,2,3-cd)pyrene	ug/L	0.06	UJ	0.056	UJ	0.062	UJ	0.061	UJ	0.057	UJ
8270D	Naphthalene	ug/L	0.048	U	0.044	U	0.049	U	0.049	U	0.046	U
8270D	Phenanthrene	ug/L	0.09	U	0.083	U	0.093	U	0.091	U	0.086	U
8270D	Pyrene	ug/L	0.048	U	0.044	U	0.049	U	0.049	U	0.032	J

Notes:
FS = field sample
FD = field duplicate

ug/L = microgram per liter

U = not detected, value is the limit of detection (LOD)
J = value is estimated

Prepared by / Date: KJC 01/04/13
Checked by / Date: BBL 01/04/13

Table 4
Final Result Summaries
November 2012 Groundwater and Soil
Supplemental Remedial Investigation
Ft. Totten Coast Guard Station
Queens, New York

		Loc Name	AI3-202		AI3-202		AI3-202		AI3-203		AI3-203		AI3-204		AI3-204		AI3-204		AI3-206	
		Field Sample ID	AI3-202(2-3)"		AI3-202(5-6)"		AI3-202(6-12)"		AI3-203(3-4)"		AI3-203(6-12)"		AI3-204(2-4)"		AI3-204(6-8)"		AI3-204(8-12)"		AI3-206(2-4)"	
		Field Sample Date	11/28/12		11/28/12		11/28/12		11/28/12		11/28/12		11/28/12		11/28/12		11/28/12		11/29/12	
		QC Code	FS		FS		FS		FS		FS		FS		FS		FS		FS	
		Lab Sample Delivery Group	180-16821-1		180-16821-1		180-16821-1		180-16821-1		180-16821-1		180-16821-1		180-16821-1		180-16821-1		180-16821-1	
Method	**Analyte**	**Units**	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
7471B	Mercury	mg/Kg	0.51	J	1.1	J	0.31	J	0.48	J	0.46	J	0.4	J	0.36	J	0.5	J	0.38	J

Notes:
FS = field sample
FD = field duplicate

U = not detected, value is the limit of detection (LOD)
J = value is estimated

mg/kg = milligram per kilogram

Table 4
Final Result Summaries
November 2012 Groundwater and Soil
Supplemental Remedial Investigation
Ft. Totten Coast Guard Station
Queens, New York

		Loc Name	AI3-206		AI3-206		AI3-207		AI3-207		AI3-207		AI3-208		AI3-208		AI3-208		AI3-209	
		Field Sample ID	AI3-206(5-6)"		AI3-206(6-12)"		AI3-207(2-4)"		AI3-207(6-12)"		AI3-FD-03		AI3-208(2-4)"		AI3-208(6-11)"		AI3-FD-02		AI3-209(3-5)"	
		Field Sample Date	11/29/12		11/29/12		11/28/12		11/28/12		11/28/12		11/28/12		11/28/12		11/28/12		11/28/12	
		QC Code	FS		FS		FS		FS		FD		FS		FS		FD		FS	
		Lab Sample Delivery Group	180-16821-1		180-16821-1		180-16821-1		180-16821-1		180-16821-1		180-16821-1		180-16821-1		180-16821-1		180-16821-1	
Method	**Analyte**	**Units**	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
7471B	Mercury	mg/Kg	0.28	J	0.73	J	0.36	J	0.74	J	0.36	J	0.47	J	0.49	J	0.45	J	0.42	J

Notes:
FS = field sample
FD = field duplicate

U = not detected, value is the limit of detection (LOD)
J = value is estimated

mg/kg = milligram per kilogram

Table 4
Final Result Summaries
November 2012 Groundwater and Soil
Supplemental Remedial Investigation
Ft. Totten Coast Guard Station
Queens, New York

		Loc Name	AI3-209		AI3-211		AI3-211		AI3-212		AI3-212		AI3-212		AI3-213		AI3-213		AI3-213	
		Field Sample ID	AI3-209(6-12)"		AI3-211(3-5)"		AI3-211(6-12)"		AI3-212(2-4)"		AI3-212(6-8)"		AI3-212(8-12)"		AI3-213(2-3)"		AI3-213(6-8)"		AI3-213(8-14)"	
		Field Sample Date	11/28/12		11/28/12		11/28/12		11/28/12		11/28/12		11/28/12		11/28/12		11/28/12		11/28/12	
		QC Code	FS		FS		FS		FS		FS		FS		FS		FS		FS	
		Lab Sample Delivery Group	180-16821-1		180-16821-1		180-16821-1		180-16821-1		180-16821-1		180-16821-1		180-16821-1		180-16821-1		180-16821-1	
Method	**Analyte**	**Units**	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
7471B	Mercury	mg/Kg	0.54	J	0.33	J	0.59	J	0.29	J	0.42	J	0.23	J	0.32	J	0.47	J	0.25	J

Notes:
FS = field sample
FD = field duplicate

U = not detected, value is the limit of detection (LOD)
J = value is estimated

mg/kg = milligram per kilogram

Table 4
Final Result Summaries
November 2012 Groundwater and Soil
Supplemental Remedial Investigation
Ft. Totten Coast Guard Station
Queens, New York

		Loc Name	AI3-213		AI3-214		AI3-214		AI3-214		AI3-215		AI3-215		AI3-215		AI3-216		AI3-216	
		Field Sample ID	AI3-FD-01		AI3-214(2-4)"		AI3-214(5-6)"		AI3-214(6-12)"		AI3-215(2-4)"		AI3-215(5-6)"		AI3-215(6-12)"		AI3-216(3-5)"		AI3-216(6-12)"	
		Field Sample Date	11/28/12		11/28/12		11/28/12		11/28/12		11/28/12		11/28/12		11/28/12		11/29/12		11/29/12	
		QC Code	FD		FS		FS		FS		FS		FS		FS		FS		FS	
		Lab Sample Delivery Group	180-16821-1		180-16821-1		180-16821-1		180-16821-1		180-16821-1		180-16821-1		180-16821-1		180-16821-1		180-16821-1	
Method	**Analyte**	**Units**	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
7471B	Mercury	mg/Kg	0.34	J	0.62	J	0.84	J	0.37	J	0.43	J	0.48	J	0.55	J	0.42	J	0.71	J

Notes:
FS = field sample
FD = field duplicate

U = not detected, value is the limit of detection (LOD)
J = value is estimated

mg/kg = milligram per kilogram

Table 4
Final Result Summaries
November 2012 Groundwater and Soil
Supplemental Remedial Investigation
Ft. Totten Coast Guard Station
Queens, New York

		Loc Name	AI3-217		AI3-217		AI3-217		AI3-218		AI3-218		AI3-218		AI3-219		AI3-219		AI3-219	
		Field Sample ID	AI3-217(2-4)"		AI3-217(5-6)"		AI3-217(6-12)"		AI3-218(2-3)"		AI3-218(4-6)"		AI3-218(6-12)"		AI3-219(2-4)"		AI3-219(7-8)"		AI3-219(8-12)"	
		Field Sample Date	11/28/12		11/28/12		11/28/12		11/28/12		11/28/12		11/28/12		11/28/12		11/28/12		11/28/12	
		QC Code	FS		FS		FS		FS		FS		FS		FS		FS		FS	
		Lab Sample Delivery Group	180-16821-1		180-16821-1		180-16821-1		180-16821-1		180-16821-1		180-16821-1		180-16821-1		180-16821-1		180-16821-1	
Method	**Analyte**	**Units**	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
7471B	Mercury	mg/Kg	0.33	J	0.51	J	0.5	J	0.3	J	0.33	J	0.46	J	0.41	J	0.51	J	0.73	J

Notes:
FS = field sample
FD = field duplicate

U = not detected, value is the limit of detection (LOD)
J = value is estimated

mg/kg = milligram per kilogram

Table 4
Final Result Summaries
November 2012 Groundwater and Soil
Supplemental Remedial Investigation
Ft. Totten Coast Guard Station
Queens, New York

		Loc Name	AI3-222		AI3-222		AI3-222		AI3-223		AI3-223		AI3-223		AI3-224		AI3-224		AI3-224	
		Field Sample ID	AI3-222(2-4)"		AI3-222(4-6)"		AI3-222(6-12)"		AI3-223(2-4)"		AI3-223(6-8)"		AI3-223(8-12)"		AI3-224(2-4)"		AI3-224(6-8)"		AI3-224(8-12)"	
		Field Sample Date	11/28/12		11/28/12		11/28/12		11/28/12		11/28/12		11/28/12		11/28/12		11/28/12		11/28/12	
		QC Code	FS		FS		FS		FS		FS		FS		FS		FS		FS	
		Lab Sample Delivery Group	180-16821-1		180-16821-1		180-16821-1		180-16821-1		180-16821-1		180-16821-1		180-16821-1		180-16821-1		180-16821-1	
Method	**Analyte**	**Units**	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
7471B	Mercury	mg/Kg	0.28	J	0.34	J	0.66	J	0.19	J	0.19	J	0.15	J	0.4	J	0.5	J	0.65	J

Notes:
FS = field sample
FD = field duplicate

U = not detected, value is the limit of detection (LOD)
J = value is estimated

mg/kg = milligram per kilogram

Prepare KJC 01/04/13
Checke BBL 01/04/13

Data Validation Result Summaries

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **AI3-218(2-3")**

Lab Sample ID: 180-16821-1 Date Sampled: 11/28/2012 1400
Client Matrix: Solid % Moisture: 20.0 Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58226	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58157	Lab File ID:	G21213A.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.61 g
Analysis Date:	12/13/2012 0900			Final Weight/Volume:	100 mL
Prep Date:	12/13/2012 0351				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		0.30 J		0.013	0.041

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **AI3-218(4-6")**

Lab Sample ID: 180-16821-2 Date Sampled: 11/28/2012 1405
Client Matrix: Solid % Moisture: 17.7 Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58226	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58157	Lab File ID:	G21213A.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.61 g
Analysis Date:	12/13/2012 0902			Final Weight/Volume:	100 mL
Prep Date:	12/13/2012 0351				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		0.33	J	0.013	0.039

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **AI3-218(6-12")**

Lab Sample ID: 180-16821-3 Date Sampled: 11/28/2012 1410
Client Matrix: Solid % Moisture: 18.3 Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58226	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58157	Lab File ID:	G21213A.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.60 g
Analysis Date:	12/13/2012 0904			Final Weight/Volume:	100 mL
Prep Date:	12/13/2012 0351				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		0.46	J	0.013	0.040

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: AI3-213(2-3")

Lab Sample ID: 180-16821-4 Date Sampled: 11/28/2012 1415
Client Matrix: Solid % Moisture: 25.5 Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58226	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58157	Lab File ID:	G21213A.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.60 g
Analysis Date:	12/13/2012 0905			Final Weight/Volume:	100 mL
Prep Date:	12/13/2012 0351				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		0.32	J	0.015	0.044

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **AI3-FD-01**

Lab Sample ID: 180-16821-5 Date Sampled: 11/28/2012 1415
Client Matrix: Solid % Moisture: 25.9 Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58226	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58157	Lab File ID:	G21213A.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.61 g
Analysis Date:	12/13/2012 0914			Final Weight/Volume:	100 mL
Prep Date:	12/13/2012 0351				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		0.34	J	0.014	0.044

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **AI3-213(6-8")**

Lab Sample ID: 180-16821-6 Date Sampled: 11/28/2012 1425
Client Matrix: Solid % Moisture: 19.4 Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58226	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58157	Lab File ID:	G21213A.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.62 g
Analysis Date:	12/13/2012 0916			Final Weight/Volume:	100 mL
Prep Date:	12/13/2012 0351				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		0.47	J	0.013	0.040

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **AI3-213(8-14")**

Lab Sample ID: 180-16821-7 Date Sampled: 11/28/2012 1430
Client Matrix: Solid % Moisture: 19.8 Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58226	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58157	Lab File ID:	G21213A.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.64 g
Analysis Date:	12/13/2012 0918			Final Weight/Volume:	100 mL
Prep Date:	12/13/2012 0351				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		0.25	J	0.013	0.039

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **AI3-208(2-4")**

Lab Sample ID: 180-16821-8 Date Sampled: 11/28/2012 1435
Client Matrix: Solid % Moisture: 21.4 Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58226	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58157	Lab File ID:	G21213A.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.60 g
Analysis Date:	12/13/2012 0920			Final Weight/Volume:	100 mL
Prep Date:	12/13/2012 0351				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		0.47	J	0.014	0.042

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **AI3-FD-02**

Lab Sample ID: 180-16821-9 Date Sampled: 11/28/2012 1435
Client Matrix: Solid % Moisture: 21.0 Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58226	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58157	Lab File ID:	G21213A.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.61 g
Analysis Date:	12/13/2012 0921			Final Weight/Volume:	100 mL
Prep Date:	12/13/2012 0351				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		0.45	J	0.014	0.041

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **AI3-208(6-11")**

Lab Sample ID: 180-16821-10 Date Sampled: 11/28/2012 1440
Client Matrix: Solid % Moisture: 19.9 Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58553	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58496	Lab File ID:	G21217B.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.61 g
Analysis Date:	12/17/2012 0949			Final Weight/Volume:	100 mL
Prep Date:	12/17/2012 0312				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		0.49	J	0.013	0.041

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **AI3-203(3-4")**

Lab Sample ID: 180-16821-11 Date Sampled: 11/28/2012 1450
Client Matrix: Solid % Moisture: 25.0 Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58226	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58157	Lab File ID:	G21213A.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.61 g
Analysis Date:	12/13/2012 0923			Final Weight/Volume:	100 mL
Prep Date:	12/13/2012 0351				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		0.48	J	0.014	0.043

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **AI3-203(6-12")**

Lab Sample ID: 180-16821-12 Date Sampled: 11/28/2012 1455
Client Matrix: Solid % Moisture: 21.1 Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58226	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58157	Lab File ID:	G21213A.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.62 g
Analysis Date:	12/13/2012 0925			Final Weight/Volume:	100 mL
Prep Date:	12/13/2012 0351				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		0.46	J	0.013	0.040

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **AI3-202(2-3")**

Lab Sample ID: 180-16821-13 Date Sampled: 11/28/2012 1500
Client Matrix: Solid % Moisture: 15.7 Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58226	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58157	Lab File ID:	G21213A.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.60 g
Analysis Date:	12/13/2012 0927			Final Weight/Volume:	100 mL
Prep Date:	12/13/2012 0351				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		0.51	J	0.013	0.039

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **AI3-202(5-6")**

Lab Sample ID: 180-16821-14 Date Sampled: 11/28/2012 1505
Client Matrix: Solid % Moisture: 16.1 Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58226	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58157	Lab File ID:	G21213A.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.60 g
Analysis Date:	12/13/2012 0929			Final Weight/Volume:	100 mL
Prep Date:	12/13/2012 0351				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		1.1	J	0.013	0.039

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **AI3-202(6-12")**

Lab Sample ID: 180-16821-15 Date Sampled: 11/28/2012 1510
Client Matrix: Solid % Moisture: 16.6 Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58226	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58157	Lab File ID:	G21213A.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.61 g
Analysis Date:	12/13/2012 0931			Final Weight/Volume:	100 mL
Prep Date:	12/13/2012 0351				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		0.31	J	0.013	0.039

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **AI3-207(2-4")**

Lab Sample ID: 180-16821-16 Date Sampled: 11/28/2012 1515
Client Matrix: Solid % Moisture: 23.0 Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58226	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58157	Lab File ID:	G21213A.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.60 g
Analysis Date:	12/13/2012 0936			Final Weight/Volume:	100 mL
Prep Date:	12/13/2012 0351				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		0.36	J	0.014	0.043

Client: WaterMark Environmental, Inc.

Job Number: 180-16821-1

Client Sample ID: **AI3-FD-03**

Lab Sample ID: 180-16821-17
Client Matrix: Solid

% Moisture: 22.8

Date Sampled: 11/28/2012 1515
Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58226	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58157	Lab File ID:	G21213A.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.60 g
Analysis Date:	12/13/2012 0937			Final Weight/Volume:	100 mL
Prep Date:	12/13/2012 0351				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		0.36	J	0.014	0.043

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **AI3-207(6-12")**

Lab Sample ID: 180-16821-18 Date Sampled: 11/28/2012 1520
Client Matrix: Solid % Moisture: 22.4 Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58553	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58497	Lab File ID:	G21217B.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.61 g
Analysis Date:	12/17/2012 1044			Final Weight/Volume:	100 mL
Prep Date:	12/17/2012 0315				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		0.74	J	0.014	0.042

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **AI3-212(2-4")**

Lab Sample ID: 180-16821-19 Date Sampled: 11/28/2012 1525
Client Matrix: Solid % Moisture: 22.8 Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58226	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58157	Lab File ID:	G21213A.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.61 g
Analysis Date:	12/13/2012 0939			Final Weight/Volume:	100 mL
Prep Date:	12/13/2012 0351				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		0.29	J	0.014	0.042

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **AI3-212(6-8")**

Lab Sample ID: 180-16821-20 Date Sampled: 11/28/2012 1530
Client Matrix: Solid % Moisture: 22.0 Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58226	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58157	Lab File ID:	G21213A.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.61 g
Analysis Date:	12/13/2012 0941			Final Weight/Volume:	100 mL
Prep Date:	12/13/2012 0351				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		0.42	J	0.014	0.042

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **AI3-212(8-12")**

Lab Sample ID: 180-16821-21 Date Sampled: 11/28/2012 1535
Client Matrix: Solid % Moisture: 18.9 Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58226	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58157	Lab File ID:	G21213A.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.65 g
Analysis Date:	12/13/2012 0943			Final Weight/Volume:	100 mL
Prep Date:	12/13/2012 0351				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		0.23	J	0.012	0.038

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **AI3-217(2-4")**

Lab Sample ID: 180-16821-22 Date Sampled: 11/28/2012 1545
Client Matrix: Solid % Moisture: 22.0 Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58226	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58157	Lab File ID:	G21213A.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.62 g
Analysis Date:	12/13/2012 0944			Final Weight/Volume:	100 mL
Prep Date:	12/13/2012 0351				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		0.33	J	0.014	0.041

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **AI3-217(5-6")**

Lab Sample ID: 180-16821-23 Date Sampled: 11/28/2012 1547
Client Matrix: Solid % Moisture: 18.9 Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58553	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58496	Lab File ID:	G21217B.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.63 g
Analysis Date:	12/17/2012 0954			Final Weight/Volume:	100 mL
Prep Date:	12/17/2012 0312				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		0.51	J	0.013	0.039

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **AI3-217(6-12")**

Lab Sample ID: 180-16821-24 Date Sampled: 11/28/2012 1550
Client Matrix: Solid % Moisture: 19.2 Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58553	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58496	Lab File ID:	G21217B.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.60 g
Analysis Date:	12/17/2012 0957			Final Weight/Volume:	100 mL
Prep Date:	12/17/2012 0312				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		0.50	J	0.013	0.041

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **AI3-219(2-4")**

Lab Sample ID: 180-16821-25 Date Sampled: 11/28/2012 1550
Client Matrix: Solid % Moisture: 26.2 Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58553	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58496	Lab File ID:	G21217B.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.65 g
Analysis Date:	12/17/2012 0959			Final Weight/Volume:	100 mL
Prep Date:	12/17/2012 0312				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		0.41	J	0.014	0.041

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **AI3-219(7-8")**

Lab Sample ID: 180-16821-26 Date Sampled: 11/28/2012 1557
Client Matrix: Solid % Moisture: 20.2 Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58553	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58496	Lab File ID:	G21217B.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.65 g
Analysis Date:	12/17/2012 1002			Final Weight/Volume:	100 mL
Prep Date:	12/17/2012 0312				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		0.51	J	0.013	0.038

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **AI3-219(8-12")**

Lab Sample ID: 180-16821-27 Date Sampled: 11/28/2012 1600
Client Matrix: Solid % Moisture: 20.1 Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58553	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58496	Lab File ID:	G21217B.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.60 g
Analysis Date:	12/17/2012 1004			Final Weight/Volume:	100 mL
Prep Date:	12/17/2012 0312				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		0.73	J	0.014	0.041

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **AI3-214(2-4")**

Lab Sample ID: 180-16821-28 Date Sampled: 11/28/2012 1605
Client Matrix: Solid % Moisture: 24.3 Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58553	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58496	Lab File ID:	G21217B.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.61 g
Analysis Date:	12/17/2012 1009			Final Weight/Volume:	100 mL
Prep Date:	12/17/2012 0312				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		0.62	J	0.014	0.043

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **AI3-214(5-6")**

Lab Sample ID: 180-16821-29 Date Sampled: 11/28/2012 1607
Client Matrix: Solid % Moisture: 21.8 Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58553	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58496	Lab File ID:	G21217B.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.60 g
Analysis Date:	12/17/2012 1010			Final Weight/Volume:	100 mL
Prep Date:	12/17/2012 0312				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		0.84	J	0.014	0.042

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **AI3-214(6-12")**

Lab Sample ID: 180-16821-30 Date Sampled: 11/28/2012 1610
Client Matrix: Solid % Moisture: 19.7 Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58553	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58496	Lab File ID:	G21217B.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.60 g
Analysis Date:	12/17/2012 1012			Final Weight/Volume:	100 mL
Prep Date:	12/17/2012 0312				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		0.37	J	0.014	0.041

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **AI3-209(3-5")**

Lab Sample ID: 180-16821-31 Date Sampled: 11/28/2012 1612
Client Matrix: Solid % Moisture: 22.2 Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58553	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58496	Lab File ID:	G21217B.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.61 g
Analysis Date:	12/17/2012 1014			Final Weight/Volume:	100 mL
Prep Date:	12/17/2012 0312				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		0.42	J	0.014	0.042

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **AI3-209(6-12")**

Lab Sample ID: 180-16821-32 Date Sampled: 11/28/2012 1615
Client Matrix: Solid % Moisture: 21.1 Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58553	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58496	Lab File ID:	G21217B.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.61 g
Analysis Date:	12/17/2012 1016			Final Weight/Volume:	100 mL
Prep Date:	12/17/2012 0312				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		0.54	J	0.014	0.041

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **AI3-204(2-4")**

Lab Sample ID: 180-16821-33 Date Sampled: 11/28/2012 1617
Client Matrix: Solid % Moisture: 25.4 Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58553	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58496	Lab File ID:	G21217B.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.64 g
Analysis Date:	12/17/2012 1018			Final Weight/Volume:	100 mL
Prep Date:	12/17/2012 0312				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		0.40	J	0.014	0.041

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **AI3-204(6-8")**

Lab Sample ID: 180-16821-34 Date Sampled: 11/28/2012 1620
Client Matrix: Solid % Moisture: 20.3 Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58553	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58496	Lab File ID:	G21217B.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.61 g
Analysis Date:	12/17/2012 1020			Final Weight/Volume:	100 mL
Prep Date:	12/17/2012 0312				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		0.36	J	0.013	0.041

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **AI3-204(8-12")**

Lab Sample ID: 180-16821-35 Date Sampled: 11/28/2012 1622
Client Matrix: Solid % Moisture: 19.0 Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58553	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58496	Lab File ID:	G21217B.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.62 g
Analysis Date:	12/17/2012 1022			Final Weight/Volume:	100 mL
Prep Date:	12/17/2012 0312				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		0.50	J	0.013	0.039

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **AI3-215(2-4")**

Lab Sample ID: 180-16821-36 Date Sampled: 11/28/2012 1625
Client Matrix: Solid % Moisture: 24.5 Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58553	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58496	Lab File ID:	G21217B.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.61 g
Analysis Date:	12/17/2012 1023			Final Weight/Volume:	100 mL
Prep Date:	12/17/2012 0312				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		0.43	J	0.014	0.043

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **AI3-215(5-6")**

Lab Sample ID: 180-16821-37 Date Sampled: 11/28/2012 1627
Client Matrix: Solid % Moisture: 20.1 Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58553	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58496	Lab File ID:	G21217B.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.60 g
Analysis Date:	12/17/2012 1025			Final Weight/Volume:	100 mL
Prep Date:	12/17/2012 0312				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		0.48	J	0.014	0.041

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **AI3-215(6-12")**

Lab Sample ID: 180-16821-38 Date Sampled: 11/28/2012 1630
Client Matrix: Solid % Moisture: 18.7 Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58553	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58496	Lab File ID:	G21217B.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.63 g
Analysis Date:	12/17/2012 1031			Final Weight/Volume:	100 mL
Prep Date:	12/17/2012 0312				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		0.55	J	0.013	0.039

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **AI3-223(2-4")**

Lab Sample ID: 180-16821-39 Date Sampled: 11/28/2012 1632
Client Matrix: Solid % Moisture: 19.1 Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58553	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58496	Lab File ID:	G21217B.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.60 g
Analysis Date:	12/17/2012 1033			Final Weight/Volume:	100 mL
Prep Date:	12/17/2012 0312				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		0.19	J	0.013	0.041

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **AI3-223(6-8")**

Lab Sample ID: 180-16821-40 Date Sampled: 11/28/2012 1635
Client Matrix: Solid % Moisture: 16.4 Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58553	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58496	Lab File ID:	G21217B.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.61 g
Analysis Date:	12/17/2012 1035			Final Weight/Volume:	100 mL
Prep Date:	12/17/2012 0312				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		0.19	J	0.013	0.039

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **AI3-223(8-12")**

Lab Sample ID: 180-16821-41 Date Sampled: 11/28/2012 1637
Client Matrix: Solid % Moisture: 13.5 Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58553	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58496	Lab File ID:	G21217B.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.61 g
Analysis Date:	12/17/2012 1037			Final Weight/Volume:	100 mL
Prep Date:	12/17/2012 0312				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		0.15	J	0.012	0.038

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **AI3-211(3-5")**

Lab Sample ID: 180-16821-42 Date Sampled: 11/28/2012 1640
Client Matrix: Solid % Moisture: 21.4 Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58553	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58497	Lab File ID:	G21217B.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.61 g
Analysis Date:	12/17/2012 1050			Final Weight/Volume:	100 mL
Prep Date:	12/17/2012 0315				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		0.33	J	0.014	0.041

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **AI3-211(6-12")**

Lab Sample ID: 180-16821-43 Date Sampled: 11/28/2012 1642
Client Matrix: Solid % Moisture: 20.2 Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58553	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58497	Lab File ID:	G21217B.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.60 g
Analysis Date:	12/17/2012 1056			Final Weight/Volume:	100 mL
Prep Date:	12/17/2012 0315				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		0.59	J	0.014	0.041

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **AI3-224(2-4")**

Lab Sample ID: 180-16821-44 Date Sampled: 11/28/2012 1645
Client Matrix: Solid % Moisture: 22.9 Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58553	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58497	Lab File ID:	G21217B.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.61 g
Analysis Date:	12/17/2012 1058			Final Weight/Volume:	100 mL
Prep Date:	12/17/2012 0315				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		0.40	J	0.014	0.042

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **AI3-224(6-8")**

Lab Sample ID: 180-16821-45 Date Sampled: 11/28/2012 1647
Client Matrix: Solid % Moisture: 17.7 Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58553	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58497	Lab File ID:	G21217B.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.60 g
Analysis Date:	12/17/2012 1100			Final Weight/Volume:	100 mL
Prep Date:	12/17/2012 0315				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		0.50	J	0.013	0.040

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **AI3-224(8-12")**

Lab Sample ID: 180-16821-46 Date Sampled: 11/28/2012 1650
Client Matrix: Solid % Moisture: 16.7 Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58553	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58497	Lab File ID:	G21217B.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.62 g
Analysis Date:	12/17/2012 1102			Final Weight/Volume:	100 mL
Prep Date:	12/17/2012 0315				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		0.65	J	0.013	0.038

Client: WaterMark Environmental, Inc.

Job Number: 180-16821-1

Client Sample ID: **AI3-222(2-4")**

Lab Sample ID: 180-16821-47
Client Matrix: Solid

% Moisture: 27.4

Date Sampled: 11/28/2012 1652
Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58553	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58497	Lab File ID:	G21217B.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.61 g
Analysis Date:	12/17/2012 1104			Final Weight/Volume:	100 mL
Prep Date:	12/17/2012 0315				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		0.28 J		0.015	0.045

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **AI3-222(4-6")**

Lab Sample ID: 180-16821-48 Date Sampled: 11/28/2012 1655
Client Matrix: Solid % Moisture: 19.5 Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58553	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58497	Lab File ID:	G21217B.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.62 g
Analysis Date:	12/17/2012 1106			Final Weight/Volume:	100 mL
Prep Date:	12/17/2012 0315				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		0.34	J	0.013	0.040

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **AI3-222(6-12")**

Lab Sample ID: 180-16821-49 Date Sampled: 11/28/2012 1657
Client Matrix: Solid % Moisture: 18.9 Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58553	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58497	Lab File ID:	G21217B.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.62 g
Analysis Date:	12/17/2012 1108			Final Weight/Volume:	100 mL
Prep Date:	12/17/2012 0315				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		0.66	J	0.013	0.039

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **AI3-206(2-4")**

Lab Sample ID: 180-16821-50 Date Sampled: 11/29/2012 0745
Client Matrix: Solid % Moisture: 24.9 Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58553	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58497	Lab File ID:	G21217B.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.62 g
Analysis Date:	12/17/2012 1109			Final Weight/Volume:	100 mL
Prep Date:	12/17/2012 0315				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		0.38	J	0.014	0.043

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **AI3-206(5-6")**

Lab Sample ID: 180-16821-51 Date Sampled: 11/29/2012 0747
Client Matrix: Solid % Moisture: 18.9 Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58553	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58497	Lab File ID:	G21217B.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.62 g
Analysis Date:	12/17/2012 1111			Final Weight/Volume:	100 mL
Prep Date:	12/17/2012 0315				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		0.28	J	0.013	0.039

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **AI3-206(6-12")**

Lab Sample ID: 180-16821-52 Date Sampled: 11/29/2012 0750
Client Matrix: Solid % Moisture: 20.5 Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58553	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58497	Lab File ID:	G21217B.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.60 g
Analysis Date:	12/17/2012 1114			Final Weight/Volume:	100 mL
Prep Date:	12/17/2012 0315				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		0.73	J	0.014	0.041

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **AI3-216(3-5")**

Lab Sample ID: 180-16821-53 Date Sampled: 11/29/2012 0800
Client Matrix: Solid % Moisture: 19.8 Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58553	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58497	Lab File ID:	G21217B.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.60 g
Analysis Date:	12/17/2012 1119			Final Weight/Volume:	100 mL
Prep Date:	12/17/2012 0315				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		0.42	J	0.014	0.041

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **AI3-216(6-12")**

Lab Sample ID: 180-16821-54 Date Sampled: 11/29/2012 0802
Client Matrix: Solid % Moisture: 20.7 Date Received: 11/30/2012 0930

7471/DOD Mercury (CVAA)

Analysis Method:	7471/DOD	Analysis Batch:	180-58553	Instrument ID:	G
Prep Method:	7471A	Prep Batch:	180-58497	Lab File ID:	G21217B.PRN
Dilution:	1.0			Initial Weight/Volume:	00000.61 g
Analysis Date:	12/17/2012 1121			Final Weight/Volume:	100 mL
Prep Date:	12/17/2012 0315				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Mercury		0.71	J	0.014	0.041

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **MW-4R-FIL**

Lab Sample ID: 180-16821-55 Date Sampled: 11/28/2012 1125
Client Matrix: Water Date Received: 11/30/2012 0930

8270C/DoD Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C/DoD	Analysis Batch:	180-57768	Instrument ID:	731
Prep Method:	3520C	Prep Batch:	180-57299	Lab File ID:	V1208008.D
Dilution:	1.0			Initial Weight/Volume:	830 mL
Analysis Date:	12/08/2012 1611			Final Weight/Volume:	1.0 mL
Prep Date:	12/05/2012 1001			Injection Volume:	2 uL

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Acenaphthene	0.048	U	0.017	0.24
Acenaphthylene	0.048	U	0.018	0.24
Anthracene	0.048	U	0.019	0.24
Benzo[a]anthracene	0.048	U	0.018	0.24
Benzo[a]pyrene	0.048	U	0.016	0.24
Benzo[b]fluoranthene	0.048	U J	0.019	0.24
Benzo[g,h,i]perylene	0.048	U	0.018	0.24
Benzo[k]fluoranthene	0.12	U	0.066	0.24
Dibenz(a,h)anthracene	0.048	U J	0.019	0.24
Chrysene	0.048	U	0.017	0.24
Fluoranthene	0.048	U	0.020	0.24
Fluorene	0.060	U	0.026	0.24
Indeno[1,2,3-cd]pyrene	0.060	U J	0.024	0.24
Naphthalene	0.048	U	0.017	0.24
Phenanthrene	0.090	U	0.051	0.24
Pyrene	0.048	U	0.019	0.24
2-Methylnaphthalene	0.036	U	0.015	0.24
1-Methylnaphthalene	0.048	U J	0.017	0.24

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5 (Surr)	58		40 - 110
Terphenyl-d14 (Surr)	72		50 - 135
2-Fluorobiphenyl	51		50 - 110

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **MW-4R-UNF**

Lab Sample ID: 180-16821-56 Date Sampled: 11/28/2012 1120
Client Matrix: Water Date Received: 11/30/2012 0930

8270C/DoD Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C/DoD	Analysis Batch:	180-57768	Instrument ID:	731
Prep Method:	3520C	Prep Batch:	180-57299	Lab File ID:	V1208009.D
Dilution:	1.0			Initial Weight/Volume:	900 mL
Analysis Date:	12/08/2012 1635			Final Weight/Volume:	1.0 mL
Prep Date:	12/05/2012 1001			Injection Volume:	2 uL

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Acenaphthene	0.044	U	0.016	0.22
Acenaphthylene	0.044	U	0.017	0.22
Anthracene	0.044	U	0.017	0.22
Benzo[a]anthracene	0.044	U	0.016	0.22
Benzo[a]pyrene	0.044	U	0.015	0.22
Benzo[b]fluoranthene	0.044	U J	0.017	0.22
Benzo[g,h,i]perylene	0.044	U	0.017	0.22
Benzo[k]fluoranthene	0.11	U	0.061	0.22
Dibenz(a,h)anthracene	0.044	U J	0.017	0.22
Chrysene	0.044	U	0.016	0.22
Fluoranthene	0.044	U	0.018	0.22
Fluorene	0.056	U	0.024	0.22
Indeno[1,2,3-cd]pyrene	0.056	U J	0.022	0.22
Naphthalene	0.044	U	0.016	0.22
Phenanthrene	0.083	U	0.047	0.22
Pyrene	0.044	U	0.017	0.22
2-Methylnaphthalene	0.033	U	0.014	0.22
1-Methylnaphthalene	0.044	U J	0.015	0.22

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5 (Surr)	61		40 - 110
Terphenyl-d14 (Surr)	66		50 - 135
2-Fluorobiphenyl	56		50 - 110

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **MW-5-UNF**

Lab Sample ID: 180-16821-57 Date Sampled: 11/28/2012 1255
Client Matrix: Water Date Received: 11/30/2012 0930

8270C/DoD Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C/DoD	Analysis Batch:	180-57768	Instrument ID:	731
Prep Method:	3520C	Prep Batch:	180-57299	Lab File ID:	V1208010.D
Dilution:	1.0			Initial Weight/Volume:	870 mL
Analysis Date:	12/08/2012 1658			Final Weight/Volume:	1.0 mL
Prep Date:	12/05/2012 1001			Injection Volume:	2 uL

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Acenaphthene	0.046	U	0.017	0.23
Acenaphthylene	0.046	U	0.017	0.23
Anthracene	0.046	U	0.018	0.23
Benzo[a]anthracene	0.046	U	0.017	0.23
Benzo[a]pyrene	0.046	U	0.015	0.23
Benzo[b]fluoranthene	0.046	U J	0.018	0.23
Benzo[g,h,i]perylene	0.046	U	0.017	0.23
Benzo[k]fluoranthene	0.11	U	0.063	0.23
Dibenz(a,h)anthracene	0.046	U J	0.018	0.23
Chrysene	0.046	U	0.016	0.23
Fluoranthene	0.039	J	0.019	0.23
Fluorene	0.057	U	0.025	0.23
Indeno[1,2,3-cd]pyrene	0.057	U J	0.023	0.23
Naphthalene	0.046	U	0.016	0.23
Phenanthrene	0.086	U	0.049	0.23
Pyrene	0.032	J	0.018	0.23
2-Methylnaphthalene	0.034	U	0.014	0.23
1-Methylnaphthalene	0.046	U J	0.016	0.23

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5 (Surr)	66		40 - 110
Terphenyl-d14 (Surr)	72		50 - 135
2-Fluorobiphenyl	57		50 - 110

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Client Sample ID: **FD-01**

Lab Sample ID: 180-16821-58
Client Matrix: Water

Date Sampled: 11/28/2012 1255
Date Received: 11/30/2012 0930

8270C/DoD Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C/DoD	Analysis Batch:	180-57768	Instrument ID:	731
Prep Method:	3520C	Prep Batch:	180-57299	Lab File ID:	V1208013.D
Dilution:	1.0			Initial Weight/Volume:	810 mL
Analysis Date:	12/08/2012 1807			Final Weight/Volume:	1.0 mL
Prep Date:	12/05/2012 1001			Injection Volume:	2 uL

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Acenaphthene	0.049	U	0.018	0.25
Acenaphthylene	0.049	U	0.019	0.25
Anthracene	0.049	U	0.019	0.25
Benzo[a]anthracene	0.049	U	0.018	0.25
Benzo[a]pyrene	0.049	U	0.017	0.25
Benzo[b]fluoranthene	0.049	U J	0.019	0.25
Benzo[g,h,i]perylene	0.049	U	0.019	0.25
Benzo[k]fluoranthene	0.12	U	0.068	0.25
Dibenz(a,h)anthracene	0.049	U J	0.019	0.25
Chrysene	0.049	U	0.017	0.25
Fluoranthene	0.049	U	0.020	0.25
Fluorene	0.062	U	0.027	0.25
Indeno[1,2,3-cd]pyrene	0.062	U J	0.025	0.25
Naphthalene	0.049	U	0.017	0.25
Phenanthrene	0.093	U	0.053	0.25
Pyrene	0.049	U	0.019	0.25
2-Methylnaphthalene	0.037	U	0.015	0.25
1-Methylnaphthalene	0.049	U J	0.017	0.25

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5 (Surr)	62		40 - 110
Terphenyl-d14 (Surr)	71		50 - 135
2-Fluorobiphenyl	57		50 - 110

Client: WaterMark Environmental, Inc.

Job Number: 180-16821-1

Client Sample ID: **MW-5-FIL**

Lab Sample ID: 180-16821-59
Client Matrix: Water

Date Sampled: 11/28/2012 1330
Date Received: 11/30/2012 0930

8270C/DoD Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C/DoD	Analysis Batch:	180-57768	Instrument ID:	731
Prep Method:	3520C	Prep Batch:	180-57299	Lab File ID:	V1208014.D
Dilution:	1.0			Initial Weight/Volume:	820 mL
Analysis Date:	12/08/2012 1830			Final Weight/Volume:	1.0 mL
Prep Date:	12/05/2012 1001			Injection Volume:	2 uL

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Acenaphthene	0.049	U	0.018	0.24
Acenaphthylene	0.049	U	0.019	0.24
Anthracene	0.049	U	0.019	0.24
Benzo[a]anthracene	0.049	U	0.018	0.24
Benzo[a]pyrene	0.049	U	0.016	0.24
Benzo[b]fluoranthene	0.049	UJ	0.019	0.24
Benzo[g,h,i]perylene	0.049	U	0.018	0.24
Benzo[k]fluoranthene	0.12	U	0.067	0.24
Dibenz(a,h)anthracene	0.049	UJ	0.019	0.24
Chrysene	0.049	U	0.017	0.24
Fluoranthene	0.049	U	0.020	0.24
Fluorene	0.061	U	0.026	0.24
Indeno[1,2,3-cd]pyrene	0.061	UJ	0.024	0.24
Naphthalene	0.049	U	0.017	0.24
Phenanthrene	0.091	U	0.052	0.24
Pyrene	0.049	U	0.019	0.24
2-Methylnaphthalene	0.037	U	0.015	0.24
1-Methylnaphthalene	0.049	UJ	0.017	0.24

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5 (Surr)	68		40 - 110
Terphenyl-d14 (Surr)	69		50 - 135
2-Fluorobiphenyl	62		50 - 110

Data Validation Checklists

Site: FT. TOTTEN

Case #:

SDG #: 180-16821-1

Samples: **Soil** **Water**

	YES	NO	N/A
A.1.1 **Contract Compliance Screening Report** Present?	[ ]		✓
ACTION: If no, contact RSCC/PO.			
A.1.2 **Record of Communication (from RSCC)** Present?	[ ]		✓
ACTION: If no, request from the RSCC.			
A.1.3 **Sampling Trip Report** Present and complete?	[✓]		
ACTION: If no, contact RSCC/PO.			
A.1.4 **Chain of Custody/Sample Traffic Report** Present?	[✓]		
Legible?	[✓]		
Signature of sample custodian present?	[✓]		
ACTION: If no, contact RSCC/WAM/PO.			
A.1.5 **Cover Page** Present?	[✓]		
Is the Cover Page properly filled in and the verbatim signed by the lab manager or the manager's designee?	[✓]		
Do the sample identification numbers on the Cover Page agree with sample Identification numbers on:			
(a) Traffic Report Sheet?	[✓]		

	YES	NO	N/A
(b) Form I's?	[✓]	___	___
Is the number of samples on the Cover Page the same as the number of samples on the Traffic Report sheet and the Regional Record of Communication (ROC) for the data Case?	[✓]	___	___

ACTION:
If no for any of the above, prepare Telephone Record Log and contact RSCC/PO for re-submittal of the corrected Cover Page from the laboratory.

A.1.6 **SDG Narrative, DC-1 & DC-2 Form**

Is the SDG Narrative present?	[✓]	___	___
Is Sample Log-In Sheet(Form DC-1) present and complete?	[___]	___	✓
Is Complete SDG Inventory Sheet(Form DC-2) present and complete?	[___]	___	✓

ACTION:
If no, write in the Contract-Problems/ Non-Compliance Section of the Data Review Narrative.

A.1.7 **Form I to XV**

A.1.7.1 Are all the Form I through Form XV labeled with:

Laboratory Name?	[✓]	___	___
Laboratory Code?	[✓]	___	___
RAS/Non-RAS Case No.?	[___]	___	✓
SDG No.?	[✓]	___	___

	YES	NO	N/A
Contract No.?	[ ]		✓

ACTION:
If no for any of the above, note under Contract Problem/Non-Compliance Section of the "Data Review Narrative" and contact PO for corrected Form(s) from the laboratory.

A.1.7.2 After comparing values on Forms I-IX against the raw data, do any computation/ transcription errors exceed 10% of the reported values on the Forms for:

(a) all analytes analyzed by ICP-AES?		[ ]	✓
(b) all analytes analyzed by ICP-MS?		[ ]	✓
(c) Mercury?	✓	[ ]	7471
(d) Cyanide?		[ ]	

ACTION:
If yes, prepare Telephone Record Log and contact CLP PO/TOPO for the corrected data from the laboratory.

A.1.8 Raw Data

Data shall not be validated without the hard/electronic copies of the associated raw data for samples and QC samples.

A.1.8.1 Digestion/Distillation Log

Digestion Log for ICP-AES (Form XII)present?	[ ]		✓
Digestion Log for ICP-MS (Form XII) present?	[ ]		✓
Digestion Log for mercury (Form XII) present?	[✓]		
Distillation Log for cyanide (Form XII) present?	[ ]		✓

Are pH values for metals and

	YES	NO	N/A
cyanide reported for each aqueous sample?	[ ]	_	✓
Are percent solids calculations present for soils/sediments?	[✓]	___	___
Are preparation dates present on the sample preparation logs/bench sheets?	[✓]	_	_

NOTE:
Digestion/Distillation log must include weights, volumes, and dilutions used to obtain the reported results.

A.1.8.2 Is the analytical instrument real-time printouts present for:

ICP-AES?	[ ]	_	✓
ICP-MS?	[ ]	___	✓
Mercury?	[✓]	_	_
Cyanide?	[ ]	___	✓

Are all laboratory bench sheets and instrument raw data printouts necessary to support all sample analyses and QC operations:

Legible?	[✓]	_	_
Properly labeled?	[✓]	_	_

Are all field samples, QC samples and field QC samples present on:

Digestion/Distillation log?	[✓]	___	___
Instrument Printouts?	[✓]	_	_

ACTION:
If no for any of the above questions in Section A.1.8.1 and Section A.1.8.2, write Telephone Record Log and contact TOPO/PO for re-submittal from the laboratory.

		YES	NO	N/A
A.1.9	**Technical Holding Times**: (Aqueous and soil samples) (Examine sample Traffic Reports and digestion/distillation logs to determine the holding time from the sample collection date to the sample preparation date.)			
A.1.9.1	Cyanide distillation(14 days)exceeded?	_	[ ]	✓
	Mercury analysis(28 days) exceeded?	_	[✓]	_
	Other Metals analysis(180 days)exceeded? ___	___	[ ]	✓

ACTION:
If yes, reject (R) and red-line non-detects and flag as estimated (J)results ≥ MDL even if sample(s) was preserved properly.

NOTE:
In addition to qualifying the data, a list of all samples and analytes which exceeded the holding times must be prepared. Report for each sample the number of days that were exceeded. (Subtract the sample collection date from the sample preparation date). Attach this list to the data review narrative.

A.1.9.2	Is pH of aqueous samples for:			
	Metals Analysis ≤ 2?	[ ]	___	✓
	Cyanide Analysis ≥ 12?	[ ]	_	✓

ACTION:
If no for any of the above, flag non-detects as "R" and detects as "J".

A.1.9.3	Is the cooler temperature ≤ 10 C°?	[✓]	_	_

ACTION:
If cooler temperature is >10 °C , flag non-detects as "UJ" and detects as "J".

A.1.10 **Final Data Correctness - Form I**

A.1.10.1 Are Form I's for all samples

	YES	NO	N/A
present and complete?	[✓]	___	___

ACTION:
If no, prepare Telephone Record Log and contact CLP PO/TOPO for submittal from the laboratory.

A.1.10.2 Verify there are no calculation and transcription errors in the results reported on Form I's. Circle on each Form I all results that are incorrect.

Is the calculation error less than 10% of the correct result?	[✓]	_	_
Are results on Form I's reported in correct units (ug/L for aqueous and MG/KG for soils)?	[✓]	___	___
Are results on Form I'S reported by correct significant figures?	[✓]	___	___
Are soil sample results on Form I's corrected for percent solids?	[✓]	___	___
Are all "less than MDL" values reported by the CRQLs and coded with "U"?	[✓]	___	___
Are values less than the CRQLs but greater than or equal to the MDLs flagged with "J"?	[✓]	___	___
Are appropriate contractual quality control and Method qualifiers used?	[✓]	___	___

ACTION:
If no for any of the above questions, prepare Telephone Record Log, and contact CLP PO/TOPO for corrected data.

A.1.10.3 Do EPA sample identification numbers and the corresponding laboratory sample identification numbers match on the Cover Page, Form I's and in the raw data? ID's MATCH [✓] ___ ___

Was a brief physical description

	YES	NO	N/A
of the samples before and after digestion given on the Form I's?	[___]	___	✓
Was any sample result outside the mercury/cyanide calibration range or the ICP-AES/ICP-MS linear range diluted and noted on the Form I?	[___]	___	✓

ACTION:
If no for any of the above, note under the Contract-Problem/Non-Compliance Section of the Data Review Narrative.

A.1.11 **Initial Calibration**

	YES	NO	N/A
A.1.11.1 Is a record of at least 2 point (A blank and a standard)calibration present for ICP-AES analysis?	[___]	___	✓
Is a record of at least 2 point (a blank and a standard)calibration present for ICP-MS analysis?	[___]	___	✓
Is a record of at least 5 point calibration (a blank & 4 standards)present for Hg analysis?	[✓]	___	___
Is a record of at least 4 point calibration (a blank & 4 standards)present for cyanide?	[___]	___	✓

ACTION:
If incomplete or no initial calibration was performed, reject (R) and red-line the associated data (detects & non-detects).

Is one initial calibration standard at the CRQL level for cyanide and mercury?	[✓]	___	___

ACTION:
If no, write in the Contract Problem/ Non-Compliance Section of the Data Review Narrative.

A.1.11.2 Is the curve correlation coefficient $\geq$ 0.995 for:

	YES	NO	N/A
Mercury Analysis?	[✓]	___	___
Cyanide Analysis?	[___]	___	✓
ICP-AES (more than 2 point Calib.)?	[___]	___	✓
ICP-MS (more than 2 point calib.)?	[___]	___	✓

ACTION:
If no, qualify the associated sample results ≥ MDL as estimated "J" and non-detects as "UJ".

NOTE:
The correlation coefficient shall be calculated by the data validator using standard concentrations and the corresponding instrument response (e.g. absorbance, peak area, peak height, etc.).

A.1.12 Initial and Continuing Calibration Verification- Form IIA

A.1.12.1	Present and complete for every metal and cyanide?	[✓]	___	___
	Present and complete for ICP-AES and ICP-MS when both these methods were used for the same analyte?	[___]	___	✓

ACTION:
If no for any of the above, prepare a Telephone Record Log and contact PO/TOPO for re-submittal from the laboratory.

A.1.12.2	Was a Continuing Calibration Verification performed every 10 samples or every 2 hours whichever is more frequent?	[✓]	___	___

ACTION:
If no for any of the above, write in the Contract-Problem/Non-Compliance Section of the Data Review Narrative.

A.1.12.3	Was an ICV or a mid-range standard distilled and analyzed with each batch of cyanide samples?	[___]	___	✓

	YES	NO	N/A

ACTION:
If no for any of the above, write in the Contract-Problem/Non-Compliance Section of the Data Review Narrative and qualify results ≥ MDL as estimated (J).

A.1.12.2 Circle on each Form IIA all percent recoveries that are outside the contract windows.

Are ICV/CCVs within control limits for:

Metals - 90-110%R?	[ ]	___	✓
Hg - 80-120%R?	[✓]	___	___
Cyanide - 85-115%R?	[ ]	___	✓

ACTION:
If no, qualify all samples between a previous technically acceptable CCV standard and a subsequent technically acceptable CCV standard as follows as follows:

Qualify as estimated (J) all detects and non-detects, if the ICV/CCV %R is between 75-89%(65-79% for Hg; 70-84% for CN). Qualify only positive results(≥ MDL) as "J" if the ICV/CCV %R is between 111-125%(121-135% for Hg;116-130% for CN). Reject (R) and red-line only
detects if the recovery is greater than 125% (135% for Hg; 130% for CN). Reject (R) and red-line all associated results (hits and non-detects)if the recovery is less than 75%(65% for Hg;70% for CN).

NOTE:
For ICV that does not fall within the acceptance limits, qualify all samples reported from the analytical run.

A.1.12.3 Was the distilled ICV or mid-range standard for cyanide within acceptance limits (85-115%)? [ ] ___ ✓

ACTION:
If no, Qualify all cyanide results ≥ MDL as "J".

A.1.13 **CRQL Standard Analysis - Form IIB**

A.1.13.1 For each ICP-AES run, was a CRI

	YES	NO	N/A
(CRQL or MDL when MDL > CRQL) standard analyzed? (Note:CRI is not required for Al, Ba, Ca, Fe, Mg, Na and K.)	[ ]		✓
For each ICP-MS run, was a CRI (CRQL or MDL when MDL > CRQL) standard analyzed for each mass/isotope used for the analysis?	[ ]		✓
For each mercury run, was a CRQL standard analyzed?	[✓]		
For each cyanide run, was a CRQL standard analyzed?	[ ]		✓

ACTION:
If no for any of the above, write this deficiency in the Contract Problems/ Non-Compliance Section of the Data Review Narrative, inform CLP PO and flag results in the affected ranges (detects <2xCRQL)as J and non-detects UJ.

The affected ranges are:
ICP-AES Analysis - *True Value ± CRQL
ICP-MS Analysis - *True Value ± CRQL
Mercury Analysis - *True Value ± CRQL
Cyanide Analysis - *True Value ± CRQL
* True value of the CRQL Standard

A.1.13.2 Was a CRQL standard analyzed after the ICV/ICB, before the final CCV/CCB and once every 20 analytical samples in the analytical run for each analysis? AS APPLICABLE [✓] ___ ___

ACTION:
If no, write in the Contract Problem/ Non-Compliance Section of the "Data Review Narrative".

A.1.13.3 Circle on each Form IIB all percent recoveries that are outside the acceptance windows.

	YES	NO	N/A
Is the CRQL standard within control limits for:			
Metals(ICP-AES/ICP-MS)- 70 - 130%?	[ ]		✓
Mercury- 70 - 130%?	[✓]		
Cyanide - 70 - 130%?	[ ]		✓

ACTION:
If no, flag detects <2xCRQL as "J" and non-detects as "UJ" if the CRQL standard recovery is between 50-69%. Flag(J) only detects <2xCRQL if the recovery is between 131% and ≤180%. If the recovery is less than 150%, reject(R) and red-line non-detects and detects < 2xCRQL, and flag (J) detects between 2xCRQL and ICV/CCV. Reject and red-line only detects <2xCRQL and flag (J)detects ≥ 2xCRQL but < ICV/CCV if the recovery is > 180%.

NOTE:
1. Qualify all field samples analyzed between a previous technically acceptable analysis of the CRQL standard and a subsequent acceptable analysis of the CRQL standard
2. Flag (J) or reject (R) only the final sample results on Form I's when Sample raw data are within the affected ranges and the CRQL standard is outside the acceptance windows.
3. The samples and the CRQL standard must be analyzed in the same analytical run.

A.1.14 Initial and Continuing Calibration Blanks - Form III

A.1.14.1	Present and complete for all the instruments used for the metals and cyanide analyses?	[✓]		
	Was an initial Calibration Blank analyzed after ICV?	[✓]		
	Was a continuing Calibration Blank analyzed after every CCV and every 10 samples or every 2 hours, whichever is more frequent?	[✓]		
	Were the ICB & CCB values ≥ MDL but < CRQL reported on Form III and flagged "J" by			

		YES	NO	N/A
	using MDLs from direct analysis(Preparation Method "NP1")? (Check Form III against the raw data)	[✓]	___	___

ACTION:
If no, inform CLP PO/TOPO and make a note in the Contract-Problems/Non-Compliance Section of the "Data Review Narrative".

A.1.14.2 Circle with red pencil on each Form III all Calib. Blank values that are:

≥ MDL but ≤ CRQL

> CRQL

A.1.14.2.1	When MDL < CRQL, is any Calib. Blank value ≥ MDL but ≤ CRQL?	✓	[___]	___

ONE CCB HAS LOW Hg DETECTION 0.051 µg/L x 5 = .255. COMPARED TO RAW SOIL RESULTS. ALL SAMPLES > ACTION LIMIT — NO QUALS

ACTION:
If yes, change sample results ≥ MDL but ≤ CRQL to the CRQL with a "U". Do not qualify non-detects.

A.1.14.2.2	When MDL < CRQL, is any Calib. Blank value > CRQL?	___	[✓]	___

ACTION:
If yes, reject (R) and red line the associated sample results > CRQL but <ICB/CCB Blank Result. Flag as "J" detects > ICB/CCB blank value but < 10xICB/CCB value. Change the sample results ≥ MDL but ≤ the CRQL to CRQL with a "U".

A.1.14.2.3	Is any Calibration Blank value below the negative CRQL?	___	[✓]	___

ACTION:
If yes, flag (J) as estimated all associated sample results ≥ CRQL but <10xCRQL.

NOTE:
1. For ICB that does not meet the technical QC Criteria, apply the action to all samples

	YES	NO	N/A

reported from the analytical run.
2. For CCBs that do not meet the technical QC criteria, apply the action to all samples analyzed between a previous technically acceptable analysis of CCB and a subsequent technically acceptable analysis of the CCB in the analytical run.,

A.1.15 **Preparation Blank - FORM III**

NOTE: The Preparation Blank for mercury is the same as the calibration blank.

A.1.15.1 Was one Preparation Blank prepared with and analyzed for:

Each Sample Delivery Group (SDG)?	[✓]	___	___
Each batch of the SDG samples digested/distilled?	[✓]	___	___
Each matrix type?	[✓]	___	___
All instruments used for metals and cyanide analyses?	[✓]	___	___

ACTION:
If no for any of the above, flag as estimated (J) all the associated positive data <10xMDL for which the Preparation Blank was not analyzed.

NOTE:
If only one blank was analyzed for more than 20 samples, then the first 20 samples analyzed are not estimated(J),but all additional samples must be qualified (J).

A.1.15.2 Circle with red pencil on each Form III all Prep. Blank values that are:

≥ MDL but ≤ CRQL, and

> CRQL

A.1.15.2.1 When MDL < CRQL, is any preparation blank value ≥ MDL but ≤ CRQL?	___	[___]	✓

ACTION:
If yes, change sample result ≥ MDL

		YES	NO	N/A
	but ≤ CRQL to CRQL with a "U".			
A.1.15.2.2	When the MDL ≤ CRQL, is any Preparation Blank value greater than its CRQL?	___	[___]	✓
	If yes, is the Prep. Blank value greater than the value of the associated Field Blank collected and analyzed with the SDG samples?	___	[___]	✓
	If yes, is the lowest concentration of that analyte in the associated samples less than 10 times the Preparation Blank value?	___	[___]	✓

ACTION:
If yes, reject (R) and red-line all associated sample results greater than the CRQL but less than the Prep.Blank value. Flag as "J" detects > Prep. Blank value but <10xPrep.Blank. If the sample result ≥ MDL but ≤ CRQL, replace it with CRQL-U.

If the Prep. Blank value is less than the same analyte value in the Field Blank, do not qualify the sample results due to the Prep. Blank criteria.

NOTE:
Convert soil sample result to mg/Kg on wet weight basis to compare with the soil Prep. Blank result on Form III.

A.1.15.2.3	Is the Prep. Blank concentration below the negative CRQL?	___	[___]	✓

ACTION:
If yes, flag (J) all associated sample results less than 10xCRQL. Qualify non-detects as estimated (UJ).

A.1.15.2.4	When the MDL is greater than the CRQL, is the preparation blank concentration on Form III greater than two times the MDL?	___	[___]	✓

ACTION:

		YES	NO	N/A
	If yes, reject (R) and red-line all positive sample results with sample raw data less than 10 times the Preparation Blank value.			
A.1.16	ICP-AES/ICP-MS Interference Check Sample (ICS) - Form IV NOTE: Not required for CN, Hg, Al, Ca, Fe and Mg.			
A.1.16.1	Present and complete?	[___]	___	___ ✓
	Was ICS analyzed at the beginning and end of each analytical run, and once for every 20 analytical samples?	[___]	___	___ ✓
	Was ICS analyzed at the beginning of the ICP-MS analytical run?	[___]	___	___ ✓
	ACTION: If no, flag as estimated (J) all sample results.			
A.1.16.2	ICP-AES Method			
A.1.16.2.1	ICSA Solution: For ICP-AES, are the ICSA "Found" analyte values within the control limits ± of CRQL of the true/established mean value?	[___]	___	___ ✓
	If no for any of the above, is the sample concentration of Al, Ca, Fe, or Mg in the same units (ug/L or MG/KG) greater than or equal to its respective concentration in the ICSA Solution on Form IV?	[___]	___	___ ✓
	ACTION: If yes, apply the following action to all samples analyzed between a previous technically acceptable analysis of the ICS and a subsequent technically acceptable analysis of the ICS in the analytical run: Flag (J) as estimated only sample results ≥MDL			

		YES	NO	N/A
	for which the ICSA "Found" value is greater than (True value+CRQL). Do not qualify non-detects. If the ICSA "Found" value is less than (True value-CRQL), flag non-detects as "UJ" and detects as "J".			
A.1.16.2.3	**ICSAB Solution** For ICP-AES, are all analyte results in ICSAB within the control limits of 80-120 of the true/established mean value?	[___]	___	___ ✓
	If no for any of the above, is the sample concentration of Al, Ca, Fe, or Mg in the same units (ug/L or MG/KG) greater than or equal to its respective concentration in the ICSAB Solution on Form IV?	[___]	___	___ ✓
	ACTION: If yes, apply the following action to all samples analyzed between a previous technically acceptable analysis of the ICS and a subsequent technically acceptable analysis of the ICS in the analytical run: Flag (J) as estimated those associated sample results ≥ MDL for which the ICSAB analyte recovery is greater than 120% but ≤ 150%. If the ICSAB recovery falls within 50-79%, qualify sample results ≥ MDL as "J" and non-detects as "UJ". Reject (R) and red-line all sample results (detects & non-detects) for which the ICSAB analyte recovery is less than 50%. If the recovery is above 150%, reject (R) and red-line only positive results.			
A.1.16.3	ICP-MS Method			
A.1.16.3.1	**ICSA Solution:** For ICP-MS, are the ICSA "Found" analyte values within the control limits of ±CRQL of the true/established mean value?	[___]	___	___ ✓
	ACTION: If no, apply the following action to all samples reported from the analytical run: Flag (J) as estimated only sample results ≥ MDL if the ICSA "Found" value is greater than (True value+CRQL). Do not qualify non-detects. If the ICSA "Found" value is less than (True value-CRQL), flag the associated sample detects as "J" and non-detects as "UJ".			

		YES	NO	N/A
A.1.16.3.3	ICSAB Solution For ICP-MS, are all analyte results in ICSAB within the control limits of 80-120% of the true/established mean value, whichever is greater?	[ ]		✓

ACTION:
If no, apply the following action to all samples reported from the analytical run:

Flag (J) as estimated those associated sample results ≥ MDL for which the ICSAB analyte recovery is greater than 120% but ≤ 150%. If the ICSAB recovery falls within 50-79% flag (J) as estimated the associated sample results ≥ MDL. Reject (R) and red-line those all sample detects and non-detects for which the ICSAB analyte recovery is less than 50%. If the recovery is above 150%, reject (R) and red-line only detects (≥ MDL).

A.1.17 Spiked Sample Recovery: Pre-Digestion/Pre-Distillation)-Form V A
Note: Not required for Ca, Mg, K, and Na (both matrices); Al and Fe (soil only)

A.1.17.1 Was Matrix Spike analysis performed:

For each matrix type?	[✓]		
For each SDG?	[✓]		
On one of the SDG samples?	[✓]		
For each concentration range (i.e., low, med., high)?	[·]		✓
For each analytical Method (ICP-AES, ICP-MS, Hg, CN) used?	[✓]		
Was a spiked sample prepared and analyzed with the SDG samples?	[✓]		

ACTION:
If no for any of the above, flag as estimated (J) all the positive data for which a spiked sample was not analyzed.

NOTE:
If more than one spiked sample were analyzed for one SDG, then qualify the associated data based on the worst spiked sample analysis.

		YES	NO	N/A
A.1.17.2	Was a field blank or PE sample used for the spiked sample analysis? ACTION: If yes, flag (J) as estimated positive data of the associated SDG samples for which field blank or PE sample was used for the spiked sample analysis.	___	[___]	✓
A.1.17.3	Circle on each Form VA all spike recoveries that are outside the control limits (75-125%) that have sample concentrations less than four times the added spike concentrations. Are all recoveries within the control limits when sample concentrations are less than or equal to four times the spike concentrations? NOTE: Disregard the out of control spike recoveries for analytes whose concentrations are greater than or equal to four times the spike added.	[___]	✓	___
	Are results outside the control limits (75-125%) flagged with Lab Qualifier "N" on Form I's and Form VA? ACTION: If no for any of the above, write in the Contract - Problems/Non-Compliance Section of the Data Review Narrative.	[___]	✓ A13-208(6-11') 73/58 % A13-207(6-12") 176/172 %	✓
A.1.17.4	Aqueous Are any spike recoveries:			
	(a) less than 30%?	___	[___]	✓
	(b) between 30-74%?	___	[___]	✓
	(c) between 126-150%?	___	[___]	✓
	(d) greater than 150%?	___	[___]	✓
	ACTION: If the matrix spike recovery is less than 30%, reject (R) and red-line all associated aqueous data (detects & non-detects). If between 30-74%, qualify all associated aqueous data ≥ MDL as "J" and non-detects			

		YES	NO	N/A
	as "UJ". If between 126-150%, flag (J) all data ≥ MDL as "J". If greater than 150%, reject (R) and red-line all associated data ≥ MDL.			
	(NOTE:Replace "N" with "J", "R" as appropriate.)			
A.1.17.5	Soil/Sediment			
	Are any spike recoveries:			
	(a) less than 10%?	___	[✓]	___
	(b) between 10-74%?	✓	[___]	___
	(c) between 126-200%?	✓	[___]	___
	(d) greater than 200%?	___	[✓]	___
	ACTION: If yes for any of the above, proceed as follows:			
	If the matrix spike recovery is less than 10%, reject (R) and red-line all associated data (detects & non-detects); if between 10-74%, qualify all associated data ≥ MDL as "J" and non-detects as "UJ"; if between 126-200%, flag (J) all associated data ≥ MDL as "J" If greater than 200%, reject (R) and red-line all associated data ≥ MDL. (NOTE:Replace "N" with "J" or "R" as appropriate.)			
A.1.18	Lab Duplicates) - Form VI			
A.1.18.1	Was the lab duplicate analysis performed:			
	For each SDG?	[___]	___	✓
	On one of the SDG samples?	[___]	___	✓
	For each matrix type?	[___]	___	✓
	For each concentration range (low or med.)?	[___]	___	✓
	For each analytical Method (ICP-AES/ICP-MS, Hg, CN) Used?	[___]	___	✓
	Was a lab duplicate prepared and analyzed with the SDG samples?	[___]	___	✓

ALL RESULTS J QUALIFIED FOR MS/MSD

		YES	NO	N/A
	ACTION: If no for any of the above, flag (J) as estimated all the SDG sample results (detects & non-detects) for which the lab duplicate analysis was not performed.			
	NOTE: If more than one lab duplicate sample were analyzed for an SDG, then qualify the associated samples based on the worst lab duplicate analysis.			
A.1.18.2	Was a Field Blank or PE sample used for the Lab Duplicate analysis?	___	[___]	✓
	ACTION: If yes, flag as estimated (J) all SDG sample results (hits & non-detects) for which Field Blank or PE sample was used for duplicate analysis.			
A.1.18.3	Circle on each Form VI all values that are:			
	RPD > 20%, or			
	Absolute Difference > CRQL			
	Are all values within control limits (RPD ≤ 20% or absolute difference ≤ ±CRQL)?	[___]	___	✓
	If no, are all results outside the control limits flagged with an "*" (Lab Qualifier) on Form VI and on all Form I's?	[___]	___	✓
	ACTION: If no, write in the Contract-Problems/ Non-Compliance Section of the Data Review Narrative.			
	NOTE: The laboratory is not required to report on Form VI the RPD when both values are non-detects.			
A.1.18.4	Aqueous			
A.1.18.4.1	When sample and duplicate values are both ≥ 5xCRQL (substitute MDL for CRQL when MDL > CRQL),			

	YES	NO	N/A
is any RPD > 20% but < 100%?	___	[___]	✓
is any RPD ≥ 100%?	___	[___]	✓

ACTION:
If the RPD is > 20% but < 100%, flag (J) as estimated the associated sample data ≥ CRQL. If the RPD is ≥ 100%, reject (R) and red-line the associated sample data ≥ CRQL.

(NOTE:Replace "*" with "J" or "R" as appropriate.)

A.1.18.4.2 When the sample and/or duplicate value <5xCRQL (substitute MDL for CRQL when MDL >CRQL), is the absolute difference between sample and duplicate values:

> ± CRQL?	___	[___]	✓
> ± 2xCRQL?	___	[___]	✓

ACTION:
If the absolute difference is > CRQL, flag as estimated all the associated sample results ≥ MDL but < 5xCRQL as "J" and non-detects as "UJ". If the absolute difference is > 2xCRQL, reject (R) and red-line all the associated non-detects and detects ≥ MDL but < 5xCRQL.

NOTE:
1. Replace "*" with "J", "UJ" or "R" as appropriate.)
2. If one value is >CRQL and the other value is non-detect, calculate the absolute difference between the value > CRQL and the MDL, and use this difference to qualify sample results.

A.1.18.5 Soil/Sediment

A.1.18.5.1 When sample and duplicate values are both ≥ 5xCRQL (substitute MDL for CRQL when MDL > CRQL),

is any RPD ≥ 35% but < 120%?	___	[___]	✓
is any RPD ≥ 120%?	___	[___]	✓

ACTION:
If the RPD is ≥ 35% and < 120%, flag (J) as estimated the associated sample

		YES	NO	N/A
	data ≥ CRQL. If the RPD is ≥ 120%, reject (R)and red-line the associated sample data ≥ CRQL.			
A.1.18.5.2	When the sample and/or duplicate value <5xCRQL(substitute MDL for CRQL when MDL > CRQL), is the absolute difference between sample and duplicate:			
	> ± 2 x CRQL?	___	[___]	✓
	> ± 4 x CRQL	___	[___]	✓

ACTION:
If the absolute difference is > 2 x CRQL, flag all the associated sample results ≥ MDL but < 5xCRQL as "J" and non-detects as "UJ". If the absolute difference is > 4xCRQL, reject (R) and red-line all the associated non-detects and detects ≥ MDL but <5xCRQL.

NOTE:
1. Replace "*" with "J", "UJ" or "R" as appropriate.)
2. If one value is >CRQL and the other value is non-detect, calculate the absolute difference between the value > CRQL and the MDL, and use this difference to qualify sample results.

A.1.19 Field Duplicates

Aqueous Field Duplicates

		YES	NO	N/A
A.1.19.1	Was an aqueous Field Duplicate pair collected and analyzed? (Check Sampling Trip Report)	[___]	___	✓

ACTION:
If yes, prepare a Form (Appendix A.4) for each aqueous Field Duplicate pair. Report the sample and Field Duplicate results on Appendix A.4 from their respective Form I's. Calculate and report RPD on Appendix A.4 when sample and its Field Duplicate values are both > 5xCRQL. Calculate and report the absolute difference on Appendix A.4 when at least one value (sample or duplicate) is <5xCRQL. Evaluate the aqueous Field Duplicate analysis in accordance with the

		YES	NO	N/A
	QC criteria stated in Sections A.1.19.2 and A.1.19.3.			

NOTE:
1. Do not transfer "*" from Form I's to Appendix A.4.
2. Do not calculate RPD when both values are non-detects.
3. Substitute MDL for CRQL when MDL > CRQL.
4. If one value is >CRQL and the other value is non-detect, calculate the absolute difference between the value > CRQL and the MDL, and use this the criteria to qualify the results.

A.1.19.2 Circle all values on the Form (Appendix A.4) for Field Duplicates that have:

RPD ≥ 20% or

Difference > ± CRQL

When sample and duplicate values are both ≥5xCRQL (substitute MDL for CRQL when MDL > CRQL),

	YES	NO	N/A
is any RPD ≥ 20%?	___	[___]	✓
is any RPD ≥ 100%?	___	[___]	✓

ACTION:
If the RPD is >20% but < 100%, flag (J) only the associated sample and its Field Duplicate results ≥ CRQL. If the RPD is ≥ 100%, reject(R) and red-line only the associated sample and its Field Duplicate result ≥ CRQL.

A.1.19.3 When the sample and/or duplicate value(s) <5xCRQL (substitute MDL for CRQL when MDL >CRQL), is the absolute difference between sample and duplicate:

	YES	NO	N/A
> ± CRQL?	___	[___]	✓
> ± 2 x CRQL?	___	[___]	✓

ACTION:
If the absolute difference is > CRQL, flag detects ≥ MDL but < 5xCRQL as "J" and non-detects as "UJ". If the difference is > 2xCRQL, reject (R) and red-line non-detects

		YES	NO	N/A
	and results ≥ MDL but <5xCRQL of the sample and its Field Duplicate.			
	Soil/Sediment Field Duplicates			
A.1.19.4	Was a soil field duplicate pair collected and analyzed? (Check Sampling Trip Report)	[✓]	___	___

ACTION:
If yes, for each soil Field Duplicate pair proceed as follows:

Prepare Appendix A.4 for each Field Duplicate pair. Report on Appendix A.4 all sample and its Field Duplicate results in MG/KG from their respective Form I's. Calculate and report RPD when sample and its duplicate values are both greater than 5xCRQL. Calculate and report the absolute difference when at least one value (sample or duplicate)is < 5xCRQL. Evaluate the Field Duplicate analysis in accordance with the QC Criteria stated in Sections A.1.19.5 and A.1.19.6.

NOTE:
1. Do not transfer "*" from Form I's to Appendix A.4.
2. Do not calculate RPD when both values are non-detects.
3. Substitute MDL for CRQL when MDL > CRQL.
4. If one value is >CRQL and the other value is non-detect, calculate the absolute difference between the value > CRQL and the MDL, and apply the criteria to qualify the results.

A.1.19.5	Circle on each Appendix A.4 all values that have:			
	RPD ≥ 35%, or Difference > ± 2xCRQL When sample and duplicate values are both ≥ 5xCRQL (substitute MDL for CRQL when MDL > CRQL),			
	is any RPD ≥ 35% but < 120%?	___	[✓]	___
	is any RPD ≥ 120%?	___	[___]	___

ACTION:
If the RPD is ≥ 35% but < 120%,

		YES	NO	N/A
	flag only the associated sample and its Field Duplicate results ≥ CRQL as "J". If the RPD is ≥ 120%, reject (R) and red-line only the sample and its Field Duplicate results ≥ CRQL.			
A.1.19.6	When the sample and/or duplicate value(s) <5xCRQL (substitute MDL for CRQL when MDL > CRQL), is the absolute difference between sample and Field Duplicate:			
	> ± 2 x CRQL?	___	[✓]	___
	> ± 4 x CRQL?	___	[✓]	___
	ACTION: If the absolute difference is > 2xCRQL, flag Sample and its Field Duplicate resuts ≥ MDL but <5xCRQL as "J" and non-detects as "UJ". If the difference is >4xCRQL, reject(R) and red-line non-detects and detects ≥ MDL but <5xCRQL of the sample and its Field Duplicate.			
A.1.20	Laboratory Control Sample (LCS)- Form VII			
A.1.20.1	Was one LCS prepared and analyzed for:			
	Each SDG?	[✓]	___	___
	Each matrix type?	[✓]	___	___
	Each batch samples digested/distilled?	[✓]	___	___
	For each Method(ICP-AES,ICP-MS,Hg,CN) used?	[___]	___	___
	Was an LCS prepared and analyzed with the samples?	[✓]	___	___
	ACTION: If no for any of the above, prepare Telephone Record Log and contact CLP PO or TOPO for submittal of the LCS results. Flag (J) as estimated all the data for which an LCS was not analyzed.			
	NOTE: If only one LCS was analyzed for			

	YES	NO	N/A

more than 20 samples, then the first 20 samples analyzed are not flagged(J), but all additional samples must be qualified (J).

A.1.20.2 Aqueous LCS

Circle on each Form VII the LCS percent recoveries outside control limits 80-120%.

NOTE: 1.Use digested ICV as LCS for aqueous mercury
2.Use distilled ICV as LCS for aqueous cyanide

Is any LCS recovery:

Less than 50%?	___	[___]	___
Between 50% and 79%?	___	[___]	___
Between 121% and 150%?	___	[___]	___
Greater than 150%?	___	[___]	___

ACTION:
If the LCS recovery is less than 50%, reject (R) and red-line all associated sample data (detects & non-detects); for a recovery between 50-79%, flag detects as "J" all non-detects as "UJ". if the LCS recovery is between 121-150%, flag only detects as "J". if the recovery is greater than 150%, reject (R) and red-line all detects.

A.1.20.3 Solid LCS

If an analyte's MDL is equal to or greater than the true value of LCS, disregard the "Action" below for that analyte even though the LCS is out of control limits.

Is the LCS "Found" value greater than the Upper Control Limit reported on Form VII?	___	[✓]	___

ACTION:

		YES	NO	N/A
	If yes, flag (J) all the associated detects ≥ MDL as estimated (J).			
	Is the LCS "Found" value lower than the Lower Control Limit reported on Form VII?	___	[✓]	___
	ACTION: If yes, flag detects as "J" and non-dectes as "UJ".			
A.1.21	ICP-AES/ICP-MS Serial Dilution - Form VIII NOTE: Serial dilution analysis is required only when the initial concentration is equal to or greater than 50 x MDL.			
A.1.21.1	Was a Serial Dilution analysis performed:			
	For each SDG?	[___]	___	✓
	On one of the SDG samples?	[___]	___	✓
	For each matrix type?	[___]	___	✓
	For each concentration range (low or med.)?	[___]	___	✓
	Was a Serial Dilution sample analyzed with the SDG samples?	[___]	___	✓
	ACTION: If no for any of the above, flag as estimated (J) detects ≥ MDL of all the SDG samples for which the ICP Serial Dilution Analysis was not performed.			
A.1.21.2	Was a Field Blank or PE sample used for the Serial Dilution Analysis?	___	[___]	✓
	ACTION: If yes, flag as estimated (J) detects ≥ MDL of all the SDG samples			
A.1.21.3	Circle on Form VIII the Percent Differences (%D) between sample results and its dilution results that are outside the control limits ± 10%			

		YES	NO	N/A
	when initial concentrations ≥ 50 x MDLs.			
	Are results outside the control limits flagged with an "E"(Lab Qualifier) on Form VIII and all Form I's?	[___]	___	✓
	ACTION: If no, write in the Contract-Problem/ Non-Compliance Section of the Data Review Narrative.			
A.1.21.4	Are any %D values:			
	> 10%?	___	[___]	✓
	≥ 100%?	___	[___]	✓
	ACTION: If the Percent Difference (%D) is greater than 10%, flag (J) as estimated all associated samples whose raw data ≥ MDL; if the %D is ≥ 100%, reject (R) and red-line all associated samples with raw data ≥ MDL.			
	(NOTE:Replace "E" with "J" or "R" as appropriate.)			
A.1.22	Total/Dissolved or Inorganic/Total Analytes			
A.1.22.1	Were any analyses performed for dissolved as well as total analytes on the same sample(s)?	___	[___]	✓
	Were any analyses performed for inorganic as well as total analytes on the same sample(s)?	___	[___]	✓
	ACTION: If yes, prepare a Form (Appendix A.5) to compare the differences between dissolved (or inorganic)and total analyte concentrations. Compute each difference on Appendix A.5 as a percent of the total analyte only when both of the following conditions are fulfilled:			
	(1) The dissolved(or inorganic)concentration is greater than total concentration, and (2) greater than or equal to 5xMDL.			
A.1.22.2	Is any dissolved (or inorganic) concentration greater than its total concentration by more than 20%?	___	[___]	✓

		YES	NO	N/A
A.1.22.3	Is any dissolved(or inorganic) concentration greater than its total concentration by more than 50%?	___	[___]	✓

ACTION:
If the percent difference is greater than 20%, flag (J) both dissolved/inorganic and total concentrations as estimated. If the difference is more than 50%, reject (R) and red-line both the values.

A.1.23 Field Blank - Form I
NOTE: Designate "Field Blank" as such on Form I

A.1.23.1	Was a Field/Rinsate Bank collected and analyzed with the SDG samples?	[___]	___	✓
	If yes, is any Field/Rinsate Blank absolute value of an analyte on Form I greater than its CRQL(or 2xMDL when MDL>CRQL)?	___	[___]	✓
	If yes, circle the Field Blank value on Form I that is greater than the CRQL, (or 2 x MDL when MDL > CRQL).			
	Is any Field Blank value greater than CRQL also greater than the Preparation Blank value?	___	[___]	✓
	If yes, is the Field Blank value (> CRQL and > the prep. blank value) already rejected due to other QC criteria?	[___]	___	✓

ACTION:
If the Field Blank value was not rejected, reject all associated sample data (except the Field Blank results)greater than the CRQL but less than the Field Blank value. Reject on Form I's the soil sample results whose raw values in ug/L in the instrument printout are greater than the CRQL but less than the Field Blank value in ug/L. Flag as "J" detects between the Field Blank value and 10xField Blank value. If the sample result $\geq$ MDL but $\leq$ CRQL, replace it with CRQL-U.

If the Field Blank value is less than the

		YES	NO	N/A
	Prep.Blank value, do not qualify the sample results due to the Field Blank criteria.			
	NOTE: 1. Field Blank result previously rejected due to other criteria cannot be used to qualify field samples. 2. Do not use Rinsate Blank associated with soils to qualify water samples and vice versa.			
A.1.24	Verification of Instrumental Parameters - Form IX, XA, XB, XI			
A.1.24.1	Is verification report present for:			
	Method Detection Limits (Form IX-Annually)?	[✓]	___	___
	ICP-AES Interelement Correction Factors (Form XA & XB -Quarterly)?	[___]	___	✓
	ICP-AES & ICP-MS Linear Ranges (Form XI-Quarterly)?	[___]	___	✓
	ACTION: If no, contact CLP PO/TOPO for submittal from the laboratory.			
A.1.24.2	Method Detection Limits - Form IX			
A.1.24.2.1	Are MDLs present on Form IX for:			
	All the analytes?	[✓]	___	___
	All the instruments used?	[✓]	___	___
	Digested and undigested samples and Calib.Blanks?	[✓]	___	___
	ICP-AES and ICP-MS when both instruments are used for the same analyte?	[___]	___	✓
	ACTION: If no for any of the above, prepare Telephone Record Log and contact CLP PO/TOPO for submittal of the MDLs from the laboratory. Report to CLP PO and write in the Contract Problems/ Non-Compliance Section of the Data Review Narrative if the MDL concentration is not less than ½ CRQL.			

		YES	NO	N/A
A.1.24.2.2	Is MDL greater than the CRQL for any analyte?	___	[✓]	___
	If yes, is the analyte concentration on Form I greater than 5 x MDL for the sample analyzed on the instrument whose MDL exceeds CRQL?	[___]	___	✓
	ACTION: If no, flag as estimated (J) all values less than five times MDL for the analyte whose MDL exceeds the CRQL.			
A.1.24.3	**Linear Ranges - Form XI**			
A.1.24.3.1	Was any sample result higher than the high linear range for ICP-AES or ICP-MS?	___	[___]	✓
	Was any sample result higher than the highest calibration standard for mercury or cyanide?	___	[✓]	✓
	If yes for any of the above, was the sample diluted to obtain the result reported on Form I?	[___]	___	✓
	ACTION: If no, flag (J) as estimated the affected detects (≥ MDL) reported on Form I.			
A.1.25	**ICP-MS Tune Analysis - Form XIV**			
A.1.25.1	Was the ICP-MS instrument tuned prior to calibration?	[___]	___	✓
	ACTION: If no, reject (R) and red-line all sample data for which tuning was not performed.			
A.1.25.2	Was the tuning solution analyzed or scanned at least five times consecutively?	[___]	___	✓
	Were all the required isotopes spanning the analytical range present in the tuning solution?	[___]	___	✓
	Was the mass resolution within			

	YES	NO	N/A
0.1 amu for each isotope in the tuning solution?	[___]	___	✓
Was %RSD less than 5% for each isotope of each analyte in the tuning solution?	[___]	___	✓

ACTION:
If no for any of the above, qualify all results ≥ MDL associated with that Tune as estimated "J", and all non-detects associated with that Tune as "UJ".

A.1.26 ICP-MS Internal Standards - Form XV

A.1.26.1 Were the Internal Standards added to all the samples and all QC samples and calibration standards (except the Tuning Solution)?	[___]	___	✓
Were all the target analyte masses bracketed by the masses of the five internal standards?	[___]	___	✓

ACTION:
If none of the Internal Standards was added to the samples, reject (R) and red-line all the associated sample data (detects & non-detects). If internal standards were used but did not cover all the analyte masses, reject (R) and red-line only the analyte results not bracketed by the internal standard masses.

A.1.26.2 Was the intensity of an Internal Standard in each sample within 60-125% of the intensity of the same Internal Standard in the calibration blank?	[___]	___	✓
If no, was the original sample diluted two fold, Internal Standard added and the sample re-analyzed?	[___]	___	✓
Was the %RI for the two fold diluted sample within the acceptance limits (60-125%)?	[___]	___	✓

ACTION:
If no for any of the above, flag detects as "J" and non-detects "UJ" of all the analytes with atomic masses between the

atomic mass of the internal standard lighter

than the affected internal standard, and the atomic mass of the internal standard heavier than the affected internal standard.

A.1.27 Percent Solids of Sediments

A.1.27.1 Are percent solids in sediment(s):

< 50%? ___ [___] ✓

ACTION:
If yes, qualify as estimated (J) all detects and non-detects of a sample that has percent solids less than 50%(i.e.,moisture content greater than 50%).

NOTE:
Flag(J) only the sample results that were not previously flagged due to other QC criteria.

Inorganic Data Review Narrative

Case# _____ Site: _____ Matrix: Soil ____

SDG# _____ Lab: _____ Water ____

Sampling Team: _____ Reviewer: _____ Other _____

A.2.1 Data Validation Flags:
The following flags may have been applied in red by the data validator and must be considered by the data user.

J - This flag indicates the result qualified as estimated

R and Red-Line - A red-line drawn through a sample result indicates unusable value. The red-lined data are known to contain significant errors based on documented information and must not be used by the data user.

U - This data validation qualifier is applied to sample results ≥ MDL when associated blank is contaminated

Fully Usable Data - The results that do not carry "J" or "red-line" are fully usable.

A.2.2 Laboratory Qualifiers:
The CLP laboratory applies a contractual qualifier on all

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Method Blank - Batch: 180-58157

Method: 7471/DOD
Preparation: 7471A

Lab Sample ID:	MB 180-58157/1-A	Analysis Batch:	180-58226	Instrument ID:	G
Client Matrix:	Solid	Prep Batch:	180-58157	Lab File ID:	G21213A.PRN
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	00000.62 g
Analysis Date:	12/13/2012 0856	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	12/13/2012 0351				
Leach Date:	N/A				

Analyte	Result	Qual	DL	LOQ
Mercury	0.016	U	0.011	0.032

Lab Control Sample - Batch: 180-58157

Method: 7471/DOD
Preparation: 7471A

Lab Sample ID:	LCS 180-58157/2-A	Analysis Batch:	180-58226	Instrument ID:	G
Client Matrix:	Solid	Prep Batch:	180-58157	Lab File ID:	G21213A.PRN
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	00000.60 g
Analysis Date:	12/13/2012 0859	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	12/13/2012 0351				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.417	0.407	98	80 - 120	

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 180-58157

Method: 7471/DOD
Preparation: 7471A

MS Lab Sample ID:	180-16821-4	Analysis Batch:	180-58226	Instrument ID:	G
Client Matrix:	Solid	Prep Batch:	180-58157	Lab File ID:	G21213A.PRN
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	00000.60 g
Analysis Date:	12/13/2012 0907			Final Weight/Volume:	100 mL
Prep Date:	12/13/2012 0351				
Leach Date:	N/A				

MSD Lab Sample ID:	180-16821-4	Analysis Batch:	180-58226	Instrument ID:	G
Client Matrix:	Solid	Prep Batch:	180-58157	Lab File ID:	G21213A.PRN
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	00000.61 g
Analysis Date:	12/13/2012 0909			Final Weight/Volume:	100 mL
Prep Date:	12/13/2012 0351				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Mercury	101	100	80 - 120	1	20		

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 180-58157

Method: 7471/DOD
Preparation: 7471A

MS Lab Sample ID:	180-16821-4	Units: mg/Kg	MSD Lab Sample ID:	180-16821-4	
Client Matrix:	Solid		Client Matrix:	Solid	
Dilution:	1.0		Dilution:	1.0	
Analysis Date:	12/13/2012 0907		Analysis Date:	12/13/2012 0909	
Prep Date:	12/13/2012 0351		Prep Date:	12/13/2012 0351	
Leach Date:	N/A		Leach Date:	N/A	

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Mercury	0.32	0.224	0.220	0.541	0.534

$\frac{0.541 - 0.32}{0.224} \times 100 = 98.7\%$

$\frac{0.534 - 0.32}{0.22} \times 100 = 97.3\%$

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Method Blank - Batch: 180-58496

Method: 7471/DOD
Preparation: 7471A

Lab Sample ID:	MB 180-58496/1-A	Analysis Batch:	180-58553	Instrument ID:	G
Client Matrix:	Solid	Prep Batch:	180-58496	Lab File ID:	G21217B.PRN
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	00000.63 g
Analysis Date:	12/17/2012 0945	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	12/17/2012 0312				
Leach Date:	N/A				

Analyte	Result	Qual	DL	LOQ
Mercury	0.016	U	0.010	0.031

Lab Control Sample - Batch: 180-58496

Method: 7471/DOD
Preparation: 7471A

Lab Sample ID:	LCS 180-58496/2-A	Analysis Batch:	180-58553	Instrument ID:	G
Client Matrix:	Solid	Prep Batch:	180-58496	Lab File ID:	G21217B.PRN
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	00000.60 g
Analysis Date:	12/17/2012 0947	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	12/17/2012 0312				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.417	0.412	99	80 - 120	

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 180-58496

Method: 7471/DOD
Preparation: 7471A

MS Lab Sample ID:	180-16821-10	Analysis Batch:	180-58553	Instrument ID:	G
Client Matrix:	Solid	Prep Batch:	180-58496	Lab File ID:	G21217B.PRN
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	00000.61 g
Analysis Date:	12/17/2012 0951			Final Weight/Volume:	100 mL
Prep Date:	12/17/2012 0312				
Leach Date:	N/A				

MSD Lab Sample ID:	180-16821-10	Analysis Batch:	180-58553	Instrument ID:	G
Client Matrix:	Solid	Prep Batch:	180-58496	Lab File ID:	G21217B.PRN
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	00000.61 g
Analysis Date:	12/17/2012 0953			Final Weight/Volume:	100 mL
Prep Date:	12/17/2012 0312				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Mercury	73	58	80 - 120	5	20	J	J

Client: WaterMark Environmental, Inc.

Job Number: 180-16821-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 180-58496

Method: 7471/DOD
Preparation: 7471A

MS Lab Sample ID:	180-16821-10	Units: mg/Kg	MSD Lab Sample ID:	180-16821-10	
Client Matrix:	Solid		Client Matrix:	Solid	
Dilution:	1.0		Dilution:	1.0	
Analysis Date:	12/17/2012 0951		Analysis Date:	12/17/2012 0953	
Prep Date:	12/17/2012 0312		Prep Date:	12/17/2012 0312	
Leach Date:	N/A		Leach Date:	N/A	

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual		MSD Result/Qual	
Mercury	0.49	0.205	0.205	0.635	J	0.604	J

$$\frac{0.604 - 0.49}{0.205} \times 100 = 56\%$$

Client: WaterMark Environmental, Inc. Job Number: 180-16821-1

Method Blank - Batch: 180-58497

Method: 7471/DOD
Preparation: 7471A

Lab Sample ID:	MB 180-58497/1-A	Analysis Batch:	180-58553	Instrument ID:	G
Client Matrix:	Solid	Prep Batch:	180-58497	Lab File ID:	G21217B.PRN
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	00000.62 g
Analysis Date:	12/17/2012 1040	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	12/17/2012 0315				
Leach Date:	N/A				

Analyte	Result	Qual	DL	LOQ
Mercury	0.016	U	0.011	0.032

Lab Control Sample - Batch: 180-58497

Method: 7471/DOD
Preparation: 7471A

Lab Sample ID:	LCS 180-58497/2-A	Analysis Batch:	180-58553	Instrument ID:	G
Client Matrix:	Solid	Prep Batch:	180-58497	Lab File ID:	G21217B.PRN
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	00000.60 g
Analysis Date:	12/17/2012 1042	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	12/17/2012 0315				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.417	0.413	99	80 - 120	

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 180-58497

Method: 7471/DOD
Preparation: 7471A

MS Lab Sample ID:	180-16821-18	Analysis Batch:	180-58553	Instrument ID:	G
Client Matrix:	Solid	Prep Batch:	180-58497	Lab File ID:	G21217B.PRN
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	00000.60 g
Analysis Date:	12/17/2012 1046			Final Weight/Volume:	100 mL
Prep Date:	12/17/2012 0315				
Leach Date:	N/A				
MSD Lab Sample ID:	180-16821-18	Analysis Batch:	180-58553	Instrument ID:	G
Client Matrix:	Solid	Prep Batch:	180-58497	Lab File ID:	G21217B.PRN
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	00000.61 g
Analysis Date:	12/17/2012 1048			Final Weight/Volume:	100 mL
Prep Date:	12/17/2012 0315				
Leach Date:	N/A				

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Mercury	176	172	80 - 120	1	20	J	J

Client: WaterMark Environmental, Inc.

Job Number: 180-16821-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 180-58497

Method: 7471/DOD
Preparation: 7471A

MS Lab Sample ID:	180-16821-18	Units: mg/Kg	MSD Lab Sample ID:	180-16821-18	
Client Matrix:	Solid		Client Matrix:	Solid	
Dilution:	1.0		Dilution:	1.0	
Analysis Date:	12/17/2012 1046		Analysis Date:	12/17/2012 1048	
Prep Date:	12/17/2012 0315		Prep Date:	12/17/2012 0315	
Leach Date:	N/A		Leach Date:	N/A	

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual		MSD Result/Qual	
Mercury	0.74	0.215	0.211	1.11	J	1.10	J

$\frac{1.11 - 0.74}{.215} \times 100 = 172\ \%$

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-16821-1

SDG No.:

ICV Source: MHgWorkingicv_00414 Concentration Units: ug/L

CCV Source: MHgworkingCal_00428

Analyte	ICV 180-58170/7-A 12/13/2012 08:45				CCV 180-58170/10-A 12/13/2012 08:50				CCV 180-58170/10-A 12/13/2012 09:11			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Mercury	2.38		2.50	95	4.93		5.00	99	4.93		5.00	99

$\frac{2.38}{2.5} \times 100 = 95\%$

$\frac{4.93}{5} \times 100 = 99\%$

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-16821-1

SDG No.:

ICV Source: MHgWorkingicv_00414 Concentration Units: ug/L

CCV Source: MHgworkingCal_00428

Analyte	CCV 180-58170/10-A 12/13/2012 09:32				CCV 180-58170/10-A 12/13/2012 09:54							
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Mercury	4.94		5.00	99	4.91		5.00	98				

$\frac{4.91}{5} \times 100 = 98\%$

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-16821-1

SDG No.:

ICV Source: MHgWorkingicv_00416 Concentration Units: ug/L

CCV Source: MHgworkingCal_00430

Analyte	ICV 180-58501/7-A 12/17/2012 09:36				CCV 180-58501/10-A 12/17/2012 09:41				CCV 180-58501/10-A 12/17/2012 10:05			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Mercury	2.37		2.50	95	4.96		5.00	99	5.06		5.00	101

$\frac{2.37}{2.5} \times 100 = 95\%$

$\frac{5.06}{5} \times 100 = 101\%$

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-16821-1

SDG No.:

ICV Source: MHgWorkingicv_00416 Concentration Units: ug/L

CCV Source: MHgworkingCal_00430

Analyte	CCV 180-58501/10-A 12/17/2012 10:27				CCV 180-58501/10-A 12/17/2012 10:52				CCV 180-58501/10-A 12/17/2012 11:16			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Mercury	5.09		5.00	102	5.04		5.00	101	5.09		5.00	102

$\frac{5.04}{5} \times 100 = 101$

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-16821-1

SDG No.:

ICV Source: MHgWorkingicv_00416 Concentration Units: ug/L

CCV Source: MHgworkingCal_00430

Analyte	CCV 180-58501/10-A 12/17/2012 11:33											
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Mercury	5.10		5.00	102								

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-16821-1

SDG No.:

Method: 7471/DOD Instrument ID: G

Lab Sample ID: CRA 180-58170/9-A Concentration Units: ug/L

CRQL Check Standard Source: MHgworkingCal_00428

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Mercury	0.200	0.213		107	50-150

Lab Sample ID: CRA 180-58501/9-A Concentration Units: ug/L

CRQL Check Standard Source: MHgworkingCal_00430

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Mercury	0.200	0.186	J	93	50-150

$\frac{.213}{.2} \times 100 = 107$

$\frac{0.186}{0.2} \times 100 = 93$

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IIB-IN

5A-IN
MATRIX SPIKE SAMPLE RECOVERY
METALS

Client ID: AI3-213(2-3") MS
Lab ID: 180-16821-4 MS
Lab Name: TestAmerica Pittsburgh
Job No.: 180-16821-1
SDG No.:
Matrix: Solid
Concentration Units: mg/Kg
% Solids: 74.5

Analyte	SSR C	Sample Result (SR) C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Mercury	0.541	0.32	0.224	101	80-120		7471/DOD

SSR = Spiked Sample Result

$\frac{0.541 - 0.32}{.224} \times 100 = 99$

Calculations are performed before rounding to avoid round-off errors in calculated results.
Note - Results and Reporting Limits have been adjusted for dry weight.

FORM VA - IN

5A-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
METALS

Client ID: AI3-213(2-3") MSD | Lab ID: 180-16821-4 MSD

Lab Name: TestAmerica Pittsburgh | Job No.: 180-16821-1

SDG No.:

Matrix: Solid | Concentration Units: mg/Kg

% Solids: 74.5

Analyte	(SDR) C		Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Mercury	0.534		0.220	100	80-120	1	20		7471/DOD

SDR = Sample Duplicate Result

$\frac{0.534 - 0.32}{.22} \times 100 = 97$

$\frac{0.534 - 0.541}{0.534 + 0.541/2} \times 100 = 1.3$

$\frac{0.221 - 0.214}{0.221 + 0.214/2} \times 100 = 3.2$

$\frac{99 - 97}{99 + 97/2} \times 100 = 2.0$

Calculations are performed before rounding to avoid round-off errors in calculated results.
Note - Results and Reporting Limits have been adjusted for dry weight.

FORM VD - IN

5A-IN
MATRIX SPIKE SAMPLE RECOVERY
METALS

Client ID: AI3-208(6-11") MS Lab ID: 180-16821-10 MS

Lab Name: TestAmerica Pittsburgh Job No.: 180-16821-1

SDG No.:

Matrix: Solid Concentration Units: mg/Kg

% Solids: 80.1

Analyte	SSR C		Sample Result (SR) C		Spike Added (SA)	%R	Control Limit %R	Q	Method
Mercury	0.635		0.49		0.205	73	80-120	J	7471/DOD

SSR = Spiked Sample Result

75-125

$\frac{0.635 - 0.49}{0.205} \times 100 = 71$

Calculations are performed before rounding to avoid round-off errors in calculated results.
Note - Results and Reporting Limits have been adjusted for dry weight.

FORM VA - IN

5A-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
METALS

Client ID: AI3-208(6-11") MSD
Lab ID: 180-16821-10 MSD
Lab Name: TestAmerica Pittsburgh
Job No.: 180-16821-1
SDG No.:
Matrix: Solid
Concentration Units: mg/Kg
% Solids: 80.1

Analyte	(SDR) C		Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Mercury	0.604		0.205	58	80-120	5	20	J	7471/DOD

SDR = Sample Duplicate Result

Calculations are performed before rounding to avoid round-off errors in calculated results.
Note - Results and Reporting Limits have been adjusted for dry weight.

FORM VD - IN

5A-IN
MATRIX SPIKE SAMPLE RECOVERY
METALS

Client ID: AI3-207(6-12") MS
Lab ID: 180-16821-18 MS
Lab Name: TestAmerica Pittsburgh
Job No.: 180-16821-1
SDG No.:
Matrix: Solid
Concentration Units: mg/Kg
% Solids: 77.6

Analyte	SSR C	Sample Result (SR) C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Mercury	1.11	0.74	0.215	176	80-120	J	7471/DOD

SSR = Spiked Sample Result

75-125

$\frac{1.11 - 0.74}{0.215} \times 100 = 172$

Calculations are performed before rounding to avoid round-off errors in calculated results.
Note - Results and Reporting Limits have been adjusted for dry weight.

FORM VA - IN

5A-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
METALS

Client ID: AI3-207(6-12") MSD
Lab ID: 180-16821-18 MSD
Lab Name: TestAmerica Pittsburgh
Job No.: 180-16821-1
SDG No.:
Matrix: Solid
Concentration Units: mg/Kg
% Solids: 77.6

Analyte	(SDR) C		Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Mercury	1.10		0.211	172	80-120	1	20	J	7471/DOD

SDR = Sample Duplicate Result

Calculations are performed before rounding to avoid round-off errors in calculated results.
Note - Results and Reporting Limits have been adjusted for dry weight.

FORM VD - IN

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 180-58157/2-A

Lab Name: TestAmerica Pittsburgh Job No.: 180-16821-1

Sample Matrix: Solid LCS Source: MHgworkingCal_00428

Analyte	Solid(mg/Kg)							
	True	Found	C	%R	Limits		Q	Method
Mercury	0.417	0.407		98 ✓	80	120		7471/DOD

$\frac{0.407}{0.417} \times 100 = 97.6$

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 180-58496/2-A

Lab Name: TestAmerica Pittsburgh Job No.: 180-16821-1

Sample Matrix: Solid LCS Source: MHgworkingCal_00430

Analyte	Solid(mg/Kg)							
	True	Found	C	%R	Limits		Q	Method
Mercury	0.417	0.412		99	80	120		7471/DOD

.412/.417 x100 = 98.8

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 180-58497/2-A

Lab Name: TestAmerica Pittsburgh Job No.: 180-16821-1

Sample Matrix: Solid LCS Source: MHgworkingCal_00430

Analyte	Solid(mg/Kg)							
	True	Found	C	%R	Limits		Q	Method
Mercury	0.417	0.413		99	80	120		7471/DOD

$\frac{.413}{.417} * 100 = 99$

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

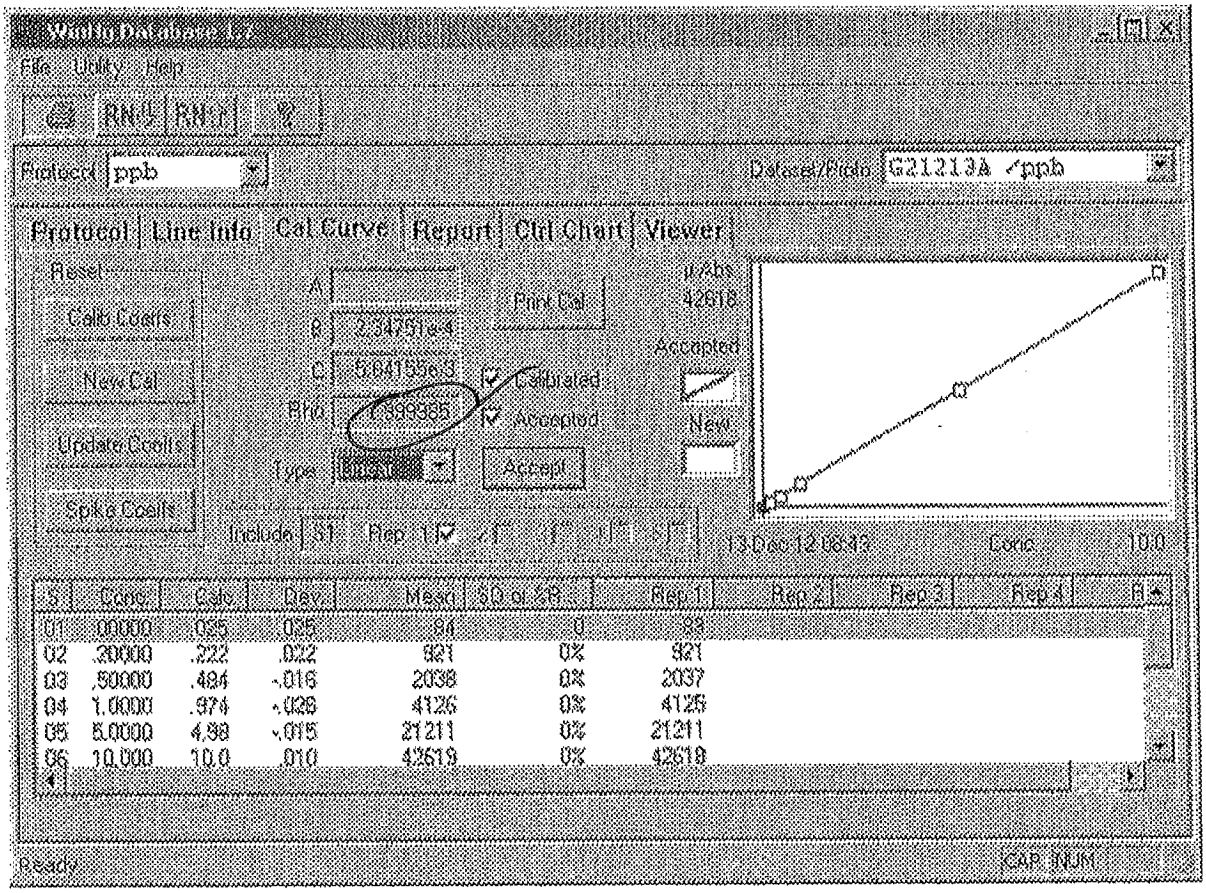
William a Nash
12-13-12

Line	Conc.	Units	SD/RSD	1	2	3	4	5
*** Standard: 1 Rep: 1				Seq: 2		08:32:58 13 Dec 12		HG
Hg	.000	ppb	83					
*** Standard: 2 Rep: 1				Seq: 3		08:34:39 13 Dec 12		HG
Hg	.200	ppb	921					
*** Standard: 3 Rep: 1				Seq: 4		08:36:58 13 Dec 12		HG
Hg	.500	ppb	2037					
*** Standard: 4 Rep: 1				Seq: 5		08:38:37 13 Dec 12		HG
Hg	1.00	ppb	4125					
*** Standard: 5 Rep: 1				Seq: 6		08:40:27 13 Dec 12		HG
Hg	5.00	ppb	21211					
*** Standard: 6 Rep: 1				Seq: 7		08:42:38 13 Dec 12		HG
Hg	10.0	ppb	42618					

0.999985098

1/4/13 BBL

Mullen & Hoyle
12-13-12



13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-16821-1

SDG No.:

Instrument ID: G Method: 7471/DOD

Start Date: 12/13/2012 08:32 End Date: 12/13/2012 12:31

Lab Sample ID	D/F	Type	Time	Analytes
				Hg
IC 180-58170/1-A			08:32	X
IC 180-58170/2-A			08:34	X
IC 180-58170/3-A			08:36	X
IC 180-58170/4-A			08:38	X
IC 180-58170/5-A			08:40	X
IC 180-58170/6-A			08:42	X
ICV 180-58170/7-A	1		08:45	X
ICB 180-58170/8-A	1		08:46	X
CRA 180-58170/9-A	1		08:48	X
CCV 180-58170/10-A	1		08:50	X
CCB 180-58170/11-A	1		08:51	X
ZZZZZZ			08:53	
ZZZZZZ			08:54	
MB 180-58157/1-A	1	T	08:56	X
LCS 180-58157/2-A	1	T	08:59	X
180-16821-1	1	T	09:00	X
180-16821-2	1	T	09:02	X
180-16821-3	1	T	09:04	X
180-16821-4	1	T	09:05	X
180-16821-4 MS	1	T	09:07	X
180-16821-4 MSD	1	T	09:09	X
CCV 180-58170/10-A	1		09:11	X
CCB 180-58170/11-A	1		09:13	X
180-16821-5	1	T	09:14	X
180-16821-6	1	T	09:16	X
180-16821-7	1	T	09:18	X
180-16821-8	1	T	09:20	X
180-16821-9	1	T	09:21	X
180-16821-11	1	T	09:23	X
180-16821-12	1	T	09:25	X
180-16821-13	1	T	09:27	X
180-16821-14	1	T	09:29	X
180-16821-15	1	T	09:31	X
CCV 180-58170/10-A	1		09:32	X
CCB 180-58170/11-A	1		09:34	X
180-16821-16	1	T	09:36	X
180-16821-17	1	T	09:37	X
180-16821-19	1	T	09:39	X
180-16821-20	1	T	09:41	X
180-16821-21	1	T	09:43	X
180-16821-22	1	T	09:44	X
ZZZZZZ			09:47	

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-16821-1

SDG No.:

Instrument ID: G Method: 7471/DOD

Start Date: 12/13/2012 08:32 End Date: 12/13/2012 12:31

Lab Sample ID	D / F	Type	Time	Analytes
				Hg
ZZZZZZ			09:49	
ZZZZZZ			09:50	
ZZZZZZ			09:52	
CCV 180-58170/10-A	1		09:54	X
CCB 180-58170/11-A	1		09:56	X
ZZZZZZ			09:58	
ZZZZZZ			10:00	
ZZZZZZ			10:01	
ZZZZZZ			10:04	
ZZZZZZ			10:05	
ZZZZZZ			10:07	
ZZZZZZ			10:09	
ZZZZZZ			10:11	
ZZZZZZ			10:13	
ZZZZZZ			10:14	
CCV 180-58170/10-A			10:16	
CCB 180-58170/11-A			10:18	
ZZZZZZ			10:19	
ZZZZZZ			10:21	
ZZZZZZ			10:24	
ZZZZZZ			10:26	
ZZZZZZ			10:27	
ZZZZZZ			10:29	
ZZZZZZ			10:31	
ZZZZZZ			10:33	
ZZZZZZ			10:35	
ZZZZZZ			10:37	
CCV 180-58170/10-A			10:39	
CCB 180-58170/11-A			10:41	
ZZZZZZ			10:43	
ZZZZZZ			10:46	
ZZZZZZ			10:47	
CCV6 180-58226/75			10:49	
CCB7 180-58226/76			10:51	
ZZZZZZ			12:18	
ZZZZZZ			12:20	
ZZZZZZ			12:31	

Prep Types
T = Total/NA

williams Hoyle 12-13-12

Line	Conc.	Units	SD/RSD	1	2	3	4	5
*** Sample ID: ICV6-1				Seq: 8		08:45:01 13 Dec 12		HG
Hg	2.38 ✓	ppb	10132					
*** Sample ID: ICB				Seq: 9		08:46:43 13 Dec 12		HG
Hg	-.004	ppb	-42					
*** Sample ID: CRA/RLV				Seq: 10		08:48:23 13 Dec 12		HG
Hg	.213	ppb	882					
*** Sample ID: CCV6-1				Seq: 11		08:50:01 13 Dec 12		HG
Hg	4.93 ✓	ppb	20984					
*** Sample ID: CCB1				Seq: 12		08:51:40 13 Dec 12		HG
Hg	-.009	ppb	-64					
*** Sample ID: LOQ				Seq: 13		08:53:20 13 Dec 12		HG
Hg	.198	ppb	819					
*** Sample ID: MDL				Seq: 14		08:54:58 13 Dec 12		HG
Hg	.109	ppb	441					
*** Sample ID: MB				Seq: 15		08:56:37 13 Dec 12		HG
Hg	.003	ppb	-13					
*** Sample ID: LCS				Seq: 16		08:59:08 13 Dec 12		HG
Hg	2.44	ppb	10385					
*** Sample ID: 16821-1				Seq: 17		09:00:46 13 Dec 12		HG
Hg	1.47	ppb	6246		1.47			
*** Sample ID: 16821-2				Seq: 18		09:02:26 13 Dec 12		HG
Hg	1.64	ppb	6949					
*** Sample ID: 16821-3				Seq: 19		09:04:05 13 Dec 12		HG
Hg	2.26	ppb	9615					

$$\frac{1.47\,\mu g}{L} \left| \frac{1000\,g}{0.61\,g} \right| \frac{L}{0.8} \left| \frac{1\,mg}{1\,kg} \right| \frac{100\,mL}{1000\,\mu g} \left| \frac{}{1000\,mL} \right| = \frac{147}{488} = 6.30\ mg/kg$$

Line	Conc.	Units	SD/RSD	1	2	3	4	5
*** Sample ID: 16821-4				Seq: 20	09:05:43 13 Dec 12	HG		
Hg	1.41	ppb	6000					
*** Sample ID: 16821-4MS				Seq: 21	09:07:55 13 Dec 12	HG		
Hg	2.42	ppb	10302					
*** Sample ID: 16821-4MSD				Seq: 22	09:09:44 13 Dec 12	HG		
Hg	2.43	ppb	10326					
*** Sample ID: CCV6-2				Seq: 23	09:11:23 13 Dec 12	HG		
Hg	4.93 ✓	ppb	20961					
*** Sample ID: CCB2				Seq: 24	09:13:04 13 Dec 12	HG		
Hg	-.017	ppb	-98					
*** Sample ID: 16821-5				Seq: 25	09:14:43 13 Dec 12	HG		
Hg	1.55	ppb	6583					
*** Sample ID: 16821-6				Seq: 26	09:16:38 13 Dec 12	HG		
Hg	2.36	ppb	10021					
*** Sample ID: 16821-7				Seq: 27	09:18:17 13 Dec 12	HG		
Hg	1.26	ppb	5327					
*** Sample ID: 16821-8				Seq: 28	09:20:01 13 Dec 12	HG		
Hg	2.24	ppb	9506					
*** Sample ID: 16821-9				Seq: 29	09:21:45 13 Dec 12	HG		
Hg	2.18	ppb	9273					
*** Sample ID: 16821-11				Seq: 30	09:23:44 13 Dec 12	HG		
Hg	2.20	ppb	9350					
*** Sample ID: 16821-12				Seq: 31	09:25:22 13 Dec 12	HG		
Hg	2.27	ppb	9640					

$\frac{(2.42)(100)}{(.6)(.745)(1000)} = \frac{242}{447} = 0.541$

$\frac{(2.20)(100)}{(0.6)(.745)(1000)} = \frac{220}{447} = 0.48$ mg/kg

0.75 → 457.5

Line	Conc.	Units	SD/RSD	1	2	3	4	5	
*** Sample ID: 16821-13				Seq: 32		09:27:01 13 Dec 12			HG
Hg	2.57	ppb	10919						
*** Sample ID: 16821-14				Seq: 33		09:29:19 13 Dec 12			HG
Hg	5.37	ppb	22831						
*** Sample ID: 16821-15				Seq: 34		09:31:00 13 Dec 12			HG
Hg	1.57	ppb	6661						
*** Sample ID: CCV6-3				Seq: 35		09:32:40 13 Dec 12			HG
Hg	4.94 ✓	ppb	21032						
*** Sample ID: CCB3				Seq: 36		09:34:20 13 Dec 12			HG
Hg	-.006	ppb	-51						
*** Sample ID: 16821-16				Seq: 37		09:36:02 13 Dec 12			HG
Hg	1.66	ppb	7056						
*** Sample ID: 16821-17				Seq: 38		09:37:56 13 Dec 12			HG
Hg	1.69	ppb	7180						
*** Sample ID: 16821-19				Seq: 39		09:39:45 13 Dec 12			HG
Hg	1.35	ppb	5716						
*** Sample ID: 16821-20				Seq: 40		09:41:25 13 Dec 12			HG
Hg	1.99	ppb	8452						
*** Sample ID: 16821-21				Seq: 41		09:43:04 13 Dec 12			HG
Hg	1.21	ppb	5134						
*** Sample ID: 16821-22				Seq: 42		09:44:44 13 Dec 12			HG
Hg	1.60	ppb	6798						
*** Sample ID: MB				Seq: 43		09:47:15 13 Dec 12			HG
Hg	.012	ppb	29						

$$\frac{(1.99)(100)}{(0.61)(.78)(1000)} = \frac{199}{475.8} = 0.418 \text{ mg/kg}$$

Line	Conc.	Units	SD/RSD	1	2	3	4	5
*** Sample ID: LCS				Seq: 44	09:49:04 13 Dec 12	HG		
Hg	2.45	ppb	10430					
*** Sample ID: 240-18621-1 WAH 12-13-12				Seq: 45	09:50:54 13 Dec 12	HG		
Hg	.259	ppb	1079					
*** Sample ID: 240-18621-2 WAH 12-13-12				Seq: 46	09:52:34 13 Dec 12	HG		
Hg	.175	ppb	721					
*** Sample ID: CCV6-4				Seq: 47	09:54:27 13 Dec 12	HG		
Hg	4.91✓	ppb	20903					
*** Sample ID: CCB4				Seq: 48	09:56:32 13 Dec 12	HG		
Hg	-.002	ppb	-32					
*** Sample ID: 240-18621-3 WAH 12-13-12				Seq: 49	09:58:13 13 Dec 12	HG		
Hg	1.30	ppb	5520					
*** Sample ID: 240-18621-4 WAH 12-13-12				Seq: 50	10:00:13 13 Dec 12	HG		
Hg	1.89	ppb	8034					
*** Sample ID: 240-18621-4 MS WAH 12-13-12				Seq: 51	10:01:58 13 Dec 12	HG		
Hg	3.15	ppb	13389					
*** Sample ID: 240-18621-4 MSD WAH 12-13-12				Seq: 52	10:04:11 13 Dec 12	HG		
Hg	4.21	ppb	17890					
*** Sample ID: 17183-1				Seq: 53	10:05:51 13 Dec 12	HG		
Hg	.029	ppb	98					
*** Sample ID: 17183-3				Seq: 54	10:07:42 13 Dec 12	HG		
Hg	.020	ppb	61					
*** Sample ID: 17200-1				Seq: 55	10:09:31 13 Dec 12	HG		
Hg	.015	ppb	40					

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09:25:39 17 Dec 2012 Folder: G21217B Protocol: ppb

Line	Conc.	Units	SD/RSD	1	2	3	4	5
*** Standard: 1 Rep: 1				Seq: 2		09:25:39 17 Dec 12		HG
Hg	.000	ppb	-74					
*** Standard: 2 Rep: 1				Seq: 3		09:27:22 17 Dec 12		HG
Hg	.200	ppb	795					
*** Standard: 3 Rep: 1				Seq: 4		09:29:12 17 Dec 12		HG
Hg	.500	ppb	2184					
*** Standard: 4 Rep: 1				Seq: 5		09:30:53 17 Dec 12		HG
Hg	1.00	ppb	4196					
*** Standard: 5 Rep: 1				Seq: 6		09:32:37 17 Dec 12		HG
Hg	5.00	ppb	20878					
*** Standard: 6 Rep: 1				Seq: 7		09:34:49 17 Dec 12		HG
Hg	10.0	ppb	42442					

0.999967017

1/4/13
BBL

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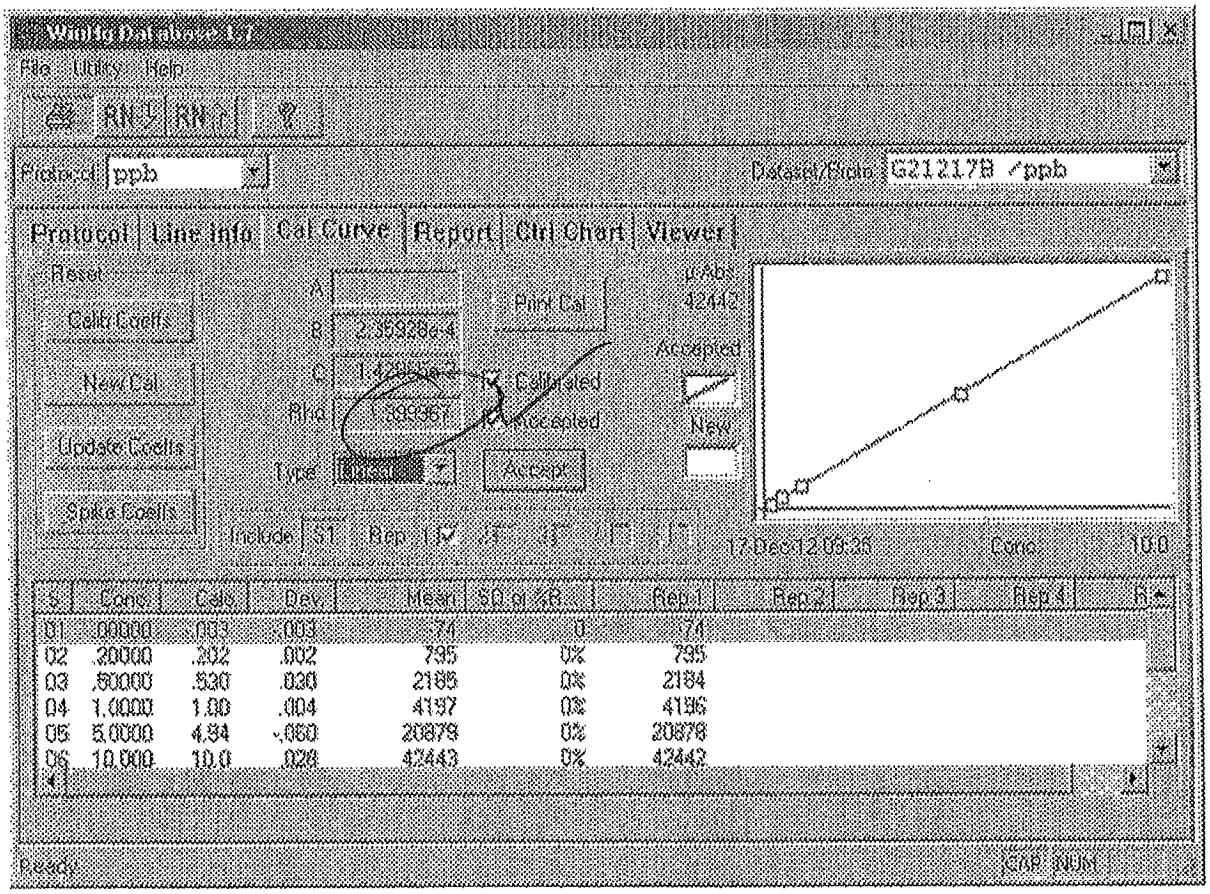

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-16821-1

SDG No.:

Instrument ID: G Method: 7471/DOD

Start Date: 12/17/2012 09:25 End Date: 12/17/2012 11:35

Lab Sample ID	D / F	Type	Time	Analytes																			
				Hg																			
IC 180-58501/1-A			09:25	X																			
IC 180-58501/2-A			09:27	X																			
IC 180-58501/3-A			09:29	X																			
IC 180-58501/4-A			09:30	X																			
IC 180-58501/5-A			09:32	X																			
IC 180-58501/6-A			09:34	X																			
ICV 180-58501/7-A	1		09:36	X																			
ICB 180-58501/8-A	1		09:38	X																			
CRA 180-58501/9-A	1		09:40	X																			
CCV 180-58501/10-A	1		09:41	X																			
CCB 180-58501/11-A	1		09:43	X																			
MB 180-58496/1-A	1	T	09:45	X																			
LCS 180-58496/2-A	1	T	09:47	X																			
180-16821-10	1	T	09:49	X																			
180-16821-10 MS	1	T	09:51	X																			
180-16821-10 MSD	1	T	09:53	X																			
180-16821-23	1	T	09:54	X																			
180-16821-24	1	T	09:57	X																			
180-16821-25	1	T	09:59	X																			
180-16821-26	1	T	10:02	X																			
180-16821-27	1	T	10:04	X																			
CCV 180-58501/10-A	1		10:05	X																			
CCB 180-58501/11-A	1		10:07	X																			
180-16821-28	1	T	10:09	X																			
180-16821-29	1	T	10:10	X																			
180-16821-30	1	T	10:12	X																			
180-16821-31	1	T	10:14	X																			
180-16821-32	1	T	10:16	X																			
180-16821-33	1	T	10:18	X																			
180-16821-34	1	T	10:20	X																			
180-16821-35	1	T	10:22	X																			
180-16821-36	1	T	10:23	X																			
180-16821-37	1	T	10:25	X																			
CCV 180-58501/10-A	1		10:27	X																			
CCB 180-58501/11-A	1		10:29	X																			
180-16821-38	1	T	10:31	X																			
180-16821-39	1	T	10:33	X																			
180-16821-40	1	T	10:35	X																			
180-16821-41	1	T	10:37	X																			
MB 180-58497/1-A	1	T	10:40	X																			
LCS 180-58497/2-A	1	T	10:42	X																			
180-16821-18	1	T	10:44	X																			

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-16821-1

SDG No.:

Instrument ID: G Method: 7471/DOD

Start Date: 12/17/2012 09:25 End Date: 12/17/2012 11:35

Lab Sample ID	D / F	Type	Time	Analytes: Hg
180-16821-18 MS	1	T	10:46	X
180-16821-18 MSD	1	T	10:48	X
180-16821-42	1	T	10:50	X
CCV 180-58501/10-A	1		10:52	X
CCB 180-58501/11-A	1		10:54	X
180-16821-43	1	T	10:56	X
180-16821-44	1	T	10:58	X
180-16821-45	1	T	11:00	X
180-16821-46	1	T	11:02	X
180-16821-47	1	T	11:04	X
180-16821-48	1	T	11:06	X
180-16821-49	1	T	11:08	X
180-16821-50	1	T	11:09	X
180-16821-51	1	T	11:11	X
180-16821-52	1	T	11:14	X
CCV 180-58501/10-A	1		11:16	X
CCB 180-58501/11-A	1		11:17	X 0.051
180-16821-53	1	T	11:19	X
180-16821-54	1	T	11:21	X
ZZZZZZ			11:22	
ZZZZZZ			11:24	
ZZZZZZ			11:26	
ZZZZZZ			11:28	
ZZZZZZ			11:30	
ZZZZZZ			11:32	
CCV 180-58501/10-A	1		11:33	X
CCB 180-58501/11-A	1		11:35	X

Prep Types
T = Total/NA

0.051 X 5 = 0.255

All SAMPLES RAW DATA > 0.255
NO QUALS

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Line	Conc.	Units	SD/RSD	1	2	3	4	5
*** Sample ID: ICV6-1				Seq: 8		09:36:28 17 Dec 12		HG
Hg	2.37 ✓	ppb	9987					
*** Sample ID: ICB				Seq: 9		09:38:39 17 Dec 12		HG
Hg	.023	ppb	37					
*** Sample ID: CRA/RLV				Seq: 10		09:40:17 17 Dec 12		HG
Hg	.186	ppb	726					
*** Sample ID: CCV6-1				Seq: 11		09:41:56 17 Dec 12		HG
Hg	4.96 ✓	ppb	20981					
*** Sample ID: CCB1				Seq: 12		09:43:34 17 Dec 12		HG
Hg	-.049	ppb	-269					
*** Sample ID: MB				Seq: 13		09:45:48 17 Dec 12		HG
Hg	-.032	ppb	-196					
*** Sample ID: LCS				Seq: 14		09:47:27 17 Dec 12		HG
Hg	2.47	ppb	10419					
*** Sample ID: 16821-10				Seq: 15		09:49:49 17 Dec 12		HG
Hg	2.37	ppb	9995					
*** Sample ID: 16821-10MS				Seq: 16		09:51:28 17 Dec 12		HG
Hg	3.10	ppb	13085					
*** Sample ID: 16821-10MSD WAH 12-17-12				Seq: 17		09:53:17 17 Dec 12		HG
Hg	2.95	ppb	12448					
*** Sample ID: 16821-23				Seq: 18		09:54:57 17 Dec 12		HG
Hg	2.61	ppb	10999					
*** Sample ID: 16821-24				Seq: 19		09:57:58 17 Dec 12		HG
Hg	2.40	ppb	10121					

$$\frac{2.37\ \mu g}{1\ L} \left| \frac{1\ L}{0.61\ g} \right| \frac{1000\ g}{0.80\ L} \left| \frac{1\ mg}{1\ Kg} \right| \frac{100\ mL}{1000\ mL} \left| \frac{}{1000\ \mu g} \right. = \frac{237}{488.61} = 0.485$$

Line	Conc.	Units	SD/RSD	1	2	3	4	5
*** Sample ID: 16821-25				Seq: 20	09:59:39 17 Dec 12	HG		
Hg	1.96	ppb	8258					
*** Sample ID: 16821-26				Seq: 21	10:02:00 17 Dec 12	HG		
Hg	2.65	ppb	11186					
*** Sample ID: 16821-27				Seq: 22	10:04:02 17 Dec 12	HG		
Hg	3.49	ppb	14728					
*** Sample ID: CCV6-2				Seq: 23	10:05:54 17 Dec 12	HG		
Hg	5.06	ppb	21400					
*** Sample ID: CCB2				Seq: 24	10:07:35 17 Dec 12	HG		
Hg	.024	ppb	41					
*** Sample ID: 16821-28				Seq: 25	10:09:17 17 Dec 12	HG		
Hg	2.85	ppb	12040					
*** Sample ID: 16821-29				Seq: 26	10:10:56 17 Dec 12	HG		
Hg	3.96	ppb	16721					
*** Sample ID: 16821-30				Seq: 27	10:12:39 17 Dec 12	HG		
Hg	1.79	ppb	7540					
*** Sample ID: 16821-31				Seq: 28	10:14:22 17 Dec 12	HG		
Hg	1.98	ppb	8318					
*** Sample ID: 16821-32				Seq: 29	10:16:27 17 Dec 12	HG		
Hg	2.61	ppb	10986					
*** Sample ID: 16821-33				Seq: 30	10:18:28 17 Dec 12	HG		
Hg	1.92	ppb	8097					
*** Sample ID: 16821-34				Seq: 31	10:20:22 17 Dec 12	HG		
Hg	1.75	ppb	7345					

$$\frac{(2.65)(100)}{(0.65)(.798)(1000)} = \frac{265}{518.7} = .51$$

$$\frac{(1.79)(100)}{(0.6)(0.803)(1000)} = \frac{179}{481.8} = 0.37$$

Line	Conc.	Units	SD/RSD	1	2	3	4	5
*** Sample ID: 16821-35				Seq: 32	10:22:00 17 Dec 12		HG	
Hg	2.51	ppb	10567					
*** Sample ID: 16821-36				Seq: 33	10:23:40 17 Dec 12		HG	
Hg	2.00	ppb	8413					
*** Sample ID: 16821-37				Seq: 34	10:25:29 17 Dec 12		HG	
Hg	2.30	ppb	9673					
*** Sample ID: CCV6-3				Seq: 35	10:27:09 17 Dec 12		HG	
Hg	5.09	ppb	21535					
*** Sample ID: CCB3				Seq: 36	10:29:42 17 Dec 12		HG	
Hg	-.001	ppb	-65					
*** Sample ID: 16821-38				Seq: 37	10:31:44 17 Dec 12		HG	
Hg	2.84	ppb	11996					
*** Sample ID: 16821-39				Seq: 38	10:33:35 17 Dec 12		HG	
Hg	.941	ppb	3926					
*** Sample ID: 16821-40				Seq: 39	10:35:18 17 Dec 12		HG	
Hg	.968	ppb	4042					
*** Sample ID: 16821-41				Seq: 40	10:37:28 17 Dec 12		HG	
Hg	.786	ppb	3271					
*** Sample ID: MB				Seq: 41	10:40:40 17 Dec 12		HG	
Hg	-.016	ppb	-129					
*** Sample ID: LCS				Seq: 42	10:42:31 17 Dec 12		HG	
Hg	2.48	ppb	10436					
*** Sample ID: 16821-18				Seq: 43	10:44:40 17 Dec 12		HG	
Hg	3.48	ppb	14697					

$$\frac{(2.51)(100)}{(0.62)(.81)(1000)} = \frac{251}{502.2} = 0.4998$$

Line	Conc.	Units	SD/RSD	1	2	3	4	5
*** Sample ID: 16821-18MS				Seq: 44	10:46:28 17 Dec 12		HG	
Hg	5.18	ppb	21894					
*** Sample ID: 16821-18MSD WAH 12-17-12				Seq: 45	10:48:40 17 Dec 12		HG	
Hg	5.20	ppb	21981					
*** Sample ID: 16821-42				Seq: 46	10:50:41 17 Dec 12		HG	
Hg	1.58	ppb	6636					
*** Sample ID: CCV6-4				Seq: 47	10:52:21 17 Dec 12		HG	
Hg	5.04	ppb	21292					
*** Sample ID: CCB4				Seq: 48	10:54:43 17 Dec 12		HG	
Hg	-.052	ppb	-282					
*** Sample ID: 16821-43				Seq: 49	10:56:54 17 Dec 12		HG	
Hg	2.83	ppb	11926					
*** Sample ID: 16821-44				Seq: 50	10:58:50 17 Dec 12		HG	
Hg	1.88	ppb	7887					
*** Sample ID: 16821-45				Seq: 51	11:00:50 17 Dec 12		HG	
Hg	2.45	ppb	10304					
*** Sample ID: 16821-46				Seq: 52	11:02:40 17 Dec 12		HG	
Hg	3.35	ppb	14141					
*** Sample ID: 16821-47				Seq: 53	11:04:21 17 Dec 12		HG	
Hg	1.26	ppb	5301					
*** Sample ID: 16821-48				Seq: 54	11:06:11 17 Dec 12		HG	
Hg	1.72	ppb	7219					
*** Sample ID: 16821-49				Seq: 55	11:08:13 17 Dec 12		HG	
Hg	3.33	ppb	14064					

$$\frac{(1.88)(100)}{(.61)(.771)(1000)} = \frac{188}{470.31} = 0.3997$$

Line	Conc.	Units	SD/RSD	1	2	3	4	5
*** Sample ID: 16821-50				Seq: 56	11:09:54 17 Dec 12		HG	
Hg	1.75	ppb	7357					
*** Sample ID: 16821-51				Seq: 57	11:11:46 17 Dec 12		HG	
Hg	1.40	ppb	5889					
*** Sample ID: 16821-52				Seq: 58	11:14:26 17 Dec 12		HG	
Hg	3.46	ppb	14606					
*** Sample ID: CCV6-5				Seq: 59	11:16:07 17 Dec 12		HG	
Hg	5.09	ppb	21527					
*** Sample ID: CCB5				Seq: 60	11:17:48 17 Dec 12		HG	
Hg	.051	ppb	157					
*** Sample ID: 16821-53				Seq: 61	11:19:31 17 Dec 12		HG	
Hg	2.01	ppb	8455					
*** Sample ID: 16821-54				Seq: 62	11:21:13 17 Dec 12		HG	
Hg	3.44	ppb	14519					
*** Sample ID: MB				Seq: 63	11:22:53 17 Dec 12		HG	
Hg	-.054	ppb	-288					
*** Sample ID: LCS				Seq: 64	11:24:56 17 Dec 12		HG	
Hg	2.59	ppb	10926					
*** Sample ID: LCSD				Seq: 65	11:26:39 17 Dec 12		HG	
Hg	2.57	ppb	10851					
*** Sample ID: 17244-1				Seq: 66	11:28:30 17 Dec 12		HG	
Hg	.057	ppb	182					
*** Sample ID: 17307-1				Seq: 67	11:30:15 17 Dec 12		HG	
Hg	.274	ppb	1099					

$$\frac{(1.4)(100)}{(0.62)(.811)(1000)} = \frac{140}{502.82} = 0.278$$

Line	Conc.	Units	SD/RSD	1	2	3	4	5
*** Sample ID: 17308-1				Seq: 68	11:32:04 17 Dec 12		HG	
Hg	.025	ppb	47					
*** Sample ID: CCV6-6				Seq: 69	11:33:46 17 Dec 12		HG	
Hg	5.10	ppb	21541					
*** Sample ID: CCB6				Seq: 70	11:35:29 17 Dec 12		HG	
Hg	.005	ppb	-39					

END OF ANALYSIS

WAH
12-17-12

YES NO N/A

E - The concentration of this analyte exceeds the calibration range of the instrument.

A - Indicates a Tentatively Identified Compound (TIC) is a suspected adol-condensation product.

X,Y,Z- Laboratory defined flags. The data reviewer must change these qualifiers during validation so that the data user may understand their impact on the data.

I. PACKAGE COMPLETENESS AND DELIVERABLES

CASE NUMBER: SDG 180-16821-1 LAB: TEST AMERICA

SITE NAME: FT. TOTTEN

PAH ONLY (WATER)

1.0 Data Completeness and Deliverables

1.1 Has all data been submitted in CLP deliverable format? [✓] ___ ___

ACTION: If not, note the effect on review of the data in the data assessment narrative.

2.0 Cover Letter, SDG Narrative

2.1 Is a laboratory narrative or cover letter present? [✓] ___ ___

2.2 Are case number and SDG number(s) contained in the narrative or cover letter? [✓] ___ ___

YES NO N/A

II. SEMIVOLATILE ANALYSES

1.0 Traffic Reports and Laboratory Narrative

1.1 Are the Traffic Report Forms present for all samples? COCs. ETC [✓] ___ ___

ACTION: If no, contact lab for replacement of missing or illegible copies.

1.2 Do the Traffic Reports or Lab Narrative indicate any problems with sample receipt, condition of samples, analytical problems or special notations affecting the quality of the data? ___ [✓] ___

ACTION: If any sample analyzed as a soil, other than TCLP, contains 50%-90% water, all data should be flagged as estimated ("J"). If a soil sample, other than TCLP, contains more than 90% water, all non-detects data are qualified as unusable (R), and detects are flagged "J".

ACTION: If samples were not iced, or if the ice was melted upon arrival at the laboratory and the cooler temperature was elevated (10°C), flag all positive results "J" and all non-detects "UJ".

2.0 Holding Times

2.1 Have any semivolatile technical holding times, determined from date of collection to date of extraction, been exceeded? ___ [✓] ___

Continuous extraction of water samples for semivolatile analysis must be started within 7 days of the date of collection. Soil/sediment samples must be extracted within 14 days of collection. Extracts must be analyzed within

YES NO N/A

40 days of the date of extraction.

Table of Holding Time Violations

(See Traffic Report)

Sample ID	Sample Matrix	Date Sampled	Date Lab Received	Date Extracted	Date Analyzed

ACTION: If technical holding times are exceeded, flag all positive results as estimated ("J") and sample quantitation limits as estimated ("UJ"), and document in the narrative that holding times were exceeded.

If analyses were done more than 14 days beyond holding time, either on the first analysis or upon re analysis, the reviewer must use professional judgement to determine the reliability of the data and the effects of additional storage on the sample results. At a minimum, all results should be qualified "J", but the reviewer may determine that non-detect data are unusable ("R"). If holding times are exceeded by more than 28 days, all non-detect data are unusable (R).

	YES	NO	N/A

3.0 Surrogate Recovery (Form II/Equivalent)

3.1 Have the semi volatile surrogate recoveries been listed on CLP Surrogate Recovery forms (Form II) for each of the following matrices:

a. Low Water	[✓]	___	___
b. Low/Med Soil	[ ]	___	✓

3.2 If so, are <u>all the samples listed</u> on the appropriate Surrogate Recovery Summary forms for each matrix:

a. Low Water	[✓]	___	___
b. Low/Med Soil	[ ]	___	✓

ACTION: If CLP deliverables are unavailable, document the effect(s) in data assessments. In some cases the lab may have to be contacted to obtain the data necessary to complete the validation.

3.3 Were outliers marked correctly with an asterisk? [ ] ___ ✓ ALL WITHIN LIMITS

ACTION: Circle all outliers in red.

3.4 Were two or more base neutral <u>OR</u> acid surrogate recoveries out of specification for any sample or method blank (Reviewer should use lab in house recovery limits. Use surrogate recovery limits from USEPA National Functional Guidlines January 2005 page 130, if in house limits are not available. See Method 8000B-43 or 80000C-24). [ ] ✓ ___ ALL WITHIN LIMITS

Note: Examine lab in house limits for reasonableness.

If yes, were samples re-analyzed? [ ] ___ ✓

	YES	NO	N/A
Were method blanks re-analyzed?	[ ]	___	✓

ACTION: If all surrogate recoveries are > 10% but two within the base-neutral or acid fraction do not meet method specifications, <u>for the affected fraction only (i.e. either base-neutral or acid compounds):</u>

1. Flag all positive results as estimated ("J").

2. Flag all non-detects as estimated detection limits ("UJ") when recoveries are less than the lower acceptance limit.

3. If recoveries are greater than the upper acceptance limit, do not qualify non-detects.

If any base-neutral <u>or</u> acid surrogate has a recovery of < 10%:

1. Positive results for the fraction with < 10% surrogate recovery are qualified with "J".

2. Non-detects for that fraction should be qualified as unusable (R) .

NOTE: Professional judgement should be used to qualify data that have method blank surrogate recoveries out of specification in both original and reanalyses. Check the internal standard areas.

3.5 Are there any transcription/calculation errors between raw data and Form II?	___	✓ [ ]	___

ACTION: If large errors exist, call lab for explanation/resubmittal, make any necessary corrections and document

YES NO N/A

effect in data assessments.

4.0 Matrix Spikes (Form III/Equivalent)

4.1 Have the semivolatile Matrix Spike and Matrix Spike Duplicate/or duplicate unspiked Sample recoveries been listed on the Recovery Form (Form III)? [✓] ___ ___

NOTE: Method 3500B/page 4 states the spiking compounds:

Base/neutrals	Acids
1,2,4-Trichlorobenzene	Pentachlorophenol
Acenaphthene	Phenol
2,4-Dinitrotoluene	2-Chlorophenol
Pyrene	4-Chloro-3-methylphenol
N-Nitroso-di-n-propylamine	4-Nitrophenol
1,4-Dichlorobenzene	

Note: Some projects may require the spiking of specific compounds of interest.

Note: See Method 8270D-sec 8.4.2 for deciding on whether to prepare and analyze duplicate samples or a martix spike/matrix spike duplicate. If samples are expected to contain target analytes, then laboratory may use one matrix spike and a duplicate analysis of an unspiked field sample. If samples are not expected to contain target analytes, laboratory should use a matrix spike and matrix spike duplicate pair.

4.2 Were matrix spikes analyzed at the required frequency for each of the following matrices:

a. Low Water [✓] ___ ___

b. Low Solid [ ] ___ ✓

c. Med Solid [ ] ___ ✓

YES NO N/A

ACTION: If any matrix spike data are missing, take the action specified in 3.2 above. It may be necessary to contact the lab to obtain the required data.

NOTE: If the data has not been reported on CLP equivalent form, then the laboratory must provide the information necessary to evaluate the spike recoveries in the MS and MSD. The required data which should have been provided by the lab include the analytes and concentrations used for spiking, background concentrations of the spiked analytes (i.e., concentrations in unspiked sample), methods and equations used to calculate the QC acceptance criteria for the spiked analytes, percent recovery data for all spiked analytes.

The data reviewer must verify that all reported equations and percent recoveries are correct before proceeding to the next section.

4.3 Were matrix spikes performed at concentration equal to 100ug/L for acid compounds, and 200ug/l for base compounds (Method 3500B-4), or those specified in project plan. PAHs only [✓] ___ ___

4.4 How many semivolatile spike recoveries are outside Laboratory in house MS/MSD recovery limits (use recovery limits values in Method 8270D-43&44 Table 6 if in house values not available).

Water

0 out of 18

Solids

___ out of NA

YES NO N/A

4.5 How many RPD's for matrix spike and matrix spike duplicate recoveries are outside QC limits?

Water	Solids
0 out of 18	____ out of NA

ACTION: Circle all outliers with red pencil.

ACTION: No action is taken on MS/MSD data alone. However, using informed professional judgement, the data reviewer may use the matrix spike and matrix spike duplicate results in conjunction with other QC criteria to determine the need for some qualification of the data.

4.6 Was a Laboratory Control Sample (LCS) analyzed with each analytical batch? [✓] ___ ___

NOTE: When the results of the matrix spike analysis indicate a potential problem due to the sample matrix itself, the LCS results are used to verify that the laboratory can perform the analysis in a clean matrix.

5.0 Blanks (Form IV/Equivalent)

5.1 Is the Method Blank Summary (Form IV) present? [✓] ___ ___

5.2 Frequency of Analysis:

Has a reagent/method blank analysis been reported per 20 samples of similar matrix, or concentration level, and for each extraction batch? [✓] ___ ___

5.3 Has a method blank been analyzed either after

	YES	NO	N/A
the calibration standard or at any other time during the analytical shift for each GC/MS system used ?	[✓]	___	___

ACTION: If any method blank data are missing, call lab for explanation/resubmittal. If not available, use professional judgement to determine if the associated sample data should be qualified.

5.4 Chromatography: review the blank raw data - chromatograms (RICs), quant reports or data system printouts and spectra.

Is the chromatographic performance (baseline stability) for each instrument acceptable for the semivolatiles?	[✓]	___	___

ACTION: Use professional judgement to determine the effect on the data.

6.0 Contamination

NOTE: "Water blanks", "drill blanks" and "distilled water blanks" are validated like any other sample and are not used to qualify the data. Do not confuse them with the other QC blanks discussed below.

6.1 Do any method/instrument/reagent blanks have positive results for target analytes and/or TICs? When applied as described below, the contaminant concentration in these blanks are multiplied by the sample dilution factor and corrected for percent moisture where necessary.	___	[✓]	___
6.2 Do any field/rinse/ blanks have positive results for target analytes and/or TICs (if required, see section 10 below)?	___	[✓]	✓

YES NO N/A

ACTION: Prepare a list of the samples associated with each of the contaminated blanks. (Attach a separate sheet.)

NOTE: All field blank results associated to a particular group of samples (may exceed one per case) must be used to qualify data. Blanks may not be qualified because of contamination in another blank. Field Blanks must be qualified for outlying surrogates, poor spectra, instrument performance or calibration QC problems.

ACTION: Follow the directions in the table below to qualify sample results due to contamination. Use the largest value from all the associated blanks. If gross contamination exists, all data in the associated samples should be qualified as unusable (R).

YES NO N/A

Blank Action for Semivolatile Analyses

Blank Type	Blank Result	Sample Result	Action for Samples
Method, Field	Detects	Not detected	No qualification required
	< CRQL *	< CRQL	Report CRQL value with a U
		≥ CRQL	No qualification required
	= CRQL *	< CRQL	Report CRQL value with a U
		≥ CRQL	No qualification required
	> CRQL *	< CRQL	Report CRQL value with a U
		≥ CRQL and < blank contamination	Report concentration of sample with a U
		≥ CRQL and ≥ blank contamination	No qualification required

NOTE: Analytes qualified "U" for blank contamination are still considered as "hits" when qualifying for calibration criteria.

NOTE: If the laboratory did not report TIC analyses, check the project plans to verify whether or not it was required.

6.3 Are there field/rinse/equipment blanks associated with every sample? [ ] ___ ✓

ACTION: For low level samples, note in data assessment that there is no associated field/rinse/equipment blank. Exception: samples taken from a drinking water tap do not have associated field blanks.

6.4 Was a instrument blank analyzed after each sample/dilution which contained a target compound

	YES	NO	N/A
that exceeded the initial calibration range.	[ ]	___	✓
6.5 Does the instrument blank have positive results for target analytes and/or TICs?	___	[✓]	✓

Note: Use professional judgement to determine if carryover occurred and qualify analytes accordingly.

7.0 GC/MS Apparatus and Materials

7.1 Did the lab use the proper gas chromatographic column for analysis of semivolatiles by Method 8270D? Check raw data, instrument logs or contact the lab to determine what type of column was used. The method requires the use of 30 m x 0.25 mm ID (or 0.32 mm ID), silicone-coated, fused silica, capillary column. [✓] ___ ___

ACTION: If the specified column, or equivalent, was not used, document the effects in the data assessment. Use professional judgement to determine the acceptability of the data.

8.0 GC/MS Instrument Performance Check (Form V/Equivalent)

8.1 Are the GC/MS Instrument Performance Check Forms (Form V) present for decafluorotriphenylphosphine (DFTPP)? [✓] ___ ___

NOTE: The performance solution should also contain 4,4-DDT, pentachlorophenol, and benzidine to verify injection port inertness and column performance. The degradation of DDT to DDE and DDD must be less than 20% total and the response of pentachlorophenol and benzidine should be within normal ranges for these compounds (based upon lab experience) and show no peak degradation or tailing before samples are analyzed. (see section 5.5

YES NO N/A

page 8270D-12).

8.2 Are the enhanced bar graph spectrum and mass/charge (m/z) listing for the DFTPP provided for each twelve hour shift? [✓] ___ ___

8.3 Has an instrument performance check solution been analyzed for every twelve hours of sample analysis per instrument? [✓] ___ ___

ACTION: List date, time, instrument ID, and sample analyses for which no associated GC/MS tuning data are available.

DATE	TIME	INSTRUMENT	SAMPLE NUMBERS
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

ACTION: If lab cannot provide missing data, reject ("R") all data generated outside an acceptable twelve hour calibration interval.

ACTION: If mass assignment is in error, flag all associated sample data as unusable (R).

8.4 Have the ion abundances been normalized to m/z 198? [✓] ___ ___

8.5 Have the ion abundance criteria been met for each instrument used? [✓] ___ ___

ACTION: List all data which do not meet ion abundance criteria (attach a separate sheet).

	YES	NO	N/A
ACTION: If ion abundance criteria are not met, take action specified in section 3.2			
8.6 Are there any transcription/calculation errors between mass lists and Form Vs? (Check at least two values but if errors are found, check more.)		✓	
8.7 Have the appropriate number of significant figures (two) been reported?	✓		
ACTION: If large errors exist, call lab for explanation/resubmittal, make necessary corrections and document effect in data assessments.			
8.8 Are the spectra of the mass calibration compound acceptable?	✓		
ACTION: Use professional judgement to determine whether associated data should be accepted, qualified, or rejected.			
9.0 Target Analytes			
9.1 Are the Organic Analysis Data Sheets (Form I) present with required header information on each page, for each of the following:			
a. Samples and/or fractions as appropriate	✓		
b. Matrix spikes and matrix spike duplicates	✓		
c. Blanks	✓		
9.2 Has any special cleanup, such as GPC, been performed on all soil/sediment sample extracts (see section 7.2, page 8270D-14)?			✓

	YES	NO	N/A

ACTION: If data suggests that extract cleanup was not performed, use professional judgement. Make note in the data assessment narrative.

9.3 Are the Reconstructed Ion Chromatograms, mass spectra for the identified compounds, and the data system printouts (Quant Reports) included in the sample package for each of the following?

a. Samples and/or fractions as appropriate	[✓]	___	___
b. Matrix spikes and matrix spike duplicates (Mass spectra not required)	[✓]	___	___
c. Blanks	[✓]	___	___

ACTION: If any data are missing, take action specified in 3.2 above.

9.4 Are the response factors shown in the Quant Report?	[✓]	___	___

9.5 Is chromatographic performance acceptable with respect to:

Baseline stability?	[✓]	___	___
Resolution?	[✓]	___	___
Peak shape?	[✓]	___	___
Full-scale graph (attenuation)?	[✓]	___	___
Other:_____	[✓]	___	___

ACTION: Use professional judgement to determine the acceptability of the data.

9.6 Are the lab-generated standard mass spectra of identified semivolatile compounds present for

	YES	NO	N/A
each sample?	[✓]	___	___

ACTION: If any mass spectra are missing, take action specified in 3.2 above. If the lab does not generate their own standard spectra, make a note in the data assessment narrative. If spectra are missing, reject all positive data.

9.7 Is the RRT of each reported compound within 0.06 RRT units of the standard RRT in the continuing calibration?	[✓]	___	___
9.8 Are all ions present in the standard mass spectrum at a relative intensity greater than 10% (of the most abundant ion) also present in the sample mass spectrum?	[✓]	___	___
9.9 Do the relative intensities of the characteristic ions in the sample agree within ± 30% of the corresponding relative intensities in the reference spectrum?	[✓]	___	___

ACTION: Use professional judgement to determine acceptability of data. If it is determined that incorrect identifications were made, all such data should be rejected (R), flagged "N" (Presumptive evidence of the presence of the compound) or changed to not detected (U) at the calculated detection limit. In order to be positively identified, the data must comply with the criteria listed in 9.7, 9.8, and 9.9.

ACTION: When sample carry-over is a possibility, professional judgement should be used to determine if instrument cross-contamination has affected any positive compound identification.

YES NO N/A

10.0 Tentatively Identified Compounds (TIC)

10.1 If Tentatively Identified Compounds were required for this project, are all Form Is, Part B present; and do listed TICs include scan number or retention time, estimated concentration and "JN" qualifier?

NOTE: Review sampling reports to determine if the lab was required to identify non target analytes (refer to section 7.6.2,page 8270D-21).

10.2 Are the mass spectra for the tentatively identified compounds and associated "best match" spectra included in the sample package for each of the following: [ ] ___ ✓

a. Samples and/or fractions as appropriate [ ] ___ ✓

b. Blanks [ ] ___ ✓

ACTION: If any TIC data are missing, take action specified in 3.2 above.

ACTION: Add "JN" qualifier only to analytes identified by CAS #.

10.3 Are any target compounds from one fraction listed as TIC compounds in another (e.g., an acid compound listed as a base neutral TIC)? ___ [ ] ✓

ACTION: i. Flag with "R" any target compound listed as a TIC.

ii. Make sure all rejected compounds are properly reported in the other fraction.

10.4 Are all ions present in the reference mass spectrum with a relative intensity greater than 10% (of the most abundant ion) also present in the

	YES	NO	N/A
sample mass spectrum?	[ ]	___	✓
10.5 Do TIC and "best match" standard relative ion intensities agree within ± 20%?	[ ]	___	✓

ACTION: Use professional judgement to determine acceptability of TIC identifications. If it is determined that an incorrect identification was made, change the identification to "unknown" or to some less specific identification (example: "C3 substituted benzene") as appropriate and remove "JN". Also, when a compound is not found in any blank, but is a suspected artifact of a common laboratory contaminant, the result should be qualified as unusable, "R."

11.0 Compound Quantitation and Reported Detection Limits

11.1 Are there any transcription/calculation errors in Form I results? Check at least two positive values. Verify that the correct internal standard, quantitation ion, and RRF were used to calculate Form I result. Were any errors found?	___	[✓]	___

NOTE: Structural isomers with similar mass spectra, but insufficient GC resolution (i.e. percent valley between the two peaks > 25%) should be reported as isomeric pairs. The reviewer should check the raw data to ensure that all such isomers were included in the quantitation (i.e., add the areas of the two coeluting peaks to calculate the total concentration).

11.2 Are the method detection limits adjusted to reflect sample dilutions and, for soils, sample moisture?	[✓]	___	✓ for soils

ADJUSTED FOR CORRECT SAMPLE VOLUMES 11/4/13

YES NO N/A

ACTION: If errors are large, call lab for explanation/resubmittal, make any necessary corrections and document effect in data assessments.

ACTION: When a sample is analyzed at more than one dilution, the lowest detection limits are used (unless a QC exceedance dictates the use of the higher detection limit from the diluted sample data). Replace concentrations that exceed the calibration range in the original analysis by crossing out the "E" and it's associated value on the original Form I (if present) and substituting the data from the analysis of the diluted sample. Specify which Form I is to be used, then draw a red " X" across the entire page of all Form I's that should not be used, including any in the summary package.

12.0 Standards Data (GC/MS)

12.1 Are the Reconstructed Ion Chromatograms, and data system printouts (Quant, Reports) present for initial and continuing calibration? [✓] ___ ___

ACTION: If any calibration standard data are missing, take action specified in 3.2 above.

13.0 GC/MS Initial Calibration (Form VI/Equivalent)

13.1 Is the Initial Calibration Form (Form VI/ Equivalent) present and complete for the semivolatile fraction? [✓] ___ ___

ACTION: If any calibration forms or standard row data are missing, take action specified in 3.2 above.

13.2 Are all base neutral or acid RRFs > 0.050? partially [✓] ___ ___

YES NO N/A

Check the **average RRFs** of the four System Performance Check Compounds (SPCCs): N-nitroso-di-n-propylamine, hexachlorocyclopentadiene, 2,4-dinitrophenol, and 4-nitrophenol. These compounds must have **average RRFs** greater than or equal to 0.05 before running samples and should not show any peak tailing.

ACTION: Circle all outliers in red.

ACTION: For any target analyte with **average RRF <0.05**

1. "R" all non-detects;

2. "J" all positive results.

13.3 Are response factors for base neutral or acid target analytes stable over the concentration range of the calibration (% Relative standard deviation [%RSD] < 20.0%)? [✓] ___ ___

NOTE: The % RSD for each individual Calibration Check Compound (CCC, Method 8270D-40 see Table 4) must be less than 30% before analysis can begin. If grater 30%, the lab must clean and recalibrate the instrument.

CALIBRATION CHECK COMPOUNDS

Base/Neutral Fraction	Acid Fraction
Acenaphthene	4-Chloro-3-methylphenol
1,4-Dichlorobenzene	2,4-Dichlorophenol
Hexachlorobutadiene	2-Nitrophenol
Diphenylamine	Phenol
Di-n-octyl phthalate	Pentachlorophenol
Fluoranthene	2,4,6-Trichlorophenol

YES NO N/A

Benzo(a)pyrene

ACTION: If the %RSD for any CCC >30% and no corrective action taken, then "J" qualify all positive hits and "UJ" qualify all non-detects.

ACTION: Circle all outliers in red.

ACTION: If the % RSD is ≥ 20.0%, qualify positive results for that analyte "J" and non-detects using professional judgement. When RSD > 90%, flag all non- detect results for that analyte "R," unusable. Alternatively, the lab should calculate first or second order regression fit of the calibration curve and select the fit which introduces the least amount of error.

NOTE: Analytes previously qualified "U" due to blank contamination are still considered as "hits" when qualifying for calibration criteria.

13.4 Did the laboratory calculate the calibration curve by the least squares regression fit? ___ [✓] ___

13.5 Are there any transcription/calculation errors in the reporting of average response factors (RRF) or % RSD? (Check at least two values but if errors are found, check more.) ___ [✓] ___

ACTION: Circle Errors in red.

ACTION: If errors are large, call lab for explanation/resubmittal, make any necessary corrections and note errors in data assessments.

13.5 Do the target compounds for this SDG include Pesticides? [ ] ___ ✓

	YES	NO	N/A
13.6 If the pesticide compounds include DDT, was the percent breakdown of DDT to DDD and DDE greater than 20%?	___	[ ]	✓

ACTION: If DDT percent breakdown exceeds 20%:

i. Qualify all positive results for DDT with "J". If DDT was not detected, but DDD and DDE results are positive, qualify the quantitation limit for DDT as unusable, "R".

ii. Qualify all positive results for DDD and DDE as presumptively present at an approximate concentration "JN".

14.0 GC/MS Calibration Verification (Form VII/Equivalent)

14.1 Are the Calibration Verification Forms (Form VII) present and complete for all compounds of interest?	[✓]	___	___
14.2 Has a calibration verification standard been analyzed for every twelve hours of sample analysis per instrument?	[✓]	___	___

ACTION: List below all sample analyses that were not within twelve hours of a calibration verification analysis for each instrument used.

_____

_____

_____

ACTION: If any forms are missing or no calibration verification standard has been analyzed within twelve hours of every sample analysis,

YES NO N/A

call lab for explanation/resubmittal. If continuing calibration data are not available, flag all associated sample data as unusable ("R").

14.3 Do any of the SPCCs have an RRF <0.05? ___ [✓] ___

If YES, make a note in data assessment if the lab did not take corrective action specified in section 7.4.4, page 8270D-18. [ ] ✓ ___

14.4 Do any of the CCCs have a %D between the initial and continuing RRF which exceeds 20.0%?

ACTION: If yes, make a note in data assessment.

14.5 Do any semivolatile compounds have a % Difference (% D) between the initial and continuing RRF which exceeds 20.0%? ___ [✓] ___

ACTION: Circle all outliers in red.

ACTION: Qualify both positive results and non-detects for the outlier compound(s) as estimated (J). When %D is above 90%, qualify all non-detects for that analyte as "R", unusable.

14.6 Do any semivolatile compounds have a RRF < 0.05? ___ [✓] ___

ACTION: Circle all outliers in red.

ACTION: If RRF < 0.05, qualify as unusable ("R") associated non-detects and "J" associated positive values.

14.7 Are there any transcription/calculation errors in the reporting of average response factors (RRF) or percent difference (%D) between initial and continuing RRFs? (Check at least two values but if errors are found, check more). ✓ ___ [✓] ___

YES NO N/A

ACTION: Compare the reported results for field duplicates and calculate the relative percent difference.

ACTION: Any gross variation between field duplicate results must be addressed in the reviewer narrative. However, if large differences exist, identification of field duplicates should be confirmed by contacting the sampler.

YES NO N/A

ACTION: Circle errors in red.

ACTION: If errors are large, call lab for explanation/resubmittal, make any necessary corrections and document effect(s) in the data assessments.

15.0 Internal Standards (Form VIII)

15.1 Are the internal standard areas (Form VIII) of every sample and blank within the upper and lower limits (-50% to + 100%) for each continuing calibration? ☑ ___ ___

ACTION: List each outlying internal standard below.

Sample ID	IS #	Area	LowerLimit	Upper Limit

(Attach additional sheets if necessary.)

Note: Check Table 5, 8270D-41 for associated analytes.

ACTION: i. If the internal standard area count is outside the upper or lower limit, flag with "J" all positive results and non-detects (U values) quantitated with this internal standard.

ii. Non-detects associated with IS > 100% should not be qualified.

YES NO N/A

iii. If the IS area is below the lower limit (<50%), qualify all associated non-detects (U-values) "J". If extremely low area counts are reported (<25%) or if performance exhibits a major abrupt drop off, flag all associated non-detects as unusable (R).

15.2 Are the retention times of all internal standards within 30 seconds of the associated calibration standard? [✓] ___ ___

ACTION: Professional judgement should be used to qualify data if the retention times differ by more than 30 seconds.

16.0 Laboratory Control Samples (LCS)

16.1 Were any LCS samples run in order to verify analytes which failed criteria for spike recovery? [ ] [✓] ___

16.2 Did the lab spike LCS sample spiked with the same analytes and the same concentrations as the matrix spike? [✓] ___ ___

16.3 Were the mean and standard deviation of all analytes within the QC acceptance ranges as shown in Table 6, 8270D-43? [✓] ___ ___

ACTION: If the recovery of any analyte falls out of the designated range, the analytical results for that compound is suspect and should be qualified "J" in the unspiked samples.

LCS - COMPOUNDS LESS THAN PERCENT REC. LOWER QC LIMIT - VALUES "J" FLAGGED.

17.0 Field Duplicates

17.1 Were any field duplicates submitted for semivolatile analysis? [✓] ___ ___

11/4/13

Client: WaterMark Environmental, Inc.

Job Number: 180-16821-1

Lab Control Sample - Batch: 180-57299

Method: 8270C/DoD
Preparation: 3520C

Lab Sample ID:	LCS 180-57299/2-A	Analysis Batch:	180-57768	Instrument ID:	731
Client Matrix:	Water	Prep Batch:	180-57299	Lab File ID:	V1208007.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1000 mL
Analysis Date:	12/08/2012 1305	Units:	ug/L	Final Weight/Volume:	1.0 mL
Prep Date:	12/05/2012 1001			Injection Volume:	2 uL
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Acenaphthene	20.0	12.4	62	45 - 110	
Acenaphthylene	20.0	13.1	66	50 - 105	
Anthracene	20.0	12.5	62	55 - 110	
Benzo[a]anthracene	20.0	12.9	64	55 - 110	
Benzo[a]pyrene	20.0	12.8	64	55 - 110	
Benzo[b]fluoranthene	20.0	11.0	55	45 - 120	
Benzo[g,h,i]perylene	20.0	12.5	63	40 - 125	
Benzo[k]fluoranthene	20.0	13.8	69	45 - 125	
Dibenz(a,h)anthracene	20.0	10.3	52	40 - 125	
Chrysene	20.0	12.3	61	55 - 110	
Fluoranthene	20.0	13.5	67	55 - 115	
Fluorene	20.0	12.2	61	50 - 110	
Indeno[1,2,3-cd]pyrene	20.0	11.0	55	45 - 125	
Naphthalene	20.0	12.0	60	40 - 100	
Phenanthrene	20.0	12.3	62	50 - 115	
Pyrene	20.0	12.5	63	50 - 130	
2-Methylnaphthalene	20.0	12.2	61	45 - 105	
1-Methylnaphthalene	20.0	11.7	58	10 - 140	

Surrogate	% Rec	Acceptance Limits
Nitrobenzene-d5 (Surr)	59	40 - 110
Terphenyl-d14 (Surr)	64	50 - 135
2-Fluorobiphenyl	55	50 - 110

Client: WaterMark Environmental, Inc.

Job Number: 180-16821-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 180-57299

Method: 8270C/DoD
Preparation: 3520C

MS Lab Sample ID:	180-16821-57	Analysis Batch:	180-57768	Instrument ID:	731
Client Matrix:	Water	Prep Batch:	180-57299	Lab File ID:	V1208011.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	830 mL
Analysis Date:	12/08/2012 1721			Final Weight/Volume:	1.0 mL
Prep Date:	12/05/2012 1001			Injection Volume:	2 uL
Leach Date:	N/A				

MSD Lab Sample ID:	180-16821-57	Analysis Batch:	180-57768	Instrument ID:	731
Client Matrix:	Water	Prep Batch:	180-57299	Lab File ID:	V1208012.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	860 mL
Analysis Date:	12/08/2012 1744			Final Weight/Volume:	1.0 mL
Prep Date:	12/05/2012 1001			Injection Volume:	2 uL
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Acenaphthene	71	70	45 - 110	4	30		
Acenaphthylene	75	72	50 - 105	8	30		
Anthracene	84	74	55 - 110	16	30		
Benzo[a]anthracene	79	72	55 - 110	13	30		
Benzo[a]pyrene	79	72	55 - 110	12	30		
Benzo[b]fluoranthene	71	62	45 - 120	16	30		
Benzo[g,h,i]perylene	77	71	40 - 125	11	30		M
Benzo[k]fluoranthene	74	70	45 - 125	8	30		
Dibenz(a,h)anthracene	67	60	40 - 125	14	30		
Chrysene	79	74	55 - 110	9	30		
Fluoranthene	78	78	55 - 115	4	30		
Fluorene	69	68	50 - 110	5	30		
Indeno[1,2,3-cd]pyrene	69	62	45 - 125	15	30		
Naphthalene	62	62	40 - 100	5	30		
Phenanthrene	74	73	50 - 115	5	30		
Pyrene	76	68	50 - 130	14	30		
2-Methylnaphthalene	62	65	45 - 105	2	30		
1-Methylnaphthalene	65	66	10 - 140	1	30		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Nitrobenzene-d5 (Surr)	60	61	40 - 110
Terphenyl-d14 (Surr)	75	69	50 - 135
2-Fluorobiphenyl	56	56	50 - 110

Client: WaterMark Environmental, Inc.

Job Number: 180-16821-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 180-57299

Method: 8270C/DoD
Preparation: 3520C

MS Lab Sample ID:	180-16821-57	Units:	ug/L
Client Matrix:	Water		
Dilution:	1.0		
Analysis Date:	12/08/2012 1721		
Prep Date:	12/05/2012 1001		
Leach Date:	N/A		

MSD Lab Sample ID:	180-16821-57
Client Matrix:	Water
Dilution:	1.0
Analysis Date:	12/08/2012 1744
Prep Date:	12/05/2012 1001
Leach Date:	N/A

Analyte	Sample Result/Qual		MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual	
Acenaphthene	0.046	U	24.1	23.3	17.0	16.3	
Acenaphthylene	0.046	U	24.1	23.3	18.0	16.7	
Anthracene	0.046	U	24.1	23.3	20.2	17.1	
Benzo[a]anthracene	0.046	U	24.1	23.3	19.1	16.7	
Benzo[a]pyrene	0.046	U	24.1	23.3	19.0	16.8	
Benzo[b]fluoranthene	0.046	U	24.1	23.3	17.0	14.5	
Benzo[g,h,i]perylene	0.046	U	24.1	23.3	18.5	16.5	M
Benzo[k]fluoranthene	0.11	U	24.1	23.3	17.8	16.4	
Dibenz(a,h)anthracene	0.046	U	24.1	23.3	16.0	13.9	
Chrysene	0.046	U	24.1	23.3	18.9	17.3	
Fluoranthene	0.039	J	24.1	23.3	18.8	18.1	
Fluorene	0.057	U	24.1	23.3	16.6	15.9	
Indeno[1,2,3-cd]pyrene	0.057	U	24.1	23.3	16.6	14.3	
Naphthalene	0.046	U	24.1	23.3	15.0	14.3	
Phenanthrene	0.086	U	24.1	23.3	17.8	17.0	
Pyrene	0.032	J	24.1	23.3	18.3	16.0	
2-Methylnaphthalene	0.034	U	24.1	23.3	14.8	15.2	
1-Methylnaphthalene	0.046	U	24.1	23.3	15.6	15.5	

$\frac{17}{24.1} \times 100 = 70.5\%$

$\frac{16.3}{23.3} \times 100 = 69.96\%$

FORM II
GC/MS SEMI VOA SURROGATE RECOVERY

Lab Name: TestAmerica Pittsburgh Job No.: 180-16821-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): Rxi-5SilMS ID: 0.32 (mm)

Client Sample ID	Lab Sample ID	NBZ #	FBP #	TPH #
MW-4R-FIL	180-16821-55	58	51	72
MW-4R-UNF	180-16821-56	61	56	66
MW-5-UNF	180-16821-57	66 ✓	57 ✓	72 ✓
FD-01	180-16821-58	62	57	71
MW-5-FIL	180-16821-59	68	62	69
	MB 180-57299/1-A	58	52	60
	LCS 180-57299/2-A	59	55	64
MW-5-UNF MS	180-16821-57 MS	60	56	75
MW-5-UNF MSD	180-16821-57 MSD	61	56	69

	QC LIMITS
NBZ = Nitrobenzene-d5 (Surr)	40-110
FBP = 2-Fluorobiphenyl	50-110
TPH = Terphenyl-d14 (Surr)	50-135

Column to be used to flag recovery values

FORM II 8270C/DoD

FORM III
GC/MS SEMI VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Pittsburgh Job No.: 180-16821-1

SDG No.:

Matrix: Water Level: Low Lab File ID: V1208007.D

Lab ID: LCS 180-57299/2-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Acenaphthene	20.0	12.4	62	45-110	
Acenaphthylene	20.0	13.1	66	50-105	
Anthracene	20.0	12.5	62	55-110	
Benzo[a]anthracene	20.0	12.9	64	55-110	
Benzo[a]pyrene	20.0	12.8	64	55-110	
Benzo[b]fluoranthene	20.0	11.0	55	45-120	
Benzo[g,h,i]perylene	20.0	12.5	63	40-125	
Benzo[k]fluoranthene	20.0	13.8	69	45-125	
Dibenz(a,h)anthracene	20.0	10.3	52	40-125	
Chrysene	20.0	12.3	61	55-110	
Fluoranthene	20.0	13.5	67	55-115	
Fluorene	20.0	12.2	61	50-110	
Indeno[1,2,3-cd]pyrene	20.0	11.0	55	45-125	
Naphthalene	20.0	12.0	60	40-100	
Phenanthrene	20.0	12.3	62	50-115	
Pyrene	20.0 ✓	12.5 ✓	63 ✓	50-130	
2-Methylnaphthalene	20.0	12.2	61	45-105	
1-Methylnaphthalene	20.0	11.7	58	10-140	

$\frac{12.5}{20} \times 100 = 62.5$

Column to be used to flag recovery and RPD values

FORM III
GC/MS SEMI VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Pittsburgh Job No.: 180-16821-1

SDG No.:

Matrix: Water Level: Low Lab File ID: V1208011.D

Lab ID: 180-16821-57 MS Client ID: MW-5-UNF MS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
Acenaphthene	24.1	0.046 U	17.0	71	45-110	
Acenaphthylene	24.1	0.046 U	18.0	75	50-105	
Anthracene	24.1	0.046 U	20.2	84	55-110	
Benzo[a]anthracene	24.1	0.046 U	19.1	79	55-110	
Benzo[a]pyrene	24.1	0.046 U	19.0	79	55-110	
Benzo[b]fluoranthene	24.1	0.046 U	17.0	71	45-120	
Benzo[g,h,i]perylene	24.1	0.046 U	18.5	77	40-125	
Benzo[k]fluoranthene	24.1	0.11 U	17.8	74	45-125	
Dibenz(a,h)anthracene	24.1	0.046 U	16.0	67	40-125	
Chrysene	24.1	0.046 U	18.9	79	55-110	
Fluoranthene	24.1	0.039 J	18.8	78	55-115	
Fluorene	24.1	0.057 U	16.6	69	50-110	
Indeno[1,2,3-cd]pyrene	24.1	0.057 U	16.6	69	45-125	
Naphthalene	24.1	0.046 U	15.0	62	40-100	
Phenanthrene	24.1	0.086 U	17.8	74	50-115	
Pyrene	24.1	0.032 J	18.3	76	50-130	
2-Methylnaphthalene	24.1	0.034 U	14.8	62	45-105	
1-Methylnaphthalene	24.1	0.046 U	15.6	65	10-140	

$\frac{18.3 - 0.032}{24.1} \times 100 = 75.8$

Column to be used to flag recovery and RPD values

FORM III 8270C/DoD

FORM III
GC/MS SEMI VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Pittsburgh Job No.: 180-16821-1

SDG No.:

Matrix: Water Level: Low Lab File ID: V1208012.D

Lab ID: 180-16821-57 MSD Client ID: MW-5-UNF MSD

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Acenaphthene	23.3	16.3	70	4	30	45-110	
Acenaphthylene	23.3	16.7	72	8	30	50-105	
Anthracene	23.3	17.1	74	16	30	55-110	
Benzo[a]anthracene	23.3	16.7	72	13	30	55-110	
Benzo[a]pyrene	23.3	16.8	72	12	30	55-110	
Benzo[b]fluoranthene	23.3	14.5	62	16	30	45-120	
Benzo[g,h,i]perylene	23.3	16.5	71	11	30	40-125	M
Benzo[k]fluoranthene	23.3	16.4	70	8	30	45-125	
Dibenz(a,h)anthracene	23.3	13.9	60	14	30	40-125	
Chrysene	23.3	17.3	74	9	30	55-110	
Fluoranthene	23.3	18.1	78	4	30	55-115	
Fluorene	23.3	15.9	68	5	30	50-110	
Indeno[1,2,3-cd]pyrene	23.3	14.3	62	15	30	45-125	
Naphthalene	23.3	14.3	62	5	30	40-100	
Phenanthrene	23.3	17.0	73	5	30	50-115	
Pyrene	23.3	16.0	68	14	30	50-130	
2-Methylnaphthalene	23.3	15.2	65	2	30	45-105	
1-Methylnaphthalene	23.3	15.5	66	1	30	10-140	

$\frac{16.0 - 0.032}{23.3} \times 100 = 68.5$

$\frac{75.8 - 68.5}{75.8 + 68.5/2} \times 100 = 10.1\%$

$\frac{18.3 - 16.0}{18.3 + 16/2} \times 100 = 13.4\%$ ✓

$\frac{(18.3 - 0.032) - (16 - 0.032)}{(18.3 - 0.032) + (16 - 0.032)/2} \times 100 =$

$= \frac{18.268 - 15.968}{18.268 + 15.968/2} \times 100 = 13.436$ ✓

Column to be used to flag recovery and RPD values

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TestAmerica Pittsburgh Job No.: 180-16821-1

SDG No.:

Lab File ID: V1029DF1.D DFTPP Injection Date: 10/29/2012

Instrument ID: 731 DFTPP Injection Time: 09:59

Analysis Batch No.: 53616

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30.0 - 60.0 % of mass 198	45.8	
68	Less than 2.0 % of mass 69	0.9	(2.0)1
69	Mass 69 relative abundance	45.6	
70	Less than 2.0 % of mass 69	0.0	(0.0)1
127	40.0 - 60.0 % of mass 198	52.5	
197	Less than 1.0 % of mass 198	0.0	
198	Base Peak, 100 % relative abundance	100.0	
199	5.0- 9.0 % of mass 198	6.9	
275	10.0 - 30.0 % of mass 198	21.7	
365	Greater than 1.0 % of mass 198	3.3	
441	Present but less than mass 443	8.0	(72.9)1
442	Greater than 40.0 % of mass 198	53.8	
443	17.0 - 23.0 % of mass 442	11.0	(20.4)2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	IC 180-53616/2	V1029IC1.D	10/29/2012	10:16
	IC 180-53616/3	V1029IC2.D	10/29/2012	10:40
	ICIS 180-53616/4	V1029IC3.D	10/29/2012	11:03
	IC 180-53616/5	V1029IC4.D	10/29/2012	11:27
	IC 180-53616/6	V1029IC5.D	10/29/2012	11:51
	IC 180-53616/7	V1029IC6.D	10/29/2012	12:14
	IC 180-53616/8	V1029IC7.D	10/29/2012	12:37
	IC 180-53616/9	V1029IC8.D	10/29/2012	13:01
	ICV 180-53616/10	V1029SV1.D	10/29/2012	13:24
	ICV 180-53616/11	V1029SV2.D	10/29/2012	14:11

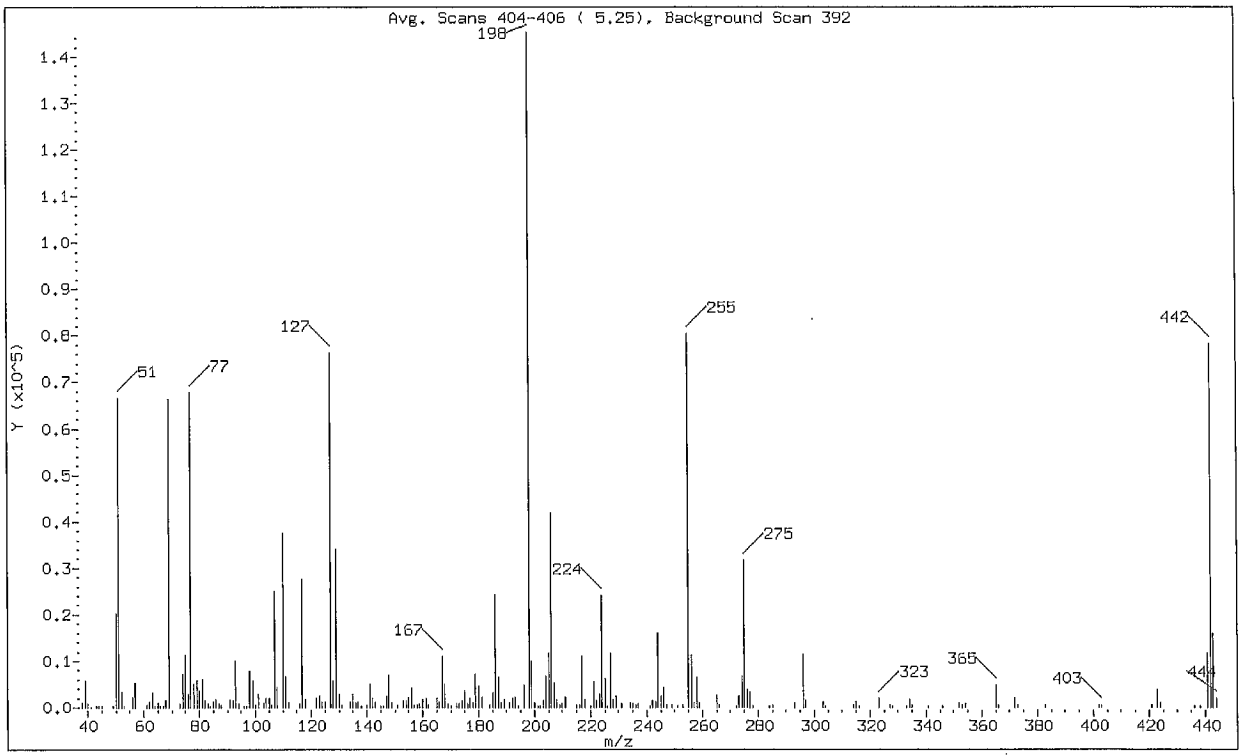
Data File: V1029DF1.D

Date: 29-OCT-2012 09:59

Client ID: DFTPP050 Instrument: 731.i

Sample Info: DFTPP 514390 Operator: 003200

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	30.00 - 60.00% of mass 198	45.79
68	Less than 2.00% of mass 69	0.91 (1.99)
69	Mass 69 relative abundance	45.60
70	Less than 2.00% of mass 69	0.00 (0.00)
127	40.00 - 60.00% of mass 198	52.47
197	Less than 1.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	6.85
275	10.00 - 30.00% of mass 198	21.72
365	Greater than 1.00% of mass 198	3.28
441	Present, but less than mass 443	7.99
442	Greater than 40.00% of mass 198	53.78
443	17.00 - 23.00% of mass 442	10.96 (20.39)

215/198 31544/145216 ×100 = 21.72

Data File: V1029DF1.D

Date: 29-OCT-2012 09:59

Client ID: DFTPP050 Instrument: 731.i

Sample Info: DFTPP 514390 Operator: 003200

51/198 66496/145216 ×100 = 45.79

Data File: \\PITSVR06\D\chem\731.i\TV102912DOD.b\V1029DF1.D
Spectrum: Avg. Scans 404-406 (5.25), Background Scan 392
Location of Maximum: 198.00
Number of points: 216

m/z	Y	m/z	Y	m/z	Y	m/z	Y
38.00	1028	110.00	37560	181.00	2118	255.00	80368
39.00	5664	111.00	6538	184.00	377	256.00	11207
40.00	685	112.00	902	185.00	3019	257.00	1056
41.00	102	116.00	643	186.00	24144	258.00	6471
43.00	212	117.00	27576	187.00	6470	259.00	987
44.00	189	118.00	1652	188.00	1060	265.00	2548
45.00	249	122.00	1931	189.00	1656	266.00	560
49.00	215	123.00	2414	191.00	1006	272.00	235
50.00	20208	124.00	1081	192.00	1864	273.00	2381
51.00	66496	125.00	1184	193.00	2174	274.00	6622
52.00	3335	127.00	76200	194.00	220	275.00	31544
53.00	237	128.00	5698	196.00	4644	276.00	3808
56.00	2116	129.00	34088	198.00	145216	277.00	3392
57.00	5132	130.00	2962	199.00	9948	278.00	285
61.00	576	131.00	584	200.00	1043	284.00	245
62.00	1108	134.00	1161	201.00	178	285.00	553
63.00	3084	135.00	2769	202.00	228	293.00	856
64.00	179	136.00	885	203.00	1332	296.00	11325
65.00	891	137.00	1261	204.00	6617	297.00	1376
66.00	180	138.00	246	205.00	11696	303.00	1173
67.00	176	140.00	520	206.00	41904	304.00	262
68.00	1320	141.00	5063	207.00	5347	314.00	529
69.00	66216	142.00	1941	208.00	1684	315.00	1214
73.00	696	143.00	1185	209.00	547	316.00	275
74.00	7198	145.00	180	210.00	637	323.00	1843
75.00	11206	146.00	283	211.00	2149	327.00	449
76.00	2764	147.00	2473	215.00	585	328.00	208
77.00	67784	148.00	7004	216.00	542	333.00	233
78.00	5056	149.00	1056	217.00	11030	334.00	1746
79.00	5592	151.00	529	218.00	1583	335.00	422
80.00	3623	153.00	1425	220.00	178	341.00	187
81.00	5970	154.00	1538	221.00	5522	346.00	265
82.00	1538	155.00	2154	222.00	1442	352.00	1035
83.00	699	156.00	4056	223.00	2754	353.00	469
84.00	204	157.00	459	224.00	24024	354.00	734
85.00	1091	158.00	458	225.00	6217	365.00	4763
86.00	1642	159.00	762	226.00	230	366.00	504
87.00	761	160.00	1593	227.00	11629	372.00	1824
88.00	393	161.00	2009	228.00	1672	373.00	494
91.00	1559	162.00	546	229.00	2279	383.00	434

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Pittsburgh | Job No.: 180-16821-1

SDG No.:

Client Sample ID: MW-5-UNF | Lab Sample ID: 180-16821-57

Matrix: Water | Lab File ID: V1208010.D

Analysis Method: 8270C/DoD | Date Collected: 11/28/2012 12:55

Extract. Method: 3520C | Date Extracted: 12/05/2012 10:01

Sample wt/vol: 870(mL) | Date Analyzed: 12/08/2012 16:58

Con. Extract Vol.: 1.0(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 57768 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
83-32-9	Acenaphthene	0.046	U	0.23	0.046	0.017
208-96-8	Acenaphthylene	0.046	U	0.23	0.046	0.017
120-12-7	Anthracene	0.046	U	0.23	0.046	0.018
56-55-3	Benzo[a]anthracene	0.046	U	0.23	0.046	0.017
50-32-8	Benzo[a]pyrene	0.046	U	0.23	0.046	0.015
205-99-2	Benzo[b]fluoranthene	0.046	U	0.23	0.046	0.018
191-24-2	Benzo[g,h,i]perylene	0.046	U	0.23	0.046	0.017
207-08-9	Benzo[k]fluoranthene	0.11	U	0.23	0.11	0.063
53-70-3	Dibenz(a,h)anthracene	0.046	U	0.23	0.046	0.018
218-01-9	Chrysene	0.046	U	0.23	0.046	0.016
206-44-0	Fluoranthene	0.039	J	0.23	0.046	0.019
86-73-7	Fluorene	0.057	U	0.23	0.057	0.025
193-39-5	Indeno[1,2,3-cd]pyrene	0.057	U	0.23	0.057	0.023
91-20-3	Naphthalene	0.046	U	0.23	0.046	0.016
85-01-8	Phenanthrene	0.086	U	0.23	0.086	0.049
129-00-0	Pyrene	0.032	J	0.23	0.046	0.018
91-57-6	2-Methylnaphthalene	0.034	U	0.23	0.034	0.014
90-12-0	1-Methylnaphthalene	0.046	U	0.23	0.046	0.016

CAS NO.	SURROGATE	%REC	Q	LIMITS
4165-60-0	Nitrobenzene-d5 (Surr)	66		40-110
1718-51-0	Terphenyl-d14 (Surr)	72		50-135
321-60-8	2-Fluorobiphenyl	57		50-110

TestAmerica Pittsburgh

Semivolatile REPORT SW-846 Method 8270

Data file : \\PITSVR06\D\chem\731.i\TV120812DOD.b\V1208010.D
Lab Smp Id: 180-16821-B-57-C Client Smp ID: MW-5-UNF
Inj Date : 08-DEC-2012 16:58
Operator : 003200 Inst ID: 731.i
Smp Info : 180-16821-B-57-C
Misc Info : 180-16821-B-57-C
Comment :
Method : \\PITSVR06\D\chem\731.i\TV120812DOD.b\T8270ddod.m
Meth Date : 10-Dec-2012 05:53 731.i Quant Type: ISTD
Cal Date : 29-OCT-2012 13:01 Cal File: V1029IC8.D
Als bottle: 12
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pah.sub
Target Version: 4.14
Processing Host: PITPC-502

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

FLUORANTHENE
(5172)(8) / (519197)(1.1766) = 41376 / 610897.1902 = 0.06773

(0.06773)(1000µl) / (870 ml)(2µl) = 0.0389 µg/L

PYRENE
(4447)(8) / (439772)(1.4533) = 35576 / 639120.6476 = 0.05566

(0.0566)(1000µl) / (870 ml)(2µl) = 0.032 µg/L

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	FINAL (ng)
* 1	1,4-Dichlorobenzene-d4	152	4.541	4.552	(1.000)	163480	8.00000	
* 2	Naphthalene-d8	136	5.503	5.514	(1.000)	572852	8.00000	
* 3	Acenaphthene-d10	164	6.844	6.855	(1.000)	306927	8.00000	
* 4	Phenanthrene-d10	188	7.987	7.993	(1.000)	519197	8.00000	
* 5	Chrysene-d12	240	10.049	10.049	(1.000)	439772	8.00000	
* 6	Perylene-d12	264	11.433	11.433	(1.000)	520453	8.00000	
51	Naphthalene	128	Compound Not Detected.					
62	2-Methylnaphthalene	142	Compound Not Detected.					
63	1-Methylnaphthalene	142	Compound Not Detected.					
79	Acenaphthylene	152	Compound Not Detected.					
82	Acenaphthene	153	Compound Not Detected.					
86	Dibenzofuran	168	Compound Not Detected.					
94	Fluorene	166	Compound Not Detected.					
115	Phenanthrene	178	Compound Not Detected.					
116	Anthracene	178	Compound Not Detected.					
119	Carbazole	167	Compound Not Detected.					
123	Fluoranthene	202	8.922	8.928	(1.117)	5172	0.06773	0.067733(H)
125	Pyrene	202	9.103	9.109	(0.906)	4447	0.05566	0.055663
136	Benzo(a)Anthracene	228	Compound Not Detected.					
137	Chrysene	228	Compound Not Detected.					
141	Benzo(b)fluoranthene	252	Compound Not Detected.					
142	Benzo(k)fluoranthene	252	Compound Not Detected.					
146	Benzo(a)pyrene	252	Compound Not Detected.					
149	Indeno(1,2,3-cd)pyrene	276	Compound Not Detected.					
150	Dibenz(a,h)anthracene	278	Compound Not Detected.					
151	Benzo(g,h,i)perylene	276	Compound Not Detected.					
$ 154	Nitrobenzene-d5	82	4.958	4.969	(0.901)	735937	26.5931	26.593
$ 155	2-Fluorobiphenyl	172	6.325	6.337	(0.924)	1405171	22.7640	22.764

(735937)(8) / (572852)(.3865) = 5887496 / 221407.298 = 26.59 FW = 66.4756

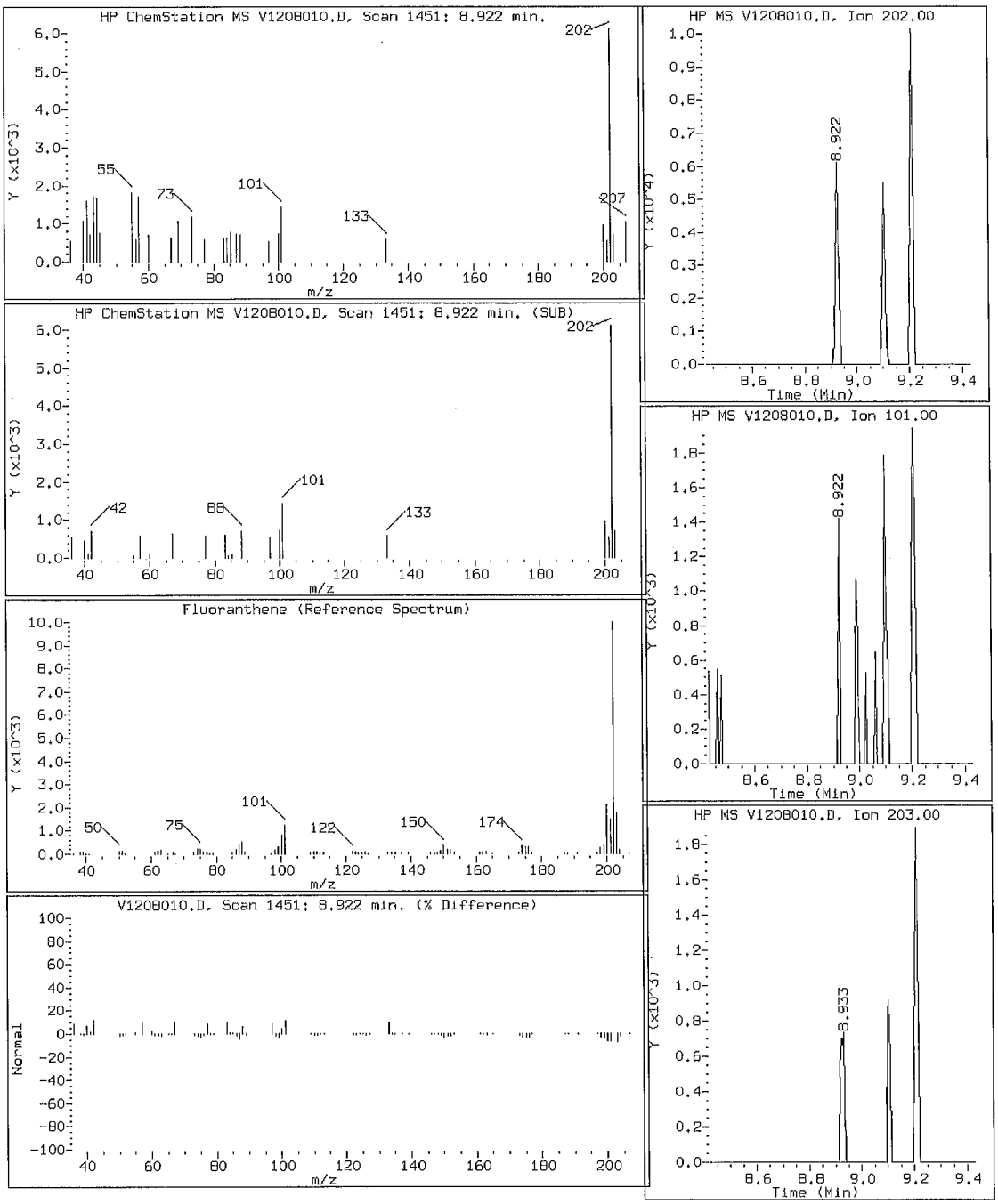
Data File: V1208010.D

Date: 08-DEC-2012 16:58

Client ID: MW-5-UNF Instrument: 731.i

Sample Info: 180-16821-B-57-C Operator: 003200

123 Fluoranthene



Data File: V1208010.D

Date: 08-DEC-2012 16:58

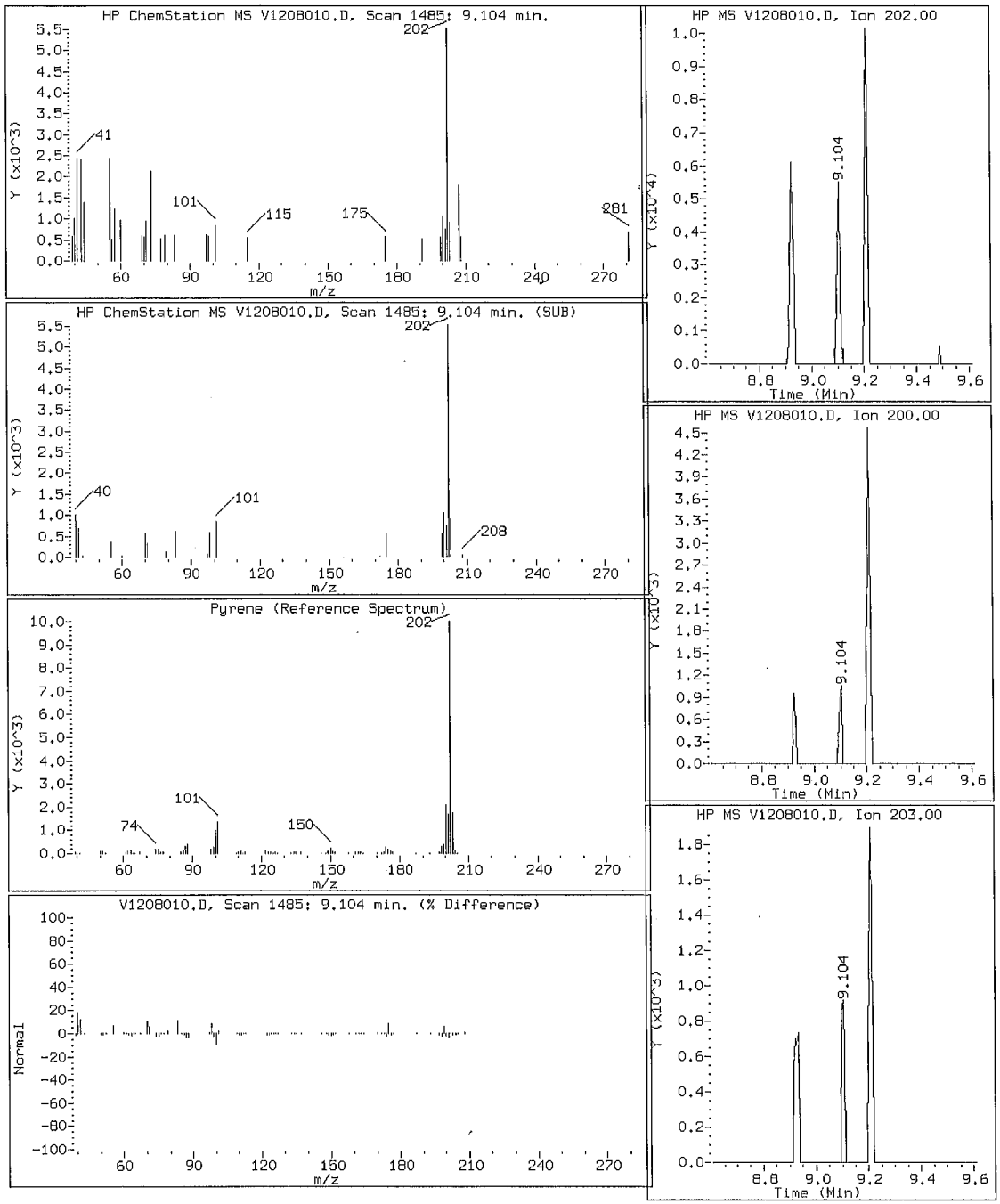
Client ID: MW-5-UNF

Instrument: 731.i

Sample Info: 180-16821-B-57-C

Operator: 003200

125 Pyrene



12/20/2012

FORM VI
GC/MS SEMI VOA INITIAL CALIBRATION DATA
INTERNAL STANDARD CURVE EVALUATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-16821-1 Analy Batch No.: 53616

SDG No.:

Instrument ID: 731 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/29/2012 10:16 Calibration End Date: 10/29/2012 13:01 Calibration ID: 7197

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
N-Nitrosopyrrolidine	0.4671 0.5104	0.5003 0.5115	0.5213 0.4988	0.5163	0.5069	Ave		0.5041				3.3		15.0			
Acetophenone	1.7005 1.6751	1.6296 1.6566	1.7456 1.6087	1.7154	1.6874	Ave		1.6774				2.7		15.0			
Methylphenol, 3 & 4	1.1903 1.1422	1.1926 1.1239	1.1732 1.1215	1.1930	1.1562	Ave		1.1616				2.6		15.0			
N-Nitrosodi-n-propylamine	0.7399 0.7390	0.7782 0.7159	0.7662 0.7009	0.7703	0.7544	Ave		0.7456			0.0500	3.6		15.0			
Hexachloroethane	0.7320 0.6655	0.6609 0.6561	0.7047 0.6332	0.6794	0.6748	Ave		0.6758				4.5		15.0			
Nitrobenzene	0.3933 0.3522	0.3716 0.3624	0.3796 0.3662	0.3674	0.3705	Ave		0.3704				3.3		15.0			
Isophorone	0.5631 0.5634	0.5561 0.5927	0.5746 0.5868	0.5711	0.5853	Ave		0.5741				2.3		15.0			
2-Nitrophenol	0.1962 0.2159	0.1960 0.2207	0.1965 0.2265	0.2131	0.2163	Ave		0.2101				5.8		30.0			
2,4-Dimethylphenol	0.3711 0.3473	0.3544 0.3606	0.3608 0.3643	0.3520	0.3693	Ave		0.3600				2.3		15.0			
Benzoic acid	0.2028 0.2349	0.2071 0.2388	0.2171 0.2435	0.2168	0.2324	Ave		0.2242				6.8		15.0			
Bis(2-chloroethoxy)methane	0.3375 0.3599	0.3451 0.3699	0.3343 0.3733	0.3443	0.3698	Ave		0.3543				4.5		15.0			
2,4-Dichlorophenol	0.3295 0.3218	0.2922 0.3334	0.3060 0.3448	0.3093	0.3321	Ave		0.3211				5.4		30.0			
1,2,4-Trichlorobenzene	0.3813 0.4035	0.3565 0.4194	0.3797 0.4277	0.3931	0.3916	Ave		0.3941				5.8		15.0			
Naphthalene ✓	1.0450 1.0831	1.0291 1.1504	1.0293 1.1733	1.0588	1.0797	Ave		1.0811 ✓				5.0 ✓		15.0			
4-Chloroaniline	0.4585 0.4506	0.4019 0.4659	0.4148 0.4698	0.4280	0.4439	Ave		0.4417				5.6		15.0			
2,6-Dichlorophenol	0.3210 0.3701	0.3564 0.3947	0.3401 0.4042	0.3533	0.3819	Ave		0.3652				7.7		15.0			
Hexachlorobutadiene	0.2274 0.2437	0.2261 0.2586	0.2300 0.2679	0.2337	0.2481	Ave		0.2419				6.4		30.0			
Caprolactam	0.0640 0.0886	0.0678 0.0940	0.0731 0.0951	0.0817	0.0911	Ave		0.0819				14.9		15.0			
4-Chloro-3-methylphenol	0.2907 0.2869	0.2715 0.2921	0.2769 0.2994	0.2741	0.2957	Ave		0.2859				3.7		30.0			
2-Methylnaphthalene ✓	0.7164 0.7139	0.6502 0.7644	0.6661 0.7787	0.6768	0.7179	Ave		0.7105 ✓				6.4 ✓		15.0			

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA INITIAL CALIBRATION DATA
INTERNAL STANDARD CURVE EVALUATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-16821-1 Analy Batch No.: 53616

SDG No.:

Instrument ID: 731 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/29/2012 10:16 Calibration End Date: 10/29/2012 13:01 Calibration ID: 7197

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
1-Methylnaphthalene	0.6633 0.6739	0.6153 0.7079	0.6384 0.7257	0.6235	0.6747	Ave		0.6653				5.8		15.0			
Hexachlorocyclopentadiene	0.3939 0.5241	0.4019 0.5618	0.4212 0.5634	0.4451	0.4611	Ave		0.4716			0.0500	14.7		15.0			
2,4,6-Trichlorophenol	0.4410 0.4860	0.3869 0.5180	0.4502 0.5111	0.4324	0.4363	Ave		0.4577				9.7		30.0			
2,4,5-Trichlorophenol	0.4978 0.5229	0.4286 0.5415	0.4811 0.5617	0.4851	0.4700	Ave		0.4986				8.5		15.0			
1,1'-Biphenyl	1.5844 1.8204	1.5089 1.9329	1.6050 1.9666	1.6145	1.6441	Ave		1.7096				10.1		15.0			
2-Chloronaphthalene	1.3028 1.4112	1.1325 1.5027	1.2706 1.5322	1.2447	1.2742	Ave		1.3339				10.2		15.0			
2-Nitroaniline	0.3194 0.3418	0.2895 0.3527	0.3279 0.3542	0.3176	0.3289	Ave		0.3290				6.4		15.0			
Dimethyl phthalate	1.3448 1.4848	1.2650 1.5300	1.3378 1.5420	1.3314	1.3539	Ave		1.3987				7.5		15.0			
2,6-Dinitrotoluene	0.2385 0.3171	0.2428 0.3301	0.2733 0.3342	0.2862	0.2898	Ave		0.2890				12.7		15.0			
Acenaphthylene	1.8365 1.9166	1.6066 2.0605	1.7430 2.0877	1.7043	1.7656	Ave		1.8401				9.3		15.0			
3-Nitroaniline	0.2386 0.3482	0.2454 0.3481	0.2973 0.3570	0.3279	0.3099	Ave		0.3090				14.9		15.0			
Acenaphthene	1.1695 1.2849	1.0384 1.3715	1.1161 1.3766	1.1238	1.1455	Ave		1.2033				10.4		30.0			
2,4-Dinitrophenol	0.1610 0.2174	0.1330 0.2318	0.1705 0.2408	0.1816	0.1908	Qua	0.1933	4.9533	-0.380		0.0500			15.0	0.9985		0.9900
4-Nitrophenol	0.2582 0.2662	0.2317 0.2646	0.2497 0.2629	0.2737	0.2589	Ave		0.2582			0.0500	4.9		15.0			
2,4-Dinitrotoluene	0.3347 0.4161	0.3166 0.4387	0.3714 0.4458	0.3893	0.4039	Ave		0.3896				11.9		15.0			
Dibenzofuran	1.7541 1.8519	1.4850 1.9309	1.7229 2.0607	1.6908	1.6620	Ave		1.7698				10.0		15.0			
2,3,5,6-Tetrachlorophenol	0.3014 0.3928	0.3129 0.4315	0.3282 0.4390	0.3412	0.3613	Ave		0.3635				14.5		15.0			
2,3,4,6-Tetrachlorophenol	0.3033 0.3986	0.3139 0.4292	0.3361 0.4235	0.3485	0.3650	Ave		0.3648				13.2		15.0			
Diethyl phthalate	1.2574 1.4799	1.2214 1.5337	1.3480 1.5727	1.3650	1.3460	Ave		1.3905				9.1		15.0			
4-Chlorophenyl phenyl ether	0.5994 0.8024	0.5955 0.8618	0.6634 0.8612	0.6872	0.6986	Ave		0.7212				15.0		15.0			

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA INITIAL CALIBRATION DATA
INTERNAL STANDARD CURVE EVALUATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-16821-1 Analy Batch No.: 53616

SDG No.:

Instrument ID: 731 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/29/2012 10:16 Calibration End Date: 10/29/2012 13:01 Calibration ID: 7197

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Fluorene	1.2837 1.6076	1.1962 1.7187	1.2629 1.7603	1.3077	1.3896	Qua	0.1067	0.6571	-0.006					15.0	0.9992		0.9900
4-Nitroaniline	0.2963 0.3883	0.2579 0.4178	0.3141 0.4191	0.3206	0.3547	Qua	0.1082	2.6402	-0.072					15.0	0.9993		0.9900
4,6-Dinitro-2-methylphenol	+++++ 0.1560	0.1111 0.1659	0.1308 0.1664	0.1462	0.1487	Ave		0.1464				13.6		15.0			
N-Nitrosodiphenylamine	0.6068 0.6221	0.5470 0.6836	0.5698 0.6908	0.5805	0.5783	Ave		0.6099				8.7		30.0			
1,2-Diphenylhydrazine(as Azobenzene)	0.8141 0.8021	0.7955 0.8313	0.7712 0.8229	0.7821	0.7905	Ave		0.8012				2.6		15.0			
4-Bromophenyl phenyl ether	0.1846 0.2450	0.2080 0.2681	0.2151 0.2719	0.2199	0.2225	Ave		0.2294				13.1		15.0			
Hexachlorobenzene	0.2164 0.2534	0.2073 0.2753	0.2146 0.2847	0.2146	0.2309	Ave		0.2371				12.7		15.0			
Atrazine	0.1996 0.2373	0.1938 0.2484	0.2151 0.2507	0.2256	0.2203	Ave		0.2239				9.4		15.0			
Pentachlorophenol	0.1630 0.1755	0.1551 0.1895	0.1576 0.2007	0.1609	0.1695	Ave		0.1715				9.5		30.0			
Phenanthrene	1.1417 1.2186	1.1169 1.3172	1.1229 1.3619	1.1353	1.1344	Ave		1.1936				8.1		15.0			
Anthracene	1.1193 1.2544	1.0527 1.3227	1.0893 1.3819	1.1257	1.1514	Ave		1.1872				10.0		15.0			
Carbazole	0.9152 0.9875	0.8969 1.0726	0.9420 1.0947	0.9718	0.9516	Ave		0.9790				7.2		15.0			
Di-n-butyl phthalate	1.2519 1.3882	1.1840 1.4968	1.2482 1.4461	1.2847	1.2954	Ave		1.3244				8.2		15.0			
Fluoranthene	1.0859 1.2363	1.0250 1.3088	1.0990 1.3567	1.1503	1.1506	Ave		1.1766				9.7		30.0			
Benzidine	+++++ 0.5625	0.3505 0.5654	0.4354 0.5724	0.4569	0.4874	Qua	0.1667	1.7966	-0.015					15.0	0.9994		0.9900
Pyrene	1.3706 1.4663	1.5235 1.3961	1.4499 1.4963	1.4223	1.5016	Ave		1.4533				3.7		15.0			
Butyl benzyl phthalate	0.5741 0.7078	0.6881 0.6966	0.6601 0.7009	0.6977	0.7190	Ave		0.6805				6.8		15.0			
3,3'-Dichlorobenzidine	0.3845 0.5132	0.4118 0.5261	0.4213 0.5633	0.4531	0.4860	Ave		0.4699				13.3		15.0			
Bis(2-ethylhexyl) phthalate	0.8145 0.9845	0.9438 1.0011	0.8836 1.0447	0.9461	0.9890	Ave		0.9509				7.7		15.0			
Benzo[a]anthracene	1.2609 1.2362	1.2071 1.3258	1.2048 1.3518	1.2976	1.3005	Ave		1.2731				4.3		15.0			

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA INITIAL CALIBRATION DATA
INTERNAL STANDARD CURVE EVALUATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-16821-1 Analy Batch No.: 53616

SDG No.:

Instrument ID: 731 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/29/2012 10:16 Calibration End Date: 10/29/2012 13:01 Calibration ID: 7197

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Chrysene	1.1756 1.2723	1.2010 1.2044	1.2513 1.3224	1.1808	1.1732	Ave		1.2226				4.4		15.0			
Di-n-octyl phthalate	1.1724 1.5915	1.2886 1.5664	1.3959 1.7497	1.5438	1.5830	Ave		1.4864				12.6		30.0			
Benzo[b]fluoranthene	1.3473 1.4126	1.3098 1.5812	1.3045 1.8093	1.3640	1.3961	Ave		1.4406				12.0		15.0			
Benzo[k]fluoranthene	1.2127 1.4365	1.2370 1.4024	1.3302 1.4426	1.3631	1.3452	Ave		1.3462				6.3		15.0			
Benzo[a]pyrene	0.8967 1.1473	1.0050 1.1503	1.0754 1.2337	1.1146	1.1096	Ave		1.0916				9.4		30.0			
Indeno[1,2,3-cd]pyrene	0.9798 1.4134	1.1379 1.4208	1.1765 1.5507	1.2875	1.3112	Ave		1.2847				14.2		15.0			
Dibenz(a,h)anthracene	0.8300 1.1682	0.9275 1.2014	0.9778 1.3265	1.0733	1.0867	Ave		1.0739				14.9		15.0			
Benzo[g,h,i]perylene	0.8568 1.1269	0.9526 1.1431	1.0168 1.2159	1.0512	1.0683	Ave		1.0539				10.8		15.0			
2-Fluorophenol (Surr)	1.1266 1.1643	1.1758 1.1204	1.2643 1.0726	1.1912	1.1836	Ave		1.1623				4.9		15.0			
Phenol-d5 (Surr)	1.4589 1.3621	1.3882 1.2876	1.4892 1.2701	1.4056	1.3781	Ave		1.3800				5.5		15.0			
Nitrobenzene-d5 (Surr)	0.3752 0.3838	0.3691 0.3923	0.3780 0.4021	0.3924	0.3989	Ave		0.3865				3.1		15.0			
2-Fluorobiphenyl	1.4430 1.7113	1.4297 1.8278	1.5160 1.8628	1.5208	1.5600	Ave		1.6089				10.5					
2,4,6-Tribromophenol (Surr)	0.0886 0.1195	0.0918 0.1330	0.0875 0.1319	0.0945	0.1055	Qua	0.1350	8.5657	-0.904					15.0	0.9983		0.9900
Terphenyl-d14 (Surr)	0.8956 0.9915	0.9348 0.9928	0.9223 1.0198	0.9178	0.9796	Ave		0.9568				4.7		15.0			

PYRENE
1.3706 − 1.4533)² = 0.00683929
1.5235 " = 0.00492804
1.4499 " = 0.00001156
1.4223 " = 0.000961
1.5016 " = 0.00233289
1.4663 " = 0.000169
1.3961 " = 0.00327184
1.4963 " = 0.001849
0.020362262/7 = √0.002908946 = 0.0539/1.4533 x100 = 3.7%

FLUORANTHENE
1.0859 − 1.1766)² = 0.00822649
1.0250 " = 0.02298256
1.0990 " = 0.00602176
1.1503 " = 0.00069169
1.1506 " = 0.000676
1.2363 " = 0.00356409
1.3033 " = 0.01747684
1.3567 " = 0.03243601
9.4126/8 = 1.1766
0.092075447 = √0.013153634 = 0.11469/1.1766 x100 = 9.7%

Note: The ml coefficient is the same as Ave RRF for an Ave curve type.

11.6266/8 = 1.4533

TestAmerica Pittsburgh

Semivolatile REPORT SW-846 Method 8270

Data file : \\PITSVR06\D\chem\731.i\TV102912DOD.b\V1029IC1.D
Lab Smp Id: IC 495220
Inj Date : 29-OCT-2012 10:16
Operator : 003200 Inst ID: 731.i
Smp Info : IC 495220
Misc Info : TV102912DOD.b,T8270ddod.m,dod.sub
Comment :
Method : \\PITSVR06\D\chem\731.i\TV102912DOD.b\T8270ddod.m
Meth Date : 30-Oct-2012 05:49 731.i Quant Type: ISTD
Cal Date : 29-OCT-2012 10:16 Cal File: V1029IC1.D
Als bottle: 2 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dod.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 1	1,4-Dichlorobenzene-d4	152	4.564	4.564	(1.000)	146506	8.00000	
* 2	Naphthalene-d8	136	5.531	5.531	(1.000)	508647	8.00000	
* 3	Acenaphthene-d10	164	6.883	6.883	(1.000)	265987	8.00000	
* 4	Phenanthrene-d10	188	8.037	8.037	(1.000)	437269	8.00000	
* 5	Chrysene-d12	240	10.104	10.104	(1.000)	354565	8.00000	
* 6	Perylene-d12	264	11.541	11.541	(1.000)	361213	8.00000	
198	1,4-Dioxane	88	1.439	1.439	(0.315)	4952	0.40000	0.65056(M)
10	N-Nitrosodimethylamine	74	1.930	1.930	(0.423)	3677	0.40000	0.40043
9	Pyridine	79	2.069	2.069	(0.453)	7363	0.40000	0.39717(M)
206	Benzaldehyde	77	4.217	4.217	(0.924)	3407	0.40000	0.39239
21	Aniline	93	4.308	4.308	(0.944)	12685	0.40000	0.39386
22	Phenol	94	4.297	4.297	(0.941)	12257	0.40000	0.43101
23	bis(2-Chloroethyl)ether	93	4.361	4.361	(0.956)	7712	0.40000	0.41897
24	2-Chlorophenol	128	4.399	4.399	(0.964)	10583	0.40000	0.42158
26	1,3-Dichlorobenzene	146	4.521	4.521	(0.991)	11827	0.40000	0.40128
27	1,4-Dichlorobenzene	146	4.575	4.575	(1.002)	12760	0.40000	0.42074
28	1,2-Dichlorobenzene	146	4.692	4.692	(1.028)	11222	0.40000	0.39170
29	Benzyl Alcohol	108	4.666	4.666	(1.022)	4542	0.40000	0.32334
30	2-Methylphenol	108	4.756	4.756	(1.042)	8805	0.40000	0.42709
31	2,2'-oxybis(1-Chloropropane)	45	4.772	4.772	(1.046)	11108	0.40000	0.43540
37	Acetophenone	105	4.863	4.863	(1.066)	12457	0.40000	0.40553
32	N-Nitroso-di-n-propylamine	70	4.869	4.869	(1.067)	5420	0.40000	0.39694
192	4-Methylphenol	108	4.869	4.869	(1.067)	8719	0.40000	0.40987
34	Hexachloroethane	117	4.954	4.954	(1.085)	5362	0.40000	0.43325
35	Nitrobenzene	77	4.991	4.991	(0.902)	10003	0.40000	0.42474
36	N-Nitrosopyrrolidine	100	4.837	4.837	(1.060)	3422	0.40000	0.37070
41	Isophorone	82	5.173	5.173	(0.935)	14320	0.40000	0.39228
42	2-Nitrophenol	139	5.237	5.237	(0.947)	4989	0.40000	0.37339
43	2,4-Dimethylphenol	107	5.269	5.269	(0.953)	9438	0.40000	0.41235

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
44	bis(2-Chloroethoxy)methane	93	5.344	5.344	(0.966)	8583	0.40000	0.38105
48	2,4-Dichlorophenol	162	5.419	5.419	(0.980)	8379	0.40000	0.41038
49	Benzoic Acid	122	5.296	5.296	(0.958)	25787	2.00000	1.8092(M)
50	1,2,4-Trichlorobenzene	180	5.488	5.488	(0.992)	9698	0.40000	0.38703
51	Naphthalene	128	5.547	5.547	(1.003)	26576	0.40000	0.38663
52	4-Chloroaniline	127	5.584	5.584	(1.010)	11661	0.40000	0.41526
54	2,6-Dichlorophenol	162	5.595	5.595	(1.012)	8163	0.40000	0.35155
56	Hexachlorobutadiene	225	5.654	5.654	(1.022)	5783	0.40000	0.37595
208	Caprolactam	113	5.814	5.814	(1.051)	1627	0.40000	0.31237
59	4-Chloro-3-Methylphenol	107	5.948	5.948	(1.075)	7393	0.40000	0.40672
62	2-Methylnaphthalene	142	6.076	6.076	(1.099)	18219	0.40000	0.40328
63	1-Methylnaphthalene	142	6.151	6.151	(1.112)	16870	0.40000	0.39879
64	Hexachlorocyclopentadiene	237	6.204	6.204	(0.901)	5238	0.40000	0.33408
66	2,4,6-Trichlorophenol	196	6.290	6.290	(0.914)	5865	0.40000	0.38537
67	2,4,5-Trichlorophenol	196	6.316	6.316	(0.918)	6621	0.40000	0.39940
209	1,1'-Biphenyl	154	6.434	6.434	(0.935)	21072	0.40000	0.37071
70	2-Chloronaphthalene	162	6.450	6.450	(0.937)	17327	0.40000	0.39070
73	2-Nitroaniline	65	6.519	6.519	(0.947)	4248	0.40000	0.38834
76	Dimethylphthalate	163	6.664	6.664	(0.968)	17885	0.40000	0.38458
78	2,6-Dinitrotoluene	165	6.706	6.706	(0.974)	3172	0.40000	0.33011
79	Acenaphthylene	152	6.770	6.770	(0.984)	24424	0.40000	0.39922
81	3-Nitroaniline	138	6.835	6.835	(0.993)	3173	0.40000	0.30881
82	Acenaphthene	153	6.909	6.909	(1.004)	15554	0.40000	0.38878
83	2,4-Dinitrophenol	184	6.915	6.915	(1.005)	10709	2.00000	1.6874
85	4-Nitrophenol	109	6.957	6.957	(1.011)	17172	2.00000	2.0000
86	Dibenzofuran	168	7.043	7.043	(1.023)	23328	0.40000	0.39645
87	2,4-Dinitrotoluene	165	7.016	7.016	(1.019)	4451	0.40000	0.34364
91	2,3,5,6-Tetrachlorophenol	232	7.102	7.102	(1.032)	4009	0.40000	0.33167
88	2,3,4,6-Tetrachlorophenol	232	7.134	7.134	(1.036)	4034	0.40000	0.33263
93	Diethylphthalate	149	7.203	7.203	(1.047)	16723	0.40000	0.36171
94	Fluorene	166	7.305	7.305	(1.061)	17072	0.40000	0.35637
95	4-Chlorophenyl-phenylether	204	7.299	7.299	(1.061)	7972	0.40000	0.33246
96	4-Nitroaniline	138	7.305	7.305	(1.061)	3941	0.40000	0.34248
98	4,6-Dinitro-2-methylphenol	198	7.337	7.337	(0.913)	10948	2.00000	1.4240
99	N-Nitrosodiphenylamine (1)	169	7.390	7.390	(0.920)	13266	0.40000	0.39796
100	1,2-Diphenylhydrazine	77	7.422	7.422	(0.924)	17800	0.40000	0.40646
106	4-Bromophenyl-phenylether	248	7.679	7.679	(0.955)	4035	0.40000	0.32183
107	Hexachlorobenzene	284	7.743	7.743	(0.963)	4731	0.40000	0.36500
210	Atrazine	200	7.791	7.791	(0.969)	4364	0.40000	0.35666
111	Pentachlorophenol	266	7.887	7.887	(0.981)	17824	2.00000	1.9017
115	Phenanthrene	178	8.053	8.053	(1.002)	24961	0.40000	0.38260
116	Anthracene	178	8.090	8.090	(1.007)	24472	0.40000	0.37714
119	Carbazole	167	8.207	8.207	(1.021)	20010	0.40000	0.37393
120	Di-n-Butylphthalate	149	8.464	8.464	(1.053)	27371	0.40000	0.37810
123	Fluoranthene	202	8.982	8.982	(1.118)	23741	0.40000	0.36917
124	Benzidine	184	9.062	9.062	(0.897)	2678	0.40000	0.13496(M)
125	Pyrene	202	9.158	9.158	(0.906)	24298	0.40000	0.37722
131	Butylbenzylphthalate	149	9.628	9.628	(0.953)	10178	0.40000	0.33745
135	3,3'-Dichlorobenzidine	252	10.061	10.061	(0.996)	6817	0.40000	0.32732
136	Benzo(a)Anthracene	228	10.093	10.093	(0.999)	22354	0.40000	0.39618
137	Chrysene	228	10.125	10.125	(1.002)	20842	0.40000	0.38463
139	bis(2-ethylhexyl)Phthalate	149	10.067	10.067	(0.996)	14440	0.40000	0.34262
140	Di-n-octylphthalate	149	10.622	10.622	(0.920)	21174	0.40000	0.31550(M)
141	Benzo(b)fluoranthene	252	11.108	11.108	(0.963)	24333	0.40000	0.37409

$\frac{(23741)(8)}{(437209)(0.4)} = 1.08587$

$\frac{(24298)(8)}{(354565)(0.4)} = 1.37058$

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Semivolatile REPORT SW-846 Method 8270

Data file : \\PITSVR06\D\chem\731.i\TV102912DOD.b\V1029IC2.D
Lab Smp Id: IC 495226
Inj Date : 29-OCT-2012 10:40
Operator : 003200 Inst ID: 731.i
Smp Info : IC 495226
Misc Info : TV102912DOD.b,T8270ddod.m,dod.sub
Comment :
Method : \\PITSVR06\D\chem\731.i\TV102912DOD.b\T8270ddod.m
Meth Date : 30-Oct-2012 05:49 731.i Quant Type: ISTD
Cal Date : 29-OCT-2012 10:40 Cal File: V1029IC2.D
Als bottle: 3 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dod.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 1	1,4-Dichlorobenzene-d4	152	4.563	4.563	(1.000)	168246	8.00000	
* 2	Naphthalene-d8	136	5.535	5.535	(1.000)	578714	8.00000	
* 3	Acenaphthene-d10	164	6.887	6.887	(1.000)	305211	8.00000	
* 4	Phenanthrene-d10	188	8.041	8.041	(1.000)	476564	8.00000	
* 5	Chrysene-d12	240	10.108	10.108	(1.000)	338720	8.00000	
* 6	Perylene-d12	264	11.551	11.551	(1.000)	347460	8.00000	
198	1,4-Dioxane	88	1.454	1.454	(0.319)	19682	2.00000	2.2516(M)
10	N-Nitrosodimethylamine	74	1.945	1.945	(0.426)	21132	2.00000	2.0039
9	Pyridine	79	2.015	2.015	(0.442)	44211	2.00000	2.0767(M)
206	Benzaldehyde	77	4.221	4.221	(0.925)	20532	2.00000	2.0591
21	Aniline	93	4.312	4.312	(0.945)	72789	2.00000	1.9680
22	Phenol	94	4.301	4.301	(0.943)	64063	2.00000	1.9616
23	bis(2-Chloroethyl)ether	93	4.365	4.365	(0.957)	41518	2.00000	1.9641
24	2-Chlorophenol	128	4.403	4.403	(0.965)	56034	2.00000	1.9437
26	1,3-Dichlorobenzene	146	4.520	4.520	(0.991)	64706	2.00000	1.9117
27	1,4-Dichlorobenzene	146	4.579	4.579	(1.004)	66727	2.00000	1.9159
28	1,2-Dichlorobenzene	146	4.697	4.697	(1.029)	63395	2.00000	1.9269
29	Benzyl Alcohol	108	4.670	4.670	(1.023)	32407	2.00000	2.0089
30	2-Methylphenol	108	4.755	4.755	(1.042)	46882	2.00000	1.9802
31	2,2'-oxybis(1-Chloropropane)	45	4.777	4.777	(1.047)	58472	2.00000	1.9958
37	Acetophenone	105	4.868	4.868	(1.067)	68543	2.00000	1.9430
32	N-Nitroso-di-n-propylamine	70	4.873	4.873	(1.068)	32733	2.00000	2.0875
192	4-Methylphenol	108	4.873	4.873	(1.068)	50161	2.00000	2.0533
34	Hexachloroethane	117	4.953	4.953	(1.085)	27797	2.00000	1.9558
35	Nitrobenzene	77	4.996	4.996	(0.903)	53756	2.00000	2.0062
36	N-Nitrosopyrrolidine	100	4.841	4.841	(1.061)	21042	2.00000	1.9849
41	Isophorone	82	5.177	5.177	(0.935)	80452	2.00000	1.9371
42	2-Nitrophenol	139	5.241	5.241	(0.947)	28362	2.00000	1.8657
43	2,4-Dimethylphenol	107	5.274	5.274	(0.953)	51281	2.00000	1.9692

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
44	bis(2-Chloroethoxy)methane	93	5.343	5.343	(0.965)	49932	2.00000	1.9484
48	2,4-Dichlorophenol	162	5.423	5.423	(0.980)	42273	2.00000	1.8198
49	Benzoic Acid	122	5.306	5.306	(0.959)	59921	4.00000	3.6951(M)
50	1,2,4-Trichlorobenzene	180	5.493	5.493	(0.992)	51575	2.00000	1.8090
51	Naphthalene	128	5.551	5.551	(1.003)	148895	2.00000	1.9039
52	4-Chloroaniline	127	5.589	5.589	(1.010)	58143	2.00000	1.8198
54	2,6-Dichlorophenol	162	5.599	5.599	(1.012)	51564	2.00000	1.9518
56	Hexachlorobutadiene	225	5.658	5.658	(1.022)	32717	2.00000	1.8694
208	Caprolactam	113	5.818	5.818	(1.051)	9813	2.00000	1.6559
59	4-Chloro-3-Methylphenol	107	5.952	5.952	(1.075)	39275	2.00000	1.8991
62	2-Methylnaphthalene	142	6.080	6.080	(1.098)	94069	2.00000	1.8301
63	1-Methylnaphthalene	142	6.155	6.155	(1.112)	89016	2.00000	1.8495
64	Hexachlorocyclopentadiene	237	6.208	6.208	(0.901)	30668	2.00000	1.7046
66	2,4,6-Trichlorophenol	196	6.294	6.294	(0.914)	29521	2.00000	1.6904
67	2,4,5-Trichlorophenol	196	6.321	6.321	(0.918)	32700	2.00000	1.7191
209	1,1'-Biphenyl	154	6.438	6.438	(0.935)	115135	2.00000	1.7652
70	2-Chloronaphthalene	162	6.454	6.454	(0.937)	86416	2.00000	1.6981
73	2-Nitroaniline	65	6.524	6.524	(0.947)	22089	2.00000	1.7598
76	Dimethylphthalate	163	6.668	6.668	(0.968)	96524	2.00000	1.8088
78	2,6-Dinitrotoluene	165	6.711	6.711	(0.974)	18528	2.00000	1.6804
79	Acenaphthylene	152	6.780	6.780	(0.984)	122589	2.00000	1.7462
81	3-Nitroaniline	138	6.839	6.839	(0.993)	18721	2.00000	1.5878
82	Acenaphthene	153	6.914	6.914	(1.004)	79234	2.00000	1.7260
83	2,4-Dinitrophenol	184	6.924	6.924	(1.005)	20301	4.00000	2.7878
85	4-Nitrophenol	109	6.962	6.962	(1.011)	35360	4.00000	3.5891
86	Dibenzofuran	168	7.047	7.047	(1.023)	113306	2.00000	1.6781
87	2,4-Dinitrotoluene	165	7.020	7.020	(1.019)	24161	2.00000	1.6256
91	2,3,5,6-Tetrachlorophenol	232	7.106	7.106	(1.032)	23878	2.00000	1.7216
88	2,3,4,6-Tetrachlorophenol	232	7.138	7.138	(1.036)	23952	2.00000	1.7212(M)
93	Diethylphthalate	149	7.207	7.207	(1.047)	93196	2.00000	1.7567
94	Fluorene	166	7.309	7.309	(1.061)	91274	2.00000	1.6604
95	4-Chlorophenyl-phenylether	204	7.309	7.309	(1.061)	45439	2.00000	1.6514
96	4-Nitroaniline	138	7.309	7.309	(1.061)	19675	2.00000	1.4901
98	4,6-Dinitro-2-methylphenol	198	7.341	7.341	(0.913)	26462	4.00000	3.1580
99	N-Nitrosodiphenylamine (1)	169	7.394	7.394	(0.920)	65171	2.00000	1.7938
100	1,2-Diphenylhydrazine	77	7.426	7.426	(0.924)	94774	2.00000	1.9857
106	4-Bromophenyl-phenylether	248	7.688	7.688	(0.956)	24782	2.00000	1.8136
107	Hexachlorobenzene	284	7.747	7.747	(0.963)	24698	2.00000	1.7483
210	Atrazine	200	7.795	7.795	(0.969)	23087	2.00000	1.7312
111	Pentachlorophenol	266	7.891	7.891	(0.981)	36966	4.00000	3.6188
115	Phenanthrene	178	8.057	8.057	(1.002)	133073	2.00000	1.8715
116	Anthracene	178	8.100	8.100	(1.007)	125418	2.00000	1.7734(M)
119	Carbazole	167	8.217	8.217	(1.022)	106854	2.00000	1.8321
120	Di-n-Butylphthalate	149	8.468	8.468	(1.053)	141068	2.00000	1.7880
123	Fluoranthene	202	8.986	8.986	(1.118)	122119	2.00000	1.7424(M)
124	Benzidine	184	9.072	9.072	(0.897)	29682	2.00000	1.5659(M)
125	Pyrene	202	9.163	9.163	(0.906)	129014	2.00000	2.0966
131	Butylbenzylphthalate	149	9.633	9.633	(0.953)	58268	2.00000	2.0222
135	3,3'-Dichlorobenzidine	252	10.065	10.065	(0.996)	34868	2.00000	1.7525
136	Benzo(a)Anthracene	228	10.103	10.103	(0.999)	102216	2.00000	1.8963
137	Chrysene	228	10.130	10.130	(1.002)	101701	2.00000	1.9646
139	bis(2-ethylhexyl)Phthalate	149	10.076	10.076	(0.997)	79923	2.00000	1.9851
140	Di-n-octylphthalate	149	10.626	10.626	(0.920)	111937	2.00000	1.7339
141	Benzo(b)fluoranthene	252	11.118	11.118	(0.963)	113780	2.00000	1.8185

$\frac{(122119)(8)}{(476564)(2)} = 1.02494$

$\frac{(129014)(8)}{(338720)(2)} = 1.52354$

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Semivolatile REPORT SW-846 Method 8270

Data file : \\PITSVR06\D\chem\731.i\TV102912DOD.b\V1029IC3.D
Lab Smp Id: ICIS 608443
Inj Date : 29-OCT-2012 11:03
Operator : 003200 Inst ID: 731.i
Smp Info : ICIS 608443
Misc Info : TV102912DOD.b,T8270ddod.m,dod.sub
Comment :
Method : \\PITSVR06\D\chem\731.i\TV102912DOD.b\T8270ddod.m
Meth Date : 30-Oct-2012 05:49 731.i Quant Type: ISTD
Cal Date : 29-OCT-2012 11:03 Cal File: V1029IC3.D
Als bottle: 4 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dod.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 1	1,4-Dichlorobenzene-d4	152	4.566	4.566	(1.000)	133410	8.00000	
* 2	Naphthalene-d8	136	5.533	5.533	(1.000)	462792	8.00000	
* 3	Acenaphthene-d10	164	6.884	6.884	(1.000)	234719	8.00000	
* 4	Phenanthrene-d10	188	8.038	8.038	(1.000)	397518	8.00000	
* 5	Chrysene-d12	240	10.106	10.106	(1.000)	314328	8.00000	
* 6	Perylene-d12	264	11.548	11.548	(1.000)	325504	8.00000	
198	1,4-Dioxane	88	1.430	1.430	(0.313)	27990	4.00000	4.0381
10	N-Nitrosodimethylamine	74	1.911	1.911	(0.419)	36327	4.00000	4.3444
9	Pyridine	79	1.975	1.975	(0.433)	74326	4.00000	4.4028(M)
206	Benzaldehyde	77	4.219	4.219	(0.924)	32322	4.00000	4.0880
21	Aniline	93	4.309	4.309	(0.944)	122726	4.00000	4.1847
22	Phenol	94	4.299	4.299	(0.942)	110810	4.00000	4.2790
23	bis(2-Chloroethyl)ether	93	4.363	4.363	(0.956)	70571	4.00000	4.2103
24	2-Chlorophenol	128	4.400	4.400	(0.964)	95574	4.00000	4.1810
26	1,3-Dichlorobenzene	146	4.523	4.523	(0.991)	109829	4.00000	4.0922
27	1,4-Dichlorobenzene	146	4.576	4.576	(1.002)	113668	4.00000	4.1159
28	1,2-Dichlorobenzene	146	4.694	4.694	(1.028)	104640	4.00000	4.0110
29	Benzyl Alcohol	108	4.667	4.667	(1.022)	53720	4.00000	4.1997
30	2-Methylphenol	108	4.758	4.758	(1.042)	77982	4.00000	4.1538
31	2,2'-oxybis(1-Chloropropane)	45	4.779	4.779	(1.047)	95081	4.00000	4.0927
37	Acetophenone	105	4.865	4.865	(1.066)	116437	4.00000	4.1626
32	N-Nitroso-di-n-propylamine	70	4.870	4.870	(1.067)	51109	4.00000	4.1105
192	4-Methylphenol	108	4.870	4.870	(1.067)	78256	4.00000	4.0398
34	Hexachloroethane	117	4.956	4.956	(1.085)	47006	4.00000	4.1709
35	Nitrobenzene	77	4.993	4.993	(0.902)	87845	4.00000	4.0995
36	N-Nitrosopyrrolidine	100	4.844	4.844	(1.061)	34773	4.00000	4.1366
41	Isophorone	82	5.175	5.175	(0.935)	132961	4.00000	4.0032
42	2-Nitrophenol	139	5.239	5.239	(0.947)	45472	4.00000	3.7404
43	2,4-Dimethylphenol	107	5.271	5.271	(0.953)	83487	4.00000	4.0090

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
44	bis(2-Chloroethoxy)methane	93	5.346	5.346	(0.966)	77364	4.00000	3.7750
48	2,4-Dichlorophenol	162	5.421	5.421	(0.980)	70808	4.00000	3.8116
49	Benzoic Acid	122	5.314	5.314	(0.960)	125571	10.0000	9.6830(M)
50	1,2,4-Trichlorobenzene	180	5.490	5.490	(0.992)	87870	4.00000	3.8542
51	Naphthalene	128	5.549	5.549	(1.003)	238187	4.00000	3.8085
52	4-Chloroaniline	127	5.586	5.586	(1.010)	95972	4.00000	3.7563
54	2,6-Dichlorophenol	162	5.597	5.597	(1.012)	78705	4.00000	3.7254
56	Hexachlorobutadiene	225	5.656	5.656	(1.022)	53226	4.00000	3.8030
208	Caprolactam	113	5.821	5.821	(1.052)	16907	4.00000	3.5676
59	4-Chloro-3-Methylphenol	107	5.949	5.949	(1.075)	64064	4.00000	3.8736
62	2-Methylnaphthalene	142	6.078	6.078	(1.098)	154129	4.00000	3.7497
63	1-Methylnaphthalene	142	6.158	6.158	(1.113)	147732	4.00000	3.8382
64	Hexachlorocyclopentadiene	237	6.211	6.211	(0.902)	49434	4.00000	3.5729
66	2,4,6-Trichlorophenol	196	6.297	6.297	(0.915)	52835	4.00000	3.9341
67	2,4,5-Trichlorophenol	196	6.318	6.318	(0.918)	56460	4.00000	3.8596
209	1,1'-Biphenyl	154	6.436	6.436	(0.935)	188365	4.00000	3.7553
70	2-Chloronaphthalene	162	6.452	6.452	(0.937)	149117	4.00000	3.8102
73	2-Nitroaniline	65	6.526	6.526	(0.948)	38486	4.00000	3.9870
76	Dimethylphthalate	163	6.665	6.665	(0.968)	157002	4.00000	3.8258
78	2,6-Dinitrotoluene	165	6.708	6.708	(0.974)	32073	4.00000	3.7825
79	Acenaphthylene	152	6.777	6.777	(0.984)	204552	4.00000	3.7888
81	3-Nitroaniline	138	6.842	6.842	(0.994)	34893	4.00000	3.8483
82	Acenaphthene	153	6.911	6.911	(1.004)	130981	4.00000	3.7101
83	2,4-Dinitrophenol	184	6.922	6.922	(1.005)	50023	10.0000	8.9323
85	4-Nitrophenol	109	6.959	6.959	(1.011)	73249	10.0000	9.6678
86	Dibenzofuran	168	7.045	7.045	(1.023)	202202	4.00000	3.8941
87	2,4-Dinitrotoluene	165	7.023	7.023	(1.020)	43590	4.00000	3.8137
91	2,3,5,6-Tetrachlorophenol	232	7.103	7.103	(1.032)	38518	4.00000	3.6111
88	2,3,4,6-Tetrachlorophenol	232	7.135	7.135	(1.036)	39445	4.00000	3.6858
93	Diethylphthalate	149	7.210	7.210	(1.047)	158204	4.00000	3.8778
94	Fluorene	166	7.312	7.312	(1.062)	148219	4.00000	3.5062
95	4-Chlorophenyl-phenylether	204	7.306	7.306	(1.061)	77862	4.00000	3.6797
96	4-Nitroaniline	138	7.306	7.306	(1.061)	36868	4.00000	3.6307
98	4,6-Dinitro-2-methylphenol	198	7.338	7.338	(0.913)	64996	10.0000	9.2992
99	N-Nitrosodiphenylamine (1)	169	7.392	7.392	(0.920)	113260	4.00000	3.7374
100	1,2-Diphenylhydrazine	77	7.424	7.424	(0.924)	153276	4.00000	3.8500
106	4-Bromophenyl-phenylether	248	7.686	7.686	(0.956)	42749	4.00000	3.7506
107	Hexachlorobenzene	284	7.744	7.744	(0.963)	42651	4.00000	3.6196
210	Atrazine	200	7.798	7.798	(0.970)	42756	4.00000	3.8437
111	Pentachlorophenol	266	7.889	7.889	(0.981)	78309	10.0000	9.1906(M
115	Phenanthrene	178	8.054	8.054	(1.002)	223177	4.00000	3.7629
116	Anthracene	178	8.097	8.097	(1.007)	216510	4.00000	3.6703
119	Carbazole	167	8.214	8.214	(1.022)	187231	4.00000	3.8487
120	Di-n-Butylphthalate	149	8.471	8.471	(1.054)	248082	4.00000	3.7697
123	Fluoranthene	202	8.984	8.984	(1.118)	218436	4.00000	3.7363
124	Benzidine	184	9.075	9.075	(0.898)	68432	4.00000	3.8903(M)
125	Pyrene	202	9.160	9.160	(0.906)	227867	4.00000	3.9905
131	Butylbenzylphthalate	149	9.635	9.635	(0.953)	103737	4.00000	3.8796
135	3,3'-Dichlorobenzidine	252	10.063	10.063	(0.996)	66210	4.00000	3.5860
136	Benzo(a)Anthracene	228	10.100	10.100	(0.999)	189349	4.00000	3.7854
137	Chrysene	228	10.127	10.127	(1.002)	196662	4.00000	4.0939
139	bis(2-ethylhexyl)Phthalate	149	10.074	10.074	(0.997)	138863	4.00000	3.7166
140	Di-n-octylphthalate	149	10.629	10.629	(0.920)	227180	4.00000	3.7564
141	Benzo(b)fluoranthene	252	11.115	11.115	(0.963)	212305	4.00000	3.6220

$\frac{(218436)(8)}{(397518)(4)} = 1.09899$

$\frac{(227867)(8)}{(314328)(4)} = 1.449867$

TestAmerica Pittsburgh

Semivolatile REPORT SW-846 Method 8270

Data file : \\PITSVR06\D\chem\731.i\TV102912DOD.b\V1029IC4.D
Lab Smp Id: IC 495230
Inj Date : 29-OCT-2012 11:27
Operator : 003200 Inst ID: 731.i
Smp Info : IC 495230
Misc Info : TV102912DOD.b,T8270ddod.m,dod.sub
Comment :
Method : \\PITSVR06\D\chem\731.i\TV102912DOD.b\T8270ddod.m
Meth Date : 30-Oct-2012 05:49 731.i Quant Type: ISTD
Cal Date : 29-OCT-2012 11:03 Cal File: V1029IC3.D
Als bottle: 5 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dod.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 1 1,4-Dichlorobenzene-d4	152	4.558	4.558	(1.000)	133892	8.00000	
* 2 Naphthalene-d8	136	5.530	5.530	(1.000)	448931	8.00000	
* 3 Acenaphthene-d10	164	6.882	6.882	(1.000)	230093	8.00000	
* 4 Phenanthrene-d10	188	8.030	8.030	(1.000)	380242	8.00000	
* 5 Chrysene-d12	240	10.098	10.098	(1.000)	304094	8.00000	
* 6 Perylene-d12	264	11.529	11.529	(1.000)	316486	8.00000	
198 1,4-Dioxane	88	1.417	1.417	(0.311)	62634	10.0000	9.0037
10 N-Nitrosodimethylamine	74	1.897	1.897	(0.416)	86855	10.0000	10.350
9 Pyridine	79	1.940	1.940	(0.426)	177247	10.0000	10.462(M)
206 Benzaldehyde	77	4.216	4.216	(0.925)	76477	10.0000	9.6378
21 Aniline	93	4.301	4.301	(0.944)	298789	10.0000	10.151
22 Phenol	94	4.296	4.296	(0.943)	265843	10.0000	10.229
23 bis(2-Chloroethyl)ether	93	4.360	4.360	(0.957)	171239	10.0000	10.179
24 2-Chlorophenol	128	4.398	4.398	(0.965)	234302	10.0000	10.213
26 1,3-Dichlorobenzene	146	4.515	4.515	(0.991)	272928	10.0000	10.133
27 1,4-Dichlorobenzene	146	4.568	4.568	(1.002)	275866	10.0000	9.9532
28 1,2-Dichlorobenzene	146	4.686	4.686	(1.028)	261724	10.0000	9.9961
29 Benzyl Alcohol	108	4.665	4.665	(1.023)	134686	10.0000	10.492(M)
30 2-Methylphenol	108	4.750	4.750	(1.042)	183886	10.0000	9.7597
31 2,2'-oxybis(1-Chloropropane)	45	4.771	4.771	(1.047)	240308	10.0000	10.307
37 Acetophenone	105	4.862	4.862	(1.067)	287097	10.0000	10.227
32 N-Nitroso-di-n-propylamine	70	4.862	4.862	(1.067)	128924	10.0000	10.332
192 4-Methylphenol	108	4.862	4.862	(1.067)	199671	10.0000	10.271
34 Hexachloroethane	117	4.948	4.948	(1.086)	113702	10.0000	10.052
35 Nitrobenzene	77	4.990	4.990	(0.902)	206183	10.0000	9.9192
36 N-Nitrosopyrrolidine	100	4.836	4.836	(1.061)	86407	10.0000	10.242
41 Isophorone	82	5.172	5.172	(0.935)	320475	10.0000	9.9469
42 2-Nitrophenol	139	5.236	5.236	(0.947)	119579	10.0000	10.140
43 2,4-Dimethylphenol	107	5.268	5.268	(0.953)	197551	10.0000	9.7792

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
44	bis(2-Chloroethoxy)methane	93	5.338	5.338	(0.965)	193232	10.0000	9.7198
48	2,4-Dichlorophenol	162	5.418	5.418	(0.980)	173575	10.0000	9.6321
49	Benzoic Acid	122	5.322	5.322	(0.962)	243355	20.0000	19.345(M)
50	1,2,4-Trichlorobenzene	180	5.487	5.487	(0.992)	220600	10.0000	9.9747
51	Naphthalene	128	5.546	5.546	(1.003)	594173	10.0000	9.7939
52	4-Chloroaniline	127	5.578	5.578	(1.009)	240182	10.0000	9.6908
54	2,6-Dichlorophenol	162	5.589	5.589	(1.011)	198244	10.0000	9.6733
56	Hexachlorobutadiene	225	5.648	5.648	(1.021)	131153	10.0000	9.6603
208	Caprolactam	113	5.819	5.819	(1.052)	45863	10.0000	9.9764
59	4-Chloro-3-Methylphenol	107	5.947	5.947	(1.075)	153809	10.0000	9.5873
62	2-Methylnaphthalene	142	6.075	6.075	(1.099)	379809	10.0000	9.5255
63	1-Methylnaphthalene	142	6.150	6.150	(1.112)	349888	10.0000	9.3712
64	Hexachlorocyclopentadiene	237	6.203	6.203	(0.901)	128011	10.0000	9.4383
66	2,4,6-Trichlorophenol	196	6.289	6.289	(0.914)	124363	10.0000	9.4463
67	2,4,5-Trichlorophenol	196	6.315	6.315	(0.918)	139516	10.0000	9.7291
209	1,1'-Biphenyl	154	6.433	6.433	(0.935)	464366	10.0000	9.4439
70	2-Chloronaphthalene	162	6.449	6.449	(0.937)	357995	10.0000	9.3314
73	2-Nitroaniline	65	6.518	6.518	(0.947)	91340	10.0000	9.6527
76	Dimethylphthalate	163	6.657	6.657	(0.967)	382936	10.0000	9.5189
78	2,6-Dinitrotoluene	165	6.705	6.705	(0.974)	82317	10.0000	9.9032
79	Acenaphthylene	152	6.769	6.769	(0.984)	490196	10.0000	9.2623
81	3-Nitroaniline	138	6.834	6.834	(0.993)	94314	10.0000	10.611
82	Acenaphthene	153	6.903	6.903	(1.003)	323210	10.0000	9.3392
83	2,4-Dinitrophenol	184	6.914	6.914	(1.005)	104449	20.0000	19.026
85	4-Nitrophenol	109	6.956	6.956	(1.011)	157425	20.0000	21.196
86	Dibenzofuran	168	7.037	7.037	(1.023)	486301	10.0000	9.5537
87	2,4-Dinitrotoluene	165	7.015	7.015	(1.019)	111964	10.0000	9.9926
91	2,3,5,6-Tetrachlorophenol	232	7.101	7.101	(1.032)	98140	10.0000	9.3858
88	2,3,4,6-Tetrachlorophenol	232	7.133	7.133	(1.036)	100237	10.0000	9.5545
93	Diethylphthalate	149	7.202	7.202	(1.047)	392596	10.0000	9.8164
94	Fluorene	166	7.304	7.304	(1.061)	376122	10.0000	9.0761
95	4-Chlorophenyl-phenylether	204	7.298	7.298	(1.061)	197660	10.0000	9.5290
96	4-Nitroaniline	138	7.304	7.304	(1.061)	92198	10.0000	9.2622
98	4,6-Dinitro-2-methylphenol	198	7.330	7.330	(0.913)	138959	20.0000	20.784
99	N-Nitrosodiphenylamine (1)	169	7.384	7.384	(0.920)	275924	10.0000	9.5188
100	1,2-Diphenylhydrazine	77	7.421	7.421	(0.924)	371730	10.0000	9.7613
106	4-Bromophenyl-phenylether	248	7.678	7.678	(0.956)	104531	10.0000	9.5878
107	Hexachlorobenzene	284	7.736	7.736	(0.963)	102001	10.0000	9.0496
210	Atrazine	200	7.790	7.790	(0.970)	107238	10.0000	10.079
111	Pentachlorophenol	266	7.881	7.881	(0.981)	152906	20.0000	18.761
115	Phenanthrene	178	8.052	8.052	(1.003)	539633	10.0000	9.5118
116	Anthracene	178	8.089	8.089	(1.007)	535043	10.0000	9.4822
119	Carbazole	167	8.206	8.206	(1.022)	461881	10.0000	9.9257
120	Di-n-Butylphthalate	149	8.463	8.463	(1.054)	610639	10.0000	9.7004
123	Fluoranthene	202	8.976	8.976	(1.118)	546717	10.0000	9.7764
124	Benzidine	184	9.067	9.067	(0.898)	173660	10.0000	10.204(M)
125	Pyrene	202	9.152	9.152	(0.906)	540657	10.0000	9.7868
131	Butylbenzylphthalate	149	9.622	9.622	(0.953)	265205	10.0000	10.252
135	3,3'-Dichlorobenzidine	252	10.055	10.055	(0.996)	172225	10.0000	9.6419
136	Benzo(a)Anthracene	228	10.092	10.092	(0.999)	493230	10.0000	10.192
137	Chrysene	228	10.119	10.119	(1.002)	448829	10.0000	9.6576
139	bis(2-ethylhexyl)Phthalate	149	10.066	10.066	(0.997)	359620	10.0000	9.9491
140	Di-n-octylphthalate	149	10.616	10.616	(0.921)	610720	10.0000	10.386
141	Benzo(b)fluoranthene	252	11.102	11.102	(0.963)	539590	10.0000	9.4680

$\frac{(546717)(8)}{(380242)(10)} = 1.15025$

$\frac{(540657)(8)}{(304094)(10)} = 1.42234$

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Semivolatile REPORT SW-846 Method 8270

Data file : \\PITSVR06\D\chem\731.i\TV102912DOD.b\V1029IC5.D
Lab Smp Id: IC 495231
Inj Date : 29-OCT-2012 11:51
Operator : 003200 Inst ID: 731.i
Smp Info : IC 495231
Misc Info : TV102912DOD.b,T8270ddod.m,dod.sub
Comment :
Method : \\PITSVR06\D\chem\731.i\TV102912DOD.b\T8270ddod.m
Meth Date : 30-Oct-2012 05:49 731.i Quant Type: ISTD
Cal Date : 29-OCT-2012 11:51 Cal File: V1029IC5.D
Als bottle: 6 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dod.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 1	1,4-Dichlorobenzene-d4	152	4.558	4.558	(1.000)	132449	8.00000	
* 2	Naphthalene-d8	136	5.525	5.525	(1.000)	436643	8.00000	
* 3	Acenaphthene-d10	164	6.876	6.876	(1.000)	237635	8.00000	
* 4	Phenanthrene-d10	188	8.025	8.025	(1.000)	396419	8.00000	
* 5	Chrysene-d12	240	10.092	10.092	(1.000)	301104	8.00000	
* 6	Perylene-d12	264	11.524	11.524	(1.000)	309025	8.00000	
198	1,4-Dioxane	88	1.406	1.406	(0.309)	119077	20.0000	17.304(M)
10	N-Nitrosodimethylamine	74	1.887	1.887	(0.414)	167805	20.0000	20.213
9	Pyridine	79	1.924	1.924	(0.422)	348437	20.0000	20.790(M)
206	Benzaldehyde	77	4.211	4.211	(0.924)	151005	20.0000	19.237
21	Aniline	93	4.301	4.301	(0.944)	590245	20.0000	20.272
22	Phenol	94	4.296	4.296	(0.943)	513971	20.0000	19.991
23	bis(2-Chloroethyl)ether	93	4.355	4.355	(0.955)	337589	20.0000	20.287
24	2-Chlorophenol	128	4.392	4.392	(0.964)	457038	20.0000	20.139
26	1,3-Dichlorobenzene	146	4.510	4.510	(0.989)	535755	20.0000	20.107
27	1,4-Dichlorobenzene	146	4.568	4.568	(1.002)	553335	20.0000	20.182
28	1,2-Dichlorobenzene	146	4.686	4.686	(1.028)	534956	20.0000	20.654
29	Benzyl Alcohol	108	4.659	4.659	(1.022)	264210	20.0000	20.805(M)
30	2-Methylphenol	108	4.750	4.750	(1.042)	367136	20.0000	19.698
31	2,2'-oxybis(1-Chloropropane)	45	4.771	4.771	(1.047)	464142	20.0000	20.124
37	Acetophenone	105	4.857	4.857	(1.066)	558734	20.0000	20.120
32	N-Nitroso-di-n-propylamine	70	4.862	4.862	(1.067)	249803	20.0000	20.236
192	4-Methylphenol	108	4.862	4.862	(1.067)	382835	20.0000	19.907
34	Hexachloroethane	117	4.948	4.948	(1.086)	223437	20.0000	19.970
35	Nitrobenzene	77	4.985	4.985	(0.902)	404446	20.0000	20.005
36	N-Nitrosopyrrolidine	100	4.836	4.836	(1.061)	167845	20.0000	20.112
41	Isophorone	82	5.167	5.167	(0.935)	638902	20.0000	20.388
42	2-Nitrophenol	139	5.231	5.231	(0.947)	236085	20.0000	20.583
43	2,4-Dimethylphenol	107	5.263	5.263	(0.953)	403166	20.0000	20.519

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
44 bis(2-Chloroethoxy)methane	93	5.338	5.338	(0.966)	403640	20.0000	20.875
48 2,4-Dichlorophenol	162	5.413	5.413	(0.980)	362473	20.0000	20.680
49 Benzoic Acid	122	5.327	5.327	(0.964)	380523	30.0000	31.100(M)
50 1,2,4-Trichlorobenzene	180	5.482	5.482	(0.992)	427428	20.0000	19.871
51 Naphthalene	128	5.541	5.541	(1.003)	1178613	20.0000	19.974
52 4-Chloroaniline	127	5.578	5.578	(1.010)	484533	20.0000	20.100
54 2,6-Dichlorophenol	162	5.589	5.589	(1.012)	416841	20.0000	20.912
56 Hexachlorobutadiene	225	5.648	5.648	(1.022)	270781	20.0000	20.506
208 Caprolactam	113	5.819	5.819	(1.053)	99406	20.0000	22.232
59 4-Chloro-3-Methylphenol	107	5.947	5.947	(1.076)	322764	20.0000	20.685
62 2-Methylnaphthalene	142	6.070	6.070	(1.099)	783670	20.0000	20.207
63 1-Methylnaphthalene	142	6.144	6.144	(1.112)	736524	20.0000	20.282
64 Hexachlorocyclopentadiene	237	6.198	6.198	(0.901)	273932	20.0000	19.556
66 2,4,6-Trichlorophenol	196	6.289	6.289	(0.915)	259200	20.0000	19.063
67 2,4,5-Trichlorophenol	196	6.315	6.315	(0.918)	279203	20.0000	18.852
209 1,1'-Biphenyl	154	6.428	6.428	(0.935)	976721	20.0000	19.233
70 2-Chloronaphthalene	162	6.444	6.444	(0.937)	756983	20.0000	19.105
73 2-Nitroaniline	65	6.513	6.513	(0.947)	195380	20.0000	19.992
76 Dimethylphthalate	163	6.657	6.657	(0.968)	804311	20.0000	19.359
78 2,6-Dinitrotoluene	165	6.700	6.700	(0.974)	172195	20.0000	20.058
79 Acenaphthylene	152	6.764	6.764	(0.984)	1048917	20.0000	19.190
81 3-Nitroaniline	138	6.828	6.828	(0.993)	184089	20.0000	20.054
82 Acenaphthene	153	6.903	6.903	(1.004)	680507	20.0000	19.039
83 2,4-Dinitrophenol	184	6.908	6.908	(1.005)	170032	30.0000	29.989
85 4-Nitrophenol	109	6.951	6.951	(1.011)	230689	30.0000	30.074
86 Dibenzofuran	168	7.031	7.031	(1.023)	987384	20.0000	18.782
87 2,4-Dinitrotoluene	165	7.010	7.010	(1.019)	239944	20.0000	20.735
91 2,3,5,6-Tetrachlorophenol	232	7.095	7.095	(1.032)	214637	20.0000	19.876
88 2,3,4,6-Tetrachlorophenol	232	7.127	7.127	(1.037)	216857	20.0000	20.014
93 Diethylphthalate	149	7.197	7.197	(1.047)	799620	20.0000	19.359
94 Fluorene	166	7.298	7.298	(1.061)	825539	20.0000	19.289
95 4-Chlorophenyl-phenylether	204	7.293	7.293	(1.061)	415044	20.0000	19.374
96 4-Nitroaniline	138	7.298	7.298	(1.061)	210747	20.0000	20.500
98 4,6-Dinitro-2-methylphenol	198	7.330	7.330	(0.913)	221115	30.0000	31.723
99 N-Nitrosodiphenylamine (1)	169	7.384	7.384	(0.920)	573119	20.0000	18.965
100 1,2-Diphenylhydrazine	77	7.416	7.416	(0.924)	783387	20.0000	19.732
106 4-Bromophenyl-phenylether	248	7.672	7.672	(0.956)	220520	20.0000	19.401
107 Hexachlorobenzene	284	7.731	7.731	(0.963)	228819	20.0000	19.472
210 Atrazine	200	7.784	7.784	(0.970)	218339	20.0000	19.683
111 Pentachlorophenol	266	7.881	7.881	(0.982)	251966	30.0000	29.653
115 Phenanthrene	178	8.046	8.046	(1.003)	1124243	20.0000	19.008
116 Anthracene	178	8.084	8.084	(1.007)	1141120	20.0000	19.398
119 Carbazole	167	8.201	8.201	(1.022)	943066	20.0000	19.439
120 Di-n-Butylphthalate	149	8.458	8.458	(1.054)	1283770	20.0000	19.561
123 Fluoranthene	202	8.970	8.970	(1.118)	1140267	20.0000	19.558
124 Benzidine	184	9.061	9.061	(0.898)	366893	20.0000	21.773
125 Pyrene	202	9.152	9.152	(0.907)	1130335	20.0000	20.664
131 Butylbenzylphthalate	149	9.622	9.622	(0.953)	541238	20.0000	21.130
135 3,3'-Dichlorobenzidine	252	10.049	10.049	(0.996)	365816	20.0000	20.683
136 Benzo(a)Anthracene	228	10.087	10.087	(0.999)	978959	20.0000	20.431
137 Chrysene	228	10.114	10.114	(1.002)	883112	20.0000	19.191
139 bis(2-ethylhexyl)Phthalate	149	10.060	10.060	(0.997)	744483	20.0000	20.801
140 Di-n-octylphthalate	149	10.610	10.610	(0.921)	1223004	20.0000	21.300
141 Benzo(b)fluoranthene	252	11.091	11.091	(0.962)	1078540	20.0000	19.382

$\frac{(1140267)(8)}{(396419)(20)} = 1.150567$

$\frac{(1130335)(8)}{(301104)(20)} = 1.501587$

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Semivolatile REPORT SW-846 Method 8270

Data file : \\PITSVR06\D\chem\731.i\TV102912DOD.b\V1029IC6.D
Lab Smp Id: IC 495232
Inj Date : 29-OCT-2012 12:14
Operator : 003200 Inst ID: 731.i
Smp Info : IC 495232
Misc Info : TV102912DOD.b,T8270ddod.m,dod.sub
Comment :
Method : \\PITSVR06\D\chem\731.i\TV102912DOD.b\T8270ddod.m
Meth Date : 30-Oct-2012 05:49 731.i Quant Type: ISTD
Cal Date : 29-OCT-2012 12:14 Cal File: V1029IC6.D
Als bottle: 7 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dod.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 1 1,4-Dichlorobenzene-d4	152	4.558	4.558	(1.000)	133011	8.00000	
* 2 Naphthalene-d8	136	5.525	5.525	(1.000)	447623	8.00000	
* 3 Acenaphthene-d10	164	6.877	6.877	(1.000)	223141	8.00000	
* 4 Phenanthrene-d10	188	8.025	8.025	(1.000)	377063	8.00000	
* 5 Chrysene-d12	240	10.092	10.092	(1.000)	307614	8.00000	
* 6 Perylene-d12	264	11.519	11.519	(1.000)	311815	8.00000	
198 1,4-Dioxane	88	1.417	1.417	(0.311)	236663	40.0000	34.246
10 N-Nitrosodimethylamine	74	1.898	1.898	(0.416)	329597	40.0000	39.535
9 Pyridine	79	1.930	1.930	(0.423)	645771	40.0000	38.368(M)
206 Benzaldehyde	77	4.211	4.211	(0.924)	334503	40.0000	42.434
21 Aniline	93	4.302	4.302	(0.944)	1199508	40.0000	41.023
22 Phenol	94	4.296	4.296	(0.943)	1011590	40.0000	39.181
23 bis(2-Chloroethyl)ether	93	4.360	4.360	(0.957)	667477	40.0000	39.941
24 2-Chlorophenol	128	4.392	4.392	(0.964)	903983	40.0000	39.664
26 1,3-Dichlorobenzene	146	4.515	4.515	(0.991)	1085148	40.0000	40.554
27 1,4-Dichlorobenzene	146	4.569	4.569	(1.002)	1097658	40.0000	39.866
28 1,2-Dichlorobenzene	146	4.686	4.686	(1.028)	1054119	40.0000	40.527
29 Benzyl Alcohol	108	4.660	4.660	(1.022)	532619	40.0000	41.764(M)
30 2-Methylphenol	108	4.756	4.756	(1.043)	754339	40.0000	40.302
31 2,2'-oxybis(1-Chloropropane)	45	4.772	4.772	(1.047)	899658	40.0000	38.841
37 Acetophenone	105	4.863	4.863	(1.067)	1114028	40.0000	39.946
32 N-Nitroso-di-n-propylamine	70	4.863	4.863	(1.067)	491491	40.0000	39.647
192 4-Methylphenol	108	4.863	4.863	(1.067)	759596	40.0000	39.331
34 Hexachloroethane	117	4.948	4.948	(1.086)	442599	40.0000	39.390
35 Nitrobenzene	77	4.985	4.985	(0.902)	788337	40.0000	38.037
36 N-Nitrosopyrrolidine	100	4.836	4.836	(1.061)	339440	40.0000	40.501
41 Isophorone	82	5.167	5.167	(0.935)	1261054	40.0000	39.255
42 2-Nitrophenol	139	5.231	5.231	(0.947)	483320	40.0000	41.104
43 2,4-Dimethylphenol	107	5.263	5.263	(0.953)	777311	40.0000	38.591

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
44	bis(2-Chloroethoxy)methane	93	5.338	5.338	(0.966)	805429	40.0000	40.632
48	2,4-Dichlorophenol	162	5.413	5.413	(0.980)	720189	40.0000	40.082
49	Benzoic Acid	122	5.333	5.333	(0.965)	525833	40.0000	41.922(M)
50	1,2,4-Trichlorobenzene	180	5.482	5.482	(0.992)	902998	40.0000	40.950
51	Naphthalene	128	5.541	5.541	(1.003)	2424047	40.0000	40.073
52	4-Chloroaniline	127	5.578	5.578	(1.010)	1008490	40.0000	40.809
54	2,6-Dichlorophenol	162	5.589	5.589	(1.012)	828370	40.0000	40.538
56	Hexachlorobutadiene	225	5.648	5.648	(1.022)	545350	40.0000	40.286
208	Caprolactam	113	5.829	5.829	(1.055)	198279	40.0000	43.257
59	4-Chloro-3-Methylphenol	107	5.947	5.947	(1.076)	642097	40.0000	40.140
62	2-Methylnaphthalene	142	6.070	6.070	(1.099)	1597717	40.0000	40.187
63	1-Methylnaphthalene	142	6.145	6.145	(1.112)	1508282	40.0000	40.515
64	Hexachlorocyclopentadiene	237	6.198	6.198	(0.901)	584738	40.0000	44.456
66	2,4,6-Trichlorophenol	196	6.284	6.284	(0.914)	542188	40.0000	42.466
67	2,4,5-Trichlorophenol	196	6.316	6.316	(0.918)	583423	40.0000	41.952
209	1,1'-Biphenyl	154	6.428	6.428	(0.935)	2031051	40.0000	42.593
70	2-Chloronaphthalene	162	6.444	6.444	(0.937)	1574465	40.0000	42.318
73	2-Nitroaniline	65	6.513	6.513	(0.947)	381382	40.0000	41.560
76	Dimethylphthalate	163	6.657	6.657	(0.968)	1656591	40.0000	42.462
78	2,6-Dinitrotoluene	165	6.700	6.700	(0.974)	353796	40.0000	43.890
79	Acenaphthylene	152	6.764	6.764	(0.984)	2138352	40.0000	41.663
81	3-Nitroaniline	138	6.828	6.828	(0.993)	388481	40.0000	45.068
82	Acenaphthene	153	6.903	6.903	(1.004)	1433533	40.0000	42.712
83	2,4-Dinitrophenol	184	6.909	6.909	(1.005)	242515	40.0000	45.551
85	4-Nitrophenol	109	6.951	6.951	(1.011)	297029	40.0000	41.238
86	Dibenzofuran	168	7.031	7.031	(1.023)	2066135	40.0000	41.855
87	2,4-Dinitrotoluene	165	7.010	7.010	(1.019)	464259	40.0000	42.725
91	2,3,5,6-Tetrachlorophenol	232	7.096	7.096	(1.032)	438262	40.0000	43.220
88	2,3,4,6-Tetrachlorophenol	232	7.128	7.128	(1.037)	444713	40.0000	43.710
93	Diethylphthalate	149	7.202	7.202	(1.047)	1651175	40.0000	42.572
94	Fluorene	166	7.299	7.299	(1.061)	1793559	40.0000	44.628
95	4-Chlorophenyl-phenylether	204	7.293	7.293	(1.061)	895238	40.0000	44.503
96	4-Nitroaniline	138	7.304	7.304	(1.062)	433213	40.0000	44.876
98	4,6-Dinitro-2-methylphenol	198	7.331	7.331	(0.913)	294166	40.0000	44.370
99	N-Nitrosodiphenylamine (1)	169	7.384	7.384	(0.920)	1172885	40.0000	40.803
100	1,2-Diphenylhydrazine	77	7.416	7.416	(0.924)	1512281	40.0000	40.046
106	4-Bromophenyl-phenylether	248	7.672	7.672	(0.956)	461923	40.0000	42.726
107	Hexachlorobenzene	284	7.731	7.731	(0.963)	477744	40.0000	42.743
210	Atrazine	200	7.785	7.785	(0.970)	447465	40.0000	42.409
111	Pentachlorophenol	266	7.875	7.875	(0.981)	330854	40.0000	40.936
115	Phenanthrene	178	8.046	8.046	(1.003)	2297522	40.0000	40.839
116	Anthracene	178	8.084	8.084	(1.007)	2364888	40.0000	42.264
119	Carbazole	167	8.201	8.201	(1.022)	1861808	40.0000	40.347
120	Di-n-Butylphthalate	149	8.458	8.458	(1.054)	2617173	40.0000	41.926
123	Fluoranthene	202	8.971	8.971	(1.118)	2330831	40.0000	42.031
124	Benzidine	184	9.061	9.061	(0.898)	865210	40.0000	50.260
125	Pyrene	202	9.147	9.147	(0.906)	2255302	40.0000	40.358
131	Butylbenzylphthalate	149	9.617	9.617	(0.953)	1088661	40.0000	41.603
135	3,3'-Dichlorobenzidine	252	10.050	10.050	(0.996)	789378	40.0000	43.687
136	Benzo(a)Anthracene	228	10.087	10.087	(0.999)	1901352	40.0000	38.841
137	Chrysene	228	10.114	10.114	(1.002)	1956831	40.0000	41.624
139	bis(2-ethylhexyl)Phthalate	149	10.055	10.055	(0.996)	1514279	40.0000	41.414
140	Di-n-octylphthalate	149	10.605	10.605	(0.921)	2481224	40.0000	42.828
141	Benzo(b)fluoranthene	252	11.091	11.091	(0.963)	2202332	40.0000	39.222

$\frac{(2330831)(8)}{(377063)(40)} = 1.2363$

$\frac{(2255302)(8)}{(307614)(40)} = 1.46632$

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Semivolatile REPORT SW-846 Method 8270

Data file : \\PITSVR06\D\chem\731.i\TV102912DOD.b\V1029IC7.D
Lab Smp Id: IC 495233
Inj Date : 29-OCT-2012 12:37
Operator : 003200 Inst ID: 731.i
Smp Info : IC 495233
Misc Info : TV102912DOD.b,T8270ddod.m,dod.sub
Comment :
Method : \\PITSVR06\D\chem\731.i\TV102912DOD.b\T8270ddod.m
Meth Date : 30-Oct-2012 05:49 731.i Quant Type: ISTD
Cal Date : 29-OCT-2012 12:37 Cal File: V1029IC7.D
Als bottle: 8 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dod.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 1 1,4-Dichlorobenzene-d4	152	4.555	4.555	(1.000)	134787	8.00000	
* 2 Naphthalene-d8	136	5.522	5.522	(1.000)	437803	8.00000	
* 3 Acenaphthene-d10	164	6.873	6.873	(1.000)	220612	8.00000	
* 4 Phenanthrene-d10	188	8.027	8.027	(1.000)	366976	8.00000	
* 5 Chrysene-d12	240	10.100	10.100	(1.000)	337867	8.00000	
* 6 Perylene-d12	264	11.526	11.526	(1.000)	332508	8.00000	
198 1,4-Dioxane	88	1.414	1.414	(0.310)	343556	60.0000	49.058
10 N-Nitrosodimethylamine	74	1.895	1.895	(0.416)	475355	60.0000	56.267
9 Pyridine	79	1.916	1.916	(0.421)	948768	60.0000	55.628
206 Benzaldehyde	77	4.213	4.213	(0.925)	498201	60.0000	62.367
21 Aniline	93	4.299	4.299	(0.944)	1736518	60.0000	58.606
22 Phenol	94	4.299	4.299	(0.944)	1493938	60.0000	57.100
23 bis(2-Chloroethyl)ether	93	4.357	4.357	(0.957)	969644	60.0000	57.258
24 2-Chlorophenol	128	4.395	4.395	(0.965)	1347252	60.0000	58.335
26 1,3-Dichlorobenzene	146	4.512	4.512	(0.991)	1615897	60.0000	59.593
27 1,4-Dichlorobenzene	146	4.571	4.571	(1.004)	1650253	60.0000	59.145
28 1,2-Dichlorobenzene	146	4.683	4.683	(1.028)	1581685	60.0000	60.008
29 Benzyl Alcohol	108	4.662	4.662	(1.023)	778662	60.0000	60.252
30 2-Methylphenol	108	4.753	4.753	(1.043)	1120430	60.0000	59.072
31 2,2'-oxybis(1-Chloropropane)	45	4.769	4.769	(1.047)	1328471	60.0000	56.599
37 Acetophenone	105	4.859	4.859	(1.067)	1674672	60.0000	59.258
32 N-Nitroso-di-n-propylamine	70	4.865	4.865	(1.068)	723664	60.0000	57.607
192 4-Methylphenol	108	4.865	4.865	(1.068)	1136170	60.0000	58.054
34 Hexachloroethane	117	4.945	4.945	(1.086)	663238	60.0000	58.248
35 Nitrobenzene	77	4.988	4.988	(0.903)	1190016	60.0000	58.705
36 N-Nitrosopyrrolidine	100	4.838	4.838	(1.062)	517119	60.0000	60.889
41 Isophorone	82	5.169	5.169	(0.936)	1946273	60.0000	61.944
42 2-Nitrophenol	139	5.233	5.233	(0.948)	724519	60.0000	63.000
43 2,4-Dimethylphenol	107	5.265	5.265	(0.954)	1184039	60.0000	60.102

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
44	bis(2-Chloroethoxy)methane	93	5.335	5.335	(0.966)	1214669	60.0000	62.652
48	2,4-Dichlorophenol	162	5.415	5.415	(0.981)	1094687	60.0000	62.291
49	Benzoic Acid	122	5.346	5.346	(0.968)	783981	60.0000	63.905(M)
50	1,2,4-Trichlorobenzene	180	5.484	5.484	(0.993)	1377269	60.0000	63.858
51	Naphthalene	128	5.543	5.543	(1.004)	3777391	60.0000	63.846
52	4-Chloroaniline	127	5.581	5.581	(1.011)	1529855	60.0000	63.295
54	2,6-Dichlorophenol	162	5.586	5.586	(1.012)	1295904	60.0000	64.841
56	Hexachlorobutadiene	225	5.645	5.645	(1.022)	848974	60.0000	64.122
208	Caprolactam	113	5.837	5.837	(1.057)	308606	60.0000	68.836
59	4-Chloro-3-Methylphenol	107	5.949	5.949	(1.077)	958964	60.0000	61.294
62	2-Methylnaphthalene	142	6.067	6.067	(1.099)	2509805	60.0000	64.545
63	1-Methylnaphthalene	142	6.147	6.147	(1.113)	2324291	60.0000	63.834
64	Hexachlorocyclopentadiene	237	6.200	6.200	(0.902)	929622	60.0000	71.487
66	2,4,6-Trichlorophenol	196	6.286	6.286	(0.915)	857146	60.0000	67.904
67	2,4,5-Trichlorophenol	196	6.313	6.313	(0.918)	895956	60.0000	65.164
209	1,1'-Biphenyl	154	6.430	6.430	(0.935)	3198081	60.0000	67.835
70	2-Chloronaphthalene	162	6.446	6.446	(0.938)	2486331	60.0000	67.594
73	2-Nitroaniline	65	6.516	6.516	(0.948)	583593	60.0000	64.324
76	Dimethylphthalate	163	6.654	6.654	(0.968)	2531463	60.0000	65.630
78	2,6-Dinitrotoluene	165	6.702	6.702	(0.975)	546143	60.0000	68.528
79	Acenaphthylene	152	6.767	6.767	(0.984)	3409238	60.0000	67.186
81	3-Nitroaniline	138	6.831	6.831	(0.994)	575987	60.0000	67.587
82	Acenaphthene	153	6.900	6.900	(1.004)	2269263	60.0000	68.388
83	2,4-Dinitrophenol	184	6.911	6.911	(1.005)	383597	60.0000	72.876
85	4-Nitrophenol	109	6.954	6.954	(1.012)	437835	60.0000	61.483
86	Dibenzofuran	168	7.034	7.034	(1.023)	3194800	60.0000	65.461
87	2,4-Dinitrotoluene	165	7.012	7.012	(1.020)	725886	60.0000	67.568
91	2,3,5,6-Tetrachlorophenol	232	7.092	7.092	(1.032)	713954	60.0000	71.214
88	2,3,4,6-Tetrachlorophenol	232	7.130	7.130	(1.037)	710073	60.0000	70.592
93	Diethylphthalate	149	7.199	7.199	(1.047)	2537595	60.0000	66.177
94	Fluorene	166	7.301	7.301	(1.062)	2843673	60.0000	71.569
95	4-Chlorophenyl-phenylether	204	7.295	7.295	(1.061)	1425940	60.0000	71.698
96	4-Nitroaniline	138	7.301	7.301	(1.062)	691258	60.0000	72.428
98	4,6-Dinitro-2-methylphenol	198	7.328	7.328	(0.913)	456615	60.0000	70.766
99	N-Nitrosodiphenylamine (1)	169	7.381	7.381	(0.919)	1881375	60.0000	67.250
100	1,2-Diphenylhydrazine	77	7.413	7.413	(0.923)	2288137	60.0000	62.257
106	4-Bromophenyl-phenylether	248	7.669	7.669	(0.955)	737849	60.0000	70.124
107	Hexachlorobenzene	284	7.734	7.734	(0.963)	757588	60.0000	69.644
210	Atrazine	200	7.787	7.787	(0.970)	683757	60.0000	66.585
111	Pentachlorophenol	266	7.878	7.878	(0.981)	521462	60.0000	66.294
115	Phenanthrene	178	8.043	8.043	(1.002)	3625351	60.0000	66.212
116	Anthracene	178	8.086	8.086	(1.007)	3640445	60.0000	66.849
119	Carbazole	167	8.204	8.204	(1.022)	2952102	60.0000	65.733
120	Di-n-Butylphthalate	149	8.455	8.455	(1.053)	4119795	60.0000	67.811
123	Fluoranthene	202	8.968	8.968	(1.117)	3602300	60.0000	66.745
124	Benzidine	184	9.064	9.064	(0.897)	1432673	60.0000	75.771
125	Pyrene	202	9.149	9.149	(0.906)	3537710	60.0000	57.637
131	Butylbenzylphthalate	149	9.619	9.619	(0.952)	1765207	60.0000	61.417
135	3,3'-Dichlorobenzidine	252	10.057	10.057	(0.996)	1333114	60.0000	67.173
136	Benzo(a)Anthracene	228	10.089	10.089	(0.999)	3359535	60.0000	62.484
137	Chrysene	228	10.121	10.121	(1.002)	3051924	60.0000	59.105
139	bis(2-ethylhexyl)Phthalate	149	10.063	10.063	(0.996)	2536865	60.0000	63.168
140	Di-n-octylphthalate	149	10.608	10.608	(0.920)	3906211	60.0000	63.228
141	Benzo(b)fluoranthene	252	11.104	11.104	(0.963)	3943285	60.0000	65.857

$\frac{(3602300)(8)}{(366976)(60)} = 1.3088$

$\frac{(3537710)(8)}{(337867)(60)} = 1.396095$

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Semivolatile REPORT SW-846 Method 8270

Data file : \\PITSVR06\D\chem\731.i\TV102912DOD.b\V1029IC8.D
Lab Smp Id: IC 495239
Inj Date : 29-OCT-2012 13:01
Operator : 003200 Inst ID: 731.i
Smp Info : IC 495239
Misc Info : TV102912DOD.b,T8270ddod.m,dod.sub
Comment :
Method : \\PITSVR06\D\chem\731.i\TV102912DOD.b\T8270ddod.m
Meth Date : 30-Oct-2012 05:49 731.i Quant Type: ISTD
Cal Date : 29-OCT-2012 13:01 Cal File: V1029IC8.D
Als bottle: 9 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dod.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 1 1,4-Dichlorobenzene-d4	152	4.563	4.563	(1.000)	127809	8.00000	
* 2 Naphthalene-d8	136	5.530	5.530	(1.000)	398784	8.00000	
* 3 Acenaphthene-d10	164	6.881	6.881	(1.000)	204927	8.00000	
* 4 Phenanthrene-d10	188	8.030	8.030	(1.000)	344148	8.00000	
* 5 Chrysene-d12	240	10.103	10.103	(1.000)	310954	8.00000	
* 6 Perylene-d12	264	11.540	11.540	(1.000)	287923	8.00000	
198 1,4-Dioxane	88	1.416	1.416	(0.310)	424421	80.0000	63.914
10 N-Nitrosodimethylamine	74	1.908	1.908	(0.418)	601833	80.0000	75.128
9 Pyridine	79	1.929	1.929	(0.423)	1159238	80.0000	71.679
206 Benzaldehyde	77	4.216	4.216	(0.924)	570535	80.0000	75.322
21 Aniline	93	4.306	4.306	(0.944)	2144442	80.0000	76.325
22 Phenol	94	4.301	4.301	(0.943)	1822476	80.0000	73.461
23 bis(2-Chloroethyl)ether	93	4.365	4.365	(0.957)	1198399	80.0000	74.630
24 2-Chlorophenol	128	4.403	4.403	(0.965)	1641323	80.0000	74.948
26 1,3-Dichlorobenzene	146	4.520	4.520	(0.991)	2040888	80.0000	79.376
27 1,4-Dichlorobenzene	146	4.574	4.574	(1.002)	2062396	80.0000	77.952
28 1,2-Dichlorobenzene	146	4.691	4.691	(1.028)	2017299	80.0000	80.714
29 Benzyl Alcohol	108	4.670	4.670	(1.023)	979884	80.0000	79.962
30 2-Methylphenol	108	4.761	4.761	(1.043)	1368041	80.0000	76.064
31 2,2'-oxybis(1-Chloropropane)	45	4.777	4.777	(1.047)	1672405	80.0000	75.142
37 Acetophenone	105	4.867	4.867	(1.067)	2056031	80.0000	76.724
32 N-Nitroso-di-n-propylamine	70	4.873	4.873	(1.068)	895766	80.0000	75.200
192 4-Methylphenol	108	4.873	4.873	(1.068)	1433346	80.0000	77.237
34 Hexachloroethane	117	4.953	4.953	(1.085)	809316	80.0000	74.958
35 Nitrobenzene	77	4.996	4.996	(0.903)	1460419	80.0000	79.094
36 N-Nitrosopyrrolidine	100	4.846	4.846	(1.062)	637478	80.0000	79.159
41 Isophorone	82	5.177	5.177	(0.936)	2340031	80.0000	81.763
42 2-Nitrophenol	139	5.236	5.236	(0.947)	903239	80.0000	86.224
43 2,4-Dimethylphenol	107	5.273	5.273	(0.954)	1452621	80.0000	80.950

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
44	bis(2-Chloroethoxy)methane	93	5.343	5.343	(0.966)	1488614	80.0000	84.295
48	2,4-Dichlorophenol	162	5.423	5.423	(0.981)	1375122	80.0000	85.904
49	Benzoic Acid	122	5.359	5.359	(0.969)	971093	80.0000	86.902(M)
50	1,2,4-Trichlorobenzene	180	5.492	5.492	(0.993)	1705719	80.0000	86.825
51	Naphthalene	128	5.546	5.546	(1.003)	4679056	80.0000	86.825
52	4-Chloroaniline	127	5.589	5.589	(1.011)	1873426	80.0000	85.093
54	2,6-Dichlorophenol	162	5.594	5.594	(1.012)	1611905	80.0000	88.543
56	Hexachlorobutadiene	225	5.653	5.653	(1.022)	1068493	80.0000	88.598
208	Caprolactam	113	5.850	5.850	(1.058)	379380	80.0000	92.903
59	4-Chloro-3-Methylphenol	107	5.952	5.952	(1.076)	1193892	80.0000	83.776
62	2-Methylnaphthalene	142	6.075	6.075	(1.099)	3105321	80.0000	87.674
63	1-Methylnaphthalene	142	6.150	6.150	(1.112)	2894052	80.0000	87.260
64	Hexachlorocyclopentadiene	237	6.203	6.203	(0.901)	1154570	80.0000	95.581
66	2,4,6-Trichlorophenol	196	6.294	6.294	(0.915)	1047427	80.0000	89.330
67	2,4,5-Trichlorophenol	196	6.320	6.320	(0.918)	1151141	80.0000	90.132
209	1,1'-Biphenyl	154	6.433	6.433	(0.935)	4030139	80.0000	92.027
70	2-Chloronaphthalene	162	6.449	6.449	(0.937)	3139963	80.0000	91.897
73	2-Nitroaniline	65	6.523	6.523	(0.948)	725820	80.0000	86.123
76	Dimethylphthalate	163	6.662	6.662	(0.968)	3160043	80.0000	88.198
78	2,6-Dinitrotoluene	165	6.705	6.705	(0.974)	684783	80.0000	92.500
79	Acenaphthylene	152	6.775	6.775	(0.984)	4278181	80.0000	90.764
81	3-Nitroaniline	138	6.839	6.839	(0.994)	731489	80.0000	92.403
82	Acenaphthene	153	6.908	6.908	(1.004)	2820938	80.0000	91.521
83	2,4-Dinitrophenol	184	6.919	6.919	(1.005)	493562	80.0000	100.94
85	4-Nitrophenol	109	6.962	6.962	(1.012)	538723	80.0000	81.441
86	Dibenzofuran	168	7.042	7.042	(1.023)	4223014	80.0000	93.152
87	2,4-Dinitrotoluene	165	7.020	7.020	(1.020)	913616	80.0000	91.552
91	2,3,5,6-Tetrachlorophenol	232	7.100	7.100	(1.032)	899608	80.0000	96.601
88	2,3,4,6-Tetrachlorophenol	232	7.138	7.138	(1.037)	867778	80.0000	92.874
93	Diethylphthalate	149	7.207	7.207	(1.047)	3222988	80.0000	90.484
94	Fluorene	166	7.303	7.303	(1.061)	3607389	80.0000	97.739
95	4-Chlorophenyl-phenylether	204	7.298	7.298	(1.061)	1764771	80.0000	95.526
96	4-Nitroaniline	138	7.314	7.314	(1.063)	858768	80.0000	96.866
98	4,6-Dinitro-2-methylphenol	198	7.335	7.335	(0.914)	572777	80.0000	94.657
99	N-Nitrosodiphenylamine (1)	169	7.389	7.389	(0.920)	2377535	80.0000	90.622
100	1,2-Diphenylhydrazine	77	7.421	7.421	(0.924)	2831904	80.0000	82.163
106	4-Bromophenyl-phenylether	248	7.677	7.677	(0.956)	935628	80.0000	94.818
107	Hexachlorobenzene	284	7.741	7.741	(0.964)	979771	80.0000	96.043
210	Atrazine	200	7.795	7.795	(0.971)	862711	80.0000	89.585
111	Pentachlorophenol	266	7.886	7.886	(0.982)	690798	80.0000	93.647
115	Phenanthrene	178	8.051	8.051	(1.003)	4686812	80.0000	91.276
116	Anthracene	178	8.094	8.094	(1.008)	4755611	80.0000	93.119
119	Carbazole	167	8.206	8.206	(1.022)	3767559	80.0000	89.455
120	Di-n-Butylphthalate	149	8.463	8.463	(1.054)	4976748	80.0000	87.350
123	Fluoranthene	202	8.976	8.976	(1.118)	4668987	80.0000	92.247
124	Benzidine	184	9.072	9.072	(0.898)	1779998	80.0000	102.29
125	Pyrene	202	9.157	9.157	(0.906)	4652794	80.0000	82.365
131	Butylbenzylphthalate	149	9.627	9.627	(0.953)	2179526	80.0000	82.396
135	3,3'-Dichlorobenzidine	252	10.060	10.060	(0.996)	1751713	80.0000	95.905
136	Benzo(a)Anthracene	228	10.097	10.097	(0.999)	4203334	80.0000	84.944
137	Chrysene	228	10.124	10.124	(1.002)	4112206	80.0000	86.532
139	bis(2-ethylhexyl)Phthalate	149	10.065	10.065	(0.996)	3248560	80.0000	87.890
140	Di-n-octylphthalate	149	10.616	10.616	(0.920)	5037647	80.0000	94.169
141	Benzo(b)fluoranthene	252	11.118	11.118	(0.963)	5209516	80.0000	100.48

$\frac{(4668987)(8)}{(8.1)(344148)} = 1.35668$

$\frac{(4652794)(8)}{(310954)(80)} = 1.496296$

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Pittsburgh Job No.: 180-16821-1

SDG No.:

Lab Sample ID: CCVIS 180-57768/15 Calibration Date: 12/08/2012 10:20

Instrument ID: 731 Calib Start Date: 10/29/2012 10:16

GC Column: Rxi-5SilMS ID: 0.32(mm) Calib End Date: 10/29/2012 13:01

Lab File ID: V12080CC.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dioxane	Ave	0.3785	0.3689		1.95	2.00	-2.5	20.0
N-Nitrosodimethylamine	Ave	0.5014	0.4850		1.93	2.00	-3.3	20.0
Pyridine	Ave	1.012	0.9282		1.83	2.00	-8.3	20.0
Benzaldehyde	Qua	0.4741	0.5656		2.46	2.00	23.0*	20.0
Phenol	Ave	1.553	1.626		2.09	2.00	4.7	20.0
Aniline	Ave	1.759	1.815		2.06	2.00	3.2	20.0
Bis(2-chloroethyl)ether	Ave	1.005	1.084		2.16	2.00	7.9	20.0
2-Chlorophenol	Ave	1.371	1.441		2.10	2.00	5.1	20.0
1,3-Dichlorobenzene	Ave	1.609	1.681		2.09	2.00	4.4	20.0
1,4-Dichlorobenzene	Ave	1.656	1.720		2.08	2.00	3.9	20.0
Benzyl alcohol	Ave	0.7670	0.7821		2.04	2.00	2.0	20.0
1,2-Dichlorobenzene	Ave	1.564	1.626		2.08	2.00	3.9	20.0
2-Methylphenol	Ave	1.126	1.168		2.07	2.00	3.7	20.0
2,2'-oxybis[1-chloropropane]	Ave	1.393	1.519		2.18	2.00	9.1	20.0
N-Nitrosopyrrolidine	Ave	0.5041	0.5257		2.09	2.00	4.3	20.0
Acetophenone	Ave	1.677	1.779		2.12	2.00	6.1	20.0
Methylphenol, 3 & 4	Ave	1.162	1.188		2.04	2.00	2.2	20.0
N-Nitrosodi-n-propylamine	Ave	0.7456	0.8173	0.0500	2.19	2.00	9.6	20.0
Hexachloroethane	Ave	0.6758	0.6942		2.05	2.00	2.7	20.0
Nitrobenzene	Ave	0.3704	0.3729		2.01	2.00	0.7	20.0
Isophorone	Ave	0.5741	0.5698		1.99	2.00	-0.7	20.0
2-Nitrophenol	Ave	0.2101	0.2047		1.95	2.00	-2.6	20.0
2,4-Dimethylphenol	Ave	0.3600	0.3617		2.01	2.00	0.5	20.0
Benzoic acid	Ave	0.2242	0.2247		5.01	5.00	0.2	20.0
Bis(2-chloroethoxy)methane	Ave	0.3543	0.3580		2.02	2.00	1.1	20.0
2,4-Dichlorophenol	Ave	0.3211	0.3101		1.93	2.00	-3.4	20.0
1,2,4-Trichlorobenzene	Ave	0.3941	0.3733		1.89	2.00	-5.3	20.0
Naphthalene	Ave	1.081	1.037		1.92	2.00	-4.0	20.0
4-Chloroaniline	Ave	0.4417	0.4293		1.94	2.00	-2.8	20.0
2,6-Dichlorophenol	Ave	0.3652	0.3532		1.93	2.00	-3.3	20.0
Hexachlorobutadiene	Ave	0.2419	0.2337		1.93	2.00	-3.4	20.0
Caprolactam	Ave	0.0819	0.0821		2.00	2.00	0.2	20.0
4-Chloro-3-methylphenol	Ave	0.2859	0.2880		2.01	2.00	0.7	20.0
2-Methylnaphthalene	Ave	0.7105	0.7199		2.03	2.00	1.3	20.0
1-Methylnaphthalene	Ave	0.6653	0.6669		2.00	2.00	0.2	20.0
Hexachlorocyclopentadiene	Ave	0.4716	0.3902	0.0500	1.65	2.00	-17.3	20.0
2,4,6-Trichlorophenol	Ave	0.4577	0.4031		1.76	2.00	-11.9	20.0
2,4,5-Trichlorophenol	Ave	0.4986	0.4100		1.64	2.00	-17.8	20.0
1,1'-Biphenyl	Ave	1.710	1.595		1.87	2.00	-6.7	20.0
2-Chloronaphthalene	Ave	1.334	1.172		1.76	2.00	-12.2	20.0
2-Nitroaniline	Ave	0.3290	0.3287		2.00	2.00	-0.1	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Pittsburgh Job No.: 180-16821-1

SDG No.:

Lab Sample ID: CCVIS 180-57768/15 Calibration Date: 12/08/2012 10:20

Instrument ID: 731 Calib Start Date: 10/29/2012 10:16

GC Column: Rxi-5SilMS ID: 0.32(mm) Calib End Date: 10/29/2012 13:01

Lab File ID: V12080CC.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dimethyl phthalate	Ave	1.399	1.269		1.81	2.00	-9.3	20.0
2,6-Dinitrotoluene	Ave	0.2890	0.2595		1.80	2.00	-10.2	20.0
Acenaphthylene	Ave	1.840	1.712		1.86	2.00	-7.0	20.0
3-Nitroaniline	Ave	0.3090	0.3185		2.06	2.00	3.1	20.0
Acenaphthene	Ave	1.203	1.130		1.88	2.00	-6.1	20.0
2,4-Dinitrophenol	Qua	0.1909	0.1518	0.0500	4.48	5.00	-10.4	20.0
4-Nitrophenol	Ave	0.2582	0.2523	0.0500	4.88	5.00	-2.3	20.0
2,4-Dinitrotoluene	Ave	0.3896	0.3721		1.91	2.00	-4.5	20.0
Dibenzofuran	Ave	1.770	1.653		1.87	2.00	-6.6	20.0
2,3,5,6-Tetrachlorophenol	Ave	0.3635	0.3366		1.85	2.00	-7.4	20.0
2,3,4,6-Tetrachlorophenol	Ave	0.3648	0.3367		1.85	2.00	-7.7	20.0
Diethyl phthalate	Ave	1.391	1.385		1.99	2.00	-0.4	20.0
4-Chlorophenyl phenyl ether	Ave	0.7212	0.6767		1.88	2.00	-6.2	20.0
4-Nitroaniline	Qua	0.3461	0.3170		2.10	2.00	5.0	20.0
Fluorene	Qua	1.441	1.303		2.13	2.00	6.5	20.0
4,6-Dinitro-2-methylphenol	Ave	0.1464	0.1230		4.20	5.00	-16.0	20.0
N-Nitrosodiphenylamine	Ave	0.6099	0.5804		1.90	2.00	-4.8	20.0
1,2-Diphenylhydrazine(as Azobenzene)	Ave	0.8012	0.8167		2.04	2.00	1.9	20.0
4-Bromophenyl phenyl ether	Ave	0.2294	0.2041		1.78	2.00	-11.0	20.0
Hexachlorobenzene	Ave	0.2371	0.2004		1.69	2.00	-15.5	20.0
Atrazine	Ave	0.2239	0.2071		1.85	2.00	-7.5	20.0
Pentachlorophenol	Ave	0.1715	0.1467		4.28	5.00	-14.4	20.0
Phenanthrene	Ave	1.194	1.172		1.96	2.00	-1.8	20.0
Anthracene	Ave	1.187	1.165		1.96	2.00	-1.9	20.0
Carbazole	Ave	0.9790	1.023		2.09	2.00	4.5	20.0
Di-n-butyl phthalate	Ave	1.324	1.359		2.05	2.00	2.6	20.0
Fluoranthene	Ave	1.177	1.210		2.06	2.00	2.9	20.0
Benzidine	Qua	0.4901	0.3441		10.0	2.00	-4.9	20.0
Pyrene	Ave	1.453	1.389		1.91	2.00	-4.5	20.0
Butyl benzyl phthalate	Ave	0.6805	0.6617		1.94	2.00	-2.8	20.0
3,3'-Dichlorobenzidine	Ave	0.4699	0.4059		1.73	2.00	-13.6	20.0
Bis(2-ethylhexyl) phthalate	Ave	0.9509	0.8958		1.88	2.00	-5.8	20.0
Benzo[a]anthracene	Ave	1.273	1.223		1.92	2.00	-3.9	20.0
Chrysene	Ave	1.223	1.269		2.08	2.00	3.8	20.0
Di-n-octyl phthalate	Ave	1.486	1.565		2.11	2.00	5.3	20.0
Benzo[b]fluoranthene	Ave	1.441	1.474		2.05	2.00	2.3	20.0
Benzo[k]fluoranthene	Ave	1.346	1.325		1.97	2.00	-1.6	20.0
Benzo[a]pyrene	Ave	1.092	1.080		1.98	2.00	-1.1	20.0
Indeno[1,2,3-cd]pyrene	Ave	1.285	1.144		1.78	2.00	-10.9	20.0
Dibenz(a,h)anthracene	Ave	1.074	0.9572		1.78	2.00	-10.9	20.0

Fluoranthene
$\frac{1.1766 - 1.210}{1.1766} \times 100 = 2.839$

Pyrene
$\frac{1.453 - 1.389}{1.453} \times 100 = 4.4$

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Pittsburgh Job No.: 180-16821-1

SDG No.:

Lab Sample ID: CCVIS 180-57768/15 Calibration Date: 12/08/2012 10:20

Instrument ID: 731 Calib Start Date: 10/29/2012 10:16

GC Column: Rxi-5SilMS ID: 0.32(mm) Calib End Date: 10/29/2012 13:01

Lab File ID: V12080CC.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Benzo[g,h,i]perylene	Ave	1.054	0.9780		1.86	2.00	-7.2	20.0
2-Fluorophenol (Surr)	Ave	1.162	1.166		2.01	2.00	0.3	20.0
Phenol-d5 (Surr)	Ave	1.380	1.445		2.09	2.00	4.7	20.0
2-Chlorophenol-d4 (Surr)	Ave	1.408	1.454		2.07	2.00	3.3	20.0
1,2-Dichlorobenzene-d4 (Surr)	Ave	1.083	1.087		2.01	2.00	0.3	20.0
Nitrobenzene-d5 (Surr)	Ave	0.3865	0.4067		2.10	2.00	5.2	20.0
2-Fluorobiphenyl	Ave	1.609	1.388		1.73	2.00	-13.7	
2,4,6-Tribromophenol (Surr)	Qua	0.1065	0.0800		1.90	2.00	-4.8	20.0
Terphenyl-d14 (Surr)	Ave	0.9568	0.8775		1.83	2.00	-8.3	20.0

TestAmerica Pittsburgh

Semivolatile REPORT SW-846 Method 8270

Data file : \\PITSVR06\D\chem\731.i\TV120812DOD.b\V12080CC.D
Lab Smp Id: CCVIS 660064
Inj Date : 08-DEC-2012 10:20
Operator : 003200 Inst ID: 731.i
Smp Info : CCVIS 660064
Misc Info : TV120812DOD.b,T8270ddod.m,dod.sub
Comment :
Method : \\PITSVR06\D\chem\731.i\TV120812DOD.b\T8270ddod.m
Meth Date : 10-Dec-2012 05:53 731.i Quant Type: ISTD
Cal Date : 29-OCT-2012 13:01 Cal File: V1029IC8.D
Als bottle: 2 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dod.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 1	1,4-Dichlorobenzene-d4	152	4.552	4.552	(1.000)	159023	8.00000	
* 2	Naphthalene-d8	136	5.514	5.514	(1.000)	565269	8.00000	
* 3	Acenaphthene-d10	164	6.855	6.855	(1.000)	319291	8.00000	
* 4	Phenanthrene-d10	188	7.993	7.993	(1.000)	546873	8.00000	
* 5	Chrysene-d12	240	10.049	10.049	(1.000)	503468	8.00000	
* 6	Perylene-d12	264	11.433	11.433	(1.000)	506283	8.00000	
198	1,4-Dioxane	88	1.400	1.400	(0.308)	29333	4.00000	3.8992
10	N-Nitrosodimethylamine	74	1.881	1.881	(0.413)	38565	4.00000	3.8692
9	Pyridine	79	1.935	1.935	(0.425)	73800	4.00000	3.6676(M)
206	Benzaldehyde	77	4.210	4.210	(0.925)	44973	4.00000	4.9195
21	Aniline	93	4.301	4.301	(0.945)	144305	4.00000	4.1280
22	Phenol	94	4.291	4.291	(0.943)	129289	4.00000	4.1885
23	bis(2-Chloroethyl)ether	93	4.355	4.355	(0.957)	86205	4.00000	4.3146
24	2-Chlorophenol	128	4.392	4.392	(0.965)	114593	4.00000	4.2056
26	1,3-Dichlorobenzene	146	4.510	4.510	(0.991)	133626	4.00000	4.1770
27	1,4-Dichlorobenzene	146	4.563	4.563	(1.002)	136780	4.00000	4.1551
28	1,2-Dichlorobenzene	146	4.681	4.681	(1.028)	129246	4.00000	4.1562
29	Benzyl Alcohol	108	4.659	4.659	(1.023)	62184	4.00000	4.0784(M)
30	2-Methylphenol	108	4.745	4.745	(1.042)	92844	4.00000	4.1489
31	2,2'-oxybis(1-Chloropropane)	45	4.766	4.766	(1.047)	120796	4.00000	4.3621
37	Acetophenone	105	4.851	4.851	(1.066)	141489	4.00000	4.2435
32	N-Nitroso-di-n-propylamine	70	4.857	4.857	(1.067)	64983	4.00000	4.3845
192	4-Methylphenol	108	4.857	4.857	(1.067)	94425	4.00000	4.0894
34	Hexachloroethane	117	4.937	4.937	(1.084)	55194	4.00000	4.1086
35	Nitrobenzene	77	4.980	4.980	(0.903)	105397	4.00000	4.0270
36	N-Nitrosopyrrolidine	100	4.825	4.825	(1.060)	41796	4.00000	4.1713
41	Isophorone	82	5.161	5.161	(0.936)	161054	4.00000	3.9700
42	2-Nitrophenol	139	5.225	5.225	(0.948)	57846	4.00000	3.8957
43	2,4-Dimethylphenol	107	5.257	5.257	(0.954)	102223	4.00000	4.0188

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
44 bis(2-Chloroethoxy)methane	93	5.327	5.327	(0.966)	101194	4.00000	4.0426
48 2,4-Dichlorophenol	162	5.407	5.407	(0.981)	87639	4.00000	3.8624
49 Benzoic Acid	122	5.306	5.306	(0.962)	158775	10.0000	10.024(M)
50 1,2,4-Trichlorobenzene	180	5.476	5.476	(0.993)	105502	4.00000	3.7886
51 Naphthalene	128	5.530	5.530	(1.003)	293210	4.00000	3.8384
52 4-Chloroaniline	127	5.567	5.567	(1.010)	121345	4.00000	3.8883
54 2,6-Dichlorophenol	162	5.578	5.578	(1.012)	99834	4.00000	3.8688
56 Hexachlorobutadiene	225	5.637	5.637	(1.022)	66040	4.00000	3.8632
208 Caprolactam	113	5.802	5.802	(1.052)	23198	4.00000	4.0076
59 4-Chloro-3-Methylphenol	107	5.936	5.936	(1.077)	81393	4.00000	4.0292
62 2-Methylnaphthalene	142	6.059	6.059	(1.099)	203473	4.00000	4.0528
63 1-Methylnaphthalene	142	6.134	6.134	(1.112)	188500	4.00000	4.0096
64 Hexachlorocyclopentadiene	237	6.187	6.187	(0.903)	62289	4.00000	3.3096
66 2,4,6-Trichlorophenol	196	6.272	6.272	(0.915)	64349	4.00000	3.5223
67 2,4,5-Trichlorophenol	196	6.299	6.299	(0.919)	65460	4.00000	3.2896
209 1,1'-Biphenyl	154	6.411	6.411	(0.935)	254577	4.00000	3.7310
70 2-Chloronaphthalene	162	6.427	6.427	(0.938)	187024	4.00000	3.5131
73 2-Nitroaniline	65	6.497	6.497	(0.948)	52471	4.00000	3.9960
76 Dimethylphthalate	163	6.636	6.636	(0.968)	202563	4.00000	3.6286
78 2,6-Dinitrotoluene	165	6.678	6.678	(0.974)	41425	4.00000	3.5914
79 Acenaphthylene	152	6.748	6.748	(0.984)	273241	4.00000	3.7206
81 3-Nitroaniline	138	6.807	6.807	(0.993)	50844	4.00000	4.1222
82 Acenaphthene	153	6.881	6.881	(1.004)	180432	4.00000	3.7571
83 2,4-Dinitrophenol	184	6.887	6.887	(1.005)	60588	10.0000	8.9561
85 4-Nitrophenol	109	6.930	6.930	(1.011)	100693	10.0000	9.7698
86 Dibenzofuran	168	7.010	7.010	(1.023)	263936	4.00000	3.7366
87 2,4-Dinitrotoluene	165	6.988	6.988	(1.019)	59396	4.00000	3.8201
91 2,3,5,6-Tetrachlorophenol	232	7.068	7.068	(1.031)	53731	4.00000	3.7031
88 2,3,4,6-Tetrachlorophenol	232	7.106	7.106	(1.037)	53749	4.00000	3.6920
93 Diethylphthalate	149	7.175	7.175	(1.047)	221112	4.00000	3.9842
94 Fluorene	166	7.271	7.271	(1.061)	208069	4.00000	4.2603
95 4-Chlorophenyl-phenylether	204	7.271	7.271	(1.061)	108037	4.00000	3.7533
96 4-Nitroaniline	138	7.271	7.271	(1.061)	50614	4.00000	4.1993
98 4,6-Dinitro-2-methylphenol	198	7.303	7.303	(0.914)	84098	10.0000	8.4004
99 N-Nitrosodiphenylamine (1)	169	7.357	7.357	(0.920)	158694	4.00000	3.8065
100 1,2-Diphenylhydrazine	77	7.389	7.389	(0.924)	223310	4.00000	4.0772
106 4-Bromophenyl-phenylether	248	7.645	7.645	(0.957)	55810	4.00000	3.5593
107 Hexachlorobenzene	284	7.704	7.704	(0.964)	54786	4.00000	3.3796
210 Atrazine	200	7.758	7.758	(0.971)	56632	4.00000	3.7007
111 Pentachlorophenol	266	7.848	7.848	(0.982)	100308	10.0000	8.5573
115 Phenanthrene	178	8.014	8.014	(1.003)	320426	4.00000	3.9270
116 Anthracene	178	8.051	8.051	(1.007)	318481	4.00000	3.9244
119 Carbazole	167	8.169	8.169	(1.022)	279797	4.00000	4.1807
120 Di-n-Butylphthalate	149	8.425	8.425	(1.054)	371672	4.00000	4.1052
123 Fluoranthene	202	8.928	8.928	(1.117)	330940	4.00000	4.1147
124 Benzidine	184	9.024	9.024	(0.898)	86622	4.00000	3.8031
125 Pyrene	202	9.109	9.109	(0.906)	349554	4.00000	3.8218
131 Butylbenzylphthalate	149	9.579	9.579	(0.953)	166561	4.00000	3.8890
135 3,3'-Dichlorobenzidine	252	10.007	10.007	(0.996)	102175	4.00000	3.4550
136 Benzo(a)Anthracene	228	10.039	10.039	(0.999)	307869	4.00000	3.8426
137 Chrysene	228	10.071	10.071	(1.002)	319377	4.00000	4.1508
139 bis(2-ethylhexyl)Phthalate	149	10.017	10.017	(0.997)	225503	4.00000	3.7681
140 Di-n-octylphthalate	149	10.546	10.546	(0.922)	396263	4.00000	4.2126(M)
141 Benzo(b)fluoranthene	252	11.011	11.011	(0.963)	373163	4.00000	4.0931

$\frac{(330940)(8)}{(546873)(4)} = 1.21029$

$\frac{(349554)(8)}{(503468)(4)} = 1.38858$