# TABLE 2 - SUMMARY OF ANALYTICAL RESULTS - Fuel Fingerprint NY 310.13 DATA USABILITY SUMMARY REPORT

# MARCH-APRIL 2017 SOIL SAMPLING EVENT

### SARANAC LAKE REMEDIAL DESIGN (RD)

SARANAC LAKE SITE

SARANAC LAKE, NEW YORK

		SDG	480-11	5393-1	480-11	5393-1
		Location	SB-6	607	SB-	611
		Sample Date	3/29/	2017	4/4/2	2017
		Sample ID	5160088	B60704	516008SB61105	
		Qc Code	F.	S	F	S
Analysis	Parameter	Units	Result	Qualifier	Result	Qualifier
NY310.13	Fuel Oil #2	mg/kg	250 U		200 U	
NY310.13	Fuel Oil #4	mg/kg	250 U		200 U	
NY310.13	Fuel Oil #6	mg/kg	25	0 U	200 U	
NY310.13	Gasoline	mg/kg	550	0	1500	
NY310.13	Kerosene	mg/kg	25	0 U	200 U	
NY310.13	Motor Oil	mg/kg	160	1600		0
NY310.13	Unknown Hydrocarbons	mg/kg 250 U		20	0 U	
D2216	Percent Moisture	Percent 33.2		18.2		
D2216	Percent Solids	Percent	66.8		81.8	

#### Notes:

J = Reported concentration is considered estimated

U = Target analyte not detected

UJ = Target analyte not detected and the reporting limit is considered estimated

ug/kg = microgram per kilogram

#### TABLE 2 - SUMMARY OF ANALYTICAL RESULTS - PAH DATA USABILITY SUMMARY REPORT MARCH-APRIL 2017 SOIL SAMPLING EVENT SARANAC LAKE REMEDIAL DESIGN (RD) SARANAC LAKE SITE

		SDG	480-115	393-1	480-115	393-1	480-11	5393-1
		Location	SB-6	SB-601		SB-601		502
		Sample Date	ample Date 3/29/2017		3/29/2	017	3/29/	2017
		Sample ID	5 <b>160</b> 08SE	360110	516008SE	360115	5160085	B60210
		Qc Code	FS		FS		F:	S
Analysis	Parameter	Units	Result	Qualifier	Result	Qualifier	Result	Qualifier
SW8270D	Acenaphthene	ug/kg	440,000	1	24,000		31	0 J
SW8270D	Acenaphthylene	ug/kg	33,000	) ]	2,000	J	ľ	0 U
SW8270D	Anthracene	ug/kg	250,000	)	15,000		l	0 J
SW8270D	Benzo(a)anthracene	ug/kg	160,000		8,400		290 J	
SW8270D	Benzo(a)pyrene	ug/kg	140,000		7,700		290 J	
SW8270D	Benzo(b)fluoranthene	ug/kg	140,000	140,000 J		5,900		0 1
SW8270D	Benzo(ghi)perylene	ug/kg	78,000	J	4,200		18	
SW8270D	Benzo(k)fluoranthene	ug/kg	110,000 UJ		2,100 J			υ
SW8270D	Chrysene	ug/kg	140,000		8,600		29	
SW8270D	Dibenz(a,h)anthracene	ug/kg	110,000	U	3,700 U			) U
SW8270D	Fluoranthene	ug/kg	410,000		22,000		590	
SW8270D	Fluorene	ug/kg	230,000		14,000		240	
SW8270D	Indeno(1,2,3-cd)pyrene	ug/kg	48,000	J	2,700	J	120	
SW8270D	Naphthalene	ug/kg	430,000		20,000			טט
SW8270D	Phenanthrene	ug/kg	890,000		53,000		1,100	
SW8270D	Pyrenė	ug/kg	520,000		30,000		850	
D2216	Percent Moisture	Percent	27.1		11.6		12.	
D2216	Percent Solids	Percent	72.9		88.4		87.3	

#### Notes:

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ug/kg = microgram per kilogram

# TABLE 2 - SUMMARY OF ANALYTICAL RESULTS - PAH DATA USABILITY SUMMARY REPORT MARCH-APRIL 2017 SOIL SAMPLING EVENT SARANAC LAKE REMEDIAL DESIGN (RD) SARANAC LAKE SITE

SARANAC LAKE, NEW YORK

		SDG	480-115	393-1	480-11	5393-1
		Location	SB-6	06	SB-6	507
		Sample Date	3/29/2	2017	3/29/2017	
		Sample ID	51600858	860606	5160085	
		Qc Code	FS		F	S
Analysis	Parameter	Units	Resuft	Qualifier	Result	Qualifier
SW8270D	Acenaphthene	ug/kg	13,000	)	5,10	0 U
SW8270D	Acenaphthylene	ug/kg	1,800	LC LC	5,10	0 U
SW8270D	Anthracene	ug/kg	15,000	)	5,10	0 U
SW8270D	Benzo(a)anthracene	ug/kg	11,000	11	5,10	0 U
SW8270D	Benzo(a)pyrene	ug/kg	9,600	))	5,10	
SW8270D	Benzo(b)fluoranthene	ug/kg	12,000 J		5,100 U	
SW8270D	Benzo(ghi)perylene	ug/kg	6,200	) ]	5,10	
SW8270D	Benzo(k)fluoranthene	ug/kg	12,000	UJ	5,10	
SW8270D	Chrysene	ug/kg	12,000	)	5,10	
SW8270D	Dibenz(a,h)anthracene	ug/kg	12,000	U .	5,10	
SW8270D	Fluoranthene	ug/kg	36,000	)	5,10	
SW8270D	Fluorene	ug/kg	15,000		5,10	
SW8270D	Indeno(1,2,3-cd)pyrene	ug/kg	4,200	)]	5,10	
SW8270D	Naphthalene	ug/kg	12,000		2,10	
SW8270D	Phenanthrene	ug/kg	80,000		5,10	
SW8270D	Pyrene	ug/kg	44,000		5,10	
02216	Percent Moisture	Percent	30	S	33.	
D2216	Percent Solids	Percent	70		66.	

#### Notes:

J = Reported concentration is considered estimated

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UI = Target analyte not detected and the reporting limit is considered

ug/kg = microgram per kilogram

## TABLE 2 - SUMMARY OF ANALYTICAL RESULTS - SVOC DATA USABILITY SUMMARY REPORT MARCH-APRIL 2017 SOIL SAMPLING EVENT SARANAC LAKE REMEDIAL DESIGN (RD) SARANAC LAKE SITE

SARANAC LAKE, NEW YORK

		SDG	480-115393-1
		Location	SB-611
		Sample Date	4/4/2017
		Sample ID	516008SB61105
		Qc Code	FS
Analysis	Parameter	Units	Result Qualifie
SW8270D	1,2,4,5-Tetrachlorobenzene	ug/kg	2000 U
SW8270D	2,2'-Dichlorodiisopropylether	ug/kg	2000 U
SW8270D	2,4,5-Trichlorophenol	ug/kg	2000 U
SW8270D	2,4,6-Trichlorophenol	ug/kg	2000 U
SW8270D	2,4-Dichlorophenol	ug/kg	2000 U
SW8270D	2,4-Dimethylphenol	ug/kg	2000 U
SW8270D	2,4-Dinitrophenol	ug/kg	20000 U
SW8270D	2,4-Dinitrotoluene	ug/kg	2000 U
SW8270D	2,6-Dinitrotoluene	ug/kg	2000 U
SW8270D	2-Chloronaphthalene	ug/kg	2000 U
SW8270D	2-Chlorophenol	ug/kg	2000 U
SW8270D	2-Methylnaphthalene	ug/kg	7200
SW8270D	2-Methylphenol	ug/kg	2000 U
SW8270D	2-Nitroaniline	ug/kg	3900 U
SW8270D	2-Nitrophenol	ug/kg	2000 U
SW8270D	3,3'-Dichlorobenzidine	ug/kg	3900 U
SW8270D	3-Nitroaniline	ug/kg	3900 U
SW8270D	4,6-Dinitro-2-methylphenol	ug/kg	3900 U
SW8270D	4-Bromophenyl phenyl ether	ug/kg	2000 U
SW8270D	4-Chloro-3-methylphenol	ug/kg	2000 U
SW8270D	4-Chloroaniline	ug/kg	2000 U
SW8270D	4-Chlorophenyl phenyl ether	ug/kg	2000 U
SW8270D	4-Methylphenol	ug/kg	3900 U
SW8270D	4-Nitroaniline	ug/kg	3900 U
SW8270D	4-Nitrophenol	ug/kg	3900 U

### TABLE 2 - SUMMARY OF ANALYTICAL RESULTS - SVOC DATA USABILITY SUMMARY REPORT MARCH-APRIL 2017 SOIL SAMPLING EVENT SARANAC LAKE REMEDIAL DESIGN (RD) SARANAC LAKE SITE SARANAC LAKE, NEW YORK

		SDG	480-115393-1
		Location	SB-611
		Sample Date	4/4/2017
		Sample ID	516008SB61105
		Qc Code	FS
Analysis	Parameter	Units	Result Qualifier
SW8270D	Acenaphthene	ug/kg	2,000 U
SW8270D	Acenaphthylene	ug/kg	2,000 U
SW8270D	Acetophenone	ug/kg	2000 U
SW8270D	Anthracene	ug/kg	2,000 ∪
SW8270D	Atrazine	ug/kg	. 2000 U
SW8270D	Benzaldehyde	ug/kg	2000 U
SW8270D	Benzo(a)anthracene	ug/kg	520 J
SW8270D	Benzo(a)pyrene	ug/kg	580 J
SW8270D	Benzo(b)fluoranthene	ug/kg	590 J
SW8270D	Benzo(ghi)perylene	ug/kg	380 J
SW8270D	Benzo(k)fluoranthene	ug/kg	380 J
SW8270D	Biphenyl	ug/kg	2000 U
SW8270D	Bis(2-Chloroethoxy)methane	ug/kg	2000 U
SW8270D	Bis(2-Chloroethyl)ether	ug/kg	2000 U
SW8270D	Bis(2-Ethylhexyl)phthalate	ug/kg	2000 U
SW8270D	Butylbenzylphthalate	ug/kg	2000 U
SW8270D	Caprolactam	ug/kg	2000 U
SW8270D	Carbazole	ug/kg	2000 U
SW8270D	Chrysene	ug/kg	570 J
SW8270D	Di-n-butylphthalate	ug/kg	2000 U
SW8270D	Di-n-octylphthalate	ug/kg	2000 U
SW8270D	Dibenz(a,h)anthracene	ug/kg	2,000 U
SW8270D	Dibenzofuran	ug/kg	2000 U
SW8270D	Diethylphthalate	ug/kg	2000 U
SW8270D	Dimethylphthalate	ug/kg	2000 U

#### TABLE 2 - SUMMARY OF ANALYTICAL RESULTS - SVOC DATA USABILITY SUMMARY REPORT MARCH-APRIL 2017 SOIL SAMPLING EVENT SARANAC LAKE REMEDIAL DESIGN (RD) SARANAC LAKE SITE SARANAC LAKE, NEW YORK

	SANANAC LANE, NEW YORK					
İ		SDG	480-115393-1			
		Location	SB-611			
		Sample Date	4/4/2017			
		Sample (D	516008SB61105			
		Qc Code	FS			
Analysis	Parameter	Units	Result Qualif	ier		
SW8270D	Fluoranthene	ug/kg	910 J			
SW8270D	Fluorene	ug/kg	2,000 U			
SW8270D	Hexachlorobenzene	ug/kg	2000 U			
SW8270D	Hexachlorobutadiene	ug/kg	2000 U			
SW8270D	Hexachlorocyclopentadiene	ug/kg	2000 U			
SW8270D	Hexachloroethane	ug/kg	2000 U			
SW8270D	Indeno(1,2,3-cd)pyrene	ug/kg	360 J			
SW8270D	Isophorone	ug/kg	2000 U			
SW8270D	N-Nitrosodi-n-propylamine	uig/kg	2000 U			
SW8270D	N-Nitrosodiphenylamine	ug/kg	2000 U			
SW8270D	Naphthalene	ug/kg	6,700			
SW8270D	Nitrobenzene	ug/kg	2000 U			
SW8270D	Pentachlorophenol	ug/kg	3900 U			
SW8270D	Phenanthrene	ug/kg	720 يا			
SW8270D	Phenol	ug/kg	2000 U			
SW8270D	Pyrene	ug/kg	820 J			
D2216	Percent Moisture	Percent	18.2			
D2216	Percent Solids	Percent	81.8			

#### Notes:

J = Reported concentration is considered estimated

U = Target analyte not detected

UJ = Target analyte not detected and the reporting limit is considered estimated

ug/kg = microgram per kilogram

# TABLE 2 - SUMMARY OF ANALYTICAL RESULTS - VOC DATA USABILITY SUMMARY REPORT MARCH-APRIL 2017 SOIL SAMPLING EVENT SARANAC LAKE REMEDIAL DESIGN (RD) SARANAC LAKE SITE SARANAC LAKE, NEW YORK

		SDG	480-115393-1
		Location	SB-611
		Sample Date	4/4/2017
		Sample ID	516008SB61105
		Qc Code	FS
Analysis	Parameter	Units	Result Qualifier
SW8260C	1,1,1-Trichloroethane	ug/kg	5200 U
SW8260C	1,1,2,2-Tetrachloroethane	ug/kg	5200 U
SW8260C	1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/kg	5200 U
SW8260C	1,1,2-Trichloroethane	ug/kg	5200 U
SW8260C	1,1-Dichloroethane	ug/kg	5200 U
SW8260C	1,1-Dichloroethene	ug/kg	5200 U
SW8260C	1,2,3-Trichlorobenzene	ug/kg	5200 U
SW8260C	1,2,4-Trichlorobenzene	ug/kg	5200 U
SW8260C	1,2,4-Trimethylbenzene	ug/kg	150000
SW8260C	1,2-Dibromo-3-chloropropane	ug/kg	5200 U
SW8260C	1,2-Dibromoethane	ug/kg	5200 U
SW8260C	1,2-Dichlorobenzene	ug/kg	5200 U
SW8260C	1,2-Dichloroethane	ug/kg	5200 U .
SW8260C	1,2-Dichloropropane	ug/kg	5200 U
SW8260C	1,3,5-Trimethylbenzene	ug/kg	52000
SW8260C	1,3-Dichlorobenzene	ug/kg	5200 U
SW8260C	1,4-Dichlorobenzene	ug/kg	5200 U
SW8260C	1,4-Dioxane	ug/kg	99000 U
SW8260C	2-Butanone	ug/kg	26000 U
SW8260C	2-Hexanone	ug/kg	26000 U
SW8260C	4-iso-Propyltoluene	ug/kg	3300 J
SW8260C	4-Methyl-2-pentanone	ug/kg	26000 U

# TABLE 2 - SUMMARY OF ANALYTICAL RESULTS - VOC DATA USABILITY SUMMARY REPORT MARCH-APRIL 2017 SOIL SAMPLING EVENT SARANAC LAKE REMEDIAL DESIGN (RD) SARANAC LAKE SITE SARANAC LAKE, NEW YORK

	,	SDG	480-115393-1
		Location	SB-611
		Sample Date	4/4/2017
		Sample ID	516008SB61105
		Qc Code	FS
Analysis	Parameter	Units	Result Qualifier
SW8260C	Acetic acid, methyl ester	ug/kg	26000 U
SW8260C	Acetone	ug/kg	26000 U
SW8260C	Benzene	ug/kg	5200 U
SW8260C	Bromochloromethane	ug/kg	5200 U
SW8260C	Bromodichloromethane	ug/kg	5200 U
SW8260C	Bromoform	ug/kg	5200 U
SW8260C	Bromomethane	ug/kg	5200 UJ
SW8260C	Carbon disulfide	ug/kg	5200 U
SW8260C	Carbon tetrachloride	ug/kg	5200 U
SW8260C	Chlorobenzene	ug/kg	5200 U
SW8260C	Chloroethane	ug/kg	5200 U
SW8260C	Chloroform	ug/kg	5200 U
SW8260C	Chloromethane	ug/kg	5200 U
SW8260C	Cis-1,2-Dichloroethene	ug/kg	5200 U
SW8260C	Cis-1,3-Dichloropropene	ug/kg ·	5200 U
SW8260C	Cyclohexane	ug/kg	5200 U
SW8260C	Dibromochloromethane	ug/kg	5200 U
SW8260C	Dichlorodifluoromethane	ug/kg	5200 U
SW8260C	Ethylbenzene	ug/kg	31000
SW8260C	Isopropylbenzene	ug/kg	6200
SW8260C	Methyl cyclohexane	ug/kg	63000
SW8260C	Methyl Tertbutyl Ether	ug/kg	5200 U

# TABLE 2 - SUMMARY OF ANALYTICAL RESULTS - VOC DATA USABILITY SUMMARY REPORT MARCH-APRIL 2017 SOIL SAMPLING EVENT SARANAC LAKE REMEDIAL DESIGN (RD) SARANAC LAKE SITE SARANAC LAKE, NEW YORK

		SDG	400 115303 4
			<b></b>
		Location	i
		Sample Date	4/4/2017
		Sample ID	516008SB61105
		Qc Code	FS
Analysis	Parameter	Units	Result Qualifier
SW8260C	Methylene chloride	ug/kg	5200 U
SW8260C	n-Butylbenzene	ug/kg	18000
SW8260C	Propylbenzene	ug/kg	23000
SW8260C	sec-Butylbenzene	ug/kg	3600 J
SW8260C	Styrene	ug/kg	5200 U
SW8260C	tert-Butylbenzene	ug/kg	5200 U
SW8260C	Tetrachloroethene	- ug/kg	5200 U
SW8260C	Toluene	ug/kg	1500 J
SW8260C	trans-1,2-Dichloroethene	ug/kg	5200 U
SW8260C	trans-1,3-Dichloropropene	ug/kg	5200 U
SW8260C	Trichloroethene	ug/kg	5200 U
SW8260C	Trichlorofluoromethane	ug/kg	5200 U
SW8260C	Vinyl chloride	ug/kg	5200 U
SW8260C	Xylenes, Total	ug/kg	170000

#### Notes:

J = Reported concentration is considered estimated

U = Target analyte not detected

UJ = Target analyte not detected and the reporting limit is considered estimated ug/kg = microgram per kilogram

#### TABLE 3 - SUMMARY OF QUALIFICATION ACTIONS DATA USABILITY SUMMARY REPORT MARCH-APRIL 2017 SOIL SAMPLING EVENT SARANAC LAKE REMEDIAL DESIGN (RD) SARANAC LAKE SITE SARANAC LAKE, NEW YORK

SDG	Analysis Method	Lab Sample Id	Field Sample ID	Parameter Name	Lab Result	Lab Qualifier	Validated Result	Validation Qualifier	Val Reason Code	Result Units
480-115393-1	SW8260C	480-115698-1	516008\$861105	Bromomethane	5200	U	5,200	UJ	LCS-L	ug/kg
480-115393-1	SW8270D	480-115393-1	516008SB60110	Benzo(b)fluoranthene	140000	F2 K	140,000	1	a	ug/kg
480-115393-1	SW8270D	480-115393-1	516008SB60110	Benzo(k)fluoranthene	110000	U	110,000	UI	CI	ug/kg
480-115393-1	SW8270D	480-115393-4	516008SB60606	Benzo(b)fluoranthene	12000	K	12,000	1	a	ug/kg
480-115393-1	SW8270D	480-115393-4	516008SB60606	Benzo(k)fluoranthene	12000	U	12,000	2	a	ug/kg
480-115393-1	SW8270D	480-115393-5	516008SB60704	Naphthalene	2100	33	2,100	X-22	BL1	ug/kg

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UJ = Target analyte not detected and the reporting limit is considered estimated

ug/kg = microgram per kilogram

BL1 = method blank qualifier

LCS-L = laboratory control sample recovery less than control limits

CI = chromatographic interference due to coelution of target peaks

Prepared by: BJS 5/10/17

# ATTACHMENT A SUMMARY OF VALIDATION QC LIMITS FOR SURROGATES, SPIKES, AND DUPLICATES BASED ON THE REGION 2 VALIDATION GUIDELINES

PARAMETER	QC TEST	ANALYTE	Soil (%R)	Soil (RPD)	WATER (%R)	Water (RPD)
Fuel Fingerprint	Surrogate	All Surrogate Compounds	Lab Limits		Lab Limits	
r der r argerprant	LCS	All Target Compounds	50-150		50-150	
	Surrogate	All Surrogate Compounds	70 - 130		80 - 120	
Volatiles	LCS	All Target Compounds	70 - 130		70 - 130	
voiduics	MS/MSD	All Target Compounds	70 - 130	35	70 - 130	20
	Field Duplicate	All Target Compounds		100		50
	Surrogate	All BN Compounds	50 - 140		50 - 140	
		All Acid Compounds	30 - 140		30 - 140	
	LCS	All BN Compounds	50 - 140		50 - 140	
Semivolatiles		All Acid Compounds	30 - 140		30 - 140	
	MS/MSD	All BN Compounds	50 - 140	35	50 - 140	20
		All Acid Compounds	30 - 140	35	30 - 140	20
	Field Duplicate	All Target Compounds	(E	100		50

#### Notes:

LCS - Laboratory Control Sample

MS/MSD - Matrix spike/ Matrix Spike Duplicate

RPD = Relative percent difference

%R = percent recovery

QC Limits are based on USEPA Region II Data Validation Guidelines and Project QA/QC Objectives

Project No. 3611161193.03

# DATA USABILITY SUMMARY REPORT MARCH-APRIL 2017 SOIL SAMPLING EVENT SARANAC LAKE REMEDIAL DESIGN (RD) SARANAC LAKE SITE SARANAC LAKE, NEW YORK

**ATTACHMENT B** 

# **VOCs**

	Labor Date: Review	atory: TAL Buffalo SDG(s): 480-115393-1
ž.		w Level NYSDEC DUSR USEPA Region II Guideline
	3007.00	Est A Region II dulacinie
	1. 🗷	Were problems noted? MSIMSD diluted due to sample matrix  Are Field Sample IDs and Locations assigned correctly YES NO (circle one)  Were all the samples on the COC analyzed for the requested analyses? YES NO (circle one)
	2. 🗷	Holding time and Sample Collection All samples were analyzed within the 14 day holding time. YES NO (circle one)
	3.	QC Blanks
		Are method blanks free of contamination? (YES)NO (circle one)
40		Are Trip blanks free of contamination? YES NO (circle one) NIA)
		Are Rinse blanks free of contamination? YES NO NA (circle one)
	4. 🛘	Instrument Tuning – Data Package Narrative Review
		Did the laboratory narrative identify any results that were not within method criteria? YES NO
		If yes, use professional judgment to evaluate data and qualify results if needed
	5. 🛭	Instrument Calibration - Data Package Narrative Review
		Did the laboratory narrative identify compounds that were not within criteria in the initial and/or continuing calibration standards? YES NO (circle one)
		Initial Calibration %RSD = 20% (30% for 1,1-DCE, chloroform, 1,2-DCP, toluene, ethylbenzene, VC) Initial Avg RRF and Continuing RRF should be ≥ 0.05 and 0.10 for Chloromethane, 1,1-Dichloroethane, Bromoform and 0.30 for Chlorobenzene and 1,1,2,2-Tetrachloroethane
		Continuing Calibration %D = 20%
		Did the laboratory qualify results based on initial or continuing calibration exceedances? YES NO If yes to above, use professional judgment to evaluate data and qualify results if needed
	6. 🗹	Internal Standards - Data Package Narrative Review
		(Area Limits = -50% to +100%, RTs within 30 seconds of daily CCAL standard (or ICAL mid- point if samples follow ICAL)
		Did the laboratory narrative identify any sample internal standards that were not within criteria? YES NO (circle one)
		Did the laboratory qualify results based on internal standard exceedances? YES NO If yes to above, use professional judgment to evaluate data and qualify results if needed
	7. 🗹	Surrogate Recovery - Region II limits (water 80-120%, soil 70-130%)
		Were all results within Region II limits? (YES) NO (circle one)
	8. 🗹	Programme ( and sent to about the D Lot Bott Let D Lot
		Were MS/MSDs submitted/analyzed? (YES) NO Not evaluated per near the comment
		Were all results within the Region II limits? YES NO(NA) (circle one) YOX dilution reduced  Spike concentrations to level  that do not provide uniful

Duplicates - Region II Limits (water RPD 50, soil RPD 100) Were Field Duplicates submitted/analyzed? YES (NO) Were all results within Region II limits? (soil RPD<100, water RPD<50) YES NO NA Laboratory Control Sample Results - Region II (Water and soil 70-130%) Were all results were within Region II control limits? YES (NO) (circle one) Bromome there 68%, JAJ See attacked; ox 12. Electronic Data Review and Edits Does the EDD match the Form Is? YES NO (circle one) 13. Tables and TIC Review Table 1 (Samples and Analytical Methods) Table 2 (Analytical Results) Table 3 (Qualification Actions) Were all tables produced and reviewed? YES NO (circle one) Table 4 (TICs) YES(NO) (circle one) Did lab report TICs?

Client: AMEC Foster Wheeler E & I, Inc.

Job Number: 480-115393-1

#### Lab Control Sample - Batch: 480-350929

Method: 8260C

Preparation: 5035A\_H

Lab Sample ID: Client Matrix Dilution:

LCS 480-350929/1-A

Analysis Batch: Prep Batch:

480-350972 480-350929

Instrument ID: Lab File ID:

HP5973N N5300.D

Analysis Date: Prep Date:

04/08/2017 1201 04/07/2017 2059 Leach Batch: N/A Units:

ug/Kg Final Weight/Volume:

Initial Weight/Volume: 5 g 10 mL

Leach Date:

N/A

1.0

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
1,1,1-Trichloroethane	2500	2550	102	68 - 130	
1,1,2,2-Tetrachloroethane	2500	2420	97	73 - 120	
1,1,2-Trichloro-1,2,2-trifluoroethane	2500	3010	120	10 - 179	
1,1,2-Trichloroethans	2500	2570	103	80 - 120	
1,1-Dichloroethane	2500	2700	108	78 - 121	
1,1-Dichloroethene	2500	2860	114	48 - 133	
1,2,3-Trichlorobenzene	2500	2680	107	57 - 150	
1,2,4-Trichlorobenzene	2500	2800	112	70 - 140	
1,2,4-Trimethylbenzene	2500	2870	107	77 - 127	
1,2-Dibromo-3-Chloropropane	2500	2040	81	56 - 122	
1.2-Dichlorobenzene	2500	2610	104	78 - 125	
1.2-Dichloroethane	2500	2550	102	74 - 127	
1,2-Dichloropropane	2500	2710	109	80 - 120	
1,3,5-Trimethylbenzene	2500	2750	110	79 - 120	
1,3-Dichlorobenzene	2500	2590	103		
1,4-Dichlorobenzene	2500	2510	100	80 - 120	
1,4-Dioxane	50000	58900		80 - 120	
2-Butanone (MEK)			118	40 - 150	
2-Hexanone	12500	12500	100	54 - 149	
4-Isopropyltoluene	12500	11800	94	59 - 127	
	2500	2800	112	80 - 120	
4-Methyl-2-pentanone (MIBK)	12500	11700	94	74 - 120	
Acetone	12500	13000	104	47 - 141	
Benzene	2500	2730	109	77 - 125	
Bromoform	2500	2230	89	48 - 125	9-110
Bromomethane 3(43)	2500	1700	(68)	39 - 149	70-130
Carbon disulfide	2500	2520	101	40 - 136	
Carbon tetrachforide	2500	2480	99	54 - 135	1 615
Chlorobenzene	2500	2680	107	76 - 126	gr
Chlorobromomethane	2500	2610	104	79 - 120	4/24/1
Dibromochloromethane	2500	2430	97	64 - 120	1,000
Chloroethane	2500	2060	83	23 - 150	
Chloroform	2500	2640	106	78 - 120	
Chloromethane	2500	2800	112	61 - 124	
cis-1,2-Dichloroethene	2500	2640	106	79 - 124	
Cyclohexane	2500	3130	125	49 - 129	
Bromodichloromethane	2500	2480	99	71 - 121	
Dichforodifluoromethane	2500	2420	97	10 - 150	
Ethylbenzene	2500	2590	104	78 - 124	
1,2-Dibromoethane	2500	2430	97	80 - 120	
sopropylbenzene	2500	2690	108	76 - 120	
Methyl acetate	12500	12300	98	71 - 123	
Methyl tert-butyl ether	2500	2510	100	67 - 137	
Methylcyclohexane	2500	2960	118	50 - 130	
Methylene Chloride	2500	2860	115	75 - 118	
i-Butylbenzene	2500	2890	116	80 - 120	
N-Propylbenzene	2500	2710	108	76 - 120	

Client: AMEC Foster Wheeler E & I, Inc

Job Number: 480-115393-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 480-350929

Method: 8260C Preparation: 5035A\_H

MS Lab Sample ID: 480-115698-1 Analysis Batch: 480-350972 Instrument ID: HP5973N Client Matrix: Solid Prep Batch: 480-350929 Lab File ID: N5320.D Dilution: (40) Leach Batch: Initial Weight/Volume: 5.09 g N/A Analysis Date: 04/08/2017 2102 Final Weight/Volume: 10 mL Prep Date: 04/07/2017 2059 5 mL Leach Date: N/A MSD Lab Sample ID: 480-115698-1 Analysis Batch: 480-350972 Instrument ID: HP5973N

Client Matrix: Solid Prep Batch: 480-350929 Lab File ID: N5321.D Dilution: 40 Leach Batch: N/A Initial Weight/Volume: 5.06 g Analysis Date: 04/08/2017 2129 Final Weight/Volume: 10 mL Prep Date: 04/07/2017 2059 5 mL

Leach Date: N/A

not evaluated; Yox dilution

1,1,1-Trichloroethane 1,1,2,2-Tetrachloroethane 1,1,2-Trichloro-1,2,2-trifluoroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethene 1,2,3-Trichlorobenzene 1,2,4-Trichlorobenzene 1,2,4-Trimethylbenzene 1,2-Dibromo-3-Chloropropane 1,2-Dichlorobenzene			11011	evelvera,		40 X	allute
	<u>%</u>	Rec.			/	8~41	MID
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
1,1,1-Trichloroethane	96	123	64 - 120	25	20	J	J F1 F2
1,1,2,2-Tetrachloroethane	146	178	75 - 120	20	20	JF1	F1
1,1,2-Trichloro-1,2,2-trifluoroethane	111	104	40 - 120	6	20	J	J
1,1,2-Trichloroethane	157	174	70 - 130	11	20	JF1	J F1
1,1-Dichloroethane	120	127	82 - 138	6	20	J	J
1,1-Dichloroethene	87	124	50 - 147	36	20	J	J F2
1,2,3-Trichlorobenzene	0 .	123	57 - 150	NC	20	F1	J
1,2,4-Trichlorobenzene	101	105	40 - 150	5	20	J	J
1,2,4-Trimethylbenzene	125	-843	78 - 134	20	20	4	4
1,2-Dibromo-3-Chloropropane	0	0 .	60 - 110	NC	20	F1	F1
1,2-Dichlorobenzene	90	107	80 - 132	17	20	J	J
1,2-Dichloroethane	128	116	78 - 129	9	20	J	J
1,2-Dichloropropane	105	132	76 - 125	23	20	J	J <b>F</b> 1 F2
1,3,5-Trimethylbenzene	65	-256	40 - 150	20	20	4	4
1,3-Dichlorobenzene	91	109	63 - 134	18	20	J	J
1,4-Dichlorobenzene	100	112	60 - 134	12	20	J	J
1,4-Dioxane	0	0	40 - 150	NC	20	F1	F1
2-Butanone (MEK)	NC	NC	54 - 149	NC	20	J	
2-Hexanone	238	181	70 - 127	27	20	F1	F1 F2
4-Isopropyltoluene	96	80	82 - 120	8	20		F1
4-Methyl-2-pentanone (MIBK)	98	143	74 - 120	38	20	J	J F1 <b>F</b> 2
Acetone	NC	NC	47 - 141	NC	20		
Benzene	123	119	77 - 125	3	20	J	J
Bromoform	0	0	48 - 125	NC	20	F1	F1
Bromomethane	84	94	39 - 149	12	20	j	J
Carbon disulfide	93	100	40 - 136	8	20	J	J
Carbon tetrachloride	102	99	54 - 135	2	20	J	J
Chlorobenzene	103	95	76 <b>-</b> 126	7	20	J	j
Chlorobromomethane	106	100	79 - 120	5	20	J	J
Dibromochloromethane	0	0	64 - 120	NC	20	F1	F1
Chloroethane	69	87	23 - 150	23	20	J	J F2
Chloroform	NC	NC	78 - 120	7	20	J	J
Chloromethane	124	106	61 - 124	16	20	J	J

Client: AMEC Foster Wheeler E & I, Inc.

Job Number: 480-115393-1

Matrix Spike/			
Matrix Spike Duplicate Recovery	Report - Batch:	480-350929	

Method: 8260C Preparation: 5035A\_H

MS Lab Sample ID: 480-115698-1 Client Matrix: Solid Dilution: 40 Analysis Date: 04/08/2017 2102 Prep Date: 04/07/2017 2059 Leach Date: N/A	Analysis Batch: Prep Batch: Leach Batch:	480-350972 480-350929 N/A	Instrument ID: Lab File ID: Initial Weight/Volume: Final Weight/Volume:	HP5973N N5320.D 5.09 g 10 mL 5 mL
MSD Lab Sample ID: 480-115698-1 Client Matrix: Solid Dilution: 40 Analysis Date: 04/08/2017 2129 Prep Date: 04/07/2017 2059 Leach Date: N/A	Analysis Batch; Prep Batch; Leach Batch;	480-350972 480-350929 N/A	Instrument ID: Lab File ID: Initial Weight/Volume: Final Weight/Volume: At evaluated	HP5973N N5321.D 5.06 g 10 mL 5 mL 40x dilutio
Analyte	% Rec.	Limit	go PPD I mit	4  24117

	9/	Rec.		8-4/24/17						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual			
cis-1,2-Dichloroethene	99	97	79 - 124	2	20	J	J			
Cyclohexane	1341	1704	49 - 129	24	20	F1	F1 F2			
Bromodichloromethane	187	178	71 - 121	4	20	F1	F1			
Dichlorodifluoromethane	0	83	10 - 150	NC	20	F1	J			
Ethylbenzene	174	52	78 - 124	10	20	4	4			
1,2-Dibromoethane	106	91	81 - 120	15	20	J	J			
Isopropylbenzene	103	62	76 - 120	14	20		F1			
Methyl acetate	105	157	71 - 123	40	20	J	J F1 F2			
Methyl tert-butyl ether	98	115	67 - 137	16	20	J	J			
Methylcyclohexane	21	148	50 - 130	6	20	4	4			
Methylene Chloride	90	146	75 - 120	48	20	J	J F1 F2			
n-Butylbenzene	56	-43	81 - 120	16	20	4	4			
N-Propylbenzene	91	-40	76 - 120	17	20	4	4			
sec-Butylbenzene	86	93	79 - 120	4	20					
Tetrachloroethene	110	117	73 - 133	6	20	J	J			
Toluene	139	122	75 - 124	9	20	F1	J			
rans-1,2-Dichloroethene	107	108	74 - 129	2	20	J	J			
rans-1,3-Dichloropropene	85	92	73 - 120	8	20	J	J			
Trichloroethene	115	143	75 - 131	22	20	J	JF1F2			
Trichlorofluoromethane	0	0	29 - 158	NC	20	F1	F1			
Vinyl chloride	106	106	59 - 124	0	20	J	J			
Kylenes, Total	318	-89	78 - 125	14	20	4	4			
sis-1,3-Dichloropropene	78	100	75 - 121	26	20	J	JF2			
Styrene	118	124	84 - 120	6	20	J	JF1			
ert-Butylbenzene	101	120	78 - 120	18	20	J	J			
Surrogate		MS W Doc	Men	V Doo	Anna	ntenna I limit				

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits	
1,2-Dichloroethane-d4 (Surr)	106	108	53 - 146	-
4-Bromofluorobenzene (Surr)	109	106	49 - 148	
Toluene-d8 (Surr)	104	103	50 - 149	
Dibromofluoromethane (Surr)	106	110	60 - 140	

Client: AMEC Foster Wheeler E & I, Inc.

Job Number: 480-115393-1

Matrix Spike/ Method: 8260C Matrix Spike Duplicate Recovery Report - Batch: 480-350929 Preparation: 5035A H

MS Lab Sample ID:

480-115698-1

Units: ug/Kg

MSD Lab Sample ID: 480-115698-1

Client Matrix:

Solid 40

Client Matrix: Solid

Dilution: Analysis Date:

04/08/2017 2102

Dilution:

Prep Date:

04/07/2017 2059

Analysis Date: 04/08/2017 2129 Prep Date: 04/07/2017 2059

Leach Date: N/A Leach Date: N/A

40x dilution evaluated;

	Committee					8~4/24/17		
Analyte	Sample Result/Qu	al	MS Spike Amount	MSD Spike Amount	MS Result/0	ual	MSD Result/Q	ual
1,1,1-Trichloroethane	ND		3000	3020	2890	J	3710	JF1F
1,1,2,2-Tetrachloroethane	ND		3000	3020	4380	JF1	5360	F1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		3000	3020	3340	7	3140	j'
1,1,2-Trichloroethane	ND		3000	3020	4720	JF1	5260	JF1
1,1-Dichloroethane	ND		3000	3020	3590	J	3830	J
1.1-Dichloroethene	ND		3000	3020	2600	J	3750	JF2
1,2,3-Trichlorobenzene	ND		3000	3020	ND.	F1		
1,2,4-Trichlorobenzene	ND		12.00000				3700	J
1,2,4-Trimethylbenzene	150000		3000	3020	3030	J	3180	7
	1,000,000,000,000		3000	3020	157000	4	128000	4
1,2-Dibromo-3-Chloropropane	ND		3000	3020	ND	F1	ND	F1
1,2-Dichlorobenzene	ND		3000	3020	2710	J	3220	J
1,2-Dichloroethane	ND		3000	3020	3830	J	3510	J
1,2-Dichloropropane	ND		3000	3020	3160	J	3980	JF1F
1,3,5-Trimethylbenzene	52000		3000	3020	54400	4	44700	4
1,3-Dichlorobenzene	ND		3000	3020	2740	J	3290	J
1,4-Dichlorobenzene	ND		3000	3020	3000	J	3390	J
1,4-Dioxane	ND		60000	60400	ND	F1	ND	F1
2-Butanone (MEK)	ND		15000	15100	17100	J	ND	
2-Hexanone	ND		15000	15100	35800	F1	27300	F1 F2
4-Isopropyltoluene	3300	J	3000	3020	6210		5740	F1
4-Methyl-2-pentanone (MIBK)	ND		15000	15100	14700	J	21600	JF1F
Acetone	ND		15000	15100	ND		ND	
Benzene	ND		3000	3020	3700	3.	3600	J
Bromoform	ND		3000	3020	ND	F1	ND	F1
Bromomethane	ND		3000	3020	2520	J	2850	J
Carbon disulfide	ND		3000	3020	2780	J	3010	Ĵ
Carbon tetrachloride	ND		3000	3020	3080	J	3000	J
Chlorobenzene	ND		3000	3020	3080	j	2860	J
Chlorobromomethane	ND		3000	3020	3190	ĭ	3020	J
Dibromochloromethane	ND		3000	3020	ND	F1	ND	F1
Chloroethane	ND		3000	3020	2070	J	2610	JF2
Chloroform	ND		3000	3020	4180	1000	A TO CO. (1997)	100000000000000000000000000000000000000
Chloromethane	ND					J	4500	J
cis-1,2-Dichloroethene			3000	3020	3730	1	3190	J
	ND .		3000	3020	2980	J	2920	J
Cyclohexane	ND		3000	3020	40200	F1	51400	F1 F2
Bromodichloromethane	ND		3000	3020	5620	F1	5380	F1
Dichlorodifluoromethane	ND		3000	3020	ND	F1	2520	J
Ethylbenzene	31000		3000	3020	36600	4	33000	4
1,2-Dibromoethane	ND		3000	3020	3170	J	2730	J
Isopropylbenzene	6200		3000	3020	9330		8100	F1
Methyl acetate	ND		15000	15100	15800	J	23700	JF1F
Methyl tert-butyl ether	ND		3000	3020	2940	J	3460	J
Methylcyclohexane	63000		3000	3020	63200	4	67100	4

Client: AMEC Foster Wheeler E & I, Inc

Job Number: 480-115393-1

Matrix Spike/

Matrix Spike Duplicate Recovery Report - Batch: 480-350929

Method: 8260C

Preparation: 5035A\_H

MS Lab Sample ID: Client Matrix:

480-115698-1

Units: ug/Kg

MSD Lab Sample ID: 480-115698-1

Dilution:

Solid (40\

Analysis Date:

04/08/2017 2102 04/07/2017 2059

Prep Date: Leach Date:

N/A

Client Matrix:

Solid

Dilution:

Analysis Date: Prep Date:

04/08/2017 2129 04/07/2017 2059

Leach Date:

N/A

not evaluated; you dilution

					ς	My	24/17	
	Sample		MS Spike	MSD Spike	MS	'	MSD	
Analyte	Result/Qua	al	Amount	Amount	Result/Q	ual	Result/Qu	ıal
Methylene Chloride	ND	мон основническующь охуд	3000	3020	2710	J	4410	JF1F
n-Butylbenzene	18000		3000	3020	19700	4	16700	4
N-Propylbenzene	23000		3000	3020	25700	4	21700	. 4
sec-Butylbenzene	3600	J	3000	3020	6160		6390	
Tetrachloroethene	ND		3000	3020	3310	J	3530	J
Toluene	1500	J	3000	3020	5660	F1	5170	J
trans-1,2-Dichloroethene	ND .		3000	3020	3200	J	3260	J
trans-1,3-Dichloropropene	ND		3000	3020	2560	J	2780	J
Trichloroethene	ND		3000	3020	3450	J	4320	JF1F
Trichlorofluoromethane	ND		3000	3020	ND	F1	ND	F1
Vinyl chloride	ND		3000	3020	3190	J	3200	j
Xylenes, Total	170000		6000	6040	185000	4	161000	4
cis-1.3-Dichloropropene	ND		3000	3020	2330	J	3030	J F2
Styrene	ND		3000	3020	3530	J	3750	J F1
tert-Butylbenzene	ND		3000	3020	3020	J	3610	J

Report Date: 09-Apr-2017 09:29 Data File: \\ChromNA\B		ChromD					VOC 2017 08:36:42 Sample Calc
	bultalo	RT	Adj RT			1521.b\N531	OnCol Amt
Compound	Sig	(min.)	(min.)	(min.)	Q	Response	ug/L Flags
60 Trichloroethene	95		5.850				ND
62 Methylcyclohexane	83	5.990	5.996	-0.006	84	117938	12.0
63 1,2-Dichloropropane	63		6.081				ND
66 1,4-Dioxane	88		6.221				ND
67 Dichlorobromomethane	83		6.361				ND
71 cis-1,3-Dichloropropene	75		6.787				ND
72 4-Methyl-2-pentanone (MIBK			6.927				ND
73 Toluene	92	7.085	7.085	0.000	63	4219	0.2851
75 trans-1,3-Dichloropropene	75		7.347				ND
78 1,1,2-Trichloroethane	83		7.535				ND
79 Tetrachloroethene	166		7.627				ND
82 2-Hexanone	43		7.767				ND
83 Chlorodibromomethane	129		7.937				ND
84 Ethylene Dibromide	107		8.040				ND
85 Chlorobenzene	112		8.533				ND
88 Ethylbenzene	91	8.630	8.630	0.000	98	170042	6.02
90 m-Xylene & p-Xylene	106	8.752	8.752	0.000	0	300806	28.3
91 o-Xylene	106	9.178	9.178	0.000	97	32103	3.11
92 Styrene	104		9.202				ND
93 Bromoform	173		9.433				ND
95 Isopropylbenzene	105	9.567	9.567	0.000	96	33260	1.19
98 1,1,2,2-Tetrachloroethane	83		9.932			33203	ND
100 N-Propylbenzene	91	9.987	9.987	0.000	99	145331	4.39
104 1,3,5-Trimethylbenzene	105	10.170	10.170	0.000	95	228729	10.0
106 tert-Butylbenzene	134		10.486	0.000	00	220720	ND /
108 1,2,4-Trimethylbenzene	105	10.535	10.535	0.000	98	695420	29.4
109 sec-Butylbenzene	105	10.699	10.699	0.000	87	19867	0.6884
110 1,3-Dichlorobenzene	146	10.000	10.820	0.000	07	19007	ND
111 4-Isopropyltoluene	119	10.839	10.839	0.000	70	16153	
113 1,4-Dichlorobenzene	146	10.000	10.839	0.000	70	10155	0.6393
115 n-Butylbenzene	91	11.210	11.222	-0.012	95	76410	ND
116 1,2-Dichlorobenzene	146	11.210		-0.012	ชอ	76418	3.45
117 1,2-Dibromo-3-Chloropropan	75		11.259			•	ND ND
•			11.976				ND
119 1,2,4-Trichlorobenzene	180		12.670				ND
122 1,2,3-Trichlorobenzene	180		13.084		•		ND
S 126 Xylenes, Total	1				0		31.5
Reagents:							
N 8260 IS_00063			Added:		L	nits: uL	Run Reagent
N_8260_Surr_00251		Amount	Added:	1.00	U	Inits: uL	Run Reagent (moisture from
							10,93 Soil vol.)
C			1.951	۱۱			2
Cone		William Morae	1952	100		25	1000
1,2,4-	TM	2			X		X
11011	111	D	1425	.40		3,0272	X (OCT IN II)
					•	0,0012	0,1m2,00512/c
				X	1		
					-	X 4	0 = 140/164 45
				18	318		1970 Ke
							V 13
						OK	153553 U5 K5
						Annual Property	120325 -
					å	m. 12 1	K.5
			Page	75 of 615	,	0 6 201	05/12/2017

Report Date: 09-Apr-2017 09:29:51

# TestAmerica Buffalo Target Compound Quantitation Report

10,93 Data File: \\ChromNA\Buffalo\ChromData\HP5973N\20170408-61521.b\N5316.D Lims ID: 480-115698-A-1-A 228729 Conc Client ID: 516008SB61105 113,5-MB 195248 2,9142 Sample Type: Client Inject. Date: 08-Apr-2017 19:14:30 ALS Bottle#: Worklist Smp#: 21 Purge Vol: 5.000 mL Dil. Factor: 40.0000 Sample Info: 480-115698-a-1-a Misc. Info.: 480-0061521-021 Operator ID: NEA Instrument ID: HP5973N \\ChromNA\Buffalo\ChromData\HP5973N\20170408-61521.b\N-8260.m Method: Limit Group: MV - 8260C ICAL Last Update: 09-Apr-2017 09:29:25 Calib Date: 28-Mar-2017 01:06:30 Integrator: RTE ID Type: Deconvolution ID Quant Method: Internal Standard Quant By: Initial Calibration

Last ICal File:

\\ChromNA\Buffalo\ChromData\HP5973N\20170327-61215.b\N4700.D

Det: MS SCAN

Column 1 : Process Host: ZB-624 ( 0.25 mm) XAWRK027

First Level Reviewer: archern			D	ate:		09-Apr-2017 09:29:50				
		RT	Adj RT	Dit RT			OnCol Amt			
Compound	Sig	(min.)	(min.)	(min.)	Q	Response	ug/L Flags			
* 147 Fluorobenzene (IS)	70	5.510	5.510	0.000	98	111638	25.0			
* 2 Chlorobenzene-d5	117	8.503	8.503	0.000	91	384100	25.0			
* 3 1,4-Dichlorobenzene-d4	152	10.887	10.887	0.000	96	195248	25.0			
\$ 148 Dibromofluoromethane (Sur		4.913	4.913	0.000	93	140641	26.9			
\$ 5 1,2-Dichloroethane-d4 (Sur	65	5.218	5.218	0.000	0	206819	27.1			
\$ 6 Toluene-d8 (Surr)	98	7.018	7.024	-0.006	96	521905	26.0			
\$ 74-Bromofluorobenzene (Surr	174	9.750	9.750	0.000	88	157456	27.1			
11 Dichlorodifluoromethane	85	51.00	1.367	0.000	00	107400	ND			
13 Chloromethane	50		1.519				ND			
14 Vinyl chloride	62		1.622				ND			
15 Bromomethane	94		1.932				ND			
16 Chloroethane	64		2.036				ND			
18 Trichlorofluoromethane	101		2.267				ND			
22 1,1-Dichloroethene	96		2.766				ND			
21 1,1,2-Trichloro-1,2,2-trif	101		2.772				ND			
23 Acetone	43		2.857				ND			
25 Carbon disulfide	76		2.967				ND			
28 Methyl acetate	43		3.161				ND			
30 Methylene Chloride	84		3.259			•	ND			
32 Methyl tert-butyl ether	73		3.490				ND			
33 trans-1,2-Dichloroethene	96		3.502				ND			
36 1,1-Dichloroethane	63		3.903				ND			
43 cis-1,2-Dichloroethene	96		4.451				ND			
44 2-Butanone (MEK)	43		4.475				ND			
47 Chlorobromomethane	128		4.682				ND			
50 Chloroform	83		4.761				ND			
51 1,1,1-Trichloroethane	97		4.895				ND			
52 Cyclohexane	56		4.919				ND			
53 Carbon tetrachloride	117		5.041				ND			
55 Benzene	78		5.242				ND			
57 1,2-Dichloroethane	62		5.291				ND			

#### FORM VI GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA CURVE EVALUATION

Lab Name: TestAmerica Buffalo Job No.: 480-115393-1 Analy Batch No.: 348949

SDG No.:

Instrument ID: HP5973N GC Column: ZB-624 (20) ID: 0.18(mm) Heated Purge: (Y/N) N

ANALYTE		RRF						COEFFICIE	DIT.		MIN RRF	%RSD #	MAX	R^2	# 3	MIN R^2
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	TYPE	В	MI	M2				*RSD	OR COD		OR COD
1,2,4-Trimethylbenzene	2.9655	3.0586	2.9525 3.0578	3.0631	2.9702	Ave	-	3.0272	/	Ť		2.1	20.0			
sec-Butylbenzene	3.6045	3.9897	3.5010	3.7817	3,5496	Ave		3.6955				4.6	20,0		+	
1,3-Dichlorobenzene	1.6451	1.8467	1.6817	1.6908	1.6832	Ave	-	1.7021			0.6000	3.9	20.0			_
4-Isopropyltoluene	3,1959	3,3889	3.1803	3.2720	3.2142	Ave		3,2353				2,9	20.0			-
1,4-Dichlorobensene	1.6175	2.0161	1.7209	1.7592	1.7147	Ave		1.7515			0.5000	7.1	20.0		+	
n-Butylbenzene	2.8289	2.9857	2.7149	3.0386	2.7019	Ave		2.8375		+		4.7	20.0			
1,2-Dichlorobenzene	1.6004	1.7490	1.6243	1.6980	1,6383	Ave		1,6473	7-1-	- 4	0.4000	3.4	20.0		+	
1,2-Dibromo-3-Chloropropane	0.1638 0.1805	0.2017	0.1606	0.1582	0.1706	Ave		0.1764		Н	0.0500	9.1	20.0			-
1,2,4-Trichlorobenzene	+++++ 0.9526		0.8708	0.9547	0.9549	Ave	-	0.9277	<del>-</del>		0.2000	5.2	20.0		+	
Hexachlorobutadiene	0.3846	0.3980		0.4315	0.3735	Ave		0.3965				8.6	20.0		+	
Naphthalene	3.0109 2.6877	2.5306	2.3696	2.5098	2.5772	Ave	-	2.6776				8.4	20.0		+	
1,2,3-Trichlorobenzene	0.8123	0.7655		0.7924	0.8145	Ave	-	0.8098				5.7	20.0		+	
Dibromofluoromethane (Surr)	1,1930		1.1767	1.2093	1.1961	Ave		1.1717				5.3	20.0			
1,2-Dichloroethane-d4 (Surr)	1,7551	and the second s	1.6978	1.7766	1.7729	Ave		1.7094		H		5.6	20.0			
Poluene-d8 (Surr)	1.3288 1.2965	1.3020	1.2719	1.2922	1.3194	Ave		1.3075				1.7	20.0		+	
4-Bromofluorobenzene (Surr)	0.3878 0.3792	0.3850	0.3815	0.3881	0.3656	Ave		0.3782				2.7	20.0		+	

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI 8260C Page 93 of 615

ar-2017 12:39:53 Chrom Revision: 2.2 22-Mar-2017 08:36:42 \\ChromNA\Buffalo\ChromData\HP5973N\20170327-61215.b\N4685.D

Data File: \\ChromNA\Buffalo\ChromData\HP5973N\20170327-61215.b\N4685.D									
		RT	Adj RT	Dlt RT			Cal Amt	OnCol Amt	
Compound	Sig	(min.)	(min.)	(min.)	Q	Response	ug/L	ug/L	Flags
									<u></u>
36 1,1-Dichloroethane	63	3.904	3.904	0.000	96	100485	5.00	5.19	
39 Vinyl acetate	43	3.958	3.958	0.000	96	313000	10.0	9.88	
42 2,2-Dichloropropane	77	4.433	4.433	0.000	86	51907	5.00	5.49	
43 cis-1,2-Dichloroethene	96	4.451	4.451	0.000	88	49462	5.00	5.13	
44 2-Butanone (MEK)	43	4.482	4.482	0.000	96	175210	25.0	24.5	
47 Chlorobromomethane	128	4.682	4.682	0.000	87	24480	5.00	5.58	
49 Tetrahydrofuran	42	4.719	4.719	0.000	95	47231	10.0	9.77	
50 Chloroform	83	4.761	4.761	0.000	97	81684	5.00	5.27	
51 1,1,1-Trichloroethane	97	4.895	4.895	0.000	94	63045	5.00	5.18	
52 Cyclohexane	56	4.920	4.920	0.000	64	113158	5.00	5.38	
53 Carbon tetrachloride	117	5.041	5.041	0.000	85	61604	5.00	5.08	
54 1,1-Dichloropropene	75	5.047	5.047	0.000	83	59445	5.00	5.30	
56 Isobutyl alcohol	43	5.230	5.230	0.000	56	93899	125.0	127.9	М
55 Benzene	78	5.242	5.242	0.000	95	173884	5.00	5.13	
57 1,2-Dichloroethane	62	5.291	5.291	0.000	95	88420	5.00	5.39	
59 n-Heptane	43	5.449	5.449	0.000	96	96704	5.00	5.04	
60 Trichloroethene	95	5.850	5.850	0.000	94	44580	5.00	5.18	
62 Methylcyclohexane	83	5.996	5.996	0.000	96	76967	5.00	5.45	
63 1,2-Dichloropropane	63	6.082	6.082	0.000	87	51972	5.00	5.05	
64 Dibromomethane	93	6.209	6.209	0.000	94	26768	5.00	4.96	
66 1,4-Dioxane	88	6.221	6.221	0.000	0	6476	100.0	92.2	М
67 Dichlorobromomethane	83	6.361	6.361	0.000	95	56634	5.00	5.18	***
69 2-Chloroethyl vinyl ether	63	6.641	6.641	0.000	90	29637	5.00	4.78	
71 cis-1,3-Dichloropropene	75	6.781	6.781	0.000	84	64527	5.00	4.83	
72 4-Methyl-2-pentanone (MIBK		6.927	6.927	0.000	98	121259	25.0	23.4	
73 Toluene	92	7.091	7.091	0.000	97	106402	5.00	5.09	
75 trans-1,3-Dichloropropene	75	7.347	7.347	0.000	93	59863	5.00	4.96	
77 Ethyl methacrylate	69	7.408	7.408	0.000	88	47345	5.00	4.80	
78 1,1,2-Trichloroethane	83	7.529	7.529	0.000	92	28001	5.00	4.88	
79 Tetrachloroethene	166	7.633	7.633	0.000	93	39402	5.00	4.94	
80 1,3-Dichloropropane	76	7.700	7.700	0.000	94	60384	5.00	5.11	
82 2-Hexanone	43	7.767	7.767	0.000	98	234565	25.0	24.4	
83 Chlorodibromomethane	129	7.937	7.937	0.000	90	37969	5.00	4.83	
84 Ethylene Dibromide	107	8.040	8.040	0.000	99	35612	5.00	4.95	
85 Chlorobenzene	112	8.527	8.527	0.000	93	114114	5.00	4.95	
89 1,1,1,2-Tetrachloroethane	131	8.631	8.631	0.000	90	43984	5.00	5.15	
88 Ethylbenzene	91	8.631	8.631	0.000	99	195985	5.00	4.92	
90 m-Xylene & p-Xylene	106	8.752	8.752	0.000	0	74769	5.00	4.99	
91 o-Xylene	106	9.178	9.178	0.000	98	74135	5.00	5.10	
92 Styrene	104	9.202	9.202	0.000	92	124097	5.00	5.03	
93 Bromoform	173	9.434	9.434	0.000	94	23928	5.00	4.91	
95 Isopropylbenzene	105	9.567	9.567	0.000	96	203251	5.00	5.05	
97 Bromobenzene	156	9.902	9.902	0.000	93	47650	5.00	4.79	
98 1,1,2,2-Tetrachloroethane	83	9.932	9.932	0.000	95	48787	5.00	5.09	
99 1,2,3-Trichloropropane	110	9.969	9.969	0.000	91	15368	5.00	4.91	
101 trans-1,4-Dichloro-2-buten	53	9.981	9.981	0.000	70	22231			
100 N-Propylbenzene	91	9.993	9.993				5.00	4.63	
- <del>-</del>				0.000	98	237205	5.00	4.97	
102 2-Chlorotoluene	126	10.085	10.085	0.000	95	48594	5.00	5.23	
104 1,3,5-Trimethylbenzene	105	10.170	10.170	0.000	94	169598	5.00	5.16	
105 4-Chlorotoluene	91	10.200	10.200	0.000	98	171024	5.00	ل ا 5.08	120117
106 tert-Butylbenzene	134	10.486	10.486	0.000	95	38452	5.00	5.40	
108 1,2,4-Trimethylbenzene	105	10.541	10.541	0.000	97	172695	5.00	5.06	
RNF =	1726	775	2 S	110 of 64	5 =	2	m 1 -	0640	1/0047
1,2,4-TMB	2818	398 X	Page '	ון מוט פניו	J —	3,063	OK	05/12	2/2017

# SVOC

Pr	oject: S	ISR PROJECT CHEMIST REV	TEW RECOR	D	
La Da	boratory: te: ५	82701) TAL BUFFALO HZYTIA JULIE RICARDI	SDG(s):	480-115393-1	
Re	view Level	X NYSDEC DUSR	USEP	A Region II Guideline	
1.	Were	e problems noted? Div how all the samples on the COC analyfield Sample IDs and Locations as	noted for rzed for the requ	samples & MSIMSD due to uested analyses? (YES) NO (circle one)	matriz 's terset empd concentrations
2.	Soil: Wate	ding time and Sample Collection 14 days from collection to extract r: 7 days from collection to extract time met for all samples?	ion; 40 days fro tion; 40 days fr	om extraction to analysis	10 - 10 - 10 - 10 - 10 - 10 - 10 - 10 -
3.	Are r	C Blanks nethod blanks free of contamination Rinse blanks free of contamination	on? YES NO		41.3 745/20
4.	Did to	strument Tuning – Data Packag he laboratory narrative identify an e one) s, use professional judgment to eva	y results that w	ere not within method criteria? YES(NO	) SB60704 profijudjanat
5.	(Area point Did ti YES	if samples follow ICAL))	ithin 30 second y sample intern on internal star	s of daily CCAL standard (or ICAL mid- al standards that were not within criteria?	Sine high Conc of hophthakae reported in several samples
6.	Did the continu	strument Calibration – Data Pac ne laboratory narrative identify co- nuing calibration standards? YES rol Limits (Region II HW-22): Init	ckage Narrative impounds that we note that we note that we note that we have all Calibration %	e Review  vere not within criteria in the initial and/or one)  RSD = 15%, Continuing Calibration %D = 20%	
	Did t	K K A	on initial or co	s or use professional judgment to J/UJ) ontinuing calibration exceedances? YES data and qualify results if needed	
7.	Were	all results within limits? YES any recoveries < 10%? (Reject fra	NO (circle or ection compoun	ne) ds if recoveries are < 10%)	
8.		trix Spike (water & soil limits: Bas	Neutral 50-140	%, Acid 30-140%) (RPD soil=35,water=20) 30 - 115393-1 ; 500 x /, not	tevalvated
	Were	all results within limits? YES NO	NA)(circle	one)	
	Not .	Benzo (b) and (k)	Fluorenth	en were not resolved	in samples

SB 60110 and SB 60606; results were reported as benzo (b) fluorenthere kesults for (b) f (k) were qualified (TUJ) in SB 60110 and SB 60606.

9.	Duplicates (RPD limits = water:50, soil:100)
	Were Field Duplicates submitted/analyzed? YES NO
	Were RPDs within criteria? YES NONA (circle one)
10.	스트 사용에 대한 경험에 가장하는 것은 이 일반이 있는데 있는데 가장 이 경험을 받았다. 아이들이 아이들이 아이들이 아이들이 아이들이 아이들이 아이들이 아이들
	Were all results within limits? (YES) NO (circle one) PAH LCS: OK
	SWC LCS; OK
11.	Raw Data Review and Calculation Checks
	Sec ettached; OK
12.	
	Does the EDD match the Form Is? YES NO (circle one)
	THE STATE OF THE PRODUCT OF THE PROD
13.	Tables and TIC Review
	Table 1 (Samples and Analytical Methods)
	Table 2 (Analytical Results)
	Table 3 (Qualification Actions)
	Were all tables produced and reviewed? (YES) NO (circle one)
	Table 4 (TICs) Did lab report TICs? YES (NO) (circle one)

Client: AMEC Foster Wheeler E & I, Inc

Job Number: 480-115393-1

# **Surrogate Recovery Report**

#### 8270D Semivolatile Organic Compounds (GC/MS)

#### Client Matrix: Solid

Lab Sample ID	Client Sample ID	NBZ %Rec	FBP %Rec	TPHd14 %Rec		
480-115393-1	516008SB60110	0X	0X	0X		no quelo
480-115393-2	516008SB60115	66	<b>7</b> 7	80	)	V
480-115393-3	516008SB60210	75	86	88		
480-115393-4	516008SB60606	64	78	81		02
480-115393-5	516008SB60704	92	82	80		Mizulin
MB 480-350091/1-A		72	78	84		71-10 1
LCS 480-350091/2-A		70	76	79		
480-115393-1 MS	516008SB60110 MS	0X	0X	0X	500 X	
480-115393-1 MSD	516008SB60110 MSD	0X	ΟX	0X	4	

Surrogate	Acceptance Limits
NBZ = Nitrobenzene-d5 (Surr)	53-120
FBP = 2-Fluorobiphenyl	60-120
TPHd14 = p-Terphenyl-d14 (Surr)	65-121

Client: AMEC Foster Wheeler E & I, Inc

Job Number: 480-115393-1

Matrix Spike/

Matrix Spike Duplicate Recovery Report - Batch: 480-350091

Method: 8270D Preparation: 3550C

MS Lab Sample ID:

480-115393-1 Solid

Analysis Batch:

480-350300

Instrument ID:

HP5973X

Client Matrix: Dilution:

500)

Prep Batch: Leach Batch: 480-350091 N/A

Lab File ID: Initial Weight/Volume:

X009012964,D

Analysis Date: Prep Date:

04/05/2017 1622 04/04/2017 0810

Final Weight/Volume: Injection Volume:

30.18 g 1 mL 1 uL

Leach Date:

N/A

MSD Lab Sample ID: 480-115393-1

Solid

Client Matrix: Dilution:

£100)

Analysis Date: Prep Date:

04/04/2017 0810

04/05/2017 1237

Prep Batch: N/A

480-350300 480-350091 Instrument ID:

HP5973X

Leach Batch:

Analysis Batch:

Lab File ID: Initial Weight/Volume: 30.06 g

X009012957.D

Final Weight/Volume: Injection Volume:

1 mL

asolisted . DE

Leach Date:

N/A

IOI	evalue and, pr = 500	
	PPD RPD Limit MS Qual	
Limit	RPD RPD Limit MS Qual	

	<u>% I</u>	<u>% Rec.</u>			4/24/17		
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Acenaphthene	-5273	-4690	60 - 120	4	35	4	4
Acenaphthylene	-228	-158	58 - 121	6	18	J 4	J 4
Anthracene	-2832	-2205	62 - 120	7	15	4	4
Benzo[a]anthracene	-2346	-1456	65 - 120	18	15	J 4	4 F2
Benzo[a]pyrene	-1972	-1422	64 - 120	12	15	J 4	J 4
Benzo[b]fluoranthene	-2108	-1307	64 - 120	18	15	J 4	J 4 F2 ł
Benzo[g,h,i]perylene	-1241	-942	45 - 145	13	15	J 4	J 4
Benzo[k]fluoranthene	NC	NC	65 - 120	NC	22	K	
Chrysene	-1485	-1260	64 - 120	5	15	J 4	J 4
Dibenz(a,h)anthracene	NÇ	NC	54 - 132	NC	15		
Fluoranthene	-6799	-3915	62 - 120	23	15	4	4 F2
Fluorene	-2199	-1381	63 - 120	10	15	4	4
Indeno[1,2,3-cd]pyrene	-672	-255	56 - 134	. 25	15	J 4	J 4 F2
Naphthalene	-5981	-4958	46 - 120	7	29	4	4
Phenanthrene	-9719	-6748	60 - 122	10	15	4	4
Pyrene	-6740	-3864	61 - 133	16	35	4	4
Surrogate		MS % Rec	MSI	D % Rec	· Acce	eptance Limi	ts
2-Fluorobiphenyl	CONTROL OF THE PROPERTY OF THE	0	X 0	X	6	0 - 120	and the second s
Nitrobenzene-d5 (Surr)		0	X 0	X	5:	3 - 120	
p-Terphenyl-d14 (Surr)		0	X 0	X	6	5 - 121	

Client: AMEC Foster Wheeler E & I, Inc

Job Number: 480-115393-1

Matrix Spike/

Matrix Spike Duplicate Recovery Report - Batch: 480-350091

Method: 8270D

MS Lab Sample ID:

480-115393-1

Preparation: 3550C

Client Matrix:

Units: ug/Kg

MSD Lab Sample ID: 480-115393-1

Solid

Dilution:

Solid 500 Client Matrix: Dilution:

500

Analysis Date:

04/05/2017 1622

Analysis Date:

04/05/2017 1237

Prep Date:

04/04/2017 0810

Prep Date:

04/04/2017 0810

Leach Date:

N/A

not evaluated DF = 500

N/A

			***			1400	
	Sample	MS Spike	MSD Spike	MS Result/Qual		MSD Result/Qual	
Analyte	Result/Qual	Amount	Amount				
Acenaphthene	440000	2270	2280	321000	4	334000	4
Acenaphthylene	33000 J	2270	2280	27400	J 4	29000	J 4
Anthracene	250000	2270	2280	189000	4	203000	4
Benzo[a]anthracene	160000	2270	2280	103000	J 4	123000	4 F2
Benzo[a]pyrene	140000	2270	2280	96400	J 4	109000	J 4
Benzo[b]fluoranthene	140000	2270	2280	92700	J 4	111000	J 4 F2
Benzo[g,h,i]perylene	78000 J	2270	2280	50000	J 4	56700	J 4
Benzo[k]fluoranthene	ND	2270	2280	ND	K	ND	
Chrysene	140000	2270	2280	104000	J 4	109000	J 4
Dibenz(a,h)anthracene	ND	2270	2280	ND		ND	
Fluoranthene	410000	2270	2280	255000	4	320000	4 F2
Fluorene	230000	2270	2280	182000	4	200000	4
Indeno[1,2,3-cd]pyrene	48000 J	2270	2280	32700	J 4	42100	J 4 F2
Naphthalene	430000	2270	2280	298000	4	320000	4
Phenanthrene	890000	2270	2280	669000	4	736000	4
Pyrene	520000	2270	2280	365000	4	430000	4

Report Date: 06-Apr-2017 13:00:14

Chrom Revision: 2.2 22-Mar-2017 08:36:42

#### TestAmerica Buffalo Target Compound Quantitation Report

Data File: \\ChromNA\Buffalo\ChromData\HP5973X\20170405-61413.b\X009012956.D Lims ID: 480-115393-A-1-C Conc Client ID: 516008SB60110 10305 KS 1,221 Sample Type: Client Inject. Date: 05-Apr-2017 12:10:30 Worklist Smp#: ALS Bottle#: 8 Injection Vol: 1.0 ul Dil. Factor: 500.0000 Sample Info: 480-0061413-010 Operator ID: **LMW** Instrument ID: HP5973X Method: \\ChromNA\Buffalo\ChromData\HP5973X\20170405-61413.b\X-8270.m OK Limit Group: MB - 8270D ICAL Last Update: 06-Apr-2017 12:59:57 Calib Date: 24-Mar-2017 22:19:30 RTE Integrator: ID Type: Deconvolution ID Internal Standard

Quant Method: Last ICal File:

Initial Calibration Quant By: \\ChromNA\Buffalo\ChromData\HP5973X\20170324-61171.b\X009012646.D

5/12/17

Column 1: Process Host: RXI-5Sil MS (0.25 mm)

XAWRK020

Det: MS SCAN

First Level Reviewer: WolfL

Date

05-Apr-2017 13:02:42

First Level Reviewer: WolfL	vei Reviewer: WolfL Date: 05-Apr-2017 13:02:42							
Compound	Sig	RT (min.)	Adj RT	Dlt RT		Dognance	OnCol Amt	l'iloge.
Compound	Sig	(min.)	(min.)	(min.)	Q	Response	ng/uL	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.691	6.685	0.006	93	215045	40.0	
* 2 Naphthalene-d8	136	8.197	8.197	0.000	98	764341	40.0	
* 3 Acenaphthene-d10	164	10.254	10.254	0.000	98	374340	40.0	
* 4 Phenanthrene-d10	188	11.771	11.771	0.000	99	643187	40.0	
* 5 Chrysene-d12	240	14.149	14.148	0.001	98	651556	40.0	
* 6 Perylene-d12	264	15.639	15.639	0.000	98	698888	40.0	
\$ 9 Nitrobenzene-d5	82		7.326				ND	
\$ 10 2-Fluorobiphenyl	172		9.458				ND	
\$ 12 p-Terphenyl-d14	244		13.181				ND	
69 Naphthalene	128	8.224	8.224	0.000	99	381957	19.3	
100 Acenaphthylene	152	10.099	10.099	0.000	95	24775	1.45	
102 Acenaphthene	153	10.291	10.291	0.000	98	224060	19.6	
115 Fluorene	166	10.836	10.836	0.000	99	139427	10.3	
141 Phenanthrene	178	11.793	11.792	0.001	99	716959	39.6	
142 Anthracene	178	11.841	11.841	0.000	99	210796	11.3	
152 Fluoranthene	202	12.877	12.877	0.000	98	335512	18.2	
155 Pyrene	202	13.085	13.085	0.000	98	521679	23.0	
167 Benzo[a]anthracene	228	14.138	14.138	0.000	64	142686	6.96	
169 Chrysene	228	14.170	14.175	-0.005	98	122417	6.13	
174 Benzo[b]fluoranthene	252	15.190	15.195	-0.005	98	130489	6.26	
175 Benzo[k]fluoranthene	252		15.222			I	ND	
177 Benzo[a]pyrene	252	15.570	15.580	-0.010	98	124721	6.28	
181 Dibenz(a,h)anthracene	278		17.124			1	ND	
180 Indeno[1,2,3-cd]pyrene	276	17.119	17.129	-0.010	92	48627	2.13	
182 Benzo[g,h,i]perylene	276	17.573	17.589	-0.016	96	66231	3.48	
Reagents:								
MB_INTSTD_STK_00032		Amount	Added: 2	0.00	U	nits: uL	Run Reagen	t

#### FORM VI

# GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA CURVE EVALUATION

Lab Name: TestAmerica Buffalo	Job No.: 480-115393-1	Analy
SDG No.:		
Instrument ID: HP5973X	GC Column: RXI-5Sil MS ID: 0.25(mm)	Heate
Calibration Start Date: 03/13/2017 19:51	Calibration End Date: 03/13/2017 21:58	Calik

ANALYTE			RRF		,	CURVE					MIN F
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	TYPE	В	M1	M2		
1-Methylnaphthalene	0.6117 0.6134	0.6264	,		0.6217	Ave		0.6205			0.01
Hexachlorocyclopentadiene	0.3469 0.4105	0.3697		0.4115	0.4146	Lin1	-0.428	0.4166			0.05
1,2,4,5-Tetrachlorobenzene	0.5643 0.5870	0.5824	0.5915	0.5878	0.5894	Ave		0.5837			0.03
2,4,6-Trichlorophenol	0.3248 0.4175	0.3670	0.4124	0.4081	0.4149	Lin1	-0.568	0.4193			0.20
2,4,5-Trichlorophenol	0.3424 0.4358	0.3891	0.4357	0.4204	0.4343	Lin1	-0.549	0.4372			0.20
Biphenyl	1.6319	1.5841	1.6250	1.5794	1.5917	Ave		1.5963			0.01
2-Chloronaphthalene	1.2742	1.3140	1.3339	1,2984	1.2946	Ave		1.2980			0.80
2-Nitroaniline	0.2301	0.3128	0.3763	0.3837	0.3973	Lin1	-1.037	0.4017	- 1111	İ	0.01
Dimethyl phthalate	1.3063	1.3543	1.3855	1.4023	1.3968	Ave		1.3719			0.01
1,3-Dinitrobenzene	0.0438 0.1170	0.0704	0.0987	0.1091	0.1162	Lin1	-0.488	0.1170			
2,6-Dinitrotoluene	0.1800 0.3375	0.2662	0.3175	0.3310	0.3325	Lin1	-0.940	0.3412	701.		:
Acenaphthylene	1.6871 1.8150	1.8765	1.8935	1,8396	1.8381	Ave		1.8250			0.90
3-Nitroaniline	0.2240	0.3269	0.3778	0.3818	0.3924	Lin1	-0.977	0.3983			0.01
2,4-Dinitrophenol	0.0527 0.1992	0.1017	0.1576	0.1802	0.1871	Lin1	-1.922	0.1946			0.01
Acenaphthene		1.2352	1.2432	1.2174	1.1995	Ave		1.2211			0.90
4-Nitrophenol	0.1232 0.1853	0.1630	0.1803	0.1833	0.1862	Lin1	-0.716	0.1882			0.01
2,4-Dinitrotoluene	0.2123	0.3414	0.4105	0.4277	0.4360	Lin1	-1,368	0.4472		+	0.20
Dibenzofuran	1.8137	1.8170	1.7899	1.7712	1.7350	Ave		1.7749	80%		0.80
2,3,4,6-Tetrachlorophenol	0.2195 0.3301	0.2717	0.3118	0.3197	0.3249	Lin1	-0.679	0.3303	~		0.01
Diethyl phthalate	1,2442	1.3237	1.3244	1.3300	1.3401	Ave		1.3156			0.01

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI 8270D

Page 179 of 483

Page
$$\begin{array}{rcl}
\hline
RRF &= 1,221 & \text{OK} \\
\hline
Accraph there &= 10184 \\
\frac{1}{1,221} &= 1.52 & \text{OK} \\
\hline
261250 &= 25112111
\end{array}$$

Report Date: 14-Mar-2017 15:46:00 Accord Hyph Henc Chrom Revision: 2.2 13-Mar-2017 15:50:30 Data File: \\ChromNA\Buffalo\ChromData\HP5973X\20170313-60925.b\X009012433.D

Data File: \\ChromNA\Buffalo\ChromData\HP5973X\20170313-60925.b\X009012433.D							slilly		
		RT	Adj RT	Dlt RT			Cal Amt	OnCol Amt	
Compound	Sig	(min.)	(min.)	(min.)	Q	Response	ng/uL	ng/uL	Flags
50 Hexachloroethane	117	7.364	7.364	0.000	92	14923	5.00	4.77	
52 Nitrobenzene	77	7.401	7.406	-0.005	96	29644	5.00	4.97	
56 Isophorone	82	7.679	7.684	-0.005	97	56757	5.00	4.52	
58 2-Nitrophenol	139	7.786	7.786	0.000	84	10005	5.00	5.80	
59 2,4-Dimethylphenol	107	7.807	7.807	0.000	92	31788	5.00	4.75	
62 Bis(2-chloroethoxy)methane	93	7.914	7.919	-0.005	99	41437	5.00	4.91	
64 Benzoic acid	105	7.845	7.935	-0.090	33	28907	15.0	18.2	
65 2,4-Dichlorophenol	162	8.064	8.069	-0.005	94	26278	5.00	4.63	
67 1,2,4-Trichlorobenzene	180	8.181	8.181	0.000	97	30284	5.00	4.98	
69 Naphthalene	128	8.278	8.277	0.001	98	104923	5.00	5.14	
71 4-Chloroaniline	127	8.310	8.315	-0.005	95	40323	5.00	4.57	
70 2,6-Dichlorophenol	162	8.336	8.336	0.000	97	26957	5.00	4.76	
73 Hexachlorobutadiene	225	8.427	8.427	0.000	96	14787	5.00	4.75	
78 Caprolactam	113	8.667	8.705	-0.038	95	6783	5.00	5.33	
79 4-Chloro-3-methylphenol	107	8.865	8.865	0.000	94	25447	5.00	4.59	
82 2-Methylnaphthalene	142	9.090	9.095	-0.005	96	65264	5.00	4.93	
83 1-Methylnaphthalene	142	9.212	9.212	0.000	96	60175	5.00	4.93	
84 Hexachlorocyclopentadiene	237	9.293	9.292	0.001	96	16366	5.00	5.19	
85 1,2,4,5-Tetrachlorobenzene	216	9.298	9.298	0.000	98	26624	5.00	4.83	
86 2,4,6-Trichlorophenol	196	9.415	9.415	0.000	95	15327	5.00	5.23	
87 2,4,5-Trichlorophenol	196	9.453	9.458	-0.005	96	16155	5.00	5.17	
90 1,1'-Biphenyl	154	9.634	9.640	-0.006	99	76997	5.00	5.11	
91 2-Chloronaphthalene	162	9.672	9.672	0.000	98	60120	5.00	4.91	
93 2-Nitroaniline	65	9.763	9.762	0.001	92	10857	5.00	5.44	
96 Dimethyl phthalate	163	9.960	9.960	0.000	98	61632	5.00	4.76	
97 1,3-Dinitrobenzene	168	9.992	9.997	-0.005	92	4306	5.00	6.04	
99 2,6-Dinitrotoluene	165	10.030	10.029	0.001	80	8495	5.00	5.39	
100 Acenaphthylene	152	10.147	10.152	-0.005	99	79600	5.00	4.62	
101 3-Nitroaniline	138	10.222	10.227	-0.005	95	10569	5.00	5.26	
103 2,4-Dinitrophenol	184	10.334	10.339	-0.005	86	4975	10.0	12.6	
102 Acenaphthene	153	10.340	10.345	-0.005	98	58067	5.00	5.04	
104 4-Nitrophenol	109	10.377	10.382	-0.005	85	11621	10.0	10.3	
106 2,4-Dinitrotoluene	165	10.473	10.478	-0.005	85	10016	5.00	5.43	
107 Dibenzofuran	168	10.527	10.526	0.003	97	85573	5.00	5.11	
110 2,3,4,6-Tetrachlorophenol	232	10.649	10.520	0.001	95				
112 Diethyl phthalate	149	10.049				10355	5.00	5.38	
138 Hexadecane	57	10.724	10.729 10.745	-0.005	99	58704 52280	5.00	4.73	
				0.001	94		5.00	4.88	
116 4-Chlorophenyl phenyl ethe	204	10.868	10.868	0.000	91	31597	5.00	5.00	
118 4-Nitroaniline	138	10.868	10.879	-0.011	58	11987	5.00	5.29	
115 Fluorene	166	10.885	10.890	-0.005	98	67721	5.00	4.97	
119 4,6-Dinitro-2-methylphenol	198	10.911	10.916	-0.005	89	8341	10.0	12.1	
120 N-Nitrosodiphenylamine	169	10.981	10.986	-0.005	99	46092	5.00	4.73	
121 Diphenylamine	169	10.981	10.986	-0.005	99	46092	4.28	4.04	
122 Azobenzene	77	11.029	11.034	-0.005	96	66194	5.00	4.84	
123 1,2-Diphenylhydrazine	77	11.029	11.034	-0.005	99	66194	5.00	4.84	
130 4-Bromophenyl phenyl ether	248	11.365	11.365	0.000	93	16238	5.00	4.71	
131 Hexachlorobenzene	284	11.456	11.456	0.000	98	17175	5.00	4.88	
133 Atrazine	200	11.488	11.488	0.000	92	14192	5.00	5.11	
134 Pentachlorophenol	266	11.627	11.632	-0.005	96	13165	10.0	10.9	
113 n-Octadecane	57	11.654	11.654	0.000	85	48504	5.00	4.68	
141 Phenanthrene	178	11.835	11.841	-0.005	98	94859	5.00	5.15	
142 Anthracene	178	11.889	11.889	0.000	99	91444	5.00	4.81	
				0.000		J. 111	0.00		

#### FORM VII GC/MS SEMI VOA CONTINUING CALIBRATION DATA

So D Acenaphthone =

1,212 - 1,221 = 0.742 1,221

Lab Name: TestAmerica Buffalo

Job No.: 480-115393-1

SDG No.:

Lab Sample ID: CCVIS 480-350300/5

Calibration Date: 04/05/2017 09:57

Instrument ID: HP5973X

Calib Start Date: 03/13/2017 19:51

5/12/17

GC Column: RXI-5Sil MS

ID: 0.25(mm)

Calib End Date: 03/13/2017 21:58

OK

Lab File ID: X009012951.D

Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Biphenyl	Ave	1.596	1,601	0.0100	50100	50000	0.3	20.0
2-Chloronaphthalene	Ave	1.298	1.322	0.8000	50900	50000	1.8	20.0
2-Nitroaniline	Lin1		0.4036	0.0100	52800	50000	5.6	20.0
Dimethyl phthalate	Ave	1,372	1,467	0,0100	53500	50000	6.9	20.0
1,3-Dinitrobenzene	Lin1		0.1236	0.0100	57000	50000	13.9	20.0
2,6-Dinitrotoluene	Lin1		0.3539	0.2000	54600	50000	9.2	20.0
Acenaphthylene	Ave	1.825	1.881	0,9000	51500	50000	3.0	20.0
3-Nitroaniline	Lin1		0.3876	0.0100	51100	50000	2.2	20.0
2,4-Dinitrophenol	Lin1		0.2020	0.0100	114000	100000	13.7	20.0
Acenaphthene	Ave	1.221	1.212	0.0100	49600	50000	-0.8	20.0
4-Nitrophenol	Lin1	- V	0.2045	0.0100	112000	100000	12.5	20.0
2,4-Dinitrotoluene	Linl		0.4777	0.0100	56500	50000	12.9	20,0
Dibenzofuran	Ave	1.775	1.826	0.8000	51400	50000	2.9	20.0
2,3,4,6-Tetrachlorophenol	Lin1		0.3158	0.0100	49900	50000	-0.3	20.0
Diethyl phthalate	Ave	1.316	1.405	0.0100	53400	50000	6.8	20.0
Hexadecane	Ave	1,136	1.171	0.0100	51500	50000	3.1	20.0
4-Chlorophenyl phenyl ether	Ave	0.6699	0.7125	0.4000	53200	50000	6.4	20.0
4-Nitroaniline	Lin1	7	0.4164	0.0100	50700	50000	1.3	20.0
Fluorene	Ave	1.444	1.493	0.9000	51700	50000	3.4	20.0
4,6-Dinitro-2-methylphenol	Lin1		0.1634	0.0100	115000	100000	14.6	20.0
Diphenylamine	Ave	0.6976	0.7072	0.0100	43300	42800	1.4	20.0
N-Nitrosodiphenylamine	Ave	0.5965	0.6047	0.0100	50700	50000	1.4	20.0
1,2-Diphenylhydrazine	Ave	0.8361	0.7878	0.0100	47100	50000	-5.8	20.0
trans-Azobenzene	Ave	0.8361	0.7878	0.0100	47100	50000	-5.8	20.0
4-Bromophenyl phenyl ether	Ave	0.2107	0.2293	0.1000	54400	50000	8.8	20.0
Hexachlorobenzene	Ave	0.2151	0.2407	0.1000	55900	50000	11.9	20.0
Atrazine	Linl		0.4029	0.0100	55700	50000	11.5	20.0
Pentachlorophenol	Linl		0.1159	0.0500	85600	100000	-14.4	20.0
n-Octadecane	Ave	0.6345	0.6453	0.0100	50800	50000	1.7	20.0
Phenanthrene	Ave	1.126	1,148	0.7000	51000	50000	2.0	20.0
Anthracene	Ave	1.163	1.204	0.7000	51800	50000	3.5	20.0
Carbazole	Ave	1.060	1.082	0.0100	51000	50000	2.0	20.0
Di-n-butyl phthalate	Lin1		1.353	0.0100	53400	50000	6.7	20.0
Fluoranthene	Ave	1.146	1.259	0.6000	54900	50000	9.8	20.0
Benzidíne	Lin1		0.6263	0.0100	42500	50000	-15.1	50.0
Pyrene	Ave	1.390	1.303	0.6000	46900	50000	-6.3	20.0
Butyl benzyl phthalate	Lin1		0.6114	0.0100	47600	50000	-4.9	20.0
Bis(2-ethylhexyl) phthalate	Lin1		0.8792	0.0100	49300	50000	-1.4	20.0
3,3'-Dichlorobenzidine	Lin1	18-	0.4717	0.0100	50000	50000	0.0	50.0
Benzo[a]anthracene	Ave	1.259	1.246	0,8000	49500	50000	-1.0	20.0
Chrysene	Ave	1.226	1.176	0.7000	48000	50000	-4.1	20.0

Report Date: 06-Apr-2017 12:59:58 Accorphite Chrom Revision: 2.2 22-Mar-2017 08:36:42 Data File: \ChromNA\Buffalo\ChromData\HP5973X\20170405-61413.b\X009012951.D

CCAL Cole 2-5/12/11

Data File: \\ChromNA\Buffalo\ChromData\HP5973X\20170405-61413.b\X009012951.D									
_		RT	Adj RT	Dlt RT			Cal Amt	OnCol Amt	
Compound	Sig	(min.)	(min.)	(min.)	Q	Response	ng/uL	ng/uL Flags	
50 Hexachloroethane	117	7.305	7.305	0.000	91	124389	50.0	48.1	
52 Nitrobenzene	77	7.353	7.353	0.000	94	279528	50.0	51.5	
56 Isophorone	82	7.625	7.625	0.000	98	488583	50.0	50.4	
58 2-Nitrophenol	139	7.732	7.732	0.000	83	154939	50.0	57.1	
59 2,4-Dimethylphenol	107	7.759	7.759	0.000	94	276302	50.0	53.5	
62 Bis(2-chloroethoxy)methane	93	7.861	7.861	0.000	99	306303	50.0	47.0	
64 Benzoic acid	105	7.882	7.882	0.000	81	510899	150.0	141.0	
65 2,4-Dichlorophenol	162	8.015	8.015	0.000	94	235270	50.0	53.7	
67 1,2,4-Trichlorobenzene	180	8.128	8.128	0.000	96	253809	50.0	54.0	
69 Naphthalene	128	8.224	8.224	0.000	99	796137	50.0	50.5	
71 4-Chloroaniline	127	8.261	8.261	0.000	97	339568	50.0	49.9	
70 2,6-Dichlorophenol	162	8.283	8.283	0.000	97	232709	50.0	53.2	
73 Hexachlorobutadiene	225	8.373	8.373	0.000	98	143294	50.0	59.6	
78 Caprolactam	113	8.646	8.646	0.000	89	81510	50.0	49.1	
79 4-Chloro-3-methylphenol	107	8.822	8.822	0.000	94	223945	50.0	52.3	
82 2-Methylnaphthalene	142	9.036	9.036	0.000	96	516848	50.0	50.5	
83 1-Methylnaphthalene	142	9.159	9.159	0.000	99	469576	50.0	49.8	
84 Hexachlorocyclopentadiene	237	9.239	9.239	0.000	95	157364	50.0	52.6	
85 1,2,4,5-Tetrachlorobenzene	216	9.244	9.244	0.000	98	226348	50.0	52.9	
86 2,4,6-Trichlorophenol	196	9.362	9.362	0.000	94	157203	50.0	52.5	
87 2,4,5-Trichlorophenol	196	9.410	9.410	0.000	95	163765	50.0	52.4	
90 1,1'-Biphenyl	154	9.581	9.581	0.000	99	586337	50.0	50.1	
91 2-Chloronaphthalene	162	9.618	9.618	0.000	98	484095	50.0	50.9	
93 2-Nitroaniline	65	9.709	9.709	0.000	92	147800	50.0	52.8	
96 Dimethyl phthalate	163	9.907	9.907	0.000	98	537093	50.0	53.5	
97 1,3-Dinitrobenzene	168	9.944	9.944	0.000	90	93881	50.0	57.0	
99 2,6-Dinitrotoluene	165	9.981	9.981	0.000	93	129616	50.0	54.6	
100 Acenaphthylene	152	10.099	10.099	0.000	99	688697	50.0	51.5	
101 3-Nitroaniline	138	10.174	10.174	0.000	97	141962	50.0	51.1	
102 Acenaphthene	153	10.291	10.291	0.000	92	443771	50.0	49.6	
103 2,4-Dinitrophenol	184	10.291	10.291	0.000	56	147937	100.0	113.7	
104 4-Nitrophenol	109	10.345	10.345	0.000	88	149805	100.0	112.5	
106 2,4-Dinitrotoluene	165	10.430	10.430	0.000	96	174958	50.0	56.5	
107 Dibenzofuran	168	10.473	10.473	0.000	97	668799	50.0	51.4	
110 2,3,4,6-Tetrachlorophenol	232	10.601	10.601	0.000	98	115646	50.0	49.9	
112 Diethyl phthalate	149	10.676	10.676	0.000	100	514557	50.0	53.4	
138 Hexadecane	57	10.692	10.692	0.000	90	428732	50.0	51.5	
116 4-Chlorophenyl phenyl ethe	204	10.820	10.820	0.000	97	260939	50.0	53.2	
118 4-Nitroaniline	138	10.831	10.831	0.000	81	152478	50.0	50.7	
115 Fluorene	166	10.836	10.836	0.000	99	546827	50.0	51.7	
119 4,6-Dinitro-2-methylphenol	198	10.868	10.868	0.000	95	213892	100.0	114.6	
121 Diphenylamine	169	10.932	10.932	0.000	99	395826	42.8	43.3	
120 N-Nitrosodiphenylamine	169	10.932	10.932	0.000	98	395826	50.0	50.7	
123 1,2-Diphenylhydrazine	77	10.980	10.980	0.000	99	515704	50.0	47.1	
122 Azobenzene	77	10.980	10.980	0.000	96	515704	50.0	47.1	
130 4-Bromophenyl phenyl ether	248	11.317	11.317	0.000	90 97	150074			
131 Hexachlorobenzene	284	11.408					50.0	54.4	
133 Atrazine			11.408	0.000	97 05	157558	50.0	55.9 55.3	
	200	11.445	11.445	0.000	95	147544	50.0	55.7	
134 Pentachlorophenol	266	11.584	11.584	0.000	97	151709	100.0	85.6	
113 n-Octadecane	57	11.605	11.605	0.000	80	422420	50.0	50.8	
141 Phenanthrene	178	11.792	11.792	0.000	99	751796	50.0	51.0	
142 Anthracene	178	11.841	11.841	0.000	99	788218	50.0	51.8	

# Fuel Fingerprint 310.13 GENERAL CHEMISTRY

	YSDEC DUSR PROJECTION STATE (	CT CHEMIST REVIEW	V RECORD			
M La Da	ethod: 310,13 aboratory: TAL Bu ate: 4124117 eviewer: Julie Re	Ffalo	SDG(s):	480-115	393 - 1	
Re	eview Level X NYSI	DEC DUSR	USEPA I	Region II Guide	line	
1.	Were problems no Were all the samp	Review and Data Package ted? Both Sample les on the COC analyzed IDs and Locations assign	for the reques	ted analyses?	VES NO (circle	inc & motor oil.
2.		d Sample Collection were all prepped and analy	yzed with the	method holding	time? YES NO	
3.	Are method blanks	clean? YES NO (cir tinuing calibration blanks		NO (circle o	one)	
4.	Did the laboratory name continuing calibration s Did the laboratory qual	ibration - Data Package ative identify analytes tha standards? YES NO ify results based on initial professional judgment to	t were not wi	thin criteria in the calibration ex-	ceedances? YES	<u>vo</u>
5.	Laboratory Con		YES N			
6.	and the same of the same	tted/analyzed? YES(NO	43			
7.	☑ Duplicates	ithin 75-125% limits? Yes	_	(circle one)		
	Soil RPD within limit?	mit? (20%) YES NO (35%) YES NO water, 35% for soil value	NA) (circle	one)	DL) YES NO (NA	
8.	Were both To	tal and Dissolved parameter tration is > 20% of the	eters reported?	YES NO	NA)(circle one)	
9.		50% for any soil/sedimen		YES NO NA	(circle one)	
10.		and Calculation Check		į.	9~4/24/17	
11.	See attac	Ked OIC Review and Edits Does t	he EDD mate	h the Form Is?	YES NO (circle	e one)
12.	Table 1 (Samples and A Table 2 (Analytical Res Table 3 (Qualification A	ew malytical Methods) ults) Actions)		circle one)		

#### Job Narrative 480-115393-1

Receipt

The samples were received on 3/31/2017 9:30 AM and 4/6/2017 9:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.9° C and 3.5° C.

#### GC/MS VOA

Method(s) 8260C: The following samples were analyzed using medium level soil analysis and diluted to bring the concentration of target analytes within the calibration range: 516008SB61105 (480-115698-1), (480-115698-A-1-B MS) and (480-115698-A-1-C MSD). Elevated reporting limits (RLs) are provided.

Method(s) 8260C: The following sample was diluted due to the nature of the sample matrix: (480-115698-A-1-B MS) and (480-115698-A-1-C MSD). Because of this dilution, matrix spike and matrix spike duplicate concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC/MS Semi VOA

Method(s) 8270D: The following sample was diluted due to the nature of the sample matrix: 516008SB60704 (480-115393-5). Elevated reporting limits (RLs) are provided.

Method(s) 8270D: The following sample was diffuted due to the nature of the sample matrix: (480-115393-A-1-A MS) and (480-115393-A-1-B MSD). Because of this dilution, the surrogate spike and matrix spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

Method(s) 8270D: The following sample required a dilution due to the nature of the sample matrix: 516008SB60704 (480-115393-5). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

Method(s) 8270D: The following sample was diluted due to appearance and viscosity: 516008SB60210 (480-115393-3). Elevated reporting limits (RL) are provided.

Method(s) 8270D: The following samples were diluted to bring the concentration of target analytes within the calibration range: 516008SB60110 (480-115393-1), 516008SB60115 (480-115393-2) and 516008SB60606 (480-115393-4). Elevated reporting limits (RLs) are provided.

Method(s) 8270D: The following samples required a dilution to bring the concentration of target analytes within the calibration range: 516008SB60110 (480-115393-1), 516008SB60115 (480-115393-2) and 516008SB60606 (480-115393-4). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

Method(s) 8270D: The following sample was diluted due to appearance and viscosity: 516008SB61105 (480-115698-1). Elevated reporting limits (RL) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC Semi VOA

Method(s) 310.13: The following samples contained a petroleum product which most closely resembles highly degraded Gasoline and Motor Oil: 516008SB60704 (480-115393-5):

Method(s) 310.13: The following sample was diluted to bring the concentration of target analytes within the calibration range: Notice of 16008SB60704 (480-115393-5). Elevated reporting limits (RLs) are provided.

Method(s) 310.13: The following sample contained a petroleum product which most closely resembles degraded Gasoline and Motor Oil: 516008SB61105 (480-115698-1).

Method(s) 310.13: The following sample was diluted to bring the concentration of target analytes within the calibration range: 516008SB61105 (480-115698-1), Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Hlwlin

Page 5 of 483

Sample Calc 1:42 Fel Oil

Report Date: 10-Apr-2017 10:40:28 Chrom Revision: 2.2 22-Mar-2017 08:36:42

TestAmerica Buffalo

**Target Compound Quantitation Report** 

Data File:

\\ChromNA\Buffalo\ChromData\HP5890-24\20170410-61544.b\24a118\_084.d

Lims ID:

480-115393-A-5-B 516008SB60704

Client ID:

Sample Type:

Client

Inject. Date: Injection Vol: 08-Apr-2017 00:52:40

1.0 ul

#: 002

Sample Info: Operator ID:

**BufTCHROM** 

Dil. Factor:

10.0000

Worklist Smp#:

Method:

Instrument ID:

ALS Bottle#:

HP5890-24

\\ChromNA\Buffalo\ChromData\HP5890-24\20170410-61544.b\24-8015DRO.m

Limit Group:

GC NY310.13 ICAL

Method Label:

8015 DRO

Last Update: Integrator:

10-Apr-2017 10:40:28

Calib Date:

07-Apr-2017 20:04:27

Quant Method:

Falcon

External Standard

Quant By:

Initial Calibration

Last ICal File:

\\ChromNA\Buffalo\ChromData\HP5890-24\20170407-61502.b\24a118\_076.d

Det: Ch-A-24a11216

Column 1: Process Host:

DB 5.25 (0.25 mm) XAWRK021

First Level Reviewer: oweni

Date:

10-Apr-2017 10:40:28

pore	That Level Neviewer, owen			Date.		10-Apr-2017	10.40.20
	Compound	RT (min.)	Exp RT (min.)	DIt RT (min.)	Response	OnCol Amt ng/ul	Flags
A	A 16 Gasoline A 15 Unknown Hydrocarbons A 25 Motor Oil	5.900 13.400 17.000	(2.500-9. (2.800-24 (10.000-2	1.000)	28584734 39625988 10692477	11145 6150.7 3174.4	M M M

# QC Flag Legend

Review Flags

M - Manually Integrated

Conc = 
$$\frac{28584734}{2564.9} = 11144.5 \frac{n_5}{4L} \times \frac{1.0 \text{ mL}}{30.239} \times \frac{1}{668}$$

$$X10 = 5518, 8 \frac{mg}{ks} \frac{OK}{K}$$

#### FORM VI

## GC SEMI VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA CURVE EVALUATION

 Lab Name: TestAmerica Buffalo
 Job No.: 480-115393-1
 Analy Batch No.: 350835

 SDG No.:
 Instrument ID: HP5890-24
 GC Column: ZB-5
 ID: 0.25(mm)
 Heated Purge: (Y/N) N

 Calibration Start Date: 04/07/2017 17:40
 Calibration End Date: 04/07/2017 17:40
 Calibration ID: 30249

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:	
Level 1	IC 480-350835/11	24a118 072.d	

ANALYTE	CF	CURVE		CORFFICIEN	T	1	MIN CF	%RSD		MAX	R^2	# MIN R^
	LVL 1	TYPE	В	M1	, M2			-500139		%RSD	OR COD	OR COD
Gasoline	2564.9	Ave		2564.91480		1		1	11	20.0		

Phloin

Report Date: 10-Apr-2017 10:16:59

Chrom Revision: 2.2 22-Mar-2017 08:36:42

TLAL Call

TestAmerica Buffalo

**Target Compound Quantitation Report** 

Data File:

\\ChromNA\Buffalo\ChromData\HP5890-24\20170407-61502.b\24a118\_072.d

Lims ID:

GAS IC

Client ID:

Sample Type:

IC Inject. Date:

07-Apr-2017 17:40:29

Calib Level: ALS Bottle#:

1 0

Worklist Smp#:

11

Injection Vol:

1.0 ul

Dil. Factor:

1.0000

Sample Info: Operator ID:

#: 002

**BufTCHROM** 

Instrument ID:

HP5890-24

Sublist:

chrom-24-8015DRO\*sub9

Method:

\\ChromNA\Buffalo\ChromData\HP5890-24\20170407-61502.b\24-8015DRO.m

Limit Group:

GC NY310.13 ICAL

Method Label:

8015 DRO

Last Update:

10-Apr-2017 10:16:59

Calib Date:

07-Apr-2017 20:04:27

Integrator:

Falcon

Quant Method:

**External Standard** 

Quant By:

Initial Calibration

Last ICal File:

\\ChromNA\Buffalo\ChromData\HP5890-24\20170407-61502.b\24a118\_076.d

Det: Ch-A-24a11216

Column 1: Process Host: DB 5.25 (0.25 mm) XAWRK021

Date:

10-Apr-2017 10:16:59

		10 7 10 10 10 10 10 10 10 10 10 10 10 10 10
Compound	RT Exp.RT DIt.RT (min.) (min.) Resp	Cal Amt OnCol Amt onse ng/ul rig/ul Flags

A 16 Gasoline

5.900

(2.500 - 9.300)

12824574

5000.0

Reagents:

DRO GAS CCV 00014

First Level Reviewer: oweni

Amount Added: 1.00

Units: mL

5000.0

#### DATA USABILITY SUMMARY REPORT NOVEMBER 2016 SOIL SAMPLING EVENT SARANAC LAKE REMEDIAL DESIGN (RD) SARANAC LAKE SITE SARANAC LAKE, NEW YORK

#### 1.0 INTRODUCTION

Soil samples were collected at the Saranac Lake site in November 2016 and submitted to TestAmerica Laboratories, Inc., located in Amherst, New York (TestAmerica Buffalo) for analysis. Analyses were performed by TestAmerica Burlington. Samples were analyzed by the following method:

 Polynuclear Aromatic Hydrocarbons (PAH) by EPA Method 8270D-Selected Ion Monitoring (SIM)

Results were reported in the following sample delivery group (SDG):

480-109578-1

A Data Usability Summary Report (DUSR) review was completed based on the New York State Department of Environmental Conservation (NYSDEC) Division of Environmental Remediation guidance (NYSDEC, 2010). Sample event information included in this DUSR is presented in the following Tables:

- Table 1 Summary of Samples and Analytical Methods
- · Table 2 Summary of Analytical Results
- Table 3 Summary of Qualification Actions

#### Laboratory deliverables included:

 Category B deliverables as defined in the NYSDEC Analytical Services Protocols (NYSDEC, 2005).

The DUSR review included the following evaluations as applicable. A table of the project control limits is presented in Attachment A. Applicable laboratory QC summary forms are included in Attachment B to document QC outliers associated with qualification actions.

- Lab Report Narrative Review
- Data Package Completeness and COC records (Table 1 verification)
- Sample Preservation and Holding Times
- Instrument Calibration (report narrative/lab-qualifier evaluation)
- QC Blanks
- Laboratory Control Samples (LCS)
- Matrix Spike/Matrix Spike Duplicates (MS/MSD)
- Surrogate Spikes (if applicable)
- Field Duplicates
- Target Analyte Identification and Quantitation

- Raw Data (chromatograms), Calculation Checks and Transcription Verifications
- Reporting Limits
- Electronic Data Qualification and Verification

Data qualification actions are applied when necessary based on general procedures in USEPA validation guidelines (USEPA, 2008) and the judgment of the project chemist. The following laboratory or data review qualifiers are used in the final data presentation:

U = target analyte is not detected above the reported detection limit
J = concentration is estimated
UJ = target analyte is not detected and value is estimated

Results are interpreted to be usable as reported by the laboratory or as qualified in the following sections.

#### 2.0 POTENTIAL DATA LIMITATIONS

Based on the DUSR review the majority of data meet the data quality objectives; however, the following potential limitations were identified:

 Benzo[k]fluoranthene was qualified (^) in each sample by the laboratory based on the initial calibration verification and/or the continuing calibration verification being out of criteria. During validation the ^ qualifier was replaced with a J and assigned reason code CCV%D.

#### 3.0 ADDITIONAL QC EXCEEDANCES AND OBSERVATIONS

There were no additional observations or quality control exceedances not specifically addressed above (Section 2.0) or included in Table 3. Unless presented in Table 3, sample results are interpreted to be usable as reported by the laboratory.

#### Reference:

New York State Department of Environmental Conservation (NYSDEC), 2005. "Analytical Services Protocols"; June 2005.

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), 2008. "Validating Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry SW-846 Method 8270D"; USEPA Region II; HW-22; Revision 4; October 2008. Data Validator: Julie Pallozzi

Juli Pallogo

February 14, 2017

Senior Review: Julie Ricardi

Julia Ricardi

February 14, 2017

# TABLE 1 - SUMMARY OF SAMPLES AND ANALYTICAL METHODS DATA USABILITY SUMMARY REPORT NOVEMBER 2016 SOIL SAMPLING EVENT SARANAC LAKE REMEDIAL DESIGN (RD) SARANAC LAKE SITE SARANAC LAKE, NEW YORK

					thod Class is Method	PAHs SW8270D-SIM
SDG	Location	Sample ID	Sample Date	Media	Fraction QC Code	Total Count
480-109578-1	HB-403	516008HB40303	11/7/2016	SED	FS	35
480-109578-1	HB-406	5160008HB40602	11/7/2016	SED	PS	35
480-109578-1	HB-409	516008HB40901	11/11/2016	SED	FS	35
480-109578-1	SB-330	5160085B33012	11/10/2016	SOIL	FS	35

Notes:

FS = Field Sample

SED = Sediment

Count = Number of target analytes reported

# TABLE 2 - SUMMARY OF ANALYTICAL RESULTS DATA USABILITY SUMMARY REPORT NOVEMBER 2016 SOIL SAMPLING EVENT SARANAC LAKE REMEDIAL DESIGN (RD) SARANAC LAKE SITE SARANAC LAKE, NEW YORK

Location Sample Date		SDG Location Sample Date Sample ID	480-109578-1 HB-403 11/7/2016 516008HB40303	480-109578-1 HB-406 11/7/2016 5160008HB40602	480-109578-1 HB-409 11/11/2016 516008HB40901	480-109578-1 SB-330 11/10/2016 5160085B33012
Cl	Parameter	QC Code Units	FS Result Qualifier	FS Over15 over	FS Described	FS Result Qualifier
Class PAHs	1-Methylnaphthalene	ug/kg	3.3 J	Result Qualifier 11000	Result Qualifier 2000	Result Qualifier 11000
PAHs	2-Methylnaphthalene	ug/kg	5.8 1	17000	290	18000
PAHs	Acenaphthene	ug/kg	3.7 1	32000	6700	12000
PAHS	Acenaphthylene	ug/kg	9.4 U	4500	410	1100
PAHs	Anthracene	ug/kg ug/kg	9.4 U	32000	3100	10000
PAHS		ug/kg	9.4 U	27000	2800	4900
PAHS	Benzo(a)anthracene	ug/kg	2.9 J	26000	4100	4000
200	Benzo(a)pyrene		9.4 U	12000	1900	4200
PAHs	Benzo(b)fluoranthene	ug/kg	3.9 J	13000	2300	4300
PAHs	Benzo(e)pyrene	ug/kg	12 C 1 C 1 C 1 C 1 C 1 C 1 C 1 C 1 C 1 C		2000	3800
PAHs	Benzo(ghi)perylene	ug/kg	3.2 J	11000	5.700	
PAHs	Benzo(k)fluoranthene	ug/kg	9.4 UJ	17000 J	2500 J	3200 J
PAHs	C1 Chrysenes	ug/kg	9.4 U	12000 J	1700 J	4700 J
PAHs	C1-Fluoranthenes/Pyrenes	ug/kg	9.4 U	76000 J	8800 J	39000 J
PAHs	C1-Fluorenes	ug/kg	9.4 U	23000 J	1300 J	8500 J
PAHs	C1-Phenanthrenes/Anthracenes	ug/kg	9.4 U	72000 J	5000 J	31000 J
PAHs	C2 Chrysenes	ug/kg	9.4 U	3500 J	610 J	1400 J
PAHs	C2-Fluorenes	ug/kg	9.4 U	16000 J	1000 J	6100 J
PAHs	C2-Naphthalenes	ug/kg	9.4 U	130000 J	8300 J	67000 J
PAHs	C2-Phenanthrenes/Anthracenes	ug/kg	9.4 U	32000 J	2800 J	14000 J
PAHs	C3 Chrysenes	ug/kg	9.4 U	970 J	130 J	300 J
PAHs	C3-Fluorenes	ug/kg	9.4 U	4000 J	460 J	2200 J
PAHs	C3-Naphthalenes	ug/kg	9.4 U	70000 J	4400 J	40000 J
PAHs	C3-Phenanthrenes/Anthracenes	ug/kg	9.4 U	11000 J	1100 J	5000 J
PAHs	C4 Chrysenes	ug/kg	9.4 U	340 J	86 U	100 U

# TABLE 2 - SUMMARY OF ANALYTICAL RESULTS DATA USABILITY SUMMARY REPORT NOVEMBER 2016 SOIL SAMPLING EVENT SARANAC LAKE REMEDIAL DESIGN (RD) SARANAC LAKE SITE SARANAC LAKE, NEW YORK

	Si Locati Sample Da Sample QC Co		HB- 11/7/ 516008F	9578-1 403 /2016 HB40303	HB 11/7 5160008	09578-1 -406 //2016 8HB40602 FS	HB 11/1: 516008	09578-1 -409 1/2016 HB40901 FS	58- 11/10 516008	09578-1 -330 0/2016 SB33012 FS
Class	Parameter	Units	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
PAHs	C4-Naphthalenes	ug/kg	9.4	U	26000	10	2000 J		16000 J	
PAHs	C4-Phenanthrenes/Anthracenes	ug/kg	9.4	U	2100	) 1	200	11	1300	) )
PAHs	Chrysene	ug/kg	2.3	1	24000	):	2900	)	5400	0.2
PAHs	Dibenz(a,h)anthracene	ug/kg	9.4	U.	3100	):	500	)	940	0.0
PAHs	Fluoranthene	ug/kg	9.4	U	82000		6200	).	12000	1
PAHs	Fluorene	ug/kg	9.4	U	27000		3200	).	7200	100
PAHs	Indeno(1,2,3-cd)pyrene	ug/kg	2.3	1	8800	)	1700	)	3100	)
PAHs	Naphthalene	ug/kg	16		480	)	1800	)	11000	0/2
PAHs	Perylene	ug/kg	300		3800	)	520	)	1300	)
PAHs	Phenanthrene	ug/kg	9.4	U	110000	)	9100	)	26000	1
PAHs	Pyrene	ug/kg	9.4	U	67000	)	5600	)	13000	1

#### Notes:

J = Reported concentration is considered estimated

U = Target analyte not detected

UJ = Target analyte not detected and the reporting limit is considered estimated

ug/kg = microgram per kilogram

FS = Field Sample

# TABLE 3 - SUMMARY OF QUALIFICATION ACTIONS DATA USABILITY SUMMARY REPORT NOVEMBER 2016 SOIL SAMPLING EVENT SARANAC LAKE REMEDIAL DESIGN (RD) SARANAC LAKE SITE SARANAC LAKE, NEW YORK

SDG	Analysis Method	Lab Sample ID	Field Sample ID	Parameter Name	Lab Result	Lab Qualifier	Final Result	Final Qualifier	Validation Reason Code	Units
480-109578-1	SW8270D-SIM	480-109578-1	516008HB40303	Benzo(k)fluoranthene	9.4	U A	9.4	UI	CCV%D	ug/kg
480-109578-1	SW8270D-SIM	480-109578-2	5160008HB40602	Benzo(k)fluoranthene	17000	Α.	17,000	J	CCV%D	ug/kg
480-109578-1	SW8270D-SIM	480-109578-4	516008SB33012	Benzo(k)fluoranthene	3200	A 2	3,200	J	CCV%D	ug/kg
480-109578-1	SW8270D-SIM	480-109578-5	516008H840901	Benzo(k)fluoranthene	2500	۸	2,500	t	CCV%D	ug/kg

#### Notes:

J = Reported concentration is considered estimated

UJ = Target analyte not detected and the reporting limit is considered estimated

ug/kg = microgram per kilogram

CCV%D = Continuing calibration percent difference exceeds goal

# ATTACHMENT A SUMMARY OF VALIDATION QC LIMITS FOR SURROGATES, SPIKES, AND DUPLICATES BASED ON THE REGION 2 VALIDATION GUIDELINES

DADAMETER	OC TEST	ANALYTE	Soil	Soil	WATER	Water
PARAMETER	QC TEST	ANALTIE	(%R)	(RPD)	(%R)	(RPD) 20 20
	Surrogate	All BN Compounds	50 - 140		50 - 140	
		All Acid Compounds	30 - 140		30 - 140	
	LCS	All BN Compounds	50 - 140		50 - 140	
Semivolatiles		All Acid Compounds	30 - 140		30 - 140	
Charles A Strategical	MS/MSD	All BN Compounds	50 - 140	35	50 - 140	20
		All Acid Compounds	30 - 140	35	30 - 140	20
	Field Duplicate	All Target Compounds		100		50

#### Notes:

LCS - Laboratory Control Sample

MS/MSD - Matrix spike/ Matrix Spike Duplicate

RPD = Relative percent difference

%R = percent recovery

QC Limits are based on USEPA Region II Data Validation Guidelines and Project QA/QC Objectives

Project No. 3611161193.03

ATTACHMENT B

### SVOC

Proj Meti Labo Date	et: Saranac Lake RD od: 8270 SIM ratory: TAL Buffalo 2-2-2017 wer: June Pawazi
Revi	w Level X NYSDEC DUSR USEPA Region II Guideline
I. I	Were problems noted? As See cutacted Were all the samples on the COC analyzed for the requested analyses? (YES) NO (circle one) Are Field Sample IDs and Locations assigned correctly (YES) NO (circle one)
2.	Holding time and Sample Collection  Soil: 14 days from collection to extraction; 40 days from extraction to analysis  Water; 7 days from collection to extraction; 40 days from extraction to analysis Hold time met for all samples? (YES) NO (circle one)
3.	Are method blanks free of contamination? YES NO (circle one) Are Rinse blanks free of contamination? YES NO (NA) (circle one)
4.	Instrument Tuning – Data Package Narrative Review  Did the laboratory narrative identify any results that were not within method criteria? YES NO (circle one)  If yes, use professional judgment to evaluate data and qualify results if needed
5.	Internal Standards – Data Package Narrative Review  (Area Limits = -50% to +100%, RTs within 30 seconds of daily CCAL standard (or ICAL midpoint if samples follow ICAL))  Did the laboratory narrative identify any sample internal standards that were not within criteria?  YES NO (circle one)  Did the laboratory qualify results based on internal standard exceedances? YES NO
	If yes to above, use professional judgment to evaluate data and qualify results if needed
6.	Instrument Calibration – Data Package Narrative Review  Did the Inboratory narrative identify compounds that were not within criteria in the initial and/or continuing calibration standards? YES NO (circle one)
	Control Limits (Region II HW-22): Initial Calibration %RSD = 15%, Continuing Calibration %D = 20% Average RRF should be ≥ 0.05 (or reject NDs, J detects or use professional judgment to J/UJ)  Did the laboratory qualify results based on initial or continuing calibration exceedances? YES  NO  If yes to above, use professional judgment to evaluate data and qualify results if needed
7.	Were any recoveries < 10%? (Reject fraction compounds if recoveries are < 10%)  Yes, Samples analyzed at directions > 10x, ok
8.	Matrix Spike (water & soil limits: Base/Neutral 50-140%, Acid 30-140%) (RPD soil=35,water=20) Were MS/MSDs submitted/analyzed? YES (NO)

Were all results within limits? YES NO (NA) (circle one)

9.	Duplicates (RPD limits = water:50, soil:100) Were Field Duplicates submitted/analyzed? YES (NO)
	Were RPDs within criteria? YES NO(NA)(circle one)
10.	Laboratory Control Sample Results (water&soil limits: Base/Neutral 50-140%, Acid 30-140%) Were all results within limits? YES NO (circle one)
11.	Raw Data Review and Calculation Checks See attacked.
12.	Does the EDD match the Form Is? (YES) NO (circle one)
13.	Tables and TIC Review Table 1 (Samples and Analytical Methods) Table 2 (Analytical Results) Table 3 (Qualification Actions) Were all tables produced and reviewed?  YES NO (circle one)
	Table 4 (TICs) Did lab report TICs? YES (NO) (circle one)

#### Job Narrative 480-109578-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 11/12/2016 9:00 AM and 11/22/2016 10:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 4.0° C and 4.1° C.

#### GC/MS VOA

Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 480-333405 recovered above the upper control limit for Vinyl chloride. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: 516008 COMP-1 (480-109578-3).

Method(s) 8260C: The following sample was diluted due to the nature of the TCLP matrix: 516008 COMP-1 (480-109578-3). Elevated reporting limits (RLs) are provided.

Method(s) 8260C: The following sample was diluted due to the nature of the TCLP sample matrix: 516008 COMP-2 (480-110025-1) and (LB 480-333634/1-A). Elevated reporting limits (RLs) are provided.

Method(s) 8260C: The following sample was diluted due to the nature of the TCLP matrix: (LB 480-331420/1-A). Elevated reporting limits (RLs) are provided.

Method(s) 8260C: The quality control samples MB 480-332060/6 and LCS 480-332060/4 are reported on a separate Surrogate Recovery Form (Form II) from their associated sample. (LB 480-331420/1-A)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page,

#### GC/MS Semi VOA

Method(s) 8270D SIM: The following sample required a <u>dilution</u> due to the nature of the sample matrix: 5160008HB40602 (480-109578-2). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

Method(s) 8270D SIM: Due to a software limitation, the form 7 is populated with a default percent drift for the alkylated naphthalenes because the curve fit type is linear (not average) for naphthalene.

Method(s) 8270D SIM: The following sample required a <u>dilution</u> due to the nature of the sample matrix: 516008HB40303 (480-109578-1) and (720-75865-F-1-A). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

Method(s) 8270D SIM: Surrogate recovery for the following samples was outside control limits: 5160008HB40602 (480-109578-2), 516008SB33012 (480-109578-4) and 516008HB40901 (480-109578-5). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8270D SIM: The following samples was <u>diluted</u> to bring the concentration of target analytes within the calibration range: 5160008HB40602 (480-109578-2), 516008SB33012 (480-109578-4) and 516008HB40901 (480-109578-5) at 2000.0, 1250.0 and 400.0. Elevated reporting limits (RLs) are provided.

Method(s) 8270D SIM: The following sample was <u>diluted</u> to bring the concentration of target analytes within the calibration range: 5160008HB40602 (480-109578-2) at 4000.0. Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC Semi VOA

Method(s) 8082A: Surrogate recovery for the following samples was outside control limits: 516008 COMP-2 (480-110025-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8082A: The continuing calibration verifications (CCV 480-333536/5 and CCV 480-333536/6) associated with batch 480-333536 recovered above the upper control limit for PCB-1262 and PCB-1268. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: 516008 COMP-2 (480-110025-1).

Method(s) 8081B; All primary data for analytical batches 331903 and 334002 is reported from the RTX-CLPII column.

Method(s) 8082A: All primary data for analytical batch 331557 is reported from the ZB-35 column, while all primary data for analytical batch 333536 is reported from the ZB-5 column.

Method(s) 8082A: The percent difference in a multi-component continuing calibration verification is assessed on the basis of the total amount, individual peak calculations are only listed for completeness.

Page 7 of 2663

12/20/2016

#### **Quality Control Results**

Client: AMEC Foster Wheeler E & I, Inc Job Number: 480-109578-1

#### Surrogate Recovery Report

#### 8270D SIM Semivolatile Organic Compounds (GC/MS SIM)

#### Client Matrix: Solid

Lab Sample ID	Client Sample ID	2MN %Rec	FLR %Rec	FLN %Rec	BNAPd1 %Re2	dilution	<del>-</del> :
480-109578-1	516008HB40303	86	110	117	101	IOX	
480-109578-2	5160008HB40602	116	251X	388X	54	100×	OK - dilutions
480-109578-2 DL	5160008HB40602 DL	OX	0X	0X	OX	2000 X	>10×
480-109578-2 DL2	5160008HB40602 DL2	ox	0X	ο×	0X	HOUDX	no quals
480-109578-4	516008SB33012	87	153X	188X	73	100x	17
480-109578-4 DL	516008SB33012 DL	OX	0X	OX	0X	1250 X	
480-109578-5	516008HB40901	75	147X	150	91	100 X	
480-109578-5 DL	516008HB40901 DL	79	0X	139	68	400×	
MB 200-111512/1-A		82	82	83	61		
LCS 200-111512/2-A		74	90	103	66		

Surrogate	Acceptance Limits
2MN = 2-methylnaphthalene-d10	30-120
FLR = Fluorene-d10 (Surr)	30-130
FLN = Fluoranthene-d10	10-165
BNAPd12 = Benzo(a)pyrene-d12	20-130

ICAL CHECK

Report Date: 02-Dec-2016 09:35:30

Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Burlington
Target Compound Quantitation Report

RRF

2082101 × 400 = 0.7465

Data File: \ChromNA\Burlington\ChromData\CHS.i\20161110-22638.b\22638\_02.D

Lims ID: IC

Client ID:

Sample Type: IC Calib Level: 5

Inject. Date: 10-Nov-2016 15:03:30 ALS Bottle#: 2 Worklist Smp#: 2

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Sample Info: 200-0022638-002

Operator ID: njs Instrument ID: CHS.i

Sublist: chrom-8270\_SIM\_CHS\*sub14

Method: \ChromNA\Burlington\ChromData\CHS.l\20161110-22638.b\8270\_SIM\_CHS.m

Limit Group: SV\_8270D\_ICAL

Last Update: 02-Dec-2016 09:35:29 Calib Date: 10-Nov-2016 16:15:30

Integrator: RTE ID Type: RT Order ID

Quant Method: Internal Standard Quant By: Initial Calibration

Last ICal File: \\ChromNA\Burlington\ChromData\CHS.i\20161110-22638.b\22638\_04.D

Column 1: Rxi-5ms ( 0.25 mm) Det: MS SCAN

Process Host: XAWRK024

	120	RT	Adj RT	Dit RT	210× 1	arae .	Cal Amt	OnCol Amt	and -
Compound	Sig	(min.)	(min.)	(min.)	Q	Response	ug/l	ug/l	Flags
1 Naphthalene-d8	136	8.276	8.283	-0.007	99	1115630	400.0	400.0	
2 Naphthalene	128	8.317	8.324	-0.007	86	3452606	1000.0	1002.4	
3 2-methylnaphthalene-d10	152	9.811	9.818	-0.007	100	1647878	1000.0	1043.6	
4 2-Methylnaphthalene	142	9.886	9.892	-0.006	99	2082101	1000.0	1040.2	
6 1-Methylnaphthalene	142	10.144	10.144	0.000	100	2322173	1000.0	1040.6	
7 1,1'-Biphenyl	154	11.006	11.006	0.000	100	2505520	1000.0	1029.5	
8 2,6-Dimethylnaphthalene	156	11.366	11.366	0.000	100	1767355	1000.0	1040.3	
10 Acenaphthylene	152	12.024	12.024	0.000	100	2895528	1000.0	1070.8	
11 Acenaphthene-d10	164	12.397	12.396	0.001	100	537495	400.0	400.0	
12 Acenaphthene	153	12.475	12.475	0.000	100	2029529	1000.0	1032.7	
14 2,3,5-Trimethylnaphthalene	170	13.406	13.405	0.001	100	1621531	1000.0	1052.1	
15 Fluorene-d10 (Surr)	174	13.621	13.621	0.000	99	1222309	1000.0	1039.6	
16 Fluorene	166	13.690	13.690	0.000	100	2121807	1000.0	1042.4	
19 Dibenzothiophene	184	15.714	15.714	0.000	100	2225366	1000.0	1050.9	
20 Phenanthrene-d10	188	15.965	15.964	0.001	100	661178	400.0	400.0	
21 Phenanthrene	178	16.015	16.031	-0.016	100	2213497	1000.0	1052.7	
22 Anthracene	178	16.132	16.131	0.001	100	1917285	1000.0	1094.0	
27 1-Methylphenanthrene	192	17.538	17.549	-0.011	100	1422621	1000.0	1082.5	
29 Fluoranthene-d10	212	18.872	18.884	-0.012	100	1296751	1000.0	1103.3	
31 Fluoranthene	202	18.922	18.934	-0.012	100	1819037	1000.0	1097.9	
33 Pyrene	202	19.467	19.467	0.000	100	1652836	1000.0	1017.8	
39 Benzo[a]anthracene	228	22.383	22.382	0.001	100	824268	1000.0	1084.9	
40 Chrysene-d12	240	22.424	22.423	0.001	98	267814	400.0	400.0	
41 Chrysene	228	22.485	22.485	0.000	100	898894	1000.0	1039.2	
45 Benzo[b]fluoranthene	252	24.853	24.853	0.000	90	805263	1000.0	1062.1	
46 Benzo[k]fluoranthene	252	24.904	24.904	0.000	90	818282	1000.0	1015.9	
47 Benzo[e]pyrene	252	25.432	25.431	0.001	89	783679	1000.0	1015.7	
48 Benzo(a)pyrene-d12	264	25.491	25.491	0.000	73	445121	1000.0	1071.2	
50 Benzo[a]pyrene	252	25.534	25.533	0.001	82	668731	1000.0	1066.5	
51 Perylene-d12	264	25.653	25.661	-0.008	97	225487	400.0	400.0	
52 Perylene	252	25.704	25.703	0.001	84	718316	1000.0	1017.9	
54 Indeno[1,2,3-cd]pyrene	276	28.154	28.159	-0.004	96	674107	1000.0	1052.8	

#### FORM VI

### GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA CURVE EVALUATION

Lab Name: TestAmerica Burlington Job No.: 480-109578-1 Analy Batch No.: 111237

SDG No.:

Instrument ID: CHS.i GC Column: Rxi-5ms ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/10/2016 15:03 Calibration End Date: 11/10/2016 17:26 Calibration ID: 36113

Calibration Files:

FORM VI 8270D SIM

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 200-111237/6	22638 O6.D
Level 2	TC 200-111237/5	22638 05.0
Level 3	ICIS 200-111237/4	22638 04.0
Level 4	IC 200-111237/3	22638 03.0
Level 5	IC 200-111237/2	22638 02.0

ANALYTE			RRF			CURVE		CORFRICIE	NT		MIN BRE	BRSD #		2^2	*	
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	TYPE	В	MI	M2				NRSD	OR C00		OR COD
C1-Chrysenes						Ave		1,3026				6.1	20.0			
C1-Dibenzothiophenes						Ave		1.2576				5.9	20.0			
C1-Fluoranthenes/pyrene						Ave .		0.9654				12.1	20.0			
C1-Fluorenes						Ave		1.4596				7.4	20.0			
C1-Naphthalenes				- 1		Lin	11.822	1.2251						1.0000		0.9900
C1-Phenanthrenes/Anthracenes						Ave		1.2601				5.5	20.0			
C2-Chrysenes						Ave		1.3026				6.1	20.0			
C2-Dibenzothiophenes						Ave		1.2576				5.9	20.0	0		
C2-Fluoranthenes/Pyrene						Ave		0.9654				12.1	20.0			
C2-Fluorenes						Ave		1.4596				7.4	20.0	15		
C2+Naphthalenes						Lin	11.622	1.2251						1.0000		0.9900
C2-Phenanthrenes/Anthracenes						Ave		1,2601				5.5	20.0			
C3-Chrysenes						Ave		1.3026				6.1	20.0			
C3-Dibenzothiophenes						Ave		1.2576				5.9	20.0			
C3-Fluoranthenes/Pyrene						Ave		0.9654				12.1	20.0			
C3-Fluorenes						Ave		1.4596				7.4	20.0			
C3-Naphthalenes						Lin	11.822	1.2251						1.0000		0.9900
C3-Phenanthrenes/Anthracenes						Ave		1.2601				5.5	20.0			
C4-Chrysenes						Ave		1.3026				6.1	20.0			
C4-Dibenzothiophenes		0 11	10 1			Ave		1.2576				5.9	20.0			
C4-Naphthalenes						Lin	11.822	1,2251						1.0000		0.9900
C4-Phenanthrenes/Anthracenes						Ave	- 5	1.2601				5.5	20.0			
Naphthalene	2.1147	1.3468	1.2321	1.2543	1,2379		11.822	1.2251 /	0		0.7000	1		1.0000		0.9900
2-Methylmaphthalene	0.6995	0.6661	0.5889	0.7337	0.7465	Ave		0.7070		_[1]	0.4000	4.7	20.0			
1-Methylmaphthalene	0.7949	0.7519	0.7677	0.8170	0.8326	Ave		0.7928				4,2	20.0			Ü
1,1*-Siphenyl	1.7981	1.7673	1.7579	1.8520	1.8646	Ave		1.8091			0.0100	2.7	20.0			
2,6-Dimethylnaphthalene	1.2082	1.1907	1.2133	1.2929	1,3153			1.2441			1	4.5	20.0			
Acenaphthylene	1.8088	1.7659	1.8700	2.0808	2,1548	Ave		1,9360			0.9000	8.9	20.0			
Acenaphthane	1.4587	1,3979	1.4146	1.4968	1,5104	Ave		1.4557			0.9000	3.4	20.0			
2,3,5-Trimethylnaphthalene	1.0483	1.0423	1.0873	1.1801	1.2067			1.1129		10		6.8	20.0			0
Fluorene	1.3518	1,3569	1.4506	1.5597	1.5790			1.4556			0.9000	7.4	20.0			
Dibenzothiophene	1,2393	1.1673	1.2160	1.3185	1.3463	Ave		1.2576				5.9	20.0			7

Note: The ml coefficient is the same as Ave RRF for an Ave curve type.

RRF = 0.70694

Page 654 of 2663

%RSD= 0.0329 ×100 = 4.65

12/20/2016

JP2-2-17

TARGET CALC

to 2 sig figs

Report Date: 07-Dec-2016 11:47:24

Rxi-5ms (0.25 mm)

Chrom Revision: 2.2 05-Dec-2016 12:37:22

Det: MS SCAN

TestAmerica Burlington Target Compound Quantitation Report 253697 × 400 810429 > 0.70694

\\ChromNA\Burlington\ChromData\CHS.i\20161129-22887.b\22887\_06.D Data File:

Lims ID: 480-109578-A-2-A

0.001 L Client ID: 5160008HB40602 0.03015 kg

Sample Type: Client

29-Nov-2016 18:38:30 ALS Bottle#: Inject, Date: Worklist Smp#:

result rounded Injection Vol: 2.0 ul Dil. Factor: 2000.0000

Sample Info: 200-0022887-006

Operator ID: Instrument ID: CHS.I njs 17000 49

Method: \\ChromNA\Burlington\ChromData\CHS.i\20161129-22887.b\8270\_SIM\_CHS.m Limit Group: SV\_8270D\_ICAL

Last Update: 07-Dec-2016 11:47:21 Calib Date: 10-Nov-2016 17:26:30

RTE RT Order ID Integrator: ID Type: Quant Method: Internal Standard Quant By: Initial Calibration Last ICal File: \ChromNA\Burlington\ChromData\CHS.i\20161110-22638.b\22638\_06.D

Process Host: XAWRK021

Column 1:

00 44-0046

First Level Reviewer: puangmale		D	ate:		30-Nov-2016 11:36:49			
Compound	Sig	RT (min.)	Adj RT (min.)	Dit RT (min.)	Q	Response	OnCol Amt ug/l	Flags
1 Naphthalene-d8	136	8.256	8.256	0.000	99	810429	400.0	
2 Naphthalene	128	8.296	8.296	0.000	16	13154	-4.35	7
4 2-Methylnaphthalene	142	9.865	9.858	0.007	99	253697	177.1	
5 C1-Naphthalenes	142	9.865	9.865	0.000	100	448804	171.2	M
6 1-Methylnaphthalene	142	10.123	10,116	0.007	100	188158	117.1	
7 1,1'-Biphenyl	154	10.986	10.979	0.007	99	113527	64.8	
8 2,6-Dimethylnaphthalene	156	11.352	11.339	0.013	99	339402	281.4	
9 C2-Naphthalenes	156	11.556	11.556	0.000	99	1515983	1266.6	EM
10 Acenaphthylene	152	12.004	12.004	0.000	97	67049	35.7	
* 11 Acenaphthene-d10	164	12.377	12.377	0.000	99	387822	400.0	
12 Acenaphthene	153	12.445	12.445	0.000	99	476205	337.4	
13 C3-Naphthalenes	170	12.955	12.955	0.000	95	766825	635.9	M
14 2,3,5-Trimethylnaphthalene	170	13.376	13.376	0.000	91	109725	101.7	
16 Fluorene	166	13.660	13.660	0.000	100	405245	286.4	
17 C4-Naphthalenes	184	14.630	14.621	0.009	93	299169	242.2	M
18 C1-Fluorenes	180	15.012	15.079	-0.067	91	213674	151.0	M
19 Dibenzothiophene	184	15.680	15.697	-0.017	99	70232	45.8	
* 20 Phenanthrene-d10	188	15.931	15.914	0.017	100	487240	400.0	
21 Phenanthrene	178	15.981	15.998	-0.017	100	2182340	1421.8	E
22 Anthracene	178	16.098	16.115	-0.017	100	438028	340.8	M
26 C2-Fluorenes	194	16.282	16.282	-0.133	87	153835	108.7	M
23 C1-Dibenzothiophenes	198	16.766	16.749	0.017	93	61629	40.2	M
24 C1-Phenanthrenes/Anthracen	192	17,449	17.438	0.011	91	954247	621.7	M
27 1-Methylphenanthrene	192	17,505	17.527	-0.022	100	193492	207.4	Violet:
32 C3-Fluorenes	208	17,538	17,538	0.011	51	61402	43.4	M
25 C2-Dibenzothiophenes	212	17.782	17.771	0.011	84	58706	38.3	M
28 C2-Phenanthrenes/Anthracen		18,550	18.537	0.013	97	370420	241.3	M
30 C3-Dibenzothiophenes	226	18.872	18.860	0.012	37	27251	17.8	7M
31 Fluoranthene	202	18.884	18.909	-0.025	100	1017126	864.9	
33 Pyrene	202	19.417	19.442	-0.025	100	1461594	703.3	
34 C3-Phenanthrenes/Anthracen		19.665	19.653	0.012	91	124660	81.2	M
35 C4-Dibenzothiophenes	240	19.901	19.888	0.013	63	10347	6.75	7M



### **ANALYTICAL REPORT**

TestAmerica Laboratories, Inc.

TestAmerica Buffalo 10 Hazelwood Drive Amherst, NY 14228-2298 Tel: (716)691-2600

TestAmerica Job ID: 480-109578-1

Client Project/Site: NYSDEC - Saranac Lake

#### For:

AMEC Foster Wheeler E & I, Inc 511 Congress St. Suite 200 Portland, Maine 04101

Attn: Ms. Julie Ricardi

Joseph V. Gracomagge

Authorized for release by: 12/12/2016 10:23:43 AM Joe Giacomazza, Project Management Assistant II joe.giacomazza@testamericainc.com

Designee for

Brian Fischer, Manager of Project Management (716)504-9835

brian.fischer@testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



## **Table of Contents**

Cover Page	1
Table of Contents	
Definitions/Glossary	3
Case Narrative	
Client Sample Results	
Lab Chronicle	14
Certification Summary	17
Method Summary	18
Sample Summary	19
Receipt Checklists	20
Chain of Custody	23

4

5

8

9

10

4 4

#### **Definitions/Glossary**

Client: AMEC Foster Wheeler E & I, Inc Project/Site: NYSDEC - Saranac Lake

TestAmerica Job ID: 480-109578-1

#### **Qualifiers**

#### C/MS Semi VOA

Qualifier	Qualifier Description
	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
٨	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
X	Surrogate is outside control limits

#### Metals

Qualifier	Qualifier Description
	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
٨	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.

#### eneral Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

#### ossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, r additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

TestAmerica Buffalo

#### **Case Narrative**

Client: AMEC Foster Wheeler E & I, Inc Project/Site: NYSDEC - Saranac Lake TestAmerica Job ID: 480-109578-1

ID: 480-109578-1

Laboratory: TestAmerica Buffalo

**Narrative** 

Narrative 480-109578-1

#### Receipt

The samples were received on 1 /12/2016 9:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.1° C.

#### **GC/MS VOA**

Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 480-333405 recovered above the upper control limit for Vinyl chloride. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: 516008 COMP-1 (480-109578-3).

Method(s) 8260C: The following sample was diluted due to the nature of the TCLP matrix: 516008 COMP-1 (480-109578-3). Elevated reporting limits (RLs) are provided.

Method(s) 8260C: The following sample was diluted due to the nature of the TCLP matrix: (LB 480-331420/1-A). Elevated reporting limits (RLs) are provided.

Method(s) 8260C: The quality control samples MB 480-332060/6 and LCS 480-332060/4 are reported on a separate Surrogate Recovery rm (Form II) from their associated sample. (LB 480-331420/1-A )

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC/MS Semi VOA

Method(s) 8270D SIM: The following sample required a dilution due to the nature of the sample matrix: 5160008HB40602 (480-109578-2). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

Method(s) 8270D SIM: Due to a software limitation, the form 7 is populated with a default percent drift for the alkylated naphthalenes because the curve fit type is linear (not average) for naphthalene.

Method(s) 8270D SIM: Due to a software limitation, the form 7 is populated with a default percent drift for the alkylated naphthalenes because the curve fit type is linear (not average) for naphthalene.

Method(s) 8270D SIM: The following sample required a dilution due to the nature of the sample matrix: 516008HB40303 (480-109578-1) and (720-75865-F-1-A). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

Method(s) 8270D SIM: Surrogate <AffectedAnalyte> recovery for the following samples was outside control limits: 5160008HB40602 (480-109578-2), 516008SB33012 (480-109578-4) and 516008HB40901 (480-109578-5). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8270D SIM: The following samples was diluted to bring the concentration of target analytes within the calibration range: 5160008HB40602 (480-109578-2), 516008SB33012 (480-109578-4) and 516008HB40901 (480-109578-5) at 2000.0, 1250.0 and 400.0. levated reporting limits (RLs) are provided.

Method(s) 8270D SIM: The following sample was diluted to bring the concentration of target analytes within the calibration range: 5160008HB40602 (480-109578-2) at 4000.0. Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC Semi VOA

Method(s) 8081B: All primary data for analytical batch 331903 is reported from the RTX-CLPII column.

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#### **Case Narrative**

Client: AMEC Foster Wheeler E & I, Inc Project/Site: NYSDEC - Saranac Lake TestAmerica Job ID: 480-109578-1

#### ID: 480-109578-1 (Continued)

#### Laboratory: TestAmerica Buffalo (Continued)

Method(s) 8082A: All primary data for analytical batch 331557 is reported from the ZB-35 column.

ethod(s) 8082A: The percent difference in a multi-component continuing calibration verification is assessed on the basis of the total amount, individual peak calculations are only listed for completeness.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Metals

Method(s) 6010C: The low level continuing calibration verification (CCVL 480-332163/18) recovered above the upper control limit for TCLP Chromium. The samples 516008 COMP-1 (480-109578-3), (LB 480-331409/1-E), (LCS 480-331730/3-A), (MB 480-331730/2-A), (480-109578-B-3-G MS), (480-109578-B-3-H MSD), (480-109578-B-3- PDS) and (480-109578-B-3-F SD) associated with this CCVL were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCVL; therefore, re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **General Chemistry**

Method(s) 9045C, 9045D: This analysis is normally performed in the field and has a method-defined holding time of 15 minutes. The following sample has been qualified with the "HF" flag to indicate analysis was performed in the laboratory outside the 15 minute timeframe: 516008 COMP-1 (480-109578-3).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **Organic Prep**

Method(s) 3510C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 480-331409 and 480-331703.

Method(s) 3510C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 480-331409 and 480-331704.

Method(s) 3510C: Due to the matrix, the initial volume(s) used for the following sample deviated from the standard procedure: 516008 COMP-1 (480-109578-3). The reporting limits (RLs) have been adjusted proportionately.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

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#### **Client Sample Results**

Client: AMEC Foster Wheeler E & I, Inc Project/Site: NYSDEC - Saranac Lake TestAmerica Job ID: 480-109578-1

Client Sample ID: 516008HB40303

Date Collected: 11/07/16 10:45
Date Received: 11/12/16 09:00

Lab Sample ID: 480-109578-1

atrix: Solid Percent Solids: 70.9

Analyte	esult	Qualifier	L	MDL	Unit	D	Prepared	Analyzed	Dil Fa
1-Methylnaphthalene	3.3	J	9.4	1.7	ug/Kg	<del></del>	11/18/16 13:45	11/29/16 18:03	1
2-Methylnaphthalene	5.8	J	9.4	2.5	ug/Kg	₩	11/18/16 13:45	11/29/16 18:03	1
Acenaphthene	3.7	J	9.4	1.4	ug/Kg	₽	11/18/16 13:45	11/29/16 18:03	1
Acenaphthylene	ND		9.4	2.4	ug/Kg	\$	11/18/16 13:45	11/29/16 18:03	1
Anthracene	ND		9.4	1.7	ug/Kg	₽	11/18/16 13:45	11/29/16 18:03	1
Benzo[a]anthracene	ND		9.4	4.9	ug/Kg	₽	11/18/16 13:45	11/29/16 18:03	1
Benzo[a]pyrene	2.9	J	9.4	2.8	ug/Kg	\$	11/18/16 13:45	11/29/16 18:03	1
Benzo[b]fluoranthene	ND		9.4	3.8	ug/Kg	₽	11/18/16 13:45	11/29/16 18:03	1
Benzo[e]pyrene	3.9	J	9.4	1.8	ug/Kg	₽	11/18/16 13:45	11/29/16 18:03	1
Benzo[g,h,i]perylene	3.2	J	9.4	2.4	ug/Kg	φ.	11/18/16 13:45	11/29/16 18:03	1
Benzo[k]fluoranthene	ND	٨	9.4	5.2	ug/Kg	₩	11/18/16 13:45	11/29/16 18:03	1
Chrysene	2.3	J	9.4	2.3	ug/Kg	₩	11/18/16 13:45	11/29/16 18:03	1
C2-Chrysenes	ND		9.4	9.4	ug/Kg		11/18/16 13:45	11/29/16 18:03	1
C3-Chrysenes	ND		9.4	9.4	ug/Kg	₩	11/18/16 13:45	11/29/16 18:03	1
C4-Chrysenes	ND		9.4	9.4	ug/Kg	₩	11/18/16 13:45	11/29/16 18:03	1
Dibenz(a,h)anthracene	ND		9.4	2.1	ug/Kg		11/18/16 13:45	11/29/16 18:03	1
Fluoranthene	ND		9.4	5.6	ug/Kg	₽	11/18/16 13:45	11/29/16 18:03	1
C1-Fluoranthenes/pyrene	ND		9.4	9.4	ug/Kg	₽	11/18/16 13:45	11/29/16 18:03	1
Fluorene	ND		9.4	3.5	ug/Kg	φ.	11/18/16 13:45	11/29/16 18:03	1
C1-Fluorenes	ND		9.4	9.4	ug/Kg	₽	11/18/16 13:45	11/29/16 18:03	1
C2-Fluorenes	ND		9.4	9.4		₽	11/18/16 13:45	11/29/16 18:03	1
C3-Fluorenes	ND		9.4	9.4	ug/Kg	φ.	11/18/16 13:45	11/29/16 18:03	1
Indeno[1,2,3-cd]pyrene	2.3	J	9.4	1.5	ug/Kg	₽	11/18/16 13:45	11/29/16 18:03	1
Naphthalene	16		9.4	3.7	ug/Kg	₽	11/18/16 13:45	11/29/16 18:03	1
C2-Naphthalenes	ND		9.4	9.4	ug/Kg		11/18/16 13:45	11/29/16 18:03	1
C3-Naphthalenes	ND		9.4	9.4	ug/Kg	₽	11/18/16 13:45	11/29/16 18:03	1
C4-Naphthalenes	ND		9.4	9.4	ug/Kg	₽	11/18/16 13:45	11/29/16 18:03	1
Perylene	300		9.4	2.3	ug/Kg		11/18/16 13:45	11/29/16 18:03	1
Phenanthrene	ND		9.4	5.2	ug/Kg	₩	11/18/16 13:45	11/29/16 18:03	1
C1-Phenanthrenes/Anthracenes	ND		9.4	9.4	ug/Kg	₽	11/18/16 13:45	11/29/16 18:03	1
C2-Phenanthrenes/Anthracenes	ND		9.4	9.4	ug/Kg		11/18/16 13:45	11/29/16 18:03	1
C3-Phenanthrenes/Anthracenes	ND		9.4	9.4	ug/Kg	₩	11/18/16 13:45	11/29/16 18:03	1
C4-Phenanthrenes/Anthracenes	ND		9.4	9.4	ug/Kg	₽	11/18/16 13:45	11/29/16 18:03	1
Pyrene	ND		9.4	4.2	ug/Kg		11/18/16 13:45	11/29/16 18:03	
C1-Chrysenes	ND		9.4		ug/Kg	₽	11/18/16 13:45	11/29/16 18:03	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	ac
2-methylnaphthalene-d10	86		30 - 20				/18/16 13:45	/29/16 18:03	
Fluorene-d10 (Surr)	0		30 - 30				/18/16 13:45	/29/16 18:03	(
Fluoranthene-d10	7		0 - 65				/18/16 13:45	/29/16 18:03	(
enzo(a)pyrene-d12	01		20 - 30				/18/16 13:45	/29/16 18:03	

TestAmerica Job ID: 480-109578-1

Client: AMEC Foster Wheeler E & I, Inc Project/Site: NYSDEC - Saranac Lake

Client Sample ID: 5160008HB40602

Date Collected: 11/07/16 15:10 Date Received: 11/12/16 09:00

Fluorene-d10 (Surr)

Lab Sample ID: 480-109578-2

atrix: Solid
Percent Solids: 69.7

Analyte	esult	Qualifier	L	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	4500		96	24	ug/Kg	₩	11/18/16 13:45	11/28/16 20:06	100
C2-Chrysenes	3500	J	96	96	ug/Kg	₽	11/18/16 13:45	11/28/16 20:06	100
C3-Chrysenes	970	J	96	96	ug/Kg	₽	11/18/16 13:45	11/28/16 20:06	100
C4-Chrysenes	340	J	96	96	ug/Kg	₽	11/18/16 13:45	11/28/16 20:06	100
Dibenz(a,h)anthracene	3100		96	21	ug/Kg	₽	11/18/16 13:45	11/28/16 20:06	100
C1-Fluoranthenes/pyrene	76000	J	96	96	ug/Kg	₽	11/18/16 13:45	11/28/16 20:06	100
C1-Fluorenes	23000	J	96	96	ug/Kg	\$	11/18/16 13:45	11/28/16 20:06	100
C2-Fluorenes	16000	J	96	96	ug/Kg	₽	11/18/16 13:45	11/28/16 20:06	100
C3-Fluorenes	4000	J	96	96	ug/Kg	₽	11/18/16 13:45	11/28/16 20:06	100
Naphthalene	480		96	37	ug/Kg	₽	11/18/16 13:45	11/28/16 20:06	100
C2-Naphthalenes	130000	J	96	96	ug/Kg	₽	11/18/16 13:45	11/28/16 20:06	100
C3-Naphthalenes	70000	J	96	96	ug/Kg	₽	11/18/16 13:45	11/28/16 20:06	100
C4-Naphthalenes	26000	J	96	96	ug/Kg	₽	11/18/16 13:45	11/28/16 20:06	100
Perylene	3800		96	23	ug/Kg	₽	11/18/16 13:45	11/28/16 20:06	100
C1-Phenanthrenes/Anthracenes	72000	J	96	96	ug/Kg	₽	11/18/16 13:45	11/28/16 20:06	100
C2-Phenanthrenes/Anthracenes	32000	J	96	96	ug/Kg	\$	11/18/16 13:45	11/28/16 20:06	100
C3-Phenanthrenes/Anthracenes	11000	J	96	96	ug/Kg	₽	11/18/16 13:45	11/28/16 20:06	100
C4-Phenanthrenes/Anthracenes	2100	J	96	96	ug/Kg	₽	11/18/16 13:45	11/28/16 20:06	100
C1-Chrysenes	12000	J	96	96	ug/Kg	\$	11/18/16 13:45	11/28/16 20:06	100
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	ac
2-methylnaphthalene-d10	6		30 - 20				/18/16 13:45	/28/16 20:06	00
Fluorene-d10 (Surr)	251	X	30 - 30				/18/16 13:45	/28/16 20:06	00
Fluoranthene-d10	388	X	0 - 65				1/18/16 13:45	/28/16 20:06	00
enzo(a)pyrene-d12	54		20 - 30				/18/16 13:45	/28/16 20:06	00

Analyte	esult	Qualifier	L	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	11000		1900	340	ug/Kg	<u> </u>	11/18/16 13:45	11/29/16 18:38	2000
2-Methylnaphthalene	17000		1900	510	ug/Kg	₩	11/18/16 13:45	11/29/16 18:38	2000
Acenaphthene	32000		1900	290	ug/Kg	₩	11/18/16 13:45	11/29/16 18:38	2000
Anthracene	32000		1900	340	ug/Kg	\$	11/18/16 13:45	11/29/16 18:38	2000
Benzo[a]anthracene	27000		1900	1000	ug/Kg	₽	11/18/16 13:45	11/29/16 18:38	2000
Benzo[a]pyrene	26000		1900	570	ug/Kg	₩	11/18/16 13:45	11/29/16 18:38	2000
Benzo[b]fluoranthene	12000		1900	770	ug/Kg	₽	11/18/16 13:45	11/29/16 18:38	2000
Benzo[e]pyrene	13000		1900	370	ug/Kg	₽	11/18/16 13:45	11/29/16 18:38	2000
Benzo[g,h,i]perylene	11000		1900	490	ug/Kg	₽	11/18/16 13:45	11/29/16 18:38	2000
Benzo[k]fluoranthene	17000	٨	1900	1100	ug/Kg	\$	11/18/16 13:45	11/29/16 18:38	2000
Chrysene	24000		1900	460	ug/Kg	₩	11/18/16 13:45	11/29/16 18:38	2000
Fluoranthene	82000		1900	1100	ug/Kg	₽	11/18/16 13:45	11/29/16 18:38	2000
Fluorene	27000		1900	710	ug/Kg	\$	11/18/16 13:45	11/29/16 18:38	2000
Indeno[1,2,3-cd]pyrene	8800		1900	310	ug/Kg	₽	11/18/16 13:45	11/29/16 18:38	2000
Phenanthrene	110000		3800	2100	ug/Kg	₽	11/18/16 13:45	12/05/16 12:13	4000
Pyrene	67000		1900	860	ug/Kg	\$	11/18/16 13:45	11/29/16 18:38	2000
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	ac
2-methylnaphthalene-d10	0	X	30 - 20				/18/16 13:45	/29/16 18:38	2000
2-methylnaphthalene-d10	0	X	30 - 20				/18/16 13:45	2/05/16 12:13	4000
Fluorene-d10 (Surr)	0	X	30 - 30				/18/16 13:45	/29/16 18:38	2000

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TestAmerica Buffalo

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2/05/16 12:13

Page 7 of 26 12/12/2016

/18/16 13:45

#### **Client Sample Results**

Client: AMEC Foster Wheeler E & I, Inc Project/Site: NYSDEC - Saranac Lake

TestAmerica Job ID: 480-109578-1

Lab Sample ID: 480-109578-2

atrix: Solid

Percent Solids: 69.7

**Client Sample ID: 5160008HB40602** 

Date Collected: 11/07/16 15:10 Date Received: 11/12/16 09:00

Method: 8270D SIM - Semivolatile O	rganic Con	npounds (G	C/MS SIM) - DL (Co	ntinued)		
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	ac
Fluoranthene-d10	0	X	0 - 65	/18/16 13:45	/29/16 18:38	2000
Fluoranthene-d10	0	X	0 - 65	/18/16 13:45	2/05/16 12:13	4000
enzo(a)pyrene-d12	0	X	20 - 30	/18/16 13:45	/29/16 18:38	2000
Benzo(a)pyrene-d12	0	X	20 - 30	/18/16 13:45	2/05/16 12:13	4000

TestAmerica Job ID: 480-109578-1

Client: AMEC Foster Wheeler E & I, Inc Project/Site: NYSDEC - Saranac Lake

Lab Sample ID: 480-109578-3

Client Sample ID: 516008 COMP-1 Lab Samp
Date Collected: 11/07/16 12:00

atrix: Solid

Date Received: 11/12/16 09:00

Method: 8260C - Volatile Orga	nic Compounds	by GC/MS -	TCLP						
Analyte	esult	Qualifier	L	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		0.010	0.0021	mg/L			11/24/16 16:56	10
2-Butanone (MEK)	ND		0.050	0.013	mg/L			11/24/16 16:56	10
Benzene	ND		0.010	0.0041	mg/L			11/24/16 16:56	10
Carbon tetrachloride	ND		0.010	0.0027	mg/L			11/24/16 16:56	10
Chlorobenzene	ND		0.010	0.0075	mg/L			11/24/16 16:56	10
Chloroform	ND		0.010	0.0034	mg/L			11/24/16 16:56	10
Tetrachloroethene	ND		0.010	0.0036	mg/L			11/24/16 16:56	10
Trichloroethene	ND		0.010	0.0046	mg/L			11/24/16 16:56	10
Vinyl chloride	ND		0.010	0.0090	mg/L			11/24/16 16:56	10
1,1-Dichloroethene	ND		0.010	0.0029	mg/L			11/24/16 16:56	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	ac
,2-Dichloroethane-d4 (Surr)	03		77 - 20			-		/24/16 16:56	0
4-Bromofluorobenzene (Surr)	98		73 - 20					/24/16 16:56	0
Toluene-d8 (Surr)	03		80 - 20					/24/16 16:56	0
Dibromofluoromethane (Surr)	03		75 - 23					/24/16 16:56	0

Analyte	esult	Qualifier	L	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.00046	mg/L		11/15/16 11:03	11/18/16 05:25	1
2,4-Dinitrotoluene	ND		0.0050	0.00045	mg/L		11/15/16 11:03	11/18/16 05:25	1
2,4,5-Trichlorophenol	ND		0.0050	0.00048	mg/L		11/15/16 11:03	11/18/16 05:25	1
2,4,6-Trichlorophenol	ND		0.0050	0.00061	mg/L		11/15/16 11:03	11/18/16 05:25	1
2-Methylphenol	ND		0.0050	0.00040	mg/L		11/15/16 11:03	11/18/16 05:25	1
3-Methylphenol	ND		0.010	0.00040	mg/L		11/15/16 11:03	11/18/16 05:25	1
4-Methylphenol	ND		0.010	0.00036	mg/L		11/15/16 11:03	11/18/16 05:25	1
Hexachlorobenzene	ND		0.0050	0.00051	mg/L		11/15/16 11:03	11/18/16 05:25	1
Hexachlorobutadiene	ND		0.0050	0.00068	mg/L		11/15/16 11:03	11/18/16 05:25	1
Hexachloroethane	ND		0.0050	0.00059	mg/L		11/15/16 11:03	11/18/16 05:25	1
Nitrobenzene	ND		0.0050	0.00029	mg/L		11/15/16 11:03	11/18/16 05:25	1
Pentachlorophenol	ND		0.010	0.0022	mg/L		11/15/16 11:03	11/18/16 05:25	1
Pyridine	ND		0.025	0.00041	mg/L		11/15/16 11:03	11/18/16 05:25	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	ac
2,4,6-Tribromophenol (Surr)	76		52 - 32				/15/16 11:03	/18/16 05:25	
2-Fluorobiphenyl	83		48 - 20				/15/16 11:03	/18/16 05:25	
2-Fluorophenol (Surr)	49		20 - 20				/15/16 11:03	/18/16 05:25	
Nitrobenzene-d5 (Surr)	85		46 - 20				/15/16 11:03	/18/16 05:25	
-Terphenyl-d14 (Surr)	05		67 - 50				/15/16 11:03	/18/16 05:25	
Phenol-d5 (Surr)	35		6 - 20				/15/16 11:03	/18/16 05:25	

Analyte	esult	Qualifier	L	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlordane (technical)	ND		0.0050	0.000073	mg/L		11/15/16 11:09	11/16/16 15:03	1
Endrin	ND		0.00050	0.000035	mg/L		11/15/16 11:09	11/16/16 15:03	1
gamma-BHC (Lindane)	ND		0.00050	0.000015	mg/L		11/15/16 11:09	11/16/16 15:03	1
Heptachlor	ND		0.00050	0.000021	mg/L		11/15/16 11:09	11/16/16 15:03	1
Heptachlor epoxide	ND		0.00050	0.000013	mg/L		11/15/16 11:09	11/16/16 15:03	1
Methoxychlor	ND		0.00050	0.000035	mg/L		11/15/16 11:09	11/16/16 15:03	1
Toxaphene	ND		0.0050	0.00030	mg/L		11/15/16 11:09	11/16/16 15:03	1

TestAmerica Buffalo

12/12/2016

Page 9 of 26

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#### **Client Sample Results**

Client: AMEC Foster Wheeler E & I, Inc Project/Site: NYSDEC - Saranac Lake

TestAmerica Job ID: 480-109578-1

Client Sample ID: 516008 COMP-1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte

Date Collected: 11/07/16 12:00 Date Received: 11/12/16 09:00 Lab Sample ID: 480-109578-3

atrix: Solid

Dil Fac

Analyzed

Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	ac
DCB Decachlorobiphenyl	82		20 - 20	-	/15/16 11:09	/16/16 15:03	
DCB Decachlorobiphenyl	83		20 - 20		/15/16 11:09	/16/16 15:03	
Tetrachloro-m-xylene	67		44 - 20		/15/16 11:09	/16/16 15:03	
Tetrachloro-m-xylene	74		44 - 20		/15/16 11:09	/16/16 15:03	

Analyte	esult	Qualifier	L	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.015	0.0056	mg/L		11/15/16 13:05	11/16/16 19:31	1
Barium	0.18	J	1.0	0.10	mg/L		11/15/16 13:05	11/16/16 19:31	1
Cadmium	ND		0.0020	0.00050	mg/L		11/15/16 13:05	11/16/16 19:31	1
Chromium	ND	^	0.020	0.010	mg/L		11/15/16 13:05	11/16/16 19:31	1
Lead	ND		0.020	0.0030	mg/L		11/15/16 13:05	11/16/16 19:31	1
Selenium	ND		0.025	0.0087	mg/L		11/15/16 13:05	11/16/16 19:31	1
Silver	ND		0.0060	0.0017	mg/L		11/15/16 13:05	11/16/16 19:31	1

Mercury	ND		0.00020	0.00012	mg/L		11/15/16 13:15	11/15/16 17:36	1
General Chemistry									
Analyte	esult	Qualifier	L	L	Unit	D	Prepared	Analyzed	Dil Fac
Burn Rate	ND		2.20	2.20	mm/sec			11/29/16 14:30	1
Cyanide, Reactive	ND		10	10	mg/Kg		11/15/16 08:30	11/15/16 18:23	1
Sulfide, Reactive	59.9		10	10	mg/Kg		11/15/16 08:30	11/15/16 15:20	1
Н	5.5	HF	0.1	0.1	SU			11/22/16 02:00	1

esult Qualifier

MDL Unit

Prepared

#### **Client Sample Results**

Client: AMEC Foster Wheeler E & I, Inc Project/Site: NYSDEC - Saranac Lake

TestAmerica Job ID: 480-109578-1

Client Sample ID: 516008 COMP-1

Date Collected: 11/07/16 12:00 Date Received: 11/12/16 09:00 Lab Sample ID: 480-109578-3

atrix: Solid Percent Solids: 75.7

Analyte	esult	Qualifier	L	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.23	0.044	mg/Kg	₩	11/14/16 14:19	11/15/16 03:07	1
PCB-1221	ND		0.23	0.044	mg/Kg	₩	11/14/16 14:19	11/15/16 03:07	1
PCB-1232	ND		0.23	0.044	mg/Kg	₽	11/14/16 14:19	11/15/16 03:07	1
PCB-1242	ND		0.23	0.044	mg/Kg	₽	11/14/16 14:19	11/15/16 03:07	1
PCB-1248	ND		0.23	0.044	mg/Kg	₩	11/14/16 14:19	11/15/16 03:07	1
PCB-1254	ND		0.23	0.11	mg/Kg	₩	11/14/16 14:19	11/15/16 03:07	1
PCB-1260	ND		0.23	0.11	mg/Kg	*	11/14/16 14:19	11/15/16 03:07	1
PCB-1262	ND		0.23	0.11	mg/Kg	₩	11/14/16 14:19	11/15/16 03:07	1
PCB-1268	ND		0.23	0.11	mg/Kg	₩	11/14/16 14:19	11/15/16 03:07	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	ac
Tetrachloro-m-xylene	8		60 - 54				/14/16 14:19	/15/16 03:07	
Tetrachloro-m-xylene	71		60 - 54				/14/16 14:19	/15/16 03:07	
DCB Decachlorobiphenyl	78		65 - 74				/14/16 14:19	/15/16 03:07	
DCB Decachlorobiphenyl	66		65 - 74				/14/16 14:19	/15/16 03:07	

TestAmerica Job ID: 480-109578-1

Client: AMEC Foster Wheeler E & I, Inc Project/Site: NYSDEC - Saranac Lake

**Client Sample ID: 516008SB33012** 

Date Collected: 11/10/16 15:00 Date Received: 11/12/16 09:00

2-methylnaphthalene-d10

Fluorene-d10 (Surr)

enzo(a)pyrene-d12

Fluoranthene-d10

Lab Sample ID: 480-109578-4

atrix: Solid
Percent Solids: 67.1

Analyte	esult	Qualifier	L	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	1100		100	26	ug/Kg	₩	11/18/16 13:45	11/28/16 20:41	100
Benzo[b]fluoranthene	4200		100	41	ug/Kg	₽	11/18/16 13:45	11/28/16 20:41	100
Benzo[e]pyrene	4300		100	20	ug/Kg	₽	11/18/16 13:45	11/28/16 20:41	100
Benzo[g,h,i]perylene	3800		100	26	ug/Kg	\$	11/18/16 13:45	11/28/16 20:41	100
C2-Chrysenes	1400	J	100	100	ug/Kg	₽	11/18/16 13:45	11/28/16 20:41	100
C3-Chrysenes	300	J	100	100	ug/Kg	₽	11/18/16 13:45	11/28/16 20:41	100
C4-Chrysenes	ND		100	100	ug/Kg	\$	11/18/16 13:45	11/28/16 20:41	100
Dibenz(a,h)anthracene	940		100	23	ug/Kg	₽	11/18/16 13:45	11/28/16 20:41	100
C1-Fluoranthenes/pyrene	39000	J	100	100	ug/Kg	₽	11/18/16 13:45	11/28/16 20:41	100
C1-Fluorenes	8500	J	100	100	ug/Kg	₽	11/18/16 13:45	11/28/16 20:41	100
C2-Fluorenes	6100	J	100	100	ug/Kg	₽	11/18/16 13:45	11/28/16 20:41	100
C3-Fluorenes	2200	J	100	100	ug/Kg	₽	11/18/16 13:45	11/28/16 20:41	100
Indeno[1,2,3-cd]pyrene	3100		100	17	ug/Kg	₽	11/18/16 13:45	11/28/16 20:41	100
C2-Naphthalenes	67000	J	100	100	ug/Kg	₽	11/18/16 13:45	11/28/16 20:41	100
C3-Naphthalenes	40000	J	100	100	ug/Kg	₽	11/18/16 13:45	11/28/16 20:41	100
C4-Naphthalenes	16000	J	100	100	ug/Kg	₽	11/18/16 13:45	11/28/16 20:41	100
Perylene	1300		100	24	ug/Kg	₽	11/18/16 13:45	11/28/16 20:41	100
C1-Phenanthrenes/Anthracenes	31000	J	100	100	ug/Kg	₽	11/18/16 13:45	11/28/16 20:41	100
C2-Phenanthrenes/Anthracenes	14000	J	100	100	ug/Kg	₽	11/18/16 13:45	11/28/16 20:41	100
C3-Phenanthrenes/Anthracenes	5000	J	100	100	ug/Kg	₽	11/18/16 13:45	11/28/16 20:41	100
C4-Phenanthrenes/Anthracenes	1300	J	100	100	ug/Kg	₽	11/18/16 13:45	11/28/16 20:41	100
C1-Chrysenes	4700	J	100	100	ug/Kg	\$	11/18/16 13:45	11/28/16 20:41	100
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	ac

Surrogate	%Recovery Quali	ifier Limits	Prepared	Analyzed	ac
2-methylnaphthalene-d10	87	30 - 20	/18/16 13:45	/28/16 20:41	00
Fluorene-d10 (Surr)	53 X	30 - 30	/18/16 13:45	/28/16 20:41	00
Fluoranthene-d10	88 X	0 - 65	/18/16 13:45	/28/16 20:41	00
enzo(a)pyrene-d12	73	20 - 30	/18/16 13:45	/28/16 20:41	00

Analyte	esult	Qualifier	L	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	11000		1300	230	ug/Kg	*	11/18/16 13:45	11/29/16 19:14	1250
2-Methylnaphthalene	18000		1300	340	ug/Kg	≎	11/18/16 13:45	11/29/16 19:14	1250
Acenaphthene	12000		1300	190	ug/Kg	≎	11/18/16 13:45	11/29/16 19:14	1250
Anthracene	10000		1300	230	ug/Kg	₽	11/18/16 13:45	11/29/16 19:14	1250
Benzo[a]anthracene	4900		1300	670	ug/Kg	₽	11/18/16 13:45	11/29/16 19:14	1250
Benzo[a]pyrene	4000		1300	380	ug/Kg	≎	11/18/16 13:45	11/29/16 19:14	1250
Benzo[k]fluoranthene	3200	۸	1300	710	ug/Kg	\$	11/18/16 13:45	11/29/16 19:14	1250
Chrysene	5400		1300	300	ug/Kg	₽	11/18/16 13:45	11/29/16 19:14	1250
Fluoranthene	12000		1300	760	ug/Kg	₽	11/18/16 13:45	11/29/16 19:14	1250
Fluorene	7200		1300	480	ug/Kg	\$	11/18/16 13:45	11/29/16 19:14	1250
Naphthalene	11000		1300	500	ug/Kg	₽	11/18/16 13:45	11/29/16 19:14	1250
Phenanthrene	26000		1300	710	ug/Kg	₽	11/18/16 13:45	11/29/16 19:14	1250
Pyrene	13000		1300	570	ug/Kg	₽	11/18/16 13:45	11/29/16 19:14	1250
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	ac

TestAmerica Buffalo

/29/16 19:14

/29/16 19:14

/29/16 19:14

/29/16 19:14

/18/16 13:45

/18/16 13:45

/18/16 13:45

/18/16 13:45

30 - 20

30 - 30

0 - 65

20 - 30

0 X

0 X

0 X

0 X

7

8

9

10

11

250

250

250

250

TestAmerica Job ID: 480-109578-1

Client: AMEC Foster Wheeler E & I, Inc Project/Site: NYSDEC - Saranac Lake

Date Received: 11/12/16 09:00

Lab Sample ID: 480-109578-5

atrix: Solid Percent Solids: 79.3

Client Sample ID: 516008HB40901 Date Collected: 11/11/16 10:10

Analyte	esult	Qualifier	L	MDL	Unit	D	Prepared	Analyzed	Dil Fa
1-Methylnaphthalene	2000		86	15	ug/Kg	<u> </u>	11/18/16 13:45	11/28/16 21:17	10
2-Methylnaphthalene	290		86	23	ug/Kg	₩	11/18/16 13:45	11/28/16 21:17	10
Acenaphthylene	410		86	22	ug/Kg	₩	11/18/16 13:45	11/28/16 21:17	10
Anthracene	3100		86	15	ug/Kg	₽	11/18/16 13:45	11/28/16 21:17	10
Benzo[a]anthracene	2800		86	45	ug/Kg	₩	11/18/16 13:45	11/28/16 21:17	10
Benzo[a]pyrene	4100		86	26	ug/Kg	₽	11/18/16 13:45	11/28/16 21:17	10
Benzo[b]fluoranthene	1900		86	35	ug/Kg	\$	11/18/16 13:45	11/28/16 21:17	10
Benzo[e]pyrene	2300		86	17	ug/Kg	₽	11/18/16 13:45	11/28/16 21:17	10
Benzo[g,h,i]perylene	2000		86	22	ug/Kg	₽	11/18/16 13:45	11/28/16 21:17	10
Benzo[k]fluoranthene	2500	٨	86	48	ug/Kg	₽	11/18/16 13:45	11/28/16 21:17	10
Chrysene	2900		86	21	ug/Kg	₽	11/18/16 13:45	11/28/16 21:17	10
C2-Chrysenes	610	J	86	86	ug/Kg	₽	11/18/16 13:45	11/28/16 21:17	10
C3-Chrysenes	130	J	86	86	ug/Kg	₽	11/18/16 13:45	11/28/16 21:17	10
C4-Chrysenes	ND		86	86	ug/Kg	₽	11/18/16 13:45	11/28/16 21:17	10
Dibenz(a,h)anthracene	500		86	19	ug/Kg	₽	11/18/16 13:45	11/28/16 21:17	10
C1-Fluoranthenes/pyrene	8800	J	86	86	ug/Kg	\$	11/18/16 13:45	11/28/16 21:17	10
Fluorene	3200		86	32	ug/Kg	₽	11/18/16 13:45	11/28/16 21:17	10
C1-Fluorenes	1300	J	86	86	ug/Kg	₽	11/18/16 13:45	11/28/16 21:17	10
C2-Fluorenes	1000	J	86	86	ug/Kg	₽	11/18/16 13:45	11/28/16 21:17	10
C3-Fluorenes	460	J	86	86	ug/Kg	₽	11/18/16 13:45	11/28/16 21:17	10
Indeno[1,2,3-cd]pyrene	1700		86	14	ug/Kg	₽	11/18/16 13:45	11/28/16 21:17	10
Naphthalene	1800		86	34	ug/Kg	φ.	11/18/16 13:45	11/28/16 21:17	10
C2-Naphthalenes	8300	J	86	86	ug/Kg	₩	11/18/16 13:45	11/28/16 21:17	10
C3-Naphthalenes	4400	J	86	86	ug/Kg	₩	11/18/16 13:45	11/28/16 21:17	10
C4-Naphthalenes	2000	J	86	86	ug/Kg		11/18/16 13:45	11/28/16 21:17	10
Perylene	520		86	21	ug/Kg	₩	11/18/16 13:45	11/28/16 21:17	10
C1-Phenanthrenes/Anthracenes	5000	J	86	86	ug/Kg	₩	11/18/16 13:45	11/28/16 21:17	10
C2-Phenanthrenes/Anthracenes	2800	J	86	86	ug/Kg		11/18/16 13:45	11/28/16 21:17	10
C3-Phenanthrenes/Anthracenes	1100	J	86	86	ug/Kg	₩	11/18/16 13:45	11/28/16 21:17	10
C4-Phenanthrenes/Anthracenes	200	J	86	86	ug/Kg	₩	11/18/16 13:45	11/28/16 21:17	10
C1-Chrysenes	1700	J	86	86	ug/Kg		11/18/16 13:45	11/28/16 21:17	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	ас
2-methylnaphthalene-d10	75		30 - 20				/18/16 13:45	/28/16 21:17	
Fluorene-d10 (Surr)	47	X	30 - 30				/18/16 13:45	/28/16 21:17	00
Fluoranthene-d10	50		0 - 65				/18/16 13:45	/28/16 21:17	00
enzo(a)pyrene-d12	91		20 - 30				/18/16 13:45	/28/16 21:17	0

Analyte	esult	Qualifier	L	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	6700		350	52	ug/Kg	₩	11/18/16 13:45	11/29/16 19:50	400
Fluoranthene	6200		350	210	ug/Kg	₽	11/18/16 13:45	11/29/16 19:50	400
Phenanthrene	9100		350	190	ug/Kg	₽	11/18/16 13:45	11/29/16 19:50	400
Pyrene	5600		350	150	ug/Kg	*	11/18/16 13:45	11/29/16 19:50	400
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	ac
2-methylnaphthalene-d10	79		30 - 20				/18/16 13:45	/29/16 19:50	400
Fluorene-d10 (Surr)	0	X	30 - 30				/18/16 13:45	/29/16 19:50	400
Fluoranthene-d10	39		0 - 65				/18/16 13:45	/29/16 19:50	400
enzo(a)pyrene-d12	68		20 - 30				/18/16 13:45	/29/16 19:50	400

TestAmerica Buffalo

Page 13 of 26

12/12/2016

Client: AMEC Foster Wheeler E & I, Inc Project/Site: NYSDEC - Saranac Lake

TestAmerica Job ID: 480-109578-1

Client Sample ID: 516008HB40303

**Client Sample ID: 516008HB40303** 

Date Collected: 11/07/16 10:45 Date Received: 11/12/16 09:00

Date Collected: 11/07/16 10:45

Date Received: 11/12/16 09:00

Lab Sample ID: 480-109578-1

Matrix: Solid

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	nalysis	isture			472	/17/16 1 :35	KSH	TAL BUR

Lab Sample ID: 480-109578-1

Matrix: Solid

Percent Solids: 70.9

Batch Batch Dilution Batch Prepared Method Run Factor Number or Analyzed Prep Type Туре Analyst Lab Total/NA 3550C 512 TAL BUR Prep /18/16 13:45 JM Total/NA 8270D SIM 0 852 K1P TAL BUR nalysis /29/16 18:03

Client Sample ID: 5160008HB40602 Lab Sample ID: 480-109578-2

Date Collected: 11/07/16 15:10 Matrix: Solid

Date Received: 11/12/16 09:00

Date Collected: 11/07/16 12:00

Batch Batch Dilution Batch Prepared Method Factor Number or Analyzed Prep Type Type Run Analyst Lab Total/NA nalysis isture 472 /17/16 1 :35 KSH TAL BUR

Client Sample ID: 5160008HB40602 Lab Sample ID: 480-109578-2

Date Collected: 11/07/16 15:10 **Matrix: Solid** Date Received: 11/12/16 09:00 Percent Solids: 69.7

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			1512	1/18/16 13:45	JM	TAL BUR
Total/NA	nalysis	8270D SIM		100	1755	1/28/16 20:06	P1M	TAL BUR
Total/NA	Prep	3550C	DL		1512	1/18/16 13:45	JM	TAL BUR
Total/NA	nalysis	8270D SIM	DL	2000	1852	1/29/16 18:38	K1P	TAL BUR
Total/NA	Prep	3550C	DL		1512	1/18/16 13:45	JM	TAL BUR
Total/NA	nalysis	8270D SIM	DL	4000	12035	12/05/16 12:13	P1M	TAL BUR

Client Sample ID: 516008 COMP-1 Lab Sample ID: 480-109578-3

Date Received: 11/12/16 09:00

_	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
TCLP	Leach	131			331420	/14/16 08:21	S	TAL BUF
TCLP	nalysis	8260C		0	333405	/24/16 16:56	NEA	TAL BUF
TCLP	Leach	131			331409	/14/16 10:38	S	TAL BUF
TCLP	Prep	3510C			331703	/15/16 1 :03	SMP	TAL BUF
TCLP	nalysis	8270D			332286	/18/16 05:25	LMW	TAL BUF
TCLP	Leach	131			331409	/14/16 10:38	S	TAL BUF
TCLP	Prep	3510C			331704	/15/16 1 :09	SMP	TAL BUF
TCLP	nalysis	8081B			331903	/16/16 15:03	N	TAL BUF
TCLP	Leach	131			331409	/14/16 10:38	S	TAL BUF

TestAmerica Buffalo

12/12/2016

**Matrix: Solid** 

Page 14 of 26

TestAmerica Job ID: 480-109578-1

Client: AMEC Foster Wheeler E & I, Inc Project/Site: NYSDEC - Saranac Lake

-3

Client Sample ID: 516008 COMP-1

Lab Sample ID: 480-109578-3

Matrix: Solid

Date Collected: 11/07/16 12:00 Date Received: 11/12/16 09:00

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
TCLP	Prep	3010A			331730	1/15/16 13:05	VZ	TAL BUF
TCLP	nalysis	6010C			332163	1/16/16 19:31	SLB	TAL BUF
TCLP	Leach	131			331409	1/14/16 10:38	S	TAL BUF
TCLP	Prep	7470A			331732	1/15/16 13:15	RMZ	TAL BUF
TCLP	nalysis	7470A			331870	1/15/16 17:36	RMZ	TAL BUF
Total/NA	nalysis	1030			406957	1/29/16 14:30	YAH	TAL EDI
Total/NA	Prep	7.3.3			331799	1/15/16 08:30	DL	TAL BUF
Total/NA	nalysis	9012			331821	/15/16 18:23	DL	TAL BUF
Total/NA	Prep	7.3.4			331801	/15/16 08:30	DL	TAL BUF
Total/NA	nalysis	9034			331803	1/15/16 15:20	DL	TAL BUF
Total/NA	nalysis	9045D			332948	1/22/16 02:00	DJS	TAL BUF
Total/NA	nalysis	isture			331675	1/15/16 08:49	CSW	TAL BUF

Client Sample ID: 516008 COMP-1 Lab Sample ID: 480-109578-3

Date Collected: 11/07/16 12:00

Matrix: Solid

Date Received: 11/12/16 09:00 Percent Solids: 75.7

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			331530	/14/16 14:19	S	TAL BUF
Total/NA	nalysis	8082A			331557	/15/16 03:07	JMO	TAL BUF

Client Sample ID: 516008SB33012 Lab Sample ID: 480-109578-4

Date Collected: 11/10/16 15:00

Matrix: Solid

Date Received: 11/12/16 09:00

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	nalysis	isture			472	/17/16 1 :35	KSH	TAL BUR

Date Collected: 11/10/16 15:00
Date Received: 11/12/16 09:00

Matrix: Solid Percent Solids: 67.1

Batch Batch Dilution Batch Prepared Method Prep Type Type Run Factor Number or Analyzed Analyst Lab Prep Total/NA 3550C 1512 1/18/16 13:45 TAL BUR JM Total/NA nalysis 8270D SIM 100 1755 1/28/16 20:41 P1M TAL BUR Total/NA Prep 3550C DL 1512 1/18/16 13:45 TAL BUR JM TAL BUR Total/NA nalysis 8270D SIM DL 1250 1852 1/29/16 19:14 K1P

#### **Lab Chronicle**

Client: AMEC Foster Wheeler E & I, Inc Project/Site: NYSDEC - Saranac Lake

TestAmerica Job ID: 480-109578-1

**Client Sample ID: 516008HB40901** 

**Client Sample ID: 516008HB40901** 

Lab Sample ID: 480-109578-5 Date Collected: 11/11/16 10:10

Matrix: Solid

Date Received: 11/12/16 09:00

Date Collected: 11/11/16 10:10

Date Received: 11/12/16 09:00

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	nalysis	isture			472	/17/16 1 :35	KSH	TAL BUR

Lab Sample ID: 480-109578-5

**Matrix: Solid** 

Percent Solids: 79.3

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			1512	1/18/16 13:45	JM	TAL BUR
Total/NA	nalysis	8270D SIM		100	1755	1/28/16 21:17	P1M	TAL BUR
Total/NA	Prep	3550C	DL		1512	1/18/16 13:45	JM	TAL BUR
Total/NA	nalysis	8270D SIM	DL	400	1852	1/29/16 19:50	K1P	TAL BUR

#### Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

 $TAL\ BUR = TestAmerica\ Burlington,\ 30\ Community\ Drive,\ Suite\ 1\ \ ,\ South\ Burlington,\ VT\ 05403,\ TEL\ (802)660-1990$ 

TAL EDI = TestAmerica Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900

TestAmerica Job ID: 480-109578-1

2

Client: AMEC Foster Wheeler E & I, Inc Project/Site: NYSDEC - Saranac Lake

#### Laboratory: TestAmerica Buffalo

Unless otherwise noted, all analytes for this laboratory were c vered under each certification below.

Authority	Program		EPA Region	Certification ID	Expiration Date
New York	NELAP		2	0026	03-31-17
The following analytes	are included in this report, b	ut certification is not of	fered by the governing a	authority:	
nalysis Method	Prep Method	atrix	nalyte	<b>;</b>	
7470A	7470A	Solid	ercur	/	
9012	7.3.3	Solid	Cyanio	de, Reactive	
9034	7.3.4	Solid	Sulfide	e, Reactive	
isture		Solid	Perce	nt Moisture	
isture		Solid	Perce	nt Solids	

#### **Laboratory: TestAmerica Burlington**

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Connecticut	State Program		PH-0751	09-30-17
DE Haz. Subst. Cleanup Act (HSCA)	State Program	3	NA	02-02-17
lorida	NELAP	4	87467	06-30-17
L-A-B	DoD ELAP		L2336	02-26-17
aine	State Program		VT00008	04-17-17
innesota	NELAP	5	050-999-436	12-31-17
New Hampshire	NELAP		2006	12-18-16 *
New Jersey	NELAP	2	VT972	06-30-17
New York	NELAP	2	10391	04-01-17
Pennsylvania	NELAP	3	68-00489	04-30-17
Rhode Island	State Program		LAO00298	12-30-16
US Fish & Wildlife	ederal		LE-058448-0	10-31-17
USDA	ederal		P330-1 -00093	12-05-19
Vermont	State Program		VT-4000	12-31-16
Virginia	NELAP	3	460209	12-14-16 *

#### Laboratory: TestAmerica Edison

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Connecticut	State Program		PH-0200	09-30-18
DE Haz. Subst. Cleanup Act (HSCA)	State Program	3	N/A	12-31-16
New Jersey	NELAP	2	12028	06-30-17
New York	NELAP	2	1452	03-31-17
Pennsylvania	NELAP	3	68-00522	02-28-17
Rhode Island	State Program		LAO00132	12-30-16
USDA	ederal		NJCA-003-08	04-04-17

TestAmerica Buffalo

12/12/2016

**17** 

9

10

1

<sup>\*</sup> Certification renewal pending - certification considered valid.

#### **Method Summary**

Client: AMEC Foster Wheeler E & I, Inc Project/Site: NYSDEC - Saranac Lake

TestAmerica Job ID: 480-109578-1

Method	Method Description	Protocol	Laboratory
3260C	Volatile Organic Compounds by GC/MS	SW846	TAL BUF
3270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL BUF
3270D SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL BUR
3081B	Organochlorine Pesticides (GC)	SW846	TAL BUF
3082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL BUF
6010C	Metals (ICP)	SW846	TAL BUF
7470A	Mercury (CVAA)	SW846	TAL BUF
030	Ignitability, Solids	SW846	TAL EDI
012	Cyanide, Reactive	SW846	TAL BUF
9034	Sulfide, Reactive	SW846	TAL BUF
9045D	pH	SW846	TAL BUF
/loisture	Percent Moisture	EPA	TAL BUR
Noisture	Percent Moisture	EPA	TAL BUF

#### Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

#### Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

TAL BUR = TestAmerica Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

TAL EDI = TestAmerica Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900

## **Sample Summary**

Client: AMEC Foster Wheeler E & I, Inc Project/Site: NYSDEC - Saranac Lake

TestAmerica Job ID: 480-109578-1

ab Sample ID	Client Sample ID	Matrix	Collected	Received
480-109578-1	516008HB40303	Solid	11/07/16 10:45	11/12/16 09:00
480-109578-2	5160008HB40602	Solid	11/07/16 15:10	11/12/16 09:00
480-109578-3	516008 COMP-1	Solid	11/07/16 12:00	11/12/16 09:00
480-109578-4	516008SB33012	Solid	11/10/16 15:00	11/12/16 09:00
480-109578-5	516008HB40901	Solid	11/11/16 10:10	11/12/16 09:00

2

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Job Number: 480-109578-1

Client: AMEC Foster Wheeler E & I, Inc

List Source: TestAmerica Buffalo

Login Number: 109578 List Number: 1

Creator: Wallace, Cameron

erouter: Trainage, earneren		
Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
ppropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested S/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
ultiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	С
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	N/A	

9

10

Job Number: 480-109578-1

Client: AMEC Foster Wheeler E & I, Inc

List Source: TestAmerica Burlington

List Creation: 11/15/16 05:13 PM

List Number: 3

Login Number: 109578

Creator: Lavigne, Scott M		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td>Lab does not accept radioactive samples.</td>	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	959185
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.4C
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Workshare COC
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
ppropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested S/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
ultiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	No analysis requiring residual chlorine check assigned.

6

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10

Client: AMEC Foster Wheeler E & I, Inc Job Number: 480-109578-1

Login Number: 109578
List Source: TestAmerica Edison
List Number: 2
List Creation: 11/15/16 10:27 AM

Creator: Armbruster, Chris

	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	N/A	
The cooler's custody seal, if present, is intact.	True	959184
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.7°C IR7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
ppropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested S/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
ultiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

N/A

6	









Residual Chlorine Checked.

# Chain of Custody Record

Temperature on Receipt

**TestAmerica** 



721 4-50 00000		Drink	ing i	Wate	97	Yes		Not				THE	LEA	DEF	IN.	ENV	IRON	MEN	TAL T	ESTING	à	40	0-109578 COC
Almoc Fosjer Wheeler		Arajea	Mo	ave	- 5	ideli	MG	ck							[	1960	4 V	1/10	12	یاه	C	ain of Custody A 294	888
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Portland ME	04101	D)	Contact Co. II	i fi	m	41	L	byico	nlac	15.00	de	er		2	400	1 A 1 A 1 A 1 A 1 A 1 A 1 A 1 A 1 A 1 A	palysi ire sp	s (Atta	neede	if of)			
Project Name and Location (State)  Savonac Lake Re-Vision, Contract Purchase Order Objete No.	. Saranac	Carde	1110)				14	27	595					SAME	N Kath	A SILE	TCLP VOIL						Instructions/
Contractination of the Contraction of the Contracti	NI			A	latro	*				ntair esen	-			d	4	1 0	2		Н			Condition	ns of Receipt
Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	*	Apuente	Stock	80%	72554	HIRSON	AMOR	1101	WINCH	Z34C/	0.00	01-70	0 20	82,400, CPRIM, CONTR.	BZ60						
516008HB40303	11/07/16	1045			X								)										
31600084840602	1407/16	1510			X		3			L			7										
SILEOB COMP-1	14/07/14	1200			X		4							X	X	X	X					composite	Sample For
£160085833012	11/10/16	ISDO				X	1						V									200	MORTOCIANOS
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Turn Around Time Required  ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Day			-									is (Spe											
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2. Relinquished By  3. Relinquished By		Date			Tirs	10				erveu								_			1	Oate	Time
Comments						-		1			-		-	_		/	7	1	11				
DISTRIBUTION: WHITE - Returned to Client with Report	CANARY - Stavs w	nith the Sam	ole:	PINK	- Fie	id Co	OV.	_		_		_	_	-	-	1	1	7	11	-			

#### TestAmerica Buffalo

Page

24 of 26

12/12/2016

Chain of Custody Record 16 Hazelwood Drive Amherst, NY 14228-2298 Phone (716) 891-2600 Fax (716) 691-7991 LEADER IN ENVIRONMENTAL TESTING 480-109578 Chain of Custody Sampler: Client Information (Sub Contract Lab) Fischer, Brian J -32299.1 Client Contact: E-Mail State of Origin Shipping/Receiving brian fischer@testamericainc.com New York Page 1 of 1 coreditations Required (See note): TestAmerica Laboratories, Inc. NELAP - New York 480-109578-1 Due Date Requested: Preservation Codes: 30 Community Drive, Suite 11, 12/6/2016 Analysis Requested A-HCL M - Hickorne TAT Requested (days): B-MaCH N - None South Burlington C - Zh Acetate O - Ashlace State, Zip. 82760\_SIM\_ALK/3550C Alkylated PAHs IIPA34 D-Neic Acid P - Na204S VT, 05403 E-NaHS04 Q-Na2908 F-MeOR R - Na28203 Phone: G - Amphior 5-H2904 802-660-1990(Tel) 802-660-1919(Fax) H - Ascorbic Apid T - TSP Dodecahydrate WD# 1-los U - Adatone Total Number of containers J - Di Water V-MCAA roject Name: K-EDTA W-pH4-5 Project # L-EDA 2 - other (specify) NYSDEC - Saranac Lake 48008268 Matrix Sample Type Sreeks. (C=comp. Sample Sample Identification - Client ID (Lab ID) Sample Date Time G=grab) Special Instructions/Note: Preservation Code: 10:45 516008HB40303 (480-109578-1) 11/7/16 Solid XX Eastern 15:10 5160008HB40602 (480-109578-2) 11/7/18 Solid XX 3 Eastern 15:00 516008\$B33012 (480-109578-4) 11/10/16 Solid XX 3 Eastern 10:10 516008HB40901 (480-109578-5) 11/11/18 Solid XX Eastern

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, inc. places the eveneration of method, assigned & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analysed, the samples must be shipped back to the TestAmerica abbretory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica. aborationes, Inc. attention immediately. If all requested accreditations are current to date, neturn the signed Chain of Custody attesting to east complicance to Testimence Laboratories, Inc.

Unconfirmed			Return To Client	Disposal By Lab Archive For	an 1 month) Months
Deliverable Requested: I, II, III, IV, Other (specify)	Primary Deliverable Rank: 1		Special Instructions/QC Requires		
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Custody Seals Intact: Custody Seal No.	Ship-samora		Cooler Temperature(s) *C and Other	r Remarks:	









Page 26 of 26

# TestAmerica Buffalo 10 Hazelwood Drive Amherst, NY 14228-2298 Chain of Custody Record



**TestAmerica** 

Phone (716) 691-2600 Fax (718) 691-7991  Client Information (Sub Contract Lab)	Sampler			Lab Fisc	ther, B	Snan	j					Can	ner Tis	cking	No(s)				COC No: 480-32298.1		
Client Contact Shipping/Receiving	Phone.		3	E-M bria	at n fisch	her@	testa	meric	ainc.o	om.			ed 0 w Yo						Page: Page 1 of 1		
Company TestAmerica Laboratories, Inc.								York	See no	(4)								П	Jub # 480-109578-1		
Address:	Due Date Requeste 12/6/2016	d;			Т					nalys	ie D		ctor	į.				7	Preservation Codes:	(i	
777 New Durham Road, , Cox.	TAT Requested (da	na):		_	20			1	AI	ialys	is n	eque	Stec	-			-	14		- Hexane - None	
Cry. Edison	1, 53				100		ш		1 1		-11		ш			ш		-61	C - Zn Apetate O -	- AsNaO2	
State, Zip. NJ, 08817	Ú.				1			1	H									20	E - NaHSO4 Q -	- Na2O4S - Na2SO3 - Na2S2O3	
Phone: 732-549-3900(Tel): 732-549-3679(Fax)	PO#				(0)		1		Ш			Ш.					- 1	S	G - Amotion S - H - Ascertic Acid T -	- H2SO4 - TSP Dodecah	hydrate
Email	WO#.				s or ?	(gg)			Н				ĺ					LAC B	J-DI Water V-	- Acatone - MCAA - pH 4-5	
Project Name: NYSDEC - Saranac Lake	Project #: 48008268				Sample (Yes or No)	9			Ш	П										- other (specify)	0
See	SSOW				Samp				Ш								- 8	8	Other:		
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	2.00	Matrix (seess, Seess, Occasion, Occasion,	Field Filtered	TRACOGRAMMETERS STANCE SOLICED												Yotal Number	Special Instru	uctions/No	đe:
yell dische te en-	(A)	> <	Preservat	on Code.	X	$\times$	9		網	製品	N.	0.0	1	132	14.5	120	748	X	STATE OF STREET	State of the last	(李) (10) (1
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Note: Since laboratory accreditations are subject to change, TestAmerica Laborato currendly maintain accreditation in the State of Origin listed above for analysis test Laboratories, Inc. attention immediately. If all requested accreditations are current	ries, inc places the o ulmatrix being analyze to date, return the sig	wmership of me d, the samples ned Chain of C	ethod, analyte & must be shipped outboy attesting	accreditation t back to the to said comp	complia TestAm licance	ence us verica i to Tes	pon ou abons tAmer	t subco lony or o rics Lab	ntract in ther in pratorie	aborato structor is, Inc.	nes T	his sen	ple sh	ipmen kny ch	t is for	warder to acc	d under reditati	on st	in-of-custody. If the labor tatus should be brought to	ratory does not o TestAmenca	
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## **ANALYTICAL REPORT**

TestAmerica Laboratories, Inc.

TestAmerica Buffalo 10 Hazelwood Drive Amherst, NY 14228-2298 Tel: (716)691-2600

TestAmerica Job ID: 480-110025-1

Client Project/Site: NYSDEC - Saranac Lake

#### For:

AMEC Foster Wheeler E & I, Inc 511 Congress St. Suite 200 Portland, Maine 04101

Attn: Ms. Julie Ricardi

Joseph V. Gracomagge

Authorized for release by: 12/12/2016 10:35:56 AM

Joe Giacomazza, Project Management Assistant II joe.giacomazza@testamericainc.com

Designee for

Brian Fischer, Manager of Project Management (716)504-9835

brian.fischer@testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



## **Table of Contents**

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Client Sample Results	
Lab Chronicle	8
Certification Summary	
Method Summary	10
Sample Summary	11
Receipt Checklists	12
Chain of Custody	14

3

4

5

7

8

46

## **Definitions/Glossary**

Client: AMEC Foster Wheeler E & I, Inc Project/Site: NYSDEC - Saranac Lake TestAmerica Job ID: 480-110025-1

#### **Qualifiers**

#### C Semi VOA

X Surrogate is outside control limits

**Metals** 

Qualifier Description

Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

eneral Chemistry

Qualifier Qualifier Description

HF Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

ossary

Abbreviation These commonly used abbreviations may or may not be present in this report.

Eisted under the "D" column to designate that the result is reported on a dry weight basis

%R Percent Recovery

CFL Contains Free Liquid

CNF Contains no Free Liquid

DER Duplicate error ratio (normalized absolute difference)

Dil Fac Dilution Factor

DL, RA, RE, IN Indicates a Dilution, Re-analysis, Re-extraction, r additional Initial metals/anion analysis of the sample

DLC Decision level concentration

MDA Minimum detectable activity

EDL Estimated Detection Limit

MDC Minimum detectable concentration

MDL Method Detection Limit
ML Minimum Level (Dioxin)
No. Coloridated

NC Not Calculated

ND Not detected at the reporting limit (or MDL or EDL if shown)

PQL Practical Quantitation Limit

QC Quality Control
RER Relative error ratio

RL Reporting Limit or Requested Limit (Radiochemistry)

RPD Relative Percent Difference, a measure of the relative difference between two points

TEF Toxicity Equivalent Factor (Dioxin)
TEQ Toxicity Equivalent Quotient (Dioxin)

C

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## **Case Narrative**

Client: AMEC Foster Wheeler E & I, Inc Project/Site: NYSDEC - Saranac Lake TestAmerica Job ID: 480-1 0025-1

ID: 480-110025-1

Laboratory: TestAmerica Buf alo

**Narrative** 

Narrative 480-110025-1

#### Receipt

The sample was received on 1 /22/2016 10:00 AM; the sample arrived in good condition, properly preserved and, where required, n ice. The temperature of the cooler at receipt was 4.0° C.

#### **GC/MS VOA**

Method(s) 8260C: The following sample was diluted due to the nature of the TCLP sample matrix: 516008 COMP-2 (480-110025-1) and (LB 480-333634/1-A). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC/MS Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### GC Semi VOA

Method(s) 8082A: Surrogate recovery for the following samples was outside control limits: 516008 COMP-2 (480-110025-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8082A: The continuing calibration verification (CCV) associated with batch 480-333536 recovered above the upper control limit for PCB-1262 and PCB-1268. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: 516008 COMP-2 (480-110025-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### General Chemistry

Method(s) 9045C, 9045D: This analysis is normally performed in the field and has a method-defined holding time of 15 minutes. The following sample has been qualified with the "HF" flag to indicate analysis was performed in the laboratory outside the 15 minute timeframe: 516008 COMP-2 (480-1 0025-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### **Organic Prep**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

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Client: AMEC Foster Wheeler E & I, Inc Project/Site: NYSDEC - Saranac Lake

TestAmerica Job ID: 480-110025-1

Client Sample ID: 516008 COMP-2

Date Collected: 11/16/16 12:00 Date Received: 11/22/16 10:00 Lab Sample ID: 480-110025-1

Matrix: Solid

Method: 8260C - Volatile Orga	nic Compounds	by GC/MS -	TCLP						
Analyte	esult	Qualifier	L	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		0.010	0.0021	mg/L			12/02/16 04:22	10
2-Butanone (MEK)	ND		0.050	0.013	mg/L			12/02/16 04:22	10
Benzene	ND		0.010	0.0041	mg/L			12/02/16 04:22	10
Carbon tetrachloride	ND		0.010	0.0027	mg/L			12/02/16 04:22	10
Chlorobenzene	ND		0.010	0.0075	mg/L			12/02/16 04:22	10
Chloroform	ND		0.010	0.0034	mg/L			12/02/16 04:22	10
Tetrachloroethene	ND		0.010	0.0036	mg/L			12/02/16 04:22	10
Trichloroethene	ND		0.010	0.0046	mg/L			12/02/16 04:22	10
Vinyl chloride	ND		0.010	0.0090	mg/L			12/02/16 04:22	10
1,1-Dichloroethene	ND		0.010	0.0029	mg/L			12/02/16 04:22	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	ac
1,2-Dichloroethane-d4 (Surr)	99	-	77 - 120			-		12/02/16 04:22	10
4-Bromofluorobenzene (Surr)	101		73 - 120					12/02/16 04:22	10
Toluene-d8 (Surr)	101		80 - 120					12/02/16 04:22	10
Dibromofluoromethane (Surr)	102		75 - 123					12/02/16 04:22	10

Analyte	esult	Qualifier	L	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.00046	mg/L		11/29/16 09:34	11/30/16 15:14	1
2,4-Dinitrotoluene	ND		0.0050	0.00045	mg/L		11/29/16 09:34	11/30/16 15:14	1
2,4,5-Trichlorophenol	ND		0.0050	0.00048	mg/L		11/29/16 09:34	11/30/16 15:14	1
2,4,6-Trichlorophenol	ND		0.0050	0.00061	mg/L		11/29/16 09:34	11/30/16 15:14	1
2-Methylphenol	ND		0.0050	0.00040	mg/L		11/29/16 09:34	11/30/16 15:14	1
3-Methylphenol	ND		0.010	0.00040	mg/L		11/29/16 09:34	11/30/16 15:14	1
4-Methylphenol	ND		0.010	0.00036	mg/L		11/29/16 09:34	11/30/16 15:14	1
Hexachlorobenzene	ND		0.0050	0.00051	mg/L		11/29/16 09:34	11/30/16 15:14	1
Hexachlorobutadiene	ND		0.0050	0.00068	mg/L		11/29/16 09:34	11/30/16 15:14	1
Hexachloroethane	ND		0.0050	0.00059	mg/L		11/29/16 09:34	11/30/16 15:14	1
Nitrobenzene	ND		0.0050	0.00029	mg/L		11/29/16 09:34	11/30/16 15:14	1
Pentachlorophenol	ND		0.010	0.0022	mg/L		11/29/16 09:34	11/30/16 15:14	1
Pyridine	ND		0.025	0.00041	mg/L		11/29/16 09:34	11/30/16 15:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	ac
2,4,6-Tribromophenol (Surr)	91		52 - 132				11/29/16 09:34	11/30/16 15:14	1
2-Fluorobiphenyl	77		48 - 120				11/29/16 09:34	11/30/16 15:14	1
2-Fluorophenol (Surr)	40		20 - 120				11/29/16 09:34	11/30/16 15:14	1
Nitrobenzene-d5 (Surr)	63		46 - 120				11/29/16 09:34	11/30/16 15:14	1
p-Terphenyl-d14 (Surr)	89		67 - 150				11/29/16 09:34	11/30/16 15:14	1
Phenol-d5 (Surr)	29		16 - 120				11/29/16 09:34	11/30/16 15:14	1
Method: 8081B - Organochlor	rine Pesticides (G	C) - TCLP							
Analyte	esult	Qualifier	L	MDL	Unit	D	Prepared	Analyzed	Dil Fac

Analyte	esult	Qualifier L	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlordane (technical)	ND	0.0020	0.000029	mg/L		11/29/16 09:44	11/30/16 15:01	1
Endrin	ND	0.00020	0.000014	mg/L		11/29/16 09:44	11/30/16 15:01	1
gamma-BHC (Lindane)	ND	0.00020	0.0000060	mg/L		11/29/16 09:44	11/30/16 15:01	1
Heptachlor	ND	0.00020	0.0000085	mg/L		11/29/16 09:44	11/30/16 15:01	1
Heptachlor epoxide	ND	0.00020	0.0000053	mg/L		11/29/16 09:44	11/30/16 15:01	1
Methoxychlor	ND	0.00020	0.000014	mg/L		11/29/16 09:44	11/30/16 15:01	1
Toxaphene	ND	0.0020	0.00012	mg/L		11/29/16 09:44	11/30/16 15:01	1

TestAmerica Buffalo

Page 5 of 15

12/12/2016

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Client: AMEC Foster Wheeler E & I, Inc Project/Site: NYSDEC - Saranac Lake

TestAmerica Job ID: 480-110025-1

Client Sample ID: 516008 COMP-2

Date Collected: 11/16/16 12:00 Date Received: 11/22/16 10:00

Lab Sample ID: 480-110025-1

Matrix: Solid

Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	ac
DCB Decachlorobiphenyl	83		20 - 120				11/29/16 09:44	11/30/16 15:01	1
Tetrachloro-m-xylene	66		44 - 120				11/29/16 09:44	11/30/16 15:01	1
Method: 6010C - Metals (ICP)	) - TCLP								
Analyte	esult	Qualifier	L	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.015	0.0056	mg/L		11/29/16 10:02	11/30/16 13:43	1
Barium	0.19	J	1.0	0.10	mg/L		11/29/16 10:02	11/30/16 13:43	1
Cadmium	ND		0.0020	0.00050	mg/L		11/29/16 10:02	11/30/16 13:43	1
Chromium	ND		0.020	0.010	mg/L		11/29/16 10:02	11/30/16 13:43	1
Lead	0.0085	J	0.020	0.0030	mg/L		11/29/16 10:02	11/30/16 13:43	1
Selenium	ND		0.025	0.0087	mg/L		11/29/16 10:02	11/30/16 13:43	1
Silver	ND		0.0060	0.0017	mg/L		11/29/16 10:02	11/30/16 13:43	1
Method: 7470A - Mercury (C)	/AA) - TCLP								
Analyte	esult	Qualifier	L	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		11/29/16 10:10	11/29/16 13:34	1
General Chemistry									
Analyte	esult	Qualifier	L	L	Unit	D	Prepared	Analyzed	Dil Fac
Burn Rate	ND		2.20	2.20	mm/sec			11/29/16 14:30	1
Cyanide, Reactive	ND		10	10	mg/Kg		11/29/16 00:25	11/29/16 17:41	1
Sulfide, Reactive	60.0		10	10	mg/Kg		11/29/16 00:25	11/29/16 09:30	1
H	6.6	HF	0.1	0.1	SU			11/25/16 16:38	1

Client: AMEC Foster Wheeler E & I, Inc Project/Site: NYSDEC - Saranac Lake

TestAmerica Job ID: 480-110025-1

Client Sample ID: 516008 COMP-2

Date Collected: 11/16/16 12:00 Date Received: 11/22/16 10:00 Lab Sample ID: 480-110025-1

Matrix: Solid
Percent Solids: 47.8

Analyte	esult	Qualifier	L	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.38	0.074	mg/Kg	\$	11/25/16 07:47	11/25/16 21:23	1
PCB-1221	ND		0.38	0.074	mg/Kg	₽	11/25/16 07:47	11/25/16 21:23	1
PCB-1232	ND		0.38	0.074	mg/Kg	₽	11/25/16 07:47	11/25/16 21:23	1
PCB-1242	ND		0.38	0.074	mg/Kg	₽	11/25/16 07:47	11/25/16 21:23	1
PCB-1248	ND		0.38	0.074	mg/Kg	₽	11/25/16 07:47	11/25/16 21:23	1
PCB-1254	ND		0.38	0.18	mg/Kg	₽	11/25/16 07:47	11/25/16 21:23	1
PCB-1260	ND		0.38	0.18	mg/Kg	₽	11/25/16 07:47	11/25/16 21:23	1
PCB-1262	ND		0.38	0.18	mg/Kg	₽	11/25/16 07:47	11/25/16 21:23	1
PCB-1268	ND		0.38	0.18	mg/Kg	₽	11/25/16 07:47	11/25/16 21:23	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	ac
Tetrachloro-m-xylene	80		60 - 154				11/25/16 07:47	11/25/16 21:23	1
Tetrachloro-m-xylene	68		60 - 154				11/25/16 07:47	11/25/16 21:23	1
DCB Decachlorobiphenyl	60	X	65 - 174				11/25/16 07:47	11/25/16 21:23	1
DCB Decachlorobiphenyl	55	X	65 - 174				11/25/16 07:47	11/25/16 21:23	1

#### **Lab Chronicle**

TestAmerica Job ID: 480-1 0025-1

Client: AMEC Foster Wheeler E & I, Inc Project/Site: NYSDEC - Saranac Lake

Date Received: 11/22/16 10:00

Client Sample ID: 516008 COMP-2

Lab Sample ID: 480-110025-1 Date Collected: 11/16/16 12:00 **Matrix: Solid** 

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
TCLP	Leach	131			333634	1/28/16 08:22	S	TAL BUF
TCLP	nalysis	8260C		10	334313	12/02/16 04:22	GTG	TAL BUF
TCLP	Leach	131			333633	1/28/16 08:17	S	TAL BUF
TCLP	Prep	3510C			333820	1/29/16 09:34	SMP	TAL BUF
TCLP	nalysis	8270D			333988	1/30/16 15:14	LMW	TAL BUF
TCLP	Leach	131			333633	1/28/16 08:17	S	TAL BUF
TCLP	Prep	3510C			333822	1/29/16 09:44	CPH	TAL BUF
TCLP	nalysis	8081B			334002	1/30/16 15:01	N	TAL BUF
TCLP	Leach	131			333633	1/28/16 08:17	S	TAL BUF
TCLP	Prep	3010A			333825	1/29/16 10:02	VZ	TAL BUF
TCLP	nalysis	6010C			334207	1/30/16 13:43	SLB	TAL BUF
TCLP	Leach	131			333633	1/28/16 08:17	S	TAL BUF
TCLP	Prep	7470A			333824	1/29/16 10:10	RMZ	TAL BUF
TCLP	nalysis	7470A			333875	1/29/16 13:34	RMZ	TAL BUF
Total/NA	nalysis	1030			406957	1/29/16 14:30	YAH	TAL EDI
Total/NA	Prep	7.3.3			333821	/29/16 00:25	LAW	TAL BUF
Total/NA	nalysis	9012			333999	1/29/16 17:41	DL	TAL BUF
Total/NA	Prep	7.3.4			333829	1/29/16 00:25	LAW	TAL BUF
Total/NA	nalysis	9034			333864	1/29/16 09:30	DL	TAL BUF
Total/NA	nalysis	9045D			333545	1/25/16 16:38	DSC	TAL BUF
Total/NA	nalysis	isture			333188	1/23/16 02:19	CSW	TAL BUF

Client Sample ID: 516008 COMP-2 Lab Sample ID: 480-110025-1 Date Collected: 11/16/16 12:00 **Matrix: Solid** 

Date Received: 11/22/16 10:00 Percent Solids: 47.8

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3550C	<del></del>	·	333424	/25/16 07:47	S	TAL BUF
Total/NA	nalysis	8082A			333536	/25/16 21:23	JMO	TAL BUF

### Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600 TAL EDI = TestAmerica Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900

TestAmerica Buffalo

## **Certification Summary**

Client: AMEC Foster Wheeler E & I, Inc Project/Site: NYSDEC - Saranac Lake

TestAmerica Job ID: 480-1 0025-1

## Laboratory: TestAmerica Buffalo

Unless otherwise noted, all analytes for this laboratory were c vered under each certification below.

Authority	Program		EPA Region	Certification ID	Expiration Date
New York	NELAP		2	10026	03-31-17
The following analytes	are included in this report, b	ut certification is not of	fered by the governing a	authority:	
nalysis Method	Prep Method	atrix	nalyte	<b>)</b>	
7470A	7470A	Solid	Solid ercury		
9012	7.3.3	Solid	Cyanio	de, Reactive	
9034	7.3.4	Solid	Solid Sulfide, Reactive		
isture		Solid	Solid Percent Moisture		
isture		Solid	Doroo	nt Solids	

## **Laboratory: TestAmerica Edison**

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date	
Connecticut	State Program		PH-0200	09-30-18	
DE Haz. Subst. Cleanup Act (HSCA)	State Program	3	N/A	12-31-16	
New Jersey	NELAP	2	12028	06-30-17	
New York	NELAP	2	1452	03-31-17	
Pennsylvania	NELAP	3	68-00522	02-28-17	
Rhode Island	State Program		LAO00132	12-30-16	
USDA	ederal		NJCA-003-08	04-04-17	

## **Method Summary**

Client: AMEC Foster Wheeler E & I, Inc Project/Site: NYSDEC - Saranac Lake

TestAmerica Job ID: 480-110025-1

Method	Method Description	Protocol	Laboratory	
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL BUF	
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL BUF	
8081B	Organochlorine Pesticides (GC)	SW846	TAL BUF	
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL BUF	
6010C	Metals (ICP)	SW846	TAL BUF	
7470A	Mercury (CVAA)	SW846	TAL BUF	
1030	Ignitability, Solids	SW846	TAL EDI	
9012	Cyanide, Reactive	SW846	TAL BUF	
9034	Sulfide, Reactive	SW846	TAL BUF	
9045D	pH	SW846	TAL BUF	
Moisture	Percent Moisture	EPA	TAL BUF	

#### **Protocol References:**

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

#### Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

TAL EDI = TestAmerica Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900

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## **Sample Summary**

Client: AMEC Foster Wheeler E & I, Inc Project/Site: NYSDEC - Saranac Lake

TestAmerica Job ID: 480-110025-1

ab Sample ID	Client Sample ID	Matrix	Collected	Received
480-110025-1	516008 COMP-2	Solid	11/16/16 12:00	11/22/16 10:00

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Job Number: 480-110025-1

Client: AMEC Foster Wheeler E & I, Inc

Login Number: 110025 List Source: TestAmerica Buffalo

List Number: 1

Creator: Janish, Carl M

orditor, during, during		
Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
ppropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested S/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
ultiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	CTEC
Samples received within 48 hours of sampling.	alse	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	









Client: AMEC Foster Wheeler E & I, Inc Job Number: 480-110025-1

List Source: TestAmerica Edison
List Number: 2
List Creation: 11/23/16 10:31 AM

Creator: Armbruster, Chris

ofeator. Affilbruster, offins		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	N/A	
The cooler's custody seal, if present, is intact.	True	858277
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.8°C IR7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
ppropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested S/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
ultiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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MACTEC Contact May 8 tch	MACK/2	Project	No. 114	2.03		Laboratory Name	ñ/a	Phone	Company	Name		/	P	hone
Project Title/No.	- (	<ul> <li>Princho</li> </ul>	ce Cirria	r Mer		Laboratory Contact		Fax	Company	Contac	/	(AY)	F	ax
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IO - In-Vitro IS - Rad IN - Erwiron	AF	L - Volumetric - Air Filter PE - Smear		GRO	SS - Gr	ha Spec. oss betalgamma amma Spec.	Received by:	1938/16 1	000	Date/				
	LIQ - Liquid LSC - Liquid Scintillation		Relinquished by. Data/Time			Relinquished by: Date/Time								
MOX - Rad + Chen HAZ - Hazardous		H - Other (descr	Shall		Other	(describe)	scribe) Received by: Data/Time				ved by:			

WHITE: Laboratory Copy

YELLOW: Report Conv.

PINK: MACTEC Copy

#1410

FIGURE 5.1 CHAIN OF CUSTODY RECORD

Page 15 of 15

## TestAmerica Buffalo

10 Hazelyoold Drive Amherst, NY 14228-2298

## Chain of Custody Record

	-	
1993 (1993)	46 THE REST	m memoria
13040 0100 01	BESTRUMENT	DECEMBER OF ACTION
1988 (1986)	METALETRICAL STATE	\$10,000 ME NO NO.
THE STREET	BUILDINGS:	

THE LEADER IN ENVIRONMENTAL TESTING

Phone (716) 691-2600 Fax (716) 691-7991																		THE LEADER IN EVEN	CONMENTAL TE	STANCE
Client Information (Sub Contract Lab)	Sampler:				PM: cher, B	Brian J						Carrier	Trackin	g No(s	Ġ:			00C No: 480-32467,1		
Clied Condid: Shipping/Receiving	Phone.			E-N bris	an fisch							State of New 1						Page 1 of 1		
Company. TestAmerica Laboratories, Inc.							s Resu New Y		pe note)								- 2	.bo#. 480-110025-1		
Address	Due Date Requests	d			-						_	_	_	_	_	_	_	Preservation Codes:		-
777 New Durham Road,	12/15/2016								Ana	lysis	Red	quest	ed						- Hexane	
Dity: Edison	TAT Requested  da	ya):			0			П					-					E-NaOH N	-None	
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NJ, 08817	7.00				18		1.0		- 1		15.			4			- 1	E-NaHSO4 Q	- Na2SO3	
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Site	SSOWR								- 1	100	1.5					1 1	8	Others		
					- 6					100							ō			
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp. G=grab)	Matrix (street, tools, created,	Fjald Filtered	1030										-	Total Number	Special Instr	uctions/Not	e:
16 h - h - 18 h - 18 h - 18 h - 18 h			Preserva	ation Code;	W		1.50	3	S. 4 e.	1 52	35	832	2 2	1	1.3	1	X	Bearing The	-	CL Calle
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Note: Since isboratory accreditations are subject to change. TestAmerica Laborato cumently maintain accreditation in the State of Origin listed above for enalysis/tests Laboratories, Inc. attention immediately. If all requested accreditations are numeral.	matrix being analyze	d, the samples	must be shipp	ed back to the	TestAm	erica la	borston	y or oth	er innth	ctions w	This off be :	sample provided	shipme Any o	est is fo hange	nwards s to acc	d under creditati	r chai ion st	n-of-custody. If the labo atus should be prought to	ratory does not a TestAmerica	
Possible Hazard Identification					S	ampl	e Dis	pesal	(A fe	e may	be a	55055	ed if s	samp	les a	e reta	tine	d longer than 1 mg	onth)	_
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## **ANALYTICAL REPORT**

TestAmerica Laboratories, Inc.

TestAmerica Buffalo 10 Hazelwood Drive Amherst, NY 14228-2298 Tel: (716)691-2600

TestAmerica Job ID: 480-115393-1

Client Project/Site: NYSDEC - Saranac Lake

#### For:

AMEC Foster Wheeler E & I, Inc 511 Congress St. Suite 200 Portland, Maine 04101

brian.fischer@testamericainc.com

Attn: Ms. Julie Ricardi

Authorized for release by: 4/10/2017 3:20:13 PM

Brian Fischer, Manager of Project Management (716)504-9835

Review your project results through

.....LINKS .....

Total Access

Have a Question?



Visit us at: www.testamericainc.com The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: AMEC Foster Wheeler E & I, Inc Project/Site: NYSDEC - Saranac Lake

TestAmerica Job ID: 480-115393-1

## **Table of Contents**

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Client Sample Results	5
Lab Chronicle	10
Certification Summary	12
Method Summary	13
Sample Summary	14
Receipt Checklists	15
Chain of Custody	16

## **Definitions/Glossary**

Client: AMEC Foster Wheeler E & I, Inc Project/Site: NYSDEC - Saranac Lake

Practical Quantitation Limit

Toxicity Equivalent Factor (Dioxin) Toxicity Equivalent Quotient (Dioxin)

Reporting Limit or Requested Limit (Radiochemistry)

Relative Percent Difference, a measure of the relative difference between two points

**Quality Control** 

Relative error ratio

TestAmerica Job ID: 480-115393-1

## **Qualifiers**

## C/MS Semi VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits
	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F2	MS/MSD RPD exceeds control limits
K	Benzo (b&k) fluoranthene are unresolved due to matrix, result is reported as Benzo(b)fluoranthene.
В	Compound was found in the blank and sample.

## ossary

PQL

QC

RL

RER

**RPD TEF** 

TEQ

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, r additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)

TestAmerica Buffalo

Page 3 of 16

## **Case Narrative**

Client: AMEC Foster Wheeler E & I, Inc Project/Site: NYSDEC - Saranac Lake TestAmerica Job ID: 480-1 5393-1

4

ID: 480-115393-1

Laboratory: TestAmerica Buffalo

**Narrative** 

Narrative 480-115393-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 3/31/2017 9:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.5° C.

#### GC/MS Semi VOA

Method(s) 8270D: The following sample was diluted due to the nature of the sample matrix: 516008SB60704 (480-115393-5). Elevated reporting limits (RLs) are provided.

Method(s) 8270D: The following sample was diluted due to the nature of the sample matrix: (480-115393-A-1-A MS) and (480-1 5393-A-1-B MSD). Because of this dilution, the surrogate spike and matrix spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

ethod(s) 8270D: The following sample required a dilution due to the nature of the sample matrix: 516008SB60704 (480-1 5393-5). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

Method(s) 8270D: The following sample was diluted due to appearance and viscosity: 516008SB60210 (480-115393-3). Elevated reporting limits (RL) are provided.

Method(s) 8270D: The following samples were diluted to bring the concentration of target analytes within the calibration range: 516008SB601 0 (480-1 5393-1), 516008SB601 5 (480-1 5393-2) and 516008SB60606 (480-115393-4). Elevated reporting limits (RLs) are provided.

Method(s) 8270D: The following samples required a dilution to bring the concentration of target analytes within the calibration range: 516008SB601 0 (480-1 5393-1), 516008SB601 5 (480-1 5393-2) and 516008SB60606 (480-115393-4). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC Semi VOA

Method(s) 310.13: The following samples contained a petroleum product which most closely resembles highly degraded Gasoline and Motor Oil: 516008SB60704 (480-1 5393-5).

Method(s) 310.13: The following sample was diluted to bring the concentration of target analytes within the calibration range: 516008SB60704 (480-1 5393-5). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **Organic Prep**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

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5

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0

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10

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Client: AMEC Foster Wheeler E & I, Inc Project/Site: NYSDEC - Saranac Lake

Date Collected: 03/29/17 10:10

Date Received: 03/31/17 09:30

-Terphenyl-d14 (Surr)

**Client Sample ID: 516008SB60110** 

TestAmerica Job ID: 480-115393-1

Lab Sample ID: 480-115393-1

04/04/17 08:10 04/05/17 12:10

**Matrix: Solid** Percent Solids: 72.9

Analyte	esult	Qualifier	L	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	440000		110000	17000	ug/Kg	<u> </u>	04/04/17 08:10	04/05/17 12:10	500
Acenaphthylene	33000	J	110000	15000	ug/Kg	☼	04/04/17 08:10	04/05/17 12:10	500
Anthracene	250000		110000	28000	ug/Kg	☼	04/04/17 08:10	04/05/17 12:10	500
Benzo[a]anthracene	160000	F2	110000	11000	ug/Kg	φ.	04/04/17 08:10	04/05/17 12:10	500
Benzo[a]pyrene	140000		110000	17000	ug/Kg	☼	04/04/17 08:10	04/05/17 12:10	500
Benzo[b]fluoranthene	140000	F2 K	110000	18000	ug/Kg	₽	04/04/17 08:10	04/05/17 12:10	500
Benzo[g,h,i]perylene	78000	J	110000	12000	ug/Kg	φ.	04/04/17 08:10	04/05/17 12:10	500
Benzo[k]fluoranthene	ND		110000	15000	ug/Kg	☼	04/04/17 08:10	04/05/17 12:10	500
Chrysene	140000		110000	26000	ug/Kg	₽	04/04/17 08:10	04/05/17 12:10	500
Dibenz(a,h)anthracene	ND		110000	20000	ug/Kg	₽	04/04/17 08:10	04/05/17 12:10	500
Fluoranthene	410000	F2	110000	12000	ug/Kg	₽	04/04/17 08:10	04/05/17 12:10	500
Fluorene	230000		110000	13000	ug/Kg	☼	04/04/17 08:10	04/05/17 12:10	500
Indeno[1,2,3-cd]pyrene	48000	J F2	110000	14000	ug/Kg	\$	04/04/17 08:10	04/05/17 12:10	500
Naphthalene	430000	В	110000	15000	ug/Kg	☼	04/04/17 08:10	04/05/17 12:10	500
Phenanthrene	890000		110000	17000	ug/Kg	☼	04/04/17 08:10	04/05/17 12:10	500
Pyrene	520000		110000	13000	ug/Kg	☼	04/04/17 08:10	04/05/17 12:10	500
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	ас
2-Fluorobiphenyl	0	X	60 - 120				04/04/17 08:10	04/05/17 12:10	500
Nitrobenzene-d5 (Surr)	0	X	53 - 120				04/04/17 08:10	04/05/17 12:10	500

65 - 121

0 X

Client: AMEC Foster Wheeler E & I, Inc Project/Site: NYSDEC - Saranac Lake

Date Collected: 03/29/17 10:20

Date Received: 03/31/17 09:30

**Client Sample ID: 516008SB60115** 

TestAmerica Job ID: 480-115393-1

Lab Sample ID: 480-115393-2

Percent Solids: 88.4

**Matrix: Solid** 

Analyte	esult	Qualifier	L	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	24000		3700	550	ug/Kg	<u></u>	04/04/17 08:10	04/05/17 13:04	20
Acenaphthylene	2000	J	3700	480	ug/Kg	≎	04/04/17 08:10	04/05/17 13:04	20
Anthracene	15000		3700	930	ug/Kg	☼	04/04/17 08:10	04/05/17 13:04	20
Benzo[a]anthracene	8400		3700	370	ug/Kg	₽	04/04/17 08:10	04/05/17 13:04	20
Benzo[a]pyrene	7700		3700	550	ug/Kg	☼	04/04/17 08:10	04/05/17 13:04	20
Benzo[b]fluoranthene	5900		3700	590	ug/Kg	₽	04/04/17 08:10	04/05/17 13:04	20
Benzo[g,h,i]perylene	4200		3700	400	ug/Kg	φ.	04/04/17 08:10	04/05/17 13:04	20
Benzo[k]fluoranthene	2100	J	3700	480	ug/Kg	☼	04/04/17 08:10	04/05/17 13:04	20
Chrysene	8600		3700	840	ug/Kg	☼	04/04/17 08:10	04/05/17 13:04	20
Dibenz(a,h)anthracene	ND		3700	660	ug/Kg	₽	04/04/17 08:10	04/05/17 13:04	20
Fluoranthene	22000		3700	400	ug/Kg	☼	04/04/17 08:10	04/05/17 13:04	20
Fluorene	14000		3700	440	ug/Kg	₽	04/04/17 08:10	04/05/17 13:04	20
Indeno[1,2,3-cd]pyrene	2700	J	3700	460	ug/Kg	₽	04/04/17 08:10	04/05/17 13:04	20
Naphthalene	20000	В	3700	480	ug/Kg	☼	04/04/17 08:10	04/05/17 13:04	20
Phenanthrene	53000		3700	550	ug/Kg	₽	04/04/17 08:10	04/05/17 13:04	20
Pyrene	30000		3700	440	ug/Kg	₩	04/04/17 08:10	04/05/17 13:04	20
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	ac
2-Fluorobiphenyl	77		60 - 120				04/04/17 08:10	04/05/17 13:04	20
Nitrobenzene-d5 (Surr)	66		53 - 120				04/04/17 08:10	04/05/17 13:04	20
-Terphenyl-d14 (Surr)	80		65 - 121				04/04/17 08:10	04/05/17 13:04	20

Client: AMEC Foster Wheeler E & I, Inc Project/Site: NYSDEC - Saranac Lake

Date Collected: 03/29/17 10:40

Date Received: 03/31/17 09:30

**Client Sample ID: 516008SB60210** 

TestAmerica Job ID: 480-115393-1

Lab Sample ID: 480-115393-3

Percent Solids: 87.3

**Matrix: Solid** 

Analyte	esult	Qualifier	L	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	310	J	950	140	ug/Kg	<u> </u>	04/04/17 08:10	04/05/17 13:31	5
Acenaphthylene	ND		950	120	ug/Kg	☼	04/04/17 08:10	04/05/17 13:31	5
Anthracene	290	J	950	230	ug/Kg	₽	04/04/17 08:10	04/05/17 13:31	5
Benzo[a]anthracene	290	J	950	95	ug/Kg	φ.	04/04/17 08:10	04/05/17 13:31	5
Benzo[a]pyrene	290	J	950	140	ug/Kg	☼	04/04/17 08:10	04/05/17 13:31	5
Benzo[b]fluoranthene	260	J	950	150	ug/Kg	☼	04/04/17 08:10	04/05/17 13:31	5
Benzo[g,h,i]perylene	180	J	950	100	ug/Kg	₽	04/04/17 08:10	04/05/17 13:31	5
Benzo[k]fluoranthene	ND		950	120	ug/Kg	☼	04/04/17 08:10	04/05/17 13:31	5
Chrysene	290	J	950	210	ug/Kg	☼	04/04/17 08:10	04/05/17 13:31	5
Dibenz(a,h)anthracene	ND		950	170	ug/Kg	₽	04/04/17 08:10	04/05/17 13:31	5
Fluoranthene	590	J	950	100	ug/Kg	☼	04/04/17 08:10	04/05/17 13:31	5
Fluorene	240	J	950	110	ug/Kg	₩	04/04/17 08:10	04/05/17 13:31	5
Indeno[1,2,3-cd]pyrene	120	J	950	120	ug/Kg	₽	04/04/17 08:10	04/05/17 13:31	5
Naphthalene	ND		950	120	ug/Kg	₩	04/04/17 08:10	04/05/17 13:31	5
Phenanthrene	1100		950	140	ug/Kg	₩	04/04/17 08:10	04/05/17 13:31	5
Pyrene	850	J	950	110	ug/Kg	₩	04/04/17 08:10	04/05/17 13:31	5
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	ac
2-Fluorobiphenyl	86		60 - 120				04/04/17 08:10	04/05/17 13:31	5
Nitrobenzene-d5 (Surr)	75		53 - 120				04/04/17 08:10	04/05/17 13:31	5
-Terphenyl-d14 (Surr)	88		65 - 121				04/04/17 08:10	04/05/17 13:31	5

Client: AMEC Foster Wheeler E & I, Inc Project/Site: NYSDEC - Saranac Lake

Date Collected: 03/29/17 13:30

Date Received: 03/31/17 09:30

Nitrobenzene-d5 (Surr)

-Terphenyl-d14 (Surr)

**Client Sample ID: 516008SB60606** 

TestAmerica Job ID: 480-115393-1

Lab Sample ID: 480-115393-4

**Matrix: Solid** Percent Solids: 70.0

04/04/17 08:10 04/05/17 13:57

04/04/17 08:10 04/05/17 13:57

Analyte	esult	Qualifier	L	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	13000		12000	1800	ug/Kg	<u></u>	04/04/17 08:10	04/05/17 13:57	50
Acenaphthylene	1800	J	12000	1500	ug/Kg	₩	04/04/17 08:10	04/05/17 13:57	50
Anthracene	15000		12000	2900	ug/Kg	₩	04/04/17 08:10	04/05/17 13:57	50
Benzo[a]anthracene	11000	J	12000	1200	ug/Kg	₩	04/04/17 08:10	04/05/17 13:57	50
Benzo[a]pyrene	9600	J	12000	1800	ug/Kg	₩	04/04/17 08:10	04/05/17 13:57	50
Benzo[b]fluoranthene	12000	K	12000	1900	ug/Kg	₩	04/04/17 08:10	04/05/17 13:57	50
Benzo[g,h,i]perylene	6200	J	12000	1300	ug/Kg	₩	04/04/17 08:10	04/05/17 13:57	50
Benzo[k]fluoranthene	ND		12000	1500	ug/Kg	☆	04/04/17 08:10	04/05/17 13:57	50
Chrysene	12000		12000	2700	ug/Kg	₩	04/04/17 08:10	04/05/17 13:57	50
Dibenz(a,h)anthracene	ND		12000	2100	ug/Kg	☆	04/04/17 08:10	04/05/17 13:57	50
Fluoranthene	36000		12000	1300	ug/Kg	☆	04/04/17 08:10	04/05/17 13:57	50
Fluorene	15000		12000	1400	ug/Kg	☆	04/04/17 08:10	04/05/17 13:57	50
Indeno[1,2,3-cd]pyrene	4200	J	12000	1500	ug/Kg	₩	04/04/17 08:10	04/05/17 13:57	50
Naphthalene	ND		12000	1500	ug/Kg	☆	04/04/17 08:10	04/05/17 13:57	50
Phenanthrene	80000		12000	1800	ug/Kg	₩	04/04/17 08:10	04/05/17 13:57	50
Pyrene	44000		12000	1400	ug/Kg	₽	04/04/17 08:10	04/05/17 13:57	50
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	ac
2-Fluorobiphenyl	78		60 - 120				04/04/17 08:10	04/05/17 13:57	50

53 - 120

65 - 121

64

81

50

Client: AMEC Foster Wheeler E & I, Inc Project/Site: NYSDEC - Saranac Lake

Date Collected: 03/29/17 14:30

Date Received: 03/31/17 09:30

**Client Sample ID: 516008SB60704** 

TestAmerica Job ID: 480-115393-1

Lab Sample ID: 480-115393-5

**Matrix: Solid** 

	l	Percent Solid	s: 66.8
D	Prepared	Analyzed	Dil Fac
<del>\</del>	04/04/17 08:10	04/05/17 14:24	20
₩	04/04/17 08:10	04/05/17 14:24	20
₩	04/04/17 08:10	04/05/17 14:24	20
₩.	04/04/17 08:10	04/05/17 14:24	20
☼	04/04/17 08:10	04/05/17 14:24	20
₩	04/04/17 08:10	04/05/17 14:24	20
ф.	04/04/17 08:10	04/05/17 14:24	20
≎	04/04/17 08:10	04/05/17 14:24	20



Analyte	esult	Qualifier	L	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		5100	750	ug/Kg	<u></u>	04/04/17 08:10	04/05/17 14:24	20
Acenaphthylene	ND		5100	660	ug/Kg	☼	04/04/17 08:10	04/05/17 14:24	20
Anthracene	ND		5100	1300	ug/Kg	₽	04/04/17 08:10	04/05/17 14:24	20
Benzo[a]anthracene	ND		5100	510	ug/Kg	₽	04/04/17 08:10	04/05/17 14:24	20
Benzo[a]pyrene	ND		5100	750	ug/Kg	☼	04/04/17 08:10	04/05/17 14:24	20
Benzo[b]fluoranthene	ND		5100	810	ug/Kg	☼	04/04/17 08:10	04/05/17 14:24	20
Benzo[g,h,i]perylene	ND		5100	540	ug/Kg	φ.	04/04/17 08:10	04/05/17 14:24	20
Benzo[k]fluoranthene	ND		5100	660	ug/Kg	₽	04/04/17 08:10	04/05/17 14:24	20
Chrysene	ND		5100	1100	ug/Kg	☼	04/04/17 08:10	04/05/17 14:24	20
Dibenz(a,h)anthracene	ND		5100	900	ug/Kg	₽	04/04/17 08:10	04/05/17 14:24	20
Fluoranthene	ND		5100	540	ug/Kg	☼	04/04/17 08:10	04/05/17 14:24	20
Fluorene	ND		5100	600	ug/Kg	☼	04/04/17 08:10	04/05/17 14:24	20
Indeno[1,2,3-cd]pyrene	ND		5100	630	ug/Kg	\$	04/04/17 08:10	04/05/17 14:24	20
Naphthalene	2100	JB	5100	660	ug/Kg	☼	04/04/17 08:10	04/05/17 14:24	20
Phenanthrene	ND		5100	750	ug/Kg	☼	04/04/17 08:10	04/05/17 14:24	20
Pyrene	ND		5100	600	ug/Kg	☼	04/04/17 08:10	04/05/17 14:24	20
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	ac
2-Fluorobiphenyl	82		60 - 120				04/04/17 08:10	04/05/17 14:24	20
Nitrobenzene-d5 (Surr)	92		53 - 120				04/04/17 08:10	04/05/17 14:24	20
-Terphenyl-d14 (Surr)	80		65 - 121				04/04/17 08:10	04/05/17 14:24	20

Analyte	esult Qualif	ier L	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	5500	99	99	mg/Kg	<u> </u>	04/05/17 13:16	04/08/17 00:52	10
Kerosene	ND	250	250	mg/Kg	₩	04/05/17 13:16	04/08/17 00:52	10
Motor Oil	1600	500	500	mg/Kg	₩	04/05/17 13:16	04/08/17 00:52	10
Fuel Oil #2	ND	250	250	mg/Kg		04/05/17 13:16	04/08/17 00:52	10
Fuel Oil #4	ND	250	250	mg/Kg	₩	04/05/17 13:16	04/08/17 00:52	10
Fuel Oil #6	ND	250	250	mg/Kg	☆	04/05/17 13:16	04/08/17 00:52	10
Unknown Hydrocarbons	ND	250	250	mg/Kg	₽	04/05/17 13:16	04/08/17 00:52	10

Client: AMEC Foster Wheeler E & I, Inc Project/Site: NYSDEC - Saranac Lake

Client Sample ID: 516008SB60110

Date Collected: 03/29/17 10:10

Date Received: 03/31/17 09:30

Lab Sample ID: 480-115393-1

**Matrix: Solid** 

Batch Batch Dilution Batch Prepared Prep Type Method Run **Factor** Number or Analyzed Analyst Type Lab 349842 04/01/17 05:04 CSW TAL BUF Total/NA nalysis isture

Client Sample ID: 516008SB60110 Lab Sample ID: 480-115393-1

Date Collected: 03/29/17 10:10 **Matrix: Solid** Date Received: 03/31/17 09:30 Percent Solids: 72.9

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			350091	04/04/17 08:10	RJS	TAL BUF
Total/NA	nalysis	8270D		500	350300	04/05/17 12:10	LMW	TAL BUF

Client Sample ID: 516008SB60115 Lab Sample ID: 480-115393-2

Date Collected: 03/29/17 10:20 **Matrix: Solid** 

Date Received: 03/31/17 09:30

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	nalysis	isture			349842	04/01/17 05:04	CSW	TAL BUF

Lab Sample ID: 480-115393-2 **Client Sample ID: 516008SB60115** 

Date Collected: 03/29/17 10:20 **Matrix: Solid** Date Received: 03/31/17 09:30 Percent Solids: 88.4

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			350091	04/04/17 08:10	RJS	TAL BUF
Total/NA	nalysis	8270D		20	350300	04/05/17 13:04	LMW	TAL BUF

Lab Sample ID: 480-115393-3 Client Sample ID: 516008SB60210

Date Collected: 03/29/17 10:40 **Matrix: Solid** 

Date Received: 03/31/17 09:30

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	nalysis	isture			349842	04/01/17 05:04	CSW	TAL BUF

Lab Sample ID: 480-115393-3 Client Sample ID: 516008SB60210

Date Collected: 03/29/17 10:40 Matrix: Solid Date Received: 03/31/17 09:30 Percent Solids: 87.3

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			350091	04/04/17 08:10	RJS	TAL BUF
Total/NA	nalysis	8270D		5	350300	04/05/17 13:31	LMW	TAL BUF

TestAmerica Buffalo

## **Lab Chronicle**

Client: AMEC Foster Wheeler E & I, Inc Project/Site: NYSDEC - Saranac Lake

TestAmerica Job ID: 480-1 5393-1

**Client Sample ID: 516008SB60606** 

Lab Sample ID: 480-115393-4 Date Collected: 03/29/17 13:30 **Matrix: Solid** 

Date Received: 03/31/17 09:30

Batch Dilution Batch Batch **Prepared Prep Type** Type Method Run **Factor** Number or Analyzed Analyst TAL BUF Total/NA nalysis isture 349842 04/01/17 05:04 CSW

**Client Sample ID: 516008SB60606** 

Date Collected: 03/29/17 13:30 Date Received: 03/31/17 09:30 Lab Sample ID: 480-115393-4 Matrix: Solid

Percent Solids: 70.0

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			350091	04/04/17 08:10	RJS	TAL BUF
Total/NA	nalysis	8270D		50	350300	04/05/17 13:57	LMW	TAL BUF

Client Sample ID: 516008SB60704

Date Collected: 03/29/17 14:30

Date Received: 03/31/17 09:30

Lab Sample ID: 480-115393-5

Matrix: Solid

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	nalysis	isture			349842	04/01/17 05:04	CSW	TAL BUF

**Client Sample ID: 516008SB60704** 

Date Collected: 03/29/17 14:30

Date Received: 03/31/17 09:30

Lab Sample ID: 480-115393-5 **Matrix: Solid** 

Percent Solids: 66.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C				04/04/17 08:10		TAL BUF
Total/NA	nalysis	8270D		20	350300	04/05/17 14:24	LMW	TAL BUF
Total/NA	Prep	3550C			350418	04/05/17 13:16	RJS	TAL BUF
Total/NA	nalysis	310.13		10	351 22	04/08/17 00:52	JMO	TAL BUF

#### **Laboratory References:**

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

TestAmerica Buffalo

## **Accreditation/Certification Summary**

Client: AMEC Foster Wheeler E & I, Inc Project/Site: NYSDEC - Saranac Lake

TestAmerica Job ID: 480-1 5393-1

## **Laboratory: TestAmerica Buffalo**

Unless otherwise noted, all analytes for this laboratory were c vered under each accreditation/certification below.

uthority	Program		EPA Region	<b>Identification Number</b>	<b>Expiration Date</b>
ew York	NELAP		2	10026	03-31-18
The following analyte	s are included in this repo	rt, but accreditation	/certification is not off	ered by the governing auth	ority:
nalysis Method	Prep Method	atrix	nalyte	)	
310.13	3550C	Solid	uel O	il #2	
310.13	3550C	Solid	uel O	il #4	
310.13	3550C	Solid	uel O	il #6	
310.13	3550C	Solid	Gasol	ine	
310.13	3550C	Solid	Keros	ene	
310.13	3550C	Solid	tor O	il	
310.13	3550C	Solid	Unkno	wn Hydrocarbons	
isture		Solid	Perce	nt Moisture	
isture		Solid	Perce	nt Solids	

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## **Method Summary**

Client: AMEC Foster Wheeler E & I, Inc Project/Site: NYSDEC - Saranac Lake

TestAmerica Job ID: 480-115393-1

otocol	Laboratory	
.41	1 -1 4	
		9

Method	Method Description	Protocol	Laboratory
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL BUF
310.13	Identification of Routine Petroleum Products	NYASP	TAL BUF
Moisture	Percent Moisture	EPA	TAL BUF

#### **Protocol References:**

EPA = US Environmental Protection Agency NYASP = New York Analytical Services Protocol

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

#### Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

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## **Sample Summary**

Client: AMEC Foster Wheeler E & I, Inc Project/Site: NYSDEC - Saranac Lake

TestAmerica Job ID: 480-115393-1

ab Sample ID	Client Sample ID	Matrix	Collected Received
480-115393-1	516008SB60110	Solid	03/29/17 10:10 03/31/17 09:30
480-115393-2	516008SB60115	Solid	03/29/17 10:20 03/31/17 09:30
480-115393-3	516008SB60210	Solid	03/29/17 10:40 03/31/17 09:30
480-115393-4	516008SB60606	Solid	03/29/17 13:30 03/31/17 09:30
480-115393-5	516008SB60704	Solid	03/29/17 14:30 03/31/17 09:30

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## **Login Sample Receipt Checklist**

Client: AMEC Foster Wheeler E & I, Inc Job Number: 480-115393-1

Login Number: 115393 List Source: TestAmerica Buffalo

List Number: 1

Creator: Janish, Carl M

Creator. Jamish, Carr W		
Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
ppropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested S/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
ultiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	С
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	

4/10/2017

## TestAmerica Buffalo 10 Hazelmood Briga

Amberst, NY 14228 Phone: 716.691.2600 Fax: 716.691.7991

## Chain of Custody Record

184562

**TestAmerica** 

THE LEADER IN ENVIRONMENTAL TESTING TestAmerica Laboratories, Inc.

Client Contact		lenager: a				100	Contact	Duran Variable	Date: 03/29/17	COC No: 1
Company Name: Aymac Foster Weeler	Tel/Fax:	9.07	878 T	200	CESC	Lab	Contact:	Brian Fischer	Carrier:	1 of 9 COCs
Address: 511 Congress St.		Analysis T				T	TUI	Chan Fixee		Sampler: bule k Pawa 11
City/State/Zip: Paralloud ME 04/01	I CNB			RICENG DAY	rs:	П	3			For Lab Use Only:
City/State/Zip: Portland, ME, 04/01 Phone: 207 828 3200	TA	TAT if different from Below			1	-15			Walk-in Client:	
Fax			2 weeks				I			Lab Sampling:
Project Name: Saranac Lake RD			l week			Sample (Y/N)	PAM			
Site: Saranac Lake Gos 20	. 5	2	days			0				Job / SDG No.:
PO# C012904279		- 1	day			P :	E			
			Sample			Sa	0			
	Sample	Sample	Type ic-come.		# of	pour	82401			
Sample Identification	Date	Time	G-Grab)	Matrix	Cost	Filtered	12			Sample Specific Notes:
51,000 5011110	03/24/17	1010	_	soil	41	T	111			
516008 5866110	APPLA		6	2011		+	X			
516008 513601 15	1	1020	G			1	X			
514 008 58 602 10		1040	G				X			NO.PCS
516 00858 60606		1330	6				x			100 mg
5160085860704	1	1430		V	4	П	x			13.45
										480-115393 CCC
7	-			-	-	-				
						П				
						T				
	1					+	1			1
						н				
						1				
Preservation Used: 1= lce, 2= HCl; 3= H2SO4; 4=HN03	SeNaCH-	SE Other /	SUR WASH	500,0350	5/15k S	23 12	98(3.73)	200		A March N. Was P. Stownson, Adventure of
Possible Hazard Identification:	, o 140 cm,	o disca		11 322	9.60 Pro	S	ample Di	sposal ( A fee may b	a assessed if samples are retain	ed longer than 1 month)
Are any samples from a listed EPA Hazardous Waste? Plea	ise List any E	EPA Waste	Codes for	the samp	ole in the					no reniges many i montaly
Comments Section if the lab is to dispose of the sample.						4			,	
Non-Hazard Plannrable Skin Entant	Poison	B	Unkn	OWIS			Return	to Clerk	Reposal by Lab Andrine for	Nonths
Special Instructions/QC Requirements & Comments:										
3160085B60704 Was very 0	donous	and ha	ed wen	his his	h P	Ŧ.	Dres	ponse	105	#1
Custody Seals Intact: Tes T No	Custody S						1	Cooler Temp. (C): Ot		Therm ID No.:
Relinguished by	Company:		11	Date/Ti	me) = X	DR	teceived b	MINUI	Company	Determe: 1930
I fourth	AMEC	Foster	Whiles	183/	13/30/13 Date/Time / 1 Rec		U	UU		The second second
Relinquist Wal by:	Company:			Date/Ti	me./	4 8	leceived b	y.	Company:	Date/Time/
Stellinguished by:	Company:			Data/Ti	mar	-	Tonoi and is	n Laboratory by:	Company	Date/Time:
	low inputity.			Date (1)	100	1	and wed	Louisewy by.	Company:	Deler Life.



## **ANALYTICAL REPORT**

TestAmerica Laboratories, Inc.

TestAmerica Buffalo 10 Hazelwood Drive Amherst, NY 14228-2298 Tel: (716)691-2600

TestAmerica Job ID: 480-115698-1

Client Project/Site: NYSDEC - Saranac Lake

#### For:

AMEC Foster Wheeler E & I, Inc 511 Congress St. Suite 200 Portland, Maine 04101

Attn: Ms. Julie Ricardi

Joseph V. Gracomagge

Authorized for release by: 4/14/2017 11:07:30 AM

Joe Giacomazza, Project Management Assistant II joe.giacomazza@testamericainc.com

Designee for

Brian Fischer, Manager of Project Management (716)504-9835

brian.fischer@testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



Client: AMEC Foster Wheeler E & I, Inc Project/Site: NYSDEC - Saranac Lake TestAmerica Job ID: 480-115698-1

## **Table of Contents**

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	
Client Sample Results	5
Lab Chronicle	9
Certification Summary	10
Method Summary	11
Sample Summary	12
Receipt Checklists	13
Chain of Custody	14

3

4

5

7

8

9

10

## **Definitions/Glossary**

Client: AMEC Foster Wheeler E & I, Inc Project/Site: NYSDEC - Saranac Lake

TestAmerica Job ID: 480-115698-1

## **Qualifiers**

## C/MS VOA

F1 MS and/or MSD Recovery is outside acceptance limits.	
F2 MS/MSD RPD exceeds control limits	
Result is less than the RL but greater than or equal to the MDL and the cond	entration is an approximate value.

### C/MS Semi VOA

Qualifier	Qualifier Description
	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

## ossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, r additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity

MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit

MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated

ND	Not detected at the reporting limit (or MDL or EDL if shown)
עוו	not detected at the reporting limit (or MDL or EDL if Shown)

PQL	<b>Practical Quantitation Limit</b>
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QC	Quality Control
RER	Relative error ratio

DI	Department insit on Department I insit /	D = al: = al= = := : = 4\
RI	Reporting Limit or Requested Limit (	Radiochemistry

RPD	Relative Percent Difference	a measure of the relative	difference between two points
NID	Trelative I electric Dilleterice,	, a measure of the relative	difference between two points

TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

TestAmerica Buffalo

## **Case Narrative**

Client: AMEC Foster Wheeler E & I, Inc Project/Site: NYSDEC - Saranac Lake TestAmerica Job ID: 480-1 5698-1

ID: 480-115698-1

Laboratory: TestAmerica Buffalo

**Narrative** 

Narrative 480-115698-1

#### Receipt

The sample was received on 4/6/2017 9:00 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.9° C.

#### **GC/MS VOA**

Method(s) 8260C: The following samples were analyzed using medium level soil analysis and diluted to bring the concentration of target analytes within the calibration range: 516008SB61 05 (480-1 5698-1), (480-115698-A-1-B MS) and (480-1 5698-A-1-C MSD). Elevated reporting limits (RLs) are provided.

Method(s) 8260C: The following sample was diluted due to the nature of the sample matrix: (480-115698-A-1-B MS) and (480-1 5698-A-1-C MSD). Because of this dilution, matrix spike and matrix spike duplicate concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC/MS Semi VOA

Method(s) 8270D: The following sample was diluted due to appearance and viscosity: 516008SB61105 (480-1 5698-1). Elevated reporting limits (RL) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### GC Semi VOA

ethod(s) 310.13: The following sample contained a petroleum pr oduct which most closely resembles degraded Gasoline and Motor Oil: 516008SB61 05 (480-1 5698-1).

Method(s) 310.13: The following sample was diluted to bring the concentration of target analytes within the calibration range: 516008SB61 05 (480-1 5698-1). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **Organic Prep**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

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Client: AMEC Foster Wheeler E & I, Inc Project/Site: NYSDEC - Saranac Lake

TestAmerica Job ID: 480-115698-1

Lab Sample ID: 480-115698-1

Matrix: Solid
Percent Solids: 81.8

## **Client Sample ID: 516008SB61105**

Date Collected: 04/04/17 10:10 Date Received: 04/06/17 09:00

Analyte	esult	Qualifier	L	MDL	Unit	D	Prepared	Analyzed	Dil Fa
1,1,1-Trichloroethane	ND	F2 F1	5200	1400	ug/Kg	— <del>-</del>	04/07/17 20:59	04/08/17 19:14	4
1,1,2,2-Tetrachloroethane	ND	F1	5200	850	ug/Kg		04/07/17 20:59	04/08/17 19:14	4
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5200	2600	ug/Kg		04/07/17 20:59	04/08/17 19:14	4
1,1,2-Trichloroethane	ND	F1	5200	1100	ug/Kg		04/07/17 20:59	04/08/17 19:14	4
1,1-Dichloroethane	ND		5200	1600	ug/Kg		04/07/17 20:59	04/08/17 19:14	4
1,1-Dichloroethene		F2	5200	1800			04/07/17 20:59	04/08/17 19:14	4
1,2,3-Trichlorobenzene	ND		5200		ug/Kg	· · · · · · · · · · · · · · ·	04/07/17 20:59	04/08/17 19:14	4
1,2,4-Trichlorobenzene	ND		5200	2000	ug/Kg ug/Kg		04/07/17 20:59	04/08/17 19:14	4
1,2,4-Triemoroberizene	150000		5200	1500	ug/Kg ug/Kg	₩.	04/07/17 20:59	04/08/17 19:14	4
1,2-Dibromo-3-Chloropropane	ND		5200	2600	ug/Kg	· · · · · · · · · · · · · · · · · · ·	04/07/17 20:59	04/08/17 19:14	4
1,2-Dichlorobenzene	ND		5200	1300			04/07/17 20:59	04/08/17 19:14	4
1,2-Dichloroethane	ND ND		5200		ug/Kg		04/07/17 20:59	04/08/17 19:14	4
		F0.F4		2100	ug/Kg				
1,2-Dichloropropane		F2 F1	5200	850	0 0	~ ☆	04/07/17 20:59	04/08/17 19:14	41
1,3,5-Trimethylbenzene	52000 ND		5200	1600	ug/Kg	~ ⇔	04/07/17 20:59	04/08/17 19:14	41
1,3-Dichlorobenzene	ND		5200	1400	ug/Kg		04/07/17 20:59	04/08/17 19:14	4
1,4-Dichlorobenzene	ND	F4	5200	730	0 0	<b>*</b>	04/07/17 20:59	04/08/17 19:14	41
1,4-Dioxane	ND	F1	99000	27000	ug/Kg	ψ.	04/07/17 20:59	04/08/17 19:14	41
2-Butanone (MEK)	ND		26000	15000		<u>-</u>	04/07/17 20:59	04/08/17 19:14	4
2-Hexanone	ND		26000	11000		*	04/07/17 20:59	04/08/17 19:14	4
4-Isopropyltoluene		J F1	5200	1800		*	04/07/17 20:59	04/08/17 19:14	4
4-Methyl-2-pentanone (MIBK)		F2 F1	26000	1700			04/07/17 20:59	04/08/17 19:14	4
Acetone	ND		26000	21000	ug/Kg	₽	04/07/17 20:59	04/08/17 19:14	4
Benzene	ND		5200	990	ug/Kg	₽	04/07/17 20:59	04/08/17 19:14	4
Bromoform	ND	F1	5200	2600	ug/Kg		04/07/17 20:59	04/08/17 19:14	4
Bromomethane	ND		5200	1100	ug/Kg	₽	04/07/17 20:59	04/08/17 19:14	4
Carbon disulfide	ND		5200	2400	ug/Kg	₽	04/07/17 20:59	04/08/17 19:14	4
Carbon tetrachloride	ND		5200	1300	ug/Kg	₽	04/07/17 20:59	04/08/17 19:14	4
Chlorobenzene	ND		5200	690	ug/Kg	₽	04/07/17 20:59	04/08/17 19:14	4
Chlorobromomethane	ND		5200	1900	ug/Kg	☼	04/07/17 20:59	04/08/17 19:14	4
Dibromochloromethane	ND	F1	5200	2500	ug/Kg	₽	04/07/17 20:59	04/08/17 19:14	4
Chloroethane	ND	F2	5200	1100	ug/Kg	₽	04/07/17 20:59	04/08/17 19:14	4
Chloroform	ND		5200	3600	ug/Kg	₽	04/07/17 20:59	04/08/17 19:14	4
Chloromethane	ND		5200	1200	ug/Kg	☼	04/07/17 20:59	04/08/17 19:14	4
is-1,2-Dichloroethene	ND		5200	1400	ug/Kg		04/07/17 20:59	04/08/17 19:14	4
Cyclohexane	ND	F1 F2	5200	1200	ug/Kg	₽	04/07/17 20:59	04/08/17 19:14	4
Bromodichloromethane	ND	F1	5200	1000	ug/Kg	₽	04/07/17 20:59	04/08/17 19:14	4
Dichlorodifluoromethane	ND	F1	5200		ug/Kg		04/07/17 20:59	04/08/17 19:14	4
Ethylbenzene	31000		5200	1500	ug/Kg	₽	04/07/17 20:59	04/08/17 19:14	4
1,2-Dibromoethane	ND		5200	910	ug/Kg	₽	04/07/17 20:59	04/08/17 19:14	4
Isopropylbenzene	6200	F1	5200		ug/Kg		04/07/17 20:59	04/08/17 19:14	4
Methyl acetate		F2 F1	26000	2500	ug/Kg	₽	04/07/17 20:59	04/08/17 19:14	4
Methyl tert-butyl ether	ND		5200	2000		₽	04/07/17 20:59	04/08/17 19:14	4
Methylcyclohexane	63000		5200		ug/Kg		04/07/17 20:59	04/08/17 19:14	4
Methylene Chloride		F2 F1	5200	1000		₽	04/07/17 20:59	04/08/17 19:14	4
•	18000		5200		ug/Kg ug/Kg	₩	04/07/17 20:59	04/08/17 19:14	4
n-Butylbenzene			5200		ug/Kg		04/07/17 20:59	04/08/17 19:14	4
N-Propylbenzene	23000					₩			
ec-Butylbenzene	3600 ND	J	5200		ug/Kg		04/07/17 20:59	04/08/17 19:14	41
Tetrachloroethene	ND	J F1	5200 5200		ug/Kg ug/Kg		04/07/17 20:59 04/07/17 20:59	04/08/17 19:14 04/08/17 19:14	41

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Client: AMEC Foster Wheeler E & I, Inc Project/Site: NYSDEC - Saranac Lake

TestAmerica Job ID: 480-115698-1

Lab Sample ID: 480-115698-1

Matrix: Solid

Percent Solids: 81.8

## **Client Sample ID: 516008SB61105**

Date Collected: 04/04/17 10:10 Date Received: 04/06/17 09:00

Analyte	esult	Qualifier	L	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	ND		5200	1200	ug/Kg	<u> </u>	04/07/17 20:59	04/08/17 19:14	40
trans-1,3-Dichloropropene	ND		5200	510	ug/Kg	₩	04/07/17 20:59	04/08/17 19:14	40
Trichloroethene	ND	F2 F1	5200	1500	ug/Kg	₽	04/07/17 20:59	04/08/17 19:14	40
Trichlorofluoromethane	ND	F1	5200	2400	ug/Kg	≎	04/07/17 20:59	04/08/17 19:14	40
Vinyl chloride	ND		5200	1700	ug/Kg	≎	04/07/17 20:59	04/08/17 19:14	40
Xylenes, Total	170000		10000	2900	ug/Kg	\$	04/07/17 20:59	04/08/17 19:14	40
is-1,3-Dichloropropene	ND	F2	5200	1200	ug/Kg	≎	04/07/17 20:59	04/08/17 19:14	40
Styrene	ND	F1	5200	1300	ug/Kg	₽	04/07/17 20:59	04/08/17 19:14	40
tert-Butylbenzene	ND		5200	1500	ug/Kg	\$	04/07/17 20:59	04/08/17 19:14	40
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	ac
1,2-Dichloroethane-d4 (Surr)	108		53 - 146				04/07/17 20:59	04/08/17 19:14	40
4-Bromofluorobenzene (Surr)	108		49 - 148				04/07/17 20:59	04/08/17 19:14	40
Toluene-d8 (Surr)	104		50 - 149				04/07/17 20:59	04/08/17 19:14	40
Dibromofluoromethane (Surr)	108		60 - 140				04/07/17 20:59	04/08/17 19:14	40

Dibromotiuorometnane (Surr) -	108	60 - 140				04/07/17 20:59	04/08/17 19:14	40
Method: 8270D - Semivolatile O	•		_ MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-Trichlorophenol	ND	200	00 540	ug/Kg	<del></del>	04/08/17 09:22	04/10/17 18:27	10
1,2,4,5-Tetrachlorobenzene	ND	200	00 340	ug/Kg	₩	04/08/17 09:22	04/10/17 18:27	10
2,4,6-Trichlorophenol	ND	200	00 400	ug/Kg	₽	04/08/17 09:22	04/10/17 18:27	10
2,4-Dichlorophenol	ND	200	00 210		φ.	04/08/17 09:22	04/10/17 18:27	10
2,4-Dimethylphenol	ND	200	00 490		₽	04/08/17 09:22	04/10/17 18:27	10
2,4-Dinitrophenol	ND	2000	9300	ug/Kg	₽	04/08/17 09:22	04/10/17 18:27	10
2,4-Dinitrotoluene	ND	200	00 410	ug/Kg	φ.	04/08/17 09:22	04/10/17 18:27	10
2,6-Dinitrotoluene	ND	200	00 240	ug/Kg	₽	04/08/17 09:22	04/10/17 18:27	10
2-Chloronaphthalene	ND	200	00 330	ug/Kg	₽	04/08/17 09:22	04/10/17 18:27	10
2-Chlorophenol	ND	200	00 370	ug/Kg	φ.	04/08/17 09:22	04/10/17 18:27	10
2-Methylnaphthalene	7200	200	00 400	ug/Kg	₽	04/08/17 09:22	04/10/17 18:27	10
2-Methylphenol	ND	200	00 240	ug/Kg	₽	04/08/17 09:22	04/10/17 18:27	10
2-Nitroaniline	ND	390	300	ug/Kg	φ.	04/08/17 09:22	04/10/17 18:27	10
2-Nitrophenol	ND	200	00 570	ug/Kg	₽	04/08/17 09:22	04/10/17 18:27	10
3,3'-Dichlorobenzidine	ND	390	00 2400	ug/Kg	₽	04/08/17 09:22	04/10/17 18:27	10
3-Nitroaniline	ND	390	00 560	ug/Kg	φ.	04/08/17 09:22	04/10/17 18:27	10
4,6-Dinitro-2-methylphenol	ND	390	00 2000	ug/Kg	₩	04/08/17 09:22	04/10/17 18:27	10
4-Bromophenyl phenyl ether	ND	200	00 280	ug/Kg	₽	04/08/17 09:22	04/10/17 18:27	10
4-Chloro-3-methylphenol	ND	200	00 500	ug/Kg		04/08/17 09:22	04/10/17 18:27	10
4-Chloroaniline	ND	200	00 500	ug/Kg	₩	04/08/17 09:22	04/10/17 18:27	10
4-Chlorophenyl phenyl ether	ND	200	00 250	ug/Kg	₽	04/08/17 09:22	04/10/17 18:27	10
4-Methylphenol	ND	390	00 240	ug/Kg	\$	04/08/17 09:22	04/10/17 18:27	10
4-Nitroaniline	ND	390	00 1100	ug/Kg	₽	04/08/17 09:22	04/10/17 18:27	10
4-Nitrophenol	ND	390	00 1400	ug/Kg	₽	04/08/17 09:22	04/10/17 18:27	10
Acenaphthene	ND	200	00 300	ug/Kg	<b>\$</b>	04/08/17 09:22	04/10/17 18:27	10
Acenaphthylene	ND	200	00 260	ug/Kg	₽	04/08/17 09:22	04/10/17 18:27	10
Acetophenone	ND	200	00 270	ug/Kg	₽	04/08/17 09:22	04/10/17 18:27	10
Anthracene	ND	200	500	ug/Kg	φ.	04/08/17 09:22	04/10/17 18:27	10
Atrazine	ND	200	700	ug/Kg	₽	04/08/17 09:22	04/10/17 18:27	10
Benzaldehyde	ND	200	1600	ug/Kg	\$	04/08/17 09:22	04/10/17 18:27	10
Benzo[a]anthracene	520	J 200	200	ug/Kg	φ.	04/08/17 09:22	04/10/17 18:27	10
Benzo[a]pyrene	580	J 200	00 300	ug/Kg	₩	04/08/17 09:22	04/10/17 18:27	10

TestAmerica Buffalo

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Client: AMEC Foster Wheeler E & I, Inc Project/Site: NYSDEC - Saranac Lake

TestAmerica Job ID: 480-115698-1

Lab Sample ID: 480-115698-1

Matrix: Solid

Percent Solids: 81.8

**Client Sample ID: 516008SB61105** 

Date Collected: 04/04/17 10:10 Date Received: 04/06/17 09:00

Method: 8270D - Semivolatile Analyte	esult	Qualifier	L	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	590	J	2000	320	ug/Kg	<u></u>	04/08/17 09:22	04/10/17 18:27	10
Benzo[g,h,i]perylene	380	J	2000	210	ug/Kg	₽	04/08/17 09:22	04/10/17 18:27	10
Benzo[k]fluoranthene	380	J	2000	260	ug/Kg	₽	04/08/17 09:22	04/10/17 18:27	10
Biphenyl	ND		2000	300	ug/Kg	₽	04/08/17 09:22	04/10/17 18:27	10
bis (2-chloroisopropyl) ether	ND		2000	400	ug/Kg	\$	04/08/17 09:22	04/10/17 18:27	10
Bis(2-chloroethoxy)methane	ND		2000	430	ug/Kg	₽	04/08/17 09:22	04/10/17 18:27	10
Bis(2-chloroethyl)ether	ND		2000	260	ug/Kg	₽	04/08/17 09:22	04/10/17 18:27	10
Bis(2-ethylhexyl) phthalate	ND		2000	690	ug/Kg	\$	04/08/17 09:22	04/10/17 18:27	10
Butyl benzyl phthalate	ND		2000	330	ug/Kg	₽	04/08/17 09:22	04/10/17 18:27	10
Caprolactam	ND		2000	600	ug/Kg	₽	04/08/17 09:22	04/10/17 18:27	10
Carbazole	ND		2000	240	ug/Kg		04/08/17 09:22	04/10/17 18:27	10
Chrysene	570	J	2000	450	ug/Kg	₩	04/08/17 09:22	04/10/17 18:27	10
Dibenz(a,h)anthracene	ND		2000	360	ug/Kg	₽	04/08/17 09:22	04/10/17 18:27	10
Dibenzofuran	ND		2000	240	ug/Kg		04/08/17 09:22	04/10/17 18:27	10
Diethyl phthalate	ND		2000	260	ug/Kg	₽	04/08/17 09:22	04/10/17 18:27	10
Dimethyl phthalate	ND		2000	240	ug/Kg	₽	04/08/17 09:22	04/10/17 18:27	10
Di-n-butyl phthalate	ND		2000	340	ug/Kg		04/08/17 09:22	04/10/17 18:27	10
Di-n-octyl phthalate	ND		2000	240	ug/Kg	₽	04/08/17 09:22	04/10/17 18:27	10
Fluoranthene	910	J	2000	210	ug/Kg	₽	04/08/17 09:22	04/10/17 18:27	10
Fluorene	ND		2000	240	ug/Kg	φ.	04/08/17 09:22	04/10/17 18:27	10
Hexachlorobenzene	ND		2000	270	ug/Kg	₽	04/08/17 09:22	04/10/17 18:27	10
Hexachlorobutadiene	ND		2000	300	ug/Kg	₽	04/08/17 09:22	04/10/17 18:27	10
Hexachlorocyclopentadiene	ND		2000	270	ug/Kg	φ.	04/08/17 09:22	04/10/17 18:27	10
Hexachloroethane	ND		2000	260	ug/Kg	₽	04/08/17 09:22	04/10/17 18:27	10
Indeno[1,2,3-cd]pyrene	360	J	2000	250	ug/Kg	₽	04/08/17 09:22	04/10/17 18:27	10
Isophorone	ND		2000	430	ug/Kg	φ.	04/08/17 09:22	04/10/17 18:27	10
Naphthalene	6700		2000	260	ug/Kg	₽	04/08/17 09:22	04/10/17 18:27	10
Nitrobenzene	ND		2000	220		₽	04/08/17 09:22	04/10/17 18:27	10
N-Nitrosodi-n-propylamine	ND		2000	340			04/08/17 09:22	04/10/17 18:27	10
N-Nitrosodiphenylamine	ND		2000	1600	ug/Kg	₩	04/08/17 09:22	04/10/17 18:27	10
Pentachlorophenol	ND		3900	2000	ug/Kg	₩	04/08/17 09:22	04/10/17 18:27	10
Phenanthrene	720		2000	300	ug/Kg		04/08/17 09:22	04/10/17 18:27	10
Phenol	ND		2000	310	ug/Kg	₽	04/08/17 09:22	04/10/17 18:27	10
Pyrene	820	J	2000	240	ug/Kg	₽	04/08/17 09:22	04/10/17 18:27	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	ac
2,4,6-Tribromophenol (Surr)	100		54 - 120				04/08/17 09:22	04/10/17 18:27	10
2-Fluorobiphenyl	94		60 - 120				04/08/17 09:22	04/10/17 18:27	10
2-Fluorophenol (Surr)	79		52 - 120				04/08/17 09:22	04/10/17 18:27	10
Nitrobenzene-d5 (Surr)	93		53 - 120				04/08/17 09:22	04/10/17 18:27	10
Phenol-d5 (Surr)	82		54 - 120				04/08/17 09:22	04/10/17 18:27	10
p-Terphenyl-d14 (Surr)	99		65 - 121				04/08/17 09:22	04/10/17 18:27	10

Method: 310.13 - Identification of I	Routine Petro	leum Products							
Analyte	esult	Qualifier	L	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	1500		80	80	mg/Kg	<del></del>	04/10/17 07:14	04/11/17 11:46	10
Kerosene	ND		200	200	mg/Kg	₽	04/10/17 07:14	04/11/17 11:46	10
Motor Oil	970		400	400	mg/Kg	₩	04/10/17 07:14	04/11/17 11:46	10
Fuel Oil #2	ND		200	200	mg/Kg	₽	04/10/17 07:14	04/11/17 11:46	10
Fuel Oil #4	ND		200	200	ma/Ka	₩	04/10/17 07:14	04/11/17 11:46	10

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Page 7 of 14

4/14/2017

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Client: AMEC Foster Wheeler E & I, Inc Project/Site: NYSDEC - Saranac Lake

TestAmerica Job ID: 480-115698-1

**Client Sample ID: 516008SB61105** 

Date Collected: 04/04/17 10:10 Date Received: 04/06/17 09:00

Lab Sample ID: 480-115698-1 Matrix: Solid

Percen	t So	lids:	81.8

Method: 310.13 - Identification of R	outine Petro	leum Produ	cts (Continued	l)					
Analyte	esult	Qualifier	L	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fuel Oil #6	ND		200	200	mg/Kg	<del>-</del>	04/10/17 07:14	04/11/17 11:46	10
Unknown Hydrocarbons	ND		200	200	mg/Kg	₽	04/10/17 07:14	04/11/17 11:46	10

### **Lab Chronicle**

Client: AMEC Foster Wheeler E & I, Inc Project/Site: NYSDEC - Saranac Lake

**Client Sample ID: 516008SB61105** 

TestAmerica Job ID: 480-1 5698-1

**Client Sample ID: 516008SB61105** 

Date Collected: 04/04/17 10:10 Date Received: 04/06/17 09:00

Date Collected: 04/04/17 10:10

Date Received: 04/06/17 09:00

Lab Sample ID: 480-115698-1

**Matrix: Sol** 

Batch Dilution Batch Batch Prepare Prep Type Method Factor Type Run Number or Analyze Analyst Lab Total/NA nalysis isture 350724 04/07/17 07:03 CSW TAL BUF

Lab Sample ID: 480-115698-1

Matrix: Sol

Percent Solids: 81.8

	Batch	Batch		Dilution	Batch	Prepare		
Prep Type	Type	Method	Run	Factor	Number	or Analyze	Analyst	Lab
Total/NA	Prep	5035A_H			350929	04/07/17 20:59	SWO	TAL BUF
Total/NA	nalysis	8260C		40	350972	04/08/17 19:14	NEA	TAL BUF
Total/NA	Prep	3550C			350969	04/08/17 09:22	RJS	TAL BUF
Total/NA	nalysis	8270D		10	351 74	04/10/17 18:27	LMW	TAL BUF
Total/NA	Prep	3550C			351053	04/10/17 07:14	CAM	TAL BUF
Total/NA	nalysis	310.13		10	351331	04/1 /17 1 :46	JMO	TAL BUF

### Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

TestAmerica Buffalo

## **Accreditation/Certification Summary**

Client: AMEC Foster Wheeler E & I, Inc Project/Site: NYSDEC - Saranac Lake

TestAmerica Job ID: 480-1 5698-1

## Laboratory: TestAmerica Buffalo

Unless otherwise noted, all analytes for this laboratory were c vered under each accreditation/certification below.

uthority	Program	Program		Identification Number	<b>Expiration Date</b>		
ew York NELAP			2	10026	03-31-18		
The following analytes	are included in this report, but	ut accreditation/certification	ation is not offered by th	ne governing authority:			
nalysis Method	Prep Method	atrix	nalyte	е			
310.13	3550C	Solid	uel O	il #2			
310.13	3550C	Solid	uel O	uel Oil #4			
310.13	3550C	Solid	uel O	il #6			
310.13	3550C	Solid	Gasol	Gasoline			
310.13	3550C	Solid	Keros	Kerosene			
310.13	3550C	Solid	tor O	tor Oil			
310.13	3550C	Solid	Unkno	Unknown Hydrocarbons			
isture		Solid	Perce	nt Moisture			
isture		Solid	Perce	nt Solids			

## **Method Summary**

Client: AMEC Foster Wheeler E & I, Inc Project/Site: NYSDEC - Saranac Lake

TestAmerica Job ID: 480-115698-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL BUF
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL BUF
310.13	Identification of Routine Petroleum Products	NYASP	TAL BUF
Moisture	Percent Moisture	EPA	TAL BUF

#### Protocol References:

EPA = US Environmental Protection Agency

NYASP = New York Analytical Services Protocol

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

#### Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

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## **Sample Summary**

Client: AMEC Foster Wheeler E & I, Inc Project/Site: NYSDEC - Saranac Lake

TestAmerica Job ID: 480-115698-1

ab Sample ID	Client Sample ID	Matrix	Collected	Received
480-115698-1	516008SB61105	Solid	04/04/17 10:10	04/06/17 09:00

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## **Login Sample Receipt Checklist**

Client: AMEC Foster Wheeler E & I, Inc

Job Number: 480-115698-1

Login Number: 115698 List Source: TestAmerica Buffalo

List Number: 1

Creator: Janish, Carl M

orditor, burnon, burn in		
Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
ppropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested S/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
ultiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	С
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	

10 Hazelwood Drive

Chain of Custody Record

**TestAmerica** 

Amberst, NY 14228-2298 Phone (716) 691-2600 Fax (716) 691-7991 THE LEADER SCHOOLSTANDARD, TESTAND

Client Information	Surpler Dullau	5	et :	Sab F	ner, Bri	lan J				Carri	er Tracking	Notal:		000 Ne: 483-95034-22663.1
Client Consists	Short State   State					and the state of t								Page
Ms. Julia Ricardi Company	207 828 2668 Itrisa					scher @testamericainc.com								Page 1 of 2
AMEC Foster Wheeler E & I, Inc.								Anal	ysis R	eques	ted			
Address: 511 Congress St. Suite 200	Due Date Requests	Due Date Requested:												Preservation Codes:
tily: Portland	TAT Requested (da	ys):			滑	310,13			11	100	14			S-RaCH G-2n Access KWCO
Sein, Zie					100	18			1.1	1.		111	1	D-Minic Add
ME_04101	PO &				100	4			11			100	1	F-Media
	C012904279				3 3			11				1. 187	G-Andier H-Assorbic rea	
Email: ulie ricardi@ameclw.com	W0# 3611161193.03	15			N 10	10			11			111		1- loe 480-115698 COC
rojed Name:	Project Pt		_		33	3							Leu	C-EDTA W-pr-e- L-EDA Z-other (specify)
NYSDEC - Saranac Lake	48008268				ye ye	11						1.1	nta	2-12-14-16
Sbc.	SSOW#:				1 0	Semivolativ						131	10	Const.
		Sample	Sample Type (G=comp.	Matrix (proces, small presents	Field Fillerad Sample, (Yes or No Petform Maritato, (Yes, 0), No)	STOD - PAH Be			Н				tal Number	2-D(Water K-EDTA W-pr-4- L-EDA Z-ster (specify) Other:  Special Instructions/Note:
Sample Identification	Sample Date	Time		STYTesse, Anti-	Parto	7		- 5		-			2	Special Instructions/Note:
		$\sim$	Preserva	ation Code:	XX	N- II	2	4	100	10%	. 199	1 3	X	St. Comments of the Comments o
6F) 5760085861105	04/04/2017	1010	G	Solid	11	X			11					Method 310,13,
	- 4			Solid									1	sample shows high impact
			-	Solid					11					From a petrolowin source
		_		Solid		П					X			(010=1350 ppm)
-04				Solid	$\mathbf{H}$				П	1			10	( same ( fame)
				Solid	H					1			13	1 Sample
1 mo				Solid	T				И				1 15	container
4		-		Solid	11	$\Box$		1	100	7			562	
			-	Solid	++	+		1	14	1		1	10	
		-		Solid	11		1	-	H			1		
			-		+	1	4		+	+		-	155	
				Solid		1		- 18					- N	
Possible Hazard Identification					Sa		uw To I		may be		sed if s sal By L		1	ed longer than 1 month) we For Months
Non-Hazard Flammable Skin Intanz Deliverable Requested, I. II. IV, Other (specify)	ruson b Union	ANT.	eurogual		Sp				equiren		ser dy L	10	Avai	We For Months
		Date:			Time			-	3		Method of	Sharrest,	_	
Empty Kit Refinquished by: Refinquished by:	Data/Time:	D-1011		Company	0.000	Receive	es i	1/	-	/			fin	CALLY Gurden
13 fember	04/05/20	17	16:30	Awec	FW	Marri	1	JU	1/			Ul	11/	DAID contest
				- Control		-	-	-	V					The state of the s
Reling labed by:	DelwTime:			Company		Receive	dby:					Ome/Time		Corpuny
Custody Seals Intact: Custody Seal No.:	_		_			Cooler	Temperati	ure(s)*C	and Other	Remerts	E .	-	7	981
Δ Yes Δ No													- 6	1-1-1

## **APPENDIX F**

WETLAND DELINEATION AND FUNCTIONAL ASSESSMENT REPORT

# WETLAND DELINEATION AND FUNCTIONAL ASSESSMENT REPORT

## SARANAC LAKE GAS COMPANY, INC. NYSDEC SITE NO. 516008 REMEDIAL DESIGN

WORK ASSIGNMENT NO. D007619-39

## Prepared for:

# **New York State Department of Environmental Conservation Albany, New York**

Prepared by:

MACTEC Engineering and Consulting, P.C. Portland, Maine

**MACTEC: 3611161193** 

**AUGUST 2017** 

## WETLAND DELINEATION AND FUNCTIONAL ASSESSMENT REPORT

## SARANAC LAKE GAS COMPANY, INC. NYSDEC SITE NO. 516008 REMEDIAL DESIGN

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## Prepared for:

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Prepared by:

MACTEC Engineering and Consulting, P.C. Portland, Maine

MACTEC: 3611161193

AUGUST 2017

Submitted by:

Approved by:

Charles H. Lyman

Senior Project Scientist

Mark J. Stelmack, P.E.

Project Manager

## **TABLE OF CONTENTS**

1.0	INTRODUCTION	1-1
1. 1.		1-1 1-2
2.0	WETLAND DELINEATION AND FUNCTIONAL ASSESSMENT	2-1
3.0	WETLAND DELINEATION AND FUNCTIONAL ASSESSMENT RESULTS	3-1
3.	1 WETLAND DELINEATION	3-1
	3.1.1 OU01 and OU02 Wetland Delineation	
	3.1.2 OU03 Wetland Delineation	3-4
3.	2 WETLAND FUNCTIONS AND VALUES ASSESSMENT	
	3.2.1 OU01/OU02 – Functional Assessment	
	3.2.2 OU03 – Functional Assessment	3-7
4.0	SUMMARY AND CONCLUSIONS	4-1
5.0	REFERENCES	5-1

## **FIGURES**

## **APPENDICES**

Appendix A: Wetland Determination Data Forms

Appendix B: Wetland Photographs

Appendix C: Wetland Function-Value Evaluation Forms

## LIST OF FIGURES

## Figure

- 1.1 Site Location
- 3.1 Cover Types
- 3.2 NWI Wetlands
- 3.3 OU01/OU02 Wetland Delineation Plan
- 3.4 OU03 Wetland Delineation Plan

### GLOSSARY OF ACRONYMS AND ABBREVIATIONS

FA functional assessment

MACTEC Engineering and Consulting, P.C.

NWI National Wetlands Inventory

NYSDEC New York State Department of Environmental Conservation

OU operable unit

PEM palustrine emergent

PDI Pre-Design Investigation
PSS palustrine scrub/shrub

QAPP Quality Assurance Program Plan

RD remedial design

RI remedial investigation

Site Saranac Lake Gas Company

USACE United States Army Corps of Engineers
USFWS United States Fish and Wildlife Service

WA Work Assignment

Wetland Report Wetland Delineation and Functional Assessment Report

#### 1.0 INTRODUCTION

This Wetland Delineation and Functional Assessment (FA) Report (Wetland Report) has been prepared by MACTEC Engineering and Consulting, P.C. (MACTEC) in response to Work Assignment (WA) No. D007619-39 from the New York State Department of Environmental Conservation (NYSDEC) for the Saranac Lake Gas Company, Inc. Site (the Site). The Site is NYSDEC Site No. 516008, located in the Town of North Elba, Essex County, New York (Figure 1.1). This report has been prepared under the July 2011 Superfund Standby Contract between MACTEC and the NYSDEC.

The Site is currently listed as a Class 2 site (i.e., significant threat to the public health or environment) by the NYSDEC. This report presents the results of the wetland delineation and functional assessment work proposed in the Pre-Design Investigation (PDI) Field Activities Plan (MACTEC, 2016) conducted in support of Remedial Design (RD) for Site Operable Units OU02 – Brandy Brook and OU03 – Pontiac Bay in Lake Flower.

#### 1.1 Site Description

The Site includes the following three operable units (OUs):

- OU01 Site property (i.e., former MGP property)
- OU02 Brandy Brook (i.e., section of the Brook from boundary of OU01 to Pontiac Bay)
- OU03 Pontiac Bay in Lake Flower

<u>OU01 - Site Property</u>. OU01 is approximately 4.5 acres in size and is located east of, and adjacent to the Adirondack Scenic Railroad. Residential properties border OU01 to the north, east, and part of the west side and North Country Community College soccer fields and facilities border OU01 to the south. An access road extends from Payeville Lane west to the former gas plant site. The Site and surrounding area is serviced by public water. Currently, OU01 is a vacant lot with an open, unoccupied one story concrete block building. RD activities for OU01 are not included in WA D007619-39. Although OU01 is not included in the current proposed RD activities, wetlands were delineated in this OU, as Brandy Brook bisects the northern end of OU01.

OU02 – Brandy Brook. Brandy Brook flows westerly through OU01, then turns to the north beginning at OU02 and continues in a northerly direction for approximately 1,000 feet then turns to the west and flows for 700 feet, where it discharges to Pontiac Bay in Lake Flower. The section of the Brook that turns to the west is culverted under a railroad crossing and culverted again under three driveway crossings and below Slater Avenue and Lake Flower Avenue. The driveway crossings range from eight to 20 feet long and the culverted section below Slater Avenue and Lake Flower Avenue is approximately 250 feet long. The brook channel is approximately three to five feet wide. The bottom is scoured fine to medium sand, with pockets of mucky organic material in low lying depositional areas. In places of high water flow and where flow through the Brook is more channelized, the bottom of the Brook is comprised of predominantly gravel and cobbles. The channel is well entrenched with undercut banks for nearly its entire length. Trees, branches, woody debris, and detritus were observed in the stream channel in multiple locations along the Brook.

<u>OU03 – Pontiac Bay.</u> OU03 includes Pontiac Bay and an adjacent area within Lake Flower. Pontiac Bay (approximately four acres) is located along the northeast portion of Lake Flower adjacent to the intersection of Lake Flower Avenue, Brandy Brook Road, and River Street. Lake Flower is an impounded section of the Saranac River. The dam is located approximately 2,000 feet northwest of Pontiac Bay. The lake is approximately 202 acres with an average depth of 5 feet. The lake is used primarily for recreation including boating, fishing, swimming, and is open to the public, with a public boat ramp and park located on the northwest side of Pontiac Bay. The lake provides excellent fish habitat, with bass, yellow perch, and pumpkinseeds commonly observed. NYSDEC has classified Lake Flower as AA surface water body, indicating that it is used as a drinking water source and subject to the stream protection provisions of the Protection of Waters regulations.

## 1.2 Objectives

The objective of the assessment is to delineate wetlands and collect data on wetland functions and values. This report presents the results of the wetland delineation and FA conducted in support of the RD for OU02 and OU03. Although the focus of this work is to support the RD for OU02 and OU03, the wetlands observed in OU01 were also delineated as a part of this effort. Brandy Brook flows through OU01 and OU02 and discharges to OU03, thus hydrologically connecting the three operable units. In order to thoroughly evaluate impacts to the brook, lake and bordering wetlands the system

must be comprehensively evaluated, based on the nexus between these wetlands. The wetland delineation and FA were completed following the procedures described herein and in general accordance with the PDI Field Activities Plan (MACTEC, 2016), Quality Assurance Program Plan (MACTEC, 2011a), and the Program Health and Safety Plan (MACTEC, 2011b).

The wetland information presented in this report, along with habitat descriptions presented in the ecological evaluation completed as a part of the Remedial Investigation (RI) (MACTEC, 2015), will be used to support components of the plan to restore wetlands subsequent to the site remedial action.

Wetland Delineation and Functional Assessment Report

Saranac Lake Gas Company, Inc.

NYSDEC Site No. 516008

MACTEC Engineering and Consulting, P.C

Project No. 3611161193

2.0 WETLAND DELINEATION AND FUNCTIONAL ASSESSMENT

Onsite wetlands were delineated in general accordance with U.S. Army Corps of Engineers (USACE)

Wetland Delineation Guidance, including the Corps of Engineers Wetland Delineation Manual

(USACE, 1987) and the Regional Supplement to the Corp of Engineers Wetland Delineation Manual:

Northcentral and Northeast Region, revised January, 2012 (USACE, 2012). Wetlands were classified

using the U.S. Fish and Wildlife guidance "Classification of Wetlands and Deepwater Habitats of the

United States (Cowardin et al, 1979). The FA conducted with the wetland delineation work followed

USACE guidance "The Highway Methodology-Supplement" (USACE, 1999).

The fieldwork to delineate wetlands and complete the FA was conducted on November 7, 8, and 9,

2016. Although the fieldwork was conducted outside of the growing season, the Site lacked snow

cover and herbaceous plants were observable. The wetland line was flagged based on the presence of

hydric soils, hydrophytic vegetation, and hydrology. All three parameters must be present in order for

an area to be identify as a wetland. Wetland determination data forms were filled out for upland and

wetland data plots in support of the wetland delineation. In addition to filling out field data forms,

photographs of the existing wetlands were collected during the delineation work as well. The wetland

line was flagged in the field using numbered pink colored flagging.

The wetland flags were located using a Trimble Global Positioning System (GPS), capable of sub-

meter accuracy. In addition, MACTEC's subcontracted site surveyor located wetland flags and

wetland features including lake and brook edge of water, top of bank, and other site features while

collecting survey data in support of the proposed RD.

The wetland functions and values assessment included a review of thirteen common wetland functions

and values regulators typically evaluated during wetland assessments as outlined in the Highway

Methodology Workbook (USACE, 1999). Wetland function and value evaluation forms were filled

out for each of the wetlands delineated on site.

August 2017

Wetland Delineation and Functional Assessment Report

Saranac Lake Gas Company, Inc.

NYSDEC Site No. 516008

MACTEC Engineering and Consulting, P.C

Project No. 3611161193

3.0 WETLAND DELINEATION AND FUNCTIONAL ASSESSMENT RESULTS

General Cover types and federally delineated wetlands (i.e., National Wetlands Inventory [NWI]

mapped wetlands) were identified and discussed in the RI Report (MACTEC, 2015). The remedial

investigation (RI) Report presents a thorough discussion of the general site conditions as well as a

description of the fish and wildlife resource areas identified in OU02 and OU03. The cover types and

NWI wetlands identified within a half-mile of the Site are shown in Figure 3.1 and Figure 3.2. The

following subsections present the results of the wetland delineation and FA work done in support of

the PDI.

3.1 Wetland Delineation

The wetland resources delineated in OU1 and OU2 are shown on Figure 3.3 and the wetlands

delineated in OU03 are shown on Figure 3.4. Wetland Determination Data Forms for each of the

wetland data plots and representative upland plots are included in Appendix A. Photographs of

wetlands delineated onsite are included in Appendix B.

3.1.1 OU01 AND OU02 WETLAND DELINEATION

Three wetlands labeled Wetland A, Wetland B, and Wetland C were delineated in OU1 and OU02 as

shown on Figure 3.3. Wetland A includes Brandy Brook and associated bordering palustrine emergent

(PEM) and palustrine scrub/shrub (PSS) wetlands. Wetland B is a PSS wetland that appears to have

formed between the rail line that runs by the site and the bed of the former rail spur that enters the site

from the north. Wetland C is a PSS wetland that occurs on the west side of the rail line opposite of

Wetland A. Both Wetland B and Wetland C are connected via culverts to Wetland A.

The following text describes the wetland and upland data collected in support of the wetlands

delineated in OU01 and OU02. It should be noted that the RA does not include the reach of Brandy

Brook that occurs in OU01, however, these wetlands were delineated as they are contiguous with the

wetlands delineated in OU02 and OU03 and are part of the overall site.

Project No. 3611161193

#### Wetland A - Brandy Brook

Brandy Brook is a perennial stream ranging in width from three to five, with base flow depths ranging from several inches up to 12 inches. The Brook is well entrenched with undercut banks along most of its length through OU01 and OU02. The bottom is mostly sand intermixed with gravel to cobble sized material. In the slower flatter sections of the Brook along the railroad tracks the bottom is mucky. The Brook drains a large wetland complex located east of the site. Using the U.S. Fish and Wildlife Service (USFWS) wetland classification system (Cowardin et al., 1979) it would be classified as a R03UB1/2 wetland or riverine, upper perennial, unconsolidated bottom, cobble-gravel/sand wetland. The brook channel and bordering wetland was surveyed and is shown on Figure 3.3.

#### Wetland A – PEM

The PEM portions of the Wetland A makes up roughly 20 percent of the total area of wetland. The wetland determination data form for this wetland (i.e., TP-A-WET (PEM)) is included in Appendix A. This portion of Wetland A is dominated by wetland grasses and sedges. Subordinate species included alder (*Alnus incanna*), meadow sweet (*Spirea latafolia*) and rice-cut grass (*Lyersia orzoidies*). The soils are comprised of a 20-inch thick histic epipedon underlain by mucky sand. Surface water was observed and the soil was saturated to surface. The hydrology is driven by surface water (i.e., Brandy Brook) and shallow groundwater discharging to the wetland. This wetland is classified as a PEM1E or palustrine, emergent, persistent, seasonally flooded/saturated wetland based on the USFWS classification system.

#### Wetland A – PSS

The PSS portions of Wetland A makes up roughly 80 percent of the total area of wetland. The wetland determination data form for this wetland (i.e., TP-A-WET (PSS)) is included in Appendix A. This wetland type is dominated by alders. Subordinate species were lacking as the alder is very dense and acts to shade out herbaceous growth. The soils are comprised of mucky sand underlain by fine sand. The hydrology is driven by surface water (i.e., Brandy Brook) and shallow groundwater discharge to the wetland. This wetland is classified as a PSS1E or palustrine, emergent, broad-leaved deciduous, seasonally flooded/saturated wetland based on the USFWS classification system.

Project No. 3611161193

Upland A

The wetland determination data form for the upland bordering Wetland A (i.e., TP-A-UPL) is included

in Appendix A. The data collected at this location was determined to be representative of the uplands

bordering Wetland A. The upland bordering Wetland A is dominated by mature forest and/or

managed residential lawns. The bordering upland is dominated by mature trees including white pines

(Pinus strobus), black cherry (Prunus serotina), and poplar (Populus sp.). The understory is relatively

open containing saplings of the dominant tree species and a few ferns. The soils observed in the

uplands are composed of sandy loam in the upper horizons underlain by fine sands. The land surface

in the bordering upland is sloping towards the wetland.

Wetland B

Wetland B is located in an isolated depression between the railroad track bordering OU01 and OU02

and the rail spur that formerly provided service to the site (see Figure 3.3). The wetland determination

data form (i.e., TP-B-WET) for this wetland is included in Appendix A. Wetland B is classified as

PSS wetland, dominated by alder and meadow sweet. The soils are similar to the PSS portion of

Wetland A, sandy muck overlying fine sand. The hydrology is driven by surface water and shallow

groundwater discharge to the wetland. This wetland is classified as a PSS1E or palustrine, emergent,

broad-leaved deciduous, seasonally flooded/saturated wetland based on the USFWS classification

system.

**Upland B** 

The wetland determination data form for the upland bordering Wetland B (i.e., TP-B-UPL) is included

in Appendix A. The data collected at this location was determined to be representative of the uplands

bordering Wetland B. The upland bordering Wetland B is dominated by white pine, white birch

(Betula populifolia) and cherry trees. The understory is relatively open is dominated by saplings of the

aforementioned tree species. The upland soils are composed of a sandy loam in the upper horizons

overlying fine sands in the substratum. The land surface in the bordering upland is relatively flat and

has likely been manipulated in the past, through construction of or historic operations at the site.

Wetland C

Wetland C is located in the low lying area on the west side of the railroad tracks bordering OU01 and

OU02. The wetland determination data form for the Wetland C (i.e., TP-C-WET) is included in

Project No. 3611161193

Appendix A. Wetland C is classified as a PSS wetland, dominated by alder and meadow sweet. Subordinate species include willow (*Salix* spp.), sensitive fern (*Onoclea sensibilis*), reed canary grass (*Phalaris arundenacea*) and golden rod (*Solidago canadensis*). The soils are similar to Wetland A and Wetland B, with sandy muck overlying gleyed fine sand. The hydrology is driven by surface water runoff from the surrounding yards and shallow groundwater discharge to the wetland. There was an area of seasonally ponded water within Wetland C that was observed during wetland delineation, as shown on Figure 3.3. This wetland is classified as a PSS1E or palustrine, scrub-shrub, broad-leaved

An upland data point was not collected for the uplands bordering Wetland C, as the bordering uplands were managed lawns in the back yards of residential properties. It was determined that the data collected in the uplands bordering Wetland A and Wetland B would be consistent with undisturbed uplands bordering Wetland C. In addition, the proposed RA does not include impacts to the uplands bordering Wetland C.

deciduous, seasonally flooded/saturated wetland based on the USFWS classification system.

#### 3.1.2 OU03 WETLAND DELINEATION

OU03 includes Pontiac Bay in Lake Flower. Lake Flower is formed by the Lake Flower Dam which backs up the Saranac River. Lake Flower, which is the only wetland resource associated with OU03, has been included in the NWI mapped wetlands in the region, as shown on Figure 3.2. The NWI classification for Lake Flower as L1UBH or lacustrine, limnetic, unconsolidated bottom, permanently flooded wetland. Wetlands were not observed bordering Lake Flower in the vicinity of Pontiac Bay, as there is an abrupt steep bank transitioning from wetland (i.e., Lake Flower) to upland. It was observed that the majority of the bank along Pontiac Bay was overgrown rip/rap or concrete bulkhead.

The upland bordering Pontiac Bay is predominantly managed lawn, which is either part of the Village of Saranac Lake Park or hotel lawn. Observation of soil samples collected from borings in the park and hotel lawn show them to be typical of the upland soils observed in the area, which consist of a loam sand overlying fine sand substratum. The water table was observed to be between three and four feet below the ground surface, based on soil borings completed in support of the RI and PDI. There are a few sparse trees and shrubs vegetating the top of bank along the park and a line of red cedar trees bordering the south side of Pontiac Bay (See Figure 3.2 and photographs included in Appendix B). This line of trees appears to be part of an old landscape feature planted behind the existing hotel

August 2017

Wetland Delineation and Functional Assessment Report

Saranac Lake Gas Company, Inc.

NYSDEC Site No. 516008

MACTEC Engineering and Consulting, P.C

Project No. 3611161193

property on the south side of the bay. The wetland line as shown on Figure 3.4 is based on GPS data

collected during reconnaissance of the OU and topographic data generated by the site surveyor. The

wetland line as shown is based on the edge of water and/or top of bank. It should be noted that water

elevation in Lake Flower is relatively stable as a result of the operation of water control structures

associated with the dam.

3.2 Wetland Functions and Values Assessment

Wetland functions and values were evaluated for each of the wetlands delineated on site, however due

to the similarity, proximity, and connectivity of the wetlands the functional assessment focused on

OU01/OU02 (Wetlands A, B and C) and OU03 (Pontiac Bay).

3.2.1 OU01/OU02 – FUNCTIONAL ASSESSMENT

Wetlands A, B, and C delineated in OU01/OU02 include Brandy Brook and adjacent emergent and

scrub shrub wetlands. These wetlands are all contiguous and have been evaluated together. The

thirteen functions and values evaluated for this wetland complex are discussed in the following

subsections. The Wetland Function-Value Evaluation Form is included in Appendix C.

The following subsections describe the wetland functions evaluated in the FA.

Groundwater Recharge/Discharge. Shallow groundwater discharges to Brandy Brook and

bordering wetland habitat, based on observations of seeps and piezometer data. Water levels observed

in the wetland are representative of the shallow groundwater table.

Floodflow Alteration. Brandy Brook and specifically the emergent and scrub-shrub wetlands

bordering the Brook play a large role in flood flow alteration. A principal function of this wetland is

its ability to attenuate and slowly discharge floodwaters during high flow events.

Fish and Shellfish Habitat. Brandy Brook is designated by NYSDEC as trout habitat, and small fish

and minnows have been observed in the Brook at various times. This provision of habitat is considered

a principal function of the wetland, as evidenced by the State's designation and MACTEC's field

observations. The palustrine emergent and palustrine scrub-shrub wetlands bordering the Brook do

Wetland Delineation and Functional Assessment Report

Saranac Lake Gas Company, Inc.

NYSDEC Site No. 516008

MACTEC Engineering and Consulting, P.C

Project No. 3611161193

not provide this function, although their existence does likely support macro invertebrates that may

migrate into the Brook.

Sediment/Toxicant/Pathogen Retention. The Brook and bordering wetland are currently providing

contaminant retention function based on observations conducted in the Brook and bordering wetland

during the RI and the PDI. Sediment within the Brook and hydric soils in the bordering wetland are

composed of organic material as well as mineral material (i.e., silt and fine sand), which allow water to

flow through while the high organic carbon content attenuates contaminants. Contaminants are bound

up in organic matter and physically filtered out by the fine grained material. The

sediment/toxicant/pathogen retention function is considered a principal function of the wetland.

Nutrient Removal/Retention/Transformation. The Brook and bordering wetland have a high

capacity to remove, retain, and transform nutrients entering the wetland complex. The sediment in the

Brook and wetland are composed of fine grained or organic material. The wetland is densely

vegetated with both emergent and scrub shrub vegetation. Flow through the wetland is diffuse, and

water typically moves slowly through the wetland. In addition, the outlet from the wetland complex is

through a box culvert which tends to back the water flow in the wetland up during high flows (i.e., rain

events). This function is considered to be a principal function of the wetland.

Production Export. The Brook and bordering wetland do not offer food or usable products to

humans, however, the dense herbaceous and scrub-shrub vegetation in the wetland provide a food

source for local birds and small mammals. In addition, the wetland provides excellent habitat for

macroinvertebrates that likely support higher trophic level consumers such as small fish, birds, and

small mammals. This is considered to be a principal function of the wetland.

Sediment/Shoreline Stabilization. Wetlands bordering the Brook are densely vegetated with both

emergent and scrub shrub vegetation. Emergent growth, dominated by wetland grasses, has developed

into a thick thatch layer of roots binding the sediments bordering the brook channel. Similarly, the

dense scrub shrub growth, dominated by alders, is acting to stabilize the sediment in the wetland by

reducing water velocities and roots binding sediment. Based on observations of dense growth and

defined channel, this is considered to be a principal function of the wetland.

August 2017

Wetland Delineation and Functional Assessment Report

Saranac Lake Gas Company, Inc.

NYSDEC Site No. 516008

MACTEC Engineering and Consulting, P.C

Project No. 3611161193

Wildlife Habitat. The Brook and bordering wetland are providing wildlife habitat for aquatic and

terrestrial wildlife. As noted above fish, birds, and small mammal use has been observed in the Brook

and bordering wetland. Deer have been observed on the site, and other larger mammals (i.e., coyote,

fox, and raccoon) are likely transients through this area.

The wetland values that were evaluated in the FA included recreation, education/scientific,

uniqueness/heritage, visual quality/aesthetics, and threatened/endangered species habitat. Brandy

Brook and bordering wetlands do not appear to support recreation due to the relatively small size of

the Brook and bordering wetland. The perennial Brook and emergent/scrub-shrub wetland complex is

relatively common in the area, and because it is located on private property along a railroad right of

way limiting access, it does not offer opportunity for education or scientific study. Finally, inquiries to

State and Federal wildlife agencies and review of NYSDEC's website did not identify the Brook or

bordering wetland as having known rare, threatened, or endangered species use or habitat.

3.2.2 OU03 – FUNCTIONAL ASSESSMENT

The wetland delineated in OU03 included Pontiac Bay in Lake Flower. As done for OU01/OU02, the

thirteen functions and values evaluated for Pontiac Bay are discussed in the following subsections.

The Wetland Function-Value Evaluation Form is included in Appendix C.

The following text describes the wetland functions and values evaluated in the FA.

Groundwater Recharge/Discharge. Based on piezometer data collected adjacent to the Bay, shallow

groundwater discharges to Pontiac Bay and Lake Flower. The discharge is considered a principal

function of the Bay.

Floodflow Alteration. The water level in Lake Flower is managed by operation of the dam at the

outlet of Lake. There are relatively large areas of wetlands bordering the Lake that would potentially

attenuate flood waters. Pontiac Bay, however, lacks bordering wetlands. The surface cover at the

banks bordering Pontiac Bay have rip rap overgrown with vegetation. The surface slope is relatively

steep, rising approximately three to four feet above the normal level of the Lake.

Wetland Delineation and Functional Assessment Report

Saranac Lake Gas Company, Inc.

NYSDEC Site No. 516008

MACTEC Engineering and Consulting, P.C

Project No. 3611161193

Fish and Shellfish Habitat. Lake Flower including Pontiac Bay provides excellent fish habitat and is

known for its fishing opportunities. The aquatic habitat in Pontiac Bay likely provides opportunity for

spawning areas due to shallow depths and sandy substrate. This feature is considered a principal

function of the Bay.

Sediment/Toxicant/Pathogen Retention. Based on the configuration of the Bay relative to the Lake

and to Brandy Brook, the relatively quiescent Bay allows for sediment and associated toxicants and

pathogens to settle out of water discharging to the Bay from the Brook.

Nutrient Removal/Retention/Transformation. Pontiac Bay lacks the bordering wetland habitat that

would be likely to attenuate nutrients entering in the Bay from runoff and or from the discharge of

Brandy Brook.

**Production Export.** Lake Flower including Pontiac Bay provides food sources for both humans and

wildlife. Lake Flower is known to contain many sought after game fish including bass, perch, and

pumpkinseeds. There is opportunity for higher trophic level consumers including otters and raccoons,

as well as piscivorous birds such as osprey and bald eagles. In addition, the lake provides habitat for

migratory waterfowl including ducks and geese. These combined features are considered a principal

function of the Lake Flower including Pontiac Bay.

Sediment/Shoreline Stabilization. The bank bordering Pontiac Bay is mostly riprap overgrown with

vegetation or concrete retaining wall, and very little of the bank is natural. The bank surface appears to

be stable and not eroding into the Lake.

Wildlife Habitat. Lake Flower including Pontiac Bay provides habitat for many different species and

trophic levels. The productive aquatic habitat supports a host of plankton, zooplankton, invertebrates,

amphibians, reptiles, and fish, as well as top predators such as eagles and osprey. The Lake also

provides habitat for migratory water fowl for stop overs during migration, as well as breeding and

nesting opportunities.

The wetland values evaluated in the FA included recreation, education/scientific, uniqueness/heritage,

visual quality/aesthetics, and threatened/endangered species habitat. Lake Flower is in the heart of the

Adirondacks, an area having a long history as a place to recreate. There is a multitude of recreational opportunities associated with the lake including fishing, canoeing, kayaking, and motor boating. Opportunity for education and/or research are available as there is public access to the lake and to the Village owned park that borders Pontiac Bay. The park and lake are highly valued for their uniqueness/heritage; the Village has a long history of hosting winter carnivals and has been a recreational destination for over 100 years. The lake also supports threatened/endangered species, as bald eagles are using the lake to feed on fish.

4.0 SUMMARY AND CONCLUSIONS

Wetlands were delineated onsite (i.e., OU01/OU02/OU03) based on the presence of hydric soils,

hyrdrophytic vegetation, and hydrology. Delineated wetlands included a perennial stream, bordering

emergent and scrub shrub wetlands, and a portion of Lake Flower (i.e., Pontiac Bay). Brandy Brook,

flagged as Wetland A, is classified as a R03UB1/2 wetland or riverine, upper perennial,

unconsolidated bottom, cobble-gravel/sand wetland, based on the USFWS classification system. The

wetlands bordering the Brook were also flagged as Wetland A, include both PSS1E wetland and

PEM1E wetland or palustrine scrub shrub, broad-leaved deciduous and emergent, persistent,

seasonally flooded/saturated wetlands. Wetlands B and C are both classified as PSS1E wetlands.

Pontiac Bay (e.g. Lake Flower) is classified by the USFWS (NWI) as a L1UBH wetland or lacustrine,

limnetic, unconsolidated bottom, permanently flooded wetland.

Wetland functions and values were evaluated during the wetland delineation. The wetlands flagged in

OU01 and OU02 (i.e., Wetlands A, B and C) were evaluated together based on similarity, proximity,

and connectivity. OU03 (i.e., Pontiac Bay) was evaluated separately due its difference from the Brook

and bordering wetlands (e.g., palustrine wetland vs lacustrine wetland). The principal functions

identified for wetlands flagged in OU01 and OU02 include floodflow alteration, fish and shellfish

habitat (Brook only), sediment/toxicant retention, nutrient removal, production export, sediment

shoreline stabilization, and wildlife habitat. Due to their relative small size and lack of access, the

wetlands were not found to have value for recreation, education uniqueness, visual quality, or

endangered species habitat. The principal functions identified for OU03 include groundwater

recharge/discharge, fish and shellfish habitat, production export, and wildlife habitat. The principal

values identified for OU03 included recreation, education/science, and uniqueness/heritage.

The data collected in support of the wetland delineation along with the data collected in support of the

FA will be used in the development of a restoration plan to mitigate wetland impacts incurred in the

process of remediating the Site.

#### 5.0 REFERENCES

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## **FIGURES**







