FORMOSA PLASTICS CORPORATION
LS & QA DEPARTMENT
2011 4th Quarter VCM Groundwater Samples

QC Section

FORMOSA PLASTICS CORPORATION
ANALYTICAL LABORATORY DEPARTMENT
Point Comfort Expansion Facility

No. 09966

CHAIN OF CUSTODY RECORD

CUSTOMER INFORMATION	PROJECT INFORMATION
COMPANY: Formosa Plastics Corp	PROJECT NAME/NUMBER: 4th QTR GW Sampling / 114-021356
DEPARTMENT: Laboratory	BILLING INFORMATION
SEND REPORT TO:	BILL TO:
ADDRESS: 201 Formosa Dr Point Comfort, TX 77978	COMPANY:
	DEPARTMENT:
PHONE: 361-987-7316	PHONE:
FAX:	FAX: PO NO.:

SAMPLE POINT	SAMPLE DATE	SAMPLE TIME	SAMPLE TYPE (G/C)	SAMPLE MATRIX	CONTAINER	PRESERV.	NUMBER OF CONTAINERS	ANALYSIS / METHOD REQUEST: VOC	COMMENTS FLOW / TOTALIZER
D-32	11/28/11	1329	G	W	40ml	HCL	4	X	
D-33	11/28/11	1414	G	W	40 mL	HCL	4	X	
D-34	11/28/11	1510	G	W	40 mL	HCL	4	X	
Dup-01	11/28/11	—	G	W	40mL	HCL	4	X	
P-18	11/28/11	1550	G	W	40 mL	HCL	4	X	
D-5	11/28/11	1634	G	W	40 mL	HCL	4	X	
D-16	11/28/11	1708	G	W	40mL	HCL	4	X	
FB-01	11/28/11	1720	G	W	40mL	HCL	4	X	
P-57	11/28/11	1747	G	W	40mL	HCL	4	X	
Trip Blank-01	11/28/11	LAB supplied	G	W	40mL	HCL	1	X	

SAMPLER: Arnold Mota

SHIPMENT METHOD: Hand Deliver

COOLER TEMP: 3°

REQUIRED TURNAROUND* ☐ EMERGENCY ☒ NORMAL ☐ OTHER

RELINQUISHED BY: SIGNATURE:	PRINTED NAME	DEPARTMENT/COMPANY	DATE	TIME	RECEIVED BY: SIGNATURE:	PRINTED NAME	DEPARTMENT/COMPANY
[signature]	Arnold Mota	Tetra Tech	11/28/11	1845	[signature]	Mark A Salinas	Tet

*RUSH TURNAROUND MAY REQUIRE SURCHARGE

*KEY: Sample Type: G - grab C - composite Matrix: AQ-aqueous NA- nonagueous SO- Soil SL-sludge P-petroleum A-air OT-other Containers: P-plastic G-glass T-teflon B-steel bomb OT-other

FORMOSA PLASTICS CORPORATION
ANALYTICAL LABORATORY DEPARTMENT
Point Comfort Expansion Facility

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No. 09968

CHAIN OF CUSTODY RECORD

CUSTOMER INFORMATION	PROJECT INFORMATION
COMPANY: Formosa Plastic Corp.	PROJECT NAME/NUMBER: 4th QTR GW Sampling / 114-021356
DEPARTMENT: Laboratory	BILLING INFORMATION
SEND REPORT TO:	BILL TO:
ADDRESS: 201 Formosa Dr Point Comfort, TX 77978	COMPANY:
	DEPARTMENT:
PHONE: 361-987-7316	PHONE:
FAX:	FAX: PO NO.:

SAMPLE POINT	SAMPLE DATE	SAMPLE TIME	SAMPLE TYPE (G/C)	SAMPLE MATRIX	CONTAINER	PRESERV.	NUMBER OF CONTAINERS	ANALYSIS/METHOD REQUEST: VOC	COMMENTS: FLOW / TOTALIZER
P-56	11/29/11	0804	G	W	40mL	HCL	4	X	
P-15	11/29/11	0845	G	W	40mL	HCL	4	X	
P-4	11/29/11	0922	G	W	40mL	HCL	4	X	
D-4	11/29/11	1009	G	W	40mL	HCL	4	X	
P-14	11/29/11	1047	G	W	40mL	HCL	4	X	
P-55	11/29/11	1135	G	W	40mL	HCL	4	X	
FB-02	11/29/11	1155	G	W	40mL	HCL	4	X	
Dup-02	11/29/11	—	G	W	40mL	HCL	4	X	
P-51	11/29/11	1233	G	W	40mL	HCL	4	X	
P-50	11/29/11	1308	G	W	40mL	HCL	4	X	
D-21	11/29/11	1345	G	W	40mL	HCL	4	X	

SAMPLER: Arnold Mota

SHIPMENT METHOD: Hand Deliver

COOLER TEMP: 3°C

REQUIRED TURNAROUND* ☐ EMERGENCY ☒ NORMAL ☐ OTHER

RELINQUISHED BY: SIGNATURE:	PRINTED NAME	DEPARTMENT/COMPANY	DATE	TIME	RECEIVED BY: SIGNATURE:	PRINTED NAME	DEPARTMENT/COMPANY
	Arnold Mota	Tetra Tech, Inc	11/29/11	1730		A. Ramos	TCH

*RUSH TURNAROUND MAY REQUIRE SURCHARGE

*KEY: Sample Type: G - grab C - composite Matrix: AQ-aqueous NA- nonaqueous SO- Soil SL-sludge P-petroleum A-air OT-other Containers: P-plastic G-glass T-teflon B-steel bomb OT-other

FORMOSA PLASTICS CORPORATION
ANALYTICAL LABORATORY DEPARTMENT
Point Comfort Expansion Facility

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No. 09971

CHAIN OF CUSTODY RECORD

CUSTOMER INFORMATION	PROJECT INFORMATION
COMPANY: Formosa Plastic Corp	PROJECT NAME/NUMBER:
DEPARTMENT: LABORATORY	BILLING INFORMATION
SEND REPORT TO:	BILL TO:
ADDRESS: 201 Formosa Dr. Point Comfort, TX 77978	COMPANY:
	DEPARTMENT:
PHONE: 361-987-7316	PHONE:
FAX:	FAX: PO NO.:

SAMPLE POINT	SAMPLE DATE	SAMPLE TIME	SAMPLE TYPE (G/C)	SAMPLE MATRIX	CONTAINER	PRESERV	NUMBER OF CONTAINERS	ANALYSIS / METHOD REQUEST: VOC	COMMENTS: FLOW / TOTALIZER
P-10	11/29/11	1434	G	W	40mL	HCL	4	X	
D-41	11/29/11	1518	G	W	40mL	HCL	4	X	
D-39	11/29/11	1553	G	W	40mL	HCL	4	X	
P-48	11/29/11	1625	G	W	40mL	HCL	4	X	
Trip Blank-2	11/28/11	LAB SUPPLIED	G	W	40mL	HCL	1	X	

SAMPLER: Arnold Mota

SHIPMENT METHOD: Hand Deliver

COOLER TEMP: 3°C

REQUIRED TURNAROUND* ☐ EMERGENCY ☒ NORMAL ☐ OTHER

RELINQUISHED BY: SIGNATURE	PRINTED NAME	DEPARTMENT/ COMPANY	DATE	TIME	RECEIVED BY: SIGNATURE	PRINTED NAME	DEPARTMENT/ COMPANY
[signature]	Arnold Mota	Tetra Tech, Inc	11/29/11	1730	[signature]	A. Ramon	Tech

*RUSH TURNAROUND MAY REQUIRE SURCHARGE

*KEY: Sample Type: G - grab C - composite Matrix: AQ-aqueous NA- nonaqueous SO- Soil SL-sludge P-petroleum A-air OT-other Containers: P-plastic G-glass T-teflon B-steel bomb OT-other

FORMOSA PLASTICS CORPORATION
ANALYTICAL LABORATORY DEPARTMENT
Point Comfort Expansion Facility

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CHAIN OF CUSTODY RECORD

CUSTOMER INFORMATION	PROJECT INFORMATION
COMPANY: Tetra Tech	PROJECT NAME/NUMBER: 114-021356
DEPARTMENT:	BILLING INFORMATION
SEND REPORT TO: Erik Klink	BILL TO:
ADDRESS: 7800 Shoal Creek Blvd 253E	COMPANY:
Austin, TX 78757	DEPARTMENT:
PHONE: 512 338-1667	PHONE:
FAX:	FAX: PO NO.:

SAMPLE POINT	SAMPLE DATE	SAMPLE TIME	SAMPLE TYPE (G/C)	SAMPLE MATRIX	CONTAINER	PRESERV	NUMBER OF CONTAINERS	ANALYSIS/METHOD REQUEST: VOC	COMMENTS: FLOW / TOTALIZER
✓ Stripper In	11/29/11	0845	G	W	40mL	HCl	4	X	
✓ Stripper Out		0855	G	W	40mL	HCl	4	X	
✓ p-12		0945	G	W	40mL	HCl	4	X	
✓ d-2		1005	G	W	40mL	HCl	4	X	
✓ RS-1		1020	G	W	40mL	HCl	4	X	
✓ RD-1		1030	G	W	40mL	HCl	4	X	
✓ d-14		1140	G	W	40mL	HCl	4	X	
✓ d-13		1210	G	W	40mL	HCl	4	X	
✓ d-12		1235	G	W	40mL	HCl	4	X	
✓ p-9		1325	G	W	40mL	HCl	4	X	
✓ FB-03		1345	G	W	40mL	HCl	4	X	

SAMPLER: Chaz Frankenberry SHIPMENT METHOD: Hand Deliver COOLER TEMP: 2°

REQUIRED TURNAROUND* ☐ EMERGENCY ☐ NORMAL ☐ OTHER Per Contract

*RUSH TURNAROUND MAY REQUIRE SURCHARGE

RELINQUISHED BY: SIGNATURE	PRINTED NAME	DEPARTMENT/COMPANY	DATE	TIME	RECEIVED BY: SIGNATURE	PRINTED NAME	DEPARTMENT/COMPANY
[signature]	Chaz Frankenberry	Tetra Tech	11/29/11	1805	[signature]	Kristin Tomanec	Technical

*KEY: Sample Type: G - grab C - composite Matrix: AQ-aqueous NA- nonaqueous SO- Soil SL-sludge P-petroleum A-air OT-other Containers: P-plastic G-glass T-teflon B-steel bomb OT-other

FORMOSA PLASTICS CORPORATION
ANALYTICAL LABORATORY DEPARTMENT
Point Comfort Expansion Facility

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No. 09369

CHAIN OF CUSTODY RECORD

CUSTOMER INFORMATION	PROJECT INFORMATION
COMPANY: Tetra Tech	PROJECT NAME/NUMBER: 114-021356
DEPARTMENT:	BILLING INFORMATION
SEND REPORT TO: Erik Klink	BILL TO:
ADDRESS: 7800 Shoal Creek Blvd 257G Austin, TX 78757	COMPANY:
	DEPARTMENT:
PHONE: 512 338-1667	PHONE:
FAX:	FAX: PO NO.:

	SAMPLE POINT	SAMPLE DATE	SAMPLE TIME	SAMPLE TYPE (G/C)	SAMPLE MATRIX	CONTAINER	PRESERV.	NUMBER OF CONTAINERS	VOC	COMMENTS / FLOW / TOTALIZER
✓	d-3	11/29/11	1430	G	W	40mL	HCl	4	X	
✓	p-3		1500	G	W	40mL	HCl	4	X	
✓	p-24		1540	G	W	40mL	HCl	4	X	
✓	RS-4		1600	G	W	40mL	HCl	4	X	
✓	RS-5		1610	G	W	40mL	HCl	4	X	
✓	Dup-03		0000	G	W	40mL	HCl	4	X	
✓	TB-03	Lab supplied	Lab supplied	—	W	40mL	HCl	2	X	

SAMPLER: Chaz Frankenberg

SHIPMENT METHOD: Hand Deliver

COOLER TEMP: 2°

REQUIRED TURNAROUND* ☐ EMERGENCY ☐ NORMAL ☐ OTHER Per Contract

*RUSH TURNAROUND MAY REQUIRE SURCHARGE

RELINQUISHED BY: SIGNATURE:	PRINTED NAME	DEPARTMENT/COMPANY	DATE	TIME	RECEIVED BY: SIGNATURE:	PRINTED NAME	DEPARTMENT/COMPANY
[signature]	Chaz Frankenberg	Tetra Tech	11/29/11	1805	[signature]	Kriston Tomanek	Technical

*KEY: Sample Type: G - grab C - composite Matrix: AQ-aqueous NA- nonaqueous SO- Soil SL-sludge P-petroleum A-air OT-other Containers: P-plastic G-glass T-teflon B-steel bomb OT-other

FORMOSA PLASTICS CORPORATION
ANALYTICAL LABORATORY DEPARTMENT

SAMPLE RECEIPT CHECKLIST

UNIT/CLIENT: VCM **JOB NUMBER:** 114-021356

	Yes	No	Comments
1. COC signed?	✓	*	
2. COC seal on sample containers?	✓		
3. Sample Chilled? Temperature of cooler: 3°	✓	*	
4. Sample received intact (Good Condition)? Zero headspace on volatiles?	✓	*	
5. Correct containers used?	✓	*	
6. Adequate sample volume provided?	✓	*	
7. Sample preserved? With: 1:1 HCl By: SO.	✓		
8. COC record and sample labels agree?	✓		
9. Sample received within holding time?	✓	*	
Additional comments:	✓		

*- Comments and client authorization are required to proceed with analysis when nonconformances are identified.

Inspected by: Mark Sathas **Date/Time:** 11/28/11 1845

FORMOSA PLASTICS CORPORATION
ANALYTICAL LABORATORY DEPARTMENT

SAMPLE RECEIPT CHECKLIST

UNIT/CLIENT: VCM **JOB NUMBER:** 114-021352

	Yes	No	Comments
1. COC signed?	✓	*	
2. COC seal on sample containers?	✓		
3. Sample Chilled? Temperature of cooler: 3°	✓	*	
4. Sample received intact (Good Condition)? Zero headspace on volatiles?	✓	*	
5. Correct containers used?	✓	*	
6. Adequate sample volume provided?	✓	*	
7. Sample preserved? With: HCl By: SZ	✓		
8. COC record and sample labels agree?	✓		
9. Sample received within holding time?	✓	*	
Additional comments:	✓		

*- Comments and client authorization are required to proceed with analysis when nonconformances are identified.

Inspected by: Arnold Ramos **Date/Time:** 17:30/11/24

FORMOSA PLASTICS CORPORATION
ANALYTICAL LABORATORY DEPARTMENT

SAMPLE RECEIPT CHECKLIST

UNIT/CLIENT:	JOB NUMBER:

	Yes	No	Comments
1. COC signed?	✓	*	
2. COC seal on sample containers?	✓		
3. Sample Chilled? Temperature of cooler: 2°	✓	*	
4. Sample received intact (Good Condition)? Zero headspace on volatiles?	✓	*	
5. Correct containers used?	✓	*	
6. Adequate sample volume provided?	✓	*	
7. Sample preserved? With: 1:1 HCl. By: SD.	✓		
8. COC record and sample labels agree?	✓		
9. Sample received within holding time?	✓	*	
Additional comments:			

*- Comments and client authorization are required to proceed with analysis when nonconformances are identified.

Inspected by: Kristen Pomaru. **Date/Time:** 11/29/11 18:05

FORMOSA PLASTICS CORPORATION, TEXAS
Sample Worksheet

Date Received: 11/28/11
DUE DATE:

Sequence No.	Sample Number	Sample ID	Sample Date
		D-32	11/28/11
		D-33	
		D-34	
		Dup-01	
		P-18	
		D-5	
		D-16	
		F.B.-01	
		P-57	
		Trip Blank-01	

Test(s) Requested: ___ TOC ___ VOA ✓ Other VCM
___ Metals ___ Semi-volatiles

Comments:

FORMOSA PLASTICS CORPORATION, TEXAS
Sample Worksheet

Date Received: 11/29/11
DUE DATE:

Sequence No.	Sample Number	Sample ID	Sample Date
		P-56	11/29/11
		P-15	
		P-4	
		D-4	
		P-14	
		P-55	
		FB-02	
		Dup-02	
		P-51	
		P-50	
		D-21	
		P-10	
		D-41	
		D-39	
		P-48	
		Trip Blank-2	11/29/11

Test(s) Requested: ___ TOC ___ VOA ✓ Other VOM
___ Metals ___ Semi-volatiles

Comments:

FORMOSA PLASTICS CORPORATION, TEXAS
Sample Worksheet

Date Received: 11/29/11
DUE DATE:

Sequence No.	Sample Number	Sample ID	Sample Date
		Stripper In	11/29/11
		Stripper Out	
		P-12	
		d-2	
		RS-1	
		RD-1	
		d-14	
		d-13	
		d-12	
		P-9	
		FB-03	
		d-3	
		P-3	
		P-24	
		RS-4	
		RS-5	
		Dup-03	
		TB-03	

Test(s) Requested: ___ TOC ___ VOA ✓ Other VOM
___ Metals ___ Semi-volatiles

Comments:

Analytical Batch

Volatile QC Sample Analyses on 11/29/11

06-Dec-11 1:22 pm

OVL001 pentafluorobenzene (N/A) 12/06/11 01:21 PM - jcurry

Sample ID	Collected	Project	Location	Sample Type	Customer	Cust. Sample ID	Date	Result
1111290928	11/29/2011	wasterwater permit	TTT-34B	Grab	CWTP	TTT-34B 11/29/11	11/29/2011	100848
1112051523	11/28/2011	Ground Water	D-32	Grab	VCM	D-32	11/29/2011	99588
111205152A	11/28/2011	Ground Water	D-33	Grab	VCM	d-33	11/29/2011	99509
1112051524	11/28/2011	Ground Water	D-34	Grab	VCM	d-34	11/29/2011	98772
111205152B	11/28/2011	Ground Water	VCM Groundwater Dup-1	Grab	VCM	duplicate 1	11/29/2011	94240
1112051525	11/28/2011	Ground Water	P-18	Grab	VCM	p-18	11/29/2011	95725
1112051526	11/28/2011	Ground Water	D-5	Grab	VCM	d-5	11/29/2011	110739
1112051527	11/28/2011	Ground Water	D-16	Grab	VCM	d-16	11/29/2011	98752
111205152C	11/28/2011	Ground Water	Field Blank	Grab	VCM	fb-01	11/29/2011	105033
1112051528	11/28/2011	Ground Water	P-57	Grab	VCM	p-57	11/29/2011	95463
111205152D	11/28/2011	Ground Water	Trip Blank	Grab	VCM	tb-01	11/29/2011	108091
111206111A	11/29/2011	QA/QC Data	Blank Volatiles	Grab	L.S.&Q.A.		11/29/2011	114087
1112061115	11/29/2011	QA/QC Data	CC Volatiles	Grab	L.S.&Q.A.		11/29/2011	105685
111206111B	11/28/2011	QA/QC Data	MS Volatiles	Grab	L.S.&Q.A.	D5 MS	11/29/2011	111045
1112061116	11/28/2011	QA/QC Data	MSD Volatiles	Grab	L.S.&Q.A.	D5 MSD	11/29/2011	106142
1112061117	11/29/2011	Wastewater permit - VOA	Outfall 101	Grab	CWTP		11/29/2011	91457
111206111C	11/29/2011	Wastewater permit - VOA	Outfall 001	Grab	CWTP		11/29/2011	90222

Volatile Tune

Tune Compound: BFB

Analysis Date and Time: 11/29/2011 9:49 Analyst: JJC Sample ID: 1112061114

Target Mass	Relative to Target Mass	Lower Limit (%)	Upper Limit (%)	Relative Abundance (%)	Result Pass/Fail
50	95	15	40	20.7	Pass
75	95	30	60	51.1	Pass
95	95	100	100	100.0	Pass
96	95	5	9	6.3	Pass
173	174	0	2	0.4	Pass
174	95	50	100	91.4	Pass
175	174	5	9	7.1	Pass
176	174	95	101	95.6	Pass
177	176	5	9	6.7	Pass

Sample Summary

06-Dec-11 1:24 pm

Volatile QC Sample Analyses on 11/29/11

111206111A	**Project:**	QA/QC Data	**Sampler:**	JJC	**Batch:**	
	Location:	Blank Volatiles	**Collected:**	11/29/2011	**Time:**	9:49
	Sample Type:	Grab	**Received:**	11/29/2011	**Time:**	
	Customer:	L.S.&Q.A.	**Started:**		**Due:**	
	Cust. Sample:		**Completed:**	12/6/2011	**Reported:**	

Description:
Notes:
Conclusions:

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
FTTC4501 - (L) Volatile Priority Pollutants							
OVL002 dichlorodifluromethane			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL003 chloromethane			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL004 vinyl chloride			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL005 bromomethane			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL006 chloroethane			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL007 trichlorofluoromethane			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL008 1,1-dichloroethene			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL009 methylene chloride			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL010 trans-1,2-dichloroethene			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL011 1,1-dichloroethane			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL012 cis-1,2-dichloroethene			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL013 2,2-dichloropropane			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL014 bromochloromethane			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL015 chloroform			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL017 1,1,1-trichloroethane			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL018 1,2-dichloroethane			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL019 1,1-dichloropropene			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL020 benzene			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL021 carbon tetrachloride			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL023 1,2-dichloropropane			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL024 trichloroethene			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL025 dibromomethane			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL026 bromodichloromethane			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL027 trans-1,3-dichloropropene			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL030 cis-1,3-dichloropropene			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL031 toluene			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL032 1,1,2-trichloroethane			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL033 1,3-dichloropropane			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL034 dibromochloromethane			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL035 1,2-dibromoethane			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL036 tetrachloroethene			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL037 chlorobenzene			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL038 1,1,1,2-tetrachloroethane			< 5	µg/L	FTTC4501	jjc	11/29/2011

Sample Summary

06-Dec-11 1:24 pm

Volatile QC Sample Analyses on 11/29/11

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
OVL039 ethylbenzene			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL040 m+p-xylene			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL041 styrene			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL042 bromoform			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL043 o-xylene			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL044 1,1,2,2-tetrachloroethane			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL045 1,2,3-trichloropropane			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL048 Isopropylbenzene			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL049 bromobenzene			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL050 2-chlorotoluene			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL051 n-propylbenzene			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL052 4-chlorotoluene			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL053 1,3,5-trimethylbenzene			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL054 1,2,4-trimethylbenzene	200		< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL055 tert-butylbenzene			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL056 1,3-dichlorobenzene			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL057 sec-butylbenzene			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL058 1,4-dichlorobenzene			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL059 4-isopropyltoluene			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL060 1,2-dichlorobenzene			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL061 n-butylbenzene			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL062 1,2-dibromo-3-chloropropane			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL063 1,2,4-trichlorobenzene			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL064 napthalene			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL065 1,2,3-trichlorobenzene			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL066 hexachlorobutadiene			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL068 Acrylonitrile			< 5	µg/L	FTTC4501	jjc	11/29/2011
OVL074 Vinyl Acetate(VAM)			< 5	µg/L	FTTC4501	jjc	11/29/2011
Volatiles Surrogates/Internal Std.							
OVL001 pentafluorobenzene	267290	66823	114087	N/A	FTTC4501	jjc	11/29/2011
OVL016 dibromofluromethane	56	46	51.68	µg/L	FTTC4501	jjc	11/29/2011
OVL022 1,4-diflurobenzene	397270	99318	171175	N/A	FTTC4501	jjc	11/29/2011
OVL028 chlorobenzene-d5	397110	99278	174163	N/A	FTTC4501	jjc	11/29/2011
OVL029 toluene-d8	54	44	51.23	µg/L	FTTC4501	jjc	11/29/2011
OVL046 4-bromofluorobenzene	54	42	47.76	µg/L	FTTC4501	jjc	11/29/2011
OVL047 1,4-dichlorobenzene-d4	229258	57315	96829	N/A	FTTC4501	jjc	11/29/2011

QA Supervisor: _____ Date: _____

Department Head: _____ Date: _____

Sample Summary

06-Dec-11 1:24 pm

Volatile QC Sample Analyses on 11/29/11

1112061115	**Project:**	QA/QC Data	**Sampler:**	JJC	**Batch:**	
	Location:	CC Volatiles	**Collected:**	11/29/2011	**Time:**	10:18
	Sample Type:	Grab	**Received:**	11/29/2011	**Time:**	
	Customer:	L.S.&Q.A.	**Started:**		**Due:**	
	Cust. Sample:		**Completed:**	12/6/2011	**Reported:**	

Description:
Notes:
Conclusions:

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
FTTC4501 - (L) Volatile Priority Pollutants							
OVL002 dichlorodifluromethane			39.25	µg/L	FTTC4501	jjc	11/29/2011
OVL003 chloromethane			45.78	µg/L	FTTC4501	jjc	11/29/2011
OVL004 vinyl chloride			43.44	µg/L	FTTC4501	jjc	11/29/2011
OVL005 bromomethane			45.4	µg/L	FTTC4501	jjc	11/29/2011
OVL006 chloroethane			48.48	µg/L	FTTC4501	jjc	11/29/2011
OVL007 trichlorofluoromethane			52.96	µg/L	FTTC4501	jjc	11/29/2011
OVL008 1,1-dichloroethene			45.1	µg/L	FTTC4501	jjc	11/29/2011
OVL009 methylene chloride			46.42	µg/L	FTTC4501	jjc	11/29/2011
OVL010 trans-1,2-dichloroethene			46.34	µg/L	FTTC4501	jjc	11/29/2011
OVL011 1,1-dichloroethane			46.7	µg/L	FTTC4501	jjc	11/29/2011
OVL012 cis-1,2-dichloroethene			46.8	µg/L	FTTC4501	jjc	11/29/2011
OVL013 2,2-dichloropropane			51.29	µg/L	FTTC4501	jjc	11/29/2011
OVL014 bromochloromethane			47.6	µg/L	FTTC4501	jjc	11/29/2011
OVL015 chloroform			49.29	µg/L	FTTC4501	jjc	11/29/2011
OVL017 1,1,1-trichloroethane			51.16	µg/L	FTTC4501	jjc	11/29/2011
OVL018 1,2-dichloroethane			51.21	µg/L	FTTC4501	jjc	11/29/2011
OVL019 1,1-dichloropropene			47.5	µg/L	FTTC4501	jjc	11/29/2011
OVL020 benzene			46.23	µg/L	FTTC4501	jjc	11/29/2011
OVL021 carbon tetrachloride			51.32	µg/L	FTTC4501	jjc	11/29/2011
OVL023 1,2-dichloropropane			49	µg/L	FTTC4501	jjc	11/29/2011
OVL024 trichloroethene			47.91	µg/L	FTTC4501	jjc	11/29/2011
OVL025 dibromomethane			50.48	µg/L	FTTC4501	jjc	11/29/2011
OVL026 bromodichloromethane			53.67	µg/L	FTTC4501	jjc	11/29/2011
OVL027 trans-1,3-dichloropropene			52.94	µg/L	FTTC4501	jjc	11/29/2011
OVL030 cis-1,3-dichloropropene			50.95	µg/L	FTTC4501	jjc	11/29/2011
OVL031 toluene			49.86	µg/L	FTTC4501	jjc	11/29/2011
OVL032 1,1,2-trichloroethane			50.71	µg/L	FTTC4501	jjc	11/29/2011
OVL033 1,3-dichloropropane			49.95	µg/L	FTTC4501	jjc	11/29/2011
OVL034 dibromochloromethane			52.72	µg/L	FTTC4501	jjc	11/29/2011
OVL035 1,2-dibromoethane			49.92	µg/L	FTTC4501	jjc	11/29/2011
OVL036 tetrachloroethene			47.99	µg/L	FTTC4501	jjc	11/29/2011
OVL037 chlorobenzene			46.49	µg/L	FTTC4501	jjc	11/29/2011
OVL038 1,1,1,2-tetrachloroethane			49.24	µg/L	FTTC4501	jjc	11/29/2011

Sample Summary

06-Dec-11 1:24 pm

Volatile QC Sample Analyses on 11/29/11

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
OVL039 ethylbenzene			47.14	µg/L	FTTC4501	jjc	11/29/2011
OVL040 m+p-xylene			93.74	µg/L	FTTC4501	jjc	11/29/2011
OVL041 styrene			47.17	µg/L	FTTC4501	jjc	11/29/2011
OVL042 bromoform			49.2	µg/L	FTTC4501	jjc	11/29/2011
OVL043 o-xylene			47.36	µg/L	FTTC4501	jjc	11/29/2011
OVL044 1,1,2,2-tetrachloroethane			46.02	µg/L	FTTC4501	jjc	11/29/2011
OVL045 1,2,3-trichloropropane			47.19	µg/L	FTTC4501	jjc	11/29/2011
OVL048 isopropylbenzene			46.66	µg/L	FTTC4501	jjc	11/29/2011
OVL049 bromobenzene			46.62	µg/L	FTTC4501	jjc	11/29/2011
OVL050 2-chlorotoluene			47.49	µg/L	FTTC4501	jjc	11/29/2011
OVL051 n-propylbenzene			47.07	µg/L	FTTC4501	jjc	11/29/2011
OVL052 4-chlorotoluene			47.5	µg/L	FTTC4501	jjc	11/29/2011
OVL053 1,3,5-trimethylbenzene			47.56	µg/L	FTTC4501	jjc	11/29/2011
OVL054 1,2,4-trimethylbenzene	200		47.14	µg/L	FTTC4501	jjc	11/29/2011
OVL055 tert-butylbenzene			46.29	µg/L	FTTC4501	jjc	11/29/2011
OVL056 1,3-dichlorobenzene			47.15	µg/L	FTTC4501	jjc	11/29/2011
OVL057 sec-butylbenzene			46.56	µg/L	FTTC4501	jjc	11/29/2011
OVL058 1,4-dichlorobenzene			46.04	µg/L	FTTC4501	jjc	11/29/2011
OVL059 4-isopropyltoluene			46.2	µg/L	FTTC4501	jjc	11/29/2011
OVL060 1,2-dichlorobenzene			46.28	µg/L	FTTC4501	jjc	11/29/2011
OVL061 n-butylbenzene			45.52	µg/L	FTTC4501	jjc	11/29/2011
OVL062 1,2-dibromo-3-chloropropane			47.85	µg/L	FTTC4501	jjc	11/29/2011
OVL063 1,2,4-trichlorobenzene			42.87	µg/L	FTTC4501	jjc	11/29/2011
OVL064 napthalene			44.99	µg/L	FTTC4501	jjc	11/29/2011
OVL065 1,2,3-trichlorobenzene			43.82	µg/L	FTTC4501	jjc	11/29/2011
OVL066 hexachlorobutadiene			42.34	µg/L	FTTC4501	jjc	11/29/2011
OVL068 Acrylonitrile			43.9	µg/L	FTTC4501	jjc	11/29/2011
OVL074 Vinyl Acetate(VAM)			44.95	µg/L	FTTC4501	jjc	11/29/2011
Volatiles Surrogates/Internal Std.							
OVL001 pentafluorobenzene	267290	66823	105685	N/A	FTTC4501	jjc	11/29/2011
OVL016 dibromofluromethane	56	46	49.43	µg/L	FTTC4501	jjc	11/29/2011
OVL022 1,4-diflurobenzene	397270	99318	155445	N/A	FTTC4501	jjc	11/29/2011
OVL028 chlorobenzene-d5	397110	99278	162515	N/A	FTTC4501	jjc	11/29/2011
OVL029 toluene-d8	54	44	50.4	µg/L	FTTC4501	jjc	11/29/2011
OVL046 4-bromofluorobenzene	54	42	48.84	µg/L	FTTC4501	jjc	11/29/2011
OVL047 1,4-dichlorobenzene-d4	229258	57315	95182	N/A	FTTC4501	jjc	11/29/2011

QA Supervisor: _____ Date: _____

Department Head: _____ Date: _____

Sample Summary

06-Dec-11 1:24 pm

Volatile QC Sample Analyses on 11/29/11

111206111B	**Project:**	QA/QC Data	**Sampler:**	FO	**Batch:**	
	Location:	MS Volatiles	**Collected:**	11/28/2011	**Time:**	11:27
	Sample Type:	Grab	**Received:**	11/28/2011	**Time:**	
	Customer:	L.S.&Q.A.	**Started:**		**Due:**	
	Cust. Sample:	D5 MS	**Completed:**	12/6/2011	**Reported:**	

Description:
Notes:
Conclusions:

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
Volatiles matrix spikes QA/QC							
OVL008 1,1-dichloroethene			53.21	µg/L	FTTC4501	jjc	11/29/2011
OVL020 benzene			48.92	µg/L	FTTC4501	jjc	11/29/2011
OVL024 trichloroethene			51.27	µg/L	FTTC4501	jjc	11/29/2011
OVL031 toluene			53.76	µg/L	FTTC4501	jjc	11/29/2011
OVL037 chlorobenzene			49.35	µg/L	FTTC4501	jjc	11/29/2011
Volatiles Surrogates/Internal Std.							
OVL001 pentafluorobenzene	267290	66823	111045	N/A	FTTC4501	jjc	11/29/2011
OVL016 dibromofluromethane	56	46	50.83	µg/L	FTTC4501	jjc	11/29/2011
OVL022 1,4-diflurobenzene	397270	99318	164284	N/A	FTTC4501	jjc	11/29/2011
OVL028 chlorobenzene-d5	397110	99278	170925	N/A	FTTC4501	jjc	11/29/2011
OVL029 toluene-d8	54	44	52.07	µg/L	FTTC4501	jjc	11/29/2011
OVL046 4-bromofluorobenzene	54	42	47.71	µg/L	FTTC4501	jjc	11/29/2011
OVL047 1,4-dichlorobenzene-d4	229258	57315	94289	N/A	FTTC4501	jjc	11/29/2011

QA Supervisor: _____ Date: _____

Department Head: _____ Date: _____

Sample Summary

06-Dec-11 1:24 pm

Volatile QC Sample Analyses on 11/29/11

1112061116	**Project:**	QA/QC Data	**Sampler:**	FO	**Batch:**	
	Location:	MSD Volatiles	**Collected:**	11/28/2011	**Time:**	11:56
	Sample Type:	Grab	**Received:**	11/28/2011	**Time:**	
	Customer:	L.S.&Q.A.	**Started:**		**Due:**	
	Cust. Sample:	D5 MSD	**Completed:**	12/6/2011	**Reported:**	

Description:
Notes:
Conclusions:

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
Volatiles matrix spikes QA/QC							
OVL008 1,1-dichloroethene			56.2	µg/L	FTTC4501	jjc	11/29/2011
OVL020 benzene			50.34	µg/L	FTTC4501	jjc	11/29/2011
OVL024 trichloroethene			49.63	µg/L	FTTC4501	jjc	11/29/2011
OVL031 toluene			53.74	µg/L	FTTC4501	jjc	11/29/2011
OVL037 chlorobenzene			48.56	µg/L	FTTC4501	jjc	11/29/2011
Volatiles Surrogates/Internal Std.							
OVL001 pentafluorobenzene	267290	66823	106142	N/A	FTTC4501	jjc	11/29/2011
OVL016 dibromofluromethane	56	46	51.91	µg/L	FTTC4501	jjc	11/29/2011
OVL022 1,4-diflurobenzene	397270	99318	162393	N/A	FTTC4501	jjc	11/29/2011
OVL028 chlorobenzene-d5	397110	99278	169901	N/A	FTTC4501	jjc	11/29/2011
OVL029 toluene-d8	54	44	51.21	µg/L	FTTC4501	jjc	11/29/2011
OVL046 4-bromofluorobenzene	54	42	47.24	µg/L	FTTC4501	jjc	11/29/2011
OVL047 1,4-dichlorobenzene-d4	229258	57315	92232	N/A	FTTC4501	jjc	11/29/2011

QA Supervisor: _____ Date: _____

Department Head: _____ Date: _____

Volatile System Monitoring Compound Recoveries

Sample Type: Water

Sample ID	SMC1 % Rec.	SMC2 % Rec.	SMC3 % Rec.
1111290928	103	104	94
1112051523	104	104	97
1112051524	106	102	95
1112051525	107	105	93
1112051526	102	104	98
1112051527	104	105	96
1112051528	104	103	95
111205152A	104	105	93
111205152B	105	102	94
111205152C	101	103	96
111205152D	103	102	93
1112061115	99	101	98
1112061116	104	102	94
1112061117	105	105	97
111206111A	103	102	96
111206111B	102	104	95
111206111C	107	104	95

QC Limits:

Analyte	% Rec.
SMC1 (DBF) = dibormofluoromethane	(90-116)
SMC2 (TOL) = toluene-d8	(87-108)
SMC3 (BFB) = 4-bromofluorobenzene	(83-111)

* Values outside of required QC limits

Comments: _____

Volatile Matrix Spike/Matrix Spike Duplicate Recovery

Sample Type: Water

Sample ID	MS Sample ID	MSD Sample ID
1112051526	1112061116	111206111B

Analyte	Units	Concentration			Spike Amount		% Recovery			% RPD
		Sample	Matrix Spike	Spike Duplicate	MS	MSD	MS	MSD	Avg.	
1,1-Dichloroethene	ppb	0	53	56	50	50	106	112	109	5
Trichloroethene	ppb	0	51	50	50	50	103	99	101	3
Benzene	ppb	0	49	50	50	50	98	101	99	3
Toluene	ppb	0	54	54	50	50	108	107	108	0
Chlorobenzene	ppb	0	49	49	50	50	99	97	98	2

QC Limits:

Analyte	% RPD	Spike Rec.
1,1-Dichloroethene	10	(38-134)
Trichloroethene	12	(88-111)
Benzene	9	(84-112)
Toluene	11	(91-109)
Chlorobenzene	7	(91-112)

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

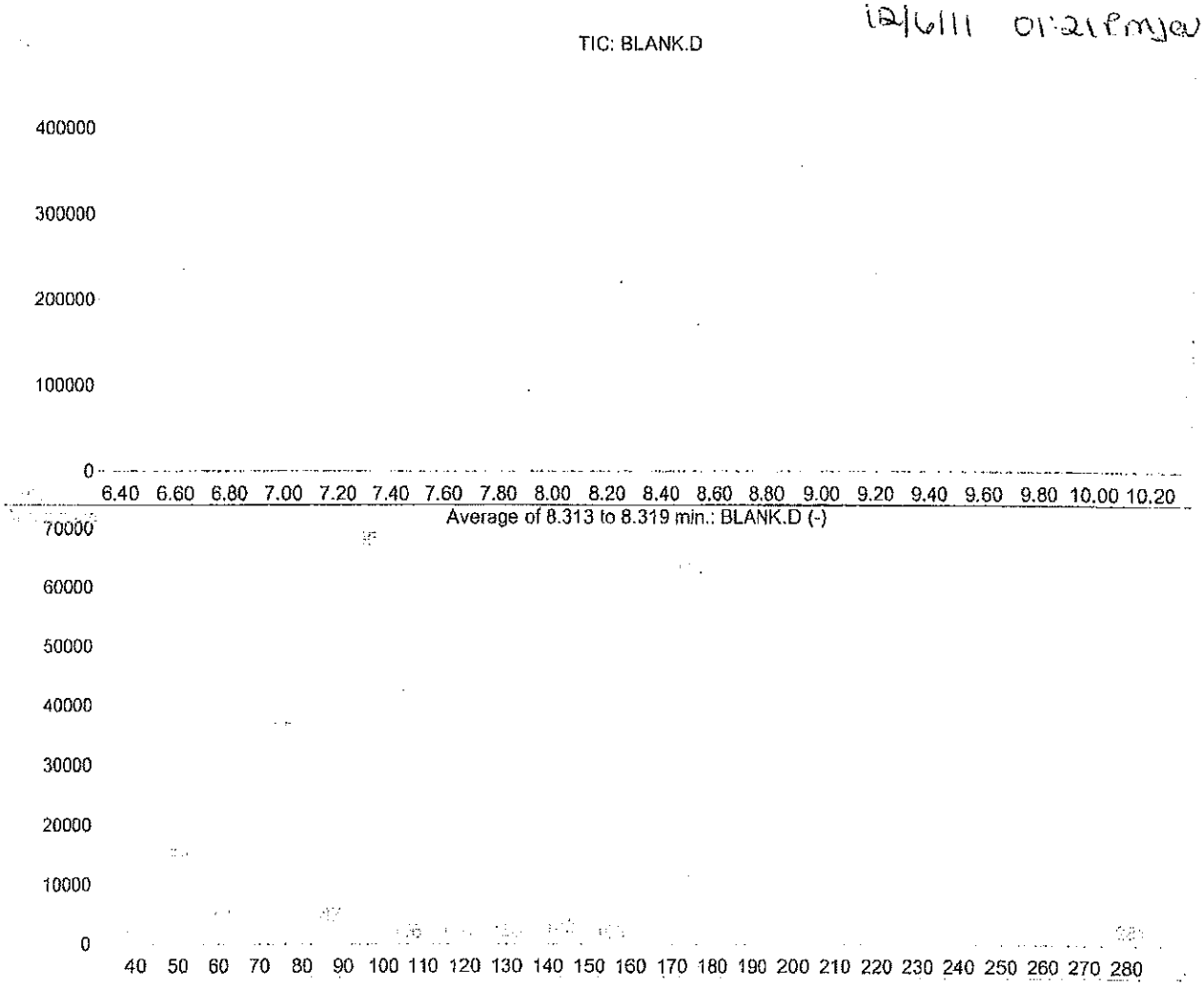
Comments: _____

BFB

Data File : C:\HPCHEM\1\DATA\112911\BLANK.D
Acq On : 29 Nov 2011 9:49 am
Sample : method blank
Misc : A
MS Integration Params: RTEINT4.P
Method : C:\HPCHEM\1\METHODS\VOA.M (RTE Integrator)
Title :

Vial: 1
Operator: jjc
Inst : GC/MS 597
Multiplr: 1.00

12/6/11 01:21 PM JERRY



AutoFind: Scans 2452, 2453, 2454; Background Corrected with Scan 2442

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	20.7	13845	PASS
75	95	30	60	51.1	34091	PASS
95	95	100	100	100.0	66744	PASS
96	95	5	9	6.3	4210	PASS
173	174	0.00	2	0.4	233	PASS
174	95	50	100	91.4	61037	PASS
175	174	5	9	7.1	4304	PASS
176	174	95	101	95.6	58341	PASS
177	176	5	9	6.7	3883	PASS

BLANK.D VOA.M Tue Nov 29 10:08:41 2011

L.S. & Q.A. Department

VOLATILES(8260) INJECTION LOG

	SAMPLE	DATE/TIME	UNIT	LAB ID	GW#	DILUTION
	BLK					
	CC					
	d-5	11/28	VOM	groundwater		
	MS	↓	↓	↓		
	MSD					
	TB-01					
	FB-01	↓	↓	↓		
	TTT-343	11/29	CWTP	PP		
	dup-01	11/28	VOM	groundwater		5000
	d-16	↓	↓			
	d-32					2 → 5
	d-33					
	d-34					
	P-18					10
	P-57	↓	↓			10,000
	dup-1a	11/28	VOM	groundwater		10
	~~dup-1b~~	~~↓~~	~~↓~~	~~↓~~		~~2~~ JK
	d-35a	11/28	VOM	groundwater		5
	101	11/29 1400	CWTP	outfall		
	001	↓ ↓	↓	↓		
	dup-1b	11/28	VOM	groundwater		

			TIME
ANALYST:	JK	TUNE CHECK	
DATE:	11/29/11	METHOD BLANK	
C:\VOCHEM\1\DATA\		CALIBRATION CHECK	

COMMENTS:

Analytical Batch

Volatile QC Sample Analyses on 11/30/11

06-Dec-11 3:49 pm

OVL001 pentafluorobenzene (N/A) 12/06/11 03:48 PM - jcurry

Sample ID	Collected	Project	Location	Sample Type	Customer	Cust. Sample ID	Date	Result
1111300911	11/29/2011	Wastewater Permit - Tue	Outfall 001	Composite	CWTP	001 11/29/11	11/30/2011	90696
1111300912	11/29/2011	Wastewater Permit - Tue	Outfall 101	Composite	CWTP	101 11/29/11	11/30/2011	102111
1111300914	11/30/2011	wasterwater permit	TTT-34B	Grab	CWTP	TTT-34B 11/30/11	11/30/2011	102600
1112061412	11/29/2011	Ground Water	D-2	Grab	VCM	D-2	11/30/2011	93747
1112061414	11/29/2011	Ground Water	D-14	Grab	VCM	D-14	11/30/2011	88972
111206141B	11/29/2011	Ground Water	D-13	Grab	VCM	D-13	11/30/2011	90606
1112061416	11/29/2011	Ground Water	Field Blank	Grab	VCM	FB-03	11/30/2011	97925
1112061417	11/29/2011	Ground Water	D-3	Grab	VCM	D-3	11/30/2011	93964
111206142A	11/29/2011	Ground Water	Trip Blank	Grab	VCM	TB-3	11/30/2011	95901
111206142B	11/29/2011	Ground Water	D-4	Grab	VCM	D-4 11/29/11	11/30/2011	91411
111206142C	11/30/2011	QA/QC Data	Blank Volatiles	Grab	L.S.&Q.A.		11/30/2011	95786
111206142E	11/30/2011	QA/QC Data	CC Volatiles	Grab	L.S.&Q.A.		11/30/2011	99115
1112061427	11/29/2011	QA/QC Data	MS Volatiles	Grab	L.S.&Q.A.	101MS	11/30/2011	96929
1112061428	11/30/2011	QA/QC Data	MSD Volatiles	Grab	L.S.&Q.A.	101MSD	11/30/2011	96364
1112061429	11/29/2011	Ground Water	Field Blank	Grab	VCM	FB-02 11/29/11	11/30/2011	99113
111206143A	11/29/2011	Wastewater permit - VOA	Outfall 101	Grab	CWTP		11/30/2011	102111
111206143B	11/30/2011	Wastewater permit - VOA	Outfall 101	Grab	CWTP		11/30/2011	94649
1112061433	11/30/2011	Wastewater permit - VOA	Outfall 101	Grab	CWTP		11/30/2011	93738
1112061436	11/29/2011	Ground Water	D-39	Grab	VCM	D-39 11/29/11	11/30/2011	91673
1112061444	11/29/2011	Wastewater permit - VOA	Outfall 001	Grab	CWTP		11/30/2011	90696
1112061446	11/30/2011	Wastewater permit - VOA	Outfall 001	Grab	CWTP		11/30/2011	96162
111206144A	11/30/2011	Wastewater permit - VOA	Outfall 001	Grab	CWTP		11/30/2011	100789

Volatile Tune

Tune Compound: BFB

Analysis Date and Time: 11/30/2011 9:46 Analyst: JJC Sample ID: 1112061426

Target Mass	Relative to Target Mass	Lower Limit (%)	Upper Limit (%)	Relative Abundance (%)	Result Pass/Fail
50	95	15	40	22.3	Pass
75	95	30	60	51.8	Pass
95	95	100	100	100.0	Pass
96	95	5	9	6.3	Pass
173	174	0	2	0.4	Pass
174	95	50	100	87.8	Pass
175	174	5	9	7.3	Pass
176	174	95	101	98.6	Pass
177	176	5	9	6.2	Pass

Sample Summary

06-Dec-11 3:56 pm

Volatile QC Sample Analyses on 11/30/11

111206142C	**Project:**	QA/QC Data	**Sampler:**	FO	**Batch:**	
	Location:	Blank Volatiles	**Collected:**	11/30/2011	**Time:**	9:46
	Sample Type:	Grab	**Received:**	11/30/2011	**Time:**	
	Customer:	L.S.&Q.A.	**Started:**		**Due:**	
	Cust. Sample:		**Completed:**	12/6/2011	**Reported:**	

Description:
Notes:
Conclusions:

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
FTTC4501 - (L) Volatile Priority Pollutants							
OVL002 dichlorodifluromethane			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL003 chloromethane			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL004 vinyl chloride			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL005 bromomethane			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL006 chloroethane			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL007 trichlorofluoromethane			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL008 1,1-dichloroethene			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL009 methylene chloride			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL010 trans-1,2-dichloroethene			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL011 1,1-dichloroethane			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL012 cis-1,2-dichloroethene			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL013 2,2-dichloropropane			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL014 bromochloromethane			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL015 chloroform			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL017 1,1,1-trichloroethane			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL018 1,2-dichloroethane			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL019 1,1-dichloropropene			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL020 benzene			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL021 carbon tetrachloride			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL023 1,2-dichloropropane			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL024 trichloroethene			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL025 dibromomethane			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL026 bromodichloromethane			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL027 trans-1,3-dichloropropene			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL030 cis-1,3-dichloropropene			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL031 toluene			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL032 1,1,2-trichloroethane			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL033 1,3-dichloropropane			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL034 dibromochloromethane			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL035 1,2-dibromoethane			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL036 tetrachloroethene			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL037 chlorobenzene			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL038 1,1,1,2-tetrachloroethane			< 5	µg/L	FTTC4501	jjc	11/30/2011

Sample Summary

06-Dec-11 3:56 pm

Volatile QC Sample Analyses on 11/30/11

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
OVL039 ethylbenzene			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL040 m+p-xylene			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL041 styrene			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL042 bromoform			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL043 o-xylene			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL044 1,1,2,2-tetrachloroethane			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL045 1,2,3-trichloropropane			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL048 isopropylbenzene			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL049 bromobenzene			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL050 2-chlorotoluene			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL051 n-propylbenzene			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL052 4-chlorotoluene			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL053 1,3,5-trimethylbenzene			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL054 1,2,4-trimethylbenzene	200		< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL055 tert-butylbenzene			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL056 1,3-dichlorobenzene			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL057 sec-butylbenzene			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL058 1,4-dichlorobenzene			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL059 4-isopropyltoluene			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL060 1,2-dichlorobenzene			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL061 n-butylbenzene			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL062 1,2-dibromo-3-chloropropane			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL063 1,2,4-trichlorobenzene			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL064 napthalene			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL065 1,2,3-trichlorobenzene			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL066 hexachlorobutadiene			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL068 Acrylonitrile			< 5	µg/L	FTTC4501	jjc	11/30/2011
OVL074 Vinyl Acetate(VAM)			< 5	µg/L	FTTC4501	jjc	11/30/2011
Volatiles Surrogates/Internal Std.							
OVL001 pentafluorobenzene	267290	66823	95786	N/A	FTTC4501	jjc	11/30/2011
OVL016 dibromofluromethane	56	46	52.65	µg/L	FTTC4501	jjc	11/30/2011
OVL022 1,4-diflurobenzene	397270	99318	146947	N/A	FTTC4501	jjc	11/30/2011
OVL028 chlorobenzene-d5	397110	99278	150398	N/A	FTTC4501	jjc	11/30/2011
OVL029 toluene-d8	54	44	50.67	µg/L	FTTC4501	jjc	11/30/2011
OVL046 4-bromofluorobenzene	54	42	46.86	µg/L	FTTC4501	jjc	11/30/2011
OVL047 1,4-dichlorobenzene-d4	229258	57315	83702	N/A	FTTC4501	jjc	11/30/2011

QA Supervisor: _____ Date: _____

Department Head: _____ Date: _____

Sample Summary

06-Dec-11 3:56 pm

Volatile QC Sample Analyses on 11/30/11

111206142E	**Project:**	QA/QC Data	**Sampler:**	JJC	**Batch:**	
	Location:	CC Volatiles	**Collected:**	11/30/2011	**Time:**	10:54
	Sample Type:	Grab	**Received:**	11/30/2011	**Time:**	
	Customer:	L.S.&Q.A.	**Started:**		**Due:**	
	Cust. Sample:		**Completed:**	12/6/2011	**Reported:**	

Description:
Notes:
Conclusions:

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
FTTC4501 - (L) Volatile Priority Pollutants							
OVL002 dichlorodifluromethane			50.58	µg/L	FTTC4501	jjc	11/30/2011
OVL003 chloromethane			51.01	µg/L	FTTC4501	jjc	11/30/2011
OVL004 vinyl chloride			49.15	µg/L	FTTC4501	jjc	11/30/2011
OVL005 bromomethane			48.34	µg/L	FTTC4501	jjc	11/30/2011
OVL006 chloroethane			51.38	µg/L	FTTC4501	jjc	11/30/2011
OVL007 trichlorofluoromethane			58.61	µg/L	FTTC4501	jjc	11/30/2011
OVL008 1,1-dichloroethene			49.66	µg/L	FTTC4501	jjc	11/30/2011
OVL009 methylene chloride			48.54	µg/L	FTTC4501	jjc	11/30/2011
OVL010 trans-1,2-dichloroethene			48.86	µg/L	FTTC4501	jjc	11/30/2011
OVL011 1,1-dichloroethane			47.93	µg/L	FTTC4501	jjc	11/30/2011
OVL012 cis-1,2-dichloroethene			47.18	µg/L	FTTC4501	jjc	11/30/2011
OVL013 2,2-dichloropropane			52.92	µg/L	FTTC4501	jjc	11/30/2011
OVL014 bromochloromethane			46.98	µg/L	FTTC4501	jjc	11/30/2011
OVL015 chloroform			51.2	µg/L	FTTC4501	jjc	11/30/2011
OVL017 1,1,1-trichloroethane			54.23	µg/L	FTTC4501	jjc	11/30/2011
OVL018 1,2-dichloroethane			54.44	µg/L	FTTC4501	jjc	11/30/2011
OVL019 1,1-dichloropropene			48.24	µg/L	FTTC4501	jjc	11/30/2011
OVL020 benzene			45.43	µg/L	FTTC4501	jjc	11/30/2011
OVL021 carbon tetrachloride			52.97	µg/L	FTTC4501	jjc	11/30/2011
OVL023 1,2-dichloropropane			50.33	µg/L	FTTC4501	jjc	11/30/2011
OVL024 trichloroethene			47.34	µg/L	FTTC4501	jjc	11/30/2011
OVL025 dibromomethane			51.93	µg/L	FTTC4501	jjc	11/30/2011
OVL026 bromodichloromethane			55.46	µg/L	FTTC4501	jjc	11/30/2011
OVL027 trans-1,3-dichloropropene			54.6	µg/L	FTTC4501	jjc	11/30/2011
OVL030 cis-1,3-dichloropropene			52.34	µg/L	FTTC4501	jjc	11/30/2011
OVL031 toluene			51.04	µg/L	FTTC4501	jjc	11/30/2011
OVL032 1,1,2-trichloroethane			52.09	µg/L	FTTC4501	jjc	11/30/2011
OVL033 1,3-dichloropropane			51.97	µg/L	FTTC4501	jjc	11/30/2011
OVL034 dibromochloromethane			54.41	µg/L	FTTC4501	jjc	11/30/2011
OVL035 1,2-dibromoethane			52.97	µg/L	FTTC4501	jjc	11/30/2011
OVL036 tetrachloroethene			49.3	µg/L	FTTC4501	jjc	11/30/2011
OVL037 chlorobenzene			47.1	µg/L	FTTC4501	jjc	11/30/2011
OVL038 1,1,1,2-tetrachloroethane			50.45	µg/L	FTTC4501	jjc	11/30/2011

Sample Summary

06-Dec-11 3:56 pm

Volatile QC Sample Analyses on 11/30/11

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
OVL039 ethylbenzene			48.15	µg/L	FTTC4501	jjc	11/30/2011
OVL040 m+p-xylene			96.45	µg/L	FTTC4501	jjc	11/30/2011
OVL041 styrene			48.23	µg/L	FTTC4501	jjc	11/30/2011
OVL042 bromoform			52.11	µg/L	FTTC4501	jjc	11/30/2011
OVL043 o-xylene			47.75	µg/L	FTTC4501	jjc	11/30/2011
OVL044 1,1,2,2-tetrachloroethane			49.63	µg/L	FTTC4501	jjc	11/30/2011
OVL045 1,2,3-trichloropropane			50.64	µg/L	FTTC4501	jjc	11/30/2011
OVL048 isopropylbenzene			49.26	µg/L	FTTC4501	jjc	11/30/2011
OVL049 bromobenzene			49.47	µg/L	FTTC4501	jjc	11/30/2011
OVL050 2-chlorotoluene			50.02	µg/L	FTTC4501	jjc	11/30/2011
OVL051 n-propylbenzene			49.14	µg/L	FTTC4501	jjc	11/30/2011
OVL052 4-chlorotoluene			50.17	µg/L	FTTC4501	jjc	11/30/2011
OVL053 1,3,5-trimethylbenzene			49.35	µg/L	FTTC4501	jjc	11/30/2011
OVL054 1,2,4-trimethylbenzene	200		49.62	µg/L	FTTC4501	jjc	11/30/2011
OVL055 tert-butylbenzene			48.35	µg/L	FTTC4501	jjc	11/30/2011
OVL056 1,3-dichlorobenzene			49.02	µg/L	FTTC4501	jjc	11/30/2011
OVL057 sec-butylbenzene			48.87	µg/L	FTTC4501	jjc	11/30/2011
OVL058 1,4-dichlorobenzene			46.78	µg/L	FTTC4501	jjc	11/30/2011
OVL059 4-isopropyltoluene			48.75	µg/L	FTTC4501	jjc	11/30/2011
OVL060 1,2-dichlorobenzene			47.25	µg/L	FTTC4501	jjc	11/30/2011
OVL061 n-butylbenzene			47.29	µg/L	FTTC4501	jjc	11/30/2011
OVL062 1,2-dibromo-3-chloropropane			51.59	µg/L	FTTC4501	jjc	11/30/2011
OVL063 1,2,4-trichlorobenzene			45.48	µg/L	FTTC4501	jjc	11/30/2011
OVL064 napthalene			47.03	µg/L	FTTC4501	jjc	11/30/2011
OVL065 1,2,3-trichlorobenzene			45.99	µg/L	FTTC4501	jjc	11/30/2011
OVL066 hexachlorobutadiene			44.22	µg/L	FTTC4501	jjc	11/30/2011
OVL068 Acryionitrile			45.41	µg/L	FTTC4501	jjc	11/30/2011
OVL074 Vinyl Acetate(VAM)			51.4	µg/L	FTTC4501	jjc	11/30/2011
Volatiles Surrogates/Internal Std.							
OVL001 pentafluorobenzene	267290	66823	99115	N/A	FTTC4501	jjc	11/30/2011
OVL016 dibromofluromethane	56	46	50.34	µg/L	FTTC4501	jjc	11/30/2011
OVL022 1,4-diflurobenzene	397270	99318	142917	N/A	FTTC4501	jjc	11/30/2011
OVL028 chlorobenzene-d5	397110	99278	149030	N/A	FTTC4501	jjc	11/30/2011
OVL029 toluene-d8	54	44	51.37	µg/L	FTTC4501	jjc	11/30/2011
OVL046 4-bromofluorobenzene	54	42	49.37	µg/L	FTTC4501	jjc	11/30/2011
OVL047 1,4-dichlorobenzene-d4	229258	57315	89181	N/A	FTTC4501	jjc	11/30/2011

QA Supervisor: _____ Date: _____

Department Head: _____ Date: _____

Sample Summary

Volatile QC Sample Analyses on 11/30/11

06-Dec-11 3:56 pm

1112061427	**Project:**	QA/QC Data	**Sampler:**	FO	**Batch:**	
	Location:	MS Volatiles	**Collected:**	11/29/2011	**Time:**	20:00
	Sample Type:	Grab	**Received:**	11/29/2011	**Time:**	
	Customer:	L.S.&Q.A.	**Started:**		**Due:**	
	Cust. Sample:	101MS	**Completed:**	12/6/2011	**Reported:**	

Description:
Notes:
Conclusions:

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
Volatiles matrix spikes QA/QC							
OVL008 1,1-dichloroethene			54.69	µg/L	FTTC4501	jjc	11/30/2011
OVL020 benzene			48.84	µg/L	FTTC4501	jjc	11/30/2011
OVL024 trichloroethene			53.02	µg/L	FTTC4501	jjc	11/30/2011
OVL031 toluene			54.09	µg/L	FTTC4501	jjc	11/30/2011
OVL037 chlorobenzene			50.16	µg/L	FTTC4501	jjc	11/30/2011
Volatiles Surrogates/Internal Std.							
OVL001 pentafluorobenzene	267290	66823	96929	N/A	FTTC4501	jjc	11/30/2011
OVL016 dibromofluromethane	56	46	52.17	µg/L	FTTC4501	jjc	11/30/2011
OVL022 1,4-diflurobenzene	397270	99318	144282	N/A	FTTC4501	jjc	11/30/2011
OVL028 chlorobenzene-d5	397110	99278	152090	N/A	FTTC4501	jjc	11/30/2011
OVL029 toluene-d8	54	44	52.5	µg/L	FTTC4501	jjc	11/30/2011
OVL046 4-bromofluorobenzene	54	42	47.4	µg/L	FTTC4501	jjc	11/30/2011
OVL047 1,4-dichlorobenzene-d4	229258	57315	83377	N/A	FTTC4501	jjc	11/30/2011

QA Supervisor: _____ Date: _____

Department Head: _____ Date: _____

Sample Summary

06-Dec-11 3:56 pm

Volatile QC Sample Analyses on 11/30/11

1112061428	**Project:**	QA/QC Data	**Sampler:**	FO	**Batch:**	
	Location:	MSD Volatiles	**Collected:**	11/30/2011	**Time:**	20:00
	Sample Type:	Grab	**Received:**	11/30/2011	**Time:**	
	Customer:	L.S.&Q.A.	**Started:**		**Due:**	
	Cust. Sample:	101MSD	**Completed:**	12/6/2011	**Reported:**	

Description:
Notes:
Conclusions:

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
Volatiles matrix spikes QA/QC							
OVL008 1,1-dichloroethene			51.35	µg/L	FTTC4501	jjc	11/30/2011
OVL020 benzene			49.26	µg/L	FTTC4501	jjc	11/30/2011
OVL024 trichloroethene			50.98	µg/L	FTTC4501	jjc	11/30/2011
OVL031 toluene			54.01	µg/L	FTTC4501	jjc	11/30/2011
OVL037 chlorobenzene			48.98	µg/L	FTTC4501	jjc	11/30/2011
Volatiles Surrogates/Internal Std.							
OVL001 pentafluorobenzene	267290	66823	96364	N/A	FTTC4501	jjc	11/30/2011
OVL016 dibromofluromethane	56	46	52.29	µg/L	FTTC4501	jjc	11/30/2011
OVL022 1,4-diflurobenzene	397270	99318	142935	N/A	FTTC4501	jjc	11/30/2011
OVL028 chlorobenzene-d5	397110	99278	150184	N/A	FTTC4501	jjc	11/30/2011
OVL029 toluene-d8	54	44	52.45	µg/L	FTTC4501	jjc	11/30/2011
OVL046 4-bromofluorobenzene	54	42	47.36	µg/L	FTTC4501	jjc	11/30/2011
OVL047 1,4-dichlorobenzene-d4	229258	57315	82423	N/A	FTTC4501	jjc	11/30/2011

QA Supervisor: _____ Date: _____

Department Head: _____ Date: _____

Volatile System Monitoring Compound Recoveries

Sample Type: Water

Sample ID	SMC1 % Rec.	SMC2 % Rec.	SMC3 % Rec.
1111300911	109	103	95
1111300912	103	103	96
1111300914	107	102	97
1112061412	106	103	94
1112061414	108	105	96
1112061416	105	101	96
1112061417	104	105	98
111206141B	109	105	95
1112061427	104	105	95
1112061428	105	105	95
1112061429	106	104	98
111206142A	102	103	95
111206142B	106	101	95
111206142C	105	101	94
111206142E	101	103	99
1112061433	105	103	96
1112061436	106	104	96
111206143A	103	103	96
111206143B	104	105	94
1112061444	109	103	95
1112061446	106	104	96
111206144A	102	102	95

QC Limits:

Analyte	% Rec.
SMC1 (DBF) = dibromofluoromethane	(90-116)
SMC2 (TOL) = toluene-d8	(87-108)
SMC3 (BFB) = 4-bromofluorobenzene	(83-111)

* Values outside of required QC limits

Comments: _____

Volatile Matrix Spike/Matrix Spike Duplicate Recovery

Sample Type: Water

Sample ID	MS Sample ID	MSD Sample ID
1112061427	1112061428	111206143A

Analyte	Units	Concentration			Spike Amount		% Recovery			% RPD
		Sample	Matrix Spike	Spike Duplicate	MS	MSD	MS	MSD	Avg.	
1,1-Dichloroethene	ppb	0	55	51	50	50	109	103	106	6
Trichloroethene	ppb	0	53	51	50	50	106	102	104	4
Benzene	ppb	0	49	49	50	50	98	99	98	1
Toluene	ppb	0	54	54	50	50	108	108	108	0
Chlorobenzene	ppb	0	50	49	50	50	100	98	99	2

QC Limits:

Analyte	% RPD	Spike Rec.
1,1-Dichloroethene	10	(38-134)
Trichloroethene	12	(88-111)
Benzene	9	(84-112)
Toluene	11	(91-109)
Chlorobenzene	7	(91-112)

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

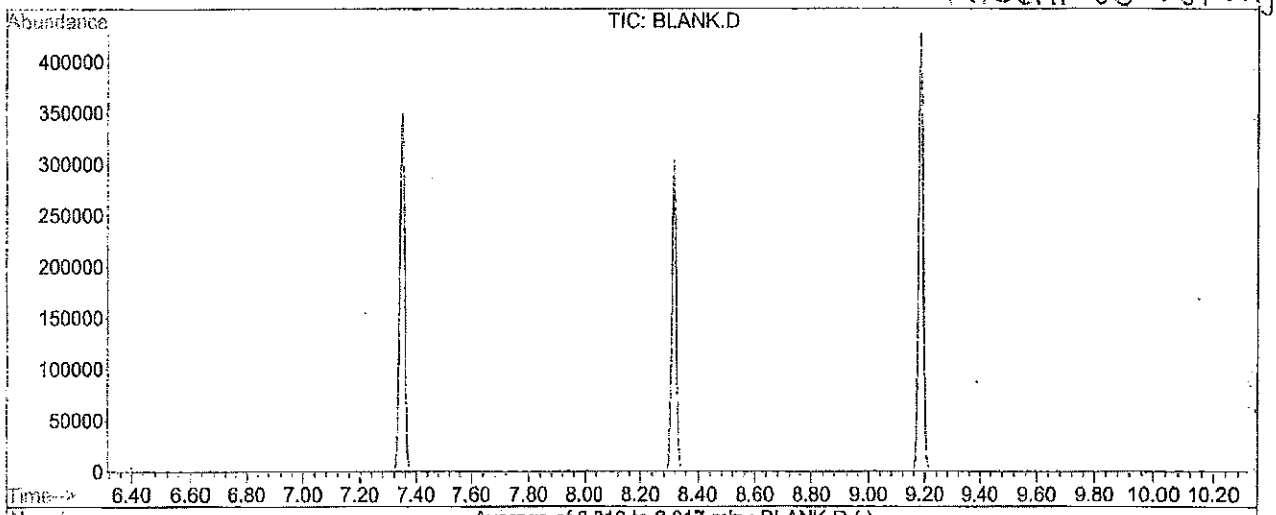
Comments: _____

BFB

Data File : C:\HPCHEM\1\DATA\113011\BLANK.D
Acq On : 30 Nov 2011 9:46 am
Sample : method blank
Misc : A
MS Integration Params: RTEINT4.P
Method : C:\HPCHEM\1\METHODS\VOA.M (RTE Integrator)
Title :

Vial: 1
Operator: jjc
Inst : GC/MS 597
Multiplr: 1.00

12/06/11 03:48 PM jcurey



AutoFind: Scans 2451, 2452, 2453; Background Corrected with Scan 2442

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	22.3	12781	PASS
75	95	30	60	51.8	29701	PASS
95	95	100	100	100.0	57293	PASS
96	95	5	9	6.3	3610	PASS
173	174	0.00	2	0.4	216	PASS
174	95	50	100	87.8	50323	PASS
175	174	5	9	7.3	3662	PASS
176	174	95	101	98.6	49600	PASS
177	176	5	9	6.2	3090	PASS

BLANK.D VOA.M Wed Nov 30 11:31:16 2011

L.S. & Q.A. Department

VOLATILES(8260) INJECTION LOG

SAMPLE	DATE/TIME	UNIT	LAB ID	GW#	DILUTION
Blk					
CC					
101_2	11/29 ~~1400~~ 2000	cwtp	outfall		
MS	↓ ↓	↓	↓		
MSD					
101_3	11/30 ~~2000~~ 0200				
101_4	11/30 0800				
001_2	11/29 2000				
001_3	11/30 0200				
001_4	↓ 0800		↓		
TTT_34B	↓	↓	PP		
FB_02	11/29	vcm	groundwaters		
FB_03	↓	↓	↓		
TB_02					
TB_03					
d_2					50
d_3					
d_4					
d_12					100 → 20
d_13					→ 5
d_14					
d_21					→ 2x
d_39					→ ~~5000~~
d_41	↓	↓	↓		5000 → ~~10,000~~ Time

ANALYST:	JJC		TIME
DATE:	11/30/11	TUNE CHECK	
C:\HPCHEM\1\DATA\		METHOD BLANK	
		CALIBRATION CHECK	

COMMENTS:

Analytical Batch

Volatile QC Sample Analyses on 12/2/11

07-Dec-11 11:19 am

OVL001 pentafluorobenzene (N/A) 12/07/11 11:02 AM - jcurry

Sample ID	Collected	Project	Location	Sample Type	Customer	Cust. Sample ID	Date	Result
1112021311	12/1/2011	Wastewater Permit - Tue	Outfall 001	Composite	CWTP	001 12/1/11	12/2/2011	77121
111202131A	12/1/2011	Wastewater Permit - Tue	Outfall 101	Composite	CWTP	101 12/1/11	12/2/2011	87725
1112061418	11/29/2011	Ground Water	P-24	Grab	VCM	P-24	12/2/2011	87603
1112061419	11/29/2011	Ground Water	RS-4	Grab	VCM	rs-4	12/2/2011	83998
1112061420	11/29/2011	Ground Water	RS-5	Grab	VCM	RS-5	12/2/2011	84013
1112061431	11/29/2011	Ground Water	Field Duplicate	Grab	VCM	DUP-02 11/29/11	12/2/2011	81680
111207090A	12/2/2011	QA/QC Data	Blank Volatiles	Grab	L.S.&Q.A.		12/2/2011	86075
111207090B	12/2/2011	QA/QC Data	CC Volatiles	Grab	L.S.&Q.A.		12/2/2011	85225
1112070910	12/1/2011	QA/QC Data	MS Volatiles	Grab	L.S.&Q.A.	101ms	12/2/2011	86870
111207091A	12/1/2011	QA/QC Data	MSD Volatiles	Grab	L.S.&Q.A.	101msd	12/2/2011	84162
1112070911	12/1/2011	Wastewater permit - VOA	Outfall 101	Grab	CWTP		12/2/2011	87725
111207091B	12/1/2011	Wastewater permit - VOA	Outfall 101	Grab	CWTP		12/2/2011	80969
1112070912	12/2/2011	Wastewater permit - VOA	Outfall 101	Grab	CWTP		12/2/2011	81411
111207091C	12/2/2011	Wastewater permit - VOA	Outfall 101	Grab	CWTP		12/2/2011	80561
111207091D	12/1/2011	Wastewater permit - VOA	Outfall 001	Grab	CWTP		12/2/2011	77121
1112070913	12/1/2011	Wastewater permit - VOA	Outfall 001	Grab	CWTP		12/2/2011	81846
111207091E	12/2/2011	Wastewater permit - VOA	Outfall 001	Grab	CWTP		12/2/2011	82633
111207091F	12/2/2011	Wastewater permit - VOA	Outfall 001	Grab	CWTP		12/2/2011	82325
1112070933	12/1/2011	QA/QC Data	MS Volatiles	Grab	L.S.&Q.A.	101ms2	12/2/2011	80951
1112070934	12/1/2011	QA/QC Data	MSD Volatiles	Grab	L.S.&Q.A.	101msd2	12/2/2011	82107

Sample Summary

07-Dec-11 11:21 am

Volatile QC Sample Analyses on 12/2/11

111207090A	**Project:**	QA/QC Data	**Sampler:**	JJC	**Batch:**	
	Location:	Blank Volatiles	**Collected:**	12/2/2011	**Time:**	8:58
	Sample Type:	Grab	**Received:**	12/2/2011	**Time:**	
	Customer:	L.S.&Q.A.	**Started:**		**Due:**	
	Cust. Sample:		**Completed:**	12/7/2011	**Reported:**	

Description:
Notes:
Conclusions:

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
FTTC4501 - (L) Volatile Priority Pollutants							
OVL002 dichlorodifluromethane			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL003 chloromethane			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL004 vinyl chloride			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL005 bromomethane			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL006 chloroethane			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL007 trichlorofluoromethane			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL008 1,1-dichloroethene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL009 methylene chloride			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL010 trans-1,2-dichloroethene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL011 1,1-dichloroethane			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL012 cis-1,2-dichloroethene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL013 2,2-dichloropropane			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL014 bromochloromethane			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL015 chloroform			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL017 1,1,1-trichloroethane			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL018 1,2-dichloroethane			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL019 1,1-dichloropropene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL020 benzene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL021 carbon tetrachloride			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL023 1,2-dichloropropane			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL024 trichloroethene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL025 dibromomethane			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL026 bromodichloromethane			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL027 trans-1,3-dichloropropene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL030 cis-1,3-dichloropropene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL031 toluene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL032 1,1,2-trichloroethane			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL033 1,3-dichloropropane			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL034 dibromochloromethane			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL035 1,2-dibromoethane			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL036 tetrachloroethene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL037 chlorobenzene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL038 1,1,1,2-tetrachloroethane			< 5	µg/L	FTTC4501	jjc	12/2/2011

Sample Summary

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Volatile QC Sample Analyses on 12/2/11

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
OVL039 ethylbenzene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL040 m+p-xylene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL041 styrene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL042 bromoform			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL043 o-xylene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL044 1,1,2,2-tetrachloroethane			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL045 1,2,3-trichloropropane			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL048 isopropylbenzene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL049 bromobenzene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL050 2-chlorotoluene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL051 n-propylbenzene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL052 4-chlorotoluene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL053 1,3,5-trimethylbenzene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL054 1,2,4-trimethylbenzene	200		< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL055 tert-butylbenzene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL056 1,3-dichlorobenzene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL057 sec-butylbenzene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL058 1,4-dichlorobenzene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL059 4-isopropyltoluene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL060 1,2-dichlorobenzene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL061 n-butylbenzene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL062 1,2-dibromo-3-chloropropane			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL063 1,2,4-trichlorobenzene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL064 napthalene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL065 1,2,3-trichlorobenzene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL066 hexachlorobutadiene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL068 Acrylonitrile			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL074 Vinyl Acetate(VAM)			< 5	µg/L	FTTC4501	jjc	12/2/2011
Volatiles Surrogates/Internal Std.							
OVL001 pentafluorobenzene	267290	66823	86075	N/A	FTTC4501	jjc	12/2/2011
OVL016 dibromofluromethane	56	46	54.69	µg/L	FTTC4501	jjc	12/2/2011
OVL022 1,4-diflurobenzene	397270	99318	127546	N/A	FTTC4501	jjc	12/2/2011
OVL028 chlorobenzene-d5	397110	99278	138075	N/A	FTTC4501	jjc	12/2/2011
OVL029 toluene-d8	54	44	51.83	µg/L	FTTC4501	jjc	12/2/2011
OVL046 4-bromofluorobenzene	54	42	48.28	µg/L	FTTC4501	jjc	12/2/2011
OVL047 1,4-dichlorobenzene-d4	229258	57315	75913	N/A	FTTC4501	jjc	12/2/2011

QA Supervisor: _____ Date: _____

Department Head: _____ Date: _____

Sample Summary

07-Dec-11 11:22 am

Volatile QC Sample Analyses on 12/2/11

111207090B	**Project:**	QA/QC Data	**Sampler:**	JJC	**Batch:**	
	Location:	CC Volatiles	**Collected:**	12/2/2011	**Time:**	10:05
	Sample Type:	Grab	**Received:**	12/2/2011	**Time:**	
	Customer:	L.S.&Q.A.	**Started:**		**Due:**	
	Cust. Sample:		**Completed:**	12/7/2011	**Reported:**	

Description:
Notes:
Conclusions:

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
FTTC4501 - (L) Volatile Priority Pollutants							
OVL002 dichlorodifluromethane			63.53	µg/L	FTTC4501	jjc	12/2/2011
OVL003 chloromethane			54.07	µg/L	FTTC4501	jjc	12/2/2011
OVL004 vinyl chloride			46.78	µg/L	FTTC4501	jjc	12/2/2011
OVL005 bromomethane			46.76	µg/L	FTTC4501	jjc	12/2/2011
OVL006 chloroethane			50.43	µg/L	FTTC4501	jjc	12/2/2011
OVL007 trichlorofluoromethane			60.49	µg/L	FTTC4501	jjc	12/2/2011
OVL008 1,1-dichloroethene			46.61	µg/L	FTTC4501	jjc	12/2/2011
OVL009 methylene chloride			45.92	µg/L	FTTC4501	jjc	12/2/2011
OVL010 trans-1,2-dichloroethene			46.05	µg/L	FTTC4501	jjc	12/2/2011
OVL011 1,1-dichloroethane			48.79	µg/L	FTTC4501	jjc	12/2/2011
OVL012 cis-1,2-dichloroethene			46.35	µg/L	FTTC4501	jjc	12/2/2011
OVL013 2,2-dichloropropane			49.95	µg/L	FTTC4501	jjc	12/2/2011
OVL014 bromochloromethane			45.4	µg/L	FTTC4501	jjc	12/2/2011
OVL015 chloroform			52.64	µg/L	FTTC4501	jjc	12/2/2011
OVL017 1,1,1-trichloroethane			56.12	µg/L	FTTC4501	jjc	12/2/2011
OVL018 1,2-dichloroethane			59.12	µg/L	FTTC4501	jjc	12/2/2011
OVL019 1,1-dichloropropene			48.16	µg/L	FTTC4501	jjc	12/2/2011
OVL020 benzene			45.13	µg/L	FTTC4501	jjc	12/2/2011
OVL021 carbon tetrachloride			56.58	µg/L	FTTC4501	jjc	12/2/2011
OVL023 1,2-dichloropropane			52.22	µg/L	FTTC4501	jjc	12/2/2011
OVL024 trichloroethene			47.35	µg/L	FTTC4501	jjc	12/2/2011
OVL025 dibromomethane			54.23	µg/L	FTTC4501	jjc	12/2/2011
OVL026 bromodichloromethane			57.56	µg/L	FTTC4501	jjc	12/2/2011
OVL027 trans-1,3-dichloropropene			56.75	µg/L	FTTC4501	jjc	12/2/2011
OVL030 cis-1,3-dichloropropene			52.66	µg/L	FTTC4501	jjc	12/2/2011
OVL031 toluene			52.65	µg/L	FTTC4501	jjc	12/2/2011
OVL032 1,1,2-trichloroethane			54.11	µg/L	FTTC4501	jjc	12/2/2011
OVL033 1,3-dichloropropane			53.03	µg/L	FTTC4501	jjc	12/2/2011
OVL034 dibromochloromethane			56.17	µg/L	FTTC4501	jjc	12/2/2011
OVL035 1,2-dibromoethane			53.55	µg/L	FTTC4501	jjc	12/2/2011
OVL036 tetrachloroethene			51.74	µg/L	FTTC4501	jjc	12/2/2011
OVL037 chlorobenzene			47.98	µg/L	FTTC4501	jjc	12/2/2011
OVL038 1,1,1,2-tetrachloroethane			52.22	µg/L	FTTC4501	jjc	12/2/2011

Sample Summary

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Volatile QC Sample Analyses on 12/2/11

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
OVL039 ethylbenzene			49.67	µg/L	FTTC4501	jjc	12/2/2011
OVL040 m+p-xylene			95.95	µg/L	FTTC4501	jjc	12/2/2011
OVL041 styrene			49.97	µg/L	FTTC4501	jjc	12/2/2011
OVL042 bromoform			54.02	µg/L	FTTC4501	jjc	12/2/2011
OVL043 o-xylene			48.87	µg/L	FTTC4501	jjc	12/2/2011
OVL044 1,1,2,2-tetrachloroethane			50.86	µg/L	FTTC4501	jjc	12/2/2011
OVL045 1,2,3-trichloropropane			52.16	µg/L	FTTC4501	jjc	12/2/2011
OVL048 isopropylbenzene			50.04	µg/L	FTTC4501	jjc	12/2/2011
OVL049 bromobenzene			50.22	µg/L	FTTC4501	jjc	12/2/2011
OVL050 2-chlorotoluene			51.13	µg/L	FTTC4501	jjc	12/2/2011
OVL051 n-propylbenzene			50.6	µg/L	FTTC4501	jjc	12/2/2011
OVL052 4-chlorotoluene			51.84	µg/L	FTTC4501	jjc	12/2/2011
OVL053 1,3,5-trimethylbenzene			50.78	µg/L	FTTC4501	jjc	12/2/2011
OVL054 1,2,4-trimethylbenzene	200		51.62	µg/L	FTTC4501	jjc	12/2/2011
OVL055 tert-butylbenzene			50.76	µg/L	FTTC4501	jjc	12/2/2011
OVL056 1,3-dichlorobenzene			50.96	µg/L	FTTC4501	jjc	12/2/2011
OVL057 sec-butylbenzene			50.68	µg/L	FTTC4501	jjc	12/2/2011
OVL058 1,4-dichlorobenzene			47.58	µg/L	FTTC4501	jjc	12/2/2011
OVL059 4-isopropyltoluene			50.23	µg/L	FTTC4501	jjc	12/2/2011
OVL060 1,2-dichlorobenzene			47.33	µg/L	FTTC4501	jjc	12/2/2011
OVL061 n-butylbenzene			48.13	µg/L	FTTC4501	jjc	12/2/2011
OVL062 1,2-dibromo-3-chloropropane			51.91	µg/L	FTTC4501	jjc	12/2/2011
OVL063 1,2,4-trichlorobenzene			45.8	µg/L	FTTC4501	jjc	12/2/2011
OVL064 napthalene			48.48	µg/L	FTTC4501	jjc	12/2/2011
OVL065 1,2,3-trichlorobenzene			47.25	µg/L	FTTC4501	jjc	12/2/2011
OVL066 hexachlorobutadiene			45.75	µg/L	FTTC4501	jjc	12/2/2011
OVL068 Acrylonitrile			44.82	µg/L	FTTC4501	jjc	12/2/2011
OVL074 Vinyl Acetate(VAM)			50.43	µg/L	FTTC4501	jjc	12/2/2011
Volatiles Surrogates/Internal Std.							
OVL001 pentafluorobenzene	267290	66823	85225	N/A	FTTC4501	jjc	12/2/2011
OVL016 dibromofluromethane	56	46	51.83	µg/L	FTTC4501	jjc	12/2/2011
OVL022 1,4-diflurobenzene	397270	99318	122854	N/A	FTTC4501	jjc	12/2/2011
OVL028 chlorobenzene-d5	397110	99278	129451	N/A	FTTC4501	jjc	12/2/2011
OVL029 toluene-d8	54	44	51.56	µg/L	FTTC4501	jjc	12/2/2011
OVL046 4-bromofluorobenzene	54	42	49.75	µg/L	FTTC4501	jjc	12/2/2011
OVL047 1,4-dichlorobenzene-d4	229258	57315	79764	N/A	FTTC4501	jjc	12/2/2011

QA Supervisor: _____ Date: _____

Department Head: _____ Date: _____

Sample Summary

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Volatile QC Sample Analyses on 12/2/11

1112070910	**Project:**	QA/QC Data	**Sampler:**	FO	**Batch:**	
	Location:	MS Volatiles	**Collected:**	12/1/2011	**Time:**	14:00
	Sample Type:	Grab	**Received:**	12/1/2011	**Time:**	
	Customer:	L.S.&Q.A.	**Started:**		**Due:**	
	Cust. Sample:	101ms	**Completed:**	12/7/2011	**Reported:**	

Description:
Notes:
Conclusions:

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
Volatiles matrix spikes QA/QC							
OVL008 1,1-dichloroethene			52.53	µg/L	FTTC4501	jjc	12/2/2011
OVL020 benzene			49.63	µg/L	FTTC4501	jjc	12/2/2011
OVL024 trichloroethene			53.61	µg/L	FTTC4501	jjc	12/2/2011
OVL031 toluene			56.16	µg/L	FTTC4501	jjc	12/2/2011
OVL037 chlorobenzene			49.68	µg/L	FTTC4501	jjc	12/2/2011
Volatiles Surrogates/Internal Std.							
OVL001 pentafluorobenzene	267290	66823	86870	N/A	FTTC4501	jjc	12/2/2011
OVL016 dibromofluromethane	56	46	51.51	µg/L	FTTC4501	jjc	12/2/2011
OVL022 1,4-diflurobenzene	397270	99318	128652	N/A	FTTC4501	jjc	12/2/2011
OVL028 chlorobenzene-d5	397110	99278	138612	N/A	FTTC4501	jjc	12/2/2011
OVL029 toluene-d8	54	44	54 H	µg/L	FTTC4501	jjc	12/2/2011
OVL046 4-bromofluorobenzene	54	42	48.56	µg/L	FTTC4501	jjc	12/2/2011
OVL047 1,4-dichlorobenzene-d4	229258	57315	76185	N/A	FTTC4501	jjc	12/2/2011

QA Supervisor: _____ Date: _____

Department Head: _____ Date: _____

Sample Summary

07-Dec-11 11:22 am

Volatile QC Sample Analyses on 12/2/11

111207091A	**Project:**	QA/QC Data	**Sampler:**	FO	**Batch:**	
	Location:	MSD Volatiles	**Collected:**	12/1/2011	**Time:**	14:00
	Sample Type:	Grab	**Received:**	12/1/2011	**Time:**	
	Customer:	L.S.&Q.A.	**Started:**		**Due:**	
	Cust. Sample:	101msd	**Completed:**	12/7/2011	**Reported:**	

Description:
Notes:
Conclusions:

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
Volatiles matrix spikes QA/QC							
OVL008 1,1-dichloroethene			53.66	µg/L	FTTC4501	jjc	12/2/2011
OVL020 benzene			50.65	µg/L	FTTC4501	jjc	12/2/2011
OVL024 trichloroethene			53.83	µg/L	FTTC4501	jjc	12/2/2011
OVL031 toluene			56	µg/L	FTTC4501	jjc	12/2/2011
OVL037 chlorobenzene			50.27	µg/L	FTTC4501	jjc	12/2/2011
Volatiles Surrogates/Internal Std.							
OVL001 pentafluorobenzene	267290	66823	84162	N/A	FTTC4501	jjc	12/2/2011
OVL016 dibromofluromethane	56	46	53.97	µg/L	FTTC4501	jjc	12/2/2011
OVL022 1,4-diflurobenzene	397270	99318	124968	N/A	FTTC4501	jjc	12/2/2011
OVL028 chlorobenzene-d5	397110	99278	134260	N/A	FTTC4501	jjc	12/2/2011
OVL029 toluene-d8	54	44	52.1	µg/L	FTTC4501	jjc	12/2/2011
OVL046 4-bromofluorobenzene	54	42	48.44	µg/L	FTTC4501	jjc	12/2/2011
OVL047 1,4-dichlorobenzene-d4	229258	57315	74748	N/A	FTTC4501	jjc	12/2/2011

QA Supervisor: _____ Date: _____

Department Head: _____ Date: _____

Sample Summary

07-Dec-11 11:22 am

Volatile QC Sample Analyses on 12/2/11

1112070933	**Project:**	QA/QC Data	**Sampler:**	FO	**Batch:**	
	Location:	MS Volatiles	**Collected:**	12/1/2011	**Time:**	14:00
	Sample Type:	Grab	**Received:**	12/1/2011	**Time:**	
	Customer:	L.S.&Q.A.	**Started:**		**Due:**	
	Cust. Sample:	101ms2	**Completed:**	12/7/2011	**Reported:**	

Description:
Notes:
Conclusions:

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
Volatiles matrix spikes QA/QC							
OVL008 1,1-dichloroethene			53.99	µg/L	FTTC4501	jjc	12/2/2011
OVL020 benzene			50.81	µg/L	FTTC4501	jjc	12/2/2011
OVL024 trichloroethene			52.35	µg/L	FTTC4501	jjc	12/2/2011
OVL031 toluene			56.73	µg/L	FTTC4501	jjc	12/2/2011
OVL037 chlorobenzene			48.73	µg/L	FTTC4501	jjc	12/2/2011
Volatiles Surrogates/Internal Std.							
OVL001 pentafluorobenzene	267290	66823	80951	N/A	FTTC4501	jjc	12/2/2011
OVL016 dibromofluromethane	56	46	55.17	µg/L	FTTC4501	jjc	12/2/2011
OVL022 1,4-diflurobenzene	397270	99318	121108	N/A	FTTC4501	jjc	12/2/2011
OVL028 chlorobenzene-d5	397110	99278	132754	N/A	FTTC4501	jjc	12/2/2011
OVL029 toluene-d8	54	44	53.53	µg/L	FTTC4501	jjc	12/2/2011
OVL046 4-bromofluorobenzene	54	42	48.36	µg/L	FTTC4501	jjc	12/2/2011
OVL047 1,4-dichlorobenzene-d4	229258	57315	73555	N/A	FTTC4501	jjc	12/2/2011

QA Supervisor: _____ Date: _____

Department Head: _____ Date: _____

Sample Summary

07-Dec-11 11:22 am

Volatile QC Sample Analyses on 12/2/11

1112070934	**Project:**	QA/QC Data	**Sampler:**	FO	**Batch:**	
	Location:	MSD Volatiles	**Collected:**	12/1/2011	**Time:**	14:00
	Sample Type:	Grab	**Received:**	12/1/2011	**Time:**	
	Customer:	L.S.&Q.A.	**Started:**		**Due:**	
	Cust. Sample:	101msd2	**Completed:**	12/7/2011	**Reported:**	

Description:
Notes:
Conclusions:

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
Volatiles matrix spikes QA/QC							
OVL008 1,1-dichloroethene			54.3	µg/L	FTTC4501	jjc	12/2/2011
OVL020 benzene			50.9	µg/L	FTTC4501	jjc	12/2/2011
OVL024 trichloroethene			51.79	µg/L	FTTC4501	jjc	12/2/2011
OVL031 toluene			56.01	µg/L	FTTC4501	jjc	12/2/2011
OVL037 chlorobenzene			48.98	µg/L	FTTC4501	jjc	12/2/2011
Volatiles Surrogates/Internal Std.							
OVL001 pentafluorobenzene	267290	66823	82107	N/A	FTTC4501	jjc	12/2/2011
OVL016 dibromofluromethane	56	46	54.12	µg/L	FTTC4501	jjc	12/2/2011
OVL022 1,4-diflurobenzene	397270	99318	123917	N/A	FTTC4501	jjc	12/2/2011
OVL028 chlorobenzene-d5	397110	99278	134252	N/A	FTTC4501	jjc	12/2/2011
OVL029 toluene-d8	54	44	51.95	µg/L	FTTC4501	jjc	12/2/2011
OVL046 4-bromofluorobenzene	54	42	47.97	µg/L	FTTC4501	jjc	12/2/2011
OVL047 1,4-dichlorobenzene-d4	229258	57315	73307	N/A	FTTC4501	jjc	12/2/2011

QA Supervisor: _____ Date: _____

Department Head: _____ Date: _____

Volatile System Monitoring Compound Recoveries

Sample Type: Water

Sample ID	SMC1 % Rec.	SMC2 % Rec.	SMC3 % Rec.
1112021311	112	104	96
111202131A	106	104	96
1112061418	111	104	98
1112061419	111	103	99
1112061420	110	105	98
1112061431	112	104	98
111207090A	109	104	97
111207090B	104	103	100
1112070910	103	108	97
1112070911	106	104	96
1112070912	110	105	97
1112070913	108	106	97
111207091A	108	104	97
111207091B	111	104	97
111207091C	107	106	97
111207091D	112	104	96
111207091E	109	105	98
111207091F	115	106	95
1112070933	110	107	97
1112070934	108	104	96

QC Limits:

Analyte	% Rec.
SMC1 (DBF) = dibormofluoromethane	(90-116)
SMC2 (TOL) = toluene-d8	(87-108)
SMC3 (BFB) = 4-bromofluorobenzene	(83-111)

* Values outside of required QC limits

Comments: _____

Volatile Matrix Spike/Matrix Spike Duplicate Recovery

Sample Type: Water

Sample ID	MS Sample ID	MSD Sample ID
1112070910	1112070911	111207091A

Analyte	Units	Concentration Sample	Concentration Matrix Spike	Concentration Spike Duplicate	Spike Amount MS	Spike Amount MSD	% Recovery MS	% Recovery MSD	% Recovery Avg.	% RPD
1,1-Dichloroethene	ppb	0	53	54	50	50	105	107	106	2
Trichloroethene	ppb	0	54	54	50	50	107	108	107	0
Benzene	ppb	0	50	51	50	50	99	101	100	2
Toluene	ppb	0	56	56	50	50	112*	112*	112	0
Chlorobenzene	ppb	0	50	50	50	50	99	101	100	1

QC Limits:

Analyte	% RPD	Spike Rec.
1,1-Dichloroethene	10	(38-134)
Trichloroethene	12	(88-111)
Benzene	9	(84-112)
Toluene	11	(91-109)
Chlorobenzene	7	(91-112)

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 2 out of 10 outside limits

Comments: ran twice, matrix effects

Volatile Matrix Spike/Matrix Spike Duplicate Recovery

Sample Type: Water

Sample ID	MS Sample ID	MSD Sample ID
1112070911	1112070933	1112070934

Analyte	Units	Concentration			Spike Amount		% Recovery			% RPD
		Sample	Matrix Spike	Spike Duplicate	MS	MSD	MS	MSD	Avg.	
1,1-Dichloroethene	ppb	0	54	54	50	50	108	109	108	1
Trichloroethene	ppb	0	52	52	50	50	105	104	104	1
Benzene	ppb	0	51	51	50	50	102	102	102	0
Toluene	ppb	0	57	56	50	50	113*	112*	113	1
Chlorobenzene	ppb	0	49	49	50	50	97	98	98	1

QC Limits:

Analyte	% RPD	Spike Rec.
1,1-Dichloroethene	10	(38-134)
Trichloroethene	12	(88-111)
Benzene	9	(84-112)
Toluene	11	(91-109)
Chlorobenzene	7	(91-112)

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 2 out of 10 outside limits

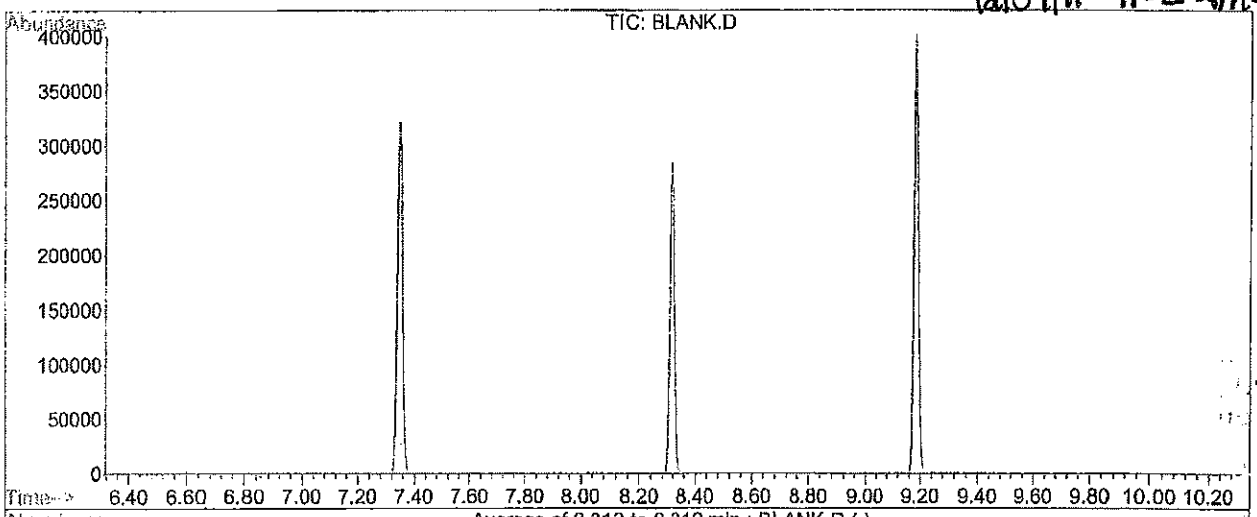
Comments: second run, matrix effects

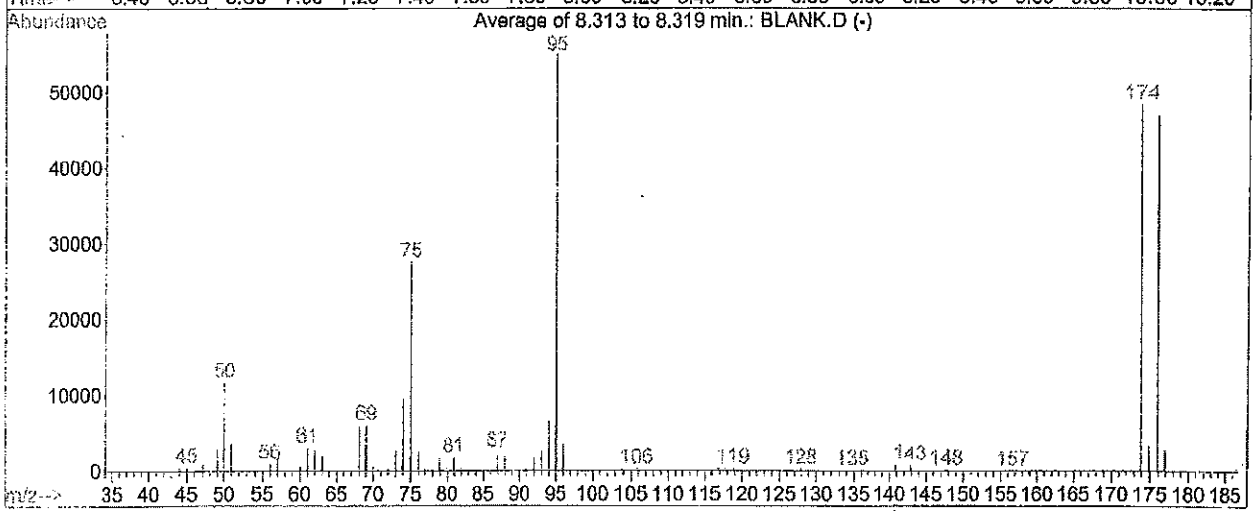
BFB

Data File : C:\HPCHEM\1\DATA\120211\BLANK.D
Acq On : 2 Dec 2011 8:58 am
Sample : method blank
Misc : A
MS Integration Params: RTEINT4.P
Method : C:\HPCHEM\1\METHODS\VOA.M (RTE Integrator)
Title :

Vial: 1
Operator: jjc
Inst : GC/MS 597
Multiplr: 1.00

12/07/11 1102 Am-jcurry





AutoFind: Scans 2452, 2453, 2454; Background Corrected with Scan 2441

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	21.3	11741	PASS
75	95	30	60	50.0	27555	PASS
95	95	100	100	100.0	55152	PASS
96	95	5	9	6.3	3463	PASS
173	174	0.00	2	0.5	228	PASS
174	95	50	100	87.8	48419	PASS
175	174	5	9	7.1	3426	PASS
176	174	95	101	96.9	46936	PASS
177	176	5	9	6.0	2836	PASS

L.S. & Q.A. Department

VOLATILES(8260) INJECTION LOG

	SAMPLE	DATE/TIME	UNIT	LAB ID	GW#	DILUTION
1	BLK					
2	CC					
3	101	12/1 1400	cutp	outfall		
4	MS	↓ ↓	↓	↓		
5	MSD					
6	101-2	↓ 2000				
7	101-3	12/2 0200				
8	101-4	↓ 0800				
9	001	12/1 1400				
10	001-2	↓ 2000				
11	001-3	12/2 0200				
12	001-4	↓ 0800	↓	↓		
13	P-24	4/29	VCM	granulators		
14	RS-4	↓	↓	↓		
15	RS-5					
16	dup-2					
17	dup-3					2
18	d-39					2
19	p-3					200
20	p-12					200
21	RS-1	↓	↓	↓		5000
22						
23						
24						
25						
26						
27						
28						

1x

Rerun

ANALYST: JVL	
DATE: 12/2/11	
C:\HPCHEM\1\DATA	

	TIME
TUNE CHECK	
METHOD BLANK	
CALIBRATION CHECK	

COMMENTS:

Volatile Tune

Tune Compound: BFB

Analysis Date and Time: 12/2/2011 8:58 Analyst: JJC Sample ID: 1112070909

Target Mass	Relative to Target Mass	Lower Limit (%)	Upper Limit (%)	Relative Abundance (%)	Result Pass/Fail
50	95	15	40	21.3	Pass
75	95	30	60	50.0	Pass
95	95	100	100	100.0	Pass
96	95	5	9	6.3	Pass
173	174	0	2	0.5	Pass
174	95	50	100	87.8	Pass
175	174	5	9	7.1	Pass
176	174	95	101	96.9	Pass
177	176	5	9	6.0	Pass

Analytical Batch

Volatile QC Sample Analyses on 12/01/11

08-Dec-11 9:38 am

OVL001 pentafluorobenzene (N/A) 12/08/11 09:37 AM - jcurry

Sample ID	Collected	Project	Location	Sample Type	Customer	Cust. Sample ID	Date	Result
1112061408	11/29/2011	Ground Water	Stripper-In	Grab	VCM	SI	12/1/2011	527556
1112061411	11/29/2011	Ground Water	P-12	Grab	VCM	P-12	12/1/2011	544895
1112061413	11/29/2011	Ground Water	RD-1	Grab	VCM	RD-1	12/1/2011	507261
111206141C	11/29/2011	Ground Water	P-9	Grab	VCM	P-9	12/1/2011	545624
111206142D	11/29/2011	Ground Water	P-14	Grab	VCM	P-14 11/29/11	12/1/2011	636879
1112061439	11/29/2011	Ground Water	P-48	Grab	VCM	P-48 11/29/11	12/1/2011	576994
111208074A	12/1/2011	QA/QC Data	Blank Volatiles	Grab	L.S.&Q.A.		12/1/2011	612989
1112080750	12/1/2011	QA/QC Data	CC Volatiles	Grab	L.S.&Q.A.		12/1/2011	660540
1112080753	11/29/2011	QA/QC Data	MS Volatiles	Grab	L.S.&Q.A.	p-48 ms	12/1/2011	576712
1112080754	11/29/2011	QA/QC Data	MSD Volatiles	Grab	L.S.&Q.A.	p-48 msd	12/1/2011	537214
1112080759	11/29/2011	Ground Water	Stripper-Out	Grab	VCM	S O	12/1/2011	557795

Volatile Tune

Tune Compound: BFB

Analysis Date and Time: 12/1/2011 9:25 Analyst: JJC Sample ID: 1112080749

Target Mass	Relative to Target Mass	Lower Limit (%)	Upper Limit (%)	Relative Abundance (%)	Result Pass/Fail
50	95	15	40	21.7	Pass
75	95	30	60	44.7	Pass
95	95	100	100	100.0	Pass
96	95	5	9	6.4	Pass
173	174	0	2	0.9	Pass
174	95	50	100	77.3	Pass
175	174	5	9	7.6	Pass
176	174	95	101	98.6	Pass
177	176	5	9	6.5	Pass

Sample Summary

08-Dec-11 9:43 am

Volatile QC Sample Analyses on 12/1/11

111208074A	**Project:**	QA/QC Data	**Sampler:**	JJC	**Batch:**	
	Location:	Blank Volatiles	**Collected:**	12/1/2011	**Time:**	9:25
	Sample Type:	Grab	**Received:**	12/1/2011	**Time:**	
	Customer:	L.S.&Q.A.	**Started:**		**Due:**	
	Cust. Sample:		**Completed:**	12/8/2011	**Reported:**	

Description:
Notes:
Conclusions:

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
5975 Volatiles Surrogates/Internal Std							
OVL001 pentafluorobenzene	1274598	318650	612989	N/A	FTTC4501	jjc	12/1/2011
OVL016 dibromofluromethane	59	43	54.88	µg/L	FTTC4501	jjc	12/1/2011
OVL022 1,4-diflurobenzene	2223728	555932	1091358	N/A	FTTC4501	jjc	12/1/2011
OVL028 chlorobenzene-d5	2086724	521681	1031875	N/A	FTTC4501	jjc	12/1/2011
OVL029 toluene-d8	55	43	51.58	µg/L	FTTC4501	jjc	12/1/2011
OVL046 4-bromofluorobenzene	57.5	43	52.67	µg/L	FTTC4501	jjc	12/1/2011
OVL047 1,4-dichlorobenzene-d4	1093510	273378	533747	N/A	FTTC4501	jjc	12/1/2011
FTTC4501 - (L) Volatile Priority Pollutants							
OVL002 dichlorodifluromethane			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL003 chloromethane			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL004 vinyl chloride			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL005 bromomethane			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL006 chloroethane			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL007 trichlorofluoromethane			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL008 1,1-dichloroethene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL009 methylene chloride			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL010 trans-1,2-dichloroethene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL011 1,1-dichloroethane			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL012 cis-1,2-dichloroethene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL013 2,2-dichloropropane			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL014 bromochloromethane			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL015 chloroform			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL017 1,1,1-trichloroethane			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL018 1,2-dichloroethane			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL019 1,1-dichloropropene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL020 benzene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL021 carbon tetrachloride			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL023 1,2-dichloropropane			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL024 trichloroethene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL025 dibromomethane			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL026 bromodichloromethane			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL027 trans-1,3-dichloropropene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL030 cis-1,3-dichloropropene			< 5	µg/L	FTTC4501	jjc	12/1/2011

Sample Summary

08-Dec-11 9:43 am

Volatile QC Sample Analyses on 12/1/11

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
OVL031 toluene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL032 1,1,2-trichloroethane			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL033 1,3-dichloropropane			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL034 dibromochloromethane			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL035 1,2-dibromoethane			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL036 tetrachloroethene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL037 chlorobenzene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL038 1,1,1,2-tetrachloroethane			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL039 ethylbenzene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL040 m+p-xylene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL041 styrene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL042 bromoform			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL043 o-xylene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL044 1,1,2,2-tetrachloroethane			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL045 1,2,3-trichloropropane			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL048 isopropylbenzene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL049 bromobenzene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL050 2-chlorotoluene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL051 n-propylbenzene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL052 4-chlorotoluene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL053 1,3,5-trimethylbenzene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL054 1,2,4-trimethylbenzene	200		< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL055 tert-butylbenzene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL056 1,3-dichlorobenzene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL057 sec-butylbenzene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL058 1,4-dichlorobenzene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL059 4-isopropyltoluene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL060 1,2-dichlorobenzene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL061 n-butylbenzene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL062 1,2-dibromo-3-chloropropane			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL063 1,2,4-trichlorobenzene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL064 napthalene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL065 1,2,3-trichlorobenzene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL066 hexachlorobutadiene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL068 Acrylonitrile			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL074 Vinyl Acetate(VAM)			< 5	µg/L	FTTC4501	jjc	12/1/2011

QA Supervisor: _____ Date: _____

Department Head: _____ Date: _____

Sample Summary

Volatile QC Sample Analyses on 12/1/11

08-Dec-11 9:43 am

1112080750	**Project:**	QA/QC Data	**Sampler:**	JJC	**Batch:**	
	Location:	CC Volatiles	**Collected:**	12/1/2011	**Time:**	9:00
	Sample Type:	Grab	**Received:**	12/1/2011	**Time:**	
	Customer:	L.S.&Q.A.	**Started:**		**Due:**	
	Cust. Sample:		**Completed:**	12/8/2011	**Reported:**	

Description:
Notes:
Conclusions:

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
5975 Volatiles Surrogates/Internal Std							
OVL001 pentafluorobenzene	1274598	318650	660540	N/A	FTTC4501	jjc	12/1/2011
OVL016 dibromofluromethane	59	43	47.26	µg/L	FTTC4501	jjc	12/1/2011
OVL022 1,4-diflurobenzene	2223728	555932	1107836	N/A	FTTC4501	jjc	12/1/2011
OVL028 chlorobenzene-d5	2086724	521681	1032839	N/A	FTTC4501	jjc	12/1/2011
OVL029 toluene-d8	55	43	48.39	µg/L	FTTC4501	jjc	12/1/2011
OVL046 4-bromofluorobenzene	57.5	43	49.38	µg/L	FTTC4501	jjc	12/1/2011
OVL047 1,4-dichlorobenzene-d4	1093510	273378	551063	N/A	FTTC4501	jjc	12/1/2011
FTTC4501 - (L) Volatile Priority Pollutants							
OVL002 dichlorodifluromethane			37.88	µg/L	FTTC4501	jjc	12/1/2011
OVL003 chloromethane			41.8	µg/L	FTTC4501	jjc	12/1/2011
OVL004 vinyl chloride			42.93	µg/L	FTTC4501	jjc	12/1/2011
OVL005 bromomethane			46.79	µg/L	FTTC4501	jjc	12/1/2011
OVL006 chloroethane			51.81	µg/L	FTTC4501	jjc	12/1/2011
OVL007 trichlorofluoromethane			47.91	µg/L	FTTC4501	jjc	12/1/2011
OVL008 1,1-dichloroethene			46.98	µg/L	FTTC4501	jjc	12/1/2011
OVL009 methylene chloride			48.39	µg/L	FTTC4501	jjc	12/1/2011
OVL010 trans-1,2-dichloroethene			47.19	µg/L	FTTC4501	jjc	12/1/2011
OVL011 1,1-dichloroethane			46.34	µg/L	FTTC4501	jjc	12/1/2011
OVL012 cis-1,2-dichloroethene			46.16	µg/L	FTTC4501	jjc	12/1/2011
OVL013 2,2-dichloropropane			46.99	µg/L	FTTC4501	jjc	12/1/2011
OVL014 bromochloromethane			48.6	µg/L	FTTC4501	jjc	12/1/2011
OVL015 chloroform			46.74	µg/L	FTTC4501	jjc	12/1/2011
OVL017 1,1,1-trichloroethane			45.96	µg/L	FTTC4501	jjc	12/1/2011
OVL018 1,2-dichloroethane			47.16	µg/L	FTTC4501	jjc	12/1/2011
OVL019 1,1-dichloropropene			46.81	µg/L	FTTC4501	jjc	12/1/2011
OVL020 benzene			46.5	µg/L	FTTC4501	jjc	12/1/2011
OVL021 carbon tetrachloride			47.18	µg/L	FTTC4501	jjc	12/1/2011
OVL023 1,2-dichloropropane			49	µg/L	FTTC4501	jjc	12/1/2011
OVL024 trichloroethene			46.01	µg/L	FTTC4501	jjc	12/1/2011
OVL025 dibromomethane			49.46	µg/L	FTTC4501	jjc	12/1/2011
OVL026 bromodichloromethane			49.34	µg/L	FTTC4501	jjc	12/1/2011
OVL027 trans-1,3-dichloropropene			49.58	µg/L	FTTC4501	jjc	12/1/2011
OVL030 cis-1,3-dichloropropene			49.46	µg/L	FTTC4501	jjc	12/1/2011

Sample Summary

08-Dec-11 9:43 am

Volatile QC Sample Analyses on 12/1/11

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
OVL031 toluene			48.07	µg/L	FTTC4501	jjc	12/1/2011
OVL032 1,1,2-trichloroethane			50.37	µg/L	FTTC4501	jjc	12/1/2011
OVL033 1,3-dichloropropane			49.29	µg/L	FTTC4501	jjc	12/1/2011
OVL034 dibromochloromethane			49.79	µg/L	FTTC4501	jjc	12/1/2011
OVL035 1,2-dibromoethane			49.55	µg/L	FTTC4501	jjc	12/1/2011
OVL036 tetrachloroethene			49.08	µg/L	FTTC4501	jjc	12/1/2011
OVL037 chlorobenzene			48.84	µg/L	FTTC4501	jjc	12/1/2011
OVL038 1,1,1,2-tetrachloroethane			48.65	µg/L	FTTC4501	jjc	12/1/2011
OVL039 ethylbenzene			48.43	µg/L	FTTC4501	jjc	12/1/2011
OVL040 m+p-xylene			98.54	µg/L	FTTC4501	jjc	12/1/2011
OVL041 styrene			49.29	µg/L	FTTC4501	jjc	12/1/2011
OVL042 bromoform			49.25	µg/L	FTTC4501	jjc	12/1/2011
OVL043 o-xylene			49.43	µg/L	FTTC4501	jjc	12/1/2011
OVL044 1,1,2,2-tetrachloroethane			50.28	µg/L	FTTC4501	jjc	12/1/2011
OVL045 1,2,3-trichloropropane			50.93	µg/L	FTTC4501	jjc	12/1/2011
OVL048 isopropylbenzene			49.35	µg/L	FTTC4501	jjc	12/1/2011
OVL049 bromobenzene			48.7	µg/L	FTTC4501	jjc	12/1/2011
OVL050 2-chlorotoluene			48.85	µg/L	FTTC4501	jjc	12/1/2011
OVL051 n-propylbenzene			48.97	µg/L	FTTC4501	jjc	12/1/2011
OVL052 4-chlorotoluene			48.82	µg/L	FTTC4501	jjc	12/1/2011
OVL053 1,3,5-trimethylbenzene			48.73	µg/L	FTTC4501	jjc	12/1/2011
OVL054 1,2,4-trimethylbenzene	200		48.96	µg/L	FTTC4501	jjc	12/1/2011
OVL055 tert-butylbenzene			49.03	µg/L	FTTC4501	jjc	12/1/2011
OVL056 1,3-dichlorobenzene			49.53	µg/L	FTTC4501	jjc	12/1/2011
OVL057 sec-butylbenzene			49.14	µg/L	FTTC4501	jjc	12/1/2011
OVL058 1,4-dichlorobenzene			47.84	µg/L	FTTC4501	jjc	12/1/2011
OVL059 4-isopropyltoluene			49.74	µg/L	FTTC4501	jjc	12/1/2011
OVL060 1,2-dichlorobenzene			48.09	µg/L	FTTC4501	jjc	12/1/2011
OVL061 n-butylbenzene			48.94	µg/L	FTTC4501	jjc	12/1/2011
OVL062 1,2-dibromo-3-chloropropane			48.76	µg/L	FTTC4501	jjc	12/1/2011
OVL063 1,2,4-trichlorobenzene			51.22	µg/L	FTTC4501	jjc	12/1/2011
OVL064 napthalene			49.31	µg/L	FTTC4501	jjc	12/1/2011
OVL065 1,2,3-trichlorobenzene			49.9	µg/L	FTTC4501	jjc	12/1/2011
OVL066 hexachlorobutadiene			51.65	µg/L	FTTC4501	jjc	12/1/2011
OVL068 Acrylonitrile			48.62	µg/L	FTTC4501	jjc	12/1/2011
OVL074 Vinyl Acetate(VAM)			51.68	µg/L	FTTC4501	jjc	12/1/2011

QA Supervisor: _____ Date: _____

Department Head: _____ Date: _____

Sample Summary

08-Dec-11 9:43 am

Volatile QC Sample Analyses on 12/1/11

1112080753	**Project:**	QA/QC Data	**Sampler:**	FO	**Batch:**	
	Location:	MS Volatiles	**Collected:**	11/29/2011	**Time:**	11:46
	Sample Type:	Grab	**Received:**	11/29/2011	**Time:**	
	Customer:	L.S.&Q.A.	**Started:**		**Due:**	
	Cust. Sample:	p-48 ms	**Completed:**	12/8/2011	**Reported:**	

Description:
Notes:
Conclusions:

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
5975 Volatiles Surrogates/Internal Std							
OVL001 pentafluorobenzene	1274598	318650	576712	N/A	FTTC4501	jjc	12/1/2011
OVL016 dibromofluromethane	59	43	56.08	µg/L	FTTC4501	jjc	12/1/2011
OVL022 1,4-diflurobenzene	2223728	555932	1024368	N/A	FTTC4501	jjc	12/1/2011
OVL028 chlorobenzene-d5	2086724	521681	971803	N/A	FTTC4501	jjc	12/1/2011
OVL029 toluene-d8	55	43	51.56	µg/L	FTTC4501	jjc	12/1/2011
OVL046 4-bromofluorobenzene	57.5	43	51.41	µg/L	FTTC4501	jjc	12/1/2011
OVL047 1,4-dichlorobenzene-d4	1093510	273378	494580	N/A	FTTC4501	jjc	12/1/2011
Volatiles matrix spikes QA/QC							
OVL008 1,1-dichloroethene			44.41	µg/L	FTTC4501	jjc	12/1/2011
OVL020 benzene			57.41	µg/L	FTTC4501	jjc	12/1/2011
OVL024 trichloroethene			56.93	µg/L	FTTC4501	jjc	12/1/2011
OVL031 toluene			57.48	µg/L	FTTC4501	jjc	12/1/2011
OVL037 chlorobenzene			57.74	µg/L	FTTC4501	jjc	12/1/2011

QA Supervisor: _____ Date: _____

Department Head: _____ Date: _____

Sample Summary

Volatile QC Sample Analyses on 12/1/11

08-Dec-11 9:43 am

1112080754	**Project:**	QA/QC Data	**Sampler:**	FO	**Batch:**	
	Location:	MSD Volatiles	**Collected:**	11/29/2011	**Time:**	12:44
	Sample Type:	Grab	**Received:**	11/29/2011	**Time:**	
	Customer:	L.S.&Q.A.	**Started:**		**Due:**	
	Cust. Sample:	p-48 msd	**Completed:**	12/8/2011	**Reported:**	

Description:
Notes:
Conclusions:

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
5975 Volatiles Surrogates/Internal Std							
OVL001 pentafluorobenzene	1274598	318650	537214	N/A	FTTC4501	jjc	12/1/2011
OVL016 dibromofluromethane	59	43	54.51	µg/L	FTTC4501	jjc	12/1/2011
OVL022 1,4-diflurobenzene	2223728	555932	958098	N/A	FTTC4501	jjc	12/1/2011
OVL028 chlorobenzene-d5	2086724	521681	903736	N/A	FTTC4501	jjc	12/1/2011
OVL029 toluene-d8	55	43	50.38	µg/L	FTTC4501	jjc	12/1/2011
OVL046 4-bromofluorobenzene	57.5	43	51.91	µg/L	FTTC4501	jjc	12/1/2011
OVL047 1,4-dichlorobenzene-d4	1093510	273378	471474	N/A	FTTC4501	jjc	12/1/2011
Volatiles matrix spikes QA/QC							
OVL008 1,1-dichloroethene			43.23	µg/L	FTTC4501	jjc	12/1/2011
OVL020 benzene			56.82	µg/L	FTTC4501	jjc	12/1/2011
OVL024 trichloroethene			56.43	µg/L	FTTC4501	jjc	12/1/2011
OVL031 toluene			56.4	µg/L	FTTC4501	jjc	12/1/2011
OVL037 chlorobenzene			58.33	µg/L	FTTC4501	jjc	12/1/2011

QA Supervisor: _____ Date: _____

Department Head: _____ Date: _____

Volatile System Monitoring Compound Recoveries

Sample Type: Water

Sample ID	SMC1 % Rec.	SMC2 % Rec.	SMC3 % Rec.
1112061408	114	103	104
1112061411	115	104	101
1112061413	118	103	103
111206141C	113	104	106
111206142D	107	103	105
1112061439	111	104	103
111208074A	110	103	105
1112080750	95	97	99
1112080753	112	103	103
1112080754	109	101	104
1112080759	113	104	104

QC Limits:

Analyte	% Rec.
SMC1 (DBF) = dibormofluoromethane	(80-120)
SMC2 (TOL) = toluene-d8	(80-120)
SMC3 (BFB) = 4-bromofluorobenzene	(80-120)

* Values outside of required QC limits

Comments: _____

Volatile Matrix Spike/Matrix Spike Duplicate Recovery

Sample Type: Water

Sample ID	MS Sample ID	MSD Sample ID
1112061439	1112080753	1112080754

Analyte	Units	Concentration			Spike Amount		% Recovery			% RPD
		Sample	Matrix Spike	Spike Duplicate	MS	MSD	MS	MSD	Avg.	
1,1-Dichloroethene	ppb	0	44	43	50	50	89	86	88	3
Trichloroethene	ppb	0	57	56	50	50	114	113	113	1
Benzene	ppb	0	57	57	50	50	115	114	114	1
Toluene	ppb	0	57	56	50	50	115	113	114	2
Chlorobenzene	ppb	0	58	58	50	50	115	117	116	1

QC Limits:

Analyte	% RPD	Spike Rec.
1,1-Dichloroethene	10	(80-120)
Trichloroethene	12	(80-120)
Benzene	9	(80-120)
Toluene	11	(80-120)
Chlorobenzene	7	(80-120)

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

Comments: _____

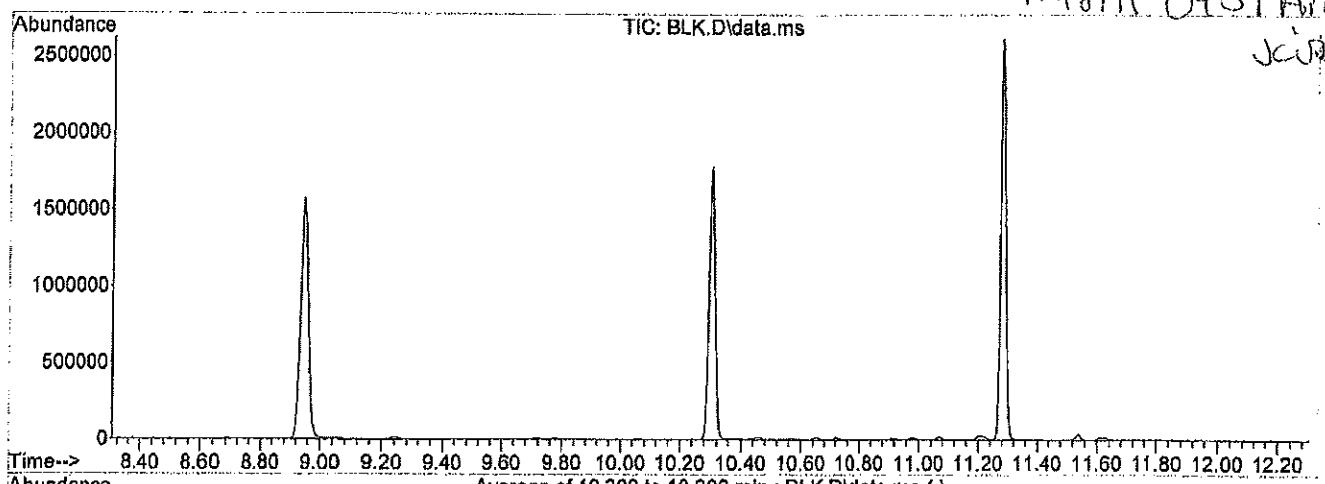
BFB

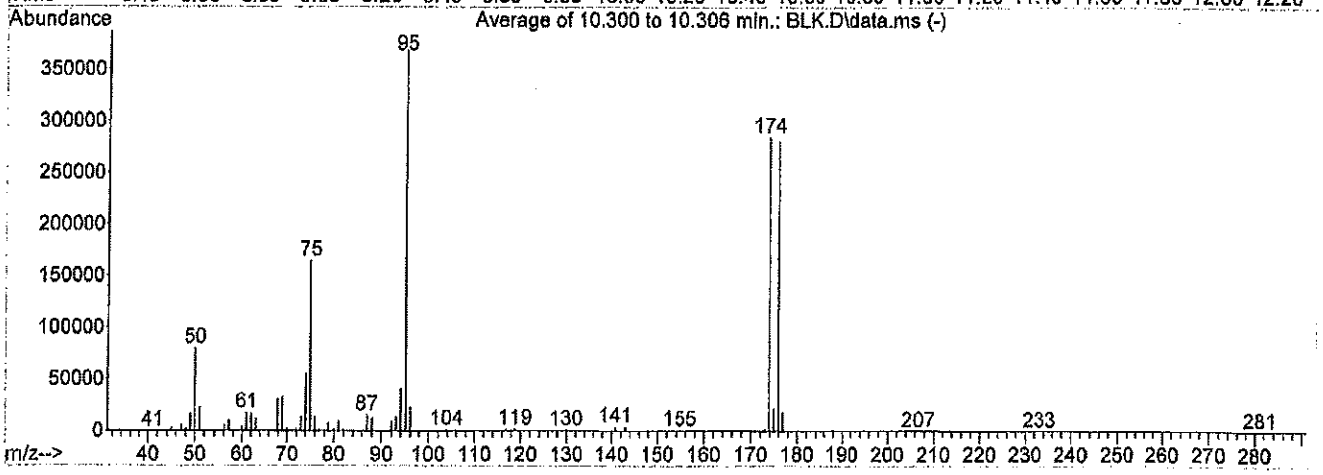
Data Path : C:\msdchem\1\data\120111\
Data File : BLK.D
Acq On : 1 Dec 2011 9:25 am
Operator : JJC
Sample : blank
Misc : method blank
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\MSDCHEM\1\METHODS\DEFAULT\VOA.M
Title :
Last Update : Thu Dec 01 08:30:26 2011

12/8/11 0937 AM
JCURRY





AutoFind: Scans 3083, 3084, 3085; Background Corrected with Scan 3069

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	21.7	79931	PASS
75	95	30	60	44.7	164928	PASS
95	95	100	100	100.0	368619	PASS
96	95	5	9	6.4	23456	PASS
173	174	0.00	2	0.9	2456	PASS
174	95	50	100	77.3	284843	PASS
175	174	5	9	7.6	21693	PASS
176	174	95	101	98.6	280768	PASS
177	176	5	9	6.5	18181	PASS

L.S. & Q.A. Department

VOLATILES(8260) INJECTION LOG

	SAMPLE	DATE/TIME	UNIT	LAB ID	GW#	DILUTION	
1	BLK						
2	CC						
3	P-14	11/29	VCm	groundwater			
4	MS	↓	↓	↓			
5	MSD	↓	↓	↓			
6	SI					1000	→ 10
7	SD						
8	Rd-1					1000	→ 10
9	RS-1					2000	→ 5000
10	RS-4					2	→ 1x
11	RS-5					100	→ 1x
12	P-3					1000	→ 200 and
13	P-9						
14	P-12					100	→ 200
15	P-24						rerun
16	P-48	↓	↓	↓			
17	MS						
18	MSD						
19	SI-2	↓	↓	↓		~~1~~ 10	→ 20X
20	Rd-1a	↓	↓	↓		10	rerun
21	RS-1a	↓	↓	↓		5000	
22							
23							
24							
25							
26							
27							
28							

			TIME
ANALYST:	JK		
DATE:	12/1/11	**TUNE CHECK**	
C:\HPCHEM\1\DATA		**METHOD BLANK**	
		CALIBRATION CHECK	

COMMENTS:

P-12 is P-14

did NOT put in P-12 in sequence later

P.24 is P.12

~~Rd-1a~~ SI-2 is P.24

Rd-1a is SI 2

RS1a is Rd1a

Analytical Batch

Volatile QC Sample Analyses on 12/2/11

08-Dec-11 1:49 pm

OVL001 pentafluorobenzene (N/A) 12/08/11 11:39 AM - jcurry

Sample ID	Collected	Project	Location	Sample Type	Customer	Cust. Sample ID	Date	Result
1112021312	12/2/2011	wasterwater permit	TTT-34B	Grab	CWTP	TTT-34B 12/2/11	12/2/2011	525710
1112061425	11/29/2011	Ground Water	P-4	Grab	VCM	P-4 11/29/11	12/2/2011	505687
111208111A	12/2/2011	QA/QC Data	Blank Volatiles	Grab	L.S.&Q.A.		12/2/2011	540184
1112081116	12/2/2011	QA/QC Data	CC Volatiles	Grab	L.S.&Q.A.		12/2/2011	542990
1112081117	12/2/2011	QA/QC Data	MS Volatiles	Grab	L.S.&Q.A.	ttt34b ms	12/2/2011	519670
1112081122	12/2/2011	QA/QC Data	MSD Volatiles	Grab	L.S.&Q.A.	ttt34b msd	12/2/2011	500234

Volatile Tune

Tune Compound: BFB

Analysis Date and Time: 12/2/2011 9:45 Analyst: JJC Sample ID: 1112081114

Target Mass	Relative to Target Mass	Lower Limit (%)	Upper Limit (%)	Relative Abundance (%)	Result Pass/Fail
50	95	15	40	21.7	Pass
75	95	30	60	48.0	Pass
95	95	100	100	100.0	Pass
96	95	5	9	6.2	Pass
173	174	0	2	0.9	Pass
174	95	50	100	80.4	Pass
175	174	5	9	6.7	Pass
176	174	95	101	98.0	Pass
177	176	5	9	6.7	Pass

Sample Summary

Volatile QC Sample Analyses on 12/2/11

08-Dec-11 2:00 pm

111208111A	**Project:**	QA/QC Data	**Sampler:**	JJC	**Batch:**	
	Location:	Blank Volatiles	**Collected:**	12/2/2011	**Time:**	9:45
	Sample Type:	Grab	**Received:**	12/2/2011	**Time:**	
	Customer:	L.S.&Q.A.	**Started:**		**Due:**	
	Cust. Sample:		**Completed:**	12/8/2011	**Reported:**	

Description:
Notes:
Conclusions:

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
5975 Volatiles Surrogates/Internal Std							
OVL001 pentafluorobenzene	1274598	318650	540184	N/A	FTTC4501	jjc	12/2/2011
OVL016 dibromofluromethane	59	43	54.1	µg/L	FTTC4501	jjc	12/2/2011
OVL022 1,4-diflurobenzene	2223728	555932	934955	N/A	FTTC4501	jjc	12/2/2011
OVL028 chlorobenzene-d5	2086724	521681	900180	N/A	FTTC4501	jjc	12/2/2011
OVL029 toluene-d8	55	43	52.16	µg/L	FTTC4501	jjc	12/2/2011
OVL046 4-bromofluorobenzene	57.5	43	52.01	µg/L	FTTC4501	jjc	12/2/2011
OVL047 1,4-dichlorobenzene-d4	1093510	273378	483680	N/A	FTTC4501	jjc	12/2/2011
FTTC4501 - (L) Volatile Priority Pollutants							
OVL002 dichlorodifluromethane			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL003 chloromethane			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL004 vinyl chloride			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL005 bromomethane			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL006 chloroethane			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL007 trichlorofluoromethane			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL008 1,1-dichloroethene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL009 methylene chloride			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL010 trans-1,2-dichloroethene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL011 1,1-dichloroethane			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL012 cis-1,2-dichloroethene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL013 2,2-dichloropropane			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL014 bromochloromethane			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL015 chloroform			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL017 1,1,1-trichloroethane			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL018 1,2-dichloroethane			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL019 1,1-dichloropropene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL020 benzene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL021 carbon tetrachloride			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL023 1,2-dichloropropane			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL024 trichloroethene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL025 dibromomethane			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL026 bromodichloromethane			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL027 trans-1,3-dichloropropene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL030 cis-1,3-dichloropropene			< 5	µg/L	FTTC4501	jjc	12/2/2011

Sample Summary

08-Dec-11 2:00 pm

Volatile QC Sample Analyses on 12/2/11

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
OVL031 toluene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL032 1,1,2-trichloroethane			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL033 1,3-dichloropropane			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL034 dibromochloromethane			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL035 1,2-dibromoethane			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL036 tetrachloroethene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL037 chlorobenzene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL038 1,1,1,2-tetrachloroethane			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL039 ethylbenzene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL040 m+p-xylene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL041 styrene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL042 bromoform			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL043 o-xylene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL044 1,1,2,2-tetrachloroethane			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL045 1,2,3-trichloropropane			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL048 isopropylbenzene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL049 bromobenzene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL050 2-chlorotoluene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL051 n-propylbenzene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL052 4-chlorotoluene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL053 1,3,5-trimethylbenzene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL054 1,2,4-trimethylbenzene	200		< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL055 tert-butylbenzene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL056 1,3-dichlorobenzene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL057 sec-butylbenzene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL058 1,4-dichlorobenzene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL059 4-isopropyltoluene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL060 1,2-dichlorobenzene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL061 n-butylbenzene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL062 1,2-dibromo-3-chloropropane			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL063 1,2,4-trichlorobenzene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL064 napthalene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL065 1,2,3-trichlorobenzene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL066 hexachlorobutadiene			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL068 Acrylonitrile			< 5	µg/L	FTTC4501	jjc	12/2/2011
OVL074 Vinyl Acetate(VAM)			< 5	µg/L	FTTC4501	jjc	12/2/2011

QA Supervisor: _____ Date: _____

Department Head: _____ Date: _____

Sample Summary

Volatile QC Sample Analyses on 12/2/11

08-Dec-11 2:00 pm

1112081116	**Project:**	QA/QC Data	**Sampler:**	JJC	**Batch:**	
	Location:	CC Volatiles	**Collected:**	12/2/2011	**Time:**	9:00
	Sample Type:	Grab	**Received:**	12/2/2011	**Time:**	
	Customer:	L.S.&Q.A.	**Started:**		**Due:**	
	Cust. Sample:		**Completed:**	12/8/2011	**Reported:**	

Description:
Notes:
Conclusions:

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
5975 Volatiles Surrogates/Internal Std							
OVL001 pentafluorobenzene	1274598	318650	542990	N/A	FTTC4501	jjc	12/2/2011
OVL016 dibromofluromethane	59	43	48.57	µg/L	FTTC4501	jjc	12/2/2011
OVL022 1,4-diflurobenzene	2223728	555932	906584	N/A	FTTC4501	jjc	12/2/2011
OVL028 chlorobenzene-d5	2086724	521681	853441	N/A	FTTC4501	jjc	12/2/2011
OVL029 toluene-d8	55	43	47.78	µg/L	FTTC4501	jjc	12/2/2011
OVL046 4-bromofluorobenzene	57.5	43	48.21	µg/L	FTTC4501	jjc	12/2/2011
OVL047 1,4-dichlorobenzene-d4	1093510	273378	468023	N/A	FTTC4501	jjc	12/2/2011
FTTC4501 - (L) Volatile Priority Pollutants							
OVL002 dichlorodifluromethane			64.18	µg/L	FTTC4501	jjc	12/2/2011
OVL003 chloromethane			53.56	µg/L	FTTC4501	jjc	12/2/2011
OVL004 vinyl chloride			50.72	µg/L	FTTC4501	jjc	12/2/2011
OVL005 bromomethane			46.02	µg/L	FTTC4501	jjc	12/2/2011
OVL006 chloroethane			55.07	µg/L	FTTC4501	jjc	12/2/2011
OVL007 trichlorofluoromethane			52.24	µg/L	FTTC4501	jjc	12/2/2011
OVL008 1,1-dichloroethene			47.93	µg/L	FTTC4501	jjc	12/2/2011
OVL009 methylene chloride			49.43	µg/L	FTTC4501	jjc	12/2/2011
OVL010 trans-1,2-dichloroethene			48.3	µg/L	FTTC4501	jjc	12/2/2011
OVL011 1,1-dichloroethane			47.38	µg/L	FTTC4501	jjc	12/2/2011
OVL012 cis-1,2-dichloroethene			47.05	µg/L	FTTC4501	jjc	12/2/2011
OVL013 2,2-dichloropropane			47.96	µg/L	FTTC4501	jjc	12/2/2011
OVL014 bromochloromethane			48.31	µg/L	FTTC4501	jjc	12/2/2011
OVL015 chloroform			48.83	µg/L	FTTC4501	jjc	12/2/2011
OVL017 1,1,1-trichloroethane			48.4	µg/L	FTTC4501	jjc	12/2/2011
OVL018 1,2-dichloroethane			49.99	µg/L	FTTC4501	jjc	12/2/2011
OVL019 1,1-dichloropropene			46.98	µg/L	FTTC4501	jjc	12/2/2011
OVL020 benzene			46.17	µg/L	FTTC4501	jjc	12/2/2011
OVL021 carbon tetrachloride			49.01	µg/L	FTTC4501	jjc	12/2/2011
OVL023 1,2-dichloropropane			48.96	µg/L	FTTC4501	jjc	12/2/2011
OVL024 trichloroethene			46.08	µg/L	FTTC4501	jjc	12/2/2011
OVL025 dibromomethane			50.95	µg/L	FTTC4501	jjc	12/2/2011
OVL026 bromodichloromethane			51.01	µg/L	FTTC4501	jjc	12/2/2011
OVL027 trans-1,3-dichloropropene			49.75	µg/L	FTTC4501	jjc	12/2/2011
OVL030 cis-1,3-dichloropropene			48.12	µg/L	FTTC4501	jjc	12/2/2011

Sample Summary

08-Dec-11 2:00 pm

Volatile QC Sample Analyses on 12/2/11

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
OVL031 toluene			48.08	µg/L	FTTC4501	jjc	12/2/2011
OVL032 1,1,2-trichloroethane			50.14	µg/L	FTTC4501	jjc	12/2/2011
OVL033 1,3-dichloropropane			49.22	µg/L	FTTC4501	jjc	12/2/2011
OVL034 dibromochloromethane			51.66	µg/L	FTTC4501	jjc	12/2/2011
OVL035 1,2-dibromoethane			50.56	µg/L	FTTC4501	jjc	12/2/2011
OVL036 tetrachloroethene			50.23	µg/L	FTTC4501	jjc	12/2/2011
OVL037 chlorobenzene			48.7	µg/L	FTTC4501	jjc	12/2/2011
OVL038 1,1,1,2-tetrachloroethane			48.96	µg/L	FTTC4501	jjc	12/2/2011
OVL039 ethylbenzene			48.48	µg/L	FTTC4501	jjc	12/2/2011
OVL040 m+p-xylene			97.99	µg/L	FTTC4501	jjc	12/2/2011
OVL041 styrene			49.07	µg/L	FTTC4501	jjc	12/2/2011
OVL042 bromoform			50.95	µg/L	FTTC4501	jjc	12/2/2011
OVL043 o-xylene			48.92	µg/L	FTTC4501	jjc	12/2/2011
OVL044 1,1,2,2-tetrachloroethane			51.74	µg/L	FTTC4501	jjc	12/2/2011
OVL045 1,2,3-trichloropropane			50.99	µg/L	FTTC4501	jjc	12/2/2011
OVL048 isopropylbenzene			48.82	µg/L	FTTC4501	jjc	12/2/2011
OVL049 bromobenzene			50.19	µg/L	FTTC4501	jjc	12/2/2011
OVL050 2-chlorotoluene			49.26	µg/L	FTTC4501	jjc	12/2/2011
OVL051 n-propylbenzene			49.54	µg/L	FTTC4501	jjc	12/2/2011
OVL052 4-chlorotoluene			49.76	µg/L	FTTC4501	jjc	12/2/2011
OVL053 1,3,5-trimethylbenzene			49.52	µg/L	FTTC4501	jjc	12/2/2011
OVL054 1,2,4-trimethylbenzene	200		49.79	µg/L	FTTC4501	jjc	12/2/2011
OVL055 tert-butylbenzene			49.35	µg/L	FTTC4501	jjc	12/2/2011
OVL056 1,3-dichlorobenzene			50.21	µg/L	FTTC4501	jjc	12/2/2011
OVL057 sec-butylbenzene			49.71	µg/L	FTTC4501	jjc	12/2/2011
OVL058 1,4-dichlorobenzene			47.51	µg/L	FTTC4501	jjc	12/2/2011
OVL059 4-isopropyltoluene			50.82	µg/L	FTTC4501	jjc	12/2/2011
OVL060 1,2-dichlorobenzene			47.91	µg/L	FTTC4501	jjc	12/2/2011
OVL061 n-butylbenzene			48.04	µg/L	FTTC4501	jjc	12/2/2011
OVL062 1,2-dibromo-3-chloropropane			50.38	µg/L	FTTC4501	jjc	12/2/2011
OVL063 1,2,4-trichlorobenzene			48.79	µg/L	FTTC4501	jjc	12/2/2011
OVL064 napthalene			48.32	µg/L	FTTC4501	jjc	12/2/2011
OVL065 1,2,3-trichlorobenzene			50.02	µg/L	FTTC4501	jjc	12/2/2011
OVL066 hexachlorobutadiene			50.25	µg/L	FTTC4501	jjc	12/2/2011
OVL068 Acrylonitrile			48.9	µg/L	FTTC4501	jjc	12/2/2011
OVL074 Vinyl Acetate(VAM)			55.08	µg/L	FTTC4501	jjc	12/2/2011

QA Supervisor: _____ Date: _____

Department Head: _____ Date: _____

Sample Summary

08-Dec-11 2:00 pm

Volatile QC Sample Analyses on 12/2/11

1112081117	**Project:**	QA/QC Data	**Sampler:**	FO	**Batch:**	
	Location:	MS Volatiles	**Collected:**	12/2/2011	**Time:**	8:00
	Sample Type:	Grab	**Received:**	12/2/2011	**Time:**	
	Customer:	L.S.&Q.A.	**Started:**		**Due:**	
	Cust. Sample:	ttt34b ms	**Completed:**	12/8/2011	**Reported:**	

Description:
Notes:
Conclusions:

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
5975 Volatiles Surrogates/Internal Std							
OVL001 pentafluorobenzene	1274598	318650	519670	N/A	FTTC4501	jjc	12/2/2011
OVL016 dibromofluromethane	59	43	56.53	µg/L	FTTC4501	jjc	12/2/2011
OVL022 1,4-diflurobenzene	2223728	555932	931845	N/A	FTTC4501	jjc	12/2/2011
OVL028 chlorobenzene-d5	2086724	521681	888627	N/A	FTTC4501	jjc	12/2/2011
OVL029 toluene-d8	55	43	51.38	µg/L	FTTC4501	jjc	12/2/2011
OVL046 4-bromofluorobenzene	57.5	43	51.52	µg/L	FTTC4501	jjc	12/2/2011
OVL047 1,4-dichlorobenzene-d4	1093510	273378	465264	N/A	FTTC4501	jjc	12/2/2011
Volatiles matrix spikes QA/QC							
OVL008 1,1-dichloroethene			47.45	µg/L	FTTC4501	jjc	12/2/2011
OVL020 benzene			57.55	µg/L	FTTC4501	jjc	12/2/2011
OVL024 trichloroethene			58.29	µg/L	FTTC4501	jjc	12/2/2011
OVL031 toluene			57.05	µg/L	FTTC4501	jjc	12/2/2011
OVL037 chlorobenzene			57.58	µg/L	FTTC4501	jjc	12/2/2011

QA Supervisor: _____ Date: _____

Department Head: _____ Date: _____

Sample Summary

Volatile QC Sample Analyses on 12/2/11

08-Dec-11 2:00 pm

1112081122	**Project:**	QA/QC Data	**Sampler:**	FO	**Batch:**	
	Location:	MSD Volatiles	**Collected:**	12/2/2011	**Time:**	8:00
	Sample Type:	Grab	**Received:**	12/2/2011	**Time:**	
	Customer:	L.S.&Q.A.	**Started:**		**Due:**	
	Cust. Sample:	ttt34b msd	**Completed:**	12/8/2011	**Reported:**	

Description:
Notes:
Conclusions:

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
5975 Volatiles Surrogates/Internal Std							
OVL001 pentafluorobenzene	1274598	318650	500234	N/A	FTTC4501	jjc	12/2/2011
OVL016 dibromofluromethane	59	43	57.82	µg/L	FTTC4501	jjc	12/2/2011
OVL022 1,4-diflurobenzene	2223728	555932	907366	N/A	FTTC4501	jjc	12/2/2011
OVL028 chlorobenzene-d5	2086724	521681	878326	N/A	FTTC4501	jjc	12/2/2011
OVL029 toluene-d8	55	43	51.05	µg/L	FTTC4501	jjc	12/2/2011
OVL046 4-bromofluorobenzene	57.5	43	50.3	µg/L	FTTC4501	jjc	12/2/2011
OVL047 1,4-dichlorobenzene-d4	1093510	273378	453829	N/A	FTTC4501	jjc	12/2/2011
Volatiles matrix spikes QA/QC							
OVL008 1,1-dichloroethene			47.4	µg/L	FTTC4501	jjc	12/2/2011
OVL020 benzene			57.27	µg/L	FTTC4501	jjc	12/2/2011
OVL024 trichloroethene			57.7	µg/L	FTTC4501	jjc	12/2/2011
OVL031 toluene			57.06	µg/L	FTTC4501	jjc	12/2/2011
OVL037 chlorobenzene			56.51	µg/L	FTTC4501	jjc	12/2/2011

QA Supervisor: _____ Date: _____

Department Head: _____ Date: _____

Volatile System Monitoring Compound Recoveries

Sample Type: Water

Sample ID	SMC1 % Rec.	SMC2 % Rec.	SMC3 % Rec.
1112021312	108	104	102
1112061425	109	105	105
1112081116	97	96	96
1112081117	113	103	103
111208111A	108	104	104
1112081122	116	102	101

QC Limits:

Analyte	% Rec.
SMC1 (DBF) = dibormofluoromethane	(90-116)
SMC2 (TOL) = toluene-d8	(87-108)
SMC3 (BFB) = 4-bromofluorobenzene	(83-111)

* Values outside of required QC limits

Comments: _____

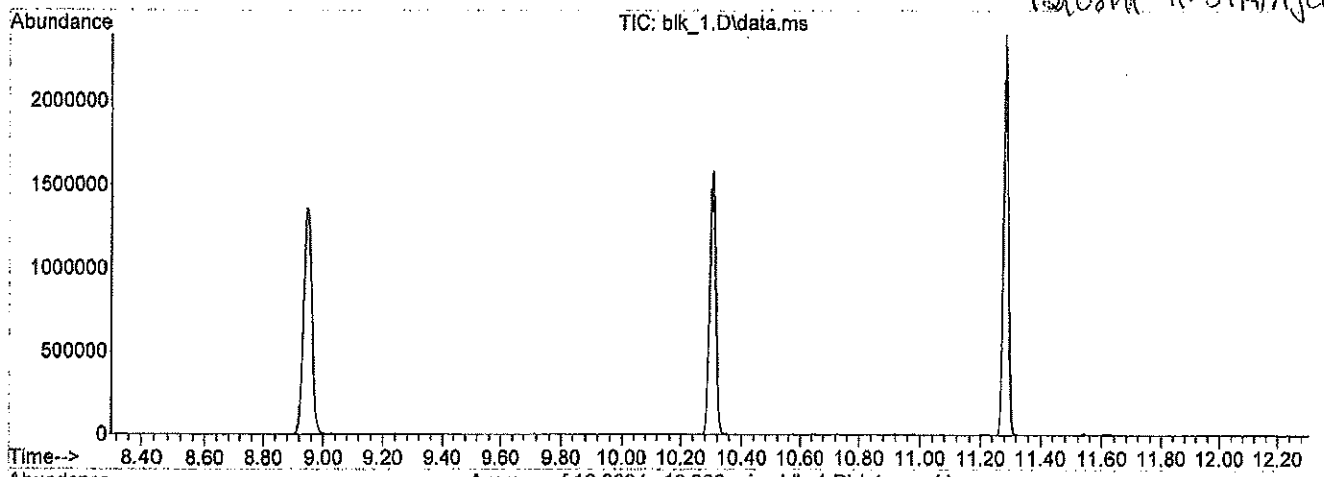
BFB

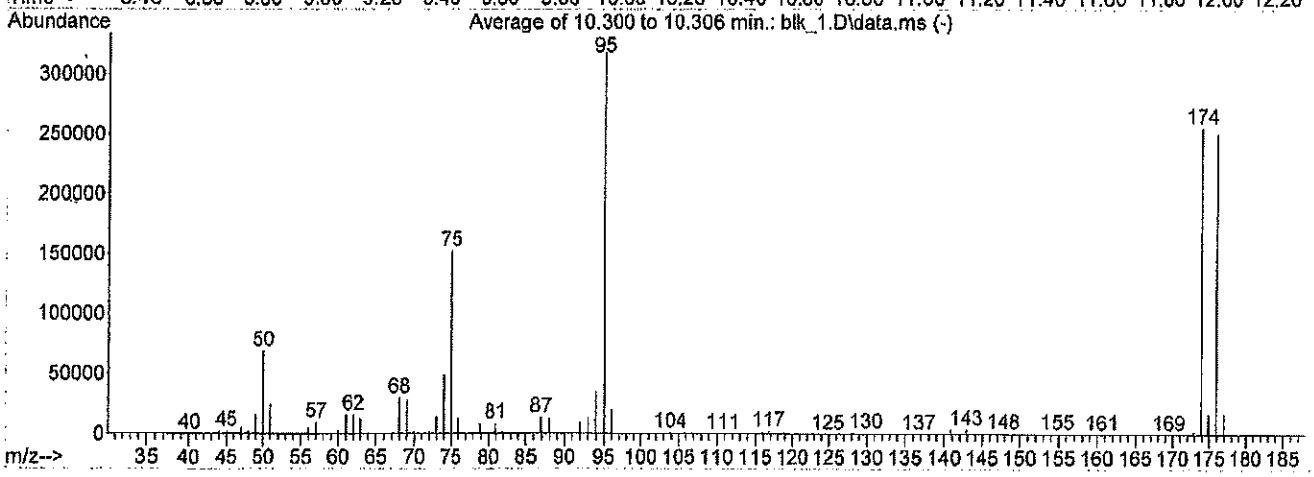
Data Path : C:\msdchem\1\data\120211\
Data File : blk_1.D
Acq On : 2 Dec 2011 9:45 am
Operator : JJC
Sample : blk
Misc : method blank
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\MSDCHEM\1\METHODS\DEFAULT\VOA.M
Title :
Last Update : Thu Dec 01 08:30:26 2011

12/02/11 11:39 AM JCURRY





AutoFind: Scans 3083, 3084, 3085; Background Corrected with Scan 3070

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	21.7	69181	PASS
75	95	30	60	48.0	152661	PASS
95	95	100	100	100.0	318357	PASS
96	95	5	9	6.2	19811	PASS
173	174	0.00	2	0.9	2277	PASS
174	95	50	100	80.4	256064	PASS
175	174	5	9	6.7	17077	PASS
176	174	95	101	98.0	250965	PASS
177	176	5	9	6.7	16774	PASS

L.S. & Q.A. Department

VOLATILES(8260) INJECTION LOG

	SAMPLE	DATE/TIME	UNIT	LAB ID	GW	DILUTION
1	BK					
2	CC					
3	111 34B	12/2	Cutp	PP		
4	MS	↓	↓			
5	MSD					
6	P-4	11/29	vcm	groundwater		
7	RS-4					
8	RS-5					
9	P-24					
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						

none

			TIME
ANALYST:	JK	TUNE CHECK	
DATE:	12/2/11	METHOD BLANK	
C:\HPCHEM\1\DATA\		CALIBRATION CHECK	

COMMENTS:

Analytical Batch

Volatile QC Sample Analyses on 12/5/11

12-Dec-11 10:26 am

OVL001 pentafluorobenzene (N/A) 12/12/11 10:25 AM - jcurry

Sample ID	Collected	Project	Location	Sample Type	Customer	Cust. Sample ID	Date	Result
111206141D	11/29/2011	Ground Water	P-3	Grab	VCM	P-3	12/5/2011	91524
1112061421	11/29/2011	Ground Water	VCM Groundwater Dup-3	Grab	VCM	DUP-3	12/5/2011	91004
1112120944	12/5/2011	QA/QC Data	Blank Volatiles	Grab	L.S.&Q.A.		12/5/2011	95732
1112120945	12/5/2011	QA/QC Data	CC Volatiles	Grab	L.S.&Q.A.		12/5/2011	84478
1112120946	12/5/2011	QA/QC Data	MS Volatiles	Grab	L.S.&Q.A.	cwr ms	12/5/2011	92014
1112120956	12/5/2011	QA/QC Data	MSD Volatiles	Grab	L.S.&Q.A.	cwr msd	12/5/2011	93881
1112120958	12/5/2011	SPVC	CWR	Grab	SPVC	cooling water return	12/5/2011	89823
1112121005	12/5/2011	SPVC	CWS	Grab	SPVC		12/5/2011	90122
1112121010	12/5/2011	olefins 1	6305 voc stripper outlet	Grab	Olefins I	stripper bottom	12/5/2011	90418
111212101A	12/5/2011	Olefins 2	6305 voc stripper outlet	Grab	Olefins II	stripper bottom	12/5/2011	92787

Volatile Tune

Tune Compound: BFB

Analysis Date and Time: 12/5/2011 16:06 Analyst: JJC Sample ID: 1112120941

Target Mass	Relative to Target Mass	Lower Limit (%)	Upper Limit (%)	Relative Abundance (%)	Result Pass/Fail
50	95	15	40	22.2	Pass
75	95	30	60	53.6	Pass
95	95	100	100	100.0	Pass
96	95	5	9	6.4	Pass
173	174	0	2	0.0	Pass
174	95	50	100	88.1	Pass
175	174	5	9	6.1	Pass
176	174	95	101	97.4	Pass
177	176	5	9	6.7	Pass

Sample Summary

12-Dec-11 10:27 am

Volatile QC Sample Analyses on 12/05/11

1112120944	**Project:**	QA/QC Data	**Sampler:**	JJC	**Batch:**	
	Location:	Blank Volatiles	**Collected:**	12/5/2011	**Time:**	16:06
	Sample Type:	Grab	**Received:**	12/5/2011	**Time:**	
	Customer:	L.S.&Q.A.	**Started:**		**Due:**	
	Cust. Sample:		**Completed:**	12/12/2011	**Reported:**	

Description:
Notes:
Conclusions:

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
FTTC4501 - (L) Volatile Priority Pollutants							
OVL002 dichlorodifluromethane			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL003 chloromethane			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL004 vinyl chloride			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL005 bromomethane			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL006 chloroethane			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL007 trichlorofluoromethane			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL008 1,1-dichloroethene			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL009 methylene chloride			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL010 trans-1,2-dichloroethene			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL011 1,1-dichloroethane			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL012 cis-1,2-dichloroethene			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL013 2,2-dichloropropane			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL014 bromochloromethane			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL015 chloroform			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL017 1,1,1-trichloroethane			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL018 1,2-dichloroethane			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL019 1,1-dichloropropene			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL020 benzene			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL021 carbon tetrachloride			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL023 1,2-dichloropropane			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL024 trichloroethene			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL025 dibromomethane			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL026 bromodichloromethane			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL027 trans-1,3-dichloropropene			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL030 cis-1,3-dichloropropene			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL031 toluene			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL032 1,1,2-trichloroethane			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL033 1,3-dichloropropane			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL034 dibromochloromethane			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL035 1,2-dibromoethane			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL036 tetrachloroethene			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL037 chlorobenzene			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL038 1,1,1,2-tetrachloroethane			< 5	µg/L	FTTC4501	jjc	12/5/2011

Sample Summary

12-Dec-11 10:27 am

Volatile QC Sample Analyses on 12/05/11

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
OVL039 ethylbenzene			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL040 m+p-xylene			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL041 styrene			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL042 bromoform			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL043 o-xylene			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL044 1,1,2,2-tetrachloroethane			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL045 1,2,3-trichloropropane			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL048 Isopropylbenzene			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL049 bromobenzene			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL050 2-chlorotoluene			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL051 n-propylbenzene			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL052 4-chlorotoluene			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL053 1,3,5-trimethylbenzene			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL054 1,2,4-trimethylbenzene	200		< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL055 tert-butylbenzene			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL056 1,3-dichlorobenzene			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL057 sec-butylbenzene			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL058 1,4-dichlorobenzene			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL059 4-Isopropyltoluene			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL060 1,2-dichlorobenzene			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL061 n-butylbenzene			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL062 1,2-dibromo-3-chloropropane			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL063 1,2,4-trichlorobenzene			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL064 napthalene			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL065 1,2,3-trichlorobenzene			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL066 hexachlorobutadiene			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL068 Acrylonitrile			< 5	µg/L	FTTC4501	jjc	12/5/2011
OVL074 Vinyl Acetate(VAM)			< 5	µg/L	FTTC4501	jjc	12/5/2011
Volatiles Surrogates/Internal Std.							
OVL001 pentafluorobenzene	267290	66823	95732	N/A	FTTC4501	jjc	12/5/2011
OVL016 dibromofluromethane	56	46	51.44	µg/L	FTTC4501	jjc	12/5/2011
OVL022 1,4-diflurobenzene	397270	99318	139091	N/A	FTTC4501	jjc	12/5/2011
OVL028 chlorobenzene-d5	397110	99278	140811	N/A	FTTC4501	jjc	12/5/2011
OVL029 toluene-d8	54	44	50.86	µg/L	FTTC4501	jjc	12/5/2011
OVL046 4-bromofluorobenzene	54	42	47.75	µg/L	FTTC4501	jjc	12/5/2011
OVL047 1,4-dichlorobenzene-d4	229258	57315	76968	N/A	FTTC4501	jjc	12/5/2011

QA Supervisor: _____ Date: _____

Department Head: _____ Date: _____

Sample Summary

Volatile QC Sample Analyses on 12/05/11

12-Dec-11 10:27 am

1112120945	**Project:**	QA/QC Data	**Sampler:**	JJC	**Batch:**	
	Location:	CC Volatiles	**Collected:**	12/5/2011	**Time:**	16:35
	Sample Type:	Grab	**Received:**	12/5/2011	**Time:**	
	Customer:	L.S.&Q.A.	**Started:**		**Due:**	
	Cust. Sample:		**Completed:**	12/12/2011	**Reported:**	

Description:
Notes:
Conclusions:

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
FTTC4501 - (L) Volatile Priority Pollutants							
OVL002 dichlorodifluromethane			64.08	µg/L	FTTC4501	jjc	12/5/2011
OVL003 chloromethane			55.26	µg/L	FTTC4501	jjc	12/5/2011
OVL004 vinyl chloride			48.48	µg/L	FTTC4501	jjc	12/5/2011
OVL005 bromomethane			45.59	µg/L	FTTC4501	jjc	12/5/2011
OVL006 chloroethane			51.01	µg/L	FTTC4501	jjc	12/5/2011
OVL007 trichlorofluoromethane			63.86	µg/L	FTTC4501	jjc	12/5/2011
OVL008 1,1-dichloroethene			46.81	µg/L	FTTC4501	jjc	12/5/2011
OVL009 methylene chloride			47.03	µg/L	FTTC4501	jjc	12/5/2011
OVL010 trans-1,2-dichloroethene			46.66	µg/L	FTTC4501	jjc	12/5/2011
OVL011 1,1-dichloroethane			48.13	µg/L	FTTC4501	jjc	12/5/2011
OVL012 cis-1,2-dichloroethene			47.02	µg/L	FTTC4501	jjc	12/5/2011
OVL013 2,2-dichloropropane			56.89	µg/L	FTTC4501	jjc	12/5/2011
OVL014 bromochloromethane			48.14	µg/L	FTTC4501	jjc	12/5/2011
OVL015 chloroform			54.39	µg/L	FTTC4501	jjc	12/5/2011
OVL017 1,1,1-trichloroethane			58.48	µg/L	FTTC4501	jjc	12/5/2011
OVL018 1,2-dichloroethane			59.26	µg/L	FTTC4501	jjc	12/5/2011
OVL019 1,1-dichloropropene			50.37	µg/L	FTTC4501	jjc	12/5/2011
OVL020 benzene			45.83	µg/L	FTTC4501	jjc	12/5/2011
OVL021 carbon tetrachloride			59.41	µg/L	FTTC4501	jjc	12/5/2011
OVL023 1,2-dichloropropane			52.39	µg/L	FTTC4501	jjc	12/5/2011
OVL024 trichloroethene			49.98	µg/L	FTTC4501	jjc	12/5/2011
OVL025 dibromomethane			55.77	µg/L	FTTC4501	jjc	12/5/2011
OVL026 bromodichloromethane			59.64	µg/L	FTTC4501	jjc	12/5/2011
OVL027 trans-1,3-dichloropropene			57.77	µg/L	FTTC4501	jjc	12/5/2011
OVL030 cis-1,3-dichloropropene			55.47	µg/L	FTTC4501	jjc	12/5/2011
OVL031 toluene			53.8	µg/L	FTTC4501	jjc	12/5/2011
OVL032 1,1,2-trichloroethane			53.06	µg/L	FTTC4501	jjc	12/5/2011
OVL033 1,3-dichloropropane			54.13	µg/L	FTTC4501	jjc	12/5/2011
OVL034 dibromochloromethane			57.75	µg/L	FTTC4501	jjc	12/5/2011
OVL035 1,2-dibromoethane			55.28	µg/L	FTTC4501	jjc	12/5/2011
OVL036 tetrachloroethene			52.85	µg/L	FTTC4501	jjc	12/5/2011
OVL037 chlorobenzene			48.82	µg/L	FTTC4501	jjc	12/5/2011
OVL038 1,1,1,2-tetrachloroethane			52.82	µg/L	FTTC4501	jjc	12/5/2011

Sample Summary

12-Dec-11 10:27 am

Volatile QC Sample Analyses on 12/05/11

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
OVL039 ethylbenzene			50.4	µg/L	FTTC4501	jjc	12/5/2011
OVL040 m+p-xylene			99.4	µg/L	FTTC4501	jjc	12/5/2011
OVL041 styrene			49.54	µg/L	FTTC4501	jjc	12/5/2011
OVL042 bromoform			55.08	µg/L	FTTC4501	jjc	12/5/2011
OVL043 o-xylene			49.37	µg/L	FTTC4501	jjc	12/5/2011
OVL044 1,1,2,2-tetrachloroethane			50.73	µg/L	FTTC4501	jjc	12/5/2011
OVL045 1,2,3-trichloropropane			52	µg/L	FTTC4501	jjc	12/5/2011
OVL048 isopropylbenzene			51.07	µg/L	FTTC4501	jjc	12/5/2011
OVL049 bromobenzene			51.28	µg/L	FTTC4501	jjc	12/5/2011
OVL050 2-chlorotoluene			51.29	µg/L	FTTC4501	jjc	12/5/2011
OVL051 n-propylbenzene			51.34	µg/L	FTTC4501	jjc	12/5/2011
OVL052 4-chlorotoluene			51.84	µg/L	FTTC4501	jjc	12/5/2011
OVL053 1,3,5-trimethylbenzene			51.64	µg/L	FTTC4501	jjc	12/5/2011
OVL054 1,2,4-trimethylbenzene	200		51.66	µg/L	FTTC4501	jjc	12/5/2011
OVL055 tert-butylbenzene			51.5	µg/L	FTTC4501	jjc	12/5/2011
OVL056 1,3-dichlorobenzene			52.26	µg/L	FTTC4501	jjc	12/5/2011
OVL057 sec-butylbenzene			50.93	µg/L	FTTC4501	jjc	12/5/2011
OVL058 1,4-dichlorobenzene			48.63	µg/L	FTTC4501	jjc	12/5/2011
OVL059 4-isopropyltoluene			50.72	µg/L	FTTC4501	jjc	12/5/2011
OVL060 1,2-dichlorobenzene			48.78	µg/L	FTTC4501	jjc	12/5/2011
OVL061 n-butylbenzene			48.85	µg/L	FTTC4501	jjc	12/5/2011
OVL062 1,2-dibromo-3-chloropropane			55.22	µg/L	FTTC4501	jjc	12/5/2011
OVL063 1,2,4-trichlorobenzene			46.05	µg/L	FTTC4501	jjc	12/5/2011
OVL064 napthalene			47.92	µg/L	FTTC4501	jjc	12/5/2011
OVL065 1,2,3-trichlorobenzene			46.97	µg/L	FTTC4501	jjc	12/5/2011
OVL066 hexachlorobutadiene			45.85	µg/L	FTTC4501	jjc	12/5/2011
OVL068 Acrylonitrile			42.33	µg/L	FTTC4501	jjc	12/5/2011
OVL074 Vinyl Acetate(VAM)			46.45	µg/L	FTTC4501	jjc	12/5/2011
Volatiles Surrogates/Internal Std.							
OVL001 pentafluorobenzene	267290	66823	84478	N/A	FTTC4501	jjc	12/5/2011
OVL016 dibromofluromethane	56	46	53.28	µg/L	FTTC4501	jjc	12/5/2011
OVL022 1,4-diflurobenzene	397270	99318	123509	N/A	FTTC4501	jjc	12/5/2011
OVL028 chlorobenzene-d5	397110	99278	130064	N/A	FTTC4501	jjc	12/5/2011
OVL029 toluene-d8	54	44	53.69	µg/L	FTTC4501	jjc	12/5/2011
OVL046 4-bromofluorobenzene	54	42	51.58	µg/L	FTTC4501	jjc	12/5/2011
OVL047 1,4-dichlorobenzene-d4	229258	57315	78726	N/A	FTTC4501	jjc	12/5/2011

QA Supervisor: _____ Date: _____

Department Head: _____ Date: _____

Sample Summary

12-Dec-11 10:27 am

Volatile QC Sample Analyses on 12/05/11

1112120946	**Project:**	QA/QC Data	**Sampler:**	JJC	**Batch:**	
	Location:	MS Volatiles	**Collected:**	12/5/2011	**Time:**	9:00
	Sample Type:	Grab	**Received:**	12/5/2011	**Time:**	
	Customer:	L.S.&Q.A.	**Started:**		**Due:**	
	Cust. Sample:	cwr ms	**Completed:**	12/12/2011	**Reported:**	

Description:
Notes:
Conclusions:

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
Volatiles matrix spikes QA/QC							
OVL008 1,1-dichloroethene			48.72	µg/L	FTTC4501	jjc	12/5/2011
OVL020 benzene			45.09	µg/L	FTTC4501	jjc	12/5/2011
OVL024 trichloroethene			48.54	µg/L	FTTC4501	jjc	12/5/2011
OVL031 toluene			52.88	µg/L	FTTC4501	jjc	12/5/2011
OVL037 chlorobenzene			50.22	µg/L	FTTC4501	jjc	12/5/2011
Volatiles Surrogates/Internal Std.							
OVL001 pentafluorobenzene	267290	66823	92014	N/A	FTTC4501	jjc	12/5/2011
OVL016 dibromofluromethane	56	46	50.68	µg/L	FTTC4501	jjc	12/5/2011
OVL022 1,4-diflurobenzene	397270	99318	132429	N/A	FTTC4501	jjc	12/5/2011
OVL028 chlorobenzene-d5	397110	99278	134719	N/A	FTTC4501	jjc	12/5/2011
OVL029 toluene-d8	54	44	51.26	µg/L	FTTC4501	jjc	12/5/2011
OVL046 4-bromofluorobenzene	54	42	47.27	µg/L	FTTC4501	jjc	12/5/2011
OVL047 1,4-dichlorobenzene-d4	229258	57315	73083	N/A	FTTC4501	jjc	12/5/2011

QA Supervisor: _____ Date: _____

Department Head: _____ Date: _____

Sample Summary

12-Dec-11 10:27 am

Volatile QC Sample Analyses on 12/05/11

1112120956	**Project:**	QA/QC Data	**Sampler:**	FO	**Batch:**	
	Location:	MSD Volatiles	**Collected:**	12/5/2011	**Time:**	9:00
	Sample Type:	Grab	**Received:**	12/5/2011	**Time:**	
	Customer:	L.S.&Q.A.	**Started:**		**Due:**	
	Cust. Sample:	cwr msd	**Completed:**	12/12/2011	**Reported:**	

Description:
Notes:
Conclusions:

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
Volatiles matrix spikes QA/QC							
OVL008 1,1-dichloroethene			49.45	µg/L	FTTC4501	jjc	12/5/2011
OVL020 benzene			46.45	µg/L	FTTC4501	jjc	12/5/2011
OVL024 trichloroethene			50.56	µg/L	FTTC4501	jjc	12/5/2011
OVL031 toluene			52.97	µg/L	FTTC4501	jjc	12/5/2011
OVL037 chlorobenzene			50.52	µg/L	FTTC4501	jjc	12/5/2011
Volatiles Surrogates/Internal Std.							
OVL001 pentafluorobenzene	267290	66823	93881	N/A	FTTC4501	jjc	12/5/2011
OVL016 dibromofluromethane	56	46	51.94	µg/L	FTTC4501	jjc	12/5/2011
OVL022 1,4-diflurobenzene	397270	99318	137096	N/A	FTTC4501	jjc	12/5/2011
OVL028 chlorobenzene-d5	397110	99278	139143	N/A	FTTC4501	jjc	12/5/2011
OVL029 toluene-d8	54	44	51.65	µg/L	FTTC4501	jjc	12/5/2011
OVL046 4-bromofluorobenzene	54	42	47.33	µg/L	FTTC4501	jjc	12/5/2011
OVL047 1,4-dichlorobenzene-d4	229258	57315	75994	N/A	FTTC4501	jjc	12/5/2011

QA Supervisor: _____ Date: _____

Department Head: _____ Date: _____

Volatile System Monitoring Compound Recoveries

Sample Type: Water

Sample ID	SMC1 % Rec.	SMC2 % Rec.	SMC3 % Rec.
111206141D	102	101	94
1112061421	103	101	94
1112120944	103	102	96
1112120945	107	107	103
1112120946	101	103	95
1112120956	104	103	95
1112120958	102	104	94
1112121005	102	102	95
1112121010	102	103	93
111212101A	103	101	94

QC Limits:

Analyte	% Rec.
SMC1 (DBF) = dibormofluoromethane	(90-116)
SMC2 (TOL) = toluene-d8	(87-108)
SMC3 (BFB) = 4-bromofluorobenzene	(83-111)

* Values outside of required QC limits

Comments: _____

Volatile Matrix Spike/Matrix Spike Duplicate Recovery

Sample Type: Water

Sample ID	MS Sample ID	MSD Sample ID
1112120946	1112120956	1112120958

Analyte	Units	Concentration			Spike Amount		% Recovery			% RPD
		Sample	Matrix Spike	Spike Duplicate	MS	MSD	MS	MSD	Avg.	
1,1-Dichloroethene	ppb	0	49	49	50	50	97	99	98	1
Trichloroethene	ppb	0	49	51	50	50	97	101	99	4
Benzene	ppb	0	45	46	50	50	90	93	92	3
Toluene	ppb	0	53	53	50	50	106	106	106	0
Chlorobenzene	ppb	0	50	51	50	50	100	101	101	1

QC Limits:

Analyte	% RPD	Spike Rec.
1,1-Dichloroethene	10	(38-134)
Trichloroethene	12	(88-111)
Benzene	9	(84-112)
Toluene	11	(91-109)
Chlorobenzene	7	(91-112)

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

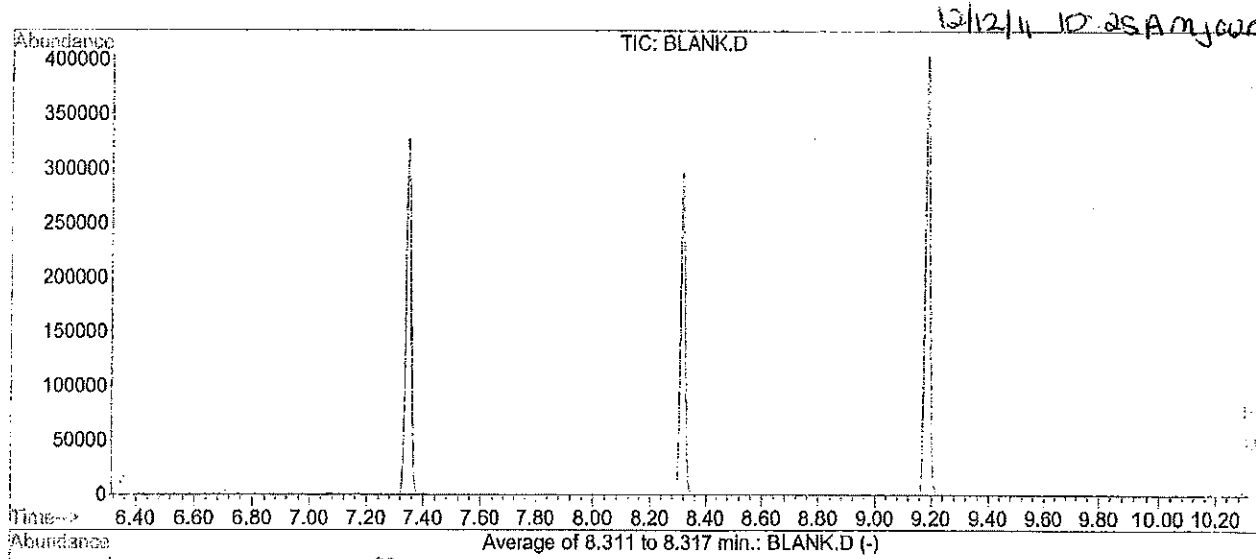
Comments: _____

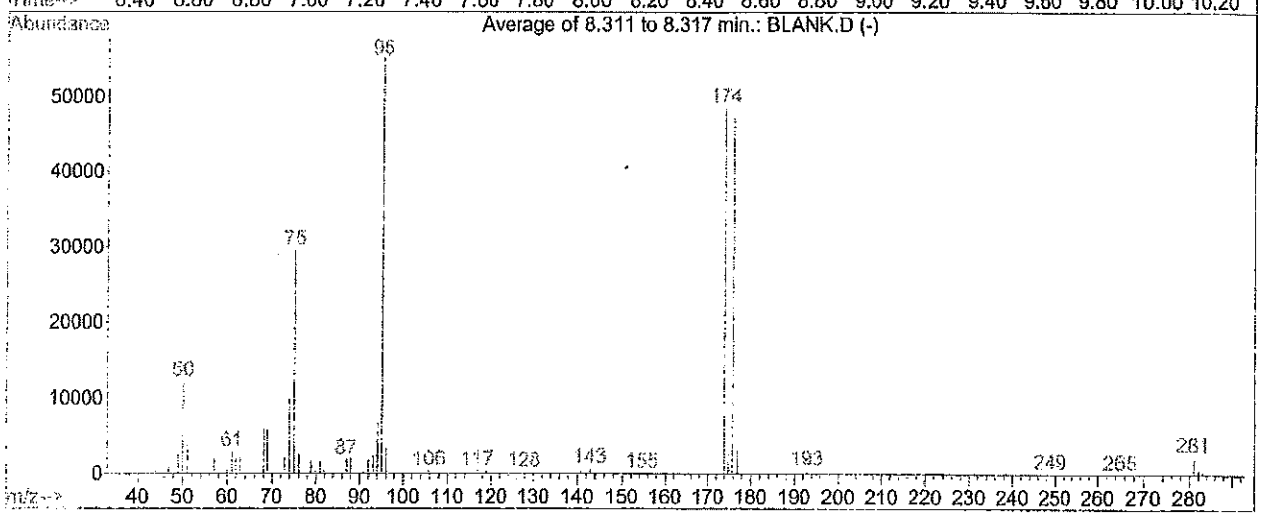
BFB

Data File : C:\HPCHEM\1\DATA\120511\BLANK.D
Acq On : 5 Dec 2011 4:06 pm
Sample : method blank
Misc : A
MS Integration Params: RTEINT4.P
Method : C:\HPCHEM\1\METHODS\VOA.M (RTE Integrator)
Title :

Vial: 1
Operator: jjc
Inst : GC/MS 597
Multiplr: 1.00

12/12/11 10:25 A mjowery





AutoFind: Scans 2452, 2453, 2454; Background Corrected with Scan 2442

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	22.2	12245	PASS
75	95	30	60	53.6	29581	PASS
95	95	100	100	100.0	55227	PASS
96	95	5	9	6.4	3518	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	88.1	48648	PASS
175	174	5	9	6.1	2988	PASS
176	174	95	101	97.4	47400	PASS
177	176	5	9	6.7	3188	PASS

BLANK.D VOA.M Mon Dec 05 16:46:51 2011

L.S. & Q.A. Department

VOLATILES(8260) INJECTION LOG

	SAMPLE	DATE TIME	UNIT	LAB ID	GW#	DILUTION
1	BLK					
2	CC					
3	CWK	12/5	~~VCM~~ 12/5 SPVC	VAM/VCM		
4	MB					
5	MBD					
6	CWS					
7	STK1		Ole 1	Benzene		2
8	STK2		2			2
9	dup 3	11/29	VCM	groundwater		
10	P-3					200
11	P-12					200
12	RS-1					5000 → VCM 2000
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						

ANALYST:	JD
DATE:	12/5/14
C:\HPCHEM\1\DATA\	

	TIME
TUNE CHECK	
METHOD BLANK	
CALIBRATION CHECK	

COMMENTS:

Analytical Batch

Volatile QC Sample Analyses on 12/7/11

12-Dec-11 1:24 pm

OVL001 pentafluorobenzene (N/A) 12/12/11 01:23 PM - jcurry

Sample ID	Collected	Project	Location	Sample Type	Customer	Cust. Sample ID	Date	Result
111206141A	11/29/2011	Ground Water	RS-1	Grab	VCM	RS-1	12/7/2011	561078
1112061435	11/29/2011	Ground Water	D-41	Grab	VCM	D-41 11/29/11	12/7/2011	555954
1112070854	12/6/2011	Wastewater Permit - Tue	Outfall 001	Composite	CWTP	001 12/6/11	12/7/2011	560007
111207085A	12/6/2011	Wastewater Permit - Tue	Outfall 101	Composite	CWTP	101 12/6/11	12/7/2011	634679
111212130A	12/7/2011	QA/QC Data	Blank Volatiles	Grab	L.S.&Q.A.		12/7/2011	460666
1112121302	12/7/2011	QA/QC Data	CC Volatiles	Grab	L.S.&Q.A.		12/7/2011	514713
111212130B	12/6/2011	QA/QC Data	MS Volatiles	Grab	L.S.&Q.A.	101ms	12/7/2011	586274
1112121303	12/6/2011	QA/QC Data	MSD Volatiles	Grab	L.S.&Q.A.	101msd	12/7/2011	533885
1112121304	12/6/2011	Wastewater permit - VOA	Outfall 101	Grab	CWTP		12/7/2011	634679
111212130C	12/6/2011	Wastewater permit - VOA	Outfall 101	Grab	CWTP		12/7/2011	613833
1112121305	12/7/2011	Wastewater permit - VOA	Outfall 101	Grab	CWTP		12/7/2011	563127
1112121306	12/7/2011	Wastewater permit - VOA	Outfall 101	Grab	CWTP		12/7/2011	562402
111212130D	12/6/2011	Wastewater permit - VOA	Outfall 001	Grab	CWTP		12/7/2011	560007
1112121307	12/6/2011	Wastewater permit - VOA	Outfall 001	Grab	CWTP		12/7/2011	549436
111212130E	12/7/2011	Wastewater permit - VOA	Outfall 001	Grab	CWTP		12/7/2011	555681
1112121308	12/7/2011	Wastewater permit - VOA	Outfall 001	Grab	CWTP		12/7/2011	563603

Volatile Tune

Tune Compound: BFB

Analysis Date and Time: 12/7/2011 9:57 Analyst: JJC Sample ID: 1112121301

Target Mass	Relative to Target Mass	Lower Limit (%)	Upper Limit (%)	Relative Abundance (%)	Result Pass/Fail
50	95	15	40	21.2	Pass
75	95	30	60	47.2	Pass
95	95	100	100	100.0	Pass
96	95	5	9	6.4	Pass
173	174	0	2	1.1	Pass
174	95	50	100	80.1	Pass
175	174	5	9	7.3	Pass
176	174	95	101	95.0	Pass
177	176	5	9	6.2	Pass

Sample Summary

Volatile QC Sample Analyses on 12/7/11

12-Dec-11 1:26 pm

111212130A	**Project:**	QA/QC Data	**Sampler:**	JJC	**Batch:**	
	Location:	Blank Volatiles	**Collected:**	12/7/2011	**Time:**	9:57
	Sample Type:	Grab	**Received:**	12/7/2011	**Time:**	
	Customer:	L.S.&Q.A.	**Started:**		**Due:**	
	Cust. Sample:		**Completed:**	12/12/2011	**Reported:**	

Description:
Notes:
Conclusions:

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
5975 Volatiles Surrogates/Internal Std							
OVL001 pentafluorobenzene	1274598	318650	460666	N/A	FTTC4501	jjc	12/7/2011
OVL016 dibromofluromethane	59	43	57.66	µg/L	FTTC4501	jjc	12/7/2011
OVL022 1,4-diflurobenzene	2223728	555932	838816	N/A	FTTC4501	jjc	12/7/2011
OVL028 chlorobenzene-d5	2086724	521681	862804	N/A	FTTC4501	jjc	12/7/2011
OVL029 toluene-d8	55	43	52.9	µg/L	FTTC4501	jjc	12/7/2011
OVL046 4-bromofluorobenzene	57.5	43	52.42	µg/L	FTTC4501	jjc	12/7/2011
OVL047 1,4-dichlorobenzene-d4	1093510	273378	459113	N/A	FTTC4501	jjc	12/7/2011
FTTC4501 - (L) Volatile Priority Pollutants							
OVL002 dichlorodifluromethane			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL003 chloromethane			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL004 vinyl chloride			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL005 bromomethane			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL006 chloroethane			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL007 trichlorofluoromethane			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL008 1,1-dichloroethene			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL009 methylene chloride			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL010 trans-1,2-dichloroethene			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL011 1,1-dichloroethane			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL012 cis-1,2-dichloroethene			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL013 2,2-dichloropropane			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL014 bromochloromethane			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL015 chloroform			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL017 1,1,1-trichloroethane			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL018 1,2-dichloroethane			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL019 1,1-dichloropropene			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL020 benzene			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL021 carbon tetrachloride			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL023 1,2-dichloropropane			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL024 trichloroethene			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL025 dibromomethane			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL026 bromodichloromethane			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL027 trans-1,3-dichloropropene			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL030 cis-1,3-dichloropropene			< 5	µg/L	FTTC4501	jjc	12/7/2011

Sample Summary

12-Dec-11 1:26 pm

Volatile QC Sample Analyses on 12/7/11

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
OVL031 toluene			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL032 1,1,2-trichloroethane			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL033 1,3-dichloropropane			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL034 dibromochloromethane			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL035 1,2-dibromoethane			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL036 tetrachloroethene			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL037 chlorobenzene			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL038 1,1,1,2-tetrachloroethane			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL039 ethylbenzene			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL040 m+p-xylene			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL041 styrene			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL042 bromoform			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL043 o-xylene			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL044 1,1,2,2-tetrachloroethane			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL045 1,2,3-trichloropropane			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL048 Isopropylbenzene			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL049 bromobenzene			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL050 2-chlorotoluene			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL051 n-propylbenzene			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL052 4-chlorotoluene			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL053 1,3,5-trimethylbenzene			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL054 1,2,4-trimethylbenzene	200		< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL055 tert-butylbenzene			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL056 1,3-dichlorobenzene			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL057 sec-butylbenzene			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL058 1,4-dichlorobenzene			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL059 4-isopropyltoluene			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL060 1,2-dichlorobenzene			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL061 n-butylbenzene			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL062 1,2-dibromo-3-chloropropane			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL063 1,2,4-trichlorobenzene			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL064 napthalene			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL065 1,2,3-trichlorobenzene			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL066 hexachlorobutadiene			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL068 Acrylonitrile			< 5	µg/L	FTTC4501	jjc	12/7/2011
OVL074 Vinyl Acetate(VAM)			< 5	µg/L	FTTC4501	jjc	12/7/2011

QA Supervisor: _____ Date: _____

Department Head: _____ Date: _____

Sample Summary

Volatile QC Sample Analyses on 12/7/11

12-Dec-11 1:27 pm

1112121302	**Project:**	QA/QC Data	**Sampler:**	JJC	**Batch:**	
	Location:	CC Volatiles	**Collected:**	12/7/2011	**Time:**	9:32
	Sample Type:	Grab	**Received:**	12/7/2011	**Time:**	
	Customer:	L.S.&Q.A.	**Started:**		**Due:**	
	Cust. Sample:		**Completed:**	12/12/2011	**Reported:**	

Description:
Notes:
Conclusions:

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
5975 Volatiles Surrogates/Internal Std							
OVL001 pentafluorobenzene	1274598	318650	514713	N/A	FTTC4501	jjc	12/7/2011
OVL016 dibromofluromethane	59	43	51.76	µg/L	FTTC4501	jjc	12/7/2011
OVL022 1,4-diflurobenzene	2223728	555932	862348	N/A	FTTC4501	jjc	12/7/2011
OVL028 chlorobenzene-d5	2086724	521681	815613	N/A	FTTC4501	jjc	12/7/2011
OVL029 toluene-d8	55	43	50.56	µg/L	FTTC4501	jjc	12/7/2011
OVL046 4-bromofluorobenzene	57.5	43	51.6	µg/L	FTTC4501	jjc	12/7/2011
OVL047 1,4-dichlorobenzene-d4	1093510	273378	456693	N/A	FTTC4501	jjc	12/7/2011
FTTC4501 - (L) Volatile Priority Pollutants							
OVL002 dichlorodifluromethane			61.72	µg/L	FTTC4501	jjc	12/7/2011
OVL003 chloromethane			50.35	µg/L	FTTC4501	jjc	12/7/2011
OVL004 vinyl chloride			49.41	µg/L	FTTC4501	jjc	12/7/2011
OVL005 bromomethane			37.49	µg/L	FTTC4501	jjc	12/7/2011
OVL006 chloroethane			55.58	µg/L	FTTC4501	jjc	12/7/2011
OVL007 trichlorofluoromethane			55.15	µg/L	FTTC4501	jjc	12/7/2011
OVL008 1,1-dichloroethene			49.41	µg/L	FTTC4501	jjc	12/7/2011
OVL009 methylene chloride			51.16	µg/L	FTTC4501	jjc	12/7/2011
OVL010 trans-1,2-dichloroethene			49.72	µg/L	FTTC4501	jjc	12/7/2011
OVL011 1,1-dichloroethane			49.61	µg/L	FTTC4501	jjc	12/7/2011
OVL012 cis-1,2-dichloroethene			49.29	µg/L	FTTC4501	jjc	12/7/2011
OVL013 2,2-dichloropropane			51.38	µg/L	FTTC4501	jjc	12/7/2011
OVL014 bromochloromethane			52.05	µg/L	FTTC4501	jjc	12/7/2011
OVL015 chloroform			50.29	µg/L	FTTC4501	jjc	12/7/2011
OVL017 1,1,1-trichloroethane			50.98	µg/L	FTTC4501	jjc	12/7/2011
OVL018 1,2-dichloroethane			53.42	µg/L	FTTC4501	jjc	12/7/2011
OVL019 1,1-dichloropropene			48.46	µg/L	FTTC4501	jjc	12/7/2011
OVL020 benzene			48.71	µg/L	FTTC4501	jjc	12/7/2011
OVL021 carbon tetrachloride			52.22	µg/L	FTTC4501	jjc	12/7/2011
OVL023 1,2-dichloropropane			51.14	µg/L	FTTC4501	jjc	12/7/2011
OVL024 trichloroethene			49.1	µg/L	FTTC4501	jjc	12/7/2011
OVL025 dibromomethane			52.64	µg/L	FTTC4501	jjc	12/7/2011
OVL026 bromodichloromethane			53.87	µg/L	FTTC4501	jjc	12/7/2011
OVL027 trans-1,3-dichloropropene			52.79	µg/L	FTTC4501	jjc	12/7/2011
OVL030 cis-1,3-dichloropropene			50.73	µg/L	FTTC4501	jjc	12/7/2011

Sample Summary

12-Dec-11 1:27 pm

Volatile QC Sample Analyses on 12/7/11

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
OVL031 toluene			50.33	µg/L	FTTC4501	jjc	12/7/2011
OVL032 1,1,2-trichloroethane			50.96	µg/L	FTTC4501	jjc	12/7/2011
OVL033 1,3-dichloropropane			50.99	µg/L	FTTC4501	jjc	12/7/2011
OVL034 dibromochloromethane			53.45	µg/L	FTTC4501	jjc	12/7/2011
OVL035 1,2-dibromoethane			50.95	µg/L	FTTC4501	jjc	12/7/2011
OVL036 tetrachloroethene			53.03	µg/L	FTTC4501	jjc	12/7/2011
OVL037 chlorobenzene			51.43	µg/L	FTTC4501	jjc	12/7/2011
OVL038 1,1,1,2-tetrachloroethane			53.72	µg/L	FTTC4501	jjc	12/7/2011
OVL039 ethylbenzene			50.29	µg/L	FTTC4501	jjc	12/7/2011
OVL040 m+p-xylene			101.97	µg/L	FTTC4501	jjc	12/7/2011
OVL041 styrene			51.6	µg/L	FTTC4501	jjc	12/7/2011
OVL042 bromoform			51.13	µg/L	FTTC4501	jjc	12/7/2011
OVL043 o-xylene			51.2	µg/L	FTTC4501	jjc	12/7/2011
OVL044 1,1,2,2-tetrachloroethane			49.37	µg/L	FTTC4501	jjc	12/7/2011
OVL045 1,2,3-trichloropropane			49.17	µg/L	FTTC4501	jjc	12/7/2011
OVL048 isopropylbenzene			51.07	µg/L	FTTC4501	jjc	12/7/2011
OVL049 bromobenzene			52.77	µg/L	FTTC4501	jjc	12/7/2011
OVL050 2-chlorotoluene			51.83	µg/L	FTTC4501	jjc	12/7/2011
OVL051 n-propylbenzene			51.93	µg/L	FTTC4501	jjc	12/7/2011
OVL052 4-chlorotoluene			52.5	µg/L	FTTC4501	jjc	12/7/2011
OVL053 1,3,5-trimethylbenzene			51.62	µg/L	FTTC4501	jjc	12/7/2011
OVL054 1,2,4-trimethylbenzene	200		51.88	µg/L	FTTC4501	jjc	12/7/2011
OVL055 tert-butylbenzene			51.73	µg/L	FTTC4501	jjc	12/7/2011
OVL056 1,3-dichlorobenzene			53.39	µg/L	FTTC4501	jjc	12/7/2011
OVL057 sec-butylbenzene			52.16	µg/L	FTTC4501	jjc	12/7/2011
OVL058 1,4-dichlorobenzene			49.42	µg/L	FTTC4501	jjc	12/7/2011
OVL059 4-isopropyltoluene			52.92	µg/L	FTTC4501	jjc	12/7/2011
OVL060 1,2-dichlorobenzene			49.45	µg/L	FTTC4501	jjc	12/7/2011
OVL061 n-butylbenzene			49.73	µg/L	FTTC4501	jjc	12/7/2011
OVL062 1,2-dibromo-3-chloropropane			42.88	µg/L	FTTC4501	jjc	12/7/2011
OVL063 1,2,4-trichlorobenzene			50.42	µg/L	FTTC4501	jjc	12/7/2011
OVL064 napthalene			45.49	µg/L	FTTC4501	jjc	12/7/2011
OVL065 1,2,3-trichlorobenzene			50.7	µg/L	FTTC4501	jjc	12/7/2011
OVL066 hexachlorobutadiene			50.54	µg/L	FTTC4501	jjc	12/7/2011
OVL068 Acrylonitrile			44.23	µg/L	FTTC4501	jjc	12/7/2011
OVL074 Vinyl Acetate(VAM)			51.63	µg/L	FTTC4501	jjc	12/7/2011

QA Supervisor: _____ Date: _____

Department Head: _____ Date: _____

Sample Summary

Volatile QC Sample Analyses on 12/7/11

12-Dec-11 1:27 pm

111212130B	**Project:**	QA/QC Data	**Sampler:**	FO	**Batch:**	
	Location:	MS Volatiles	**Collected:**	12/6/2011	**Time:**	14:00
	Sample Type:	Grab	**Received:**	12/6/2011	**Time:**	
	Customer:	L.S.&Q.A.	**Started:**		**Due:**	
	Cust. Sample:	101ms	**Completed:**	12/12/2011	**Reported:**	

Description:
Notes:
Conclusions:

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
5975 Volatiles Surrogates/Internal Std							
OVL001 pentafluorobenzene	1274598	318650	586274	N/A	FTTC4501	jjc	12/7/2011
OVL016 dibromofluromethane	59	43	52.12	µg/L	FTTC4501	jjc	12/7/2011
OVL022 1,4-diflurobenzene	2223728	555932	1022943	N/A	FTTC4501	jjc	12/7/2011
OVL028 chlorobenzene-d5	2086724	521681	937164	N/A	FTTC4501	jjc	12/7/2011
OVL029 toluene-d8	55	43	47.56	µg/L	FTTC4501	jjc	12/7/2011
OVL046 4-bromofluorobenzene	57.5	43	46.02	µg/L	FTTC4501	jjc	12/7/2011
OVL047 1,4-dichlorobenzene-d4	1093510	273378	472023	N/A	FTTC4501	jjc	12/7/2011
Volatiles matrix spikes QA/QC							
OVL008 1,1-dichloroethene			37.68	µg/L	FTTC4501	jjc	12/7/2011
OVL020 benzene			45.85	µg/L	FTTC4501	jjc	12/7/2011
OVL024 trichloroethene			45.82	µg/L	FTTC4501	jjc	12/7/2011
OVL031 toluene			47.54	µg/L	FTTC4501	jjc	12/7/2011
OVL037 chlorobenzene			49.89	µg/L	FTTC4501	jjc	12/7/2011

QA Supervisor: _____ Date: _____

Department Head: _____ Date: _____

Sample Summary

Volatile QC Sample Analyses on 12/7/11

12-Dec-11 1:27 pm

1112121303	**Project:**	QA/QC Data	**Sampler:**	FO	**Batch:**	
	Location:	MSD Volatiles	**Collected:**	12/6/2011	**Time:**	14:00
	Sample Type:	Grab	**Received:**	12/6/2011	**Time:**	
	Customer:	L.S.&Q.A.	**Started:**		**Due:**	
	Cust. Sample:	101msd	**Completed:**	12/12/2011	**Reported:**	

Description:
Notes:
Conclusions:

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
5975 Volatiles Surrogates/Internal Std							
OVL001 pentafluorobenzene	1274598	318650	533885	N/A	FTTC4501	jjc	12/7/2011
OVL016 dibromofluromethane	59	43	53.57	µg/L	FTTC4501	jjc	12/7/2011
OVL022 1,4-diflurobenzene	2223728	555932	948793	N/A	FTTC4501	jjc	12/7/2011
OVL028 chlorobenzene-d5	2086724	521681	860785	N/A	FTTC4501	jjc	12/7/2011
OVL029 toluene-d8	55	43	46.88	µg/L	FTTC4501	jjc	12/7/2011
OVL046 4-bromofluorobenzene	57.5	43	45.47	µg/L	FTTC4501	jjc	12/7/2011
OVL047 1,4-dichlorobenzene-d4	1093510	273378	430546	N/A	FTTC4501	jjc	12/7/2011
Volatiles matrix spikes QA/QC							
OVL008 1,1-dichloroethene			36.63	µg/L	FTTC4501	jjc	12/7/2011
OVL020 benzene			46.08	µg/L	FTTC4501	jjc	12/7/2011
OVL024 trichloroethene			45.45	µg/L	FTTC4501	jjc	12/7/2011
OVL031 toluene			45.64	µg/L	FTTC4501	jjc	12/7/2011
OVL037 chlorobenzene			48.38	µg/L	FTTC4501	jjc	12/7/2011

QA Supervisor: _____ Date: _____

Department Head: _____ Date: _____

Volatile System Monitoring Compound Recoveries

Sample Type: Water

Sample ID	SMC1 % Rec.	SMC2 % Rec.	SMC3 % Rec.
111206141A	106	95	93
1112061435	107	95	94
1112070854	108	96	92
111207085A	95	97	93
1112121302	104	101	103
1112121303	107	94	91
1112121304	95	97	93
1112121305	107	97	93
1112121306	107	95	92
1112121307	108	96	92
1112121308	108	97	93
111212130A	115	106	105
111212130B	104	95	92
111212130C	98	97	93
111212130D	108	96	92
111212130E	108	97	92

QC Limits:

Analyte	% Rec.
SMC1 (DBF) = dibormofluoromethane	(90-116)
SMC2 (TOL) = toluene-d8	(87-108)
SMC3 (BFB) = 4-bromofluorobenzene	(83-111)

* Values outside of required QC limits

Comments: _____

Volatile Matrix Spike/Matrix Spike Duplicate Recovery

Sample Type: Water

Sample ID	MS Sample ID	MSD Sample ID
1112121303	1112121304	111212130B

Analyte	Units	Concentration Sample	Concentration Matrix Spike	Concentration Spike Duplicate	Spike Amount MS	Spike Amount MSD	% Recovery MS	% Recovery MSD	% Recovery Avg.	% RPD
1,1-Dichloroethene	ppb	0	38	37	50	50	75	73	74	3
Trichloroethene	ppb	0	46	45	50	50	92	91	91	1
Benzene	ppb	0	46	46	50	50	92	92	92	1
Toluene	ppb	0	48	46	50	50	95	91	93	4
Chlorobenzene	ppb	0	50	48	50	50	100	97	98	3

QC Limits:

Analyte	% RPD	Spike Rec.
1,1-Dichloroethene	10	(38-134)
Trichloroethene	12	(88-111)
Benzene	9	(84-112)
Toluene	11	(91-109)
Chlorobenzene	7	(91-112)

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

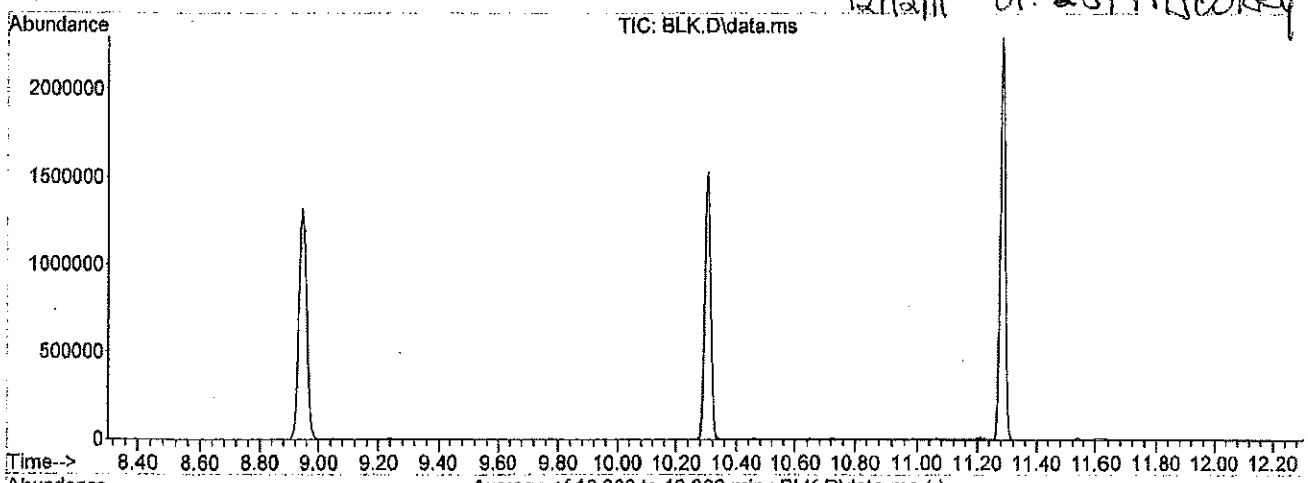
Comments: _____

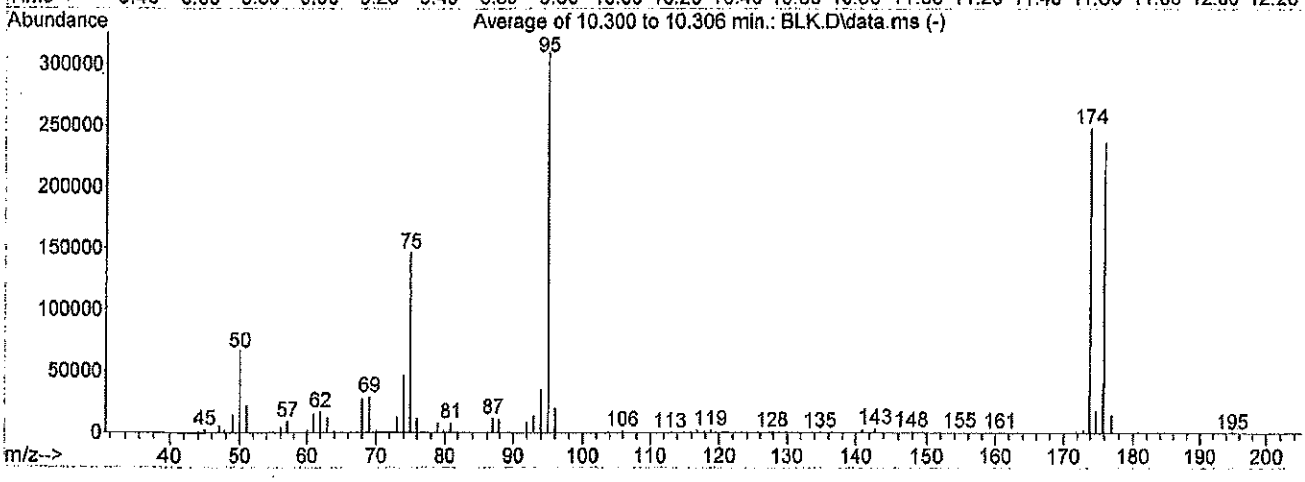
Data Path : C:\msdchem\1\data\120711\
Data File : BLK.D
Acq On : 7 Dec 2011 9:57 am
Operator : JJC
Sample : blank
Misc : method blank
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\MSDCHEM\1\METHODS\DEFAULT\VOA.M
Title :
Last Update : Thu Dec 01 08:30:26 2011

12/12/11 01:23PM JCURRY





AutoFind: Scans 3083, 3084, 3085; Background Corrected with Scan 3070

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	21.2	65864	PASS
75	95	30	60	47.2	146325	PASS
95	95	100	100	100.0	310208	PASS
96	95	5	9	6.4	19808	PASS
173	174	0.00	2	1.0	2538	PASS
174	95	50	100	80.1	248576	PASS
175	174	5	9	7.3	18162	PASS
176	174	95	101	95.0	236203	PASS
177	176	5	9	6.2	14580	PASS

L.S. & Q.A. Department

VOLATILES(8260) INJECTION LOG

	SAMPLE	DATE TIME	UNIT	LAB ID	GW#	DILUTION
1	BK					
2	CC					
3	101	12/6 1400	cutp	outfall		
4	MS	↓ ↓	↓	↓		
5	MSD	↓ ↓	↓	↓		
6	101-2	2000	↓	↓		
7	MSL	↓ 1400	↓	↓		
8	101-3	12/7 0200	↓	↓		
9	101-4	↓ 0800	↓	↓		
10	001	12/6 1400	↓	↓		
11	001-2	↓ 2000	↓	↓		
12	001-3	12/7 0200	↓	↓		
13	001-4	↓ 0800	↓	↓		
14	RS-1	11/29	vam	groundwater		2000
15	d-41	11/29				2000
16	d-41a					2000
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						

ANALYST:	JJC
DATE:	12/7/11
C:\HPCHEM\1\DATA\	

	TIME
TUNE CHECK	
METHOD BLANK	
CALIBRATION CHECK	

COMMENTS:

rerun Rd-1 20X

Analytical Batch

Volatile QC Sample Analyses on 12/9/11

12-Dec-11 3:52 pm

OVL001 pentafluorobenzene (N/A) 12/12/11 03:51 PM - jcurry

Sample ID	Collected	Project	Location	Sample Type	Customer	Cust. Sample ID	Date	Result
1112090931	12/8/2011	Wastewater Permit - Tue	Outfall 001	Composite	CWTP	001 12/8/11	12/9/2011	550050
111209093A	12/8/2011	Wastewater Permit - Tue	Outfall 101	Composite	CWTP	101 12/8/11	12/9/2011	623910
1112121521	12/9/2011	QA/QC Data	Blank Volatiles	Grab	L.S.&Q.A.		12/9/2011	584815
111212152A	12/9/2011	QA/QC Data	CC Volatiles	Grab	L.S.&Q.A.		12/9/2011	544982
1112121522	12/8/2011	QA/QC Data	MS Volatiles	Grab	L.S.&Q.A.	101 ms	12/9/2011	544663
111212152B	12/8/2011	QA/QC Data	MSD Volatiles	Grab	L.S.&Q.A.	101msd	12/9/2011	593642
1112121523	12/8/2011	Wastewater permit - VOA	Outfall 101	Grab	CWTP		12/9/2011	623910
111212152C	12/8/2011	Wastewater permit - VOA	Outfall 101	Grab	CWTP		12/9/2011	569921
111212152D	12/9/2011	Wastewater permit - VOA	Outfall 101	Grab	CWTP		12/9/2011	554367
1112121524	12/9/2011	Wastewater permit - VOA	Outfall 101	Grab	CWTP		12/9/2011	562797
111212152E	12/8/2011	Wastewater permit - VOA	Outfall 001	Grab	CWTP		12/9/2011	550050
1112121526	12/8/2011	Wastewater permit - VOA	Outfall 001	Grab	CWTP		12/9/2011	552292
111212152F	12/9/2011	Wastewater permit - VOA	Outfall 001	Grab	CWTP		12/9/2011	563170
111212152G	12/9/2011	Wastewater permit - VOA	Outfall 001	Grab	CWTP		12/9/2011	570761

Volatile Tune

Tune Compound: BFB

Analysis Date and Time: 12/9/2011 8:32 Analyst: JJC Sample ID: 1112121520

Target Mass	Relative to Target Mass	Lower Limit (%)	Upper Limit (%)	Relative Abundance (%)	Result Pass/Fail
50	95	15	40	22.9	Pass
75	95	30	60	47.6	Pass
95	95	100	100	100.0	Pass
96	95	5	9	6.3	Pass
173	174	0	2	1.2	Pass
174	95	50	100	80.7	Pass
175	174	5	9	7.0	Pass
176	174	95	101	96.7	Pass
177	176	5	9	5.8	Pass

Sample Summary

Volatile QC Sample Analyses on 12/9/11

12-Dec-11 3:53 pm

1112121521	**Project:**	QA/QC Data	**Sampler:**	JJC	**Batch:**	
	Location:	Blank Volatiles	**Collected:**	12/9/2011	**Time:**	9:32
	Sample Type:	Grab	**Received:**	12/9/2011	**Time:**	
	Customer:	L.S.&Q.A.	**Started:**		**Due:**	
	Cust. Sample:		**Completed:**	12/12/2011	**Reported:**	

Description:
Notes:
Conclusions:

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
5975 Volatiles Surrogates/Internal Std							
OVL001 pentafluorobenzene	1274598	318650	584815	N/A	FTTC4501	jjc	12/9/2011
OVL016 dibromofluromethane	59	43	51.7	µg/L	FTTC4501	jjc	12/9/2011
OVL022 1,4-diflurobenzene	2223728	555932	1011573	N/A	FTTC4501	jjc	12/9/2011
OVL028 chlorobenzene-d5	2086724	521681	921464	N/A	FTTC4501	jjc	12/9/2011
OVL029 toluene-d8	55	43	47.39	µg/L	FTTC4501	jjc	12/9/2011
OVL046 4-bromofluorobenzene	57.5	43	46.17	µg/L	FTTC4501	jjc	12/9/2011
OVL047 1,4-dichlorobenzene-d4	1093510	273378	473538	N/A	FTTC4501	jjc	12/9/2011
FTTC4501 - (L) Volatile Priority Pollutants							
OVL002 dichlorodifluromethane			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL003 chloromethane			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL004 vinyl chloride			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL005 bromomethane			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL006 chloroethane			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL007 trichlorofluoromethane			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL008 1,1-dichloroethene			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL009 methylene chloride			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL010 trans-1,2-dichloroethene			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL011 1,1-dichloroethane			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL012 cis-1,2-dichloroethene			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL013 2,2-dichloropropane			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL014 bromochloromethane			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL015 chloroform			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL017 1,1,1-trichloroethane			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL018 1,2-dichloroethane			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL019 1,1-dichloropropene			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL020 benzene			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL021 carbon tetrachloride			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL023 1,2-dichloropropane			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL024 trichloroethene			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL025 dibromomethane			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL026 bromodichloromethane			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL027 trans-1,3-dichloropropene			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL030 cis-1,3-dichloropropene			< 5	µg/L	FTTC4501	jjc	12/9/2011

Sample Summary

12-Dec-11 3:53 pm

Volatile QC Sample Analyses on 12/9/11

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
OVL031 toluene			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL032 1,1,2-trichloroethane			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL033 1,3-dichloropropane			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL034 dibromochloromethane			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL035 1,2-dibromoethane			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL036 tetrachloroethene			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL037 chlorobenzene			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL038 1,1,1,2-tetrachloroethane			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL039 ethylbenzene			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL040 m+p-xylene			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL041 styrene			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL042 bromoform			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL043 o-xylene			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL044 1,1,2,2-tetrachloroethane			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL045 1,2,3-trichloropropane			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL048 isopropylbenzene			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL049 bromobenzene			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL050 2-chlorotoluene			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL051 n-propylbenzene			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL052 4-chlorotoluene			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL053 1,3,5-trimethylbenzene			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL054 1,2,4-trimethylbenzene	200		< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL055 tert-butylbenzene			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL056 1,3-dichlorobenzene			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL057 sec-butylbenzene			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL058 1,4-dichlorobenzene			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL059 4-isopropyltoluene			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL060 1,2-dichlorobenzene			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL061 n-butylbenzene			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL062 1,2-dibromo-3-chloropropane			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL063 1,2,4-trichlorobenzene			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL064 napthalene			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL065 1,2,3-trichlorobenzene			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL066 hexachlorobutadiene			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL068 Acrylonitrile			< 5	µg/L	FTTC4501	jjc	12/9/2011
OVL074 Vinyl Acetate(VAM)			< 5	µg/L	FTTC4501	jjc	12/9/2011

QA Supervisor: _____ Date: _____

Department Head: _____ Date: _____

Sample Summary

Volatile QC Sample Analyses on 12/9/11

12-Dec-11 3:53 pm

111212152A	**Project:**	QA/QC Data	**Sampler:**	JJC	**Batch:**	
	Location:	CC Volatiles	**Collected:**	12/9/2011	**Time:**	8:07
	Sample Type:	Grab	**Received:**	12/9/2011	**Time:**	
	Customer:	L.S.&Q.A.	**Started:**		**Due:**	
	Cust. Sample:		**Completed:**	12/12/2011	**Reported:**	

Description:
Notes:
Conclusions:

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
5975 Volatiles Surrogates/Internal Std							
OVL001 pentafluorobenzene	1274598	318650	544982	N/A	FTTC4501	jjc	12/9/2011
OVL016 dibromofluromethane	59	43	51.3	µg/L	FTTC4501	jjc	12/9/2011
OVL022 1,4-diflurobenzene	2223728	555932	909526	N/A	FTTC4501	jjc	12/9/2011
OVL028 chlorobenzene-d5	2086724	521681	855035	N/A	FTTC4501	jjc	12/9/2011
OVL029 toluene-d8	55	43	49.59	µg/L	FTTC4501	jjc	12/9/2011
OVL046 4-bromofluorobenzene	57.5	43	50.24	µg/L	FTTC4501	jjc	12/9/2011
OVL047 1,4-dichlorobenzene-d4	1093510	273378	473071	N/A	FTTC4501	jjc	12/9/2011
FTTC4501 - (L) Volatile Priority Pollutants							
OVL002 dichlorodifluromethane			55.15	µg/L	FTTC4501	jjc	12/9/2011
OVL003 chloromethane			51.18	µg/L	FTTC4501	jjc	12/9/2011
OVL004 vinyl chloride			49.82	µg/L	FTTC4501	jjc	12/9/2011
OVL005 bromomethane			44.25	µg/L	FTTC4501	jjc	12/9/2011
OVL006 chloroethane			57.59	µg/L	FTTC4501	jjc	12/9/2011
OVL007 trichlorofluoromethane			55.61	µg/L	FTTC4501	jjc	12/9/2011
OVL008 1,1-dichloroethene			49.43	µg/L	FTTC4501	jjc	12/9/2011
OVL009 methylene chloride			51.88	µg/L	FTTC4501	jjc	12/9/2011
OVL010 trans-1,2-dichloroethene			50.65	µg/L	FTTC4501	jjc	12/9/2011
OVL011 1,1-dichloroethane			48.99	µg/L	FTTC4501	jjc	12/9/2011
OVL012 cis-1,2-dichloroethene			48.8	µg/L	FTTC4501	jjc	12/9/2011
OVL013 2,2-dichloropropane			51.65	µg/L	FTTC4501	jjc	12/9/2011
OVL014 bromochloromethane			50.16	µg/L	FTTC4501	jjc	12/9/2011
OVL015 chloroform			50.76	µg/L	FTTC4501	jjc	12/9/2011
OVL017 1,1,1-trichloroethane			51.36	µg/L	FTTC4501	jjc	12/9/2011
OVL018 1,2-dichloroethane			51.85	µg/L	FTTC4501	jjc	12/9/2011
OVL019 1,1-dichloropropene			48.97	µg/L	FTTC4501	jjc	12/9/2011
OVL020 benzene			47.77	µg/L	FTTC4501	jjc	12/9/2011
OVL021 carbon tetrachloride			53.21	µg/L	FTTC4501	jjc	12/9/2011
OVL023 1,2-dichloropropane			49.83	µg/L	FTTC4501	jjc	12/9/2011
OVL024 trichloroethene			48.69	µg/L	FTTC4501	jjc	12/9/2011
OVL025 dibromomethane			51.68	µg/L	FTTC4501	jjc	12/9/2011
OVL026 bromodichloromethane			52.54	µg/L	FTTC4501	jjc	12/9/2011
OVL027 trans-1,3-dichloropropene			50.87	µg/L	FTTC4501	jjc	12/9/2011
OVL030 cis-1,3-dichloropropene			49.18	µg/L	FTTC4501	jjc	12/9/2011

Sample Summary

12-Dec-11 3:53 pm

Volatile QC Sample Analyses on 12/9/11

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
OVL031 toluene			50.4	µg/L	FTTC4501	jjc	12/9/2011
OVL032 1,1,2-trichloroethane			51.56	µg/L	FTTC4501	jjc	12/9/2011
OVL033 1,3-dichloropropane			50.54	µg/L	FTTC4501	jjc	12/9/2011
OVL034 dibromochloromethane			52.55	µg/L	FTTC4501	jjc	12/9/2011
OVL035 1,2-dibromoethane			51.24	µg/L	FTTC4501	jjc	12/9/2011
OVL036 tetrachloroethene			51.92	µg/L	FTTC4501	jjc	12/9/2011
OVL037 chlorobenzene			51.23	µg/L	FTTC4501	jjc	12/9/2011
OVL038 1,1,1,2-tetrachloroethane			51.71	µg/L	FTTC4501	jjc	12/9/2011
OVL039 ethylbenzene			50.13	µg/L	FTTC4501	jjc	12/9/2011
OVL040 m+p-xylene			103.16	µg/L	FTTC4501	jjc	12/9/2011
OVL041 styrene			51.03	µg/L	FTTC4501	jjc	12/9/2011
OVL042 bromoform			53.48	µg/L	FTTC4501	jjc	12/9/2011
OVL043 o-xylene			51.24	µg/L	FTTC4501	jjc	12/9/2011
OVL044 1,1,2,2-tetrachloroethane			51.2	µg/L	FTTC4501	jjc	12/9/2011
OVL045 1,2,3-trichloropropane			51.75	µg/L	FTTC4501	jjc	12/9/2011
OVL048 isopropylbenzene			50.9	µg/L	FTTC4501	jjc	12/9/2011
OVL049 bromobenzene			51.69	µg/L	FTTC4501	jjc	12/9/2011
OVL050 2-chlorotoluene			51.62	µg/L	FTTC4501	jjc	12/9/2011
OVL051 n-propylbenzene			51.57	µg/L	FTTC4501	jjc	12/9/2011
OVL052 4-chlorotoluene			51.6	µg/L	FTTC4501	jjc	12/9/2011
OVL053 1,3,5-trimethylbenzene			51.63	µg/L	FTTC4501	jjc	12/9/2011
OVL054 1,2,4-trimethylbenzene	200		51.44	µg/L	FTTC4501	jjc	12/9/2011
OVL055 tert-butylbenzene			51.2	µg/L	FTTC4501	jjc	12/9/2011
OVL056 1,3-dichlorobenzene			52.61	µg/L	FTTC4501	jjc	12/9/2011
OVL057 sec-butylbenzene			52.51	µg/L	FTTC4501	jjc	12/9/2011
OVL058 1,4-dichlorobenzene			49.52	µg/L	FTTC4501	jjc	12/9/2011
OVL059 4-isopropyltoluene			53.24	µg/L	FTTC4501	jjc	12/9/2011
OVL060 1,2-dichlorobenzene			48.66	µg/L	FTTC4501	jjc	12/9/2011
OVL061 n-butylbenzene			49.99	µg/L	FTTC4501	jjc	12/9/2011
OVL062 1,2-dibromo-3-chloropropane			51.32	µg/L	FTTC4501	jjc	12/9/2011
OVL063 1,2,4-trichlorobenzene			49.82	µg/L	FTTC4501	jjc	12/9/2011
OVL064 napthalene			48.98	µg/L	FTTC4501	jjc	12/9/2011
OVL065 1,2,3-trichlorobenzene			50.08	µg/L	FTTC4501	jjc	12/9/2011
OVL066 hexachlorobutadiene			53.23	µg/L	FTTC4501	jjc	12/9/2011
OVL068 Acrylonitrile			49.21	µg/L	FTTC4501	jjc	12/9/2011
OVL074 Vinyl Acetate(VAM)			52.45	µg/L	FTTC4501	jjc	12/9/2011

QA Supervisor: _____ Date: _____

Department Head: _____ Date: _____

Sample Summary

12-Dec-11 3:53 pm

Volatile QC Sample Analyses on 12/9/11

1112121522	**Project:**	QA/QC Data	**Sampler:**	FO	**Batch:**	
	Location:	MS Volatiles	**Collected:**	12/8/2011	**Time:**	14:00
	Sample Type:	Grab	**Received:**	12/8/2011	**Time:**	
	Customer:	L.S.&Q.A.	**Started:**		**Due:**	
	Cust. Sample:	101 ms	**Completed:**	12/12/2011	**Reported:**	

Description:
Notes:
Conclusions:

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
5975 Volatiles Surrogates/Internal Std							
OVL001 pentafluorobenzene	1274598	318650	544663	N/A	FTTC4501	jjc	12/9/2011
OVL016 dibromofluromethane	59	43	53.67	µg/L	FTTC4501	jjc	12/9/2011
OVL022 1,4-diflurobenzene	2223728	555932	978537	N/A	FTTC4501	jjc	12/9/2011
OVL028 chlorobenzene-d5	2086724	521681	888883	N/A	FTTC4501	jjc	12/9/2011
OVL029 toluene-d8	55	43	46.7	µg/L	FTTC4501	jjc	12/9/2011
OVL046 4-bromofluorobenzene	57.5	43	46.42	µg/L	FTTC4501	jjc	12/9/2011
OVL047 1,4-dichlorobenzene-d4	1093510	273378	451929	N/A	FTTC4501	jjc	12/9/2011
Volatiles matrix spikes QA/QC							
OVL008 1,1-dichloroethene			38.44	µg/L	FTTC4501	jjc	12/9/2011
OVL020 benzene			46.94	µg/L	FTTC4501	jjc	12/9/2011
OVL024 trichloroethene			46.88	µg/L	FTTC4501	jjc	12/9/2011
OVL031 toluene			46.53	µg/L	FTTC4501	jjc	12/9/2011
OVL037 chlorobenzene			49.54	µg/L	FTTC4501	jjc	12/9/2011

QA Supervisor: _____ Date: _____

Department Head: _____ Date: _____

Sample Summary

12-Dec-11 3:53 pm

Volatile QC Sample Analyses on 12/9/11

111212152B	**Project:**	QA/QC Data	**Sampler:**	FO	**Batch:**	
	Location:	MSD Volatiles	**Collected:**	12/8/2011	**Time:**	14:00
	Sample Type:	Grab	**Received:**	12/8/2011	**Time:**	
	Customer:	L.S.&Q.A.	**Started:**		**Due:**	
	Cust. Sample:	101msd	**Completed:**	12/12/2011	**Reported:**	

Description:
Notes:
Conclusions:

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
5975 Volatiles Surrogates/Internal Std							
OVL001 pentafluorobenzene	1274598	318650	593642	N/A	FTTC4501	jjc	12/9/2011
OVL016 dibromofluromethane	59	43	51.56	µg/L	FTTC4501	jjc	12/9/2011
OVL022 1,4-diflurobenzene	2223728	555932	1027104	N/A	FTTC4501	jjc	12/9/2011
OVL028 chlorobenzene-d5	2086724	521681	940384	N/A	FTTC4501	jjc	12/9/2011
OVL029 toluene-d8	55	43	48.35	µg/L	FTTC4501	jjc	12/9/2011
OVL046 4-bromofluorobenzene	57.5	43	46.27	µg/L	FTTC4501	jjc	12/9/2011
OVL047 1,4-dichlorobenzene-d4	1093510	273378	486369	N/A	FTTC4501	jjc	12/9/2011
Volatiles matrix spikes QA/QC							
OVL008 1,1-dichloroethene			38.53	µg/L	FTTC4501	jjc	12/9/2011
OVL020 benzene			46.2	µg/L	FTTC4501	jjc	12/9/2011
OVL024 trichloroethene			46.45	µg/L	FTTC4501	jjc	12/9/2011
OVL031 toluene			47.77	µg/L	FTTC4501	jjc	12/9/2011
OVL037 chlorobenzene			50.16	µg/L	FTTC4501	jjc	12/9/2011

QA Supervisor: _____ Date: _____

Department Head: _____ Date: _____

Volatile System Monitoring Compound Recoveries

Sample Type: Water

Sample ID	SMC1 % Rec.	SMC2 % Rec.	SMC3 % Rec.
1112090931	110	95	93
111209093A	97	96	94
1112121521	103	95	92
1112121522	107	93	93
1112121523	97	96	94
1112121524	107	96	94
1112121526	106	96	92
111212152A	103	99	100
111212152B	103	97	93
111212152C	105	97	94
111212152D	106	96	91
111212152E	110	95	93
111212152F	108	96	92
111212152G	107	96	93

QC Limits:

Analyte	% Rec.
SMC1 (DBF) = dibormofluoromethane	(90-116)
SMC2 (TOL) = toluene-d8	(87-108)
SMC3 (BFB) = 4-bromofluorobenzene	(83-111)

* Values outside of required QC limits

Comments: _____

Volatile Matrix Spike/Matrix Spike Duplicate Recovery

Sample Type: Water

Sample ID	MS Sample ID	MSD Sample ID
1112121522	1112121523	111212152B

Analyte	Units	Concentration Sample	Concentration Matrix Spike	Concentration Spike Duplicate	Spike Amount MS	Spike Amount MSD	% Recovery MS	% Recovery MSD	% Recovery Avg.	% RPD
1,1-Dichloroethene	ppb	0	38	39	50	50	77	77	77	0
Trichloroethene	ppb	0	47	46	50	50	94	93	93	1
Benzene	ppb	0	47	46	50	50	94	92	93	2
Toluene	ppb	0	47	48	50	50	93	96	94	3
Chlorobenzene	ppb	0	50	50	50	50	99	100	100	1

QC Limits:

Analyte	% RPD	Spike Rec.
1,1-Dichloroethene	10	(38-134)
Trichloroethene	12	(88-111)
Benzene	9	(84-112)
Toluene	11	(91-109)
Chlorobenzene	7	(91-112)

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

Comments: _____

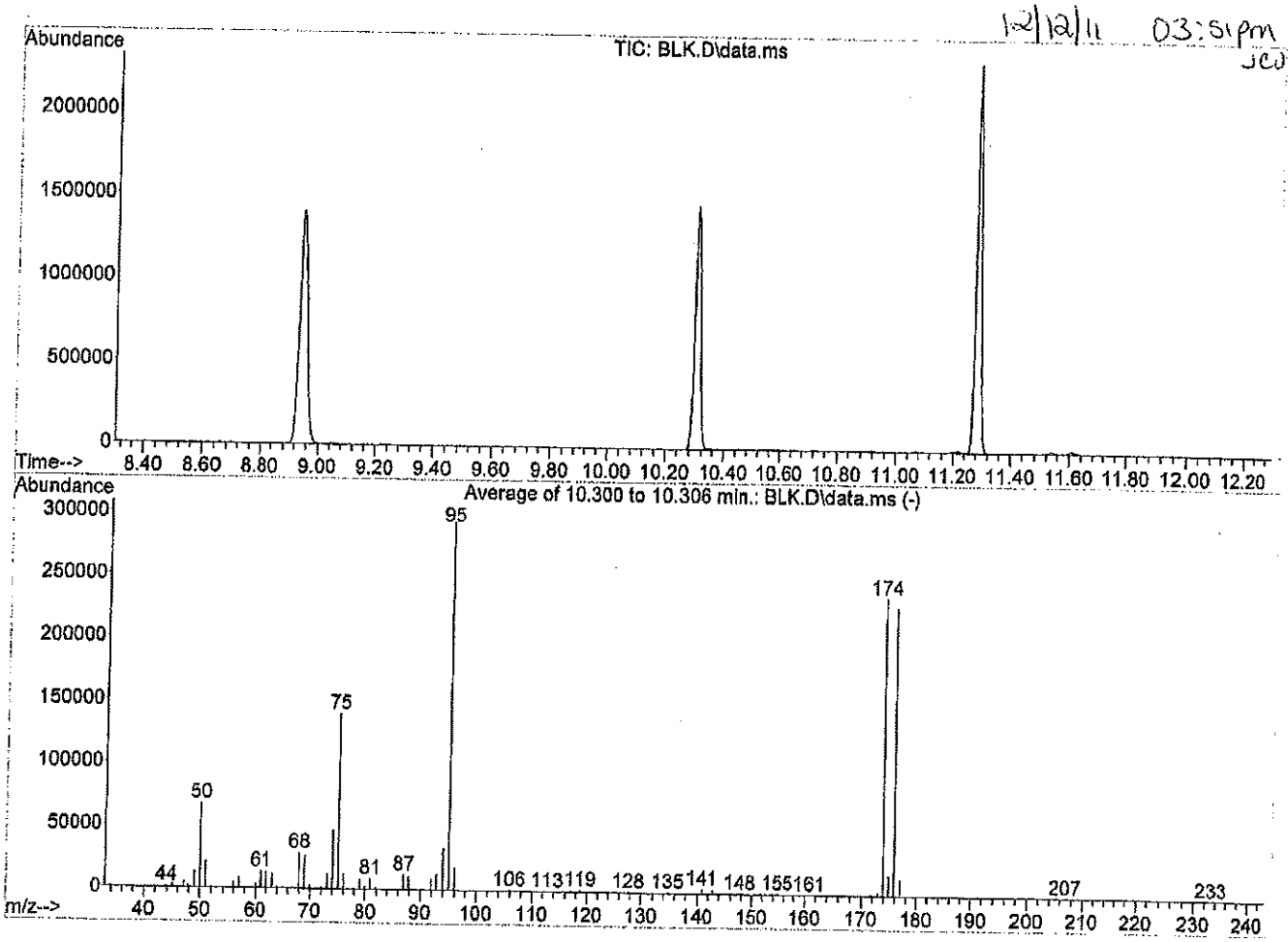
BFB

Data Path : C:\msdchem\1\data\120911\
Data File : BLK.D
Acq On : 9 Dec 2011 8:32 am
Operator : JJC
Sample : blank
Misc : method blank
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\MSDCHEM\1\METHODS\DEFAULT\VOA.M
Title :
Last Update : Thu Dec 01 08:30:26 2011

12/12/11 03:51pm
JCURRY



AutoFind: Scans 3083, 3084, 3085; Background Corrected with Scan 3071

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	22.9	67192	PASS
75	95	30	60	47.6	139819	PASS
95	95	100	100	100.0	294016	PASS
96	95	5	9	6.3	18445	PASS
173	174	0.00	2	1.1	2691	PASS
174	95	50	100	80.7	237333	PASS
175	174	5	9	7.0	16703	PASS
176	174	95	101	96.7	229440	PASS
177	176	5	9	5.8	13218	PASS

L.S. & Q.A. Department

VOLATILES(8260) INJECTION LOG

	SAMPLE	DATE/TIME	UNIT	LAB ID	GW	DILUTION
1	BLK					
2	CC					
3	101	12/8 1400	cwtp	outfall		
4	MS	↓	↓	↓		
5	MSD					
6	MS2					
7	MSD2	↓	↓	↓		
8	Rd1	11/29	vcm	groundwater		20
9	101-2	12/8 2000	cwtp	outfall		
10	101-3	12/9 0200				
11	101-4	↓ 0400				
12	001	12/8 1400				
13	001-2	↓ 2000				
14	001-3	12/9 0200				
15	001-4	↓ 0400	↓	↓		
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						

ANALYST:	JK
DATE:	12/9
C:\HPCHEM\1\DATA\	

	TIME
TUNE CHECK	
METHOD BLANK	
CALIBRATION CHECK	

COMMENTS:

Analytical Batch

Volatile QC Sample Analyses on 12/1/11

18-Jan-12 2:34 pm

OVL001 pentafluorobenzene (N/A) 12/08/11 07:27 AM - jcurry

Sample ID	Collected	Project	Location	Sample Type	Customer	Cust. Sample ID	Date	Result
1112011328	12/1/2011	wasterwater permit	TTT-34B	Grab	CWTP	TTT-34B 12/1/11	12/1/2011	92163
1112061415	11/29/2011	Ground Water	D-12	Grab	VCM	D-12	12/1/2011	89190
1112061422	11/29/2011	Ground Water	P-56	Grab	VCM	P-56 11/29/11	12/1/2011	77760
1112061424	11/29/2011	Ground Water	P-15	Grab	VCM	P-15 11/29/11	12/1/2011	81782
111206142F	11/29/2011	Ground Water	P-55	Grab	VCM	P-55 11/29/11	12/1/2011	78951
1112061432	11/29/2011	Ground Water	P-51	Grab	VCM	P-51 11/29/11	12/1/2011	78951
111206143C	11/29/2011	Ground Water	P-50	Grab	VCM	P-50 11/29/11	12/1/2011	81538
1112061434	11/29/2011	Ground Water	P-10	Grab	VCM	P-10 11/29/11	12/1/2011	82560
111207161A	12/1/2011	QA/QC Data	Blank Volatiles	Grab	L.S.&Q.A.		12/1/2011	90593
111207161B	12/1/2011	QA/QC Data	CC Volatiles	Grab	L.S.&Q.A.		12/1/2011	90215
1112071613	12/1/2011	QA/QC Data	MS Volatiles	Grab	L.S.&Q.A.	ttt34b ms	12/1/2011	86503
111207161C	12/1/2011	QA/QC Data	MSD Volatiles	Grab	L.S.&Q.A.	ttt34b msd	12/1/2011	89363

Volatile System Monitoring Compound Recoveries

Sample Type: Water

Sample ID	SMC1 % Rec.	SMC2 % Rec.	SMC3 % Rec.
1112011328	106	103	98
1112061415	109	103	95
1112061422	110	106	95
1112061424	108	105	96
111206142F	111	103	94
1112061432	106	106	97
1112061434	108	107	97
111206143C	111	102	94
1112071613	107	102	96
111207161A	105	106	96
111207161B	102	104	100
111207161C	107	103	96

QC Limits:

Analyte	% Rec.
SMC1 (DBF) = dibormofluoromethane	(90-116)
SMC2 (TOL) = toluene-d8	(87-108)
SMC3 (BFB) = 4-bromofluorobenzene	(83-111)

* Values outside of required QC limits

Comments: _____

Analytical Batch

Volatile QC Sample Analyses on 12/1/11

19-Jan-12 1:57 pm

OVL001 pentafluorobenzene (N/A) 12/08/11 07:27 AM - jcurry

Sample ID	Collected	Project	Location	Sample Type	Customer	Cust. Sample ID	Date	Result
1112011328	12/1/2011	wasterwater permit	TTT-34B	Grab	CWTP	TTT-34B 12/1/11	12/1/2011	92163
1112061415	11/29/2011	Ground Water	D-12	Grab	VCM	D-12	12/1/2011	89190
1112061422	11/29/2011	Ground Water	P-56	Grab	VCM	P-56 11/29/11	12/1/2011	77760
1112061424	11/29/2011	Ground Water	P-15	Grab	VCM	P-15 11/29/11	12/1/2011	81782
111206142F	11/29/2011	Ground Water	P-55	Grab	VCM	P-55 11/29/11	12/1/2011	78951
1112061432	11/29/2011	Ground Water	P-51	Grab	VCM	P-51 11/29/11	12/1/2011	81538
111206143C	11/29/2011	Ground Water	P-50	Grab	VCM	P-50 11/29/11	12/1/2011	78956
1112061434	11/29/2011	Ground Water	P-10	Grab	VCM	P-10 11/29/11	12/1/2011	82560
111207161A	12/1/2011	QA/QC Data	Blank Volatiles	Grab	L.S.&Q.A.		12/1/2011	90593
111207161B	12/1/2011	QA/QC Data	CC Volatiles	Grab	L.S.&Q.A.		12/1/2011	90215
1112071613	12/1/2011	QA/QC Data	MS Volatiles	Grab	L.S.&Q.A.	ttt34b ms	12/1/2011	86503
111207161C	12/1/2011	QA/QC Data	MSD Volatiles	Grab	L.S.&Q.A.	ttt34b msd	12/1/2011	89363

Volatile Tune

Tune Compound: BFB

Analysis Date and Time: 12/1/2011 9:37 Analyst: JJC Sample ID: 1112071612

Target Mass	Relative to Target Mass	Lower Limit (%)	Upper Limit (%)	Relative Abundance (%)	Result Pass/Fail
50	95	15	40	21.6	Pass
75	95	30	60	50.8	Pass
95	95	100	100	100.0	Pass
96	95	5	9	6.2	Pass
173	174	0	2	0.3	Pass
174	95	50	100	90.4	Pass
175	174	5	9	7.1	Pass
176	174	95	101	95.5	Pass
177	176	5	9	5.9	Pass

Sample Summary

Volatile QC Sample Analyses on 12/1/11

08-Dec-11 7:29 am

111207161A	**Project:**	QA/QC Data	**Sampler:**	JJC	**Batch:**	
	Location:	Blank Volatiles	**Collected:**	12/1/2011	**Time:**	9:37
	Sample Type:	Grab	**Received:**	12/1/2011	**Time:**	
	Customer:	L.S.&Q.A.	**Started:**		**Due:**	
	Cust. Sample:		**Completed:**	12/7/2011	**Reported:**	

Description:
Notes:
Conclusions:

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
FTTC4501 - (L) Volatile Priority Pollutants							
OVL002 dichlorodifluromethane			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL003 chloromethane			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL004 vinyl chloride			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL005 bromomethane			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL006 chloroethane			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL007 trichlorofluoromethane			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL008 1,1-dichloroethene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL009 methylene chloride			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL010 trans-1,2-dichloroethene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL011 1,1-dichloroethane			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL012 cis-1,2-dichloroethene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL013 2,2-dichloropropane			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL014 bromochloromethane			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL015 chloroform			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL017 1,1,1-trichloroethane			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL018 1,2-dichloroethane			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL019 1,1-dichloropropene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL020 benzene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL021 carbon tetrachloride			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL023 1,2-dichloropropane			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL024 trichloroethene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL025 dibromomethane			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL026 bromodichloromethane			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL027 trans-1,3-dichloropropene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL030 cis-1,3-dichloropropene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL031 toluene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL032 1,1,2-trichloroethane			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL033 1,3-dichloropropane			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL034 dibromochloromethane			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL035 1,2-dibromoethane			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL036 tetrachloroethene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL037 chlorobenzene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL038 1,1,1,2-tetrachloroethane			< 5	µg/L	FTTC4501	jjc	12/1/2011

Sample Summary

08-Dec-11 7:29 am

Volatile QC Sample Analyses on 12/1/11

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
OVL039 ethylbenzene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL040 m+p-xylene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL041 styrene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL042 bromoform			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL043 o-xylene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL044 1,1,2,2-tetrachloroethane			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL045 1,2,3-trichloropropane			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL048 isopropylbenzene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL049 bromobenzene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL050 2-chlorotoluene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL051 n-propylbenzene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL052 4-chlorotoluene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL053 1,3,5-trimethylbenzene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL054 1,2,4-trimethylbenzene	200		< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL055 tert-butylbenzene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL056 1,3-dichlorobenzene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL057 sec-butylbenzene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL058 1,4-dichlorobenzene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL059 4-isopropyltoluene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL060 1,2-dichlorobenzene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL061 n-butylbenzene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL062 1,2-dibromo-3-chloropropane			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL063 1,2,4-trichlorobenzene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL064 napthalene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL065 1,2,3-trichlorobenzene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL066 hexachlorobutadiene			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL068 Acrylonitrile			< 5	µg/L	FTTC4501	jjc	12/1/2011
OVL074 Vinyl Acetate(VAM)			< 5	µg/L	FTTC4501	jjc	12/1/2011
Volatiles Surrogates/Internal Std.							
OVL001 pentafluorobenzene	267290	66823	90593	N/A	FTTC4501	jjc	12/1/2011
OVL016 dibromofluromethane	56	46	52.29	µg/L	FTTC4501	jjc	12/1/2011
OVL022 1,4-diflurobenzene	397270	99318	134946	N/A	FTTC4501	jjc	12/1/2011
OVL028 chlorobenzene-d5	397110	99278	142671	N/A	FTTC4501	jjc	12/1/2011
OVL029 toluene-d8	54	44	52.78	µg/L	FTTC4501	jjc	12/1/2011
OVL046 4-bromofluorobenzene	54	42	48.15	µg/L	FTTC4501	jjc	12/1/2011
OVL047 1,4-dichlorobenzene-d4	229258	57315	79668	N/A	FTTC4501	jjc	12/1/2011

QA Supervisor: _____ Date: _____

Department Head: _____ Date: _____

Sample Summary

Volatile QC Sample Analyses on 12/1/11

08-Dec-11 7:29 am

111207161B	**Project:**	QA/QC Data	**Sampler:**	JJC	**Batch:**	
	Location:	CC Volatiles	**Collected:**	12/1/2011	**Time:**	10:06
	Sample Type:	Grab	**Received:**	12/1/2011	**Time:**	
	Customer:	L.S.&Q.A.	**Started:**		**Due:**	
	Cust. Sample:		**Completed:**	12/7/2011	**Reported:**	

Description:
Notes:
Conclusions:

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
FTTC4501 - (L) Volatile Priority Pollutants							
OVL002 dichlorodifluromethane			38.73	µg/L	FTTC4501	jjc	12/1/2011
OVL003 chloromethane			44.72	µg/L	FTTC4501	jjc	12/1/2011
OVL004 vinyl chloride			42.14	µg/L	FTTC4501	jjc	12/1/2011
OVL005 bromomethane			43.79	µg/L	FTTC4501	jjc	12/1/2011
OVL006 chloroethane			48.61	µg/L	FTTC4501	jjc	12/1/2011
OVL007 trichlorofluoromethane			56.44	µg/L	FTTC4501	jjc	12/1/2011
OVL008 1,1-dichloroethene			48.5	µg/L	FTTC4501	jjc	12/1/2011
OVL009 methylene chloride			47.13	µg/L	FTTC4501	jjc	12/1/2011
OVL010 trans-1,2-dichloroethene			46.23	µg/L	FTTC4501	jjc	12/1/2011
OVL011 1,1-dichloroethane			48.61	µg/L	FTTC4501	jjc	12/1/2011
OVL012 cis-1,2-dichloroethene			46.18	µg/L	FTTC4501	jjc	12/1/2011
OVL013 2,2-dichloropropane			52.37	µg/L	FTTC4501	jjc	12/1/2011
OVL014 bromochloromethane			47.61	µg/L	FTTC4501	jjc	12/1/2011
OVL015 chloroform			52.35	µg/L	FTTC4501	jjc	12/1/2011
OVL017 1,1,1-trichloroethane			55.72	µg/L	FTTC4501	jjc	12/1/2011
OVL018 1,2-dichloroethane			57.11	µg/L	FTTC4501	jjc	12/1/2011
OVL019 1,1-dichloropropene			49.46	µg/L	FTTC4501	jjc	12/1/2011
OVL020 benzene			45.45	µg/L	FTTC4501	jjc	12/1/2011
OVL021 carbon tetrachloride			57.63	µg/L	FTTC4501	jjc	12/1/2011
OVL023 1,2-dichloropropane			51.24	µg/L	FTTC4501	jjc	12/1/2011
OVL024 trichloroethene			49.58	µg/L	FTTC4501	jjc	12/1/2011
OVL025 dibromomethane			53.83	µg/L	FTTC4501	jjc	12/1/2011
OVL026 bromodichloromethane			55.86	µg/L	FTTC4501	jjc	12/1/2011
OVL027 trans-1,3-dichloropropene			54.33	µg/L	FTTC4501	jjc	12/1/2011
OVL030 cis-1,3-dichloropropene			52.48	µg/L	FTTC4501	jjc	12/1/2011
OVL031 toluene			50.93	µg/L	FTTC4501	jjc	12/1/2011
OVL032 1,1,2-trichloroethane			52.79	µg/L	FTTC4501	jjc	12/1/2011
OVL033 1,3-dichloropropane			52.76	µg/L	FTTC4501	jjc	12/1/2011
OVL034 dibromochloromethane			55.05	µg/L	FTTC4501	jjc	12/1/2011
OVL035 1,2-dibromoethane			51.94	µg/L	FTTC4501	jjc	12/1/2011
OVL036 tetrachloroethene			51.02	µg/L	FTTC4501	jjc	12/1/2011
OVL037 chlorobenzene			47.16	µg/L	FTTC4501	jjc	12/1/2011
OVL038 1,1,1,2-tetrachloroethane			50.8	µg/L	FTTC4501	jjc	12/1/2011

Sample Summary

08-Dec-11 7:29 am

Volatile QC Sample Analyses on 12/1/11

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
OVL039 ethylbenzene			48.54	µg/L	FTTC4501	jjc	12/1/2011
OVL040 m+p-xylene			95.07	µg/L	FTTC4501	jjc	12/1/2011
OVL041 styrene			48.03	µg/L	FTTC4501	jjc	12/1/2011
OVL042 bromoform			50.65	µg/L	FTTC4501	jjc	12/1/2011
OVL043 o-xylene			48.27	µg/L	FTTC4501	jjc	12/1/2011
OVL044 1,1,2,2-tetrachloroethane			49.18	µg/L	FTTC4501	jjc	12/1/2011
OVL045 1,2,3-trichloropropane			50.27	µg/L	FTTC4501	jjc	12/1/2011
OVL048 isopropylbenzene			48.88	µg/L	FTTC4501	jjc	12/1/2011
OVL049 bromobenzene			48.95	µg/L	FTTC4501	jjc	12/1/2011
OVL050 2-chlorotoluene			50.39	µg/L	FTTC4501	jjc	12/1/2011
OVL051 n-propylbenzene			49.55	µg/L	FTTC4501	jjc	12/1/2011
OVL052 4-chlorotoluene			51.35	µg/L	FTTC4501	jjc	12/1/2011
OVL053 1,3,5-trimethylbenzene			50.46	µg/L	FTTC4501	jjc	12/1/2011
OVL054 1,2,4-trimethylbenzene	200		50.78	µg/L	FTTC4501	jjc	12/1/2011
OVL055 tert-butylbenzene			49.59	µg/L	FTTC4501	jjc	12/1/2011
OVL056 1,3-dichlorobenzene			50.61	µg/L	FTTC4501	jjc	12/1/2011
OVL057 sec-butylbenzene			49.63	µg/L	FTTC4501	jjc	12/1/2011
OVL058 1,4-dichlorobenzene			46.92	µg/L	FTTC4501	jjc	12/1/2011
OVL059 4-isopropyltoluene			49.36	µg/L	FTTC4501	jjc	12/1/2011
OVL060 1,2-dichlorobenzene			47.89	µg/L	FTTC4501	jjc	12/1/2011
OVL061 n-butylbenzene			47.64	µg/L	FTTC4501	jjc	12/1/2011
OVL062 1,2-dibromo-3-chloropropane			52.45	µg/L	FTTC4501	jjc	12/1/2011
OVL063 1,2,4-trichlorobenzene			45.13	µg/L	FTTC4501	jjc	12/1/2011
OVL064 napthalene			46.96	µg/L	FTTC4501	jjc	12/1/2011
OVL065 1,2,3-trichlorobenzene			45.86	µg/L	FTTC4501	jjc	12/1/2011
OVL066 hexachlorobutadiene			45.09	µg/L	FTTC4501	jjc	12/1/2011
OVL068 Acrylonitrile			43.47	µg/L	FTTC4501	jjc	12/1/2011
OVL074 Vinyl Acetate(VAM)			47.16	µg/L	FTTC4501	jjc	12/1/2011
Volatiles Surrogates/Internal Std.							
OVL001 pentafluorobenzene	267290	66823	90215	N/A	FTTC4501	jjc	12/1/2011
OVL016 dibromofluromethane	56	46	50.89	µg/L	FTTC4501	jjc	12/1/2011
OVL022 1,4-diflurobenzene	397270	99318	131726	N/A	FTTC4501	jjc	12/1/2011
OVL028 chlorobenzene-d5	397110	99278	138929	N/A	FTTC4501	jjc	12/1/2011
OVL029 toluene-d8	54	44	51.92	µg/L	FTTC4501	jjc	12/1/2011
OVL046 4-bromofluorobenzene	54	42	50.22	µg/L	FTTC4501	jjc	12/1/2011
OVL047 1,4-dichlorobenzene-d4	229258	57315	83836	N/A	FTTC4501	jjc	12/1/2011

QA Supervisor: _____ Date: _____

Department Head: _____ Date: _____

Sample Summary

08-Dec-11 7:29 am

Volatile QC Sample Analyses on 12/1/11

111207161C	**Project:**	QA/QC Data	**Sampler:**	FO	**Batch:**	
	Location:	MSD Volatiles	**Collected:**	12/1/2011	**Time:**	8:00
	Sample Type:	Grab	**Received:**	12/1/2011	**Time:**	
	Customer:	L.S.&Q.A.	**Started:**		**Due:**	
	Cust. Sample:	ttt34b msd	**Completed:**	12/7/2011	**Reported:**	

Description:
Notes:
Conclusions:

Analysis	In-house Max.	In-house Min.	Result	Unit	Method	Analyst	Analysis Date
Volatiles matrix spikes QA/QC							
OVL008 1,1-dichloroethene			54.1	µg/L	FTTC4501	jjc	12/1/2011
OVL020 benzene			48.91	µg/L	FTTC4501	jjc	12/1/2011
OVL024 trichloroethene			53.06	µg/L	FTTC4501	jjc	12/1/2011
OVL031 toluene			53.86	µg/L	FTTC4501	jjc	12/1/2011
OVL037 chlorobenzene			49.88	µg/L	FTTC4501	jjc	12/1/2011
Volatiles Surrogates/Internal Std.							
OVL001 pentafluorobenzene	267290	66823	89363	N/A	FTTC4501	jjc	12/1/2011
OVL016 dibromofluromethane	56	46	53.46	µg/L	FTTC4501	jjc	12/1/2011
OVL022 1,4-diflurobenzene	397270	99318	135362	N/A	FTTC4501	jjc	12/1/2011
OVL028 chlorobenzene-d5	397110	99278	140861	N/A	FTTC4501	jjc	12/1/2011
OVL029 toluene-d8	54	44	51.73	µg/L	FTTC4501	jjc	12/1/2011
OVL046 4-bromofluorobenzene	54	42	48.05	µg/L	FTTC4501	jjc	12/1/2011
OVL047 1,4-dichlorobenzene-d4	229258	57315	78479	N/A	FTTC4501	jjc	12/1/2011

QA Supervisor: _____ Date: _____

Department Head: _____ Date: _____

Volatile System Monitoring Compound Recoveries

Sample Type: Water

Sample ID	SMC1 % Rec.	SMC2 % Rec.	SMC3 % Rec.
1112011328	106	103	98
1112061415	109	103	95
1112061422	110	106	95
1112061424	108	105	96
111206142F	111	103	94
1112061432	106	106	97
1112061434	108	107	97
111206143C	111	102	94
1112071613	107	102	96
111207161A	105	106	96
111207161B	102	104	100
111207161C	107	103	96

QC Limits:

Analyte	% Rec.
SMC1 (DBF) = dibormofluoromethane	(90-116)
SMC2 (TOL) = toluene-d8	(87-108)
SMC3 (BFB) = 4-bromofluorobenzene	(83-111)

* Values outside of required QC limits

Comments: _____

Volatile Matrix Spike/Matrix Spike Duplicate Recovery

Sample Type: Water

Sample ID	MS Sample ID	MSD Sample ID
1112011328	1112071613	111207161C

Analyte	Units	Concentration			Spike Amount		% Recovery			% RPD
		Sample	Matrix Spike	Spike Duplicate	MS	MSD	MS	MSD	Avg.	
1,1-Dichloroethene	ppb	0	53	54	50	50	107	108	107	1
Trichloroethene	ppb	0	53	53	50	50	106	106	106	0
Benzene	ppb	0	50	49	50	50	99	98	99	1
Toluene	ppb	0	54	54	50	50	109	108	108	1
Chlorobenzene	ppb	0	50	50	50	50	100	100	100	0

QC Limits:

Analyte	% RPD	Spike Rec.
1,1-Dichloroethene	10	(38-134)
Trichloroethene	12	(88-111)
Benzene	9	(84-112)
Toluene	11	(91-109)
Chlorobenzene	7	(91-112)

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

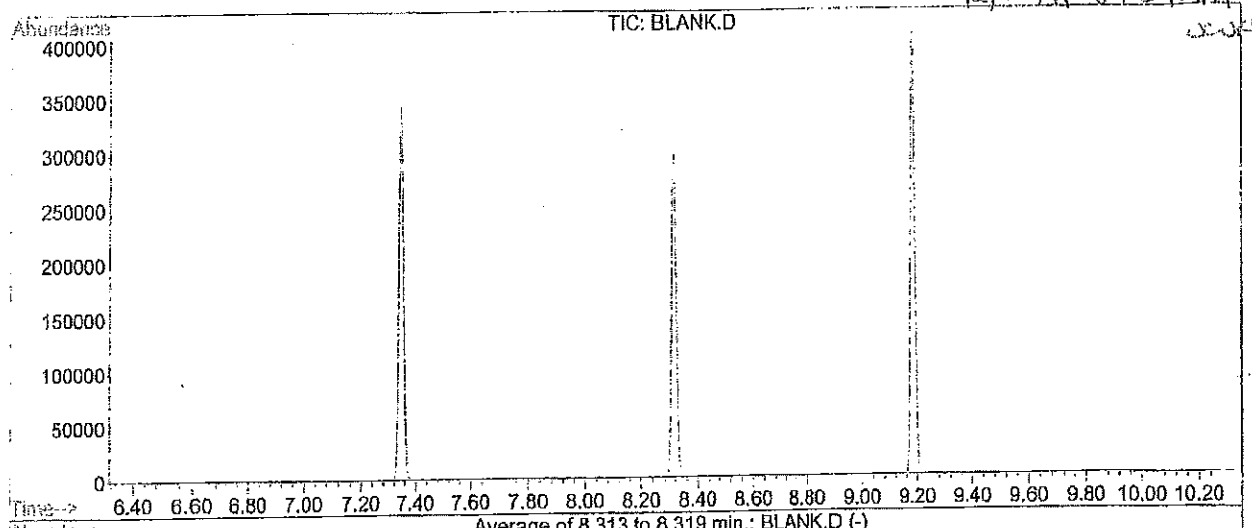
Comments:

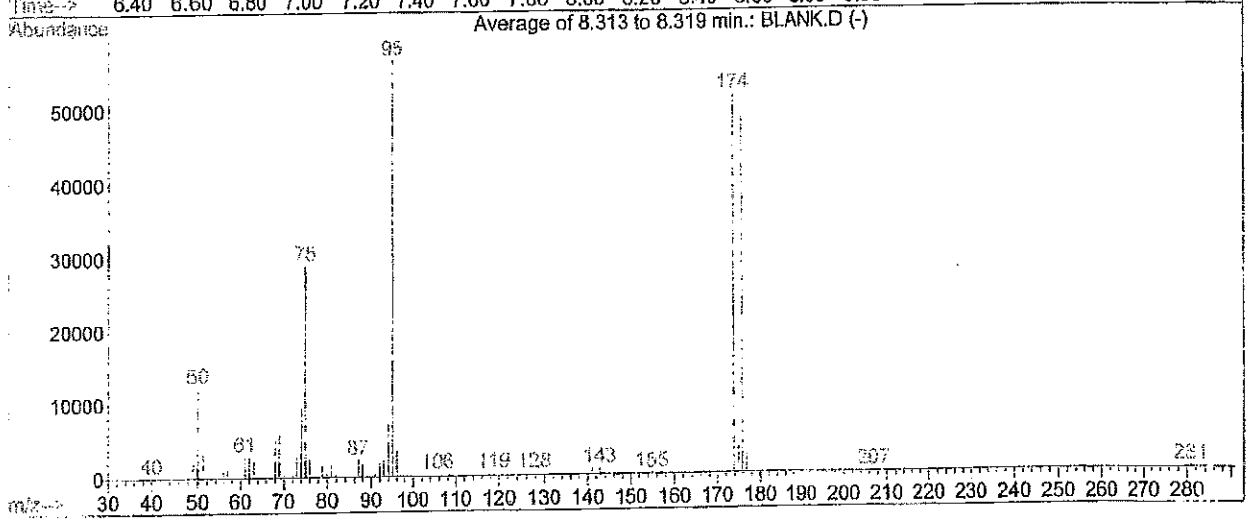
BFB

Data File : C:\HPCHEM\1\DATA\120111\BLANK.D
Acq On : 1 Dec 2011 9:37 am
Sample : method blank
Misc : A
MS Integration Params: RTEINT4.P
Method : C:\HPCHEM\1\METHODS\VOA.M (RTE Integrator)
Title :

Vial: 1
Operator: jjc
Inst : GC/MS 597
Multiplr: 1.00

12/08/11 07:27Am





AutoFind: Scans 2452, 2453, 2454; Background Corrected with Scan 2442

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	21.6	12322	PASS
75	95	30	60	50.8	28952	PASS
95	95	100	100	100.0	56955	PASS
96	95	5	9	6.2	3503	PASS
173	174	0.00	2	0.3	138	PASS
174	95	50	100	90.4	51501	PASS
175	174	5	9	7.1	3665	PASS
176	174	95	101	95.5	49160	PASS
177	176	5	9	5.9	2915	PASS

BLANK.D VOA.M Thu Dec 01 09:51:53 2011

L.S. & Q.A. Department

VOLATILES(8260) INJECTION LOG

SAMPLE	DATE/TIME	UNIT	LAB ID	GW#	DILUTION
BLK					
CC					
TT-34B	12/1	cutp	PP		
MS					
MSD					
d-12	11/29	vcm	groundwater		20
d-13					5
d-41					5000
d-41a					10,000
dup-02					~~10,000~~ 5000
dup-03					1000
D-4					2
P-10					
P-15					
P-50					
P-51					
P-55					
P-56					10,000
d-39					2

forget to put into sequence

Rerun d-39

			TIME
ANALYST:	NL	TUNE CHECK	
DATE:	12/01/11	METHOD BLANK	
C:\HPCHEM\1\DATA\		CALIBRATION CHECK	

COMMENTS:

P56 is P55

P-39 is P56

Correction to Analytical Batch 12/1/11

On the morning of 12/2/11 an error in the sequence log was found. P-55 was left off the hpchem station sequence. All the samples in the autosampler were ran. P-55 was found the third from the last. From this information I moved the results one down, putting the P-56 results for P-55 and the D-39 results for P-56.

Tetratech called the morning of 1/17/12 informing us that the sample in question P-55 was a blind duplicate sample that they used to send off to an outside lab. Our results didn't match. We then went back to review the original problem again. We discovered that gap's in the injection log we're made when samples are added to the log. This is an easy place for a mistake to happen.

By looking at the injection log we immediatielly decided which samples were in question.

D-12, D-13, D-41 were all correctly ran.

Dup-02, Dup-03, P-4 and D-39 were all re-ran and reported off of a different batch.

P-10, P-15, P-50, P-51, P-55, and P-56 were all in question.

On 1/17/12 we re-ran these samples for qualification purposes. We discovered the mistake was made before the P-4 sample ran, putting all the samples one up on the hpchem station log. Thus P-4 was actually P-10, etc. The corrections were then made in the results and re-reported to Tetratech.

Injection Log

Directory: C:\HPCHEM\1\DATA\120111

12/08/11 07:21 AM - JCURRY

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	Blank.d	1.	method blank	A	1 Dec 2011 09:37
2	1	Cc.d	1.	continuing calibration	NONE	1 Dec 2011 10:06
3	22	D_12.d	1.	11/29/11	vcm gw 1:20	1 Dec 2011 12:27
4	23	D_13.d	1.	11/29/11	vcm gw 1:5	1 Dec 2011 13:55
5	31	D_39.d → reported on wrong batch	1.	11/29/11	vcm gw 1:2	1 Dec 2011 20:09
6	24	D_41.d	1.	11/29/11	vcm gw 1:5000	1 Dec 2011 15:21
7	25	D_41a.d	1.	11/29/11	vcm gw 1:10000	1 Dec 2011 15:50
8	23	Dup_02.d	1.	11/29/11	vcm gw 1:5000	1 Dec 2011 16:19
9	24	Dup_03.d	1.	11/29/11	vcm gw 1:1000	1 Dec 2011 16:47
10	25	P_04.d P10	1.	11/29/11	vcm gw 1:2	1 Dec 2011 17:16
11	26	P_10.d P15	1.	11/29/11	vcm gw	1 Dec 2011 17:45
12	27	P_15.d P50	1.	11/29/11	vcm gw	1 Dec 2011 18:14
13	28	P_50.d P51	1.	11/29/11	vcm gw	1 Dec 2011 18:43
14	29	P_51.d P55	1.	11/29/11	vcm gw	1 Dec 2011 19:12
15	30	P_56.d P-56	1.	11/29/11	vcm gw 1:10000	1 Dec 2011 19:41
16	23	Ttt_34b.d	1.	12/01/11	cwlp	1 Dec 2011 10:48
17	23	Ttt_34ms.d	1.	12/01/11	cwlp	1 Dec 2011 11:46
18	23	Ttt34ms2.d	1.	12/01/11	cwlp	1 Dec 2011 12:56
19	23	Ttt34ms3.d	1.	12/01/11	cwlp	1 Dec 2011 14:23
20	24	Ttt34ms4.d	1.	12/01/11	cwlp	1 Dec 2011 14:52
21	23	Ttt34msd.d	1.	12/01/11	cwlp	1 Dec 2011 11:17

Correct