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## ANALYTICAL REPORT

PROJECT NO. 300 AREA TEDF

R06-001

Lot #: F6I200122  
SDG #: W05026

John Trechter

Fluor Hanford Inc  
600 Area, MO280, MSIN S3-30  
Richland, WA 99352

SEVERN TRENT LABORATORIES, INC.

*Kay Clay*  
FOR: Melania Harris  
Project Manager

October 10, 2006

Case Narrative  
LOT NUMBER: F6I200122  
W05026

This report contains the analytical results for the sample received under chain of custody by STL St. Louis on September 19, 2006. This sample is associated with your R06-001 project.

The analytical results included in this report meet all applicable quality control procedure requirements except as noted below.

The test results in this report meet all NELAP requirements for parameters in which accreditations are held by STL St. Louis. Any exceptions to NELAP requirements are noted in the case narrative. The case narrative is an integral part of this report.

All chemical analysis results are based upon sample as received, wet weight, unless noted otherwise. All radiochemistry results are based upon sample as dried and ground with the exception of tritium, unless requested wet weight by the client.

**Observations/Nonconformances**

Reference the chain of custody and condition upon receipt report for any variations on receipt conditions and temperature of samples on receipt.

**Purgeables Method: 624**

Batch 6269444

According to the Chain-of-Custody, the sample was presumed to be preserved to a pH < 2. Due to the potential loss of volatile constituents, VOA vials are not checked for pH preservation until the time of analysis. Sample pH was not less than 2. Sample was analyzed within the 7 day, unpreserved, holding time.

**Affected Sample:**

F6I200122 (1): TEDF0919061

**Base/Neutrals and Acids Method: 625**

The MSD surrogates recoveries are outside acceptance limits. The MSD spike recoveries are within QC limits demonstrating acceptable sample extraction and instrument performance. There is an apparent anomaly in the surrogate addition, isolated to the MSD and not indicative of the batch. No further action is required.

**Affected Sample:**

F6I200122 (1): TEDF0919061

**Nitrogen, Ammonia Method: 350.1**

The MS recovery for QC Batch 6272167 is outside the established QC limits. A matrix interference is evident in the sample. Method performance is demonstrated by acceptable LCS recovery.

**Affected Sample:**

F6I200122 (1): TEDF0919061

There are no observations or nonconformances associated with the following analyzes.

**Mercury Method: 245.2**

**ICP Metals Method: 200.7**

**Nitrite Method: 354.1**

# METHODS SUMMARY

F6I200122

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>	<u>PREPARATION METHOD</u>
Base/Neutrals and Acids	CFR136A 625	CFR136A 625
Mercury (Automated Cold Vapor Technique)	MCAWW 245.2	
Nitrite	MCAWW 354.1	
Nitrogen, Ammonia	MCAWW 350.1	MCAWW 350.1
Purgeables	CFR136A 624	SW846 5030B
Trace Inductively Coupled Plasma (ICP) Metals	MCAWW 200.7	MCAWW 200.7

## References:

- CFR136A "Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
- MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

# SAMPLE SUMMARY

F6I200122

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
JEL9K	001	TEDF0919061	09/19/06	13:15

**NOTE (S) :**

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Fluor Hanford Inc

Client Sample ID: TEDF0919061

GC/MS Volatiles

Lot-Sample #...: F6I200122-001    Work Order #...: JEL9K1AC    Matrix.....: WATER  
 Date Sampled...: 09/19/06    Date Received...: 09/20/06  
 Prep Date.....: 09/26/06    Analysis Date...: 09/26/06  
 Prep Batch #...: 6269444  
 Dilution Factor: 1    Method.....: CFR136A 624

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Bromodichloromethane	ND	2.2	ug/L	0.14
<b>Chloroform</b>	<b>3.3 J</b>	<b>5.0</b>	<b>ug/L</b>	<b>0.19</b>
1,1-Dichloroethane	ND	4.7	ug/L	0.16
<b>Methylene chloride</b>	<b>0.27 J,B</b>	<b>5.0</b>	<b>ug/L</b>	<b>0.10</b>
Tetrachloroethene	ND	5.0	ug/L	0.19
Toluene	ND	5.0	ug/L	0.20
1,1,1-Trichloroethane	ND	5.0	ug/L	0.15
Trichloroethene	ND	1.9	ug/L	0.20

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
1,2-Dichloroethane-d4	91	(70 - 123)
Toluene-d8	100	(75 - 126)
4-Bromofluorobenzene	93	(72 - 124)

**NOTE (S) :**

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Fluor Hanford Inc

TEDF0919061

GC/MS Volatiles

Lot-Sample #: F6I200122-001

Work Order #: JEL9K1AC

Matrix: WATER

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

<u>PARAMETER</u>	<u>CAS #</u>	<u>ESTIMATED RESULT</u>	<u>RETENTION TIME</u>	<u>UNITS</u>
None				ug/L

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: F6I200122  
 MB Lot-Sample #: F6I260000-444

Work Order #...: JE3471AA

Matrix.....: WATER

Analysis Date...: 09/26/06  
 Dilution Factor: 1

Prep Date.....: 09/26/06  
 Prep Batch #...: 6269444

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
Bromodichloromethane	ND	2.2	ug/L	CFR136A 624
Chloroform	ND	5.0	ug/L	CFR136A 624
1,1-Dichloroethane	ND	4.7	ug/L	CFR136A 624
<b>Methylene chloride</b>	<b>1.2 J</b>	<b>5.0</b>	<b>ug/L</b>	<b>CFR136A 624</b>
Tetrachloroethene	ND	5.0	ug/L	CFR136A 624
Toluene	ND	5.0	ug/L	CFR136A 624
1,1,1-Trichloroethane	ND	5.0	ug/L	CFR136A 624
Trichloroethene	ND	1.9	ug/L	CFR136A 624

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
1,2-Dichloroethane-d4	89	(70 - 123)
Toluene-d8	103	(75 - 126)
4-Bromofluorobenzene	95	(72 - 124)

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

J Estimated result. Result is less than RL.

Fluor Hanford Inc

Method Blank Report

GC/MS Volatiles

Lot-Sample #: F6I260000-444 B Work Order #: JE3471AA

Matrix: WATER

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

<u>PARAMETER</u>	<u>CAS #</u>	<u>ESTIMATED RESULT</u>	<u>RETENTION TIME</u>	<u>UNITS</u>
None				ug/L

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: F6I200122      Work Order #...: JE3471AC      Matrix.....: WATER  
 LCS Lot-Sample#: F6I260000-444  
 Prep Date.....: 09/26/06      Analysis Date...: 09/26/06  
 Prep Batch #...: 6269444  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>SPIKE</u> <u>AMOUNT</u>	<u>MEASURED</u> <u>AMOUNT</u>	<u>UNITS</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>METHOD</u>
Trichloroethene	20.0	21.7	ug/L	109	CFR136A 624
Toluene	20.0	21.5	ug/L	107	CFR136A 624
Bromodichloromethane	20.0	20.1	ug/L	100	CFR136A 624
Chloroform	20.0	19.4	ug/L	97	CFR136A 624
1,1-Dichloroethane	20.0	19.6	ug/L	98	CFR136A 624
Methylene chloride	20.0	20.9	ug/L	104	CFR136A 624
Tetrachloroethene	20.0	18.5	ug/L	93	CFR136A 624
1,1,1-Trichloroethane	20.0	22.0	ug/L	110	CFR136A 624

<u>SURROGATE</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>
1,2-Dichloroethane-d4	85	(76 - 116)
Toluene-d8	102	(81 - 122)
4-Bromofluorobenzene	87	(75 - 123)

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: F6I200122      Work Order #...: JEL9K1AK-MS      Matrix.....: WATER  
 MS Lot-Sample #: F6I200122-001      JEL9K1AL-MSD  
 Date Sampled...: 09/19/06      Date Received...: 09/20/06  
 Prep Date.....: 09/26/06      Analysis Date...: 09/26/06  
 Prep Batch #...: 6269444  
 Dilution Factor: 1

PARAMETER	SAMPLE	SPIKE	MEASRD	UNITS	PERCNT		METHOD
	AMOUNT	AMT	AMOUNT		RECVRY	RPD	
Toluene	ND	20.0	20.3	ug/L	101		CFR136A 624
	ND	20.0	21.0	ug/L	105	3.6	CFR136A 624
Bromodichloromethane	ND	20.0	17.6	ug/L	88		CFR136A 624
	ND	20.0	18.0	ug/L	90	2.1	CFR136A 624
Chloroform	3.3	20.0	20.1	ug/L	84		CFR136A 624
	3.3	20.0	20.4	ug/L	86	1.8	CFR136A 624
1,1-Dichloroethane	ND	20.0	17.5	ug/L	88		CFR136A 624
	ND	20.0	17.9	ug/L	90	2.2	CFR136A 624
Methylene chloride	0.27	20.0	17.8	ug/L	88		CFR136A 624
	0.27	20.0	18.5	ug/L	91	3.7	CFR136A 624
Tetrachloroethene	ND	20.0	17.6	ug/L	88		CFR136A 624
	ND	20.0	18.3	ug/L	92	4.3	CFR136A 624
1,1,1-Trichloroethane	ND	20.0	19.0	ug/L	95		CFR136A 624
	ND	20.0	20.1	ug/L	100	5.4	CFR136A 624
Trichloroethene	ND	20.0	19.6	ug/L	98		CFR136A 624
	ND	20.0	20.1	ug/L	100	2.5	CFR136A 624

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
1,2-Dichloroethane-d4	79	(70 - 123)
	78	(70 - 123)
Toluene-d8	99	(75 - 126)
	102	(75 - 126)
4-Bromofluorobenzene	86	(72 - 124)
	90	(72 - 124)

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

Fluor Hanford Inc

Client Sample ID: TEDF0919061

GC/MS Semivolatiles

Lot-Sample #...: F6I200122-001    Work Order #...: JEL9K1AA    Matrix.....: WATER  
 Date Sampled...: 09/19/06    Date Received...: 09/20/06  
 Prep Date.....: 09/23/06    Analysis Date...: 09/28/06  
 Prep Batch #...: 6266139  
 Dilution Factor: 1    Method.....: CFR136A 625

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
bis(2-Ethylhexyl) phthalate	ND	10	ug/L	2.6

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
2-Fluorobiphenyl	63	(48 - 83 )
2-Fluorophenol	39	(24 - 48 )
2,4,6-Tribromophenol	68	(52 - 102)
Nitrobenzene-d5	70	(54 - 86 )
Phenol-d5	27	(19 - 34 )
Terphenyl-d14	68	(48 - 94 )

Fluor Hanford Inc

TEDF0919061

GC/MS Semivolatiles

Lot-Sample #: F6I200122-001

Work Order #: JEL9K1AA

Matrix: WATER

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

<u>PARAMETER</u>	<u>CAS #</u>	<u>ESTIMATED RESULT</u>	<u>RETENTION TIME</u>	<u>UNITS</u>
None				ug/L

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: F6I200122  
MB Lot-Sample #: F6I230000-139

Work Order #...: JE0MF1AA

Matrix.....: WATER

Analysis Date...: 09/28/06  
Dilution Factor: 1

Prep Date.....: 09/23/06  
Prep Batch #...: 6266139

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
bis(2-Ethylhexyl) phthalate	ND	10	ug/L	CFR136A 625

<u>SURROGATE</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>
2-Fluorobiphenyl	66	(48 - 83)
2-Fluorophenol	40	(24 - 48)
2,4,6-Tribromophenol	70	(52 - 102)
Nitrobenzene-d5	71	(54 - 86)
Phenol-d5	29	(19 - 34)
Terphenyl-d14	69	(48 - 94)

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Fluor Hanford Inc

Method Blank Report

GC/MS Semivolatiles

Lot-Sample #: F6I230000-139 B Work Order #: JE0MF1AA Matrix: WATER

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

<u>PARAMETER</u>	<u>CAS #</u>	<u>ESTIMATED RESULT</u>	<u>RETENTION TIME</u>	<u>UNITS</u>
None				ug/L

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Semivolatiles

Client Lot #...: F6I200122      Work Order #...: JE0MF1AC      Matrix.....: WATER  
 LCS Lot-Sample#: F6I230000-139  
 Prep Date.....: 09/23/06      Analysis Date...: 09/28/06  
 Prep Batch #...: 6266139  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>SPIKE AMOUNT</u>	<u>MEASURED AMOUNT</u>	<u>UNITS</u>	<u>PERCENT RECOVERY</u>	<u>METHOD</u>
<b>bis(2-Ethylhexyl) phthalate</b>	<b>100</b>	<b>73.3</b>	<b>ug/L</b>	<b>73</b>	<b>CFR136A 625</b>

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
2-Fluorobiphenyl	61	(45 - 87)
2-Fluorophenol	36	(28 - 49)
2,4,6-Tribromophenol	70	(61 - 96)
Nitrobenzene-d5	62	(55 - 85)
Phenol-d5	25	(22 - 35)
Terphenyl-d14	68	(60 - 86)

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Semivolatiles

Client Lot #...: F6I200122      Work Order #...: JEL9K1AW-MS      Matrix.....: WATER  
 MS Lot-Sample #: F6I200122-001      JEL9K1AX-MSD  
 Date Sampled...: 09/19/06      Date Received...: 09/20/06  
 Prep Date.....: 09/23/06      Analysis Date...: 09/28/06  
 Prep Batch #...: 6266139  
 Dilution Factor: 1

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD
<b>bis(2-Ethylhexyl) phthalate</b>	ND	96.1	78.4	ug/L	82		CFR136A 625
	ND	95.2	78.1	ug/L	82	0.43	CFR136A 625

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorobiphenyl	63	(48 - 83)
	137 *	(48 - 83)
2-Fluorophenol	37	(24 - 48)
	78 *	(24 - 48)
2,4,6-Tribromophenol	76	(52 - 102)
	155 *	(52 - 102)
Nitrobenzene-d5	64	(54 - 86)
	137 *	(54 - 86)
Phenol-d5	27	(19 - 34)
	57 *	(19 - 34)
Terphenyl-d14	71	(48 - 94)
	140 *	(48 - 94)

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

\* Surrogate recovery is outside stated control limits.

Fluor Hanford Inc

Client Sample ID: TEDF0919061

TOTAL Metals

Lot-Sample #...: F6I200122-001

Matrix.....: WATER

Date Sampled...: 09/19/06

Date Received...: 09/20/06

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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Prep Batch #...: 6264055

Mercury	ND	0.20	ug/L	MCAWW 245.2	09/21/06	JEL9K1AF
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Dilution Factor: 1

MDL.....: 0.046

Prep Batch #...: 6264329

Iron	ND	100	ug/L	MCAWW 200.7	09/21-09/25/06	JEL9K1AE
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Dilution Factor: 1

MDL.....: 25.0

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: F6I200122

Matrix.....: WATER

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
<b>MB Lot-Sample #:</b> F6I210000-055 <b>Prep Batch #...:</b> 6264055						
Mercury	ND	0.20	ug/L	MCAWW 245.2	09/21/06	JEPAW1AA
		Dilution Factor: 1				

<b>MB Lot-Sample #:</b> F6I210000-329 <b>Prep Batch #...:</b> 6264329						
Iron	ND	100	ug/L	MCAWW 200.7	09/21-09/25/06	JEQDN1AA
		Dilution Factor: 1				

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

**LABORATORY CONTROL SAMPLE DATA REPORT**

**TOTAL Metals**

Client Lot #...: F6I200122

Matrix.....: WATER

<u>PARAMETER</u>	<u>SPIKE AMOUNT</u>	<u>MEASURED AMOUNT</u>	<u>UNITS</u>	<u>PERCNT RECVRY</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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**LCS Lot-Sample#:** F6I210000-055 **Prep Batch #...:** 6264055  
 Mercury      1.00      1.02      ug/L      102      MCAWW 245.2      09/21/06      JEPAW1AC  
 Dilution Factor: 1

**LCS Lot-Sample#:** F6I210000-329 **Prep Batch #...:** 6264329  
 Iron          500          527          ug/L          105          MCAWW 200.7      09/21-09/25/06      JEQDN1AC  
 Dilution Factor: 1

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: F6I200122

Matrix.....: WATER

Date Sampled...: 09/19/06

Date Received...: 09/20/06

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
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MS Lot-Sample #: F6I200122-001 Prep Batch #...: 6264055

Mercury

ND	1.00	1.01	ug/L	101			MCAWW 245.2	09/21/06	JEL9K1AQ
ND	1.00	1.05	ug/L	105	3.9		MCAWW 245.2	09/21/06	JEL9K1AR

Dilution Factor: 1

MS Lot-Sample #: F6I200122-001 Prep Batch #...: 6264329

Iron

ND	500	522	ug/L	104			MCAWW 200.7	09/21-09/25/06	JEL9K1AN
ND	500	551	ug/L	110	5.3		MCAWW 200.7	09/21-09/25/06	JEL9K1AP

Dilution Factor: 1

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Fluor Hanford Inc

Client Sample ID: TEDF0919061

General Chemistry

Lot-Sample #...: F6I200122-001  
Date Sampled...: 09/19/06

Work Order #...: JEL9K  
Date Received...: 09/20/06

Matrix.....: WATER

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Nitrite as N	ND	50.0	ug/L	MCAWW 354.1	09/20/06	6264171
		Dilution Factor: 1		MDL.....: 14.3		
Nitrogen, as Ammonia	53.9	50.0	ug/L	MCAWW 350.1	09/29/06	6272167
		Dilution Factor: 1		MDL.....: 5.5		

METHOD BLANK REPORT

General Chemistry

Client Lot #...: F6I200122

Matrix.....: WATER

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>BATCH #</u>
Nitrite as N	ND	Work Order #: JEPHX1AA 50.0	ug/L	MB Lot-Sample #: F6I210000-171 MCAWW 354.1	F6I210000-171 09/20/06	6264171
		Dilution Factor: 1				
Nitrogen, as Ammonia	ND	Work Order #: JFCHK1AA 50.0	ug/L	MB Lot-Sample #: F6I290000-167 MCAWW 350.1	F6I290000-167 09/29/06	6272167
		Dilution Factor: 1				

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

**LABORATORY CONTROL SAMPLE DATA REPORT**

**General Chemistry**

**Lot-Sample #...:** F6I200122

**Matrix.....:** WATER

<u>PARAMETER</u>	<u>SPIKE AMOUNT</u>	<u>MEASURED AMOUNT</u>	<u>UNITS</u>	<u>PERCNT RECVRY</u>	<u>RPD</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Nitrite as N								
	400	386	ug/L	96		MCAWW 354.1	09/20/06	6264171
	400	394	ug/L	98	2.0	MCAWW 354.1	09/20/06	6264171

Dilution Factor: 1

Nitrogen, as Ammonia								
	400	364	ug/L	91		MCAWW 350.1	09/29/06	6272167
	400	364	ug/L	91	0.09	MCAWW 350.1	09/29/06	6272167

Dilution Factor: 1

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE DATA REPORT

General Chemistry

Client Lot #...: F6I200122

Matrix.....: WATER

Date Sampled...: 09/19/06

Date Received...: 09/20/06

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Nitrite as N	ND	400	377	ug/L	94	MCAWW 354.1	09/20/06	6264171
			Work Order #...: JEL9K1AT MS Lot-Sample #: F6I200122-001					
			Dilution Factor: 1					
Nitrogen, as Ammonia	ND	500	452	ug/L	90	MCAWW 350.1	09/29/06	6272167
			Work Order #...: JDR6D1AR MS Lot-Sample #: F6I060275-001					
			Dilution Factor: 1					
Nitrogen, as Ammonia	53.9	500	483 N	ug/L	86	MCAWW 350.1	09/29/06	6272167
			Work Order #...: JEL9K1AM MS Lot-Sample #: F6I200122-001					
			Dilution Factor: 1					

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

N Spiked analyte recovery is outside stated control limits.

**SAMPLE DUPLICATE EVALUATION REPORT**

**General Chemistry**

Client Lot #...: F6I200122

Work Order #...: JDR6D-SMP  
JDR6D-DUP

Matrix.....: WATER

Date Sampled...: 09/05/06

Date Received...: 09/05/06

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u> <u>RESULT</u>	<u>UNITS</u>	<u>RPD</u>	<u>RPD</u> <u>LIMIT</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>PREP</u> <u>BATCH #</u>
Nitrogen, as Ammonia	ND	ND	ug/L	0	(0-20)	MCAWW 350.1	SD Lot-Sample #: F6I060275-001 09/29/06	6272167
Dilution Factor: 1								

**SAMPLE DUPLICATE EVALUATION REPORT**

**General Chemistry**

Client Lot #...: F6I200122

Work Order #...: JEL9K-SMP  
JEL9K-DUP

Matrix.....: WATER

Date Sampled...: 09/19/06

Date Received...: 09/20/06

<u>PARAM RESULT</u>	<u>DUPLICATE RESULT</u>	<u>UNITS</u>	<u>RPD</u>	<u>RPD LIMIT</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Nitrogen, as Ammonia							
53.9	61.4	ug/L	13	(0-20)	MCAWW 350.1	09/29/06	6272167
		Dilution Factor: 1					
Nitrite as N							
ND	ND	ug/L	0	(0-20)	MCAWW 354.1	09/20/06	6264171
		Dilution Factor: 1					

W05026

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. No. N/A  
Page 1 of 1

Collector R. A. WOKAL	Contact/Requestor DALE L. HALGREN	Telephone No. 376-9988	MSIN L6-05	FAX 376-6423
SAF No. R06-001	Sample Origin TW-V-582 310 TEDF 300 AREA	Purchase Order/Charge Code 118810 / CA40		
Project Title 300 AREA TEF NPDES COMPLIANCE SAMPLES	Logbook No. N/A	Ice Chest No. N/A	Temp. COOL TO 4 degrees C.	
Shipped To (Lab) SEVERN TRENT	Method of Shipment GOVERNMENT VEHICLE	Bill of Lading/Air Bill No. N/A		
Protocol CLEAN WATER ACT	Data Turnaround 15 DAYS PRIORITY	Offsite Property No. N/A		

Sample No.	Lab ID	*	Date	Time	No./Type Container	Sample Analysis	Preservative
TEDF0919061		W	9-19-06	0623	4/aGs 40mL	PURGEABLES EPA624	HCl pH<2
TEDF0919061		W		0627	4/aG 1L	BASE/ NEUTRALS AND ACIDS EPA625	Cool 4Deg C
TEDF0919061		W		0631	1/POLY 500mL	METALS Fe EPA 200.7	HNO3 pH <2
TEDF0919061		W		0632	1/POLY 250mL	NITRITE 353.1M	COOL 4DEG C
TEDF0919061		W		0633	1/POLY 500mL	AMMONIA EPA350.1	H2SO4 pH <2
TEDF0919061		W		0634	1/POLY 1L	GROSS ALPHA & BETA GA, GB	HNO3 pH <2
TEDF0919061		W		0635	1/POLY 2L	TOTAL RADIUM-TOTAL/Ra	HNO3 pH <2
TEDF0919061		W		0636	1/POLY 1L	METALS Hg EPA 245.2 (CV)	HNO3 pH <2
TEDF0919061		W		0637	1/POLY 20mL	ACTIVITY SCAN	NONE

POSSIBLE SAMPLE HAZARDS/REMARKS (List all known wastes) MSDS  Yes  No  
 THESE SAMPLES CONTAIN RADIOACTIVE MATERIAL AT CONCENTRATIONS THAT ARE NOT REGULATED FOR TRANSPORTATION PER 49 CFR 173.403 BUT ARE NOT RELEASABLE PER DOE ORDER 5400.5

SPECIAL INSTRUCTIONS Hold Time  
 Enhanced detection limits agreed to by R.L. Merrell 10/18/94 required. Exception: Chloroform PQL 5 ug/L. Contact JE Trechter ASAP if sample results are =>than enhanced detection limits. 15/45 summary (CAT 4,DB)

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	Matrix*
RAWokal	RAWokal	RAWokal	9-19-06 0700	Refrigerator	Refrigerator	Refrigerator	9-19-06 0700	S = Soil DS = Drum Solids
Refrug.	Refrug.	Refrug.	9-19-06 1250	RAWokal	RAWokal	RAWokal	9-19-06 1250	SE = Sediment DL = Drum Liquids
RAWokal	RAWokal	RAWokal	9-19-06 1315	S. Smith	S. Smith	S. Smith	9-19-06 13:15	SO = Solid T = Tissue
S. Smith	S. Smith	S. Smith	9-19-06 14:00	S-RT	S-RT	S-RT	09/20/06 0900	SL = Sludge WI = Wipe
								W = Water L = Liquid
								O = Oil V = Vegetation
								A = Air X = Other

FINAL SAMPLE DISPOSITION Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By: Date/Time

All samples containing hazardous materials shall be picked up by requestor and returned to parent container or site of origin. A-6003-432 (05/02)

RICHLAND

PACKED IN ICE Page 27 of 33



W05024

# CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. No. N/A

Page 1 of 1

Collector R. A. WOKAL	Contact/Requestor DALE L. HALGREN	Telephone No. 376-9983	MSIN L6-05	FAX 376-6423
SAF No. R06-001	Sample Origin TW-V-582 310 TEDF 300 AREA	Purchase Order/Charge Code 118810 / CA40		
Project Title 300 AREA TEDF NPDES COMPLIANCE SAMPLES	Logbook No. N/A	Ice Chest No. N/A	Temp. COOL TO 4 degrees C.	
Shipped To (Lab) SEVERN TRENT	Method of Shipment GOVERNMENT VEHICLE	Bill of Lading/Air Bill No. N/A		
Protocol CLEAN WATER ACT	Data Turnaround 15 DAYS PRIORITY	Offsite Property No. N/A		

Sample No.	Lab ID	*	Date	Time	No./Type Container	Sample Analysis	Preservative
TEDF0919061		W	9-19-06	0623	4/aGs 40mL	PURGEABLES EPA624	HCl pH<2
TEDF0919061		W		0627	4/aG 1L	BASE/ NEUTRALS AND ACIDS EPA625	Cool 4Deg C
TEDF0919061		W		0631	1/POLY 500mL	METALS Fe EPA 200.7	HNO3 pH <2
TEDF0919061		W		0632	1/POLY 250mL	NITRITE 353.1M	COOL 4DEG C
TEDF0919061		W		0633	1/POLY 500mL	AMMONIA EPA350.1	H2SO4 pH <2
TEDF0919061		W		0634	1/POLY 1L	GROSS ALPHA & BETA GA GB	HNO3 pH <2
TEDF0919061		W		0635	1/POLY 2L	TOTAL RADIUM TOTAL/Ra	HNO3 pH <2
TEDF0919061		W		0636	1/POLY 1L	METALS Hg EPA 245.2 (CV)	HNO3 pH <2
TEDF0919061		W		0637	1/POLY 20mL	ACTIVITY SCAN	NONE

POSSIBLE SAMPLE HAZARDS/REMARKS (List all known wastes) MSDS  Yes  No  
 THESE SAMPLES CONTAIN RADIOACTIVE MATERIAL AT CONCENTRATIONS THAT ARE NOT REGULATED FOR TRANSPORTATION PER 49 CFR 173.403 BUT ARE NOT RELEASABLE PER DOE ORDER 5400.5

SPECIAL INSTRUCTIONS Hold Time  
 Enhanced detection limits agreed to by R.L. Merrell 10/18/94 required. Exception: Chloroform PQL 5 ug/L. Contact JE Trechter ASAP if sample results are =>than enhanced detection limits. 15/45 summary (CAT 4,DB)

Relinquished By Print RAWokal	Sign RAWokal	Date/Time 9-19-06 0700	Received By Print Refrigerator	Sign Refrigerator	Date/Time 9-19-06 0700	Matrix* S = Soil DS = Drum Solids SE = Sediment DL = Drum Liquids SO = Solid T = Tissue SL = Sludge WI = Wipe W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other
Relinquished By Refrigerator		Date/Time 9-19-06 1250	Received By RAWokal	Sign RAWokal	Date/Time 9-19-06 1250	
Relinquished By RAWokal	RAWokal	Date/Time 9-19-06 1315	Received By S. Smith	S. Smith	Date/Time 9-19-06 13:15	
Relinquished By S. Smith		Date/Time 9-19-06 14:00	Received By S-RT		Date/Time 09/20/06 0900	

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time
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All samples containing hazardous materials shall be picked up by requestor and returned to parent container or site of origin.

PICHLAND

PACKED IN ICE



F6I200122

CLIENT ANALYSIS SUMMARY

Storage Loc: 2-327
Date Received: 2006-09-19
Analytical Due Date: 2006-09-29
Report Due Date: 2006-09-29
Report Type: B Standard Report
EDD Code: FEAD1

Project Manager: MLH Quote #: 47975 SDG: W05026
Project: 300 AREA TEDF R06-001
PO#: 615 Report to: John Trechter
Client: 108302 Fluor Hanford Inc

#SMPS in LOT: 1

Sample Contorl: Log in QC Received date is date received in Richland.
SDG should be assigned by Richland, check w/ PM.
Nitrite has short hold time. Notify PM if exceeded. VOA: notify PM if Chloroform >= 10 ug/l. Re-inject.
Notify PM if any parameter exceeds the CRDL. Do NOT dilute Nitrite to bring spike in control

Table with columns: SAMPLE #, CLIENT SAMPLE ID, Site ID, Client Matrix, DATE/TIME SAMPLED, WORKORDER, I. Contains multiple rows of sample analysis data including sample IDs like FE JI, HG W9, XX DP, etc.

**F6I200122**

**CLIENT COMMENTS SUMMARY**

Storage Loc: **2-327**  
Date Received: 2006-09-19  
Analytical Due Date: 2006-09-29  
Report Due Date: 2006-09-29  
Report Type: B Standard Report  
EDD Code: FEAD1

Project Manager: MLH Quote #: 47975 SDG: W05026  
Project: 300 AREA TEDF R06-001  
PO#: 615 Report to: John Trechter  
Client: 108302 Fluor Hanford Inc

#SMPS in LOT: 1

Sample Contorl:  
Log in QC  
Received date is date received in Richland.  
SDG should be assigned by Richland, check w/ PM.

Nitrite has short hold time. Notify PM if exceeded.  
VOA: notify PM if Chloroform >= 10 ug/l. Re-inject.

Notify PM if any parameter exceeds the CRDL.

Do NOT dilute Nitrite to bring spike in control

Hanford samples should be batched by themselves

From: Origin ID: (509)375-3131  
Shipping Dept.  
SEVERN TRENT LABORATORIES  
2800 GEORGE WASHINGTON WAY  
  
RICHLAND, WA 99354



CL893296/17/22

Ship Date: 19SEP06  
ActWgt: 44 LB  
System#: 1033413/INET2500  
Account#: S \*\*\*\*\*

REF: TEDF



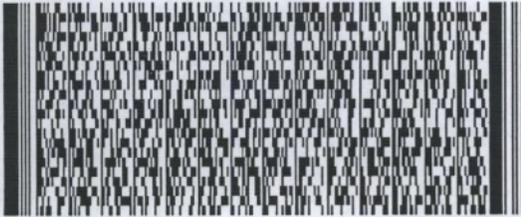
Delivery Address Bar Code

SHIP TO: (314)298-8566

BILL RECIPIENT

**Sample Control**  
**STL St. Louis**  
**13715 N. Rider Trail**

**Earth City, MO 63045**



**PRIORITY OVERNIGHT**

**WED**

TRK# 7900 7483 3459

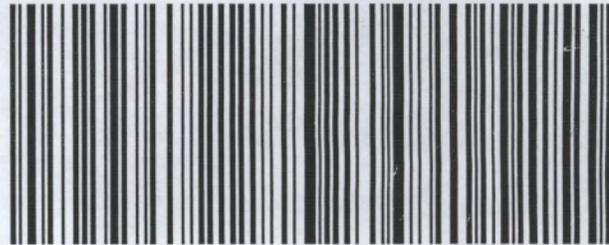
FORM  
0201

Deliver By:  
20SEP06

**STL A1**

**63045 -MO-US**

**XX ALNA**



Shipping Label: Your shipment is complete

1. Use the 'Print' feature from your browser to send this page to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

**Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.**

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