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August 16, 2010

Mr. Joseph F. LeMay
Remedial Project Manager
US EPA – New England
5 Post Office Square, Suite 100
Mail Code: OSSR07-4
Boston, MA 02109- 3912

Subject: Industri-plex Operable Unit 2 Superfund Site
Woburn, Massachusetts
Baseflow Surface Water Monitoring Report

Dear Mr. LeMay:

Pursuant to Paragraph 34 of the Consent Decree (CD)(Civil Action No.1:08-cv-10325) and Section V.A.5 of the Remedial Design / Remedial Action (RD/RA) Statement of Work (SOW) for the above referenced site, enclosed please find the Baseflow Surface Water Monitoring Report No. 16.

This report covers the period from July 1 - 31, 2010, and is submitted on behalf of the Settling Defendants.

Please contact me if you have any questions.

Sincerely,

Todd D. Mayer

for

Bruce Thompson
Project Coordinator

Enclosure

cc: Jen McWeeney - MassDEP
Settling Defendants
Larry McTiernan – Roux Associates

SDMS DocID 479381

Baseflow Surface Water Monitoring Monthly Report No. 16
(July 2010)

Industri-plex Superfund Site
Operable Unit 2
Woburn, Massachusetts

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Disclaimer – This document is a DRAFT document prepared by the Settling Defendants under a government Consent Decree. This document has not undergone formal review by the U.S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MassDEP). The opinions, findings, and conclusions expressed are those of the author and not those of the EPA or the MassDEP.

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In accordance with the Surface Water Monitoring Plan (SWMP), this monthly Baseflow Surface Water Monitoring Report has been prepared to summarize the surface water monitoring and maintenance activities performed and the data developed for baseflow conditions during the reporting period (July 2010) and to provide a brief discussion of the data. Surface water monitoring stations are shown in **Figures 1 and 2**.

Monitoring and Maintenance Activities Performed During the Reporting Period

1. Continuous monitoring of stream flow and water quality parameters was conducted at all ten monitoring stations during the reporting period, except during periods of insufficient flow when the In-Situ® MP Troll® 9500 water quality meters (Trolls) at the Atlantic Avenue Drainway (AAD) and Boston Edison Company right-of-way (BECO ROW) monitoring stations (SW-2-IP and SW-3-IP, respectively) were removed to prevent sensor damage. In addition, because the area-velocity sensor at the HBHA Wetland Outlet monitoring station (SW-04-TT), which had been damaged during the March 13-16, 2010 storm event, was not replaced until July 13, 2010, stage (and thus flow) as well as velocity data were not recorded for the first 12 days of the month.

2. Regular weekly O&M activities were performed at the surface water monitoring stations on July 1, 6, 15, 22, 29 and 30, 2010, and included the following:

    - Inspected instrumentation and tubing and adjusted as needed.
    - Cleared debris around station instrumentation.
    - Cleaned sample intakes and staff gauges.
    - Cleaned the Isco 750 area-velocity module sensors and the Troll sensors.
    - Checked calibration of the Troll sensors and re-calibrated as needed.
    - Collected manual stage measurements.
    - Checked station power levels.
    - Inspected rain gauges and cleaned as needed.
    - Downloaded flow data stored in the Isco units.

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- Verified the telemetry cable connection.

3. Monthly O&M activities were performed on July 29 and 30, 2010 (in conjunction with weekly O&M activities) and included the following:

    - Collected manual velocity measurements.
    - Cleaned solar panels and adjusted positioning as necessary.
    - Calibrated the Troll sensors.

4. Supplemental O&M activities were conducted on July 28, 2010. Activities performed included In-Situ® vented cable maintenance to remove accumulated moisture.

5. The SWMP monthly baseflow sampling event was conducted on July 7, 2010 and included the following:

    - Collected baseflow surface water samples at eight SWMP monitoring stations.[1]
    - Measured groundwater and surface water elevations at seven of the ten SWMP monitoring stations.[2]

Data Generated During the Reporting Period

1. Water quality parameters recorded at the time of baseflow sampling on July 7, 2010 are provided in **Tables 1a through 1j,** along with the water quality measurements made during all previous SWMP and, where performed, "Early Action" baseflow sampling events.

2. Analytical results for the baseflow samples collected during the reporting period[3] are provided in **Tables 2a through 2j** along with validated analytical laboratory results for baseflow samples collected during previous SWMP sampling events and, where performed, Early Action and other previous sampling programs at the site (i.e., the

[1] Both the AAD Station (SW-2-IP) and the BECO ROW Station (SW-3-IP) did not exhibit discernable flow at the time of baseflow sampling.
[2] There is no piezometer at the Mishawum Road monitoring station (SW-04-TT).
[3] These results have not yet been validated.

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Groundwater and Surface Water Investigation Plan [GSIP] and the Multiple Source Groundwater Response Plan [MSGRP]).

3. Groundwater and surface water elevation data are provided in **Table 3**.

Data Analysis

Analytical Results – Benzene, total arsenic, dissolved arsenic, and ammonia concentrations detected in baseflow samples collected during the SWMP and previous sampling programs (GSIP, MSGRP, and Early Action) are summarized in box-whisker plots in **Appendix A**. The most recent SWMP results are shown as solid circles (unless the analyte was not detected), while the previous SWMP results and all results from previous sampling programs are plotted as "boxes" and "whiskers."[4] The boxes indicate the range within which the central fifty percent of the results fall (the box edges mark the first and third quartiles and the line dividing the box in two marks the median value), while the whiskers show the full range of values reported.[5]

Based on baseflow analytical data collected during the GSIP, MSGRP, Early Action, and the OU2 SWMP sampling programs, the following is noted:

- Benzene has never been detected in any of the baseflow samples collected from Stations SW-2-IP, SW-01-TT, SW-03-TT, and SW-05-TT through SW-08-TT and has only been detected seasonally at Stations SW-3-IP, SW-02-TT, and SW-04-TT. Moreover, the maximum concentrations of benzene detected in the baseflow samples collected at stations SW-3-IP, SW-02-TT, and SW-04-TT are 3.5 µg/L (March 18, 2009), 0.9 µg/L (March 18, 2009), and 0.46J µg/L (April 1, 2009), respectively. These maxima are more than an order of magnitude below the benzene Surface Water Performance Standard of 46 µg/L.

- Except at Stations SW-3-IP and SW-03-TT, all dissolved arsenic concentrations measured during baseflow have been more than an order of magnitude below the arsenic Surface Water Performance Standard of 150 µg/L. Moreover, the

[4] Since at least two values are required to construct a "box," previous results are shown as individual diamonds in those cases where the analyte was detected in only one sample during a particular sampling program.

[5] Any statistical outliers have not been determined or identified.

maximum concentrations of dissolved arsenic detected in the baseflow samples collected at Stations SW-3-IP (79 µg/L, January 6, 2010) and SW-03-TT (24.2 µg/L, November 19, 2001) are well below the Surface Water Performance Standard.

These observations are consistent with those noted in previous reports.

Elevation Data – Based on the groundwater and surface water elevations measured during the MSGRP and SWMP, the following is noted:

- At three of the nine stations gauged (SW-2-IP, SW-01-TT, and SW-08-TT), surface water elevations have been predominantly higher than groundwater elevations during baseflow conditions.

- At five of the stations (SW-3-IP, SW-02-TT, SW-03-TT, SW-06-TT, and SW-07-TT), surface water elevations have been predominantly lower than groundwater elevations during baseflow conditions.

- The remaining station (SW-05-TT) has exhibited variable trends.

These observations are consistent with those noted in previous reports.

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TABLES

(Note: the data presented in Tables 1, 2, and 3 are cumulative; values shown supersede previously reported data.)

Table 1a
Baseflow Water Quality Parameters for SW-2-IP (AAD)
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

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Sample ID	Date	Temperature (˚C)	Dissolved Oxygen (mg/l)	pH (s.u.)	ORP (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)
Remedial Design "Early Action"							
SW-2-IP	08/21/08	23.8	9.0	7.1	222.8	613.7	3.6
	09/18/08	15.6	9.5	6.9	149.2	233.9	47.2
	10/09/08	17.5	9.1	7.1	188.3	497.2	1.6
	11/05/08	13.3	10.8	7.4	431.8	ERR	7.5
	12/09/08	-0.6	9.9	6.5	443.7	512.0	1.8
	01/20/09	0.1	6.4	6.8	160.0	1161.0	177.5
	02/02/09	-0.8	NM	6.6	466.6	1464.0	2.0
	03/18/09	8.9	1.9	7.0	249.4	1418.0	23.0
	04/01/09	5.6	2.0	7.0	352.5	1286.0	2.3
Surface Water Monitoring Plan							
SW-2-IP	04/17/09	17.3	13.2	7.4	55.0	785.7	0.3
	05/12/09	16.9	9.6	7.4	396.6	783.0	2.2
	06/02/09	21.4	12.5	7.7	114.9	841.0	1.9
	07/15/09	25.3	5.8	7.1	375.5	362.0	2.1
	08/05/09	27.3	5.6	7.0	414.0	413.1	0.9
	09/02/09	21.7	7.7	7.2	361.0	597.0	2.9
	10/15/09	7.6	6.3	7.5	384.0	559.0	2.0
	11/03/09	9.8	10.9	7.4	63.0	407.0	10.9
	12/02/09	5.1	12.6	7.3	251.0	666.0	0.9
	01/06/10	0.0	9.4	7.1	676.0	971.0	2.9
	02/03/10	0.1	10.6	7.1	344.0	948.0	3.5
	03/08/10	10.1	10.4	7.3	173.2	687.0	6.2
	04/13/10	14.2	9.8	7.7	348.9	676.0	5.3
	05/05/10	19.7	9.9	7.6	313.8	900.0	2.9
	06/09/10	23.2	11.8	8.6	280.8	634.0	4.6
	07/07/10	NM	NM	NM	NM	NM	NM

Notes:
AAD = Atlantic Avenue Drainway
˚C = Degrees Celsius
mg/l = milligrams per liter
s.u. = standard units
mV = milliVolts
µS/cm = microSiemens per centimeter
NTU = Nephelometric Turbidity Units
NM = Not measured (e.g., insufficient flow and/or due to equipment limitations)
ERR = Equipment error (e.g., ice buildup, sensor drift, stage below sensor(s), struck by debris, and/or buildup on sensor)

Table 1b
Baseflow Water Quality Parameters for SW-3-IP (Boston Edison Co. ROW)
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

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Sample ID	Date	Temperature (˚C)	Dissolved Oxygen (mg/l)	pH (s.u.)	ORP (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)
Remedial Design "Early Action"							
SW-3-IP	08/21/08	19.7	9.6	7.5	210.4	906.2	5.2
	09/18/08	NM	NM	NM	NM	NM	NM
	10/09/08	17.4	5.9	7.1	179.4	697.0	4.2
	11/05/08	NM	NM	NM	NM	NM	NM
	12/09/08	NM	NM	NM	NM	NM	NM
	01/20/09	NM	NM	NM	NM	NM	NM
	02/02/09	5.2	9.0	6.8	-17.0	800.7	1.4
	03/18/09	10.5	3.7	7.1	162.4	193.0	58.2
	04/01/09	4.1	2.3	6.8	110.2	ERR	21.3
Surface Water Monitoring Plan							
SW-3-IP	04/17/09	16.4	11.7	6.8	-70.0	908.3	4.7
	05/12/09	13.5	7.3	7.3	370.7	3.0	24.3
	06/02/09	NM	NM	NM	NM	NM	NM
	07/15/09*	14.7	0.0	11.8	7.5	22.0	344.8
	08/05/09*	14.6	0.0	4.0	7.6	26.0	ERR
	09/02/09	NM	NM	NM	NM	NM	NM
	10/15/09	NM	NM	NM	NM	NM	NM
	11/03/09	10.9	5.6	6.7	25.0	533.0	5.4
	12/02/09	NM	NM	NM	NM	NM	NM
	01/06/10	3.4	6.2	7.1	572.0	1637.0	114.5
	02/03/10	3.5	11.7	7.1	347.0	927.0	9.0
	03/08/10	9.2	1.4	7.2	-67.5	36.0	13.6
	04/13/10	**18.7**	**5.6**	**7.1**	**183.0**	**152.0**	**15.5**
	05/05/10	15.4	7.0	7.5	307.0	2.0	6.5
	06/09/10	NM	NM	NM	NM	NM	NM
	07/07/10	NM	NM	NM	NM	NM	NM

Notes:
BECO ROW = Boston Edison Company right-of-way
˚C = Degrees Celsius
mg/l = milligrams per liter
s.u. = standard units
mV = milliVolts
µS/cm = microSiemens per centimeter
NTU = Nephelometric Turbidity Units
NS = Not Sampled
NM = Not measured (eg. insufficient flow and/or due to equipment limitations)
ERR = Equipment error (e.g., ice buildup, sensor drift, stage below sensor(s), struck by debris, and/or buildup on sensor)
* = Barely discernible flow and limited flushing of water was observed; therefore, water quality parameters are not likely representative of baseflow conditions

Table 1c
Baseflow Water Quality Parameters for SW-01-TT (Halls Brook)
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

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Sample ID	Date	Temperature (˚C)	Dissolved Oxygen (mg/l)	pH (s.u.)	ORP (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)
Remedial Design "Early Action"							
SW-01-TT	08/21/08	17.3	8.3	7.1	250.2	832.3	9.1
	09/18/08	14.3	8.6	7.1	176.7	755.9	6.3
	10/09/08	15.1	7.5	6.9	169.7	899.5	15.6
	11/05/08	9.7	7.1	6.8	508.3	2774.0	27.5
	12/09/08	2.2	9.0	6.8	483.9	3056.0	47.3
	01/20/09	0.4	12.4	7.0	81.0	1362.0	24.7
	02/02/09	1.7	7.8	6.9	-287.4	1184.0	8.1
	03/18/09	7.1	ERR	ERR	10.3	ERR	44.5
	04/01/09	7.1	ERR	ERR	6.7	ERR	388.4
Surface Water Monitoring Plan							
SW-01-TT	04/17/09	13.0	15.7	6.9	34.0	965.5	3.7
	05/12/09	15.7	8.0	7.2	499.7	662.0	18.7
	06/02/09	16.2	8.7	7.7	93.7	923.0	49.8
	07/15/09	18.8	3.9	6.9	518.3	743.0	133.8
	08/05/09	20.9	ERR	6.7	470.9	800.0	ERR
	09/02/09	15.7	ERR	5.1	544.9	753.0	119.3
	10/15/09	7.5	5.6	7.3	390.0	793.0	5.1
	11/03/09	9.8	8.5	7.0	64.0	566.0	18.6
	12/02/09	6.3	12.3	7.1	254.0	747.0	3.6
	01/06/10	1.7	10.0	7.0	643.0	1177.0	7.3
	02/03/10	1.7	12.0	7.0	374.0	1018.0	9.0
	03/08/10	9.3	10.3	7.1	ERR	ERR	7.4
	04/13/10	12.7	10.3	7.1	352.0	777.0	3.3
	05/05/10	15.4	8.7	7.0	373.0	1053.0	3.9
	06/09/10	16.4	7.8	7.1	470.0	684.4	6.8
	07/07/10	25.1	8.1	7.2	256.0	838.4	3.8

Notes:
˚C = Degrees Celsius
mg/l = milligrams per liter
s.u. = standard units
mV = milliVolts
µS/cm = microSiemens per centimeter
NTU = Nephelometric Turbidity Units
ERR = Equipment error (e.g., ice buildup, sensor drift, stage below sensor(s), struck by debris, and/or buildup on sensor)

Table 1d
Baseflow Water Quality Parameters for SW-02-TT (HBHA Pond Outlet)
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

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Sample ID	Date	Temperature (˚C)	Dissolved Oxygen (mg/l)	pH (s.u.)	ORP (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)
Remedial Design "Early Action"							
SW-02-TT	08/21/08	23.7	7.4	6.8	264.5	880.3	6.2
	09/18/08	17.4	6.3	6.8	178.9	728.0	5.7
	10/09/08	16.5	7.9	6.8	192.2	888.2	5.4
	11/05/08	8.6	7.1	6.7	466.9	854.0	30.2
	12/09/08	1.7	10.3	6.5	504.2	780.0	13.5
	01/20/09	0.9	13.9	6.8	139.0	11.8	9.2
	02/02/09	1.2	NM	6.4	336.6	1176.0	14.8
	03/18/09	7.1	11.3	6.5	451.4	11.7	24.2
	04/01/09	7.1	10.0	6.5	479.3	948.0	16.8
Surface Water Monitoring Plan							
SW-02-TT	04/17/09	12.5	10.4	6.8	74.0	959.5	22.5
	05/12/09	14.8	7.6	6.7	480.8	800.0	30.1
	06/02/09	18.1	14.8	7.3	139.2	974.0	24.9
	07/15/09	21.1	4.4	6.3	489.0	781.0	62.4
	08/05/09	22.2	3.7	6.5	432.2	754.0	11.7
	09/02/09	19.8	5.3	6.5	505.6	672.0	123.5
	10/15/09	9.5	6.0	7.2	383.0	841.0	9.7
	11/03/09	12.5	7.0	6.7	54.0	579.0	31.3
	12/02/09	5.5	10.6	6.9	223.0	739.0	4.2
	01/06/10	1.9	7.4	6.8	522.0	1349.0	54.4
	02/03/10	1.8	10.9	6.8	376.0	1017.0	11.8
	03/08/10	7.7	8.8	6.7	256.9	837.0	12.3
	04/13/10	10.7	8.3	6.7	618.0	755.0	8.3
	05/05/10	17.2	5.8	6.6	464.6	909.0	77.9
	06/09/10	19.0	5.4	6.5	499.6	833.0	9.2
	07/07/10	27.8	6.5	6.6	334.6	1197.0	11.2

Notes:
HBHA = Halls Brook Holding Area
˚C = Degrees Celsius
mg/l = milligrams per liter
s.u. = standard units
mV = milliVolts
µS/cm = microSiemens per centimeter
NTU = Nephelometric Turbidity Units
NM = Not measured (e.g., insufficient flow and/or due to equipment limitations)
ERR = Equipment error (e.g., ice buildup, sensor drift, stage below sensor(s), struck by debris, and/or buildup on sensor)

Table 1e
Baseflow Water Quality Parameters for SW-04-TT (HBHA Wetland Outlet)
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

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Sample ID	Date	Temperature (˚C)	Dissolved Oxygen (mg/l)	pH (s.u.)	ORP (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)
Remedial Design "Early Action"							
SW-04-TT	08/21/08	20.2	9.8	6.8	224.0	883.1	8.4
	09/18/08	16.8	7.0	6.8	81.7	727.8	9.6
	10/09/08	18.0	8.0	6.8	138.4	920.0	8.1
	11/05/08	8.7	2.7	6.7	243.7	916.0	0.0
	12/09/08	1.4	8.8	6.0	350.9	778.0	0.0
	01/20/09	0.2	4.6	6.0	NM	1172.0	0.0
	02/02/09	0.8	4.5	8.0	335.5	1394.0	0.0
	03/18/09	10.6	14.2	7.8	222.8	1063.0	0.2
	04/01/09	6.8	10.7	7.8	226.0	844.0	0.0
Surface Water Monitoring Plan							
SW-04-TT	04/17/09	11.9	10.7	6.9	-10.0	1289.0	3.3
	05/12/09	19.4	11.7	6.8	286.0	570.0	7.5
	06/02/09	19.0	13.9	7.5	83.6	978.0	9.6
	07/15/09	23.2	7.6	6.9	387.2	781.0	21.4
	08/05/09	6.9	ERR	ERR	ERR	ERR	ERR
	09/02/09	6.9	ERR	ERR	19.4	18.0	472.7
	10/15/09	9.1	5.6	7.1	383.0	821.0	21.4
	11/03/09	12.2	8.6	6.8	64.0	572.0	5.3
	12/02/09	6.8	10.3	6.9	190.0	734.0	3.2
	01/06/10	2.2	9.1	6.8	493.0	1371.0	5.7
	02/03/10	1.9	11.0	6.8	362.0	1023.0	6.0
	03/08/10	9.1	10.1	6.9	486.7	933.1	6.4
	04/13/10	12.4	11.7	7.2	285.0	775.0	8.1
	05/05/10	21.1	8.5	7.4	326.9	995.0	30.1
	06/09/10	23.5	6.7	7.0	344.0	788.0	11.7
	07/07/10	35.6	10.0	7.6	259.0	1211.0	7.1

Notes:
HBHA = Halls Brook Holding Area
˚C = Degrees Celsius
mg/l = milligrams per liter
s.u. = standard units
mV = milliVolts
µS/cm = microSiemens per centimeter
NTU = Nephelometric Turbidity Units
NM = Not measured (eg. insufficient flow and/or due to equipment liminitations)
ERR = Equipment error (e.g., ice buildup, sensor drift, stage below sensor(s), struck by debris, and/or buildup on sensor)

Table 1f
Baseflow Water Quality Parameters for SW-03-TT (Aberjona)
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

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Sample ID	Date	Temperature (˚C)	Dissolved Oxygen (mg/l)	pH (s.u.)	ORP (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)
Surface Water Monitoring Plan							
SW-03-TT	04/17/09	13.5	11.1	6.6	36.0	967.8	7.8
	05/12/09	18.7	5.2	6.9	79.6	733.0	67.9
	06/02/09	16.9	5.8	7.5	31.8	1261.0	1257.0
	07/15/09	20.4	5.0	6.6	493.1	826.0	22.7
	08/05/09	22.1	3.0	6.7	494.8	708.0	ERR
	09/02/09	17.3	2.5	6.6	440.9	832.0	75.4
	10/15/09	8.4	4.8	7.1	383.0	944.0	2.9
	11/03/09	10.7	5.7	6.5	59.0	678.0	4.3
	12/02/09	7.0	9.0	6.9	184.0	873.0	2.3
	01/06/10	2.2	9.3	7.0	437.0	1329.0	3.1
	02/03/10	3.1	11.0	6.9	354.0	1263.0	4.9
	03/08/10	4.1	9.4	7.0	448.0	988.1	3.9
	04/13/10	11.3	9.9	6.9	340.0	868.0	11.6
	05/05/10	15.3	6.3	6.6	261.4	1056.0	11.7
	06/09/10	16.3	4.6	6.8	125.7	222.0	10.3
	07/07/10	29.2	7.7	6.1	99.6	1000.0	5.4

Notes:
˚C = Degrees Celsius
mg/l = milligrams per liter
s.u. = standard units
mV = milliVolts
µS/cm = microSiemens per centimeter
NTU = Nephelometric Turbidity Units
ERR = Equipment error (e.g., ice buildup, sensor drift, stage below sensor(s), struck by debris, and/or buildup on sensor)

Table 1g
Baseflow Water Quality Parameters for SW-05-TT (Salem Street)
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

DRAFT

Sample ID	Date	Temperature (˚C)	Dissolved Oxygen (mg/l)	pH (s.u.)	ORP (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)
Surface Water Monitoring Plan							
SW-05-TT	04/17/09	10.7	10.7	7.0	54.0	1154.0	5.1
	05/12/09	17.9	3.1	7.1	319.8	929.0	41.7
	06/02/09	18.9	12.3	7.6	135.1	1121.0	12.9
	07/15/09	20.5	9.2	6.8	429.6	1086.0	20.7
	08/05/09	22.7	0.4	6.7	472.2	936.0	10.3
	09/02/09	6.8	ERR	ERR	17.6	ERR	480.9
	10/15/09	8.4	5.5	7.2	370.0	927.0	5.7
	11/03/09	10.4	8.5	6.8	73.0	633.0	3.3
	12/02/09	6.3	10.2	6.8	237.0	838.0	3.0
	01/06/10	1.6	9.0	6.8	613.0	1432.0	9.3
	02/03/10	2.0	10.8	6.9	375.0	1173.0	6.6
	03/08/10	6.7	9.9	6.9	326.1	1137.0	9.4
	04/13/10	10.7	9.0	6.8	194.0	919.0	11.1
	05/05/10	16.3	8.3	6.9	152.4	1138.0	26.7
	06/09/10	18.4	4.0	6.7	281.0	1047.0	11.6
	07/07/10	27.4	4.1	7.1	365.8	1001.0	20.1

Notes:
˚C = Degrees Celsius
mg/l = milligrams per liter
s.u. = standard units
mV = milliVolts
µS/cm = microSiemens per centimeter
NTU = Nephelometric Turbidity Units
ERR = Equipment error (e.g., ice buildup, sensor drift, stage below sensor(s), struck by debris, and/or buildup on sensor)

Table 1h
Baseflow Water Quality Parameters for SW-06-TT (Montvale Avenue)
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

DRAFT

Sample ID	Date	Temperature (˚C)	Dissolved Oxygen (mg/l)	pH (s.u.)	ORP (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)
Surface Water Monitoring Plan							
SW-06-TT	04/17/09	8.7	10.5	7.0	145.0	1212.0	3.3
	05/12/09	14.6	14.3	6.8	420.4	723.2	17.2
	06/02/09	16.6	6.7	7.5	96.9	1120.0	32.6
	07/15/09	17.4	7.0	7.0	425.0	780.0	6.9
	08/05/09	25.1	7.6	7.0	382.5	824.0	0.0
	09/02/09	15.9	7.0	6.9	464.5	825.0	70.6
	10/15/09	7.1	5.7	7.3	372.0	924.0	3.6
	11/03/09	8.8	8.8	6.8	51.0	635.0	3.5
	12/02/09	5.3	12.9	6.8	258.0	875.0	3.3
	01/06/10	1.0	10.1	7.0	595.0	1411.0	5.6
	02/03/10	1.3	11.0	7.0	365.0	1191.0	18.8
	03/08/10	5.6	12.3	7.1	61.1	1033.0	4.8
	04/13/10	9.3	10.5	7.1	193.0	847.0	5.2
	05/05/10	14.8	4.0	6.9	450.6	993.0	25.6
	06/09/10	16.0	5.3	7.1	401.1	960.0	35.2
	07/07/10	24.4	3.5	7.0	394.3	1162.0	15.6

Notes:
˚C = Degrees Celsius
mg/l = milligrams per liter
s.u. = standard units
mV = milliVolts
µS/cm = microSiemens per centimeter
NTU = Nephelometric Turbidity Units

Table 1i
Baseflow Water Quality Parameters for SW-07-TT (Swanton Street)
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

DRAFT

Sample ID	Date	Temperature (˚C)	Dissolved Oxygen (mg/l)	pH (s.u.)	ORP (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)
Surface Water Monitoring Plan							
SW-07-TT	04/17/09	9.3	11.2	6.9	60.0	1145.0	2.6
	05/12/09	14.6	8.4	6.9	464.2	920.0	23.7
	06/02/09	16.8	7.5	7.9	54.8	1042.0	1.5
	07/15/09	17.8	6.5	6.9	466.6	1028.0	2.9
	08/05/09	21.5	4.8	7.0	522.7	908.0	4.2
	09/02/09	17.5	7.6	7.0	443.8	767.0	7.3
	10/15/09	7.8	5.5	7.1	372.0	891.0	3.2
	11/03/09	9.2	8.5	6.8	86.0	614.0	2.3
	12/02/09	5.4	11.7	6.9	338.0	844.0	1.8
	01/06/10	1.5	10.2	6.9	589.0	1198.0	5.1
	02/03/10	1.8	12.1	7.1	365.0	1109.0	4.6
	03/08/10	6.1	10.4	7.0	323.0	1052.0	4.5
	04/13/10	9.9	9.5	7.0	180.3	727.0	10.2
	05/05/10	15.6	4.1	6.8	279.9	948.0	26.3
	06/09/10	17.0	3.8	6.7	261.2	703.0	25.7
	07/07/10	23.8	4.5	6.8	413.8	1105.0	5.1

Notes:
˚C = Degrees Celsius
mg/l = milligrams per liter
s.u. = standard units
mV = milliVolts
µS/cm = microSiemens per centimeter
NTU = Nephelometric Turbidity Units
The specific conductance value recorded during the January 2010 baseflow sampling event was rejected following internal QA review; value shown was measured on January 14, 2010.

Table 1j
Baseflow Water Quality Parameters for SW-08-TT (USGS / Mystic Avenue)
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

DRAFT

Sample ID	Date	Temperature (˚C)	Dissolved Oxygen (mg/l)	pH (s.u.)	ORP (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)
Surface Water Monitoring Plan							
SW-08-TT	04/17/09	9.9	10.9	6.9	177.0	1074.0	5.2
	05/12/09	15.0	7.1	6.9	498.0	878.0	46.3
	06/02/09	16.6	9.3	8.4	63.4	970.0	33.3
	07/15/09	19.4	6.8	7.3	432.7	987.0	3.3
	08/05/09	23.0	6.2	7.1	436.4	902.0	7.7
	09/02/09	17.0	7.4	7.1	360.5	765.0	3.4
	10/15/09	8.6	5.7	7.0	370.0	834.0	3.3
	11/03/09	9.8	8.3	6.8	96.0	578.0	8.8
	12/02/09	5.9	12.0	6.9	352.0	799.0	1.5
	01/06/10	1.7	11.3	6.9	593.0	997.0	5.0
	02/03/10	2.0	12.3	7.1	360.0	972.0	0.4
	03/08/10	5.1	10.3	7.1	431.3	883.0	7.8
	04/13/10	10.7	10.3	7.4	261.0	610.0	5.2
	05/05/10	16.4	4.5	6.9	292.0	917.0	11.3
	06/09/10	17.5	5.4	7.0	130.0	712.8	22.9
	07/07/10	24.3	4.3	7.0	233.0	987.0	1.4

Notes:
USGS = United States Geological Survey
˚C = Degrees Celsius
mg/l = milligrams per liter
s.u. = standard units
mV = milliVolts
µS/cm = microSiemens per centimeter
NTU = Nephelometric Turbidity Units

Table 2a
Baseflow Laboratory Analytical Results for SW-2-IP (Atlantic Avenue Drainway)
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

DRAFT

Sample ID	Date	Flow (cfs)	Benzene (µg/l)	Total Arsenic (mg/l)	Dissolved Arsenic (mg/l)	Total Iron (mg/l)	Dissolved Iron (mg/l)	TSS (mg/l)	Ammonia (mg/l)	Nitrite (mg/l)	Nitrate (mg/l)	TKN (mg/l)	Total Organic Nitrogen (mg/l)
Groundwater & Surface Water Investigation Plan													
SW-2	08/29/00	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	10/05/00	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	04/05/01	NC	--	0.0098B	0.0068B	--	--	10.8	--	--	--	--	--
Remedial Design "Early Action"													
SW-2-IP	08/21/08	NM	0.5U	0.007	0.005U	--	--	5U	0.088	0.05J	0.24	0.4	0.31
	09/18/08	NM	0.5U	0.005U	0.005U	--	--	5U	0.075J	0.05U	0.15	0.47	0.47
	10/09/08	NM	0.5U	0.005U	0.005U	--	--	5U	0.0618J	0.034J	0.32	0.35	0.35
	11/05/08	0.02	0.5U	0.0028J	0.005U	--	--	5U	0.0623J	0.05U	0.4	0.86	0.86
	12/09/08	0.79	0.5U	0.003U	0.003U	--	--	5U	0.402	0.02U	0.52	0.71	0.31
	01/20/09	NM	0.5U	0.003U	0.003U	--	--	5U	1.74	0.05U	0.57	2	0.3U
	02/02/09	NM	0.5U	0.003U	0.003U	--	--	5U	1.13	0.044J	0.62	1.9	0.77
	03/18/09	1.57	0.5U	0.003U	0.003U	--	--	5U	0.328	0.05U	1.1	0.8	0.47
	04/01/09	0.24	0.5U	0.003U	0.003U	--	--	5U	0.403	0.05U	0.89	0.87	0.47
Surface Water Monitoring Plan													
SW-2-IP	04/17/09	1.34	0.5U	0.003U	0.003U	0.23	0.08	5U	0.0468J	0.05U	0.87	0.46U	0.46
	05/12/09	1.47	0.5U	0.003U	0.003U	0.59	0.037J	5U	0.103	0.05U	0.21	0.9U	0.8
	06/02/09	NM	0.5U	0.0023J	0.0025J	1.2	0.4	5U	0.088	0.05U	0.46	0.58	0.49
	07/15/09	0.45	0.5U	0.0023J	0.003	0.74	0.35	5U	0.091	0.14	0.32	0.44	0.35
	08/05/09	1.18	0.5U	0.003U	0.003U	1	0.46	5U	0.107	0.05U	0.25	0.47	0.36
	09/02/09	0.83	0.5U	0.0024J	0.0024J	0.54	0.19	5U	0.145	0.036J	0.14	0.43U	0.3U
	10/15/09	0.61	0.5U	0.003U	0.003U	0.32	0.15	5U	0.15U	0.05U	0.15	0.44	0.3U
	11/03/09	5.91	0.5U	0.003U	0.003U	0.37	0.16	5U	0.156	0.05U	0.3	0.45	0.3U
	12/02/09	0.05	0.5U	0.0022J	0.003U	0.49	0.16	5U	0.62	0.05U	0.55	0.73	0.3U
	01/06/10	0[†]	0.5U	0.003U	0.003U	1.2	0.18	5U	0.578	0.05U	0.73	0.84	0.26J
	02/03/10	0.79	0.5U	0.003U	0.003U	0.43	0.1	5U	0.357	0.05U	0.67	0.7	0.34
	03/08/10	0.29	0.5U	0.003U	0.003U	0.29	0.1	5U	0.258	0.05U	0.86	0.66	0.4
	04/13/10	1.02	0.5U	0.0028J	0.0021J	0.69J	0.046J	6.1	0.179	0.05U	0.83	1	0.82
	05/05/10	0.59	0.5U	0.003U	0.003U	0.67	0.3	5U	0.124	0.05U	1.3	0.61	0.49
	06/09/10	0.56	0.5U	0.003U	0.003U	0.92	0.39	42	0.0656J	0.034J	0.71	0.59	0.59
	07/07/10*	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Notes:
- Prior to the 12/02/09 baseflow event, flow was calculated based on stage and velocity measurements.
- Between the 12/02/09 and 03/08/10 baseflow events, flow was calculated based on the station-specific rating curve reported in the Quarterly Storm Flow Surface Water Monitoring Report No. 2.
- Flows are currently based on the station-specific rating curve reported in the Quarterly Storm Flow Surface Water Monitoring Report No. 5.

AAD = Atlantic Avenue Drainway
cfs = cubic feet per second
µg/l = micrograms per liter
mg/l = milligrams per liter
TSS = Total Suspended Solids
TKN = Total Kjeldahl Nitrogen
NS = Not sampled
-- = Sample not analyzed for this compound
NC = Not Calculated
B = For organic analytes, compound detected in laboratory blank; for inorganic analytes, analyte below reporting limit, but greater than or equal to 1/2 the laboratory detection limit (value is estimated)
U = Compound or sample not detected; value shown is reporting limit
J = Analyte concentration is below quantitation limit, but greater than or equal to 1/2 the laboratory detection limit. Value is estimated.
NM = Not measured (e.g., insufficient flow and/or due to equipment limitations)
[†] Based on the rating curve, flow was 0 cfs; however, Roux Associates observed flow at the time of sampling.
* = Not yet validated

Table 2b
Baseflow Laboratory Analytical Results for SW-3-IP (Boston Edison Co. ROW)
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

DRAFT

Sample ID	Date	Flow (cfs)	Benzene (µg/l)	Total Arsenic (mg/l)	Dissolved Arsenic (mg/l)	Total Iron (mg/l)	Dissolved Iron (mg/l)	TSS (mg/l)	Ammonia (mg/l)	Nitrite (mg/l)	Nitrate (mg/l)	TKN (mg/l)	Total Organic Nitrogen (mg/l)
Groundwater & Surface Water Investigation Plan													
SW-3	08/29/00	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	10/05/00	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	04/05/01	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Remedial Design "Early Action"													
SW-3-IP	08/21/08	NM	--	--	--	--	--	--	23.5	--	--	--	--
	09/18/08	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	10/09/08	NM	0.5U	0.0028J	0.0047J	--	--	84	12.3	0.15	1.1	13	0.7
	11/05/08	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/09/08	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	01/20/09	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	02/02/09	NM	0.43J	0.22	0.029	--	--	650	15.7	0.11	1.2	16	0.3
	03/18/09	0.15	3.5	0.144	0.029	--	--	93	22.6	0.036J	1.3	24	1.4
	04/01/09	0.02	3.2	0.087	0.055	--	--	35	25.5	0.034J	1.1	26	0.5
Surface Water Monitoring Plan													
SW-3-IP	04/17/09	0.09	1.3	0.419	0.037	39	2.6	1100	20.1	0.08	1.8	22	1.9
	05/12/09	0.05	0.5U	0.028	0.004	1.7	0.08	140	11.5	0.13	1.5	12	0.5
	06/02/09	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	07/15/09	0.06	0.5U	0.01	0.006	0.42	0.05	5U	14.3	0.22	1.1	14	0.3U
	08/05/09	0.04	0.5U	0.032	0.009	1.1	0.028J	5U	17.3	0.1	0.55	18	0.7
	09/02/09	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	10/15/09	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/03/09	NM	0.5U	0.014	0.012	1.3	0.98	5U	11.9	0.049J	0.83	12	0.3U
	12/02/09	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	01/06/10	0.09	2.8	0.094	0.079	6.3	6.2	10	29.5	0.044J	1.7	32	2.5
	02/03/10	NM	2	0.064	0.056	4.2	3.1	7.9	31	0.035J	1.2	30	0.3U
	03/08/10	0.32	1.8	0.049	0.049	3.2	2.7	5.3	29.9	0.06	0.99	30	0.3U
	04/13/10	0.08	3.4	0.064	0.057	3.4J	2.3	8.9	29.3	0.049J	1.1	30	0.7
	05/05/10	NM	0.5U	0.031	0.021	2	0.94	6.4	7.98	0.05	0.58	8.5	0.52
	06/09/10	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	07/07/10*	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Notes:
• Flows shown are estimated based on stage and velocity.

BECO ROW = Boston Edison Company right-of-way
cfs = cubic feet per second
µg/l = micrograms per liter
mg/l = milligrams per liter
TSS = Total Suspended Solids
TKN = Total Kjeldahl Nitrogen
NS = Not Sampled
-- = Sample not analyzed for this compound
U = Compound or sample not detected; value shown is reporting limit
J = Analyte concentration is below quantitation limit, but greater than or equal to 1/2 the laboratory detection limit. Value is estimated
NM = Not measured (e.g., insufficient flow and/or due to equipment limitations)
* = Not yet validated

Table 2c
Baseflow Laboratory Analytical Results for SW-01-TT (Halls Brook)
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

DRAFT

Sample ID	Date	Flow (cfs)	Benzene (µg/l)	Total Arsenic (mg/l)	Dissolved Arsenic (mg/l)	Total Iron (mg/l)	Dissolved Iron (mg/l)	TSS (mg/l)	Ammonia (mg/l)	Nitrite (mg/l)	Nitrate (mg/l)	TKN (mg/l)	Total Organic Nitrogen (mg/l)
Groundwater & Surface Water Investigation Plan													
SW-1	08/29/00	NC	--	0.0036J	0.0031U	--	--	8	--	--	--	--	--
	10/05/00	NC	--	0.0025U	0.0025U	--	--	5U	--	--	--	--	--
	04/05/01	NC	--	0.0035U	0.0035U	--	--	5U	--	--	--	--	--
Multiple Source Groundwater Response Plan													
SW-01-TT	07/14/01	NC	--	0.0037UJ	0.0012UJ	1.25	0.567	4.1	--	--	--	--	--
	08/23/01	NC	--	0.009U	0.0052U	1.1J	0.153J	6.8	--	--	--	--	--
	09/18/01	NC	--	0.0022J	0.0012U	0.457	0.134U	1.6J	--	--	--	--	--
	10/22/01	NC	--	0.003U	0.003U	0.378	0.218	4U	--	--	--	--	--
	11/19/01	NC	--	0.003U	0.003U	0.285J	0.114	1J	--	--	--	--	--
	12/17/01	NC	--	0.003U	0.0034J	0.591J	0.105J	10.4	--	--	--	--	--
	01/04/02	NC	--	0.003U	0.003U	0.847	0.22U	4	--	--	--	--	--
	02/15/02	NC	--	0.0024U	0.0024U	1.05	0.342	11J	--	--	--	--	--
	03/12/02	NC	--	0.0017U	0.0017U	0.725	0.395	2.4J	--	--	--	--	--
	04/17/02	NC	--	0.002U	0.002U	1.17J	0.499	5.7	--	--	--	--	--
	05/08/02	NC	--	0.002U	0.002U	1.16	0.538	3.4J	--	--	--	--	--
	06/20/02	NC	--	0.002U	0.002U	1.65	0.868	6.4J	--	--	--	--	--
	07/16/02	NC	--	0.0038	0.0013U	1.21	0.0742U	7.2	--	--	--	--	--
	08/06/02	NC	--	0.0032	0.0014J	0.915	0.075U	3.2J	--	--	--	--	--
	09/10/02	NC	--	0.0023UJ	0.0013U	0.732	0.105U	3.4J	--	--	--	--	--
	10/18/02	NC	--	0.0042J	0.003U	2.06	0.0818U	20.4	--	--	--	--	--
	10/25/02	NC	--	0.003U	0.003U	0.373	0.152	2UJ	--	--	--	--	--
Remedial Design "Early Action"													
SW-01-TT	08/21/08	NM	0.5U	0.005J	0.005J	--	--	5U	3.51	0.13	1.2	2.6	0.3U
	09/18/08	NM	0.5U	0.005U	0.005U	--	--	5U	3.13	0.06	1.1	3.7	0.57
	10/09/08	NM	0.5U	0.005U	0.005U	--	--	5U	3.98	0.08	1	4.8	0.82
	11/05/08	3.16	0.5U	0.005U	0.005U	--	--	6	2.58	0.04J	0.81	4	1.4
	12/09/08	5.70	0.5U	0.003U	0.003U	--	--	8.1	3.96	0.01J	7.6	5	1
	01/20/09	NM	0.5U	0.003U	0.003U	--	--	7.9	3.24	0.034J	1	3.6	0.36
	02/02/09	6.12	0.5U	0.003U	0.003U	--	--	5U	2.89	0.06	1.1	3.5	0.61
	03/18/09	8.19	0.5U	0.003U	0.003U	--	--	5U	2.75	0.05U	1.1	3.8	1
	04/01/09	7.89	0.5U	0.003U	0.003U	--	--	12	2.09	0.05U	0.86	3.2	1.1
Surface Water Monitoring Plan													
SW-01-TT	04/17/09	8.86	0.5U	0.005	0.003	0.92	0.26	5U	2.43	0.036J	1	3	0.57
	05/12/09	7.53	0.5U	0.002J	0.003U	1.3	0.5	5U	2.97	0.05	0.96	3.8	0.83
	06/02/09	4.19	0.5U	0.003	0.003U	0.76	0.23	5U	2.39	0.32	0.96	2.7	0.31
	07/15/09	0.81	0.5U	0.005	0.0025J	1.3	0.72	5U	3.34	0.13	0.99	3.9	0.56
	08/05/09	0.81	0.5U	0.0026J	0.003U	1.4	0.74	5U	2.99	0.07	1	3.7	0.71
	09/02/09	0.81	0.5U	0.0027J	0.0024J	0.57	0.28	5U	2.63	0.07	8.7	3.2	0.57
	10/15/09	0.81	0.5U	0.003U	0.003U	0.41	0.22	5U	3.58	0.05U	0.94	3.4	0.3U
	11/03/09	0.49	0.5U	0.003U	0.003U	0.64	0.38	5U	3.07	0.026J	0.79	3.8	0.73
	12/02/09	4.68	0.5U	0.003U	0.0022J	0.86	0.52	5U	2.78	0.05U	1.2J	3.6	0.82
	01/06/10	4.40	0.5U	0.0025J	0.003U	1	0.48	5.3	3.08	0.05U	1.1	3.8	0.72
	02/03/10	2.61	0.5U	0.003U	0.003U	1	0.44	5U	3.46	0.05U	1.1	4.2	0.74
	03/08/10	7.44	0.5U	0.003U	0.003U	0.65	0.34	5U	2.52	0.05U	0.95	2.9	0.38
	04/13/10	13.57	0.5U	0.0025J	0.003U	1.2J	0.58	5U	1.7	0.05U	0.92	2.2	0.5
	05/05/10	2.36	0.5U	0.003U	0.0023J	1.1	0.54	5U	1.98	0.05U	0.86	2.6	0.62
	06/09/10	1.15	0.5U	0.003U	0.003U	1.1	0.45	5U	1.25	0.09	1.3	1.7	0.45
	07/07/10*	0.49	0.5U	0.0025J	0.003U	1	0.36	5U	0.21	0.034J	1.1	0.7	0.49

Notes:
- Prior to the 12/02/09 baseflow event, flow was calculated based on the rating curves reported by TTNUS in the MSGRP RI Report.
- Between the 12/02/09 and 03/08/10 baseflow events, flow was calculated based on the station-specific rating curve reported in the Quarterly Storm Flow Surface Water Monitoring Report No. 2.
- Flows are currently based on the station-specific rating curve reported in the Quarterly Storm Flow Surface Water Monitoring Report No. 5.
- Due to equipment limitations (i.e., internal memory loss due to temperatures below operating range) the flow value shown on 02/03/10 was estimated based on stage observed on the staff gauge at the time of the baseflow sampling event.

cfs = cubic feet per second
µg/l = micrograms per liter
mg/l = milligrams per liter
TSS = Total Suspended Solids
TKN = Total Kjeldahl Nitrogen
NC = Not Calculated
-- = Sample not analyzed for this compound
J = Analyte concentration is below quantitation limit, but greater than or equal to 1/2 the laboratory detection limit. Value is estimated.
U = Compound or sample not detected; value shown is reporting limit
NM = Not measured (e.g., insufficient flow and/or due to equipment limitations)
* = Not yet validated

Table 2d
Baseflow Laboratory Analytical Results for SW-02-TT (HBHA Pond Outlet)
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

DRAFT

Sample ID	Date	Flow (cfs)	Benzene (µg/l)	Total Arsenic (mg/l)	Dissolved Arsenic (mg/l)	Total Iron (mg/l)	Dissolved Iron (mg/l)	TSS (mg/l)	Ammonia (mg/l)	Nitrite (mg/l)	Nitrate (mg/l)	TKN (mg/l)	Total Organic Nitrogen (mg/l)
Groundwater & Surface Water Investigation Plan													
SW-4	08/29/00	NC	--	0.0211	0.0031U	1.15	--	5U	--	--	--	--	--
	10/05/00	NC	--	0.0131	0.0025U	0.966	--	5U	--	--	--	--	--
	04/05/01	NC	--	0.0069J	0.0112J	1.05	--	5U	--	--	--	--	--
Multiple Source Groundwater Response Plan													
SW-02-TT	07/14/01	NC	--	0.0217	0.0096J	2.28	1.12	4.3	--	--	--	--	--
	08/23/01	NC	--	0.0209	0.0058U	1.6J	0.349	4.6	--	--	--	--	--
	09/18/01	NC	--	0.0173	0.0045	1.1	0.114U	5.6J	--	--	--	--	--
	10/22/01	NC	--	0.0312	0.0032J	2.23	0.159	5.6	--	--	--	--	--
	11/19/01	NC	--	0.0431	0.004J	3.51J	0.0472	12.8J	--	--	--	--	--
	12/17/01	NC	--	0.0235	0.0045J	2.82J	0.0992J	9.6	--	--	--	--	--
	01/04/02	NC	--	0.0118	0.0055J	1.53	0.193U	1.6	--	--	--	--	--
	02/15/02	NC	--	0.0119	0.005	1.79	0.309	4J	--	--	--	--	--
	03/12/02	NC	--	0.0205	0.0079	2.21	0.548	5.8J	--	--	--	--	--
	04/17/02	NC	--	0.0113	0.0061	1.41J	0.706	3.2	--	--	--	--	--
	05/08/02	NC	--	0.0122	0.008	1.66	0.952	3J	--	--	--	--	--
	06/20/02	NC	--	0.0136U	0.0065U	1.85	0.676	4.4J	--	--	--	--	--
	07/16/02	NC	--	0.0232	0.0031	1.84	0.042U	4.4	--	--	--	--	--
	08/06/02	NC	--	0.0281	0.0044	1.91	0.0509U	6.6J	--	--	--	--	--
	09/10/02	NC	--	0.0168	0.0024UJ	1.36	0.0407U	2.8J	--	--	--	--	--
	10/18/02	NC	--	0.0774	0.0083	6.52	0.297	23.6	--	--	--	--	--
	10/25/02	NC	--	0.0236	0.0054J	1.82	0.351	4UJ	--	--	--	--	--
Remedial Design "Early Action"													
SW-02-TT	08/21/08	NM	0.5U	0.029	0.006	--	--	5U	7.73	0.1	0.76	8.2	0.47
	09/18/08	NM	0.5U	0.021	0.005U	--	--	5U	6.01	0.08	0.82	6.8	0.79
	10/09/08	NM	0.5U	0.019	0.0048J	--	--	5U	5.39	0.07	0.81	6.2	0.81
	11/05/08	8.44	0.5U	0.02	0.005	--	--	5U	5.52J	0.05U	0.57	6.3	0.78
	12/09/08	5.49	0.34J	0.017	0.009	--	--	5U	5.51	0.01J	0.88	6	0.49
	01/20/09	NM	0.5U	0.009	0.004	--	--	5U	4.11	0.027J	0.99	4.6	0.49
	02/02/09	~5	0.28J	0.015	0.011	--	--	5U	3.93	0.07	0.98	4.4	0.47
	03/18/09	NM	0.9	0.015	0.01	--	--	5U	4.6	0.05U	0.96	5.6	1
	04/01/09	~6	0.7	0.014	0.007	--	--	5U	3.51	0.05U	0.79	4.7	1.2
Surface Water Monitoring Plan													
SW-02-TT	04/17/09	8.62	0.46J	0.015	0.006	1.4	0.2	5U	4.12	0.05U	1	5.9	1.8
	05/12/09	4.27	0.27J	0.017	0.006	1.9	0.33	5U	4.93	0.043J	0.7	5.6	0.67
	06/02/09	0.90	0.5U	0.018	0.008	1.4	0.06	5U	5.87	0.14	0.78	6.6	0.73
	07/15/09	2.10	0.5U	0.014	0.01	1.6	0.97	5U	3.69	0.07	0.82	4.6	0.91
	08/05/09	2.44	0.5U	0.009	0.007	1.7	0.84	5U	3.03	0.07	0.82	3.7	0.67
	09/02/09	0.91	0.5U	0.016	0.006	1.3	0.43	5U	4.94	0.05	0.49	5.4	0.46
	10/15/09	1.35	0.5U	0.016	0.006	1.2	0.28	5U	6.55	0.03J	0.62	7.4	0.85
	11/03/09	13.54	0.5U	0.018	0.01	1.4	0.63	5.7	5.03	0.05U	0.8	5.6	0.57
	12/02/09	7.26	0.41J	0.014	0.01	1.3	0.69	5U	3.65	0.05U	0.71	4.3	0.65
	01/06/10	8.45	0.5U	0.01	0.005	1.2	0.48	5U	3.35	0.05U	0.98	3.9	0.55
	02/03/10	7.26	0.5U	0.009	0.006	1.1	0.55	5U	3.23	0.05U	1	3.7	0.47
	03/08/10	9.74	0.25J	0.012	0.009	1.1	0.56	5U	3.86	0.05U	1.1	4.3	0.44
	04/13/10	8.34	0.5U	0.012	0.007	1.4J	0.64	5U	2.79	0.05U	0.86	3.3	0.51
	05/05/10	4.12	0.5U	0.013	0.006	1.2	0.36	5U	4.15	0.032J	0.88	4.8	0.65
	06/09/10	2.89	0.5U	0.016	0.01U	1.2	0.64	5U	8.17	0.08	0.75	8.6	0.43
	07/07/10*	1.11	0.5U	0.025	0.011	1.1	0.24	5U	15.8	0.07	0.67	16	0.3U

Notes:
- Prior to the 12/02/09 baseflow event, flow was calculated based on the rating curves reported by TTNUS in the MSGRP RI Report.
- Between the 12/02/09 and 03/08/10 baseflow events, flow was calculated based on the station-specific rating curve reported in the Quarterly Storm Flow Surface Water Monitoring Report No. 2.
- Flows are currently based on the station-specific rating curve reported in the Quarterly Storm Flow Surface Water Monitoring Report No. 5.

HBHA = Halls Brook Holding Area
cfs = cubic feet per second
µg/l = micrograms per liter
mg/l = milligrams per liter
TSS = Total Suspended Solids
TKN = Total Kjeldahl Nitrogen
NC = Not Calculated
-- = Sample not analyzed for this compound
U = Compound or sample not detected; value shown is reporting limit
J = Analyte concentration is below quantitation limit, but greater than or equal to 1/2 the laboratory detection limit. Value is estimated.
NM = Not measured (e.g., insufficient flow and/or due to equipment limitations)
* = Not yet validated

Table 2e
Baseflow Laboratory Analytical Results for SW-04-TT (HBHA Wetland Outlet)
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

DRAFT

Sample ID	Date	Flow (cfs)	Benzene (µg/l)	Total Arsenic (mg/l)	Dissolved Arsenic (mg/l)	Total Iron (mg/l)	Dissolved Iron (mg/l)	TSS (mg/l)	Ammonia (mg/l)	Nitrite (mg/l)	Nitrate (mg/l)	TKN (mg/l)	Total Organic Nitrogen (mg/l)
Groundwater & Surface Water Investigation Plan													
SW-9	08/29/00	NC	--	0.0235	0.0031U	2.77	--	8.5	--	--	--	--	--
	10/05/00	NC	--	0.0126	0.0123	1.54	--	5U	--	--	--	--	--
	04/05/01	NC	--	0.0035U	0.0038J	0.883	--	5U	--	--	--	--	--
Multiple Source Groundwater Response Plan													
SW-04-TT	07/14/01	NC	--	0.023	0.0101J	3.09	1.6	4.5	--	--	--	--	--
	08/23/01	NC	--	0.0501	0.014	6.14J	0.616	20.4	--	--	--	--	--
	09/18/01	NC	--	0.0246	0.005	3.3	0.14U	54.4J	--	--	--	--	--
	10/22/01	NC	--	0.0193	0.0031J	2.72	0.121	6.4	--	--	--	--	--
	11/19/01	NC	--	0.0649	0.005J	9.66J	0.0666	109J	--	--	--	--	--
	12/17/01	NC	--	0.171	0.0049J	27.9J	0.109J	85	--	--	--	--	--
	01/04/02	NC	--	0.0242	0.0044J	3.84	0.361	9	--	--	--	--	--
	02/15/02	NC	--	0.0251	0.0037J	3.9	0.409	8.2J	--	--	--	--	--
	03/12/02	NC	--	0.0166	0.006	2.1	0.626	4.8J	--	--	--	--	--
	04/17/02	NC	--	0.0135	0.0077U	1.88J	0.741	5.2	--	--	--	--	--
	05/08/02	NC	--	0.0086	0.0082	1.28	1.2	5.3J	--	--	--	--	--
	06/20/02	NC	--	0.0238	0.0093U	3.73	1.34	4J	--	--	--	--	--
	07/16/02	NC	--	0.0396	0.0062	4.52	0.0484U	12.6	--	--	--	--	--
	08/06/02	NC	--	0.0368	0.009	3.8	0.0791U	13.6J	--	--	--	--	--
	09/10/02	NC	--	0.0314	0.0052U	3.64	0.0356U	9.2J	--	--	--	--	--
	10/18/02	NC	--	0.0478	0.0141	4.6	1.14	15.6	--	--	--	--	--
	10/25/02	NC	--	0.0207	0.0045J	2.76	0.447	8.6J	--	--	--	--	--
Remedial Design "Early Action"													
SW-04-TT	08/21/08	NM	0.5U	0.025	0.007	--	--	5U	6.92	0.12	0.8	7.3	0.38
	09/18/08	NM	0.5U	0.022	0.005J	--	--	5U	5.29	0.09	0.8	5.7	0.41
	10/09/08	NM	0.5U	0.02	0.003J	--	--	5U	5.18	0.09	0.95	5.7	0.52
	11/05/08	NM	0.5U	0.018	0.006	--	--	5U	6.22J	0.047J	0.65	7.2	0.98
	12/09/08	5.80	0.5U	0.023	0.007	--	--	5U	5.36	0.01J	0.8	6	0.64
	01/20/09	6.41	0.5U	0.02	0.008	--	--	5.3	4.44	0.05U	0.94	5.1	0.66
	02/02/09	6.63	0.5U	0.013	0.008	--	--	5U	3.71	0.029J	0.92	4.4	0.69
	03/18/09	6.02	0.5U	0.012	0.005	--	--	5U	4.08	0.05U	0.95	5	0.92
	04/01/09	6.17	0.46J	0.012	0.006	--	--	5U	3.72	0.05U	0.74	4.5	0.78
Surface Water Monitoring Plan													
SW-04-TT	04/17/09	5.56	0.5U	0.016	0.006	--	--	5U	3.83	0.05U	0.96	4.6	0.77
	05/12/09	4.13	0.5U	0.018	0.004	--	--	5U	3.87	0.06	0.75	4.7	0.83
	06/02/09	3.42	0.5U	0.018	0.009	--	--	5U	5.12	0.049J	0.9	6	0.88
	07/15/09	4.37	0.5UJ	0.021	0.005	--	--	6	2.67	0.15	0.76	3.3	0.63
	08/05/09	4.47	0.5U	0.017	0.012	--	--	5U	2.27	0.22	1	2.8	0.53
	09/02/09	3.36	0.5U	0.012	0.007	--	--	5U	3.7	0.13	0.76	4	0.3
	10/15/09	3.06	0.5U	0.013	0.004	--	--	5U	6.06	0.027J	0.96	6.6	0.54
	11/03/09	2.78	0.5U	0.013	0.008	--	--	5U	4.23	0.026J	0.66	4.8	0.57
	12/02/09	3.77	0.26J	0.013	0.008	--	--	5U	3.83	0.05U	0.71	4.1	0.3U
	01/06/10	6.23	0.5U	0.023	0.007	--	--	5U	3.41	0.05U	0.95	4	0.59
	02/03/10	6.73	0.5U	0.009	0.005	--	--	5U	3	0.05U	1.1	3.5	0.5
	03/08/10	8.79	0.5U	0.009	0.008	--	--	5U	3.57	0.05U	1	3.9	0.33
	04/13/10	9.02	0.5U	0.013	0.007	--	--	5U	2.56	0.028J	0.89	3.2	0.64
	05/05/10	4.59	0.5U	0.015	0.008	--	--	5U	3.64	0.05	0.97	4.2	0.56
	06/09/10	2.55	0.5U	0.023	0.009U	--	--	6.6	6.25	0.11	0.6	6.7	0.45
	07/07/10*	1.03	0.5U	0.025	0.012	--	--	16	12.1	0.64	0.96	11	0.3U

Notes:

• Prior to the 12/02/09 baseflow event, flow was calculated based on the rating curves reported by TTNUS in the MSGRP RI Report; flows are currently based on the station-specific rating curve reported in the Quarterly Storm Flow Surface Water Monitoring Report No. 2.

• Due to damage to the "scissor-ring" mount for the Isco 750 area-velocity module sensor during the 03/13-16/10 storm event, the flow values shown on April 13, 2010, May 5, 2010, June 9, 2010 and July 7, 2010 were estimated based on stage observed on the staff gauge at the time of the respective baseflow sampling events.

HBHA = Halls Brook Holding Area
cfs = cubic feet per second
µg/l = micrograms per liter
mg/l = milligrams per liter
TSS = Total Suspended Solids
TKN = Total Kjeldahl Nitrogen
NC = Not Calculated
-- = Sample not analyzed for this compound
U = Compound or sample not detected; value shown is reporting limit
J = Analyte concentration is below quantitation limit, but greater than or equal to 1/2 the laboratory detection limit. Value is estimated.
NM = Not measured (e.g., Insufficient flow and/or due to equipment limitations)
* = Not yet validated

Table 2f
Baseflow Laboratory Analytical Results for SW-03-TT (Aberjona)
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

DRAFT

Sample ID	Date	Flow (cfs)	Benzene (µg/l)	Total Arsenic (mg/l)	Dissolved Arsenic (mg/l)	Total Iron (mg/l)	Dissolved Iron (mg/l)	TSS (mg/l)	Ammonia (mg/l)	Nitrite (mg/l)	Nitrate (mg/l)	TKN (mg/l)	Total Organic Nitrogen (mg/l)
Multiple Source Groundwater Response Plan													
SW-03-TT	07/14/01	NC	--	0.0129	0.0096J	1.94	1.12	3.6	--	--	--	--	--
	08/23/01	NC	--	0.0184	0.0104U	1.83J	0.568	3.6	--	--	--	--	--
	09/18/01	NC	--	0.0281	0.0179	3.13	1.46	6.4J	--	--	--	--	--
	10/22/01	NC	--	0.018	0.0136	2.13	0.985	4.8	--	--	--	--	--
	11/19/01	NC	--	0.032	0.0242	3.53J	2.43	10.4J	--	--	--	--	--
	12/17/01	NC	--	0.029	0.0224	3.32J	1.97	6	--	--	--	--	--
	01/04/02	NC	--	0.0278	0.019	3.42	2.11	10.6	--	--	--	--	--
	02/15/02	NC	--	0.0128	0.0118	1.63	1.14	1.4J	--	--	--	--	--
	03/12/02	NC	--	0.0066	0.0076	1.04	0.935	1.4J	--	--	--	--	--
	04/17/02	NC	--	0.0071U	0.0058U	1.16J	0.78	2.1	--	--	--	--	--
	05/08/02	NC	--	0.0135	0.0065	2.57	0.773	2J	--	--	--	--	--
	06/20/02	NC	--	0.0111U	0.0057U	1.82	0.778	4UJ	--	--	--	--	--
	07/16/02	NC	--	0.0246	0.0134	3.07	1.11	5.2	--	--	--	--	--
	08/06/02	NC	--	0.0325	0.0147	3.16	0.682	7J	--	--	--	--	--
	08/31/02	NC	--	0.0195	0.0037UJ	1.73	0.14U	8.8J	--	--	--	--	--
	09/10/02	NC	--	0.0348	0.0161	3.57	1.31	5.4J	--	--	--	--	--
	10/18/02	NC	--	0.0284	0.003U	3.14	0.0721U	17.2	--	--	--	--	--
	10/25/02	NC	--	0.0072	0.006	1.15	0.683	3J	--	--	--	--	--
Surface Water Monitoring Plan													
SW-03-TT	04/17/09	8.58	0.5U	0.006	0.004	--	--	5U	0.778	0.06	1.6	1.2	0.42
	05/12/09	8.15	0.5U	0.006	0.004	--	--	5U	0.905	0.13	1.3	1.6	0.7
	06/02/09	3.82	0.5U	0.008	0.006	--	--	5U	1.72	0.43	1.5	2.2	0.48
	07/15/09	0.85	0.5UJ	0.007	0.011	--	--	5U	0.837	0.38	2	0.83	0.3U
	08/05/09	3.63	0.5U	0.007	0.006	--	--	5U	0.572	0.24	2.3	1.2	0.63
	09/02/09	0.23	0.5U	0.006	0.005	--	--	5U	0.532	0.14	2	0.92U	0.39
	10/15/09	0.25	0.5U	0.005	0.006	--	--	5U	0.724	0.06	2.4	1.1	0.38
	11/03/09	0.23	0.5U	0.007	0.005	--	--	5U	0.804	0.097	2.5	1.3	0.5
	12/02/09	0.30	0.5U	0.006	0.005	--	--	5U	0.65	0.048J	8.9	1.4	0.75
	01/06/10	0.20	0.5U	0.007	0.006	--	--	5U	2.31	0.038J	1.3	2.7	0.39
	02/03/10	NM	0.5U	0.006	0.006	--	--	5U	1.69	0.025J	1.3	2	0.31
	03/08/10	0.46	0.5U	0.004	0.005	--	--	5U	1.02	0.05U	1.1	1.3	0.28J
	04/13/10	4.78	0.5U	0.003	0.004	--	--	5U	0.813	0.049J	1.1	1.2	0.39
	05/05/10	1.93	0.5U	0.009	0.007	--	--	5U	1.21	0.1	1.5	1.7	0.49
	06/09/10	1.15	0.5U	0.008	0.007U	--	--	5U	1.73	0.22	1.4	2.1	0.37
	07/07/10*	0.77	0.5U	0.022	0.004	--	--	7.8	1.46	0.42	2.5	1.8	0.34

Notes:
• Prior to the 03/08/10 baseflow event, flow was calculated based on the rating curves reported by TTNUS in the MSGRP RI Report; flows are currently based on the station-specific rating curve reported in the Quarterly Storm Flow Surface Water Monitoring Report No. 5.

cfs = cubic feet per second
µg/l = micrograms per liter
mg/l = milligrams per liter
TSS = Total Suspended Solids
TKN = Total Kjeldahl Nitrogen
NC = Not Calculated
-- = Sample not analyzed for this compound
J = Analyte concentration is below quantitation limit, but greater than or equal to 1/2 the laboratory detection limit. Value is estimated
U = Compound or sample not detected; value shown is reporting limit
NM = Not measured (e.g., insufficient flow and/or due to equipment limitations)
* = Not yet validated

Table 2g
Baseflow Laboratory Analytical Results for SW-05-TT (Salem Street)
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

DRAFT

Sample ID	Date	Flow (cfs)	Benzene (µg/l)	Total Arsenic (mg/l)	Dissolved Arsenic (mg/l)	Total Iron (mg/l)	Dissolved Iron (mg/l)	TSS (mg/l)	Ammonia (mg/l)	Nitrite (mg/l)	Nitrate (mg/l)	TKN (mg/l)	Total Organic Nitrogen (mg/l)
Multiple Source Groundwater Response Plan													
SW-05-TT	07/14/01	NC	--	0.0218	0.0114J	2.88	1.48	4.5	--	--	--	--	--
	08/23/01	NC	--	0.0261	0.013U	2.46J	0.522	2	--	--	--	--	--
	09/18/01	NC	--	0.0191	0.0043	2.27	0.254	6.4J	--	--	--	--	--
	10/22/01	NC	--	0.0197	0.0072	2.23	0.373	5.2	--	--	--	--	--
	11/19/01	NC	--	0.0238	0.0057J	3.05J	0.134	10J	--	--	--	--	--
	12/17/01	NC	--	0.0248	0.0102	2.93J	0.66	9.2	--	--	--	--	--
	01/04/02	NC	--	0.0195	0.0077	2.71	0.83	7.6	--	--	--	--	--
	02/15/02	NC	--	0.0142	0.0047J	2.04	0.489	5.4J	--	--	--	--	--
	03/12/02	NC	--	0.0091	0.0046	1.46	0.659	2.6J	--	--	--	--	--
	04/17/02	NC	--	0.0158	0.0064U	1.94J	0.511	7.3	--	--	--	--	--
	05/08/02	NC	--	0.013	0.0061	2.17	0.865	5.8J	--	--	--	--	--
	06/20/02	NC	--	0.0239	0.0072U	3.46	0.927	6.4J	--	--	--	--	--
	07/16/02	NC	--	0.028	0.0038	3.02	0.0238U	5.4	--	--	--	--	--
	08/06/02	NC	--	0.0241	0.0044	1.95	0.0089UJ	6.8J	--	--	--	--	--
	08/31/02	NC	--	0.0126	0.0025U	1.16	0.0884U	3J	--	--	--	--	--
	09/10/02	NC	--	0.0238	0.0052U	2.44	0.0087U	5.2J	--	--	--	--	--
	10/18/02	NC	--	0.012	0.003U	1.46	0.244	6.8	--	--	--	--	--
	10/25/02	NC	--	0.0143	0.0041J	2.15	0.657	5.6J	--	--	--	--	--
Surface Water Monitoring Plan													
SW-05-TT	04/17/09	48.55	0.5U	0.009	0.003	--	--	5U	2.09	0.048J	1.3	3.1	1
	05/12/09	48.94	0.5U	0.012	0.003	--	--	5U	2.18	0.08	1	2.7	0.52
	06/02/09	33.94	0.5U	0.014	0.006	--	--	5U	2.88	0.13J	1.2	3.6	0.72
	07/15/09	9.47	0.5UJ	0.011	0.006	--	--	5U	1.23	0.25	1.3	1.6	0.37
	08/05/09	10.07	0.5U	0.009	0.005	--	--	5U	0.366	0.2	2.1	1.1	0.73
	09/02/09	4.81	0.5U	0.008	0.005	--	--	5U	0.664	0.2	2	1.1U	0.44
	10/15/09	14.28	0.5U	0.008	0.003	--	--	5U	2.88	0.042J	1.9	3	0.3U
	11/03/09	19.28	0.5U	0.009	0.004	--	--	5U	2.24	0.046J	1.4	2.9	0.66
	12/02/09	24.62	0.5U	0.008	0.006	--	--	5U	2.16	0.031J	1.2	2.5	0.34
	01/06/10	NM	0.5U	0.017	0.006	--	--	15	2.74	0.05U	1.2	3.2	0.46
	02/03/10	26.46	0.5U	0.011	0.006	--	--	5U	2.18	0.05U	1.2	2.6	0.42
	03/08/10	58.50	0.5U	0.006	0.004	--	--	5U	2.1	0.05U	1.2	2.2	0.3U
	04/13/10	28.72	0.5U	0.007	0.004	--	--	5U	1.43	0.034J	1.1	1.8	0.37
	05/05/10	19.33	0.5U	0.014	0.008	--	--	5U	2.16	0.07	1.1	2.7	0.54
	06/09/10	7.45	0.5U	0.022	0.007U	--	--	7.8	3.47	0.14	1.1	4.2	0.73
	07/07/10*	3.58	0.5U	0.026	0.009	--	--	13	3.96	0.29	1.6	4.1	0.3U

Notes:
• Prior to the 05/05/10 baseflow event, flow was calculated based on the rating curves reported by TTNUS in the MSGRP RI Report; flows are currently based on the station-specific rating curve reported in the Quarterly Storm Flow Surface Water Monitoring Report No. 5.

cfs = cubic feet per second
µg/l = micrograms per liter
mg/l = milligrams per liter
TSS = Total Suspended Solids
TKN = Total Kjeldahl Nitrogen
NC = Not Calculated
-- = Sample not analyzed for this compound
J = Analyte concentration is below quantitation limit, but greater than or equal to 1/2 the laboratory detection limit. Value is estimated
U = Compound or sample not detected; value shown is reporting limit
NM = Not measured (e.g., insufficient flow and/or due to equipment limitations)
* = Not yet validated

Table 2h
Baseflow Laboratory Analytical Results for SW-06-TT (Montvale Avenue)
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

DRAFT

Sample ID	Date	Flow (cfs)	Benzene (µg/l)	Total Arsenic (mg/l)	Dissolved Arsenic (mg/l)	Total Iron (mg/l)	Dissolved Iron (mg/l)	TSS (mg/l)	Ammonia (mg/l)	Nitrite (mg/l)	Nitrate (mg/l)	TKN (mg/l)	Total Organic Nitrogen (mg/l)
Multiple Source Groundwater Response Plan													
SW-06-TT	07/14/01	NC	--	0.0147	0.0071J	2.05	0.961	4.2	--	--	--	--	--
	08/23/01	NC	--	0.015	0.008U	1.4J	0.355	4.8	--	--	--	--	--
	09/18/01	NC	--	0.0101	0.0029	1.08	0.14U	3.6J	--	--	--	--	--
	10/22/01	NC	--	0.0189	0.003U	2.6	0.355	15.6	--	--	--	--	--
	11/19/01	NC	--	0.018	0.003U	2.56J	0.11	6.4J	--	--	--	--	--
	12/17/01	NC	--	0.0112	0.0043J	1.3J	0.19J	3.6	--	--	--	--	--
	01/04/02	NC	--	0.01	0.003U	1.52	0.254U	3	--	--	--	--	--
	02/15/02	NC	--	0.0092	0.0029J	1.31	0.277	3.4J	--	--	--	--	--
	03/12/02	NC	--	0.0055	0.0021J	0.982	0.431	2.2J	--	--	--	--	--
	04/17/02	NC	--	0.0038	0.004U	0.359J	0.32	5.2	--	--	--	--	--
	05/08/02	NC	--	0.0066	0.004	1.35	0.5	4.6J	--	--	--	--	--
	06/20/02	NC	--	0.0148	0.0026UJ	2.18	0.588	4.4J	--	--	--	--	--
	07/16/02	NC	--	0.0133	0.0013U	1.51	0.0276U	5	--	--	--	--	--
	08/06/02	NC	--	0.0112	0.0028	1.01	0.0098UJ	3.3J	--	--	--	--	--
	09/10/02	NC	--	0.0084	0.0016UJ	1.11	0.0087U	3.2J	--	--	--	--	--
	10/18/02	NC	--	0.0255	0.0026J	3.4	0.378	27.8	--	--	--	--	--
	10/25/02	NC	--	0.0076	0.0033J	1.09	0.375	2UJ	--	--	--	--	--
Surface Water Monitoring Plan													
SW-06-TT	04/17/09	9.09	0.5U	0.008	0.005	--	--	5U	1.38	0.07	1.5	2.9	1.5
	05/12/09	13.25	0.5U	0.009	0.0027J	--	--	5U	1.43	0.08	1.3	2.7	1.3
	06/02/09	6.18	0.5U	0.01	0.004	--	--	5U	1.8	0.14	1.6	2.4	0.6
	07/15/09	3.74	0.5UJ	0.01	0.005	--	--	5U	0.591	0.2	1.6	1	0.41
	08/05/09	5.51	0.5U	0.009	0.0026J	--	--	5U	0.181	0.07	2	0.78	0.6
	09/02/09	0†	0.5U	0.005	0.004	--	--	5U	0.22	0.12	2	0.49U	0.3U
	10/15/09	1.44	0.5U	0.004	0.0023J	--	--	5U	1.73	0.041J	1.6	2	0.3U
	11/03/09	4.70	0.5U	0.006	0.0029J	--	--	5U	1.46	0.039J	1.5	1.9	0.44
	12/02/09	20.03	0.5U	0.004	0.005	--	--	5U	1.65	0.05U	1.3	1.5	0.3U
	01/06/10	11.80	0.5U	0.011	0.005	--	--	5.3	2.03	0.035J	1.3	2.3	0.27J
	02/03/10	12.67	0.5U	0.005	0.0025J	--	--	5U	1.59	0.05U	1.4	2	0.41
	03/08/10	25.83	0.5U	0.004	0.003U	--	--	5U	1.42	0.05U	1.3	1.7	0.28J
	04/13/10	0†	0.5U	0.006	0.004	--	--	5U	0.946	0.032J	1.2	1.3	0.35
	05/05/10	0†	0.5U	0.01	0.006	--	--	5U	1.26	0.06	1.3	1.9	0.64
	06/09/10	1.49	0.5U	0.012	0.005U	--	--	5U	2.08	0.22	1.4	2.6	0.52
	07/07/10*	2.70	0.5U	0.01	0.0028J	--	--	5.1	2.9	0.39	2.7	3	0.3U

Notes:

• Prior to the 05/05/10 baseflow event, flow was calculated based on the rating curves reported by TTNUS in the MSGRP RI Report; flows are currently based on the station-specific rating curve reported in the Quarterly Storm Flow Surface Water Monitoring Report No. 5.

cfs = cubic feet per second
µg/l = micrograms per liter
mg/l = milligrams per liter
TSS = Total Suspended Solids
TKN = Total Kjeldahl Nitrogen
NC = Not Calculated
-- = Sample not analyzed for this compound
J = Analyte concentration is below quantitation limit, but greater than or equal to 1/2 the laboratory detection limit. Value is estimated
U = Compound or sample not detected; value shown is reporting limit
† Based on TTNUS rating curve, flow was 0 cfs; however, Roux Associates observed flow at the time of sampling.
* = Not yet validated

Table 2i
Baseflow Laboratory Analytical Results for SW-07-TT (Swanton Street)
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

DRAFT

Sample ID	Date	Flow (cfs)	Benzene (µg/l)	Total Arsenic (mg/l)	Dissolved Arsenic (mg/l)	Total Iron (mg/l)	Dissolved Iron (mg/l)	TSS (mg/l)	Ammonia (mg/l)	Nitrite (mg/l)	Nitrate (mg/l)	TKN (mg/l)	Total Organic Nitrogen (mg/l)
Multiple Source Groundwater Response Plan													
SW-07-TT	07/14/01	NC	--	0.0094UJ	0.0045J	1.46	0.699	50	--	--	--	--	--
	08/23/01	NC	--	0.0109U	0.0047U	1.01J	0.254J	4.6	--	--	--	--	--
	09/18/01	NC	--	0.0063	0.0015J	1.02	0.139U	2.8J	--	--	--	--	--
	10/22/01	NC	--	0.0056J	0.003U	0.951	0.243	4U	--	--	--	--	--
	11/19/01	NC	--	0.0047J	0.003U	0.779J	0.143	1.2J	--	--	--	--	--
	12/17/01	NC	--	0.0053J	0.003U	1.06J	0.316J	3	--	--	--	--	--
	01/04/02	NC	--	0.0057J	0.003U	1.08	0.163U	2.4	--	--	--	--	--
	02/15/02	NC	--	0.0066	0.0024J	1.2	0.249	7.6J	--	--	--	--	--
	03/12/02	NC	--	0.0041	0.0017U	0.887	0.331	8.4J	--	--	--	--	--
	04/17/02	NC	--	0.0075	0.0037	1.21J	0.371	5.2	--	--	--	--	--
	05/08/02	NC	--	0.0061	0.0023J	1.24	0.394	7J	--	--	--	--	--
	06/20/02	NC	--	0.0105U	0.0034UJ	1.8	0.396	10J	--	--	--	--	--
	07/16/02	NC	--	0.0065	0.0013U	1.13	0.0229U	4	--	--	--	--	--
	08/06/02	NC	--	0.0083	0.0033	1.18	0.018U	3.5J	--	--	--	--	--
	08/31/02	NC	--	0.0048J	0.0025U	0.777	0.0495U	6J	--	--	--	--	--
	09/10/02	NC	--	0.0079U	0.0035U	1.05	0.0156UJ	2.2J	--	--	--	--	--
	10/18/02	NC	--	0.0112	0.0036J	1.66	0.224	5.4	--	--	--	--	--
	10/25/02	NC	--	0.0048J	0.003U	0.978	0.373	5.2J	--	--	--	--	--
Surface Water Monitoring Plan													
SW-07-TT	04/17/09	90.86	0.5U	0.005	0.002J	--	--	5U	0.787	0.05	1.7	1.2	0.41
	05/12/09	84.97	0.5U	0.008	0.0026J	--	--	5U	0.706	0.1	1.5	1.5	0.79
	06/02/09	73.67	0.5U	0.008	0.005	--	--	8	0.638	0.22	2	1.2	0.56
	07/15/09	29.81	0.5UJ	0.007	0.004	--	--	5U	0.263	0.13	1.8	0.81	0.55
	08/05/09	29.92	0.5U	0.005	0.004	--	--	5U	0.234	0.036J	2	1.2	0.97
	09/02/09	29.21	0.5U	0.004	0.003	--	--	5U	0.209	0.07	2	0.62U	0.41
	10/15/09	28.47	0.5U	0.003	0.003U	--	--	5U	1.03	0.09	1.9	1.3	0.3U
	11/03/09	30.32	0.5U	0.002J	0.003U	--	--	5U	0.863	0.06	1.8	1.4	0.54
	12/02/09	22.07	0.5U	0.004	0.003	--	--	5U	1.11	0.032J	1.6	1.6	0.49
	01/06/10	3.82	0.5U	0.006	0.0028J	--	--	5U	1.52	0.05U	1.5	1.7	0.18J
	02/03/10	44.17	0.5U	0.005	0.0021J	--	--	5U	1.13	0.05U	1.5	1.4	0.27J
	03/08/10	64.59	0.5U	0.003	0.003	--	--	5U	0.98	0.028J	1.5	1.2	0.22J
	04/13/10	3.87	0.5U	0.003	0.003U	--	--	5U	0.609	0.033J	1.2	0.91	0.3
	05/05/10	18.84	0.5U	0.008	0.005	--	--	5U	0.633	0.08	1.6	1.4	0.77
	06/09/10	19.90	0.5U	0.007	0.003U	--	--	7.3	0.882	0.28	1.9	1.6	0.72
	07/07/10*	18.23	0.5U	0.004	0.0024J	--	--	5U	0.501	0.19	3.4	0.84	0.34

Notes:
• Prior to the 05/05/10 baseflow event, flow was calculated shown are based on the rating curves reported by TTNUS in the MSGRP RI Report; flows are currently based on the station-specific rating curve reported in the Quarterly Storm Flow Surface Water Monitoring Report No. 5.

cfs = cubic feet per second
µg/l = micrograms per liter
mg/l = milligrams per liter
TSS = Total Suspended Solids
TKN = Total Kjeldahl Nitrogen
NC = Not Calculated
-- = Sample not analyzed for this compound
U = Compound or sample not detected; value shown is reporting limit
J = Analyte concentration is below quantitation limit, but greater than or equal to 1/2 the laboratory detection limit. Value is estimated
* = Not yet validated

Table 2j
Baseflow Laboratory Analytical Results for SW-08-TT (USGS / Mystic Avenue)
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

DRAFT

Sample ID	Date	Flow (cfs)	Benzene (µg/l)	Total Arsenic (mg/l)	Dissolved Arsenic (mg/l)	Total Iron (mg/l)	Dissolved Iron (mg/l)	TSS (mg/l)	Ammonia (mg/l)	Nitrite (mg/l)	Nitrate (mg/l)	TKN (mg/l)	Total Organic Nitrogen (mg/l)
Multiple Source Groundwater Response Plan													
SW-08-TT	07/14/01	NC	--	0.006UJ	0.0022J	1.36	0.558	6.1	--	--	--	--	--
	08/23/01	NC	--	0.0059U	0.005U	1J	0.258J	4.8	--	--	--	--	--
	09/18/01	NC	--	0.0047	0.0018J	0.696	0.234	3.8J	--	--	--	--	--
	10/22/01	NC	--	0.0026J	0.003U	0.758	0.256	4U	--	--	--	--	--
	11/19/01	NC	--	0.0054J	0.003U	1.57J	0.186	2.4J	--	--	--	--	--
	12/17/01	NC	--	0.0066J	0.003J	0.77J	0.19J	2J	--	--	--	--	--
	01/04/02	NC	--	0.0056J	0.003U	1.06	0.104U	9	--	--	--	--	--
	02/15/02	NC	--	0.0053J	0.0024U	0.95	0.209	3.1J	--	--	--	--	--
	03/12/02	NC	--	0.0025J	0.0017U	0.76	0.227	7J	--	--	--	--	--
	04/17/02	NC	--	0.0057	0.0032	1.02J	0.378	5.1	--	--	--	--	--
	05/08/02	NC	--	0.0034J	0.0016J	1.15	0.312	7.7J	--	--	--	--	--
	06/20/02	NC	--	0.0048U	0.0021UJ	1.19	0.272	4J	--	--	--	--	--
	07/16/02	NC	--	0.0052	0.0013U	1.06	0.0216U	3.3	--	--	--	--	--
	08/06/02	NC	--	0.0064	0.0021J	0.596	0.0206U	3.4J	--	--	--	--	--
	09/10/02	NC	--	0.003U	0.0013U	0.896	0.0087U	2.6J	--	--	--	--	--
	10/18/02	NC	--	0.003U	0.003U	1.52	0.469	179	--	--	--	--	--
	10/25/02	NC	--	0.003U	0.003U	0.868	0.34	2.5J	--	--	--	--	--
Surface Water Monitoring Plan													
SW-08-TT	04/17/09	206.90	0.5U	0.005	0.003U	--	--	6.5	0.48	0.05	1.4	0.96	0.48
	05/12/09	126.00	0.5U	0.005	0.003U	--	--	5U	0.42	0.09	1.3	1	0.58
	06/02/09	108.51	0.5U	0.007	0.0026J	--	--	5U	0.528	0.14	1.7	1.1	0.57
	07/15/09	143.70	0.5UJ	0.005	0.003	--	--	5U	0.186U	0.1	1.2	0.99	0.8
	08/05/09	142.17	0.5U	0.003	0.0023J	--	--	5U	0.203	.033J	1.3	0.77	0.57
	09/02/09	6.39	0.5U	0.005	0.003	--	--	5U	0.258	0.08	1.6	0.66U	0.4
	10/15/09	8.73	0.5U	0.0028J	0.003U	--	--	5U	0.743	0.07	1.5	1.3	0.56
	11/03/09	10.06	0.5U	0.0024J	0.003U	--	--	5U	0.8	0.048J	1.4	0.92	0.3U
	12/02/09	24.82	0.5U	0.005	0.003U	--	--	5U	0.869	0.033J	1.2	1.4	0.53
	01/06/10	53.64	0.5U	0.003	0.003U	--	--	5U	0.78	0.05U	0.98	0.8	0.3U
	02/03/10	46.73	0.5U	0.004	0.003U	--	--	5U	0.64	0.027J	1.4	1.2	0.56
	03/08/10	165.15	0.5U	0.0022J	0.003U	--	--	5U	0.567	0.025J	1.4	0.9	0.33
	04/13/10	96.13	0.5U	0.0028J	0.003U	--	--	5U	0.34	0.031J	1.1	0.66	0.32
	05/05/10	22.08	0.5U	0.004	0.0024J	--	--	5.3	0.446	0.07	1.5	1.2	0.75
	06/09/10	1.67	0.5U	0.006	0.004U	--	--	5U	0.915	0.19	1.5	1.4	0.48
	07/07/10*	6.40	0.5U	0.004	0.003U	--	--	8.5	0.32	0.11	2.3	0.59	0.3U

Notes:

• Prior to the 12/02/09 baseflow event, flow was calculated based on the rating curves reported by TTNUS in the MSGRP RI Report; flows are currently based on the station-specific rating curve reported in the Quarterly Storm Flow Surface Water Monitoring Report No. 2.

• Due to equipment power failure, the flow value shown on 05/05/10 and 06/09/10 was estimated based on stage observed on the staff gauge at the time of the baseflow sampling event.

USGS = United States Geologic Survey
cfs = cubic feet per second
µg/l = micrograms per liter
mg/l = milligrams per liter
TSS = Total Suspended Solids
TKN = Total Kjeldahl Nitrogen
NC = Not Calculated
-- = Sample not analyzed for this compound
U = Compound or sample not detected; value shown is reporting limit
J = Analyte concentration is below quantitation limit, but greater than or equal to 1/2 the laboratory detection limit. Value is estimated
* = Not yet validated

Table 3
Relative Surface Water and Groundwater Elevations at Time of Baseflow Sampling
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

Station ID	Station Description	Date[1]	Surface Water			Groundwater			Gradient
			Measuring Point[2] (ft)	Staff Gage Reading (ft)	Surface Water Elevation[3] (ft)	Measuring Point[4] (ft)	Depth to Water (ft)	Groundwater Elevation[3] (ft)	
SW-2-IP	AAD	05/12/09	92.34	0.49	92.83	95.16	3.50	91.66	Down
		06/02/09	92.34	0.02	92.36	95.16	4.09	91.07	Down
		07/15/09	92.34	0.50	92.84	95.16	3.45	91.71	Down
		08/05/09	92.34	0.60	92.94	95.16	3.41	91.75	Down
		09/02/09	92.34	0.55	92.89	95.16	3.46	91.70	Down
		10/15/09	92.34	0.54	92.88	95.16	3.64	91.52	Down
		11/03/09	92.34	0.54	92.88	95.16	3.36	91.80	Down
		12/02/09	92.34	0.54	92.88	95.16	3.33	91.83	Down
		01/06/10	92.34	0.60	92.94	95.16	3.61	91.55	Down
		02/03/10	92.34	0.58	92.92	95.16	3.57	91.59	Down
		03/08/10	92.34	0.53	92.87	95.16	3.21	91.95	Down
		04/13/10	92.34	0.56	92.90	96.06	3.21	92.85	Down
		05/05/10	92.34	0.50	92.84	96.06	3.71	92.35	Down
		06/09/10	92.34	0.47	92.81	96.06	3.90	92.16	Down
		07/07/10	92.34	NM	NA	96.06	5.25	90.81	NA
SW-3-IP	BECO ROW	05/12/09	93.74	0.23	93.97	97.76	2.81	94.95	Up
		06/02/09	93.74	NM	NA	97.76	3.20	94.56	NA
		07/15/09	93.66	0.10	93.76	97.76	2.78	94.98	Up
		08/05/09	93.66	NM	NA	97.76	2.68	95.08	NA
		09/02/09	93.66	NM	NA	97.76	3.81	93.95	NA
		10/15/09	93.66	NM	NA	97.76	2.77	94.99	NA
		11/03/09	93.66	NM	NA	97.76	2.60	95.16	NA
		12/02/09	93.66	NM	NA	97.76	2.42	95.34	NA
		01/06/10	93.66	0.22	93.88	97.76	2.45	95.31	Up
		02/03/10	93.66	NM	NA	97.76	2.51	95.25	NA
		03/08/10	93.66	0.18	93.84	97.76	2.36	95.40	Up
		04/13/10	93.66	0.36	94.02	96.50	2.34	94.16	Up
		05/05/10	93.66	NM	NA	96.50	2.62	93.88	NA
		06/09/10	93.66	NM	NA	96.50	NM	NA	NA
		07/07/10	93.66	NM	NA	96.50	3.17	93.33	NA
SW-01-TT	Halls Brook	05/12/09	92.98	1.16	94.14	96.87	5.64	91.23	Down
		06/02/09	92.98	0.98	93.96	96.87	5.89	90.98	Down
		07/15/09	92.92	1.10	94.02	96.87	5.51	91.36	Down
		08/05/09	92.92	1.21	94.13	96.87	5.42	91.45	Down
		09/24/09	92.92	1.00	93.92	96.87	5.65	91.22	Down
		10/15/09	92.92	1.02	93.94	96.87	5.54	91.33	Down
		11/03/09	92.92	1.09	94.01	96.87	5.49	91.38	Down
		12/02/09	92.98	1.24	94.22	96.87	5.56	91.31	Down
		01/06/10	92.98	1.21	94.19	96.87	5.55	91.32	Down
		02/03/10	92.98	1.24	94.22	96.87	5.58	91.29	Down
		03/08/10	92.99	1.38	94.37	96.87	5.21	91.66	Down
		04/13/10	92.99	1.36	94.35	96.81	5.11	91.70	Down
		05/05/10	92.99	1.10	94.09	96.81	5.65	91.16	Down
		06/09/10	92.99	0.92	93.91	96.81	5.79	91.02	Down
		07/22/10	92.99	0.86	93.85	96.81	5.89	90.92	Down
SW-02-TT	HBHA Pond Outlet	05/12/09	92.00	1.03	93.03	98.11	NM	NA	NA
		06/02/09	92.00	0.78	92.78	98.11	5.20	92.91	Up
		07/15/09	97.77	1.05	98.82	103.88	4.95	98.93	Up
		08/05/09	97.77	1.20	98.97	103.88	5.91	97.97	Down
		09/02/09	97.77	0.86	98.63	103.88	5.19	98.69	Up
		10/15/09	97.77	1.04	98.81	103.88	4.95	98.93	Up
		11/03/09	97.77	1.20	98.97	103.88	4.77	99.11	Up
		12/02/09	97.77	1.38	99.15	103.88	4.59	99.29	Up
		01/06/10	97.77	1.37	99.14	103.88	4.59	99.29	Up
		02/18/10	97.77	1.18	98.95	103.88	4.81	99.07	Up
		03/08/10	97.77	1.42	99.19	103.88	4.52	99.36	Up
		04/13/10	97.77	1.48	99.25	103.76	4.49	99.27	Up
		05/05/10	97.77	1.97	99.74	103.76	5.90	97.86	Down
		06/09/10	97.77	0.90	98.67	103.76	5.09	98.67	Even
		07/07/10	97.77	0.68	98.45	103.76	5.33	98.43	Down
SW-03-TT	Aberjona	05/12/09	93.46	0.66	94.12	97.41	3.13	94.28	Up
		06/02/09	93.46	0.45	93.91	97.41	3.32	94.09	Up
		07/15/09	93.46	0.62	94.08	97.41	3.13	94.28	Up
		08/05/09	93.46	0.76	94.22	97.41	3.10	94.31	Up
		09/02/09	93.46	0.55	94.01	97.41	3.20	94.21	Up
		10/15/09	93.46	0.60	94.06	97.41	3.25	94.16	Up
		11/03/09	93.46	0.62	94.08	97.41	3.16	94.25	Up
		12/02/09	93.46	0.73	94.19	97.41	3.02	94.39	Up
		01/06/10	93.46	0.70	94.16	97.41	3.07	94.34	Up
		02/03/10	93.32	0.70	94.02	97.41	3.06	94.35	Up
		03/08/10	93.32	0.97	94.29	97.41	2.18	95.23	Up
		04/13/10	93.32	0.94	94.26	97.31	2.81	94.50	Up
		05/05/10	93.32	0.56	93.88	97.31	3.17	94.14	Up
		06/09/10	93.32	0.49	93.81	97.31	3.27	94.04	Up
		07/07/10	93.32	0.24	93.56	97.31	3.53	93.78	Up

Table 3
Relative Surface Water and Groundwater Elevations at Time of Baseflow Sampling
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

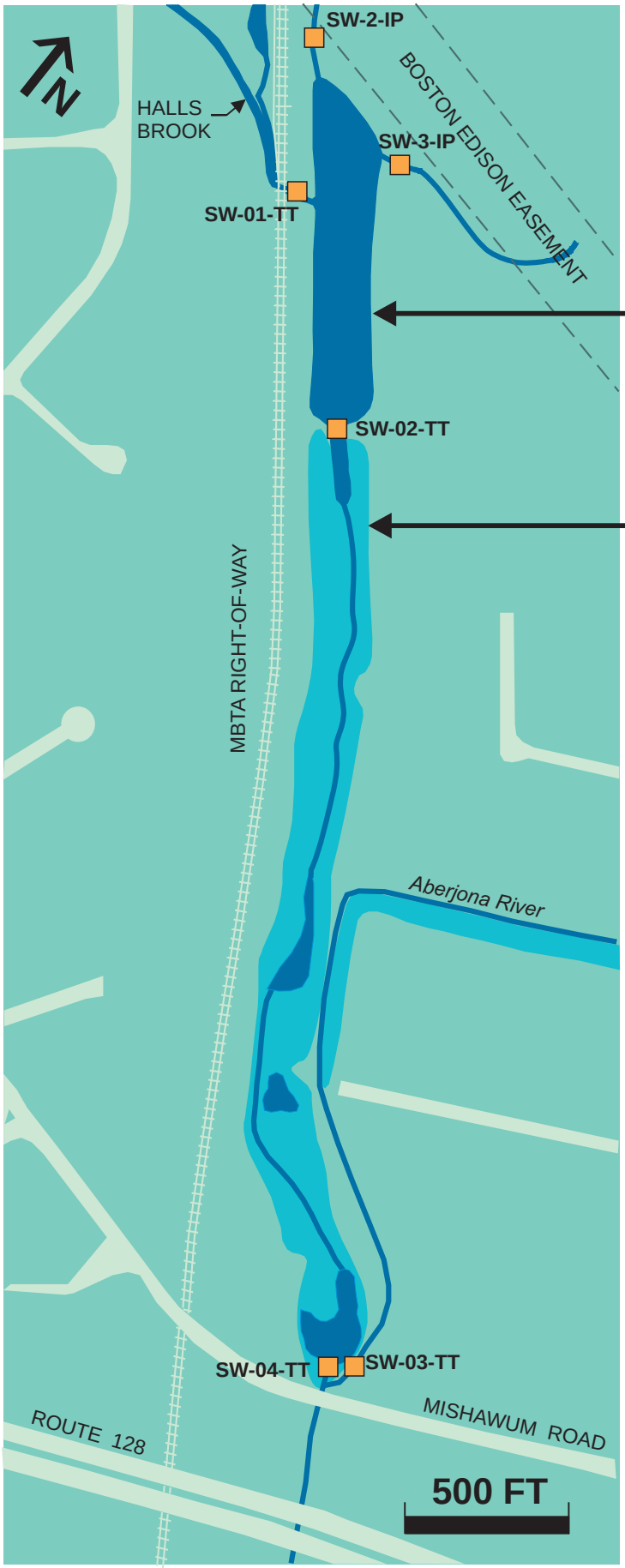
Station ID	Station Description	Date[1]	Surface Water			Groundwater			Gradient
			Measuring Point[2] (ft)	Staff Gage Reading (ft)	Surface Water Elevation[3] (ft)	Measuring Point[4] (ft)	Depth to Water (ft)	Groundwater Elevation[3] (ft)	
SW-05-TT	Salem Street	05/12/09	93.98	1.45	95.43	98.23	2.71	95.52	Up
		06/02/09	90.89	0.64	91.53	98.23	2.91	95.32	Up
		07/15/09	94.16	1.26	95.42	98.23	2.82	95.41	Down
		08/05/09	94.16	1.32	95.48	98.23	2.79	95.44	Down
		09/02/09	94.16	1.18	95.34	98.23	2.91	95.32	Down
		10/15/09	93.98	1.51	95.49	98.23	2.82	95.41	Down
		11/03/09	93.98	1.59	95.57	98.23	2.45	95.78	Up
		12/02/09	93.98	1.70	95.68	98.23	2.66	95.57	Down
		01/06/10	93.96	1.69	95.65	98.23	1.70	96.53	Up
		02/03/10	93.96	1.66	95.62	98.23	2.69	95.54	Down
		03/08/10	93.96	NM	NA	98.23	2.48	95.75	NA
		04/13/10	94.54	1.04	95.58	98.24	2.59	95.65	Up
		05/05/10	94.54	0.76	95.30	98.24	2.87	95.37	Up
		06/09/10	94.54	0.67	95.21	98.24	3.05	95.19	Down
		07/07/10	94.54	0.36	94.90	98.24	3.39	94.85	Down
SW-06-TT	Montvale Avenue	05/12/09	93.22	1.88	95.10	98.48	3.51	94.97	Down
		06/02/09	93.22	1.58	94.80	98.48	4.07	94.41	Down
		07/15/09	92.76	1.60	94.36	98.48	3.92	94.56	Up
		08/05/09	92.76	1.82	94.58	98.48	3.85	94.63	Up
		09/02/09	92.76	1.58	94.34	98.48	4.01	94.47	Up
		10/15/09	92.76	1.94	94.70	98.48	4.09	94.39	Down
		11/03/09	92.76	2.10	94.86	98.48	3.88	94.60	Down
		12/02/09	92.27	2.38	94.65	98.48	3.71	94.77	Up
		01/21/10	92.27	2.48	94.75	98.48	3.57	94.91	Up
		02/18/10	92.32	2.10	94.42	98.48	3.89	94.59	Up
		03/08/10	92.26	2.75	95.01	98.48	3.29	95.19	Up
		04/13/10	92.21	2.66	94.87	98.45	3.41	95.04	Up
		05/05/10	92.21	2.27	94.48	98.45	3.79	94.66	Up
		06/09/10	92.21	2.00	94.21	98.45	4.09	94.36	Up
		07/07/10	92.21	1.77	93.98	98.45	4.36	94.09	Up
SW-07-TT	Swanton Street	05/12/09	90.03	1.14	91.17	93.87	2.42	91.45	Up
		06/02/09	90.03	1.00	91.03	93.87	2.52	91.35	Up
		07/15/09	90.03	1.15	91.18	93.87	2.49	91.38	Up
		08/05/09	90.11	1.12	91.23	93.87	2.43	91.44	Up
		09/02/09	90.11	1.00	91.11	93.87	2.50	91.37	Up
		10/15/09	90.11	1.05	91.16	93.87	2.45	91.42	Up
		11/03/09	90.11	1.09	91.20	93.87	2.37	91.50	Up
		12/02/09	90.11	1.07	91.18	93.87	2.35	91.52	Up
		01/06/10	90.11	1.14	91.25	93.87	NM	NA	NA
		02/03/10	90.11	1.18	91.29	93.87	2.40	91.47	Up
		03/08/10	90.11	1.28	91.39	93.87	1.18	92.69	Up
		04/13/10	90.11	1.38	91.49	93.85	1.95	91.90	Up
		05/05/10	90.11	0.96	91.07	93.85	2.40	91.45	Up
		06/09/10	90.11	0.99	91.10	93.85	2.40	91.45	Up
		07/07/10	90.11	0.94	91.05	93.85	2.57	91.28	Up
SW-08-TT	USGS / Mystic Avenue	05/12/09	89.49	2.84	92.33	95.28	3.36	91.92	Down
		06/02/09	89.49	2.58	92.07	95.28	3.60	91.68	Down
		07/15/09	89.49	2.84	92.33	95.28	3.33	91.95	Down
		08/05/09	89.44	2.99	92.43	95.28	3.29	91.99	Down
		09/24/09	81.29	10.40	91.69	95.28	3.58	91.70	Up
		10/15/09	81.29	10.65	91.94	95.28	3.46	91.82	Down
		11/03/09	81.29	10.72	92.01	95.28	3.66	91.62	Down
		12/23/09	81.29	11.00	92.29	95.28	2.18	93.10	Up
		01/06/10	81.29	11.13	92.42	95.28	3.16	92.12	Down
		02/03/10	81.29	10.95	92.24	95.28	3.27	92.01	Down
		03/08/10	81.29	14.20	95.49	95.28	2.95	92.33	Down
		04/13/10	81.29	11.30	92.59	95.29	2.85	92.44	Down
		05/05/10	81.29	10.98	92.27	95.29	3.38	91.91	Down
		06/25/10	81.29	10.45	91.74	95.29	3.74	91.55	Down
		07/07/10	81.29	10.30	91.59	95.29	3.83	91.46	Down

Notes:

1 Relative surface water and groundwater elevations were recorded during baseflow sampling event.
2 Reference point is base of gauge (0.00 feet)
3 All elevations are relative to station-specific benchmarks and, therefore, are not comparable between stations.
4 Reference point is top of casing

AAD = Atlantic Avenue Drainway
BECO ROW = Boston Edison Company right-of-way
HBHA = Halls Brook Holding Area
USGS = United States Geological Survey
NA = Not Applicable
NM = Not Measured (e.g., unable to access due to high stage, water frozen in piezometer, staff gauge knocked over). During the July 2009 storm events, staff gauges that were knocked over were unable to be reset prior to the subsequent storm, and therefore measurements were not obtained.
Unk. = Unknown Value

FIGURES



LEGEND

SW-01-TT ■ APPROXIMATE LOCATION AND DESIGNATION OF SURFACE WATER MONITORING STATION

DRAFT

Title:

SURFACE WATER MONITORING STATIONS NORTH OF ROUTE 128

Prepared for:

INDUSTRI-PLEX OU 2 SETTLING DEFENDANTS

ROUX ASSOCIATES INC. *Environmental consulting & Management*	Compiled by: LM	Date: 7/10/09		FIGURE
	Prepared by: CRS	Scale: AS SHOWN		1
	Project Mgr.: LM	Office: MA		
	File No.: IPS0114202	Project No.: 119407M07		

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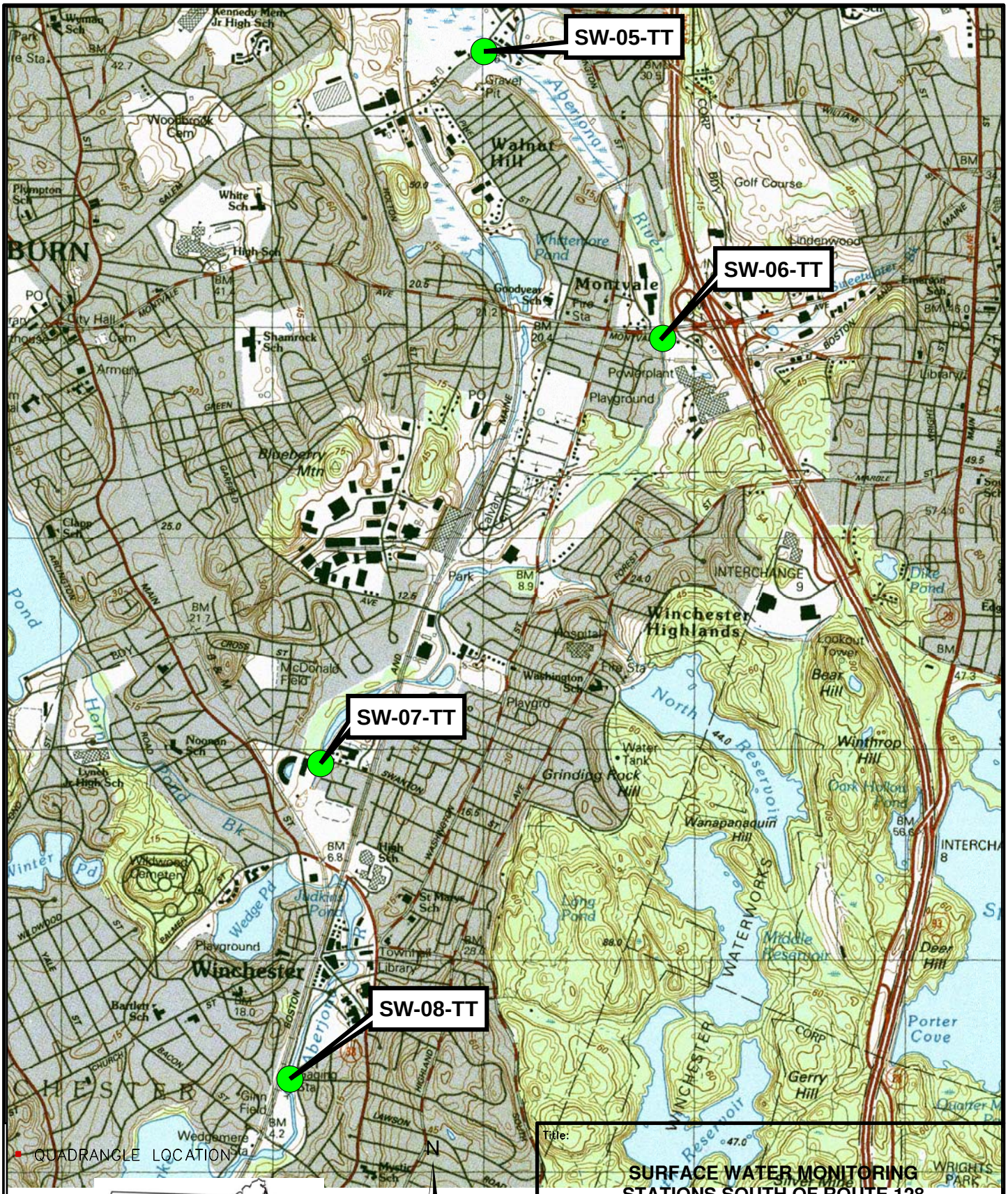
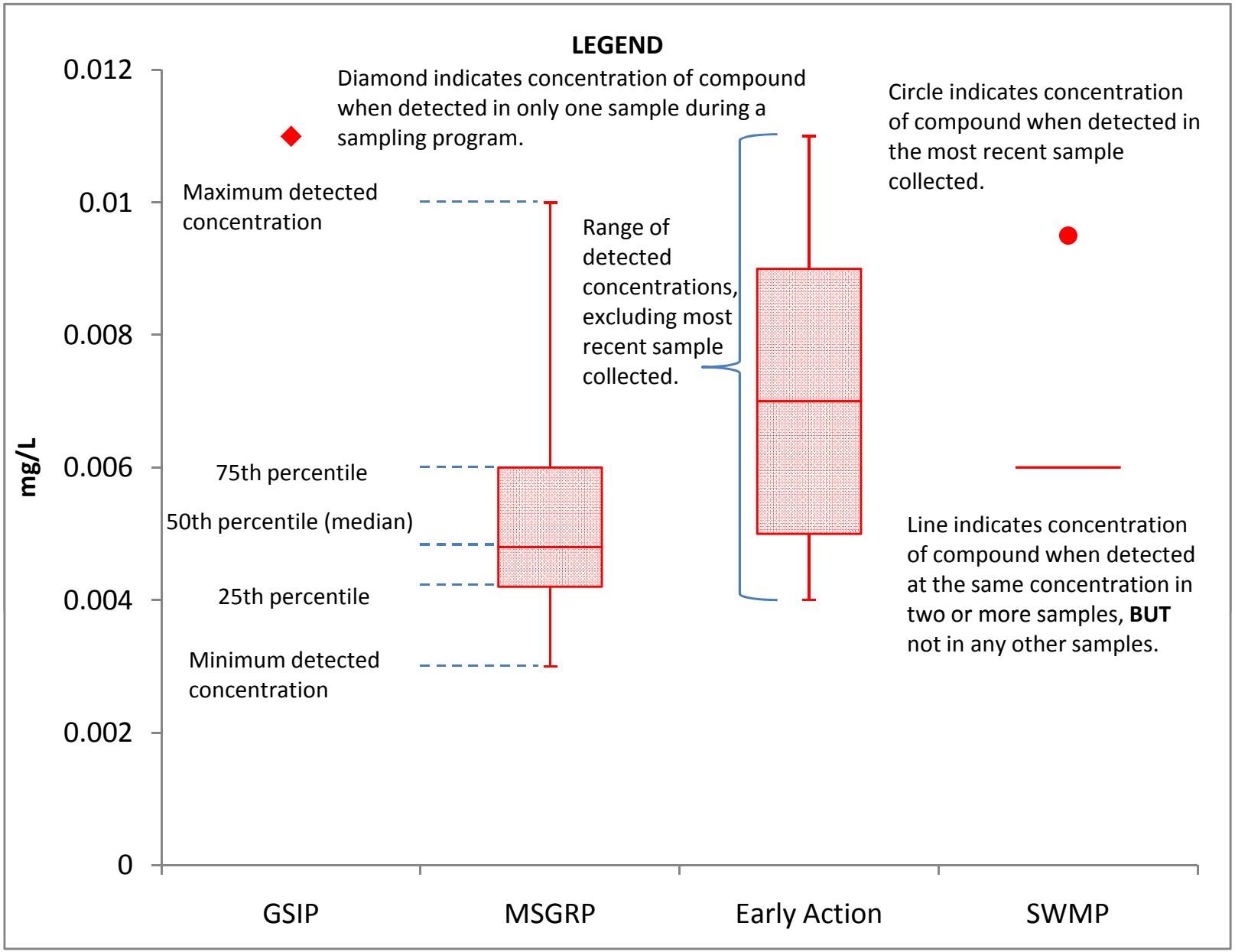

SW-05-TT
SW-06-TT
SW-07-TT
SW-08-TT
Walnut Hill
Montvale
Winchester Highlands
Winchester
Grinding Rock Hill
Wanapanaquin Hill
Winthrop Hill
Bear Hill
Deer Hill
Gerry Hill
Porter Cove
Blueberry Mtn
Golf Course
Playground
Powerplant
Whitemore Pond
Aberjona River
North Reservoir
Middle Reservoir
Long Pond
Judkins Pond
Wedge Pd
Winter Pd
Horn Pond
Dike Pond
Dark Hollow Pond
Silver Mine
Wildwood Cemetery
McDonald Field
Ginn Field
Wedgemere Sta
Hospital
Fire Sta
Water Tank
Lookout Tower
Library
Townhall
Park
INTERCHANGE 9
INTERCHANGE 8
WINCHESTER WATERWORKS
WRIGHTS PARK
BURN
CHESTER
QUADRANGLE LOCATION
MA
N
DRAFT
0 1,000 2,000 Feet
SOURCE:
USGS, 1987.
Reading (Massachusetts) Quadrangle
1:25,000-scale Topographic Map
Title:
SURFACE WATER MONITORING STATIONS SOUTH OF ROUTE 128
Prepared For:
INDUSTRI-PLEX OU 2 SETTLING DEFENDANTS
ROUX
ROUX ASSOCIATES, INC.
Environmental Consulting & Management
Compiled By: LM
Prepared By: CRS
Project Mgr.: LM
File No.: IPS0114201
Date: 7/10/09
Scale: AS SHOWN
Office: MA
Project: 119401M
FIGURE 2
T:\GIS\I-PLEX\IPS0114201.mxd

APPENDICES

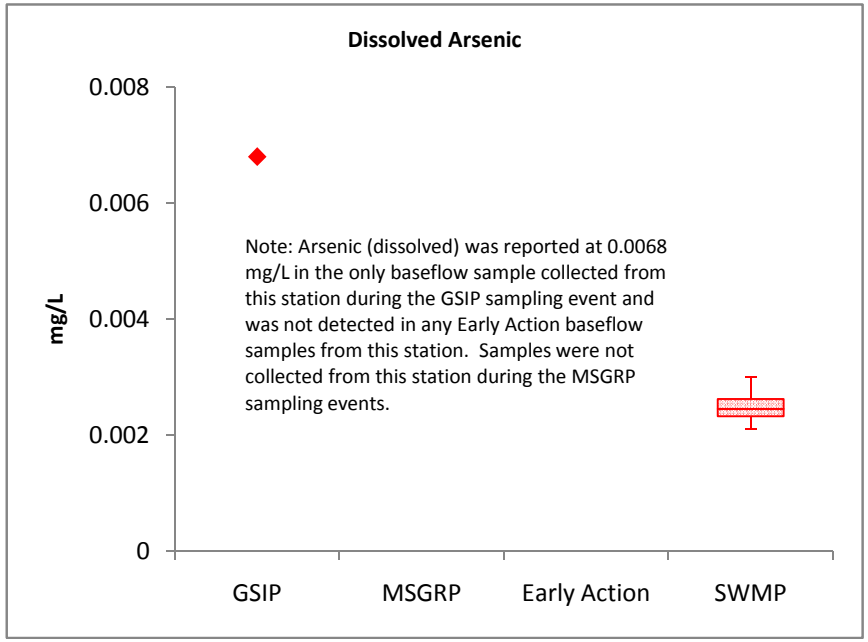
APPENDIX A

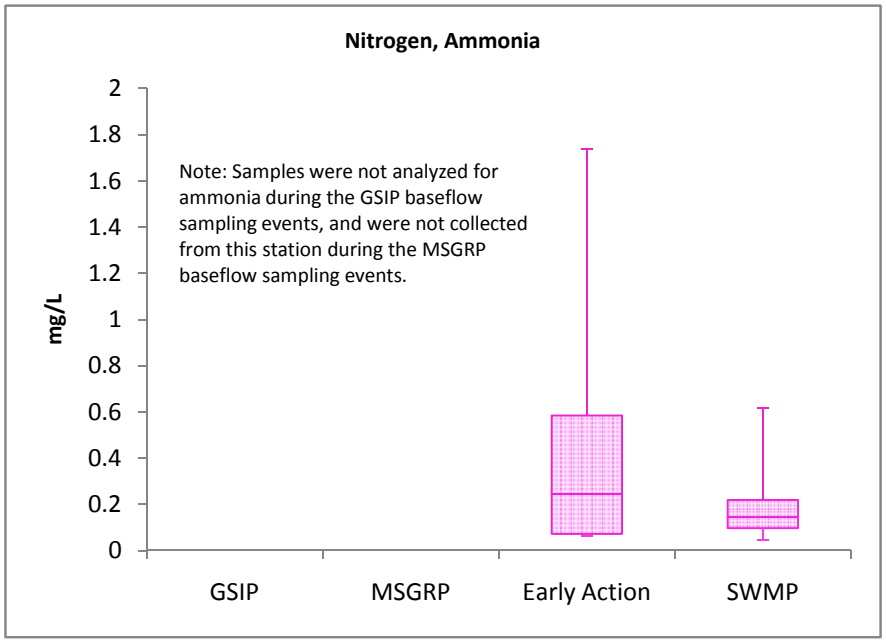
Baseflow Sampling Box-Whisker Plots

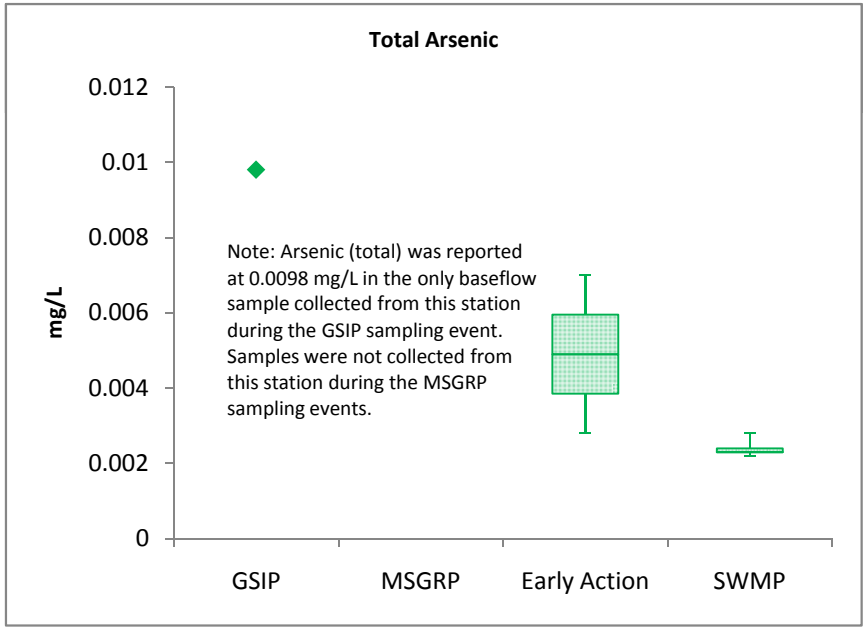
DRAFT

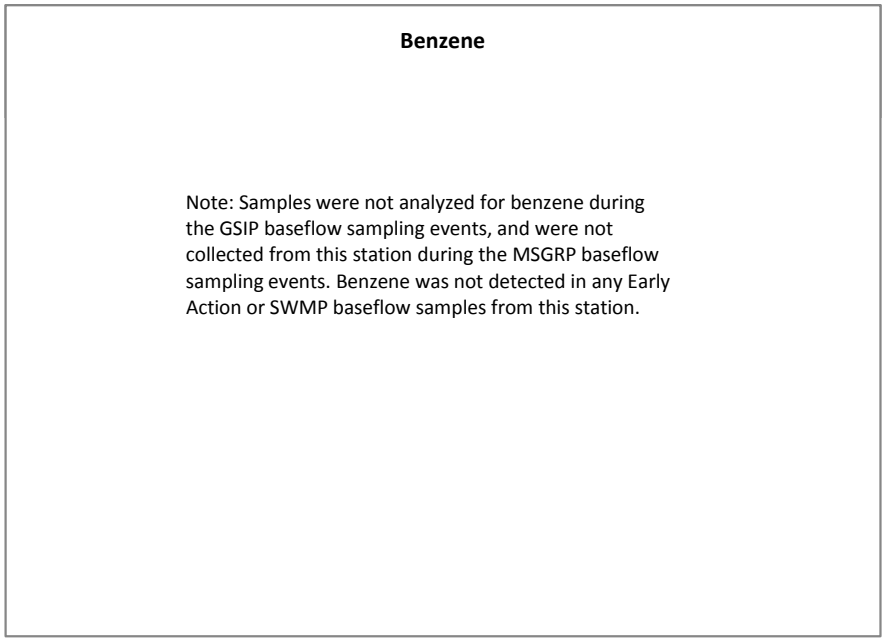

LEGEND
Diamond indicates concentration of compound when detected in only one sample during a sampling program.
Circle indicates concentration of compound when detected in the most recent sample collected.
Maximum detected concentration
Range of detected concentrations, excluding most recent sample collected.
75th percentile
50th percentile (median)
25th percentile
Minimum detected concentration
Line indicates concentration of compound when detected at the same concentration in two or more samples, BUT not in any other samples.
mg/L
0.012
0.01
0.008
0.006
0.004
0.002
0
GSIP
MSGRP
Early Action
SWMP

DRAFT

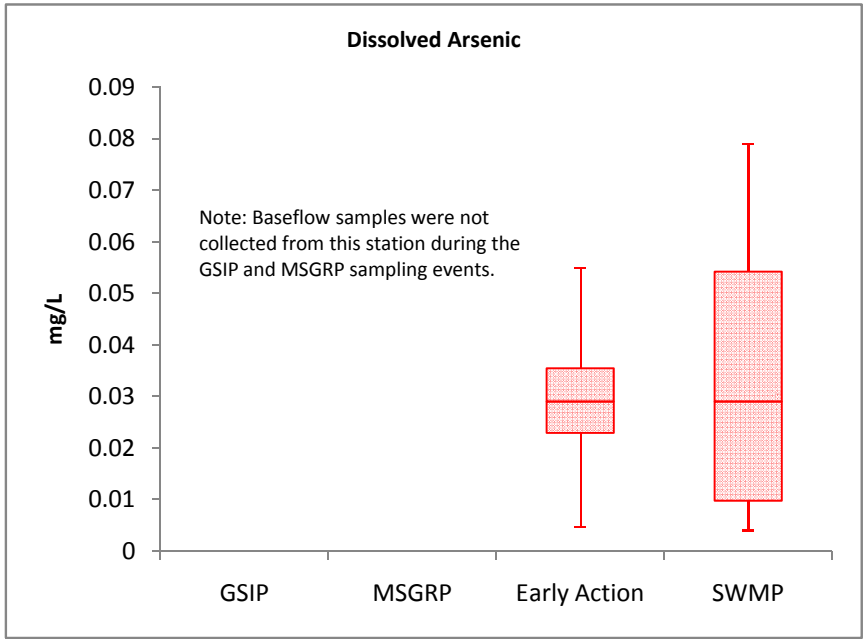

Dissolved Arsenic
mg/L
0.008
0.006
0.004
0.002
0
GSIP
MSGRP
Early Action
SWMP
Note: Arsenic (dissolved) was reported at 0.0068 mg/L in the only baseflow sample collected from this station during the GSIP sampling event and was not detected in any Early Action baseflow samples from this station. Samples were not collected from this station during the MSGRP sampling events.

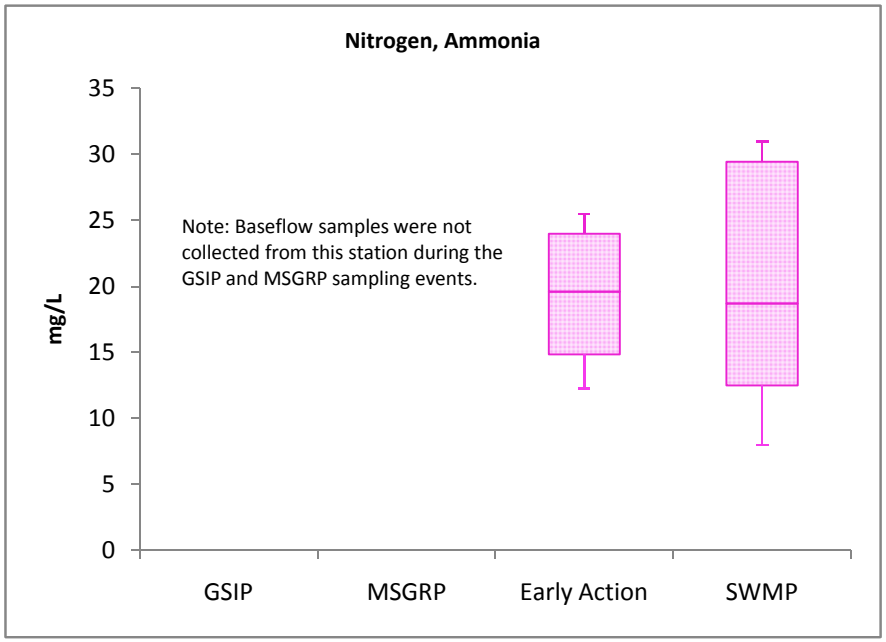

Nitrogen, Ammonia
mg/L
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
GSIP
MSGRP
Early Action
SWMP
Note: Samples were not analyzed for ammonia during the GSIP baseflow sampling events, and were not collected from this station during the MSGRP baseflow sampling events.

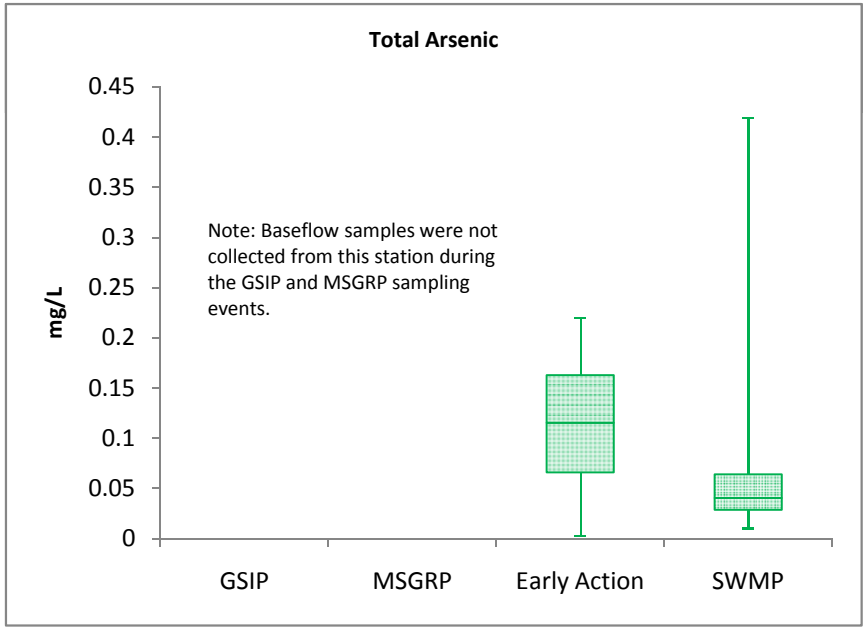

Total Arsenic
mg/L
0.012
0.01
0.008
0.006
0.004
0.002
0
GSIP
MSGRP
Early Action
SWMP
Note: Arsenic (total) was reported at 0.0098 mg/L in the only baseflow sample collected from this station during the GSIP sampling event. Samples were not collected from this station during the MSGRP sampling events.

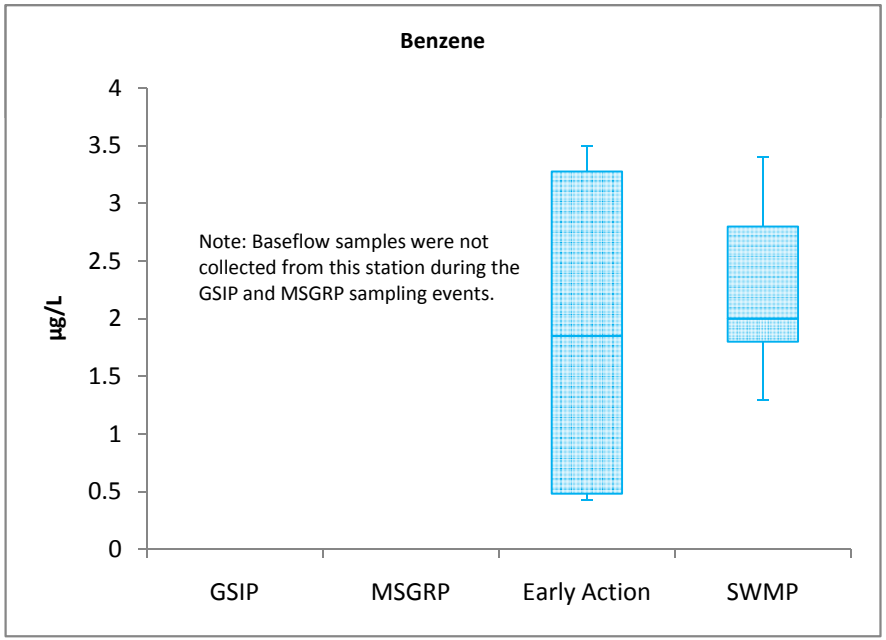

Benzene
Note: Samples were not analyzed for benzene during the GSIP baseflow sampling events, and were not collected from this station during the MSGRP baseflow sampling events. Benzene was not detected in any Early Action or SWMP baseflow samples from this station.

DRAFT

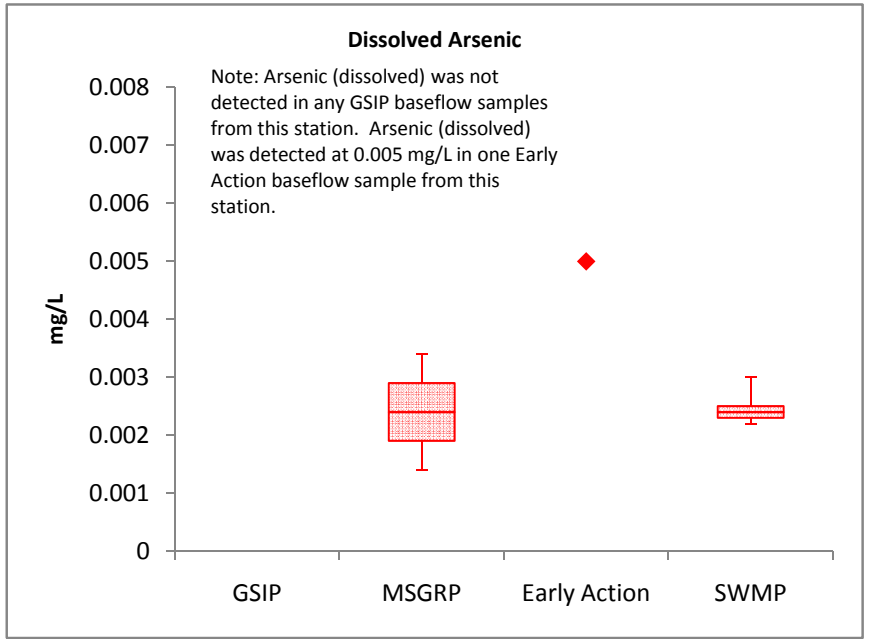

Dissolved Arsenic
mg/L
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
Note: Baseflow samples were not collected from this station during the GSIP and MSGRP sampling events.
GSIP
MSGRP
Early Action
SWMP

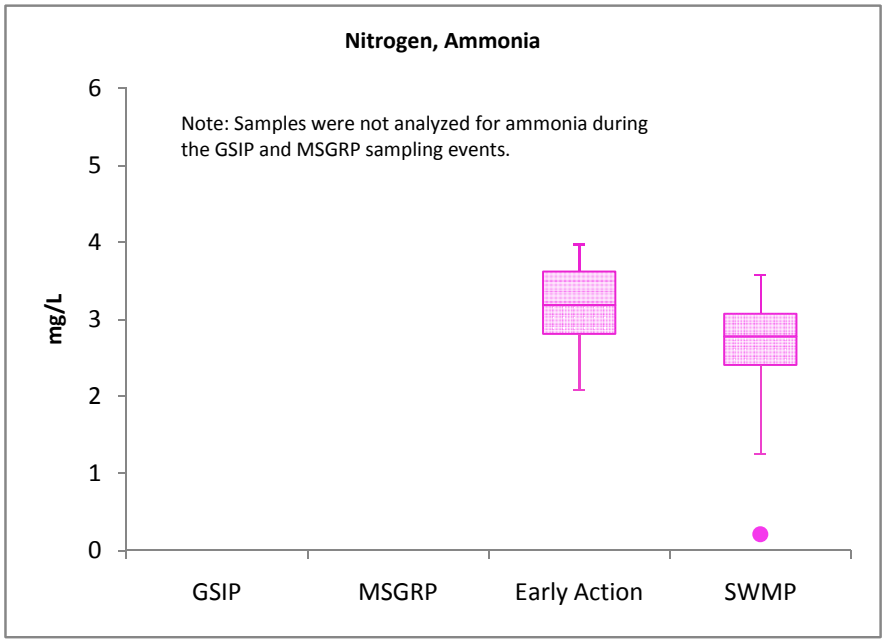

Nitrogen, Ammonia
mg/L
35
30
25
20
15
10
5
0
Note: Baseflow samples were not collected from this station during the GSIP and MSGRP sampling events.
GSIP
MSGRP
Early Action
SWMP

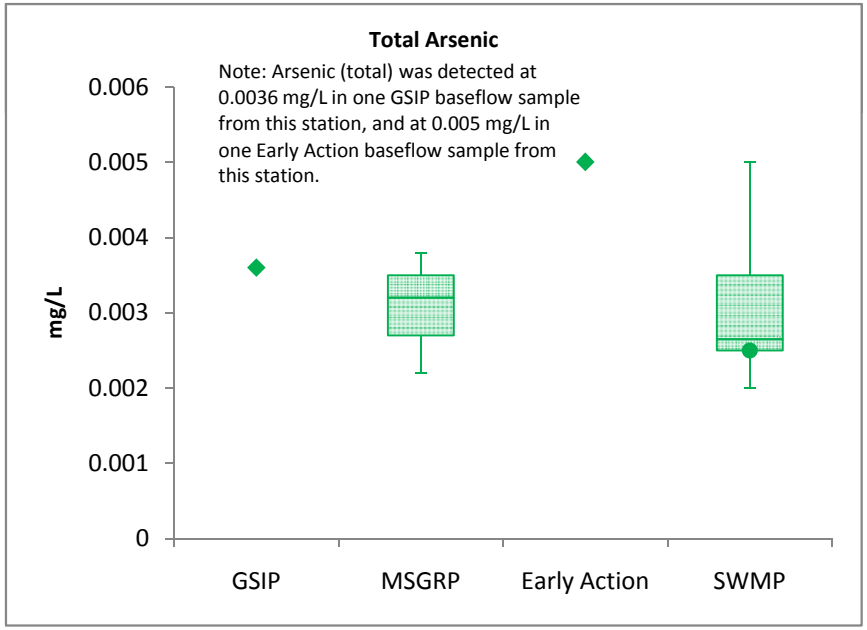

Total Arsenic
mg/L
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
Note: Baseflow samples were not collected from this station during the GSIP and MSGRP sampling events.
GSIP
MSGRP
Early Action
SWMP

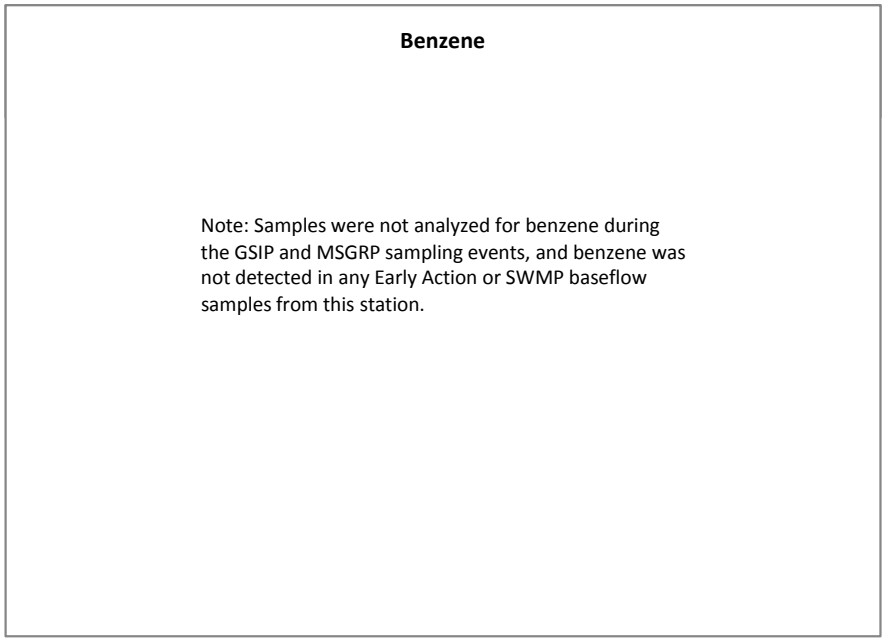

Benzene
µg/L
4
3.5
3
2.5
2
1.5
1
0.5
0
Note: Baseflow samples were not collected from this station during the GSIP and MSGRP sampling events.
GSIP
MSGRP
Early Action
SWMP

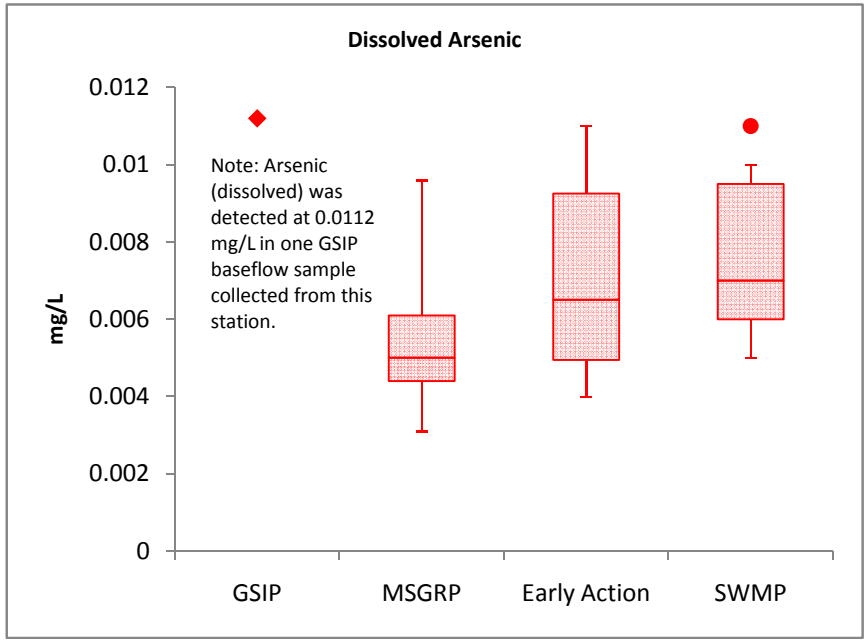
DRAFT

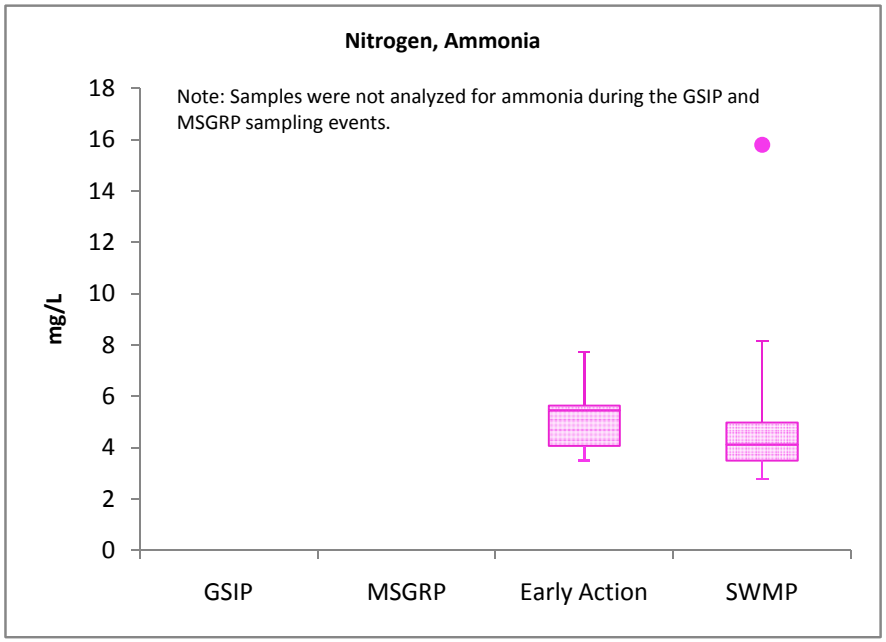

Dissolved Arsenic
Note: Arsenic (dissolved) was not detected in any GSIP baseflow samples from this station. Arsenic (dissolved) was detected at 0.005 mg/L in one Early Action baseflow sample from this station.
mg/L
0.008
0.007
0.006
0.005
0.004
0.003
0.002
0.001
0
GSIP
MSGRP
Early Action
SWMP

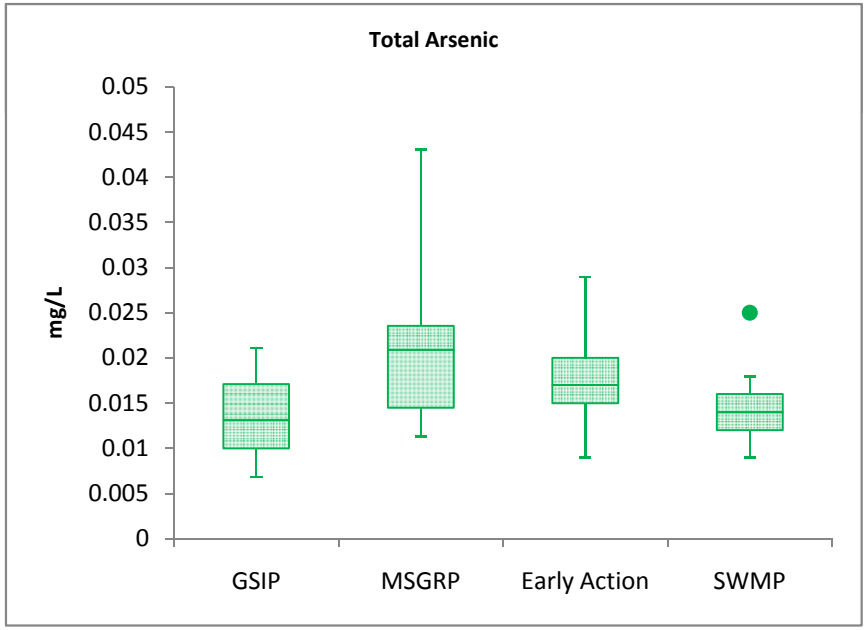

Nitrogen, Ammonia
Note: Samples were not analyzed for ammonia during the GSIP and MSGRP sampling events.
mg/L
6
5
4
3
2
1
0
GSIP
MSGRP
Early Action
SWMP

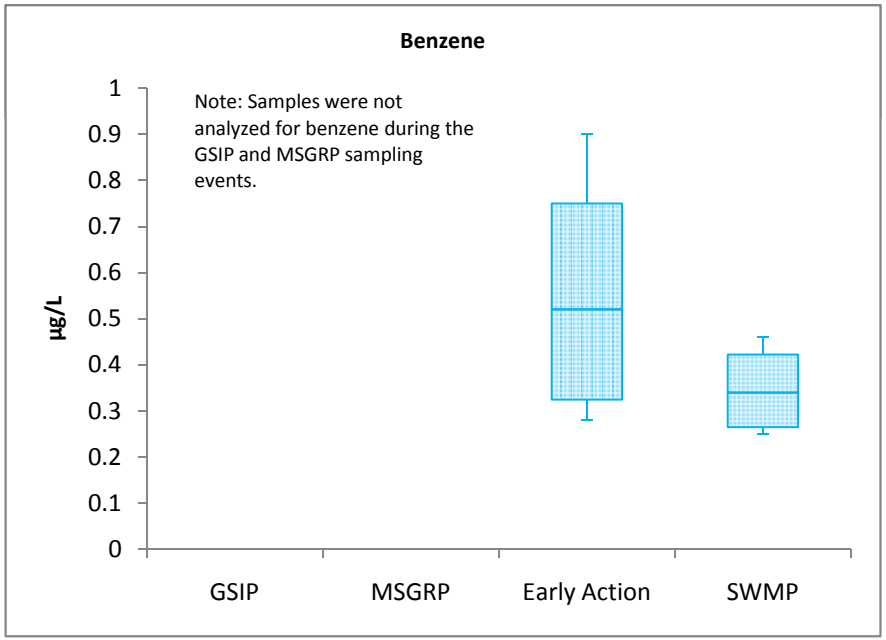

Total Arsenic
Note: Arsenic (total) was detected at 0.0036 mg/L in one GSIP baseflow sample from this station, and at 0.005 mg/L in one Early Action baseflow sample from this station.
mg/L
0.006
0.005
0.004
0.003
0.002
0.001
0
GSIP
MSGRP
Early Action
SWMP

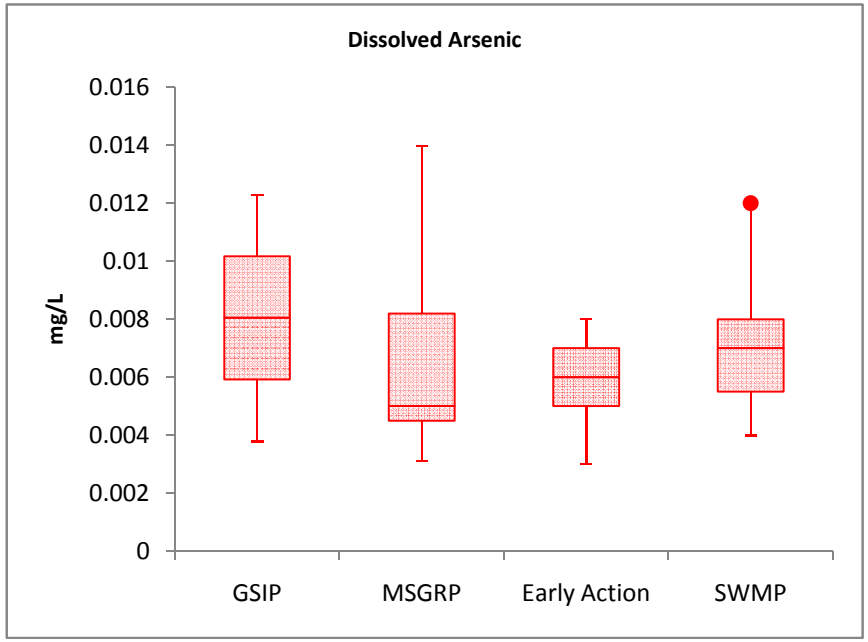

Benzene
Note: Samples were not analyzed for benzene during the GSIP and MSGRP sampling events, and benzene was not detected in any Early Action or SWMP baseflow samples from this station.

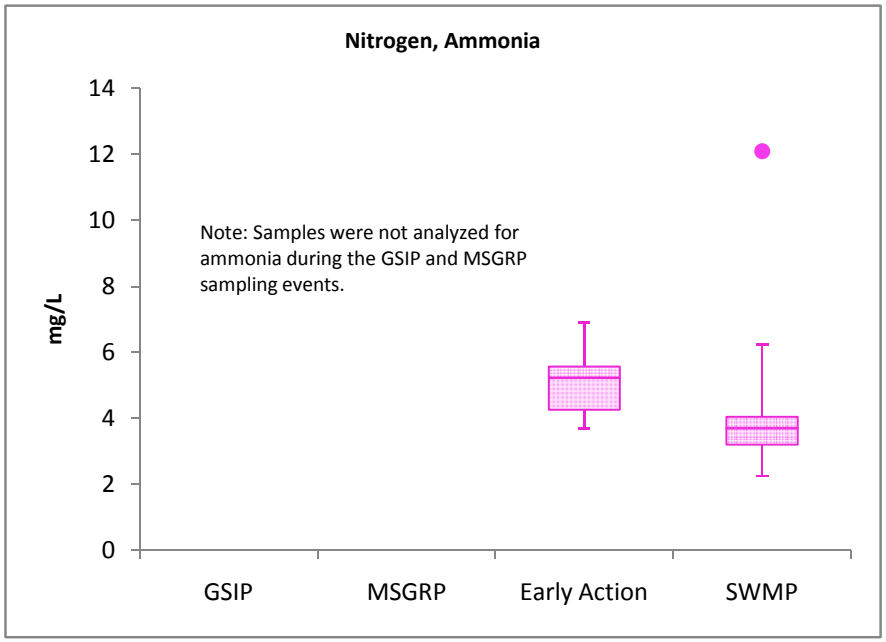

Dissolved Arsenic
mg/L
0.012
0.01
0.008
0.006
0.004
0.002
0
Note: Arsenic (dissolved) was detected at 0.0112 mg/L in one GSIP baseflow sample collected from this station.
GSIP
MSGRP
Early Action
SWMP

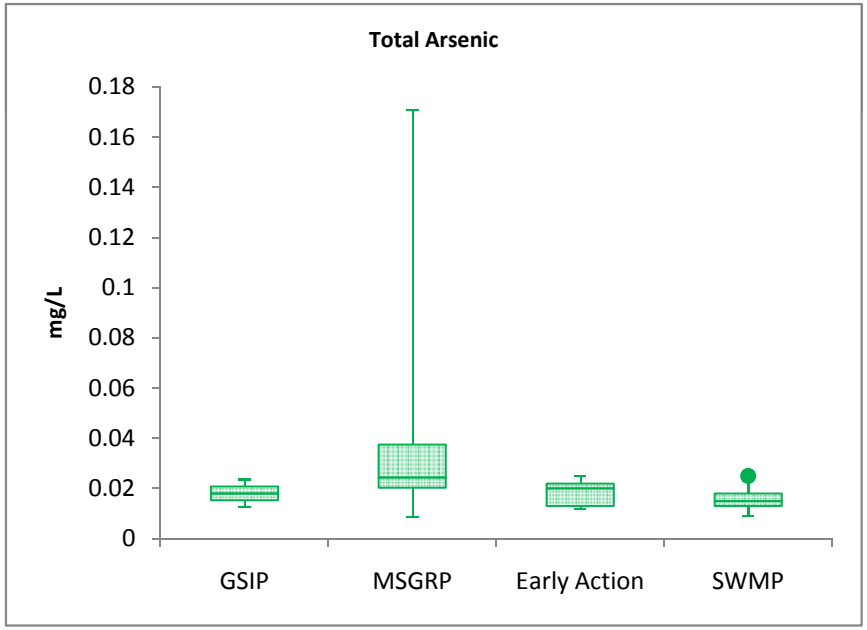

Nitrogen, Ammonia
mg/L
18
16
14
12
10
8
6
4
2
0
Note: Samples were not analyzed for ammonia during the GSIP and MSGRP sampling events.
GSIP
MSGRP
Early Action
SWMP

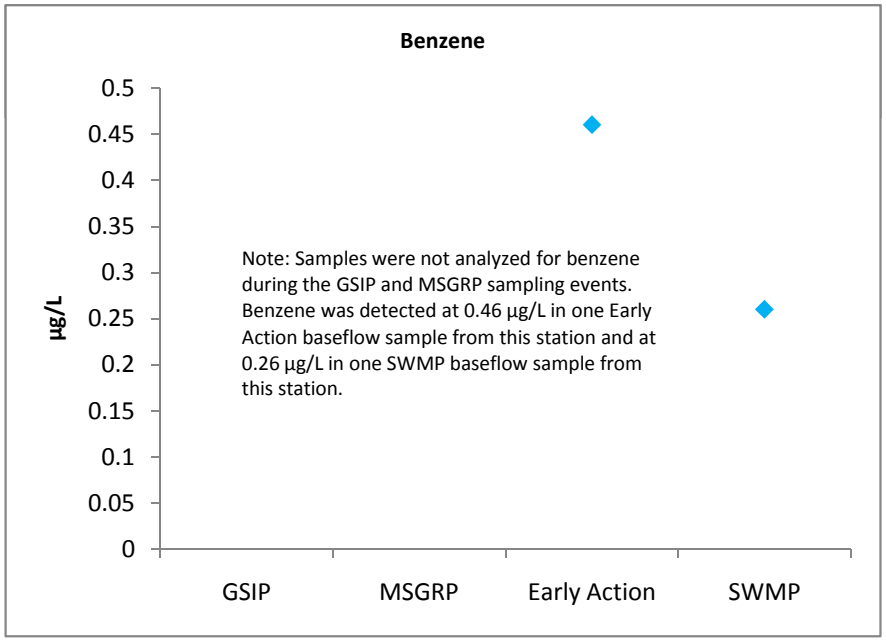

Total Arsenic
mg/L
0.05
0.045
0.04
0.035
0.03
0.025
0.02
0.015
0.01
0.005
0
GSIP
MSGRP
Early Action
SWMP


Benzene
µg/L
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
Note: Samples were not analyzed for benzene during the GSIP and MSGRP sampling events.
GSIP
MSGRP
Early Action
SWMP

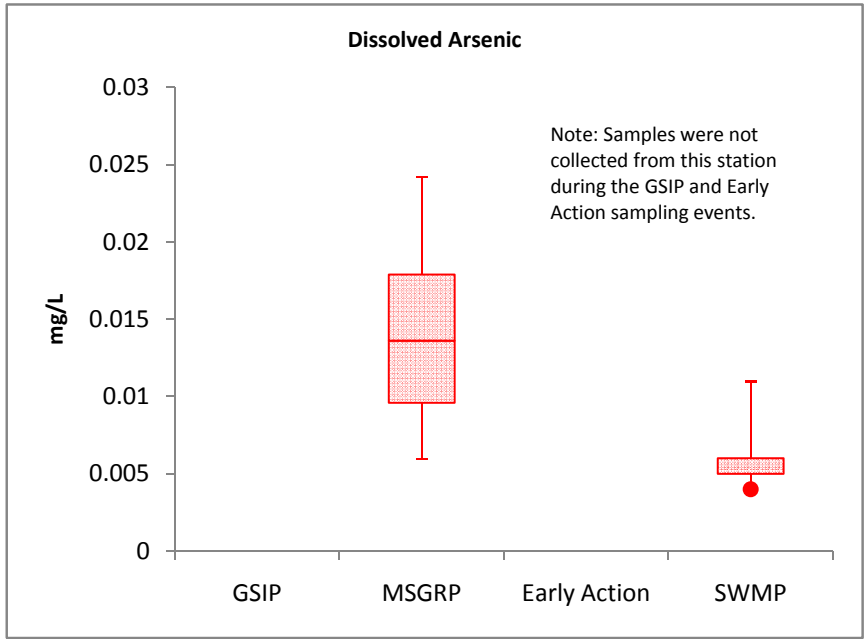

Dissolved Arsenic
mg/L
0.016
0.014
0.012
0.01
0.008
0.006
0.004
0.002
0
GSIP
MSGRP
Early Action
SWMP

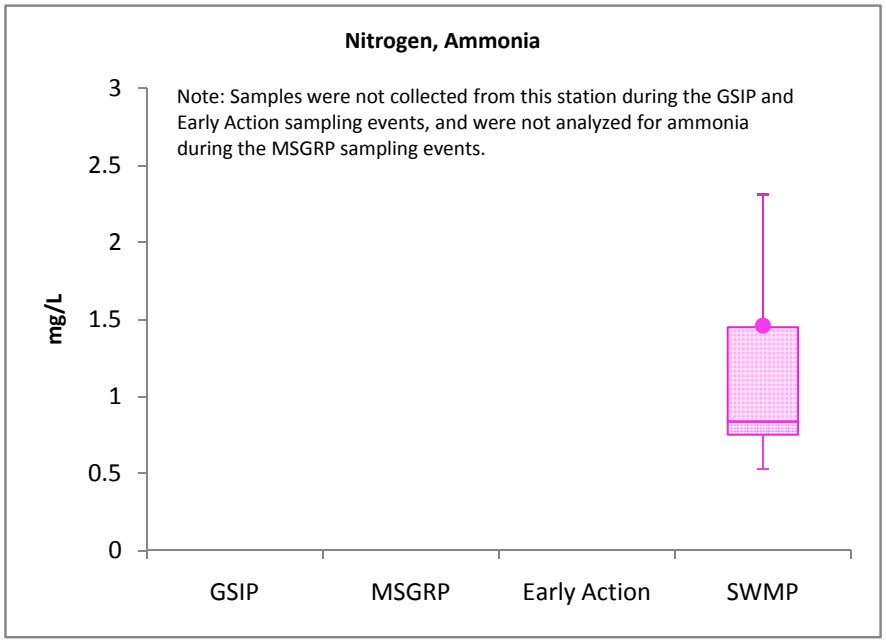

Nitrogen, Ammonia
mg/L
14
12
10
8
6
4
2
0
Note: Samples were not analyzed for ammonia during the GSIP and MSGRP sampling events.
GSIP
MSGRP
Early Action
SWMP

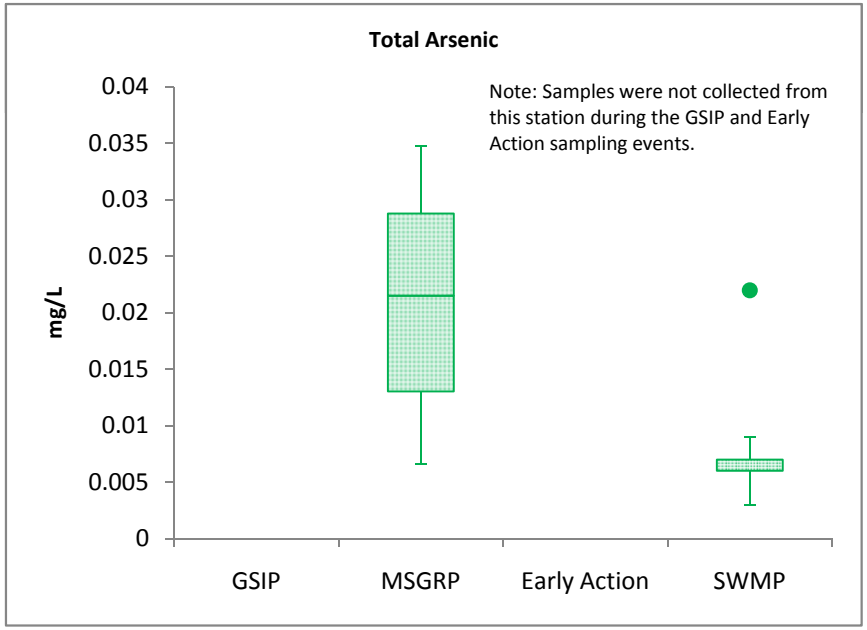

Total Arsenic
mg/L
0.18
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
GSIP
MSGRP
Early Action
SWMP


Benzene
µg/L
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
Note: Samples were not analyzed for benzene during the GSIP and MSGRP sampling events. Benzene was detected at 0.46 µg/L in one Early Action baseflow sample from this station and at 0.26 µg/L in one SWMP baseflow sample from this station.
GSIP
MSGRP
Early Action
SWMP

DRAFT

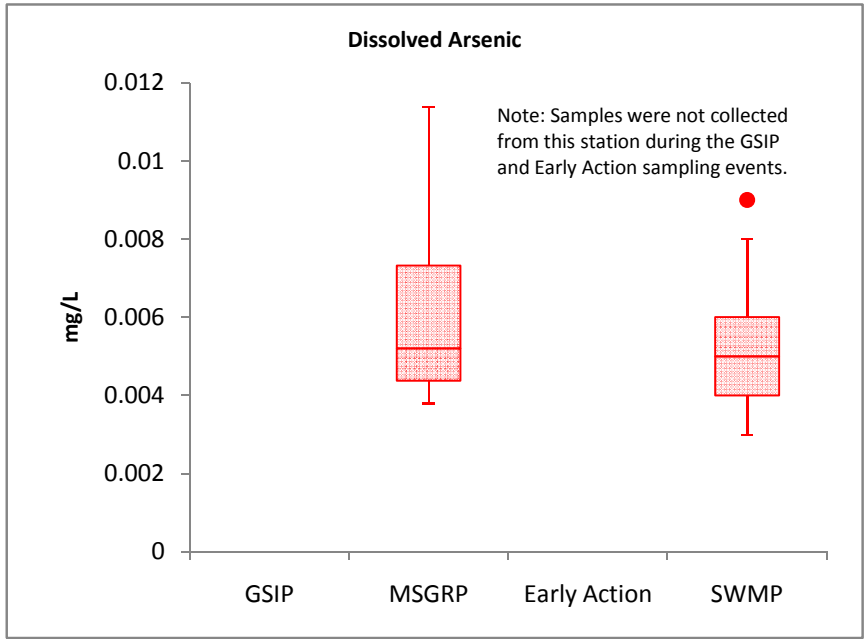


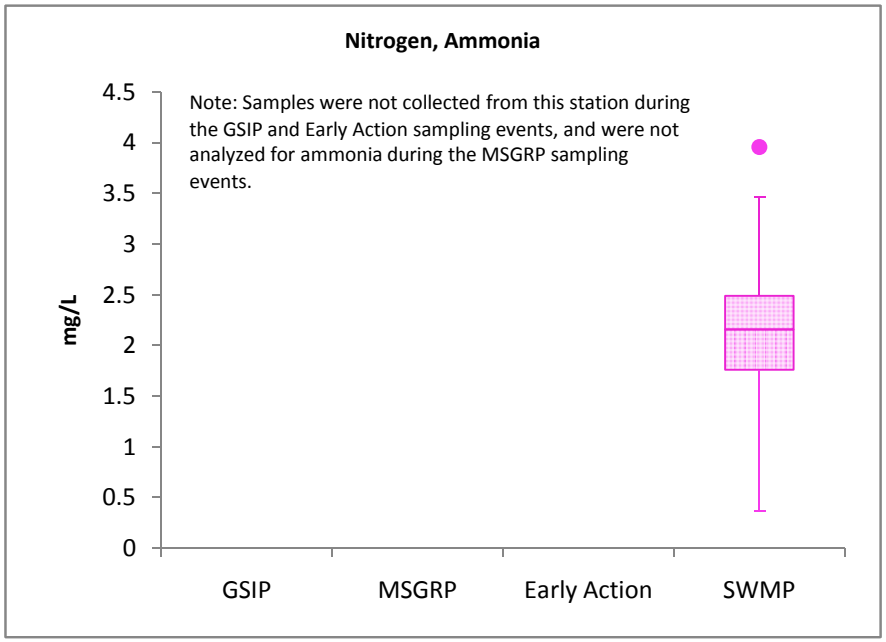


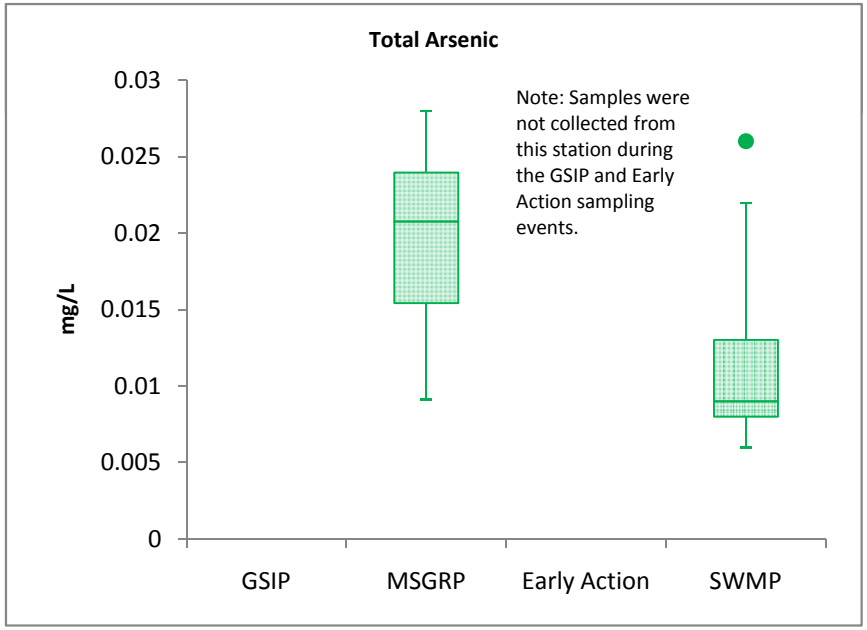


Note: Samples were not collected from this station during the GSIP and Early Action sampling events, and were not analyzed for benzene during the MSGRP sampling events. Benzene was not detected in any SWMP baseflow samples collected from this station.

DRAFT

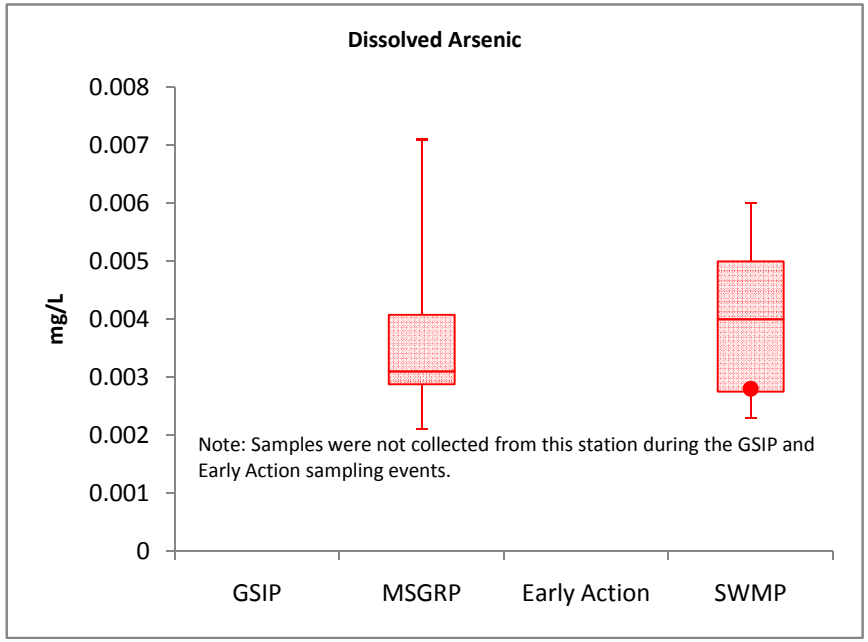


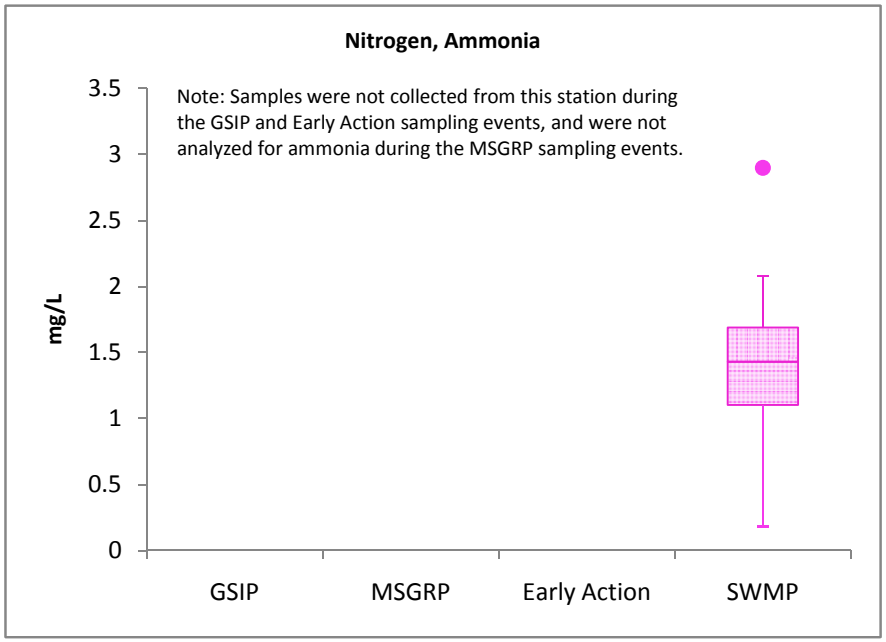


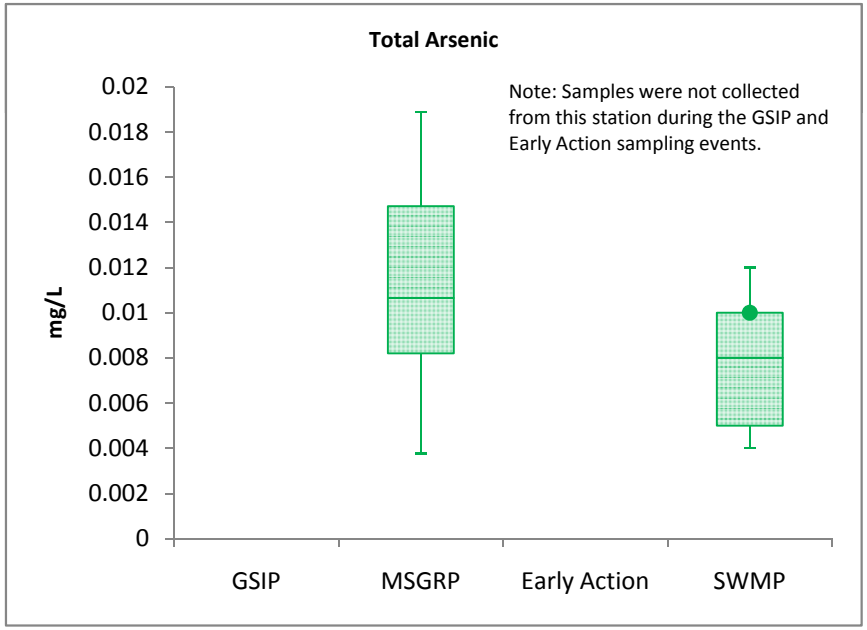


Note: Samples were not collected from this station during the GSIP and Early Action sampling events, and were not analyzed for benzene during the MSGRP sampling events. Benzene was not detected in any SWMP baseflow samples from this station.

DRAFT

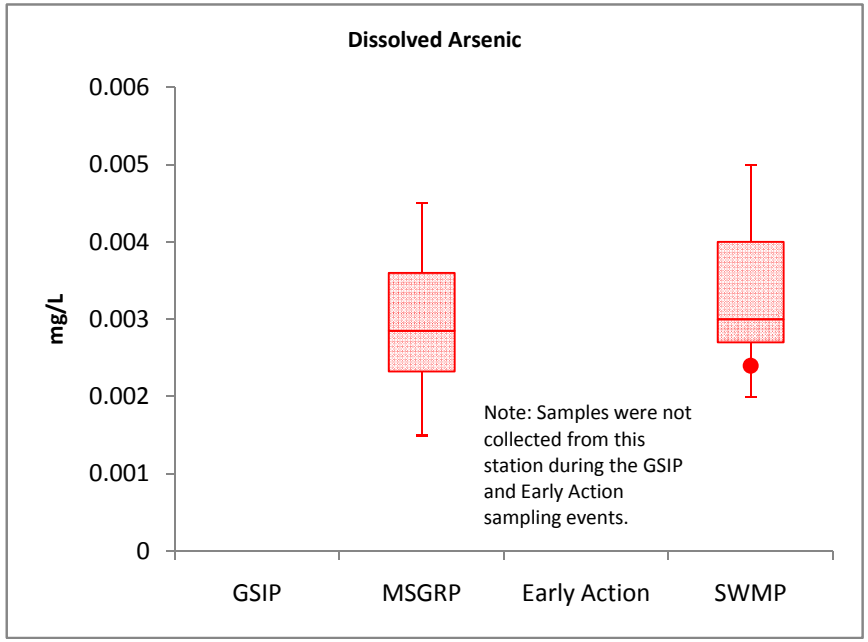


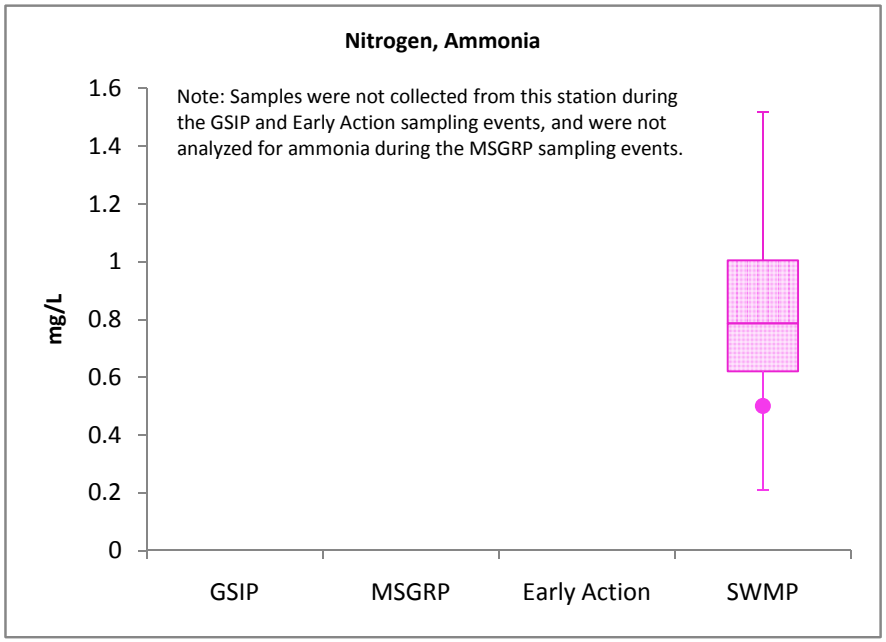


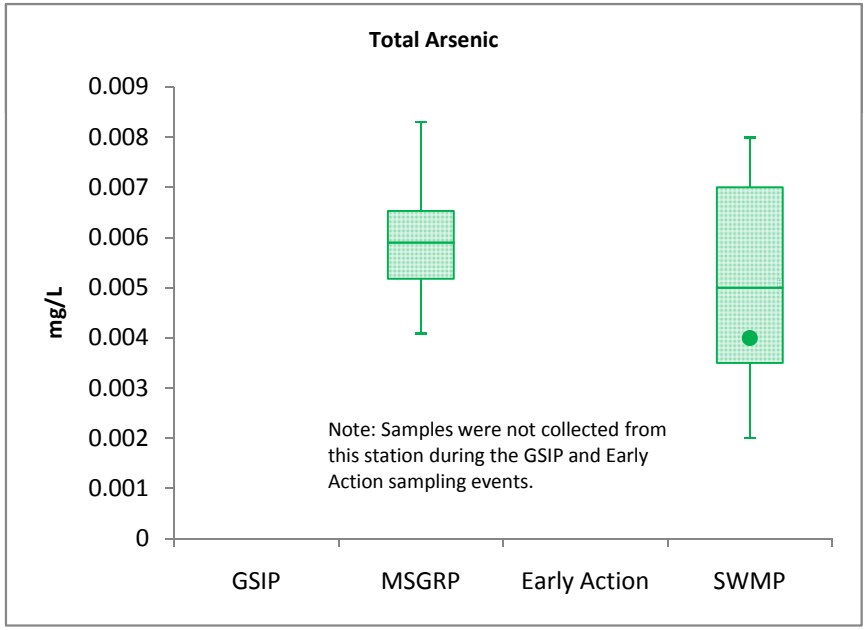


Note: Samples were not collected from this station during the GSIP and Early Action sampling events, and were not analyzed for benzene during the MSGRP sampling events. Benzene was not detected in any SWMP baseflow samples from this station.

DRAFT

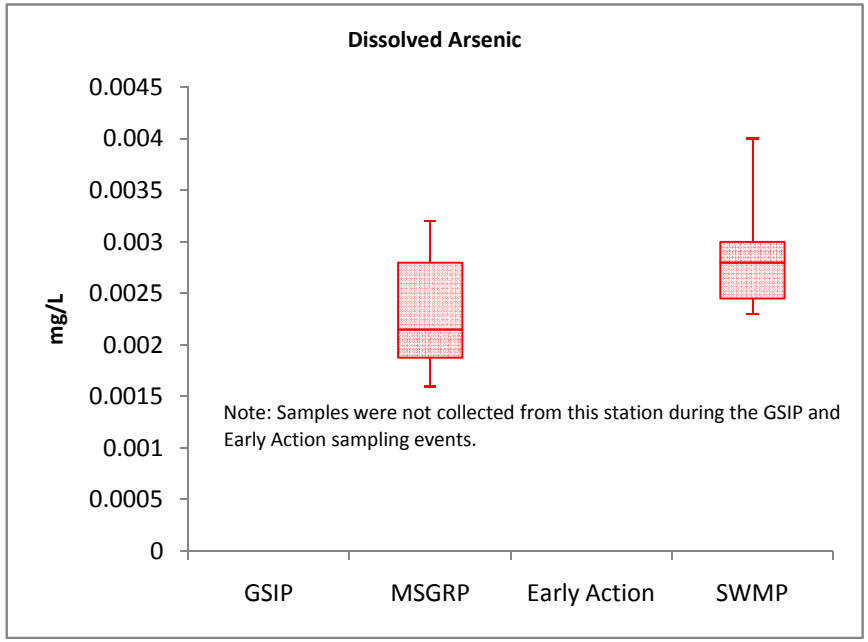


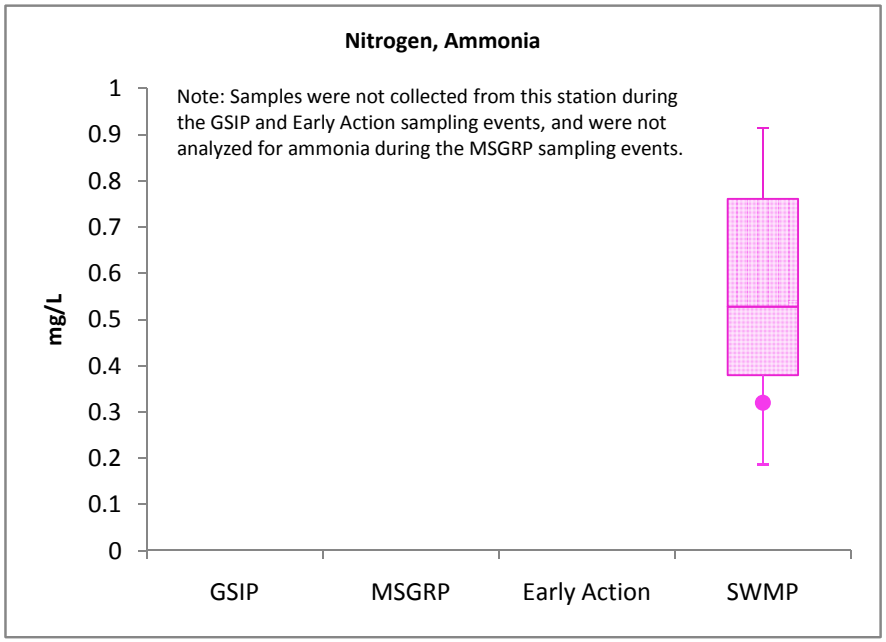


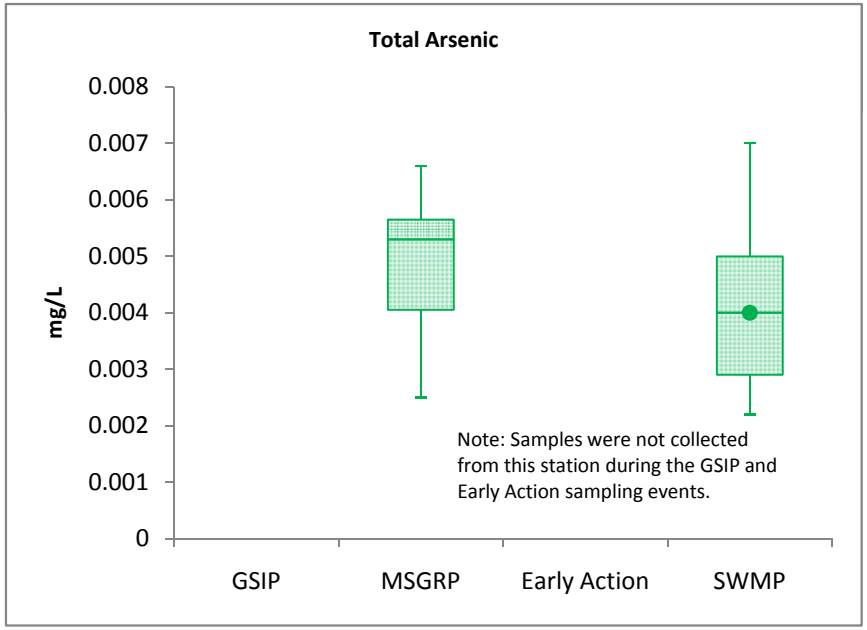


Note: Samples were not collected from this station during the GSIP and Early Action sampling events. Samples were not analyzed for benzene during the MSGRP sampling events. Benzene was not detected in any SWMP baseflow samples from this station.

DRAFT







Note: Samples were not collected from this station during the GSIP and Early Action sampling events, and were not analyzed for benzene during the MSGRP sampling events. Benzene was not detected in any SWMP baseflow samples from this station.