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December 10, 2009

Mr. Joseph F. LeMay, P.E.
Remedial Project Manager
US Environmental Protection Agency, Region 1
Office of Site Remediation and Restoration
MA Superfund Section
One Congress Street, Suite 1100, (HBO)
Boston, MA 02114-2023

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. 8.

This report covers the period from November 1 - 30, 2009, and is submitted on behalf of the Settling Defendants.

Please contact me if you have any questions.

Sincerely,

Bruce Thompson
Project Coordinator

Enclosure

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

SDMS DocID 479374

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.

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 (November 1 through November 30, 2009) 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 that during periods of insufficient flow, the water quality meters 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.

2. Regular weekly O&M activities were performed at the surface water monitoring stations on November 4, 12, 19, 20, and 25, 2009, and included the following:

    - inspected instrumentation and tubing and adjusted as needed
    - cleared debris around station instrumentation
    - cleaned sample intake and staff gauge
    - cleaned the Isco 750 area-velocity module sensor and the In-Situ® MP Troll® 9500 water quality meter sensors
    - checked calibration of the In-Situ® MP Troll® 9500 water quality meter sensors and re-calibrated as needed
    - collected manual stage measurements
    - checked station power levels
    - inspected rain gauges and cleaned as needed
    - downloaded flow and water quality data stored in the Isco units
    - verified the telemetry cable connection

3. Monthly O&M activities were performed on November 19 and November 20, 2009 (in conjunction with weekly O&M activities) and included the following:

    - collected manual velocity measurements
    - cleaned solar panels
    - calibrated the In-Situ® MP Troll® 9500 water quality meter sensors

4. The SWMP monthly baseflow sampling event was conducted on November 3, 2009 and included the following:

    - collected baseflow surface water samples at all ten SWMP monitoring stations
    - measured groundwater and surface water elevations at nine of the ten SWMP monitoring stations[1]

5. Manual gauging of stream flow was conducted at the Montvale Avenue monitoring station (SW-06-TT) on November 3, 2009.[2]

Data Generated During the Reporting Period

1. Water quality parameters recorded at the time of baseflow sampling on November 3, 2009 are provided in **Tables 1a through 1j**, along with the water quality measurements made during all previous SWMP and "early action" baseflow sampling events. Beginning in November 2009, baseflow water quality parameter measurements are being made with an independent, calibrated In-Situ MP Troll 9500 unit, rather than being read off the deployed Troll unit as in the past.[3]

2. Analytical results for the baseflow samples collected during the reporting period[4] are provided in **Tables 2a through 2j** along with validated analytical laboratory results for baseflow samples collected during previous SWMP sampling events, "early action" sampling, and other previous sampling programs at the site (i.e., the Groundwater and

[1] There is no piezometer at the Mishawum Road monitoring station (SW-04-TT).
[2] Gauging was not conducted at any other stations as adequate low-flow data now exist for evaluating existing (TTNUS) rating curves.
[3] This change was intended to preclude potential measurement errors due to calibration drift of the deployed sensors between weekly O&M visits.
[4] These results have not yet been validated.

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

Data trends – Benzene, total arsenic, dissolved arsenic, and ammonia concentrations detected in baseflow samples collected during the SWMP and previous sampling programs (MSGRP, GSIP, 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" whenever possible.[5] 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.[6]

[5] 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.

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

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Baseflow Surface Water Monitoring Monthly Report No. 8

(November 2009)

Industri-plex Superfund Site
Operable Unit 2
Woburn, Massachusetts

Table 1a
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

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 1b
Baseflow Water Quality Parameters for SW-2-IP (AAD)
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)
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	2.0	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	ERR
	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

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 1c
Baseflow Water Quality Parameters for SW-3-IP (BECO 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	NS	NS	NS	NS	NS	NS
	10/09/08	17.4	5.9	7.1	179.4	697.0	4.2
	11/05/08	NS	NS	NS	NS	NS	NS
	12/09/08	NS	NS	NS	NS	NS	NS
	01/20/09	NS	NS	NS	NS	NS	NS
	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

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 (eg. 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 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	ERR
	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

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 (eg. ice buildup, sensor drift, stage below sensor(s), struck by debris, and/or buildup on sensor)

Table 1e
Baseflow Water Quality Parameters for SW-03-TT (Aberjona River)
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

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 (eg. ice buildup, sensor drift, stage below sensor(s), struck by debris, and/or buildup on sensor)

Table 1f
Baseflow Water Quality Parameters for SW-04-TT (HBHA Wetland Outlet)
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)
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	14.1	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	ERR	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

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 (eg. Ice buildup, sensor drift, stage below sensor(s), struck by debris, and/or buildup pn sensor)

Table 1g
Baseflow Water Quality Parameters for SW-05-TT (Salem Street)
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-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	ERR
	09/02/09	6.8	ERR	ERR	17.6	5.0	480.9
	10/15/09	8.4	5.5	7.2	3.7	927.0	5.7
	11/03/09	10.4	8.5	6.8	73.0	633.0	0.3

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 (eg. Ice buildup, sensor drift, stage below sensor(s), struck by debris, and/or buildup pn 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

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

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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-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	13.7
	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	ERR
	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

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 (eg. ice buildup, sensor drift, stage below sensor(s), struck by debris, and/or buildup on sensor)

Table 1j
Baseflow Water Quality Parameters for SW-08-TT (USGS / Mystic Avenue)
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-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	ERR
	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

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
ERR = Equipment error (eg. ice buildup, sensor drift, stage below sensor(s), struck by debris, and/or buildup on sensor)

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

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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	¯U	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	0.285	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

Notes:
• For Stations SW-01-TT, SW-2-IP, SW-02-TT, SW-04-TT, and SW-08-TT, flows shown are based on the rating curves reported in the Quarterly Storm Flow Surface Water Monitoring Report No. 2.
• For Stations SW-03-TT, and SW-05-TT through SW-07-TT, flows shown are based on the rating curves reported by TTNUS in the MSGRP RI Report. New rating curves are being developed which may change the flow estimates for these stations.
• Flows shown for station SW-3-IP was estimated based on level and velocity.

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 2b
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

Notes:
• For Stations SW-01-TT, SW-2-IP, SW-02-TT, SW-04-TT, and SW-08-TT, flows shown are based on the rating curves reported in the Quarterly Storm Flow Surface Water Monitoring Report No. 2.
• For Stations SW-03-TT, and SW-05-TT through SW-07-TT, flows shown are based on the rating curves reported by TTNUS in the MSGRP RI Report. New rating curves are being developed which may change the flow estimates for these stations.
• Flows shown for station SW-3-IP was estimated based on level and velocity.

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 = The reported result is attributed to laboratory contamination due to the presence of the chemical in the associated laboratory blank.
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-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

Notes:
• For Stations SW-01-TT, SW-2-IP, SW-02-TT, SW-04-TT, and SW-08-TT, flows shown are based on the rating curves reported in the Quarterly Storm Flow Surface Water Monitoring Report No. 2.
• For Stations SW-03-TT, and SW-05-TT through SW-07-TT, flows shown are based on the rating curves reported by TTNUS in the MSGRP RI Report. New rating curves are being developed which may change the flow estimates for these stations.
• Flows shown for station SW-3-IP was estimated based on level 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 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

Notes:
• For Stations SW-01-TT, SW-2-IP, SW-02-TT, SW-04-TT, and SW-08-TT, flows shown are based on the rating curves reported in the Quarterly Storm Flow Surface Water Monitoring Report No. 2.
• For Stations SW-03-TT, and SW-05-TT through SW-07-TT, flows shown are based on the rating curves reported by TTNUS in the MSGRP RI Report. New rating curves are being developed which may change the flow estimates for these stations.
• Flows shown for station SW-3-IP was estimated based on level and velocity.

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-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

Notes:
• For Stations SW-01-TT, SW-2-IP, SW-02-TT, SW-04-TT, and SW-08-TT, flows shown are based on the rating curves reported in the Quarterly Storm Flow Surface Water Monitoring Report No. 2.
• For Stations SW-03-TT, and SW-05-TT through SW-07-TT, flows shown are based on the rating curves reported by TTNUS in the MSGRP RI Report. New rating curves are being developed which may change the flow estimates for these stations.
• Flows shown for station SW-3-IP was estimated based on level and velocity.

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
* = Not yet validated

Table 2f
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

Notes:
• For Stations SW-01-TT, SW-2-IP, SW-02-TT, SW-04-TT, and SW-08-TT, flows shown are based on the rating curves reported in the Quarterly Storm Flow Surface Water Monitoring Report No. 2.
• For Stations SW-03-TT, and SW-05-TT through SW-07-TT, flows shown are based on the rating curves reported by TTNUS in the MSGRP RI Report. New rating curves are being developed which may change the flow estimates for these stations.
• Flows shown for station SW-3-IP was estimated based on level and velocity.

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 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

Notes:
• For Stations SW-01-TT, SW-2-IP, SW-02-TT, SW-04-TT, and SW-08-TT, flows shown are based on the rating curves reported in the Quarterly Storm Flow Surface Water Monitoring Report No. 2.
• For Stations SW-03-TT, and SW-05-TT through SW-07-TT, flows shown are based on the rating curves reported by TTNUS in the MSGRP RI Report. New rating curves are being developed which may change the flow estimates for these stations.
• Flows shown for station SW-3-IP was estimated based on level and velocity.

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
* = 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

Notes:
• For Stations SW-01-TT, SW-2-IP, SW-02-TT, SW-04-TT, and SW-08-TT, flows shown are based on the rating curves reported in the Quarterly Storm Flow Surface Water Monitoring Report No. 2.
• For Stations SW-03-TT, and SW-05-TT through SW-07-TT, flows shown are based on the rating curves reported by TTNUS in the MSGRP RI Report. New rating curves are being developed which may change the flow estimates for these stations.
• Flows shown for station SW-3-IP was estimated based on level and velocity.

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

Notes:
• For Stations SW-01-TT, SW-2-IP, SW-02-TT, SW-04-TT, and SW-08-TT, flows shown are based on the rating curves reported in the Quarterly Storm Flow Surface Water Monitoring Report No. 2.
• For Stations SW-03-TT, and SW-05-TT through SW-07-TT, flows shown are based on the rating curves reported by TTNUS in the MSGRP RI Report. New rating curves are being developed which may change the flow estimates for these stations.
• Flows shown for station SW-3-IP was estimated based on level and velocity.

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

Notes:
• For Stations SW-01-TT, SW-2-IP, SW-02-TT, SW-04-TT, and SW-08-TT, flows shown are based on the rating curves reported in the Quarterly Storm Flow Surface Water Monitoring Report No. 2.
• For Stations SW-03-TT, and SW-05-TT through SW-07-TT, flows shown are based on the rating curves reported by TTNUS in the MSGRP RI Report. New rating curves are being developed which may change the flow estimates for these stations.
• Flows shown for station SW-3-IP was estimated based on level and velocity.

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

DRAFT

Station ID	Station Description	Date	Surface Water			Groundwater			Gradient
			Measuring Point[1] (ft)	Staff Gage Reading (ft)	Surface Water Elevation[2] (ft)	Measuring Point[3] (ft)	Depth to Water (ft)	Groundwater Elevation[2] (ft)	
SW-01-TT	Halls Brook	11/03/09	92.98	1.09	94.07	96.87	5.49	91.38	Down
SW-2-IP	AAD	11/03/09	92.34	0.54	92.88	95.16	3.36	91.80	Down
SW-3-IP	BECO ROW	11/03/09	93.66	0.22	93.88	97.76	2.60	95.16	Up
SW-02-TT	HBHA Pond Outlet	11/03/09	97.77	1.20	98.97	103.88	4.77	99.11	Up
SW-03-TT	Aberjona	11/03/09	93.46	0.62	94.08	97.41	3.16	94.25	Up
SW-05-TT	Salem Street	11/03/09	94.16	1.59	95.75	98.23	2.45	95.78	Up
SW-06-TT	Montvale Avenue	11/03/09	92.76	2.10	94.86	98.48	3.88	94.60	Down
SW-07-TT	Swanton Street	11/03/09	90.11	1.09	91.20	93.87	2.37	91.50	Up
SW-08-TT	USGS / Mystic Avenue	11/03/09	81.29	10.72	92.01	95.28	3.66	91.62	Down

Notes:

1 Reference point is base of gauge (0.00 feet)

2 All elevations are relative to station-specific benchmarks and are, therefore not comparable between stations.

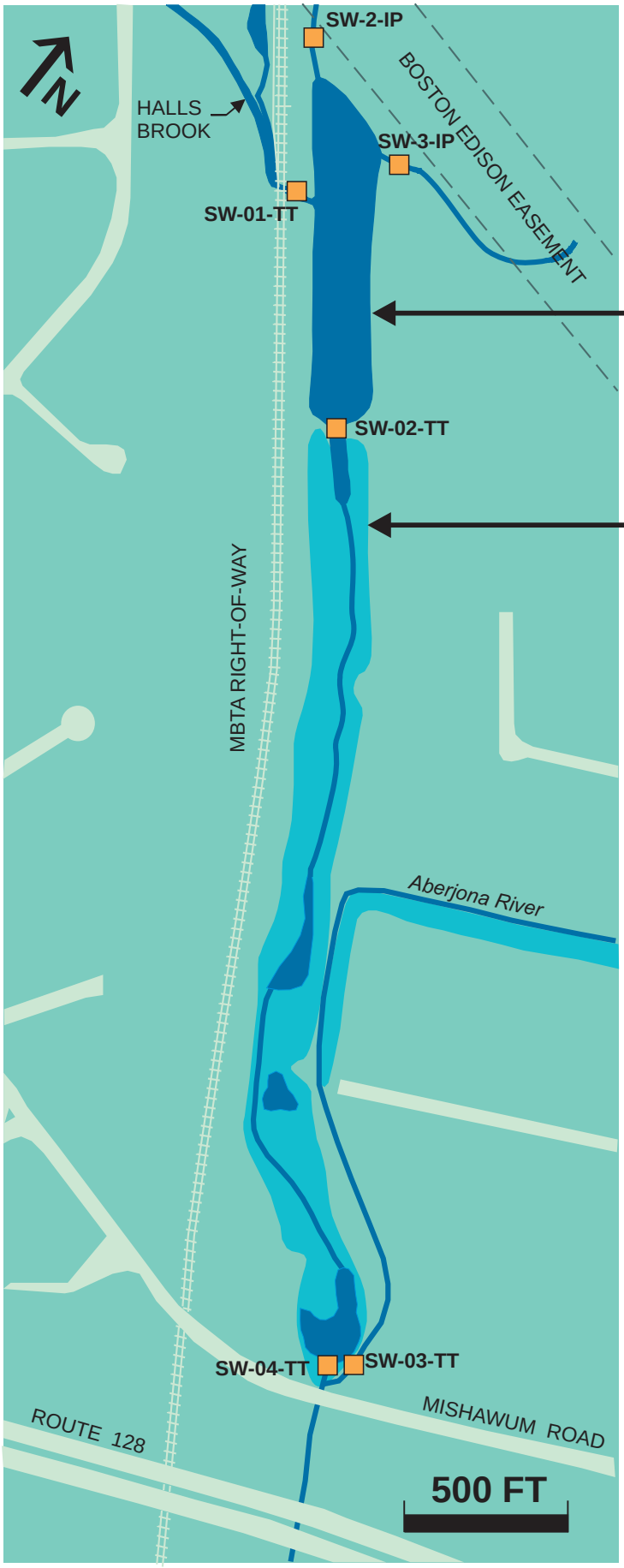
3 Reference point is top of casing

AAD = Atlantic Avenue Drainway

BECO ROW = Boston Edison Company right-of-way

HBHA = Halls Brook Holding Area

USGS = United States Geological Survey



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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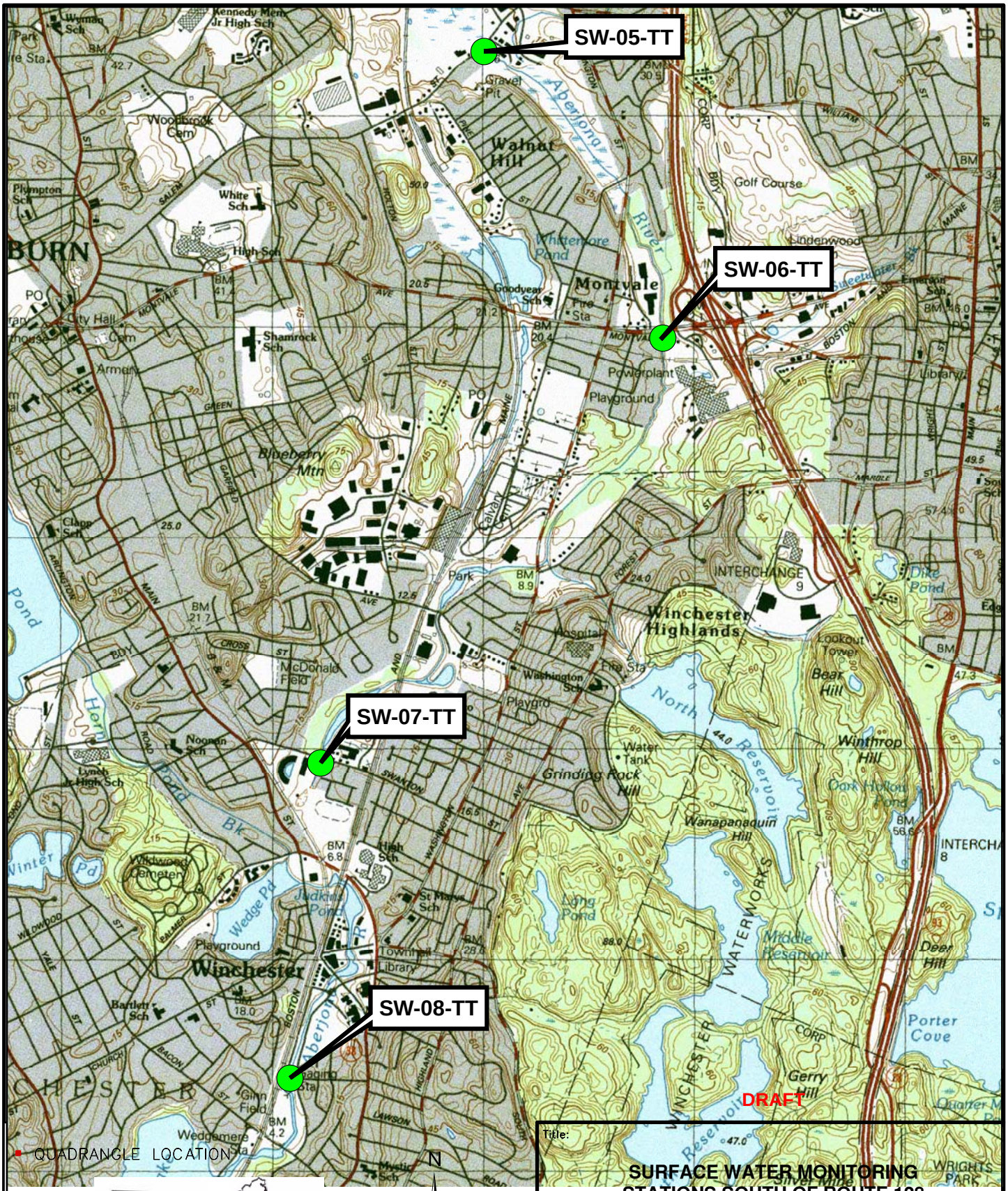

QUADRANGLE LOCATION

N

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 ASSOCIATES, INC.
Environmental Consulting & Management

Compiled By: LM	Date: 7/10/09	FIGURE	
Prepared By: CRS	Scale: AS SHOWN	2	
Project Mgr.: LM	Office: MA		
File No.: IPS0114201	Project: 119401M		

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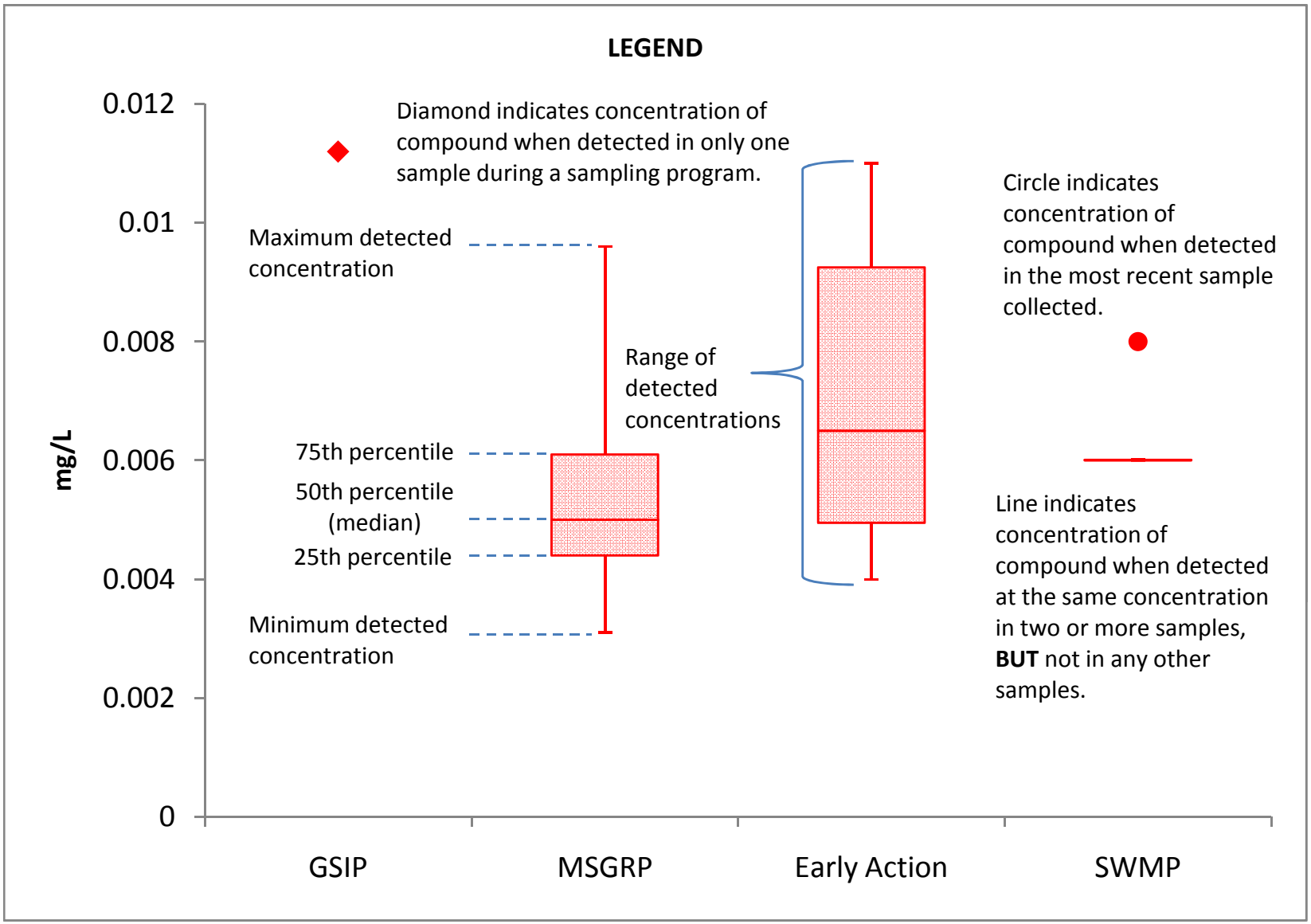
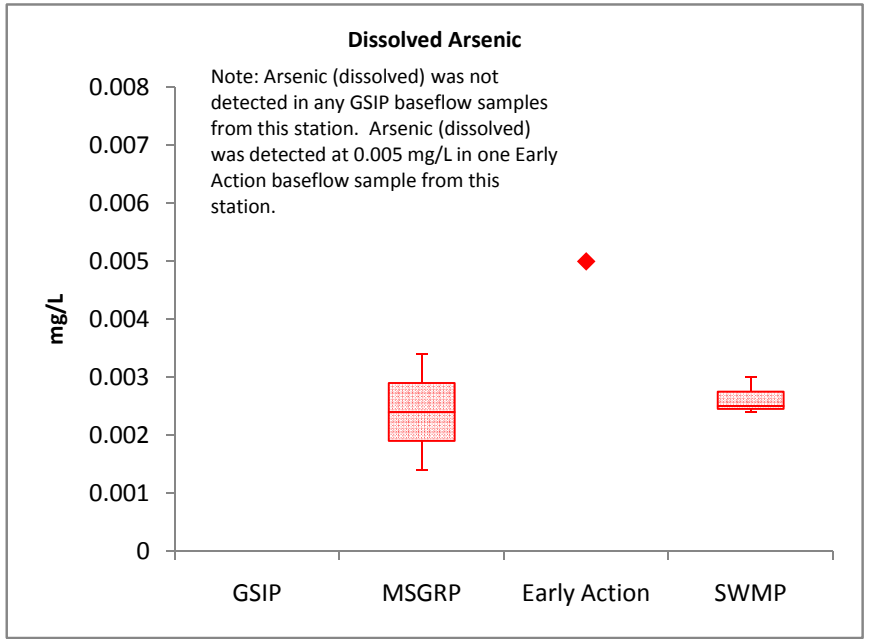
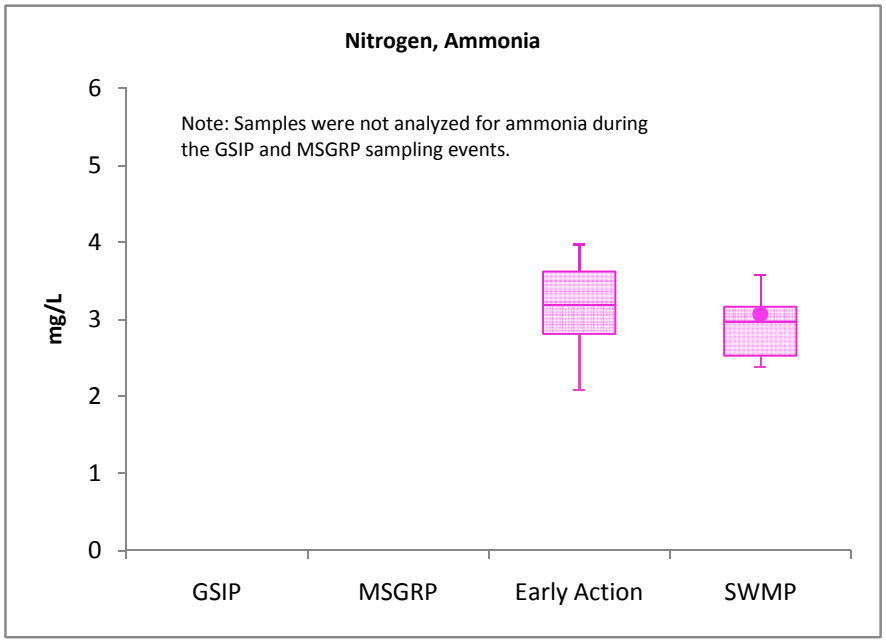
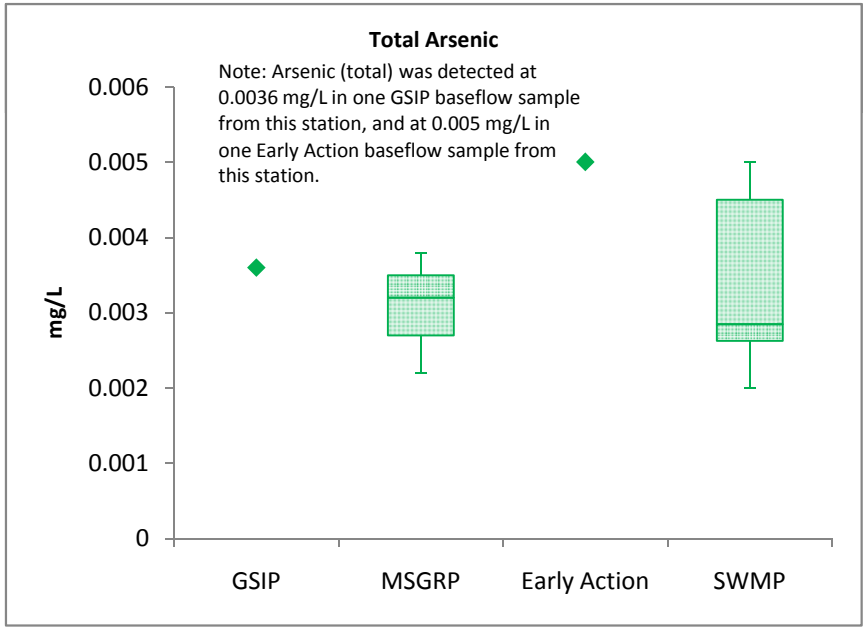
APPENDIX A

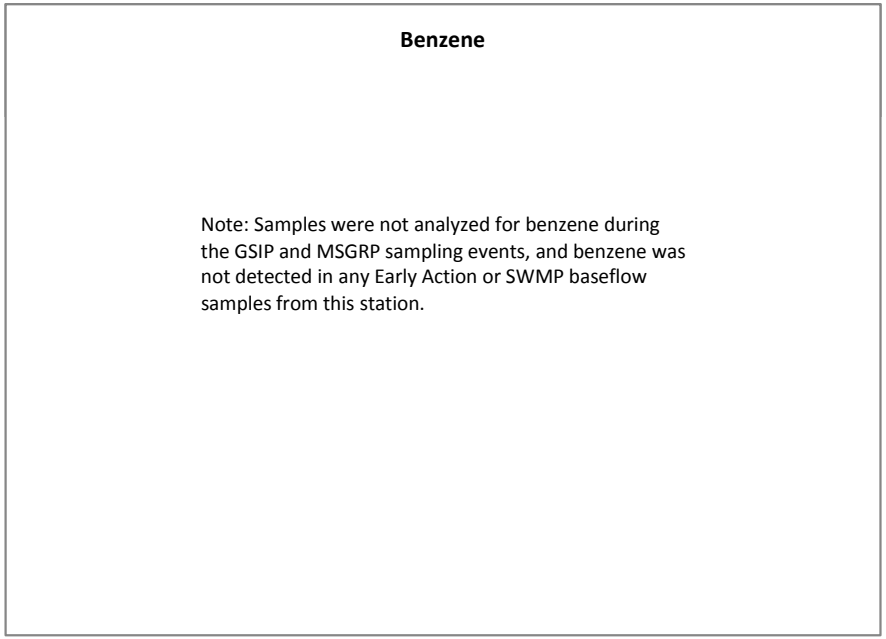
Baseflow Sampling Box-Whisker Plots

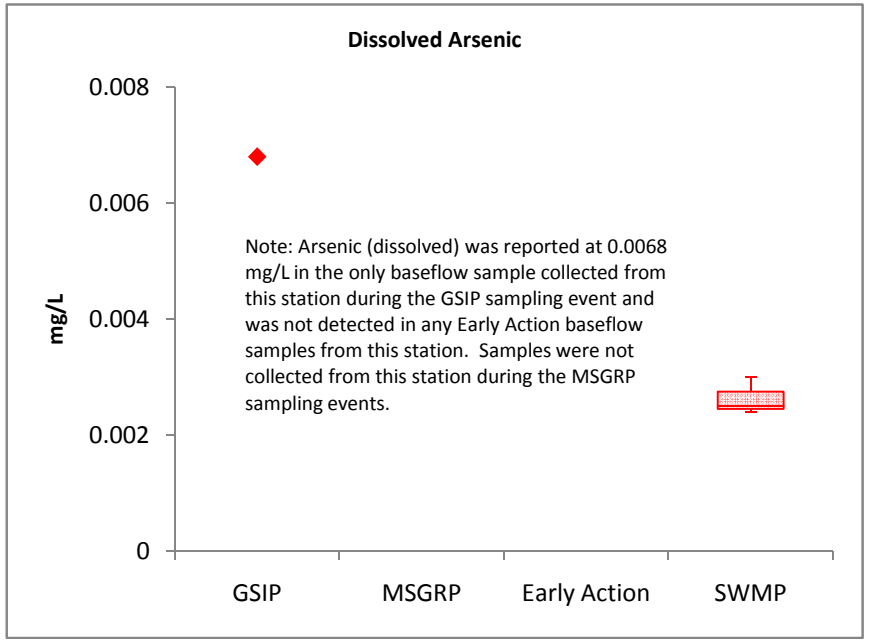

LEGEND
Diamond indicates concentration of compound when detected in only one sample during a sampling program.
Maximum detected concentration
Range of detected concentrations
75th percentile
50th percentile (median)
25th percentile
Minimum detected concentration
Circle indicates concentration of compound when detected in the most recent sample collected.
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

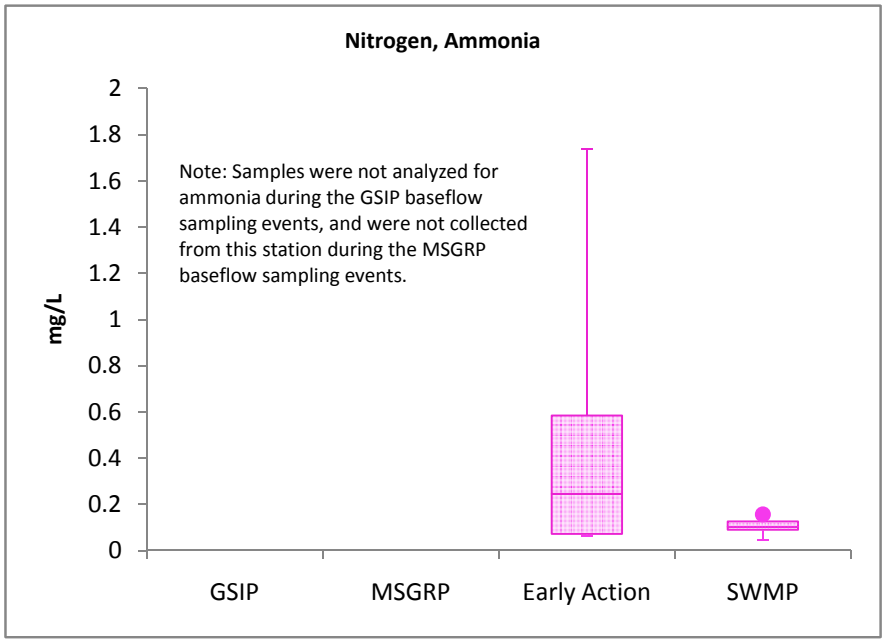

Dissolved Arsenic
Note: Arsenic (dissolved) was not detected in any GSIP baseflow samples from this station. Arsenic (dissolved) was detected at 0.005 mg/L in one Early Action baseflow sample from this station.
mg/L
0.008
0.007
0.006
0.005
0.004
0.003
0.002
0.001
0
GSIP
MSGRP
Early Action
SWMP

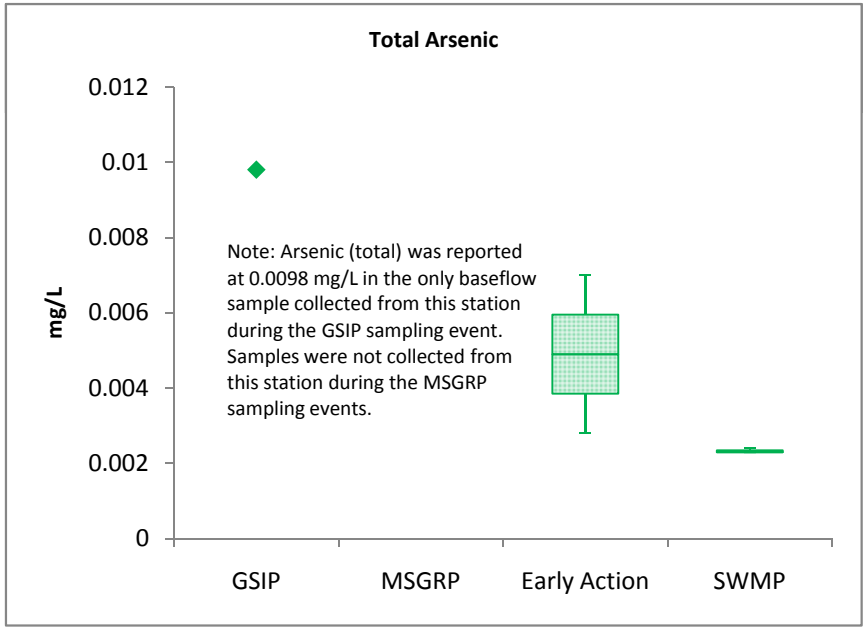

Nitrogen, Ammonia
Note: Samples were not analyzed for ammonia during the GSIP and MSGRP sampling events.
mg/L
6
5
4
3
2
1
0
GSIP
MSGRP
Early Action
SWMP

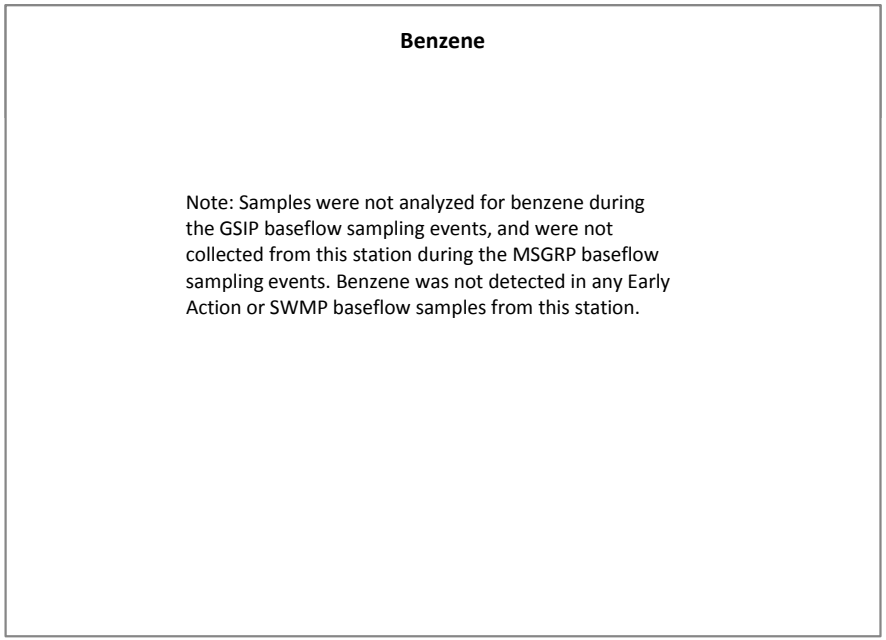

Total Arsenic
Note: Arsenic (total) was detected at 0.0036 mg/L in one GSIP baseflow sample from this station, and at 0.005 mg/L in one Early Action baseflow sample from this station.
mg/L
0.006
0.005
0.004
0.003
0.002
0.001
0
GSIP
MSGRP
Early Action
SWMP

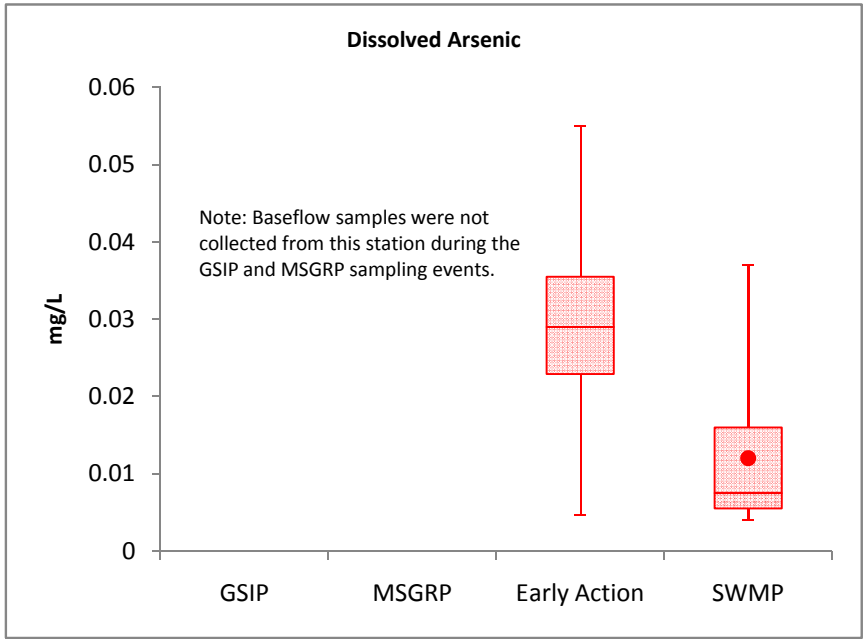

Benzene
Note: Samples were not analyzed for benzene during the GSIP and MSGRP sampling events, and benzene was not detected in any Early Action or SWMP baseflow samples from this station.

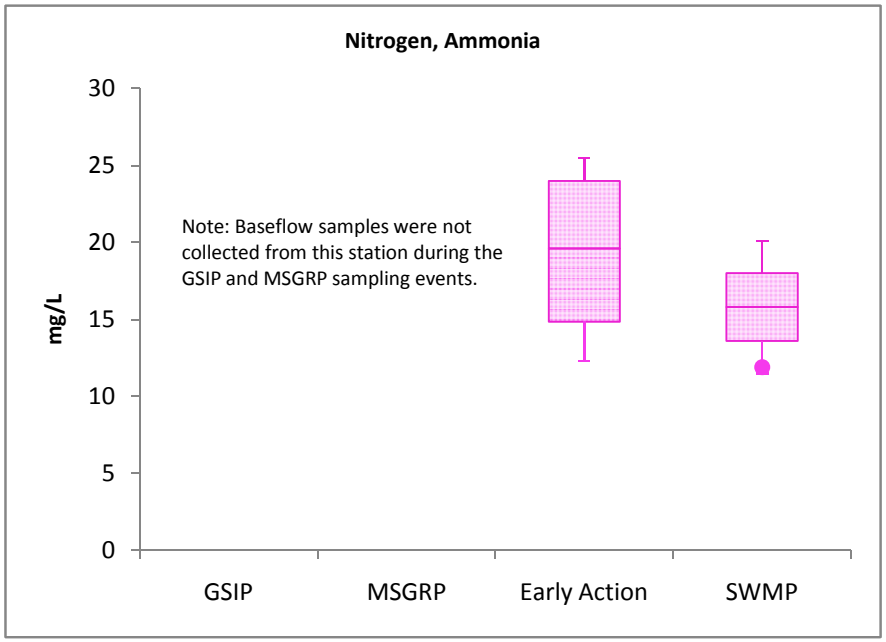

Dissolved Arsenic
mg/L
0.008
0.006
0.004
0.002
0
GSIP
MSGRP
Early Action
SWMP
Note: Arsenic (dissolved) was reported at 0.0068 mg/L in the only baseflow sample collected from this station during the GSIP sampling event and was not detected in any Early Action baseflow samples from this station. Samples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

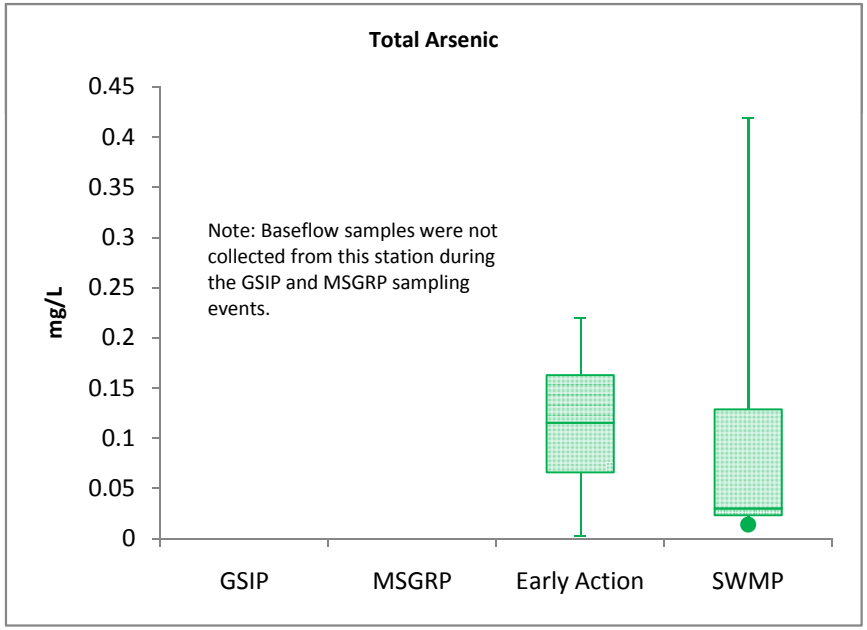

Nitrogen, Ammonia
mg/L
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
GSIP
MSGRP
Early Action
SWMP
Note: Samples were not analyzed for ammonia during the GSIP baseflow sampling events, and were not collected from this station during the MSGRP baseflow sampling events.

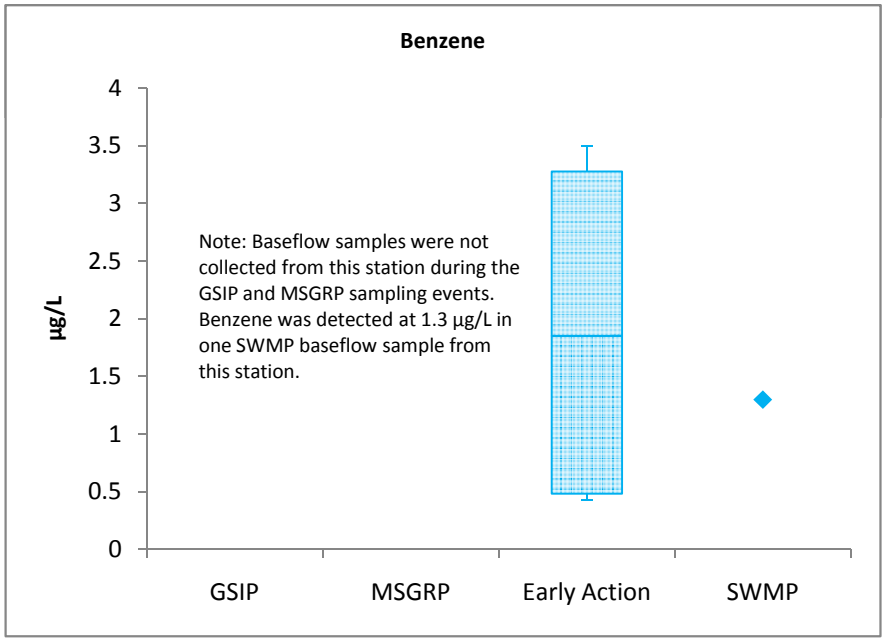

Total Arsenic
mg/L
0.012
0.01
0.008
0.006
0.004
0.002
0
GSIP
MSGRP
Early Action
SWMP
Note: Arsenic (total) was reported at 0.0098 mg/L in the only baseflow sample collected from this station during the GSIP sampling event. Samples were not collected from this station during the MSGRP sampling events.


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.


Dissolved Arsenic
mg/L
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

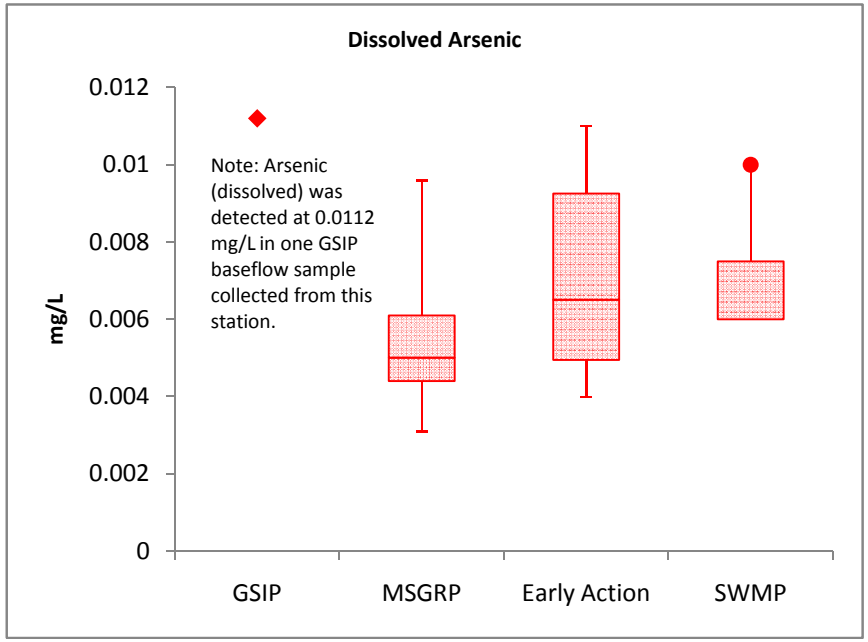

Nitrogen, Ammonia
mg/L
30
25
20
15
10
5
0
Note: Baseflow samples were not collected from this station during the GSIP and MSGRP sampling events.
GSIP
MSGRP
Early Action
SWMP

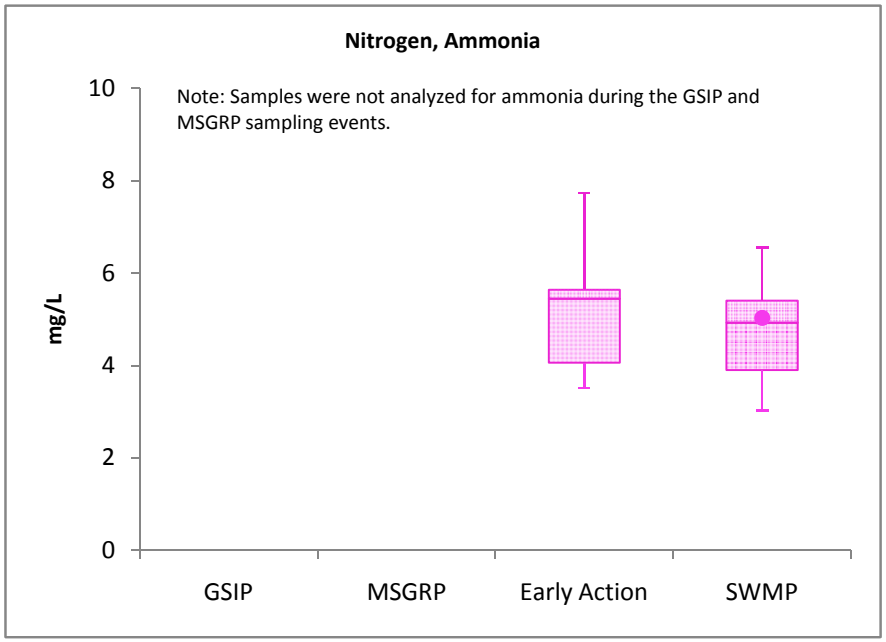

Total Arsenic
mg/L
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
Note: Baseflow samples were not collected from this station during the GSIP and MSGRP sampling events.
GSIP
MSGRP
Early Action
SWMP

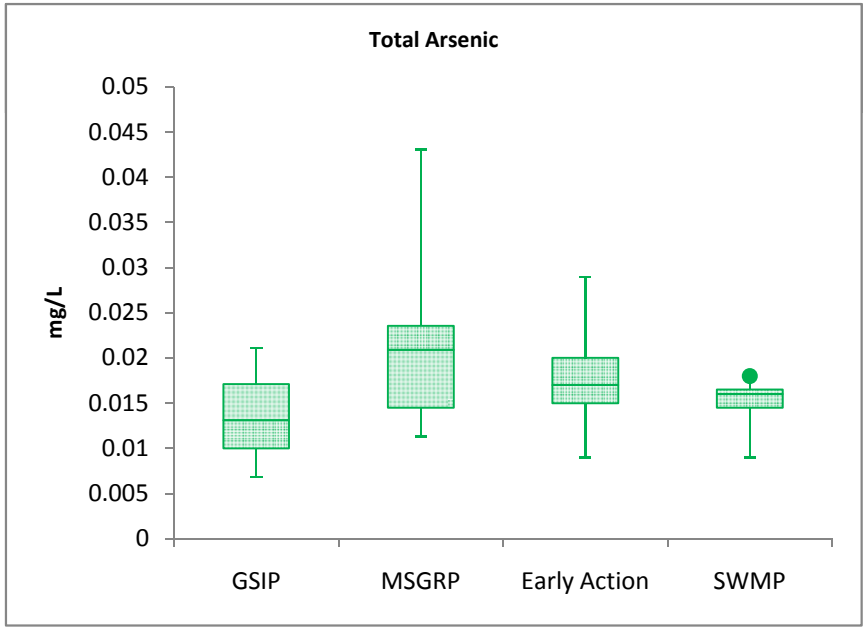

Benzene
µg/L
4
3.5
3
2.5
2
1.5
1
0.5
0
Note: Baseflow samples were not collected from this station during the GSIP and MSGRP sampling events. Benzene was detected at 1.3 µg/L in one SWMP baseflow sample from this station.
GSIP
MSGRP
Early Action
SWMP

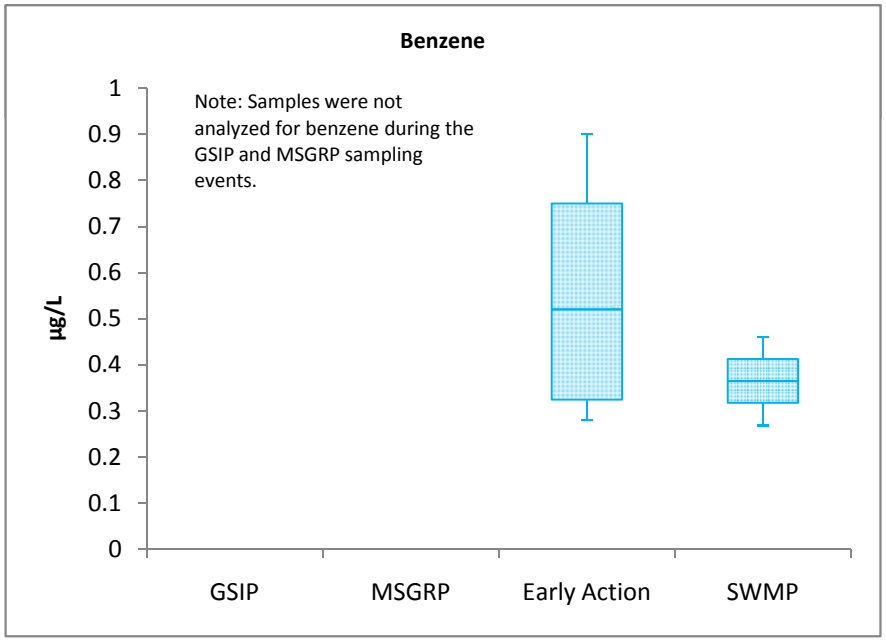
SW-02-TT (GSIP SW-4)

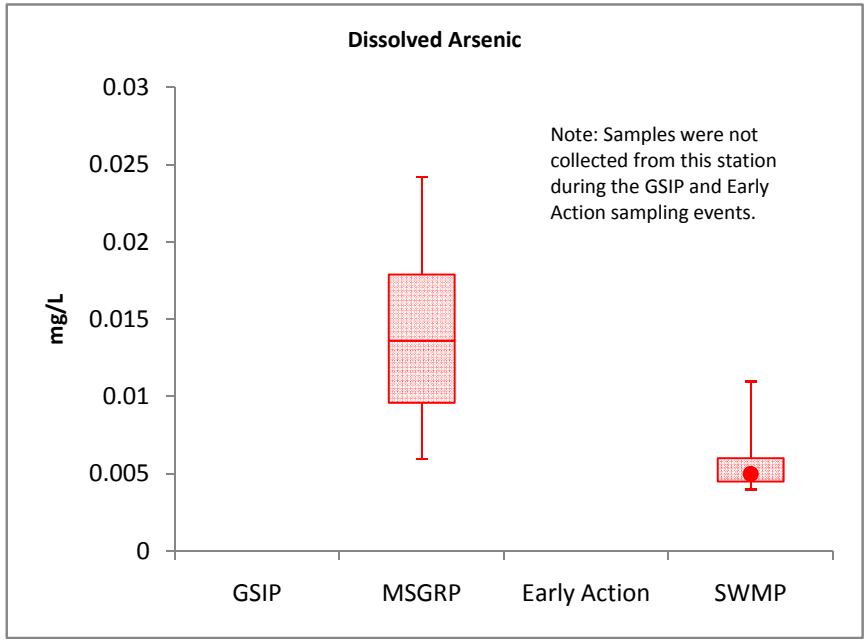
DRAFT

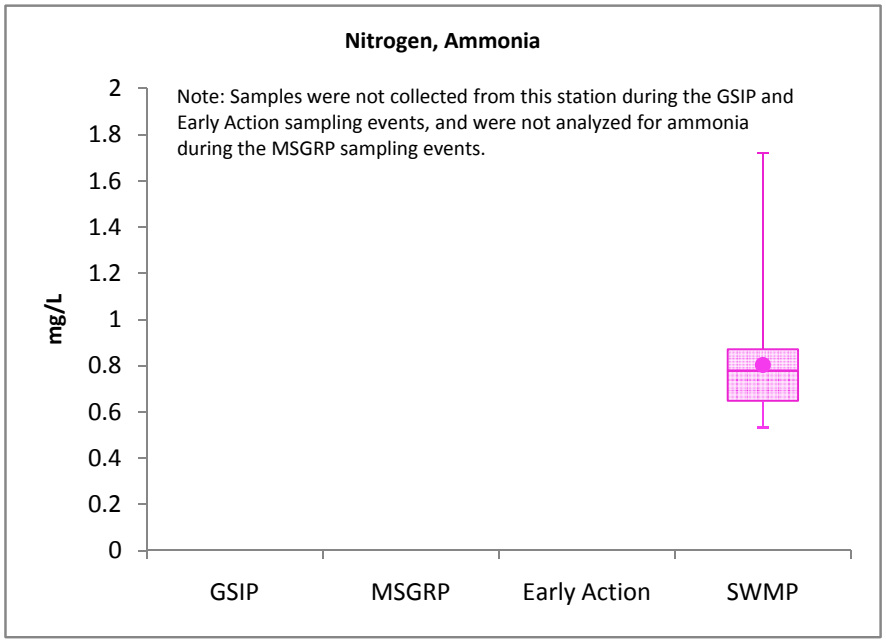


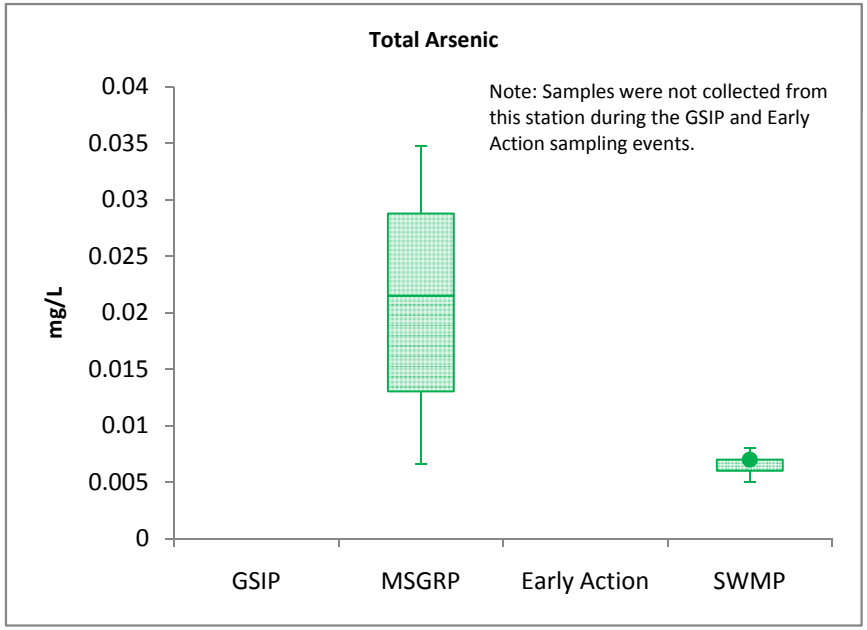








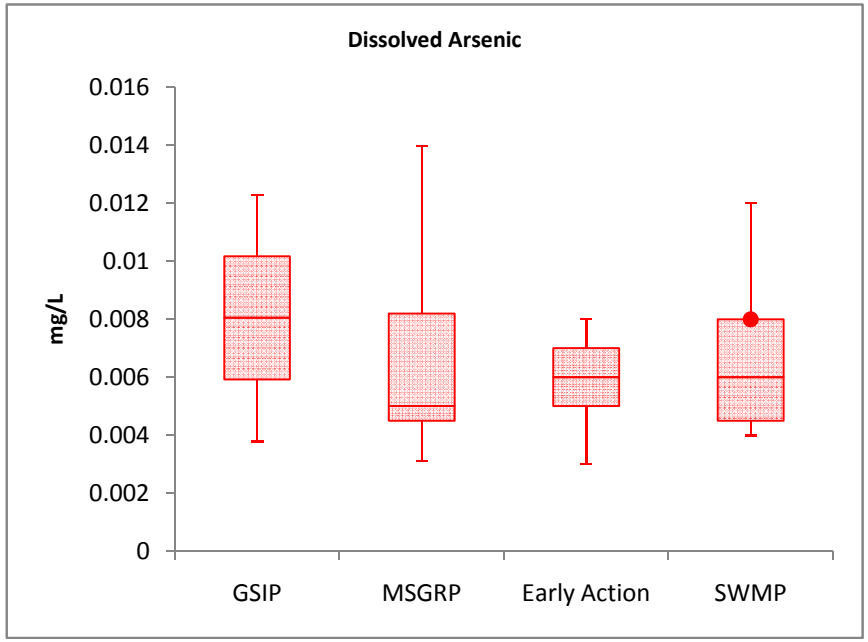


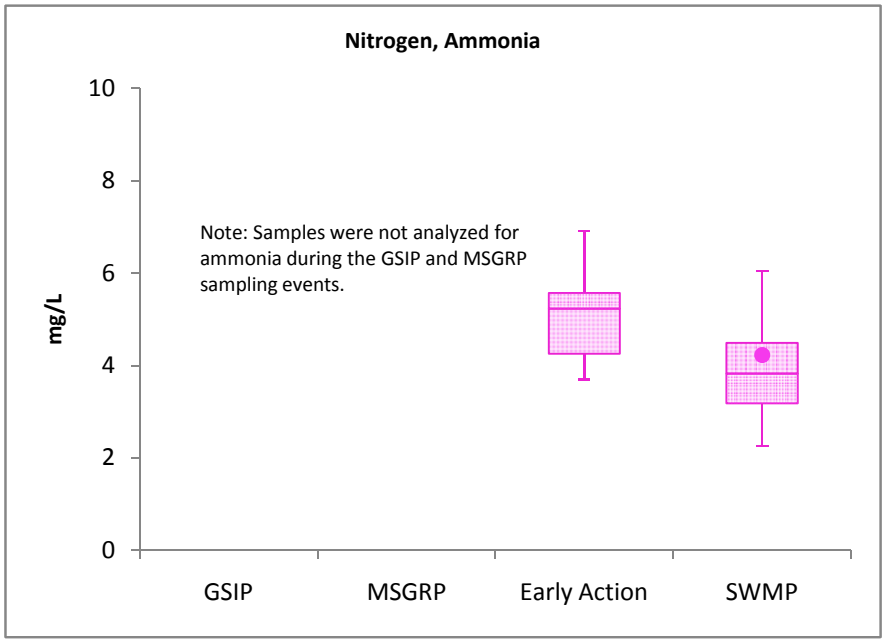


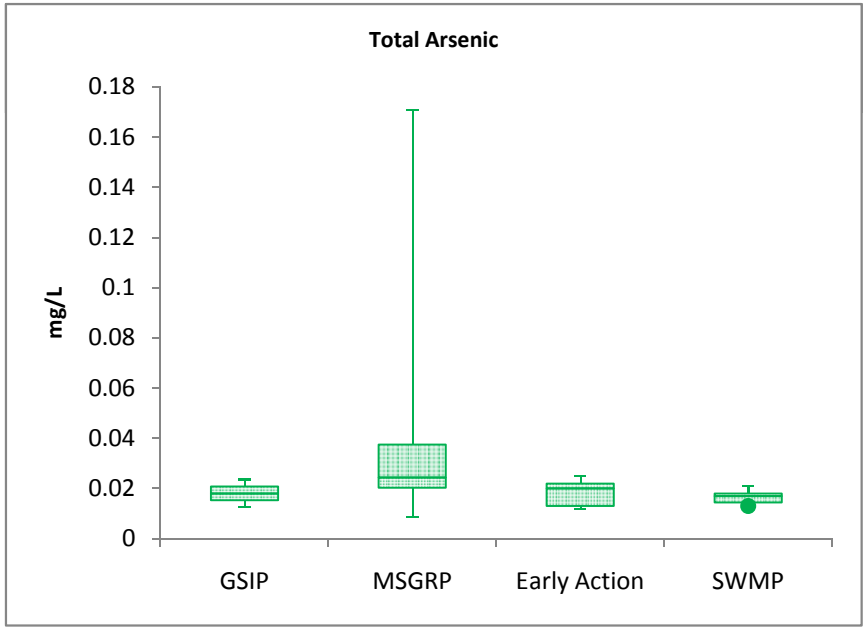
Note: Samples were not collected from this station during the GSIP and Early Action sampling events, and were not analyzed for benzene during the MSGRP sampling events. Benzene was not detected in any SWMP baseflow samples collected from this station.

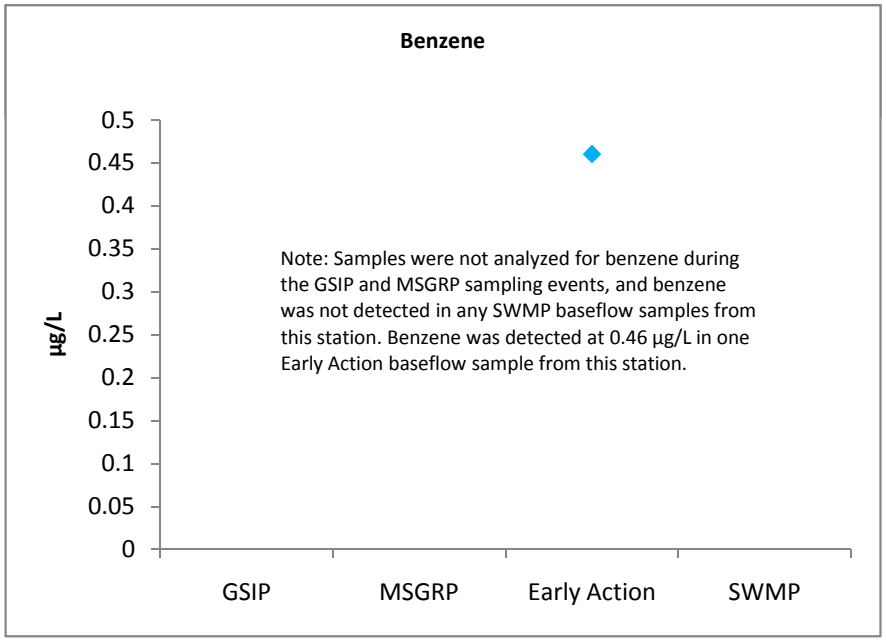
SW-04-TT (GSIP SW-9)

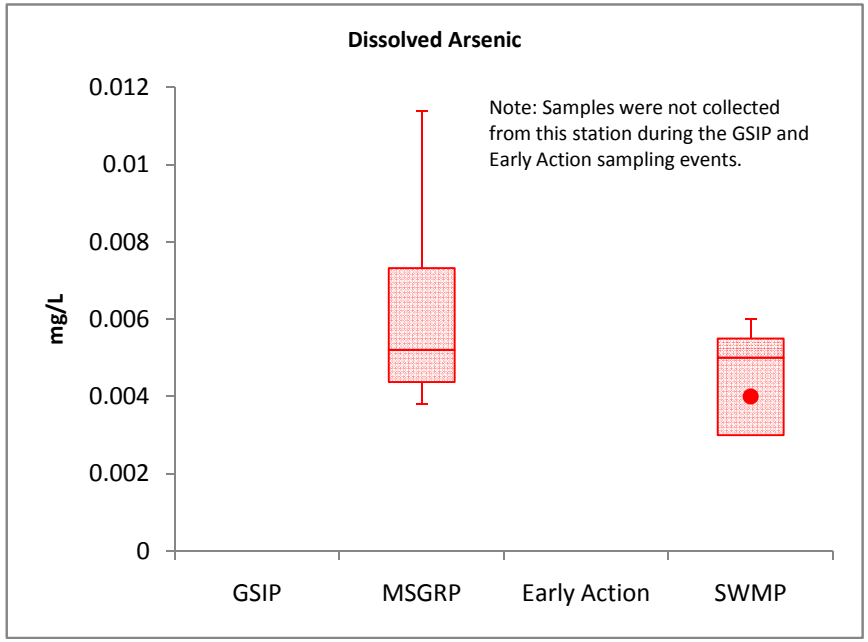
DRAFT

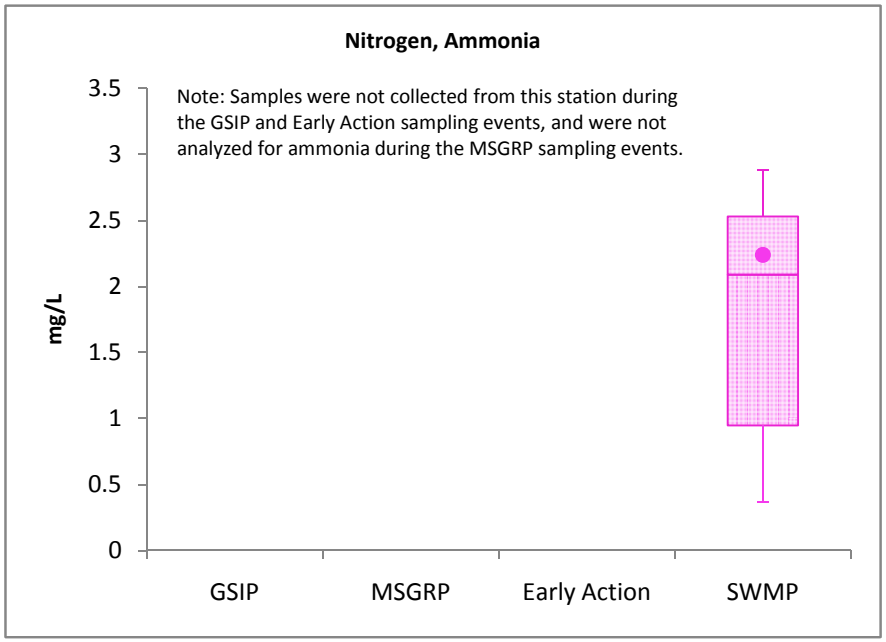


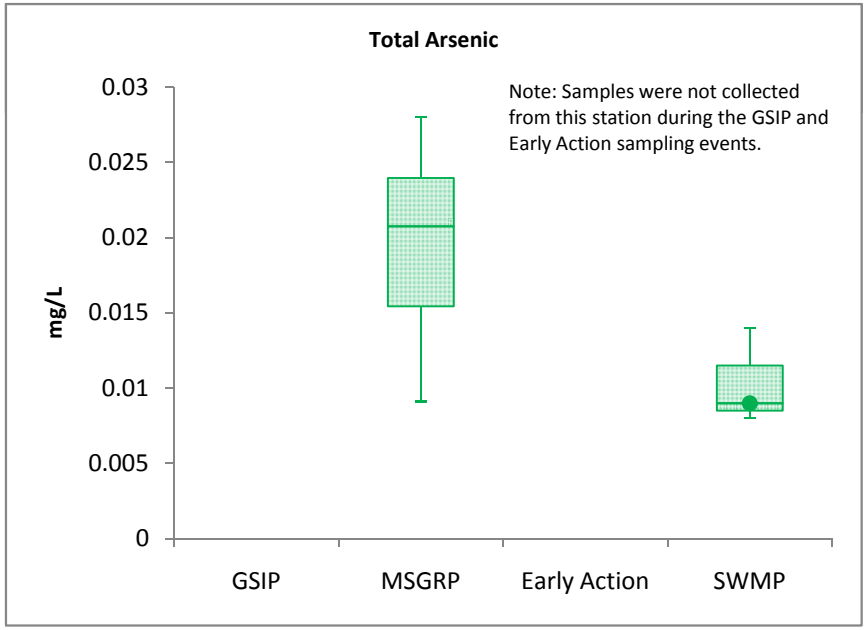




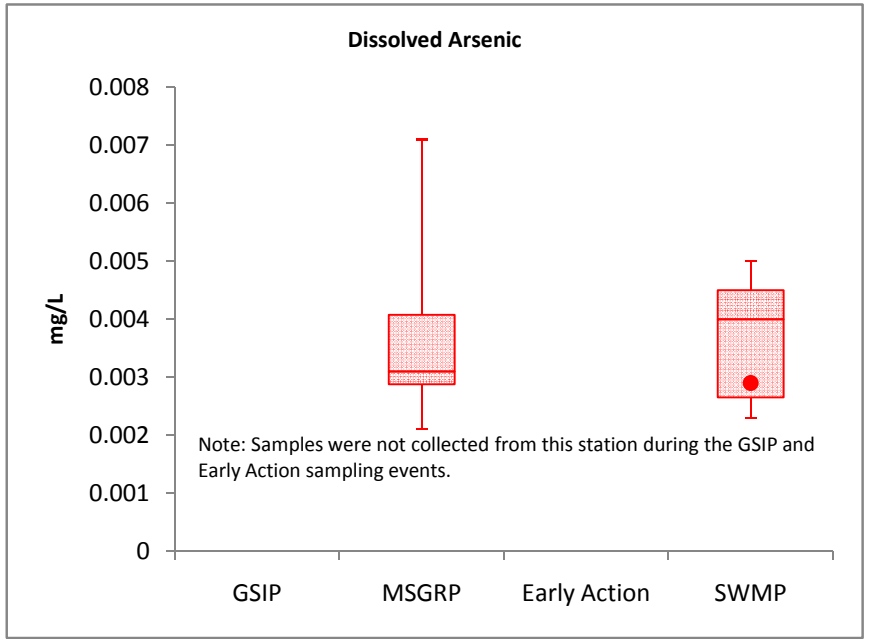


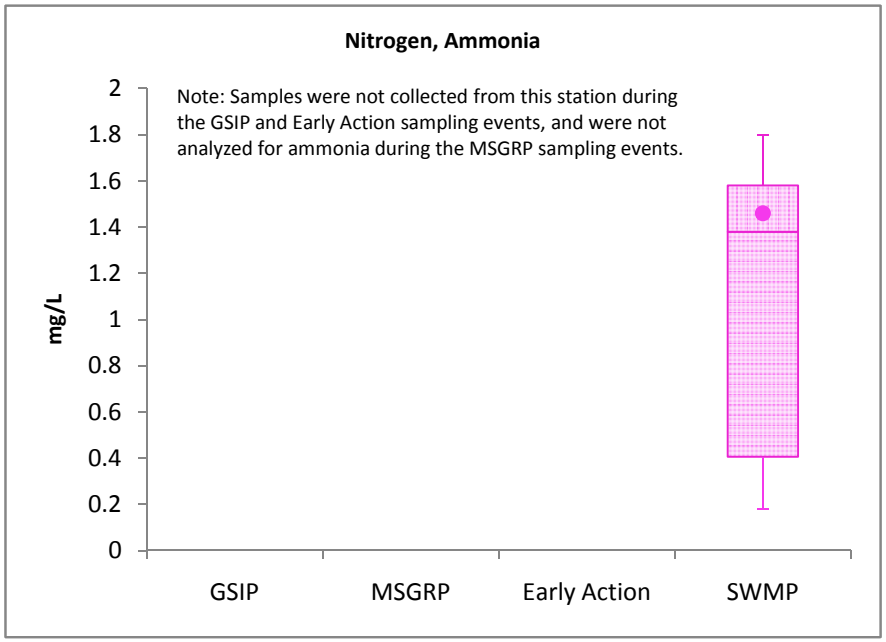


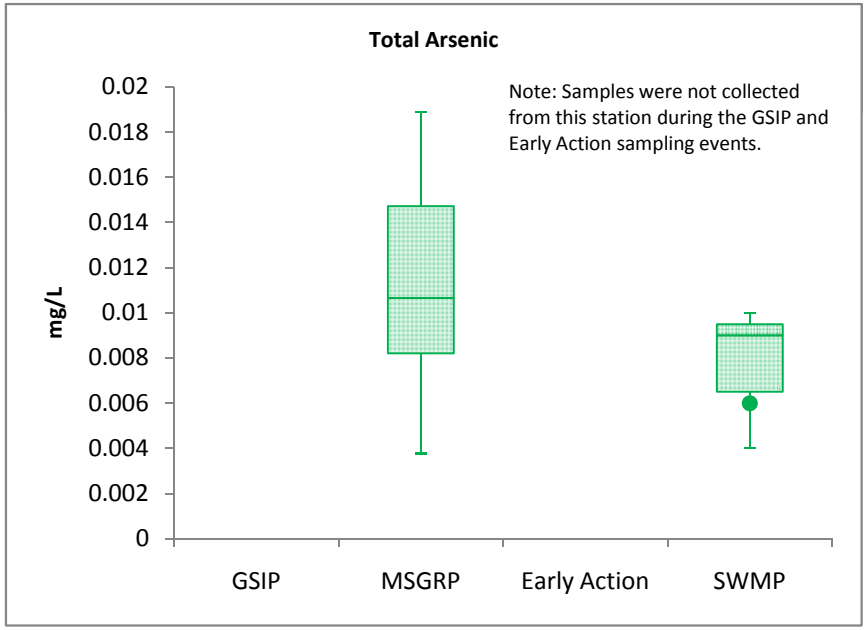




Note: Samples were not collected from this station during the GSIP and Early Action sampling events, and were not analyzed for benzene during the MSGRP sampling events. Benzene was not detected in any SWMP baseflow samples from this station.







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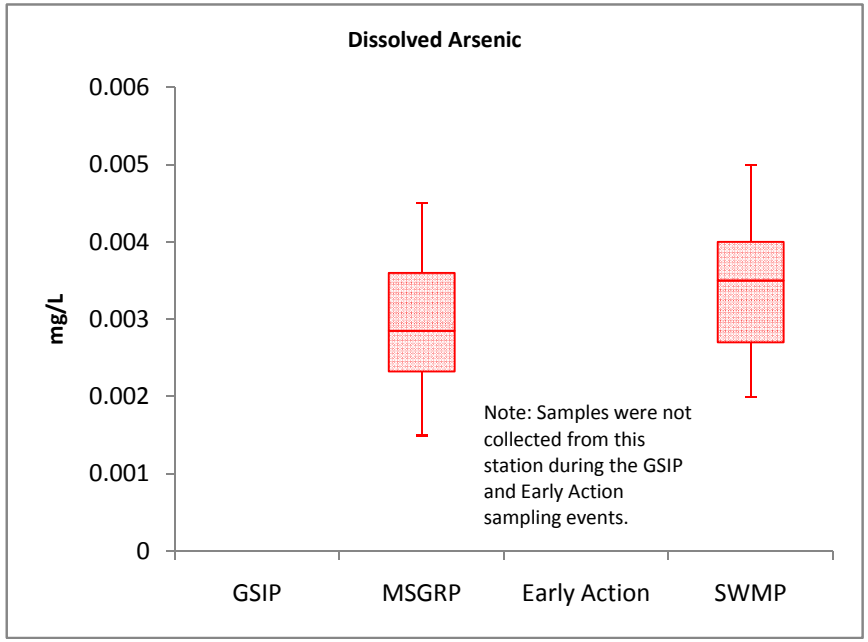

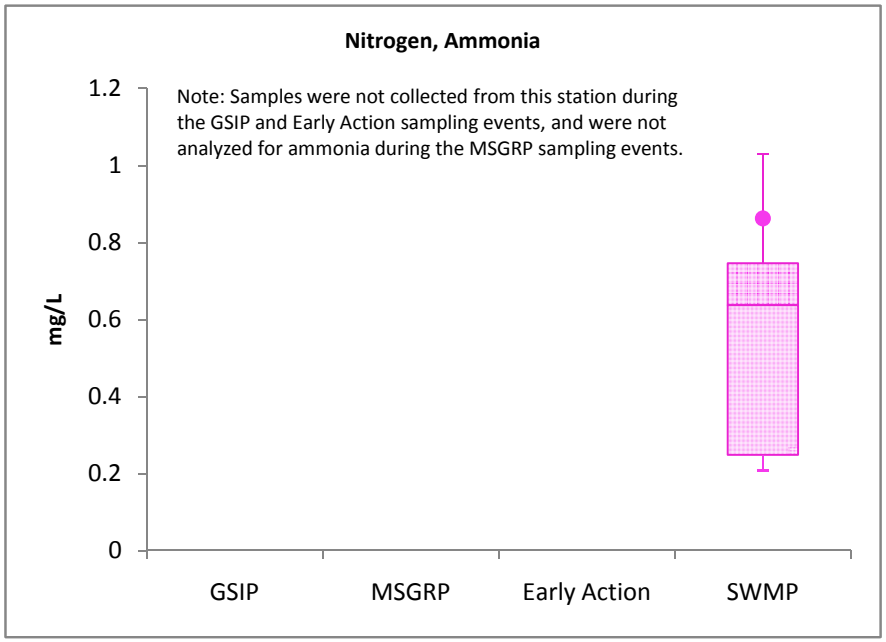

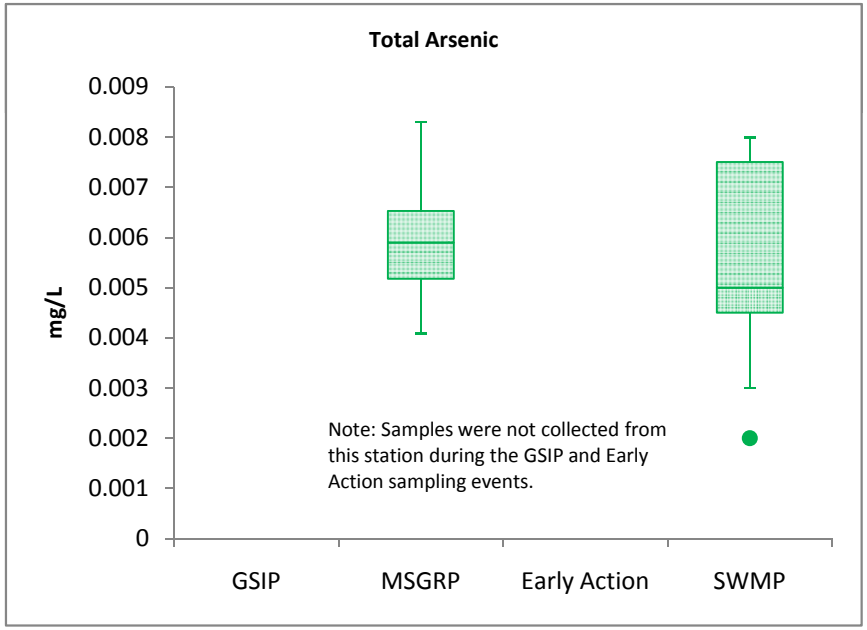

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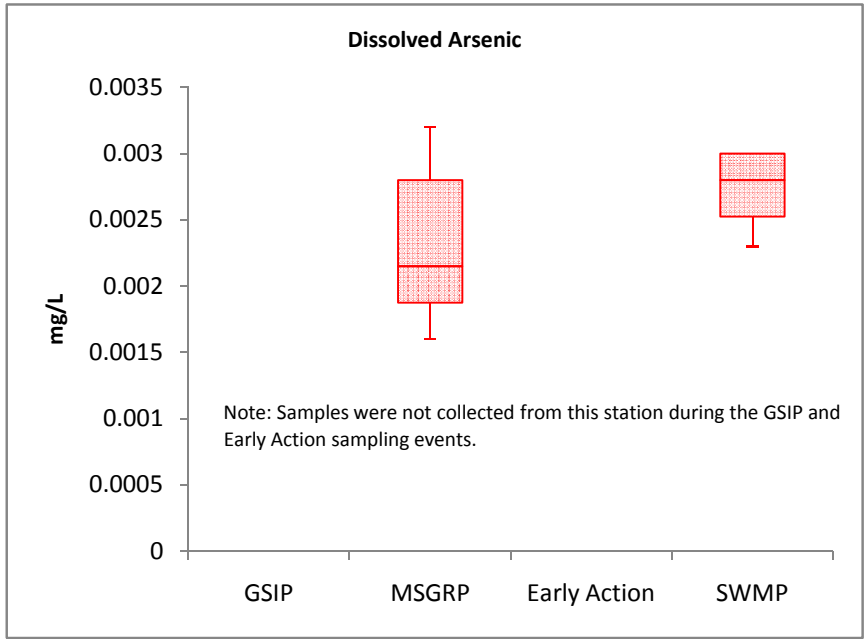

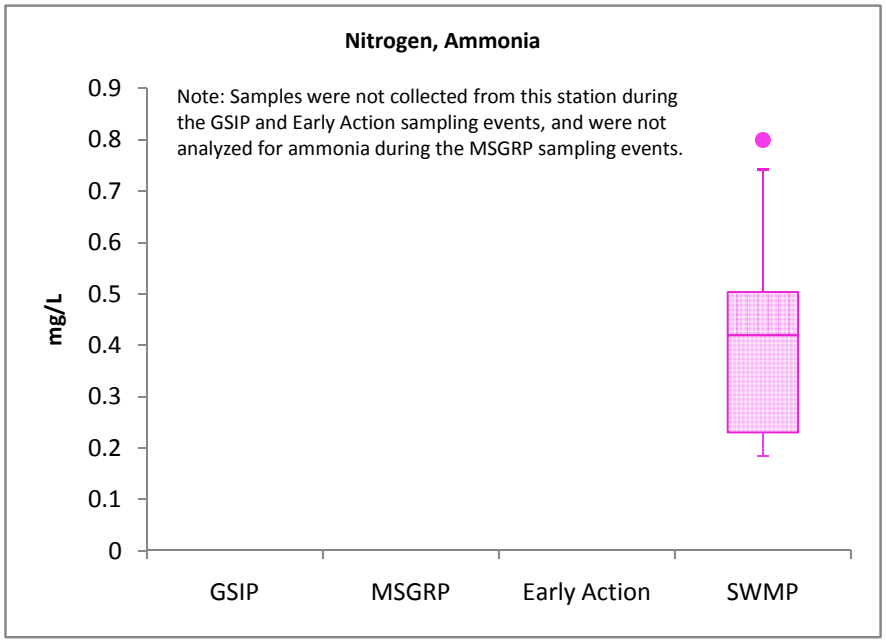

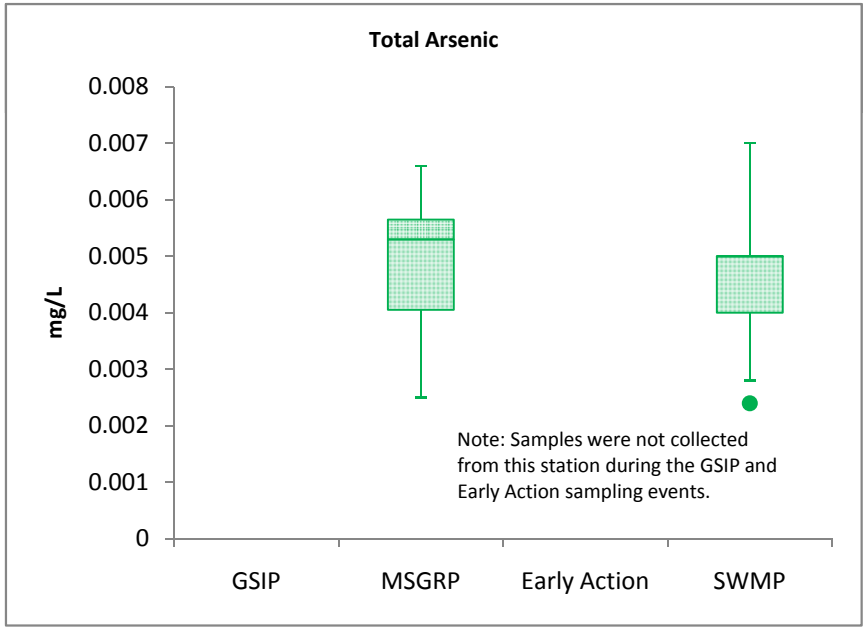

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