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Superfund Records Center
Industri-plex
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June 11, 2009

Mr. Joseph F. LeMay, P.E.
Project Coordinator
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. 2.

This report covers the period from May 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

PAPER

Baseflow Surface Water Monitoring Monthly Report No. 2
(May 2009)

Industri-plex Superfund Site
Operable Unit 2
Woburn, Massachusetts

In accordance with the Surface Water Monitoring Plan (SWMP), this Baseflow Surface Water Monitoring Report has been prepared to summarize the surface water monitoring and maintenance activities performed and the data developed during the reporting period (May 1-May 31, 2009) and to provide a brief discussion of the data. Flowlink® data and Operation and Maintenance (O&M) inspection sheets for the reporting period are provided on the attached compact disc.

Monitoring and Maintenance Activities Performed During Reporting Period

1. Regular weekly O&M activities were performed at the surface water monitoring stations on May 1, 8, 15, 21-22, and 29, 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 gages and cleaned as needed
    - downloaded flow and water quality data stored in the Isco units
    - verified the telemetry cable connection
2. Monthly O&M activities were performed on May 21-22, 2009, in conjunction with weekly O&M activities, and included the following:
    - collected manual velocity measurements
    - cleaned solar panels
3. The SWMP monthly baseflow sampling event was conducted on May 12, 2009 and included the following activities:
    - manually gauged stream flow at nine of the ten monitoring stations[1]
    - measured surface water elevations at all ten SWMP monitoring stations
    - measured groundwater elevations at eight of the ten SWMP monitoring stations[2]

[1] The BECO station (SW-3-IP) was not measured due to insufficient surface water flow.

[2] There is no piezometer at the Mishawum Road station (SW-04-TT), and the piezometer at the HBHA Pond Outlet station (SW-02-TT) was not gauged in May because the piezometer cap could not be removed with the tools available at the time. Measures have since been taken to prevent a recurrence of this problem at this or other stations.

Data Generated During Reporting Period

1. Water quality parameters recorded at the time of baseflow sampling on May 12, 2009 are provided in **Tables 1a-j**, along with the water quality measurements made during all previous "early action" baseflow sampling events.

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

Laboratory analytical data for benzene, total arsenic, dissolved arsenic, and ammonia developed during the SWMP and previous sampling programs (MSGRP, GSIP, and "Early Action") are summarized in the attached box-whisker plots. In a box-whisker plot, the "box" indicates the range within which the central fifty percent of the analytical results fall (the box edges mark the first and third quartiles of the dataset and the line dividing the box in two marks the median value), while the "whiskers" show the full range of values reported.[4] Since at least three values are required to construct a "box," individual results are shown in those cases where an analyte was detected in only one or two samples during a particular sampling program.

[3] The May 2009 results have not yet been validated.
[4] Any statistical outliers which may be present are not indicated as such.

Table 1a
Baseflow Water Quality Parameters
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

Sample ID	Location Desctription	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	Halls Brook	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	Halls Brook	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

Notes:
AAD = Atlantic Avenue Drainway
BECO ROW = Boston Edison Company right-of-way
B = Baseflow
S = Storm Event (indicated by gray shading)
cfs = cubic feet per second
cf = cubic feet
-- = Not applicable
°C = Degrees Celsius
µS/cm = microSiemens per centimeter
mg/l = milligrams per liter
s.u. = standard units
mV = milliVolts
NTU = Nephelometric Turbidity Units
NS = Not Sampled
NM = Non-measurable; insufficient flow and/or due to equipment limitations
ERR = Equipment error; ice buildup, sensor drift, stage below sensor(s), struck by debris, and/or buildup on sensor
1 For baseflow events, flow rate is recorded at the time of sampling

Table 1b
Baseflow Water Quality Parameters
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

Sample ID	Location Desctription	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	HBHA Pond Outlet	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	HBHA Pond Outlet	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

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Table 1c
Baseflow Water Quality Parameters
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

Sample ID	Location Desctription	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	Aberjona	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

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1 For baseflow events, flow rate is recorded at the time of sampling

Table 1d
Baseflow Water Quality Parameters
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

Sample ID	Location Desctription	Date	Temperature (°C)	Dissolved Oxygen (mg/l)	pH (s.u.)	ORP (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)
SW-04-TT	HBHA Wetland Outlet	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	346.1	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	HBHA Wetland Outlet	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

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1 For baseflow events, flow rate is recorded at the time of sampling

Table 1e
Baseflow Water Quality Parameters
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

Sample ID	Location Desctription	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	Salem Street	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

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mg/l = milligrams per liter
s.u = standard units
mV = milliVolts
NTU = Nephelometric Turbidity Units
NS = Not Sampled
NM = Non-measurable; insufficient flow and/or due to equipment limitations
ERR = Equipment error; ice buildup, sensor drift, stage below sensor(s), struck by debris, and/or buildup on sensor
1 For baseflow events, flow rate is recorded at the time of sampling

Table 1f
Baseflow Water Quality Parameters
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

Sample ID	Location Desctription	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	Montvale Avenue	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

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mg/l = milligrams per liter
s.u = standard units
mV = milliVolts
NTU = Nephelometric Turbidity Units
NS = Not Sampled
NM = Non-measurable; insufficient flow and/or due to equipment limitations
ERR = Equipment error; ice buildup, sensor drift, stage below sensor(s), struck by debris, and/or buildup on sensor
1 For baseflow events, flow rate is recorded at the time of sampling

Table 1g
Baseflow Water Quality Parameters
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

Sample ID	Location Desctription	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	Swanton Street	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

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mg/l = milligrams per liter
s u. = standard units
mV = milliVolts
NTU = Nephelometric Turbidity Units
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NM = Non-measurable; insufficient flow and/or due to equipment limitations
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1 For baseflow events, flow rate is recorded at the time of sampling

Table 1h
Baseflow Water Quality Parameters
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

Sample ID	Location Desctription	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	USGS / Mystic Avenue	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

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mg/l = milligrams per liter
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1 For baseflow events, flow rate is recorded at the time of sampling

Table 1i
Baseflow Water Quality Parameters
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

Sample ID	Location Desctription	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	AAD	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	AAD	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

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Table 1j
Baseflow Water Quality Parameters
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

Sample ID	Location Desctription	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	BECO ROW	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	BECO ROW	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

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

Sample ID	Location Description	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	Halls Brook	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	Halls Brook	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	Halls Brook	08/21/08	Pre-Startup	0.5U	0.005J	0.005J	--	--	5U	3.51	0.13	1.2	2.6	0.3U
		09/18/08	Pre-Startup	0.5U	0.005U	0.005U	--	--	5U	3.13	0.06	1.1	3.7	0.57
		10/09/08	Pre-Startup	0.5U	0.005U	0.005U	--	--	5U	3.98	0.08	1	4.8	0.82
		11/05/08	~5	0.5U	0.005U	0.005U	--	--	6	2.58	0.04J	0.81	4	1.4
		12/09/08	6.78	0.5U	0.003U	0.003U	--	--	8.1	3.96	0.01J	7.6	5	1
		01/20/09	Down	0.5U	0.003U	0.003U	--	--	7.9	3.24	0.034J	1	3.6	0.36
		02/02/09	7.28	0.5U	0.003U	0.003U	--	--	5U	2.89	0.06	1.1	3.5	0.61
		03/18/09	9.95	0.5U	0.003U	0.003U	--	--	5U	2.75	0.05U	1.1	3.8	1
		04/01/09	9.15	0.5U	0.003U	0.003U	--	--	12	2.09	0.05U	0.86	3.2	1.1
Surface Water Monitoring Plan														
SW-01-TT	Halls Brook	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

Notes:
cfs = cubic feet per second
µg/l = micrograms per liter
mg/l = milligrams per liter
TSS = Total Suspended Solids
TKN = Total Kjeldahl Nitrogen
-- = 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
NC = Not Calculated

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

Sample ID	Location Description	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	HBHA Pond Outlet	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	HBHA Pond Outlet	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	HBHA Pond Outlet	08/21/08	Pre-Startup	0.5U	0.029	0.006	--	--	5U	7.73	0.1	0.76	8.2	0.47
		09/18/08	Pre-Startup	0.5U	0.021	0.005U	--	--	5U	6.01	0.08	0.82	6.8	0.79
		10/09/08	Pre-Startup	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	~6	0.34J	0.017	0.009	--	--	5U	5.51	0.01J	0.88	6	0.49
		01/20/09	Down	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	Down	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	HBHA Pond Outlet	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

Notes:
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
-- = 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
NC = Not Calculated

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

Sample ID	Location Description	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	Aberjona	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	Aberjona	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

Notes:
cfs = cubic feet per second
µg/l = micrograms per liter
mg/l = milligrams per liter
TSS = Total Suspended Solids
TKN = Total Kjeldahl Nitrogen
-- = 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
NC = Not Calculated

* = Not yet validated
NC = Not Calculated

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

Sample ID	Location Description	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	HBHA Wetland Outlet	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	HBHA Wetland Outlet	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	HBHA Wetland Outlet	08/21/08	Pre-Startup	0.5U	0.025	0.007	--	--	5U	6.92	0.12	0.8	7.3	0.38
		09/18/08	Pre-Startup	0.5U	0.022	0.005J	--	--	5U	5.29	0.09	0.8	5.7	0.41
		10/09/08	Pre-Startup	0.5U	0.02	0.003J	--	--	5U	5.18	0.09	0.95	5.7	0.52
		11/05/08	Down	0.5U	0.018	0.006	--	--	5U	6.22J	0.047J	0.65	7.2	0.98
		12/09/08	NC	0.5U	0.023	0.007	--	--	5U	5.36	0.01J	0.8	6	0.64
		01/20/09	10.01	0.5U	0.02	0.008	--	--	5.3	4.44	0.05U	0.94	5.1	0.66
		02/02/09	9.21	0.5U	0.013	0.008	--	--	5U	3.71	0.029J	0.92	4.4	0.69
		03/18/09	8.98	0.5U	0.012	0.005	--	--	5U	4.08	0.05U	0.95	5	0.92
		04/01/09	9.06	0.46J	0.012	0.006	--	--	5U	3.72	0.05U	0.74	4.5	0.78
Surface Water Monitoring Plan														
SW-04-TT	HBHA Wetland Outlet	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*	0.75	0.5U	0.018	0.004	--	--	5U	3.87	0.06	0.75	4.7	0.83

Notes:
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
-- = 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
NC = Not Calculated

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

Sample ID	Location Description	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	Salem Street	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	Salem Street	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

Notes:
cfs = cubic feet per second
µg/l = micrograms per liter
mg/l = milligrams per liter
TSS = Total Suspended Solids
TKN = Total Kjeldahl Nitrogen
-- = 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
NC = Not Calculated

* = Not yet validated
NC = Not Calculated

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

Sample ID	Location Description	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	Montvale Avenue	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	Montvale Avenue	04/17/09*	90.91	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

Notes:
cfs = cubic feet per second
µg/l = micrograms per liter
mg/l = milligrams per liter
TSS = Total Suspended Solids
TKN = Total Kjeldahl Nitrogen
-- = 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
NC = Not Calculated

* = Not yet validated
NC = Not Calculated

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

Sample ID	Location Description	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	Swanton Street	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	Swanton Street	04/17/09*	2.27	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

Notes:
cfs = cubic feet per second
µg/l = micrograms per liter
mg/l = milligrams per liter
TSS = Total Suspended Solids
TKN = Total Kjeldahl Nitrogen
-- = 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
NC = Not Calculated

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

Sample ID	Location Description	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	USGS / Mystic Avenue	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	USGS / Mystic Avenue	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

Notes:
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
-- = 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
NC = Not Calculated

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

Sample ID	Location Description	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	AAD	08/29/00	NS	NS	NS	NS	--	--	NS	NS	NS	NS	NS	NS
		10/05/00	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	AAD	08/21/08	Pre-Startup	0.5U	0.007	0.005U	--	--	5U	0.088	0.05J	0.24	0.4	0.31
		09/18/08	Pre-Startup	0.5U	0.005U	0.005U	--	--	5U	0.075J	0.05U	0.15	0.47	0.47
		10/09/08	Pre-Startup	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	Down	0.5U	0.003U	0.003U	--	--	5U	1.74	0.05U	0.57	2	0.3U
		02/02/09	Down	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	NM	0.5U	0.003U	0.003U	--	--	5U	0.403	0.05U	0.89	0.87	0.47
Surface Water Monitoring Plan														
SW-2-IP	AAD	04/17/09*	1.34	0.5U	0.003U	0.003U	0.23	0.08	5U	0.0468J	0.05U	0.87	0.46	0.46
		05/12/09*	1.47	0.5U	0.003U	0.003U	0.59	0.037J	5U	0.103	0.05U	0.21	0.9	0.8

Notes:
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
-- = 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
NC = Not Calculated

* = Not yet validated
NC = Not Calculated

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

Sample ID	Location Description	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	BECO ROW	08/29/00	NS	NS	NS	NS	--	--	NS	NS	NS	NS	NS	NS
		10/05/00	NS	NS	NS	NS	--	--	NS	NS	NS	NS	NS	NS
		04/05/01	NS	NS	NS	NS	--	--	NS	NS	NS	NS	NS	NS
Remedial Design "Early Action"														
SW-3-IP	BECO ROW	08/21/08	Pre-Startup	--	--	--	--	--	--	23.5	--	--	--	--
		09/18/08	NS	NS	NS	NS	--	--	NS	NS	NS	NS	NS	NS
		10/09/08	Pre-Startup	0.5U	0.0028J	0.0047J	--	--	84	12.3	0.15	1.1	13	0.7
		11/05/08	NS	NS	NS	NS	--	--	NS	NS	NS	NS	NS	NS
		12/09/08	NS	NS	NS	NS	--	--	NS	NS	NS	NS	NS	NS
		01/20/09	NS	NS	NS	NS	--	--	NS	NS	NS	NS	NS	NS
		02/02/09	Down	0.43J	0.22	0.029	--	--	650	15.7	0.11	1.2	16	0.3
		03/18/09	0.11	3.5	0.144	0.029	--	--	93	22.6	0.036J	1.3	24	1.4
		04/01/09	NM	3.2	0.087	0.055	--	--	35	25.5	0.034J	1.1	26	0.5
Surface Water Monitoring Plan														
SW-3-IP	BECO ROW	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*	NM	0.5U	0.028	0.004	1.7	0.08	140	11.5	0.13	1.5	12	0.5

Notes:
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
-- = 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
NC = Not Calculated

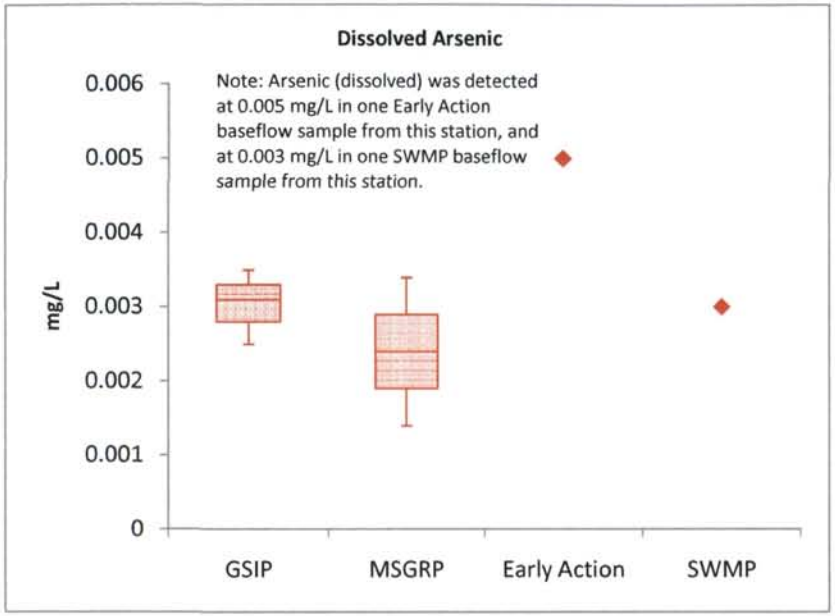
* = Not yet validated
NC = Not Calculated

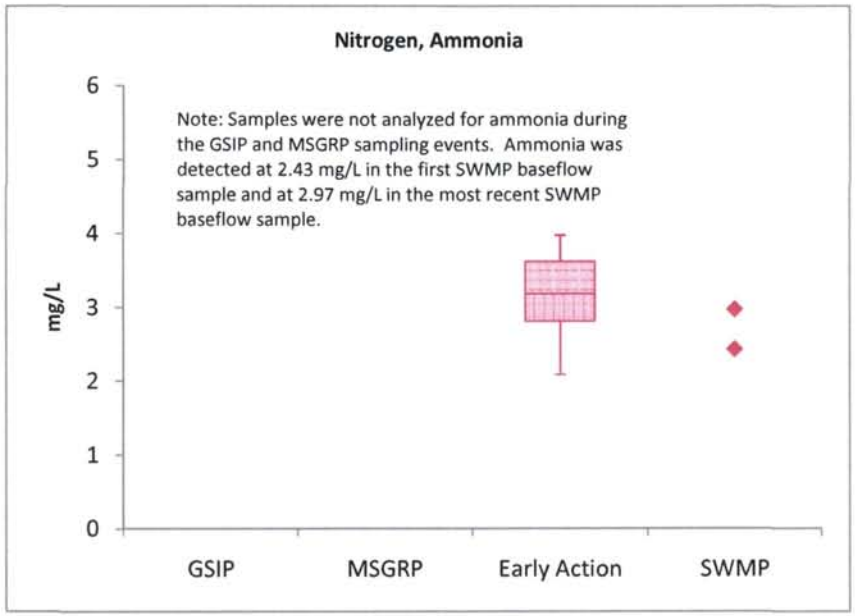
Table 3
Baseflow Gauging Data
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

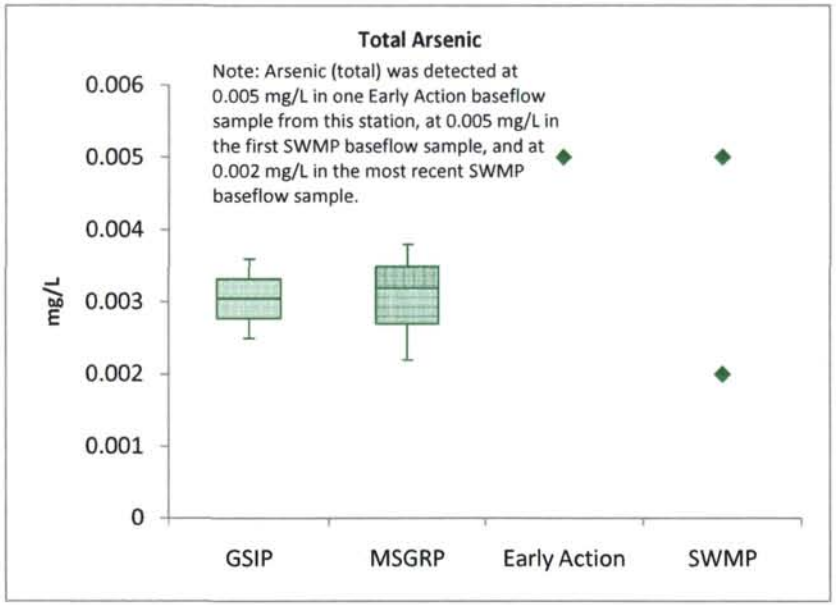
Station ID	Station Description	Date	Surface Water			Groundwater			Gradient
			Measuring Point (ft)	Staff Gauge Reading (ft)	Surface Water Elevation (ft)	Measuring Point (ft)	Depth to Water (ft)	Groundwater Elevation (ft)	
SW-01-TT	Halls Brook	05/12/09	92.00	1.16	90.84	96.87	5.64	91.23	Up
SW-02-TT	HBHA Pond Outlet	05/12/09	92.00	1.03	90.97	98.11	NM	--	--
SW-03-TT	Aberjona	05/12/09	93.46	0.66	92.80	97.41	3.13	94.28	Up
SW-05-TT	Salem Street	05/12/09	93.89	1.45	92.44	98.23	2.71	95.52	Up
SW-06-TT	Montvale Avenue	05/12/09	93.22	1.88	91.34	98.48	3.51	94.97	Up
SW-07-TT	Swanton Street	05/12/09	90.03	1.14	88.89	93.87	2.42	91.45	Up
SW-08-TT	USGS / Mystic Avenue	05/12/09	90.49	2.84	87.65	95.28	3.36	91.92	Up
SW-2-IP	AAD	05/12/09	92.34	0.49	91.85	95.16	3.50	91.66	Down
SW-3-IP	BECO ROW	05/12/09	93.74	0.23	93.51	TBS	2.81	--	--

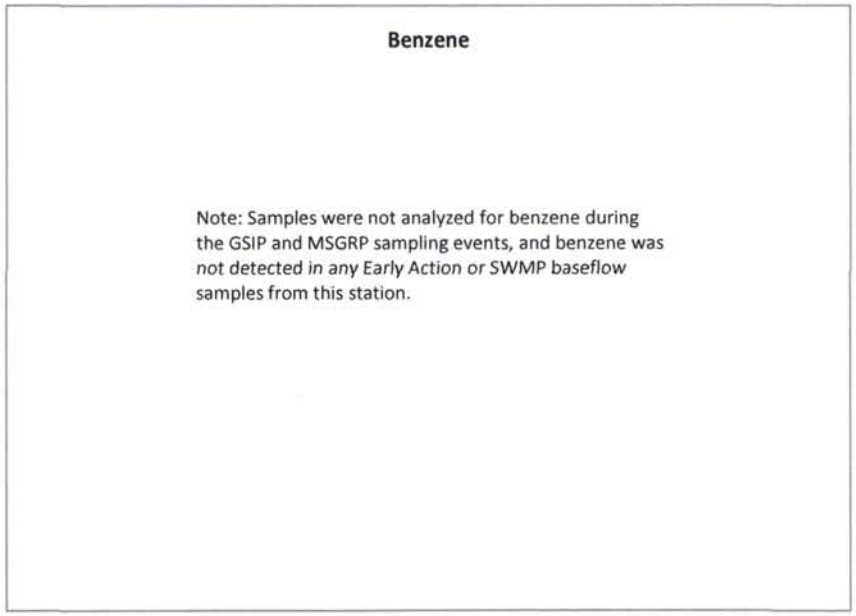
Notes:
1. Reference point is base of gauge (0.00 feet)
2. Reference point is top of casing

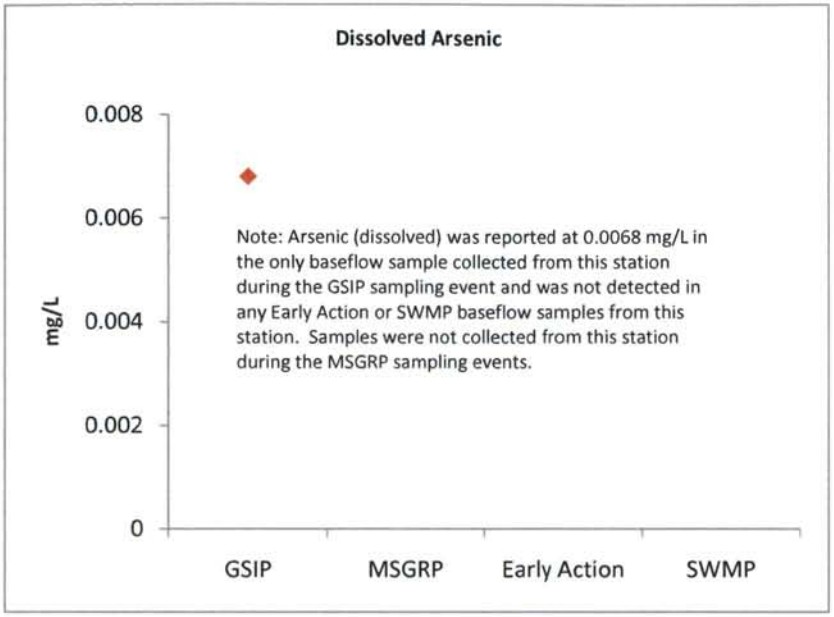
TBS - To be surveyed
NM - Not measured

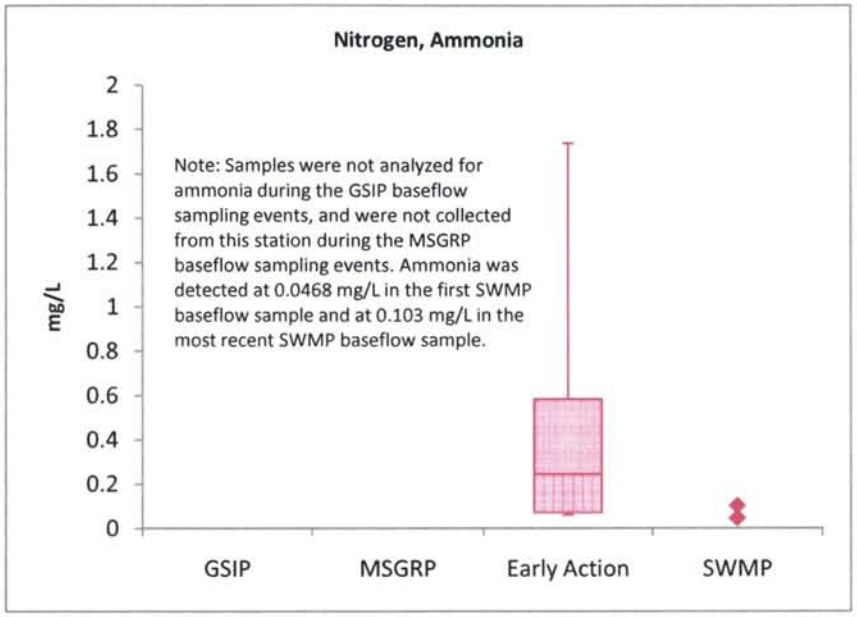

Dissolved Arsenic
Note: Arsenic (dissolved) was detected at 0.005 mg/L in one Early Action baseflow sample from this station, and at 0.003 mg/L in one SWMP baseflow sample from this station.
mg/L
0.006
0.005
0.004
0.003
0.002
0.001
0
GSIP
MSGRP
Early Action
SWMP

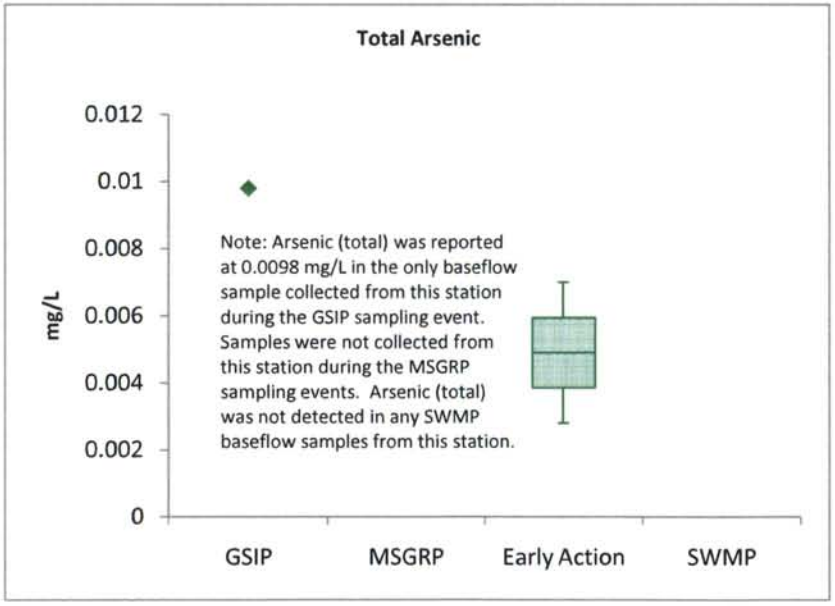

Nitrogen, Ammonia
Note: Samples were not analyzed for ammonia during the GSIP and MSGRP sampling events. Ammonia was detected at 2.43 mg/L in the first SWMP baseflow sample and at 2.97 mg/L in the most recent SWMP baseflow sample.
mg/L
6
5
4
3
2
1
0
GSIP
MSGRP
Early Action
SWMP

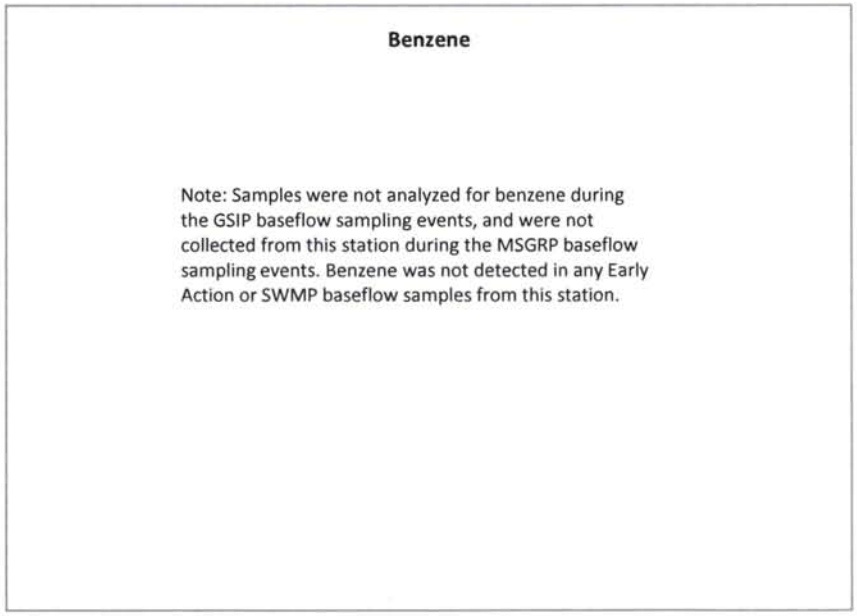

Total Arsenic
Note: Arsenic (total) was detected at 0.005 mg/L in one Early Action baseflow sample from this station, at 0.005 mg/L in the first SWMP baseflow sample, and at 0.002 mg/L in the most recent SWMP baseflow sample.
mg/L
0.006
0.005
0.004
0.003
0.002
0.001
0
GSIP
MSGRP
Early Action
SWMP

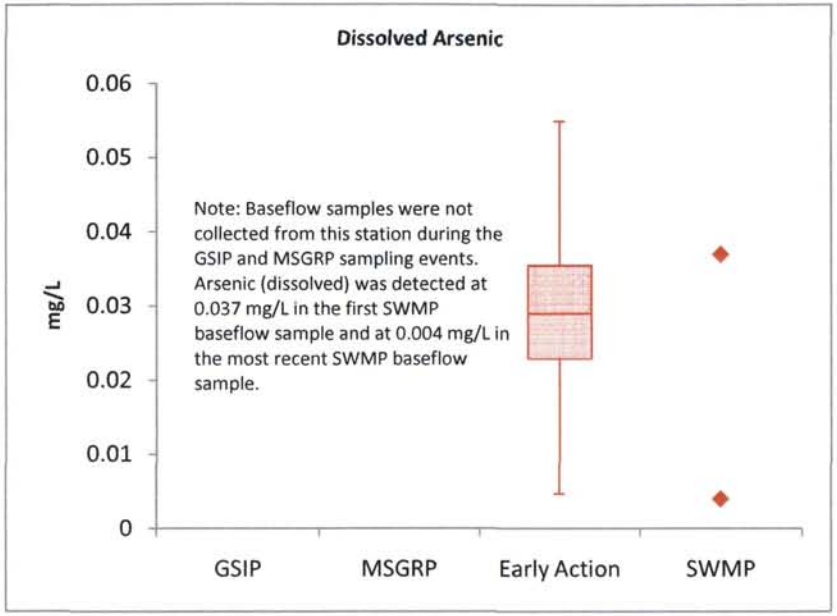

Benzene
Note: Samples were not analyzed for benzene during the GSIP and MSGRP sampling events, and benzene was not detected in any Early Action or SWMP baseflow samples from this station.

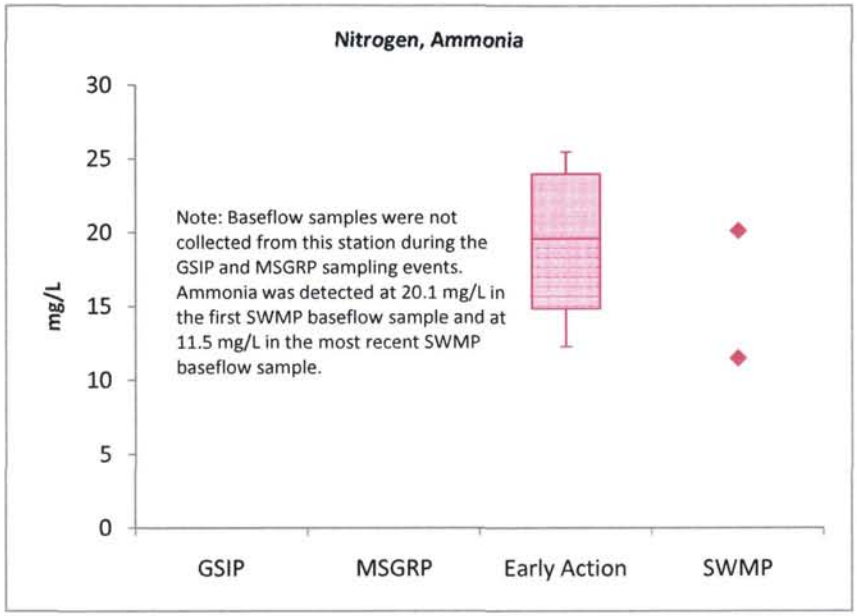

Dissolved Arsenic
0.008
0.006
0.004
0.002
0
mg/L
Note: Arsenic (dissolved) was reported at 0.0068 mg/L in the only baseflow sample collected from this station during the GSIP sampling event and was not detected in any Early Action or SWMP baseflow samples from this station. Samples were not collected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

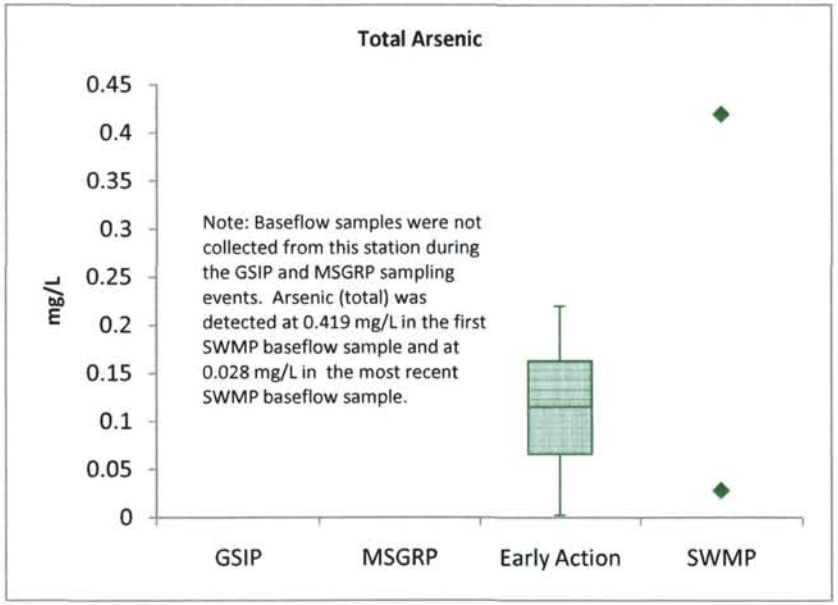

Nitrogen, Ammonia
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
mg/L
Note: Samples were not analyzed for ammonia during the GSIP baseflow sampling events, and were not collected from this station during the MSGRP baseflow sampling events. Ammonia was detected at 0.0468 mg/L in the first SWMP baseflow sample and at 0.103 mg/L in the most recent SWMP baseflow sample.
GSIP
MSGRP
Early Action
SWMP

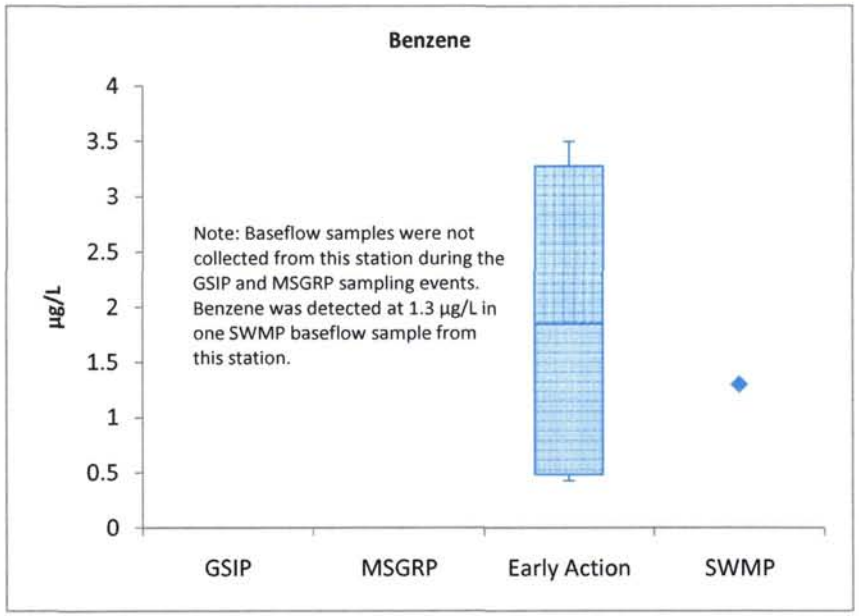

Total Arsenic
0.012
0.01
0.008
0.006
0.004
0.002
0
mg/L
Note: Arsenic (total) was reported at 0.0098 mg/L in the only baseflow sample collected from this station during the GSIP sampling event. Samples were not collected from this station during the MSGRP sampling events. Arsenic (total) was not detected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

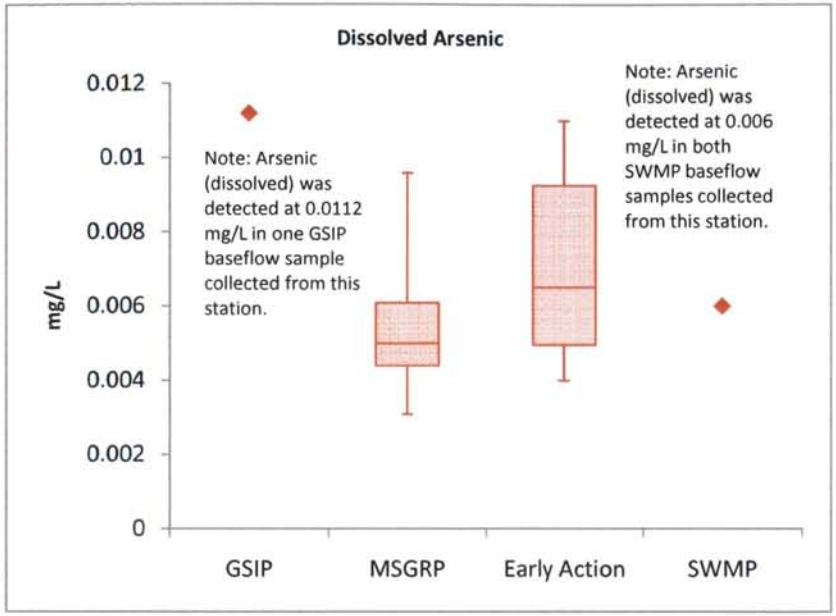

Benzene
Note: Samples were not analyzed for benzene during the GSIP baseflow sampling events, and were not collected from this station during the MSGRP baseflow sampling events. Benzene was not detected in any Early Action or SWMP baseflow samples from this station.

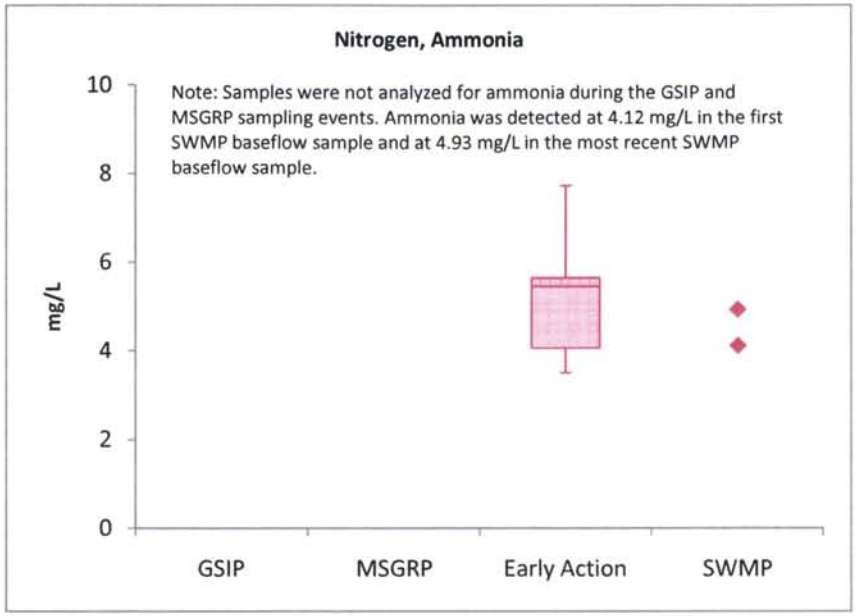

Dissolved Arsenic
mg/L
0.06
0.05
0.04
0.03
0.02
0.01
0
Note: Baseflow samples were not collected from this station during the GSIP and MSGRP sampling events. Arsenic (dissolved) was detected at 0.037 mg/L in the first SWMP baseflow sample and at 0.004 mg/L in the most recent SWMP baseflow sample.
GSIP
MSGRP
Early Action
SWMP

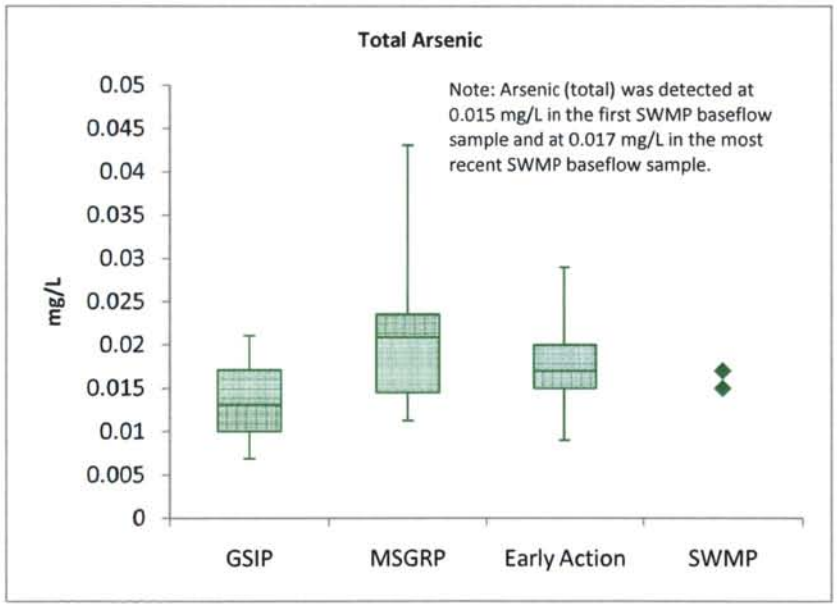

Nitrogen, Ammonia
mg/L
30
25
20
15
10
5
0
Note: Baseflow samples were not collected from this station during the GSIP and MSGRP sampling events. Ammonia was detected at 20.1 mg/L in the first SWMP baseflow sample and at 11.5 mg/L in the most recent SWMP baseflow sample.
GSIP
MSGRP
Early Action
SWMP

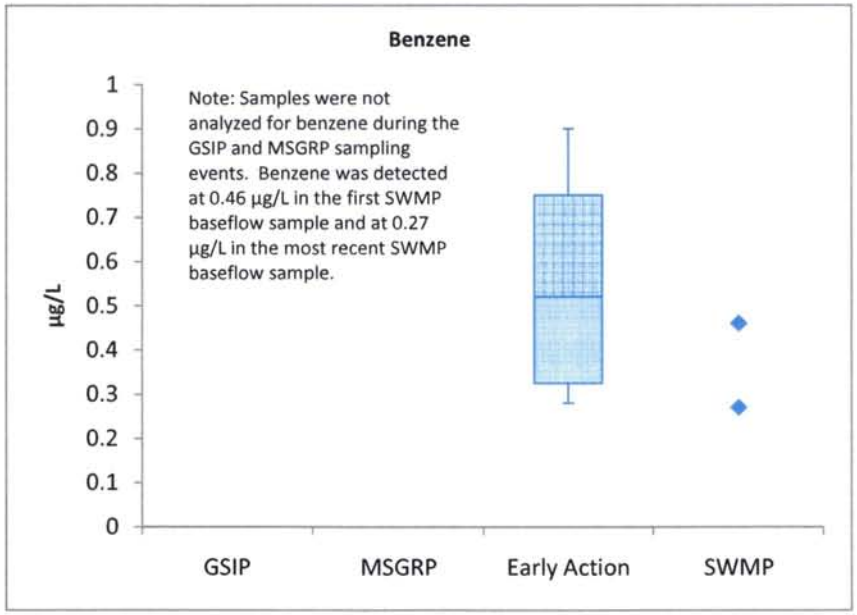

Total Arsenic
mg/L
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
Note: Baseflow samples were not collected from this station during the GSIP and MSGRP sampling events. Arsenic (total) was detected at 0.419 mg/L in the first SWMP baseflow sample and at 0.028 mg/L in the most recent SWMP baseflow sample.
GSIP
MSGRP
Early Action
SWMP

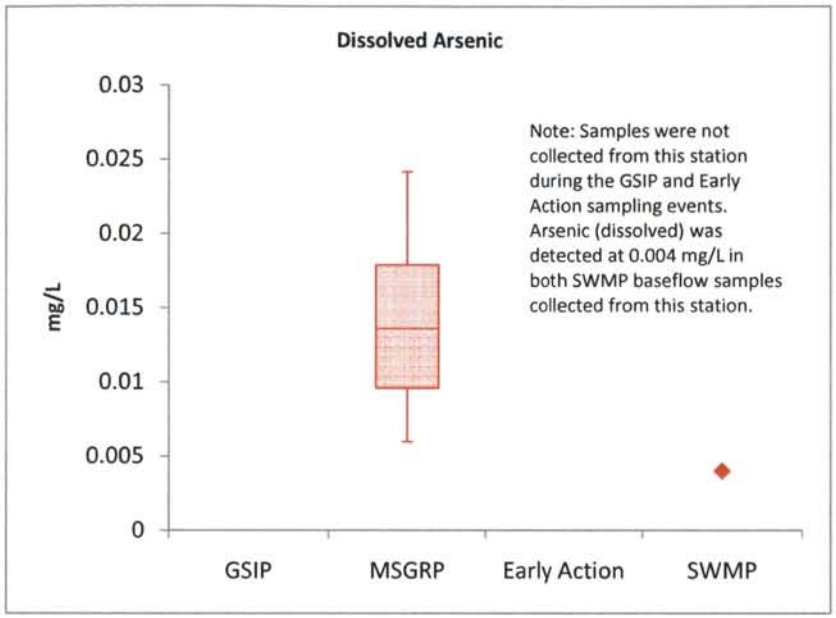

Benzene
µg/L
4
3.5
3
2.5
2
1.5
1
0.5
0
Note: Baseflow samples were not collected from this station during the GSIP and MSGRP sampling events. Benzene was detected at 1.3 µg/L in one SWMP baseflow sample from this station.
GSIP
MSGRP
Early Action
SWMP

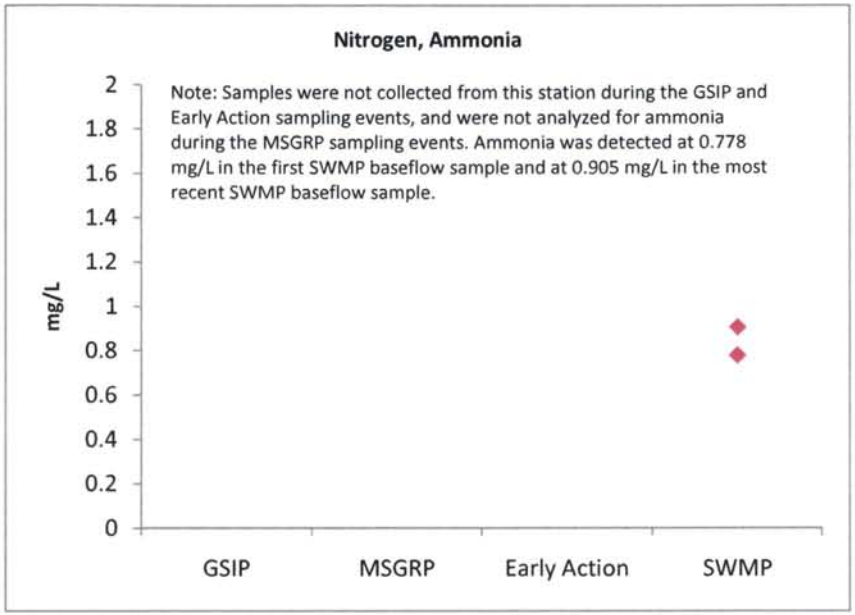

Dissolved Arsenic
mg/L
0.012
0.01
0.008
0.006
0.004
0.002
0
GSIP
MSGRP
Early Action
SWMP
Note: Arsenic (dissolved) was detected at 0.0112 mg/L in one GSIP baseflow sample collected from this station.
Note: Arsenic (dissolved) was detected at 0.006 mg/L in both SWMP baseflow samples collected from this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

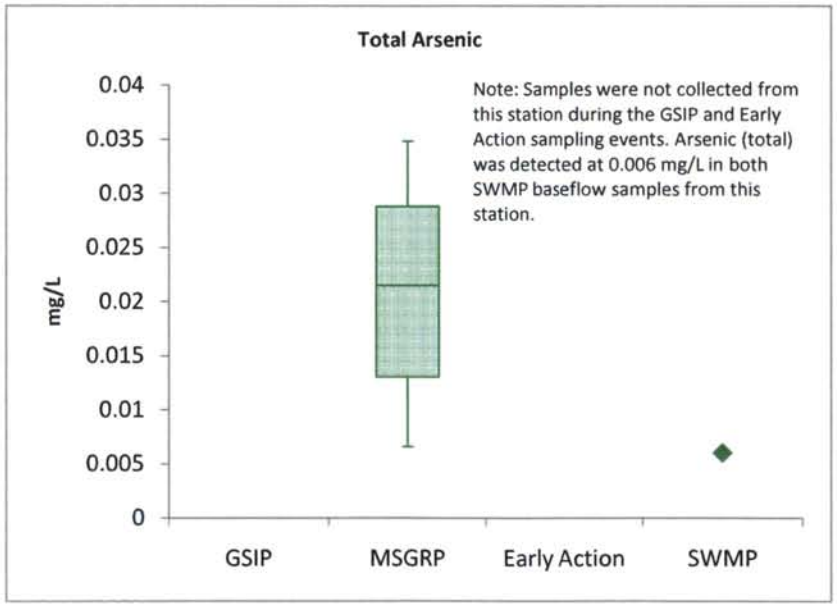

Nitrogen, Ammonia
mg/L
10
8
6
4
2
0
GSIP
MSGRP
Early Action
SWMP
Note: Samples were not analyzed for ammonia during the GSIP and MSGRP sampling events. Ammonia was detected at 4.12 mg/L in the first SWMP baseflow sample and at 4.93 mg/L in the most recent SWMP baseflow sample.


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
Note: Arsenic (total) was detected at 0.015 mg/L in the first SWMP baseflow sample and at 0.017 mg/L in the most recent SWMP baseflow sample.

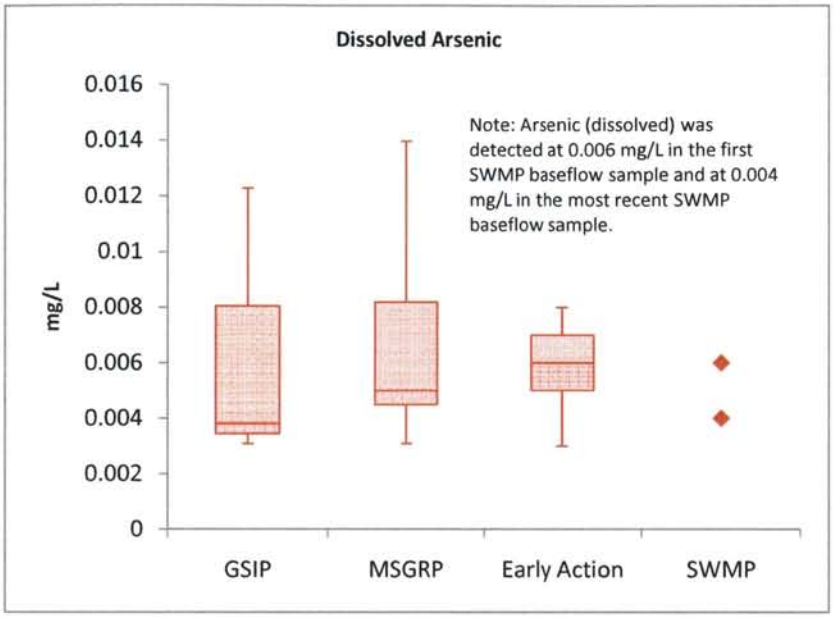

Benzene
µg/L
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
GSIP
MSGRP
Early Action
SWMP
Note: Samples were not analyzed for benzene during the GSIP and MSGRP sampling events. Benzene was detected at 0.46 µg/L in the first SWMP baseflow sample and at 0.27 µg/L in the most recent SWMP baseflow sample.

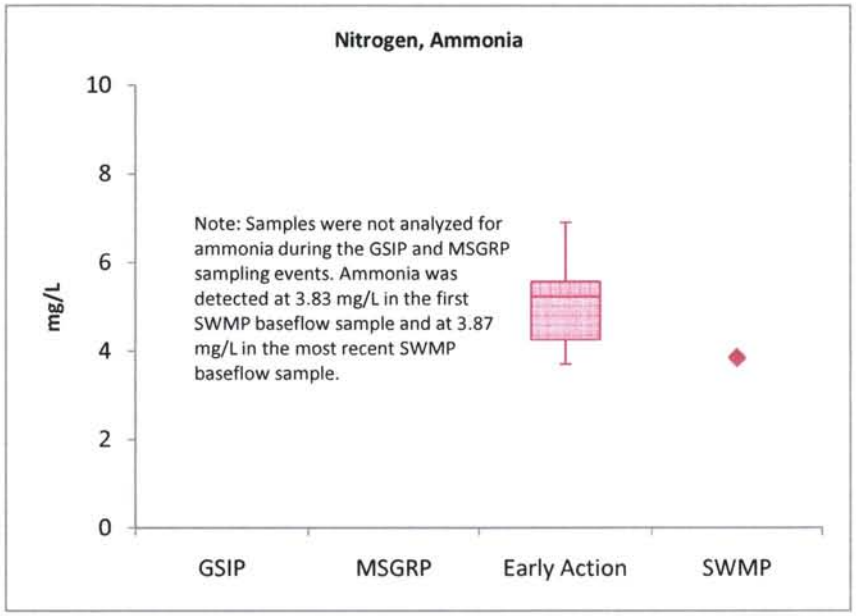


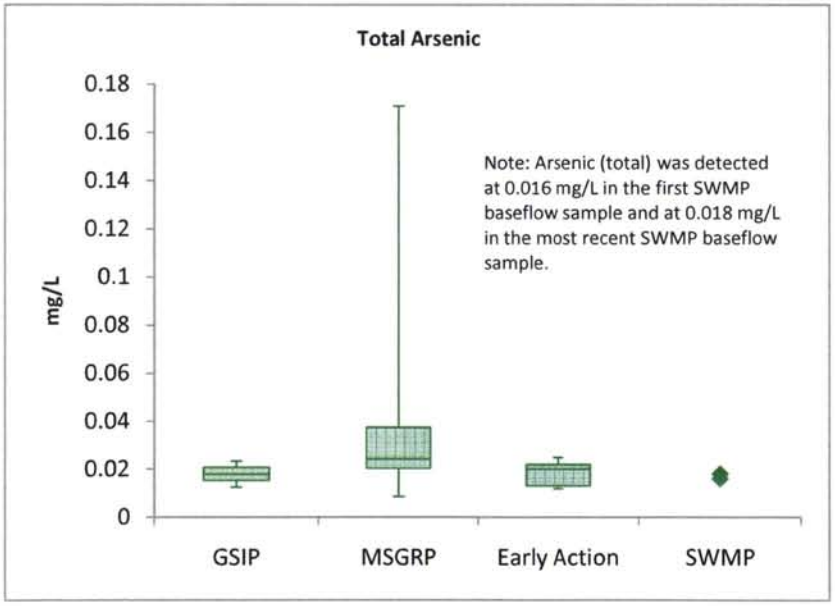


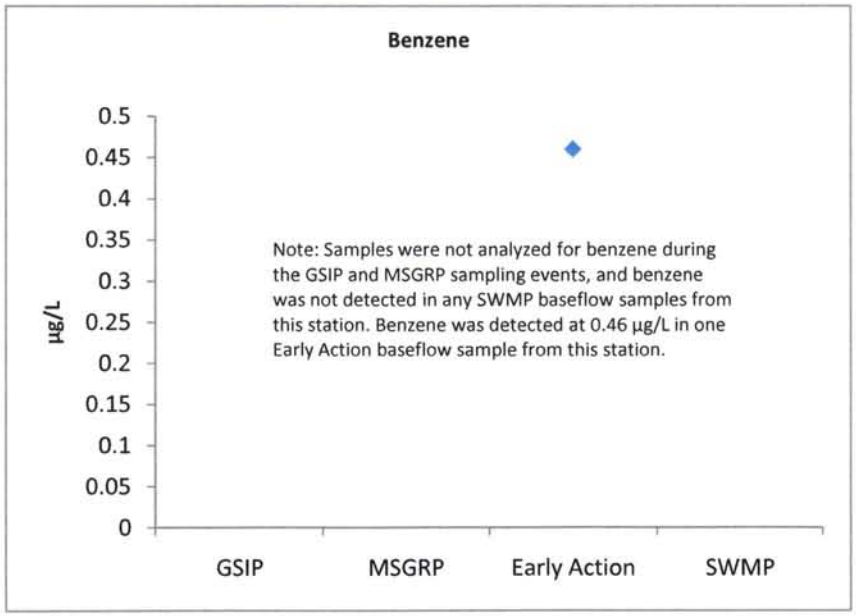


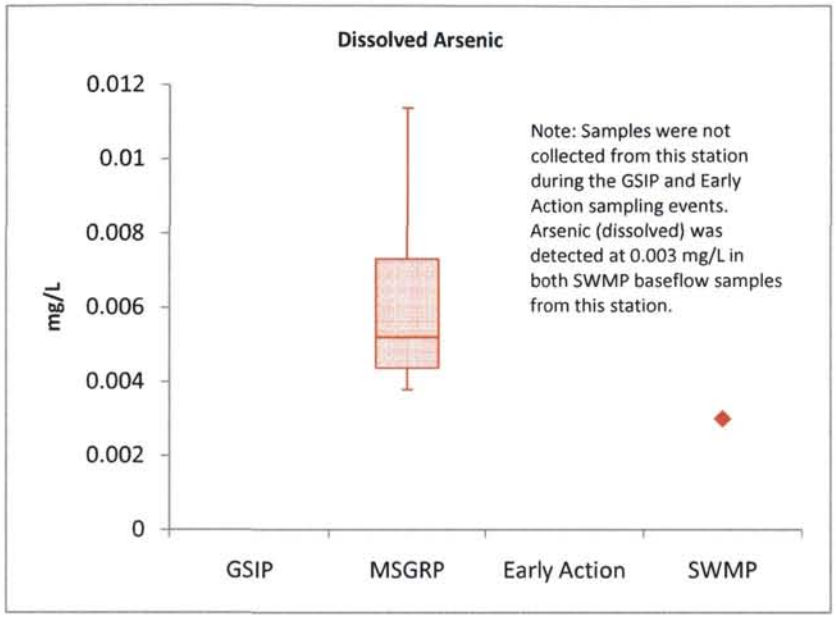
Note: Samples were not collected from this station during the GSIP and Early Action sampling events, and were not analyzed for benzene during the MSGRP sampling events. Benzene was not detected in any SWMP baseflow samples collected from this station.

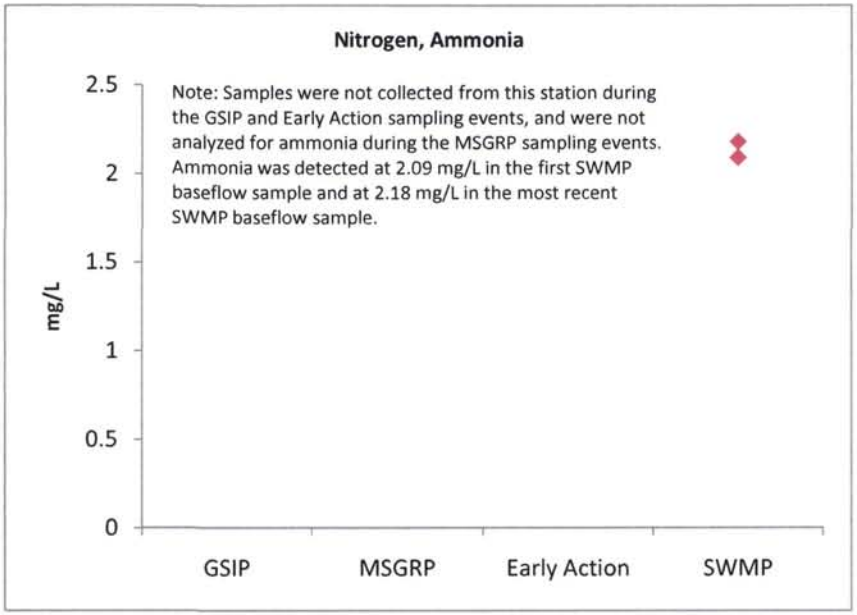

Dissolved Arsenic
0.016
0.014
0.012
0.01
0.008
0.006
0.004
0.002
0
mg/L
Note: Arsenic (dissolved) was detected at 0.006 mg/L in the first SWMP baseflow sample and at 0.004 mg/L in the most recent SWMP baseflow sample.
GSIP
MSGRP
Early Action
SWMP

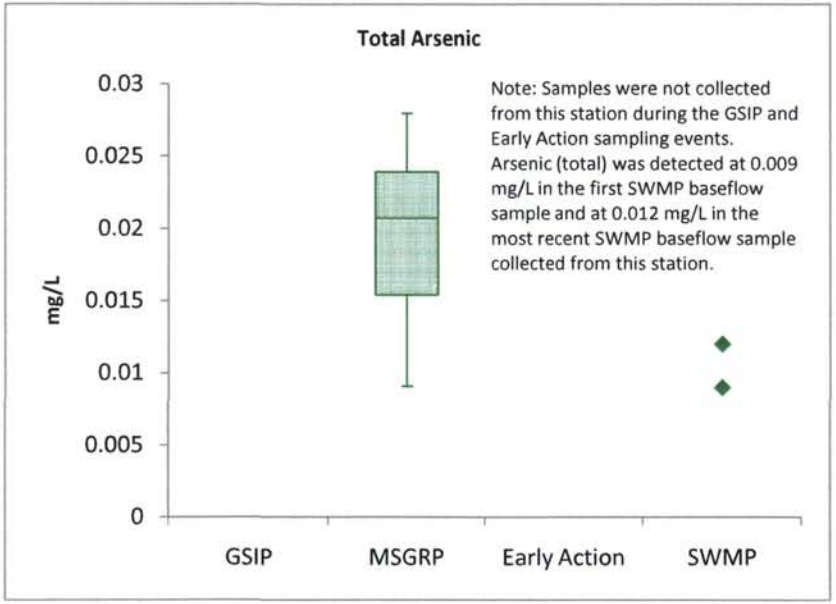

Nitrogen, Ammonia
10
8
6
4
2
0
mg/L
Note: Samples were not analyzed for ammonia during the GSIP and MSGRP sampling events. Ammonia was detected at 3.83 mg/L in the first SWMP baseflow sample and at 3.87 mg/L in the most recent SWMP baseflow sample.
GSIP
MSGRP
Early Action
SWMP


Total Arsenic
0.18
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
mg/L
Note: Arsenic (total) was detected at 0.016 mg/L in the first SWMP baseflow sample and at 0.018 mg/L in the most recent SWMP baseflow sample.
GSIP
MSGRP
Early Action
SWMP

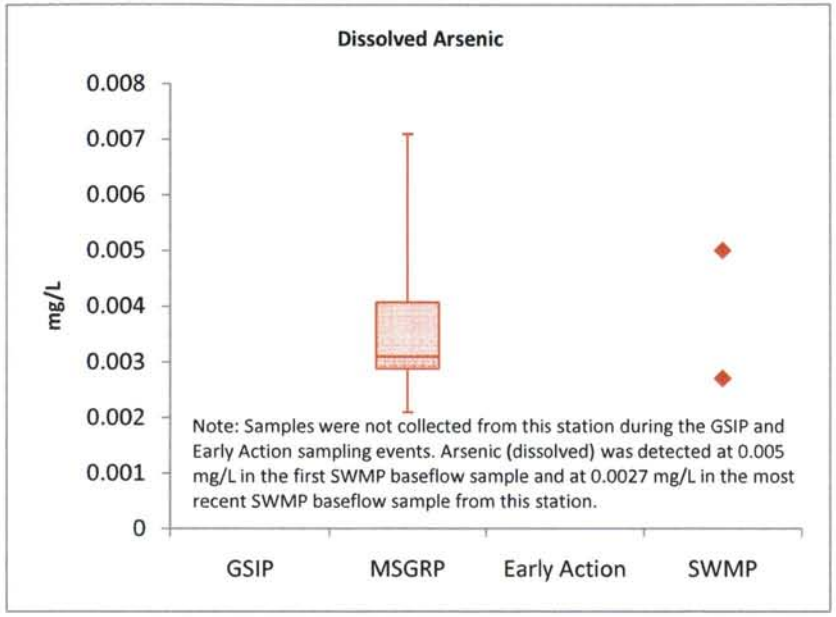

Benzene
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
µg/L
Note: Samples were not analyzed for benzene during the GSIP and MSGRP sampling events, and benzene was not detected in any SWMP baseflow samples from this station. Benzene was detected at 0.46 µg/L in one Early Action baseflow sample from this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

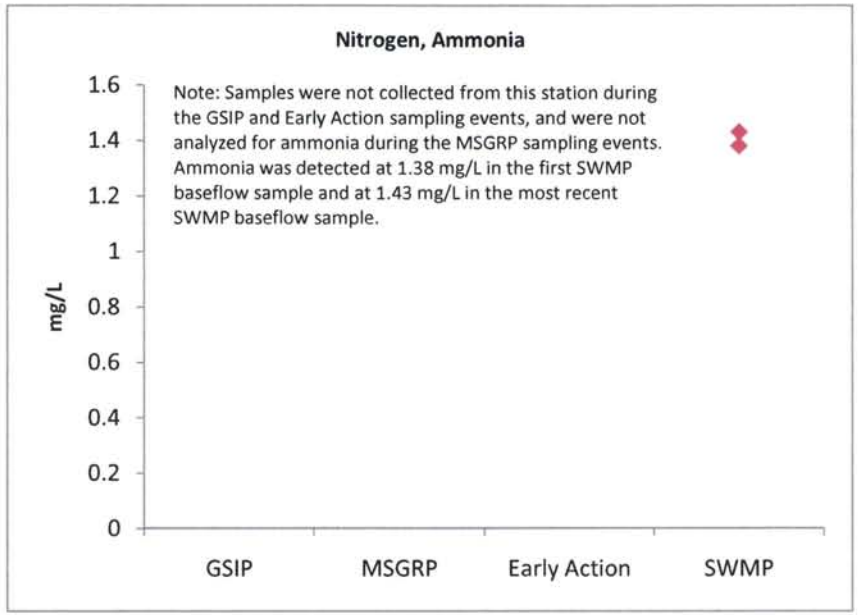


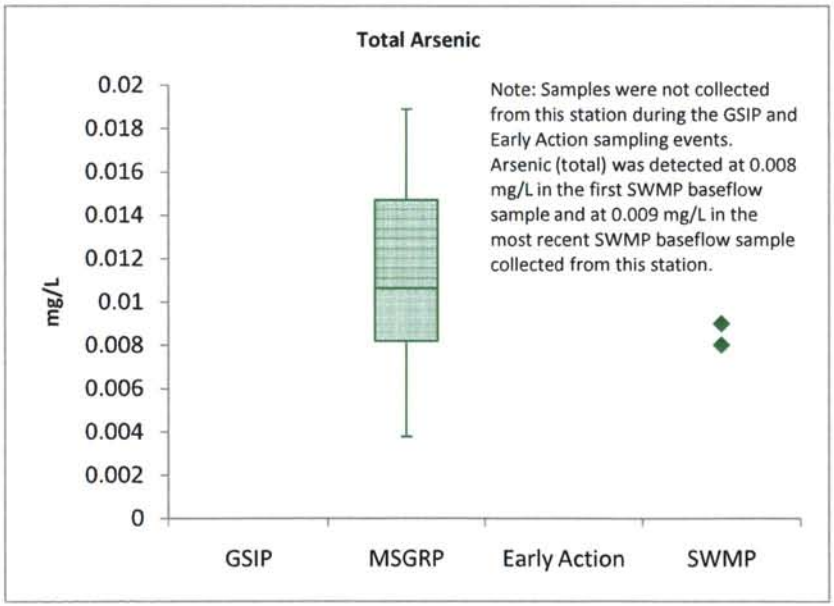




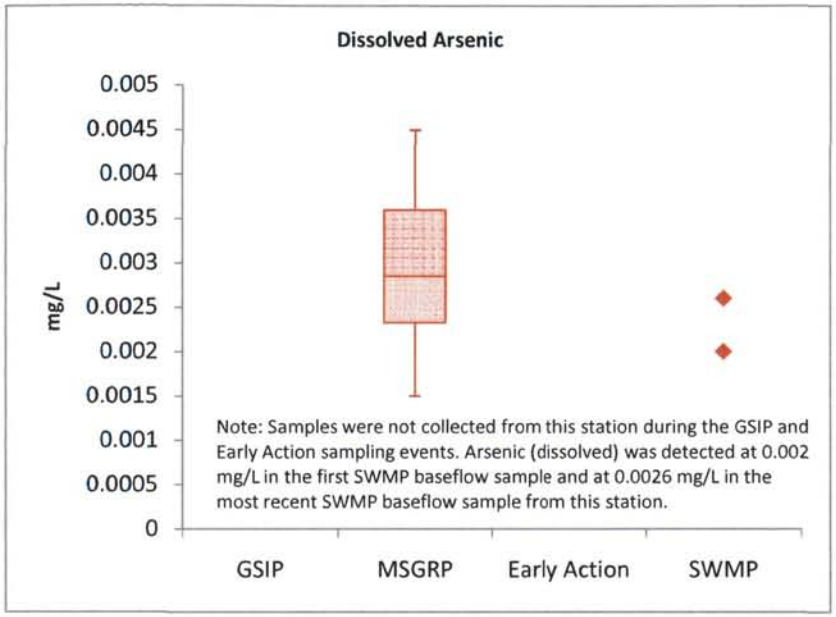
Note: Samples were not collected from this station during the GSIP and Early Action sampling events, and were not analyzed for benzene during the MSGRP sampling events. Benzene was not detected in any SWMP baseflow samples from this station.

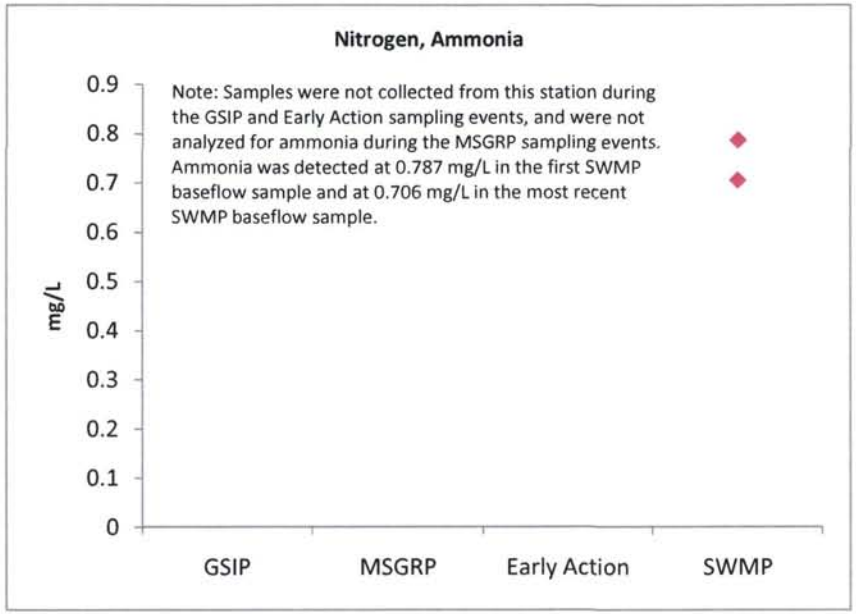


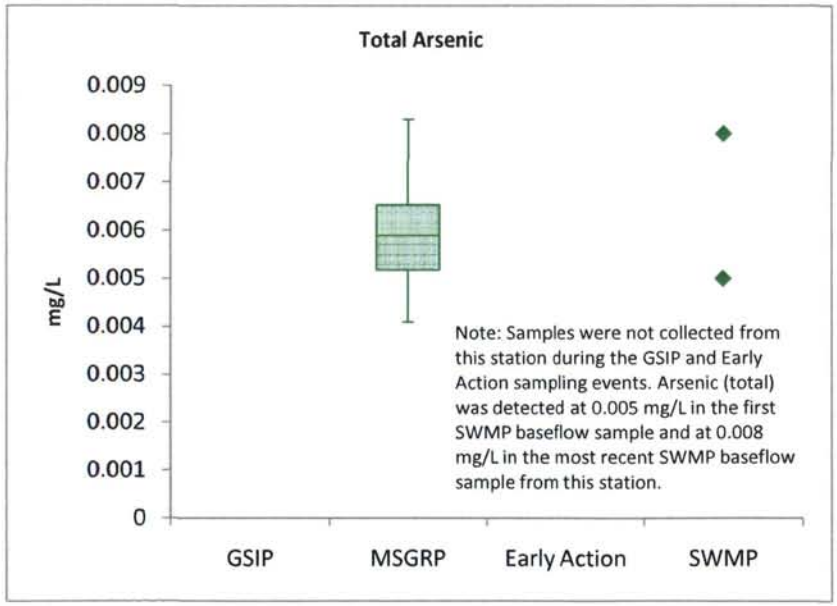




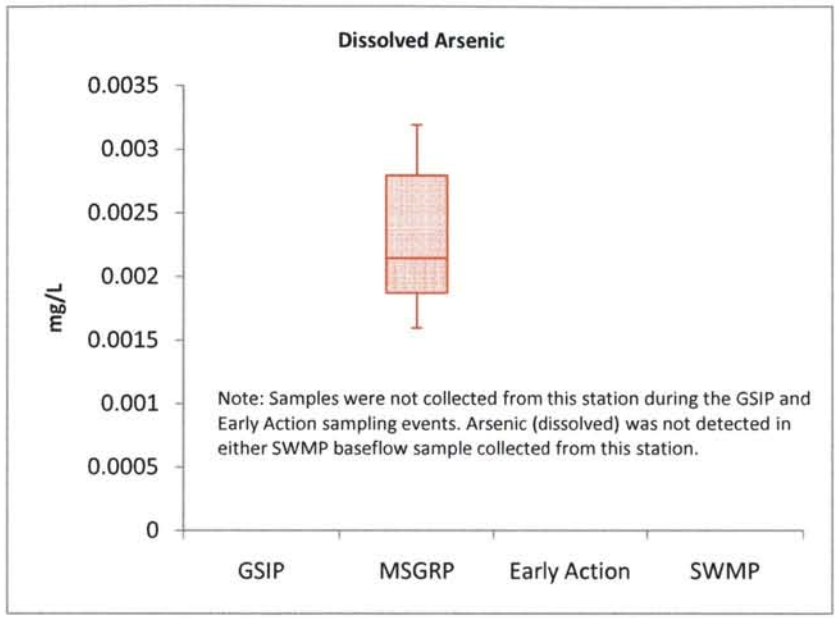
Note: Samples were not collected from this station during the GSIP and Early Action sampling events, and were not analyzed for benzene during the MSGRP sampling events. Benzene was not detected in any SWMP baseflow samples from this station.

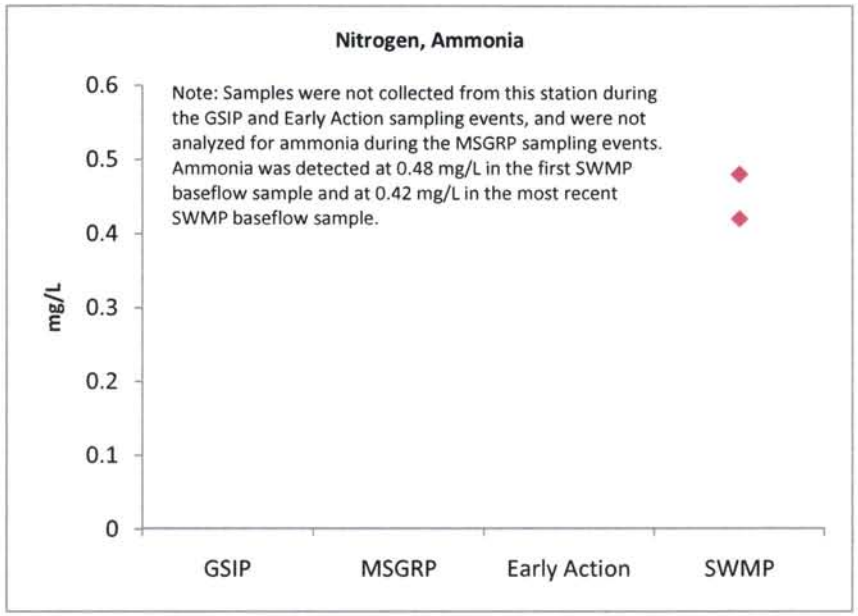


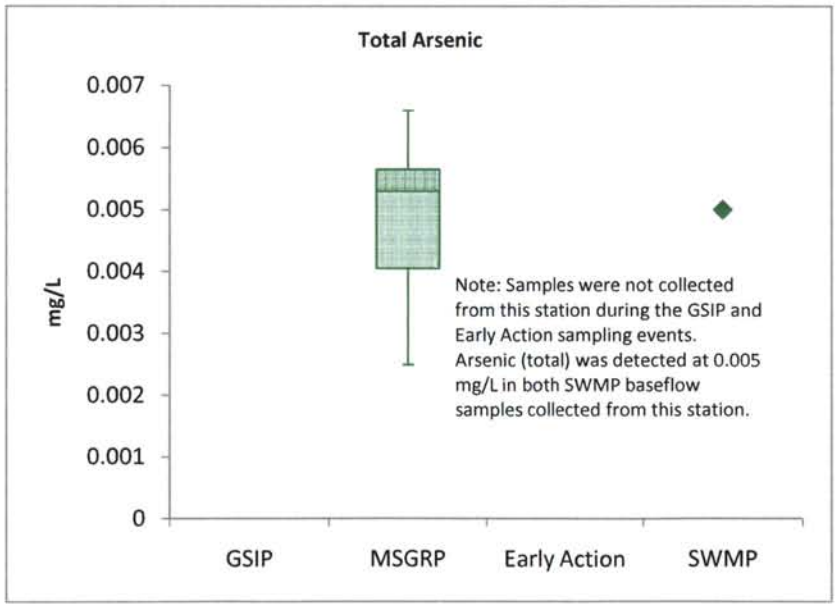




Note: Samples were not collected from this station during the GSIP and Early Action sampling events. Samples were not analyzed for benzene during the MSGRP sampling events. Benzene was not detected in any SWMP baseflow samples from this station.







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.

Inspector: Rich S
Date: 5.1.09

Weekly O&M

Cable/Tubing inspected?	(Y) / N
Tubing need replacement?	Y / (N)
Debris cleared from in-stream Equipment?	(Y) / N
Sample Intake cleaned?	(Y) / N
Sample Intake upright?	(Y) / N
Staff Gauge cleaned?	(Y) / N
A/V Sensor cleaned?	(Y) / N
In-Situ Troll cleaned?	(Y) / N
Rain gauge cleaned and inspected?	(Y) / N
Cage/housing locked and secure?	(Y) / N

In-Situ S/N: 47344

Calibration check of In-Situ Troll:

	Before Check	*During Check*	
pH	7.0		s.u.
DO	2.60		mg/l
ORP	197.2		mV
Turb.	12.6		NTU
Temp.	13.2		C
Sp. Cond.	804.2		mS/cm

Re-calibrated?	Y / (N)
Batteries Replaced?	Y / (N)

Signal Strength: 0 %

Spectrum Strength: ERROR %

Piezometer gauging: ft

Manual stage reading (with ruler) from bottom of A/V sensor: .49 ft

Stage reading from staff gauge: .49 ft

Stage reading from ISCO: .468 ft

Stage reading reset to (on ISCO if necessary): NA ft

Voltage reading from solar panels: .027 V

Voltage reading from batteries: 12.75 / 12.75 V

Monthly O&M

In-Situ Troll calibrated (refer to cal sheet)?	Y / N
Solar panels cleaned and inspected?	Y / N

Manual (Marsh-McBirney) stream velocity reading: cf

ISCO stream velocity reading: cf

Color of Dessicant: **blue / clear / pink**

Dessicant replaced? Y / N

Notes:

Rev. 04/17/09

Inspector: Rich S.
Date: ~~4~~ 5.1.09

Weekly O&M

Cable/Tubing inspected?	(Y) / N
Tubing need replacement?	Y / (N)
Debris cleared from in-stream Equipment?	(Y) / N
Sample Intake cleaned?	(Y) / N
Sample Intake upright?	(Y) / N
Staff Gauge cleaned?	(Y) / N
A/V Sensor cleaned?	(Y) / N
In-Situ Troll cleaned?	(Y) / N
Rain gauge cleaned and inspected?	(Y) / N
Cage/housing locked and secure?	(Y) / N

In-Situ S/N: 47347

Calibration check of In-Situ Troll:

	Before Check	*During Check*	
pH	7.1		s.u.
DO	11.7		mg/l
ORP	158.3		mV
Turb.	34.5		NTU
Temp.	13.4		C
Sp. Cond.	633		mS/cm

Re-calibrated?	Y / (N)
Batteries Replaced?	Y / (N)

Signal Strength: 0 %

Spectrum Strength: Error %

Piezometer gauging: ft

Manual stage reading (with ruler) from bottom of A/V sensor: .35 ft

Stage reading from staff gauge: .33 ft

Stage reading from ISCO: .321 ft

Stage reading reset to (on ISCO if necessary): NA ft

Voltage reading from solar panels: 0.0 V

Voltage reading from batteries: 12.75 / 12.76 V

Monthly O&M

In-Situ Troll calibrated (refer to cal sheet)?	Y / N
Solar panels cleaned and inspected?	Y / N

Manual (Marsh-McBirney) stream velocity reading: cf

ISCO stream velocity reading: cf

Color of Dessicant: **blue / clear / pink**

Dessicant replaced? Y / N

Notes:

Rev. 04/17/09

Inspector: Rich Souza
Date: 5.1.09

Weekly O&M

Cable/Tubing inspected?	Y / N
Tubing need replacement?	Y / N
Debris cleared from in-stream Equipment?	Y / N
Sample Intake cleaned?	Y / N
Sample Intake upright?	Y / N
Staff Gauge cleaned?	Y / N
A/V Sensor cleaned?	Y / N
In-Situ Troll cleaned?	Y / N
Rain gauge cleaned and inspected?	Y / N
Cage/housing locked and secure?	Y / N

In-Situ S/N: 48312 ← 5/5/09 475985 Replaced 48312

Calibration check of In-Situ Troll:

	Before Check	During Check	
pH	7.0	7.30	s.u.
DO	3.10	11.41	mg/l
ORP	227.4	233	mV
Turb.	261.1	—	NTU
Temp.	13.6	12.66	C
Sp. Cond.	2593	~~4040~~ 1318	mS/cm

Dropped while trying to reset in stream Fellon rock and snapped in half.

Re-calibrated?	Y / N
Batteries Replaced?	Y / N

Signal Strength: 16 %

Spectrum Strength: 56 %

Piezometer gauging: ft

Manual stage reading (with ruler) from bottom of A/V sensor: 1.00 ft

Stage reading from staff gauge: 1.18 ft

Stage reading from ISCO: 1.229 ft

Stage reading reset to (on ISCO if necessary): NA ft

Voltage reading from solar panels: .46 V

Voltage reading from batteries: 13.06 / 13.07 V

Monthly O&M

In-Situ Troll calibrated (refer to cal sheet)?	Y / N
Solar panels cleaned and inspected?	Y / N

Manual (Marsh-McBirney) stream velocity reading: cf

ISCO stream velocity reading: cf

Color of Dessicant: **blue / clear / pink**

Dessicant replaced? Y / N

Notes:

Rev. 04/17/09

OPERATION MAINTENANCE INSPECTION SHEET

SW-02-TT

Inspector: Rich Sara
Date: 5.1.09

Weekly O&M

Cable/Tubing inspected?	(Y) / N
Tubing need replacement?	Y / (N)
Debris cleared from in-stream Equipment?	(Y) / N
Sample Intake cleaned?	(Y) / N
Sample Intake upright?	(Y) / N
Staff Gauge cleaned?	(Y) / N
A/V Sensor cleaned?	(Y) / N
In-Situ Troll cleaned?	(Y) / N
Rain gauge cleaned and inspected?	(Y) / N
Cage/housing locked and secure?	(Y) / N

In-Situ S/N: 47353

Calibration check of In-Situ Troll:

	Before Check	*During Check*	
pH	6.7		s.u.
DO	7.10		mg/l
ORP	235.0		mV
Turb.	121.8		NTU
Temp.	14.4		C
Sp. Cond.	759.0		mS/cm

Re-calibrated?	Y / (N)
Batteries Replaced?	Y / (N)

Signal Strength: 0 %

Spectrum Strength: ERROR %

Piezometer gauging: ft

Manual stage reading (with ruler) from bottom of A/V sensor: 1.00 ft

Stage reading from staff gauge: 1.04 ft

Stage reading from ISCO: 1.073 ft

Stage reading reset to (on ISCO if necessary): NA ft

Voltage reading from solar panels: 0.0 V

Voltage reading from batteries: 13.06 / 13.05 V

Monthly O&M

In-Situ Troll calibrated (refer to cal sheet)?	Y / N
Solar panels cleaned and inspected?	Y / N

Manual (Marsh-McBirney) stream velocity reading: cf

ISCO stream velocity reading: cf

Color of Dessicant: **blue / clear / pink**

Dessicant replaced? Y / N

Notes:

Rev. 04/17/09

Inspector: Rich Sovez
Date: 5.1.09

Weekly O&M

Cable/Tubing inspected?	Y / N
Tubing need replacement?	Y / N
Debris cleared from in-stream Equipment?	Y / N
Sample Intake cleaned?	Y / N
Sample Intake upright?	Y / N
Staff Gauge cleaned?	Y / N
A/V Sensor cleaned?	Y / N
In-Situ Troll cleaned?	Y / N
Rain gauge cleaned and inspected?	Y / N
Cage/housing locked and secure?	Y / N

In-Situ S/N:

Calibration check of In-Situ Troll:

	Before Check	*During Check*	
pH	6.7		s.u.
DO	4.70		mg/l
ORP	-358		mV
Turb.	49.1		NTU
Temp.	14.6		C
Sp. Cond.	3781		mS/cm

Re-calibrated?	Y / N
Batteries Replaced?	Y / N

Signal Strength: _____ %

Spectrum Strength: _____ %

Piezometer gauging: _____ ft

Manual stage reading (with ruler) from bottom of A/V sensor: .90 ft

Stage reading from staff gauge: .68 ft

Stage reading from ISCO: 1.153 ft

Stage reading reset to (on ISCO if necessary): ~~1.153~~ RS ft

Voltage reading from solar panels: 0.0 V

Voltage reading from batteries: 13.12 / 13.10 V

Monthly O&M

In-Situ Troll calibrated (refer to cal sheet)?	Y / N
Solar panels cleaned and inspected?	Y / N

Manual (Marsh-McBirney) stream velocity reading: _____ cf

ISCO stream velocity reading: _____ cf

Color of Dessicant: **blue / clear / pink**

Dessicant replaced? **Y / N**

Notes:

Rev. 04/17/09

Inspector: Rich Sare
Date: 5·1·09

Weekly O&M

Cable/Tubing inspected?	(Y) / N
Tubing need replacement?	Y / (N)
Debris cleared from in-stream Equipment?	(Y) / N
Sample Intake cleaned?	(Y) / N
Sample Intake upright?	(Y) / N
Staff Gauge cleaned?	(Y) / N
A/V Sensor cleaned?	(Y) / N
In-Situ Troll cleaned?	(Y) / N
Rain gauge cleaned and inspected?	(Y) / N
Cage/housing locked and secure?	(Y) / N

In-Situ S/N: 47352

Calibration check of In-Situ Troll:

	Before Check	*During Check*	
pH	7.1	7.00	s.u. recal
DO	6.40	11.28	mg/l
ORP	188.2	238	mV Cal
Turb.	0.4		NTU
Temp.	15.1	11.68	C
Sp. Cond.	819.0	13.42	~~mS~~ mS/cm

Re-calibrated?	Y / (N)
Batteries Replaced?	Y / (N)

Signal Strength: 0 %

Spectrum Strength: ERROR %

Piezometer gauging: NA ft

Manual stage reading (with ruler) from bottom of A/V sensor: .90 ft

Stage reading from staff gauge: .90 ft

Stage reading from ISCO: .735 ft

Stage reading reset to (on ISCO if necessary): NO ft

Voltage reading from solar panels: 0.0 V

Voltage reading from batteries: 13.07 / 13.07 V

Monthly O&M

In-Situ Troll calibrated (refer to cal sheet)?	Y / N
Solar panels cleaned and inspected?	Y / N

Manual (Marsh-McBirney) stream velocity reading: _____ cf

ISCO stream velocity reading: _____ cf

Color of Dessicant: **blue / clear / pink**

Dessicant replaced? Y / N

Notes:

Rev. 04/17/09

OPERATION MAINTENANCE INSPECTION SHEET

SW-2-IP

AAD

Inspector: CLEAN TAN

Date: 5-8-09

Weekly O&M

Cable/Tubing inspected?	Y / N	Staff Gauge cleaned?	Y / N
Tubing need replacement?	Y / N	A/V Sensor cleaned?	Y / N
Debris cleared from in-stream Equipment?	Y / N	In-Situ Troll cleaned?	Y / N
Sample Intake cleaned?	Y / N	Rain gauge cleaned and inspected?	Y / N
Sample Intake upright?	Y / N	Cage/housing locked and secure?	Y / N

In-Situ S/N: 47344

ISCO BEFORE CALIBRATION

Calibration check of In-Situ Troll:		Standard	Calibration Check	Acceptance Criteria	Pass / Fail	Recalibrated?	Post-Calibration Check	ISCO AFTER CALIBRATION
7.1	**pH** s.u.	7	7.10	+/- 0.5 pH unit	P / F	Y / N	—	5.1
READING → XXXX	**DO** mg/l	0	6.48	+/- 0.7 mg/l of sat value	P / F	Y / N	6.48	10.7
213.1	**ORP** mV	240	-22	+/- 10 mV	P / F	Y / N	251	256.9
2.0	**Turb.** NTU	—	—	+/- 2 NTU	P / F	Y / N	—	4.8
18.7	**Temp.** C	—	—	+/- 0.5 °C	P / F	Y / N	—	18.9
852.2	**Sp. Cond.** mS/cm	1413	1615	+/- 15%	P / F	Y / N	1447	758.0

Batteries Replaced? Y / N

Signal Strength: 8 %

Spectrum Strength: ERROR %

Manual stage reading (with ruler) from bottom of A/V sensor: .50 ft

Stage reading from staff gauge: .56 ft

Stage reading from ISCO: .534 ft

Stage reading reset to (on ISCO if necessary): N/O ft

Voltage reading from solar panels: 13.62 V

Voltage reading from batteries: 13.30 / 13.30 V

Monthly O&M

Solar panels cleaned and inspected? Y / N

Manual (Marsh-McBirney) stream velocity reading: _____ cf

ISCO stream velocity reading: _____ cf

Color of Dessicant: **blue / clear / pink**

Dessicant replaced? Y / N

Calibration check of In-Situ Troll:		Standard	Calibration Check	Acceptance Criteria	Pass / Fail	Recalibrated?	Post-Calibration Check
	pH s.u.			+/- 0.1 pH unit (for pH 7)	P / F	Y / N	
	DO mg/l			+/- 0.3 mg/l of sat value	P / F	Y / N	
	ORP mV			+/- 5 mV	P / F	Y / N	
	Turb. NTU			+/- 2 NTU	P / F	Y / N	
	Temp. C			NA	P / F	Y / N	
	Sp. Cond. mS/cm			+/- 10%	P / F	Y / N	

Notes:

Rev. 05/07/09

215

Inspector: GLENN IMAN

Date: 5-8-09

Weekly O&M

Cable/Tubing inspected?	Y / N	Staff Gauge cleaned?	Y / N
Tubing need replacement?	Y / N	A/V Sensor cleaned?	Y / N
Debris cleared from in-stream Equipment?	Y / N	In-Situ Troll cleaned?	Y / N
Sample Intake cleaned?	Y / N	Rain gauge cleaned and inspected?	Y / N
Sample Intake upright?	Y / N	Cage/housing locked and secure?	Y / N

In-Situ S/N:

		Standard	Calibration Check	Acceptance Criteria	Pass / Fail	Recalibrated?	Post-Calibration Check
ISCO BEFORE CALIBRATION							ISCO AFTER CALIBRATION
6.6	pH s.u.	7	7.15	+/- 0.5 pH unit	P / F	Y / N	— / 7.4
3.40	DO mg/l	0	6.56	+/- 0.7 mg/l of sat value	P / F	Y / N	7.63 / 11.9
196.3	ORP mV	240	-2	+/- 10 mV	P / F	Y / N	239 / 198.5
38.4	Turb. NTU	—	—	+/- 2 NTU	P / F	Y / N	— / 34.2
19.1	Temp. C	—	—	+/- 0.5 °C	P / F	Y / N	— / 19.1
201.0	Sp. Cond. mS/cm	1413	1266	+/- 15%	P / F	Y / N	— / 257.0

Calibration check of In-Situ Troll:

Batteries Replaced? Y / N

Signal Strength: 0 %

Spectrum Strength: ERROR %

Manual stage reading (with ruler) from bottom of A/V sensor: .40 ft

Stage reading from staff gauge: .30 ft

Stage reading from ISCO: .36 ft

Stage reading reset to (on ISCO if necessary): NO ft

Voltage reading from solar panels: 13.60 V

Voltage reading from batteries: 13.36 13.36 V

Monthly O&M

Solar panels cleaned and inspected? Y / N

Manual (Marsh-McBirney) stream velocity reading: _____ cf

ISCO stream velocity reading: _____ cf

Color of Dessicant: **blue / clear / pink**

Dessicant replaced? Y / N

		Standard	Calibration Check	Acceptance Criteria	Pass / Fail	Recalibrated?	Post-Calibration Check
Calibration check of In-Situ Troll:	pH s.u.			+/- 0.1 pH unit (for pH 7)	P / F	Y / N	
	DO mg/l			+/- 0.3 mg/l of sat value	P / F	Y / N	
	ORP mV			+/- 5 mV	P / F	Y / N	
	Turb. NTU			+/- 2 NTU	P / F	Y / N	
	Temp. C			NA	P / F	Y / N	
	Sp. Cond. mS/cm			+/- 10%	P / F	Y / N	

Notes:

Rev. 05/07/09

Inspector: GLENN JAN

Date: 5-8-09

Weekly O&M

Cable/Tubing inspected?	Y / N	Staff Gauge cleaned?	Y / N
Tubing need replacement?	Y / N	A/V Sensor cleaned?	Y / N
Debris cleared from in-stream Equipment?	Y / N	In-Situ Troll cleaned?	Y / N
Sample Intake cleaned?	Y / N	Rain gauge cleaned and inspected?	Y / N
Sample Intake upright?	Y / N	Cage/housing locked and secure?	Y / N

In-Situ S/N:

ISCO BEFORE CALIBRATION		Standard	Calibration Check	Acceptance Criteria	Pass / Fail	Recalibrated?	Post-Calibration Check	ISCO AFTER CALIBRATION
7.2	Calibration check of In-Situ Troll: **pH** s.u.	7.0	7.41	+/- 0.5 pH unit	P / F	Y / N	—	6.9
7.3	**DO** mg/l	0	5.17	+/- 0.7 mg/l of sat value	P / F	Y / N	5.87	8.70
470.6	**ORP** mV	240	204	+/- 10 mV	P / F	Y / N	240	236.2
9.5	**Turb.** NTU	—		+/- 2 NTU	P / F	Y / N		6.8
17.6	**Temp.** C	—	—	+/- 0.5 °C	P / F	Y / N	—	17.9
606.3	**Sp. Cond.** mS/cm	1413	1708	+/- 15%	P / F	Y / N	1558	581.0

Batteries Replaced? Y / N

Signal Strength: 23 %

Spectrum Strength: 66 %

Manual stage reading (with ruler) from bottom of A/V sensor: 1.40 ft

Stage reading from staff gauge: 1.30 ft

Stage reading from ISCO: 1.366 ft

Stage reading reset to (on ISCO if necessary): NO ft

Voltage reading from solar panels: 12.63 V

Voltage reading from batteries: 12.51 / 12.51 V

Monthly O&M

Solar panels cleaned and inspected? Y / N

Manual (Marsh-McBirney) stream velocity reading: _____ cf

ISCO stream velocity reading: _____ cf

Color of Dessicant: **blue / clear / pink**

Dessicant replaced? Y / N

		Standard	Calibration Check	Acceptance Criteria	Pass / Fail	Recalibrated?	Post-Calibration Check
Calibration check of In-Situ Troll:	pH s.u.			+/- 0.1 pH unit (for pH 7)	P / F	Y / N	
	DO mg/l			+/- 0.3 mg/l of sat value	P / F	Y / N	
	ORP mV			+/- 5 mV	P / F	Y / N	
	Turb. NTU			+/- 2 NTU	P / F	Y / N	
	Temp. C			NA	P / F	Y / N	
	Sp. Cond. mS/cm			+/- 10%	P / F	Y / N	

Notes:

Rev. 08/07/09

Inspector: GLEAN IAN BRIAN

Date: 5-8-09

Weekly O&M

Cable/Tubing inspected?	Y / N	Staff Gauge cleaned?	Y / N
Tubing need replacement?	Y / N	A/V Sensor cleaned?	Y / N
Debris cleared from in-stream Equipment?	Y / N	In-Situ Troll cleaned?	Y / N
Sample Intake cleaned?	Y / N	Rain gauge cleaned and inspected?	Y / N
Sample Intake upright?	Y / N	Cage/housing locked and secure?	Y / N

In-Situ S/N:

ISCO BEFORE CALIBRATION

		Standard	Calibration Check	Acceptance Criteria	Pass / Fail	Recalibrated?	Post-Calibration Check	ISCO AFTER CALIBRATION
Calibration check of In-Situ Troll:	**pH** s.u. (6.7)	7	7.25	+/- 0.5 pH unit	P / F	Y / N	—	5.6
	DO mg/l (6.8)	0	5.43	+/- 0.7 mg/l of sat value	P / F	Y / N	-1.1	6.80
	ORP mV (286.7)	240	-29	+/- 10 mV	P / F	Y / N	247	324.5
	Turb. NTU (62.2)	—		+/- 2 NTU	P / F	Y / N	—	8.1
	Temp. C (16.2)	—		+/- 0.5 °C	P / F	Y / N	—	15.6
	Sp. Cond. mS/cm (520.7)	1413	1190	+/- 15%	P / F	Y / N	1418/622.1	

Batteries Replaced? Y / N

Signal Strength: 2 %

Spectrum Strength: 95 %

Manual stage reading (with ruler) from bottom of A/V sensor: 1.30 ft

Stage reading from staff gauge: 1.30 ft

Stage reading from ISCO: 1.342 ft

Stage reading reset to (on ISCO if necessary): NO ft

Voltage reading from solar panels: 13.64 V

Voltage reading from batteries: 13.31 13.31 V

Monthly O&M

Solar panels cleaned and inspected? Y / N

Manual (Marsh-McBirney) stream velocity reading: _____ cf

ISCO stream velocity reading: _____ cf

Color of Dessicant: **blue / clear / pink**

Dessicant replaced? Y / N

		Standard	Calibration Check	Acceptance Criteria	Pass / Fail	Recalibrated?	Post-Calibration Check
Calibration check of In-Situ Troll:	pH s.u.			+/- 0.1 pH unit (for pH 7)	P / F	Y / N	
	DO mg/l			+/- 0.3 mg/l of sat value	P / F	Y / N	
	ORP mV			+/- 5 mV	P / F	Y / N	
	Turb. NTU			+/- 2 NTU	P / F	Y / N	
	Temp. C			NA	P / F	Y / N	
	Sp. Cond. mS/cm			+/- 10%	P / F	Y / N	

Notes:

Rev. 05/07/09

OPERATION MAINTENANCE INSPECTION SHEET

SW-03-TT

ABERCROMBIE

Inspector: GLEN IAN BRIAN

Date: 5-8-09

Weekly O&M

Cable/Tubing inspected?	Y / N	Staff Gauge cleaned?	Y / N
Tubing need replacement?	Y / N	A/V Sensor cleaned?	Y / N
Debris cleared from in-stream Equipment?	Y / N	In-Situ Troll cleaned?	Y / N
Sample Intake cleaned?	Y / N	Rain gauge cleaned and inspected?	Y / N
Sample Intake upright?	Y / N	Cage/housing locked and secure?	Y / N

In-Situ S/N: 47351

ISCO BEFORE CALIBRATION		Standard	Calibration Check	Acceptance Criteria	Pass / Fail	Recalibrated?	Post-Calibration Check	ISCO AFTER CALIBRATION
Calibration check of In-Situ Troll: 6.8	**pH** s.u.	7.0	7.17	+/- 0.5 pH unit	P / F	Y / N	—	5.3
5.60	**DO** mg/l	0	5.23	+/- 0.7 mg/l of sat value	P / F	Y / N	8.50	8.60
238	**ORP** mV	240	239	+/- 10 mV	P / F	Y / N	—	85.3
25.9	**Turb.** NTU	—	—	+/- 2 NTU	P / F	Y / N	—	6.9
16.9	**Temp.** C	—	—	+/- 0.5 °C	P / F	Y / N	—	17.3
2727	**Sp. Cond.** mS/cm	1413	7231	+/- 15%	P / F	Y / N	1447	552.0

Batteries Replaced? Y / N

Signal Strength: 28/25 %

Spectrum Strength: 0/32 %

Manual stage reading (with ruler) from bottom of A/V sensor: 1.40 ft

Stage reading from staff gauge: .88 ft

Stage reading from ISCO: 1.344 ft

Stage reading reset to (on ISCO if necessary): NO ft

Voltage reading from solar panels: 13.36 V

Voltage reading from batteries: 13.15 / 13.15 V

Monthly O&M

Solar panels cleaned and inspected? Y / N

Manual (Marsh-McBirney) stream velocity reading: _____ cf

ISCO stream velocity reading: _____ cf

Color of Dessicant: **blue / clear / pink**

Dessicant replaced? Y / N

		Standard	Calibration Check	Acceptance Criteria	Pass / Fail	Recalibrated?	Post-Calibration Check
Calibration check of In-Situ Troll:	pH s.u.			+/- 0.1 pH unit (for pH 7)	P / F	Y / N	
	DO mg/l			+/- 0.3 mg/l of sat value	P / F	Y / N	
	ORP mV			+/- 5 mV	P / F	Y / N	
	Turb. NTU			+/- 2 NTU	P / F	Y / N	
	Temp. C			NA	P / F	Y / N	
	Sp. Cond. mS/cm			+/- 10%	P / F	Y / N	

Notes:

Rev. 05/07/09

OPERATION MAINTENANCE INSPECTION SHEET

SW-04-TT

MISHAW

Inspector: GLENN DAN BRIAN

Date: 5-8-09

Weekly O&M

Cable/Tubing inspected?	Y / N	Staff Gauge cleaned?	Y / N
Tubing need replacement?	Y / N	A/V Sensor cleaned?	Y / N
Debris cleared from in-stream Equipment?	Y / N	In-Situ Troll cleaned?	Y / N
Sample Intake cleaned?	Y / N	Rain gauge cleaned and inspected?	Y / N
Sample Intake upright?	Y / N	Cage/housing locked and secure?	Y / N

In-Situ S/N: 47352

"HIGH ZERO POINT DO SENSOR NEEDS SERVICING SULFITE MAY BE EXHAUSTED"

Calibration check of In-Situ Troll:	Standard	Calibration Check	Acceptance Criteria	Pass / Fail	Recalibrated?	Post-Calibration Check	
pH s.u.	7	6.60	+/- 0.5 pH unit	P / F	Y / N	—	ISCO AFTER CALIBRATED 5.1
DO mg/l	0	5.27	+/- 0.7 mg/l of sat value	P / F	Y / N	2.88	22.8
ORP mV	240	241	+/- 10 mV	P / F	Y / N	—	237.0
Turb. NTU	—	—	+/- 2 NTU	P / F	Y / N	—	2.8
Temp. C	—	—	+/- 0.5 °C	P / F	Y / N	—	18.9
Sp. Cond. mS/cm	1413	1621	+/- 15%	P / F	Y / N	1432	450.0

Batteries Replaced? Y / N

Signal Strength: 18 %

Spectrum Strength: 0 %

Manual stage reading (with ruler) from bottom of A/V sensor: .90 ft

Stage reading from staff gauge: 1.00 ft

Stage reading from ISCO: .917 ft

Stage reading reset to (on ISCO if necessary): ~~.917~~ NO ft

Voltage reading from solar panels: 13.70 V

Voltage reading from batteries: 13.22 13.22 V

Monthly O&M

Solar panels cleaned and inspected? Y / N

Manual (Marsh-McBirney) stream velocity reading: _____ cf

ISCO stream velocity reading: _____ cf

Color of Dessicant: **blue / clear / pink**

Dessicant replaced? Y / N

Calibration check of In-Situ Troll:	Standard	Calibration Check	Acceptance Criteria	Pass / Fail	Recalibrated?	Post-Calibration Check
pH s.u.			+/- 0.1 pH unit (for pH 7)	P / F	Y / N	
DO mg/l			+/- 0.3 mg/l of sat value	P / F	Y / N	
ORP mV			+/- 5 mV	P / F	Y / N	
Turb. NTU			+/- 2 NTU	P / F	Y / N	
Temp. C			NA	P / F	Y / N	
Sp. Cond. mS/cm			+/- 10%	P / F	Y / N	

Notes:

Rev. 05/07/09

Inspector: GLENN TAN BRION

Date: 5-8-09

Weekly O&M

Cable/Tubing inspected?	Y / N	Staff Gauge cleaned?	Y / N
Tubing need replacement?	Y / N	A/V Sensor cleaned?	Y / N
Debris cleared from in-stream Equipment?	Y / N	In-Situ Troll cleaned?	Y / N
Sample Intake cleaned?	Y / N	Rain gauge cleaned and inspected?	Y / N
Sample Intake upright?	Y / N	Cage/housing locked and secure?	Y / N

In-Situ S/N: 47339

Calibration check of In-Situ Troll:		Standard	Calibration Check	Acceptance Criteria	Pass / Fail	Recalibrated?	Post-Calibration Check
6.8	**pH** s.u.	7.0	7.22	+/- 0.5 pH unit	P / F	Y / N	—
0.20	**DO** mg/l	0	2.45	+/- 0.7 mg/l of sat value	P / F	Y / N	13.48 x2
253.2	**ORP** mV	240	28	+/- 10 mV	P / F	Y / N	56
134.2	**Turb.** NTU	10	2.2	+/- 2 NTU	P / F	Y / N	9.8
17.1	**Temp.** C	—		+/- 0.5 °C	P / F	Y / N	—
765.0	**Sp. Cond.** mS/cm	1413	1366	+/- 15%	P / F	Y / N	—

ISCO BEFORE CALIBRATION

ISCO AFTER CALIBRATION

5.3
47.0
220.6
18.2
18.0
786.0

Batteries Replaced? Y / N

Signal Strength: 0 %

Spectrum Strength: ERROR %

Manual stage reading (with ruler) from bottom of A/V sensor: _____ ft

Stage reading from staff gauge: _____ ft

Stage reading from ISCO: 2.092 ft

Stage reading reset to (on ISCO if necessary): 2.0 ft

Voltage reading from solar panels: 13.26 V

Voltage reading from batteries: 13.10 / 13.10 V

Monthly O&M

Solar panels cleaned and inspected? Y / N

Manual (Marsh-McBirney) stream velocity reading: _____ cf

ISCO stream velocity reading: _____ cf

Color of Dessicant: **blue / clear / pink**

Dessicant replaced? Y / N

Calibration check of In-Situ Troll:		Standard	Calibration Check	Acceptance Criteria	Pass / Fail	Recalibrated?	Post-Calibration Check
	pH s.u.			+/- 0.1 pH unit (for pH 7)	P / F	Y / N	
	DO mg/l			+/- 0.3 mg/l of sat value	P / F	Y / N	
	ORP mV			+/- 5 mV	P / F	Y / N	
	Turb. NTU			+/- 2 NTU	P / F	Y / N	
	Temp. C			NA	P / F	Y / N	
	Sp. Cond. mS/cm			+/- 10%	P / F	Y / N	

Notes:

Rev. 05/07/09

Inspector: GLENN IAN BRIAN

Date: 5-8-09

Weekly O&M

Cable/Tubing inspected?	Y / N	Staff Gauge cleaned?	Y / N
Tubing need replacement?	Y / N	A/V Sensor cleaned?	Y / N
Debris cleared from in-stream Equipment?	Y / N	In-Situ Troll cleaned?	Y / N
Sample Intake cleaned?	Y / N	Rain gauge cleaned and inspected?	Y / N
Sample Intake upright?	Y / N	Cage/housing locked and secure?	Y / N

In-Situ S/N: 47482

		Standard	Calibration Check	Acceptance Criteria	Pass / Fail	Recalibrated?	Post-Calibration Check	ISCO AFTER CALIBRATION
ISCO-READING 8.4	pH s.u.	7.	8.95	+/- 0.5 pH unit	P / F	Y / N	6.99	5.8
14.3	DO mg/l	0	10.56	+/- 0.7 mg/l of sat value	P / F	Y / N	9.48	15.5
156.8	ORP mV	240	-98	+/- 10 mV	P / F	Y / N	246	225.5
14.8	Turb. NTU	10	6.7	+/- 2 NTU	P / F	Y / N	12.0	2.8
14.9	Temp. C	—	—	+/- 0.5 °C	P / F	Y / N	—	15.5
587.0	Sp. Cond. mS/cm	1413	1292	+/- 15%	P / F	Y / N	—	595.0

Calibration check of In-Situ Troll:

Batteries Replaced? Y / N

Signal Strength: 0 %

Spectrum Strength: 62 %

Manual stage reading (with ruler) from bottom of A/V sensor: 2.22 ft

Stage reading from staff gauge: 2.30 ft

Stage reading from ISCO: 2.131 ft

Stage reading reset to (on ISCO if necessary): NO ft

Voltage reading from solar panels: 12.51 V

Voltage reading from batteries: 12.44 / 12.44 V

Monthly O&M

Solar panels cleaned and inspected? Y / N

Manual (Marsh-McBirney) stream velocity reading: _____ cf

ISCO stream velocity reading: _____ cf

Color of Dessicant: **blue / clear / pink**

Dessicant replaced? Y / N

		Standard	Calibration Check	Acceptance Criteria	Pass / Fail	Recalibrated?	Post-Calibration Check
Calibration check of In-Situ Troll:	pH s.u.			+/- 0.1 pH unit (for pH 7)	P / F	Y / N	
	DO mg/l			+/- 0.3 mg/l of sat value	P / F	Y / N	
	ORP mV			+/- 5 mV	P / F	Y / N	
	Turb. NTU			+/- 2 NTU	P / F	Y / N	
	Temp. C			NA	P / F	Y / N	
	Sp. Cond. mS/cm			+/- 10%	P / F	Y / N	

Notes:

Rev. 05/07/09

OPERATION MAINTENANCE INSPECTION SHEET

SW-07-TT

SWANTON ST.

Inspector: GLENN DAN BRIAN

Date: 5-8-09

Weekly O&M

Cable/Tubing inspected?	Y / N	Staff Gauge cleaned?	Y / N
Tubing need replacement?	Y / N	A/V Sensor cleaned?	Y / N
Debris cleared from in-stream Equipment?	Y / N	In-Situ Troll cleaned?	Y / N
Sample Intake cleaned?	Y / N	Rain gauge cleaned and inspected?	Y / N
Sample Intake upright?	Y / N	Cage/housing locked and secure?	Y / N

In-Situ S/N:

WHAT IS THE TARGET FOR D.O.

Calibration check of In-Situ Troll:

		Standard	Calibration Check	Acceptance Criteria	Pass / Fail	Recalibrated?	Post-Calibration Check	AFTER CAL. ISCO. READINGS
ISCO 6.9	**pH** s.u.	7.0	7.18	+/- 0.5 pH unit	P / F	Y / N	—	5.4
10.4	**DO** mg/l	0	8.97	+/- 0.7 mg/l of sat value	P / F	Y / N	8.24	9.80
135.9	**ORP** mV	240	-57	+/- 10 mV	P / F	Y / N	238	197.4
4.4	**Turb.** NTU	10	1.90	+/- 2 NTU	P / F	Y / N	9.6	9.1
14.1	**Temp.** C	—	—	+/- 0.5 °C	P / F	Y / N	—	14.4
1050	**Sp. Cond.** mS/cm	1413	1931	+/- 15%	P / F	Y / N	1422	7802

Batteries Replaced? Y / N

Signal Strength: 37 %

Spectrum Strength: 55 %

Manual stage reading (with ruler) from bottom of A/V sensor: 2.21 ft

Stage reading from staff gauge: 1.36 ft

Stage reading from ISCO: 2.315 ft

Stage reading reset to (on ISCO if necessary): NO ft

Voltage reading from solar panels: 12.90 V

Voltage reading from batteries: 12.88 / 12.88 V

Monthly O&M

Solar panels cleaned and inspected? Y / N

Manual (Marsh-McBirney) stream velocity reading: _____ cf

ISCO stream velocity reading: _____ cf

Color of Dessicant: **blue / clear / pink**

Dessicant replaced? Y / N

Calibration check of In-Situ Troll:

	Standard	Calibration Check	Acceptance Criteria	Pass / Fail	Recalibrated?	Post-Calibration Check
pH s.u.			+/- 0.1 pH unit (for pH 7)	P / F	Y / N	
DO mg/l			+/- 0.3 mg/l of sat value	P / F	Y / N	
ORP mV			+/- 5 mV	P / F	Y / N	
Turb. NTU			+/- 2 NTU	P / F	Y / N	
Temp. C			NA	P / F	Y / N	
Sp. Cond. mS/cm			+/- 10%	P / F	Y / N	

Notes:

Rev. 05/07/09

Inspector: GLENN DAN BRIAN

Date: 5-8-09

Weekly O&M

Cable/Tubing inspected?	Y / N	Staff Gauge cleaned?	Y / N
Tubing need replacement?	Y / N	A/V Sensor cleaned?	Y / N
Debris cleared from in-stream Equipment?	Y / N	In-Situ Troll cleaned?	Y / N
Sample Intake cleaned?	Y / N	Rain gauge cleaned and inspected?	Y / N
Sample Intake upright?	Y / N	Cage/housing locked and secure?	Y / N

In-Situ S/N: 47340

Calibration check of In-Situ Troll:	STANDARD 7.0	ISCO	*Calibration Check*	*Acceptance Criteria*	*Pass / Fail*	*Recalibrated?*	*Post-Calibration Check*
pH s.u.	6.7	7.11		+/- 0.5 pH unit	P / F	Y / N	
DO mg/l 0	7.30			+/- 0.7 mg/l of sat value	P / F	Y / N	9.43
ORP mV 240	279.3	-27		+/- 10 mV	P / F	Y / N	239 mV
Turb. NTU	27.0	.3		+/- 2 NTU	P / F	Y / N	1.1
Temp. C	15.0	15.0		+/- 0.5 °C	P / F	Y / N	
Sp. Cond. mS/cm 14.3	1414	3343		+/- 15%	P / F	Y / N	1418 µS

Batteries Replaced? Y / N

Signal Strength: 0 %

Spectrum Strength: 0 %

Manual stage reading (with ruler) from bottom of A/V sensor: 2.92 ft

Stage reading from staff gauge: 3.10 ft

Stage reading from ISCO: 2.822 ft

Stage reading reset to (on ISCO if necessary): N/O ft

Voltage reading from solar panels: 12.57 V

Voltage reading from batteries: 12.50 12.50 V

Monthly O&M

Solar panels cleaned and inspected? Y / N

Manual (Marsh-McBirney) stream velocity reading: _____ cf

ISCO stream velocity reading: _____ cf

Color of Dessicant: **blue / clear / pink**

Dessicant replaced? Y / N

Calibration check of In-Situ Troll:	*Standard*	*Calibration Check*	*Acceptance Criteria*	*Pass / Fail*	*Recalibrated?*	*Post-Calibration Check*
pH s.u.			+/- 0.1 pH unit (for pH 7)	P / F	Y / N	
DO mg/l			+/- 0.3 mg/l of sat value	P / F	Y / N	
ORP mV			+/- 5 mV	P / F	Y / N	
Turb. NTU			+/- 2 NTU	P / F	Y / N	
Temp. C			NA	P / F	Y / N	
Sp. Cond. mS/cm			+/- 10%	P / F	Y / N	

Notes:

Rev. 05/07/09

Inspector: GLENN BRAM

Date: 5 15 09

Weekly O&M

Cable/Tubing inspected?	Y / N	Staff Gauge cleaned?	Y / N
Tubing need replacement?	Y / N	A/V Sensor cleaned?	Y / N
Debris cleared from in-stream Equipment?	Y / N	In-Situ Troll cleaned?	Y / N
Sample Intake cleaned?	Y / N	Rain gauge cleaned and inspected?	Y / N
Sample Intake upright?	Y / N	Cage/housing locked and secure?	Y / N
Telemetry Cable Connected?	Y / N		

In-Situ S/N:

Calibration check of In-Situ Troll:	*Standard*	*Calibration Check*	*Acceptance Criteria*	*Pass / Fail*	*Recalibrated?*	*DO Membrane Replaced?*
pH s.u.	7.01	7.18	+/- 0.5 pH unit	P / F	Y / N	Y / N
DO mg/l			+/- 0.7 mg/l of sat value	P / F	Y / N	
ORP mV	240	233	+/- 10 mV	P / F	Y / N	
Turb. NTU	10	76.4	+/- 2 NTU	P / F	Y / N	
Temp. °C			+/- 0.5 °C	P / F	Annually Only	
Sp. Cond. mS/cm	1413	1952	+/- 15%	P / F	Y / N	

Calibration Confirmation of In-Situ Troll:	*Standard*	*Calibration Confirmation*	*Acceptance Criteria*	*Pass / Fail*	*Recalibrated?*	*Re-Calibration Confirmation*	*Sensor Replaced?*
pH s.u.	7		+/- 0.1 pH unit (for pH 7)	P / F	Y / N		
	4	NA	NA	NA	Y / N	NA	
	10				Y / N		
DO mg/l			+/- 0.3 mg/l of sat value	P / F	Y / N		
ORP mV			+/- 5 mV	P / F	Y / N		
Turb. NTU	10	10.1	+/- 2 NTU	P / F	Y / N		
Temp. °C			NA	P / F	Replace		
Sp. Cond. mS/cm			+/- 10%	P / F	Y / N		

Batteries Replaced? Y / N

Manual stage reading (with ruler) from bottom of A/V sensor: .50 ft

Signal Strength: 73 %

Stage reading from staff gauge: .46 ft

Spectrum Strength: 0 %

Stage reading from ISCO: .50 ft

Voltage reading from solar panels: 13.17 V

Stage reading reset to (on ISCO if necessary): N/D ft

Voltage reading from batteries: 12.97 12.97 V

Monthly O&M

Solar panels cleaned and inspected? Y / N

750 Module

Manual (Marsh-McBirney) stream velocity reading: _____ cf

Color of Dessicant: **blue / clear / pink / green**

ISCO stream velocity reading: _____ cf

Dessicant replaced? Y / N

Humidy Indicator: **blue / pink / white**

20 / 30 / 40

Notes:

Rev. 05/08/09

Inspector: GLENN BRIAN

Date: 5-15-09

Weekly O&M

Cable/Tubing inspected?	(Y) / N	Staff Gauge cleaned?	(Y) / N
Tubing need replacement?	Y / (N)	A/V Sensor cleaned?	(Y) / N
Debris cleared from in-stream Equipment?	(Y) / N	In-Situ Troll cleaned?	(Y) / N
Sample Intake cleaned?	(Y) / N	Rain gauge cleaned and inspected?	(Y) / N
Sample Intake upright?	(Y) / N	Cage/housing locked and secure?	(Y) / N
Telemetry Cable Connected?	(Y) / N		

In-Situ S/N:

Calibration check of In-Situ Troll:	*Standard*	*Calibration Check*	*Acceptance Criteria*	*Pass / Fail*	*Recalibrated?*	*DO Membrane Replaced?*
pH s.u.	7	7.10	+/- 0.5 pH unit	(P) / F	Y / N	
DO mg/l	—	—	+/- 0.7 mg/l of sat value	P / F	Y / N	Y / N
ORP mV	240	231	+/- 10 mV	(P) / F	Y / N	
Turb. NTU	10	84.4	+/- 2 NTU	P / (F)	(Y) / N	
Temp. °C	—		+/- 0.5 °C	P / F	Annually Only	
Sp. Cond. mS/cm	1413	1726	+/- 15%	P / (F)	Y / N	

Calibration Confirmation of In-Situ Troll:	*Standard*	*Calibration Confirmation*	*Acceptance Criteria*	*Pass / Fail*	*Recalibrated?*	*Re-Calibration Confirmation*	*Sensor Replaced?*
pH s.u.	7		+/- 0.1 pH unit (for pH 7)	P / F	Y / N		
	4	NA	NA	NA	Y / N	NA	
	10				Y / N		
DO mg/l			+/- 0.3 mg/l of sat value	P / F	Y / N		
ORP mV			+/- 5 mV	P / F	Y / N		
Turb. NTU	10	10.1	+/- 2 NTU	(P) / F	Y / N		
Temp. °C			NA	P / F	Replace		
Sp. Cond. mS/cm	1413	1592	+/- 10%	(P) / F	Y / N		

Batteries Replaced? Y / (N)

Manual stage reading (with ruler) from bottom of A/V sensor: .20 ft

Signal Strength: 0 %

Stage reading from staff gauge: .20 ft

Spectrum Strength: ERROR %

Stage reading from ISCO: .251 ft

Voltage reading from solar panels: 13.38 V

Stage reading reset to (on ISCO if necessary): NO ft

Voltage reading from batteries: 13.10 / 13.10 V

Monthly O&M

Solar panels cleaned and inspected? Y / N

750 Module

Manual (Marsh-McBirney) stream velocity reading: _____ cf

Color of Dessicant: **blue / clear / pink / green**

ISCO stream velocity reading: _____ cf

Dessicant replaced? Y / N

Humidy Indicator: **blue / pink / white**

20 / 30 / 40

Notes:

Rev. 05/08/09

Inspector: ALAN BRIAN

Date: 5-15-09

Weekly O&M

Cable/Tubing inspected?	(Y) / N
Tubing need replacement?	Y / (N)
Debris cleared from in-stream Equipment?	(Y) / N
Sample Intake cleaned?	(Y) / N
Sample Intake upright?	(Y) N
Telemetry Cable Connected?	(Y) N

Staff Gauge cleaned?	(Y) / N
A/V Sensor cleaned?	(Y) N
In-Situ Troll cleaned?	(Y) N
Rain gauge cleaned and inspected?	(Y) / N
Cage/housing locked and secure?	(Y) N

In-Situ S/N:

Calibration check of In-Situ Troll:	*Standard*	*Calibration Check*	*Acceptance Criteria*	*Pass / Fail*	*Recalibrated?*	*DO Membrane Replaced?*
pH s.u.	7	7.4	+/- 0.5 pH unit	(P) / F	Y / N	
DO mg/l	—		+/- 0.7 mg/l of sat value	P / F	Y / N	Y / N
ORP mV	240	240	+/- 10 mV	(P) / F	Y / N	
Turb. NTU	10	105.4	+/- 2 NTU	P / (F)	Y / N	
Temp. °C	—		+/- 0.5 °C	P / F	**Annually Only**	
Sp. Cond. mS/cm	1413	1635	+/- 15%	(P) / F	Y / N	

Calibration Confirmation of In-Situ Troll:	*Standard*	*Calibration Confirmation*	*Acceptance Criteria*	*Pass / Fail*	*Recalibrated?*	*Re-Calibration Confirmation*	*Sensor Replaced?*
pH s.u.	7		+/- 0.1 pH unit (for pH 7)	P / F	Y / N		
	4	NA	NA	NA	Y / N	NA	
	10				Y / N		
DO mg/l	—		+/- 0.3 mg/l of sat value	P / F	Y / N		
ORP mV	—		+/- 5 mV	P / F	Y / N		
Turb. NTU	10	10.3	+/- 2 NTU	(P) / F	Y / N		
Temp. °C	—		NA	P / F	**Replace**		
Sp. Cond. mS/cm			+/- 10%	P / F	Y / N		

Batteries Replaced? Y / N

Manual stage reading (with ruler) from bottom of A/V sensor: 1.20 ft

Signal Strength: 18 %

Stage reading from staff gauge: 1.15 ft

Spectrum Strength: 58 %

Stage reading from ISCO: 1.206 ft

Voltage reading from solar panels: 12.30 V

Stage reading reset to (on ISCO if necessary): NO ft

Voltage reading from batteries: 12.12 / 12.12 V

Monthly O&M

Solar panels cleaned and inspected? Y / N

750 Module

Manual (Marsh-McBirney) stream velocity reading: _____ cf

Color of Dessicant: **blue / clear / pink / green**

ISCO stream velocity reading: _____ cf

Dessicant replaced? Y / N

Humidy Indicator: **blue / pink / white**

20 / 30 / 40

Notes:

Rev. 05/08/09

OPERATION MAINTENANCE INSPECTION SHEET

SW-02-TT

Pond outlet

Inspector: GLENN BRIAN

Date: 5-15-09

Weekly O&M

Cable/Tubing inspected?	Y / N
Tubing need replacement?	Y / N
Debris cleared from in-stream Equipment?	Y / N
Sample Intake cleaned?	Y / N
Sample Intake upright?	Y / N
Telemetry Cable Connected?	Y / N
Staff Gauge cleaned?	Y / N
A/V Sensor cleaned?	Y / N
In-Situ Troll cleaned?	Y / N
Rain gauge cleaned and inspected?	Y / N
Cage/housing locked and secure?	Y / N

In-Situ S/N: 47353

Calibration check of In-Situ Troll:	*Standard*	*Calibration Check*	*Acceptance Criteria*	*Pass / Fail*	*Recalibrated?*	*DO Membrane Replaced?*
pH s.u.	7.01	7.19	+/- 0.5 pH unit	P / F	Y / N	
DO mg/l	0	363.1	+/- 0.7 mg/l of sat value	P / F	Y / N	Y / N
ORP mV	240	245	+/- 10 mV	P / F	Y / N	
Turb. NTU	10	10.2	+/- 2 NTU	P / F	Y / N	
Temp. °C			+/- 0.5 °C	P / F	Annually Only	
Sp. Cond. mS/cm	1413	1393	+/- 15%	P / F	Y / N	

Calibration Confirmation of In-Situ Troll:	*Standard*	*Calibration Confirmation*	*Acceptance Criteria*	*Pass / Fail*	*Recalibrated?*	*Re-Calibration Confirmation*	*Sensor Replaced?*
pH s.u.	7		+/- 0.1 pH unit (for pH 7)	P / F	Y / N		
	4	NA	NA	NA	Y / N	NA	
	10				Y / N		
DO mg/l			+/- 0.3 mg/l of sat value	P / F	Y / N		
ORP mV			+/- 5 mV	P / F	Y / N		
Turb. NTU			+/- 2 NTU	P / F	Y / N		
Temp. °C			NA	P / F	Replace		
Sp. Cond. mS/cm			+/- 10%	P / F	Y / N		

Batteries Replaced? Y / N

Manual stage reading (with ruler) from bottom of A/V sensor: 1.00 ft

Signal Strength: 3 %

Stage reading from staff gauge: 1.00 ft

Spectrum Strength: 0 %

Stage reading from ISCO: 1.022 ft

Voltage reading from solar panels: 12.92 V

Stage reading reset to (on ISCO if necessary): NO ft

Voltage reading from batteries: 12.66 / 12.66 V

Monthly O&M

Solar panels cleaned and inspected? Y / N

750 Module

Manual (Marsh-McBirney) stream velocity reading: _____ cf

Color of Dessicant: blue / clear / pink / green

ISCO stream velocity reading: _____ cf

Dessicant replaced? Y / N

Humidy Indicator: blue / pink / white

20 / 30 / 40

Notes:

Rev. 05/08/09

Inspector: CREW BRIAN

Abersons

Date: 5-15-09

Sunny

Weekly O&M

Cable/Tubing inspected?	(Y) / N
Tubing need replacement?	Y / (N)
Debris cleared from in-stream Equipment?	(Y) / N
Sample Intake cleaned?	(Y) / N
Sample Intake upright?	(Y) / N
Telemetry Cable Connected?	(Y) / N

Staff Gauge cleaned?	(Y) / N
A/V Sensor cleaned?	(Y) / N
In-Situ Troll cleaned?	(Y) / N
Rain gauge cleaned and inspected?	(Y) / N
Cage/housing locked and secure?	(Y) / N

In-Situ S/N: — New Troll

Calibration check of In-Situ Troll:

	Standard	*Calibration Check*	*Acceptance Criteria*	*Pass / Fail*	*Recalibrated?*	*DO Membrane Replaced?*
pH s.u.	7	7.04	+/- 0.5 pH unit	(P) / F	Y / N	
DO mg/l	—	—	+/- 0.7 mg/l of sat value	P / F	Y / N	Y / N
ORP mV	240	35	+/- 10 mV	P / (F)	(Y) / N	
Turb. NTU	—	—	+/- 2 NTU	P / F	Y / N	
Temp. °C	—	—	+/- 0.5 °C	P / F	**Annually Only**	
Sp. Cond. mS/cm	1413	1613	+/- 15%	(P) / F	Y / N	

Calibration Confirmation of In-Situ Troll:

	Standard	*Calibration Confirmation*	*Acceptance Criteria*	*Pass / Fail*	*Recalibrated?*	*Re-Calibration Confirmation*	*Sensor Replaced?*
pH s.u.	7		+/- 0.1 pH unit (for pH 7)	P / F	Y / N		
	4	NA	NA	NA	Y / N	NA	
	10				Y / N		
DO mg/l			+/- 0.3 mg/l of sat value	P / F	Y / N		
ORP mV	240	242	+/- 5 mV	(P) / F	Y / N		
Turb. NTU			+/- 2 NTU	P / F	Y / N		
Temp. °C			NA	P / F	**Replace**		
Sp. Cond. mS/cm			+/- 10%	P / F	Y / N		

Batteries Replaced? Y / (N)

Manual stage reading (with ruler) from bottom of A/V sensor: 1.00 ft

Signal Strength: 24 %

Stage reading from staff gauge: .62 ft

Spectrum Strength: 0 %

Stage reading from ISCO: 1.188 ft

Voltage reading from solar panels: 13.27 V

Stage reading reset to (on ISCO if necessary): No ft

Voltage reading from batteries: 13.00 / 13.00 V

Monthly O&M

Solar panels cleaned and inspected? **Y / N**

750 Module

Manual (Marsh-McBirney) stream velocity reading: _____ cf

Color of Dessicant: **blue / clear / pink / green**

ISCO stream velocity reading: _____ cf

Dessicant replaced? **Y / N**

Humidy Indicator: **blue / pink / white**

20 / 30 / 40

Notes:

Rev. 05/08/09

OPERATION MAINTENANCE INSPECTION SHEET

SW-04-TT

Mish

Inspector: GLEWN BRIAN

Date: 5-15-09

Weekly O&M

Cable/Tubing inspected?	Y / N	Staff Gauge cleaned?	Y / N
Tubing need replacement?	Y / N	A/V Sensor cleaned?	Y / N
Debris cleared from in-stream Equipment?	Y / N	In-Situ Troll cleaned?	Y / N
Sample Intake cleaned?	Y / N	Rain gauge cleaned and inspected?	Y / N
Sample Intake upright?	Y / N	Cage/housing locked and secure?	Y / N
Telemetry Cable Connected?	Y / N		

In-Situ S/N:

Calibration check of In-Situ Troll:	*Standard*	*Calibration Check*	*Acceptance Criteria*	*Pass / Fail*	*Recalibrated?*	*DO Membrane Replaced?*
pH s.u.	7	6.91	+/- 0.5 pH unit	P / F	Y / N	Y / N
DO mg/l			+/- 0.7 mg/l of sat value	P / F	Y / N	
ORP mV	240	235	+/- 10 mV	P / F	Y / N	
Turb. NTU	10	99.1	+/- 2 NTU	P / F	Y / N	
Temp. °C			+/- 0.5 °C	P / F	Annually Only	
Sp. Cond. mS/cm	1413	1063	+/- 15%	P / F	Y / N	

Calibration Confirmation of In-Situ Troll:	*Standard*	*Calibration Confirmation*	*Acceptance Criteria*	*Pass / Fail*	*Recalibrated?*	*Re-Calibration Confirmation*	*Sensor Replaced?*
pH s.u.	7		+/- 0.1 pH unit (for pH 7)	P / F	Y / N		
	4	NA	NA	NA	Y / N	NA	
	10				Y / N		
DO mg/l			+/- 0.3 mg/l of sat value	P / F	Y / N		
ORP mV			+/- 5 mV	P / F	Y / N		
Turb. NTU	10	11.8	+/- 2 NTU	P / F	Y / N		
Temp. °C			NA	P / F	Replace		
Sp. Cond. mS/cm	1413	1408	+/- 10%	P / F	Y / N		

Batteries Replaced? Y / N

Manual stage reading (with ruler) from bottom of A/V sensor: .90 ft

Signal Strength: 27 %

Stage reading from staff gauge: .90 ft

Spectrum Strength: 62 %

Stage reading from ISCO: .728 ft

Voltage reading from solar panels: 13.42 V

Stage reading reset to (on ISCO if necessary): NO ft

Voltage reading from batteries: 13.19 / 13.19 V

Monthly O&M

Solar panels cleaned and inspected? Y / N

750 Module

Manual (Marsh-McBirney) stream velocity reading: _____ cf

Color of Dessicant: blue / clear / pink / green

ISCO stream velocity reading: _____ cf

Dessicant replaced? Y / N

Humidy Indicator: blue / pink / white

20 / 30 / 40

Notes:

Rev. 05/08/09

OPERATION MAINTENANCE INSPECTION SHEET

SW-05-TT
Salem St

Inspector: GLENN BRIAN

Date: 5-15-09

Weekly O&M

Cable/Tubing inspected?	(Y) / N
Tubing need replacement?	Y / (N)
Debris cleared from in-stream Equipment?	(Y) / N
Sample Intake cleaned?	(Y) / N
Sample Intake upright?	(Y) / N
Telemetry Cable Connected?	(Y) / N
Staff Gauge cleaned?	(Y) / N
A/V Sensor cleaned?	(Y) / N
In-Situ Troll cleaned?	(Y) / N
Rain gauge cleaned and inspected?	(Y) / N
Cage/housing locked and secure?	(Y) / N

In-Situ S/N:

Calibration check of In-Situ Troll:

	Standard	Calibration Check	Acceptance Criteria	Pass / Fail	Recalibrated?	DO Membrane Replaced?
pH s.u.	7	7.11	+/- 0.5 pH unit	(P) / F	Y / N	
DO mg/l	—	—	+/- 0.7 mg/l of sat value	P / F	Y / N	Y / N
ORP mV	240	232	+/- 10 mV	(P) / F	Y / N	
Turb. NTU	10	35.4	+/- 2 NTU	P / (F)	Y / N	
Temp. °C	—	—	+/- 0.5 °C	P / F	Annually Only	
Sp. Cond. mS/cm	14/13	2003	+/- 15%	P / (F)	Y / N	

Calibration Confirmation of In-Situ Troll:

	Standard	Calibration Confirmation	Acceptance Criteria	Pass / Fail	Recalibrated?	Re-Calibration Confirmation	Sensor Replaced?
pH s.u.	7		+/- 0.1 pH unit (for pH 7)	P / F	Y / N		
	4	NA	NA	NA	Y / N	NA	
	10				Y / N		
DO mg/l			+/- 0.3 mg/l of sat value	P / F	Y / N		
ORP mV			+/- 5 mV	P / F	Y / N		
Turb. NTU	10	9.9	+/- 2 NTU	(P) / F	Y / N		
Temp. °C			NA	P / F	Replace		
Sp. Cond. mS/cm	14/13	1409	+/- 10%	(P) / F	Y / N		

Batteries Replaced? Y / (N)

Manual stage reading (with ruler) from bottom of A/V sensor: 2.00 ft

Signal Strength: 9 %

Stage reading from staff gauge: — ft

Spectrum Strength: 0 %

Stage reading from ISCO: 1.952 ft

Voltage reading from solar panels: 12.56 V

Stage reading reset to (on ISCO if necessary): ____ ft

Voltage reading from batteries: 12.37 12.37 V

Monthly O&M

Solar panels cleaned and inspected? Y / N

750 Module

Manual (Marsh-McBirney) stream velocity reading: ____ cf

Color of Dessicant: **blue / clear / pink / green**

ISCO stream velocity reading: ____ cf

Dessicant replaced? Y / N

Humidy Indicator: **blue / pink / white**

20 / 30 / 40

Notes:

Rev. 05/08/09

Montvale

Inspector: GLEN BRIAN

Date: 5-15-09

CLOUDY / 60°

Weekly O&M

Cable/Tubing inspected?	(Y) / N
Tubing need replacement?	Y / (N)
Debris cleared from in-stream Equipment?	(Y) / N
Sample Intake cleaned?	(Y) / N
Sample Intake upright?	(Y) / N
Telemetry Cable Connected?	(Y) / N
Staff Gauge cleaned?	(Y) / N
A/V Sensor cleaned?	(Y) / N
In-Situ Troll cleaned?	(Y) / N
Rain gauge cleaned and inspected?	(Y) / N
Cage/housing locked and secure?	(Y) / N

In-Situ S/N:

Calibration check of In-Situ Troll:	*Standard*	*Calibration Check*	*Acceptance Criteria*	*Pass / Fail*	*Recalibrated?*	*DO Membrane Replaced?*
pH s.u.	7	6.56	+/- 0.5 pH unit	(P) / F	Y / N	
DO mg/l			+/- 0.7 mg/l of sat value	~~P / F~~	Y / N	Y / N
ORP mV	240	239	+/- 10 mV	(P) / F	Y / N	
Turb. NTU	10	29.4	+/- 2 NTU	P / (F)	(Y) / N	
Temp. °C			~~+/- 0.5 °C~~	~~P / F~~	Annually Only	
Sp. Cond. mS/cm	1413	1590	+/- 15%	(P) / F	Y / N	

Calibration Confirmation of In-Situ Troll:	*Standard*	*Calibration Confirmation*	*Acceptance Criteria*	*Pass / Fail*	*Recalibrated?*	*Re-Calibration Confirmation*	*Sensor Replaced?*
pH s.u.	7		+/- 0.1 pH unit (for pH 7)	P / F	Y / N		
	4	NA	NA	NA	Y / N	NA	
	10				Y / N		
DO mg/l			+/- 0.3 mg/l of sat value	P / F	Y / N		
ORP mV			+/- 5 mV	P / F	Y / N		
Turb. NTU	10	8.2	+/- 2 NTU	(P) / F	Y / N		
Temp. °C			NA	P / F	Replace		
Sp. Cond. mS/cm			+/- 10%	P / F	Y / N		

Batteries Replaced? Y / (N)

Manual stage reading (with ruler) from bottom of A/V sensor: 1.80 ft

Signal Strength: 0 %

Stage reading from staff gauge: 1.85 ft

Spectrum Strength: ERROR %

Stage reading from ISCO: 1.885 ft

Voltage reading from solar panels: 12.10 V

Stage reading reset to (on ISCO if necessary): NA ft

Voltage reading from batteries: 11.92 / 11.92 V

Monthly O&M

Solar panels cleaned and inspected? Y / N

750 Module

Manual (Marsh-McBirney) stream velocity reading: _____ cf

Color of Dessicant: **blue / clear / pink / green**

ISCO stream velocity reading: _____ cf

Dessicant replaced? Y / N

Humidy Indicator: **blue / pink / white**

20 / 30 / 40

Notes:

Rev. 05/08/09

Swan Ln

Inspector: Glenn Baird

Date: 5-15-09

Weekly O&M

Cable/Tubing inspected?	(Y) / N	Staff Gauge cleaned?	(Y) / N
Tubing need replacement?	Y / (N)	A/V Sensor cleaned?	(Y) / N
Debris cleared from in-stream Equipment?	(Y) / N	In-Situ Troll cleaned?	(Y) / N
Sample Intake cleaned?	(Y) / N	Rain gauge cleaned and inspected?	(Y) / N
Sample Intake upright?	(Y) / N	Cage/housing locked and secure?	(Y) / N
Telemetry Cable Connected?	(Y) / N		

In-Situ S/N:

Calibration check of In-Situ Troll:

	Standard	*Calibration Check*	*Acceptance Criteria*	*Pass / Fail*	*Recalibrated?*	*DO Membrane Replaced?*
pH s.u.	7	7.13	+/- 0.5 pH unit	(P) / F	Y / N	
DO mg/l			+/- 0.7 mg/l of sat value	P / F	Y / N	Y / N
ORP mV	240	237	+/- 10 mV	(P) / F	Y / N	
Turb. NTU	10	33.2	+/- 2 NTU	P / (F)	Y / N	
Temp. °C	—	—	+/- 0.5 °C	P / F	**Annually Only**	
Sp. Cond. mS/cm	1413	1379	+/- 15%	(P) / F	Y / N	

Calibration Confirmation of In-Situ Troll:

	Standard	*Calibration Confirmation*	*Acceptance Criteria*	*Pass / Fail*	*Recalibrated?*	*Re-Calibration Confirmation*	*Sensor Replaced?*
pH s.u.	7		+/- 0.1 pH unit (for pH 7)	P / F	Y / N		
	4	NA	NA	NA	Y / N	NA	
	10				Y / N		
DO mg/l			+/- 0.3 mg/l of sat value	P / F	Y / N		
ORP mV			+/- 5 mV	P / F	Y / N		
Turb. NTU	10	8.6	+/- 2 NTU	(P) / F	Y / N		
Temp. °C			NA	P / F	**Replace**		
Sp. Cond. mS/cm			+/- 10%	P / F	Y / N		

Batteries Replaced? Y / (N)

Manual stage reading (with ruler) from bottom of A/V sensor: 2.00 ft

Signal Strength: 38 %

Stage reading from staff gauge: 1.60 ft

Spectrum Strength: 0 %

Stage reading from ISCO: 2.182 ft

Voltage reading from solar panels: 12.51 V

Stage reading reset to (on ISCO if necessary): NA ft

Voltage reading from batteries: 12.33 / 12.33 V

Monthly O&M

Solar panels cleaned and inspected? Y / N

750 Module

Manual (Marsh-McBirney) stream velocity reading: _____ cf

Color of Dessicant: **blue / clear / pink / green**

ISCO stream velocity reading: _____ cf

Dessicant replaced? Y / N

Humidy Indicator: **blue / pink / white**

20 / 30 / 40

Notes:

Rev. 05/08/09

OPERATION MAINTENANCE INSPECTION SHEET

SW-08-TT

USGS

Inspector: Glenn / Brian

Date: 5-15-09

Weekly O&M

Cable/Tubing inspected?	Y / N	Staff Gauge cleaned?	Y / N
Tubing need replacement?	Y / N	A/V Sensor cleaned?	Y / N
Debris cleared from in-stream Equipment?	Y / N	In-Situ Troll cleaned?	Y / N
Sample Intake cleaned?	Y / N	Rain gauge cleaned and inspected?	Y / N
Sample Intake upright?	Y / N	Cage/housing locked and secure?	Y / N
Telemetry Cable Connected?	Y / N		

In-Situ S/N:

Calibration check of In-Situ Troll:	*Standard*	*Calibration Check*	*Acceptance Criteria*	*Pass / Fail*	*Recalibrated?*	*DO Membrane Replaced?*
pH s.u.	7	6.97	+/- 0.5 pH unit	P / F	Y / N	Y / N
DO mg/l			+/- 0.7 mg/l of sat value	P / F	Y / N	
ORP mV	240	230	+/- 10 mV	P / F	Y / N	
Turb. NTU	10	29.9	+/- 2 NTU	P / F	Y / N	
Temp. °C	—	—	+/- 0.5 °C	P / F	Annually Only	
Sp. Cond. mS/cm	1413	1616	+/- 15%	P / F	Y / N	

Calibration Confirmation of In-Situ Troll:	*Standard*	*Calibration Confirmation*	*Acceptance Criteria*	*Pass / Fail*	*Recalibrated?*	*Re-Calibration Confirmation*	*Sensor Replaced?*
pH s.u.	7		+/- 0.1 pH unit (for pH 7)	P / F	Y / N		
	4	NA	NA	NA	Y / N	NA	
	10				Y / N		
DO mg/l			+/- 0.3 mg/l of sat value	P / F	Y / N		
ORP mV			+/- 5 mV	P / F	Y / N		
Turb. NTU	10	11.5	+/- 2 NTU	P / F	Y / N		
Temp. °C			NA	P / F	Replace		
Sp. Cond. mS/cm			+/- 10%	P / F	Y / N		

Batteries Replaced? Y / N

Manual stage reading (with ruler) from bottom of A/V sensor: 2.4 ft

Signal Strength: 0 %

Stage reading from staff gauge: 2.85 ft

Spectrum Strength: Error %

Stage reading from ISCO: 2.345 ft

Voltage reading from solar panels: 12.41 V

Stage reading reset to (on ISCO if necessary): No ft

Voltage reading from batteries: 12.21 / 12.22 V

Monthly O&M

Solar panels cleaned and inspected? Y / N

750 Module

Manual (Marsh-McBirney) stream velocity reading: _____ cf

Color of Dessicant: **blue / clear / pink / green**

ISCO stream velocity reading: _____ cf

Dessicant replaced? Y / N

Humidy Indicator: **blue / pink / white**

20 / 30 / 40

Notes:

Rev. 05/08/09

Inspector: R Sass / I. Forgey

Date: 5-22-09

Weekly O&M

Data downloaded with RTD?	Y / N	Staff Gauge cleaned?	Y / N
Cable/Tubing inspected?	Y / N	A/V Sensor cleaned?	Y / N
Tubing need replacement?	Y / N	In-Situ Troll cleaned?	Y / N
Debris cleared from in-stream Equipment?	Y / N	Rain gauge cleaned and inspected?	Y / N
Sample Intake cleaned?	Y / N	Cage/housing locked and secure?	Y / N
Sample Intake upright?	Y / N	Telemetry Cable Connected?	Y / N

In-Situ S/N: 47350

Reading check of In-Situ Troll sensors:

	Standard	*Reading Check*	*Acceptance Criteria*	*Pass / Fail*	*Recalibrated?*	*DO Membrane Replaced?*
pH s.u.			+/- 0.5 pH unit	P / F	Y / N	
DO mg/l			+/- 0.7 mg/l of sat value	P / F	Y / N	Y / N
ORP mV			+/- 10 mV	P / F	Y / N	
Turb. NTU			+/- 2 NTU	P / F	Y / N	
Temp. °C			+/- 0.5 °C	P / F	Annually Only	
Sp. Cond. mS/cm			+/- 15%	P / F	Y / N	

Calibration confirmation of In-Situ Troll:

	Standard	*Calibration Confirmation*	*Acceptance Criteria*	*Pass / Fail*	*Recalibrated?*	*Re-Calibration Confirmation*	*Sensor Replaced?*
pH s.u.	7	7.01	+/- 0.1 pH unit (for pH 7)	P / F	Y / N		Y / N
	4	NA	NA	NA	Y / N	NA	
	10				Y / N		
DO mg/l	* TOO HIGH OUT?		+/- 0.3 mg/l of sat value	P / F	Y / N		Y / N
ORP mV	240	240	+/- 5 mV	P / F	Y / N		Y / N
Turb. NTU	0	0.1	+/- 2 NTU	P / F	Y / N		Y / N
Temp. °C	—	—	NA	P / F	Replace		Y / N
Sp. Cond. mS/cm	1413	1418	+/- 10%	P / F	Y / N		Y / N

Batteries Replaced? *(DO NOT LEAVE IN UNIT)* Y / N

Manual stage reading (with ruler) from bottom of A/V sensor: 0 ft

Signal Strength: 0 %

Stage reading from staff gauge: 0 ft

Spectrum Strength: Error %

Stage reading from ISCO: -.10 ft

Voltage reading from solar panels: 5.0 V

Stage reading reset to (if +/- 0.041): NA ft

Voltage reading from batteries: 13.19 / 13.18 V

Monthly O&M

Solar panels cleaned and inspected? Y / N

Manual (Marsh-McBirney) stream velocity reading: Not Enough flow cf

ISCO stream velocity reading: .40 fps

Humidity Indicator: blue / pink / white

20 / 30 / 40

750 Module *(replace dessicant if velocity reading is +/- 2% of Isco reading)*

Color of Dessicant: blue / pink / yellow / green

Dessicant replaced? Y / N

Notes: Replace Troll wire and Troll 47344 with 47350
* DO Did not Calibrate Temp may be too high 45.15 C

Rev. 05/21/09

OPERATION MAINTENANCE INSPECTION SHEET

SITE ID: SW-3-IP

Inspector: R Saen / I. Forgey

Date: 5.22.09

Weekly O&M

Data downloaded with RTD?	Y / N	Staff Gauge cleaned?	Y / N
Cable/Tubing inspected?	Y / N	A/V Sensor cleaned?	Y / N
Tubing need replacement?	Y / N	In-Situ Troll cleaned?	Y / N
Debris cleared from in-stream Equipment?	Y / N	Rain gauge cleaned and inspected?	Y / N
Sample Intake cleaned?	Y / N	Cage/housing locked and secure?	Y / N
Sample Intake upright?	Y / N	Telemetry Cable Connected?	Y / N

In-Situ S/N: 47347

Reading check of In-Situ Troll sensors:

	Standard	Reading Check	Acceptance Criteria	Pass / Fail	Recalibrated?	DO Membrane Replaced?
pH s.u.			+/- 0.5 pH unit	P / F	Y / N	
DO mg/l			+/- 0.7 mg/l of sat value	P / F	Y / N	Y / N
ORP mV			+/- 10 mV	P / F	Y / N	
Turb. NTU			+/- 2 NTU	P / F	Y / N	
Temp. °C			+/- 0.5 °C	P / F	Annually Only	
Sp. Cond. mS/cm			+/- 15%	P / F	Y / N	

will need replacing when ISCO Tech inspects.

Calibration confirmation of In-Situ Troll:

	Standard	Calibration Confirmation	Acceptance Criteria	Pass / Fail	Recalibrated?	Re-Calibration Confirmation	Sensor Replaced?
pH s.u.	7	7.19	+/- 0.1 pH unit (for pH 7)	P / F	Y / N		Y / N
	4	NA	NA	NA	Y / N	NA	
	10				Y / N		
DO mg/l *	NA		+/- 0.3 mg/l of sat value	P / F	Y / N		Y / N
ORP mV	240	241	+/- 5 mV	P / F	Y / N		Y / N
Turb. NTU	0	-0.4	+/- 2 NTU	P / F	Y / N		Y / N
Temp. °C	—	—	NA	P / F	Replace		Y / N
Sp. Cond. mS/cm	1413	1413	+/- 10%	P / F	Y / N		Y / N

Batteries Replaced? *(DO NOT LEAVE IN UNIT)* Y / N

Manual stage reading (with ruler) from bottom of A/V sensor: NO WATER ft

Signal Strength: 0 %

Stage reading from staff gauge: NO WATER ft

Spectrum Strength: Error %

Stage reading from ISCO: .005 ft

Voltage reading from solar panels: 0.21 V

Stage reading reset to (if +/- 0.041): NA ft

Voltage reading from batteries: 13.64 / 13.65 V

Monthly O&M

Solar panels cleaned and inspected? Y / N

Manual (Marsh-McBirney) stream velocity reading: NO Flow cf

ISCO stream velocity reading: -.023 cf

Humidy Indicator: blue / pink / white

20 / 30 / 40

750 Module *(replace dessicant if velocity reading is +/- 2% of Isco reading)*

Color of Dessicant: blue / pink / yellow / green

Dessicant replaced? Y / N

*Notes: Location is very dry - Membrane for DO does not look good, every DM cracked, will wait for ISCO Tech to fully O&M. DO Membrane / Sensor

Rev. 05/21/09

OPERATION MAINTENANCE INSPECTION SHEET

SITE ID: SW-01-TT

Inspector: R. Sorn / E. Forger

Date: 5.22.09

Weekly O&M

Data downloaded with RTD?	Y / N	Staff Gauge cleaned?	Y / N
Cable/Tubing inspected?	Y / N	A/V Sensor cleaned?	Y / N
Tubing need replacement?	Y / N	In-Situ Troll cleaned?	Y / N
Debris cleared from in-stream Equipment?	Y / N	Rain gauge cleaned and inspected?	Y / N
Sample Intake cleaned?	Y / N	Cage/housing locked and secure?	Y / N
Sample Intake upright?	Y / N	Telemetry Cable Connected?	Y / N

In-Situ S/N: 47485

Reading check of In-Situ Troll sensors:

	Standard	*Reading Check*	*Acceptance Criteria*	*Pass / Fail*	*Recalibrated?*	*DO Membrane Replaced?*
pH s.u.			+/- 0.5 pH unit	P / F	Y / N	
DO mg/l			+/- 0.7 mg/l of sat value	P / F	Y / N	Y / N
ORP mV			+/- 10 mV	P / F	Y / N	
Turb. NTU			+/- 2 NTU	P / F	Y / N	
Temp. °C			+/- 0.5 °C	P / F	Annually Only	
Sp. Cond. mS/cm			+/- 15%	P / F	Y / N	

Calibration confirmation of In-Situ Troll:

	Standard	*Calibration Confirmation*	*Acceptance Criteria*	*Pass / Fail*	*Recalibrated?*	*Re-Calibration Confirmation*	*Sensor Replaced?*
pH s.u.	7	7.12	+/- 0.1 pH unit (for pH 7)	P / F	Y / N		Y / N
	4	NA	NA	NA	Y / N	NA	
	10				Y / N		
DO mg/l	NA		+/- 0.3 mg/l of sat value	P / F	Y / N		Y / N
ORP mV	240	240	+/- 5 mV	P / F	Y / N		Y / N
Turb. NTU	0	.02	+/- 2 NTU	P / F	Y / N		Y / N
Temp. °C	—	—	NA	P / F	Replace		Y / N
Sp. Cond. mS/cm	1413	1419	+/- 10%	P / F	Y / N		Y / N

Batteries Replaced? *(DO NOT LEAVE IN UNIT)* Y / N

Manual stage reading (with ruler) from bottom of A/V sensor: .75 ft

Signal Strength: 1 %

Stage reading from staff gauge: 1.0 ft

Spectrum Strength: 60 %

Stage reading from ISCO: 1.052 ft

Voltage reading from solar panels: 6.80 V

Stage reading reset to (if +/- 0.041): NA ft

Voltage reading from batteries: 13.41 / 13.40 V

Monthly O&M

Solar panels cleaned and inspected? Y / N

Manual (Marsh-McBirney) stream velocity reading: .40 cf

ISCO stream velocity reading: .38 fps

Humidy Indicator: blue / pink / white

20 / 30 / 40

750 Module *(replace dessicant if velocity reading is +/- 2% of Isco reading)*

Color of Dessicant: blue / pink / yellow / green

Dessicant replaced? Y / N

Notes:

Rev. 05/21/09

OPERATION MAINTENANCE INSPECTION SHEET

SITE ID: SW-02-TT

Inspector: R Souza / I. Forgey

Date: 5.22.09

Weekly O&M

Data downloaded with RTD?	Y / N	Staff Gauge cleaned?	Y / N
Cable/Tubing inspected?	Y / N	A/V Sensor cleaned?	Y / N
Tubing need replacement?	Y / N	In-Situ Troll cleaned?	Y / N
Debris cleared from in-stream Equipment?	Y / N	Rain gauge cleaned and inspected?	Y / N
Sample Intake cleaned?	Y / N	Cage/housing locked and secure?	Y / N
Sample Intake upright?	Y / N	Telemetry Cable Connected?	Y / N

In-Situ S/N: 47353

Reading check of In-Situ Troll sensors:

	Standard	*Reading Check*	*Acceptance Criteria*	*Pass / Fail*	*Recalibrated?*	*DO Membrane Replaced?*
pH s.u.			+/- 0.5 pH unit	P / F	Y / N	Y / N
DO mg/l			+/- 0.7 mg/l of sat value	P / F	Y / N	
ORP mV			+/- 10 mV	P / F	Y / N	
Turb. NTU			+/- 2 NTU	P / F	Y / N	
Temp. °C			+/- 0.5 °C	P / F	Annually Only	
Sp. Cond. mS/cm			+/- 15%	P / F	Y / N	

Calibration confirmation of In-Situ Troll:

	Standard	*Calibration Confirmation*	*Acceptance Criteria*	*Pass / Fail*	*Recalibrated?*	*Re-Calibration Confirmation*	*Sensor Replaced?*
pH s.u.	7	7.08	+/- 0.1 pH unit (for pH 7)	P / F	Y / N		Y / N
	4	NA	NA	NA	Y / N	NA	
	10				Y / N		
DO mg/l	NA	—	+/- 0.3 mg/l of sat value	P / F	Y / N		Y / N
ORP mV	240	240	+/- 5 mV	P / F	Y / N		Y / N
Turb. NTU	0	0.1	+/- 2 NTU	P / F	Y / N		Y / N
Temp. °C	—	—	NA	P / F	Replace		Y / N
Sp. Cond. mS/cm	1413	1416	+/- 10%	P / F	Y / N		Y / N

Batteries Replaced? *(DO NOT LEAVE IN UNIT)* Y / N

Manual stage reading (with ruler) from bottom of A/V sensor: .74 ft

Signal Strength: 36 %

Stage reading from staff gauge: .84 ft

Spectrum Strength: 0 %

Stage reading from ISCO: .872 ft

Voltage reading from solar panels: 5.2 V

Stage reading reset to (if +/- 0.041): .74 ft

Voltage reading from batteries: 1343 / 1342 V

Monthly O&M

Solar panels cleaned and inspected? Y / N

Manual (Marsh-McBirney) stream velocity reading: .24 fps

ISCO stream velocity reading: 1.235 cf .26 fps

Humidy Indicator: blue / pink / white

20 / 30 / 40

750 Module ***(replace dessicant if velocity reading is +/- 2% of Isco reading)***

Color of Dessicant: blue / pink / yellow / green

Dessicant replaced? Y / N

Notes:

Rev. 05/21/09

Inspector: Souza Forgey

Date: 5/22/09

Weekly O&M

Data downloaded with RTD?	Y / N	Staff Gauge cleaned?	Y / N
Cable/Tubing inspected?	Y / N	A/V Sensor cleaned?	Y / N
Tubing need replacement?	Y / N	In-Situ Troll cleaned?	Y / N
Debris cleared from in-stream Equipment?	Y / N	Rain gauge cleaned and inspected?	Y / N
Sample Intake cleaned?	Y / N	Cage/housing locked and secure?	Y / N
Sample Intake upright?	Y / N	Telemetry Cable Connected?	Y / N

In-Situ S/N: 47486

Reading check of In-Situ Troll sensors:	*Standard*	*Reading Check*	*Acceptance Criteria*	*Pass / Fail*	*Recalibrated?*	*DO Membrane Replaced?*
pH s.u.			+/- 0.5 pH unit	P / F	Y / N	
DO mg/l			+/- 0.7 mg/l of sat value	P / F	Y / N	Y / N
ORP mV			+/- 10 mV	P / F	Y / N	
Turb. NTU			+/- 2 NTU	P / F	Y / N	
Temp. °C			+/- 0.5 °C	P / F	Annually Only	
Sp. Cond. mS/cm			+/- 15%	P / F	Y / N	

Calibration confirmation of In-Situ Troll:	*Standard*	*Calibration Confirmation*	*Acceptance Criteria*	*Pass / Fail*	*Recalibrated?*	*Re-Calibration Confirmation*	*Sensor Replaced?*
pH s.u.	7	7.01	+/- 0.1 pH unit (for pH 7)	P / F	Y / N	NA	Y / N
	4	NA	NA	NA	Y / N		
	10				Y / N		
DO mg/l	NA		+/- 0.3 mg/l of sat value	P / F	Y / N		Y / N
ORP mV	240	240	+/- 5 mV	P / F	Y / N		Y / N
Turb. NTU	0	-0.1	+/- 2 NTU	P / F	Y / N		Y / N
Temp. °C	—	—	NA	P / F	Replace		Y / N
Sp. Cond. mS/cm	1413	1454	+/- 10%	P / F	Y / N		Y / N

Batteries Replaced? *(DO NOT LEAVE IN UNIT)* Y / N

Manual stage reading (with ruler) from bottom of A/V sensor: _____ ft

Signal Strength: 2 %

Stage reading from staff gauge: .52 ft

Spectrum Strength: 98 %

Stage reading from ISCO: 1.006 ft

Voltage reading from solar panels: 22.5 V

Stage reading reset to (if +/- 0.041): _____ ft

Voltage reading from batteries: 12.77 / 12.78

Monthly O&M

Solar panels cleaned and inspected? Y / N

Manual (Marsh-McBirney) stream velocity reading: .43 cfs

ISCO stream velocity reading: 5.244 cfs

Humidity Indicator: blue / pink / white

20 / 30 / 40

.50 fps

750 Module ***(replace dessicant if velocity reading is +/- 2% of Isco reading)***

Color of Dessicant: blue / pink / yellow / green

Dessicant replaced? Y / N

Notes:

Rev. 05/21/09

OPERATION MAINTENANCE INSPECTION SHEET

SITE ID: SW-04-TT

Inspector: R. Sousa / E. Forgey

Date: 5.22.09

Weekly O&M

Data downloaded with RTD?	Y / N	Staff Gauge cleaned?	Y / N
Cable/Tubing inspected?	Y / N	A/V Sensor cleaned?	Y / N
Tubing need replacement?	Y / N	In-Situ Troll cleaned?	Y / N
Debris cleared from in-stream Equipment?	Y / N	Rain gauge cleaned and inspected?	Y / N
Sample Intake cleaned?	Y / N	Cage/housing locked and secure?	Y / N
Sample Intake upright?	Y / N	Telemetry Cable Connected?	Y / N

In-Situ S/N: 47352

Reading check of In-Situ Troll sensors:

	Standard	Reading Check	Acceptance Criteria	Pass / Fail	Recalibrated?	DO Membrane Replaced?
pH s.u.			+/- 0.5 pH unit	P / F	Y / N	Y / N
DO mg/l			+/- 0.7 mg/l of sat value	P / F	Y / N	
ORP mV			+/- 10 mV	P / F	Y / N	
Turb. NTU			+/- 2 NTU	P / F	Y / N	
Temp. °C			+/- 0.5 °C	P / F	Annually Only	
Sp. Cond. mS/cm			+/- 15%	P / F	Y / N	

Calibration confirmation of In-Situ Troll:

	Standard	Calibration Confirmation	Acceptance Criteria	Pass / Fail	Recalibrated?	Re-Calibration Confirmation	Sensor Replaced?
pH s.u.	7	7.19	+/- 0.1 pH unit (for pH 7)	P / F	Y / N		Y / N
	4	NA	NA	NA	Y / N	NA	
	10				Y / N		
DO mg/l	NA		+/- 0.3 mg/l of sat value	P / F	Y / N		Y / N
ORP mV	240	240	+/- 5 mV	P / F	Y / N		Y / N
Turb. NTU	0	0.1	+/- 2 NTU	P / F	Y / N		Y / N
Temp. °C	—	—	NA	P / F	Replace		Y / N
Sp. Cond. mS/cm	1413	1412	+/- 10%	P / F	Y / N		Y / N

Batteries Replaced? *(DO NOT LEAVE IN UNIT)* Y / N

Manual stage reading (with ruler) from bottom of A/V sensor: .68 ft

Signal Strength: 43 %

Stage reading from staff gauge: .70 ft

Spectrum Strength: 72 %

Stage reading from ISCO: .573 ft

Voltage reading from solar panels: .08 V

Stage reading reset to (if +/- 0.041): .70 ft

Voltage reading from batteries: 13.07 / 13.07 V

Monthly O&M

Solar panels cleaned and inspected? Y / N

750 Module *(replace dessicant if velocity reading is +/- 2% of Isco reading)*

Manual (Marsh-McBirney) stream velocity reading: ~~2.31 FPS~~ 1.74 cf

Color of Dessicant: blue / pink / yellow / green

ISCO stream velocity reading: 2.31 FPS cf

Dessicant replaced? Y / N

Humidy Indicator: blue / pink / white

20 / 30 / 40

Notes: See small/young beaver at this location, swam over towards old EPA station

Rev. 05/21/09

OPERATION MAINTENANCE INSPECTION SHEET

SITE ID: SW05TT

Inspector: Souza / Forgey

Date: 5/28/09 5.21.09

Weekly O&M

Data downloaded with RTD?	Y / N	Staff Gauge cleaned?	Y / N
Cable/Tubing inspected?	Y / N	A/V Sensor cleaned?	Y / N
Tubing need replacement?	Y / N	In-Situ Troll cleaned?	Y / N
Debris cleared from in-stream Equipment?	Y / N	Rain gauge cleaned and inspected?	Y / N
Sample Intake cleaned?	Y / N	Cage/housing locked and secure?	Y / N
Sample Intake upright?	Y / N	Telemetry Cable Connected?	Y / N

In-Situ S/N: 47339

Reading check of In-Situ Troll sensors:

	Standard	*Reading Check*	*Acceptance Criteria*	*Pass / Fail*	*Recalibrated?*	*DO Membrane Replaced?*
pH s.u.			+/- 0.5 pH unit	P / F	Y / N	
DO mg/l			+/- 0.7 mg/l of sat value	P / F	Y / N	Y / N
ORP mV			+/- 10 mV	P / F	Y / N	
Turb. NTU			+/- 2 NTU	P / F	Y / N	
Temp. °C			+/- 0.5 °C	P / F	**Annually Only**	
Sp. Cond. mS/cm			+/- 15%	P / F	Y / N	

Calibration confirmation of In-Situ Troll:

	Standard	*Calibration Confirmation*	*Acceptance Criteria*	*Pass / Fail*	*Recalibrated?*	*Re-Calibration Confirmation*	*Sensor Replaced?*
pH s.u.	7	7.01	+/- 0.1 pH unit (for pH 7)	P / F	Y / N		Y / N
	4	NA	NA	NA	Y / N	NA	
	10				Y / N		
DO mg/l	NA		+/- 0.3 mg/l of sat value	P / F	Y / N		Y / N
ORP mV	240	240	+/- 5 mV	P / F	Y / N		Y / N
Turb. NTU	0	0.1	+/- 2 NTU	P / F	Y / N		Y / N
Temp. °C	NA		NA	P / F	**Replace**		Y / N
Sp. Cond. mS/cm			+/- 10%	P / F	Y / N		Y / N

Batteries Replaced? *(DO NOT LEAVE IN UNIT)* Y / N

Manual stage reading (with ruler) from bottom of A/V sensor: _____ ft

Signal Strength: 11 %

Stage reading from staff gauge: 1.70 ft

Spectrum Strength: 76 %

Stage reading from ISCO: 1.776 ft

Voltage reading from solar panels: 29.1 V

Stage reading reset to (if +/- 0.041): _____ ft

Voltage reading from batteries: 13.01 / 13.00

Monthly O&M

Solar panels cleaned and inspected? Y / N

Manual (Marsh-McBirney) stream velocity reading: .23 FPS

ISCO stream velocity reading: .38 cf .32

Humidity Indicator: blue / pink / white

20 / 30 / 40

750 Module ***(replace dessicant if velocity reading is +/- 2% of Isco reading)***

Color of Dessicant: **blue / pink / yellow / green**

Dessicant replaced? Y / N

Notes:

Rev. 05/21/09

OPERATION MAINTENANCE INSPECTION SHEET

SITE ID: SW06TT

Inspector: Souza / Fogey

Date: 5/21/09

Weekly O&M

Data downloaded with RTD?	Y / N	Staff Gauge cleaned?	Y / N
Cable/Tubing inspected?	Y / N	A/V Sensor cleaned?	Y / N
Tubing need replacement?	Y / N	In-Situ Troll cleaned?	Y / N
Debris cleared from in-stream Equipment?	Y / N	Rain gauge cleaned and inspected?	Y / N
Sample Intake cleaned?	Y / N	Cage/housing locked and secure?	Y / N
Sample Intake upright?	Y / N	Telemetry Cable Connected?	Y / N

In-Situ S/N: 47482

Reading check of In-Situ Troll sensors:

	Standard	Reading Check	Acceptance Criteria	Pass / Fail	Recalibrated?	DO Membrane Replaced?
pH s.u.			+/- 0.5 pH unit	P / F	Y / N	Y / N
DO mg/l			+/- 0.7 mg/l of sat value	P / F	Y / N	
ORP mV			+/- 10 mV	P / F	Y / N	
Turb. NTU			+/- 2 NTU	P / F	Y / N	
Temp. °C			+/- 0.5 °C	P / F	Annually Only	
Sp. Cond. mS/cm			+/- 15%	P / F	Y / N	

Calibration confirmation of In-Situ Troll:

	Standard	Calibration Confirmation	Acceptance Criteria	Pass / Fail	Recalibrated?	Re-Calibration Confirmation	Sensor Replaced?
pH s.u.	7	6.9	+/- 0.1 pH unit (for pH 7)	P / F	Y / N		Y / N
	4	NA	NA	NA	Y / N	NA	
	10				Y / N		
DO mg/l		41 slope	+/- 0.3 mg/l of sat value	P / F	Y / N		Y / N
ORP mV	240	240	+/- 5 mV	P / F	Y / N		Y / N
Turb. NTU	0	.40	+/- 2 NTU	P / F	Y / N		Y / N
Temp. °C			NA	P / F	Replace		Y / N
Sp. Cond. mS/cm	1413	1422	+/- 10%	P / F	Y / N		Y / N

Batteries Replaced? *(DO NOT LEAVE IN UNIT)* Y / N

Manual stage reading (with ruler) from bottom of A/V sensor: 1.38 ft

Signal Strength: 0 %

Stage reading from staff gauge: 1.68 ft

Spectrum Strength: 0 %

Stage reading from ISCO: 1.799 ft

Voltage reading from solar panels: 16.90 V

Stage reading reset to (if +/- 0.041): _____ ft

Voltage reading from batteries: 12.23 / 12.23 V

Monthly O&M

Solar panels cleaned and inspected? Y / N

Manual (Marsh-McBirney) stream velocity reading: .29 cf Fps

ISCO stream velocity reading: 11.10 cfs

Humidy Indicator: blue / pink / white

20 / 30 / 40

750 Module ***(replace dessicant if velocity reading is +/- 2% of Isco reading)***

Color of Dessicant: blue / pink / yellow / green

Dessicant replaced? Y / N

Notes: Change AV Sensor to S/N 208C00788
VENTED CAP on

Rev. 05/21/09

OPERATION MAINTENANCE INSPECTION SHEET

SITE ID: SW-07-TT

Inspector: RS / IF

Date: 5.21.09

Weekly O&M

Data downloaded with RTD?	Y / N	Staff Gauge cleaned?	Y / N
Cable/Tubing inspected?	Y / N	A/V Sensor cleaned?	Y / N
Tubing need replacement?	Y / N	In-Situ Troll cleaned?	Y / N
Debris cleared from in-stream Equipment?	Y / N	Rain gauge cleaned and inspected?	Y / N
Sample Intake cleaned?	Y / N	Cage/housing locked and secure?	Y / N
Sample Intake upright?	Y / N	Telemetry Cable Connected?	Y / N

In-Situ S/N: 49341

Reading check of In-Situ Troll sensors:	*Standard*	*Reading Check*	*Acceptance Criteria*	*Pass / Fail*	*Recalibrated?*	*DO Membrane Replaced?*
pH s.u.			+/- 0.5 pH unit	P / F	Y / N	Y / N
DO mg/l			+/- 0.7 mg/l of sat value	P / F	Y / N	
ORP mV			+/- 10 mV	P / F	Y / N	
Turb. NTU			+/- 2 NTU	P / F	Y / N	
Temp. °C			+/- 0.5 °C	P / F	Annually Only	
Sp. Cond. mS/cm			+/- 15%	P / F	Y / N	

Calibration confirmation of In-Situ Troll:	*Standard*	*Calibration Confirmation*	*Acceptance Criteria*	*Pass / Fail*	*Recalibrated?*	*Re-Calibration Confirmation*	*Sensor Replaced?*
pH s.u.	7	6.99	+/- 0.1 pH unit (for pH 7)	P / F	Y / N		Y / N
	4	NA	NA	NA	Y / N	NA	
	10				Y / N		
DO mg/l	NA		+/- 0.3 mg/l of sat value	P / F	Y / N		Y / N
ORP mV	240	239	+/- 5 mV	P / F	Y / N		Y / N
Turb. NTU		0.2	+/- 2 NTU	P / F	Y / N		Y / N
Temp. °C	NA		NA	P / F	Replace		Y / N
Sp. Cond. mS/cm	1413	1422	+/- 10%	P / F	Y / N		Y / N

Batteries Replaced? *(DO NOT LEAVE IN UNIT)* Y / N

Manual stage reading (with ruler) from bottom of A/V sensor: _____ ft

Signal Strength: 32 %

Stage reading from staff gauge: 1.09 ft

Spectrum Strength: 55 %

Stage reading from ISCO: 1.379 ft

Voltage reading from solar panels: 21.3 V

Stage reading reset to (if +/- 0.041): _____ ft

Voltage reading from batteries: 13.19 13.18

Monthly O&M

Solar panels cleaned and inspected? Y / N

750 Module ***(replace dessicant if velocity reading is +/- 2% of Isco reading)***

Manual (Marsh-McBirney) stream velocity reading: .49 FPS

Color of Dessicant: **blue / pink / yellow / green**

ISCO stream velocity reading: 56.30

Dessicant replaced? Y / N

Humidy Indicator: **blue / pink / white**

20 / 30 / 40

Notes:

Rev. 05/21/09

OPERATION MAINTENANCE INSPECTION SHEET

SITE ID: SW-08 TT

Inspector: Souza/Fogarty

Date: 5/20/09

Weekly O&M

Data downloaded with RTD?	Y / N	Staff Gauge cleaned?	Y / N
Cable/Tubing inspected?	Y / N	A/V Sensor cleaned?	Y / N
Tubing need replacement?	Y / N	In-Situ Troll cleaned?	Y / N
Debris cleared from in-stream Equipment?	Y / N	Rain gauge cleaned and inspected?	Y / N
Sample Intake cleaned?	Y / N	Cage/housing locked and secure?	Y / N
Sample Intake upright?	Y / N	Telemetry Cable Connected?	Y / N

In-Situ S/N: 47340

Reading check of In-Situ Troll sensors:	*Standard*	*Reading Check*	*Acceptance Criteria*	*Pass / Fail*	*Recalibrated?*	*DO Membrane Replaced?*
pH s.u.			+/- 0.5 pH unit	P / F	Y / N	
DO mg/l			+/- 0.7 mg/l of sat value	P / F	Y / N	Y / N
ORP mV			+/- 10 mV	P / F	Y / N	
Turb. NTU			+/- 2 NTU	P / F	Y / N	
Temp. °C			+/- 0.5 °C	P / F	Annually Only	
Sp. Cond. mS/cm			+/- 15%	P / F	Y / N	

Calibration confirmation of In-Situ Troll:	*Standard*	*Calibration Confirmation*	*Acceptance Criteria*	*Pass / Fail*	*Recalibrated?*	*Re-Calibration Confirmation*	*Sensor Replaced?*
pH s.u.	7	6.99	+/- 0.1 pH unit (for pH 7)	P / F	Y / N		Y / N
	4	NA	NA	NA	Y / N	NA	
	10				Y / N		
DO mg/l	NA		+/- 0.3 mg/l of sat value	P / F	Y / N		Y / N
ORP mV	240	240	+/- 5 mV	P / F	Y / N		Y / N
Turb. NTU	0	0	+/- 2 NTU	P / F	Y / N		Y / N
Temp. °C	NA	—	NA	P / F	Replace		Y / N
Sp. Cond. mS/cm	1413	1413	+/- 10%	P / F	Y / N		Y / N

Batteries Replaced? *(DO NOT LEAVE IN UNIT)* Y / N

Manual stage reading (with ruler) from bottom of A/V sensor: 2.32 ft

Signal Strength: 0 %

Stage reading from staff gauge: 2.66 ft

Spectrum Strength: 46 %

Stage reading from ISCO: 2.248

Voltage reading from solar panels: 14.1 V

Stage reading reset to (if +/- 0.041): 2.66 ft

Voltage reading from batteries: 12.78 12.78

Monthly O&M

Solar panels cleaned and inspected? Y / N

Manual (Marsh-McBirney) stream velocity reading: .23 FPS

ISCO stream velocity reading: 1.12 cf

Humidy Indicator: blue / pink / white

20 / 30 / 40

750 Module *(replace dessicant if velocity reading is +/- 2% of Isco reading)*

Color of Dessicant: blue / pink / yellow / green

Dessicant replaced? Y / N

Notes:

Rev. 05/21/09

OPERATION MAINTENANCE INSPECTION SHEET

SITE ID: SW01 TT

Inspector: Souza / Forgey

Date: 5/28/09

Weekly O&M

Data downloaded with RTD?	Y / N	Staff Gauge cleaned?	Y / N
Cable/Tubing inspected?	Y / N	A/V Sensor cleaned?	Y / N
Tubing need replacement?	Y / N	In-Situ Troll cleaned?	Y / N
Debris cleared from in-stream Equipment?	Y / N	Rain gauge cleaned and inspected?	Y / N
Sample Intake cleaned?	Y / N	Cage/housing locked and secure?	Y / N
Sample Intake upright?	Y / N	Telemetry Cable Connected?	Y / N

In-Situ S/N: 47485

Reading check of In-Situ Troll sensors:

	Standard	*Reading Check*	*Acceptance Criteria*	*Pass / Fail*	*Recalibrated?*	*DO Membrane Replaced?*
pH s.u.	4	4.14	+/- 0.5 pH unit	P / F	Y / N	Y / N
DO mg/l		10.19	+/- 0.7 mg/l of sat value	P / F	Y / N	
ORP mV	240	269	+/- 10 mV	P / F	Y / N	
Turb. NTU	0	0.2	+/- 2 NTU	P / F	Y / N	
Temp. °C	—	—	+/- 0.5 °C	P / F	Annually Only	
Sp. Cond. mS/cm	1413	1590	+/- 15%	P / F	Y / N	

Calibration confirmation of In-Situ Troll:

	Standard	*Calibration Confirmation*	*Acceptance Criteria*	*Pass / Fail*	*Recalibrated?*	*Re-Calibration Confirmation*	*Sensor Replaced?*
pH s.u.	7		+/- 0.1 pH unit (for pH 7)	P / F	Y / N		Y / N
	4	NA	NA	NA	Y / N	NA	
	10				Y / N		
DO mg/l			+/- 0.3 mg/l of sat value	P / F	Y / N		Y / N
ORP mV	240	244	+/- 5 mV	P / F	Y / N		Y / N
Turb. NTU			+/- 2 NTU	P / F	Y / N		Y / N
Temp. °C			NA	P / F	Replace		Y / N
Sp. Cond. mS/cm	1413	1404	+/- 10%	P / F	Y / N		Y / N

Batteries Replaced? *(DO NOT LEAVE IN UNIT)* Y / N

Manual stage reading (with ruler) from bottom of A/V sensor: .68 ft

Signal Strength: 0 %

Stage reading from staff gauge: .95 ft

Spectrum Strength: 59 %

Stage reading from ISCO: 1.045 ft

Voltage reading from solar panels: 12.81 V

Stage reading reset to (if +/- 0.041): ____ ft

Voltage reading from batteries: 12.77 / 12.48 V

Monthly O&M

Solar panels cleaned and inspected? Y / N

750 Module ***(replace dessicant if velocity reading is +/- 2% of Isco reading)***

Manual (Marsh-McBirney) stream velocity reading: ____ cf

Color of Dessicant: blue / pink / yellow / green

ISCO stream velocity reading: 4.5 cf

Dessicant replaced? Y / N

Humidy Indicator: blue / pink / white

20 / 30 / 40

Notes:

Rev. 05/21/09

IPOU2
WOBURN, MA

OPERATION MAINTENANCE INSPECTION SHEET

SITE ID: SU-02-TT

Inspector: F. Sousa / Energy

Date: 5.28.09

Weekly O&M

Data downloaded with RTD?	Y / N	Staff Gauge cleaned?	Y / N
Cable/Tubing inspected?	Y / N	A/V Sensor cleaned?	Y / N
Tubing need replacement?	Y / N	In-Situ Troll cleaned?	Y / N
Debris cleared from in-stream Equipment?	Y / N	Rain gauge cleaned and inspected?	Y / N
Sample Intake cleaned?	Y / N	Cage/housing locked and secure?	Y / N
Sample Intake upright?	Y / N	Telemetry Cable Connected?	Y / N

In-Situ S/N: 47353

Reading check of In-Situ Troll sensors:

	Standard	*Reading Check*	*Acceptance Criteria*	*Pass / Fail*	*Recalibrated?*	*DO Membrane Replaced?*
pH s.u.	4	4.00	+/- 0.5 pH unit	P / F	Y / N	Y / N
DO mg/l	***	***	+/- 0.7 mg/l of sat value	P / F	Y / N	
ORP mV	240	267	+/- 10 mV	P / F	Y / N	
Turb. NTU	0	0.1	+/- 2 NTU	P / F	Y / N	
Temp. °C	—		+/- 0.5 °C	P / F	Annually Only	
Sp. Cond. mS/cm	1413	1497	+/- 15%	P / F	Y / N	

Calibration confirmation of In-Situ Troll:

	Standard	*Calibration Confirmation*	*Acceptance Criteria*	*Pass / Fail*	*Recalibrated?*	*Re-Calibration Confirmation*	*Sensor Replaced?*
pH s.u.	7		+/- 0.1 pH unit (for pH 7)	P / F	Y / N		Y / N
	4	NA	NA	NA	Y / N	NA	
	10				Y / N		
DO mg/l			+/- 0.3 mg/l of sat value	P / F	Y / N		Y / N
ORP mV	240	240	+/- 5 mV	P / F	Y / N		Y / N
Turb. NTU			+/- 2 NTU	P / F	Y / N		Y / N
Temp. °C			NA	P / F	Replace		Y / N
Sp. Cond. mS/cm			+/- 10%	P / F	Y / N		Y / N

Batteries Replaced? *(DO NOT LEAVE IN UNIT)* Y / N

Manual stage reading (with ruler) from bottom of A/V sensor: .750 ft

Signal Strength: 0 %

Stage reading from staff gauge: .83 ft

Spectrum Strength: Error %

Stage reading from ISCO: .70 ft

Voltage reading from solar panels: 1.2 V

Stage reading reset to (if +/- 0.041): .83 ft

Voltage reading from batteries: 12.71 / 12.70 V

Monthly O&M

Solar panels cleaned and inspected? Y / N

750 Module ***(replace dessicant if velocity reading is +/- 2% of Isco reading)***

Manual (Marsh-McBirney) stream velocity reading: _____ cf

Color of Dessicant: **blue / pink / yellow / green**

ISCO stream velocity reading: _____ cf

Dessicant replaced? Y / N

Humidy Indicator: **blue / pink / white**

20 / 30 / 40

Notes:

Rev. 05/21/09

OPERATION MAINTENANCE INSPECTION SHEET

SITE ID: SW 03 TT

Inspector: Forgny Souza

Date: 5/28/09

Weekly O&M

Data downloaded with RTD?	Y / N	Staff Gauge cleaned?	Y / N
Cable/Tubing inspected?	Y / N	A/V Sensor cleaned?	Y / N
Tubing need replacement?	Y / N	In-Situ Troll cleaned?	Y / N
Debris cleared from in-stream Equipment?	Y / N	Rain gauge cleaned and inspected?	Y / N
Sample Intake cleaned?	Y / N	Cage/housing locked and secure?	Y / N
Sample Intake upright?	Y / N	Telemetry Cable Connected?	Y / N

In-Situ S/N: 47486

Reading check of In-Situ Troll sensors:

	Standard	*Reading Check*	*Acceptance Criteria*	*Pass / Fail*	*Recalibrated?*	*DO Membrane Replaced?*
pH s.u.	7.0	7.06	+/- 0.5 pH unit	P / F	Y / N	Y / N
DO mg/l	—	—	+/- 0.7 mg/l of sat value	P / F	Y / N	
ORP mV	240	246	+/- 10 mV	P / F	Y / N	
Turb. NTU	No solution		+/- 2 NTU	P / F	Y / N	
Temp. °C	—	—	+/- 0.5 °C	P / F	Annually Only	
Sp. Cond. mS/cm	1413	1288	+/- 15%	P / F	Y / N	1411

Calibration confirmation of In-Situ Troll:

	Standard	*Calibration Confirmation*	*Acceptance Criteria*	*Pass / Fail*	*Recalibrated?*	*Re-Calibration Confirmation*	*Sensor Replaced?*
pH s.u.	7		+/- 0.1 pH unit (for pH 7)	P / F	Y / N		Y / N
	4	NA	NA	NA	Y / N	NA	
	10				Y / N		
DO mg/l			+/- 0.3 mg/l of sat value	P / F	Y / N		Y / N
ORP mV			+/- 5 mV	P / F	Y / N		Y / N
Turb. NTU			+/- 2 NTU	P / F	Y / N		Y / N
Temp. °C			NA	P / F	Replace		Y / N
Sp. Cond. mS/cm			+/- 10%	P / F	Y / N		Y / N

Batteries Replaced? *(DO NOT LEAVE IN UNIT)* Y / N

Manual stage reading (with ruler) from bottom of A/V sensor: .71 ft

Signal Strength: 0 %

Stage reading from staff gauge: .56 ft

Spectrum Strength: 79 %

Stage reading from ISCO: 1.01 ft

Voltage reading from solar panels: 12.70 V

Stage reading reset to (if +/- 0.041): _____ ft

Voltage reading from batteries: 12.71 / 12.72 V

Monthly O&M

Solar panels cleaned and inspected? Y / N

Manual (Marsh-McBirney) stream velocity reading: _____ cf

ISCO stream velocity reading: .58 cf

Humidy Indicator: blue / pink / white

20 / 30 / 40

750 Module ***(replace dessicant if velocity reading is +/- 2% of Isco reading)***

Color of Dessicant: blue / pink / yellow / green

Dessicant replaced? Y / N

Notes:

Rev. 05/21/09

OPERATION MAINTENANCE INSPECTION SHEET

SITE ID: SW 04 TT

Inspector: Fagan / Souza

Date: 5/28/09

Weekly O&M

Data downloaded with RTD?	Y / (N)	Staff Gauge cleaned?	(Y) / N
Cable/Tubing inspected?	(Y) / N	A/V Sensor cleaned?	(Y) / N
Tubing need replacement?	Y / (N)	In-Situ Troll cleaned?	(Y) / N
Debris cleared from in-stream Equipment?	(Y) / N	Rain gauge cleaned and inspected?	(Y) / N
Sample Intake cleaned?	(Y) / N	Cage/housing locked and secure?	(Y) / N
Sample Intake upright?	(Y) / N	Telemetry Cable Connected?	(Y) / N

In-Situ S/N: 47352

Reading check of In-Situ Troll sensors:

	Standard	*Reading Check*	*Acceptance Criteria*	*Pass / Fail*	*Recalibrated?*	*DO Membrane Replaced?*
pH s.u.	7.0	7.12	+/- 0.5 pH unit	(P) / F	Y / N	
DO mg/l	—	—	+/- 0.7 mg/l of sat value	(P) / F	Y / N	Y / (N)
ORP mV	240	238	+/- 10 mV	(P) / F	Y / N	
Turb. NTU	0	0.2	+/- 2 NTU	(P) / F	Y / N	
Temp. °C	—	—	+/- 0.5 °C	P / F	**Annually Only**	
Sp. Cond. mS/cm	1413	1486	+/- 15%	(P) / F	Y / N	

Calibration confirmation of In-Situ Troll:

	Standard	*Calibration Confirmation*	*Acceptance Criteria*	*Pass / Fail*	*Recalibrated?*	*Re-Calibration Confirmation*	*Sensor Replaced?*
pH s.u.	7		+/- 0.1 pH unit (for pH 7)	P / F	Y / N		Y / N
	4	NA	NA	NA	Y / N	NA	
	10				Y / N		
DO mg/l			+/- 0.3 mg/l of sat value	P / F	Y / N		Y / N
ORP mV			+/- 5 mV	P / F	Y / N		Y / N
Turb. NTU			+/- 2 NTU	P / F	Y / N		Y / N
Temp. °C			NA	P / F	**Replace**		Y / N
Sp. Cond. mS/cm			+/- 10%	P / F	Y / N		Y / N

Batteries Replaced? *(DO NOT LEAVE IN UNIT)* Y / (N)

Manual stage reading (with ruler) from bottom of A/V sensor: .29 ft

Signal Strength: 0 %

Stage reading from staff gauge: .69 ft

Spectrum Strength: 0 %

Stage reading from ISCO: .680 ft

Voltage reading from solar panels: 12.72 V

Stage reading reset to (if +/- 0.041): N/A ft

Voltage reading from batteries: 12.73 12.71

Monthly O&M

Solar panels cleaned and inspected? Y / N

750 Module ***(replace dessicant if velocity reading is +/- 2% of Isco reading)***

Manual (Marsh-McBirney) stream velocity reading: _____ cf

Color of Dessicant: (blue) / pink / yellow / green

ISCO stream velocity reading: 2.10 FPS

Dessicant replaced? Y / N

Humidy Indicator: (blue) / pink / white

20 / 30 / 40

Notes:

Rev. 05/21/09

IPOU2
WOBURN, MA

OPERATION MAINTENANCE INSPECTION SHEET

SITE ID: SW-05-TT

Inspector: R. Sacco / I. Forgey

Date: 5.28.09

Weekly O&M

Data downloaded with RTD?	Y / N	Staff Gauge cleaned?	Y / N
Cable/Tubing inspected?	Y / N	A/V Sensor cleaned?	Y / N
Tubing need replacement?	Y / N	In-Situ Troll cleaned?	Y / N
Debris cleared from in-stream Equipment?	Y / N	Rain gauge cleaned and inspected?	Y / N
Sample Intake cleaned?	Y / N	Cage/housing locked and secure?	Y / N
Sample Intake upright?	Y / N	Telemetry Cable Connected?	Y / N

In-Situ S/N: 47339

Reading check of In-Situ Troll sensors:

	Standard	Reading Check	Acceptance Criteria	Pass / Fail	Recalibrated?	DO Membrane Replaced?
pH s.u.	7	7.24	+/- 0.5 pH unit	P / F	Y / N	
DO mg/l	~~2.60~~	2.71	+/- 0.7 mg/l of sat value	P / F	Y / N	~~Y / N~~ 10.68
ORP mV	240	269	+/- 10 mV	P / F	Y / N	239
Turb. NTU	–	–	+/- 2 NTU	~~P / F~~	~~Y / N~~	
Temp. °C	–	–	+/- 0.5 °C	~~P / F~~	Annually Only	
Sp. Cond. mS/cm	1413	1065	+/- 15%	P / F	Y / N	1412

Calibration confirmation of In-Situ Troll:

	Standard	Calibration Confirmation	Acceptance Criteria	Pass / Fail	Recalibrated?	Re-Calibration Confirmation	Sensor Replaced?
pH s.u.	7		+/- 0.1 pH unit (for pH 7)	P / F	Y / N		Y / N
	4	NA	NA	NA	Y / N	NA	
	10				Y / N		
DO mg/l			+/- 0.3 mg/l of sat value	P / F	Y / N		Y / N
ORP mV			+/- 5 mV	P / F	Y / N		Y / N
Turb. NTU			+/- 2 NTU	P / F	Y / N		Y / N
Temp. °C			NA	P / F	Replace		Y / N
Sp. Cond. mS/cm			+/- 10%	P / F	Y / N		Y / N

Batteries Replaced? *(DO NOT LEAVE IN UNIT)* Y / N

Manual stage reading (with ruler) from bottom of A/V sensor: 1.55 ft

Signal Strength: 0 %

Stage reading from staff gauge: 1.72 ft

Spectrum Strength: 61 %

Stage reading from ISCO: 1.75 ft

Voltage reading from solar panels: 3.2 V

Stage reading reset to (if +/- 0.041): _____ ft

Voltage reading from batteries: 12.56/12.55 V

Monthly O&M

Solar panels cleaned and inspected? Y / N

750 Module ***(replace dessicant if velocity reading is +/- 2% of Isco reading)***

Manual (Marsh-McBirney) stream velocity reading: _____ cf

Color of Dessicant: **blue / pink / yellow / green**

ISCO stream velocity reading: _____ cf

Dessicant replaced? Y / N

Humidy Indicator: **blue / pink / white**

20 / 30 / 40

Notes:

Rev. 05/21/09

OPERATION MAINTENANCE INSPECTION SHEET

SITE ID: SW-06-TT

Inspector: Rich S. I. Forgey

Date: 5.28.09

Weekly O&M

Data downloaded with RTD?	Y / N	Staff Gauge cleaned?	Y / N
Cable/Tubing inspected?	Y / N	A/V Sensor cleaned?	Y / N
Tubing need replacement?	Y / N	In-Situ Troll cleaned?	Y / N
Debris cleared from in-stream Equipment?	Y / N	Rain gauge cleaned and inspected?	Y / N
Sample Intake cleaned?	Y / N	Cage/housing locked and secure?	Y / N
Sample Intake upright?	Y / N	Telemetry Cable Connected?	Y / N

In-Situ S/N: 47482

Reading check of In-Situ Troll sensors:

	Standard	Reading Check	Acceptance Criteria	Pass / Fail	Recalibrated?
pH s.u.	7	6.36	+/- 0.5 pH unit	P / F	Y / N
DO mg/l		11.52	+/- 0.7 mg/l of sat value	P / F	Y / N
ORP mV	240	291	+/- 10 mV	P / F	Y / N
Turb. NTU			+/- 2 NTU	P / F	Y / N
Temp. °C			+/- 0.5 °C	P / F	Annually Only
Sp. Cond. mS/cm	1413	1462	+/- 15%	P / F	Y / N

out of solution

DO Membrane Replaced? Y / N

Calibration confirmation of In-Situ Troll:

	Standard	Calibration Confirmation	Acceptance Criteria	Pass / Fail	Recalibrated?	Re-Calibration Confirmation	Sensor Replaced?
pH s.u.	7	6.92	+/- 0.1 pH unit (for pH 7)	P / F	Y / N		Y / N
	4	NA	NA	NA	Y / N	NA	
	10				Y / N		
DO mg/l		10.51	+/- 0.3 mg/l of sat value	P / F	Y / N		Y / N
ORP mV	240	240	+/- 5 mV	P / F	Y / N		Y / N
Turb. NTU			+/- 2 NTU	P / F	Y / N		Y / N
Temp. °C			NA	P / F	Replace		Y / N
Sp. Cond. mS/cm			+/- 10%	P / F	Y / N		Y / N

Usually

Batteries Replaced? *(DO NOT LEAVE IN UNIT)* Y / N

Manual stage reading (with ruler) from bottom of A/V sensor: 1.74 ft

Signal Strength: 22.0 %

Stage reading from staff gauge: 1.78 ft

Spectrum Strength: 44.0 %

Stage reading from ISCO: 1.95 ft

Voltage reading from solar panels: 6.12 V

Stage reading reset to (if +/- 0.041): 1.75 ft

Voltage reading from batteries: 12.09 / 12.10 V

Monthly O&M

Solar panels cleaned and inspected? Y / N

750 Module *(replace dessicant if velocity reading is +/- 2% of Isco reading)*

Manual (Marsh-McBirney) stream velocity reading: _____ cf

Color of Dessicant: **blue / pink / yellow / green**

ISCO stream velocity reading: _____ cf

Dessicant replaced? Y / N

Humidy Indicator: **blue / pink / white**

20 / 30 / 40

Notes: Pump DO + not have Turbidity Solution

Rev. 05/21/09

IPOU2
WOBURN, MA

OPERATION MAINTENANCE INSPECTION SHEET

SITE ID: SW-07-TT

Inspector: R. Souza / I. Forney

Date: 5.28.09

Weekly O&M

Data downloaded with RTD?	Y / N	Staff Gauge cleaned?	Y / N
Cable/Tubing inspected?	Y / N	A/V Sensor cleaned?	Y / N
Tubing need replacement?	Y / N	In-Situ Troll cleaned?	Y / N
Debris cleared from in-stream Equipment?	Y / N	Rain gauge cleaned and inspected?	Y / N
Sample Intake cleaned?	Y / N	Cage/housing locked and secure?	Y / N
Sample Intake upright?	Y / N	Telemetry Cable Connected?	Y / N

In-Situ S/N: 47341

Reading check of In-Situ Troll sensors:

	Standard	Reading Check	Acceptance Criteria	Pass / Fail	Recalibrated?	DO Membrane Replaced?
pH s.u.	7.0	7.13	+/- 0.5 pH unit	P / F	Y / N	
DO mg/l	-	10.80	+/- 0.7 mg/l of sat value	P / F	Y / N	Y / N
ORP mV	240	262	+/- 10 mV	P / F	Y / N	239
Turb. NTU	—	—	+/- 2 NTU	P / F	Y / N	
Temp. °C	—	—	+/- 0.5 °C	P / F	Annually Only	
Sp. Cond. mS/cm	1413	16.86	+/- 15%	P / F	Y / N	1413

Calibration confirmation of In-Situ Troll:

	Standard	Calibration Confirmation	Acceptance Criteria	Pass / Fail	Recalibrated?	Re-Calibration Confirmation	Sensor Replaced?
pH s.u.	7		+/- 0.1 pH unit (for pH 7)	P / F	Y / N		Y / N
	4	NA	NA	NA	Y / N	NA	
	10				Y / N		
DO mg/l			+/- 0.3 mg/l of sat value	P / F	Y / N		Y / N
ORP mV			+/- 5 mV	P / F	Y / N		Y / N
Turb. NTU			+/- 2 NTU	P / F	Y / N		Y / N
Temp. °C			NA	P / F	Replace		Y / N
Sp. Cond. mS/cm			+/- 10%	P / F	Y / N		Y / N

Batteries Replaced? *(DO NOT LEAVE IN UNIT)* Y / N

Manual stage reading (with ruler) from bottom of A/V sensor: 1.48 ft

Signal Strength: 29 %

Stage reading from staff gauge: 1.08 ft

Spectrum Strength: 73 %

Stage reading from ISCO: 2.67 ft

Voltage reading from solar panels: 14.10 V

Stage reading reset to (if +/- 0.041): _____ ft

Voltage reading from batteries: 12.62 / 12.62 V

Monthly O&M

Solar panels cleaned and inspected? Y / N

750 Module *(replace dessicant if velocity reading is +/- 2% of Isco reading)*

Manual (Marsh-McBirney) stream velocity reading: _____ cf

Color of Dessicant: **blue / pink / yellow / green**

ISCO stream velocity reading: _____ cf

Dessicant replaced? Y / N

Humidy Indicator: **blue / pink / white**

20 / 30 / 40

Notes:

Rev. 05/21/09

OPERATION MAINTENANCE INSPECTION SHEET

SITE ID: SW-08-TT

Inspector: Rich Sowa / I. Forger

Date: 5-28-09

Weekly O&M

Data downloaded with RTD?	Y / N	Staff Gauge cleaned?	Y / N
Cable/Tubing inspected?	Y / N	A/V Sensor cleaned?	Y / N
Tubing need replacement?	Y / N	In-Situ Troll cleaned?	Y / N
Debris cleared from in-stream Equipment?	Y / N	Rain gauge cleaned and inspected?	Y / N
Sample Intake cleaned?	Y / N	Cage/housing locked and secure?	Y / N
Sample Intake upright?	Y / N	Telemetry Cable Connected?	Y / N

In-Situ S/N: 47340

Reading check of In-Situ Troll sensors:

	Standard	*Reading Check*	*Acceptance Criteria*	*Pass / Fail*	*Recalibrated?*	*DO Membrane Replaced?*
pH s.u.	7	7.04	+/- 0.5 pH unit	P / F	Y / N	Y / N
DO mg/l		10.17	+/- 0.7 mg/l of sat value	P / F	Y / N	
ORP mV	240	266	+/- 10 mV	P / F	Y / N	
Turb. NTU	—	—	+/- 2 NTU	P / F	Y / N	
Temp. °C	—	—	+/- 0.5 °C	P / F	Annually Only	
Sp. Cond. mS/cm	1413	1618	+/- 15%	P / F	Y / N	

Calibration confirmation of In-Situ Troll:

	Standard	*Calibration Confirmation*	*Acceptance Criteria*	*Pass / Fail*	*Recalibrated?*	*Re-Calibration Confirmation*	*Sensor Replaced?*
pH s.u.	7		+/- 0.1 pH unit (for pH 7)	P / F	Y / N		Y / N
	4	NA	NA	NA	Y / N	NA	
	10				Y / N		
DO mg/l			+/- 0.3 mg/l of sat value	P / F	Y / N		Y / N
ORP mV	240	242	+/- 5 mV	P / F	Y / N		Y / N
Turb. NTU			+/- 2 NTU	P / F	Y / N		Y / N
Temp. °C			NA	P / F	Replace		Y / N
Sp. Cond. mS/cm	1413	1415	+/- 10%	P / F	Y / N		Y / N

Batteries Replaced? *(DO NOT LEAVE IN UNIT)* Y / N

Manual stage reading (with ruler) from bottom of A/V sensor: 2.25 ft

Signal Strength: 0 %

Stage reading from staff gauge: 2.26 ft

Spectrum Strength: Error %

Stage reading from ISCO: 2.56 ft

Voltage reading from solar panels: 2.1 V

Stage reading reset to (if +/- 0.041): _____ ft

Voltage reading from batteries: 12.51 / 12.52 V

Monthly O&M

Solar panels cleaned and inspected? Y / N

750 Module ***(replace dessicant if velocity reading is +/- 2% of Isco reading)***

Manual (Marsh-McBirney) stream velocity reading: _____ cf

Color of Dessicant: **blue / pink / yellow / green**

ISCO stream velocity reading: _____ cf

Dessicant replaced? Y / N

Humidy Indicator: **blue / pink / white**

20 / 30 / 40

Notes:

Rev. 05/21/09

OPERATION MAINTENANCE INSPECTION SHEET

SITE ID: SW-2-IP

Inspector: R. Sarra / E. Forger

Date: 5.28.09

Weekly O&M

Data downloaded with RTD?	Y / N	Staff Gauge cleaned?	Y / N
Cable/Tubing inspected?	Y / N	A/V Sensor cleaned?	Y / N
Tubing need replacement?	Y / N	In-Situ Troll cleaned?	Y / N
Debris cleared from in-stream Equipment?	Y / N	Rain gauge cleaned and inspected?	Y / N
Sample Intake cleaned?	Y / N	Cage/housing locked and secure?	Y / N
Sample Intake upright?	Y / N	Telemetry Cable Connected?	Y / N

In-Situ S/N: 47350

Reading check of In-Situ Troll sensors:

	Standard	Reading Check	Acceptance Criteria	Pass / Fail	Recalibrated?	DO Membrane Replaced?
pH s.u.	7	7.03	+/- 0.5 pH unit	P / F	Y / N	Y / N
DO mg/l		9.00	+/- 0.7 mg/l of sat value	P / F	Y / N	
ORP mV	240	272	+/- 10 mV	P / F	Y / N	
Turb. NTU	—	—	+/- 2 NTU	P / F	Y / N	
Temp. °C	—	—	+/- 0.5 °C	P / F	Annually Only	
Sp. Cond. mS/cm	1413	1453	+/- 15%	P / F	Y / N	

Calibration confirmation of In-Situ Troll:

	Standard	Calibration Confirmation	Acceptance Criteria	Pass / Fail	Recalibrated?	Re-Calibration Confirmation	Sensor Replaced?
pH s.u.	7		+/- 0.1 pH unit (for pH 7)	P / F	Y / N		Y / N
	4	NA	NA	NA	Y / N	NA	
	10				Y / N		
DO mg/l			+/- 0.3 mg/l of sat value	P / F	Y / N		Y / N
ORP mV	240	240	+/- 5 mV	P / F	Y / N		Y / N
Turb. NTU			+/- 2 NTU	P / F	Y / N		Y / N
Temp. °C			NA	P / F	Replace		Y / N
Sp. Cond. mS/cm			+/- 10%	P / F	Y / N		Y / N

Batteries Replaced? *(DO NOT LEAVE IN UNIT)* Y / N

Manual stage reading (with ruler) from bottom of A/V sensor: .050 ft

Signal Strength: 0 %

Stage reading from staff gauge: .10 ft

Spectrum Strength: Error %

Stage reading from ISCO: .069 ft

Voltage reading from solar panels: 10.7 V

Stage reading reset to (if +/- 0.041): _____ ft

Voltage reading from batteries: 13.26 / 13.25 V

Monthly O&M

Solar panels cleaned and inspected? Y / N

750 Module ***(replace dessicant if velocity reading is +/- 2% of Isco reading)***

Manual (Marsh-McBirney) stream velocity reading: _____ cf

Color of Dessicant: **blue / pink / yellow / green**

ISCO stream velocity reading: _____ cf

Dessicant replaced? Y / N

Humidy Indicator: **blue / pink / white**

20 / 30 / 40

Notes:

Rev. 05/21/09

OPERATION MAINTENANCE INSPECTION SHEET

SITE ID: SW-3-IP

Inspector: R. Sare / D. Forsey

Date: 5-28-09

Weekly O&M

Data downloaded with RTD?	Y / N	Staff Gauge cleaned?	Y / N
Cable/Tubing inspected?	Y / N	A/V Sensor cleaned?	Y / N
Tubing need replacement?	Y / N	In-Situ Troll cleaned?	Y / N
Debris cleared from in-stream Equipment?	Y / N	Rain gauge cleaned and inspected?	Y / N
Sample Intake cleaned?	Y / N	Cage/housing locked and secure?	Y / N
Sample Intake upright?	Y / N	Telemetry Cable Connected?	Y / N

In-Situ S/N: 47347

Reading check of In-Situ Troll sensors:

	Standard	Reading Check	Acceptance Criteria	Pass / Fail	Recalibrated?	DO Membrane Replaced?
pH s.u.	7	7.28	+/- 0.5 pH unit	P / F	Y / N	Y / N
DO mg/l	—	9.16	+/- 0.7 mg/l of sat value	P / F	Y / N	
ORP mV	240	265	+/- 10 mV	P / F	Y / N	
Turb. NTU	—	—	+/- 2 NTU	P / F	Y / N	
Temp. °C	—	—	+/- 0.5 °C	P / F	Annually Only	
Sp. Cond. mS/cm	1413	1610	+/- 15%	P / F	Y / N	

Calibration confirmation of In-Situ Troll:

	Standard	Calibration Confirmation	Acceptance Criteria	Pass / Fail	Recalibrated?	Re-Calibration Confirmation	Sensor Replaced?
pH s.u.	7		+/- 0.1 pH unit (for pH 7)	P / F	Y / N		Y / N
	4	NA	NA	NA	Y / N	NA	
	10				Y / N		
DO mg/l			+/- 0.3 mg/l of sat value	P / F	Y / N		Y / N
ORP mV	240	240	+/- 5 mV	P / F	Y / N		Y / N
Turb. NTU			+/- 2 NTU	P / F	Y / N		Y / N
Temp. °C			NA	P / F	Replace		Y / N
Sp. Cond. mS/cm	1413	1418	+/- 10%	P / F	Y / N		Y / N

Batteries Replaced? *(DO NOT LEAVE IN UNIT)* Y / N

Manual stage reading (with ruler) from bottom of A/V sensor: .34 ft

Signal Strength: 0 %

Stage reading from staff gauge: .38 ft

Spectrum Strength: Error %

Stage reading from ISCO: .41 ft

Voltage reading from solar panels: 4.10 V

Stage reading reset to (if +/- 0.041): — ft

Voltage reading from batteries: 13.08 / 13.08 V

Monthly O&M

Solar panels cleaned and inspected? Y / N

Manual (Marsh-McBirney) stream velocity reading: _____ cf

ISCO stream velocity reading: _____ cf

Humidy Indicator: blue / pink / white

20 / 30 / 40

750 Module ***(replace dessicant if velocity reading is +/- 2% of Isco reading)***

Color of Dessicant: blue / pink / yellow / green

Dessicant replaced? Y / N

Notes: * Pine does not have Turb Solution

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SDMS TARGET SHEET

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