RANSOM
Environmental
Consultants, Inc.

December 9, 2010 Project 061.01184.002

U.S. Environmental Protection Agency, Region I
5 Post Office Square, Suite 100
Mail Code OEP06-4
Boston, Massachusetts 02109-3912
ATTN: Remediation General Permit NOI Processing

RE: Transmittal of Notice of Intent
2010 Remediation General Permit
MAG 910000
Ipswich Power Plant
276 High Street
Ipswich, Massachusetts

To Whom It May Concern::

On behalf of the Ipswich Municipal Light Department (IMLD), Ransom Environmental Consultants, Inc. (Ransom) is submitting this Notice of Intent (NOI) to continue to discharge treated groundwater from the Ipswich Power Plant (Power Plant) located at 276 High Street in Ipswich, Massachusetts (the Site). The purpose of this letter is to supplement the completed NOI Form, taken from RGP Appendix V and included as Attachment A to this letter. A Site Location Map is provided as Figure 1.

NOI Section 1.g

On January 30, 2006, and on behalf of the Ipswich Electric Department, Clean Soils Environmental LTD (Clean Soils) of Ipswich, Massachusetts, submitted an NOI to the U.S. Environmental Protection Agency (U.S. EPA) to discharge under the Remediation General Permit (RGP). U.S. EPA authorized the discharge in a letter dated April 13, 2006.

As noted in Section 1.g. of the NOI Form, the Site discharges to the Egypt River upstream from a National Heritage Endangered Species Program (NHESP) habitat and an Area of Critical Environmental Concern (ACEC). During the 2006 submittal completed by Clean Soils, two variances were permitted by the Massachusetts Department of Environmental Protection (MA DEP) because of the discharge to the these sensitive areas. This NOI is being submitted with the assumption that those variances are still in effect; however, a response from MA DEP regarding the current status of those variances is pending. A copy of the correspondence from the MA Division of Fisheries and Wildlife from January 18, 2006, is provided in Attachment B.

NOI Section 2.b.2

Ipswich Municipal Light Department (IMLD) personnel record flow volumes measured by a flow meter attached to the discharge line from the treatment system. The system treats groundwater that passively

Brown's Wharf, Newburyport, Massachusetts 01950, Tel (978) 465-1822, Fax (978) 465-2986
400 Commercial Street, Suite 404, Portland, Maine 04101, Tel (207) 772-2891
Pease International Tradeport, 112 Corporate Drive, Portsmouth, New Hampshire 03801, Tel (603) 436-1490
2127 Hamilton Avenue, Hamilton, New Jersey 08619, Tel (609) 584-0090
60 Valley Street, Building F, Suite 106, Providence, Rhode Island 02909, Tel (401) 433-2160

www.ransomenv.com

infiltrates into the basement of the Power Plant. Therefore, the flow volumes vary depending on the external environmental conditions (e.g., precipitation volumes). When the water level rises in the collection system, it is pumped through the treatment vessels and then discharged to the cooling pond. The flow capacity of the discharge pump is 10 gallons per minute (gpm) (i.e., 0.022 cubic feet per second [cfs]). The average flow was calculated by dividing the total flow recorded from the system by the time that the system has been operating. However, as noted above, this is a measurement of the discharge to the cooling pond. Actual discharges to the Egypt River occur only when the cooling pond level rises above its emergency overflow level. The discharge points are shown on Figure 2. Schematics of the treatment system are shown on Figures 3 and 4.

NOI Section 3

With the exception of chloride, the parameters referenced in the RGP Appendix III list for sub-category IV.D have been monitored at the Site. However, subsequent to the initial monitoring, Ransom submitted monitoring data to the U.S. EPA to support a request to reduce the required monitoring parameters based on the chemical analysis results. The required monitoring list was reduced by EPA twice based on a review of the submitted data. The last reduction in the designated monitoring parameters applicable to the Site was issued by U.S. EPA in a letter dated December 30, 2008 (Authorization MAG910200) (See Attachment C).

As noted in that letter, U.S. EPA determined that the following parameters are "believed absent" from the discharge and eliminated the following parameters from the required monitoring:

1. Total Suspended Solids;
2. Total petroleum hydrocarbons;
3. Cyanide;
4. Toluene;
5. Ethylene dibromide (EDB);
6. Tertiary amyl methyl ether (TAME);
7. Naphthalene;
8. 1,1-Dichloroethane (DCA);
9. 1,1-Dichloroethylene (DCE);
10. Vinyl chloride (chloroethene);
11. Total phenols;

12. Bis (2-ethylhexyl)phthalate;

13. Total Group I polycyclic aromatic hydrocarbons (PAHs);

14. Total Group II PAHs;

15. Total polychlorinated biphenyls (PCBs);

16. Selected metals (antimony, cadmium, chromium III and IV, lead, mercury, selenium, and silver.

Because some parameters were previously determined to be absent from the discharge at the Site, they are not included in the monitoring data available for the last two years. Where monitoring data is available for the last two years, it is included in the table provided in NOI Section 3.1. Where no monitoring data is available for the last two years, the number of samples is listed as "0 (2008)" to indicate that no recent data is available but a previous demonstration of "absence" was made in 2008 and verified by U.S. EPA. Chloride was not included on the previous monitoring list and has not been sampled for the discharge. Because the treatment system collects only groundwater that is infiltrating into the basement of the Power Plant, chloride is "believed absent." All previous monitoring data has been submitted to the U.S. EPA. However, for your convenience, a copy of the laboratory chemical analysis report from February 9, 2009, which includes the last sampling event with the majority of the monitored parameters, is included as Attachment D. The results of the analytical data for the past two years are provided in Tables 1 through 3 in Attachment E.

NOI Section 3.b

Six metals (arsenic, copper, lead, nickel, zinc, and iron) have been present in the discharge at concentrations above the effluent limits listed in RGP Appendix III. However, for discharges to freshwater, it is appropriate to consider a dilution factor (DF) that may be applied to the RGP Appendix III effluent limits. According to the December 30, 2008, Authorization provided by U.S. EPA, the Site discharge was assumed to be to saltwater. However, based on a discussion with David Pincumbe of the U.S. EPA on May 3, 2010, that portion of the Egypt River that receives the discharge from the Power Plant is **not** tidally influenced, so would be considered to be a freshwater discharge, and application of a dilution factor may be appropriate.

The Town of Ipswich installed a flow monitor in the Egypt River by the discharge point for the Power Plant. The flow monitor has been operational for only one week. Therefore, although calculation of a DF may be appropriate, sufficient data is not yet available to calculate that value at this time. Ransom has listed the DF in the NOI form as equal to 1. When sufficient data is available, a DF will be calculated for the Site. Because the only parameters that are present at the Site are metals, the calculation of an appropriate DF is critical to determine whether further permitting under the RGP is necessary.

Remediation General Permit NOI Processing
U.S. Environmental Protection Agency, Region I

Required MA DEP Forms

According to the RGP Appendix V NOI Instructions, in addition to the NOI, applicants in Massachusetts are required to submit copies of the State Application Form BRPWM12, Request for General Permit coverage for the RGP, and the Transmittal Form for Permit Application and Payment to the MA DEP. However, according to the MA DEP BRPWM12 Instructions, MA DEP is accepting the U.S. EPA NOI form in lieu of Form BRPWM12. A copy of the Permit Transmittal Form is provided in Attachment F. The project is Fee Exempt since the applicant is a municipality.

If you have any questions regarding this NOI submittal, please feel free to contact me at (978) 465-1822.

Sincerely,

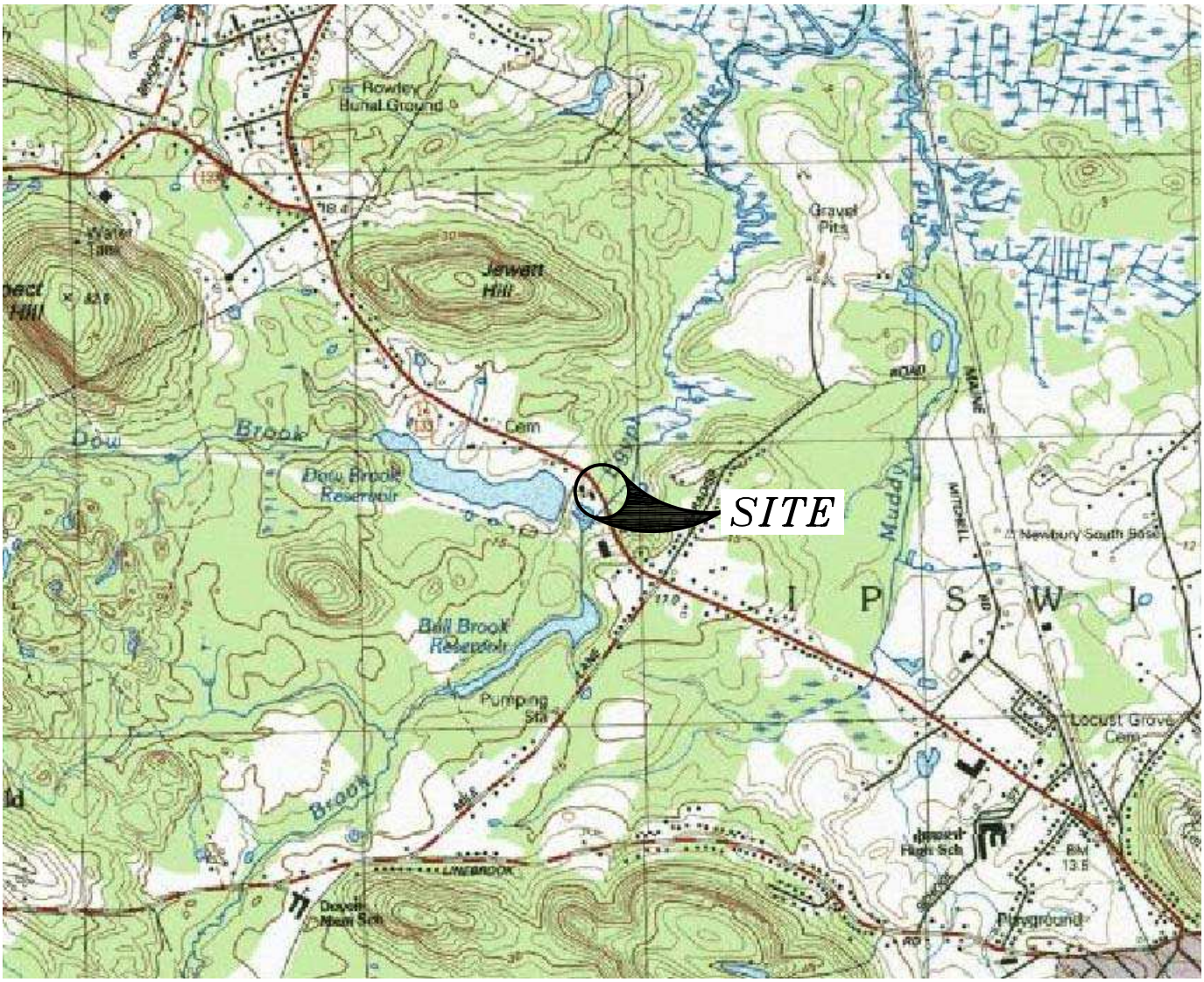
RANSOM ENVIRONMENTAL CONSULTANTS, INC.

Nancy E. Marshall
Project Manager

Timothy J. Snay
Licensed Site Professional

NEM/TJS:sh
Attachments

cc: Mr. Tim Henry, Ipswich Utilities
MA DEP, Division of Watershed Management, Worcester
MA DEP, Boston (MA DEP Transmittal Form only)

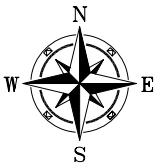


TAKEN FROM U.S.G.S. 7.5x15 MINUTE SERIES TOPOGRAPHIC MAP OF IPSWICH, MASSACHUSETTS–1985.

CONTOUR INTERVAL IS 3 METERS

SITE COORDINATES: LATITUDE 42°41'55"
LONGITUDE 70°52'12"

UTM COORDINATES: 47: 28: 819mN
3: 46: 831mE



QUADRANGLE LOCATION

0 1000 2000 3000 4000

SCALE in FEET
1: 25,000

RANSOM Environmental Consultants, Inc.

SITE LOCATION MAP

PREPARED FOR:
IPSWICH MUNICIPAL LIGHT DEPARTMENT
272 HIGH STREET
IPSWICH, MASSACHUSETTS

SITE:
IPSWICH POWER PLANT
276 HIGH STREET
IPSWICH, MASSACHUSETTS

DATE: OCTOBER 2010
PROJECT: 061184
FIGURE: 1

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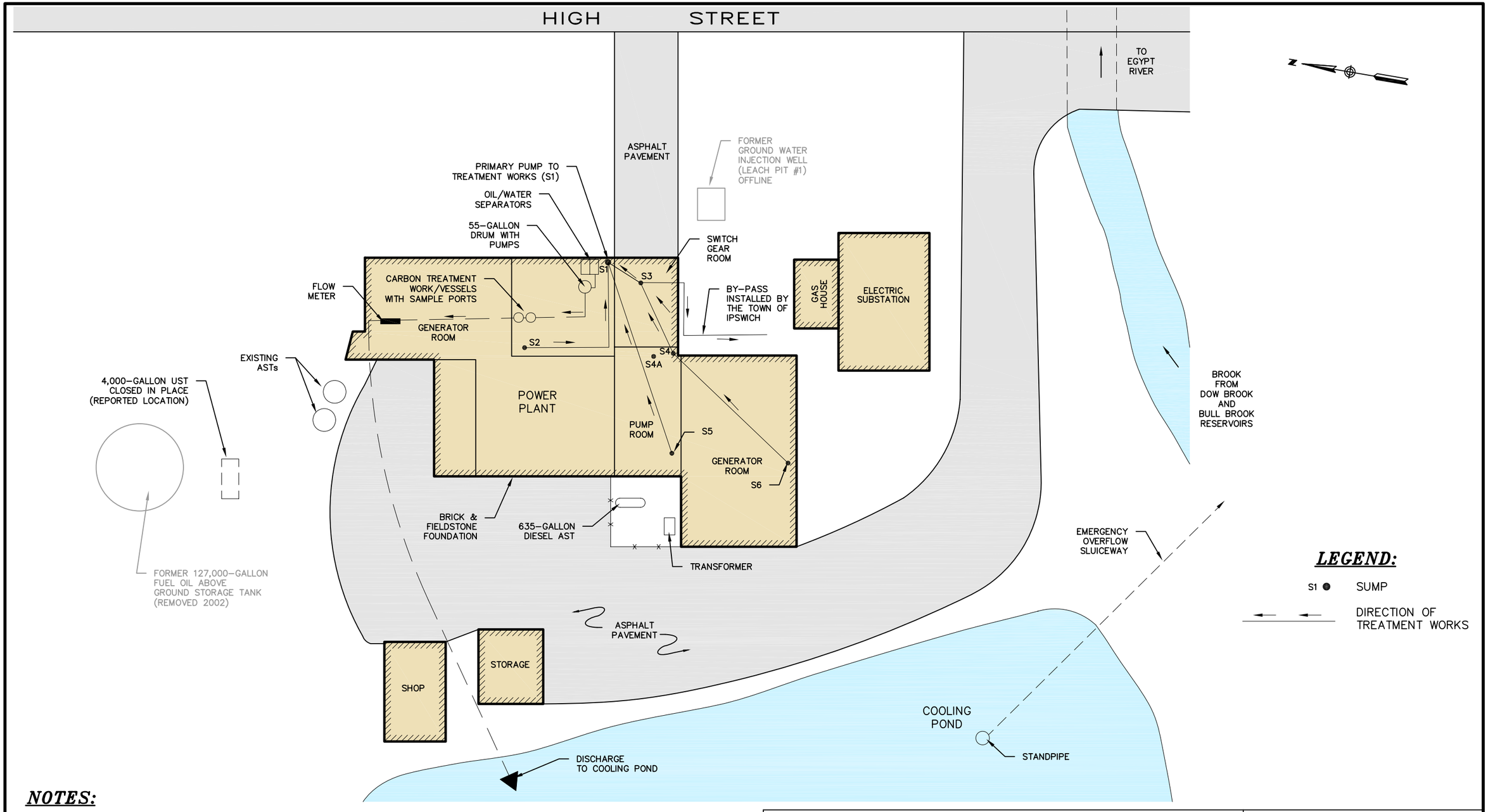

NOTES:

1. SITE PLAN BASED ON MEASUREMENTS AND OBSERVATIONS MADE BY RANSOM ENVIRONMENTAL CONSULTANTS, INC. IN DECEMBER 2006 AND JANUARY 2007.
2. COLLECTION TRENCHES IN THE FLOOR LEAD TO IDENTIFIED SUMPS, WHICH PUMP TO THE TREATMENT SYSTEM.
3. SOME FEATURES ARE APPROXIMATE IN LOCATION AND SCALE.

0 15 30 60

SCALE in FEET
1"=30'

RANSOM Environmental Consultants, Inc.

PREPARED FOR:
IPSWICH MUNICIPAL LIGHT DEPARTMENT
272 HIGH STREET
IPSWICH, MASSACHUSETTS

SITE:
IPSWICH POWER PLANT
276 HIGH STREET
IPSWICH, MASSACHUSETTS

GROUNDWATER COLLECTION AND TREATMENT SYSTEM

DATE: DECEMBER 2010
PROJECT: 061.01184.002
FIGURE: 2

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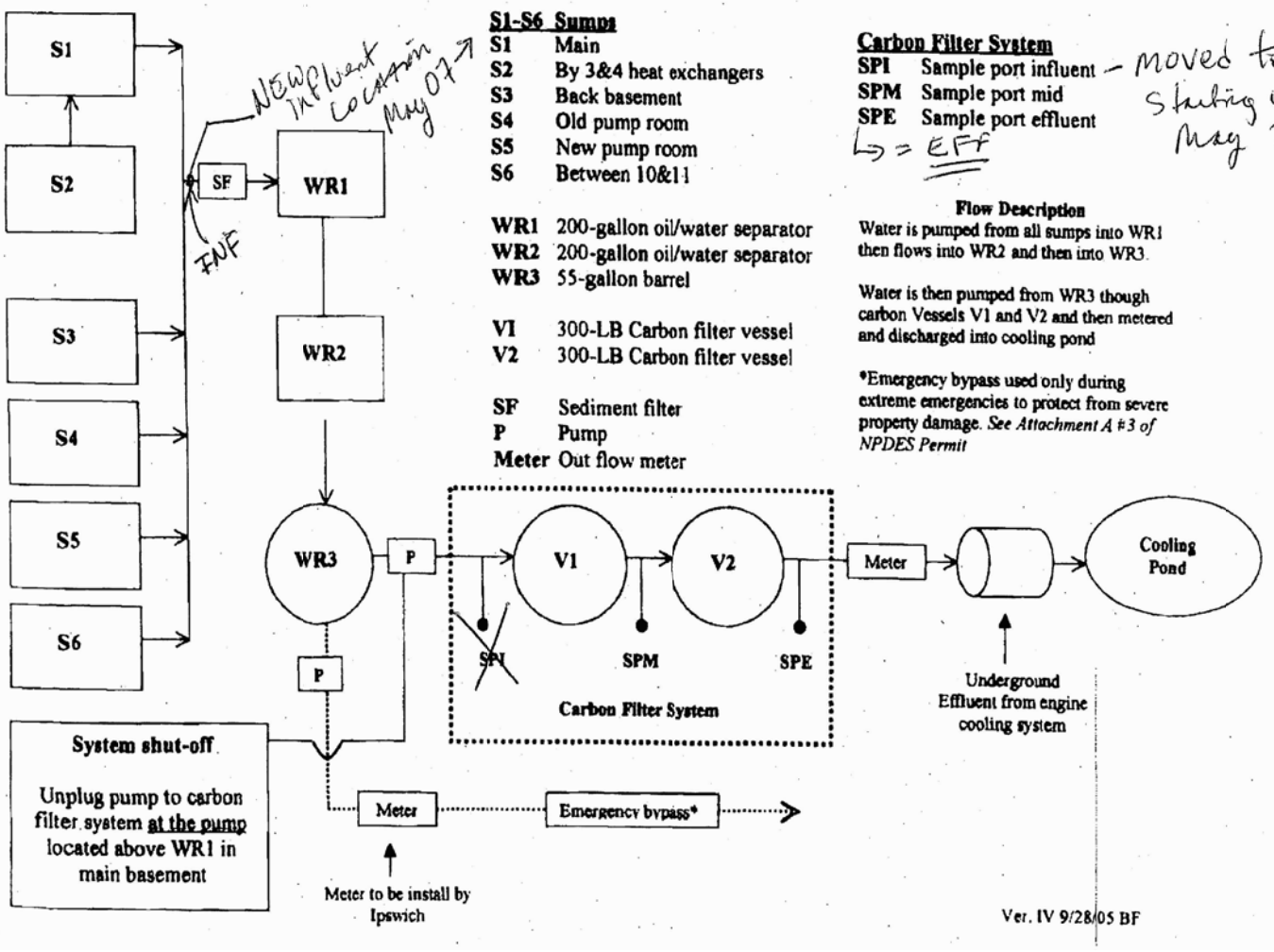
POWER PLANT GROUND WATER TREATMENT FLOW CHART



RANSOM Environmental Consultants, Inc.

PREPARED FOR:	SITE:	GROUNDWATER TREATMENT FLOW CHART
IPSWICH MUNICIPAL LIGHT DEPARTMENT 272 HIGH STREET IPSWICH, MASSACHUSETTS	IPSWICH POWER PLANT 276 HIGH STREET IPSWICH, MASSACHUSETTS	DATE: DECEMBER 2010 PROJECT: 061.01184.002 FIGURE: 3

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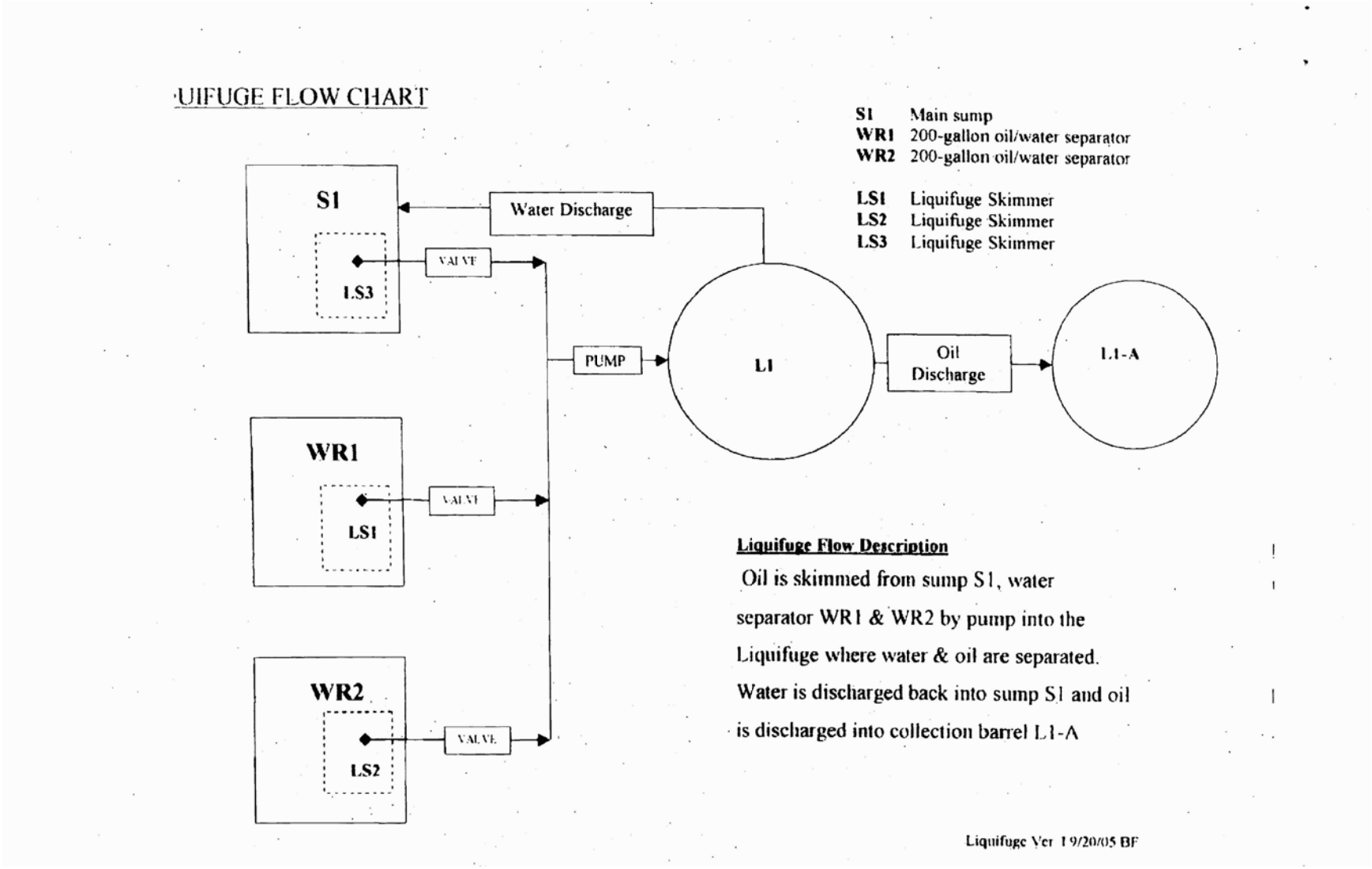

RANSOM Environmental Consultants, Inc.		***LIQUIFUGE FLOW CHART***
PREPARED FOR: IPSWICH MUNICIPAL LIGHT DEPARTMENT 272 HIGH STREET IPSWICH, MASSACHUSETTS	SITE: IPSWICH POWER PLANT 276 HIGH STREET IPSWICH, MASSACHUSETTS	DATE: DECEMBER 2010 PROJECT: 061.01184.002 FIGURE: 4

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ATTACHMENT A

Completed Appendix V - NOI
Remediation General Permit

Notice of Intent
2010 Remediation General Permit
MAG 910000
Ipswich Power Plant
276 High Street
Ipswich, Massachusetts

NPDES Permit No. MAG910000

10811. General site information: Please provide the following information about the site:

<table>
<tr><td colspan="2">a) Name of facility/site: Ipswich Power Plant</td><td colspan="4">Facility/site mailing address:</td></tr>
<tr><td colspan="2">Location of facility/site:
longitude: 71º 52' 12"
latitude: 42º 41' 55"</td><td colspan="4">Facility SIC code(s): 4911
Street: 276 High Street</td></tr>
<tr><td colspan="2">b) Name of facility/site owner: Town of Ipswich Power Company</td><td colspan="4">Town: Ipswich</td></tr>
<tr><td colspan="2" rowspan="2">Email address of facility/site owner:
thenry@ipswichutilities.org
Telephone no. of facility/site owner: 978-356-6635</td><td>State:
MA</td><td>Zip:
01938</td><td colspan="2">County:
Essex</td></tr>
<tr><td colspan="2">Fax no. of facility/site owner: 978-356-6634
Address of owner(if different from site):</td><td colspan="2">Owner is (check one): 1. Federal____ 2. State/Tribal____ 3. Private ____
4. Other _☑ __ if so, describe: Municipal – Town of Ipswich</td></tr>
<tr><td colspan="6">Street: Ipswich Town Hall, 25 Green Street</td></tr>
<tr><td colspan="2">Town: Ipswich</td><td>State: MA</td><td>Zip: 01938</td><td colspan="2">County: Essex</td></tr>
<tr><td colspan="2" rowspan="2">c) Legal name of operator: Ipswich Municipal Light Department</td><td colspan="4">Operator telephone no: 978-356-6635</td></tr>
<tr><td colspan="2">Operator fax no.: 978-356-6634</td><td colspan="2">Operator email: thenry@ipswichutilities.org</td></tr>
<tr><td colspan="6">Operator contact name and title: Timothy J. Henry, Manager</td></tr>
<tr><td colspan="2">Address of operator (if different from owner):</td><td colspan="4">Street: 272 High Street</td></tr>
<tr><td colspan="2">Town: Ipswich</td><td>State: MA</td><td>Zip: 01938</td><td colspan="2">County: Essex</td></tr>
<tr><td colspan="6">d) Check Y for "yes" or N for "no" for the following:
1. Has a prior NPDES permit exclusion been granted for the discharge? Y ☑ N___, if Y, number: MA03I-058
2. Has a prior NPDES application (Form 1 & 2C) ever been filed for the discharge?
Y ___ N ☑, if Y, date and tracking #:
3. Is the discharge a “new discharge” as defined by 40 CFR 122.2? Y___ N ☑
4. For sites in Massachusetts, is the discharge covered under the Massachusetts Contingency Plan (MCP) and exempt from state permitting? Y___ N ☑</td></tr>
<tr><td colspan="3">e) Is site/facility subject to any State permitting, license, or other action which is causing the generation of discharge? Y ☑ N ___
If Y, please list:
1. site identification # assigned by the state of NH or
MA: MA DEP: RTN 3-21793</td><td colspan="3">f) Is the site/facility covered by any other EPA permit, including:
1. Multi-Sector General Permit? Y___ N ☑,
if Y, number:_____
2. Final Dewatering General Permit? Y___ N ☑,
if Y, number:_____</td></tr>
</table>

NPDES Permit No. MAG910000

2. permit or license # assigned: Tier IB Permit No. W039179 3. state agency contact information: name, location, and telephone number: MA DEP, Bureau of Waste Site Cleanup 205B Lowell Street, Wilmington, Massachusetts 01887 978-694-3200	3. EPA Construction General Permit? Y___ N ☑, if Y, number: _____ 4. Individual NPDES permit? Y___ N ☑, if Y, number:_____ 5. any other water quality related individual or general permit? Y _ N ☑ if Y, number:_____
g) Is the site/facility located within or does it discharge to an Area of Critical Environmental Concern (ACEC)? Y☑ Discharges to Egypt River upstream from ACEC. Variance issued by MA DEP in 2006 during previous NOI process	
h) Based on the facility/site information and any historical sampling data, identify the sub-category into which the potential discharge falls.	
Activity Category	**Activity Sub-Category**
I - Petroleum Related Site Remediation	A. Gasoline Only Sites ☐ B. Fuel Oils and Other Oil Sites (including Residential Non-Business Remediation Discharges) ☐ C. Petroleum Sites with Additional Contamination ☐
II - Non Petroleum Site Remediation	A. Volatile Organic Compound (VOC) Only Sites ☐ B. VOC Sites with Additional Contamination ☐ C. Primarily Heavy Metal Sites ☐
III - Contaminated Construction Dewatering	A. General Urban Fill Sites ☐ B. Known Contaminated Sites ☐
IV - Miscellaneous Related Discharges	A. Aquifer Pump Testing to Evaluate Formerly Contaminated Sites ☐ B. Well Development/Rehabilitation at Contaminated/Formerly Contaminated Sites ☐ C. Hydrostatic Testing of Pipelines and Tanks ☐ D. Long-Term Remediation of Contaminated Sumps and Dikes ☑ E. Short-term Contaminated Dredging Drain Back Waters (if not covered by 401/404 permit) ☐

NPDES Permit No. MAG910000

2. Discharge information: Please provide information about the discharge (attaching additional sheets as necessary, including:

a) Describe the discharge activities for which the owner/applicant is seeking coverage:

The Ipswich Power Plant was originally constructed in 1903 with mortared stone and brick masonry basement walls. The elevation of the basement floor of the Power Plant is typically several feet lower than the groundwater table elevation and groundwater seepage into the basement is a prevalent condition. Groundwater at the Site was historically impacted by petroleum and volatile organic compounds (VOCs) as a result of over 100 years of use as a Power Plant. Groundwater seepage into the plant is collected in shallow trenches and directed to a main sump pump. Since May 2003, the main sump has pumped the groundwater through a treatment system consisting of oil/water separators and granular activated carbon (GAC) vessels in the basement of the Power Plant. The treatment system operates whenever it receives water from the sump pump. The treated water is discharged to the adjacent industrial cooling pond. When water levels are high in the pond, an emergency overflow allows it to discharge to a ditch that flows to the Egypt River. Therefore, although the discharge volumes from the treatment system are recorded, the actual discharge volumes and frequent of the discharge to the Egypt River is unknown.

b) Provide the following information about each discharge:

1) Number of discharge points: One, to the industrial cooling pond;	2) What is the **maximum** and **average flow rate** of discharge (in cubic feet per second, ft^3/s)? Max. flow: 0.022 cfs, (i.e., max capacity of pump) Is maximum flow a **design value**? Y___ N ☑ Average flow = 1,100 gal/day (0.0017 cfs) Is average flow a design value or estimate? _estimate, based on flows recorded over 7 years_

3) Latitude and longitude of each discharge within 100 feet:
pt.1: lat. 42º 41' 55" long. 71º 52' 12"; pt.2: lat._____ long._____;
pt.3: lat._____ long._____; pt.4: lat._____ long._____;
pt.5: lat._____ long._____; pt.6: lat._____ long._____;
pt.7: lat._____ long._____; pt.8: lat._____ long._____; etc.

4) If hydrostatic testing, total volume of the discharge (gals):_____	5) Is the discharge intermittent or seasonal? Intermittent, based on volume of groundwater infiltrating into the basement at any given time Is discharge ongoing? Y ☑ N_____

c) Expected dates of discharge (mm/dd/yy): start 12/09/10; end indefinitely

d) Please attach a line drawing or flow schematic showing water flow through the facility including: 1. sources of intake water, 2. contributing flow from the operation, 3. treatment units, and 4. discharge points and receiving waters(s). (See Figure 2)

NPDES Permit No. MAG910000

3. Contaminant information.

1) Based on the sub-category selected (see Appendix III), indicate whether each listed chemical is **believed present** or **believed absent** in the potential discharge. Attach addition sheets as needed.

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (µg/l)	mass (kg)	concentration (µg/l)	mass (kg)
1. Total Suspended Solids (TSS)		☑		1	grab	2540D	5,000 µg /l	11,000	4.58E-2	11,000	4.58E-2
2. Total Residual Chlorine (TRC)		☑		12	grab	SM 4500CL-G	200 µg/l	0	0	0	0
3. Total Petroleum Hydrocarbons (TPH)		☑		1	grab	8015B	5,000 µg /l	2,300	9.57E-3	2,300	9.57E-3
4. Cyanide (CN)	57125	☑		1	grab	9012A	5 µg/l	0	0	0	0
5. Benzene (B)	71432	☑		24	grab	8260B	2 µg/l	0	0	0	0
6. Toluene (T)	108883	☑		24	grab	8260B	2 µg/l	0	0	0	0
7. Ethylbenzene (E)	100414	☑		24	grab	8260B	2 µg/l	0	0	0	0
8. (m,p,o) Xylenes (X)	108883; 106423; 95476; 1330207	☑		24	grab	8260B	4 µg/l	0	0	0	0
9. Total BTEX[2]	n/a	☑		24	grab	8260B	2 µg/l	0	0	0	0
10. Ethylene Dibromide (EDB) (1,2- Dibromoethane)[3]	106934	☑		1	grab	504.1	0.01 µg/l	0	0	0	0
11. Methyl-tert-Butyl Ether (MtBE)	1634044	☑		24	grab	8260B	10 µg/l	0.5	2.08E-6	0	0
12. tert-Butyl Alcohol (TBA) (Tertiary-Butanol)	75650	☑		16	grab	8260B	10 µg/l	< 20	0	0	0

* Numbering system is provided allow cross-referencing to Effluent Limits and Monitoring Requirements by Sub-Category included in Appendix III, as well as the Test Methods and Minimum Levels associated with each parameter provided in Appendix VI.

[2] BTEX = sum of Benzene, Toluene, Ethylbenzene, total Xylenes.

[3] EDB is a groundwater contaminant at fuel spill and pesticide application sites in New England.

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Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (µg/l)	mass (kg)	concentration (µg/l)	mass (kg)
13. tert-Amyl Methyl Ether (TAME)	9940508	☑		4	grab	8260B	10 µg/l	0.5	2.08E-6	0	0
14. Naphthalene	91203	☑		4	grab	8260B	2 µg/l	0.9	3.74E-6	0	0
15. Carbon Tetrachloride	56235	☑		24	grab	8260B	5 µg/l	0	0	0	0
16. 1,2 Dichlorobenzene (o-DCB)	95501	☑		24	grab	8260B	5 µg/l	0	0	0	0
17. 1,3 Dichlorobenzene (m-DCB)	541731	☑		24	grab	8260B	5 µg/l	0	0	0	0
18. 1,4 Dichlorobenzene (p-DCB)	106467	☑		24	grab	8260B	5 µg/l	0	0	0	0
18a. Total dichlorobenzene		☑		24	grab	8260B	5 µg/l	0	0	0	0
19. 1,1 Dichloroethane (DCA)	75343	☑		4	grab	8260B	5 µg/l	5.7	2.37E-5	0	0
20. 1,2 Dichloroethane (DCA)	107062	☑		24	grab	8260B	5 µg/l	0	0	0	0
21. 1,1 Dichloroethene (DCE)	75354	☑		24	grab	8260B	5 µg/l	0	0	0	0
22. cis-1,2 Dichloroethene (DCE)	156592	☑		24	grab	8260B	5 µg/l	0	0	0	0
23. Methylene Chloride	75092	☑		24	grab	8260B	5 µg/l	0	0	0	0
24. Tetrachloroethene (PCE)	127184	☑		24	grab	8260B	5 µg/l	0	0	0	0
25. 1,1,1 Trichloro-ethane (TCA)	71556	☑		24	grab	8260B	5 µg/l	2		0	0
26. 1,1,2 Trichloro-ethane (TCA)	79005	☑		24	grab	8260B	5 µg/l	0	0	0	0
27. Trichloroethene (TCE)	79016	Absent since Feb 09		24	grab	8260B	5 µg/l	5.6 (Jan 09)	2.33E-5	0	0

NPDES Permit No. MAG910000

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (µg/l)	mass (kg)	concentration (µg/l)	mass (kg)
28. Vinyl Chloride (Chloroethene)	75014	☑		4	grab	8260B	5 µg/l	0	0	0	0
29. Acetone	67641	☑		24	grab	8260B	50 µg/l	0	0	0	0
30. 1,4 Dioxane	123911	☑		14	grab	8260B	50 µg/l	< 2,000	0	0	0
31. Total Phenols	108952	☑		2	grab	8270C	2 µg/l	< 5	0	0	0
32. Pentachlorophenol (PCP)	87865	☑		2	grab	8270C	5 µg/l	< 5	0	0	0
33. Total Phthalates (Phthalate esters) [4]		☑		23	grab	8270C	5 µg/l	29 (Nov 09)	1.21E-4	0	0
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]	117817	☑		23	grab	8270C	5 µg/l	0	0	0	0
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)		May 06 Through Jan 08			grab	8270C	5 µg/l	0	0	0	0
a. Benzo(a) Anthracene	56553	☑		0 (2008)	grab	8270C	5 µg/l	0	0	0	0
b. Benzo(a)Pyrene	50328	☑		0 (2008)	grab	8270C	5 µg/l	0	0	0	0
c. Benzo(b)Fluoranthene	205992	☑		0 (2008)	grab	8270C	5 µg/l	0	0	0	0
d. Benzo(k)Fluoranthene	207089	☑		0 (2008)	grab	8270C	5 µg/l	0	0	0	0
e. Chrysene	21801	☑		0 (2008)	grab	8270C	5 µg/l	0	0	0	0
f. Dibenzo(a,h)anthracene	53703	☑		0 (2008)	grab	8270C	5 µg/l	0	0	0	0
g. Indeno(1,2,3-cd) Pyrene	193395	☑		0 (2008)	grab	8270C	5 µg/l	0	0	0	0
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)		May 06 Through Jan 08		0 (2008)	grab	8270C	5 µg/l	0	0	0	0

[4] The sum of individual phthalate compounds.

NPDES Permit No. MAG910000

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (µg/l)	mass (kg)	concentration (µg/l)	mass (kg)
h. Acenaphthene	83329	☑		2	grab	8270C	5 µg/l	0	0	0	0
i. Acenaphthylene	208968	☑		0 (2008)	grab	8270C	5 µg/l	0	0	0	0
j. Anthracene	120127	☑		0 (2008)	grab	8270C	5 µg/l	0	0	0	0
k. Benzo(ghi) Perylene	191242	☑		0 (2008)	grab	8270C	5 µg/l	0	0	0	0
l. Fluoranthene	206440	☑		2	grab	8270C	5 µg/l	0	0	0	0
m. Fluorene	86737	☑		0 (2008)	grab	8270C	5 µg/l	0	0	0	0
n. Naphthalene	91203	☑		2	grab	8270C	5 µg/l	0.9		0	0
o. Phenanthrene	85018	☑		2	grab	8270C	5 µg/l	0	0	0	0
p. Pyrene	129000; 85687; 84742; 84662;	☑		2	grab	8270C	5 µg/l	0	0	0	0
37. Total Polychlorinated Biphenyls (PCBs)	131113; 117817.	☑		2	grab	8082	0.5 µg/l	0	0	0	0
38. Chloride	16887006	☑		0			0.1 mg/l	0	0	0	0
39. Antimony	7440360	☑		1	grab	200.9	3 µg/l	0	0	0	0
40. Arsenic	7440382		☑	24	grab	200.9	3 µg/l	25	1.04E-4	12.1	5.03E-5
41. Cadmium	7440439	☑		1	grab	200.7	10 µg/l	0	0	0	0
42. Chromium III (trivalent)	16065831	☑		1	grab	6010	15 µg/l	0	0	0	0
43. Chromium VI (hexavalent)	18540299	☑		1	grab	7196A	10 µg/l	0	0	0	0
44. Copper	7440508		☑	24	grab	200.7	15 µg/l	306.8	1.27E-3	48	1.99E-4
45. Lead	7439921		☑	1	grab	200.9	3 µg/l	7	2.91E-5	7	2.91E-5
46. Mercury	7439976	☑		0 (2008)	grab	245.1	0.2 µg/l	0	0	0	0
47. Nickel	7440020		☑	20	grab	200.7	20 µg/l	116.7	4.85E-4	17.26	7.18E-5
48. Selenium	7782492	☑		0 (2008)	grab	200.7	20 µg/l	0	0	0	0
49. Silver	7440224	☑		0 (2008)	grab	200.7	10 µg/l	0	0	0	0
50. Zinc	7440666		☑	24	grab	200.7	15 µg/l	1,081	4.50E-3	105.6	4.39E-4

NPDES Permit No. MAG910000

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (µg/l)	mass (kg)	concentration (µg/l)	mass (kg)
51. Iron	7439896		☑	24	grab	200.7	20 µg/l	20,000	8.32E-2	8,360	3.48E-2
Other (describe):											

b) For discharges where **metals** are believed present, please fill out the following (attach results of any calculations):

*Step 1:*Do any of the metals in the influent exceed the effluent limits in Appendix III (i.e., the limits set at zero dilution)? Y ☑ N____	If yes, which metals? Arsenic, copper, lead, nickel, zinc, and iron
*Step 2:*For any metals which exceed the **Appendix III** limits, calculate the **dilution factor (DF)** using the formula in Part I.A.3.c (step 2) of the NOI instructions or as determined by the State prior to the submission of this NOI. What is the dilution factor for applicable metals? Metal: arsenic___DF:1 Metal: copper__ DF:_1 Metal: lead____ DF:_1 Metal: nickel___DF:1 Metal: zinc____ DF:1 Metal: iron____ DF:1	Look up the limit calculated at the corresponding dilution factor in **Appendix IV.** Do any of the metals in the **influent** have the potential to exceed the corresponding **effluent** limits in Appendix IV (i.e., is the influent concentration above the limit set at the calculated dilution factor)? Y __ N ☑ If Y, list which metals:

NPDES Permit No. MAG910000

4. Treatment system information. Please describe the treatment system, using separate sheets as necessary, including:

a) A description of the treatment system, including a schematic of the proposed or existing treatment system:

The groundwater treatment system (the System) includes six sumps and pumps, two oil/water separators, one 55-gallon collection drum, two 300-pound GAC vessels, one liquifuge, three liquifuge skimmers, one flow meter, five pressure gauges, sampling valves, and associated piping. Treated groundwater is discharged to the on-site industrial cooling pond. .

The System became operational on May 29, 2003. Groundwater that passively infiltrates into the basement through the foundation walls flows along grooves in the floor to six sumps and pumps. Water from the sumps is pumped to the primary sump located along the front basement wall and then through a sediment filter to two 200-gallon oil/water separator tanks piped in series. Liquifuge skimmers are located in the primary sump and in each of the oil/water separator tanks. Oil skimmed from these locations is pumped to a single liquifuge where oil and water are separated. The separated oil is discharged into a collection barrel, while water is discharged back into the primary sump.

Water flows by gravity from the second separator tank to one 55-gallon collection drum. The rising water level in the drum activates a pump which forces the water through the two 300-pound GAC treatment vessels, also piped in series. The effluent from the treatment vessels passes through a flow meter and is discharged to the cooling pond. See Figures 3 and 4 for schematics of the System.

b) Identify each applicable treatment unit (check all that apply):	Frac. tank ☐	Air stripper ☐	Oil/water separator ☑	Equalization tanks ☐	Bag filter ☐	GAC filter ☑
	Chlorination ☐	De-chlorination ☐	Other (please describe):			

c) Proposed **average** and **maximum flow rates** (gallons per minute) for the discharge and the **design flow rate**(s) (gallons per minute) of the treatment system:

Average flow rate of discharge 1,100 gals per day Maximum flow rate of treatment system 10 gals per minute (based on pump capacity)

Design flow rate of treatment system NA

d) A description of chemical additives being used or planned to be used (attach MSDS sheets):

NONE

NPDES Permit No. MAG910000

5. Receiving surface water(s). Please provide information about the receiving water(s), using separate sheets as necessary:

a) Identify the discharge pathway:	Direct to receiving water ☐	Within facility (sewer) ☐	Storm drain ☐	Wetlands ☐	Other (describe) ☑: Discharge is to an on-site industrial cooling pond. The cooling pond can overflow to the Egypt River.

b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters:

Treated effluent from the groundwater treatment system is discharged via a buried pipe to an industrial cooling pond on the Power Plant property. The cooling pond has a standpipe which connects to an emergency drainage sluiceway in the event that the water level in the pond were to rise due to environmental circumstances (e.g., heavy rainfall, etc.). If the water level overtops the standpipe, the cooling pond will discharge to a swale that is downstream of the spillway for the Dow Brook Reservoir. If the water level in the reservoir is above the spillway, there is water in the drainage swale; otherwise, the swale is dry. The drainage swale converges with flow from Bull Brook and then discharges to the Egypt River approximately 200 feet downstream from the cooling pond.

c) Attach a detailed map(s) indicating the site location and location of the outfall to the receiving water:
1. For multiple discharges, number the discharges sequentially.
2. For indirect dischargers, indicate the location of the discharge to the indirect conveyance and the discharge to surface water
The map should also include the location and distance to the nearest sanitary sewer as well as the locus of nearby sensitive receptors (based on USGS topographical mapping), such as surface waters, drinking water supplies, and wetland areas.

d) Provide the state water quality classification of the receiving water Class B

e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water Unknown cfs
Please attach any calculation sheets used to support stream flow and dilution calculations.

f) Is the receiving water a listed 303(d) water quality impaired or limited water? Y___ N ☑ If yes, for which pollutant(s)?

Is there a final TMDL? Y ___ N____ If yes, for which pollutant(s)? NA

NPDES Permit No. MAG910000

6. ESA and NHPA Eligibility.

Please provide the following information according to requirements of Permit Parts I.A.4 and I.A.5 Appendices II and VII.

a) Using the instructions in Appendix VII and information on Appendix II, under which criterion listed in Part I.C are you eligible for coverage under this general permit?

A ____ B ____ C ____ D ☑ E ____ F ____

b) If you selected Criterion D or F, has consultation with the federal services been completed? Y ☑ in 2006 N____ Underway for 2010

c) If consultation with U.S. Fish and Wildlife Service and/or NOAA Fisheries Service was completed, was a written concurrence finding that the discharge is "not likely to adversely affect" listed species or critical habitat received? Y ☑ in 2006_ N____

d) Attach documentation of ESA eligibility as described in the NOI instructions and required by Appendix VII, Part I.C, Step 4.

e) Using the instructions in Appendix VII, under which criterion listed in Part II.C are you eligible for coverage under this general permit?

1 ☑ 2 ____ 3 ____

f) If Criterion 3 was selected, attach all written correspondence with the State or Tribal historic preservation officers, including any terms and conditions that outline measures the applicant must follow to mitigate or prevent adverse effects due to activities regulated by the RGP.

7. Supplemental information.

Please provide any supplemental information. Attach any analytical data used to support the application. Attach any certification(s) required by the general permit.

A transmittal letter attached to this Notice of Intent provides supplemental information.

NPDES Permit No. MAG910000

8. Signature Requirements: The Notice of Intent must be signed by the operator in accordance with the signatory requirements of 40 CFR Section 122.22, including the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I certify that I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Facility/Site Name: Ipswich Power Plant
Operator Signature: Timothy Henry
Printed Name & Title: Timothy Henry, Director, Ipswich Utilities
Date: 12-9-10

ATTACHMENT B

MA Division of Fisheries and Wildlife
Correspondence RE: NHESP Areas

Notice of Intent
2010 Remediation General Permit
MAG 910000
Ipswich Power Plant
276 High Street
Ipswich, Massachusetts

Commonwealth of Massachusetts

Division of Fisheries & Wildlife

MassWildlife

Wayne F. MacCallum, *Director*

January 18, 2006

Clean Soils Environmental Ltd.
Attn: Stephan Landry
PO Box 591
Ipswich, MA 01938

Re: Ipswich Power Plant- continued operation of a sump dewatering system
276 High Street
Ipswich, MA
NHESP Tracking Number: 06-19112

Dear Mr. Landry,

Thank you for submitting additional materials (including a site plan) to the Natural Heritage and Endangered Species Program ("NHESP") of the MA Division of Fisheries & Wildlife for the above project.

Based on a review of the information that was provided and the information that is currently contained in our database, the NHESP has determined that this project, as currently proposed, will **not** adversely affect the actual habitat of state-protected rare wildlife species and that no further review for this project is necessary.

This evaluation is based on the most recent information available in the NHESP database, which is constantly being expanded and updated through ongoing research and inventory. Should your site plans change, or new rare species information become available, this evaluation may be reconsidered.

Please note that this determination addresses only the matter of **rare** wildlife habitat and does not pertain to other wildlife habitat issues that may be pertinent to the proposed project.

If you have any questions regarding this review please call Jenna Garvey, Environmental Review Assistant, at (508) 792-7270, ext. 303.

Sincerely,

Thomas W. French

Thomas W. French, Ph.D.
Assistant Director

Commonwealth of Massachusetts
Division of Fisheries & Wildlife
MassWildlife

Wayne F. MacCallum, *Director*

January 5, 2006

Clean Soils Environmental, Ltd.
Attn: Stephan Landry
33 Estes Street
Ipswich, MA 01938

Re: Rare Species Information Request
Ipswich Power Plant
276 High Street
Ipswich, MA
NHESP Tracking No. 06-19112

Dear Mr. Landry:

Thank you for contacting the Natural Heritage and Endangered Species Program ("NHESP") of the MA Division of Fisheries & Wildlife for information regarding state-protected rare species in the vicinity of the above referenced site. We have reviewed the site and would like to offer the following comments.

According to the locus map provided, it appears that the project site, or a portion thereof, appears to be located **near** and possibly **within** *Priority Habitat 69* (PH 69) and *Estimated Habitat 4006* (WH 4006) as indicated in the 11th Edition of the Massachusetts Natural Heritage Atlas. In addition to an Estuarine Intertidal Salt Marsh Natural Community, The following state-listed rare species have been found in vicinity to the proposed site:

Scientific name	Common Name	Taxonomic Group	State Status
Cincinnatia winkleyi	New England Silt Snail	Snail	Special Concern

The species listed above is protected under the Massachusetts Endangered Species Act (MESA) (M.G.L. c. 131A) and its implementing regulations (321 CMR 10.00). State-listed wildlife are also protected under the state's Wetlands Protection Act (WPA) (M.G.L. c. 131, s. 40) and its implementing regulations (310 CMR 10.37 and 10.59). Fact sheets for most state-listed rare species can be found on our website http://www.nhesp.org.

Please note that projects located within Priority and/or Estimated Habitat must be reviewed by the NHESP for compliance with the state-listed rare species protection provisions of MESA (321 CMR 10.00) and/or the WPA (310 CMR 10.00). If the project site is within Estimated Habitat for Rare Wildlife and a Notice of Intent (NOI) is required, then a copy of the NOI must be submitted to the NHESP in a timely manner, so that it is received at the same time as the local conservation commission. If the proposed project is located within a Priority Habitat, then project plans, a fee, and other required

Division of Fisheries and Wildlife
Field Headquarters, One Rabbit Hill Road, Westborough, MA 01581 (508) 792-7270 Fax (508) 792-7275
An Agency of the Department of Fisheries, Wildlife & Environmental Law Enforcement

filing materials must be sent to NHESP Environmental Review to determine whether a probable "take" under the MA Endangered Species Act would occur (321 CMR 10.18). Please note that all proposed and anticipated development must be disclosed, as MESA does not allow project segmentation (321 CMR 10.16). For a MESA filing checklist and additional information about the MESA review process, please see our website: www.nhesp.org under the "Regulatory Review" tab. On a case by case basis, field surveys and habitat assessments may be required as part of the MESA review process in order to locate rare species on the project site, and to determine their patterns of distribution and habitat use.

We recommend that rare species habitat concerns be addressed during the project design phase prior to submission of a formal MESA filing, as avoidance and minimization of impacts to rare species and their habitats is likely to expedite endangered species regulatory review.

MA Endangered Species Act (M.G.L. c. 131A)
If NHESP determines that the proposed project would "take" a rare species, then it may be possible to redesign the project to avoid a "take." If such revisions are not possible, the applicant should note that projects resulting in the "take" of state-protected wildlife may only be permitted if they meet the performance standards for a "Conservation and Management Permit" under MESA (321 CMR 10.23). Please note that projects resulting in a "take" may require submission of an Environmental Notification Form, pursuant to the MA Environmental Policy Act regulations (301 CMR 11.00).

Wetlands Protection Act
If the NHESP determines that the proposed project will adversely affect the actual Resource Area habitat of state-protected wildlife, than the proposed project may not be permitted (310 CMR 10.37, 10.58(4)(b) & 10.59). In such a case, the project proponent may request a consultation with the NHESP to discuss potential project design modifications that would avoid adverse effects to rare wildlife habitat.

This evaluation is based on the most recent information available in the Natural Heritage database, which is constantly being expanded and updated through ongoing research and inventory. Should your site plans change, or new rare species information become available, this evaluation may be reconsidered. If you have any questions regarding this review please call Jenna Garvey, Environmental Review Assistant, at (508) 792-7270, ext. 303.

Sincerely,

Thomas W. French

Thomas W. French, Ph.D.
Assistant Director

cc: Ipswich Conservation Commission

ATTACHMENT C

U.S. EPA Authorization MAG910200
dated December 30, 2008

Notice of Intent
2010 Remediation General Permit
MAG 910000
Ipswich Power Plant
276 High Street
Ipswich, Massachusetts

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 1
1 Congress Street, Suite 1100
BOSTON, MA 02114-2023

December 30, 2008

Carl Lemiesz, Operations Manager
272 High Street (P.O.Box 151)
Ipswich, MA 01938

Re: Second/ Six months Review Certification of Remediation General Permit (RGP) –MAG 91000, site located at 276 High Street, Ipswich, MA 01938; Authorization # MAG910200.

Dear Mr. Lemiesz:

This responds to your Notice of Change (NOC) request dated November 17, 2008, for the groundwater remediation system operating at the site noted above. As you are aware, EPA's previous letter of March 12, 2008, authorized the discharge of treated groundwater from this site in accordance with the first six month certification. This second certification amends the previous approval as indicated in the attached permit list. This permit list was the resultant of a review of the pollutants history presented in your "monitoring table" and laboratory data. This permit list may be inconsistent with the list of pollutants requested by Ms. Marshall from Ransom Environmental for monitoring for reason indicated below:

1. The laboratory minimum levels for various pollutants are higher than the levels establish by EPA appendix VI.
2. The pollutant levels reported are below the minimum levels for various pollutants required by Appendix III and do not require monitoring.

The changes were duly noted and implemented to your existing RGP, therefore they are effective immediately. The discharge from the remediation system may continue in accordance with the provisions of this new certification, and the requirements of the initial authorization letter.

Please let me know if you have any questions regarding this matter or the RGP. You can contact me at (617) 918-1572 or Alvarez.Victor@epa.gov.

Sincerely,

Victor Alvarez
Environmental Engineer
Municipal Permits Branch, RGP Lead.

Enclosure:

cc: Paul Hogan, MassDEP
Nancy Marshall, Ransom Environmental Consultants, Inc.

SUMMARY OF MONITORING PARAMETERS[1] UNDER THE REMEDIATION GENERAL PERMIT (RGP)

Facility/Site Name: TOWN OF IPSWICH ELECTRIC POWER PLANT
Facility/Site Address: 276 HIGH STREET , IPSWICH, MA 01938
Sub-category - Contaminated sump water (Second six month permit review) - Estimated date of completion: Unknown
Permit # MAG910200 **Permit Review Issued: December 30, 2008**

Monitor checked parameters	Parameter to be monitored (see Parts I.C. and I.D. and Appendix III of the RGP for specific limits and requirements)	Monitor checked parameters	Parameter to be monitored (see Parts I.C. and I.D. and Appendix III of the RGP for specific limits and requirements)
	1. Total Suspended Solids (TSS)	✔	27. Trichloroethylene (TCE)
✔	2. Total Residual Chlorine (TRC)		28. Vinyl Chloride (Chloroethene)
	3. Total Petroleum Hydrocarbons (TPH)	✔	29. Acetone
	4. Cyanide (CN)[2]	✔	30. 1,4 Dioxane
✔	5. Benzene (B)		31. Total Phenols
	6. Toluene (T)		32. Pentachlorophenol (PCP)
✔	7. Ethylbenzene (E)	✔	33. Total Phthalates
✔	8. (m,p,o) Xylenes (X)		34. Bis (2-Ethylhexyl) Phthalate
✔	9. Total BTEX[3]		35. Total Group I Poly. Aromatic Hyd.
	10. Ethylene Dibromide (EDB)		a. Benzo(a) Anthracene
✔	11. Methyl-tert-Butyl Ether (MtBE)		b. Benzo(a) Pyrene
✔	12. tert-Butyl Alcohol (TBA)		c. Benzo(b)Fluoranthene
	13. tert-Amyl Methyl Ether (TAME)		d. Benzo(k)Fluoranthene
	14. Naphthalene		e. Chrysene
✔	15. Carbon Tetrachloride		f. Dibenzo(a,h)anthracene
✔	16. 1,4 Dichlorobenzene (p-DCB)		g. Indeno(1,2,3-cd) Pyrene
✔	17. 1,2 Dichlorobenzene (o-DCB)		36. Total Group II Polycyclic Aromatic Hydrocarbons
✔	18. 1,3 Dichlorobenzene (m-DCB)		h. Acenaphthene
	18.a. Total dichlorobenzene		i. Acenaphthylene
	19. 1,1 Dichloroethane (DCA)		j. Anthracene
✔	20. 1,2 Dichloroethane (DCA)		k. Benzo(ghi) Perylene
	21. 1,1 Dichloroethylene (DCE)		l. Fluoranthene
✔	22. cis-1,2 Dichloro-ethylene (DCE)		m. Fluorene
✔	23. Dichloromethane (Methylene Chloride)		n. Naphthalene
✔	24. Tetrachloroethylene (PCE)		o. Phenanthrene
✔	25. 1,1,1 Trichloro-ethane (TCA)		p. Pyrene
✔	26. 1,1,2 Trichloro-ethane (TCA)		37. Total Polychlorinated Biphenyls (PCBs)

Monitor checked parameters	Parameter to be monitored (see Parts I.C. and I.D. and Appendix III of the RGP for specific limits and requirements)	Monitor checked parameters	Parameter to be monitored (see Parts I.C. and I.D. and Appendix III of the RGP for specific limits and requirements)
	38. Antimony	✔	52. Total Flow
✔	39. Arsenic		53. pH Range for Class A & Class B Waters in MA
	40. Cadmium	✔	54. pH Range for Class SA & Class SB Waters in MA
	41. Chromium III (trivalent)		55. pH Range for Class B Waters in NH
	42. Chromium VI (hexavalent)		56. Daily maximum temperature - Warm water fisheries
✔	43. Copper		57. Daily maximum temperature - Cold water fisheries
	44. Lead		58. Maximum Change in Temperature in MA - Any Class A water body
	45. Mercury		59. Maximum Change in Temperature in MA - Warm Water
✔	46. Nickel		60. Maximum Change in Temperature in MA - Cold Water and Lakes/Ponds
	47. Selenium		61. Maximum Change in Temperature in MA -Coastal
	48. Silver		62. Maximum Change in Temperature in MA - July to September
✔	49. Zinc		63. Maximum Change in Temperature in MA - October to June
✔	50. Iron		
✔	51. Instantaneous Flow		

Footnotes:

1. This checklist does not represent the complete requirements of the RGP. Operators must comply with all of the applicable requirements of the remediation general permit (RGP), including influent monitoring, narrative water quality standards, etc. Operators must follow the RGP, including Parts I, II, and Appendices I - VIII in order to comply with the specific applicable requirements.

2. Limits for cyanide are based on EPA's water quality criteria expressed as micrograms (ug) of free cyanide per liter. There is currently no EPA approved test method for free cyanide. Therefore, total cyanide must be reported.

3. BTEX = Sum of Benzene, Toluene, Ethylbenzene, total Xylenes.

ATTACHMENT D

Laboratory Chemical Analysis Report
February 9, 2009

Notice of Intent
2010 Remediation General Permit
MAG 910000
Ipswich Power Plant
276 High Street
Ipswich, Massachusetts

Groundwater Analytical, Inc.
P.O.Box 1200
228 Main Street
Buzzards Bay, MA 02532

Telephone: (508) 759-4441
FAX: (508) 759-4475

GROUNDWATER ANALYTICAL

e-mail

To:	Nancy Marshall	**From:**	e-mail reporting GWA
	Ransom Environmental	**Pages:**	56
e-mail:	nmarshall@ransomenv.com	**Date:**	02/26/2009 16:24:24
Re:	123386	**CC:**	

☐ **Urgent** ☐ **For Review** ☐ **Please Comment** ☐ **Please Reply**

● **Comments:**

Final Project Report for Ipswich Power Plant/061184, Lab ID 123386,
Received 02-11-09

Confidential

GROUNDWATER ANALYTICAL

Groundwater Analytical, Inc.
P.O. Box 1200
228 Main Street
Buzzards Bay, MA 02532

Telephone (508) 759-4441
FAX (508) 759-4475
www.groundwateranalytical.com

February 26, 2009

Ms. Nancy Marshall
Ransom Environmental Consultants, Inc.
Browns Wharf
Newburyport, MA 01950

LABORATORY REPORT

Project: **Ipswich Power Plant/061184**
Lab ID: **123386**
Received: **02-11-09**

Dear Nancy:

Enclosed are the analytical results for the above referenced project. The project was processed for Standard turnaround.

This letter authorizes the release of the analytical results, and should be considered a part of this report. This report contains a sample receipt report detailing the samples received, a project narrative indicating project changes and non-conformances, a quality control report, and a statement of our state certifications.

The analytical results contained in this report meet all applicable NELAC or NVLAP standards, except as may be specifically noted, or described in the project narrative. The analytical results relate only to the samples received. This report may only be used or reproduced in its entirety.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Should you have any questions concerning this report, please do not hesitate to contact me.

Sincerely,

Karyn E. Raymond

Karyn E. Raymond
Project Manager

KER/elm
Enclosures

GROUNDWATER ANALYTICAL

Sample Receipt Report

Project: **Ipswich Power Plant/061184**
Client: **Ransom Environmental Consultants, Inc.**
Lab ID: **123386**

Delivery: **GWA Courier**
Airbill: **n/a**
Lab Receipt: **02-11-09**

Temperature: **5.1ºC**
Chain of Custody: **Present**
Custody Seal(s): **n/a**

Lab ID	Field ID		Matrix	Sampled	Method				Notes
123386-1	Efflu-W1-021109		Aqueous	2/11/09 10:15	EPA 8260B Volatile Organics with Oxygenates				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1165807	40 mL VOA Vial	Industrial	BX32423	HCL	R-5500D	12-15-08	02-03-09		
C1165806	40 mL VOA Vial	Industrial	BX32423	HCL	R-5500D	12-15-08	02-03-09		
C1165805	40 mL VOA Vial	Industrial	BX32423	HCL	R-5500D	12-15-08	02-03-09		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
123386-2	Influ-W2-021109		Aqueous	2/11/09 10:45	EPA 8260B Volatile Organics with Oxygenates				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1165810	40 mL VOA Vial	Industrial	BX32423	HCL	R-5500D	12-15-08	02-03-09		
C1165809	40 mL VOA Vial	Industrial	BX32423	HCL	R-5500D	12-15-08	02-03-09		
C1165808	40 mL VOA Vial	Industrial	BX32423	HCL	R-5500D	12-15-08	02-03-09		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
123386-3	Efflu-W1-021109		Aqueous	2/11/09 10:15	EPA 504.1 EDB and DBCP				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1149724	40 mL VOA Vial	Proline	BX32033	None	n/a	n/a	02-03-09		
C1149723	40 mL VOA Vial	Proline	BX32033	None	n/a	n/a	02-03-09		
C1149722	40 mL VOA Vial	Proline	BX32033	None	n/a	n/a	02-03-09		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
123386-4	Influ-W2-021109		Aqueous	2/11/09 10:45	EPA 504.1 EDB and DBCP				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1149721	40 mL VOA Vial	Proline	BX32033	None	n/a	n/a	02-03-09		
C1149720	40 mL VOA Vial	Proline	BX32033	None	n/a	n/a	02-03-09		
C1149719	40 mL VOA Vial	Proline	BX32033	None	n/a	n/a	02-03-09		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
123386-5	Efflu-W1-021109		Aqueous	2/11/09 10:15	EPA 8270C Semivolatile Organics (Low Level)				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1143136	1 L Amber Glass	Proline	BX32752	None	n/a	n/a	02-03-09		
C1143133	1 L Amber Glass	Proline	BX32752	None	n/a	n/a	02-03-09		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
123386-6	Influ-W2-021109		Aqueous	2/11/09 10:45	EPA 8270C Semivolatile Organics (Low Level)				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1143135	1 L Amber Glass	Proline	BX32752	None	n/a	n/a	02-03-09		
C1125719	1 L Amber Glass	Proline	BX32478	None	n/a	n/a	02-03-09		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
123386-7	Efflu-W1-021109		Aqueous	2/11/09 10:15	EPA 8082 PCBs				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1143137	1 L Amber Glass	Proline	BX32752	None	n/a	n/a	02-03-09		
C1125718	1 L Amber Glass	Proline	BX32478	None	n/a	n/a	02-03-09		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
123386-8	Influ-W2-021109		Aqueous	2/11/09 10:45	EPA 8082 PCBs				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1143134	1 L Amber Glass	Proline	BX32752	None	n/a	n/a	02-03-09		
C1143132	1 L Amber Glass	Proline	BX32752	None	n/a	n/a	02-03-09		

GROUNDWATER ANALYTICAL

Sample Receipt Report (Continued)

Project: **Ipswich Power Plant/061184**
Client: **Ransom Environmental Consultants, Inc.**
Lab ID: **123386**

Delivery: **GWA Courier**
Airbill: **n/a**
Lab Receipt: **02-11-09**

Temperature: **5.1ºC**
Chain of Custody: **Present**
Custody Seal(s): **n/a**

Lab ID	Field ID		Matrix	Sampled	Method				Notes
123386-9	Efflu-W1-021109		Aqueous	2/11/09 10:15	EPA 200.7 Ag Cd Cr Cu Fe Ni Se Zn Total EPA 200.9 As Pb Sb Total EPA 245.1 Hg Total EPA 7196/EPA 6010 Trivalent Chromium				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1108824	500 mL Plastic	Proline	BX32655	HNO3	R-5790D	01-09-09	02-03-09		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
123386-10	Influ-W2-021109		Aqueous	2/11/09 10:45	EPA 200.7 Ag Cd Cr Cu Fe Ni Se Zn Total EPA 200.9 As Pb Sb Total EPA 245.1 Hg Total EPA 7196/EPA 6010 Trivalent Chromium				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1108801	500 mL Plastic	Proline	BX32655	HNO3	R-5790D	01-09-09	02-03-09		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
123386-11	Efflu-W1-021109		Aqueous	2/11/09 10:15	TPH by GC EPA 8015B Mod				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1143219	1 L Amber Glass	Proline	BX32757	H2SO4	R-5800C	01-27-09	02-03-09		
C1143216	1 L Amber Glass	Proline	BX32757	H2SO4	R-5800C	01-27-09	02-03-09		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
123386-12	Influ-W2-021109		Aqueous	2/11/09 10:45	TPH by GC EPA 8015B Mod				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1143222	1 L Amber Glass	Proline	BX32757	H2SO4	R-5800C	01-27-09	02-03-09		
C1143218	1 L Amber Glass	Proline	BX32757	H2SO4	R-5800C	01-27-09	02-03-09		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
123386-13	Efflu-W1-021109		Aqueous	2/11/09 10:15	EPA 7196A Hexavalent Chromium SM 2540 D Total Suspended Solids SM 4500-H+B pH				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1143730	1L Plastic	Proline	BX32861	None	n/a	n/a	02-03-09		
C1105543	250 mL Plastic	Proline	BX32656	None	n/a	n/a	02-03-09		
C1105527	250 mL Plastic	Proline	BX32656	None	n/a	n/a	02-03-09		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
123386-14	Influ-W2-021109		Aqueous	2/11/09 10:45	EPA 7196A Hexavalent Chromium SM 2540 D Total Suspended Solids SM 4500-H+B pH				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1143729	1L Plastic	Proline	BX32861	None	n/a	n/a	02-03-09		
C1105521	250 mL Plastic	Proline	BX32656	None	n/a	n/a	02-03-09		
C1105436	250 mL Plastic	Proline	BX32656	None	n/a	n/a	02-03-09		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
123386-15	Efflu-W1-021109		Aqueous	2/11/09 10:15	SM 4500-Cl G Total Residual Chlorine				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1105978	250 mL Glass	Proline	BX32663	None	n/a	n/a	02-03-09		

GROUNDWATER ANALYTICAL

Sample Receipt Report (Continued)

Project:	**Ipswich Power Plant/061184**	Delivery:	**GWA Courier**	Temperature:	**5.1ºC**
Client:	**Ransom Environmental Consultants, Inc.**	Airbill:	**n/a**	Chain of Custody:	**Present**
Lab ID:	**123386**	Lab Receipt:	**02-11-09**	Custody Seal(s):	**n/a**

Lab ID	Field ID		Matrix	Sampled	Method				Notes
123386-16	Influ-W2-021109		Aqueous	2/11/09 10:45	SM 4500-Cl G Total Residual Chlorine				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1105982	250 mL Glass	Proline	BX32663	None	n/a	n/a	02-03-09		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
123386-17	Efflu-W1-021109		Aqueous	2/11/09 10:15	EPA 9012A Total Cyanide				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1122529	500 mL Plastic	Proline	BX31560	NaOH	R-5653B	11-25-08	02-03-09		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
123386-18	Influ-W2-021109		Aqueous	2/11/09 10:45	EPA 9012A Total Cyanide				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1122539	500 mL Plastic	Proline	BX31560	NaOH	R-5653B	11-25-08	02-03-09		

GROUNDWATER ANALYTICAL

EPA Method 8260B
Volatile Organics by GC/MS

Field ID:	**Efflu-W1-021109**	Matrix:	**Aqueous**
Project:	**Ipswich Power Plant/061184**	Container:	**40 mL VOA Vial**
Client:	**Ransom Environmental Consultants, Inc.**	Preservation:	**HCl/ Cool**
Laboratory ID:	**123386-1**	QC Batch ID:	**VM5-3897-W**
Sampled:	**02-11-09 10:15**	Instrument ID:	**MS-5 HP 6890**
Received:	**02-11-09 17:45**	Sample Volume:	**25 mL**
Analyzed:	**02-12-09 14:15**	Dilution Factor:	**1**
Analyst:	**LMG**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/L	0.5
74-87-3	Chloromethane	BRL		ug/L	0.5
75-01-4	Vinyl Chloride	BRL		ug/L	0.5
74-83-9	Bromomethane	BRL		ug/L	0.5
75-00-3	Chloroethane	BRL		ug/L	0.5
75-69-4	Trichlorofluoromethane	BRL		ug/L	0.5
60-29-7	Diethyl Ether	BRL		ug/L	2
75-35-4	1,1-Dichloroethene	BRL		ug/L	0.5
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/L	5
67-64-1	Acetone	BRL		ug/L	10
75-15-0	Carbon Disulfide	BRL		ug/L	5
75-09-2	Methylene Chloride	BRL		ug/L	3
107-13-1	Acrylonitrile	BRL		ug/L	0.5
156-60-5	*trans*-1,2-Dichloroethene	BRL		ug/L	0.5
1634-04-4	Methyl *tert*-butyl Ether (MTBE)	BRL		ug/L	0.5
75-34-3	1,1-Dichloroethane	BRL		ug/L	0.5
594-20-7	2,2-Dichloropropane	BRL		ug/L	0.5
156-59-2	*cis*-1,2-Dichloroethene	BRL		ug/L	0.5
78-93-3	2-Butanone (MEK)	BRL		ug/L	5
74-97-5	Bromochloromethane	BRL		ug/L	0.5
109-99-9	Tetrahydrofuran (THF)	BRL		ug/L	5
67-66-3	Chloroform	BRL		ug/L	0.5
71-55-6	1,1,1-Trichloroethane	BRL		ug/L	0.5
56-23-5	Carbon Tetrachloride	BRL		ug/L	0.5
563-58-6	1,1-Dichloropropene	BRL		ug/L	0.5
71-43-2	Benzene	BRL		ug/L	0.5
107-06-2	1,2-Dichloroethane	BRL		ug/L	0.5
79-01-6	Trichloroethene	BRL		ug/L	0.5
78-87-5	1,2-Dichloropropane	BRL		ug/L	0.5
74-95-3	Dibromomethane	BRL		ug/L	0.5
75-27-4	Bromodichloromethane	BRL		ug/L	0.5
123-91-1	1,4-Dioxane	BRL		ug/L	500
10061-01-5	*cis*-1,3-Dichloropropene	BRL		ug/L	0.4
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/L	5
108-88-3	Toluene	BRL		ug/L	0.5
10061-02-6	*trans*-1,3-Dichloropropene	BRL		ug/L	0.4
79-00-5	1,1,2-Trichloroethane	BRL		ug/L	0.5
127-18-4	Tetrachloroethene	BRL		ug/L	0.5
142-28-9	1,3-Dichloropropane	BRL		ug/L	0.5
591-78-6	2-Hexanone	BRL		ug/L	5
124-48-1	Dibromochloromethane	BRL		ug/L	0.5
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/L	0.5
108-90-7	Chlorobenzene	BRL		ug/L	0.5
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/L	0.5
100-41-4	Ethylbenzene	BRL		ug/L	0.5
108-38-3/106-42-3	*meta*-Xylene and *para*-Xylene	BRL		ug/L	0.5

GROUNDWATER ANALYTICAL

EPA Method 8260B (Continued)
Volatile Organics by GC/MS

Field ID:	**Efflu-W1-021109**	Matrix:	**Aqueous**
Project:	**Ipswich Power Plant/061184**	Container:	**40 mL VOA Vial**
Client:	**Ransom Environmental Consultants, Inc.**	Preservation:	**HCl/ Cool**
Laboratory ID:	**123386-1**	QC Batch ID:	**VM5-3897-W**
Sampled:	**02-11-09 10:15**	Instrument ID:	**MS-5 HP 6890**
Received:	**02-11-09 17:45**	Sample Volume:	**25 mL**
Analyzed:	**02-12-09 14:15**	Dilution Factor:	**1**
Analyst:	**LMG**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
95-47-6	*ortho*-Xylene	BRL		ug/L	0.5
100-42-5	Styrene	BRL		ug/L	0.5
75-25-2	Bromoform	BRL		ug/L	0.5
98-82-8	Isopropylbenzene	BRL		ug/L	0.5
108-86-1	Bromobenzene	BRL		ug/L	0.5
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/L	0.5
96-18-4	1,2,3-Trichloropropane	BRL		ug/L	0.5
110-57-6	*trans*-1,4-Dichloro-2-butene	BRL		ug/L	25
103-65-1	*n*-Propylbenzene	BRL		ug/L	0.5
95-49-8	2-Chlorotoluene	BRL		ug/L	0.5
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/L	0.5
106-43-4	4-Chlorotoluene	BRL		ug/L	0.5
98-06-6	*tert*-Butylbenzene	BRL		ug/L	0.5
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/L	0.5
135-98-8	*sec*-Butylbenzene	BRL		ug/L	0.5
541-73-1	1,3-Dichlorobenzene	BRL		ug/L	0.5
99-87-6	4-Isopropyltoluene	BRL		ug/L	0.5
106-46-7	1,4-Dichlorobenzene	BRL		ug/L	0.5
95-50-1	1,2-Dichlorobenzene	BRL		ug/L	0.5
104-51-8	*n*-Butylbenzene	BRL		ug/L	0.5
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/L	0.5
108-70-3	1,3,5-Trichlorobenzene	BRL		ug/L	0.5
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/L	0.5
87-68-3	Hexachlorobutadiene	BRL		ug/L	0.5
91-20-3	Naphthalene	BRL		ug/L	0.5
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/L	0.5
75-65-0	*tert*-Butyl Alcohol (TBA)	BRL		ug/L	20
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/L	0.5
637-92-3	Ethyl *tert*-butyl Ether (ETBE)	BRL		ug/L	0.5
994-05-8	*tert*-Amyl Methyl Ether (TAME)	BRL		ug/L	0.5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	10	10	**99** %	70 - 130 %
1,2-Dichloroethane-d_4	10	10	**98** %	70 - 130 %
Toluene-d_8	10	10	**101** %	70 - 130 %
4-Bromofluorobenzene	10	9	**87** %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample preparation performed by EPA Method 5030B.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

GROUNDWATER ANALYTICAL

EPA Method 8260B
Volatile Organics by GC/MS

Field ID:	**Influ-W2-021109**	Matrix:	**Aqueous**
Project:	**Ipswich Power Plant/061184**	Container:	**40 mL VOA Vial**
Client:	**Ransom Environmental Consultants, Inc.**	Preservation:	**HCl/ Cool**
Laboratory ID:	**123386-2**	QC Batch ID:	**VM5-3900-W**
Sampled:	**02-11-09 10:45**	Instrument ID:	**MS-5 HP 6890**
Received:	**02-11-09 17:45**	Sample Volume:	**25 mL**
Analyzed:	**02-19-09 15:41**	Dilution Factor:	**1**
Analyst:	**LMG**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/L	0.5
74-87-3	Chloromethane	BRL		ug/L	0.5
75-01-4	Vinyl Chloride	BRL		ug/L	0.5
74-83-9	Bromomethane	BRL		ug/L	0.5
75-00-3	Chloroethane	**3**		ug/L	0.5
75-69-4	Trichlorofluoromethane	BRL		ug/L	0.5
60-29-7	Diethyl Ether	BRL		ug/L	2
75-35-4	1,1-Dichloroethene	BRL		ug/L	0.5
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/L	5
67-64-1	Acetone	BRL		ug/L	10
75-15-0	Carbon Disulfide	BRL		ug/L	5
75-09-2	Methylene Chloride	BRL		ug/L	3
107-13-1	Acrylonitrile	BRL		ug/L	0.5
156-60-5	*trans*-1,2-Dichloroethene	BRL		ug/L	0.5
1634-04-4	Methyl *tert*-butyl Ether (MTBE)	**0.5**		ug/L	0.5
75-34-3	1,1-Dichloroethane	**2**		ug/L	0.5
594-20-7	2,2-Dichloropropane	BRL		ug/L	0.5
156-59-2	*cis*-1,2-Dichloroethene	BRL		ug/L	0.5
78-93-3	2-Butanone (MEK)	BRL		ug/L	5
74-97-5	Bromochloromethane	BRL		ug/L	0.5
109-99-9	Tetrahydrofuran (THF)	BRL		ug/L	5
67-66-3	Chloroform	BRL		ug/L	0.5
71-55-6	1,1,1-Trichloroethane	**2**		ug/L	0.5
56-23-5	Carbon Tetrachloride	BRL		ug/L	0.5
563-58-6	1,1-Dichloropropene	BRL		ug/L	0.5
71-43-2	Benzene	BRL		ug/L	0.5
107-06-2	1,2-Dichloroethane	BRL		ug/L	0.5
79-01-6	Trichloroethene	**1**		ug/L	0.5
78-87-5	1,2-Dichloropropane	BRL		ug/L	0.5
74-95-3	Dibromomethane	BRL		ug/L	0.5
75-27-4	Bromodichloromethane	BRL		ug/L	0.5
123-91-1	1,4-Dioxane	BRL		ug/L	500
10061-01-5	*cis*-1,3-Dichloropropene	BRL		ug/L	0.4
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/L	5
108-88-3	Toluene	BRL		ug/L	0.5
10061-02-6	*trans*-1,3-Dichloropropene	BRL		ug/L	0.4
79-00-5	1,1,2-Trichloroethane	BRL		ug/L	0.5
127-18-4	Tetrachloroethene	BRL		ug/L	0.5
142-28-9	1,3-Dichloropropane	BRL		ug/L	0.5
591-78-6	2-Hexanone	BRL		ug/L	5
124-48-1	Dibromochloromethane	BRL		ug/L	0.5
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/L	0.5
108-90-7	Chlorobenzene	BRL		ug/L	0.5
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/L	0.5
100-41-4	Ethylbenzene	BRL		ug/L	0.5
108-38-3/106-42-3	*meta*-Xylene and *para*-Xylene	BRL		ug/L	0.5

GROUNDWATER ANALYTICAL

EPA Method 8260B (Continued)
Volatile Organics by GC/MS

Field ID:	**Influ-W2-021109**	Matrix:	**Aqueous**
Project:	**Ipswich Power Plant/061184**	Container:	**40 mL VOA Vial**
Client:	**Ransom Environmental Consultants, Inc.**	Preservation:	**HCl/ Cool**
Laboratory ID:	**123386-2**	QC Batch ID:	**VM5-3900-W**
Sampled:	**02-11-09 10:45**	Instrument ID:	**MS-5 HP 6890**
Received:	**02-11-09 17:45**	Sample Volume:	**25 mL**
Analyzed:	**02-19-09 15:41**	Dilution Factor:	**1**
Analyst:	**LMG**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
95-47-6	*ortho*-Xylene	BRL		ug/L	0.5
100-42-5	Styrene	BRL		ug/L	0.5
75-25-2	Bromoform	BRL		ug/L	0.5
98-82-8	Isopropylbenzene	BRL		ug/L	0.5
108-86-1	Bromobenzene	BRL		ug/L	0.5
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/L	0.5
96-18-4	1,2,3-Trichloropropane	BRL		ug/L	0.5
110-57-6	*trans*-1,4-Dichloro-2-butene	BRL		ug/L	25
103-65-1	*n*-Propylbenzene	BRL		ug/L	0.5
95-49-8	2-Chlorotoluene	BRL		ug/L	0.5
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/L	0.5
106-43-4	4-Chlorotoluene	BRL		ug/L	0.5
98-06-6	*tert*-Butylbenzene	BRL		ug/L	0.5
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/L	0.5
135-98-8	*sec*-Butylbenzene	BRL		ug/L	0.5
541-73-1	1,3-Dichlorobenzene	BRL		ug/L	0.5
99-87-6	4-Isopropyltoluene	BRL		ug/L	0.5
106-46-7	1,4-Dichlorobenzene	BRL		ug/L	0.5
95-50-1	1,2-Dichlorobenzene	BRL		ug/L	0.5
104-51-8	*n*-Butylbenzene	BRL		ug/L	0.5
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/L	0.5
108-70-3	1,3,5-Trichlorobenzene	BRL		ug/L	0.5
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/L	0.5
87-68-3	Hexachlorobutadiene	BRL		ug/L	0.5
91-20-3	Naphthalene	**2**		ug/L	0.5
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/L	0.5
75-65-0	*tert*-Butyl Alcohol (TBA)	BRL		ug/L	20
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/L	0.5
637-92-3	Ethyl *tert*-butyl Ether (ETBE)	BRL		ug/L	0.5
994-05-8	*tert*-Amyl Methyl Ether (TAME)	BRL		ug/L	0.5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	10	9	**87** %	70 - 130 %
1,2-Dichloroethane-d_4	10	9	**90** %	70 - 130 %
Toluene-d_8	10	9	**91** %	70 - 130 %
4-Bromofluorobenzene	10	9	**92** %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample preparation performed by EPA Method 5030B.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

GROUNDWATER ANALYTICAL

EPA Method 504.1
EDB and DBCP by GC/ECD

Field ID:	**Efflu-W1-021109**	Matrix:	**Aqueous**
Project:	**Ipswich Power Plant/61184**	Container:	**40 mL VOA Vial**
Client:	**Ransom Environmental Consultants, Inc.**	Preservation:	**Cool**
Laboratory ID:	**123386-03**	QC Batch ID:	**PV-0948-E**
Sampled:	**02-11-09 10:15**	Instrument ID:	**GC-5 HP 5890**
Received:	**02-11-09 17:45**	Sample Volume:	**35 mL**
Extracted:	**02-12-09 15:30**	Final Volume:	**1 mL**
Analyzed:	**02-13-09 05:36**	Dilution Factor:	**1**
Analyst:	**AWG**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/L	0.02
96-12-8	1,2-Dibromo-3-Chloropropane (DBCP)	BRL		ug/L	0.02

Method Reference: Methods for the Determination of Organic Compounds in Drinking Water, Supplement III, US EPA, EPA-600/R-95/131 (1995). Method Revision 1.1.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

GROUNDWATER ANALYTICAL

EPA Method 504.1
EDB and DBCP by GC/ECD

Field ID:	**Influ-W2-021109**	Matrix:	**Aqueous**
Project:	**Ipswich Power Plant/61184**	Container:	**40 mL VOA Vial**
Client:	**Ransom Environmental Consultants, Inc.**	Preservation:	**Cool**
Laboratory ID:	**123386-04**	QC Batch ID:	**PV-0948-E**
Sampled:	**02-11-09 10:45**	Instrument ID:	**GC-5 HP 5890**
Received:	**02-11-09 17:45**	Sample Volume:	**35 mL**
Extracted:	**02-12-09 15:30**	Final Volume:	**1 mL**
Analyzed:	**02-13-09 06:07**	Dilution Factor:	**1**
Analyst:	**AWG**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/L	0.02
96-12-8	1,2-Dibromo-3-Chloropropane (DBCP)	BRL		ug/L	0.02

Method Reference: Methods for the Determination of Organic Compounds in Drinking Water, Supplement III, US EPA, EPA-600/R-95/131 (1995). Method Revision 1.1.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

GROUNDWATER ANALYTICAL

EPA Method 8270C
Semivolatile Organics by GC/MS (Part 1)

Field ID:	**Efflu-W1-021109**	Matrix:	**Aqueous**
Project:	**Ipswich Power Plant/61184**	Container:	**1 L Amber Glass**
Client:	**Ransom Environmental Consultants, Inc.**	Preservation:	**Cool**
Laboratory ID:	**123386-05**	QC Batch ID:	**SV-2358-F**
Sampled:	**02-11-09 10:15**	Instrument ID:	**MS-3 HP 5890**
Received:	**02-11-09 17:45**	Sample Volume:	**990 mL**
Extracted:	**02-18-09 17:00**	Final Volume:	**1 mL**
Analyzed:	**02-19-09 14:39**	Dilution Factor:	**1**
Analyst:	**MJB**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
62-75-9	N-Nitrosodimethylamine	BRL		ug/L	5
110-86-1	Pyridine	BRL		ug/L	5
108-95-2	Phenol	BRL		ug/L	5
62-53-3	Aniline	BRL		ug/L	5
111-44-4	Bis(2-chloroethyl) ether	BRL		ug/L	5
95-57-8	2-Chlorophenol	BRL		ug/L	5
541-73-1	1,3-Dichlorobenzene	BRL		ug/L	5
106-46-7	1,4-Dichlorobenzene	BRL		ug/L	5
100-51-6	Benzyl Alcohol	BRL		ug/L	5
95-50-1	1,2-Dichlorobenzene	BRL		ug/L	5
95-48-7	2-Methylphenol	BRL		ug/L	5
108-60-1	Bis(2-chloroisopropyl) ether	BRL		ug/L	5
108-39-4/106-44-5	3 and 4-Methylphenol *	BRL		ug/L	5
621-64-7	N-Nitrosodi-n-propylamine	BRL		ug/L	5
98-86-2	Acetophenone	BRL		ug/L	5
67-72-1	Hexachloroethane	BRL		ug/L	5
98-95-3	Nitrobenzene	BRL		ug/L	5
78-59-1	Isophorone	BRL		ug/L	5
88-75-5	2-Nitrophenol	BRL		ug/L	5
105-67-9	2,4-Dimethylphenol	BRL		ug/L	5
111-91-1	Bis(2-chloroethoxy) methane	BRL		ug/L	5
120-83-2	2,4-Dichlorophenol	BRL		ug/L	5
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/L	5
106-47-8	4-Chloroaniline	BRL		ug/L	5
87-68-3	Hexachlorobutadiene	BRL		ug/L	5
59-50-7	4-Chloro-3-methylphenol	BRL		ug/L	5
77-47-4	Hexachlorocyclopentadiene	BRL		ug/L	5
88-06-2	2,4,6-Trichlorophenol	BRL		ug/L	5
95-95-4	2,4,5-Trichlorophenol	BRL		ug/L	5
91-58-7	2-Chloronaphthalene	BRL		ug/L	5
88-74-4	2-Nitroaniline	BRL		ug/L	5
100-25-4	1,4-Dinitrobenzene	BRL		ug/L	5
131-11-3	Dimethyl phthalate	BRL		ug/L	5
99-65-0	1,3-Dinitrobenzene	BRL		ug/L	5
606-20-2	2,6-Dinitrotoluene	BRL		ug/L	5
528-29-0	1,2-Dinitrobenzene	BRL		ug/L	5
99-09-2	3-Nitroaniline	BRL		ug/L	5
51-28-5	2,4-Dinitrophenol	BRL		ug/L	5
100-02-7	4-Nitrophenol	BRL		ug/L	5
132-64-9	Dibenzofuran	BRL		ug/L	5
121-14-2	2,4-Dinitrotoluene	BRL		ug/L	5
84-66-2	Diethyl phthalate	BRL		ug/L	5
7005-72-3	4-Chlorophenyl phenyl ether	BRL		ug/L	5
100-01-6	4-Nitroaniline	BRL		ug/L	5
534-52-1	4,6-Dinitro-2-methylphenol	BRL		ug/L	5

GROUNDWATER ANALYTICAL

EPA Method 8270C (Continued)
Semivolatile Organics by GC/MS (Part 1)

Field ID:	**Efflu-W1-021109**	Matrix:	**Aqueous**
Project:	**Ipswich Power Plant/61184**	Container:	**1 L Amber Glass**
Client:	**Ransom Environmental Consultants, Inc.**	Preservation:	**Cool**
Laboratory ID:	**123386-05**	QC Batch ID:	**SV-2358-F**
Sampled:	**02-11-09 10:15**	Instrument ID:	**MS-3 HP 5890**
Received:	**02-11-09 17:45**	Sample Volume:	**990 mL**
Extracted:	**02-18-09 17:00**	Final Volume:	**1 mL**
Analyzed:	**02-19-09 14:39**	Dilution Factor:	**1**
Analyst:	**MJB**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
86-30-6	N-Nitrosodiphenylamine †	BRL		ug/L	5
122-66-7	1,2-Diphenylhydrazine ◊	BRL		ug/L	5
101-55-3	4-Bromophenyl phenyl ether	BRL		ug/L	5
86-74-8	Carbazole	BRL		ug/L	5
84-74-2	Di-*n*-butyl phthalate	BRL		ug/L	5
85-68-7	Butyl benzyl phthalate	BRL		ug/L	5
91-94-1	3,3'-Dichlorobenzidine	BRL		ug/L	5
117-81-7	Bis(2-ethylhexyl) phthalate	BRL		ug/L	5
117-84-0	Di-*n*-octyl phthalate	BRL		ug/L	5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2-Fluorophenol	20	10	**48** %	15 - 110 %
Phenol-d5	20	9	**44** %	15 - 110 %
Nitrobenzene-d5	10	7	**74** %	30 - 130 %
2-Fluorobiphenyl	10	8	**77** %	30 - 130 %
2,4,6-Tribromophenol	20	17	**86** %	15 - 110 %
Terphenyl-d14	10	9	**87** %	30 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3510C.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

* Analyzed as 4-Methylphenol.

† Reported as sum of N-Nitrosodiphenylamine and Diphenylamine.

◊ Analyzed as Azobenzene.

GROUNDWATER ANALYTICAL

EPA Method 8270C
Semivolatile Organics by GC/MS-SIM (Part 2)

Field ID:	**Efflu-W1-021109**	Matrix:	**Aqueous**
Project:	**Ipswich Power Plant/61184**	Container:	**1 L Amber Glass**
Client:	**Ransom Environmental Consultants, Inc.**	Preservation:	**Cool**
Laboratory ID:	**123386-05**	QC Batch ID:	**SV-2358-F**
Sampled:	**02-11-09 10:15**	Instrument ID:	**MS-6 HP 6890**
Received:	**02-11-09 17:45**	Sample Volume:	**990 mL**
Extracted:	**02-18-09 17:00**	Final Volume:	**1 mL**
Analyzed:	**02-19-09 15:26**	Dilution Factor:	**1**
Analyst:	**MJB**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		ug/L	0.5
91-57-6	2-Methylnaphthalene	BRL		ug/L	0.5
208-96-8	Acenaphthylene	BRL		ug/L	0.5
83-32-9	Acenaphthene	BRL		ug/L	0.5
86-73-7	Fluorene	BRL		ug/L	0.5
85-01-8	Phenanthrene	BRL		ug/L	0.5
120-12-7	Anthracene	BRL		ug/L	0.5
206-44-0	Fluoranthene	BRL		ug/L	0.5
129-00-0	Pyrene	BRL		ug/L	0.5
56-55-3	Benzo[a]anthracene	BRL		ug/L	0.1
218-01-9	Chrysene	BRL		ug/L	0.1
205-99-2	Benzo[b]fluoranthene	BRL		ug/L	0.1
207-08-9	Benzo[k]fluoranthene	BRL		ug/L	0.1
50-32-8	Benzo[a]pyrene	BRL		ug/L	0.1
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/L	0.1
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/L	0.1
191-24-2	Benzo[g,h,i]perylene	BRL		ug/L	0.1
87-68-3	Hexachlorobutadiene	BRL		ug/L	0.5
118-74-1	Hexachlorobenzene	BRL		ug/L	0.5
87-86-5	Pentachlorophenol	BRL		ug/L	1.0

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2-Fluorophenol	20	10	**51** %	15 - 110 %
Phenol-d5	20	9.1	**45** %	15 - 110 %
Nitrobenzene-d5	10	7.1	**70** %	30 - 130 %
2-Fluorobiphenyl	10	7.9	**78** %	30 - 130 %
2,4,6-Tribromophenol	20	16	**77** %	15 - 110 %
Terphenyl-d14	10	7.5	**74** %	30 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method.
Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

GROUNDWATER ANALYTICAL

EPA Method 8270C
Semivolatile Organics by GC/MS (Part 1)

Field ID:	**Influ-W2-021109**	Matrix:	**Aqueous**
Project:	**Ipswich Power Plant/61184**	Container:	**1 L Amber Glass**
Client:	**Ransom Environmental Consultants, Inc.**	Preservation:	**Cool**
Laboratory ID:	**123386-06**	QC Batch ID:	**SV-2358-F**
Sampled:	**02-11-09 10:45**	Instrument ID:	**MS-3 HP 5890**
Received:	**02-11-09 17:45**	Sample Volume:	**1,000 mL**
Extracted:	**02-18-09 17:00**	Final Volume:	**1 mL**
Analyzed:	**02-19-09 13:16**	Dilution Factor:	**1**
Analyst:	**MJB**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
62-75-9	N-Nitrosodimethylamine	BRL		ug/L	5
110-86-1	Pyridine	BRL		ug/L	5
108-95-2	Phenol	BRL		ug/L	5
62-53-3	Aniline	BRL		ug/L	5
111-44-4	Bis(2-chloroethyl) ether	BRL		ug/L	5
95-57-8	2-Chlorophenol	BRL		ug/L	5
541-73-1	1,3-Dichlorobenzene	BRL		ug/L	5
106-46-7	1,4-Dichlorobenzene	BRL		ug/L	5
100-51-6	Benzyl Alcohol	BRL		ug/L	5
95-50-1	1,2-Dichlorobenzene	BRL		ug/L	5
95-48-7	2-Methylphenol	BRL		ug/L	5
108-60-1	Bis(2-chloroisopropyl) ether	BRL		ug/L	5
108-39-4/106-44-5	3 and 4-Methylphenol *	BRL		ug/L	5
621-64-7	N-Nitrosodi-n-propylamine	BRL		ug/L	5
98-86-2	Acetophenone	BRL		ug/L	5
67-72-1	Hexachloroethane	BRL		ug/L	5
98-95-3	Nitrobenzene	BRL		ug/L	5
78-59-1	Isophorone	BRL		ug/L	5
88-75-5	2-Nitrophenol	BRL		ug/L	5
105-67-9	2,4-Dimethylphenol	BRL		ug/L	5
111-91-1	Bis(2-chloroethoxy) methane	BRL		ug/L	5
120-83-2	2,4-Dichlorophenol	BRL		ug/L	5
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/L	5
106-47-8	4-Chloroaniline	BRL		ug/L	5
87-68-3	Hexachlorobutadiene	BRL		ug/L	5
59-50-7	4-Chloro-3-methylphenol	BRL		ug/L	5
77-47-4	Hexachlorocyclopentadiene	BRL		ug/L	5
88-06-2	2,4,6-Trichlorophenol	BRL		ug/L	5
95-95-4	2,4,5-Trichlorophenol	BRL		ug/L	5
91-58-7	2-Chloronaphthalene	BRL		ug/L	5
88-74-4	2-Nitroaniline	BRL		ug/L	5
100-25-4	1,4-Dinitrobenzene	BRL		ug/L	5
131-11-3	Dimethyl phthalate	BRL		ug/L	5
99-65-0	1,3-Dinitrobenzene	BRL		ug/L	5
606-20-2	2,6-Dinitrotoluene	BRL		ug/L	5
528-29-0	1,2-Dinitrobenzene	BRL		ug/L	5
99-09-2	3-Nitroaniline	BRL		ug/L	5
51-28-5	2,4-Dinitrophenol	BRL		ug/L	5
100-02-7	4-Nitrophenol	BRL		ug/L	5
132-64-9	Dibenzofuran	BRL		ug/L	5
121-14-2	2,4-Dinitrotoluene	BRL		ug/L	5
84-66-2	Diethyl phthalate	BRL		ug/L	5
7005-72-3	4-Chlorophenyl phenyl ether	BRL		ug/L	5
100-01-6	4-Nitroaniline	BRL		ug/L	5
534-52-1	4,6-Dinitro-2-methylphenol	BRL		ug/L	5

GROUNDWATER ANALYTICAL

EPA Method 8270C (Continued)
Semivolatile Organics by GC/MS (Part 1)

Field ID:	**Influ-W2-021109**	Matrix:	**Aqueous**
Project:	**Ipswich Power Plant/61184**	Container:	**1 L Amber Glass**
Client:	**Ransom Environmental Consultants, Inc.**	Preservation:	**Cool**
Laboratory ID:	**123386-06**	QC Batch ID:	**SV-2358-F**
Sampled:	**02-11-09 10:45**	Instrument ID:	**MS-3 HP 5890**
Received:	**02-11-09 17:45**	Sample Volume:	**1,000 mL**
Extracted:	**02-18-09 17:00**	Final Volume:	**1 mL**
Analyzed:	**02-19-09 13:16**	Dilution Factor:	**1**
Analyst:	**MJB**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
86-30-6	N-Nitrosodiphenylamine †	BRL		ug/L	5
122-66-7	1,2-Diphenylhydrazine ◊	BRL		ug/L	5
101-55-3	4-Bromophenyl phenyl ether	BRL		ug/L	5
86-74-8	Carbazole	BRL		ug/L	5
84-74-2	Di-*n*-butyl phthalate	BRL		ug/L	5
85-68-7	Butyl benzyl phthalate	BRL		ug/L	5
91-94-1	3,3'-Dichlorobenzidine	BRL		ug/L	5
117-81-7	Bis(2-ethylhexyl) phthalate	BRL		ug/L	5
117-84-0	Di-*n*-octyl phthalate	BRL		ug/L	5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2-Fluorophenol	20	10	**49** %	15 - 110 %
Phenol-d5	20	8	**42** %	15 - 110 %
Nitrobenzene-d5	10	7	**73** %	30 - 130 %
2-Fluorobiphenyl	10	8	**83** %	30 - 130 %
2,4,6-Tribromophenol	20	20	**101** %	15 - 110 %
Terphenyl-d14	10	8	**79** %	30 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3510C.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

* Analyzed as 4-Methylphenol.

† Reported as sum of N-Nitrosodiphenylamine and Diphenylamine.

◊ Analyzed as Azobenzene.

GROUNDWATER ANALYTICAL

EPA Method 8270C
Semivolatile Organics by GC/MS-SIM (Part 2)

Field ID:	**Influ-W2-021109**	Matrix:	**Aqueous**
Project:	**Ipswich Power Plant/61184**	Container:	**1 L Amber Glass**
Client:	**Ransom Environmental Consultants, Inc.**	Preservation:	**Cool**
Laboratory ID:	**123386-06**	QC Batch ID:	**SV-2358-F**
Sampled:	**02-11-09 10:45**	Instrument ID:	**MS-6 HP 6890**
Received:	**02-11-09 17:45**	Sample Volume:	**1,000 mL**
Extracted:	**02-18-09 17:00**	Final Volume:	**1 mL**
Analyzed:	**02-19-09 16:47**	Dilution Factor:	**1**
Analyst:	**MJB**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		ug/L	0.5
91-57-6	2-Methylnaphthalene	BRL		ug/L	0.5
208-96-8	Acenaphthylene	BRL		ug/L	0.5
83-32-9	Acenaphthene	BRL		ug/L	0.5
86-73-7	Fluorene	BRL		ug/L	0.5
85-01-8	Phenanthrene	BRL		ug/L	0.5
120-12-7	Anthracene	BRL		ug/L	0.5
206-44-0	Fluoranthene	BRL		ug/L	0.5
129-00-0	Pyrene	BRL		ug/L	0.5
56-55-3	Benzo[a]anthracene	BRL		ug/L	0.1
218-01-9	Chrysene	BRL		ug/L	0.1
205-99-2	Benzo[b]fluoranthene	BRL		ug/L	0.1
207-08-9	Benzo[k]fluoranthene	BRL		ug/L	0.1
50-32-8	Benzo[a]pyrene	BRL		ug/L	0.1
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/L	0.1
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/L	0.1
191-24-2	Benzo[g,h,i]perylene	BRL		ug/L	0.1
87-68-3	Hexachlorobutadiene	BRL		ug/L	0.5
118-74-1	Hexachlorobenzene	BRL		ug/L	0.5
87-86-5	Pentachlorophenol	BRL		ug/L	1.0

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2-Fluorophenol	20	10	**51** %	15 - 110 %
Phenol-d5	20	8.4	**42** %	15 - 110 %
Nitrobenzene-d5	10	6.9	**69** %	30 - 130 %
2-Fluorobiphenyl	10	7.6	**76** %	30 - 130 %
2,4,6-Tribromophenol	20	19	**95** %	15 - 110 %
Terphenyl-d14	10	6.6	**66** %	30 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method.
Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

GROUNDWATER ANALYTICAL

EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	**Efflu-W1-021109**	Matrix:	**Aqueous**
Project:	**Ipswich Power Plant/061184**	Container:	**1 L Amber Glass**
Client:	**Ransom Environmental Consultants, Inc.**	Preservation:	**Cool**
Laboratory ID:	**123386-07**	QC Batch ID:	**PB-2500-F**
Sampled:	**02-11-09 10:15**	Instrument ID:	**GC-11 Agilent 6890**
Received:	**02-11-09 17:45**	Sample Weight:	**1000 mL**
Extracted:	**02-13-09 19:00**	Final Volume:	**1 mL**
Cleaned Up:	**02-19-09 07:30**	Dilution Factor:	**1**
Analyzed:	**02-19-09 20:09**		
Analyst:	**AWG**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/L	0.2
11104-28-2	Aroclor 1221	BRL		ug/L	0.2
11141-16-5	Aroclor 1232	BRL		ug/L	0.2
53469-21-9	Aroclor 1242	BRL		ug/L	0.2
12672-29-6	Aroclor 1248	BRL		ug/L	0.2
11097-69-1	Aroclor 1254	BRL		ug/L	0.2
11096-82-5	Aroclor 1260	BRL		ug/L	0.2
37324-23-5	Aroclor 1262 †	BRL		ug/L	0.2
11100-14-4	Aroclor 1268 †	BRL		ug/L	0.2

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First	Tetrachloro-*m*-xylene	0.20	0.19	**94** %	30 - 150 %
Column	Decachlorobiphenyl	0.20	0.19	**97** %	30 - 150 %
Second	Tetrachloro-*m*-xylene	0.20	0.21	**106** %	30 - 150 %
Column	Decachlorobiphenyl	0.20	0.20	**100** %	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3510C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

GROUNDWATER ANALYTICAL

EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	**Influ-W2-021109**	Matrix:	**Aqueous**
Project:	**Ipswich Power Plant/061184**	Container:	**1 L Amber Glass**
Client:	**Ransom Environmental Consultants, Inc.**	Preservation:	**Cool**
Laboratory ID:	**123386-08**	QC Batch ID:	**PB-2500-F**
Sampled:	**02-11-09 10:45**	Instrument ID:	**GC-11 Agilent 6890**
Received:	**02-11-09 17:45**	Sample Weight:	**1000 mL**
Extracted:	**02-13-09 19:00**	Final Volume:	**1 mL**
Cleaned Up:	**02-19-09 07:30**	Dilution Factor:	**1**
Analyzed:	**02-19-09 20:56**		
Analyst:	**AWG**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/L	0.2
11104-28-2	Aroclor 1221	BRL		ug/L	0.2
11141-16-5	Aroclor 1232	BRL		ug/L	0.2
53469-21-9	Aroclor 1242	BRL		ug/L	0.2
12672-29-6	Aroclor 1248	BRL		ug/L	0.2
11097-69-1	Aroclor 1254	BRL		ug/L	0.2
11096-82-5	Aroclor 1260	BRL		ug/L	0.2
37324-23-5	Aroclor 1262 †	BRL		ug/L	0.2
11100-14-4	Aroclor 1268 †	BRL		ug/L	0.2

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First	Tetrachloro-*m*-xylene	0.20	0.15	**75** %	30 - 150 %
Column	Decachlorobiphenyl	0.20	0.18	**91** %	30 - 150 %
Second	Tetrachloro-*m*-xylene	0.20	0.16	**78** %	30 - 150 %
Column	Decachlorobiphenyl	0.20	0.18	**92** %	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3510C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

GROUNDWATER ANALYTICAL

Trace Metals

Field ID:	**Efflu-W1-021109**	Matrix:	**Aqueous**
Project:	**Ipswich Power Plant/061184**	Container:	**500 mL Plastic**
Client:	**Ransom Environmental Consultants, Inc.**	Preservation:	**HNO3 / Cool**
Laboratory ID:	**123386-9**	Preserved:	**02-11-09 10:15**
Sampled:	**02-11-09 10:15**		
Received:	**02-11-09 17:45**		

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Volume	Instrument ID	Analyst
EPA 200.8[1]	MB-3633-W	EPA 200.8	02-12-09 09:46	50 mL	ICP-MS PE ELAN 9000	MFP
EPA 200.7[2]	MB-3633-W	EPA 200.7	02-12-09 09:46	50 mL	ICP-1 PE 3000	MFP
EPA 245.1[3]	MP-2175-W	EPA 245.1	02-12-09 11:30	25 mL	CVAA-1 PE FIMS	DET

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-36-0	Antimony, Total	BRL		mg/L	0.003	1	02-18-09 00:00	EPA 200.8[1]
7440-38-2	Arsenic, Total	BRL		mg/L	0.005	1	02-18-09 00:00	EPA 200.8[1]
7440-43-9	Cadmium, Total	BRL		mg/L	0.0002	1	02-18-09 17:45	EPA 200.8[1]
7440-47-3	Chromium, Total	BRL		mg/L	0.01	1	02-18-09 17:44	EPA 200.7[2]
7440-50-8	Copper, Total	**0.005**		mg/L	0.003	1	02-18-09 17:44	EPA 200.8[1]
7439-89-6	Iron, Total	BRL		mg/L	0.1	1	02-18-09 17:45	EPA 200.7[2]
7439-92-1	Lead, Total	BRL		mg/L	0.001	1	02-18-09 00:00	EPA 200.8[1]
7439-97-6	Mercury, Total	BRL		mg/L	0.0002	1	02-12-09 16:41	EPA 245.1[3]
7440-02-0	Nickel, Total	BRL		mg/L	0.008	1	02-18-09 17:44	EPA 200.8[1]
7782-49-2	Selenium, Total	BRL		mg/L	0.005	1	02-18-09 00:00	EPA 200.8[1]
7440-22-4	Silver, Total	BRL		mg/L	0.001	1	02-18-09 17:44	EPA 200.8[1]
7440-66-6	Zinc, Total	BRL		mg/L	0.2	1	02-18-09 17:44	EPA 200.7[2]

Method Reference: Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised (1983), and Methods for the Determination of Metals in Environmental Samples, Supplement I, EPA-600/R-94-111, (1994), and 40 C.F.R. 136, Appendix C (1990).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

DF Dilution Factor.

GROUNDWATER ANALYTICAL

Trace Metals

Field ID:	**Influ-W2-021109**	Matrix:	**Aqueous**
Project:	**Ipswich Power Plant/061184**	Container:	**500 mL Plastic**
Client:	**Ransom Environmental Consultants, Inc.**	Preservation:	**HNO3 / Cool**
Laboratory ID:	**123386-10**	Preserved:	**02-11-09 10:45**
Sampled:	**02-11-09 10:45**		
Received:	**02-11-09 17:45**		

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Volume	Instrument ID	Analyst
EPA 200.8[1]	MB-3633-W	EPA 200.8	02-12-09 09:46	50 mL	ICP-MS PE ELAN 9000	MFP
EPA 200.7[2]	MB-3633-W	EPA 200.7	02-12-09 09:46	50 mL	ICP-1 PE 3000	MFP
EPA 245.1[3]	MP-2175-W	EPA 245.1	02-12-09 11:30	25 mL	CVAA-1 PE FIMS	DET

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-36-0	Antimony, Total	BRL		mg/L	0.003	1	02-18-09 00:00	EPA 200.8[1]
7440-38-2	Arsenic, Total	**0.008**		mg/L	0.005	1	02-18-09 00:00	EPA 200.8[1]
7440-43-9	Cadmium, Total	BRL		mg/L	0.0002	1	02-18-09 17:55	EPA 200.8[1]
7440-47-3	Chromium, Total	BRL		mg/L	0.01	1	02-18-09 17:55	EPA 200.7[2]
7440-50-8	Copper, Total	**0.037**		mg/L	0.003	1	02-18-09 17:54	EPA 200.8[1]
7439-89-6	Iron, Total	**9.8**		mg/L	0.1	1	02-18-09 17:54	EPA 200.7[2]
7439-92-1	Lead, Total	**0.007**		mg/L	0.001	1	02-18-09 00:00	EPA 200.8[1]
7439-97-6	Mercury, Total	BRL		mg/L	0.0002	1	02-12-09 16:45	EPA 245.1[3]
7440-02-0	Nickel, Total	**0.010**		mg/L	0.008	1	02-18-09 17:55	EPA 200.8[1]
7782-49-2	Selenium, Total	BRL		mg/L	0.005	1	02-18-09 00:00	EPA 200.8[1]
7440-22-4	Silver, Total	BRL		mg/L	0.001	1	02-18-09 17:54	EPA 200.8[1]
7440-66-6	Zinc, Total	BRL		mg/L	0.2	1	02-18-09 17:54	EPA 200.7[2]

Method Reference: Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised (1983), and Methods for the Determination of Metals in Environmental Samples, Supplement I, EPA-600/R-94-111, (1994), and 40 C.F.R. 136, Appendix C (1990).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

DF Dilution Factor.

GROUNDWATER ANALYTICAL

EPA Method 8015B (Modified)
Total Petroleum Hydrocarbons by GC/FID

Field ID:	**Efflu-W1-021109**	Matrix:	**Aqueous**
Project:	**Ipswich Power Plant/061184**	Container:	**1 L Amber Glass**
Client:	**Ransom Environmental Consultants, Inc.**	Preservation:	**H2SO4/ Cool**
Laboratory ID:	**123386-11**	QC Batch ID:	**HF-2102-F**
Sampled:	**02-11-09 10:15**	Instrument ID:	**GC4 HP 5890**
Received:	**02-11-09 17:45**	Sample Volume:	**990 mL**
Extracted:	**02-18-09 20:00**	Final Volume:	**1 mL**
Analyzed:	**02-20-09 02:38**	Dilution Factor:	**1**
Analyst:	**MB**		

Analyte	Concentration	Notes	Units	Reporting Limit
Total Petroleum Hydrocarbons	BRL		mg/L	0.2

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
ortho-Terphenyl	0.040	0.039	**96** %	60 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Method modified to quantify total petroleum hydrocarbons in the range n-C 9 through n-C 36. Results are quantified on the basis of a series of aromatic and aliphatic hydrocarbons, using 5-alpha-androstane as an internal standard.
Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

GROUNDWATER ANALYTICAL

EPA Method 8015B (Modified)
Total Petroleum Hydrocarbons by GC/FID

Field ID:	**Influ-W2-021109**	Matrix:	**Aqueous**
Project:	**Ipswich Power Plant/061184**	Container:	**1 L Amber Glass**
Client:	**Ransom Environmental Consultants, Inc.**	Preservation:	**H2SO4/ Cool**
Laboratory ID:	**123386-12**	QC Batch ID:	**HF-2102-F**
Sampled:	**02-11-09 10:45**	Instrument ID:	**GC4 HP 5890**
Received:	**02-11-09 17:45**	Sample Volume:	**990 mL**
Extracted:	**02-18-09 20:00**	Final Volume:	**1 mL**
Analyzed:	**02-20-09 04:27**	Dilution Factor:	**1**
Analyst:	**MB**		

Analyte	Concentration	Notes	Units	Reporting Limit
Total Petroleum Hydrocarbons	**2.3**		mg/L	0.2

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
ortho-Terphenyl	0.040	0.034	**83** %	60 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Method modified to quantify total petroleum hydrocarbons in the range n-C 9 through n-C 36. Results are quantified on the basis of a series of aromatic and aliphatic hydrocarbons, using 5-alpha-androstane as an internal standard.
Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

GROUNDWATER ANALYTICAL

Inorganic Chemistry

Field ID: **Efflu-W1-021109** Matrix: **Aqueous**
Project: **Ipswich Power Plant/061184** Received: **02-11-09 17:45**
Client: **Ransom Environmental Consultants, Inc.**

Lab ID: **123386-13** Sampled: **02-11-09 10:15** Container: **1L Plastic** Preservation: **Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Solids, Total Suspended	BRL	mg/L	10	5	100 mL	02-13-09 16:24	TSS-1583-W	SM 2540 D	4	KG
pH	**7.2**	pH	NA	1	50 mL	02-11-09 20:49	PH-2715-W	SM 4500-H+B	3	KG
Chromium, Hexavalent	BRL	mg/L	0.01	1	5 mL	02-12-09 10:00	HC-0149-W	EPA 7196A	2	JK

Lab ID: **123386-15** Sampled: **02-11-09 10:15** Container: **250 mL Glass** Preservation: **Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Chlorine, Total Residual	BRL	mg/L	0.2	1	5 mL	02-11-09 21:00	TRC-0741-W	SM 4500-Cl G	2	LD

Lab ID: **123386-17** Sampled: **02-11-09 10:15** Container: **500 mL Plastic** Preservation: **NaOH/Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Cyanide, Total	BRL	mg/L	0.01	1	50 mL	02-14-09 11:35	TCN-1481-W	EPA 9012A	1	JR

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

RL Reporting Limit.

DF Dilution Factor.

1 Instrument ID: Lachat 8000 Autoanalyzer

2 Instrument ID: Thermo Electron Genesys 20

3 Instrument ID: Accumet AR50

4 Instrument ID: Mettler AT 200 Balance

GROUNDWATER ANALYTICAL

Inorganic Chemistry

Field ID: **Influ-W2-021109** Matrix: **Aqueous**
Project: **Ipswich Power Plant/061184** Received: **02-11-09 17:45**
Client: **Ransom Environmental Consultants, Inc.**

Lab ID: **123386-14** Sampled: **02-11-09 10:45** Container: **1L Plastic** Preservation: **Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Solids, Total Suspended	**11**	mg/L	10	5	100 mL	02-13-09 16:24	TSS-1583-W	SM 2540 D	4	KG
pH	**7.0**	pH	NA	1	50 mL	02-11-09 20:51	PH-2715-W	SM 4500-H+B	3	KG
Chromium, Hexavalent	BRL	mg/L	0.01	1	5 mL	02-12-09 10:00	HC-0149-W	EPA 7196A	2	JK

Lab ID: **123386-16** Sampled: **02-11-09 10:45** Container: **250 mL Glass** Preservation: **Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Chlorine, Total Residual	BRL	mg/L	0.2	1	5 mL	02-11-09 21:00	TRC-0741-W	SM 4500-Cl G	2	LD

Lab ID: **123386-18** Sampled: **02-11-09 10:45** Container: **500 mL Plastic** Preservation: **NaOH/Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Cyanide, Total	BRL	mg/L	0.01	1	50 mL	02-14-09 11:36	TCN-1481-W	EPA 9012A	1	JR

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

RL Reporting Limit.

DF Dilution Factor.

1 Instrument ID: Lachat 8000 Autoanalyzer

2 Instrument ID: Thermo Electron Genesys 20

3 Instrument ID: Accumet AR50

4 Instrument ID: Mettler AT 200 Balance

GROUNDWATER ANALYTICAL

Project Narrative

Project:	**Ipswich Power Plant/061184**	Lab ID:	**123386**
Client:	**Ransom Environmental Consultants, Inc.**	Received:	**02-11-09 17:45**

A. Documentation and Client Communication

The following documentation discrepancies, and client changes or amendments were noted for this project:

1 . No documentation discrepancies, changes, or amendments were noted.

B. Method Modifications, Non-Conformances and Observations

The sample(s) in this project were analyzed by the references analytical method(s), and no method modifications, non-conformances or analytical issues were noted, except as indicated below:

1 . pH Non-conformance: Samples 123386-13 and -14. pH analysis was not performed within 15 minutes of sample collection. Samples were analyzed shortly after receipt by the laboratory.

GROUNDWATER ANALYTICAL

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www.groundwateranalytical.com

CHAIN-OF-CUSTODY RECORD AND WORK ORDER

Project Name: Ipswich Power Plant	Firm: Ransom Environmental
Project Number: 061184	Address: Bruns Wharf
Sampler Name: Sarah Bouchard	City / State / Zip: Newburyport MA 01950
Project Manager: Nancy Marshall	Telephone: 978 465 1822

INSTRUCTIONS: Use separate line for each container (except replicates).

TURNAROUND

- [X] STANDARD (10 Business Days)
- [ ] PRIORITY (5 Business Days)
- [ ] RUSH (RAN- _____)
  (Rush requires Rush Authorization Number)
- [ ] Please Email to: _____
- [ ] Please FAX to: _____

BILLING

- [X] Purchase Order No.: 7737
- [ ] Third Party Billing: _____
- [X] GWA Quote: 091-1845

ANALYSIS REQUEST

OPTIONS: Volatiles: ☐ TIC Search
SDWA: ☐ 524.2-MTBE
NPDES: ☐ 624
RCRA/21E: ☐ 8260B TCL-MTBE; ☐ 8260B NH PETROLEUM; ☒ 8260B

Volatiles: ☐ 602-MTBE; ☐ 601; ☐ 601/602-MTBE
☐ 8021B Aromatics
☐ 8021B Halocarbons
☐ 8021B

Semivolatiles: ☐ Acid Only; ☐ B/N Only; ☐ TIC Search
☐ 525.2
☐ 625
☒ 8270C LL/SIM
☐ 8270C PAHs only

Pest/Herb/PCBs Extractable: ☐ 505; ☐ 508
☐ 608 Pesticides
☐ 608 PCBs
☐ 8081A Pesticides
☒ 8082 PCBs
☐ 8151A Herbicides

Pest/Herb/PCBs Vol.: ☐ 531.1; ☐ 515.1; ☒ 504.1 EDB/DBCP
☐ 615
☐ 8011 EDB/DBCP

Metals: Specify For Water Samples ☐ Total ☐ Dissolved
☐ Lead and Copper
☒ 13 Priority Pollutant 6020 (Antimony, Arsenic, Cadmium, Chromium III, Cyanide, Mercury, Ni, Selenium, Silver, Zinc, Lead)
☐ 8 RCRA
☐ 5 RCRA
☐ MA List Metals
☐ 23 TAL
☐ Specify:

Petroleum Hydrocarbon Ext. TPH: ☒ TPH-IR; ☐ Diesel Range Organics (DRO); ☐ ME DRO; ☐ C1 ETPH; ☐ MA DEP EPH w/all targets; ☐ EPH Carbon Ranges only; ☐ EPH w/4 PAHs; ☐ Hydrocarbon Fingerprint (GC/FID by ASTM D3328-00 Mod.); ☐ TPH by GC/FID (8015B Mod) Quantitative Only
Petroleum Hydrocarbon Vol. TPH: ☐ Gasoline Range Organics (GRO); ☐ ME GRO; ☐ MA DEP VPH w/all targets; ☐ VPH Carbon ranges only

Haz. Waste: ☐ TCLP: ☐ SPLP ☐ 8 Metals ☐ Pb only ☐ VOA ☐ Semi VOA ☐ Pesticides ☐ Herbicides; ☐ Corrosivity (as pH) ☐ Reactivity ☐ Ignitability (as Flashpoint) ☐ Paint Filter; ☐ MA Basic Disposal Criteria: 8260B, TPH by GC, PCBs, 5 Metals, Corrosivity, Ignitability, Reactivity

General Chemistry: ☐ Dissolved Phosphorus; ☐ Ammonia ☐ TKN ☐ Total Phosphorus ☐ Total N (as N02/N03/TKN); ☐ Nitrate ☐ Chloride ☐ Fluoride ☐ Sulfate; ☐ Oil & Grease; ☐ COD ☐ TOC; ☐ 800 ☐ TDS ☒ TSS ☐ TS ☐ Alkalinity; ☒ Cyanide, Total ☐ Cyanide, Physiologically Available; ☒ pH ☐ Dissolved Oxygen ☐ Turbidity

Other: ☐ Total Coliform ☐ Fecal Coliform ☐ HPC; X Total Residual Chlorine; X Hex Chromium

Sampling DATE	Sampling TIME	SAMPLE IDENTIFICATION	Matrix	Type	Container(s)	Preservation	Filtered	LABORATORY NUMBER (Lab Use Only)
2/11/09	10:15	Effln-W1-021109	GROUNDWATER	COMPOSITE	NUMBER 18; 40mL VOA Vial X	HCl X	YES	
2/11/09	10:45	Infln-W2-021109	GROUNDWATER	COMPOSITE	NUMBER 18; 40mL VOA Vial X	HCl X	YES	

Matrix: GROUNDWATER; DRINKING WATER; WASTEWATER; SOIL; OTHER SOLID; OIL/ORGANIC LIQUID
Type: COMPOSITE; GRAB
Container(s): 40mL VOA Vial; 60mL/2 oz Glass; 120mL/4 oz Amber Glass; 250mL/8 oz Glass; 500mL/16 oz Glass; 1L/32 oz Amber Glass; 250mL/8 oz Plastic; 500mL/16 oz Plastic; 1L/32 oz Plastic; 120mL Sterile
Preservation: HCl; HNO3; H2SO4; NaOH; Methanol; Sodium Bisulfate; ICE
Filtered: YES; NO

REMARKS / SPECIAL INSTRUCTIONS

MA DEP MCP Data Enhancement Affirmation

- ☐ YES ☒ NO MCP Data Certification required.
- ☐ YES ☒ NO MCP Drinking Water Sample included.

(Require collection of contingent duplicate sample.
Trip blanks are also required if VOA sample collected).

Signature: Sarah Bouchard

DATA QUALITY OBJECTIVES

Regulatory Program

State	Standard	Deliverables
☐ CT	☐ MCP GW-1/S-1	☐ PWS Form
☐ ME	☐ MCP GW-2/S-2	☐ MWRA
☐ MA	☐ NY STARS	☐ _____
☐ NH	☐ Drinking Water	
☐ NY	☐ Wastewater	
☐ RI	☐ Waste Disposal	
☐ VT	☐ Dredge Material	
☐ ___	☒ U.S. EPA RGP	

Project Specific QC

Many regulatory programs and EPA methods require project specific QC. Project specific QC includes Sample Duplicates, Matrix Spikes, and/or Matrix Spike Duplicates. Laboratory QC is not project specific unless prearranged. Project specific QC samples are charged on a per sample basis. **Each MS, MSD and Sample Duplicate requires an additional sample aliquot.**

Project Specific QC Required	Selection of QC Sample
☐ Sample Duplicate	☐ Please use sample:
☐ Matrix Spike	_____
☐ Matrix Spike Duplicate	

CHAIN-OF-CUSTODY RECORD

NOTE: All samples submitted subject to Standard Terms and Conditions on reverse hereof.

	Date	Time		
Relinquished by Sampler: Sarah Bouchard	2/11/09	14:20	Received by:	Receipt Temperature: ☐ Ice ☐ Refrigerated 2-6°C Recommended 5.1
Relinquished by:	2/11/09	17:45	Received by:	Container Count:
Relinquished by:			Received by Laboratory:	Shipping/Airbill Number:

Method of Shipment: ☒ GWA Courier ☐ Express Mail ☐ Federal Express ☐ UPS ☐ Hand ☐ _____

Custody Seal Number:

Quality Assurance/Quality Control

A. Program Overview

Groundwater Analytical conducts an active Quality Assurance program to ensure the production of high quality, valid data. This program closely follows the guidance provided by *Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans,* US EPA QAMS-005/80 (1980), and *Test Methods for Evaluating Solid Waste,* US EPA, SW-846, Update III (1996).

Quality Control protocols include written Standard Operating Procedures (SOPs) developed for each analytical method. SOPs are derived from US EPA methodologies and other established references. Standards are prepared from commercially obtained reference materials of certified purity, and documented for traceability.

Quality Assessment protocols for most organic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. All samples, standards, blanks, laboratory control samples, matrix spikes and sample duplicates are spiked with internal standards and surrogate compounds. All instrument sequences begin with an initial calibration verification standard and a blank; and excepting GC/MS sequences, all sequences close with a continuing calibration standard. GC/MS systems are tuned to appropriate ion abundance criteria daily, or for each 12 hour operating period, whichever is more frequent.

Quality Assessment protocols for most inorganic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. Standard curves are derived from one reagent blank and four concentration levels. Curve validity is verified by standard recoveries within plus or minus ten percent of the curve.

B. Definitions

Batches are used as the basic unit for Quality Assessment. A Batch is defined as twenty or fewer samples of the same matrix which are prepared together for the same analysis, using the same lots of reagents and the same techniques or manipulations, all within the same continuum of time, up to but not exceeding 24 hours.

Laboratory Control Samples are used to assess the accuracy of the analytical method. A Laboratory Control Sample consists of reagent water or sodium sulfate spiked with a group of target analytes representative of the method analytes. Accuracy is defined as the degree of agreement of the measured value with the true or expected value. Percent Recoveries for the Laboratory Control Samples are calculated to assess accuracy.

Method Blanks are used to assess the level of contamination present in the analytical system. Method Blanks consist of reagent water or an aliquot of sodium sulfate. Method Blanks are taken through all the appropriate steps of an analytical method. Sample data reported is not corrected for blank contamination.

Surrogate Compounds are used to assess the effectiveness of an analytical method in dealing with each sample matrix. Surrogate Compounds are organic compounds which are similar to the target analytes of interest in chemical behavior, but which are not normally found in environmental samples. Percent Recoveries are calculated for each Surrogate Compound.

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Sample

Category:	**EPA 8015B Mod TPH**	Instrument ID:	**GC4 HP 5890**
QC Batch ID:	**HF-2102-F**	Extracted:	**02-18-09 20:00**
Matrix:	**Aqueous**	Analyzed:	**02-20-09 03:38**
Units:	**mg/L**	Analyst:	**MB**

Analyte	Spiked	Measured	Recovery	QC Limits
Fuel Oil No. 2	2.0	1.6	**80** %	60 - 140 %

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
ortho-Terphenyl	0.040	0.041	**104** %	60 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Method modified to quantify total petroleum hydrocarbons in the range n-C 9 through n-C 36. Results are quantified on the basis of a series of aromatic and aliphatic hydrocarbons, using 5-alpha-androstane as an internal standard.
Sample extraction performed by EPA Method 3510C.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category:	**EPA 8015B Mod TPH**	Instrument ID:	**GC4 HP 5890**
QC Batch ID:	**HF-2102-F**	Extracted:	**02-18-09 20:00**
Matrix:	**Aqueous**	Analyzed:	**02-20-09 02:44**
		Analyst:	**MB**

Analyte	Concentration	Notes	Units	Reporting Limit
Total Petroleum Hydrocarbons	BRL		mg/L	0.2

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
ortho-Terphenyl	0.040	0.043	**109** %	60 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Method modified to quantify total petroleum hydrocarbons in the range n-C 9 through n-C 36. Results are quantified on the basis of a series of aromatic and aliphatic hydrocarbons, using 5-alpha-androstane as an internal standard.
Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

GROUNDWATER ANALYTICAL

Laboratory Control Samples

Category: **Inorganics**
Matrix: **Aqueous**
Units: **mg/L**

Sample Type	Method	QC Batch ID	Prep Method	Prepared	Analyzed	Instrument ID	Analyst
LCS	EPA 9012A	TCN-1481-W	EPA 9012A	2/14/2009 8:00	2/14/2009 11:21	Lachat 8000 Autoanalyzer	JR
LCSD	EPA 9012A	TCN-1481-W	EPA 9012A	2/14/2009 8:00	2/14/2009 11:22	Lachat 8000 Autoanalyzer	JR

Analyte	LCS			LCS Duplicate				QC Limits		Method
	Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	LCS	RPD	
Cyanide, Total	0.45	0.48	**107%**	0.45	0.49	**109%**	**2 %**	80-120%	20 %	EPA 9012A

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised (1983), and Methods for the Determination of Metals in Environmental Samples, Supplement I, EPA-600/R-94-111, (1994), and 40 C.F.R. 136, Appendix C (1990).

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Sample

Category: **Inorganic Chemistry**
Matrix: **Aqueous**

Analyte	Units	Spiked	Measured	Recovery	QC Limits	Analyzed	QC Batch	Method	Inst	Analyst
Solids, Total Suspended	mg/L	89	76	**86 %**	80 - 120 %	02-14-09 11:04	TSS-1583-W	SM 2540 D	3	KLG
Chlorine, Total Residual	mg/L	1	1.1	**110 %**	80 - 120 %	02-11-09 21:00	TRC-0741-W	SM 4500-Cl G	1	LD
pH	pH	7.0	7.0	**101 %**	80 - 120 %	02-11-09 20:19	PH-2715-W	SM 4500-H+ B	2	KLG
Chromium, Hexavalent	mg/L	0.10	0.11	**113 %**	80 - 120 %	05-18-01 00:00	HC-0149-W	EPA 7196A	1	SBB

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

1 Instrument ID: Thermo Electron Genesys 20

2 Instrument ID: Accumet AR50

3 Instrument ID: Mettler AT 200 Balance

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category: **Inorganic Chemistry**
Matrix: **Aqueous**

Analyte	Result	Units	RL	Analyzed	QC Batch	Method	Inst	Analyst
Solids, Total Suspended	BRL	mg/L	2	02-14-09 11:04	TSS-1583-W	SM 2540 D	3	KLG
Chlorine, Total Residual	BRL	mg/L	0.2	02-11-09 21:00	TRC-0741-W	SM 4500-Cl G	2	LD
Chromium, Hexavalent	BRL	mg/L	0.01	05-18-01 00:00	HC-0149-W	EPA 7196A	2	SBB
Cyanide, Total	BRL	mg/L	0.01	02-14-09 11:21	TCN-1481-W	EPA 9012A	1	JR

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

RL Reporting Limit.

1 Instrument ID: Lachat 8000 Autoanalyzer

2 Instrument ID: Thermo Electron Genesys 20

3 Instrument ID: Mettler AT 200 Balance

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Samples

		LCS		LCSD	
Category:	**EPA 8082**	Instrument ID:	**GC-11 Agilent 6890**	Instrument ID:	**GC-11 Agilent 6890**
QC Batch ID:	**PB-2500-F**	Extracted:	**02-13-09 19:00**	Extracted:	**02-13-09 19:00**
Matrix:	**Aqueous**	Cleaned Up:	**02-19-09 07:30**	Cleaned Up:	**02-19-09 07:30**
Units:	**ug/L**	Analyzed:	**02-19-09 19:21**	Analyzed:	**02-19-09 19:45**
		Analyst:	**AWG**	Analyst:	**AWG**

CAS Number	Analyte	LCS					LCS Duplicate							QC Limits	
		Spiked	Measured		Recovery		Spiked	Measured		Recovery		RPD			
			1st Col	2nd Col	1st Col	2nd Col		1st Col	2nd Col	1st Col	2nd Col	1st Col	2nd Col	Spike	RPD
12674-11-2	Aroclor 1016	5.0	4.5	4.5	**90%**	**90%**	5.0	4.0	4.2	**80%**	**85%**	**12 %**	**7 %**	40 - 140%	30 %
11096-82-5	Aroclor 1260	5.0	3.7	3.8	**73%**	**76%**	5.0	4.0	4.3	**80%**	**85%**	**9 %**	**11 %**	40 - 140%	30 %

QC Surrogate Compound	Surrogate Recovery										QC Limits
Tetrachloro-*m* -xylene	0.20	0.18	0.19	**90%**	**94%**	0.20	0.16	0.17	**81%**	**83%**	30 - 150 %
Decachlorobiphenyl	0.20	0.17	0.17	**86%**	**85%**	0.20	0.19	0.20	**96%**	**98%**	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3510C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category:	**EPA Method 8082**	Instrument ID:	**GC-11 Agilent 6890**
QC Batch ID:	**PB-2500-F**	Extracted:	**02-13-09 19:00**
Matrix:	**Aqueous**	Cleaned Up:	**02-19-09 07:30**
		Analyzed:	**02-19-09 18:58**
		Analyst:	**AWG**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/L	0.2
11104-28-2	Aroclor 1221	BRL		ug/L	0.2
11141-16-5	Aroclor 1232	BRL		ug/L	0.2
53469-21-9	Aroclor 1242	BRL		ug/L	0.2
12672-29-6	Aroclor 1248	BRL		ug/L	0.2
11097-69-1	Aroclor 1254	BRL		ug/L	0.2
11096-82-5	Aroclor 1260	BRL		ug/L	0.2
37324-23-5	Aroclor 1262 †	BRL		ug/L	0.2
11100-14-4	Aroclor 1268 †	BRL		ug/L	0.2

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First	Tetrachloro-*m*-xylene	0.20	0.17	**85** %	30 - 150 %
Column	Decachlorobiphenyl	0.20	0.19	**95** %	30 - 150 %
Second	Tetrachloro-*m*-xylene	0.20	0.18	**88** %	30 - 150 %
Column	Decachlorobiphenyl	0.20	0.20	**98** %	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3510C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Sample

Category:	**EPA Method 504.1**	Instrument ID:	**GC-5 HP 5890**
QC Batch ID:	**PV-0948-E**	Extracted:	**02-12-09 15:30**
Matrix:	**Aqueous**	Analyzed:	**02-12-09 20:27**
Units:	**ug/L**	Analyst:	**AWG**

CAS Number	Analyte	Spiked	Measured		Recovery		QC Limits
			1st Column	2nd Column	1st Column	2nd Column	
106-93-4	1,2-Dibromoethane (EDB)	0.20	0.20	0.19	**99** %	**97** %	70 - 130 %
96-12-8	1,2-Dibromo-3-Chloropropane (DBC	0.20	0.20	0.20	**98** %	**99** %	70 - 130 %

Method Reference: Methods for the Determination of Organic Compounds in Drinking Water, Supplement III, US EPA, EPA-600/R-95/131 (1995). Method Revision 1.1.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category:	**EPA Method 504.1**	Instrument ID:	**GC-5 HP 5890**
QC Batch ID:	**PV-0948-E**	Extracted:	**02-12-09 15:30**
Matrix:	**Aqueous**	Analyzed:	**02-12-09 21:59**
		Analyst:	**AWG**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/L	0.02
96-12-8	1,2-Dibromo-3-Chloropropane (DBCP)	BRL		ug/L	0.02

Method Reference: Methods for the Determination of Organic Compounds in Drinking Water, Supplement III, US EPA, EPA-600/R-95/131 (1995). Method Revision 1.1.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Sample

Category: **Metals**
Matrix: **Aqueous**
Units: **mg/L**

Analysis Method	QC Batch ID	Prep Method	Prepared	Instrument ID	Analyst
EPA 200.8	MB-3633-WL	EPA 200.8	02-12-09 09:46	ICP-MS PE ELAN 9000	MFP
EPA 200.7	MB-3633-WL	EPA 200.7	02-12-09 09:46	ICP-1 PE 3000	MFP
EPA 245.1	MP-2175-WL	EPA 245.1	02-12-09 11:30	CVAA-1 PE FIMS	DET

CAS Number	Analyte	Spiked	Measured	Recovery	QC Limits	Analyzed	Method
7440-36-0	Antimony	0.050	0.045	**90** %	85-115 %	02-18-09 00:00	EPA 200.8
7440-38-2	Arsenic	0.050	0.047	**93** %	85-115 %	02-18-09 00:00	EPA 200.8
7440-43-9	Cadmium	1.0	0.91	**91** %	85-115 %	02-18-09 15:49	EPA 200.8
7440-47-3	Chromium	1.0	0.91	**91** %	85-115 %	02-18-09 15:49	EPA 200.7
7440-50-8	Copper	1.0	0.91	**91** %	85-115 %	02-18-09 15:49	EPA 200.8
7439-89-6	Iron	5.0	4.9	**97** %	85-115 %	02-18-09 15:49	EPA 200.7
7439-92-1	Lead	0.050	0.047	**94** %	85-115 %	02-18-09 00:00	EPA 200.8
7439-97-6	Mercury	0.0010	0.0009	**87** %	85-115 %	02-12-09 00:00	EPA 245.1
7440-02-0	Nickel	1.0	0.95	**95** %	85-115 %	02-18-09 15:49	EPA 200.8
7782-49-2	Selenium	0.050	0.045	**91** %	85-115 %	02-18-09 00:00	EPA 200.8
7440-22-4	Silver	0.05	0.052	**104** %	85-115 %	02-18-09 00:00	EPA 200.8
7440-66-6	Zinc	1.0	0.93	**93** %	85-115 %	02-18-09 15:49	EPA 200.7

Method Reference: Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised (1983), and Methods for the Determination of Metals in Environmental Samples, Supplement I, EPA-600/R-94-111, (1994), and 40 C.F.R. 136, Appendix C (1990).

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category: **Metals**
Matrix: **Aqueous**

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Volume	Instrument ID	Analyst
EPA 200.8	MB-3633-WB	EPA 200.8	02-12-09 09:46	50 mL	ICP-MS PE ELAN 9000	MFP
EPA 200.7	MB-3633-WB	EPA 200.7	02-12-09 09:46	50 mL	ICP-1 PE 3000	MFP
EPA 245.1	MP-2175-WB	EPA 245.1	02-12-09 11:30	25 mL	CVAA-1 PE FIMS	DET

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-36-0	Antimony	BRL		mg/L	0.006	1	02-18-09 00:00	EPA 200.8
7440-38-2	Arsenic	BRL		mg/L	0.01	1	02-18-09 00:00	EPA 200.8
7440-43-9	Cadmium	BRL		mg/L	0.0002	1	02-18-09 15:45	EPA 200.8
7440-47-3	Chromium	BRL		mg/L	0.01	1	02-18-09 15:45	EPA 200.7
7440-50-8	Copper	BRL		mg/L	0.003	1	02-18-09 15:45	EPA 200.8
7439-89-6	Iron	BRL		mg/L	0.1	1	02-18-09 15:45	EPA 200.7
7439-92-1	Lead	BRL		mg/L	0.005	1	02-18-09 00:00	EPA 200.8
7439-97-6	Mercury	BRL		mg/L	0.0002	1	02-12-09 00:00	EPA 245.1
7440-02-0	Nickel	BRL		mg/L	0.005	1	02-18-09 15:45	EPA 200.8
7782-49-2	Selenium	BRL		mg/L	0.01	1	02-18-09 00:00	EPA 200.8
7440-22-4	Silver	BRL		mg/L	0.001	1	02-18-09 00:00	EPA 200.8
7440-66-6	Zinc	BRL		mg/L	0.2	1	02-18-09 15:45	EPA 200.7

Method Reference: Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised (1983), and Methods for the Determination of Metals in Environmental Samples, Supplement I, EPA-600/R-94-111, (1994), and 40 C.F.R. 136, Appendix C (1990).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

DF Dilution Factor.

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Samples

		LCS		LCSD	
Category:	**EPA Method 8260B**	Instrument ID:	**MS-5 HP 6890**	Instrument ID:	**MS-5 HP 6890**
QC Batch ID:	**VM5-3897-W**	Analyzed:	**02-12-09 07:55**	Analyzed:	**02-12-09 08:31**
Matrix:	**Aqueous**	Analyst:	**LMG**	Analyst:	**LMG**
Units:	**ug/L**				

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
75-71-8	Dichlorodifluoromethane	10	9.9	**99** %	10	9.2	**92** %	**7** %	70 - 130 %	25%
74-87-3	Chloromethane	10	11	**108** %	10	10	**102** %	**6** %	70 - 130 %	25%
75-01-4	Vinyl Chloride	10	11	**111** %	10	10	**104** %	**7** %	70 - 130 %	25%
74-83-9	Bromomethane	10	11	**114** %	10	11	**111** %	**3** %	70 - 130 %	25%
75-00-3	Chloroethane	10	11	**107** %	10	10	**104** %	**3** %	70 - 130 %	25%
75-69-4	Trichlorofluoromethane	10	9.6	**96** %	10	9.2	**92** %	**5** %	70 - 130 %	25%
60-29-7	Diethyl Ether	20	22	**108** %	20	20	**102** %	**5** %	70 - 130 %	25%
75-35-4	1,1-Dichloroethene	10	10	**100** %	10	9.8	**98** %	**3** %	70 - 130 %	25%
76-13-1	1,1,2-Trichlorotrifluoroethane	20	25	**126** %	20	23	**117** %	**7** %	70 - 130 %	25%
67-64-1	Acetone	20	22	**111** %	20	19	**94** %	**17** %	70 - 130 %	25%
75-15-0	Carbon Disulfide	20	21	**106** %	20	21	**103** %	**3** %	70 - 130 %	25%
75-09-2	Methylene Chloride	10	8.2	**82** %	10	8.1	**81** %	**2** %	70 - 130 %	25%
107-13-1	Acrylonitrile	10	12	**123** %	10	12	**121** %	**2** %	70 - 130 %	25%
156-60-5	*trans*-1,2-Dichloroethene	10	10	**103** %	10	10	**102** %	**1** %	70 - 130 %	25%
1634-04-4	Methyl *tert*-butyl Ether (MTBE)	10	12	**118** %	10	11	**113** %	**5** %	70 - 130 %	25%
75-34-3	1,1-Dichloroethane	10	11	**110** %	10	11	**107** %	**2** %	70 - 130 %	25%
594-20-7	2,2-Dichloropropane	10	12	**120** %	10	11	**112** %	**7** %	70 - 130 %	25%
156-59-2	*cis*-1,2-Dichloroethene	10	11	**109** %	10	11	**107** %	**2** %	70 - 130 %	25%
78-93-3	2-Butanone (MEK)	20	21	**106** %	20	19	**96** %	**10** %	70 - 130 %	25%
74-97-5	Bromochloromethane	10	11	**107** %	10	10	**105** %	**2** %	70 - 130 %	25%
109-99-9	Tetrahydrofuran (THF)	20	22	**112** %	20	22	**109** %	**3** %	70 - 130 %	25%
67-66-3	Chloroform	10	11	**108** %	10	11	**106** %	**2** %	70 - 130 %	25%
71-55-6	1,1,1-Trichloroethane	10	10	**103** %	10	10	**102** %	**1** %	70 - 130 %	25%
56-23-5	Carbon Tetrachloride	10	10	**104** %	10	10	**101** %	**3** %	70 - 130 %	25%
563-58-6	1,1-Dichloropropene	10	11	**106** %	10	10	**102** %	**4** %	70 - 130 %	25%
71-43-2	Benzene	10	11	**109** %	10	11	**105** %	**4** %	70 - 130 %	25%
107-06-2	1,2-Dichloroethane	10	11	**113** %	10	11	**109** %	**4** %	70 - 130 %	25%
79-01-6	Trichloroethene	10	9.7	**97** %	10	9.7	**97** %	**0** %	70 - 130 %	25%
78-87-5	1,2-Dichloropropane	10	11	**112** %	10	11	**110** %	**2** %	70 - 130 %	25%
74-95-3	Dibromomethane	10	11	**108** %	10	11	**107** %	**1** %	70 - 130 %	25%
75-27-4	Bromodichloromethane	10	12	**116** %	10	11	**114** %	**1** %	70 - 130 %	25%
123-91-1	1,4-Dioxane	200	210	**103** %	200	210	**103** %	**0** %	70 - 130 %	25%
10061-01-5	*cis*-1,3-Dichloropropene	10	11	**105** %	10	10	**104** %	**1** %	70 - 130 %	25%
108-10-1	4-Methyl-2-Pentanone (MIBK)	20	22	**110** %	20	21	**106** %	**3** %	70 - 130 %	25%
108-88-3	Toluene	10	10	**103** %	10	10	**101** %	**2** %	70 - 130 %	25%
10061-02-6	*trans*-1,3-Dichloropropene	10	8.7	**87** %	10	8.4	**84** %	**3** %	70 - 130 %	25%
79-00-5	1,1,2-Trichloroethane	10	9.4	**94** %	10	9.4	**94** %	**0** %	70 - 130 %	25%
127-18-4	Tetrachloroethene	10	8.9	**89** %	10	8.8	**88** %	**1** %	70 - 130 %	25%
142-28-9	1,3-Dichloropropane	10	9.6	**96** %	10	9.5	**95** %	**2** %	70 - 130 %	25%
591-78-6	2-Hexanone	20	19	**94** %	20	18	**91** %	**4** %	70 - 130 %	25%
124-48-1	Dibromochloromethane	10	9.3	**93** %	10	9.2	**92** %	**1** %	70 - 130 %	25%
106-93-4	1,2-Dibromoethane (EDB)	10	9.1	**91** %	10	9.0	**90** %	**2** %	70 - 130 %	25%
108-90-7	Chlorobenzene	10	9.3	**93** %	10	9.2	**92** %	**1** %	70 - 130 %	25%
630-20-6	1,1,1,2-Tetrachloroethane	10	10	**105** %	10	10	**101** %	**4** %	70 - 130 %	25%
100-41-4	Ethylbenzene	10	9.4	**94** %	10	9.3	**93** %	**1** %	70 - 130 %	25%
108-38-3/106-42-3	*meta*-Xylene and *para*-Xylene	20	18	**92** %	20	18	**91** %	**1** %	70 - 130 %	25%
95-47-6	*ortho*-Xylene	10	8.9	**89** %	10	8.9	**89** %	**0** %	70 - 130 %	25%
100-42-5	Styrene	10	9.3	**93** %	10	9.1	**91** %	**2** %	70 - 130 %	25%
75-25-2	Bromoform	10	9.1	**91** %	10	9.0	**90** %	**1** %	70 - 130 %	25%

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Samples

		LCS		LCSD	
Category:	**EPA Method 8260B**	Instrument ID:	**MS-5 HP 6890**	Instrument ID:	**MS-5 HP 6890**
QC Batch ID:	**VM5-3897-W**	Analyzed:	**02-12-09 07:55**	Analyzed:	**02-12-09 08:31**
Matrix:	**Aqueous**	Analyst:	**LMG**	Analyst:	**LMG**
Units:	**ug/L**				

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
98-82-8	Isopropylbenzene	10	8.6	**86** %	10	8.3	**83** %	**4** %	70 - 130 %	25%
108-86-1	Bromobenzene	10	9.4	**94** %	10	9.1	**91** %	**2** %	70 - 130 %	25%
79-34-5	1,1,2,2-Tetrachloroethane	10	10	**105** %	10	10	**101** %	**4** %	70 - 130 %	25%
96-18-4	1,2,3-Trichloropropane	10	11	**105** %	10	11	**108** %	**3** %	70 - 130 %	25%
110-57-6	*trans*-1,4-Dichloro-2-butene	160	200	**125** %	160	200	**123** %	**2** %	70 - 130 %	25%
103-65-1	*n*-Propylbenzene	10	9.9	**99** %	10	9.5	**95** %	**3** %	70 - 130 %	25%
95-49-8	2-Chlorotoluene	10	9.2	**92** %	10	8.9	**89** %	**4** %	70 - 130 %	25%
108-67-8	1,3,5-Trimethylbenzene	10	9.6	**96** %	10	9.3	**93** %	**2** %	70 - 130 %	25%
106-43-4	4-Chlorotoluene	10	9.2	**92** %	10	9.0	**90** %	**2** %	70 - 130 %	25%
98-06-6	*tert*-Butylbenzene	10	9.6	**96** %	10	9.1	**91** %	**5** %	70 - 130 %	25%
95-63-6	1,2,4-Trimethylbenzene	10	9.6	**96** %	10	9.4	**94** %	**3** %	70 - 130 %	25%
135-98-8	*sec*-Butylbenzene	10	9.6	**96** %	10	9.3	**93** %	**3** %	70 - 130 %	25%
541-73-1	1,3-Dichlorobenzene	10	9.3	**93** %	10	9.1	**91** %	**2** %	70 - 130 %	25%
99-87-6	4-Isopropyltoluene	10	9.6	**96** %	10	9.3	**93** %	**4** %	70 - 130 %	25%
106-46-7	1,4-Dichlorobenzene	10	9.2	**92** %	10	9.0	**90** %	**2** %	70 - 130 %	25%
95-50-1	1,2-Dichlorobenzene	10	9.2	**92** %	10	9.1	**91** %	**1** %	70 - 130 %	25%
104-51-8	*n*-Butylbenzene	10	9.6	**96** %	10	9.3	**93** %	**3** %	70 - 130 %	25%
96-12-8	1,2-Dibromo-3-chloropropane	10	9.8	**98** %	10	9.7	**97** %	**1** %	70 - 130 %	25%
108-70-3	1,3,5-Trichlorobenzene	10	9.0	**90** %	10	8.9	**89** %	**1** %	70 - 130 %	25%
120-82-1	1,2,4-Trichlorobenzene	10	9.4	**94** %	10	9.3	**93** %	**2** %	70 - 130 %	25%
87-68-3	Hexachlorobutadiene	10	9.5	**95** %	10	8.9	**89** %	**6** %	70 - 130 %	25%
91-20-3	Naphthalene	10	10	**100** %	10	9.6	**96** %	**4** %	70 - 130 %	25%
87-61-6	1,2,3-Trichlorobenzene	10	10	**102** %	10	9.6	**96** %	**6** %	70 - 130 %	25%
75-65-0	*tert*-Butyl Alcohol (TBA)	200	230	**117** %	200	220	**109** %	**7** %	70 - 130 %	25%
108-20-3	Di-isopropyl Ether (DIPE)	10	11	**115** %	10	11	**112** %	**3** %	70 - 130 %	25%
637-92-3	Ethyl *tert*-butyl Ether (ETBE)	10	11	**106** %	10	10	**103** %	**2** %	70 - 130 %	25%
994-05-8	*tert*-Amyl Methyl Ether (TAME)	10	10	**104** %	10	10	**103** %	**0** %	70 - 130 %	25%

QC Surrogate Compound	Spiked	Measured	Recovery	Spiked	Measured	Recovery		QC Limits
Dibromofluoromethane	10	10	**96** %	10	9	**91** %		70 - 130 %
1,2-Dichloroethane-d_4	10	10	**100** %	10	9	**93** %		70 - 130 %
Toluene-d_8	10	10	**98** %	10	9	**95** %		70 - 130 %
4-Bromofluorobenzene	10	8	**85** %	10	8	**81** %		70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Sample preparation performed by EPA Method 5030B.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category: **EPA Method 8260B**
QC Batch ID: **VM5-3897-W**
Matrix: **Aqueous**

Instrument ID: **MS-5 HP 6890**
Analyzed: **02-12-09 09:07**
Analyst: **LMG**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/L	0.5
74-87-3	Chloromethane	BRL		ug/L	0.5
75-01-4	Vinyl Chloride	BRL		ug/L	0.5
74-83-9	Bromomethane	BRL		ug/L	0.5
75-00-3	Chloroethane	BRL		ug/L	0.5
75-69-4	Trichlorofluoromethane	BRL		ug/L	0.5
60-29-7	Diethyl Ether	BRL		ug/L	2
75-35-4	1,1-Dichloroethene	BRL		ug/L	0.5
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/L	5
67-64-1	Acetone	BRL		ug/L	10
75-15-0	Carbon Disulfide	BRL		ug/L	5
75-09-2	Methylene Chloride	BRL		ug/L	3
107-13-1	Acrylonitrile	BRL		ug/L	0.5
156-60-5	*trans*-1,2-Dichloroethene	BRL		ug/L	0.5
1634-04-4	Methyl *tert*-butyl Ether (MTBE)	BRL		ug/L	0.5
75-34-3	1,1-Dichloroethane	BRL		ug/L	0.5
594-20-7	2,2-Dichloropropane	BRL		ug/L	0.5
156-59-2	*cis*-1,2-Dichloroethene	BRL		ug/L	0.5
78-93-3	2-Butanone (MEK)	BRL		ug/L	5
74-97-5	Bromochloromethane	BRL		ug/L	0.5
109-99-9	Tetrahydrofuran (THF)	BRL		ug/L	5
67-66-3	Chloroform	BRL		ug/L	0.5
71-55-6	1,1,1-Trichloroethane	BRL		ug/L	0.5
56-23-5	Carbon Tetrachloride	BRL		ug/L	0.5
563-58-6	1,1-Dichloropropene	BRL		ug/L	0.5
71-43-2	Benzene	BRL		ug/L	0.5
107-06-2	1,2-Dichloroethane	BRL		ug/L	0.5
79-01-6	Trichloroethene	BRL		ug/L	0.5
78-87-5	1,2-Dichloropropane	BRL		ug/L	0.5
74-95-3	Dibromomethane	BRL		ug/L	0.5
75-27-4	Bromodichloromethane	BRL		ug/L	0.5
123-91-1	1,4-Dioxane	BRL		ug/L	500
10061-01-5	*cis*-1,3-Dichloropropene	BRL		ug/L	0.4
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/L	5
108-88-3	Toluene	BRL		ug/L	0.5
10061-02-6	*trans*-1,3-Dichloropropene	BRL		ug/L	0.4
79-00-5	1,1,2-Trichloroethane	BRL		ug/L	0.5
127-18-4	Tetrachloroethene	BRL		ug/L	0.5
142-28-9	1,3-Dichloropropane	BRL		ug/L	0.5
591-78-6	2-Hexanone	BRL		ug/L	5
124-48-1	Dibromochloromethane	BRL		ug/L	0.5
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/L	0.5
108-90-7	Chlorobenzene	BRL		ug/L	0.5
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/L	0.5
100-41-4	Ethylbenzene	BRL		ug/L	0.5
108-38-3/106-42-3	*meta*-Xylene and *para*-Xylene	BRL		ug/L	0.5
95-47-6	*ortho*-Xylene	BRL		ug/L	0.5
100-42-5	Styrene	BRL		ug/L	0.5
75-25-2	Bromoform	BRL		ug/L	0.5

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category: **EPA Method 8260B**
QC Batch ID: **VM5-3897-W**
Matrix: **Aqueous**
Instrument ID: **MS-5 HP 6890**
Analyzed: **02-12-09 09:07**
Analyst: **LMG**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
98-82-8	Isopropylbenzene	BRL		ug/L	0.5
108-86-1	Bromobenzene	BRL		ug/L	0.5
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/L	0.5
96-18-4	1,2,3-Trichloropropane	BRL		ug/L	0.5
110-57-6	*trans*-1,4-Dichloro-2-butene	BRL		ug/L	25
103-65-1	*n*-Propylbenzene	BRL		ug/L	0.5
95-49-8	2-Chlorotoluene	BRL		ug/L	0.5
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/L	0.5
106-43-4	4-Chlorotoluene	BRL		ug/L	0.5
98-06-6	*tert*-Butylbenzene	BRL		ug/L	0.5
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/L	0.5
135-98-8	*sec*-Butylbenzene	BRL		ug/L	0.5
541-73-1	1,3-Dichlorobenzene	BRL		ug/L	0.5
99-87-6	4-Isopropyltoluene	BRL		ug/L	0.5
106-46-7	1,4-Dichlorobenzene	BRL		ug/L	0.5
95-50-1	1,2-Dichlorobenzene	BRL		ug/L	0.5
104-51-8	*n*-Butylbenzene	BRL		ug/L	0.5
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/L	0.5
108-70-3	1,3,5-Trichlorobenzene	BRL		ug/L	0.5
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/L	0.5
87-68-3	Hexachlorobutadiene	BRL		ug/L	0.5
91-20-3	Naphthalene	BRL		ug/L	0.5
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/L	0.5
75-65-0	*tert*-Butyl Alcohol (TBA)	BRL		ug/L	20
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/L	0.5
637-92-3	Ethyl *tert*-butyl Ether (ETBE)	BRL		ug/L	0.5
994-05-8	*tert*-Amyl Methyl Ether (TAME)	BRL		ug/L	0.5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	10	10	**100** %	70 - 130 %
1,2-Dichloroethane-d_4	10	10	**99** %	70 - 130 %
Toluene-d_8	10	10	**102** %	70 - 130 %
4-Bromofluorobenzene	10	9	**88** %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Sample preparation performed by EPA Method 5030B.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Samples

		LCS		LCSD	
Category:	**EPA Method 8260B**	Instrument ID:	**MS-5 HP 6890**	Instrument ID:	**MS-5 HP 6890**
QC Batch ID:	**VM5-3900-W**	Analyzed:	**02-19-09 07:37**	Analyzed:	**02-19-09 08:12**
Matrix:	**Aqueous**	Analyst:	**LMG**	Analyst:	**LMG**
Units:	**ug/L**				

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
75-71-8	Dichlorodifluoromethane	10	9.1	**91** %	10	8.4	**84** %	**7** %	70 - 130 %	25%
74-87-3	Chloromethane	10	9.4	**94** %	10	8.5	**85** %	**10** %	70 - 130 %	25%
75-01-4	Vinyl Chloride	10	9.8	**98** %	10	9.2	**92** %	**7** %	70 - 130 %	25%
74-83-9	Bromomethane	10	10	**100** %	10	9.6	**96** %	**4** %	70 - 130 %	25%
75-00-3	Chloroethane	10	9.5	**95** %	10	9.0	**90** %	**5** %	70 - 130 %	25%
75-69-4	Trichlorofluoromethane	10	9.4	**94** %	10	9.0	**90** %	**5** %	70 - 130 %	25%
60-29-7	Diethyl Ether	20	18	**89** %	20	18	**88** %	**2** %	70 - 130 %	25%
75-35-4	1,1-Dichloroethene	10	9.7	**97** %	10	9.5	**95** %	**2** %	70 - 130 %	25%
76-13-1	1,1,2-Trichlorotrifluoroethane	20	23	**114** %	20	22	**108** %	**6** %	70 - 130 %	25%
67-64-1	Acetone	20	17	**86** %	20	15	**77** %	**11** %	70 - 130 %	25%
75-15-0	Carbon Disulfide	20	17	**86** %	20	17	**84** %	**3** %	70 - 130 %	25%
75-09-2	Methylene Chloride	10	9.9	**99** %	10	9.9	**99** %	**0** %	70 - 130 %	25%
107-13-1	Acrylonitrile	10	10	**102** %	10	9.6	**96** %	**6** %	70 - 130 %	25%
156-60-5	*trans*-1,2-Dichloroethene	10	9.3	**93** %	10	9.2	**92** %	**1** %	70 - 130 %	25%
1634-04-4	Methyl *tert*-butyl Ether (MTBE)	10	11	**109** %	10	11	**106** %	**3** %	70 - 130 %	25%
75-34-3	1,1-Dichloroethane	10	9.6	**96** %	10	9.4	**94** %	**3** %	70 - 130 %	25%
594-20-7	2,2-Dichloropropane	10	11	**105** %	10	9.6	**96** %	**9** %	70 - 130 %	25%
156-59-2	*cis*-1,2-Dichloroethene	10	9.9	**99** %	10	9.6	**96** %	**2** %	70 - 130 %	25%
78-93-3	2-Butanone (MEK)	20	19	**96** %	20	18	**91** %	**5** %	70 - 130 %	25%
74-97-5	Bromochloromethane	10	9.9	**99** %	10	9.5	**95** %	**4** %	70 - 130 %	25%
109-99-9	Tetrahydrofuran (THF)	20	19	**96** %	20	18	**91** %	**5** %	70 - 130 %	25%
67-66-3	Chloroform	10	9.5	**95** %	10	9.3	**93** %	**3** %	70 - 130 %	25%
71-55-6	1,1,1-Trichloroethane	10	9.6	**96** %	10	9.2	**92** %	**5** %	70 - 130 %	25%
56-23-5	Carbon Tetrachloride	10	9.5	**95** %	10	9.3	**93** %	**2** %	70 - 130 %	25%
563-58-6	1,1-Dichloropropene	10	9.4	**94** %	10	9.0	**90** %	**4** %	70 - 130 %	25%
71-43-2	Benzene	10	9.6	**96** %	10	9.4	**94** %	**2** %	70 - 130 %	25%
107-06-2	1,2-Dichloroethane	10	9.4	**94** %	10	9.3	**93** %	**1** %	70 - 130 %	25%
79-01-6	Trichloroethene	10	9.2	**92** %	10	8.9	**89** %	**3** %	70 - 130 %	25%
78-87-5	1,2-Dichloropropane	10	9.6	**96** %	10	9.5	**95** %	**1** %	70 - 130 %	25%
74-95-3	Dibromomethane	10	9.8	**98** %	10	9.6	**96** %	**2** %	70 - 130 %	25%
75-27-4	Bromodichloromethane	10	10	**102** %	10	10	**101** %	**1** %	70 - 130 %	25%
123-91-1	1,4-Dioxane	200	210	**107** %	200	220	**110** %	**3** %	70 - 130 %	25%
10061-01-5	*cis*-1,3-Dichloropropene	10	9.2	**92** %	10	9.1	**91** %	**1** %	70 - 130 %	25%
108-10-1	4-Methyl-2-Pentanone (MIBK)	20	18	**91** %	20	18	**89** %	**2** %	70 - 130 %	25%
108-88-3	Toluene	10	9.2	**92** %	10	9.1	**91** %	**1** %	70 - 130 %	25%
10061-02-6	*trans*-1,3-Dichloropropene	10	9.0	**90** %	10	8.8	**88** %	**2** %	70 - 130 %	25%
79-00-5	1,1,2-Trichloroethane	10	9.9	**99** %	10	9.8	**98** %	**1** %	70 - 130 %	25%
127-18-4	Tetrachloroethene	10	9.7	**97** %	10	9.6	**96** %	**1** %	70 - 130 %	25%
142-28-9	1,3-Dichloropropane	10	9.7	**97** %	10	9.6	**96** %	**1** %	70 - 130 %	25%
591-78-6	2-Hexanone	20	19	**97** %	20	19	**93** %	**5** %	70 - 130 %	25%
124-48-1	Dibromochloromethane	10	9.6	**96** %	10	9.7	**97** %	**1** %	70 - 130 %	25%
106-93-4	1,2-Dibromoethane (EDB)	10	9.7	**97** %	10	9.6	**96** %	**1** %	70 - 130 %	25%
108-90-7	Chlorobenzene	10	9.7	**97** %	10	9.6	**96** %	**1** %	70 - 130 %	25%
630-20-6	1,1,1,2-Tetrachloroethane	10	10	**105** %	10	10	**100** %	**5** %	70 - 130 %	25%
100-41-4	Ethylbenzene	10	9.9	**99** %	10	9.7	**97** %	**2** %	70 - 130 %	25%
108-38-3/106-42-3	*meta*-Xylene and *para*-Xylene	20	19	**96** %	20	19	**95** %	**1** %	70 - 130 %	25%
95-47-6	*ortho*-Xylene	10	9.5	**95** %	10	9.4	**94** %	**1** %	70 - 130 %	25%
100-42-5	Styrene	10	9.8	**98** %	10	9.8	**98** %	**1** %	70 - 130 %	25%
75-25-2	Bromoform	10	9.9	**99** %	10	10	**100** %	**1** %	70 - 130 %	25%

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Samples

		LCS		LCSD	
Category:	**EPA Method 8260B**	Instrument ID:	**MS-5 HP 6890**	Instrument ID:	**MS-5 HP 6890**
QC Batch ID:	**VM5-3900-W**	Analyzed:	**02-19-09 07:37**	Analyzed:	**02-19-09 08:12**
Matrix:	**Aqueous**	Analyst:	**LMG**	Analyst:	**LMG**
Units:	**ug/L**				

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
98-82-8	Isopropylbenzene	10	9.1	**91** %	10	8.8	**88** %	**3** %	70 - 130 %	25%
108-86-1	Bromobenzene	10	10	**100** %	10	9.9	**99** %	**2** %	70 - 130 %	25%
79-34-5	1,1,2,2-Tetrachloroethane	10	10	**105** %	10	10	**100** %	**5** %	70 - 130 %	25%
96-18-4	1,2,3-Trichloropropane	10	11	**114** %	10	11	**109** %	**5** %	70 - 130 %	25%
110-57-6	*trans*-1,4-Dichloro-2-butene	160	160	**102** %	160	160	**100** %	**1** %	70 - 130 %	25%
103-65-1	*n*-Propylbenzene	10	10	**104** %	10	10	**102** %	**2** %	70 - 130 %	25%
95-49-8	2-Chlorotoluene	10	9.8	**98** %	10	9.6	**96** %	**2** %	70 - 130 %	25%
108-67-8	1,3,5-Trimethylbenzene	10	10	**101** %	10	9.9	**99** %	**2** %	70 - 130 %	25%
106-43-4	4-Chlorotoluene	10	9.8	**98** %	10	9.7	**97** %	**1** %	70 - 130 %	25%
98-06-6	*tert*-Butylbenzene	10	10	**101** %	10	9.8	**98** %	**3** %	70 - 130 %	25%
95-63-6	1,2,4-Trimethylbenzene	10	10	**102** %	10	10	**100** %	**2** %	70 - 130 %	25%
135-98-8	*sec*-Butylbenzene	10	10	**103** %	10	9.9	**99** %	**4** %	70 - 130 %	25%
541-73-1	1,3-Dichlorobenzene	10	10	**100** %	10	9.7	**97** %	**2** %	70 - 130 %	25%
99-87-6	4-Isopropyltoluene	10	10	**103** %	10	9.9	**99** %	**4** %	70 - 130 %	25%
106-46-7	1,4-Dichlorobenzene	10	9.9	**99** %	10	9.7	**97** %	**1** %	70 - 130 %	25%
95-50-1	1,2-Dichlorobenzene	10	9.9	**99** %	10	9.8	**98** %	**1** %	70 - 130 %	25%
104-51-8	*n*-Butylbenzene	10	10	**101** %	10	9.9	**99** %	**2** %	70 - 130 %	25%
96-12-8	1,2-Dibromo-3-chloropropane	10	11	**108** %	10	10	**102** %	**6** %	70 - 130 %	25%
108-70-3	1,3,5-Trichlorobenzene	10	9.2	**92** %	10	9.1	**91** %	**1** %	70 - 130 %	25%
120-82-1	1,2,4-Trichlorobenzene	10	10	**104** %	10	10	**102** %	**2** %	70 - 130 %	25%
87-68-3	Hexachlorobutadiene	10	9.7	**97** %	10	9.4	**94** %	**3** %	70 - 130 %	25%
91-20-3	Naphthalene	10	11	**111** %	10	11	**107** %	**4** %	70 - 130 %	25%
87-61-6	1,2,3-Trichlorobenzene	10	11	**109** %	10	11	**106** %	**3** %	70 - 130 %	25%
75-65-0	*tert*-Butyl Alcohol (TBA)	200	220	**111** %	200	200	**99** %	**11** %	70 - 130 %	25%
108-20-3	Di-isopropyl Ether (DIPE)	10	9.6	**96** %	10	9.4	**94** %	**2** %	70 - 130 %	25%
637-92-3	Ethyl *tert*-butyl Ether (ETBE)	10	9.5	**95** %	10	9.4	**94** %	**2** %	70 - 130 %	25%
994-05-8	*tert*-Amyl Methyl Ether (TAME)	10	10	**101** %	10	10	**100** %	**1** %	70 - 130 %	25%

QC Surrogate Compound	Spiked	Measured	Recovery	Spiked	Measured	Recovery		QC Limits
Dibromofluoromethane	10	8	**82** %	10	9	**89** %		70 - 130 %
1,2-Dichloroethane-d_4	10	8	**83** %	10	9	**89** %		70 - 130 %
Toluene-d_8	10	8	**84** %	10	9	**91** %		70 - 130 %
4-Bromofluorobenzene	10	9	**91** %	10	9	**95** %		70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Sample preparation performed by EPA Method 5030B.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category: **EPA Method 8260B**
QC Batch ID: **VM5-3900-W**
Matrix: **Aqueous**

Instrument ID: **MS-5 HP 6890**
Analyzed: **02-19-09 08:51**
Analyst: **LMG**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/L	0.5
74-87-3	Chloromethane	BRL		ug/L	0.5
75-01-4	Vinyl Chloride	BRL		ug/L	0.5
74-83-9	Bromomethane	BRL		ug/L	0.5
75-00-3	Chloroethane	BRL		ug/L	0.5
75-69-4	Trichlorofluoromethane	BRL		ug/L	0.5
60-29-7	Diethyl Ether	BRL		ug/L	2
75-35-4	1,1-Dichloroethene	BRL		ug/L	0.5
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/L	5
67-64-1	Acetone	BRL		ug/L	10
75-15-0	Carbon Disulfide	BRL		ug/L	5
75-09-2	Methylene Chloride	BRL		ug/L	3
107-13-1	Acrylonitrile	BRL		ug/L	0.5
156-60-5	*trans*-1,2-Dichloroethene	BRL		ug/L	0.5
1634-04-4	Methyl *tert*-butyl Ether (MTBE)	BRL		ug/L	0.5
75-34-3	1,1-Dichloroethane	BRL		ug/L	0.5
594-20-7	2,2-Dichloropropane	BRL		ug/L	0.5
156-59-2	*cis*-1,2-Dichloroethene	BRL		ug/L	0.5
78-93-3	2-Butanone (MEK)	BRL		ug/L	5
74-97-5	Bromochloromethane	BRL		ug/L	0.5
109-99-9	Tetrahydrofuran (THF)	BRL		ug/L	5
67-66-3	Chloroform	BRL		ug/L	0.5
71-55-6	1,1,1-Trichloroethane	BRL		ug/L	0.5
56-23-5	Carbon Tetrachloride	BRL		ug/L	0.5
563-58-6	1,1-Dichloropropene	BRL		ug/L	0.5
71-43-2	Benzene	BRL		ug/L	0.5
107-06-2	1,2-Dichloroethane	BRL		ug/L	0.5
79-01-6	Trichloroethene	BRL		ug/L	0.5
78-87-5	1,2-Dichloropropane	BRL		ug/L	0.5
74-95-3	Dibromomethane	BRL		ug/L	0.5
75-27-4	Bromodichloromethane	BRL		ug/L	0.5
123-91-1	1,4-Dioxane	BRL		ug/L	500
10061-01-5	*cis*-1,3-Dichloropropene	BRL		ug/L	0.4
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/L	5
108-88-3	Toluene	BRL		ug/L	0.5
10061-02-6	*trans*-1,3-Dichloropropene	BRL		ug/L	0.4
79-00-5	1,1,2-Trichloroethane	BRL		ug/L	0.5
127-18-4	Tetrachloroethene	BRL		ug/L	0.5
142-28-9	1,3-Dichloropropane	BRL		ug/L	0.5
591-78-6	2-Hexanone	BRL		ug/L	5
124-48-1	Dibromochloromethane	BRL		ug/L	0.5
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/L	0.5
108-90-7	Chlorobenzene	BRL		ug/L	0.5
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/L	0.5
100-41-4	Ethylbenzene	BRL		ug/L	0.5
108-38-3/106-42-3	*meta*-Xylene and *para*-Xylene	BRL		ug/L	0.5
95-47-6	*ortho*-Xylene	BRL		ug/L	0.5
100-42-5	Styrene	BRL		ug/L	0.5
75-25-2	Bromoform	BRL		ug/L	0.5

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category: **EPA Method 8260B**
QC Batch ID: **VM5-3900-W**
Matrix: **Aqueous**
Instrument ID: **MS-5 HP 6890**
Analyzed: **02-19-09 08:51**
Analyst: **LMG**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
98-82-8	Isopropylbenzene	BRL		ug/L	0.5
108-86-1	Bromobenzene	BRL		ug/L	0.5
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/L	0.5
96-18-4	1,2,3-Trichloropropane	BRL		ug/L	0.5
110-57-6	*trans*-1,4-Dichloro-2-butene	BRL		ug/L	25
103-65-1	*n*-Propylbenzene	BRL		ug/L	0.5
95-49-8	2-Chlorotoluene	BRL		ug/L	0.5
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/L	0.5
106-43-4	4-Chlorotoluene	BRL		ug/L	0.5
98-06-6	*tert*-Butylbenzene	BRL		ug/L	0.5
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/L	0.5
135-98-8	*sec*-Butylbenzene	BRL		ug/L	0.5
541-73-1	1,3-Dichlorobenzene	BRL		ug/L	0.5
99-87-6	4-Isopropyltoluene	BRL		ug/L	0.5
106-46-7	1,4-Dichlorobenzene	BRL		ug/L	0.5
95-50-1	1,2-Dichlorobenzene	BRL		ug/L	0.5
104-51-8	*n*-Butylbenzene	BRL		ug/L	0.5
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/L	0.5
108-70-3	1,3,5-Trichlorobenzene	BRL		ug/L	0.5
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/L	0.5
87-68-3	Hexachlorobutadiene	BRL		ug/L	0.5
91-20-3	Naphthalene	BRL		ug/L	0.5
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/L	0.5
75-65-0	*tert*-Butyl Alcohol (TBA)	BRL		ug/L	20
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/L	0.5
637-92-3	Ethyl *tert*-butyl Ether (ETBE)	BRL		ug/L	0.5
994-05-8	*tert*-Amyl Methyl Ether (TAME)	BRL		ug/L	0.5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	10	9	**86** %	70 - 130 %
1,2-Dichloroethane-d_4	10	9	**87** %	70 - 130 %
Toluene-d_8	10	9	**87** %	70 - 130 %
4-Bromofluorobenzene	10	9	**90** %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample preparation performed by EPA Method 5030B.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Samples

		LCS		LCSD	
Category:	**EPA 8270C (Part 2)**	Instrument ID:	**MS-6 HP 6890**	Instrument ID:	**MS-6 HP 6890**
QC Batch ID:	**SV-2358-F**	Extracted:	**02-18-09 17:00**	Extracted:	**02-18-09 17:00**
Matrix:	**Aqueous**	Analyzed:	**02-19-09 13:14**	Analyzed:	**02-19-09 13:55**
Units:	**ug/L**	Analyst:	**MJB**	Analyst:	**MJB**

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
91-20-3	Naphthalene	5.0	4.0	**80** %	5.0	3.8	**76** %	**5** %	40 - 140 %	25%
91-57-6	2-Methylnaphthalene	5.0	3.6	**73** %	5.0	3.6	**72** %	**1** %	40 - 140 %	25%
208-96-8	Acenaphthylene	5.0	4.3	**86** %	5.0	4.3	**87** %	**1** %	40 - 140 %	25%
83-32-9	Acenaphthene	5.0	4.5	**91** %	5.0	4.5	**89** %	**2** %	40 - 140 %	25%
86-73-7	Fluorene	5.0	4.4	**88** %	5.0	4.3	**86** %	**2** %	40 - 140 %	25%
85-01-8	Phenanthrene	5.0	5.5	**111** %	5.0	5.4	**108** %	**3** %	40 - 140 %	25%
120-12-7	Anthracene	5.0	4.7	**94** %	5.0	4.5	**91** %	**4** %	40 - 140 %	25%
206-44-0	Fluoranthene	5.0	4.4	**87** %	5.0	4.4	**89** %	**2** %	40 - 140 %	25%
129-00-0	Pyrene	5.0	4.2	**85** %	5.0	4.4	**87** %	**3** %	40 - 140 %	25%
56-55-3	Benzo[a]anthracene	5.0	4.8	**96** %	5.0	4.6	**92** %	**4** %	40 - 140 %	25%
218-01-9	Chrysene	5.0	4.9	**98** %	5.0	4.9	**97** %	**0** %	40 - 140 %	25%
205-99-2	Benzo[b]fluoranthene	5.0	5.2	**103** %	5.0	4.8	**96** %	**7** %	40 - 140 %	25%
207-08-9	Benzo[k]fluoranthene	5.0	5.1	**102** %	5.0	4.7	**94** %	**8** %	40 - 140 %	25%
50-32-8	Benzo[a]pyrene	5.0	4.8	**96** %	5.0	4.6	**92** %	**4** %	40 - 140 %	25%
193-39-5	Indeno[1,2,3-c,d]pyrene	5.0	5.4	**109** %	5.0	4.8	**97** %	**12** %	40 - 140 %	25%
53-70-3	Dibenzo[a,h]anthracene	5.0	5.3	**106** %	5.0	4.6	**93** %	**13** %	40 - 140 %	25%
191-24-2	Benzo[g,h,i]perylene	5.0	5.3	**106** %	5.0	4.7	**94** %	**13** %	40 - 140 %	25%
87-68-3	Hexachlorobutadiene	5.0	3.2	**63** %	5.0	3.1	**61** %	**3** %	40 - 140 %	25%
118-74-1	Hexachlorobenzene	5.0	4.4	**88** %	5.0	4.3	**85** %	**4** %	40 - 140 %	25%
87-86-5	Pentachlorophenol	5.0	5.3	**106** %	5.0	4.9	**98** %	**7** %	30 - 130 %	25%

QC Surrogate Compound	Spiked	Measured	Recovery	Spiked	Measured	Recovery		QC Limits
2-Fluorophenol	20	11	**55** %	20	9.9	**50** %		15 - 110 %
Phenol-d5	20	8.9	**45** %	20	8.6	**43** %		15 - 110 %
Nitrobenzene-d5	10	7.3	**73** %	10	7.2	**72** %		30 - 130 %
2-Fluorobiphenyl	10	7.8	**78** %	10	7.8	**78** %		30 - 130 %
2,4,6-Tribromophenol	20	18	**89** %	20	17	**84** %		15 - 110 %
Terphenyl-d14	10	7.4	**74** %	10	7.3	**73** %		30 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Sample extraction performed by EPA Method 3510C.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category:	**EPA Method 8270C (Part 2)**	Instrument ID:	**MS-6 HP 6890**
QC Batch ID:	**SV-2358-F**	Extracted:	**02-18-09 17:00**
Matrix:	**Aqueous**	Analyzed:	**02-19-09 14:36**
		Analyst:	**MJB**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		ug/L	0.5
91-57-6	2-Methylnaphthalene	BRL		ug/L	0.5
208-96-8	Acenaphthylene	BRL		ug/L	0.5
83-32-9	Acenaphthene	BRL		ug/L	0.5
86-73-7	Fluorene	BRL		ug/L	0.5
85-01-8	Phenanthrene	BRL		ug/L	0.5
120-12-7	Anthracene	BRL		ug/L	0.5
206-44-0	Fluoranthene	BRL		ug/L	0.5
129-00-0	Pyrene	BRL		ug/L	0.5
56-55-3	Benzo[a]anthracene	BRL		ug/L	0.1
218-01-9	Chrysene	BRL		ug/L	0.1
205-99-2	Benzo[b]fluoranthene	BRL		ug/L	0.1
207-08-9	Benzo[k]fluoranthene	BRL		ug/L	0.1
50-32-8	Benzo[a]pyrene	BRL		ug/L	0.1
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/L	0.1
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/L	0.1
191-24-2	Benzo[g,h,i]perylene	BRL		ug/L	0.1
87-68-3	Hexachlorobutadiene	BRL		ug/L	0.5
118-74-1	Hexachlorobenzene	BRL		ug/L	0.5
87-86-5	Pentachlorophenol	BRL		ug/L	1.0

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2-Fluorophenol	20	9.6	**48** %	15 - 110 %
Phenol-d5	20	8.5	**43** %	15 - 110 %
Nitrobenzene-d5	10	6.6	**66** %	30 - 130 %
2-Fluorobiphenyl	10	7.4	**75** %	30 - 130 %
2,4,6-Tribromophenol	20	14	**70** %	15 - 110 %
Terphenyl-d14	10	7.1	**71** %	30 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method.
Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Samples

		LCS		LCSD	
Category:	**EPA 8270C (Part 1)**	Instrument ID:	**MS-3 HP 5890**	Instrument ID:	**MS-3 HP 5890**
QC Batch ID:	**SV-2358-F**	Extracted:	**02-18-09 17:00**	Extracted:	**02-18-09 17:00**
Matrix:	**Aqueous**	Analyzed:	**02-19-09 11:12**	Analyzed:	**02-19-09 11:53**
Units:	**ug/L**	Analyst:	**MJB**	Analyst:	**MJB**

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
62-75-9	N-Nitrosodimethylamine	50	29	**58** %	50	30	**59** %	**3** %	40 - 140 %	25%
110-86-1	Pyridine	50	24	**48** %	50	31	**62** %	**25** %	40 - 140 %	25%
108-95-2	Phenol	50	26	**51** %	50	29	**57** %	**11** %	30 - 130 %	25%
62-53-3	Aniline	50	43	**86** %	50	50	**101** %	**16** %	40 - 140 %	25%
111-44-4	Bis(2-chloroethyl) ether	50	42	**84** %	50	41	**81** %	**3** %	40 - 140 %	25%
95-57-8	2-Chlorophenol	50	40	**81** %	50	41	**83** %	**3** %	30 - 130 %	25%
541-73-1	1,3-Dichlorobenzene	50	33	**65** %	50	32	**63** %	**3** %	40 - 140 %	25%
106-46-7	1,4-Dichlorobenzene	50	34	**68** %	50	33	**67** %	**2** %	40 - 140 %	25%
100-51-6	Benzyl Alcohol	50	43	**87** %	50	45	**91** %	**5** %	30 - 130 %	25%
95-50-1	1,2-Dichlorobenzene	50	36	**72** %	50	35	**70** %	**3** %	40 - 140 %	25%
95-48-7	2-Methylphenol	50	41	**81** %	50	44	**89** %	**9** %	30 - 130 %	25%
108-60-1	Bis(2-chloroisopropyl) ether	50	42	**85** %	50	41	**83** %	**2** %	40 - 140 %	25%
106-44-5	4-Methylphenol	50	34	**69** %	50	38	**76** %	**9** %	30 - 130 %	25%
621-64-7	N-Nitrosodi-n-propylamine	50	47	**94** %	50	48	**96** %	**2** %	40 - 140 %	25%
98-86-2	Acetophenone	50	52	**104** %	50	51	**101** %	**3** %	40 - 140 %	25%
67-72-1	Hexachloroethane	50	34	**68** %	50	34	**67** %	**1** %	40 - 140 %	25%
98-95-3	Nitrobenzene	50	44	**88** %	50	39	**77** %	**13** %	40 - 140 %	25%
78-59-1	Isophorone	50	48	**96** %	50	43	**85** %	**12** %	40 - 140 %	25%
88-75-5	2-Nitrophenol	50	47	**94** %	50	42	**83** %	**12** %	30 - 130 %	25%
105-67-9	2,4-Dimethylphenol	50	43	**87** %	50	40	**79** %	**9** %	30 - 130 %	25%
111-91-1	Bis(2-chloroethoxy) methane	50	47	**95** %	50	42	**84** %	**12** %	40 - 140 %	25%
120-83-2	2,4-Dichlorophenol	50	47	**93** %	50	42	**84** %	**11** %	30 - 130 %	25%
120-82-1	1,2,4-Trichlorobenzene	50	42	**84** %	50	38	**75** %	**11** %	40 - 140 %	25%
106-47-8	4-Chloroaniline	50	48	**96** %	50	48	**97** %	**1** %	40 - 140 %	25%
87-68-3	Hexachlorobutadiene	50	41	**82** %	50	36	**73** %	**12** %	40 - 140 %	25%
59-50-7	4-Chloro-3-methylphenol	50	51	**101** %	50	45	**91** %	**11** %	30 - 130 %	25%
77-47-4	Hexachlorocyclopentadiene	50	36	**73** %	50	36	**72** %	**0** %	40 - 140 %	25%
88-06-2	2,4,6-Trichlorophenol	50	51	**101** %	50	51	**101** %	**0** %	30 - 130 %	25%
95-95-4	2,4,5-Trichlorophenol	50	51	**103** %	50	52	**105** %	**2** %	30 - 130 %	25%
91-58-7	2-Chloronaphthalene	50	47	**93** %	50	47	**93** %	**0** %	40 - 140 %	25%
88-74-4	2-Nitroaniline	50	52	**103** %	50	52	**105** %	**1** %	40 - 140 %	25%
100-25-4	1,4-Dinitrobenzene	50	55	**110** %	50	57	**113** %	**3** %	40 - 140 %	25%
131-11-3	Dimethyl phthalate	50	51	**103** %	50	52	**103** %	**1** %	40 - 140 %	25%
99-65-0	1,3-Dinitrobenzene	50	59	**117** %	50	59	**118** %	**1** %	40 - 140 %	25%
606-20-2	2,6-Dinitrotoluene	50	51	**102** %	50	52	**104** %	**2** %	40 - 140 %	25%
528-29-0	1,2-Dinitrobenzene	50	53	**105** %	50	54	**108** %	**2** %	40 - 140 %	25%
99-09-2	3-Nitroaniline	50	50	**99** %	50	53	**107** %	**7** %	40 - 140 %	25%
51-28-5	2,4-Dinitrophenol	50	56	**111** %	50	58	**115** %	**4** %	30 - 130 %	25%
100-02-7	4-Nitrophenol	50	34	**67** %	50	38	**77** %	**13** %	30 - 130 %	25%
132-64-9	Dibenzofuran	50	49	**99** %	50	49	**98** %	**1** %	40 - 140 %	25%
121-14-2	2,4-Dinitrotoluene	50	54	**108** %	50	54	**108** %	**0** %	40 - 140 %	25%
84-66-2	Diethyl phthalate	50	52	**105** %	50	53	**105** %	**1** %	40 - 140 %	25%
7005-72-3	4-Chlorophenyl phenyl ether	50	51	**102** %	50	52	**103** %	**1** %	40 - 140 %	25%
100-01-6	4-Nitroaniline	50	54	**108** %	50	55	**110** %	**2** %	40 - 140 %	25%
534-52-1	4,6-Dinitro-2-methylphenol	50	56	**112** %	50	55	**109** %	**3** %	30 - 130 %	25%
86-30-6	N-Nitrosodiphenylamine †	50	62	**124** %	50	61	**121** %	**2** %	40 - 140 %	25%
122-66-7	1,2-Diphenylhydrazine à	50	50	**100** %	50	50	**100** %	**1** %	40 - 140 %	25%
101-55-3	4-Bromophenyl phenyl ether	50	50	**100** %	50	51	**101** %	**1** %	40 - 140 %	25%

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Samples

		LCS		LCSD	
Category:	**EPA 8270C (Part 1)**	Instrument ID:	**MS-3 HP 5890**	Instrument ID:	**MS-3 HP 5890**
QC Batch ID:	**SV-2358-F**	Extracted:	**02-18-09 17:00**	Extracted:	**02-18-09 17:00**
Matrix:	**Aqueous**	Analyzed:	**02-19-09 11:12**	Analyzed:	**02-19-09 11:53**
Units:	**ug/L**	Analyst:	**MJB**	Analyst:	**MJB**

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
86-74-8	Carbazole	50	54	**108** %	50	53	**107** %	**1** %	40 - 140 %	25%
84-74-2	Di-*n*-butyl phthalate	50	54	**108** %	50	54	**108** %	**0** %	40 - 140 %	25%
85-68-7	Butyl benzyl phthalate	50	55	**111** %	50	56	**113** %	**2** %	40 - 140 %	25%
91-94-1	3,3'-Dichlorobenzidine	50	55	**110** %	50	54	**108** %	**2** %	40 - 140 %	25%
117-81-7	Bis(2-ethylhexyl) phthalate	50	52	**104** %	50	57	**113** %	**8** %	40 - 140 %	25%
117-84-0	Di-*n*-octyl phthalate	50	55	**110** %	50	61	**122** %	**10** %	40 - 140 %	25%

QC Surrogate Compound	Spiked	Measured	Recovery	Spiked	Measured	Recovery		QC Limits
2-Fluorophenol	20	9.5	**47** %	20	11	**53** %		15 - 110 %
Phenol-d5	20	8.6	**43** %	20	9.4	**47** %		15 - 110 %
Nitrobenzene-d5	10	6.9	**69** %	10	6.2	**62** %		30 - 130 %
2-Fluorobiphenyl	10	8.0	**80** %	10	8.2	**82** %		30 - 130 %
2,4,6-Tribromophenol	20	19	**94** %	20	19	**94** %		15 - 110 %
Terphenyl-d14	10	8.3	**83** %	10	9.0	**90** %		30 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Sample extraction performed by EPA Method 3510C.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

† Reported as sum of N-Nitrosodiphenylamine and Diphenylamine.

◊ Analyzed as Azobenzene.

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category: **EPA Method 8270C (Part 1)**
QC Batch ID: **SV-2358-F**
Matrix: **Aqueous**

Instrument ID: **MS-3 HP 5890**
Extracted: **02-18-09 17:00**
Analyzed: **02-19-09 12:35**
Analyst: **MJB**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
62-75-9	N-Nitrosodimethylamine	BRL		ug/L	5
110-86-1	Pyridine	BRL		ug/L	5
108-95-2	Phenol	BRL		ug/L	5
62-53-3	Aniline	BRL		ug/L	5
111-44-4	Bis(2-chloroethyl) ether	BRL		ug/L	5
95-57-8	2-Chlorophenol	BRL		ug/L	5
541-73-1	1,3-Dichlorobenzene	BRL		ug/L	5
106-46-7	1,4-Dichlorobenzene	BRL		ug/L	5
100-51-6	Benzyl Alcohol	BRL		ug/L	5
95-50-1	1,2-Dichlorobenzene	BRL		ug/L	5
95-48-7	2-Methylphenol	BRL		ug/L	5
108-60-1	Bis(2-chloroisopropyl) ether	BRL		ug/L	5
108-39-4/106-44-5	3 and 4-Methylphenol *	BRL		ug/L	5
621-64-7	N-Nitrosodi-n-propylamine	BRL		ug/L	5
98-86-2	Acetophenone	BRL		ug/L	5
67-72-1	Hexachloroethane	BRL		ug/L	5
98-95-3	Nitrobenzene	BRL		ug/L	5
78-59-1	Isophorone	BRL		ug/L	5
88-75-5	2-Nitrophenol	BRL		ug/L	5
105-67-9	2,4-Dimethylphenol	BRL		ug/L	5
111-91-1	Bis(2-chloroethoxy) methane	BRL		ug/L	5
120-83-2	2,4-Dichlorophenol	BRL		ug/L	5
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/L	5
106-47-8	4-Chloroaniline	BRL		ug/L	5
87-68-3	Hexachlorobutadiene	BRL		ug/L	5
59-50-7	4-Chloro-3-methylphenol	BRL		ug/L	5
77-47-4	Hexachlorocyclopentadiene	BRL		ug/L	5
88-06-2	2,4,6-Trichlorophenol	BRL		ug/L	5
95-95-4	2,4,5-Trichlorophenol	BRL		ug/L	5
91-58-7	2-Chloronaphthalene	BRL		ug/L	5
88-74-4	2-Nitroaniline	BRL		ug/L	5
100-25-4	1,4-Dinitrobenzene	BRL		ug/L	5
131-11-3	Dimethyl phthalate	BRL		ug/L	5
99-65-0	1,3-Dinitrobenzene	BRL		ug/L	5
606-20-2	2,6-Dinitrotoluene	BRL		ug/L	5
528-29-0	1,2-Dinitrobenzene	BRL		ug/L	5
99-09-2	3-Nitroaniline	BRL		ug/L	5
51-28-5	2,4-Dinitrophenol	BRL		ug/L	5
100-02-7	4-Nitrophenol	BRL		ug/L	5
132-64-9	Dibenzofuran	BRL		ug/L	5
121-14-2	2,4-Dinitrotoluene	BRL		ug/L	5
84-66-2	Diethyl phthalate	BRL		ug/L	5
7005-72-3	4-Chlorophenyl phenyl ether	BRL		ug/L	5
100-01-6	4-Nitroaniline	BRL		ug/L	5
534-52-1	4,6-Dinitro-2-methylphenol	BRL		ug/L	5

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category:	**EPA Method 8270C (Part 1)**	Instrument ID:	**MS-3 HP 5890**
QC Batch ID:	**SV-2358-F**	Extracted:	**02-18-09 17:00**
Matrix:	**Aqueous**	Analyzed:	**02-19-09 12:35**
		Analyst:	**MJB**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
86-30-6	N-Nitrosodiphenylamine †	BRL		ug/L	5
122-66-7	1,2-Diphenylhydrazine ◊	BRL		ug/L	5
101-55-3	4-Bromophenyl phenyl ether	BRL		ug/L	5
86-74-8	Carbazole	BRL		ug/L	5
84-74-2	Di-*n*-butyl phthalate	BRL		ug/L	5
85-68-7	Butyl benzyl phthalate	BRL		ug/L	5
91-94-1	3,3'-Dichlorobenzidine	BRL		ug/L	5
117-81-7	Bis(2-ethylhexyl) phthalate	BRL		ug/L	5
117-84-0	Di-*n*-octyl phthalate	BRL		ug/L	5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2-Fluorophenol	20	9	**47** %	15 - 110 %
Phenol-d5	20	8	**42** %	15 - 110 %
Nitrobenzene-d5	10	7	**70** %	30 - 130 %
2-Fluorobiphenyl	10	8	**76** %	30 - 130 %
2,4,6-Tribromophenol	20	15	**74** %	15 - 110 %
Terphenyl-d14	10	8	**83** %	30 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3510C.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

* Analyzed as 4-Methylphenol.

† Reported as sum of N-Nitrosodiphenylamine and Diphenylamine.

◊ Analyzed as Azobenzene.

GROUNDWATER ANALYTICAL

Certifications and Approvals

Groundwater Analytical maintains environmental laboratory certification in a variety of states.
Copies of our current certificates may be obtained from our website:

http://www.groundwateranalytical.com/qualifications.htm

CONNECTICUT

Department of Health Services, PH-0586 — Potable Water, Wastewater, Solid Waste and Soil
http://www.ct.gov/dph/lib/dph/environmental health/environmental laboratories/pdf/Out State.pdf

MASSACHUSETTS

Department of Environmental Protection, M-MA-103 — Potable Water and Non-Potable Water
http://public.dep.state.ma.us/labcert/labcert.aspx

Department of Labor,
Division of Occupational Safety, AA000195 — Asbestos Analytical Services, Class A
http://www.mass.gov/dos/forms/la-rpt list aa.pdf

NEW HAMPSHIRE

Department of Environmental Services, 202708 — Potable Water, Non-Potable Water, Solid and Chemical Materials
http://www4.egov.nh.gov/DES/NHELAP

NEW YORK

Department of Health, 11754 — Potable Water, Non-Potable Water, Solid and Hazardous Waste
http://www.wadsworth.org/labcert/elap/comm.html

NIST NATIONAL VOLUNTARY LABORATORY ACCREDITATION PROGRAM (NVLAP)

NVLAP Lab Code 200751-1 — Bulk Asbestos Fiber Analysis (PLM)
http://ts.nist.gov/Standards/scopes/plmtm.htm

RHODE ISLAND

Department of Health,
Division of Laboratories, LAO00054 — Potable and Non-Potable Water Microbiology, Organic and Inorganic Chemistry
http://www.health.ri.gov/labs/outofstatelabs.pdf

U.S. DEPARTMENT OF AGRICULTURE

USDA, Soil Permit, S-53921 — Foreign soil import permit

VERMONT

Department of Health, VT-87643 — Potable Water
http://healthvermont.gov/enviro/ph_lab/water_test.aspx#cert

GROUNDWATER ANALYTICAL

Certifications and Approvals

MASSACHUSETTS — **Department of Environmental Protection, M-MA-103**

Groundwater Analytical maintains MassDEP environmental laboratory certification for only the methods and analytes listed below. Analyses for certified analytes are conducted in accordance with MassDEP certification standards, except as may be specifically noted in the project narrative.

Potable Water (Drinking Water)

Analyte	Method
1,2-Dibromo-3-Chloropropane	EPA 504.1
1,2-Dibromoethane	EPA 504.1
Alkalinity, Total	SM 2320-B
Antimony	EPA 200.8
Antimony	EPA 200.9
Arsenic	EPA 200.8
Arsenic	EPA 200.9
Barium	EPA 200.7
Barium	EPA 200.8
Beryllium	EPA 200.7
Beryllium	EPA 200.8
Cadmium	EPA 200.7
Cadmium	EPA 200.8
Calcium	EPA 200.7
Chlorine, Residual Free	SM 4500-CL-G
Chromium	EPA 200.7
Copper	EPA 200.7
Copper	EPA 200.8
Cyanide, Total	Lachat 10-204-00-1-A
E. Coli (Treatment and Distribution)	EC-MUG SM 9221-F
E. Coli (Treatment and Distribution)	Enz. Sub. SM 9223
E. Coli (Treatment and Distribution)	NA-MUG SM 9222-G
Fecal Coliform (Source Water)	MF SM 9222-D
Fluoride	EPA 300.0
Fluoride	SM 4500-F-C
Heterotrophic Plate Count	SM 9215-B
Lead	EPA 200.8
Lead	EPA 200.9
Mercury	EPA 245.1
Nickel	EPA 200.7
Nickel	EPA 200.8
Nitrate-N	EPA 300.0
Nitrate-N	Lachat 10-107-04-1-C
Nitrite-N	EPA 300.0
Nitrite-N	Lachat 10-107-04-1-C
pH	SM 4500-H-B
Selenium	EPA 200.8
Selenium	EPA 200.9
Silver	EPA 200.7
Silver	EPA 200.8
Sodium	EPA 200.7
Sulfate	EPA 300.0
Thallium	EPA 200.8
Thallium	EPA 200.9
Total Coliform (Treatment and Distribution)	Enz. Sub. SM 9223
Total Coliform (Treatment and Distribution)	MF SM 9222-B
Total Dissolved Solids	SM 2540-C
Trihalomethanes	EPA 524.2
Turbidity	SM 2130-B
Volatile Organic Compounds	EPA 524.2

Non-Potable Water (Wastewater)

Analyte	Method
Aldrin	EPA 608
Alkalinity, Total	Lachat 10-303-31-1-A
Alpha-BHC	EPA 608
Aluminum	EPA 200.7
Aluminum	EPA 200.8

Non-Potable Water (Wastewater)

Analyte	Method
Ammonia-N	Lachat 10-107-06-1-B
Antimony	EPA 200.7
Antimony	EPA 200.8
Antimony	EPA 200.9
Arsenic	EPA 200.7
Arsenic	EPA 200.8
Arsenic	EPA 200.9
Beryllium	EPA 200.7
Beryllium	EPA 200.8
Beta-BHC	EPA 608
Biochemical Oxygen Demand	SM 5210-B
Cadmium	EPA 200.7
Cadmium	EPA 200.8
Calcium	EPA 200.7
Chemical Oxygen Demand	SM 5220-D
Chlordane	EPA 608
Chloride	EPA 300.0
Chlorine, Total Residual	SM 4500-CL-G
Chromium	EPA 200.7
Chromium	EPA 200.8
Cobalt	EPA 200.7
Cobalt	EPA 200.8
Copper	EPA 200.7
Copper	EPA 200.8
Copper	EPA 200.9
Cyanide, Total	Lachat 10-204-00-1-A
DDD	EPA 608
DDE	EPA 608
DDT	EPA 608
Delta-BHC	EPA 608
Dieldrin	EPA 608
Endosulfan I	EPA 608
Endosulfan II	EPA 608
Endosulfan Sulfate	EPA 608
Endrin	EPA 608
Endrin Aldehyde	EPA 608
Fluoride	EPA 300.0
Gamma-BHC	EPA 608
Hardness (CaCO3), Total	EPA 200.7
Hardness (CaCO3), Total	SM 2340-B
Heptachlor	EPA 608
Heptachlor Epoxide	EPA 608
Iron	EPA 200.7
Kjeldahl-N	Lachat 10-107-06-02-D
Lead	EPA 200.7
Lead	EPA 200.9
Magnesium	EPA 200.7
Manganese	EPA 200.7
Manganese	EPA 200.8
Mercury	EPA 245.1
Molybdenum	EPA 200.7
Molybdenum	EPA 200.8
Nickel	EPA 200.7
Nickel	EPA 200.8
Nickel	EPA 200.9
Nitrate-N	EPA 300.0
Nitrate-N	Lachat 10-107-04-1-C
Non-Filterable Residue	SM 2540-D
Oil and Grease	EPA 1664

GROUNDWATER ANALYTICAL

Certifications and Approvals

MASSACHUSETTS **Department of Environmental Protection, M-MA-103**

Groundwater Analytical maintains MassDEP environmental laboratory certification for only the methods and analytes listed below. Analyses for certified analytes are conducted in accordance with MassDEP certification standards, except as may be specifically noted in the project narrative.

Non-Potable Water (Wastewater)

Analyte	Method
Orthophosphate	Lachat 10-115-01-1-A
pH	SM 4500-H-B
Phenolics, Total	EPA 420.4
Phenolics, Total	Lachat 10-210-00-1-B
Phosphorus, Total	Lachat 10-115-01-1-C
Phosphorus, Total	SM 4500-P-B,E
Polychlorinated Biphenyls (Oil)	EPA 600/4-81-045
Polychlorinated Biphenyls (Water)	EPA 608
Potassium	EPA 200.7
Selenium	EPA 200.7
Selenium	EPA 200.8
Selenium	EPA 200.9
Silver	EPA 200.7
Sodium	EPA 200.7
Specific Conductivity	SM 2510-B
Strontium	EPA 200.7
Sulfate	EPA 300.0
SVOC-Acid Extractables	EPA 625
SVOC-Base/Neutral Extractables	EPA 625
Thallium	EPA 200.7
Thallium	EPA 200.8
Thallium	EPA 200.9
Titanium	EPA 200.7
Total Dissolved Solids	SM 2540-C
Total Organic Carbon	SM 5310-B
Toxaphene	EPA 608
Vanadium	EPA 200.7
Vanadium	EPA 200.8
Volatile Aromatics	EPA 602
Volatile Aromatics	EPA 624
Volatile Halocarbons	EPA 624
Zinc	EPA 200.7
Zinc	EPA 200.8

ATTACHMENT E

Chemical Analysis Results
Summary Tables for Past Two Years

Notice of Intent
2010 Remediation General Permit
MAG 910000
Ipswich Power Plant
276 High Street
Ipswich, Massachusetts

TABLE 1: SUMMARY OF RGP INFLUENT SAMPLE CHEMICAL ANALYSIS RESULTS OCTOBER 2008 THROUGH MARCH 2009
Remediation General Permit Notice of Intent
Ipswich Power Plant
276 High Street
Ipswich, Massachusetts
MA DEP Release Tracking Number (RTN) 3-21793

Date	**10/8/08**	**11/3/08**	**12/10/08**	**1/8/09**	**2/11/09**	**3/11/09**
Sample Interval	**Month 65**	**Month 66**	**Month 67**	**Month 68**	**Month 69**	**Month 70**
Total Suspended Solids (mg/l)	NA	NA	NA	NA	11	NA
Total Residual Chlorine (mg/l)	BRL (0.02)	BRL (0.02)	BRL (0.02)	BRL (0.02)	BRL (0.02)	BRL (0.2)
Chromium, Hexavalent (mg/l)	NA	NA	NA	NA	BRL (0.01)	NA
Cyanide, Total (mg/l)	NA	NA	NA	NA	BRL (0.01)	NA
Total Petroleum Hydrocarbons (mg/l)	NA	NA	NA	NA	2.3	NA
Organic Compounds	Concentrations in Micrograms per Liter (µg/l)					
benzene	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (0.5)	BRL (0.5)
toluene	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (0.5)	BRL (0.5)
ethylbenzene	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (0.5)	BRL (0.5)
m-xylene and p-xylene	BRL (2)	BRL (2)	BRL (2)	BRL (2)	BRL (0.5)	BRL (0.5)
o-xylene	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (0.5)	BRL (0.5)
total BTEX	*BRL (1)*	*BRL (1)*	*BRL (1)*	*BRL (1)*	*BRL (0.5)*	*BRL (0.5)*
1,2-dibromoethane (EDB)	NA	NA	NA	NA	BRL (0.5)	BRL (0.5)
methyl tertiary butyl ether	BRL (20)	BRL (20)	BRL (20)	BRL (20)	0.5	BRL (0.5)
tertiary amyl methyl ether	BRL (20)	BRL (20)	BRL (20)	BRL (20)	BRL (0.5)	BRL (0.5)
methyl ethyl ketone (MEK) (2-butanone)	BRL (10)	BRL (10)	BRL (10)	BRL (10)	BRL (5)	BRL (5)
acenaphthene	NA	NA	NA	NA	BRL (0.5)	BRL (0.5)
naphthalene	NA	NA	NA	NA	BRL (0.5)	0.9
carbon tetrachloride	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (0.5)	BRL (0.5)
chlorobenzene	BRL (3.5)	BRL (3.5)	BRL (3.5)	BRL (3.5)	BRL (0.5)	BRL (0.5)

NOTES:

1. Samples were collected by Ransom Environmental Consultants, Inc. before any filtration/treatment. Samples collected in October 2008 through January 2009 were analyzed by Alpha Analytical, Inc. of Westborough, Massachusetts. Samples collected in February and March 2009 were analyzed by Groundwater Analytical of Buzzards Bay, Massachusetts.
2. BRL ( ) = below reporting limit indicated in parentheses; NA = not analyzed.
3. Total phthalates concentration is from the sum of individual analyses.
4. Influent sampling in February 2009 included the expanded list of RGP sampling parameters.

TABLE 1: SUMMARY OF RGP INFLUENT SAMPLE CHEMICAL ANALYSIS RESULTS OCTOBER 2008 THROUGH MARCH 2009
Remediation General Permit Notice of Intent
Ipswich Power Plant
276 High Street
Ipswich, Massachusetts
MA DEP Release Tracking Number (RTN) 3-21793

Date	**10/8/08**	**11/3/08**	**12/10/08**	**1/8/09**	**2/11/09**	**3/11/09**
Sample Interval	**Month 65**	**Month 66**	**Month 67**	**Month 68**	**Month 69**	**Month 70**
1,4-dichlorobenzene (p-DCB)	BRL (5)	BRL (5)	BRL (5)	BRL (5)	BRL (0.5)	BRL (0.5)
1,2-dichlorobenzene (o-DCB)	BRL (5)	BRL (5)	BRL (5)	BRL (5)	BRL (0.5)	BRL (0.5)
1,3-dichlorobenzene (m-DCB)	BRL (5)	BRL (5)	BRL (5)	BRL (5)	BRL (0.5)	BRL (0.5)
total dichlorobenzene	*BRL (5)*	*BRL (5)*	*BRL (5)*	*BRL (5)*	*BRL (0.5)*	*BRL (0.5)*
chloroethane	BRL (2)	7.5	13	8.5	3	BRL (0.5)
1,1-dichloroethane (DCA)	BRL (1.5)	BRL (1.5)	5.0	5.7	2	BRL (0.5)
1,2-dichloroethane (DCA)	BRL (1.5)	BRL (1.5)	BRL (1.5)	BRL (1.5)	BRL (0.5)	BRL (0.5)
1,1-dichloroethene (DCE)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (0.5)	BRL (0.5)
cis-1,2-dichloroethylene (cis-1,2-dichloroethene) (DCE)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (0.5)	BRL (0.5)
fluorene	NA	NA	NA	NA	BRL (0.5)	BRL (0.5)
phenanthrene	NA	NA	NA	NA	BRL (0.5)	BRL (0.5)
pyrene	NA	NA	NA	NA	BRL (0.5)	BRL (0.5)
methylene chloride	BRL (5)	BRL (5)	BRL (5)	BRL (5)	BRL (3)	BRL (3)
tetrachloroethylene (tetrachloroethene) (PCE)	BRL (1.5)	BRL (1.5)	BRL (1.5)	BRL (1.5)	BRL (0.5)	BRL (0.5)
1,1,1-trichloroethane (TCA)	BRL (2)	BRL (2)	BRL (2)	BRL (2)	2	BRL (0.5)
1,1,2-trichloroethane (TCA)	BRL (1.5)	BRL (1.5)	BRL (1.5)	BRL (1.5)	BRL (0.5)	BRL (0.5)
trichloroethylene (trichloroethene) (TCE)	BRL (1)	BRL (1)	BRL (1)	5.6	1	0.8
vinyl chloride	BRL (2)	BRL (2)	BRL (2)	BRL (2)	BRL (0.5)	BRL (0.5)

NOTES:

1. Samples were collected by Ransom Environmental Consultants, Inc. before any filtration/treatment. Samples collected in October 2008 through January 2009 were analyzed by Alpha Analytical, Inc. of Westborough, Massachusetts. Samples collected in February and March 2009 were analyzed by Groundwater Analytical of Buzzards Bay, Massachusetts.
2. BRL ( ) = below reporting limit indicated in parentheses; NA = not analyzed.
3. Total phthalates concentration is from the sum of individual analyses.
4. Influent sampling in February 2009 included the expanded list of RGP sampling parameters.

TABLE 1: SUMMARY OF RGP INFLUENT SAMPLE CHEMICAL ANALYSIS RESULTS OCTOBER 2008 THROUGH MARCH 2009
Remediation General Permit Notice of Intent
Ipswich Power Plant
276 High Street
Ipswich, Massachusetts
MA DEP Release Tracking Number (RTN) 3-21793

Date	**10/8/08**	**11/3/08**	**12/10/08**	**1/8/09**	**2/11/09**	**3/11/09**
Sample Interval	**Month 65**	**Month 66**	**Month 67**	**Month 68**	**Month 69**	**Month 70**
acetone	BRL (10)	BRL (10)	BRL (10)	BRL (10)	BRL (10)	BRL (10)
Total phenols	NA	NA	NA	NA	BRL (5)	BRL (5)
total phthalates[3]	*BRL (4.9)*	*BRL (4.9)*	*BRL (4.9)*	*BRL (4.9)*	*BRL (5)*	*BRL (5)*
bis(2-ethylhexyl)phthalate	BRL (4.9)	BRL (4.9)	BRL (4.9)	BRL (4.9)	BRL (5)	BRL (5)
Polychlorinated Biphenyls	Concentrations in µg/l					
all Aroclors	NA	NA	NA	NA	BRL (0.2)	BRL (0.2)
Total Metals	Concentrations in Milligrams per Liter (mg/l)					
antimony	NA	NA	NA	NA	BRL (0.003)	NA
arsenic	0.0136	0.0133	0.0113	0.0160	0.008	BRL (0.005)
cadmium	NA	NA	NA	NA	BRL (0.0002)	NA
chromium	NA	NA	NA	NA	BRL (0.01)	NA
copper	0.0184	0.0161	0.0152	0.0187	0.037	BRL (0.025)
lead	NA	NA	NA	NA	0.007	NA
nickel	0.0218	0.0112	0.0086	0.1167	0.010	NA
zinc	0.1734	0.0113	0.0152	0.0402	BRL (0.2)	BRL (0.2)
iron	11	8.2	8.5	BRL (0.05)	9.8	3.3
pH (standard units)	7.0	7.2	6.8	6.5	7.0	7.5

NOTES:

1. Samples were collected by Ransom Environmental Consultants, Inc. before any filtration/treatment. Samples collected in October 2008 through January 2009 were analyzed by Alpha Analytical, Inc. of Westborough, Massachusetts. Samples collected in February and March 2009 were analyzed by Groundwater Analytical of Buzzards Bay, Massachusetts.
2. BRL ( ) = below reporting limit indicated in parentheses; NA = not analyzed.
3. Total phthalates concentration is from the sum of individual analyses.
4. Influent sampling in February 2009 included the expanded list of RGP sampling parameters.

TABLE 2: SUMMARY OF RGP INFLUENT SAMPLE CHEMICAL ANALYSIS RESULTS —APRIL 2009 THROUGH MARCH 2010
Remediation General Permit Notice of Intent
Ipswich Power Plant
276 High Street
Ipswich, Massachusetts

Date	**4/9/09**	**5/13/09**	**6/9/09**	**7/7/09**	**8/14/09**	**9/17/09**	**10/19/09**	**11/10/09**	**12/10/09**	**1/07/10**	**2/10/10**	**3/10/10**
Sample Interval	**Month 71**	**Month 72**	**Month 73**	**Month 74**	**Month 75**	**Month 76**	**Month 77**	**Month 78**	**Month 79**	**Month 80**	**Month 81**	**Month 82**
Total Residual Chlorine (mg/l)	BRL (0.2)	BRL (0.2)	BRL (0.2)	NA	BRL (0.02)	BRL (0.02)	BRL (0.02)	BRL (0.02)	BRL (0.02)	BRL (0.02)	BRL (0.02)	BRL (0.02)
Organic Compounds	Concentrations in Micrograms per Liter (µg/l)											
benzene	BRL (3)	BRL (3)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)
toluene	BRL (3)	BRL (3)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)
ethylbenzene	BRL (3)	BRL (3)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)
m-xylene and p-xylene	BRL (3)	BRL (3)	BRL (2)	BRL (2)	BRL (2)	BRL (2)	BRL (2)	BRL (2)	BRL (2)	BRL (2)	BRL (2)	BRL (2)
o-xylene	BRL (3)	BRL (3)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)
Total BTEX	*BRL (3)*	*BRL (3)*	*BRL (2)*	*BRL (2)*	*BRL (2)*	*BRL (2)*	*BRL (2)*	*BRL (2)*	*BRL (2)*	*BRL (2)*	*BRL (2)*	*BRL (2)*
methyl tertiary butyl ether	BRL (3)	BRL (3)	BRL (20)	BRL (20)	BRL (20)	BRL (20)	BRL (20)	BRL (20)	BRL (20)	BRL (20)	BRL (20)	BRL (20)
tertiary butyl alcohol (TBA)	BRL (100)	BRL (100)	NA	NA	NA	NA	BRL (100)	BRL (100)	BRL (100)	BRL (100)	BRL (100)	BRL (100)
carbon tetrachloride	BRL (3)	BRL (3)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)
1,4-dichlorobenzene (p-DCB)	BRL (3)	BRL (3)	BRL (5)	BRL (5)	BRL (5)	BRL (5)	BRL (5)	BRL (5)	BRL (5)	BRL (5)	BRL (5)	BRL (5)
1,2-dichlorobenzene (o-DCB)	BRL (3)	BRL (3)	BRL (5)	BRL (5)	BRL (5)	BRL (5)	BRL (5)	BRL (5)	BRL (5)	BRL (5)	BRL (5)	BRL (5)
1,3-dichlorobenzene (m-DCB)	BRL (3)	BRL (3)	BRL (5)	BRL (5)	BRL (5)	BRL (5)	BRL (5)	BRL (5)	BRL (5)	BRL (5)	BRL (5)	BRL (5)
1,2-dichloroethane (DCA)	BRL (3)	BRL (3)	BRL (1.5)	BRL (1.5)	BRL (1.5)	BRL (1.5)	BRL (1.5)	BRL (1.5)	BRL (1.5)	BRL (1.5)	BRL (1.5)	BRL (1.5)
cis-1,2-dichloroethylene (cis-1,2-dichloroethene) (DCE)	BRL (3)	BRL (3)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)
methylene chloride	BRL (13)	BRL (13)	BRL (5)	BRL (5)	BRL (5)	BRL (5)	BRL (5)	BRL (5)	BRL (5)	BRL (5)	BRL (5)	BRL (5)
tetrachloroethylene (tetrachloroethene) (PCE)	BRL (3)	BRL (3)	BRL (1.5)	BRL (1.5)	BRL (1.5)	BRL (1.5)	BRL (1.5)	BRL (1.5)	BRL (1.5)	BRL (1.5)	BRL (1.5)	BRL (1.5)
1,1,1-trichloroethane (TCA)	BRL (3)	BRL (3)	BRL (2)	BRL (2)	BRL (2)	BRL (2)	BRL (2)	BRL (2)	BRL (2)	BRL (2)	BRL (2)	BRL (2)
1,1,2-trichloroethane (TCA)	BRL (3)	BRL (3)	BRL (1.5)	BRL (1.5)	BRL (1.5)	BRL (1.5)	BRL (1.5)	BRL (1.5)	BRL (1.5)	BRL (1.5)	BRL (1.5)	BRL (1.5)
trichloroethylene (trichloroethene) (TCE)	BRL (3)	BRL (3)	BRL (1)	BRL (1)	BRL (1)	1.6	BRL (1)	5.7	1.8	8.3	BRL (1)	1.6
acetone	BRL (50)	BRL (50)	BRL (10)	BRL (10)	BRL (10)	BRL (10)	BRL (10)	BRL (10)	BRL (10)	BRL (10)	BRL (10)	BRL (10)
total phthalates[3]	BRL (5)	BRL (5)	BRL (5)	BRL (4.9)	BRL (4.9)	NA	BRL (4.9)	29	BRL (9.8)	BRL (4.9)	BRL (4.8)	BRL (5)
1,4-dioxane	BRL (2,500)	BRL (2,500)	BRL (2,000)	BRL (2,000)	BRL (2,000)	BRL (2,000)	BRL (2,000)	BRL (2,000)	BRL (2,000)	BRL (2,000)	BRL (2,000)	BRL (2,000)

NOTES:

1. Samples were collected by Ransom Environmental Consultants, Inc. Samples collected in April and May 2009 were analyzed by Groundwater Analytical of Buzzards Bay, Massachusetts. Subsequent amples were analyzed by Alpha Analytical, Inc., of Westborough, Massachusetts.
2. BRL ( ) = below reporting limit indicated in parentheses; NA = not analyzed.
3. Total phthalates concentration is from the sum of individual analyses.
4. pH was recorded in the field at the time of sampling.
5. Influent sampling in February 2009 included the expanded list of RGP sampling parameters.

TABLE 2: SUMMARY OF RGP INFLUENT SAMPLE CHEMICAL ANALYSIS RESULTS —APRIL 2009 THROUGH MARCH 2010
Remediation General Permit Notice of Intent
Ipswich Power Plant
276 High Street
Ipswich, Massachusetts

Date	**4/9/09**	**5/13/09**	**6/9/09**	**7/7/09**	**8/14/09**	**9/17/09**	**10/19/09**	**11/10/09**	**12/10/09**	**1/07/10**	**2/10/10**	**3/10/10**
Sample Interval	**Month 71**	**Month 72**	**Month 73**	**Month 74**	**Month 75**	**Month 76**	**Month 77**	**Month 78**	**Month 79**	**Month 80**	**Month 81**	**Month 82**
Total Metals	Concentrations in Milligrams per Liter (mg/l)											
arsenic	BRL (0.005)	0.008	0.0135	0.0114	0.0174	0.0090	0.0193	0.0227	0.0033	0.0072	0.0102	0.0049
copper	0.049	0.074	0.0113	0.0191	0.0305	0.0191	0.0563	0.3068	0.0495	0.0388	0.0426	0.0177
nickel	NA	NA	0.0323	0.014	0.0098	0.0088	0.0231	0.0321	0.0076	0.0169	0.0113	0.0041
zinc	0.04	BRL (0.2)	0.0196	0.0344	0.0641	0.0175	0.086	1.081	0.0338	0.0622	0.0662	0.0404
iron	5.4	13	9.9	6	9.1	5.4	12	20	1.8	5.6	9	4.1
pH (standard units)	7.1	6.8	6.8	NA	7.4	NA	6.8	6.8	7.0	7.1	6.7	7.37

NOTES:

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2. BRL ( ) = below reporting limit indicated in parentheses; NA = not analyzed.
3. Total phthalates concentration is from the sum of individual analyses.
4. pH was recorded in the field at the time of sampling.
5. Influent sampling in February 2009 included the expanded list of RGP sampling parameters.

TABLE 3 SUMMARY OF RGP INFLUENT SAMPLE CHEMICAL ANALYSIS RESULTS—APRIL THROUGH NOVEMBER 2010
Remediation General Permit Notice of Intent
Ipswich Power Plant
276 High Street
Ipswich, Massachusetts

Date	**Month 83**	**Month 84**	**Month 85**	**Month 86**	**Month 87**	**Month 88**	**Month 89**	**Month 90**
Sample Interval	**4/13/10**	**5/14/10**	**6/4/10**	**7/13/10**	**8/3/10**	**9/13/10**	**10/8/10**	**11/5/10**
Organic Compounds	Concentrations in Micrograms per Liter (µg/l)							
benzene	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)
ethylbenzene	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)
m-xylene & p-xylene	BRL (2)	BRL (2)	BRL (2)	BRL (2)	BRL (2)	BRL (2)	BRL (2)	BRL (2)
o-xylene	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)
Total BTEX	*BRL (2)*	*BRL (2)*	*BRL (2)*	*BRL (2)*	*BRL (2)*	*BRL (2)*	*BRL (2)*	*BRL (2)*
methyl tertiary butyl ether	BRL (20)	BRL (20)	BRL (20)	BRL (20)	BRL (20)	BRL (20)	BRL (20)	BRL (20)
tertiary butyl alcohol	BRL (100)	BRL (100)	BRL (100)	BRL (100)	BRL (100)	BRL (100)	BRL (100)	BRL (100)
carbon tetrachloride	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)
1,4-dichlorobenzene (p-DCB)	BRL (5)	BRL (5)	BRL (5)	BRL (5)	BRL (5)	BRL (5)	BRL (5)	BRL (5)
1,2-dichlorobenzene (o-DCB)	BRL (5)	BRL (5)	BRL (5)	BRL (5)	BRL (5)	BRL (5)	BRL (5)	BRL (5)
1,3-dichlorobenzene (m-DCB)	BRL (5)	BRL (5)	BRL (5)	BRL (5)	BRL (5)	BRL (5)	BRL (5)	BRL (5)
1,2-dichloroethane (DCA)	BRL (1.5)	BRL (1.5)	BRL (1.5)	BRL (1.5)	BRL (1.5)	BRL (1.5)	BRL (1.5)	BRL (1.5)
cis-1,2-dichloroethylene (cis-1,2-dichloroethene) (DCE)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)
methylene chloride	BRL (5)	BRL (5)	BRL (5)	BRL (5)	BRL (5)	BRL (5)	BRL (5)	BRL (5)
tetrachloroethylene (tetrachloroethene) (PCE)	BRL (1.5)	BRL (1.5)	BRL (1.5)	BRL (1.5)	BRL (1.5)	BRL (1.5)	BRL (1.5)	BRL (1.5)
1,1,1-trichloroethane (TCA)	BRL (2)	BRL (2)	BRL (2)	BRL (2)	BRL (2)	BRL (2)	BRL (2)	BRL (2)

NOTES:

1. Samples were collected by Ransom Environmental Consultants, Inc., and analyzed by Alpha Analytical, Inc., of Westborough, Massachusetts.
2. BRL ( ) = below reporting limit indicated in parentheses.

TABLE 3 SUMMARY OF RGP INFLUENT SAMPLE CHEMICAL ANALYSIS RESULTS—APRIL THROUGH NOVEMBER 2010
Remediation General Permit Notice of Intent
Ipswich Power Plant
276 High Street
Ipswich, Massachusetts

Date	**Month 83**	**Month 84**	**Month 85**	**Month 86**	**Month 87**	**Month 88**	**Month 89**	**Month 90**
Sample Interval	**4/13/10**	**5/14/10**	**6/4/10**	**7/13/10**	**8/3/10**	**9/13/10**	**10/8/10**	**11/5/10**
1,1,2-trichloroethane (TCA)	BRL (1.5)	BRL (1.5)	BRL (1.5)	BRL (1.5)	BRL (1.5)	BRL (1.5)	BRL (1.5)	BRL (1.5)
trichloroethylene (trichloroethene) (TCE)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)	BRL (1)
acetone	BRL (10)	BRL (10)	BRL (10)	BRL (10)	BRL (10)	BRL (10)	BRL (10)	BRL (10)
1,4-dioxane	BRL (2,000)	BRL (2,000)	BRL (2,000)	BRL (2,000)	BRL (2,000)	BRL (2,000)	BRL (2,000)	BRL (2,000)
Total Phthalates	*BRL (5)*	*BRL (5)*	*BRL (5)*	*BRL (9.8)*	*BRL (25)*	*BRL (10)*	*BRL (25)*	*BRL (25)*
Total Metals	Concentrations in Milligrams per Liter (mg/l)							
arsenic	0.009	0.0121	0.025	0.0127	0.0249	0.0557	0.0201	0.0147
copper	0.0322	0.0236	0.1272	0.0202	0.0597	0.0298	0.0339	0.0435
nickel	0.005	0.0057	0.0046	0.0037	0.0134	0.0142	0.0142	0.0033
zinc	0.0241	0.0369	0.0782	0.0433	0.0917	0.0579	0.0299	0.0303
iron	8.4	11	19	7.6	14	17	11	6.9
Total Residual Chlorine (mg/l)	BRL (0.02)	BRL (0.02)	BRL (0.02)	BRL (0.02)	BRL (0.02)	BRL (0.02)	BRL (0.02)	BRL (0.02)
pH (standard units)	7.05	7.00	7.04	7.04	7.51	7.84	7.00	7.15

NOTES:

1. Samples were collected by Ransom Environmental Consultants, Inc., and analyzed by Alpha Analytical, Inc., of Westborough, Massachusetts.
2. BRL ( ) = below reporting limit indicated in parentheses.

ATTACHMENT F

Massachusetts Department of Environmental Protection
Transmittal Form for Permit Application and Payment

Notice of Intent
2010 Remediation General Permit
MAG 910000
Ipswich Power Plant
276 High Street
Ipswich, Massachusetts

Enter your transmittal number → X236038 (Transmittal Number)

Your unique Transmittal Number can be accessed online: http://mass.gov/dep/service/online/trasmfrm.shtml

Massachusetts Department of Environmental Protection

Transmittal Form for Permit Application and Payment

1. Please type or print. A separate Transmittal Form must be completed for each permit application.

2. Make your check payable to the Commonwealth of Massachusetts and mail it with a copy of this form to: DEP, P.O. Box 4062, Boston, MA 02211.

3. Three copies of this form will be needed.

Copy 1 - the original must accompany your permit application. **Copy 2** must accompany your fee payment. **Copy 3** should be retained for your records

4. Both fee-paying and exempt applicants must mail a copy of this transmittal form to:

MassDEP
P.O. Box 4062
Boston, MA
02211

*** Note:**
For BWSC Permits, enter the LSP.

A. Permit Information

BRPWM 12	Remediation General Permit
1. Permit Code: 7 or 8 character code from permit instructions	2. Name of Permit Category

Discharge from Groundwater Treatment System
3. Type of Project or Activity

B. Applicant Information – Firm or Individual

Town of Ipswich Power Company
1. Name of Firm - Or, if party needing this approval is an individual enter name below:

2. **Last Name** of Individual	3. **First Name** of Individual	4. MI

272 High Street
5. Street Address

6. City/Town	7. State	8. Zip Code	9. Telephone #	10. Ext. #
Ipswich	MA	01938	978-356-6635	

11. Contact Person	12. e-mail address (optional)
Timothy Henry	thenry@ipswichutilities.org

C. Facility, Site or Individual Requiring Approval

Ipswich Power Plant
1. Name of Facility, Site Or Individual
276 High Street
2. Street Address

3. City/Town	4. State	5. Zip Code	6. Telephone #	7. Ext. #
Ipswich	MA	01938	978-356-6635	

8. DEP Facility Number (if Known)	9. Federal I.D. Number (if Known)	10. BWSC Tracking # (if Known)
		RTN 3-21793

D. Application Prepared by (if different from Section B)*

Ransom Environmental Consultants, Inc.
1. Name of Firm Or Individual
Brown's Wharf
2. Address

3. City/Town	4. State	5. Zip Code	6. Telephone #	7. Ext. #
Newburyport	MA	01950	978-465-1822	

8. Contact Person	9. LSP Number (BWSC Permits only)
Nancy E. Marshall	

E. Permit - Project Coordination

1. Is this project subject to MEPA review? ☐ yes ☒ no
   If yes, enter the project's EOEA file number - assigned when an Environmental Notification Form is submitted to the MEPA unit:

EOEA File Number

F. Amount Due

DEP Use Only

Permit No:

Rec'd Date:

Reviewer:

Special Provisions:

1. ☒ **Fee** Exempt (city, town or municipal housing authority)(state agency if fee is $100 or less).
   There are no fee exemptions for BWSC permits, regardless of applicant status.
2. ☐ Hardship Request - payment extensions according to 310 CMR 4.04(3)(c).
3. ☐ Alternative Schedule Project (according to 310 CMR 4.05 and 4.10).
4. ☐ Homeowner (according to 310 CMR 4.02).

Check Number	Dollar Amount	Date