

# CLEAN SOILS

ENVIRONMENTAL, LTD.

## LETTER OF TRANSMITTAL

To: **US Environmental Protection Agency**  
**RGP-NOC Processing**  
**Municipal Assistance Unit**  
Address: **1 Congress Street, Suite 1100**  
**Boston, MA 02114-2023**

Date: **2/1/06**  
Project #: **2002.01**  
Regarding: **RGF**  
# Pages **Numerous**  
Enclosed:

Via **First Class**

The following items are enclosed for your review:

**EPA Remediation General Permit**

Dear EPA Municipal Assistance Unit:

Please find the enclosed EPA Remediation General Permit for your review. Please feel free to contact me at 978-356-1177 ext. 13 regarding any questions you may have. Thank you.

Signed:

  
Stephan H. Landry

Hydrogeologist / Project Manager

# CLEAN SOILS ENVIRONMENTAL LTD

January 30, 2006

US Environmental Protection Agency  
RGP-NOC Processing  
Municipal Assistance Unit  
1 Congress Street, Suite 1100  
Boston, MA 02114-2023

Re: Remediation General Permit – Notice of Intent  
Town of Ipswich Power Plant  
276 High Street, Ipswich, MA 01938  
NPDES Exclusion Permit MA031-058  
CSE Project No. 2002.01

FEB - 2 2006

Dear EPA Municipal Assistance Unit:

On behalf of the Town of Ipswich, Clean Soils Environmental, Ltd. (CSE) has prepared the following Notice of Intent of a Remediation General Permit (RGP) to continue operation of a sump dewatering system at the Town of Ipswich Power Plant facility in Ipswich, MA. Since May 29, 2003 the facility has been operating a sump dewatering system under a National Pollutant Discharge Elimination System (NPDES) Exclusion Permit #MA031-058. Based upon the need for dewatering of the basement section of the building as discussed in further detail herein, the subject discharge for this RGP should be classified as a Category IV (Miscellaneous Discharge) and Subcategory D (Long-Term Remediation of a Non-Residential Sump). As part of this RGP, two variances were permitted by the Massachusetts Department of Environmental Protection (DEP) because the discharge eventually leads to the Egypt River that contains a National Heritage Endangered Species Program (NHESP) habitat and an Area of Critical Environmental Concern (ACEC).

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In March and April 2003, CSE worked with the Town of Ipswich Electric Department to develop and operate a groundwater treatment system under an EPA approved NPDES Exclusion Permit. In 2002 and 2003, CSE conducted multiple soil and groundwater investigations at the property and determined that groundwater from the sump pump system contained low concentrations of fuel oil, waste oil, and chlorinated solvents. Free phase or non-aqueous phase liquid (NAPL) from the oils was also observed in some portion of the sump system. In early 2003 an oil/water separator system including carbon treatment was proposed for operation under the NPDES Exclusion Permit. On April 10, 2003 a request for a NPDES Permit Exclusion was submitted to EPA. On May 14, 2003 the EPA issued a letter to Tim Henry, Director of Utilities of the Town Of Ipswich, regarding approval to operate the groundwater treatment system and discharge the treated effluent to the adjacent cooling pond under NPDES Exclusion Permit #MA03I-058.

A Request for Determination of Applicability (RDA) was submitted to the Town of Ipswich Conservation Commission on April 7, 2003 and a Negative Determination was made at the public hearing on April 23, 2003.

Based upon the oil and hazardous materials detected in soil and groundwater in 2002, the Ipswich Power Plant facility was listed as Disposal Site under Release Tracking Number (RTN) 3-21793. Concurrent with the 2003 NPDES Exclusion Permit and RDA submittals, a Release Abatement Measure (RAM) Plan was submitted to the Massachusetts Department of Environmental Protection (MDEP) for operation of the treatment system in accordance with the Massachusetts Contingency Plan (MCP) codified as 310 CMR 40.0000. Since May 2003, CSE has submitted RAM Status Reports on a biannual basis to MDEP. However, this RGP must be approved independent of the Disposal Site RTN because future operation of the sump dewatering system may continue after the site has achieved closure upon submittal of a Response Action Outcome (RAO) submittal to MDEP. The enclosed tables include the analytical data that has been submitted to EPA under a NPDES Exclusion Permit and DEP under a RAM since start of the treatment system in May 2003.

**Treatment System**

As shown in the Treatment Works Plan (Figure 3) and Process Diagram (Figure 5), groundwater that infiltrates into the sumps in the building is pumped from 6 secondary pumps to a Primary Sump #1, then through an oil/water separator followed by two 300-pound vessels for carbon treatment, and then pumped out to the Cooling Pond. As shown in Figure 4, the Cooling Pond covers an area of approximately 0.6 acre, is an average of 5

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**ACEC and NHESP Habitats**

According to a Massachusetts Geographic Information System (GIS) Site Scoring Map, this portion of the Egypt River is part of a National Heritage Endangered Species Program (NHESP) habitat and an Area of Critical Environmental Concern (ACEC). As shown in the enclosed NHESP list for the Town of Ipswich, there are no species of concern applicable to this area as listed by the US Fish and Wildlife Service (i.e. *Shortnose Sturgeon*, *Dwarf Wedge Mussel*, *Bog Turtle*, and *Northern Red Belly Cooter*) or Essex County (i.e. *Bald Eagle*, *Piping Plover*, *Shortnose Sturgeon*, *Small Whorled Pogonia*, *Kemp's Red Sea Turtle*, and *the Logger Head Sea Turtle*). A MESA Information request form to identify species of concern was submitted to NHESP on January 3, 2006. As shown on the enclosed NHESP letter dated January 5, 2006, the New England Silt Snail was the only species of concern identified. On January 18, 2005 the NHESP issued a letter to Stephan Landry of CSE stating that "the NHESP has determined that this project [i.e., the RGP], as currently proposed, will not adversely affect the actual habitat of the state-protected rare wildlife species and that no further review of this project is necessary".

On January 5, 2006, Mr. Paul Hogan of MDEP contacted Stephan Landry of CSE to indicate that discharge to the Egypt River, which includes an ACEC area, is approved and an approval letter is forthcoming.

On January 9, 2006, CSE collected influent samples from the existing treatment system for laboratory analyses in order to meet the new testing requirements of the RGP. As shown in the laboratory reports and data summary tables attached at the end of this report, iron was the only analyte that exceeded the discharge limits. However, based upon the dilution factor calculations derived from the Egypt River and sump discharge flows, reasonable potential for exceedance of the Appendix III limits is not expected. Monitoring, sampling, and report submittals are expected to continue in accordance with the current NPDES Exclusion Permit until EPA issues approval of the NOI RGP.

In accordance with the NOI-RGP, a copy of the completed NOI-RGP is being submitted to the MDEP Division of Watershed Management, 627 Main Street, 2<sup>nd</sup> Floor, Worcester, MA, 01608. A copy of the DEP transmittal form (#W073801) for Permit Application and Payment is also being submitted to DEP, P.O. Box 4062, Boston, MA 02111. Because this permit is for a municipality (Town of Ipswich), no fee is required.

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If you have any questions concerning the above-mentioned information, please do not hesitate to call.

Respectfully submitted,

CLEAN SOILS ENVIRONMENTAL, LTD.

William H. Mitchell, Jr., LSP  
President/LSP/Geologist

Stephan H. Landry  
Project Manager / Hydrogeologist

cc:

Robert T. Markel, Town Manager  
Mr. Tim Henry, Manager of Ipswich Electric Department  
MDEP Division of Watershed Management

Attachments:

Form for Notice of Intent for General Remediation Permit  
Figure 1 – Site Locus Map (USGS Quadrangle)  
Figure 2 – MCP Site Scoring Map  
Figure 3 – Treatment Works Plan View  
Figure 4 – Process Diagram  
Figure 5 – Cooling Pond Plan  
Lab Data Summary Tables (2003-2005)  
Pump Record Tables (2003-2005)  
MSDS Sheets (2) for Copper Sulfate  
Copy of NPDES Exclusion Permit Letter (2003)  
Division of Fisheries & Wildlife Letters (January 5 and 18, 2006)  
Copy MDEP Transmittal Form for Permit Application and Payment (W073801)  
Laboratory Reports (From Samples Collected January 9, 2006)

**Appendix V: Notice of Intent (NOI), Notice of Change (NOC), and Notice of Termination (NOT) Suggested Forms & Instructions**

## **I. Suggested Notice of Intent (NOI) Form**

In order to be covered by the remediation general permit (RGP), applicants must submit a written Notice of Intent (NOI) to EPA Region I and the appropriate state agency. **All parties meeting the definition of “operator” must fill out, sign, and submit separate NOIs.**

The “operator” is defined in Part I.B.1. as the person<sup>1</sup> who has operational control over plans and specifications, or the person who has day-to-day supervision and control of activities occurring at the site. For purposes of this permit, the operator is either:

- i. The owner<sup>2</sup> (e.g., title holder, developer, or easement holder of the property) if that entity is performing all work related to complying with this permit; **or**
- ii. Both the owner<sup>2</sup> (e.g., title holder, developer, or easement holder of the property) and contractor(s) if a contractor(s) has been hired to perform work related to complying with this permit.

This means that each party meeting the definition of operator should apply for coverage under the RGP if it has operational control over either the project site plans and specifications, including the ability to make modifications to those plans and specifications (e.g., the property owner), **or** has day-to-day operational control of those activities at a project which are necessary to ensure compliance with permit conditions (e.g., the contractor). Where a party’s activity is part of a larger common plan (e.g., for the development or sale of the property), that party is only responsible for applying for the portions of the project for which it meets the definition of “operator.” In many instances, there may be more than one party at a site performing tasks related to “operational control” and hence, more than one operator must submit an NOI. Depending on the site and the relationship between the parties (e.g., owner, contractor, etc.), there could be either a single party acting as site operator and consequently responsible for obtaining permit coverage, or there could be two or more operators all needing permit coverage.

The following are three general “operator” scenarios (variations on any of these three are possible, especially as the number of owners and contractors increases):

- ▶ *“Owner” as “Operator” - sole permittee.* The property owner designs the structures and control systems for the site, develops and implements the BMPP, and serves as general contractor (or has an on-site representative with full authority to direct day-to-day operations). Under the definition of operator, in this case, the “Owner” would be considered the “operator” and therefore the only party that needs permit coverage. Everyone else working on the site may be considered subcontractors and do not need to apply for permit coverage.

- ▶ *“Contractor” as “Operator” - sole permittee.* The property owner hires a company (e.g., a contractor) to design the project and oversee all aspects, including preparation and implementation of the BMPP and compliance with the permit (e.g., a “turnkey” project). Here, the contractor would likely be the only party needing a permit. It is under this scenario that an individual having a personal residence built for his own use (e.g., not those to be sold for profit or used as rental property) would not be considered an operator. Similarly, EPA expects that property owners hiring a contractor or consultant to perform groundwater remediation work (e.g., due to a leaking fuel oil tank) would come under this type of scenario. EPA believes that the contractor, being a professional in the industry, should be the responsible entity rather than the individual. The contractor is better equipped to meet the requirements of both applying for permit coverage and developing and properly implementing the plans needed to comply with the permit. However, property owners would also meet the definition of “operator” and require permit coverage in instances where they perform any of the required tasks on their personal properties.
  
- ▶ *“Owner” and “Contractor” as “Operators” - co-permittees.* The owner retains control over any changes to site plans, BMPPs, or wastewater conveyance or control designs, but the contractor is responsible for conducting and overseeing the actual activities (e.g., excavation, installation and operation of treatment train, etc.) and daily implementation of BMPP and other permit conditions. In this case, **both** parties need to apply for coverage.

Generally, a person would not be considered an “operator,” and subsequently would not need permit coverage, if: 1) that person is a subcontractor hired by, and under the supervision of, the owner or a general contractor (e.g., if the contractor directs the subcontractor’s activities on-site, it is probably not an operator); or 2) the person’s activities would otherwise result in the need for coverage under the RGP but another operator has legally assumed responsibility for the impacts of project activities.

**A. Instructions for the Suggested Notice of Intent (NOI)** - At a minimum, the Notice of Intent must include the following for each individual facility or site. Additional information may be attached as needed.

**1. General facility/site information.**

- a) Provide the **facility/site** name, mailing address, and telephone and fax numbers. Provide the facility SIC code(s). Provide the site location, including longitude and latitude.
- b) Provide the property **owner’s** name, address, email address, telephone and fax numbers, if different from the site information. Indicate whether the owner is a Federal, State, Tribal, private, or other entity.

- 2) a prior NPDES application (Form 1 & 2C) has ever been filed for the discharge (if so, provide the tracking number and date that the application was submitted to EPA);
  - 3) the discharge is a “new discharge” as defined by 40 CFR 122.2; and
  - 4) for sites in Massachusetts, is the discharge covered under the MA Contingency Plan (MCP) and exempt from state permitting.
- e) Indicate whether there is any ongoing state permitting, licensing, or other action regarding the facility or site which is generating the discharge. If “yes,” provide any site identification number assigned by the state of NH or MA, any permit or license number assigned, and the state agency contact information (e.g. name, location, telephone no.).
- f) Indicate whether or not the facility is covered by other EPA permits including: the multi-sector storm water general permit; the Phase I or II Construction Storm Water General Permit; an individual NPDES permit; or, any other water quality-related individual or general permit. If so, provide permit tracking number(s).

## **2. Discharge information.**

- a) Describe the discharge activities to be covered by the permit. Attach additional sheets as needed.
- b) Provide the following information about each discharge:
- 1) the number of discharge points;
  - 2) the **maximum** and **average flow rate** of the discharge in cubic feet per second. For the average flow magnitude, include the units and appropriate notation if this value is a calculated design value or estimate if technical/design information is not available;
  - 3) the latitude and longitude of each discharge with an accuracy of 100 feet (see EPA’s siting tool at: [http://www.epa.gov/tri/report/siting\\_tool/](http://www.epa.gov/tri/report/siting_tool/));
  - 4) the total volume of potential discharge (gal), only if hydrostatic testing;
  - 5) indication whether the discharge(s) is intermittent or seasonal and if ongoing.
- c) Provide the expected start and end dates of discharge (month/day/year)
- d) 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).

**3. Contaminant information.** In order to complete section I.3. of the NOI, the applicant will need to take a minimum of one sample of the untreated water and have it analyzed for **all** of the parameters listed in Appendix III. The applicant may use historical data as a substitute for the new sample if the data was collected no more than 2 years prior to the effective date of the permit and if collected pursuant to: i. Massachusetts’ regulations 310 CMR 40.0000, the Massachusetts Contingency Plan (“Chapter 21E”); ii. New Hampshire’s Title 50 RSA 485-A:

- a) Based on the analysis of the sample(s) of the untreated influent, the applicant must indicate which of the sub-categories (listed in Table V of Part I.C of the permit) that the potential discharge falls within.
- b) Based on the analysis of the untreated influent, the applicant must indicate whether each listed chemical is **believed present** or **believed absent** in the potential discharge.

Based on the required sampling and analysis, the applicant must fill in the table, or provide a narrative description, with the following additional information for each chemical that is **believed present**:

- 1) the number of samples taken (minimum of one sample);
- 2) the type of sample (e.g. grab, composite, etc.);
- 3) the analytical method used, including the method number;
- 4) the minimum level (ML) of the method used (based on Appendix VI);
- 5) the maximum daily amount (concentration, ug/l, and mass, kg) of each pollutant, based on the sampling data (see Appendix VIII instructions for sample mass calculations); and
- 6) the average daily amount (concentration and mass) of each pollutant, based on the sampling data.

If the results of the required sampling indicate that pollutants exist in addition to those listed in Appendix III of the RGP of the permit, the applicant must also describe those contaminants on the NOI in boxes in section I.3.b) on the line marked "Other," or using additional sheets as needed. Subsequently, EPA will decide if the RGP can apply or if an individual permit is necessary.

c) Determination of Reasonable Potential and Allowable Dilution for Discharges of Metals:  
If any *metals* are believed present in the potential discharge to freshwater<sup>3</sup>, the applicant must follow the 2 step calculation procedures described below to determine the reasonable potential for exceedance of water quality standards and dilution factor for each metal.

***Step 1: Initial Evaluation***

- 1) The applicant must evaluate all metals believed present in the discharge subject to this permit, including "naturally occurring" metals such as dissolved and/or total Iron. Applicants must enter the highest detected concentration of the metal at zero dilution in the "Maximum value" column of the NOI.
- 2) Based on the maximum concentration of each metal, the applicant must perform an initial evaluation assuming zero dilution in the receiving water. The applicant must compare the metals concentrations in the untreated (intake) waters to the limits contained in Appendix III.

ii. If potential discharges (untreated influent) with metals contain concentrations below the concentrations listed in Appendix III, the applicant may skip step 2 and those metals will **not** be subject to permit limitations or monitoring requirements.

***Step 2: Calculation of Dilution Factor***

1) **For applicants in NH:** If a metal concentration in a potential discharge (untreated influent) to **freshwater**<sup>3</sup> exceeds the limits in Appendix III with zero dilution, the applicant shall evaluate the potential concentration considering a dilution factor (DF) using the formula below. **For sites in New Hampshire, the applicant must contact NH DES to determine the 7Q10 and dilution factor.**

$$DF = [(Qd + Qs)/Qd] \times 0.9$$

**Where:**

<b>DF</b>	<b>= Dilution Factor</b>
<b>Qd</b>	<b>= Maximum flow rate of the discharge in cubic feet per second (cfs) (1.0 gpm = .00223 cfs)</b>
<b>Qs</b>	<b>= Receiving water 7Q10 flow, in cfs, where,</b>
<b>7Q10</b>	<b>= The annual minimum flow for 7 consecutive days with a recurrence interval of 10 years</b>
<b>0.9</b>	<b>= Allowance for reserving 10% of the assets in the receiving stream as per Chapter ENV-Ws 1700, Surface Water Quality Regulations</b>

i. Using the DF calculated from the formula above, the applicant must refer to the corresponding DF range column in Appendix IV. The applicant then compares the maximum concentration of the metal entered on the NOI to the corresponding total recoverable metals limits listed in Appendix IV.

1. If a metal concentration in the potential discharge (untreated influent) is less than the corresponding limit in Appendix IV, the metal will **not** be subject to permit limitations or monitoring requirements.

2. If a metal concentration in the potential discharge (untreated influent) is equal to or exceeds the corresponding limit in Appendix IV, the applicant must reduce it in the effluent to a concentration below the applicable total recoverable metals limit in Appendix IV prior to discharge.

ii. In either case, the applicant must submit the results of this calculation as part of the NOI. EPA and NH DES will review the proposed effluent limitations for each metal and approve or disapprove the limits in the notification of coverage letter to the applicant.

2) **For applicants in MA:** If a metal concentration in a in a potential discharge (untreated influent) to **freshwater**<sup>3</sup> exceeds the limits in Appendix III with zero dilution, the applicant must evaluate the potential concentration considering a dilution factor (DF) using the formula below.

$$DF = (Qd + Qs)/Qd$$

**Where:** **DF** = **Dilution Factor**  
**Qd** = **Maximum flow rate of the discharge in cubic feet per second (cfs)**  
(1.0 gpm = .00223 cfs)  
**Qs** = **Receiving water 7Q10 flow (cfs) where,**  
**7Q10** = **The minimum flow (cfs) for 7 consecutive days with a recurrence interval of 10 years**

i. The applicant may estimate the 7Q10 for a receiving water by using available information such as nearby USGS stream gauging stations directly or by application of certain “flow factors,” using historic streamflow publication information, calculations based on drainage area, information from state water quality offices, or other means. In many cases the states of MA have calculated 7Q10 information using “flow factors” for a number of streams in the state. The source of the low flow value(s) used by the applicant must be included on NOI application form. Flow data can also be obtained from web applications such as STREAMSTATS located at: <http://ma.water.usgs.gov/streamstats/>.

ii. Using the DF calculated from the formula above, the applicant must refer to the corresponding DF range column in Appendix IV. The applicant then compares the maximum concentration of each metal entered on the NOI to the corresponding total recoverable metals limit listed in Appendix IV.

1. If a metal concentration in the potential discharge (untreated influent) is less than the corresponding limit in Appendix IV, the metal will **not** be subject to permit limitations or monitoring requirements.
2. If a metal concentration in a potential discharge (untreated influent) is equal to or exceeds the corresponding limit in Appendix IV, the applicant must reduce it in the effluent to a concentration below the applicable total recoverable metals limit in Appendix IV prior to discharge.

iii. The applicant must submit the results of this calculation as part of the NOI. EPA (and MA DEP where the discharge not covered by 310 CMR 40.0000) will review the proposed effluent limitations for each metal and approve or disapprove the limits in the notification of coverage letter to the applicant.

#### **4. Treatment system information.**

a) Describe the treatment train for each discharge point. List the treatment processes and their locations.

- c) Provide the proposed **average** and **maximum flow** rates (in gallons per minute, gpm) for the discharge and the **design flow** rates (in gpm) of the treatment system. Clearly identify the component of the treatment with the most limited flow, i.e., the part of the treatment train that establishes the **design flow**.
- d) Describe any chemical additives being used, or planned to be used, and attach MSDS sheets for each. EPA may request further information regarding the chemical composition of the additive, potential toxic effects, or other information to insure that approval of the use of the additive will not cause or contribute to a violation of State water quality standards. Approval of coverage under the RGP will constitute approval of the use of the chemical additive(s). If coverage of the discharge under the RGP has already been granted and the use of a chemical additive becomes necessary, the permittee must submit a Notice of Change (NOC).

#### **5. Receiving surface water(s) information.**

- a) Identify the discharge pathway by checking whether it is discharged: directly to the receiving water, within the facility (e.g., through a sewer drain), to a storm drain, to a river or brook, to a wetland, or other receiving body.
- b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters into which discharge will occur.
- c) Provide a detailed map(s) indicating the location of the site and outfall to the receiving water:
- 1) For multiple discharges, the discharges should be numbered sequentially.
  - 2) In the case of indirect dischargers (to municipal storm sewer, etc) the map(s) must be sufficient to indicate the location of the discharge to the indirect conveyance and the discharge to the state classified 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 and the basin;
- e) Specify the reported seven day-ten year low flow (7Q10) of the receiving water (see Section I.A.3)c. above). In New Hampshire, the 7Q10 must be provided by to the applicant by the New Hampshire Department of Environmental Services.
- f) Indicate whether the receiving water is a listed 303(d) water quality impaired or limited water and if so, for which pollutants (see Section VII.H. of the Fact Sheet for additional information). Also, indicate if there is a TMDL for any of the listed pollutants. For MA, the list of waters can be found at: <http://www.mass.gov/dep/brp/wm/tmdls.htm> and for NH: <http://www.epa.gov/ne/eco/tmdl/impairedh2o.html>. For more information, contact the states at: New Hampshire Department of Environmental Services, Watershed Management Bureau at 603-271-3503 or the Massachusetts Department of Environmental Protection at 508-767-2796 or 508-767-2873;

#### **6. Consultation with Federal Services** - As required in Part I.A.4 and Appendix VII the operator

consultation as early in the process as possible.

a) Indicate whether any listed threatened or endangered species, designated critical habitat, or essential fish habitat, are in proximity to the discharge to be covered by this permit and whether any consultation with the Services is complete or underway.

b) Indicate whether or not there are any historic properties listed or eligible for listing on the National Register of Historic Places located on the facility or site or in proximity to the discharge (see <http://www.cr.nps.gov/nr/research/nris.htm>), and whether any state or tribal historic preservation officer (SHPO or THPO) was consulted in such a determination (for Massachusetts sites only).

**7. Supplemental information.** Applicants should provide any supplemental information needed to meet the requirements of the permit, including, any analytical data used to support the application, and any certification(s) required.

**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.*

Event	Believe Present	# of Samples (1 minimum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily value	
						concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
		1	Grab	504	.02 ug/L	None		None	
	✓	1	Grab	8260	6, 0.5 ug/L	0.9	0.0000	<0.5	0.0000
		1	Grab	8260	20 ug/L	None		None	
		1	Grab	8260	6, 0.5 ug/L	None		None	
	✓	16	Grab	8270 8260	6, 0.5 ug/L	4	0.0000	<0.5	0.0000
		16	Grab	8260	6, 0.5 ug/L	None		None	
		1	Grab	8260	6, 0.5 ug/L	None		None	
		1	Grab	8260	6, 0.5 ug/L	None		None	
		1	Grab	8260	6, 0.5 ug/L	None		None	
	✓	16	Grab	8260	6, 0.5 ug/L	3	0.0000	<0.5	0.0000
		16	Grab	8260	6, 0.5 ug/L	None		None	
		16	Grab	8260	6, 0.5 ug/L	None		None	
		16	Grab	8260	6, 0.5 ug/L	None		None	
		16	Grab	8260	6, 0.5 ug/L	None		None	
		16	Grab	8260	6, 0.5 ug/L	None		None	

Event	Believe Present	# of Samples (1 minimum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily Value	
						concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
	✓	16	Grab	8260	6, 0.5 ug/L	0.6	0.0000	<0.5	0.0000
		16	Grab	8260	6, 0.5 ug/L	None		None	
	✓	16	Grab	8260	6, 0.5 ug/L	310	0.0025	28	0.0001
		16	Grab	8260	6, 0.5 ug/L	None		None	
		16	Grab	8260	10 ug/L	None		None	
		1	Grab	8260	500 ug/L	None		None	
		1	Grab	8270	6, 0.5 ug/L	None		None	
		1	Grab	8270	6, 0.5 ug/L	None		None	
		1	Grab	8270	6, 0.5 ug/L	None		None	
		1	Grab	8270	6, 0.5 ug/L	None		None	
		16	Grab	8270	6, 0.5 ug/L	None		None	
		16	Grab	8270	6, 0.5 ug/L	None		None	
		16	Grab	8270	6, 0.5 ug/L	None		None	
		16	Grab	8270	6, 0.5 ug/L	None		None	
		16	Grab	8270	6, 0.5 ug/L	None		None	
		16	Grab	8270	6, 0.5 ug/L	None		None	

al phthalate compounds.

ve nt	Believe Present	# of Samples (1 min- imum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
						concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
		16	Grab		6, 0.5 ug/L				
		16	Grab	8270	6, 0.5 ug/L	None		None	
	✓	16	Grab	8270	6, 0.5 ug/L	8.4	0.0001	<0.5	0.0000
	✓	16	Grab	8270	6, 0.5 ug/L	0.6	0.0000	<0.5	0.0000
		16	Grab	8270	6, 0.5 ug/L	None		None	
		16	Grab	8270	6, 0.5 ug/L	None		None	
		16	Grab	8270	6, 0.5 ug/L	None		None	
		16	Grab	8270	6, 0.5 ug/L	None		None	
	✓	16	Grab	8270	6, 0.5 ug/L	0.9	0.0000	<0.5	0.0000
	✓	16	Grab	8270	6, 0.5 ug/L	4	0.0000	<0.5	0.0000
	✓	16	Grab	8270	6, 0.5 ug/L	0.9	0.0000	<0.5	0.0000
		16	Grab	8270	6, 0.5 ug/L	None		None	
		1	Grab	8082	0.2 ugL	None		None	
		1	Grab	7041	.003mgL	None		None	
		1	Grab	6010B	.01 mgL	None		None	
		1	Grab	6010B	.01 mgL	None		None	
		1	Grab	6010B	.01 mgL	None		None	
		1	Grab	3500	.01 mgL	None		None	

Believe Present	# of Samples (1 minimum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily value	
					concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
✓	1	Grab	6010	0.025 mg/L	270	0.0021	270	0.0011
✓	1	Grab	7421	0.005 mg/L	15	0.0001	15	0.0001
	1	Grab	7470	0.0002 mg/L	None		None	
	1	Grab	6010B	0.04 mg/L	None		None	
	1	Grab	7740	0.005 mg/L	None		None	
	1	Grab	6010B	0.007 mg/L	None		None	
	1	Grab	6010B	0.2 mg/L	None		None	
✓	1	Grab	6010B	0.1 mg/L	4,000	0.0317	4,000	0.0159
✓	16	Grab	8260	6, 0.5 ug/L	3	0.0000	<0.5	0.0000
✓	16	Grab	8260	6, 0.5 ug/L	0.5	0.0000	<0.5	0.0000
✓	Grab	Grab	8260	6, 0.5 ug/L	570	0.0045	<5	0.0000

If believed present, please fill out the following:

<p>Do you believe the influent have a <b>reasonable potential</b> to exceed the limits set at zero to five dilutions)? Y ___ N <input checked="" type="checkbox"/></p>	<p>If yes, which metals?</p>
<p>Do you believe the influent have a <b>reasonable potential</b> to exceed the <b>Appendix III</b> limits, using the formula in Part I.A.3.c) (step 2) of the NOI for the State prior to the submission of this NOI. List applicable metals?</p> <p>_____</p> <p><math>(Qs) / Qd = (1.907 + 0.00324) / 0.00324 = 589</math></p> <p>(in NPDES flow month from 2003 to 2005) = 0.00324 cfs</p> <p>(charge (mid July 2005) from 2003 to 2005) = 1.907 cfs</p>	<p>Look up the limit calculated at the corresponding dilution factor in <b>Appendix IV</b>. Do any of the metals in the <b>influent</b> have the potential to exceed the corresponding <b>effluent</b> limits in Appendix IV (i.e., is the influent concentration above the limit set at the calculated dilution factor)?</p> <p>Y ___ N <input checked="" type="checkbox"/> If "Yes," list which metals:</p>

1. Please describe the treatment system using separate sheets as necessary, including:

system, including a schematic of the proposed or existing treatment system:  
 s pump water entering the building to a Primary Sump, that pumps the water into an oil/water separator, then treated by two 300 pound activated carbon treatment, and then pumped out to the Cooling Pond that leads into the Egypt River.

ac. tank	Air stripper	Oil/water separator ✓	Equalization tanks	Bag filter	GAC filter ✓
chlorination	Dechlorination	Other (please describe):			

**Maximum flow rates** (gallons per minute) for the discharge and the **design flow rate(s)** (gallons per minute) of the treatment system:  
 73 \_\_\_\_\_ Maximum flow rate of treatment system 1.45 \_\_\_\_\_ Design flow rate of treatment system None \_\_\_\_\_

atives being used or planned to be used (attach MSDS sheets):  
 Copper sulfate crystals are added to the oil/water separator every other month to eliminate iron bacteria in the piping system.

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

Direct ✓	Within facility__	Storm drain__	River/brook ✓	Wetlands__	Other (describe): Cooling Pond
----------	-------------------	---------------	---------------	------------	-----------------------------------

of the discharge pathway, including the name(s) of the receiving waters:  
 Plan (Figure 3) and Process Diagram (Figure 5), groundwater that infiltrates into the sumps in the building is pumped from 6  
 mp #1, then through an oil/water separator followed by two 300-pound vessels for carbon treatment, and then pumped out to the  
 e 4, the Cooling Pond covers an area of approximately 0.6 acre, is an average of 5 feet deep, and discharges to the Egypt River from a  
 1 50-foot long connecting streambed.

ating the site location and location of the outfall to the receiving water:  
er the discharges sequentially.  
ate the location of the discharge to the indirect conveyance and the discharge to surface water  
location and distance to the nearest sanitary sewer as well as the locus of nearby sensitive receptors (based on USGS topographical  
, drinking water supplies, and wetland areas.

classification of the receiving water B

ated seven day-ten year low flow (7Q10) of the receiving water Not known cfs  
ets used to support stream flow and dilution calculations.

03(d) water quality impaired or limited water? Yes  No  If yes, for which pollutant(s)?  
ion, state impairment is Pathogens. However, no potential sources of impairment were reported by state (MA91-14\_2002).  
 If yes, for which pollutant(s)?  
ion, no TMDLs were listed by state (MA91-14\_2002).

**Federal Services:** Please provide the following information according to requirements of Part I.B.4 and Appendices II and VII.

ndangered species, or designated critical habitat, in proximity to the discharge? Yes  No   
ederal services been completed? Yes  No  or is consultation underway? Yes  No   
ultation with the U.S. Fish and Wildlife Service and/or National Marine Fisheries Service (check one):  
r written concurrence  on a finding that the discharges are not likely to adversely affect any endangered species or critical habitat?

ed or eligible for listing on the National Register of Historic Places located on the facility or site or in proximity to the discharge?  
e any state or tribal historic preservation officer been consulted in this determination (Massachusetts only)? Yes  No

information. Attach any analytical data used to support the application. Attach any certification(s) required by the general permit. Clean Soils Environmental, Ltd. (CSE) has prepared the following Notice of Intent of a Remediation General Permit (RGP) to a watering system at the Town of Ipswich Power Plant facility in Ipswich, MA. Since May 29, 2003 the facility has been operating a National Pollutant Discharge Elimination System (NPDES) Exclusion Permit #MA031-058. Based upon the need for dewatering of the system as discussed in further detail herein, the subject discharge for this RGP should be classified as a Category IV (Miscellaneous Long-Term Remediation of a Non-Residential Sump). As part of this RGP, two variances were granted from the Massachusetts Department of Environmental Protection (DEP) because the discharge is to the Egypt River that contains a National Heritage Endangered Species Program (NHESP) Area of Environmental Concern (ACEC).

A groundwater treatment system including carbon treatment was proposed for operation under the NPDES Exclusion Permit. On April 10, 2003 a request for a variance was submitted to EPA. On May 14, 2003 the EPA issued a letter to Tim Henry, Director of Utilities of the Town Of Ipswich, MA, approving the groundwater treatment system and discharge the treated effluent to the adjacent cooling pond under NPDES Exclusion Permit #MA031-058.

An Environmental Impact Statement (EIS) was submitted to the Town of Ipswich Conservation Commission on April 7, 2003 and a Negative Determination was issued on April 23, 2003. According to a Massachusetts Geographic Information System (GIS) Site Scoring Map, this portion of the Egypt River is designated as a National Heritage Endangered Species Program (NHESP) habitat and an Area of Critical Environmental Concern (ACEC). A review of the Massachusetts Species List for the Town of Ipswich, there are no species of concern applicable to this area as listed by the US Fish and Wildlife Service. As part of the EIS Information Request letter, the only species of concern in this NHESP habitat was the New England Silt Snail. On January 18, 2006, a letter was received from Stephan Landry of CSE stating that "the NHESP has determined that this project [i.e., the RGP], as currently proposed, will not adversely affect any of the state-protected rare wildlife species and that no further review of this project is necessary". On January 5, 2006 Mr. Paul Landry of CSE that based upon MDEP review of the site conditions and proposed RGP activities, no adverse impact was expected to result from the discharge of the variance is granted. Mr. Hogan indicated that a written approval would be forthcoming.

Notice of Intent must be signed by the operator in accordance with the signatory requirements of 40 CFR Section 122.22, including the

*that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure  
properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those  
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 am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing*

Wich Power Plant



06

**B. Submission of NOI to EPA** - All operators applying for coverage under this General Permit must submit a written Notice of Intent (NOI) to EPA. Signed and completed NOI forms and attachments must be submitted to EPA-NE at:

US Environmental Protection Agency  
RGP-NOC Processing  
Municipal Assistance Unit (CMU),  
1 Congress Street, Suite 1100  
Boston, MA 02114-2023

or electronically mailed to [NPDES.Generalpermits@epa.gov](mailto:NPDES.Generalpermits@epa.gov),  
or faxed to the EPA Office at 617-918-0505.

If filling out the suggested NOI form electronically on EPA's website, the signature page must be signed and faxed or mailed to EPA at the phone number or address listed in Section I.B. below.

1. Filing with the states - A copy of any NOI form filed with EPA-NE must also be filed with state agencies. The state agency may elect to develop a state specific form or other information requirements.

a) Discharges in Massachusetts - In addition to the NOI, permit applicants must submit copies of the State Application Form BRPWM 12, Request for General Permit coverage for the RGP. The application form and the Transmittal Form for Permit Application and Payment, may be obtained from the Massachusetts Department of Environmental Protection (MA DEP) website at [www.state.ma.us/dep](http://www.state.ma.us/dep). Municipalities are fee-exempt, but should send a copy of the transmittal form to that address for project tracking purposes. All applicants should keep a copy of the transmittal form and a copy of the application package for their records.

1) A copy of the NOI, the transmittal form, a copy of the check, and Form BRPWM 12 should be sent to:

Massachusetts Department of Environmental Protection  
Division of Watershed Management  
627 Main Street, 2<sup>nd</sup> floor  
Worcester, MA 01608

2) A copy of the transmittal form and the appropriate fee should be sent to:

Massachusetts Department of Environmental Protection  
P.O. Box 4062  
Boston, MA 02111

b) Discharges in New Hampshire - applicants must provide a copy of the Notice of Intent to:

New Hampshire Department of Environmental Services  
Water Division  
Wastewater Engineering Bureau  
P.O. Box 95  
Concord, New Hampshire 03302-0095.

2. Filing with Municipalities - A copy of the NOI must be submitted to the municipality in which the proposed discharge would be located.



# MA DEP - Bureau of Waste Site Cleanup

**SITE NAME:**  
Ipswich Power Plant  
Ipswich, MA  
424156n 705212ew

## Site Scoring Map: 500 feet & 0.5 Mile Radii



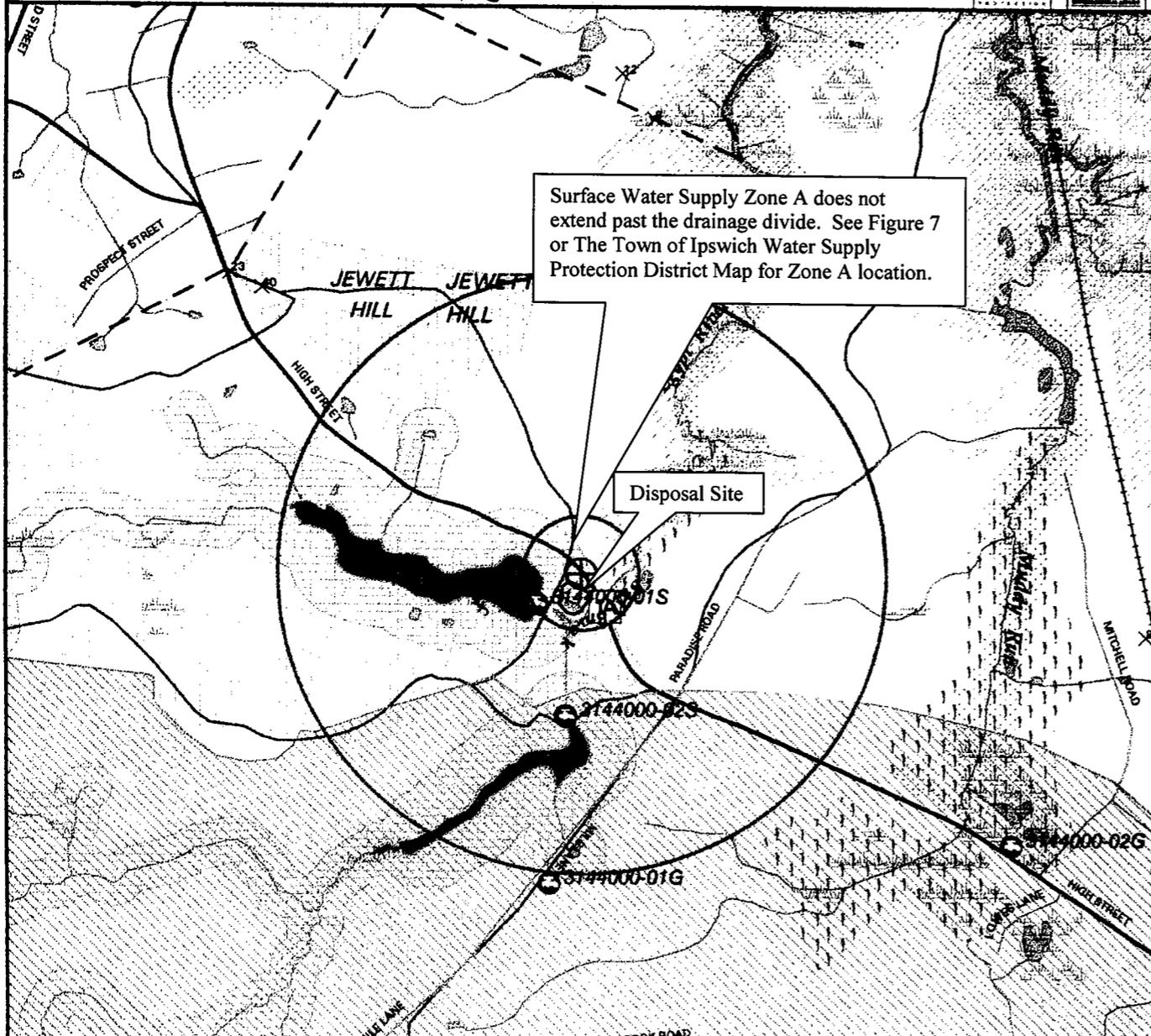
The information shown on this map is the best available at the date of printing. Please refer to the data source descriptions document.

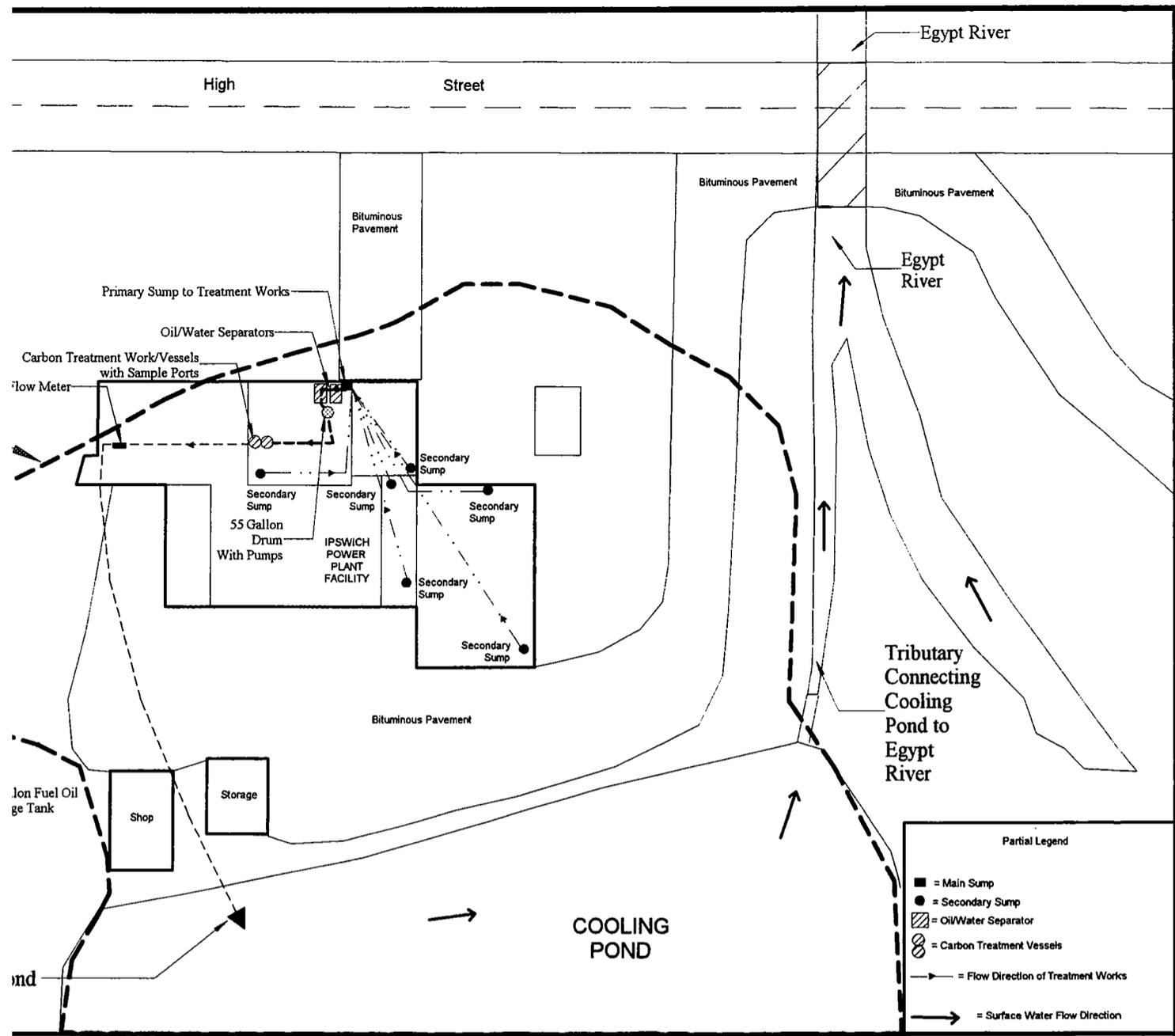


Massachusetts  
Geographic  
Information  
System



Massachusetts Executive Office of Environmental Affairs - 2002





Partial Legend

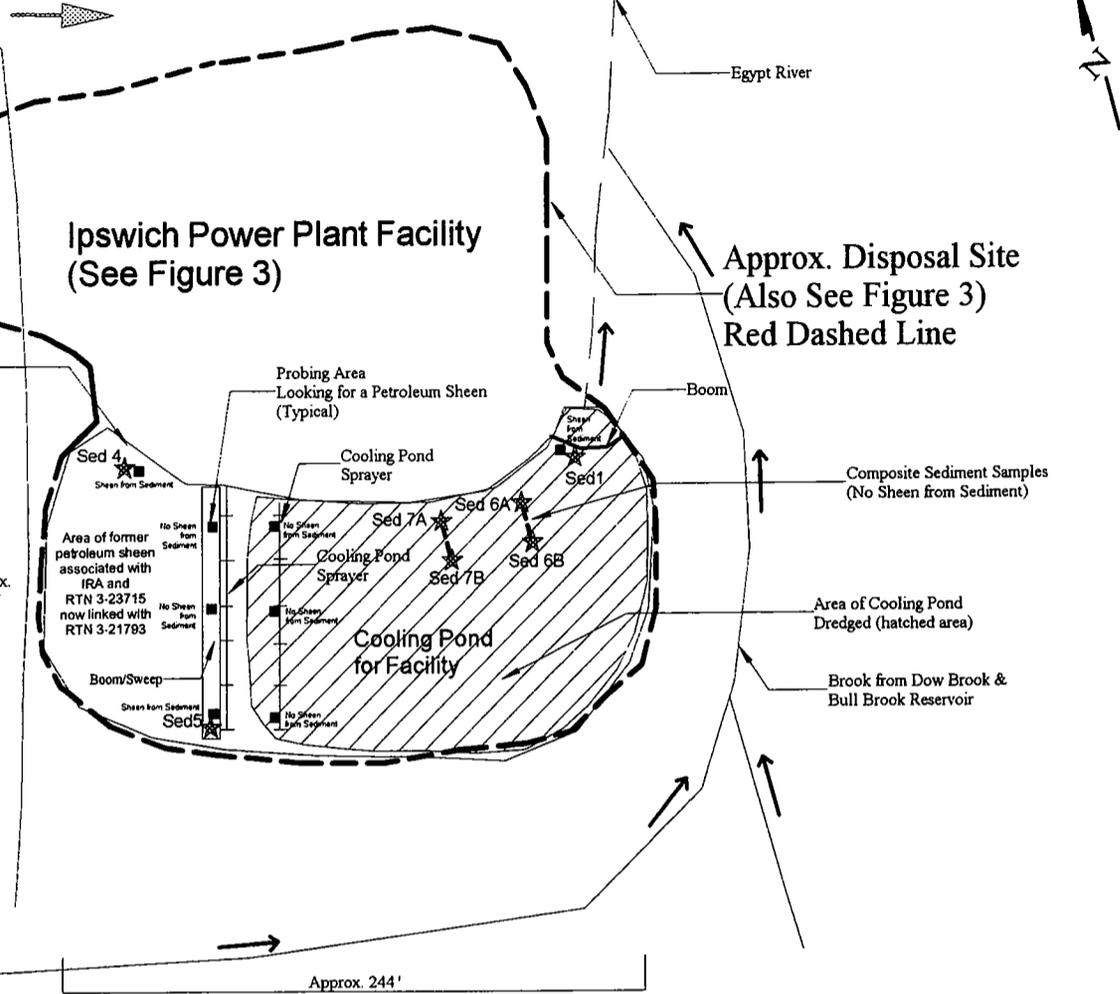
■	= Main Sump
●	= Secondary Sump
▨	= Oil/Water Separator
⊗	= Carbon Treatment Vessels
→ (dashed)	= Flow Direction of Treatment Works
→ (solid)	= Surface Water Flow Direction

**FIGURE 3**  
**Treatment Works Plan View**  
 Ipswich Power Plant, 276 High Street, Ipswich, MA

Drawn By: WHM/SHL  
 Date: 12/30/2005  
 Scale: ~ 1" = 50'  
 RTN: 3-21793  
 CSE Project 2002.01

High Street

W-2 & GW-3



Approx. Disposal Site  
(Also See Figure 3)  
Red Dashed Line

Probing Area  
Looking for a Petroleum Sheen  
(Typical)

Boom

Composite Sediment Samples  
(No Sheen from Sediment)

Area of Cooling Pond  
Dredged (hatched area)

Brook from Dow Brook &  
Bull Brook Reservoir

Approx. 244'

Partial Legend

→ = Surface Water Flow Direction

**Approximate Location of the Disposal Site  
and Sediment Samples in Cooling Pond**

Ipswich Power Plant, 276 High Street, Ipswich, MA

**Figure 4**

Drawn By: WHM/BMC/SHL  
Updated: 8/17/2005  
Not To Scale  
RTN: 3-23715  
CSEProject 2004.10

# FIGURE 5 - PROCESS DIAGRAM (Flow Chart)

I POWER PLANT - NPDES Exclusion Permit #MA03I-058

276 High Street, Ipswich, MA 01938

### S1-S6 Sumps

- S1 Main
- S2 By 3&4 heat exchangers
- S3 Back basement
- S4 Old pump room
- S5 New pump room
- S6 Between 10&11

### Flow Description

Water is pumped from all sumps into WR1 then flows into WR2 and then into WR3.

Water is then pumped from WR3 through carbon Vessels V1 and V2 and then metered and discharged into cooling pond

### Oil/Water Separator

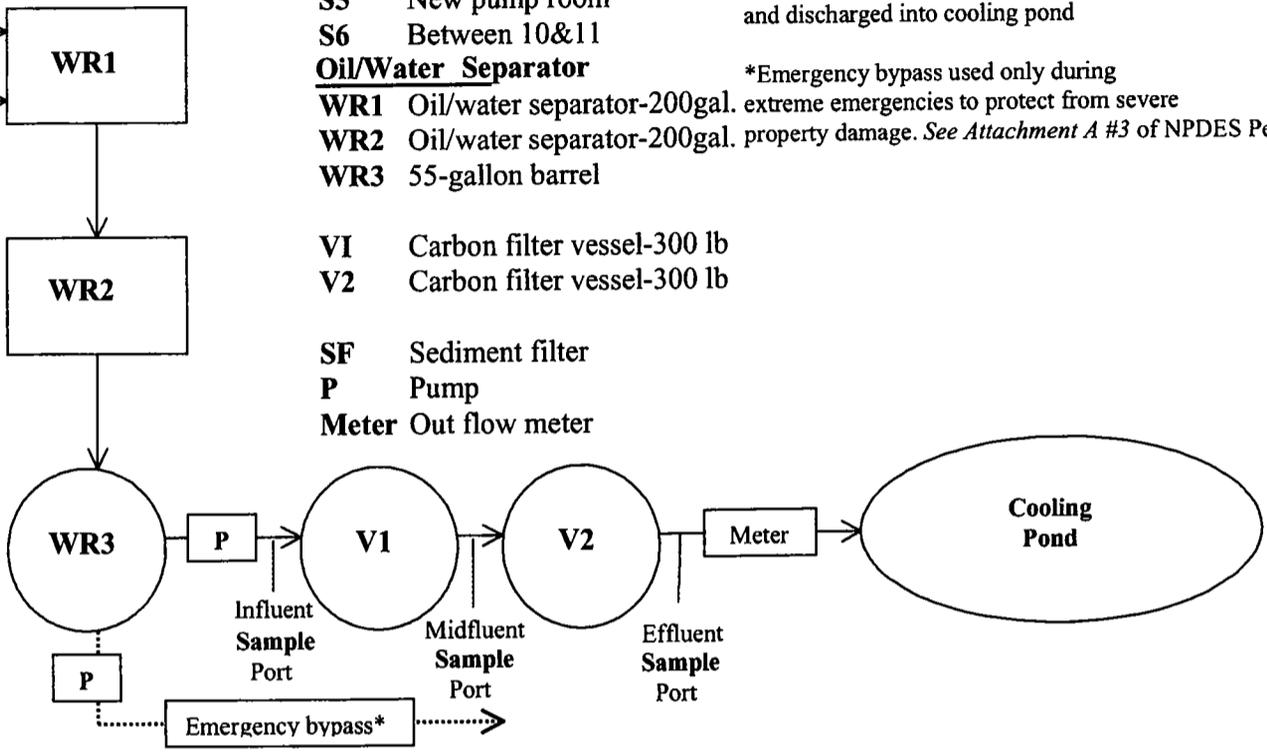
- WR1 Oil/water separator-200gal.
- WR2 Oil/water separator-200gal.
- WR3 55-gallon barrel

\*Emergency bypass used only during

extreme emergencies to protect from severe property damage. See Attachment A #3 of NPDES Permit

- VI Carbon filter vessel-300 lb
- V2 Carbon filter vessel-300 lb

- SF Sediment filter
- P Pump
- Meter Out flow meter









**Table 3B LABORATORY RESULTS FOR GROUNDWATER SAMPLES COLLECTED FROM WATER TREATMENT SYSTEM**

Town of Ipswich Power Plant, Ipswich, MA, CSE Project No. 2002.01, RTN 3-21793

	1/11/2005		2/9/2005	3/7/2005	4/11/2005	5/9/2005	6/7/2005	7/11/2005	8/3/2005		9/12/2005	11/17/2005	12/6/2005	1/9/2006	EPA LIMITS For Effluent
	Influent	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent	Influent	Effluent	Effluent	Effluent	Effluent	Influent	
Hydrocarbons	2.6	0.2	0.2	0.2	1.1	0.2	2.3	5.1	11	0.2	0.2	0.2	0.2	6	5
Suspended	10	10	10	10	10	10	10	10	31	10	10	4	10	12	30
	7.0	7.3	7.2	7.4	7.0	7.1	6.7	6.9	6.8	7.9	7.7	6.9	6.9	6.6	6.5 - 8.3
	0.5	0.5	0.5	0.5	0.8	0.5	1.1	0.5	5	0.5	0.5	0.5	5	6	20
tolene	0.6	0.5	0.5	0.5	1.4	0.2	2.6	0.5	5	0.5	0.5	0.5	5	6	N/A
	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.5	5	0.5	0.5	0.5	5	6	N/A
	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.5	5	0.5	0.5	0.5	5	6	N/A
e	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	5	0.5	0.5	0.5	5	6	N/A
	0.6	0.5	0.5	0.5	0.5	0.5	1.0	0.5	5	0.5	0.5	0.5	5	6	N/A
	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	5	0.5	0.5	0.5	5	6	N/A
	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	5	0.5	0.5	0.5	5	6	N/A
	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	5	0.5	0.5	0.5	5	6	N/A
cene	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	5	0.1	0.1	0.1	5	6	N/A
	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	5	0.1	0.1	0.1	5	6	N/A
thene	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	5	0.1	0.1	0.1	5	6	N/A
thene	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	5	0.1	0.1	0.1	5	6	N/A
	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	5	0.1	0.1	0.1	5	6	N/A
pyrene	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	5	0.1	0.1	0.1	5	6	N/A
thracene	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	5	0.1	0.1	0.1	5	6	N/A
ylene	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	5	0.1	0.1	0.1	5	6	N/A
AHs	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	35	0.7	0.7	0.7	35	42	10
AHs	4.2	4.1	4.1	4.1	4.4	4.1	5.4	4.1	45	4.1	4.1	4.1	45	54	100
	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	N/A
	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	N/A
	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	N/A
	4	0.5	0.5	0.6	2	0.5	5	2	3	0.5	0.5	0.5	0.5	3	N/A
ene	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	N/A
	10	10	10	10	10	10	10	10	10	10	10	10	10	33	N/A
e	5	5	5	5	5	5	5	5	5	5	5	5	5	5	N/A
ride	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	N/A
roethene	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	N/A
l Ether (MTBE)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.5	0.5	0.5	0.5	0.5	N/A
ane	0.5	0.5	0.5	0.5	0.5	0.5	3	2	2	0.5	0.5	0.5	0.5	0.9	N/A
ethene	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	N/A
EK)	5	5	5	5	5	5	5	5	5	5	5	5	5	5	N/A
	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	N/A
thane	0.5	0.5	0.5	0.5	0.5	0.5	2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	N/A
loride	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	N/A
	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	5
ane	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	N/A
	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	N/A
pane	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	N/A
ethane	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	N/A
propene	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	N/A
anone (MIBK)	5	5	5	5	5	5	5	5	5	5	5	5	5	5	N/A
	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	N/A
ropropene	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	N/A
thane	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	N/A
ne	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	N/A
	5	5	5	5	5	5	5	5	5	5	5	5	5	5	N/A
ethane	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	N/A
	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	N/A
	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	N/A
-Xylene	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	N/A
	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	N/A
	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	N/A
roethane	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	N/A
	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	3	20
ine (EDB)	na	na	na	na	na	na	na	na	na	na	na	na	na	0.02	0.1
	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	100

ng limit for a particular analyte and indicate that the concentration for a particular analyte was not above the laboratory's reporting limit for that analyte.  
 ut of range of the EPA limits set forth in Attachment A of the NPDES Exclusion letter dated May 16, 2003.  
 llected

# Ipswich Municipal Power Plant Groundwater Treatment Pump Record 2003

Month	Gallons	
2003		
May-June	36,930	
July-Oct 21	75,260	
October 22-31	5,670	
November	13,760	
December	30,300	Highest Month since NPDES discharge start on
	<u>161,920</u>	216 days

**Ipswich Municipal Power Plant  
Groundwater Treatment Pump Record  
2004**

<b>Month</b>	<b>Gallons</b>	
2004		
January	19,010	
February	16,090	
March	20,160	
April	40,840	
May	30,530	
June	30,120	
July	26,780	
August	31,730	
September	37,710	
October	32,350	
November	28,090	
December	<u>57,040</u>	Highest Month of Year
	<b>370,450</b>	365 days

**Ipswich Municipal Power Plant  
Groundwater Treatment Pump Record  
2005**

<b>Month</b>	<b>Gallons</b>	
	<b><u>2005</u></b>	
January	52,970	
February	34,440	
March	49,600	
April	48,600	
May	<b>64,840</b>	Highest Month of Year
June	32,660	
July	25,020	
August	15,980	
September	13,030	337,140 through September
October	51,390	
November	36,380	
December	39,200	
	<b><u>464,110</u></b>	334 days - not including December

**COPPER SULFATE GRANULAR CRYSTALS  
MATERIAL SAFETY DATA SHEET****Manufacturer's Name & Address**

Southern Agricultural Insecticides, Inc.  
PO Box 218, Palmetto, Fla. 34220

Phone: 941-722-3285  
Chemtrec: 1-800-424-9300

**I NOMENCLATURE**

Product Name: COPPER SULFATE GRANULAR CRYSTALS EPA Reg. No.829-210  
Chemical Name: Copper Sulfate pentahydrate (CuSO<sub>4</sub>.5 H<sub>2</sub>O)  
Synonyms: Cupric Sulfate pentahydrate, Bluestone, blue vitriol  
Chemical Family: Copper salt

**II INGREDIENTS**

	Nominal	CAS#	OSHA PEL	ACGIH TLV
CuSO <sub>4</sub> .5 H <sub>2</sub> O	99%.	7758-99-8	1.0 mg/m <sup>3</sup> (Cu as dust/mist)	1.0 mg/m <sup>3</sup> (Cu as dust/mist)
Copper content as Cu	25.2%	7440-50-8		

**III PHYSICAL PROPERTIES** (N.A.= Not available/applicable)

Boiling Point: -5 H<sub>2</sub>O @ 150°C (loses water of crystallization)

Vapor Pressure (mmHg): N.A.

Melting Point -4H<sub>2</sub>O @ 110°C (loses 4 H<sub>2</sub>O)

Solubility In Water: @30°C=24.3g/100, @100°C =203g/100

Appearance/Odor: Blue transparent crystals, odorless

Specific Gravity: (H<sub>2</sub>O=1) 2.284

Percent Volatile: (by volume) N.A.

Vapor Density: N.A.

**IV FIRE AND EXPLOSION DATA**

Flash Point: N.A.

Flammable Limits: Lel; N.A. Uel; N.A.

Special Fire Fighting Procedures: Copper sulfate does not burn, nor will it support combustion. Use extinguishing media for surrounding fire, CO<sub>2</sub>, dry chemical, or water. Avoid direct water stream on molten Copper Sulfate. (splattering occurs)

Personnel should remain upwind. Firemen should wear self contained breathing apparatus (air-pack) and full protective clothing. Use water spray to cool fire exposed containers. Copper sulfate decomposes at 600°C evolving sulfur dioxide. If water is used, contain runoff, because of solubility of copper sulfate.

Unusual Fire & Explosion Hazards: Material is acidic when dissolved in water. Contact with magnesium metal may evolve hydrogen gas. Anhydrous copper sulfate, formed by water loss, will ignite hydroxylamine.

**V FIRST AID**

**EYE Exposure:** Corrosive to eyes. Flush eyes a gentle stream of clean water for at least 15 minutes. Hold eye lids apart to ensure washing underside of lids. Remove contact lenses while rinsing. Get immediate medical attention.

**SKIN Exposure:** Remove contaminated clothing. Flush or shower exposed skin with large amount of water for at least five minutes. Launder contaminated clothes separately before reuse.

**INHALATION:** Remove worker from exposure, administer CPR, if required, and get medical assistance.

**INGESTION:** May cause severe GI tract irritation. Drink promptly large quantities if water or milk. Avoid alcohol. Induce vomiting. Do not leave victim unattended. Vomiting may occur spontaneously. To prevent aspiration of swallowed product, lay victim on side with head lower than waist. If vomiting occurs and the victim is conscious give additional water to further dilute the chemical. Do not attempt to give anything by mouth to an unconscious or convulsing person. Seek immediate medical aid.

**SYMPTOMS of OVEREXPOSURE:** Copper sulfate is emetic, and has seldom been fatal. Prolonged ingestion might increase liver copper content. Elevated urinary copper content should be regarded as an indication of excess copper exposure.

## COPPER SULFATE GRANULAR CRYSTALS MATERIAL SAFETY DATA SHEET

### **VI REACTIVITY:**

Stability: Stable under normal storage conditions. Conditions to Avoid: Heat and reducing agents.

Materials to Avoid: Solutions are corrosive to mild steel. Solutions are acidic and can generate hydrogen when in contact with metallic magnesium.

Hazardous Decomposition Products: None at ambient temperatures. Decomposes at 600°C evolving sulfur dioxide (SO<sub>2</sub>).

Hazardous Polymerization: Will not occur.

### **VIII SPILL OR LEAK PROTECTION**

Steps To Be Taken If Spilled: Sweep up material.

Waste Disposal: Product that can not be used according to label instruction may be disposed of according to label instructions, or disposed of in accord with local, State, and Federal regulations.

### **SPECIAL PROTECTION**

Respiratory: Type/Conditions Do not breathe dust or spray mist. Wear a NIOSH/MSHA approved respirator with pesticide cartridge if inhalation of dust or spray mist will occur.

Ventilation: Handle with good local ventilation. Do not exceed 8 hour TWA (1 mg/m<sup>3</sup>) without respiratory protection.

Gloves: Wear clean impervious gloves when handling.

Eye Protection: Chemical goggles preferred, otherwise Safety glasses with side shields.

Other Protective Equipment: Clean long sleeved body covering work clothing, hat and shoes and socks. Eye wash and facility for washing. Do not wear contaminated clothing.

### **IX SPECIAL PRECAUTIONS**

Handling Precautions: Avoid damage to containers. Do not breathe dust or spray mist. Wash thoroughly after handling.

Under some conditions copper sulfate dust may be irritating to the skin of some individuals. Problem use conditions seem to be aggravated by high humidity and sweating when copper sulfate is applied undiluted and dust contact occurs.

Storing Precautions: Do not put leaking containers into storage. Store in a cool dry place Do not store near any material intended for use or consumption by humans or animals.. KEEP OUT OF REACH OF CHILDREN. Product is harmful to fish.

### **SHIPPING AND SELECTED FEDERAL REGULATIONS**

Domestic motor freight Hazardous description: Consumer Commodity ORM-D

Motor Freight Herbicides NOI NMFC 50320

SARA Title III: Acute health hazard      Chronic health Hazard

CFR 1910.1000 Table Z-1 as copper dust/fume

40 CFR 355.5 Extremely hazardous substance    not listed

40 CFR 302.4 Hazardous substances listed      Listed    RQ 10 LB

This information relates solely to the designated product and is not inclusive for combinations with other materials. This information is given without warranty or representation. Information is based on data we believe to be correct as of the date hereof. This information is furnished solely for your consideration, investigation, and verification. Before using any product READ THE LABEL.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 1

1 CONGRESS STREET, SUITE 1100  
BOSTON, MASSACHUSETTS 02114-2023

May 16, 2003

Mr. Timothy Henry, Director of Utilities  
Town of Ipswich  
272 High Street  
Ipswich, MA 01938

Mr. William Mitchell, President  
Clean Soils Environmental Ltd.  
P.O. Box 591  
Ipswich, MA 01938

Re: Town of Ipswich Power Plant, Ipswich, MA. NPDES Exclusion # MA031-058

Dear Mr. Henry and Mr. Mitchell:

We have received and reviewed your request for a National Pollutant Discharge Elimination System (NPDES) permit exclusion for the discharge of treated sump water from the Town of Ipswich Power Plant, which you submitted on April 10, 2003.

As of June 3, 2002, the On-Scene Coordinators (OSCs) in the Emergency Planning & Response Branch of EPA-New England (EPA-NE) have no longer been issuing National Pollutant Discharge Elimination (NPDES) Permit "Exclusion" letters in the states of Massachusetts and New Hampshire. EPA is, however, still the permitting authority for point source water discharge permits in these two states. Since the early 90's, EPA-NE granted exclusions to the NPDES permit process under the authority of Section 122.3(d) of the NPDES regulations to allow expedited testing and cleanup of contaminated sites for which a discharge of groundwater and incidental surface water was required following appropriate treatment. This process was necessary due to the large number of cleanups requiring permits and the time-frame necessary to issue individual NPDES permits.

Exclusion letters were developed for each site following submission and review of an application with various site information, test data, treatment type, and other facts. Discharge effluent limits, monitoring requirements and other special conditions were set out in the letters signed by the OSC in charge. EPA-NE has determined that we can no longer issue these exclusions except in circumstances where a response action is under the direct control of the OSC (either EPA or the USCC) as outlined in the National Contingency Plan (NCP). These determinations are made following notification to the National Response Center of a release of a reportable quantity of oil or hazardous substances.

the exclusion process, coverage under the proposed General Permit will be appropriate.

However, for your facility we are also considering what permit coverage is appropriate for the discharge from the cooling pond to the Egypt River. Should we decide that an individual NPDES permit is appropriate for that discharge, we would most likely include the authorization for the discharge of the treated sump water in that permit. However, if we decide that the cooling pond discharge may be covered under the Non Contact Cooling Water General Permit, coverage under the proposed Remediation General Permit may be appropriate. We will inform you of our decision in this matter in the near future. Until such time as you receive coverage under an NPDES permit, EPA-NE is requesting that you provide treatment of the discharge of sump water to the cooling pond consistent with the limits and other requirements traditionally established in the Exclusion letters process.

Please refer to "ATTACHMENT A" to this letter for the interim requirements for discharge.

Until you receive appropriate NPDES permit coverage or terminate the discharge, you should complete the standard "NPDES Permit Exclusion Application-Incident Notification Report" form as is the current practice. Forms and instructions can be obtained from any of the contacts at the end of this letter. Completed forms should be sent to:

NH: Ms. Shelley Pulco

or

MA: Ms. Olga Vergara

Mail Code: CMU

Office of Ecosystem Protection

Environmental Protection Agency

One Congress St, Suite 1100

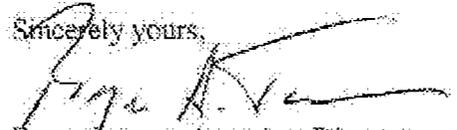
Boston, MA 02114-2023

FAX No: (617) 918-2064

A copy should be sent to the appropriate MA state contact as well.

If you have any questions or concerns about this process please contact Brian Pitt of the NPDES Program at (617) 918-1875. Additional contacts for the NPDES Program include Olga Vergara for MA issues at (617) 918-1519 and Shelley Pulco for NH issues at (617) 918-1545. Thank you for your cooperation.

Sincerely yours,

  
Roger Hanson, Associate Director  
Surface Water Programs

\*\*\*\* TOWN OF IPSWICH POWER PLANT, IPSWICH, MA \*\*\*\*

ATTACHMENT A

The discharge(s) referenced in the accompanying letter must be in accordance with the following provisions:

1. No discharge of oil, sufficient to cause a sheen (as defined in 40 CFR 110), occur to the drainage system. The discharge of a sheen of oil or gasoline constitutes an oil spill and must be reported immediately to the National Response Center (NRC) at (800) 424-8802.
2. Security provisions are maintained to assure that system failure, vandalism, or other incidents will be addressed in a timely fashion, preventing the loss of oil or contaminated water to the drainage system.
3. The flow rate shall be maintained within acceptable operating parameters and shall not exceed the design flow of the treatment system. There shall be no bypass of the treatment system unless unavoidable to prevent loss of life, personal injury, or severe property damage. No filter backwash or other maintenance waters shall be discharged without treatment.
4. Sampling and analysis, in accordance with EPA Methods, must be performed for the following chemicals with the listed limits being applicable:

Flow	Monitor/Totalizer
Total Suspended Solids (TSS)	30 ppm
pH	6.5-8.3 S.U.

ORGANICS

Total Petroleum Hydrocarbons (TPH)	5 ppm
Benzene	5 ppb
Toluene	**
Ethylbenzene	**
Xylenes	**

\*\* BTEX (total Benzene, Toluene, Ethylbenzene, Xylenes) 100 ppb

## Footnotes:

- (1) Benzo(a)anthracene, Benzo(b)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Dibenzo(a,h)anthracene, Indeno(1,2,3-cd)pyrene.
- (2) Acenaphthene, Acenaphthylene, Anthracene, Benzo(ghi)perylene, Fluoranthene, Fluorene, Naphthalene, Phenanthrene, Pyrene.

Should sampling indicate the presence of additional chemicals, discharge concentrations should not exceed the Federal Drinking Water Standards (MCL's) or 100 ppb, whichever is lower, in the effluent.

**Solids** - These waters shall be free from floating, suspended, and settleable solids in concentrations or combinations that would impair any use assigned to this class, that would cause esthetically objectionable conditions, or that would impair the benthic biota or degrade the chemical composition of the bottom sediments.

**Color and Turbidity** - These waters shall be free from color and turbidity in concentrations or combinations that are esthetically objectionable conditions or that would impair the use assigned to this class.

Laboratory samples must be obtained from the influent to treatment, and from the effluent to the drainage system once each day for the first, third and sixth day of discharge. These samples must be analyzed with a 72-hour turnaround time. If the system is working properly, sampling for the remainder of the month shall be weekly and then monthly thereafter. The turnaround time for these samples shall ensure that no more than seven days pass between the sampling event and when the results are received and reviewed by the contractor.

If analysis indicates that the effluent limits have been exceeded, then the system must be shut down immediately and the problem corrected. Upon restarting the system, a sample must be taken and there must be 24 hour turnaround for the results. If the analysis indicates that the problem has been corrected, then the sampling schedule shall resume. If not, then the system shall be shut down again and repaired.

5. Analytical Reports, with quality control information, are to be reported to EPA and the MADEP or NPDES Project Manager by the 28th of the following month. Reports to EPA should be sent to:

NPDES Permit Unit  
Mail Code (CPE)  
Office of Ecosystem Protection  
Environmental Protection Agency  
One Congress St., Suite 1100  
Boston, MA 02114-2033

RE: NPDES [please include assigned reference # on all correspondence]

6. You, or your contractor, must maintain copies of all analytical reports, and quality control information for a period of 3 years from the date of the report.

You should consider these requirements to be in effect immediately.



**MassWildlife**

*Commonwealth of Massachusetts*

# **Division of Fisheries & Wildlife**

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.



MassWildlife

Commonwealth of Massachusetts

# Division of Fisheries & Wildlife

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 11<sup>th</sup> 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:

<u>Scientific name</u>	<u>Common Name</u>	<u>Taxonomic Group</u>	<u>State Status</u>
<i>Cincinnatia winkleyi</i>	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

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](http://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)

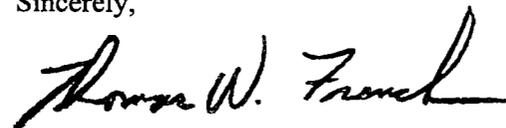
If NHESP determines that the proposed project would “take” a rare species, then it may be possible to redesign the project to avoid a “take.” If such revisions are not possible, the applicant should note that projects resulting in the “take” of state-protected wildlife may only be permitted if they meet 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,





Enter your transmittal number

W073801

Transmittal Number

Your unique Transmittal Number can be accessed online: <http://www.mass.gov/dep/counter/trasmfrm.shtml> or call DEP's InfoLine at 617-338-2255 or 800-462-0444 (from 508, 781, and 978 area codes).

## 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:

DEP  
P.O. Box 4062  
Boston, MA  
02211

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

### A. Permit Information

BRPWM12

1. Permit Code: 7 or 8 character code from permit instructions

NPDES Remediation General Permit

3. Type of Project or Activity

RGP

2. Name of Permit Category

### B. Applicant Information – Firm or Individual

Town of Ipswich

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

Henry

Tim

2. Last Name of Individual

3. First Name of Individual

4. MI

272 High Street

5. Street Address

Ipswich

MA

01938

(978) 356-6635

109

6. City/Town

7. State

8. Zip Code

9. Telephone #

10. Ext. #

Tim Henry

thenry@town.ipswich.ma.us

11. Contact Person

12. e-mail address (optional)

### C. Facility, Site or Individual Requiring Approval

Town of Ipswich Power Plant

1. Name of Facility, Site Or Individual

276 High Street

2. Street Address

Ipswich

MA

01938

978-356-6640

3. City/Town

4. State

5. Zip Code

6. Telephone #

7. Ext. #

8. DEP Facility Number (if Known)

9. Federal I.D. Number (if Known)

10. BWSC Tracking # (if Known)

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

Clean Soils Environmental, Ltd.

1. Name of Firm Or Individual

33 Estes Street

2. Address

Ipswich

MA

01938

978-356-1177

12 or 13

3. City/Town

4. State

5. Zip Code

6. Telephone #

7. Ext. #

Stephan Landry or Bill Mitchell

8. Contact Person

9. LSP Number (BWSC Permits only)

### E. Permit - Project Coordination

1. Is this project subject to MEPA review?  yes  no  
If yes, enter the project's EOE file number - assigned when an

# **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](http://www.groundwateranalytical.com)

January 17, 2006

Mr. Stephan Landry  
Clean Soils Environmental, Ltd.  
P.O. Box 591  
33 Estes Street  
Ipswich, MA 01938

## **LABORATORY REPORT**

Project: **Ipswich Power Plant/2002.01**  
Lab ID: **90679**  
Received: **01-09-06**

Dear Stephan:

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

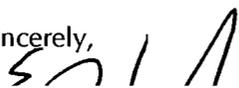
This letter authorizes the release of the analytical results, and should be considered a part of this report. This report contains a sample receipt report detailing the samples received, a project narrative indicating project changes and non-conformances, a quality control report, and a statement of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

The analytical results contained in this report meet all applicable NELAC standards, except as may be specifically noted, or described in the project narrative. 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,



# GROUNDWATER ANALYTICAL

## Sample Receipt Report

Project: Ipswich Power Plant/2002.01  
 Client: Clean Soils Environmental, Ltd.  
 Lab ID: 90679

Delivery: GWA Courier  
 Airbill: n/a  
 Lab Receipt: 01-09-06

Temperature: 2.0'C  
 Chain of Custody: Present  
 Custody Seal(s): n/a

Lab ID	Field ID	Matrix	Sampled	Method	Notes		
90679-1	Influent	Aqueous	1/9/06 10:30	EPA 8260B Volatile Organics with Oxygenates			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship
C728588	40 mL VOA Vial	Proline	BX19277	HCl	R-4601F	12-30-05	01-05-06
C728576	40 mL VOA Vial	Proline	BX19277	HCl	R-4601F	12-30-05	01-05-06
C728559	40 mL VOA Vial	Proline	BX19277	HCl	R-4601F	12-30-05	01-05-06

Lab ID	Field ID	Matrix	Sampled	Method	Notes		
90679-2	Influent	Aqueous	1/9/06 10:30	EPA 504.1 EDB and DBCP			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship
C718635	40 mL VOA Vial	Proline	BX19284	None	n/a	n/a	01-05-06
C718623	40 mL VOA Vial	Proline	BX19284	None	n/a	n/a	01-05-06
C718611	40 mL VOA Vial	Proline	BX19284	None	n/a	n/a	01-05-06

Lab ID	Field ID	Matrix	Sampled	Method	Notes		
90679-3	Influent	Aqueous	1/9/06 10:30	SM 3500-Cr D Hexavalent Chromium			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship
C719462	500 mL Plastic	Greenwood	BX19394	None	n/a	n/a	01-05-06

Lab ID	Field ID	Matrix	Sampled	Method	Notes		
90679-4	Influent	Aqueous	1/9/06 10:30	SM 4500-Cl G Total Residual Chlorine SM 2540 D Total Suspended Solids SM 4500-H+ B pH			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship
C719944	1 L Plastic	Greenwood	BX19414	None	n/a	n/a	01-05-06

Lab ID	Field ID	Matrix	Sampled	Method	Notes		
90679-5	Influent	Aqueous	1/9/06 10:30	Lachat 10-204-00-1-A (EPA 335.3) Total Cyanide			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship
C780112	500 mL Plastic	Proline	BX19120	NaOH	R-4387A	11-30-05	01-05-06

Lab ID	Field ID	Matrix	Sampled	Method	Notes		
90679-6	Influent	Aqueous	1/9/06 10:30	EPA 6010B Cr Fe Ni Ag As Cd Cu Zn Total EPA 7041 Antimony by GFAA Sb EPA 7421 Lead by GFAA EPA 7470A Hg Total EPA 7740 Selenium by GFAA SM 3500-CR D/ EPA 200.7			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship
C717350	250 mL Plastic	Greenwood	BX19194	HNO3	R-4550E	12-07-05	01-05-06

Lab ID	Field ID	Matrix	Sampled	Method	Notes		
90679-7	Influent	Aqueous	1/9/06 10:30	EPA 8270C Semivolatile Organics			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship

**Sample Receipt Report (Continued)**

Project: **Ipswich Power Plant/2002.01**  
 Client: **Clean Soils Environmental, Ltd.**  
 Lab ID: **90679**

Delivery: **GWA Courier**  
 Airbill: **n/a**  
 Lab Receipt: **01-09-06**

Temperature: **2.0°C**  
 Chain of Custody: **Present**  
 Custody Seal(s): **n/a**

Lab ID	Field ID	Matrix	Sampled	Method				Notes
90679-9	Influent	Aqueous	1/9/06 10:30	EPA 1664 Hexane Extractable Material				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C718472	1 L Amber Glass	Proline	BX19243	H2SO4	R-4746A	12-28-05	01-05-06	
C718471	1 L Amber Glass	Proline	BX19243	H2SO4	R-4746A	12-28-05	01-05-06	

**EPA Method 8260B  
Volatile Organics by GC/MS**

Field ID: Influent  
Project: Ipswich Power Plant/2002.01  
Client: Clean Soils Environmental Ltd.

Matrix: Aqueous  
Container: 40 mL VOA Vial  
Preservation: HCl/Cool

Laboratory ID: 90679-01  
Sampled: 01-09-06 10:30  
Received: 01-09-06 18:40  
Analyzed: 01-12-06 21:19  
Analyst: KMC

QC Batch ID: VM4-3410-W  
Instrument ID: MS-4 HP 6890  
Sample Volume: 25 mL  
Dilution Factor: 1

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	33		ug/L	10
75-15-0	Carbon Disulfide	BRL		ug/L	5
75-09-2	Methylene Chloride	BRL		ug/L	2.5
156-60-5	<i>trans</i> -1,2-Dichloroethene	BRL		ug/L	0.5
1634-04-4	Methyl <i>tert</i> -butyl Ether (MTBE)	0.5		ug/L	0.5
75-34-3	1,1-Dichloroethane	0.9		ug/L	0.5
594-20-7	2,2-Dichloropropane	BRL		ug/L	0.5
156-59-2	<i>cis</i> -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	<i>cis</i> -1,3-Dichloropropene	BRL		ug/L	0.5
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/L	5
108-88-3	Toluene	BRL		ug/L	0.5
10061-02-6	<i>trans</i> -1,3-Dichloropropene	BRL		ug/L	0.5
79-00-5	1,1,2-Trichloroethane	BRL		ug/L	0.5
127-18-4	Tetrachloroethene	BRL		ug/L	0.5

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

Field ID: Influent  
Project: Ipswich Power Plant/2002.01  
Client: Clean Soils Environmental Ltd.

Matrix: Aqueous  
Container: 40 mL VOA Vial  
Preservation: HCl/Cool

Laboratory ID: 90679-01  
Sampled: 01-09-06 10:30  
Received: 01-09-06 18:40  
Analyzed: 01-12-06 21:19  
Analyst: KMC

QC Batch ID: VM4-3410-W  
Instrument ID: MS-4 HP 6890  
Sample Volume: 25 mL  
Dilution Factor: 1

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
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
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
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	3		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	9.0	90 %	70 - 130 %
1,2-Dichloroethane-d <sub>4</sub>	10	8.3	83 %	70 - 130 %
Toluene-d <sub>8</sub>	10	8.7	87 %	70 - 130 %
4-Bromofluorobenzene	10	8.4	84 %	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.

**EPA Method 504.1  
EDB and DBCP by GC/ECD**

Field ID:	Influent	Matrix:	Aqueous
Project:	Ipswich Power Plant/2002.01	Container:	40 mL VOA Vial
Client:	Clean Soils Environmental Ltd.	Preservation:	Cool
Laboratory ID:	90679-02	QC Batch ID:	PV-0813-E
Sampled:	01-09-06 10:30	Instrument ID:	GC-5 HP 5890
Received:	01-09-06 18:40	Sample Volume:	35 mL
Extracted:	01-12-05 17:00	Final Volume:	1 mL
Analyzed:	01-12-06 17:43	Dilution Factor:	1
Analyst:	CRL		

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.

**Inorganic Chemistry**

Field ID: Influent  
Project: Ipswich Power Plant/2002.01  
Client: Clean Soils Environmental, Ltd.

Matrix: Aqueous  
Received: 01-09-06 18:40

Lab ID: 90679-03    Sampled: 01-09-06 10:30    Container: 500 mL Plastic    Preservation: Cool

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Chromium, Hexavalent	BRL	mg/L	0.01	1	5 mL	01-09-06 22:14	HC-0242-W	SM 3500-Cr D	1	DDW

Lab ID: 90679-04    Sampled: 01-09-06 10:30    Container: 1 L Plastic    Preservation: Cool

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Solids, Total Suspended	12	mg/L	10	5	100 mL	01-10-06 11:40	TSS-1180-W	SM 2540 D	4	EB
Chlorine, Total Residual	BRL	mg/L	0.2	1	5 mL	01-10-06 18:30	TRC-0398-W	SM 4500-Cl G	2	LJD
pH	6.6	pH	NA	1	50 mL	01-09-06 19:53	PH-2047-W	SM 4500-H+ B	3	LJD

Lab ID: 90679-05    Sampled: 01-09-06 10:30    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	01-12-06 15:15	TCN-1142-W	Lachat 10-204-00-1-A (EPA 335.3)	1	DEB

Lab ID: 90679-09    Sampled: 01-09-06 10:30    Container: 1 L Amber Glass    Preservation: H2SO4/Cool

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Oil and Grease, Total	BRL	mg/L	6	1	900 mL	01-17-06 09:30	HO-0202-W	EPA 1664	4	DEB

**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: Milton Roy Spectronic 401

3 Instrument ID: Accumet AR50

4 Instrument ID: Mettler AT 200 Balance

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: **Influent**  
 Project: **Ipswich Power Plant/2002.01**  
 Client: **Clean Soils Environmental, Ltd.**

Matrix: **Aqueous**  
 Container: **250 mL Plastic**  
 Preservation: **HNO3 / Cool**

Laboratory ID: **90679-06**  
 Sampled: **01-09-06 10:30**  
 Received: **01-09-06 18:40**

Preserved: **01-09-06 10:30**

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Volume	Instrument ID	Analyst
EPA 7041 <sup>1</sup>	MB-1882-W	EPA 3010A	01-10-06 07:43	50 mL	GFAA-1 PE 5100	MFP
EPA 6010B <sup>2</sup>	MB-1882-W	EPA 3010A	01-10-06 07:43	50 mL	ICP-2 PE 3300	MWR
EPA 7421 <sup>3</sup>	MB-1882-W	EPA 3010A	01-10-06 07:43	50 mL	GFAA-1 PE 5100	MFP
EPA 7470A <sup>4</sup>	MP-1787-W	EPA 7470A	01-12-06 12:00	25 mL	CVAA-1 PE FIMS	MFP
EPA 7740 <sup>5</sup>	MB-1882-W	EPA 3010A	01-10-06 07:43	50 mL	GFAA-1 PE 5100	MWR

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-36-0	Antimony, Total		BRL	mg/L	0.003	1	01-13-06 12:40	EPA 7041 <sup>1</sup>
7440-38-2	Arsenic, Total		BRL	mg/L	0.01	1	01-12-06 12:09	EPA 6010B <sup>2</sup>
7440-43-9	Cadmium, Total		BRL	mg/L	0.01	1	01-12-06 12:09	EPA 6010B <sup>2</sup>
7440-47-3	Chromium, Total		BRL	mg/L	0.01	1	01-12-06 12:09	EPA 6010B <sup>2</sup>
7440-50-8	Copper, Total	0.27		mg/L	0.025	1	01-12-06 12:09	EPA 6010B <sup>2</sup>
7439-89-6	Iron, Total	4.0		mg/L	0.1	1	01-12-06 12:09	EPA 6010B <sup>2</sup>
7439-92-1	Lead, Total	0.015		mg/L	0.005	1	01-10-06 19:12	EPA 7421 <sup>3</sup>
7439-97-6	Mercury, Total		BRL	mg/L	0.0002	1	01-12-06 17:41	EPA 7470A <sup>4</sup>
7440-02-0	Nickel, Total		BRL	mg/L	0.04	1	01-12-06 12:09	EPA 6010B <sup>2</sup>
7782-49-2	Selenium, Total		BRL	mg/L	0.005	1	01-11-06 17:03	EPA 7740 <sup>5</sup>
7440-22-4	Silver, Total		BRL	mg/L	0.007	1	01-13-06 11:33	EPA 6010B <sup>2</sup>
7440-66-6	Zinc, Total		BRL	mg/L	0.2	1	01-12-06 12:09	EPA 6010B <sup>2</sup>

**Method Reference:** 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.

DF Dilution Factor.

**EPA Method 8270C  
Semivolatile Organics by GC/MS**

Field ID: Influent  
Project: Ipswich Power Plant/2002.01  
Client: Clean Soils Environmental Ltd.

Matrix: Aqueous  
Container: 1 L Amber Glass  
Preservation: Cool

Laboratory ID: 90679-07  
Sampled: 01-09-06 10:30  
Received: 01-09-06 18:40  
Extracted: 01-12-06 16:50  
Analyzed: 01-17-06 01:56  
Analyst: CMM

QC Batch ID: SV-1821-F  
Instrument ID: MS-3 HP 5890  
Sample Volume: 900 mL  
Final Volume: 1 mL  
Dilution Factor: 1

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