UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I - NEW ENGLAND
OFFICE OF ECOSYSTEM PROTECTION
ONE CONGRESS STREET
BOSTON, MASSACHUSETTS 02114-2023

FACT SHEET

DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE TO WATERS OF THE UNITED STATES

DATE OF PUBLIC NOTICE:

NPDES PERMIT NO.: MA0025704

NAME AND ADDRESS OF APPLICANT:

CSX Transportation, Inc.
500 Water Street - J275
Jacksonville, FL 32202

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

CSX Transportation, Inc.
Beacon Park Yard
60 Pearl Street
Allston, MA 01701

RECEIVING WATERS: Charles River Basin (MA19)

CLASSIFICATION: Class B, Combined Sewer Overflow with a Variance until 2007.

I. Proposed Action

CSX Transportation, Inc. (CSXT) has applied to the U.S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MA DEP) for the re-issuance of their National Pollutant Discharge System (NPDES) permit. CSXT became the operator of the Beacon Park Yard on June 1, 1999 from the previous owners, Consolidated Rail Corporation (Conrail). The most recent permit application was submitted to EPA by CSXT on May 14, 1999 with an updated application submitted on October 11, 2001. The current permit limits CSXT to discharge treated process waste water and storm water to the Charles River Basin at Outfall 001A (see Figure 1 - Locus Map). The current permit was signed on September 30,

1987, and became effective 30 days from the date of signing. The permit expired on October 1, 1992. Conrail reapplied for the permit on July 19, 1994.

On June 23, 1994, Conrail was authorized by an EPA On-Scene Coordinator to discharge treated water from a groundwater recovery and treatment system into the Charles River Basin at Outfall 002A. Conrail submitted an application for this discharge on August 26, 1994.

On August 19, 1999, EPA and the MA DEP released a draft permit for this facility. EPA received comments and was unable to answer questions regarding other discharges that could potentially be coming from the CSXT facility. This Fact Sheet and Draft Permit reexamines the previously released draft permit and the permit application submitted by CSXT in 1999, and answers the questions received during the previous comment period. This permit for Outfalls 001A and Outfall 002A, once finalized, will expire five years from the effective date of issuance.

II. Type of Facility and Discharge Locations

CSXT services, fuels and sands locomotives, for its freight train operation, at the CSX Beacon Park Yard (CSX Beacon). Some of the maintenance activities that produce process water include changing oil and fueling the locomotives (see Figure 2 - Flow Diagram, CSX Boston). The water is then treated in a series of oil/water (O/W) separators before being discharged at Outfall 001A.

Storm water run off from the fuel pads flows to a culvert before flowing through two oil/water (O/W) separators. The culverts remove some of the sand and other grit before the waste water flows to the first O/W separator. The first O/W separator removes sand and solids with a grit drag-out system and oil is removed with a double skimming system. The second O/W separator is a Great Lakes separator with a capacity of 300 gpm. The oil layer is piped to the same 6,000 gallon tank that receives oil from both O/W separators for off-site disposal. The water layer is piped to the storm water system.

In the Car Shop light maintenance occurs on locomotives. This activity causes oil and diesel fuel to build up on the floors. The floors in the Car Shop are washed approximately twice a week with a steam pressure washer. This creates approximately 400 to 500 gallons of waste water for each washing. The waste water from this cleaning operation is discharged to the "track pit." The waste water is then pumped to the same culverts where the fuel pads drain. The waste water from the Car Shop combines with the waste water from the fuel pads. The combined flow gets treated by the two O/W separators described above. The treated waste water effluent from the last O/W separator is piped to the storm water system.

The storm water system is a series of catch basins and pipes that drain CSX Beacon during storm events. The storm water system drains the parking area, yard drainage by the Car Shop, and the dike around the diesel fuel above ground storage tank. The waste water from the Car Shop, the treated water (two O/W separators) from the fuel pads, and the rail yard storm water flows south

to the final O/W separator treatment system. The water is first pumped into two 18,000-gallon retention basins. From the retention basins the water is pumped through a 400 gallon per minute Great Lake O/W separator that was installed in the mid-1990s. CSXT samples the treated water after the O/W separator before it discharges into the Salt Creek Chamber. This draft permit refers to this location as the sampling point for Outfall 001A. The flow rates being discharged at 001A for 2002 and 2003 are summarized in Attachment A. The water then mixes with storm water from the Massachusetts Turnpike Authority (MTA) system and drainage from the Allston/Brighton areas of Boston at the Salt Creek Chamber. The mixed water is then discharged into the Charles River at Outfall 001, which is commonly referred to as the Salt Creek discharge. Outfall 001 is approximately 1800 feet from the Cambridge Street bridge in Allston down stream from the bridge in a southerly direction.

The second point of discharge to be covered by this draft permit is the treated discharge from a groundwater recovery and treatment (GWRT) system (see Figure 3 - GWRT Process and Instrumentation Diagram). The GWRT system was installed in the mid-1980s to recover historical oil spills on the property. In 1994, the GWRT system was upgraded by adding more wells after oil was identified at an outfall on the Charles River. In each well, two pumps operate. The top pumps draws off the floating layer of oil. The lower pump draws off the groundwater. The top pump from the well pumps a mixed phase liquid (oil and water) through an O/W separator. The water phase from the separator is then processed through the granulated activated carbon (GAC) unit. The oil layer is stored in a waste oil 6,000-gallon above ground storage tank. The lower pump delivers a water layer directly to the GAC unit. The treated groundwater from the GAC is discharged immediately after the treatment system and is periodically sampled. For this draft permit the sampling location is referred to as Outfall 002A. The treated groundwater then combines in the Charles River Chamber with storm water from a MTA storm water system. The chamber combines the storm water from three MTA storm water pipes (a 7-feet and two 2-feet concrete pipes) with the discharge from the GWRT system. These combined waters then discharged directly to the Charles River at Outfall 002. Outfall 002 is approximately 1200 feet from the Cambridge Street bridge in Allston downstream from the bridge in a southerly direction.

III. Description of Discharges

A physical description and a summary of analytical test results for each outfall follows:

A. Outfall 001A

The sampling point of Outfall 001A is located at the discharge from the O/W separator in a 12-inch diameter pipe. The 12-inch pipe leads to the Salt Creek Chamber where it mixes with storm water from the MTA and drainage from the Allston/Brighton sections of Boston. Outfall 001 is located approximately 1800 feet from the Cambridge Street Bridge in a southerly direction. Based on an enforcement order issued by EPA in 1996 to Conrail, CSXT is maintaining the oil booms at Outfall 001. Analytical results for Outfall

001A from January 2002 to December 2003 are summarized in Attachment A.

B. Outfall 002A

The sampling point of Outfall 002A is located at the discharge from the GWRT system. The discharge pipe leads to the Charles River Chamber where it mixes with storm water from the MTA system. The chamber combines the discharge from the GWRT system and storm water from three pipes (one 8-feet diameter and two 2-feet diameter concrete pipe) from the MTA system. Outfall 002 is located approximately 500 feet upstream from Outfall 001 in a northerly direction and 1200 feet downstream in a southerly direction from the Cambridge Street Bridge. Based on an enforcement order issued by EPA in 1996 to Conrail, CSXT is maintaining the oil booms at Outfall 002. Analytical results for Outfall 002A from January 2002 to December 2003 are summarized in Attachment B.

C. Other Outfalls Adjacent to CSXT Property

A draft permit for CSXT at CSX Beacon was released for public comment in August 1999. Based in part to comments from the public, EPA did not finalize the proposed permit. Specifically, there were comments about other discharges in the area of the two discharges being permitted by CSXT. As documented in a letter to EPA from CSXT on November 19, 1999, the other discharges are not part of CSXT storm water or waste water system. Please see Attachment C (a letter from CSXT, dated November 16, 1999) to this draft Fact Sheet for a description of the other discharges. This permit allows discharges and sets limits at 001A and 002A from the CSXT operation at CSX Beacon. In the future, if CSXT or any other entity is found to be discharging without a permit, this would be considered a violation of the Clean Water Act and could result in an enforcement action.

IV. Limitations and Conditions

The effluent limitations and the monitoring requirements may be found in the draft NPDES permit. Effluent limitations were derived for Outfall 001A and Outfall 002A and are explained in Section V, below. Additionally, the draft permit requires CSXT to develop a storm water pollution prevention plan (SWPPP) and to monitor the outfalls for priority pollutants on an semi-annual basis.

V. Permit Basis and Explanation of Effluent Limitation Derivation

A. General Requirements

The Clean Water Act (CWA) prohibits the discharge of pollutants to waters of the United States without a National Pollutant Discharge Elimination System (NPDES) permit

unless such a discharge is otherwise authorized by the CWA. The NPDES permit is the mechanism used to implement technology and water quality-based effluent limitations and other requirements including monitoring and reporting. The draft NPDES permit was developed in accordance with various statutory and regulatory requirements established pursuant to the CWA and applicable State regulations. The regulations governing the EPA NPDES permit program are generally found at 40 CFR Parts 122, 124, 125, and 136. In this permit EPA considered (a) technology-based requirements, (b) water quality-based requirements, and (c) all limitations and requirements in the current/existing permit, when developing the permit limits.

B. Technology-Based Requirements

Technology-based requirements represent the minimum level of control that must be imposed under Sections 301(b) and 402 of the CWA (see 40 CFR §125 Subpart A). For existing sources, technology-based requirements according to best practicable control technology currently available (BPT) are applied for conventional, non-conventional, and toxic pollutants. Sections 301 (b)(2)(A) and (E) of the CWA required industrial dischargers to have met limitations based on Best Available Technology Economically Achievable (BAT) for toxic pollutants and Best Conventional Pollutant Control Technology (BCT) for conventional pollutants by July 1, 1984. The authority for BPJ is contained in Section 402(a)(1) of the CWA, which authorizes the EPA Administrator to issue a permit containing "such conditions as the Administrator determines are necessary to carry out the provisions of the Act." The NPDES regulations in 40 CFR §125.3 state that permits developed on a case-by-case basis under Section 402(a)(1) of the CWA must consider:

(1) The appropriate technology for the category class of point sources of which the applicant is a member, based on available information; and

(2) any unique factors relating to the applicant.

For certain industrial sectors, Effluent Guidelines have been promulgated by EPA. However, as in this case when guidelines have not been promulgated for a specific sector, the permit writer is authorized to use his/her best professional judgement (BPJ) in developing technology based limitations. The permit writer can use many resources to develop limitations based on BPJ. For this permit the permit writer developed limitations by:

(1) reviewing Effluent Guidelines from sectors with similar pollutants,

(2) reviewing limitations developed at similar facilities,

(3) choosing proper technologies to treat the process water and develop limitations based on the technology's ability to treat for specific pollutants,

(4) reviewing benchmark levels established in the Storm Water Multi-Sector General Permit,

(5) for Outfall 002A, reviewing the Region I Remediation General Permit requirements, and,

(6) developing a limitation or restriction based on actual performance data and applying a statistical methodology on the technology's ability to treat for specific pollutants.

1. Existing Effluent Guideline

For CSX Beacon the permit writer reviewed the effluent guideline for Petroleum Refining Point Source Category, 40 C.F.R. Part 419 and the effluent guideline for Steam Electric Power Point Source Category 40 CFR Part 423. Below is a summary of how these effluent guidelines were used in the BPJ analysis.

a. Petroleum Refining Point Source Category

This guideline focuses on facilities that produces petroleum products at refining plants. The permit writer reviewed this guideline because it identifies similar pollutants and sets standards for oil and grease, TSS, and pH, which are conventional pollutants discharged at CSX Beacon. The effluent limitations are expressed in total mass per waste water flow rate. However, the standard does not require treatment of the wastewater, if it does not exceed the following levels:

Pollutant	Never Exceeds
Oil & Grease	15 mg/l
pH	6-9

b. Steam Electric Power Point Source Category

This guideline focuses on facilities with storm water runoff from the storage of fuel oil. The permit writer reviewed this guideline because it has similar pollutants and sets standards for TSS, which is a conventional pollutant discharged at CSX Beacon. For more details, see Section II.E.6, below. The effluent guideline limit for TSS follows.

Pollutant	Max. Daily Limit
TSS	100 mg/l

2. Similar Facility Permits

The permit writer reviewed two railroad facilities that treat storm water mixed with oil contamination. Both facilities use O/W separators to treat the storm water before being discharged. EPA Region 1 recently issued the North Station Railroad Terminal and the New York Department of Environmental Conservation issued a permit to CSXT in Selkirk, NY. Discharge limitations were reviewed at points where an O/W separators are used and the water being treated has similar pollutants.

a. North Station Railroad Terminal

The North Station Railroad Terminal was reviewed because the facility had similar waste water characteristics. The characteristics include (1) a similar waste stream (diesel fuel and oils), (2) a similar treatment technology (oil/water separator), and (3) discharges into the same river basin (the Charles River). Region I issued a permit to the North Station Railroad Terminal on January 23, 2004. The following effluent limits were established:

Pollutant/Parameter	Maximum Daily	Frequency of Monitoring
Oil & Grease	15 mg/l	Grab sample once per month
pH	6.5 - 8.3	Grab sample once per month

b. CSX Transportation, Selkirk, New York

The NY Department of Environmental Conservation issued a permit in April 2000 to CSX Transportation at the Selkirk Yard in Selkirk, New York. Outfalls 002 and 003 use O/W separators to treat oil contaminated storm water. The effluent limits for these processes are listed below:

Pollutant/Parameter	Maximum Daily	Frequency of Monitoring
Oil & Grease	15 mg/l	Grab sample twice per month
pH	6.0 - 9.0	Grab sample twice per

		month

3. Oil/Water Seperators

CSXT uses oil/water separators to treat process water mixed with storm water from the facility. The O/W separators remove the lighter oil phase of an oil/water mixture. Recently, the O/W separators that CSXT operates have effectively removed the oil & grease in mixed process water to below the discharge limit of 15 mg/l. The technology removes hydrocarbons/oils that easily separate from the water phase of an oil/water mixture.

However, O/W separators are not a good technology for removing oils when surfactants are used because they cause the oil to emulsify into the water phase and avoid separation. Also, the faster the flow rate of an O/W separator the less time emulsified oils have to separate from the water phase. Surfactants are compounds that reduce the surface tension when dissolved in water. The compounds include three categories detergents (soaps), wetting agents (caustics), and emulsifiers. These compounds can cause oil and grease to become emulsified in the water phase, which muddles the separation of the oil and grease from the water phase in an O/W separator.

CSXT doses not currently use surfactants. O/W separator technology is capable of treating waste water with an oil phase to below the current limit of 15 mg/l when surfactants are not used. Surfactants are a class of very common compounds that could cause the system to exceed the discharge limit for fuel-based pollutants, such as benzene and oil & grease. Monitoring for surfactants is important to assure an O/W separator operates within the discharge limits. Based on information from vendors and the recent performance of the treatment system the O/W separators properly remove the oil phase from the discharged water.

4. Benchmark Levels in the Storm Water Multi-Sector General Permit

In developing the Storm Water Multi-Sector General Permit, EPA established benchmark levels to compare the average discharge pollutant concentration of an industry to the benchmark level for determining which industries would be required to monitor its storm water. The general permit states, "The 'benchmarks' are the pollutant concentrations above which EPA determined represents a level of concern. The level of concern is a concentration at which a storm water discharge could potentially impair, or contribute to impairing, water quality or affect human health from ingestion of water or fish. The benchmarks are also viewed by EPA as a level that, if below, a facility presents little potential for water quality concerns." 65 Fed. Reg. 64766 (2000). These water quality based

levels represent the maximum concentration allowed to be discharged for the consumption of water.

Pollutant/Parameter	Benchmark levels
Oil & Grease	15 mg/l
Benzene	0.01 mg/l
pH	6.0 - 9.0
TSS	100

5. Region I Remediation General Permit Requirements

Region I has recently released a draft Remediation General Permit that would regulate groundwater extraction and treatment systems installed to remediate contamination from a spill that has migrated to groundwater. The following cleanup levels have been established by the permit for fuel oils.

Pollutant/Parameter	**Daily Maximum**
Total Petroleum Hydrocarbon (TPH)	5.0 mg/l
Naphthalene	20 ug/l
Benzene	5.0 ug/l
BETX	100 ug/l
Total Suspended Solids (TSS)	30 mg/l

Other compounds are also included but not in the table above. The compounds include polycyclic aromatic hydrocarbons (PAHs), nickel, chromium, zinc and iron. Priority pollutants shall be monitored twice per year, which includes these pollutants. Iron is the only compound that is not part of the Priority Pollutant list found at 40 C.F.R. Part 423, Appendix A and is usually monitored to help predict the frequency of operation and maintenance of the treatment system because of fouling from iron precipitation.

6. Performance Based Restrictions

EPA uses actual performance data from multiple facilities in the same industrial category to develop effluent guidelines under the CWA. EPA applies a statistical methodology on the performance data as described in Appendix E of EPA's "Technical Support Document for Water Quality-Based Toxics Control," (March 1991). Using this same methodology, EPA can determine effluent limitations or restrictions at a facility based on the facility's actual performance data. A summary of CSXT's reported flow rates can be found as Attachment A of this Fact Sheet. Based on the systems flow rate performance data, EPA has applied the statistical methodology to develop flow rate restrictions, which is discussed in detail in Section VI.E.1, below.

C. Water Quality-Based Requirements

Under Section 301(b)(1)(C) of the CWA and EPA regulations, NPDES permits must contain effluent limits more stringent than technology-based limits where more stringent limits are necessary to maintain or achieve state or federal water quality standards.

Water quality standards consist of three parts: (1) beneficial designated uses for a water-body or a segment of a water-body; (2) numeric and/or narrative water quality criteria sufficient to protect the assigned designated use(s); and (3) anti-degradation requirements to ensure that once a use is attained it will not be degraded. The Massachusetts Surface Water Quality Standards, found at 314 CMR 4.00, include these elements. The state will limit or prohibit discharges of pollutants to surface waters to assure that surface water quality standards of the receiving waters are protected and maintained or attained. These standards also include requirements for the regulation and control of toxic constituents and require that EPA criteria, established pursuant to Section 304(a) of the CWA, shall be used unless a site specific criteria is established.

The draft permit must limit any pollutant or pollutant parameter (conventional, non-conventional, toxic, and whole effluent toxicity) that is or may be discharged at a level that causes or has the "reasonable potential" to cause or contribute to an excursion above any water quality standard (40 CFR §122.44(d)). An excursion occurs if the projected or actual in-stream concentration exceeds an applicable water quality criterion. In determining "reasonable potential," EPA considers: (1) existing controls on point and non-point sources of pollution; (2) pollutant concentration and variability in the effluent and receiving water as determined from the permit's re-issuance application, monthly discharge monitoring reports (DMRs), and State and Federal Water Quality Reports; (3) sensitivity of the indicator species used in toxicity testing; (4) known water quality impacts of processes on waste waters; and (5) where appropriate, dilution of the effluent in the receiving water.

The Charles River, which is the receiving water for the facility's discharge, has been

designated as a Class B water in the Massachusetts Surface Water Quality Standards found at Title 314 Code of Massachusetts Regulations ("CMR") 4.05(3)(b). The technology-based pollutant limits set by this permit either meet or are below the concentration for water quality standards in the receiving water.

D. Water Quality Standards and Designated Uses

The Charles River Basin from the Watertown Dam to Science Park Dam, has been classified as Class B, Combined Sewer Overflow (CSO) under a variance until 2007, under the Massachusetts Surface Water Quality Standards. 314 CMR § 4.05(3)(b) states that Class B waters must have the following designated uses: *These waters are designated as habitat for fish, other aquatic life, and wildlife, and for primary and secondary contact recreation. Where designated they shall be suitable as a source of public water supply with appropriate treatment. They shall be suitable for irrigation and other agricultural uses and for compatible industrial cooling and process uses. These waters shall have consistently good aesthetic value.*

Section 303(d) of the Federal Clean Water Act (CWA) requires states to identify those water-bodies that are not expected to meet surface water quality standards after the implementation of technology-based controls and, as such require the development of total maximum daily loads (TMDL). The 2002, 303(d) report (impaired waters list) states that the Charles River from the Watertown Dam to the Science Park Dam (Charles River Basin MA72) is not attaining water quality standards due to Priority Organics and Pathogens.

E. Effluent Limitations - Outfall 001A

EPA has established effluent limitations for Outfall 001A that discharges treated process and storm water. This draft permit either restricts or establishes effluent limitations for flow, temperature, oil & grease, pH, and total suspended solids. Additionally, CSXT is required to annually monitor the discharge for surfactant and Priority Pollutants. Finally, CSXT must have a SWPPP for the facility including the two discharges.

1. Flow

The 1987 permit and the Order for Compliance dated 1996 restricted the flow rate to maximum of 144,000 gallons per day (gpd). The system has changed since the last time it was permitted. First, the storm water and spilled fuel from the fueling pads are processed by two O/W separator before being discharged into the site storm water system. Next, the 18,000-gallon surge tanks no longer have overflow locations. The waste water to the surge tanks is recharged on demand by tank level controls. Any surplus that is not pumped into the surge tanks during a storm event is held in the storm water system. The previous owners installed an O/W separator in 1995 with a 400 gallons per minute (gpm) capacity. The water from

the surge tanks is pumped to this O/W separator.

CSXT reports the monthly average flow in gpd and the maximum monthly flow rate in gpd. Flow rates for 2002 and 2003 are summarized in Attachment A to this Fact Sheet. Although the O/W separator has a theoretical capacity of 576,000 gallons per day (400 gpm), CSXT has never operated the O/W separator at that flow rate. Since the data from 2002 and 2003 is indicative of the flow rate needed to treat the expected flow from waste water and storm water, there is no reason to permit more of a flow. Also, if more water needs to be treated by the system, then this represents a systematic change that CSXT shall need to reapply or modify this permit. This allows EPA the opportunity to assess any water quality implications of a process change, for example, an increase in the number of locomotives maintained at the facility.

Additionally, the performance data shows that the O/W seperator can treat the storm water and waste water at the current flow rates. O/W seperators operate more efficiently at lower flow rates because a lower flow rate provides more retention time for the oil to float to the surface. CSXT has not shown that the specific waste water being treated by the O/W separator can meet effluent limits at higher flow rates.

EPA has used the actual performance data for average monthly flow rates and maximum daily flow rates for 2002 and 2003. EPA applied the statistical methodology described in Appendix E of EPA's "Technical Support Document for Water Quality-Based Toxics Control," (March 1991). From this methodology, EPA applied a 95% confidence level and determined that the average monthly flow rate shall not exceed 21,500 gallons per day (gpd). EPA then applied a 99% confidence lever and determined that the maximum daily flow rate shall not exceed 130,000 gpd. A copy the spreadsheet used to calculate the flow rates be can found as Attachment D to this Fact Sheet.

CSXT shall continuously monitor the flow rate from the last O/W separator for Outfall 001A. CSXT shall report the average monthly and maximum daily flow rates measured at the discharge from the last O/W separator at Outfall 001A before it discharges to the Salt Creek Chamber. CSXT shall report the values in the Discharge Monitoring Reports (DMRs) on a monthly basis.

2. Temperature

The previous 1987 permit did not require temperature to be limited or monitored. However, as previously stated, CSXT steam cleans the floor of the Car Shop approximately twice per week, which generates approximately 400 to 500 gallons of waste water mixed with oil debris. The steam cleaning raises the temperature of the waste water. Therefore, CSXT shall assure that the daily maximum temperature of the discharge at Outfall 001A does not exceed 83°F. This

requirement is based on state certification requirements and Massachusetts Surface Water Quality Standards for Class B warm water fisheries. CSXT shall continuously monitor and record the temperature at the discharge from the last O/W separator at Outfall 001A before it discharges to the Salt Creek Chamber for compliance with the 83ºF daily maximum temperature. On a monthly basis CSXT shall report on DMRs the maximum daily temperature from the readings measured at a representative location for Outfall 001A.

3. Oil and Grease

The Oil and Grease (O&G) limit of 15 mg/l maximum daily was incorporated in the previous 1987 permit under state certification requirements set forth in 40 C.F.R. §124.53 and §124.55. This draft permit continues to limit O&G at 15 mg/l based on a technology-based limit determined by BPJ. Facilities that generate similar pollutants and use an O/W separator to process the water are limited to 15 mg/l for O&G. The facilities reviewed include the North Station Railroad Terminal, Boston, Massachusetts and the CSXT facility in Selkirk, New York. Furthermore, the Petroleum Refining Point Source Category, 40 C.F.R. Part 419 standard does not require treatment of the wastewater, if it does not exceed 15 mg/l of Oil &Grease. Finally, the Storm Water Multi-Sector General Permit sets 15 mg/l of Oil and Grease as a benchmark. Benchmark levels are considered to have little potential to negatively impact water quality standards.

The technology-based effluent limit of 15 mg/l has been determined to meet the water quality standard established for Oil and Grease by Massachusetts Surface Water Quality Standard at 314 CMR § 4.05(3)(b)7. The qualitative water quality standard for Oil and Grease in a Class B Inland Water in Massachusetts states, "(t)hese waters shall be free from oil, grease and petrochemical that produce a visible film on the surface of the water, impart an oily taste to the water or an oily or other undesirable taste to the edible portions of aquatic life, coat the banks or bottom of the water course, or are deleterious or become toxic to aquatic life." If CSXT meets the 15 mg/l limit for O&G (maximum daily), then CSXT shall meet the water quality standard for O&G.

The original permit established a sampling frequency of once per week. This draft permit continues a sampling frequency of once per week for O&G. A grab sample shall be taken at the current sampling point between the effluent of the O/W separator and the discharge to the Salt Creek Chamber. Each month CSXT shall report on DMRs the maximum daily of the O&G testing results.

4. pH Limit

The pH requirements in the 1987 permit (not less than 6.0 or greater than 8.5 standard units) were based on the Massachusetts Surface Water Quality Standards that were enforceable in 1987. The pH requirements in this draft (not less than 6.5 or greater than 8.3 standard units) reflect changes in the water quality standards regulations found at 314 CMR § 4.05(3)(b)3 for Class B waters in Massachusetts. Since the pH range is a water quality standard and required for state certification of the permit, CSXT is required to meet the new range for pH. CSXT shall continuously monitor the pH at the discharge from the O/W separator and the Salt Creek Chamber. On a monthly basis CSXT shall report on DMRs the minimum and maximum daily pH values.

5. Total Suspended Solids

This draft permit limits discharge of TSS at 100 mg/l for the maximum daily value. The monitoring frequency for this parameter shall be monthly. The TSS limits are based upon a BPJ determination that reviewed an effluent guideline for facilities that have a discharge with similar pollutants and use O/W separators to remove suspended solids, as well as other pollutants. Heavy metals and polynuclear aromatic hydrocarbons are readily adsorbed onto particulate matter and the release of these compounds into the environment can be reduced by regulating the amount of suspended solids discharged. Additionally, an exceedance of the TSS limit is an indication that maintenance of the O/W separator has not occurred and is needed.

In making this determination, EPA considered the effluent limitations guidelines promulgated at 40 CFR Part 423 for the Steam Electric Power Point Source Category for guidance. Steam electric generating facilities store fuel oil that can create a similar waste stream as CSXT, which involves diesel and fuel oils in storm water. In developing effluent limits for Steam Electric Source Category, EPA identified TSS as a potential pollutant due to the drainage associated with equipment containing fuel oil and/or the leakage associated with the storage of oil (USEPA, 1982). EPA then considered the level of treatment that could be technologically achieved for TSS using an O/W Separator and set corresponding limits in the guidelines (See 40 C.F.R. Part 423, “low volume waste sources”). Given the similarities between the pollutants in the storm water and waste water being treated at Outfall 001A and the storm water from the storage of fuel oil at steam electric facilities, EPA is using the same TSS limits for the maximum daily limit for the O/W separator at CSX Beacon.

This draft permit requires the sampling frequency for TSS to be once per month by grab sample. The grab sample shall be taken at the point of discharge after the last O/W separator before the Salt Creek Chamber during normal operating conditions. For each month CSXT shall report on DMRs the maximum daily limit from the TSS testing results.

6. Benzene, Toluene, Ethylbenzene and Total Xylenes (BETX)

CSXT uses diesel fuel to power its locomotives at CSX Beacon and fuels the locomotives on fuel pads to capture spills. Diesel fuel contains benzene, toluene, ethylbenzene and xylene among other hydrocarbons (mixture of volatile organic compounds and polynuclear aromatic hydrocarbons). Benzene, as an indicator compound, shall be limited to 5.0 micrograms per liter (ug/l) at Outfall 001A. The monitoring frequency for this parameter shall be monthly.

Fuel refined petroleum products contain numerous types of hydrocarbons. Individual components partition to environmental media on the basis of their physical/chemical properties (e.g., solubility, vapor pressure). Rather than attempt to establish effluent limits for every compound found in waste water or storm water containing diesel fuel, limits are typically established for the compounds that would be the most difficult to remove or demonstrate the greatest degree of toxicity. Generally, the higher the solubility of a volatile organic compound (VOC) in water, the more difficult it is to remove.

VOCs such as benzene, toluene, ethylbenzene, and the three xylene compounds (BTEX) are normally found at relatively high concentrations in light distillate products, such as diesel fuel. Since many petroleum spills involve diesel fuel, a traditional approach for such spills has been to place limits on the individual BTEX components and/or the sum of total BTEX compounds.

Of these four compounds, benzene has one of the highest solubilities, is one of the most toxic constituents, and is found at relatively high concentrations in diesel fuel (290 mg/l)[1]. Because of the reasons mentioned above, benzene can be considered one of the most important limiting pollutant parameters found in diesel fuel. Building on this premise, benzene can be used as an indicator-parameter for regulatory and characterization purposes for waste water and storm water, which contains some diesel fuel. The primary advantage of using an indicator-parameter

[1] See "Composition of Petroleum Mixtures," Total Petroleum Hydrocarbon Criteria Working Group Series, T.L. Potter and K.E. Simmons, Vol. 2, p. 52 (May 1998).

is that it can monitor the effectiveness of a treatment process and evaluate the potential impact on the environment.

EPA is proposing a maximum daily effluent limit for benzene of 51 µg/L in the Draft Permit. This number represents the current recommended Federal Water Quality Criteria for benzene adopted by the State of Massachusetts (See 314 CMR 4.05(5)(e)) for Class B receiving waters. The benzene limit of 51 µg/L is based on the human health criteria associated with the consumption of aquatic organisms (USEPA, 2002).

This draft permit requires the sampling frequency for benzene to be once per month by grab sample. The grab sample shall be taken at the point of discharge after the last O/W separator before the Salt Creek Chamber during normal operating conditions. For each month CSXT shall report on DMRs the maximum daily limit from the benzene testing results.

7. Monitoring

EPA requires CSXT to monitor Outfall 001A for Priority Pollutants and to amend the SWPPP to include Outfall 001A and the maintenance at Outfall 001. Additionally, CSXT shall conduct the following monitoring for surfactants on a monthly basis and for Priority Pollutants twice a year. Below are the details required to be performed at 001A.

a. Surfactant

Currently, CSX Beacon does not use a surfactant for cleaning purposes. However, CSX Beacon previously used surfactants. If CSX Beacon started to reuse these common cleaning compounds, either consciously or accidently, the O/W separator may not be able to properly separate the oil phase from the storm water and waste water as discussed in Section V.B.3, above. This could cause CSXT to exceed the O&G effluent limit. Therefore, CSXT is being required to monitor for surfactants once a month at Outfall 001A. CSXT shall report the results of the monitoring on monthly DMRs.

b. Priority Pollutants

CSXT shall monitor the effluent from the O/W separator before the Salt Creek Chamber for Priority Pollutants (PP) as listed at 40 CFR 423, Appendix A. The waste oil debris that CSXT is treating with the on site O/W separators contain certain polycyclic aromatic hydrocarbons (PAHs) and other volatile and semi-volatile toxic compounds. Additionally, this monitoring replaces the semi-annual testing for Toxic Organic

Compounds required in the previous permit. The PP monitoring should result in identifying specific compounds that are being discharged at 001A.

A grab sample shall be taken after the last O/W separator before the Salt Creek Chamber during normal operating conditions twice per year during the second week in the months of April and October. April and October have been chosen to coordinate with the other semi-annual sampling at the facility and the months of April and October are months that EPA and the MA DEP have agreed to require toxic sampling events in the Charles River Watershed for administrative convenience purposes and to obtain data during similar time periods. CSXT shall report the analytical results for PPs in a report to be submitted with the April and October DMRs due before May 30th and November 30th, respectively. CSXT may request a reduction in the number of individual pollutants to be sampled after four consecutive semi-annual sampling rounds of not detecting the presence of the pollutants.

c. Storm Water Pollution Prevention Plan (SWPPP)

CSXT shall amend its existing SWPPP to include the monitoring at Outfall 001A and the maintenance requirements at Outfall 001. The requirements for the SWPPP can be found in Section G. below.

F. Effluent Limitations - 002A

EPA has established effluent limitations for treated groundwater, which is discharged through Outfall 002A. CSXT operates a groundwater recovery and treatment (GWRT) system, which started operating in the mid 1980s to remediate a floating layer of oil from historical spills of diesel fuel at the facility. The system was upgraded to handle more flow and to avoid an oil layer from reaching the Charles River after a release occurred in 1994. This draft permit proposes effluent limits and monitoring requirements that are substantively equivalent to the Region I Remediation General Permit. This draft permit either restricts or establishes effluent limitations for flow, oil & grease, pH, benzene, BETX (benzene, ethyl benzene, toluene and xylene) and total suspended solids. Additionally, CSXT is required to monitor the discharge semi-annually monitor the discharge for Priority Pollutants. Finally, CSXT must have a SWPPP for the facility that includes the sampling and monitoring requirements for Outfall 002A and the BMPs for operating the GWRT system and to control activities that could contribute pollutants to the Charles River. See Section V.G, below, for more details about the SWPPP. Once this permit becomes final the effluent limitations established at Outfall 002A shall supersede the levels originally set by the NPDES Permit Exclusion letter from EPA dated June 23, 1994.

1. Flow

The 1994 NPDES Permit Exclusion letter issued by EPA on June 23, 1994, restricted the flow rate to 70 gallons per minute (100,800 gallons per day (gpd)). The system has been upgraded with a total flow rate of 115 gpm according to a letter from CSXT's consultant dated May 22, 2000. This permit restricts the flow to the maximum capacity of GWRT system. With the existing system, CSXT is restricted to 115 gpm (or 165,600 gpd). Before any modifications that increases the flow rate is implemented, CSXT shall get prior approval from EPA.

CSXT shall continuously monitor the flow rate at Outfall 002A during normal operating conditions. CSXT shall report the average monthly and maximum daily flow rates measured at the discharge from the GWRT system (Outfall 002A) before it discharges to the Charles River Chamber. CSXT shall report the values in the Discharge Monitoring Reports (DMRs) on a monthly basis.

2. Fuel Oil Remediation

CSXT fits the definition of a fuel oil remediation site in accordance with the draft Remediation General Permit. Additionally, some of the pollutants more prevalent at gasoline remediation sites have been detected at CSX Beacon, such as benzene, ethyl benzene, toluene and xylenes (BETX). From the RGP, the permit writer used his best professional judgement to choose the following pollutants to have effluent limits for the CSX Beacon.

Pollutant	Effluent Limit - Daily Maximum
Total Petroleum Hydrocarbons (TPHs)	5 mg/l
Naphthalene	20 ug/l
Benzene	5.0 ug/l
Benzene, ethyl benzene, toluene and xylene (BETX)	100 ug/l
Methyl t-Butyl Ether (MTBE)	70 ug/l
Total Suspended Solids (TSS)	30 mg/l

CSXT is not being required to meet effluent limitation for Polycyclic Aromatic Hydrocarbons (PAHs) or metals. However, CSXT shall be sampling the

discharge from the GWRT system for PP on a semi-annual basis. The same constituents listed in the RGP under PAHs and metals are being monitored with PP testing with the exception of iron (monitored for operation and maintenance purposes only). PP testing shall be performed on a semi annual basis as described below in the Monitoring Requirements, Section 7.b. Therefore, CSXT shall monitor for PAHs and metals when doing the PP monitoring and will not be required to meet effluent limitations for each constituent. However, EPA has the statutory authority to "terminate, or modify for cause including, but limited to, ... change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge." CWA Section 402(a)(3). Therefore, if levels of pollutants are detected above the RGP effluent limits, EPA has the ability to amend the permit to include PAHs and metals effluent limitations.

This draft permit limits discharge of MTBE at 70 ug/l and TSS at 30.0 mg/l for the maximum daily value at the GWRT system. The monitoring frequency for these parameter shall be monthly. The MTBE and TSS limits are based upon a BPJ determination that reviewed effluent limits in the RGP for gasoline cleanup sites. Since components of gasoline, such as BETX, have been detected at this location, CSXT shall meet the discharge limits for MTBE and TSS after the GWRT system.

This draft permit requires CSXT to sample the effluent and analyze for the pollutants above. Grab samples shall be taken at the point of discharge after the GWRT system before the Charles River Chamber during normal operating conditions. For each month CSXT shall report on DMRs the maximum daily limit from the tests results for each pollutant.

3. pH Limit

The pH requirements in the last permit issued in September 1987 (not less than 6.0 or greater than 8.5 standard units) were based on the Massachusetts Surface Water Quality Standards that were enforceable in 1987. The pH requirements in this draft (not less than 6.5 or greater than 8.3 standard units) reflect changes in the water quality standards regulations found at 314 CMR § 4.05(3)(b)3 for Class B waters in Massachusetts. Since the pH range is a water quality standard and required for state certification of the permit, CSXT is required to meet the new range for pH. CSXT shall continuously monitor the pH at the discharge from the GWRT system and the Charles River Chamber. On a monthly basis CSXT shall report on DMRs the minimum and maximum daily pH values.

4. Monitoring

EPA requires CSXT to monitor Outfall 002A for Priority Pollutants and to amend the SWPPP to include the monitoring at Outfall 002A and the maintenance at Outfall 002. CSXT shall monitor the effluent from the GWRT system on a semi-annual basis for Priority Pollutants (PPs) as listed at 40 C.F.R. 423, Appendix A. CSXT operates the GWRT system because of historical releases of pollutants at the rail yard. The fuel oil used by locomotives and other chemicals used at the site have infiltrated the groundwater.

a. Priority Pollutants

These releases pose a potential for pollutants to be discharge from the GWRT system to the Charles River. To assure the GWRT system is operating properly and to monitor whether PP are being released to the Charles River, CSXT shall sample Outfall 002A twice a year for PPs.

A grab sample shall be taken after the GWRT system before the Charles River Chamber during normal operating conditions. One sampling round shall be conducted during the second week of the month in April and the second sampling round shall be conducted during the second week of the month in October. April and October have been chosen to coordinate with the other semi-annual sampling at the facility and April and October are months that EPA and the MA DEP have agreed to require toxic sampling events in the Charles River Watershed for administrative convenience purposes and to obtain data during similar time periods. CSXT shall report the analytical results for PPs in a report to be submitted with the April DMRs due before May 30th and the October DMRs due before November 30th. CSXT may request a reduction in the number of individual pollutants to be sampled each sampling round after two consecutive years (four co-current sampling rounds) of not detecting the presence of the pollutants.

b. Storm Water Pollution Prevention Plan (SWPPP)

CSXT shall amend its existing SWPPP to include the monitoring at Outfall 002A and the maintenance requirements at Outfall 002. The requirements for the SWPPP can be found in Section G. below.

G. Storm Water Pollution Prevention Plan

CSXT is required to review and amend its Storm Water Pollution Prevention Plan within 90 days after the effective date of this permit. The SWPPP shall refer to two outfalls and the sampling and monitoring required by the permit. Additionally, the SWPPP shall include the best management practices (BMPs) appropriate for this specific facility to control waste water and storm water discharges from activities that could contribute pollutants to waters of the United States. The SWPPP shall include maintenance activities to be performed by CSXT at Outfalls 001 and 002[2]. The maintenance activities include:

1. Booms in place at the outfalls shall be maintained to ensure they are in proper working order,

2. Any oil, scum debris, trash, etc. collected around the boom are shall be regularly removed and properly disposed of,

3. Boom maintenance shall occur at minimum frequence of once per month and

4. There shall be no discharge of floating solids, visible foam, debris, or oil sheen other than in trace amounts.

CSXT is required to update the SWPPP as outlined in the draft Permit under Part 1.B and Part 4 of EPA's NPDES Storm Water Multi-Sector General Permit for Industrial Activities. See 65 FR 64,745 (2000). Finally, CSXT is required to fully implement the SWPPP for all outfalls. The original SWPPP and the amended SWPPP become enforceable elements on and after the effective date of the permit. Consequently, the SWPPP is as enforceable as any effluent limit.

The SWPPP for the discharge should address all potential sources of pollutants in the rail yard as BMPs including, but not limited to, the minimization of oil and fuel spills at the fueling pad and the Car Shop, the chemicals stored in rail cars, fuels and oils stored in above ground storage tanks, materials stored in the rail yard including scrap metal piles,

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[2] These maintenance activities are a continuation of the requirements set out in In the Matter of Consolidated Rail Corporation, Findings of Violation and Order for Compliance, Docket No. 96-15, 6/26/96 (Order) and the permit issued on September 30, 1987.

the storage of new railroad ties, chemicals in rail cars, and all other materials stored outside that have the potential to spill or could contribute to the discharges.

The draft permit continues to ensure that the SWPPP is kept current and adhered to, by requiring CSXT to maintain and update the SWPPP as changes occur at the facility. In addition, the draft permit requires the CSXT to provide an annual report that certifies to EPA and the MA DEP that the previous year's inspections and maintenance activities were conducted, results recorded, records maintained, and that the facility is in compliance with its SWPPP. A signed copy of the report with the proper certification will be sent each year to EPA and MA DEP within thirty (30) days of the annual anniversary of the effective date of the draft permit. This report with the proper certification shall be signed in accordance with the requirements identified in 40 C.F.R. §122.22. A copy of the most recent SWPPP shall be kept at the facility and be available for inspection by EPA and MA DEP.

VI. Essential Fish Habitat

Under the 1996 Amendments (PL 104-267) to the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. § 1801 et seq.(1998)), EPA is required to consult with the National Marine Fisheries Service (NMFS) if EPA's action or proposed actions that it funds, permits, or undertakes, "may adversely impact any essential fish habitat." 16 U.S.C. § 1855(b). The Amendments broadly define "essential fish habitat" (EFH) as: "waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity. 16 U.S.C. § 1802(10). Adversely impact means any impact which reduces the quality and/or quantity of EFH. 50 C.F.R. § 600.910(a). Adverse effects may include direct (e.g., contamination or physical disruption), indirect (e.g., loss of prey, reduction in species' fecundity), site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions. Id.

Essential fish habitat is only designated for fish species for which federal Fisheries Management Plans exist. 16 U.S.C. § 1855(b)(1)(A). EFH designations for New England were approved by the U.S. Department of Commerce on March 3, 1999.

Based on the permit requirements and limitations identified in the draft permit and fact sheet that are designed to be protective of aquatic species, EPA has concluded that formal consultation with NMFS is not required because this authorized discharge is meeting Gold Book Criteria and State Water Quality Standards and is not likely to adversely affect federally managed species, their forage, or their habitat. However, National Marine Fisheries Service have been notified and is being given an opportunity to comment on the impact of this discharge to essential fish habitat. If adverse effects do occur as a result of this permit action, or if new information becomes available that changes the basis for this conclusion, then NMFS will be notified and consultation promptly initiated.

VII. Endangered Species Act Consultation

Section 7(a) of the Endangered Species Act of 1973, as amended ("Act") grants authority to and imposes requirements upon Federal agencies regarding endangered or threatened species of fish, wildlife, or plants ("listed species") and habitat of such species that has been designated as critical ("A critical habitat"). The Act requires every federal agency, in consultation with and with the assistance of the Secretary of the Interior, to insure that any action it authorizes, funds, or carries out, in the United States or upon the high seas, is not likely to jeopardize the continued existence of any listed species or results in the destruction or adverse modification of critical habitat. The National Marine Fisheries Service (NMFS) administers Section 7 consultations for marine species and anadromous fish. The United States Fish and Wildlife Service (USFWS) administers Section 7 consultations for freshwater species.

EPA has notified the National Marine Fisheries Service and the United States Fish and Wildlife Service that EPA believes that no federally listed species have been identified as occurring in the Charles River or Boston Harbor.

VIII. Anti-backsliding

Anti-backsliding as defined at 40 C.F.R. §122.44(l)(1) requires reissued permits to contain limitations as stringent or more stringent than those of the previous permit unless the circumstances allow application of one of the defined exceptions to this regulation. This permit is either as stringent or more stringent than the previous permit issued in 1987 including an increase in the number of pollutants being monitored, a decrease in the flow rate from Outfall 001A, and a tightening of the pH range. The only issue related to anti-backsliding is an increase in the flow rate for the GWRT system. However, this parameter meets an exception allowed because the flow is due to an upgrade of the GWRT system with the addition of more wells and a larger pump to handle the new wells. Therefore, the increase in the flow rate from the upgrade to the GWRT system meets an exception listed in 40 C.F.R. §122.44(l)(2)(i)(A), which state: Material and substantial alterations or additions to the permitted facility occurred after permit issuance which justify the application of a less stringent effluent limitation. To properly operate the GWRT system and to capture more pollutants from migrating to the Charles River without treatment, the increase in flow is justified.

IX. Anti-degradation

The Massachusetts Anti-degradation Policy is found at 314 CMR 4.04. All existing uses of the Charles River must be protected. This draft permit is being reissued with as stringent or more stringent discharge limits than the current permit with the exception of treated discharge flow at Outfall 002A. The increase in water being treated actually capture more pollutants in the groundwater flowing that would other possibly migrate to the Charles River if left untreated. Therefore, no additional anti-degradation review is warranted.
EPA and MA DEP have determined that anti-degradation requirements for this permit will be

preserved because (1) the existing water quality of the receiving water will be maintained or improved and (2) the increased flow is a result of more groundwater being treated that otherwise would migrate to the Charles River. The public is invited to participate in the anti-degradation determination through the permit public notice process.

X. State Certification Requirements

EPA may not issue a permit in the Commonwealth of Massachusetts unless the MA DEP certifies that the effluent limitations contained in the permit are stringent enough to assure that the discharge will not cause the receiving water to violate State Water Quality Standards. The staff of the MA DEP has reviewed the draft permit. EPA has requested state certification for this permit pursuant to 40 C.F.R. § 124.53 and expects that the draft permit will be certified.

XI. Comment Period, Hearing Requests, and Procedures for Final Decisions

All persons, including applicants, who believe any condition of the draft permit is inappropriate must raise all issues and submit all available arguments and all supporting material for their arguments in full by the close of the public comment period, to:

Mr. Steven J. Calder
U.S. EPA
One Congress Street
Suite 1100 (CMA)
Boston, Massachusetts 02114-2023

Any person, prior to such date, may submit a request in writing for a public hearing to consider the draft permit to EPA and the State Agency. Such requests shall state the nature of the issues proposed to be raised in the hearing. A public hearing may be held after at least thirty days public notice whenever the Regional Administrator finds that response to this notice indicates significant public interest. In reaching a final decision on the draft permit, the Regional Administrator will respond to all significant comments and make these responses available to the public at EPA's Boston office.

Following the close of the comment period, and after a public hearing, if such hearing is held, the Regional Administrator of EPA and the Director of DEP/DWM will issue a final permit decision and forward a copy of the final decision to the applicant and each person who has submitted written comments or requested notice.

XII. EPA Contact

Additional information concerning the draft permit may be obtained between the hours of 9:00 a.m. and 5:00 p.m., Monday through Friday, excluding holidays from:

Mr. Steven J. Calder
US Environmental Protection Agency
One Congress Street
Suite 1100 (CMA)
Boston, Massachusetts 02114-2023
Telephone: 617-918-1744
fax: 617-918-0744
e-mail: calder.steve@epa.gov

and

Mr. Paul Hogan
Department of Environmental Protection
Division of Watershed Management
627 Main Street
Worcester, MA 01618
Telephone: 508-767-2796
Fax: 508-791-4131
E-mail: paul.hogan@state.ma.us

_____
Date

_____
Linda M. Murphy, Director
Office of Ecosystem Protection
U.S. Environmental Protection Agency

ATTACHMENT A
CSX Transportation, Inc. (MA0025704)
DISCHARGE 001A - SAMPLING RESULTS
January 2002 THROUGH December 2003

	Oil & Grease (mg/l)	Flow Rate (gpd)		pH (Standard Units)		Total Toxic Organics (mg/l)
	Maximum	Average	Maximum	Minimum	Maximum	Maximum
Current Permit Limits	15.0	Report	144,000	6.0	8.5	Report
Date	Maximum	Average	Maximum	Minimum	Maximum	Maximum
January 2002	2.9	7,500	26,000	6.9	6.9	
February 2002	5.1	8,000	23,000	7.2	7.2	No Detect
March 2002	3.1	12,500	33,000	7.1	7.1	
April 2002	2.7	5,100	32,000	6.7	6.7	
May 2002	1.6	8,000	60,000	7.2	7.2	
June 2002	1.7	6,400	33,000	7.2	7.2	<1
July 2002	2.7	4,000	9,000	6.8	6.8	
August 2002	4.0	5,900	20,000	6.8	6.8	
September 2002	3.2	7,300	26,000	7.1	7.1	
October 2002	2.7	15,100	48,000	7.1	7.1	
November 2002	5.0	6,300	16,000	7.3	7.3	
December 2002	2.2	10,300	33,000	6.9	6.9	
January 2003	4.2	17,300	100,000	7.1	7.1	
February 2003	4.3	20,100	100,000	6.9	6.9	<1
March 2003	5.0	14,700	70,000	6.8	6.8	
April 2003	3.7	12,800	80,000	6.6	6.6	
May 2003	8.0	11,800	78,000	6.7	6.7	
June 2003	1.8	17,900	156,000	6.9	6.9	
July 2003	4.6	11,600	50,000	6.6	6.6	
August 2003	4.7	11,500	35,000	6.8	6.8	<1
September 2003	12	11,800	32,000	7.1	7.1	
October 2003	4.2	30,300	60,000	6.6	6.6	
November 2003	3.2	8,300	25,000	6.7	6.7	
December 2003	3.0	15,700	70,000	6.7	6.7	

	Maximum	Average	Maximum	Minimum	Maximum	
Proposed Limits	**15**	**21,500**	**144,000**	**6.5**	**8.3**	

ATTACHMENT B
CSX Transportation, Inc. (MA0025704)
DISCHARGE 002A - SAMPLING RESULTS
January 2002 THROUGH December 2003

	BETX Influent (ppb)	BETX Effluent (ppb)	Benzene Influent (ppb)	Benzene Effluent (ppb)	Petro-Hydro Influent (ppm)	Petro-Hydro Effluent (ppm)
Current Permit Limits	Report	100 daily max.	Report	5 daily max.	Report	5 daily max
Jan. 2002	4.5	<1	2.2	<1	1.1	<1
Feb. 20002	2.0	<1	2.0	<1	<1	<1
March 2002	4.3	<1	3.1	<1	<1	<1
April 2002	3.3	<1	3.3	<1	<1	1.8
May 2002	2.7	<1	2.7	<1	<1	<1
June 2002	2.7	<1	2.7	<1	<1	<1
July 2002	2.2	<1	2.2	<1	<1	<1
Aug. 2002	2.7	<1	2.7	<1	1.2	1.2
Sept. 2002	1.8	<1	1.8	<1	<1	<1
Oct. 2002	ND*	ND	ND	ND	ND	ND
Nov. 2002	ND	ND	ND	ND	ND	ND
Dec. 2002	10	<1	1.7	<1	43	8.4
Jan. 2003	1.3	<1	<1	<1	18	3.3
Feb. 2003	<1	<1	<1	<1	13	<1
March 2003	<1	<1	<1	<1	<1	<1
April 2003	7.4	<1	1.7	<1	18	3.3
May 2003	1.2	<1	1.2	<1	3.5	<1
June 2003	1.3	<1	1.3	<1	<1	<1
July 2003	2.9	<1	1.9	<1	3.1	<1
Aug. 2003	5.7	<1	1.4	<1	51	<1
Sept. 2003	50	<1	3.2	<1	41	<1
Oct. 2003	4.7	<1	1	<1	8.5	<1
Nov. 2003	ND	ND	ND	ND	ND	ND
Dec. 2003	ND	ND	ND	ND	ND	ND

	Influent	Effl. Daily Max.	Influent	Effl. Daily Max.	Influent	Effl. Daily Max.

Proposed Limits	Sample	30	Sample	5	Sample	5

* - No Discharge (ND) during that period