RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
PERMITS SECTION
235 PROMENADE STREET
PROVIDENCE, RHODE ISLAND 02908-5767

PUBLIC NOTICE OF PROPOSED PERMIT ACTIONS UNDER THE RHODE ISLAND POLLUTANT DISCHARGE ELIMINATION SYSTEM (RIPDES) PROGRAM WHICH REGULATES DISCHARGES INTO THE WATERS OF THE STATE UNDER CHAPTER 46-12 OF THE RHODE ISLAND GENERAL LAWS OF 1956, AS AMENDED.

DATE OF NOTICE: Friday, December 11, 2015

PUBLIC NOTICE NUMBER: PN-15-07

DRAFT RIPDES PERMITS

RIPDES PERMIT NUMBER: RI0021814

NAME AND MAILING ADDRESS OF APPLICANT:

Ashaway Line and Twine Manufacturing Company
24 Laurel St.
Ashaway, RI 02804

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Ashaway Line and Twine Manufacturing Company
Upper and Lower Mill Building Boilers
Laurel St.
Ashaway, RI 02804

RECEIVING WATER: **Ashaway River (also known as the Ashawog River)**

RECEIVING WATER CLASSIFICATION: **B**

The facility, which is the source of the discharge, is located in Ashaway and manufactures various types of chord and twine. The permit authorizes two discharges of boiler blowdown (one from the upper mill building and one from the lower mill building). The draft RIPDES permit for the facility, which is a reissuance of a 2010 permit, maintains existing permit limitations for flow, pH, and Oil and Grease. Temperature monitoring with a temperature limit was eliminated from the 2010 permit due to a lack of reasonable potential for exceedance of temperature limits in the water body. In addition, monitoring for Cadmium, Copper, and Lead has been eliminated due to a lack of reasonable potential for water quality exceedances.

The DEM has determined that the proposed activities comply with the Policy on the Implementation of the Antidegradation Provisions of the Rhode Island Water Quality Regulations and that existing uses will be maintained and protected. A detailed evaluation of the water quality impact from the proposed activities

and any important benefits demonstrations, if required, may be found in the statement of basis which is available as noted below.

FURTHER INFORMATION:

A statement of basis (describing the type of facility and significant factual, legal and policy questions considered in these permit actions) may be obtained at no cost by writing or calling DEM as noted below:

Rhode Island Department of Environmental Management
Office of Water Resources
Attn: Samuel Kaplan, P.E.
235 Promenade Street
Providence, Rhode Island 02908-5767
(401) 222-4700, ext: 7046

The administrative record containing all documents relating to these permit actions is on file and may be inspected, by appointment, at the DEM's Providence office mentioned above between 8:30 a.m. and 4:00 p.m., Monday through Friday, except holidays.

PUBLIC COMMENT AND REQUEST FOR PUBLIC HEARING:

Pursuant to Chapter 42-17.4 of the Rhode Island General Laws a public hearing has been scheduled to consider these permits if requested. Requests for a Public Hearing must be submitted in writing to the attention of Samuel Kaplan at the address indicated above. Notice should be taken that if DEM receives a request from twenty-five (25) people, a governmental agency or subdivision, or an association having no less than twenty-five (25) members on or before 4PM on Monday, January 11, 2016, a public hearing will be held at the following time and place:

5:00 PM on Thursday, January 14, 2016
Room 280
235 Promenade Street
Providence, Rhode Island 02908

Interested persons should contact DEM to confirm if a hearing will be held at the time and location noted above.

235 Promenade Street is accessible to the handicapped. Individuals requesting communication assistance (assistive listening devices/readers/interpreters/captions) must notify the D.E.M. at the telephone number listed above or at 831-5508 (T.D.D.) 72 hours in advance of the hearing date.

Interested parties may submit comments on the permit actions and the administrative record to the address above no later than 4PM on Friday, January 15, 2016.

If, during the public comment period, significant new questions are raised concerning the permit, DEM may require a new draft permit or statement of basis or may reopen the public comment period. A public notice will be issued for any of these actions.

Any person, including the permittee/applicant, who believes these permit actions are inappropriate, must raise all reasonably ascertainable issues and submit all reasonably available arguments and factual grounds supporting their position, including all supporting material, by the close of the public comment

period under Rule 41. The public comment period is from Friday, December 11, 2015 to Friday January 15, 2016. Commenters may request a longer comment period if necessary to provide a reasonable opportunity to comply with these requirements. Comments should be directed to DEM as noted above.

FINAL DECISION AND APPEALS:

Following the close of the comment period, and after a public hearing, if such hearing is held, the Director will issue a final decision and forward a copy of the final decision to the permittee and each person who has submitted written comments or requested notice. Within 30 days following the notice of the final decision, any interested person may submit a request for a formal hearing in accordance with the requirements of Rule 49.

12/8/15
Date

Joseph B. Haberek, P.E.
Principal Sanitary Engineer
Permits Section, Office of Water Resources
Department of Environmental Management

AUTHORIZATION TO DISCHARGE UNDER THE
RHODE ISLAND POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of Chapter 46-12 of the Rhode Island General Laws, as amended, the

Ashaway Line and Twine Manufacturing Company
24 Laurel Street
Ashaway, Rhode Island 02804

is authorized to discharge from a facility located at

Ashaway Line and Twine Manufacturing Company
Upper and Lower Mill Building Boilers
Laurel Street
Ashaway, Rhode Island 02804

to receiving waters named

Ashaway River (also known as the Ashawog River)

in accordance with the effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective on _____,_____.

This permit and the authorization to discharge expire at midnight, five (5) years from the effective date.

This permit supersedes the permit issued on September 29, 2010.

This permit consists of 5 pages in Part I including effluent limitations, monitoring requirements, etc. and 10 pages in Part II including General Conditions.

Signed this day of , 201_.

DRAFT

Angelo S. Liberti, P.E., Chief of Surface Water Protection
Office of Water Resources
Rhode Island Department of Environmental Management
Providence, Rhode Island

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date and lasting through permit expiration, the permittee is authorized to discharge from outfall serial number(s) 001 (lower mill boiler blowdown) and 002 (upper mill boiler blowdown). Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations					Monitoring Requirement	
	Quantity - lbs./day		Concentration - specify units				
	Average Monthly	Maximum Daily	Average Monthly *(Minimum)	Average Weekly *(Average)	Maximum Daily *(Maximum)	Measurement Frequency	Sample Type
Flow		60GPD				1/Quarter	Estimate
pH			(6.0 s.u.)		(11.9 s.u.)	1/Month	Grab
Oil and Grease					15.0 mg/l	1/Quarter	Grab

*Values in parentheses ( ) are to be reported as Minimum/Maximum for the reporting period rather than Average Monthly/Maximum Daily.

Samples taken in compliance with the monitoring requirements specified above shall be taken on a normal operating day at the following location: Outfalls 001 (directly from the lower mill boiler blowdown discharge line) and 002 (directly from the upper mill boiler blowdown discharge line).

2. a. The pH of the effluent shall not be less than 6.0 nor greater than 11.9 standard units at any time.

   b. The discharge shall not cause visible discoloration or objectionable odor to the receiving waters.

   c. The effluent shall contain neither a visible oil sheen, foam, nor floating solids at any time.

3. The permittee shall evaluate the use of non-intrusive methods for boiler system maintenance in order to minimize chemical use at the facility and subsequent discharge to state surface waters. If chemical addition is the only alternative, the permittee must comply with all of the requirements of this permit with regard to chemical additives.

4. Unless authorized elsewhere in this Permit, the permittee must meet the following requirements concerning maintenance chemicals for boiler blowdown water. This permit prohibits the use of additives expected to pose significant risks to wildlife or human health. The permittee is required to demonstrate that the expected discharge concentration of the additive(s) to be used will not be harmful to aquatic life. This requirement is imposed in lieu of a continuing monitoring program for the additives in the discharge.

5. The permittee is prohibited from using the following chemicals:

   a. Maintenance chemicals that contain any compounds for which the receiving water body is listed as impaired for in the State of Rhode Island 303(d) List of Impaired Waters

   b. Any maintenance chemicals or biocides that contain tributyl tin, bis (tributyltin) oxide, or chlorinated phenols are strictly prohibited by this permit.

6. Any Algicides and biocides are to be used in accordance with the registration requirements of the Federal Insecticide, Fungicide and Rodenticide Act.

7. The permittee must keep sufficient documentation on-site to show that the above requirements are being met. The following information shall be made available for on-site review by Department personnel:

   a. Material Safety Data Sheets (MSDS) for each additive.

   b. The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)/ U.S. EPA registration number.

   c. A bound logbook that documents the quantity of additives added to the discharge, the frequency of additive applications, and the duration of additive applications.

8. All chemicals stored at the site shall be (1) within a diked area or other form of secondary containment, (2) supported by a base impervious to the material being contained, (3) covered by a permanent structure which prevents entry of precipitation, and (4) within a secondary containment area capable of holding without leakage or structural failure, 110 percent of the entire volume of the largest container within the area of the dike or barrier.

9. Discharge of boil out and boiler acid waste waters are not authorized by this permit. The discharge of these waste waters must be permitted separately, or these waste waters must be disposed of off-site in accordance with applicable regulations.

10. This permit authorizes the use of the chemical additives AWM-244 and AWM-455, manufactured by Atlantic Water Management, to prevent corrosion in the boiler systems at concentrations not to exceed 700 mg/l and 700 mg/l, in the boilers, respectively.

11. The permittee shall obtain Department approval before increasing the amount of any of the treatment chemicals listed in Part I.A.10 or prior to using any other additive(s) in conjunction with or in place of the treatment chemicals listed in Part I.A.10 of this permit. Prior to using any other chemical additives the permittee shall submit for DEM approval a complete list of all chemicals additives, including Material Safety Data Sheets. The permittee shall not begin to use any additional chemical additives other than those specified in Part I.A.10 of this permit without prior written approval from the Office of Water Resources.

12. All existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Director as soon as they know or have reason to believe:

    a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

        (1) One hundred micrograms per liter (100 ug/l);

        (2) Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitro-phenol; and one milligram per liter (1 mg/l) for antimony;

        (3) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 C.F.R. s122.21(g)(7); or

        (4) Any other notification level established by the Director in accordance with 40 C.F.R. s122.44(f) and Rhode Island Regulations.

    b. That any activity has occurred or will occur which would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

        (1) Five hundred micrograms per liter (500 ug/l);

        (2) One milligram per liter (1 mg/l) for antimony;

        (3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 C.F.R. s122.21(g)(7); or

        (4) Any other notification level established by the Director in accordance with 40 C.F.R. s122.44(f) and Rhode Island Regulations.

    c. That they have begun or expect to begin to use or manufacture as an intermediate or final product or by-product any toxic pollutant which was not reported in the permit application.

B. MONITORING AND REPORTING

1. Monitoring

All monitoring required by this permit shall be done in accordance with sampling and analytical testing procedures specified in the Federal Regulations at 40 CFR Part 136.

2. Reporting

Monitoring results obtained during the previous quarter shall be summarized and reported on Discharge Monitoring Report (DMR) Forms, postmarked no later than the 15th day of the month following the completed quarter as follows:

Quarter Testing To Be Performed	Report Due No Later Than	Results Submitted On DMR For
January 1 – March 31	April 15	January - March
April 1 – June 30	July 15	April - June
July 1 – September 30	October 15	July - September
October 1 – December 31	January 15	October - December

DMR testing following the protocol described herein shall commence during the _____ quarter of 201_, and the first report shall be submitted to RIDEM no later than _____, 201_.

Signed copies of these, and all other reports required herein, shall be submitted to:

Office of Water Resources
RIPDES Program
Rhode Island Department of Environmental Management
235 Promenade Street
Providence, Rhode Island 02908

RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
235 PROMENADE STREET
PROVIDENCE, RHODE ISLAND 02908

STATEMENT OF BASIS

RHODE ISLAND POLLUTANT DISCHARGE ELIMINATION SYSTEM (RIPDES) PERMIT TO DISCHARGE TO WATERS OF THE STATE

RIPDES PERMIT NO. **RI0021814**

NAME AND ADDRESS OF APPLICANT:

Ashaway Line and Twine Manufacturing Company
24 Laurel Street
Ashaway, Rhode Island

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Ashaway Line and Twine Manufacturing Company
Upper and Lower Mill Building Boilers
Laurel Street
Ashaway, Rhode Island

RECEIVING WATER: **Ashaway River (also known as the Ashawog River)**

CLASSIFICATION: **B**

I. Proposed Action, Type of Facility, and Discharge Location

The above named applicant has applied to the Rhode Island Department of Environmental Management (DEM) for reissuance of a RIPDES Permit to discharge into the designated receiving water. A summary of DMR data submitted from October 2010 to March 2015 is provided in Attachment A.

II. Limitations and Conditions

The effluent limitations, monitoring requirements, and any implementation schedule (if required) may be found in the draft permit.

III. Permit Basis and Explanation of Effluent Limitation Derivation

Ashaway Line and Twine Manufacturing Company manufactures various types of cord and twine. The company has two (2) mills, each of which has a steam boiler (Lower Mill = Outfall 001, Upper Mill = Outfall 002). The boiler blowdowns from both mills are discharged to the Ashaway River (also known as the Ashawog River). The maximum daily discharge from each outfall is 60 gallons. The source water for the boilers is from an on-site well.

The water body segment for the Ashaway River is WBID #RI0008039R-02B. This water body segment is located in Hopkinton. The water body segment is delineated by the Ashaway River highway bridge and the Ashaway River's confluence with the Pawcatuck River. This segment of the Ashaway River is not listed on DEM's 2014 303(d) List of Impaired Water Bodies as being impaired. This segment is classified as a class B water, and is designated for fish and wildlife habitat and primary and secondary contact recreational activities.

The requirements set forth in the draft permit are from the State's Water Quality Regulations and the State's Regulations for the Rhode Island Pollutant Discharge Elimination System, both filed pursuant to Chapter 46-12, as amended. DEM's primary authority over this permit comes from EPA's delegation of the program in September 1984 under the Federal Clean Water Act.

Development of RIPDES permit limitations is a multi-step process consisting of the following steps: identifying applicable technology-based limits; calculating allowable water-quality based discharge levels based on in-stream criteria, background data and available dilution; establishing Best Professional Judgement (BPJ) limits in accordance with Section 402 of the CWA; and assigning the most stringent as the final discharge limitations.

Water quality criteria are comprised of numeric and narrative criteria. Numeric criteria are scientifically derived ambient concentrations developed by EPA or States for various pollutants of concern to protect human health and aquatic life. Narrative criteria are statements that describe the desired water quality goal. A technology-based limit is a numeric limit, which is determined by examining the capability of a treatment process to reduce or eliminate pollutants.

The pH limits are based on the relatively small volume of discharge and high dilution of the Ashaway River. A pH analysis entitled "pH calculation, Ashaway Line and Twine" was conducted on July 14, 2010 showing that the pH limits in the permit will not cause an exceedance of the pH criteria in Table 1.8.D(2) of the Rhode Island Water Quality Regulations. This analysis is on file at DEM and may be reviewed upon request. These limits have been carried forward from the previous permit.

A temperature analysis is presented in Attachment B. This analysis demonstrates that even at a discharge temperature of 212°F, (the boiling point of water), the discharge will have a minimal increase in the temperature of the river. Therefore, limits are not required.

Appendix B of the Water Quality Regulations describes the flows used to determine compliance with the aquatic life criteria, specifying that the design flow to be utilized for aquatic life criteria shall not be exceeded at or above the lowest average 7 consecutive day low flow with an average recurrence frequency of once in 10 years (7Q10). The dilution was calculated from United States Geologic Survey (USGS) historical data collected between 1960 and 1990 at the gauging station #01118360 on the Ashaway River in Ashaway, RI. Using this gauging station, the 7Q10 flow for the point of discharge was determined to be 2.5 ft^3/s. The dilution factor (DF) used to establish the allowable water quality based discharge concentrations was then determined using the following equation:

$$DF = \frac{Q_D + Q_{dis.}}{Q_{dis.}}$$

Where: DF = Dilution Factor
Q_D = Design Flow (Receiving Water 7Q10 Flow)
$Q_{dis.}$ = Discharge Flow

The dilution factor using this equation was determined to be 13,465. Based on a design flow of 2.5 ft^3/s and a discharge flow of 0.0001854 ft^3/s (equivalent to 120 gallons/day).

Using the above dilution factors, the allowable discharge limits were calculated as follows:

a) Background concentration unknown or available data is impacted by sources that have not yet achieved water quality based limits.

$$Limit_1 = (DF) * (Criteria) * (80\%)$$

Where: DF = acute or chronic dilution factor, as appropriate
Note: The right side of the above-referenced formula is divided by the appropriate metals translator when this formula is used to calculate limits for metals.

b) Using available background concentration data

$$Limit_1 = (DF) * (Criteria) * 90\% - (Background) * (DF - 1)$$

Where: DF = acute or chronic dilution factor, as appropriate
Note: The right side of the above-referenced formula is divided by the appropriate metals translator when this formula is used to calculate limits for metals.

Background data was available from DEM's routine sampling of the segment of the Ashaway River that is just upstream of the segment that receives the discharge from the facility. This data is available for Copper, Lead, Cadmium, and Zinc. However, the data for Cadmium is impacted by other sources and the DEM has yet to develop a TMDL for these pollutants. Therefore, for the purposes of calculating water quality limits, the DEM used the average of three points of sampling data for river segment RI0008039R-02A gathered from May 11, 2011 to September 28, 2011. Since background concentrations were available for Copper, Lead, and Zinc, 90% of criteria was allocated for these pollutants. This metals sampling data is attached to this permit as Attachment D. All other limits were calculated using 80% allocation, due to a lack of background data, or, in the case of Cadmium, because upstream is impacted by uncontrolled sources.

The formulas and data noted above were applied with the following exceptions:

A) Pollutants that based on the acute and chronic dilution factors have a higher allowable chronic limit than allowable acute limit. For this situation, both the "Monthly Average" and "Daily Maximum" limits were set at the allowable acute limit.

B) Total residual chlorine. The limits for total residual chlorine (TRC) were established in accordance with the DEM Effluent Disinfection Policy. The "Monthly Average" and "Daily Maximum" were based on a 100% allocation, a zero background concentration, and the appropriate dilution factor(s). The 100% allocation factor for TRC was used due to the non-conservative nature of chlorine and the improbability of the receiving water having a detectable background TRC concentration.

C) Pollutants with water quality based monthly average limits in the previous RIPDES permit. The relaxation of monthly average limits from the previous permit was restricted in accordance with the antibacksliding provisions of the Clean Water Act and the Policy on the Implementation of the Antidegradation Provisions of the Rhode Island Water Quality Regulations.

For toxicity-based ammonia limitations, the Water Quality Regulations include ammonia criteria, which are dependent on both pH and temperature. In the absence of site-specific data on the receiving water, the DEM utilized USGS's evaluation of all freshwater rivers in the state for the 1999 water year to determine an appropriate assumption for the temperature and pH of the receiving water. This evaluation resulted in the conservative assumptions of 7.5 S.U. for pH and winter and summer water temperatures of 15°C and 26°C, respectively. The pH and summer temperature were used to determine the acute and chronic criteria for Total Ammonia Nitrogen of 13.3 mg N/L and 2.08 mg N/L. The pH and winter temperature were used to determine the acute and chronic criteria for Total Ammonia Nitrogen of 13.3 mg N/L and 4.165 mg N/L, respectively. Using these criteria values, the Ammonia limits were then calculated using the formula provided in section a) shown above. These Ammonia values reflect Ammonia criteria for the case of salmonids being present, due to the water body being listed as a Cold Water Hatchery under the

Rhode Island Water Quality Regulations.

In accordance with 40 CFR 122.4(d)(1)(iii), water quality based effluent limitations are only required for those pollutants in the discharge that have the reasonable potential to cause or contribute to the exceedence of instream criteria. Because the volume of the discharge is small in comparison to the flow in the receiving water, yielding a dilution factor of over 13,000, it has been determined that there is no reasonable potential for the boiler blow-down contaminants to cause or contribute to the exceedence of instream criteria. Attachment C includes a summary of the calculation of allowable water quality-based discharge levels and of the reasonable potential evaluation.

Oil and Grease effluent limitations are based on Best Professional Judgement (BPJ). The 15 mg/l daily maximum Oil and Grease limit is equivalent to the new source performance standard that the Environmental Protection Agency (EPA) has established for most industry groups. This standard represents the level of control achievable by the best available demonstrated control technology, process, operating method, or other alternative for the removal of oil and grease.

Since the segment of the Ashaway River that receives the discharge is not listed as impaired for any pollutants in the DEM's 2014 303d list of impaired water, monitoring for Cadmium, Copper, and Lead has been eliminated. Part I.A.10. of the permit, which addresses the use of boiler water treatment chemicals at the facility, has been maintained.

The Office has determined that all permit limitations are consistent with the Rhode Island Antidegradation/Antibacksliding policy. The remaining general and specific conditions of the permit are based on the RIPDES regulations as well as 40 CFR Parts 122 through 125 and consisting primarily of management requirements common to all permits.

IV. 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 close of the public comment period, to the Rhode Island Department of Environmental Management, Office of Water Resources, 235 Promenade Street, Providence, Rhode Island, 02908-5767. Any person, prior to such date, may submit a request in writing for a public hearing to consider the draft permit to the Rhode Island Department of Environmental Management. 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 (30) days public notice whenever the Director finds that the response to this notice indicates significant public interest. In reaching a final decision on the draft permit the Director will respond to all significant comments and make these responses available to the public at DEM's Providence Office.

Following the close of the comment period, and after a public hearing, if such hearing is held, the Director 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. Within thirty (30) days following the notice of the final permit decision any interested person may submit a request for a formal hearing to reconsider or contest the final decision. Requests for formal hearings must satisfy the requirements of Rule 49 of the Regulations for the Rhode Island Pollutant Discharge Elimination System.

V. **DEM Contact**

Additional information concerning the permit may be obtained between the hours of 8:30 a.m. and 4:00 p.m., Monday through Friday, excluding holidays, from:

Samuel Kaplan, P.E.
RIPDES Program
Office of Water Resources
Department of Environmental Management
235 Promenade Street
Providence, Rhode Island 02908
Telephone: (401) 222-4700 ext: 7046

12/8/15
Date

Joseph B. Habarek, P.E.
Principal Sanitary Engineer
Office of Water Resources
Department of Environmental Management

ATTACHMENT A

EFFLUENT CHARACTERISTICS AT POINT OF DISCHARGE OF SELECTED POLLUTANTS:

DESCRIPTION OF DISCHARGE: Boiler Blowdown, Outfall 001

PARAMETER	**AVERAGE**
CADMIUM (mg/L)	0.026[1]
COPPER (mg/L)	0.68[1]
LEAD (mg/L)	0.028[1]
FLOW (GPD)	60
TEMPERATURE (DEG. F)	203.85
MINIMUM pH (SU)	9.76
MAXIMUM pH (SU)	10.22
OIL AND GREASE (mg/L)	4.86[1]

DESCRIPTION OF DISCHARGE: Boiler Blowdown, Outfall 002

PARAMETER	**AVERAGE**
CADMIUM (mg/L)	0.695[1]
COPPER (mg/L)	0.44[1]
FLOW (GPD)	60
TEMPERATURE (DEG. F)	207.25
MINIMUM pH (SU)	9.74
MAXIMUM pH (SU)	10.29
OIL AND GREASE (mg/L)	6.5167[1]

Average of the data reported on DMRs from October 1, 2010 to March 31, 2015. For Cadmium, Copper, and Lead, DMR data was corrected by DEM because it had been transcribed incorrectly from lab sheets in some cases by the facility.

[1]Average of data points above detection limit

ATTACHMENT B

RI0021814 – STATEMENT OF BASIS

In order to determine the discharge temperature limit, it is necessary to evaluate the impact of the discharge on the receiving water (Ashaway River). In accordance with the RI Water Quality Regulations, the maximum instream thermal impact (4°F) and the maximum instream temperature (83°F) must be met at the lowest seven (7) consecutive day average flow which re-occurs once every ten (10) years (7Q10 flow).

The proposed temperature limit (212°F) is the same as the temperature limit of the previous permit. The average instream Summer and Winter ambient Ashaway River temperatures (68°F and 36°F, respectively), were assumed based upon best professional judgment (BPJ).

FLOW:

Ashaway River 7Q10 2.5 cfs = 1,615,680 GPD
Outfall 001 and 002 - Daily Maximum Limit = 60 GPD each (Total = 120 GPD)

TEMPERATURE:

Outfall 001 and 002 Temperature Limit = 212°F (Same as Previous Permit)
Instream Temperature - Summer = 68°F (Assumed)
Instream Temperature - Winter = 36°F (Assumed)

WATER QUALITY TEMPERATURE REGULATIONS FOR CLASS B RECEIVING WATERS:

Net Instream Temperature Change - Winter = 4.0°F (Maximum)
Net Instream Temperature Change - Summer = 4.0°F (Maximum)

ENERGY BALANCE:

$Q_{max}(T_{limit}) + Q_{7Q10}(T_{instream}) = (Q_{max} + Q_{7Q10})(T_{instream} + \_\Delta T)$

Where: Q_{max} = Daily Maximum Limit @ Outfall 001 + 002
Q_{7Q10} = Low Flow for Ashaway River
T_{limit} = Proposed Permit Limit for Temperature
$T_{instream}$ = Instream Ambient Temperature (Assumed Values)
ΔT = Net Change in Temperature (Must be ≤4°F)

SOLVE FOR ΔT:

Case 1 - Summer Months

(120 GPD)(212°F) + (1,615,680 GPD)(68°F) = (120 GPD + 1,615,680 GPD)(68°F + ΔT)

$\Delta T = 0.01°F \leq 4.0°F$ - *Proposed limit meets RI Water Quality Regulations.*

Resulting instream temperature = 68°F + 0.01°F = 68.01°F $\leq$ 83°F.

Case 2 - Winter Months

(120 GPD)(212°F) + (1,615,680 GPD)(36°F) = (120 GPD + 1,615,680 GPD)(36°F + ΔT)

$\Delta T = 0.01°F \leq 4.0°F$ - *Proposed limit meets RI Water Quality Regulations*.

Resulting instream temperature = 36°F + 0.01°F = 36.01°F $\leq$ 83°F.

In both Case 1 and Case 2, the resulting instream ambient temperature of the Ashaway River will be less than 83°F and the temperature change will be less than 4°F in accordance with RI Water Quality Regulations.

Attachment C – Water Quality Calculations

CALCULATION OF WATER QUALITY BASED NON-CLASS AA FRESHWATER DISCHARGE LIMITS

FACILITY SPECIFIC DATA INPUT SHEET

NOTE: LIMITS BASED ON RI WATER QUALITY CRITERIA DATED JULY 2006

FACILITY NAME: **Ashaway Line and Twine**

RIPDES PERMIT #: **RI0021814**

	DISSOLVED BACKGROUND DATA (ug/L)	ACUTE METAL TRANSLATOR	CHRONIC METAL TRANSLATOR
ALUMINUM	**NA**	**NA**	**NA**
ARSENIC	**NA**	**1**	**1**
CADMIUM	**NA**	**1.010097841**	**0.975097841**
CHROMIUM III	**NA**	**0.316**	**0.86**
CHROMIUM VI	**NA**	**0.982**	**0.962**
COPPER	**0.662**	**0.96**	**0.96**
LEAD	**0.1711**	**1.021201714**	**1.021201714**
MERCURY	**NA**	**0.85**	**0.85**
NICKEL	**NA**	**0.998**	**0.997**
SELENIUM	**NA**	**NA**	**NA**
SILVER	**NA**	**0.85**	**NA**
ZINC	**2.97**	**0.978**	**0.986**
AMMONIA (as N)	**NA**		

USE NA WHEN NO DATA IS AVAILABLE

NOTE 1: METAL TRANSLATORS FROM RI WATER QUALITY REGS.

pH =	**7.5** S.U.
HARDNESS =	**20.601** (mg/L as CaCO3)

FLOW DATA		
DESIGN FLOW =	**0.000120**	MGD
=	0.000186	CFS
7Q10 FLOW =	**2.500**	CFS
7Q10 (JUNE-OCT) =	**2.500**	CFS
7Q10 (NOV-MAY) =	**2.500**	CFS
30Q5 FLOW =	**2.500**	CFS
HARMONIC FLOW =	**2.500**	CFS

DILUTION FACTORS	
ACUTE =	**13465.000**
CHRONIC =	**13465.000**
(MAY-OCT) =	**13465.000**
(NOV-APR) =	**13465.000**
30Q5 FLOW =	**13465.000**
HARMONIC FLOW =	**13465.000**

CALCULATION OF WATER QUALITY BASED NON-CLASS AA FRESHWATER DISCHARGE LIMITS

FACILITY NAME: Ashaway Line and Twine RIPDES PERMIT #: RI0021814

Month	Upper 90th% pH	Acute Criteria* mg/L as N	Chronic Criteria* mg/L as N
May	**7.5**	**13.3**	**2.08**
Jun	**7.5**	**13.3**	**2.08**
Jul	**7.5**	**13.3**	**2.08**
Aug	**7.5**	**13.3**	**2.08**
Sep	**7.5**	**13.3**	**2.08**
Oct	**7.5**	**13.3**	**2.08**
Nov	**7.5**	**13.3**	**4.165**
Dec	**7.5**	**13.3**	**4.165**
Jan	**7.5**	**13.3**	**4.165**
Feb	**7.5**	**13.3**	**4.165**
Mar	**7.5**	**13.3**	**4.165**
Apr	**7.5**	**13.3**	**4.165**

**NOTE: Criteria from Appendix B of the RI Water Quality Regs., July 2006.*

chronic criteria temperatures:

winter season: 15°C

summer season: 26°C

CALCULATION OF WATER QUALITY BASED NON-CLASS AA FRESHWATER DISCHARGE LIMITS

FACILITY NAME: Ashaway Line and Twine RIPDES PERMIT #: RI0021814

NOTE: METALS CRITERIA ARE EXPRESSED AS DISSOLVED, METALS LIMITS ARE EXPRESSED AS TOTAL

CHEMICAL NAME	CAS #	BACKGROUND CONCENTRATION (ug/L)	FRESHWATER CRITERIA ACUTE (ug/L)	DAILY MAX LIMIT (ug/L)	FRESHWATER CRITERIA CHRONIC (ug/L)	HUMAN HEALTH NON-CLASS A CRITERIA (ug/L)	MONTHLY AVE LIMIT (ug/L)
PRIORITY POLLUTANTS:							
TOXIC METALS AND CYANIDE							
ANTIMONY	7440360		450	4847400	10	640	107720
ARSENIC (limits are total recoverable)	7440382	NA	340	3662480	150	1.4	15080.8
ASBESTOS	1332214			No Criteria			No Criteria
BERYLLIUM	7440417		7.5	80790	0.17		1831.24
CADMIUM (limits are total recoverable)	7440439	NA	0.432405036	4611.30285	0.08186012		904.3166514
CHROMIUM III (limits are total recoverable)	16065831	NA	156.2316875	5325720.69	20.32253274		254551.538
CHROMIUM VI (limits are total recoverable)	18540299	NA	16	175511.2016	11		123172.5572
COPPER (limits are total recoverable)	7440508	0.662	3.033305636	29006.19412	2.321772051		20024.19438
CYANIDE	57125		22	236984	5.2	140	56014.4
LEAD (limits are total recoverable)	7439921	0.1711	11.15890036	130165.7076	0.434846327		2904.416213
MERCURY (limits are total recoverable)	7439976	NA	1.4	17742.11765	0.77	0.15	1900.941176
NICKEL (limits are total recoverable)	7440020	NA	123.0308718	1327944.44	13.66493152	4600	147641.567
SELENIUM (limits are total recoverable)	7782492	NA	20	215440	5	4200	53860
SILVER (limits are total recoverable)	7440224	NA	0.2278803	2887.913643	NA		No Criteria
THALLIUM	7440280		46	495512	1	0.47	5062.84
ZINC (limits are total recoverable)	7440666	2.97	30.72647466	339847.3447	30.97781596	26000	340179.09
VOLATILE ORGANIC COMPOUNDS							
ACROLEIN	107028		2.9	31238.8	0.06	290	646.32
ACRYLONITRILE	107131		378	4071816	8.4	2.5	26930
BENZENE	71432		265	2854580	5.9	510	63554.8
BROMOFORM	75252		1465	15780980	33	1400	355476
CARBON TETRACHLORIDE	56235		1365	14703780	30	16	172352
CHLOROBENZENE	108907		795	8563740	18	1600	193896
CHLORODIBROMOMETHANE	124481			No Criteria		130	1400360
CHLOROFORM	67663		1445	15565540	32	4700	344704
DICHLOROBROMOMETHANE	75274			No Criteria		170	1831240
1,2DICHLOROETHANE	107062		5900	63554800	131	370	1411132
1,1DICHLOROETHYLENE	75354		580	6247760	13	7100	140036
1,2DICHLOROPROPANE	78875		2625	28276500	58	150	624776
1,3DICHLOROPROPYLENE	542756			No Criteria		21	226212
ETHYLBENZENE	100414		1600	17235200	36	2100	387792
BROMOMETHANE (methyl bromide)	74839			No Criteria		1500	16158000
CHLOROMETHANE (methyl chloride)	74873			No Criteria			No Criteria
METHYLENE CHLORIDE	75092		9650	103949800	214	5900	2305208

CALCULATION OF WATER QUALITY BASED NON-CLASS AA FRESHWATER DISCHARGE LIMITS

FACILITY NAME: Ashaway Line and Twine RIPDES PERMIT #: RI0021814

NOTE: METALS CRITERIA ARE EXPRESSED AS DISSOLVED, METALS LIMITS ARE EXPRESSED AS TOTAL

CHEMICAL NAME	CAS #	BACKGROUND CONCENTRATION (ug/L)	FRESHWATER CRITERIA ACUTE (ug/L)	DAILY MAX LIMIT (ug/L)	FRESHWATER CRITERIA CHRONIC (ug/L)	HUMAN HEALTH NON-CLASS A CRITERIA (ug/L)	MONTHLY AVE LIMIT (ug/L)
1,1,2,2TETRACHLOROETHANE	79345		466	5019752	10	40	107720
TETRACHLOROETHYLENE	127184		240	2585280	5.3	33	57091.6
TOLUENE	108883		635	6840220	14	15000	150808
1,2TRANSDICHLOROETHYLENE	156605			No Criteria		10000	107720000
1,1,1TRICHLOROETHANE	71556			No Criteria			No Criteria
1,1,2TRICHLOROETHANE	79005		900	9694800	20	160	215440
TRICHLOROETHYLENE	79016		1950	21005400	43	300	463196
VINYL CHLORIDE	75014			No Criteria		2.4	25852.8
ACID ORGANIC COMPOUNDS							
2CHLOROPHENOL	95578		129	1389588	2.9	150	31238.8
2,4DICHLOROPHENOL	120832		101	1087972	2.2	290	23698.4
2,4DIMETHYLPHENOL	105679		106	1141832	2.4	850	25852.8
4,6DINITRO2METHYL PHENOL	534521			No Criteria		280	3016160
2,4DINITROPHENOL	51285		31	333932	0.69	5300	7432.68
4NITROPHENOL	88755			No Criteria			No Criteria
PENTACHLOROPHENOL	87865		0.058191123	626.8347753	0.044644576	30	480.9113692
PHENOL	108952		251	2703772	5.6	1700000	60323.2
2,4,6TRICHLOROPHENOL	88062		16	172352	0.36	24	3877.92
BASE NEUTRAL COMPUNDS							
ACENAPHTHENE	83329		85	915620	1.9	990	20466.8
ANTHRACENE	120127			No Criteria		40000	430880000
BENZIDINE	92875			No Criteria		0.002	21.544
POLYCYCLIC AROMATIC HYDROCARBONS				No Criteria		0.18	1938.96
BIS(2CHLOROETHYL)ETHER	111444			No Criteria		5.3	57091.6
BIS(2CHLOROISOPROPYL)ETHER	108601			No Criteria		65000	700180000
BIS(2ETHYLHEXYL)PHTHALATE	117817		555	5978460	12	22	129264
BUTYL BENZYL PHTHALATE	85687		85	915620	1.9	1900	20466.8
2CHLORONAPHTHALENE	91587			No Criteria		1600	17235200
1,2DICHLOROBENZENE	95501		79	850988	1.8	1300	19389.6
1,3DICHLOROBENZENE	541731		390	4201080	8.7	960	93716.4
1,4DICHLOROBENZENE	106467		56	603232	1.2	190	12926.4
3,3DICHLOROBENZIDENE	91941			No Criteria		0.28	3016.16
DIETHYL PHTHALATE	84662		2605	28061060	58	44000	624776
DIMETHYL PHTHALATE	131113		1650	17773800	37	1100000	398564
DI-n-BUTYL PHTHALATE	84742			No Criteria		4500	48474000
2,4DINITROTOLUENE	121142		1550	16696600	34	34	366248

CALCULATION OF WATER QUALITY BASED NON-CLASS AA FRESHWATER DISCHARGE LIMITS

FACILITY NAME: Ashaway Line and Twine RIPDES PERMIT #: RI0021814

NOTE: METALS CRITERIA ARE EXPRESSED AS DISSOLVED, METALS LIMITS ARE EXPRESSED AS TOTAL

CHEMICAL NAME	CAS #	BACKGROUND CONCENTRATION (ug/L)	FRESHWATER CRITERIA ACUTE (ug/L)	DAILY MAX LIMIT (ug/L)	FRESHWATER CRITERIA CHRONIC (ug/L)	HUMAN HEALTH NON-CLASS A CRITERIA (ug/L)	MONTHLY AVE LIMIT (ug/L)
1,2DIPHENYLHYDRAZINE	122667		14	150808	0.31	2	3339.32
FLUORANTHENE	206440		199	2143628	4.4	140	47396.8
FLUORENE	86737			No Criteria		5300	57091600
HEXACHLOROBENZENE	118741			No Criteria		0.0029	31.2388
HEXACHLOROBUTADIENE	87683			No Criteria		180	1938960
HEXACHLOROCYCLOPENTADIENE	77474		0.35	3770.2	0.008	1100	86.176
HEXACHLOROETHANE	67721		49	527828	1.1	33	11849.2
ISOPHORONE	78591		5850	63016200	130	9600	1400360
NAPHTHALENE	91203		115	1238780	2.6		28007.2
NITROBENZENE	98953		1350	14542200	30	690	323160
N-NITROSODIMETHYLAMINE	62759			No Criteria		30	323160
N-NITROSODI-N-PROPYLAMINE	621647			No Criteria		5.1	54937.2
N-NITROSODIPHENYLAMINE	86306		293	3156196	6.5	60	70018
PYRENE	129000			No Criteria		4000	43088000
1,2,4trichlorobenzene	120821		75	807900	1.7	70	18312.4
PESTICIDES/PCBs							
ALDRIN	309002		3	32316		0.0005	5.386
Alpha BHC	319846			No Criteria		0.049	527.828
Beta BHC	319857			No Criteria		0.17	1831.24
Gamma BHC (Lindane)	58899		0.95	10233.4		1.8	19389.6
CHLORDANE	57749		2.4	25852.8	0.0043	0.0081	46.3196
4,4DDT	50293		1.1	11849.2	0.001	0.0022	10.772
4,4DDE	72559			No Criteria		0.0022	23.6984
4,4DDD	72548			No Criteria		0.0031	33.3932
DIELDRIN	60571		0.24	2585.28	0.056	0.00054	5.81688
ENDOSULFAN (alpha)	959988		0.22	2369.84	0.056	89	603.232
ENDOSULFAN (beta)	33213659		0.22	2369.84	0.056	89	603.232
ENDOSULFAN (sulfate)	1031078			No Criteria		89	958708
ENDRIN	72208		0.086	926.392	0.036	0.06	387.792
ENDRIN ALDEHYDE	7421934			No Criteria		0.3	3231.6
HEPTACHLOR	76448		0.52	5601.44	0.0038	0.00079	8.50988
HEPTACHLOR EPOXIDE	1024573		0.52	5601.44	0.0038	0.00039	4.20108
POLYCHLORINATED BIPHENYLS3	1336363			No Criteria	0.014	0.00064	6.89408
2,3,7,8TCDD (Dioxin)	1746016			No Criteria		0.000000051	0.000549372
TOXAPHENE	8001352		0.73	7863.56	0.0002	0.0028	2.1544
TRIBUTYLTIN			0.46	4955.12	0.072		775.584

CALCULATION OF WATER QUALITY BASED NON-CLASS AA FRESHWATER DISCHARGE LIMITS

FACILITY NAME: Ashaway Line and Twine RIPDES PERMIT #: RI0021814

NOTE: METALS CRITERIA ARE EXPRESSED AS DISSOLVED, METALS LIMITS ARE EXPRESSED AS TOTAL

CHEMICAL NAME	CAS #	BACKGROUND CONCENTRATION (ug/L)	FRESHWATER CRITERIA ACUTE (ug/L)	DAILY MAX LIMIT (ug/L)	FRESHWATER CRITERIA CHRONIC (ug/L)	HUMAN HEALTH NON-CLASS A CRITERIA (ug/L)	MONTHLY AVE LIMIT (ug/L)
NON PRIORITY POLLUTANTS:							
OTHER SUBSTANCES							
ALUMINUM (limits are total recoverable)	7429905	NA	750	8079000	87		937164
AMMONIA as N(winter/summer)	7664417		13.3 | 13.3	1E+08 | 1E+08	4.165 | 2.08		4.5E+07 | 2.2E+07
4BROMOPHENYL PHENYL ETHER			18	193896	0.4		4308.8
CHLORIDE	16887006		860000	9263920000	230000		999999999
CHLORINE	7782505		19	255835	11		148115
4CHLORO2METHYLPHENOL			15	161580	0.32		3447.04
1CHLORONAPHTHALENE			80	861760	1.8		19389.6
4CHLOROPHENOL	106489		192	2068224	4.3		46319.6
2,4DICHLORO6METHYLPHENOL			22	236984	0.48		5170.56
1,1DICHLOROPROPANE			1150	12387800	26		280072
1,3DICHLOROPROPANE	142289		303	3263916	6.7		72172.4
2,3DINITROTOLUENE			17	183124	0.37		3985.64
2,4DINITRO6METHYL PHENOL			12	129264	0.26		2800.72
IRON	7439896			No Criteria	1000		10772000
pentachlorobenzene	608935		13	140036	0.28		3016.16
PENTACHLOROETHANE			362	3899464	8		86176
1,2,3,5tetrachlorobenzene			321	3457812	7.1		76481.2
1,1,1,2TETRACHLOROETHANE	630206		980	10556560	22		236984
2,3,4,6TETRACHLOROPHENOL	58902		7	75404	0.16		1723.52
2,3,5,6TETRACHLOROPHENOL			8.5	91562	0.19		2046.68
2,4,5TRICHLOROPHENOL	95954		23	247756	0.51		5493.72
2,4,6TRINITROPHENOL	88062		4235	45619420	94		1012568
XYLENE	1330207		133	1432676	3		32316

CALCULATION OF WATER QUALITY BASED NON-CLASS AA FRESHWATER DISCHARGE LIMITS

FACILITY NAME: Ashaway Line and Twine RIPDES PERMIT #: RI0021814

CHEMICAL NAME	CAS#	DAILY MAX LIMIT (ug/L)	MONTHLY AVE LIMIT (ug/L)
PRIORITY POLLUTANTS:			
TOXIC METALS AND CYANIDE			
ANTIMONY	7440360	4847400.00	107720.00
ARSENIC, TOTAL	7440382	3662480.00	15080.80
ASBESTOS	1332214	No Criteria	0.00000
BERYLLIUM	7440417	80790.00	1831.24
CADMIUM, TOTAL	7440439	4611.30	904.31665
CHROMIUM III, TOTAL	16065831	5325720.69	254551.54
CHROMIUM VI, TOTAL	18540299	175511.20	123172.56
COPPER, TOTAL	7440508	29006.19	20024.19
CYANIDE	57125	236984.00	56014.40
LEAD, TOTAL	7439921	130165.71	2904.42
MERCURY, TOTAL	7439976	17742.12	1900.94
NICKEL, TOTAL	7440020	1327944.44	147641.57
SELENIUM, TOTAL	7782492	215440.00	53860.00
SILVER, TOTAL	7440224	2887.91	No Criteria
THALLIUM	7440280	495512.00	5062.84
ZINC, TOTAL	7440666	339847.34	339847.34
VOLATILE ORGANIC COMPOUNDS			
ACROLEIN	107028	31238.80	646.32000
ACRYLONITRILE	107131	4071816.00	26930.00
BENZENE	71432	2854580.00	63554.80
BROMOFORM	75252	15780980.00	355476.00
CARBON TETRACHLORIDE	56235	14703780.00	172352.00
CHLOROBENZENE	108907	8563740.00	193896.00
CHLORODIBROMOMETHANE	124481	No Criteria	1400360.00
CHLOROFORM	67663	15565540.00	344704.00
DICHLOROBROMOMETHANE	75274	No Criteria	1831240.00
1,2DICHLOROETHANE	107062	63554800.00	1411132.00
1,1DICHLOROETHYLENE	75354	6247760.00	140036.00
1,2DICHLOROPROPANE	78875	28276500.00	624776.00
1,3DICHLOROPROPYLENE	542756	No Criteria	226212.00
ETHYLBENZENE	100414	17235200.00	387792.00
BROMOMETHANE (methyl bromide)	74839	No Criteria	16158000.00
CHLOROMETHANE (methyl chloride)	74873	No Criteria	0.00000
METHYLENE CHLORIDE	75092	103949800.00	2305208.00
1,1,2,2TETRACHLOROETHANE	79345	5019752.00	107720.00

CHEMICAL NAME	CAS#	DAILY MAX LIMIT (ug/L)	MONTHLY AVE LIMIT (ug/L)
TETRACHLOROETHYLENE	127184	2585280.00	57091.60
TOLUENE	108883	6840220.00	150808.00
1,2TRANSDICHLOROETHYLENE	156605	No Criteria	107720000.00
1,1,1TRICHLOROETHANE	71556	No Criteria	0.00000
1,1,2TRICHLOROETHANE	79005	9694800.00	215440.00
TRICHLOROETHYLENE	79016	21005400.00	463196.00
VINYL CHLORIDE	75014	No Criteria	25852.80
ACID ORGANIC COMPOUNDS			
2CHLOROPHENOL	95578	1389588.00	31238.80
2,4DICHLOROPHENOL	120832	1087972.00	23698.40
2,4DIMETHYLPHENOL	105679	1141832.00	25852.80
4,6DINITRO2METHYL PHENOL	534521	No Criteria	3016160.00
2,4DINITROPHENOL	51285	333932.00	7432.68
4NITROPHENOL	88755	No Criteria	0.00000
PENTACHLOROPHENOL	87865	626.83	480.91137
PHENOL	108952	2703772.00	60323.20
2,4,6TRICHLOROPHENOL	88062	172352.00	3877.92
BASE NEUTRAL COMPUNDS			
ACENAPHTHENE	83329	915620.00	20466.80
ANTHRACENE	120127	No Criteria	430880000.00
BENZIDINE	92875	No Criteria	21.54400
PAHs		No Criteria	1938.96
BIS(2CHLOROETHYL)ETHER	111444	No Criteria	57091.60
BIS(2CHLOROISOPROPYL)ETHER	108601	No Criteria	700180000.00
BIS(2ETHYLHEXYL)PHTHALATE	117817	5978460.00	129264.00
BUTYL BENZYL PHTHALATE	85687	915620.00	20466.80
2CHLORONAPHTHALENE	91587	No Criteria	17235200.00
1,2DICHLOROBENZENE	95501	850988.00	19389.60
1,3DICHLOROBENZENE	541731	4201080.00	93716.40
1,4DICHLOROBENZENE	106467	603232.00	12926.40
3,3DICHLOROBENZIDENE	91941	No Criteria	3016.16
DIETHYL PHTHALATE	84662	28061060.00	624776.00
DIMETHYL PHTHALATE	131113	17773800.00	398564.00
DI-n-BUTYL PHTHALATE	84742	No Criteria	48474000.00
2,4DINITROTOLUENE	121142	16696600.00	366248.00
1,2DIPHENYLHYDRAZINE	122667	150808.00	3339.32
FLUORANTHENE	206440	2143628.00	47396.80

CALCULATION OF WATER QUALITY BASED NON-CLASS AA FRESHWATER DISCHARGE LIMITS

FACILITY NAME: Ashaway Line and Twine RIPDES PERMIT #: RI0021814

CHEMICAL NAME	CAS#	DAILY MAX LIMIT (ug/L)	MONTHLY AVE LIMIT (ug/L)
FLUORENE	86737	No Criteria	57091600.00
HEXACHLOROBENZENE	118741	No Criteria	31.23880
HEXACHLOROBUTADIENE	87683	No Criteria	1938960.00
HEXACHLOROCYCLOPENTADIENE	77474	3770.20	86.17600
HEXACHLOROETHANE	67721	527828.00	11849.20
ISOPHORONE	78591	63016200.00	1400360.00
NAPHTHALENE	91203	1238780.00	28007.20
NITROBENZENE	98953	14542200.00	323160.00
N-NITROSODIMETHYLAMINE	62759	No Criteria	323160.00
N-NITROSODI-N-PROPYLAMINE	621647	No Criteria	54937.20
N-NITROSODIPHENYLAMINE	86306	3156196.00	70018.00
PYRENE	129000	No Criteria	43088000.00
1,2,4trichlorobenzene	120821	807900.00	18312.40
PESTICIDES/PCBs			
ALDRIN	309002	32316.00	5.38600
Alpha BHC	319846	No Criteria	527.83
Beta BHC	319857	No Criteria	1831.24
Gamma BHC (Lindane)	58899	10233.40	10233.40
CHLORDANE	57749	25852.80	46.31960
4,4DDT	50293	11849.20	10.77200
4,4DDE	72559	No Criteria	23.69840
4,4DDD	72548	No Criteria	33.39320
DIELDRIN	60571	2585.28	5.81688
ENDOSULFAN (alpha)	959988	2369.84	603.23200
ENDOSULFAN (beta)	33213659	2369.84	603.23200
ENDOSULFAN (sulfate)	1031078	No Criteria	958708.00
ENDRIN	72208	926.39	387.79
ENDRIN ALDEHYDE	7421934	No Criteria	3231.60
HEPTACHLOR	76448	5601.44	8.51
HEPTACHLOR EPOXIDE	1024573	5601.44	4.20
POLYCHLORINATED BIPHENYLS3	1336363	No Criteria	6.89
2,3,7,8TCDD (Dioxin)	1746016	No Criteria	0.00
TOXAPHENE	8001352	7863.56	2.15
TRIBUTYLTIN		4955.12	775.58

CHEMICAL NAME	CAS#	DAILY MAX LIMIT (ug/L)	MONTHLY AVE LIMIT (ug/L)
NON PRIORITY POLLUTANTS:			
OTHER SUBSTANCES			
ALUMINUM, TOTAL	7429905	8079000.00	937164.00
AMMONIA (as N), WINTER (NOV-APF	7664417	143267600.00	44865380.00
AMMONIA (as N), SUMMER (MAY-OC	7664417	143267600.00	22405760.00
4BROMOPHENYL PHENYL ETHER		193896.00	4308.80
CHLORIDE	16887006	9263920000.00	999999999.00
CHLORINE	7782505	255835.00	148115.00
4CHLORO2METHYLPHENOL		161580.00	3447.04
1CHLORONAPHTHALENE		861760.00	19389.60
4CHLOROPHENOL	106489	2068224.00	46319.60
2,4DICHLORO6METHYLPHENOL		236984.00	5170.56
1,1DICHLOROPROPANE		12387800.00	280072.00
1,3DICHLOROPROPANE	142289	3263916.00	72172.40
2,3DINITROTOLUENE		183124.00	3985.64
2,4DINITRO6METHYL PHENOL		129264.00	2800.72
IRON	7439896	No Criteria	10772000.00
pentachlorobenzene	608935	140036.00	3016.16
PENTACHLOROETHANE		3899464.00	86176.00
1,2,3,5tetrachlorobenzene		3457812.00	76481.20
1,1,1,2TETRACHLOROETHANE	630206	10556560.00	236984.00
2,3,4,6TETRACHLOROPHENOL	58902	75404.00	1723.52
2,3,5,6TETRACHLOROPHENOL		91562.00	2046.68
2,4,5TRICHLOROPHENOL	95954	247756.00	5493.72
2,4,6TRINITROPHENOL	88062	45619420.00	1012568.00
XYLENE	1330207	1432676.00	32316.00

Attachment C

Facility Name: *Ashaway Line and Twine*

RIPDES Permit #: *RI0021814*

Outfall #: *001 and 002*

NOTE: METALS LIMITS ARE TOTAL METALS

Parameter	CAS #	Concentration Limits (ug/L) Based on WQ Criteria		Antideg. Limits (ug/L)	Ave UFP Data (ug/L) NA		Ave. DMR Data (ug/L) 4/10-3/15		Potential Permit Limits (ug/L)	
		Daily Max	Monthly Ave	Monthly Ave	Max	Ave	Daily Max	Monthly Ave	Daily Max	Monthly Ave
PRIORITY POLLUTANTS										
TOXIC METALS AND CYANIDE										
ANTIMONY	7440360	4847400.00	107720.00	---	---	---	---	---	4847400	107720
ARSENIC (limits are total recoverable)	7440382	3662480.00	15080.80	---	---	---	---	---	3662480	15080.8
ASBESTOS	1332214	No Criteria	0.00	---	---	---	---	---	---	0
BERYLLIUM	7440417	80790.00	1831.24	---	---	---	---	---	80790	1831.24
CADMIUM (limits are total recoverable)	7440439	4611.30	904.32	---	---	---	695	695	4611.30285	904.3166514
CHROMIUM III (limits are total recoverable)	16065831	5325720.69	254551.54	---	---	---	---	---	5325720.69	254551.538
CHROMIUM VI (limits are total recoverable)	18540299	175511.20	123172.56	---	---	---	---	---	175511.2016	123172.5572
COPPER (limits are total recoverable)	7440508	29006.19	20024.19	---	---	---	1710	684	29006.19412	20024.19438
CYANIDE	57125	236984.00	56014.40	---	---	---	---	---	236984	56014.4
LEAD (limits are total recoverable)	7439921	130165.71	2904.42	---	---	---	108	28	130165.7076	2904.416213
MERCURY (limits are total recoverable)	7439976	17742.12	1900.94	---	---	---	---	---	17742.11765	1900.941176
NICKEL (limits are total recoverable)	7440020	1327944.44	147641.57	---	---	---	---	---	1327944.44	147641.567
SELENIUM (limits are total recoverable)	7782492	215440.00	53860.00	---	---	---	---	---	215440	53860
SILVER (limits are total recoverable)	7440224	2887.91	No Criteria	---	---	---	---	---	2887.913643	2887.913643
THALLIUM	7440280	495512.00	5062.84	---	---	---	---	---	495512	5062.84
ZINC (limits are total recoverable)	7440666	339847.34	339847.34	---	---	---	---	---	339847.3447	339847.3447
VOLATILE ORGANIC COMPOUNDS										
ACROLEIN	107028	31238.80	646.32	---	---	---	---	---	31238.8	646.32
ACRYLONITRILE	107131	4071816.00	26930.00	---	---	---	---	---	4071816	26930
BENZENE	71432	2854580.00	63554.80	---	---	---	---	---	2854580	63554.8
BROMOFORM	75252	15780980.00	355476.00	---	---	---	---	---	15780980	355476
CARBON TETRACHLORIDE	56235	14703780.00	172352.00	---	---	---	---	---	14703780	172352
CHLOROBENZENE	108907	8563740.00	193896.00	---	---	---	---	---	8563740	193896
CHLORODIBROMOMETHANE	124481	No Criteria	1400360.00	---	---	---	---	---	---	1400360
CHLOROFORM	67663	15565540.00	344704.00	---	---	---	---	---	15565540	344704
DICHLOROBROMOMETHANE	75274	No Criteria	1831240.00	---	---	---	---	---	---	1831240
1,2DICHLOROETHANE	107062	63554800.00	1411132.00	---	---	---	---	---	63554800	1411132
1,1DICHLOROETHYLENE	75354	6247760.00	140036.00	---	---	---	---	---	6247760	140036
1,2DICHLOROPROPANE	78875	28276500.00	624776.00	---	---	---	---	---	28276500	624776
1,3DICHLOROPROPYLENE	542756	No Criteria	226212.00	---	---	---	---	---	---	226212
ETHYLBENZENE	100414	17235200.00	387792.00	---	---	---	---	---	17235200	387792
BROMOMETHANE (methyl bromide)	74839	No Criteria	16158000.00	---	---	---	---	---	---	16158000

Attachment C

CHLOROMETHANE (methyl chloride)	74873	No Criteria	0.00	---	---	---	---	---	---	0
METHYLENE CHLORIDE	75092	103949800.00	2305208.00	---	---	---	---	---	103949800	2305208
1,1,2,2TETRACHLOROETHANE	79345	5019752.00	107720.00	---	---	---	---	---	5019752	107720
TETRACHLOROETHYLENE	127184	2585280.00	57091.60	---	---	---	---	---	2585280	57091.6
TOLUENE	108883	6840220.00	150808.00	---	---	---	---	---	6840220	150808
1,2TRANSDICHLOROETHYLENE	156605	No Criteria	107720000.00	---	---	---	---	---	---	107720000
1,1,1TRICHLOROETHANE	71556	No Criteria	0.00	---	---	---	---	---	---	0
1,1,2TRICHLOROETHANE	79005	9694800.00	215440.00	---	---	---	---	---	9694800	215440
TRICHLOROETHYLENE	79016	21005400.00	463196.00	---	---	---	---	---	21005400	463196
VINYL CHLORIDE	75014	No Criteria	25852.80	---	---	---	---	---	---	25852.8
ACID ORGANIC COMPOUNDS										
2CHLOROPHENOL	95578	1389588.00	31238.80	---	---	---	---	---	1389588	31238.8
2,4DICHLOROPHENOL	120832	1087972.00	23698.40	---	---	---	---	---	1087972	23698.4
2,4DIMETHYLPHENOL	105679	1141832.00	25852.80	---	---	---	---	---	1141832	25852.8
4,6DINITRO2METHYL PHENOL	534521	No Criteria	3016160.00	---	---	---	---	---	---	3016160
2,4DINITROPHENOL	51285	333932.00	7432.68	---	---	---	---	---	333932	7432.68
4NITROPHENOL	88755	No Criteria	0.00	---	---	---	---	---	---	0
PENTACHLOROPHENOL	87865	626.83	480.91	---	---	---	---	---	626.8347753	480.9113692
PHENOL	108952	2703772.00	60323.20	---	---	---	---	---	2703772	60323.2
2,4,6TRICHLOROPHENOL	88062	172352.00	3877.92	---	---	---	---	---	172352	3877.92
BASE NEUTRAL COMPOUNDS										
ACENAPHTHENE	83329	915620.00	20466.80	---	---	---	---	---	915620	20466.8
ANTHRACENE	120127	No Criteria	430880000.00	---	---	---	---	---	---	430880000
BENZIDINE	92875	No Criteria	21.54	---	---	---	---	---	---	21.544
POLYCYCLIC AROMATIC HYDROCARBONS		No Criteria	1938.96	---	---	---	---	---	---	1938.96
BIS(2CHLOROETHYL)ETHER	111444	No Criteria	57091.60	---	---	---	---	---	---	57091.6
BIS(2CHLOROISOPROPYL)ETHER	108601	No Criteria	700180000.00	---	---	---	---	---	---	700180000
BIS(2ETHYLHEXYL)PHTHALATE	117817	5978460.00	129264.00	---	---	---	---	---	5978460	129264
BUTYL BENZYL PHTHALATE	85687	915620.00	20466.80	---	---	---	---	---	915620	20466.8
2CHLORONAPHTHALENE	91587	No Criteria	17235200.00	---	---	---	---	---	---	17235200
1,2DICHLOROBENZENE	95501	850988.00	19389.60	---	---	---	---	---	850988	19389.6
1,3DICHLOROBENZENE	541731	4201080.00	93716.40	---	---	---	---	---	4201080	93716.4
1,4DICHLOROBENZENE	106467	603232.00	12926.40	---	---	---	---	---	603232	12926.4
3,3DICHLOROBENZIDENE	91941	No Criteria	3016.16	---	---	---	---	---	---	3016.16
DIETHYL PHTHALATE	84662	28061060.00	624776.00	---	---	---	---	---	28061060	624776
DIMETHYL PHTHALATE	131113	17773800.00	398564.00	---	---	---	---	---	17773800	398564
DInBUTYL PHTHALATE	84742	No Criteria	48474000.00	---	---	---	---	---	---	48474000
2,4DINITROTOLUENE	121142	16696600.00	366248.00	---	---	---	---	---	16696600	366248
1,2DIPHENYLHYDRAZINE	122667	150808.00	3339.32	---	---	---	---	---	150808	3339.32
FLUORANTHENE	206440	2143628.00	47396.80	---	---	---	---	---	2143628	47396.8
FLUORENE	86737	No Criteria	57091600.00	---	---	---	---	---	---	57091600
HEXACHLOROBENZENE	118741	No Criteria	31.24	---	---	---	---	---	---	31.2388
HEXACHLOROBUTADIENE	87683	No Criteria	1938960.00	---	---	---	---	---	---	1938960

Attachment C

HEXACHLOROCYCLOPENTADIENE	77474	3770.20	86.18	---	---	---	---	---	3770.2	86.176
HEXACHLOROETHANE	67721	527828.00	11849.20	---	---	---	---	---	527828	11849.2
ISOPHORONE	78591	63016200.00	1400360.00	---	---	---	---	---	63016200	1400360
NAPHTHALENE	91203	1238780.00	28007.20	---	---	---	---	---	1238780	28007.2
NITROBENZENE	98953	14542200.00	323160.00	---	---	---	---	---	14542200	323160
NNITROSODIMETHYLAMINE	62759	No Criteria	323160.00	---	---	---	---	---	---	323160
NNITROSODINPROPYLAMINE	621647	No Criteria	54937.20	---	---	---	---	---	---	54937.2
NNITROSODIPHENYLAMINE	86306	3156196.00	70018.00	---	---	---	---	---	3156196	70018
PYRENE	129000	No Criteria	43088000.00	---	---	---	---	---	---	43088000
1,2,4trichlorobenzene	120821	807900.00	18312.40	---	---	---	---	---	807900	18312.4
PESTICIDES/PCBs										
ALDRIN	309002	32316.00	5.39	---	---	---	---	---	32316	5.386
Alpha BHC	319846	No Criteria	527.83	---	---	---	---	---	---	527.828
Beta BHC	319857	No Criteria	1831.24	---	---	---	---	---	---	1831.24
Gamma BHC (Lindane)	58899	10233.40	10233.40	---	---	---	---	---	10233.4	10233.4
CHLORDANE	57749	25852.80	46.32	---	---	---	---	---	25852.8	46.3196
4,4DDT	50293	11849.20	10.77	---	---	---	---	---	11849.2	10.772
4,4DDE	72559	No Criteria	23.70	---	---	---	---	---	---	23.6984
4,4DDD	72548	No Criteria	33.39	---	---	---	---	---	---	33.3932
DIELDRIN	60571	2585.28	5.82	---	---	---	---	---	2585.28	5.81688
ENDOSULFAN (alpha)	959988	2369.84	603.23	---	---	---	---	---	2369.84	603.232
ENDOSULFAN (beta)	33213659	2369.84	603.23	---	---	---	---	---	2369.84	603.232
ENDOSULFAN (sulfate)	1031078	No Criteria	958708.00	---	---	---	---	---	---	958708
ENDRIN	72208	926.39	387.79	---	---	---	---	---	926.392	387.792
ENDRIN ALDEHYDE	7421934	No Criteria	3231.60	---	---	---	---	---	---	3231.6
HEPTACHLOR	76448	5601.44	8.51	---	---	---	---	---	5601.44	8.50988
HEPTACHLOR EPOXIDE	1024573	5601.44	4.20	---	---	---	---	---	5601.44	4.20108
POLYCHLORINATED BIPHENYLS3	1336363	No Criteria	6.89	---	---	---	---	---	---	6.89408
2,3,7,8TCDD (Dioxin)	1746016	No Criteria	0.00	---	---	---	---	---	---	0.000549372
TOXAPHENE	8001352	7863.56	2.15	---	---	---	---	---	7863.56	2.1544
TRIBUTYLTIN		4955.12	775.58						4955.12	775.584
NON PRIORITY POLLUTANTS:										
OTHER SUBSTANCES										
ALUMINUM (limits are total recoverable)	7429905	8079000.00	937164.00	---	---	---	---	---	8079000	937164
AMMONIA (winter)	7664417	143267600.00	44865380.00	---	---	---	---	---	143267600	44865380
AMMONIA (summer)		143267600.00	22405760.00	---	---	---	---	---	143267600	22405760
4BROMOPHENYL PHENYL ETHER	16887006	193896.00	4308.80	---	---	---	---	---	193896	4308.8
CHLORIDE	7782505	9263920000.00	999999999.00						9263920000	999999999
CHLORINE		255835.00	148115.00	---	---	---	---	---	255835	148115
4CHLORO2METHYLPHENOL		161580.00	3447.04	---	---	---	---	---	161580	3447.04
1CHLORONAPHTHALENE	106489	861760.00	19389.60	---	---	---	---	---	861760	19389.6
4CHLOROPHENOL		2068224.00	46319.60	---	---	---	---	---	2068224	46319.6
2,4DICHLORO6METHYLPHENOL		236984.00	5170.56	---	---	---	---	---	236984	5170.56

Attachment C

1,1DICHLOROPROPANE	142289	12387800.00	280072.00	---	---	---	---	---	12387800	280072
1,3DICHLOROPROPANE		3263916.00	72172.40	---	---	---	---	---	3263916	72172.4
2,3DINITROTOLUENE		183124.00	3985.64	---	---	---	---	---	183124	3985.64
2,4DINITRO6METHYL PHENOL	7439896	129264.00	2800.72	---	---	---	---	---	129264	2800.72
IRON	608935	No Criteria	10772000.00						---	10772000
pentachlorobenzene		140036.00	3016.16	---	---	---	---	---	140036	3016.16
PENTACHLOROETHANE		3899464.00	86176.00	---	---	---	---	---	3899464	86176
1,2,3,5tetrachlorobenzene	630206	3457812.00	76481.20	---	---	---	---	---	3457812	76481.2
1,1,1,2TETRACHLOROETHANE	58902	10556560.00	236984.00	---	---	---	---	---	10556560	236984
2,3,4,6TETRACHLOROPHENOL		75404.00	1723.52	---	---	---	---	---	75404	1723.52
2,3,5,6TETRACHLOROPHENOL	95954	91562.00	2046.68	---	---	---	---	---	91562	2046.68
2,4,5TRICHLOROPHENOL	88062	247756.00	5493.72	---	---	---	---	---	247756	5493.72
2,4,6TRINITROPHENOL	1330207	45619420.00	1012568.00	---	---	---	---	---	45619420	1012568
XYLENE		1432676.00	32316.00						1432676	32316

Attachment D – Metals Sampling Data

ResultID	DataType	SampleMe	Organizatic	Project	Waterbody	Station	Statio	SampleDate	Parameter	Parameter	Result	Result or M
194085	Chemistry	Water	RIDEM - M	Ambient F	Ashaway R	PAW12	Grab	5/11/2011 0:00	Cadmium,	METALS	0.1952	0.1952
194106	Chemistry	Water	RIDEM - M	Ambient F	Ashaway R	PAW12	Grab	8/24/2011 0:00	Cadmium,	METALS	0	0.046
194125	Chemistry	Water	RIDEM - M	Ambient F	Ashaway R	PAW12	Grab	9/28/2011 0:00	Cadmium,	METALS	0	0.046
											ave=	0.096
194088	Chemistry	Water	RIDEM - M	Ambient F	Ashaway R	PAW12	Grab	5/11/2011 0:00	Copper, Dis	METALS	0.538	0.538
194109	Chemistry	Water	RIDEM - M	Ambient F	Ashaway R	PAW12	Grab	8/24/2011 0:00	Copper, Dis	METALS	0.669	0.669
194128	Chemistry	Water	RIDEM - M	Ambient F	Ashaway R	PAW12	Grab	9/28/2011 0:00	Copper, Dis	METALS	0.778	0.778
											ave=	0.662
194091	Chemistry	Water	RIDEM - M	Ambient F	Ashaway R	PAW12	Grab	5/11/2011 0:00	Iron	METALS	27.5522	27.5522
194112	Chemistry	Water	RIDEM - M	Ambient F	Ashaway R	PAW12	Grab	8/24/2011 0:00	Iron	METALS	143.315	143.315
194131	Chemistry	Water	RIDEM - M	Ambient F	Ashaway R	PAW12	Grab	9/28/2011 0:00	Iron	METALS	57.5384	57.5384
											ave=	76.1352
194092	Chemistry	Water	RIDEM - M	Ambient F	Ashaway R	PAW12	Grab	5/11/2011 0:00	Lead, Disso	METALS	0.2244	0.2244
194113	Chemistry	Water	RIDEM - M	Ambient F	Ashaway R	PAW12	Grab	8/24/2011 0:00	Lead, Disso	METALS	0.1867	0.1867
194132	Chemistry	Water	RIDEM - M	Ambient F	Ashaway R	PAW12	Grab	9/28/2011 0:00	Lead, Disso	METALS	0.1022	0.1022
											ave=	0.1711
194103	Chemistry	Water	RIDEM - M	Ambient F	Ashaway R	PAW12	Grab	5/11/2011 0:00	Zinc, Dissol	METALS	4.4489	4.4489
194124	Chemistry	Water	RIDEM - M	Ambient F	Ashaway R	PAW12	Grab	8/24/2011 0:00	Zinc, Dissol	METALS	3.3463	3.3463
194143	Chemistry	Water	RIDEM - M	Ambient F	Ashaway R	PAW12	Grab	9/28/2011 0:00	Zinc, Dissol	METALS	0	1.12
											ave=	2.97

Unit	Parameter	ReportedR	DetectionL	Quantitatic	Sampl	RiverID	Sample	CreatedDate	CreatedBy	UpdatedDate	UpdatedBy
Microgram	Cadmium,	0.1952	0.05	0.05		RI0008039	Grab	4/7/2015 9:05	Admin	4/7/2015 9:05	Admin
Microgram	Cadmium,	0	0.046	0.046		RI0008039	Grab	4/7/2015 9:05	Admin	4/7/2015 9:05	Admin
Microgram	Cadmium,	0.0024	0.046	0.046		RI0008039	Grab	4/7/2015 9:05	Admin	4/7/2015 9:05	Admin
Microgram	Copper, Dis	0.538	0.13	0.13		RI0008039	Grab	4/7/2015 9:05	Admin	4/7/2015 9:05	Admin
Microgram	Copper, Dis	0.669	0.13	0.13		RI0008039	Grab	4/7/2015 9:05	Admin	4/7/2015 9:05	Admin
Microgram	Copper, Dis	0.778	0.13	0.13		RI0008039	Grab	4/7/2015 9:05	Admin	4/7/2015 9:05	Admin
Microgram	Iron	27.5522	3.83	3.83		RI0008039	Grab	4/7/2015 9:05	Admin	4/7/2015 9:05	Admin
Microgram	Iron	143.315	3.83	3.83		RI0008039	Grab	4/7/2015 9:05	Admin	4/7/2015 9:05	Admin
Microgram	Iron	57.5384	3.83	3.83		RI0008039	Grab	4/7/2015 9:05	Admin	4/7/2015 9:05	Admin
Microgram	Lead, Disso	0.2244	0.08	0.08		RI0008039	Grab	4/7/2015 9:05	Admin	4/7/2015 9:05	Admin
Microgram	Lead, Disso	0.1867	0.08	0.08		RI0008039	Grab	4/7/2015 9:05	Admin	4/7/2015 9:05	Admin
Microgram	Lead, Disso	0.1022	0.08	0.08		RI0008039	Grab	4/7/2015 9:05	Admin	4/7/2015 9:05	Admin
Microgram	Zinc, Dissol	4.4489	1.12	1.12		RI0008039	Grab	4/7/2015 9:05	Admin	4/7/2015 9:05	Admin
Microgram	Zinc, Dissol	3.3463	1.12	1.12		RI0008039	Grab	4/7/2015 9:05	Admin	4/7/2015 9:05	Admin
Microgram	Zinc, Dissol	0.6699	1.12	1.12		RI0008039	Grab	4/7/2015 9:05	Admin	4/7/2015 9:05	Admin