DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Scheduled Inspection

N183228586

FACILITY: BAY CARBON INC		**SRN / ID:** N1832
LOCATION: 800 MARQUETTE ST, BAY CITY		**DISTRICT:** Saginaw Bay
CITY: BAY CITY		**COUNTY:** BAY
CONTACT: Fred Justice , Product Engineer		**ACTIVITY DATE:** 01/27/2015
STAFF: Gina McCann	**COMPLIANCE STATUS:** Non Compliance	**SOURCE CLASS:** MINOR
SUBJECT:		
RESOLVED COMPLAINTS:		

I (glm) met with Fred Justice, Facilities Manager/Product Engineer, and Mark Loboda, Research and Redevelopment Engineer of Bay Carbon. The purpose of the inspection was to determine compliance with PTI #43-036A and PTI #261-07A.

Bay Carbon produces and machines purified silicon carbide. The facility has 2 air permits, PTI #43-06A, and PTI # 261-07A. The facility uses various types of industrial lathes, band saws and drill presses to machine and saw graphite into various forms. This equipment is vented to a baghouse, building "D", (PTI #43-06A). The forms are then sent to purification furnaces, buildings "C" (PTI # 43-06A) and "E" (PTI #261-07A). The purification furnaces use argon and nitrogen gas to eliminate oxygen from the furnaces. The furnaces are heated to >1700 degrees Celcius. Chlorine gas is introduced in the furnaces. When the purification process is complete the chlorine feed is stopped and the parts remain in the furnace until cool. Emissions from the furnaces are permitted to be exhausted to the atmosphere after being sent to a wet alkaline scrubber (building "C", PTI #43-06A) and a single stage packed bed wet scrubber (building "E", PTI #261-07A). The facility also has a small silicon carbide coating process and an impregnation process that used dimethyldichlorosilane, housed in buildings "F" and "B" respectively.

PTI 43-06A: Non-Compliant
FGGRPHPROCESSES (EU-01, EU-02, EU-03, and EU-04)

II. Material Limits
1. The permittee shall not use more than 5,300 pounds of chlorine per 12-month rolling time period as determined at the end of each calendar month.

Chlorine Usage for FGGRPHPROCESSES

	12-month rolling thru Dec. 2013	12-month rolling thru Dec. 2014	Material Limit per 12-month rolling time period
Building C (EU-02)	1,650 pounds	1,650 pounds	5,300 pounds

2. The permittee shall not use more than 3,000 pounds of dimethyldichlorosilane in FGGRPHPROCESSES per 12-month rolling time period as determined at the end of each calendar month.

Dimethyldichlorosilane Usage for FGGRPHPROCESSES

	12-month rolling thru Dec. 2013	12-month rolling thru Dec. 2014	Material Limit per 12-month rolling time period
Building F (EU-03)	475 pounds	0 pounds	3,000 pounds

III. Process/Operational Restrictions

1. The permittee shall not operate any of the furnaces in EU-02 unless an acceptable PM for the two alkaline scrubber systems has been submitted and approved. The plan shall include the proper pH operating level and liquid flow rate for each of the scrubber systems.

During the inspection the facility provided a revised PM for the scrubber system. The facility had recently replaced the two wet alkaline scrubbers in the permit with one scrubber that is more efficient. The facility provided a demonstration required in R278a on February 9, 2015 as part of the records request. The demonstration uses R285(d) as basis for replacement of the of air pollution control equipment with equivalent or more efficient equipment in lieu of changing the permit. While it is recognized that the facility is monitoring the pH, the consumption of fresh water and the volume of caustic soda added, the liquid flow rate in the scrubber was not being monitored. This is a moot point since this building, the equipment and control devices housed were destroyed due to a fire on Friday, February 30, 2015 and therefore corrective action cannot be taken since the associated equipment no longer exists.

2. The permittee shall not operate any of the graphite machining processes in EU-04 unless an acceptable PM for the baghouse has been submitted and approved. The plan shall include the manufacturer's recommended pressure drop for the baghouse along with manufacturer's recommended timeframe for changing the collection sacks.

The Department did not have a PM for the baghouse on file. One was requested and received on February 12, 2015. At the time of the inspection the differential pressure reading for the baghouse was 3.5" W.C., which is slightly outside of the operational parameter. The operational reading ranges for the pressure gauge in the PM is 0.75" to 3.0" W.C. I did note that at approximately 11:00 operators were changing the bags, thereby appropriate procedures were being followed as a result of increased pressure readings.

IV. Design/Equipment Parameters

1. The permittee shall not operate any of the electric furnaces in EU-02 unless the associated wet alkaline scrubber is installed, maintained, and operated in a satisfactory manner. At the time of the inspection the electric furnaces were running and the differential pressure in the scrubber was 0.63" W.C. and the pH was 9.38. The liquid flow rate in the scrubber was not available.

2. The permittee shall install, calibrate, maintain and operate in a satisfactory manner a device to monitor and record the pH and the liquid flow rate of each wet alkaline scrubber in EU-02 on a daily basis. The device does not record the liquid flow rate. The facility was instead recording the scrubber water intake. In the R278a demonstration the facility provided on February 9, 2015, the following:

> The Advanced Air Technologies scrubber automatically detects Cl_2 at its input by detection of the change of pH in the recirculating liquid in the scrubber tower. When the pH change is detected the scrubber system automatically opens the valve for fresh water. Bay Carbon records the fresh water usage. The scrubber tracks the pH in the tower. Bay Carbon monitors the pH values recorded. The consumption of fresh water, caustic soda and pH level vs time on the days Cl_2 is used is an indication that the scrubber control system is functioning properly to treat the effluent. If the scrubber pH goes outside the range of 8-12 the unit will alarm.

Again, while it is recognized that the facility is monitoring the pH, the consumption of fresh water and the volume of caustic soda added, the liquid flow rate in the scrubber was not being monitored. This is no longer relevant since this building, the equipment and control devices housed were destroyed due to a fire on Friday, February 30, 2015.

3. Improvement suggestions for the MAP were sent on February 19, 2015 regarding this permit condition. Condition IV. 3 states that the graphite machining process in EU-04 shall not be operated unless the baghouse in installed, maintained, and operated in a satisfactory manner. This is not clearly represented in the MAP. The MAP says that if the "pressure gauge reading falls outside of the operational range not to operate the Dust Collector System," which is great. For employee clarification, it was suggested that this be expanded on to better represent compliance with the permit.

4. The permittee shall install, calibrate, maintain and operate in a satisfactory manner a device to monitor and record the pressure drop across the baghouse in EU-04 on a daily basis. Pressure records

were requested for the month of November 2013 and November 2014. Pressure differences records were within acceptable range. From the MAP for the baghouse it is unclear how often the magnehelic is calibrated. Discussion with facility about calibrations is in process.

VI. Monitoring/Recordkeeping

1. Permittee shall monitor and record the pH level and the liquid flow rate for each wet alkaline scrubber in EU-02 on a daily basis. The facility is maintaining pH records on an hourly basis and pH values are within the acceptable range. The liquid flow rate is not being recorded or monitored.

2. Permittee shall monitor and record the pressure drop across the baghouse in EU-04 on a daily basis. The facility is recording the pressure drop in the baghouse. Pressure records were requested for the month of November 2013 and November 2014. Pressure differences records were within acceptable range. At the time of the inspection the electric furnaces were running and the differential pressure in the scrubber was 0.63" W.C.

3. The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling time period records, as determined at the end of each calendar month, of the amount of chlorine used in FGGRPHPROCESSES, as required by SC II.1. The facility provided records requested for the 12-month rolling time period ending December 2013 and December 2014.

4. The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling time period records, as determined at the end of each calendar month, of the amount of dimethyldichlorosilane used in FGGRPHPROCESSES, as required by SC II.1. The facility provided records requested for the 12-month rolling time period ending December 2013 and December 2014.

5. The permittee shall maintain a log of all maintenance activities conducted according to the preventative maintenance plans required pursuant to SC III.1 and III.2. Maintenance logs were requested and received for all associated control equipment. The scrubber preventative maintenance log sheets were provided for 8/20/14 through 11/11/14 and 11/14/14 through 2/9/15. The log sheet shows the date and time the maintenance was performed, which entails an alarm check, pH probe cleaning, SD card download, and quarterly maintenance. The MAP for the scrubber system in Building E states every other week the scrubber pH probe is removed, cleaned and verified for accuracy. According to the log sheets provided this maintenance does not occur at the required intervals. It appears that the "pH probe check" occurred twice in the month of September, once in the month of October, once in the month of November, once in December and not at all in January 2015. Quarterly maintenance appears to be performed more frequently than quarterly. During the inspection maintenance activities associated with the scrubber did not appear to be taking place. While the log did not note maintenance activity for this day, it appears that maintenance takes place at 9:00 a.m. and the day I was on site it was not taking place. The inconsistencies on the log sheet in relation to maintenance activity frequencies and the consistent time recorded for which these activities take place brings the validity of the maintenance logs into question.

PTI 261-07A: Non-Compliant

EU-05-Graphite Purification process, Building "E". Process equipment consists of nine (9) electrically heated furnaces. These furnaces are controlled by a single stage packed bed wet scrubber system.

II. Material Limits

1. The permittee shall not use more than 6,000 pounds of chlorine in EU-05 per 12-month rolling time period as determined at the end of each calendar month.

	12-month rolling thru Dec. 2013	12-month rolling thru Dec. 2014	Material Limit per 12-month rolling time period
Building E (EU-05)	300 pounds	750 pounds	6,000 pounds

III. Process/Operational Restrictions

1. The permittee shall not operate any of the furnaces in EU-05 unless an acceptable PM for the two packed scrubber system has been submitted and approved. The plan shall include the proper pH operating level and liquid flow rate for the scrubber systems. The scrubber preventative maintenance log sheets were provided for 8/20/14 through 11/11/14 and 11/14/14 through 2/9/15. The log sheet shows the date and time the maintenance was performed, which entails an alarm check, pH probe cleaning, SD card download, and quarterly maintenance. The MAP for the scrubber system in Building E states every other week the scrubber pH probe is removed, cleaned and verified for accuracy. According to the log sheets provided this maintenance does not occur at the required intervals. The log sheet shows that the "pH probe check" occurred twice in the month of September, once in the month of October, once in the month of November, once in December and not at all in January 2015. Quarterly maintenance appears to be performed more frequently than quarterly. During the inspection maintenance activities associated with the scrubber did not appear to be taking place. No maintenance was logged for 1/23. 1/26 through 2/6. While it is understood that on January 30, 2015 the facility had an emergency on site there should be daily maintenance logged, at a bare minimum, for 1/27, 1/28, and 1/29.

While the log notes that maintenance takes place at 9:00, no maintenance was taking place at the time of the inspection which was at approximately the same time. The inconsistencies on the log sheet in relation to maintenance activity frequencies and the consistent time recorded for which these activities take place brings the validity of the maintenance logs into question.

I was not able to view the control panel for this device. The furnaces were operating and there was concern of being exposed to high voltages in the area of the control panel. Ideally, the control device panel should be monitored when the furnaces are in operation.

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall not operate any of the electric furnaces in EU-05 unless the packed bed wet scrubber system is installed, maintained, and operated in a satisfactory manner, pursuant to manufacturer's specifications. Satisfactory operation includes maintaining the pH in the scrubbing liquid at no less than 9.0 and maintaining a liquid recirculation rate no less than 40 gallons per minute. Records requested for November 2013-December 2013 show compliance with the pH limit. However, the facility is not recording the liquid recirculation rate.

2.The permittee shall install, calibrate, maintain and operate in a satisfactory manner a device to monitor the pH and the liquid flow rate of the packed bed wet scrubber system for EU-05 on a continuous basis. See comments under III.1. for associated PTI in this document. There is room for improvement.

VI. Monitoring/Recordkeeping

1. The permittee shall monitor and record the pH level and the liquid flow rate of the packed bed wet scrubber system for EU-05 once every eight (8) hours while a furnace in EU-05 is in operation. The facility electronically records the pH. However, the facility is not recording the liquid recirculation rate.

I was not able to view the control panel for this device. Again, the furnaces were operating and there was concern of being exposed to high voltages in the area of the control panel. Setup of the control panel is not ideal.

2. The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling time period records, as determined at the end of each calendar month, of the amount of chlorine used in EU-05, as required by SC II.1. The facility provided records requested for the 12-month rolling time period ending December 2013 and December 2014.

	12-month rolling thru Dec. 2013	12-month rolling thru Dec. 2014	Material Limit per 12-month rolling time period
Building E (EU-05)	300 pounds	750 pounds	6,000 pounds

3. The permittee shall maintain a log of all maintenance activities conducted according to the preventative maintenance plans required pursuant to SC III.1 and III.2. Maintenance logs were requested and received for all associated control equipment. See comments under III.1. for associated PTI in this document.

The facility is in non-compliance with multiple areas in their permits, however a violation will only be written for monitoring and recording the liquid flow recirculation in the scrubbers. Maintenance issues will be noted in this inspection report for areas of improvement and continued compliance assistance work will be provided with the facility.

NAME Lisa L. McCann DATE 3/2/2015 SUPERVISOR C. Hare

SRN: N1832 **Address:** 800 MARQUETTE STREET

Found: 4

City: BAY CITY **ZIP Code:** 48706

County: BAY

Note: This address reflects permit No. 261-07A. The equipment addresses for other applications / permits may differ if they are for portable sources or if the company is located at a large complex.

Status: 2 Active Permits

Company	Permit No.	Rev.	Received	Denied	Approved	Voided	Remarks
BAY CARBON, INC	261-07A	0	7/11/2011		7/20/2011		FURNACES
BAY CARBON, INC	43-06A	0	2/23/2011		4/18/2011		CIC COATED & IMPREGNANTED GRAPHITE PRODUCTS

Status: 2 Voided Permits

Company	Permit No.	Rev.	Received	Denied	Approved	Voided	Remarks
BAY CARBON, INC	261-07	0	7/26/2007		8/31/2007	7/20/2011	2 ELECTRIC FURNACES, ALKALINE SCRUBBER
BAY CARBON, INC	43-06	0	2/10/2006		4/26/2006	4/18/2011	SILICON CARBIDE COATING PROCESS

Irwin, Andrea (DEQ)

From: McCann, Gina (DEQ)
Sent: Tuesday, February 10, 2015 7:23 AM
To: Irwin, Andrea (DEQ)
Subject: FW: Records Request, Inspection 1/27/2015
Attachments: Bld E current PM and water use log 2-9-15.pdf; Nov 2013 and 2014 Dust collector Pressure readings log.pdf; Nov 2013 Nov 2014 Collection and Maintanence log.pdf; Rolling Chemical Use summary 2013.pdf; BLD C Scrubber PM 8-20-14 to 11-11-14.pdf; BLD C Scrubber Water 8-20-14 to 11-11-14.pdf; BLD E Scrubber PM 8-20-14 to 11-11-14.pdf; BLD E Scrubber Water Log 8-20-14 11-11-14.pdf; Bld C Scrubber PM log 12-23-13.pdf; Bld E Scrubber intake water log 12-23-13.pdf; Bld C Scrubber Intake Water Log 12-23-13.pdf; Bld E Scrubber intake water log 12-23-13.pdf; Building C and E Nov pH for 2013 and 2014.xlsx; Rolling Chemical Usage Summary Bld C 2014.pdf; rolling chemical usage summary Bld E 2014.pdf; Rolling Chemical Usage summary Bld F 2014.pdf; Bay Carbon Chlorine Gas Scrubber Improvements and Cl2 Scrubbing Efficiency.doc

When you get time, please print and stamp these as received 2/9/2015.

Thanks,

Gina

From: Fred Justice [mailto:fred.justice@baycarbon.com]
Sent: Monday, February 09, 2015 5:20 PM
To: McCann, Gina (DEQ)
Cc: Mark Loboda
Subject: RE: Records Request, Inspection 1/27/2015

Hello Gina,

Here are the scanned documents for the requested data, plus the calculation of the scrubber efficiency discussed at the meeting.

1. Daily records for pH level and the liquid flow rate for both scrubbers. Please send the month of November 2013 and the month of November 2014. (PTI 43-06A and PTI 261-07A, VI. 1) pH: (Excel spread sheet "building C and E Nov pH for 2013 and 2014").
    a. Water Flow Rate: Building E current PM and water use log,
    b. Bld E Scrubber water log 8-20-14 to 11-11-14
    c. Bld C Scrubber water log 8-20-14 to 11-11-14
    d. Bld E Scrubber water log to 12-24-13 **The production volumes were extremely low during the 4th quarter of 2013**
    e. Bld C Scrubber water log to 12-24-13 **The production volumes were extremely low during the 4th quarter of 2013**
2. Monthly records for the amount of chlorine used for November 2013 and November 2014 and the 12-month rolling time period ending December 2014, for processes in buildings B, C, F and D. (PTI 43-06A, VI. 3)
    a. Rolling chemical usage summary 2013 (all buildings)
    b. Rolling chemical usage summary Bld C 2014
    c. Rolling chemical usage summary Bld E 2014

    d. Rolling chemical usage summary Bld F 2014
        i. Note there is zero chemical use of Chlorine in Building B and Building D
3. Monthly records for the amount of chlorine used for November 2013 and November 2014 and the 12-month rolling time period ending December 2014, for graphite purification process in building "E" (PTI 261-07A, VI. 2)
    a. Rolling chemical usage summary 2013 (all buildings)
    b. Rolling chemical usage summary Bld E 2014
4. Monthly records for the amount of dimethyldichlorosilane used for November 2013 and November 2014 and the 12-month rolling time period ending December 2014. (PTI 43-06A, VI. 4)
    a. Rolling chemical usage summary 2013 (all buildings)
    b. Rolling chemical usage summary Bld F 2014
5. Daily pressure drop across the baghouse records for the months of November 2013 and November 2014. (PTI 43-06A, VI.2)
    a. November 2013 and 2014 Dust collector pressure readings log
6. Log of maintenance activities on all control equipment (baghouse and scrubbers) for the months of November 2013 and November 2014.
    a. Nov 2013 and Nov 2014 Collection and maintenance log

And finally the chlorine scrubber improvements and efficiency calculations (word document).

If you have any questions please let me know.

Thank you,

Fred C. Justice
Bay Carbon, Inc.
Phone: (989) 686-8090
Fax: (989) 686-0920

fred.justice@baycarbon.com

From: McCann, Gina (DEQ) [mailto:McCannG2@michigan.gov]
Sent: Wednesday, February 04, 2015 12:37 PM
To: Fred Justice; Mark Loboda
Subject: Re: Records Request, Inspection 1/27/2015

That will work.
Thanks
Gina

From: Fred Justice <fred.justice@baycarbon.com>
Sent: Wednesday, February 4, 2015 12:03:13 PM
To: McCann, Gina (DEQ); Mark Loboda
Subject: RE: Records Request, Inspection 1/27/2015

Hello Gina,

Could you please allow us an extension for the requested documentation by the end of the day on Monday the 9th of February?

I would greatly appreciate it.

Thank you,

Fred C. Justice
Bay Carbon, Inc.
Phone: (989) 686-8090
Fax: (989) 686-0920

fred.justice@baycarbon.com

From: McCann, Gina (DEQ) [mailto:McCannG2@michigan.gov]
Sent: Wednesday, January 28, 2015 10:54 AM
To: Fred Justice; Mark Loboda
Subject: Records Request, Inspection 1/27/2015

Hi Gentlemen,

Thank you for taking the time to meet with me yesterday morning. As discussed here is the records and information that I am requesting as part of the inspection.

7. Daily records for pH level and the liquid flow rate for both scrubbers. Please send the month of November 2013 and the month of November 2014. (PTI 43-06A and PTI 261-07A, VI. 1)
8. Monthly records for the amount of chlorine used for November 2013 and November 2014 and the 12-month rolling time period ending December 2014, for processes in buildings B, C, F and D. (PTI 43-06A, VI. 3)
9. Monthly records for the amount of chlorine used for November 2013 and November 2014 and the 12-month rolling time period ending December 2014, for graphite purification process in building "E" (PTI 261-07A, VI. 2)
10. Monthly records for the amount of dimethyldichlorosilane used for November 2013 and November 2014 and the 12-month rolling time period ending December 2014. (PTI 43-06A, VI. 4)
11. Daily pressure drop across the baghouse records for the months of November 2013 and November 2014. (PTI 43-06A, VI.2)
12. Log of maintenance activities on all control equipment (baghouse and scrubbers) for the months of November 2013 and November 2014.

During the inspection we discussed that the facility had replaced existing scrubbers with more efficient scrubbers and in lieu of permitting this equipment, an exemption is being utilized. The responsibility of using an exemption in lieu of permitting the process equipment falls solely on the facility. Please demonstrate that the replacement scrubbers are indeed either equivalent or more efficient air pollution control equipment than the scrubbers that were removed.

I attached the PTI applications that were sent in 2011, which has information pertaining to the previous scrubbers for comparison.

Please provide the requested information by February 4, 2014. I am open to discuss if more time is needed.

Thanks,

Gina L. McCann
Environmental Quality Analyst
Michigan Department Environmental Quality
Air Quality Division
Saginaw-Bay District Office
989.894.6218
McCannG2@michigan.gov

Thank you,

Fred C. Justice
Bay Carbon, Inc.
Phone: (989) 686-8090
Fax: (989) 686-0920

fred.justice@baycarbon.com

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To: Fred Justice; Mark Loboda
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Thanks,

Gina L. McCann
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Chemical Usage Summary Building C - Monthly

Month	Chlorine (lbs.)	Propelyne Glycol (gal)	Caustic Soda
Aug-13	150	0.00	55.00
Sep-13	150	110.00	55.00
Oct-13	150	0.00	55.00
Nov-13	0	165.00	55.00
Dec-13	300	0.00	55.00
Jan-13	150	0.00	0.00
Feb-13	300	0.00	0.00
Mar-13	0	0.00	55.00
Apr-13	300	0.00	0.00
May-13	0	0.00	0.00
Jun-13	0	0.00	110
Jul-13	150	0.00	55

Totals (lbs./gal)	1650	275.00	495.00
Average (lbs./gal)	138	22.92	41.25

Permit Allows 5,300 lbs of chlorine/rolling yr

BAY CARBON, INC.

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(PH) 989 686-8090
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Chemical Usage Summary Building E

Monthly

Month	Chlorine (lbs.)	Propelyne Glycol (gal)	Caustic Soda
Aug-13	150	0	55
Sep-13	0	0	55.00
Oct-13	0	0	55.00
Nov-13	0	110	0.00
Dec-13	150	0	0.00
Jan-13	0	55	55.00
Feb-13	0	55	55.00
Mar-13	0	0	55.00
Apr-13	0	0	55.00
May-13	0	0	0.00
Jun-13	0	0	0.00
Jul-13	0	0	110

Totals (lbs./gal)	300.00	220.00	495.00
Average (lbs./gal)	25.00	18.33	41.25

Permit Allows 3,000 lbs of Chlorine/rolling yr

BAY CARBON, INC.

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Chemical Usage Summary Building F

Monthly

Chemical Usage Summary Building F Month	Hydrogen Fluoride (gallons)	Dimeth (pounds)	
Aug-13	0.00	0.00	
Sep-13	0.00	0.00	
Oct-13	8.00	0.00	
Nov-13	0.00	0.00	
Dec-13	0.00	475.00	
Jan-13	0.00	0.00	
Feb-13	0.00	0.00	
Mar-13	8.00	0.00	
Apr-13	0.00	0.00	
May-13	0.00	0.00	
Jun-13	0.00	0	
Jul-13	0.00	0	

Totals (lbs./gal)	16.00	475.00
Average (lbs./gal)	1.33	39.58

Permit Allows Total Hf of 25 gal/rolling yr
Permit Allows Total dimeth 3,000 lbs/rolling year

BAY CARBON, INC.

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Bay City, Mi 48706
989-686-8090
FAX 989-686-0920

Chemical Usage Summary Building C - Monthly

Month	Chlorine (lbs.)	Propelyne Glycol (gal)	Caustic Soda
Aug-14	150	0.00	55.00
Sep-14	150	55.00	55.00
Oct-14	150	55.00	55.00
Nov-14	0	110.00	0.00
Dec-14	150	110.00	55.00
Jan-14	150	0.00	0.00
Feb-14	300	55.00	55.00
Mar-14	150	0.00	55.00
Apr-14	150	0.00	55.00
May-14	150	0.00	55.00
Jun-14	0	0.00	55.00
Jul-14	150	0.00	55.00
Totals (lbs./gal)	1650	385.00	550.00
Average (lbs./gal)	138	32.08	45.83

Permit Allows 5,300 lbs of chlorine/rolling yr

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(PH) 989 686-8090
(FAX) 989 686-0920

Chemical Usage Summary Building E

Monthly

Month	Chlorine (lbs.)	Propelyne Glycol (gal)	Caustic Soda
Aug-14	0	0	0
Sep-14	0	0	55.00
Oct-14	300	55	0.00
Nov-14	0	55	0.00
Dec-14	0	110	55.00
Jan-14	0	55	55.00
Feb-14	150	55	0.00
Mar-14	150	0	55.00
Apr-14	0	0	55.00
May-14	150	0	55.00
Jun-14	0	0	0.00
Jul-14	0	0	110
Totals (lbs./gal)	750.00	330.00	440.00
Average (lbs./gal)	62.50	27.50	36.67

Permit Allows 3,000 lbs of Chlorine/rolling yr

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(FAX) 989 686-0920

Chemical Usage Summary Building F

Monthly

Chemical Usage Summary Building F Month	Hydrogen Fluoride (gallons)	Dimeth (pounds)	
Aug-14	0.00	0.00	
Sep-14	0.00	0.00	
Oct-14	0.00	0.00	
Nov-14	0.00	0.00	
Dec-14	12.00	0.00	
Jan-14	0.00	0.00	
Feb-14	0.00	0.00	
Mar-14	0.00	0.00	
Apr-14	0.00	0.00	
May-14	0.00	0.00	
Jun-14	0.00	0.00	
Jul-14	0.00	0.00	

Totals (lbs./gal)	12.00	0.00
Average (lbs./gal)	1.00	0.00

Permit Allows Total Hf of 25 gal/rolling yr
Permit Allows Total dimeth 3,000 lbs/rolling year

Dust Collector Pressure Record Sheet

Week Beginning : 11-4-13

	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Gauge Reading	2.1	2.2	2.1	2.1	2.1		
Employee	RMD	RMD	RMD	RMD	RMD		
Comments	X	X	X	X	X		

Week Beginning : 11-11-13

	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Gauge Reading	2.6	1.1	1.4	1.3	1.4		
Employee	RMD	RMD	RMD	RMD	RMD		
Comments	X	X	X	X	X		

Week Beginning : 11-18-13

	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Gauge Reading	2.1	2.0	2.4	2.7	2.6		
Employee	Mike	Mike	RMD	RMD	RMD		
Comments	X	X	X	X	X		

Week Beginning : 11-25-13

	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Gauge Reading	2.4	2.5	2.6				
Employee	RMD	RMD	RMD				
Comments	X	X	X				

Week Beginning : 12-2-13

	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Gauge Reading	2.5	2.4	2.6	2.5	2.4		
Employee	RMD	RMD	RMD	RMD	RMD		
Comments	X	X	X	X	X		

Dust Collector Pressure Record Sheet

Week Beginning : 10-20-14

	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Gauge Reading	2.5	2.5	2.5	2.4	2.6		
Employee	RMD	RMD	RMD	RMD	RMD		
Comments	X	X	X	X	X		

Week Beginning : 10-27-14

	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Gauge Reading	2.5	2.6	2.5	2.6	2.6		
Employee	RMD	RMD	RMD	RMD	RMD		
Comments	X	X	X	X	X		

Week Beginning : Nov 3, 14

	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Gauge Reading	2.6	2.5	3.2	2.5	2.5		
Employee	RMD	RMD	RMD	RMD	RMD		
Comments	X	X	X	X	X		

Week Beginning : Nov 10, 14

	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Gauge Reading	2.6	2.5	2.4	2.4	2.5		
Employee	RMD	RMD	RMD	RMD	RMD		
Comments	X	X	X	X	X		

Week Beginning : Nov 17, 14

	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Gauge Reading	2.4	2.5	2.4	2.5	2.5		
Employee	RMD	RMD	RMD	RMD	RMD		
Comments	X	X	X	X	X		

week

Dust Collector Pressure Record Sheet

Week Beginning : 11-24-14

	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Gauge Reading	2.6	2.5	2.6				
Employee	RMD	RMD	RMD				
Comments	X	X	X				

Week Beginning : 12-1-14

	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Gauge Reading	2.6	2.6	2.7	2.7	2.6		
Employee	RMD	RMD	RMD	RMD	RMD		
Comments	X	X	X	X	X		

Week Beginning : 12-8-14

	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Gauge Reading	2.6	2.6	2.6	2.6	2.7		
Employee	RMD	RMD	RMD	RMD	RMD		
Comments	X	X	X	X	X		

Week Beginning : 12-15-14

	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Gauge Reading	2.7	2.6	2.6	2.6	2.6		
Employee	RMD	RMD	RMD	RMD	RMD		
Comments	X	X	X	X	X		

Week Beginning : 12-22-14

	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Gauge Reading	2.7	2.6	2.6				
Employee	RMD	RMD	LC				
Comments	X	X	X	HOLIDAY	HOLIDAY		

Dust Collector Maintenance Log

Date	Maintenance Task Completed	Employee
8-22-13	Bag # 2 Changed	Mike
8-27-13	Bag # 3 Changed	Mike
9-5-13	Bag # 1 Changed	Mike
9-18-13	Bag #3 Changed	Mike
9-24-13	Changed Hepa filters / Cleaned Baghouse / greased	Greg
9-25-13	Bag #2 Changed	Mike
10-14-13	Bag #3 Changed	Mike
11-4-13	Bag #2 Changed	Mike
11-8-13	Bag #3 Changed	Earl
11-14-13	Bag #1 Changed	Earl
12-3-13	Bag #3 Changed	Greg
1-6-14	Changed Bag 3+2	Greg
1-28-14	Changed Bags 1, 2, + 3	Mike
2-13-14	Changed Bag # 3	Mike
2-24-14	Changed Bag # 2	Mike
3-3-14	Changed Bag # 3	Mike
3-4-14	Changed Bag # 1	Mike
3-11-14	Changed Bag # 2	Mike
4-1-14	Changed Bag # 3	Mike
4-21-14	Changed Bag # 2	Mike
5-12-14	Changed Bag #1	Earl
6-6-14	Changed Bag #3	Earl
6-16-14	Changed Bag # 2	Earl
7-15-14	Changed Bag # 3.	Earl

Dust Collector Maintenance Log

Date	Maintenance Task Completed	Employee
7/17/14	Changed Bags 2 & 3	Earl
8/7/14	Changed Bag #3	Earl
9/4/14	Changed Bag #2	Earl
9/9/14	Changed Bag #3	Earl
10/2/14	Changed Bag #3	Earl
10/7/14	Changed Bags #1 & 2	Earl
10/27/14	Changed Bag # 3	Earl
11/24/14	Changed Bag # 3	Earl
12/17/14	Changed Bag # 3	Terry
1/8/15	Changed Bag # 2	Terry
1/14/15	Changed Bag # 3	Terry
1/21/15	Changed Bag #1	Terry
2/4/15	Changed Bag #2	Terry

Serial Number: 1207C1012117

Manufacture ID: 0

Device Name: PH_ORP

Device ID: 34

Device Location: pH DIFF

Log Channels: 2

October 21, 2013 - November 20, 2013

TIME	pH
10/21/2013 9:00	9.739296
10/21/2013 10:00	9.497954
10/21/2013 11:00	9.605042
10/21/2013 12:00	9.501682
10/21/2013 13:00	9.456839
10/21/2013 14:00	9.477747
10/21/2013 15:00	9.496819
10/22/2013 8:00	9.495711
10/22/2013 9:00	9.483393
10/22/2013 10:00	9.486467
10/22/2013 11:00	9.48381
10/22/2013 12:00	9.487535
10/22/2013 13:00	9.496933
10/22/2013 14:00	9.498012
10/23/2013 7:00	9.170591
10/23/2013 8:00	9.498179
10/23/2013 9:00	9.501768
10/23/2013 10:00	9.499978
10/23/2013 11:00	9.490054
10/23/2013 12:00	9.487337
10/23/2013 13:00	9.491481
10/23/2013 14:00	9.490267
10/23/2013 15:00	9.482972
10/23/2013 16:00	9.49029
10/23/2013 17:00	9.488429
10/23/2013 18:00	9.496482
10/23/2013 19:00	9.493412

Building C
2/9/15

10/23/2013 20:00	9.495124
10/23/2013 21:00	9.496121
10/23/2013 22:00	9.497413
10/23/2013 23:00	9.326143
10/24/2013 0:00	9.301638
10/24/2013 1:00	9.324965
10/24/2013 2:00	9.353495
10/24/2013 3:00	9.376797
10/24/2013 4:00	9.400125
10/24/2013 5:00	9.423012
10/24/2013 6:00	9.439249
10/24/2013 7:00	9.453639
10/24/2013 8:00	9.604827
10/24/2013 9:00	9.494219
10/24/2013 10:00	9.490032
10/24/2013 11:00	9.492743
10/24/2013 12:00	9.47313
10/24/2013 13:00	9.497678
10/24/2013 14:00	9.498346
10/24/2013 15:00	9.498415
10/28/2013 12:00	9.481502
10/28/2013 13:00	9.479705
10/28/2013 14:00	9.478487
10/28/2013 15:00	9.479251
10/29/2013 8:00	9.497683
10/29/2013 9:00	9.486143
10/29/2013 10:00	9.4849
10/29/2013 11:00	9.484825
10/29/2013 12:00	9.482397
10/30/2013 8:00	9.763205
10/30/2013 9:00	9.495868
10/30/2013 10:00	9.498032
10/30/2013 11:00	9.498834
10/30/2013 12:00	9.494627
10/30/2013 13:00	9.495053
10/30/2013 14:00	9.486772
10/30/2013 15:00	9.484647
10/30/2013 16:00	9.487591
10/30/2013 17:00	8.866381
10/30/2013 18:00	8.746749
10/30/2013 19:00	8.823201
10/30/2013 20:00	8.92039
10/30/2013 21:00	9.014082
10/30/2013 22:00	9.107323
10/30/2013 23:00	9.208759
10/31/2013 0:00	9.309366
10/31/2013 1:00	9.402024

10/31/2013 2:00	9.498433
10/31/2013 3:00	9.594181
10/31/2013 4:00	9.678063
10/31/2013 5:00	9.770768
10/31/2013 6:00	9.864001
10/31/2013 7:00	9.958084
10/31/2013 8:00	10.1315
10/31/2013 9:00	9.973529
10/31/2013 10:00	9.497464
10/31/2013 11:00	9.499641
10/31/2013 12:00	9.471738
10/31/2013 13:00	9.472261
10/31/2013 14:00	9.471468
10/31/2013 15:00	9.470375
11/1/2013 10:00	9.483934
11/1/2013 11:00	9.486441
11/1/2013 12:00	9.4881
11/1/2013 13:00	9.488351
11/4/2013 12:00	9.625453
11/4/2013 13:00	9.496614
11/4/2013 14:00	9.493576
11/4/2013 15:00	9.492198
11/4/2013 16:00	9.48647
11/4/2013 17:00	9.430395
11/4/2013 18:00	8.41905
11/4/2013 19:00	8.130922
11/4/2013 20:00	7.621896
11/4/2013 21:00	6.582453
11/4/2013 22:00	4.326729
11/4/2013 23:00	3.854425
11/5/2013 0:00	2.905975
11/5/2013 1:00	2.450175
11/5/2013 2:00	2.301649
11/5/2013 3:00	2.241183
11/5/2013 4:00	2.22482
11/5/2013 5:00	2.237431
11/5/2013 6:00	2.267288
11/5/2013 7:00	9.417734
11/5/2013 8:00	9.45918
11/5/2013 9:00	9.493547
11/5/2013 10:00	9.473017
11/5/2013 11:00	9.085648
11/5/2013 12:00	9.473652
11/5/2013 13:00	9.48573
11/5/2013 14:00	9.480881
11/5/2013 15:00	9.482533
11/5/2013 16:00	9.482846

11/5/2013 17:00	9.492261
11/5/2013 18:00	9.49221
11/5/2013 19:00	9.496723
11/5/2013 20:00	9.494788
11/5/2013 21:00	9.50041
11/5/2013 22:00	9.59846
11/5/2013 23:00	9.707542
11/6/2013 0:00	9.828735
11/6/2013 1:00	9.949063
11/6/2013 2:00	10.074429
11/6/2013 3:00	10.184356
11/6/2013 4:00	10.293616
11/6/2013 5:00	10.377985
11/6/2013 6:00	10.473811
11/6/2013 7:00	10.509946
11/6/2013 8:00	10.624514
11/6/2013 9:00	10.706746
11/6/2013 10:00	10.782683
11/6/2013 11:00	10.764174
11/6/2013 12:00	10.167414
11/6/2013 13:00	9.48375
11/6/2013 14:00	9.47996
11/6/2013 15:00	9.48159
11/6/2013 16:00	9.485019
11/6/2013 17:00	9.485678
11/6/2013 18:00	9.487215
11/6/2013 19:00	9.486395
11/6/2013 20:00	9.490007
11/6/2013 21:00	9.49383
11/6/2013 22:00	9.487681
11/6/2013 23:00	9.492598
11/7/2013 0:00	9.488872
11/7/2013 1:00	9.491346
11/7/2013 2:00	9.48634
11/7/2013 3:00	9.486166
11/7/2013 4:00	9.487217
11/7/2013 5:00	9.485405
11/7/2013 6:00	9.494594
11/7/2013 7:00	9.491641
11/7/2013 8:00	9.503303
11/7/2013 9:00	9.489555
11/7/2013 10:00	9.489727
11/7/2013 11:00	9.48925
11/7/2013 12:00	9.496084
11/7/2013 13:00	9.491008
11/7/2013 14:00	9.492186
11/7/2013 15:00	9.486038

11/7/2013 16:00	9.495641
11/7/2013 17:00	9.49877
11/7/2013 18:00	9.495639
11/7/2013 19:00	9.509542
11/7/2013 20:00	9.507543
11/7/2013 21:00	9.505439
11/7/2013 22:00	9.523726
11/7/2013 23:00	9.55688
11/8/2013 0:00	9.589383
11/8/2013 1:00	9.604284
11/8/2013 2:00	9.620385
11/8/2013 3:00	9.659026
11/8/2013 4:00	9.678838
11/8/2013 5:00	9.711334
11/8/2013 6:00	9.746792
11/8/2013 7:00	9.786036
11/8/2013 8:00	9.839858
11/8/2013 9:00	9.862035
11/8/2013 10:00	9.770989
11/8/2013 11:00	9.483562
11/8/2013 12:00	9.486738
11/8/2013 13:00	9.481895
11/8/2013 14:00	9.491262
11/11/2013 8:00	9.623802
11/11/2013 9:00	9.495255
11/11/2013 10:00	9.036019
11/11/2013 11:00	9.534691
11/11/2013 12:00	9.496958
11/11/2013 13:00	9.483091
11/11/2013 14:00	9.459645
11/11/2013 15:00	9.468744
11/11/2013 16:00	9.477621
11/11/2013 17:00	9.49044
11/11/2013 18:00	9.483324
11/11/2013 19:00	9.486064
11/11/2013 20:00	9.48526
11/11/2013 21:00	9.488684
11/11/2013 22:00	9.49002
11/11/2013 23:00	9.492369
11/12/2013 0:00	9.490189
11/12/2013 1:00	9.48991
11/12/2013 2:00	9.490485
11/12/2013 3:00	9.49016
11/12/2013 4:00	9.490414
11/12/2013 5:00	9.49131
11/12/2013 6:00	9.495366
11/12/2013 7:00	9.484728

11/12/2013 8:00	9.483532
11/12/2013 9:00	9.478553
11/12/2013 10:00	9.475791
11/12/2013 11:00	9.47554
11/12/2013 12:00	9.484997
11/12/2013 13:00	9.481339
11/12/2013 14:00	9.487232
11/12/2013 15:00	9.491707
11/12/2013 16:00	9.485738
11/12/2013 17:00	9.493563
11/13/2013 7:00	9.491466
11/13/2013 8:00	9.494651
11/13/2013 9:00	9.494329
11/13/2013 10:00	9.494905
11/13/2013 11:00	9.495169
11/13/2013 12:00	9.494791
11/13/2013 13:00	9.481212
11/13/2013 14:00	9.48081
11/13/2013 15:00	9.491383
11/13/2013 16:00	9.488569
11/13/2013 17:00	9.474277
11/13/2013 18:00	9.48058
11/13/2013 19:00	9.485091
11/13/2013 20:00	9.485542
11/13/2013 21:00	9.487164
11/13/2013 22:00	9.485812
11/13/2013 23:00	9.486773
11/14/2013 0:00	9.482007
11/14/2013 1:00	9.480368
11/14/2013 2:00	9.476358
11/14/2013 3:00	9.479849
11/14/2013 4:00	9.476513
11/14/2013 5:00	9.476877
11/14/2013 6:00	9.480771
11/14/2013 7:00	9.480059
11/14/2013 8:00	9.973334
11/14/2013 9:00	9.468684
11/14/2013 10:00	9.471373
11/14/2013 11:00	9.474451
11/14/2013 12:00	9.485593
11/14/2013 13:00	9.487944
11/14/2013 14:00	9.489383
11/15/2013 8:00	9.495459
11/15/2013 9:00	9.481783
11/15/2013 10:00	9.48309
11/15/2013 11:00	9.485211
11/15/2013 12:00	9.484911

11/15/2013 13:00	9.48457
11/18/2013 10:00	8.134197
11/18/2013 11:00	9.483383
11/18/2013 12:00	9.490522
11/18/2013 13:00	9.490673
11/18/2013 14:00	9.492495
11/18/2013 15:00	9.494654
11/19/2013 8:00	9.492244
11/19/2013 9:00	9.49226
11/19/2013 10:00	9.477253
11/19/2013 11:00	9.474435
11/19/2013 12:00	9.480974
11/19/2013 13:00	9.468854
11/19/2013 14:00	9.482201
11/19/2013 15:00	9.478028
11/19/2013 16:00	9.482325
11/19/2013 17:00	9.477821
11/19/2013 18:00	9.48134
11/19/2013 19:00	9.483105
11/19/2013 20:00	9.485438
11/19/2013 21:00	9.487153
11/19/2013 22:00	9.488228
11/19/2013 23:00	9.489467
11/20/2013 0:00	9.492734
11/20/2013 1:00	9.493793
11/20/2013 2:00	9.556596
11/20/2013 3:00	9.948797
11/20/2013 4:00	10.524894
11/20/2013 5:00	11.111747
11/20/2013 6:00	11.836243
11/20/2013 7:00	12.838478
11/20/2013 8:00	14.584945
11/20/2013 9:00	14.488867
11/20/2013 10:00	7.083269
11/20/2013 11:00	11.389708
11/20/2013 12:00	8.815069
11/20/2013 13:00	8.967571
11/20/2013 14:00	9.050959
11/20/2013 15:00	8.54579

Serial Number: 1207C1012117

Manufacture ID: 0

Device Name: PH_ORP

Device ID: 34

Device Location: pH DIFF

Log Channels: 2

November 20, 2013 - December 30, 2013

TIME	pH
11/20/2013 0:00	9.492734
11/20/2013 1:00	9.493793
11/20/2013 2:00	9.556596
11/20/2013 3:00	9.948797
11/20/2013 4:00	10.524894
11/20/2013 5:00	11.111747
11/20/2013 6:00	11.836243
11/20/2013 7:00	12.838478
11/20/2013 8:00	14.584945
11/20/2013 9:00	14.488867
11/20/2013 10:00	7.083269
11/20/2013 11:00	11.389708
11/20/2013 12:00	8.815069
11/20/2013 13:00	8.967571
11/20/2013 14:00	9.050959
11/20/2013 15:00	8.54579
11/21/2013 8:00	9.758882
11/21/2013 9:00	9.632881
11/21/2013 10:00	9.478271
11/21/2013 11:00	9.477821
11/21/2013 11:34	9.479086
11/21/2013 12:00	9.479925
11/21/2013 13:00	9.486576
11/21/2013 14:00	9.483328
11/21/2013 15:00	9.485013
11/22/2013 9:00	9.490545
11/22/2013 10:00	9.493837

Building C + E
~~Not PH for 2013-2014~~

11/22/2013 11:00	9.481154
11/22/2013 12:00	9.47953
11/22/2013 13:00	9.478136
11/25/2013 7:00	9.203671
11/25/2013 8:00	8.855368
11/25/2013 9:00	9.486778
11/25/2013 10:00	9.482119
11/25/2013 11:00	9.47788
11/25/2013 12:00	9.470537
11/25/2013 13:00	9.469277
11/25/2013 14:00	9.471485
11/25/2013 15:00	9.452127
11/25/2013 15:59	9.463716
11/25/2013 16:00	9.463634
11/26/2013 7:00	9.417086
11/26/2013 8:00	9.481858
11/26/2013 9:00	9.463182
11/26/2013 10:00	9.463177
11/26/2013 11:00	9.46979
11/26/2013 12:00	9.471094
11/26/2013 13:00	9.466621
11/26/2013 14:00	9.4788
11/26/2013 15:00	9.474545
11/26/2013 16:00	9.47392
11/26/2013 17:00	9.455969
11/26/2013 18:00	9.45541
11/26/2013 19:00	9.457272
11/26/2013 20:00	9.460058
11/26/2013 21:00	9.462368
11/26/2013 22:00	9.461409
11/26/2013 23:00	9.466685
11/27/2013 0:00	9.465508
11/27/2013 1:00	9.466755
11/27/2013 2:00	9.460775
11/27/2013 3:00	9.460107
11/27/2013 4:00	9.457546
11/27/2013 5:00	9.464758
11/27/2013 6:00	9.46155
11/27/2013 7:00	9.475238
11/27/2013 8:00	9.481164
11/27/2013 9:00	9.485684
11/27/2013 10:00	9.484994
11/27/2013 11:00	9.462734
11/27/2013 12:00	9.46726
11/27/2013 13:00	9.443926
11/27/2013 14:00	9.460823
12/2/2013 8:00	9.486453

12/2/2013 9:00	9.485171
12/2/2013 10:00	9.486318
12/2/2013 11:00	9.471622
12/2/2013 12:00	9.47227
12/2/2013 13:00	9.474348
12/2/2013 14:00	9.473994
12/2/2013 15:00	9.468494
12/3/2013 9:00	9.486105
12/3/2013 10:00	9.472254
12/3/2013 11:00	9.469937
12/3/2013 12:00	9.46796
12/3/2013 13:00	9.469666
12/3/2013 14:00	9.459431
12/3/2013 15:00	9.460464
12/4/2013 10:00	9.484914
12/4/2013 11:00	9.483545
12/4/2013 12:00	9.476257
12/4/2013 13:00	9.476922
12/4/2013 14:00	9.480239
12/4/2013 15:00	9.477396
12/4/2013 16:00	9.47268
12/5/2013 7:00	9.483418
12/5/2013 8:00	9.481111
12/5/2013 9:00	9.478615
12/5/2013 10:00	9.474178
12/5/2013 11:00	9.472731
12/5/2013 12:00	9.472731
12/5/2013 13:00	9.468184
12/5/2013 14:00	9.478077
12/5/2013 15:00	9.475197
12/5/2013 16:00	9.462967
12/5/2013 17:00	9.466608
12/5/2013 18:00	9.466786
12/5/2013 19:00	9.467316
12/5/2013 20:00	9.466955
12/5/2013 21:00	9.466406
12/5/2013 22:00	9.46036
12/5/2013 23:00	9.46144
12/6/2013 0:00	9.463037
12/6/2013 1:00	9.462533
12/6/2013 2:00	9.462906
12/6/2013 3:00	9.460106
12/6/2013 4:00	9.461137
12/6/2013 5:00	9.459206
12/6/2013 6:00	9.457396
12/6/2013 7:00	9.459023
12/6/2013 8:00	9.475578

12/6/2013 9:00	9.464404
12/6/2013 10:00	9.471442
12/6/2013 11:00	9.458569
12/6/2013 12:00	9.463436
12/6/2013 13:00	9.457199
12/9/2013 9:00	9.279752
12/9/2013 10:00	9.194055
12/9/2013 11:00	8.965727
12/9/2013 12:00	15.860717
12/9/2013 13:00	9.474462
12/9/2013 14:00	9.066153
12/9/2013 15:00	8.268922
12/10/2013 7:00	9.480598
12/10/2013 8:00	9.483722
12/10/2013 9:00	9.483023
12/10/2013 10:00	9.460483
12/10/2013 11:00	9.456511
12/10/2013 12:00	9.45627
12/10/2013 13:00	9.446491
12/10/2013 14:00	9.451612
12/10/2013 15:00	9.467091
12/10/2013 16:00	9.466673
12/10/2013 17:00	9.472831
12/11/2013 7:00	9.482155
12/11/2013 8:00	9.483644
12/11/2013 9:00	9.464724
12/11/2013 10:00	9.452635
12/11/2013 11:00	9.45768
12/11/2013 12:00	9.459017
12/11/2013 13:00	9.454117
12/11/2013 14:00	9.436143
12/11/2013 15:00	9.47231
12/12/2013 7:00	9.482191
12/12/2013 8:00	9.482159
12/12/2013 9:00	9.482952
12/12/2013 10:00	9.483862
12/12/2013 11:00	9.472627
12/12/2013 12:00	9.456686
12/12/2013 13:00	9.468292
12/12/2013 14:00	9.474807
12/12/2013 15:00	9.483021
12/12/2013 16:00	9.462608
12/12/2013 17:00	9.468098
12/12/2013 18:00	9.475182
12/12/2013 19:00	9.473
12/12/2013 20:00	9.476006
12/12/2013 21:00	9.479367

12/12/2013 22:00	9.481339
12/12/2013 23:00	9.48278
12/13/2013 0:00	9.483666
12/13/2013 1:00	9.484925
12/13/2013 2:00	9.486856
12/13/2013 3:00	9.488154
12/13/2013 4:00	9.489197
12/13/2013 5:00	9.490231
12/13/2013 6:00	9.491383
12/13/2013 7:00	9.487965
12/13/2013 8:00	9.491377
12/13/2013 9:00	9.452667
12/13/2013 10:00	9.449373
12/13/2013 11:00	9.465051
12/13/2013 12:00	9.483226
12/13/2013 13:00	9.480403
12/13/2013 14:00	9.480069
12/16/2013 7:00	9.289494
12/16/2013 8:00	9.488037
12/16/2013 9:00	9.491365
12/16/2013 10:00	9.471048
12/16/2013 11:00	9.473741
12/16/2013 12:00	9.471473
12/16/2013 13:00	9.454758
12/16/2013 14:00	9.456835
12/16/2013 15:00	9.478892
12/17/2013 8:00	8.831338
12/17/2013 9:00	8.969454
12/17/2013 10:00	9.166464
12/17/2013 11:00	8.770372
12/17/2013 12:00	8.153554
12/17/2013 13:00	9.485161
12/17/2013 14:00	9.464292
12/17/2013 15:00	9.482975
12/18/2013 10:00	9.492005
12/18/2013 11:00	9.492435
12/18/2013 12:00	9.491462
12/18/2013 13:00	9.494104
12/18/2013 14:00	9.492659
12/18/2013 15:00	9.487669
12/18/2013 16:00	9.485903
12/19/2013 7:00	9.486274
12/19/2013 8:00	9.491284
12/19/2013 9:00	9.488873
12/19/2013 10:00	9.478419
12/19/2013 11:00	9.466146
12/19/2013 12:00	9.468157

12/19/2013 13:00	9.461335
12/19/2013 14:00	9.479574
12/19/2013 15:00	9.477818
12/20/2013 8:00	9.489646
12/20/2013 9:00	9.442491
12/20/2013 10:00	9.452478
12/20/2013 11:00	9.4423
12/20/2013 12:00	9.443434
12/20/2013 13:00	9.464344
12/20/2013 14:00	9.469015
12/20/2013 15:00	9.465383
12/23/2013 10:00	9.485423
12/23/2013 11:00	9.456305
12/23/2013 12:00	9.45599
12/23/2013 13:00	9.45488
12/23/2013 14:00	9.479095
12/24/2013 7:00	9.489673
12/24/2013 8:00	9.492081
12/24/2013 9:00	9.489497
12/24/2013 10:00	9.463045
12/24/2013 11:00	9.460232
12/30/2013 9:00	9.592525
12/30/2013 10:00	9.489857

Scrubber Water Intake Meter Log Sheet

The intake water meter on the Scrubber must be recorded one time per business day.

No.	Date	Time	Meter reading
1	[illegible]	[illegible]	76875
2	8/21/14	10:00	77113
3	[illegible]	[illegible]	77875
4	[redacted]		
5	[illegible]	[illegible]:00	79980
6	[illegible]	2:00	80391
7	8/27/14	9:00	82014
8	8/28/14	9:00	82482
9	8/29	9:00	83981
10	9/2	8:00	87169
11	9/3	9:00	91115
12	9/4	9:00	92534
13	9/5	9:00	93615
14	9/8	9:00	94238
15	9/9	9:00	95899
16	9/10	10:00	97201
17	9/11	8:00	98662
18	9/15	7:00 PM	104786
19	9/16	8:00	106644
20	9-17	9:00	109103
21	9-18	9:00	111562
22	9-19	7:00	114021
23	9-22	8:00	116480
24	9-23	8:00	117689
25	9-24	8:00	119541
26	9-25	8:00	120557
27	9-26	9:00 AM	121390
28	9-29	9 AM	122413
29	9-30	9 AM	123469
30	10-1	12:00	124115

No.	Date	Time	Meter reading
31	10-2	9:00	125094
32	10-3	9:00	125989
33	10-6	9:00	"
34	10-7	9:00	"
35	10-8	9:00	"
36	10-9	9:00	126658
37	10-10	12:00	127581
38	10-13	9:00	127991
39	10-14	10:00	128556
40	10-15	9:00	129891
41	10-16	9:00	131131
42	10-17	9:00	132226
43	10-20	10:00	133287
44	10-21	10:00	134523
45	10-22	10:00	136014
46	10-23	10:00	137228
47	10-24	10:00	138168
48	10-27	11:00	140565
49	10-28	10:00	141386
50	10-29	10:00	142483
51	10-30	10:00	143965
52	10-31	9:00	145,089
53	11-3	9:00	147,633
54	11-4	9:00	148,774
55	11-5	9:00	149,826
56	11-6	9:00	150,187
57	11-7	9:00	151,893
58	11-10	9:00	152,481
59	11-11	9:00	153,001
60	11-12	7:00	153,655

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12/23/13

Scrubber Water Intake Meter Log Sheet

FEB 09 2015

SAGINAW BAY

The intake water meter on the Scrubber must be recorded one time per busi

No.	Date	Time	Meter reading
1	9/23/13	[illegible]	[illegible]
2	9/24/13	2:48PM	1205.2
3	10/1/13	7:00 AM	1474.1
4	10/2/13	12:45	1608.8
5	10/4/13	8:32	2202.2
6	10/7/13	:45	2771
7	[illegible]	2:30	[illegible]
8	10/16/13	2:00	3293.6
9	10/17/13	8:00	3257.2
10	10/23/13	12:44 PM	3716.8
11	10/28/13	9:40AM	3939.0
12	10/31/13	8:45	4048.0
13	10/29/13	8:40	4198.0
14	11/2/13	2:30	4362.8
15	11/4/13	2:45PM	4871.9
16	11/7/13	12:30PM	5518.8
17	11/8/13	11:21AM	5723.3
18	11/11/13	2:45PM	5972.2
19	11/12/13	4:50PM	5973.6
20	11/18/13	2:00PM	6086.3
21	11/19/13	7:00AM	6101.8
22	11/26/13	9:30 AM	6777.4
23	[illegible]	[illegible]	[illegible]
24	12/4/13	10:00	7376
25	12/6/13	11:05	7765.5
26	12/18/13	10:40AM	7882.6
27	12/19/13	7:00	7887.6
28	12/20/13	8:40	798.4
29	12/23/13	9:18AM	804.4
30			

No.	Date	Time	
31			
32			
33			
34			
35			
36			
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42			
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46			
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DEQ-AQD

FEB 09 2015

SAGINAW BAY

Scrubber Preventative Maintenance Log Sheet

The inspector is to fill out the Name, Date, and Time for each preventative maintenance event.

Check Event Completed

Name/ Initials	Date	Time	Alarm Check	pH Probe Clean	SD Card Download	Quarterly Maint.
TA	8/20	[illegible]	✓			
TA	8/21	10:00	✓			
TA	8/22	8:00	✓			
TA	8/25	9:00	✓			
TA	8/26	2:00	✓			
TA	8/27	9:00	✓			
TA	8/28	8:00	✓			
TA	8/29	9:00	✓			
TA	9/2	9:00	✓		✓	
TA	9/3	9:00	✓			
TA	9/4	9:00	✓			
TA	9/5	9:00	✓			
TA	9/8	9:00	✓			
TA	9/9	9:00	✓			
TA	9/10	10:00	✓			
TA	9/11	8:00	✓	✓		✓
RR	9-15	7:00am	✓			
TA	9-16	8:00	✓			
TA	9-17	9:00	✓			
TA	9-18	9:00	✓			
TA	9-19	7:00	✓			
TA	9-22	8:00	✓			
TA	9-23	8:00	✓			
TA	9-24	8:00	✓			
TA	9-25	8:00	✓			
TA	9-26	9:00	✓			
TA	9-29	9:00	✓			
TA	9-30	9:00	✓			
TA	10-1	10:00	✓		✓	

Check Event Completed

Name/ Initials	Date	Time	Alarm Check	pH Probe Clean	SD Card Download	Quarterly Maint.
TA	10-2	9:00	✓			
TA	10-3	9:00	✓			
TA	10-6	9:00	✓			
TA	10-7	9:00	✓			
TA	10-8	9:00	✓			
TA	10-9	9:00	✓			
TA	10-10	10:00	✓			
TA	10-13	9:00	✓			
TA	10-14	10:00	✓			
TA	10-15	9:00	✓			
TA	10-16	9:00	✓			
TA	10-17	9:00	✓			
TA	10-20	10:00	✓			
TA	10-21	10:00	✓			
TA	10-22	10:00	✓			
TA	10-23	10:00	✓			
TA	10-24	10:00	✓			
TA	10-27	11:00	✓			
TA	10-28	10:00	✓			
TA	10-29	10:00	✓			
TA	10-30	10:00	✓			
TA	10-31	9:00	✓			
TA	11-3	9:00	✓		✓	
TA	11-4	9:00	✓			
TA	11-5	9:00	✓			
TA	[illegible]	[illegible]	✓			
TA	[illegible]	[illegible]	✓			
TA	11-10	9:00	✓			
TA	11-11	9:00	✓			
TA	11-12	9:00	✓			

12/23/13

Scrubber Preventative Maintenance Log Sheet

Inspector is to fill out the Name, Date, and Time for each preventative maintenance event.

Name/ Initials	Date	Time	Check Event Completed: Alarm Check	pH Probe Clean	SD Card D/load	Quarterly Main
	7/[illegible]/13	11:44	✓			
	9/24/13	2:48PM	✓			
	10/1/13	7:[illegible]AM	✓			
	10/21/13	2:45	✓			
	10/4/13	8:[illegible]	✓			
	10/7/13	1:45	✓			
	10/16/13	2:00PM	✓			
	10/17/13	8:00	✓			
	10/22/13	12:43	✓			
RR	10/25/13	7:[illegible]AM	✓			
	10/24/13	8:45AM	✓			
	10/29/13	8:40	✓			
	10/31/13	2:30PM	✓			
	11/4/13	2:45PM	✓			
	11/5/13	12:20PM	✓			
	11/8/13	11:11AM	✓			
	11/11/13	2:53PM	✓			
	11/12/13	4:50PM	✓			
	11/18/13	2:08PM	✓			
	11/19/13	7:00AM	✓			
RR	11/26/13	9:30AM	✓			
	12/2/13	7:30	✓			
	12/4/13	11:00	✓			
	12/9/13	10:40AM	✓			
RR	12/19/13	7:00	✓			
	12/20/13	9:18AM	✓			

Name/ Initials	Date	Time	Check Event Completed: Alarm Check	pH Probe Clean	SD Card D/load	Quarterly Main

RECEIVED

FEB 09 2015

SACRAMENTO

Building E

Serial Number: 1106C1005325

Manufacture ID: 0

Device Name: PH_ORP

Device ID: 34

Device Location: pH DIFF

Log Channels: 2

November 20, 2013 - December 30, 2013

TIME	pH
11/1/2013 0:00	9.495361
11/1/2013 1:00	9.495595
11/1/2013 2:00	9.495644
11/1/2013 3:00	9.493851
11/1/2013 4:00	9.495912
11/1/2013 5:00	9.4956
11/1/2013 6:00	9.494843
11/1/2013 7:00	9.495886
11/1/2013 8:00	9.494946
12/2/2013 13:00	8.926949
12/2/2013 14:00	9.034822
12/2/2013 15:00	8.937662
12/2/2013 16:00	8.344629
12/2/2013 17:00	8.211575
12/2/2013 18:00	8.189911
12/2/2013 19:00	8.211988
12/2/2013 20:00	8.253088
12/2/2013 21:00	8.305573
12/2/2013 22:00	8.398499
12/2/2013 23:00	8.538158
12/3/2013 0:00	8.617572
12/3/2013 1:00	8.665967
12/3/2013 2:00	8.696557
12/3/2013 3:00	8.718059

Building E
2/9/15

12/3/2013 4:00	8.735327
12/3/2013 5:00	8.748616
12/3/2013 6:00	8.761791
12/3/2013 7:00	8.768534
12/3/2013 8:00	8.79321
12/3/2013 9:00	8.663181
12/3/2013 10:00	8.547548
12/3/2013 11:00	8.435339
12/3/2013 12:00	8.07106
12/3/2013 13:00	7.680454
12/3/2013 14:00	6.54918
12/3/2013 15:00	9.528611
12/3/2013 16:00	9.486013
12/3/2013 17:00	9.492304
12/3/2013 18:00	9.493991
12/3/2013 19:00	9.497463
12/3/2013 20:00	9.497227
12/3/2013 21:00	9.498378
12/3/2013 22:00	9.496912
12/3/2013 23:00	9.497139
12/4/2013 0:00	9.496528
12/4/2013 1:00	9.50055
12/4/2013 2:00	9.495585
12/4/2013 3:00	9.495879
12/4/2013 4:00	9.496808
12/4/2013 5:00	9.498167
12/4/2013 6:00	9.496369
12/4/2013 7:00	9.496363
12/4/2013 8:00	9.498651
12/4/2013 9:00	9.496648
12/4/2013 10:00	9.49382
12/4/2013 11:00	9.484901
12/4/2013 12:00	9.488478
12/4/2013 13:00	9.477539
12/4/2013 14:00	9.498859
12/4/2013 15:00	9.505379
12/4/2013 16:00	9.486864
12/4/2013 17:00	9.473347
12/4/2013 18:00	9.493123
12/4/2013 19:00	9.49252
12/4/2013 20:00	9.492302
12/4/2013 21:00	9.496667
12/4/2013 22:00	9.497103
12/4/2013 23:00	9.495949
12/5/2013 0:00	9.496011
12/5/2013 1:00	9.496464
12/5/2013 2:00	9.498545

12/5/2013 3:00	9.495398
12/5/2013 4:00	9.498039
12/5/2013 5:00	9.496357
12/5/2013 6:00	9.499884
12/5/2013 7:00	9.495428
12/5/2013 8:00	9.495797
12/5/2013 14:00	9.365762
12/10/2013 10:56	7.380374
12/10/2013 11:00	6.139447
12/16/2013 10:00	9.492226
12/16/2013 11:00	9.486994
12/16/2013 12:00	9.496396
12/16/2013 13:00	9.493111
12/16/2013 14:00	9.486158
12/16/2013 15:00	9.492584
12/16/2013 16:00	9.487547
12/16/2013 17:00	9.489479
12/16/2013 18:00	9.491582
12/16/2013 19:00	9.492272
12/16/2013 20:00	9.49268
12/16/2013 21:00	9.494879
12/16/2013 22:00	9.498368
12/16/2013 23:00	9.498982
12/17/2013 0:00	9.496099
12/17/2013 1:00	9.498393
12/17/2013 2:00	9.495623
12/17/2013 3:00	9.498981
12/17/2013 4:00	9.497084
12/17/2013 5:00	9.4975
12/17/2013 6:00	9.495945
12/17/2013 7:00	9.497756
12/17/2013 8:00	9.496593
12/17/2013 9:00	9.496308
12/17/2013 10:00	9.497022
12/17/2013 11:00	9.499592
12/17/2013 12:00	9.496191
12/17/2013 13:00	9.493671
12/17/2013 14:00	9.490688
12/17/2013 15:00	9.480148
12/19/2013 8:00	9.492987
12/19/2013 9:00	9.484569
12/19/2013 10:00	9.489235
12/19/2013 11:00	9.489953
12/19/2013 12:00	9.480076
12/19/2013 13:00	9.484206
12/19/2013 14:00	9.484659
12/19/2013 15:00	9.485016

12/19/2013 16:00	9.481242
12/19/2013 17:00	9.487885
12/19/2013 18:00	9.487793
12/19/2013 19:00	9.488713
12/19/2013 20:00	9.49001
12/19/2013 21:00	9.489856
12/19/2013 22:00	9.490596
12/19/2013 23:00	9.49239
12/20/2013 0:00	9.491556
12/20/2013 1:00	9.491093
12/20/2013 2:00	9.491379
12/20/2013 3:00	9.493038
12/20/2013 4:00	9.492601
12/20/2013 5:00	9.492894
12/20/2013 6:00	9.491891
12/20/2013 7:00	9.493979
12/20/2013 8:00	9.491219
12/20/2013 9:00	9.494244
12/20/2013 10:00	9.492393
12/20/2013 11:00	9.491148
12/20/2013 12:00	9.49078
12/20/2013 13:00	9.489147
12/20/2013 14:00	9.484804
12/20/2013 15:00	9.485906
12/23/2013 7:00	9.275588
12/23/2013 8:00	9.518603
12/23/2013 9:00	9.507025
12/23/2013 10:00	9.496769
12/23/2013 11:00	9.499656
12/23/2013 12:00	9.489706
12/23/2013 13:00	9.484297
12/23/2013 14:00	9.483426
12/23/2013 15:00	9.486543
12/23/2013 16:00	9.487728
12/23/2013 17:00	9.489886
12/23/2013 18:00	9.494184
12/23/2013 19:00	9.495886
12/23/2013 20:00	9.496685
12/23/2013 21:00	9.497381
12/23/2013 22:00	9.497051
12/23/2013 23:00	9.496971
12/24/2013 0:00	9.495808
12/24/2013 1:00	9.496049
12/24/2013 2:00	9.496899
12/24/2013 3:00	9.495526
12/24/2013 4:00	9.495771
12/24/2013 5:00	9.495065

12/24/2013 6:00	9.497503
12/24/2013 7:00	9.500084
12/24/2013 8:00	9.496647
12/24/2013 9:00	9.495875
12/24/2013 10:00	9.491383
12/24/2013 11:00	9.491118
12/24/2013 12:00	9.488163
12/24/2013 13:00	9.495207
12/24/2013 14:00	9.497181
12/24/2013 15:00	9.494167

8-20-14 to 11-11-14 JM

Scrubber Preventative Maintenance Log Sheet

The inspector is to fill out the Name, Date, and Time for each preventative maintenance event.

Name/ Initials	Date	Time	Check Event Completed: Alarm Check	pH Probe Clean	SD Card D/load	Quarterly Main.
TA	8/20	3:00	✓			
TA	8/21	10:00	✓			
TA	8/22	10:00	✓			
TA	8/25	9:00	✓			
TA	8/26	9:00	✓			
TA	8/27	9:00	✓			
TA	8/28	9:00	✓			
TA	8/29	2:00PM	✓			
TA	9/2	8:00	✓		✓	
TA	9/3	8:00	✓			
TA	9/4	8:00	✓			
TA	9/5	8:00	✓			
TA	9/8	8:00	✓	✓		J
TA	9/9	8:00	✓			
TA	9/10	8:00	✓			
TA	9/11	8:00	✓			
TA	9/12	10:00	✓			
TA	9/15	9:00	✓			
TA	9/16	9:00	✓			
TA	9/17	9:00	✓			
TA	9/18	9:00	✓			
TA	9/19	10:00	✓	✓		✓
TA	9/22	9:00	✓			
TA	9/23	9:00	✓			
TA	9/24	9:00	✓			
TA	9/25	9:00	✓			
TA	9/26	9:00	✓			
TA	9/29	9:00	✓			
TA	9/30	9:00	✓			
TA	10/1	10:30	✓			

Name/ Initials	Date	Time	Check Event Completed: Alarm Check	pH Probe Clean	SD Card D/load	Quarterly Main.
TA	10-2	9:00	✓			
TA	10-3	9:00	✓		✓	
TA	10-6	9:00	✓			
TA	10-7	9:00	✓			
TA	10-8	9:00	✓			
TA	10-9	9:00	✓	✓		✓
TA	10-10	10:00	✓			
TA	10-13	9:00	✓			
TA	10-14	9:00	✓			
TA	10-15	10:00	✓			
TA	10-16	9:00	✓			
TA	10-17	9:30	✓			
TA	10-20	9:00	✓			
TA	10-21	11:00	✓			
TA	10-22	10:00	✓			
TA	10-23	10:00	✓			
TA	10-24	10:00	✓			
TA	10-27	10:00	✓			
TA	10-28	10:00	✓			
TA	10-29	10:00	✓			
TA	10-30	10:00	✓			
TA	10-31	10:00	✓			
TA	11-3	10:00	✓			
TA	11-4	10:00	✓			
TA	11-5	10:00	✓			
TA	11-6	10:00	✓			
TA	11-7	10:00	✓			
TA	11-10	10:00	✓			
TA	11-11	10:00	✓			

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Scrubber Water Intake Meter Log Sheet

The intake water meter on the Scrubber must be recorded one time per business day.

No.	Date	Time	Meter reading
1	8/20/14	2:00	238,111
2	8/21/14	10:00	238,296
3	8/22/14	10:00	240,131
4	8/25/14	9:00	"
5	8/26/14	9:00	"
6	8/27/14	9:00	"
7	8/28/14	9:00	"
8	8/29/14	2:00pm	243231
9	9/2/14	8:00am	248735
10	9/3/14	"	"
11	9/9/14	"	"
12	9/5/14	"	"
13	9/8/14	8:00am	248874
14	9-9	8:00am	249300
15	9-10	8:00	"
16	9-11	8:00	"
17	9-12	10:00	"
18	9-15	9:00	"
19	9-16	9:00	"
20	9-17	9:00	"
21	9-18	9:00	"
22	9-19	10:00	"
23	9-22	9:00	250900
24	9-23	9:00	551 782
25	9-24	9:00	252800
26	9-25	9:00	"
27	9-26	9:00	"
28	9-29	9:00	253852
29	9-30	9:00	254956
30	10-1	10:00	255824

No.	Date	Time	Meter reading
31	10-2	9:00	256871
32	10-3	9:00	"
33	10-6	9:00	"
34	10-7	9:00	"
35	10-8	9:00	257,016
36	10-9	9:00	257,435
37	10-10	10:00	"
38	10-13	9:00	258,541
39	10-14	9:00	"
40	10-15	10:00	259,346
41	10-16	9:00	"
42	10-17	9:00	"
43	10-20	9:00	"
44	10-21	11:00am	262034
45	10-22	10:00	263639
46	10-23	"	"
47	10-24	"	264248
48	10-25	"	265350
49	10-27	"	"
50	10-28	"	"
51	10-29	"	"
52	10-30	"	"
53	10-31	"	"
54	11-3	"	"
55	11-4	"	"
56	11-5	"	"
57	11-6	"	"
58	11-7	"	"
59	11-10	"	"
60	11-11	"	"

11-14-14 to 2/9/15 JM

E Scrubber Preventative Maintenance Log Sheet

The inspector is to fill out the Name, Date, and Time for each preventative maintenance event.

Name/ Initials	Date	Time	Check Event Completed: [illegible]	[illegible]	[illegible]	[illegible]
JA	11-14	9:00	✓	✓		
JA	11-17	9:00	✓			
JA	11-18	9:00	✓			
JA	11-19	9:00	✓			
JA	11-20	9:00	✓			
JA	11-21	9:00	✓			
TA	11-24	9:00	✓			
JA	11-25	9:00	✓			
JA	11-26	9:00	✓			
JA	12-1	9:00	✓			
JA	12-2	9:00	✓			
JA	12-3	9:00	✓			
JA	12-4	9:00	✓		✓	
JA	12-5	9:00	✓			
JA	12-8	9:00	✓			
JA	12-9	9:00	✓			
JA	12-10	9:00	✓			
JA	12-11	9:00	✓			
JA	12-12	9:00	✓			✓
JA	12-15	9:00	✓			
JA	12-16	9:00	✓			
JA	12-17	9:00	✓			
JA	12-18	9:00	✓			
JA	12-19	9:00	✓			
RR	12-22	9:00	✓			
RR	12-23	9:00				
RR	12-26	9:00	✓			
RR	12-29	9:00	✓			
RR	12-30	9:00	✓	✓		
RR	12-31	9:00	✓			

Name/ Initials	Date	Time	Check Event Completed: [illegible]	[illegible]	[illegible]	[illegible]
RR	1-5	9:00	✓		✓	
RR	1-6	9:00	✓			
RR	1-7	9:00	✓			
RR	1-8	9:00	✓			
RR	1-9	9:00	✓			
RR	1-12	9:00	✓			
RR	1-13	9:00	✓			
RR	1-14	9:00	✓			
RR	1-15	9:00	✓			
RR	1-16	9:00	✓			
RR	1-19	9:00	✓			
RR	1-20	9:00	✓			
RR	1-21	9:00	✓			
RR	1-22	9:00	✓			
RR	2-9	10:00	✓		✓	

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Scrubber Water Intake Meter Log Sheet

The intake water meter on the Scrubber must be recorded one time per business day.

No.	Date	Time	Meter reading
1	11-14	9:00	
2	11-17	9:00	
3	11-18	9:00	
4	11-19	9:00	
5	11-20	9:00	
6	11-21	9:00	
7	11-24	9:00	
8	11-25	9:00	
9	11-26	9:00	
10	12-1	9:00	271143
11	12-2	9:00	278143
12	12-3	9:00	284561
13	12-4	9:00	289815
14	12-5	9:00	290312
15	12-8	9:00	293108
16	12-9	9:00	293901
17	12-10	9:00	294543
18	12-11	9:00	295412
19	12-12	9:00	295911
20	12-15	9:00	297139
21	12-16	9:00	298124
22	12-17	9:00	89116
23	12-18	9:00	90134
24	12-19	9:00	291115
25	12-22	12:00	293101
26	12-23	12:00	295052
27	12-24	12:00	297914
28	12-29	12:00	298151
29	12-30	12:00	299555
30	1-5	12:00	302151

No.	Date	Time	Meter reading
31	1-6	12:00	305123
32	1-7	12:00	307541
33	1-8	12:00	308111
34	1-9	12:00	309999
35	1-12	12:00	313101
36	1-13	12:00	314001
37	1-14	12:00	314952
38	1-15	12:00	315115
39	1-16	12:00	315714
40	1-19	12:00	316001
41	1-20	12:00	316591
42	1-21	12:00	317011
43	1-22	12:00	317412
44	1-23	12:00	317809
45			
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12/23/13

Scrubber Water Intake Meter Log Sheet

The intake water meter on the Scrubber must be recorded one time per business day.

No.	Date	Time	Meter reading	No.	Date	Time	Meter reading
1	9/16/13	2:34 PM	11883.5	31			
2	[illegible]	7:20 AM	0012347.6	32			
3	9/30/13	7:30 AM	13421.1	33			
4	10/1/13	1:30 pm	13585.5	34			
5	10/2/13	12:45	13693.4	35			
6	10/3/13	7:00	13911.8	36			
7	10/11/13	3:05 PM	14252.6	37			
8	10/14/13	7:20 AM	14313.2	38			
9	10/15/13	1:00 PM	14717.6	39			
10	10/23/13	7:25 AM	14866.1	40			
11	10/24/13	9:07	15048.0	41			
12	10/29/13	12:00	15090.1	42			
13	10/30/13	2:42	15302.3	43			
14	[illegible]	2:20 pm	[illegible].9	44			
15	12/19/13	7:30 AM	2[illegible]208	45			
16	12/20/13	8:00 AM	21475.2	46			
17	12/23/13	7:00	21645.0	47			
18				48			
19				49			
20				50			
21				51			
22				52			
23				53			
24				54			
25				55			
26				56			
27				57			
28				58			
29				59			
30				60			

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12/23/13

Scrubber Water Intake Meter Log Sheet

The intake water meter on the Scrubber must be recorded one time per business day.

No.	Date	Time	Meter reading	No.	Date	Time	Meter reading
1	9/16/13	2:54PM	11743.5	31			
2	9/17/13	7:22AM	11812.6	32			
3	9/30/13	7:30AM	13421.1	33			
4	10/1/13	1:30PM	13585.5	34			
5	10/2/13	12:45	13693.4	35			
6	10/3/13	7:00	13911.8	36			
7	10/14/13	3:05PM	14252.6	37			
8	10/14/13	7:20AM	14313.2	38			
9	10/15/13	1:00PM	14717.6	39			
10	10/16/13	7:20AM	14860.1	40			
11	10/24/13	9:07	15048.0	41			
12	10/29/13	12:20	15090.1	42			
13	10/30/13	2:42	15302.3	43			
14	11/1/13	7:20AM	15390.9	44			
15	12/18/13	7:30AM	20628	45			
16	12/20/13	8:00AM	21475.2	46			
17	12/23/13	7:00	21645.0	47			
18				48			
19				49			
20				50			
21				51			
22				52			
23				53			
24				54			
25				55			
26				56			
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