## Environmental Protection

## Emily Lloyd

Commissioner

John G. Petito, P.E.
Acting
Deputy Commissioner
Bureau of Wastewater Treatment
96-05 Horace Harding
Expressway - $2^{\text {nd }}$ Floor
Corona, NY 11368
Tel. (718) 595-5046
Fax (718) 595-6950

January 29, 2016

## Tom Gentile

Bureau of Air Quality Analysis and Research
Division of Air Resources
NYSDEC
625 Broadway
Albany, NY 12233
Margaret Kalis
Bureau of Stationary Sources
Division of Air Resources
NYSDEC
625 Broadway
Albany, NY 12233
Re: North River Wastewater Treatment Plant Order on Consent DEC Case Nos.: R2-20010713-146 and R2-3669-91-05
First Formaldehyde Monitoring Report for the Fourth Quarter of 2015

Dear Mr. Gentile and Ms. Valis:
The New York City Department of Environmental Protection ("DEP") is submitting to the New York State Department of Environmental Conservation's ("DEC") the North River Wastewater Treatment Plant ("WWTP") First Quarterly Formaldehyde Monitoring Report for the Fourth Quarter of 2015 (the "Report"). The Report is submitted pursuant to Section III.C of the above referenced North River WTP Order on Consent (the "Order"), dated July 31, 2012.

This First Report includes the laboratory certification and results of the formaldehyde monitoring performed from September through December of 2015 in accordance with the DEP Formaldehyde Monitoring Plan, approved by DEC on May 26, 2015. Most of the results contained in this Report had previously been shared with DEC.

If you have any questions or require any additional information please feel free to contact Leslie Lipton, Chief of Division of Pollution Control and Monitoring at (718) 595-4730.


Cc: Venetia Lannon, Regional Director, NYSDEC Region II Samuel Lieblich, Air Pollution Control Engineer, NYSDEC Region II Thomas John, Environmental Engineer, NYSDEC Region II Robert Bolt, Environmental Engineer, NYSDEC Region II Paresh Shah, Environmental Engineer, NYSDEC Region II Karen Mintzer, Regional Attorney, NYSDEC Region II

John Rousakis, Robin Levine, Marcella Eckels, Christy Bitet (BLA) Vincent Sapienza (BEDC)
Diane Hammerman, Arthur Spangel, Leslie Lipton, Wayne Kuang, Ming Shen, Jiye Zhang(BWT)
Keith Cataldo, Courney Anderson (BWT NR WWTP)
Gail Saunders, Senior Counsel, NYC Law Department

## North River Wastewater Treatment Plant

## Quarterly Formaldehyde Monitoring Report for Fourth Quarter of 2015

Submitted by:
New York City Department of Environmental Protection
96-05 Horace Harding Expressway, $2^{\text {nd }}$ floor
Corona, New York 11368

Prepared by:
The Louis Berger Group, Inc. 48 Wall Street $16^{\text {th }}$ Floor
New York, NY 10005

On Behalf of:
New York City Department of Environmental Protection

January 26, 2016
$4^{\text {th }}$ Quarter 2015
Project No. 3000524.00

## Contents

SECTION 1 INTRODUCTION ..... 3
SECTION 2 LOCATION ..... 3
SECTION 3 TEST METHODS ..... 3
SECTION 4 RESULTS ..... 3
4.1 MET Tower Data ..... 3
4.2 Electronic Data ..... 3
LIST OF APPENDICES ..... 4

## SECTION 1 INTRODUCTION

Pursuant to Section III.A.(ii) of the 2012 Administrative Order on Consent (Order), R2 20010713 146, between the New York City Department of Environmental Protection (DEP) and the New York State Department of Environmental Conservation (DEC), DEP conducted a dispersion modeling analysis for the North River Wastewater Treatment Plant (WWTP) to evaluate potential offsite impacts of emissions from the WWTP. Based upon the results of that analysis and pursuant to the Order, DEP submitted a Standard Operating Procedure (SOP) to the DEC for review and approval. The SOP was approved by DEC in May 2015.

This Standard Operation Procedure (SOP) document presents SOPs for conducting one year of formaldehyde monitoring every six (6) days at the existing North River $\mathrm{H}_{2} \mathrm{~S}$ Air Quality Monitoring Network's Station 5 within the Riverbank State Park on the roof of the WWTP.

This quarterly monitoring report presents laboratory results with respect to formaldehyde monitoring from September 25, 2015 through December 31, 2015.

## SECTION 2 LOCATION

The formaldehyde monitoring location is at the existing DEC approved North River WWTP $\mathrm{H}_{2} \mathrm{~S}$ Air Quality Monitoring Network's Station 5. Ambient air samples are collected for formaldehyde monitoring once every 6 days, for two consecutive 12 -hour periods at this location. The samples were analyzed by Eurofins Air Toxics, Inc. laboratory located in Folsom, CA and their accreditation is presented in Appendix D.

## SECTION 3 TEST METHODS

EPA Method TO-11A is a method for the determination of formaldehyde in ambient air utilizing a coated-solid adsorbent followed by high performance liquid chromatographic detection. Method TO-11A has the sensitivity needed to reach health-based detection limits ( $10^{-6}$ risk level).

## SECTION 4 RESULTS

The Formaldehyde concentrations averaged $25.5 \mu \mathrm{~g} / \mathrm{m}^{3}$ for the first 12 hours ( $0600-1800$ ) and 26.5 $\mu \mathrm{g} / \mathrm{m}^{3}$ for the second 12 hours (1815-0615) for the quarter, The laboratory results and Chain-ofCustody are compiled in Appendix A.

### 4.1 MET Tower Data

Meteorological Tower Data is presented in Appendix B for each sampling event.

### 4.2 Electronic Data

Information about the flow rates and sample volumes are included in Appendix C.

## LIST OF APPENDICES

Appendix A: Laboratory results and Chain-of-Custody
Appendix B: Met tower data
Appendix C: Flow rate and volume
Appendix D: Laboratory Accreditation

## APPENDIX A

## Laboratory Results and Chain-of-Custody

## Air Toxics

10/13/2015
Mr. Rhine Almonacy
The Louis Berger Group, Inc.
412 Mount Kemble Avenue
5th Floor
Morristown NJ 07960

## Project Name: Nort River WWTP

Project \#: 2001.285.06.02
Workorder \#: 1509424A

Dear Mr. Rhine Almonacy
The following report includes the data for the above referenced project for samples) received on 9/26/2015 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-11A are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,


Ausha Scott
Project Manager

## Air Toxics

## WORK ORDER \#: 1509424A

Work Order Summary

CLIENT:

PHONE:
FAX:
DATE RECEIVED:
DATE COMPLETED: $10 / 13 / 2015$

## FRACTION \#

01A
02A
03A
04A
05A
05AA

NAME
Formaldehyde-001-092515
Formaldehyde-002-092515
Formaldehyde-003-092515
Lab Blank
LCS
LCSD

09/26/2015
Mr. Rhine Almonacy The Louis Berger Group, Inc. 412 Mount Kemble Avenue 5th Floor
Morristown, NJ 07960
973-407-1000

BILL TO: Accounts Payable
The Louis Berger Group, Inc.
412 Mount Kemble Avenue 412 Mount Kemble Avenue 5th Floor
Morristown, NJ 07960
P.O. \# 2001.285.06.02

PROJECT \# 2001.285.06.02 Nort River WWTP
CONTACT: Ausha Scott

## TEST

Modified TO-11A
Modified TO-11A
Modified TO-11A
Modified TO-11A
Modified TO-11A
Modified TO-11A

CERTIFIED BY:


DATE: $\quad 10 / 13 / 15$

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704343-14-7, UT NELAP CA009332014-5, VA NELAP - 460197, WA NELAP - C935 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)

Accreditation number: CA300005, Effective date: 10/18/2014, Expiration date: 10/17/2015.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards
This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.
180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

## LABORATORY NARRATIVE <br> Modified TO-11A <br> The Louis Berger Group, Inc. <br> Workorder\# 1509424A

Three TO-11 Cartridge samples were received on September 26, 2015. The laboratory performed analysis via modified Method TO-11A using reverse phase High Pressure Liquid Chromatography (HPLC) with an Ultraviolet (UV) Detector. The method involves eluting the sorbent tubes with acetonitrile using a gravity feed technique. Method modifications taken to run these samples include:

| Requirement | TO-11A | ATL Modifications |
| :--- | :--- | :--- |
| ACN Purity Check | Contribution of <br> analytes from ACN <br> determined as <br> described Sections <br> 9.1 .1 and 9.1.2 of <br> Compendium TO-11A. | Total contribution of analytes from ACN and cartridge <br> combined is determined. |
| Initial Calibration Curve <br> (ICAL) | Multi-point using <br> linear regression <br> performed every 6 <br> months; r^2 > 0.999 | Multi-point using average Response Factor; \% RSD </= <br> 10 \%. Re-calibration if daily cal. fails, major <br> maintenance, or column change. Linear regression is <br> performed when requested. |
| Blank Subtraction | Average blank <br> concentrations <br> calculated. Blank value <br> subtracted from sample <br> result. | One Lab Blank is analyzed per batch; no blank <br> subtraction performed on samples. |

## Receiving Notes

A Temperature Blank was included with the shipment. Temperature was measured and was not within $4 \pm 2^{\circ} \mathrm{C}$. Coolant in the form of blue ice was present. Analysis proceeded.

## Analytical Notes

Sampling volume was supplied by the client. A sample volume of 713 L was used to report sample Formaldehyde-003-092515 and the Laboratory Blank.

## Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:
B - Compound present in laboratory blank greater than reporting limit.
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the detection limit.
M - Reported value may be biased due to apparent matrix interferences.

File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector

## Air Toxics

## Summary of Detected Compounds AMBIENT AIR: EPA METHOD TO-11A HPLC

Client Sample ID: Formaldehyde-001-092515
Lab ID\#: 1509424A-01A

| Compound | Rpt. Limit <br> $(\mathrm{ug})$ | Rpt. Limit <br> $(\mathrm{ug} / \mathrm{m} 3)$ | Amount <br> $(\mathrm{ug})$ | Amount <br> $(\mathrm{ug} / \mathrm{m} 3)$ |
| :--- | :---: | :---: | :---: | :---: |
| Formaldehyde | 0.050 | 0.070 | 23 | 32 |

Client Sample ID: Formaldehyde-002-092515
Lab ID\#: 1509424A-02A

| Compound | Rpt. Limit <br> $(\mathbf{u g})$ | Rpt. Limit <br> $(\mathbf{u g} / \mathrm{m} 3)$ | Amount <br> $(\mathrm{ug})$ | Amount <br> $(\mathrm{ug} / \mathrm{m} 3)$ |
| :--- | :---: | :---: | :---: | :---: |
| Formaldehyde | 0.050 | 0.070 | 22 | 32 |

Client Sample ID: Formaldehyde-003-092515
Lab ID\#: 1509424A-03A
No Detections Were Found.

## Air Toxics

Client Sample ID: Formaldehyde-001-092515
Lab ID\#: 1509424A-01A
AMBIENT AIR: EPA METHOD TO-11A HPLC


## Air Toxics

Client Sample ID: Formaldehyde-002-092515
Lab ID\#: 1509424A-02A
AMBIENT AIR: EPA METHOD TO-11A HPLC


## Air Toxics

Client Sample ID: Formaldehyde-003-092515
Lab ID\#: 1509424A-03A
AMBIENT AIR: EPA METHOD TO-11A HPLC

|  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: |
| File Name: | f0929019 |  | Date of Collection: 9/25/15 <br> Dil. Factor: | $\mathbf{1 . 0 0}$ |

## Air Toxics

Client Sample ID: Lab Blank
Lab ID\#: 1509424A-04A
AMBIENT AIR: EPA METHOD TO-11A HPLC
$\left.\begin{array}{|lcccc|}\hline & & & & \\ \text { File Name: } & \text { f0929005 } & & \text { Date of Collection: NA } & \\ \text { Dil. Factor: } & 1.00 & & \text { Date of Analysis: 9/29/15 11:08 AM } \\ & & \text { Date of Extraction: 9/29/15 }\end{array}\right]$

Air Sample Volume(L): 713
Container Type: NA - Not Applicable

## Air Toxics

Client Sample ID: LCS
Lab ID\#: 1509424A-05A
AMBIENT AIR: EPA METHOD TO-11A HPLC

|  | f0929003 |  |
| :--- | ---: | :--- |
| File Name: | 1.00 | Date of Collection: NA |
| Dil. Factor: |  | Date of Analysis: 9/29/15 10:16 AM |
|  |  | Date of Extraction: 9/29/15 |

## Air Toxics

Client Sample ID: LCSD
Lab ID\#: 1509424A-05AA
AMBIENT AIR: EPA METHOD TO-11A HPLC

|  |  |  |
| :--- | ---: | :--- |
| File Name: | $\mathbf{f 0 9 2 9 0 0 4}$ | Date of Collection: NA |
| Dil. Factor: | 1.00 | Date of Analysis: 9/29/15 10:42 AM |
|  |  | Date of Extraction: 9/29/15 |



## Air Toxics

10/17/2015
Mr. Rhine Almonacy
The Louis Berger Group, Inc.
412 Mount Kemble Avenue
5th Floor
Morristown NJ 07960

Project Name: North River WWTP
Project \#: 2001.285.06.02
Workorder \#: 1510046A

Dear Mr. Rhine Almonacy
The following report includes the data for the above referenced project for samples) received on 10/3/2015 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-11A are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,


Ausha Scott
Project Manager

## WORK ORDER \#: 1510046A

Work Order Summary

CLIENT:

PHONE:
FAX:
DATE RECEIVED:
DATE COMPLETED:

Mr. Rhine Almonacy The Louis Berger Group, Inc. 412 Mount Kemble Avenue 5th Floor
Morristown, NJ 07960
973-407-1000

10/03/2015
10/16/2015

BILL TO: Accounts Payable
The Louis Berger Group, Inc. 412 Mount Kemble Avenue 5th Floor
Morristown, NJ 07960
P.O. \# 2001.285.06.02

PROJECT \# 2001.285.06.02 North River WWTP
CONTACT: Ausha Scott

## TEST

Modified TO-11A
Modified TO-11A
Modified TO-11A
Modified TO-11A
Modified TO-11A
Modified TO-11A

CERTIFIED BY:


DATE: $\quad 10 / 17 / 15$

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704343-14-7, UT NELAP CA009332014-5, VA NELAP - 460197, WA NELAP - C935 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)

Accreditation number: CA300005, Effective date: 10/18/2014, Expiration date: 10/17/2015.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards
This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.
180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

# LABORATORY NARRATIVE <br> Modified TO-11A <br> The Louis Berger Group, Inc. <br> Workorder\# 1510046A 

Three TO-11 Cartridge samples were received on October 03, 2015. The laboratory performed analysis via modified Method TO-11A using reverse phase High Pressure Liquid Chromatography (HPLC) with an Ultraviolet (UV) Detector. The method involves eluting the sorbent tubes with acetonitrile using a gravity feed technique. Method modifications taken to run these samples include:

| Requirement | TO-11A | ATL Modifications |
| :--- | :--- | :--- |
| ACN Purity Check | Contribution of <br> analytes from ACN <br> determined as <br> described Sections <br> 9.1 .1 and 9.1.2 of <br> Compendium TO-11A. | Total contribution of analytes from ACN and cartridge <br> combined is determined. |
| Initial Calibration Curve <br> (ICAL) | Multi-point using <br> linear regression <br> performed every 6 <br> months; r^2 > 0.999 | Multi-point using average Response Factor; \% RSD </= <br> $10 \%$ Re-calibration if daily cal. fails, major <br> maintenance, or column change. Linear regression is <br> performed when requested. |
| Blank Subtraction | Average blank <br> concentrations <br> calculated. Blank value <br> subtracted from sample <br> result. | One Lab Blank is analyzed per batch; no blank <br> subtraction performed on samples. |

## Receiving Notes

A Temperature Blank was included with the shipment. Temperature was measured and was not within $4 \pm 2^{\circ} \mathrm{C}$. Coolant in the form of blue ice was present. Analysis proceeded.

## Analytical Notes

Sampling volume was supplied by the client. A sample volume of 713 L was used to report sample Formaldehyde003-100215 and the Laboratory Blank.

## Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:
B - Compound present in laboratory blank greater than reporting limit.
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the detection limit.
M - Reported value may be biased due to apparent matrix interferences.

File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector

## Air Toxics

## Summary of Detected Compounds AMBIENT AIR: EPA METHOD TO-11A HPLC

Client Sample ID: Formaldehyde001-100215
Lab ID\#: 1510046A-01A

| Compound | Rpt. Limit <br> $(\mathrm{ug})$ | Rpt. Limit <br> $(\mathrm{ug} / \mathrm{m} 3)$ | Amount <br> $(\mathrm{ug})$ | Amount <br> $(\mathrm{ug} / \mathrm{m} 3)$ |
| :--- | :---: | :---: | :---: | :---: |
| Formaldehyde | 0.050 | 0.070 | 14 | 19 |

Client Sample ID: Formaldehyde002-100215
Lab ID\#: 1510046A-02A

| Compound | Rpt. Limit <br> $(\mathbf{u g})$ | Rpt. Limit <br> $(\mathbf{u g} / \mathrm{m} 3)$ | Amount <br> $(\mathrm{ug})$ | Amount <br> $(\mathrm{ug} / \mathrm{m} 3)$ |
| :--- | :---: | :---: | :---: | :---: |
| Formaldehyde | 0.050 | 0.070 | 13 | 18 |

Client Sample ID: Formaldehyde003-100215 Blank
Lab ID\#: 1510046A-03A
No Detections Were Found.

## Air Toxics

Client Sample ID: Formaldehyde001-100215
Lab ID\#: 1510046A-01A
AMBIENT AIR: EPA METHOD TO-11A HPLC


## Air Toxics

Client Sample ID: Formaldehyde002-100215
Lab ID\#: 1510046A-02A
AMBIENT AIR: EPA METHOD TO-11A HPLC

| File Name: Dil. Factor: | $\begin{array}{r} \mathrm{f} 1014013 \\ 1.00 \end{array}$ | Date of Collection: 10/2/15 6:00:00 AM <br> Date of Analysis: 10/14/15 05:26 PM <br> Date of Extraction: 10/9/15 |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Compound | Rpt. Limit (ug) | Rpt. Limit (ug/m3) | Amount (ug) | Amount (ug/m3) |
| Formaldehyde | 0.050 | 0.070 | 13 | 18 |
| Air Sample Volu Container Typ |  |  |  |  |

## Air Toxics

Client Sample ID: Formaldehyde003-100215 Blank
Lab ID\#: 1510046A-03A
AMBIENT AIR: EPA METHOD TO-11A HPLC

| File Name: <br> Dil. Factor: | $\begin{array}{r} \mathrm{f} 1014010 \\ 1.00 \end{array}$ | Date of Collection: 10/2/15 <br> Date of Analysis: 10/14/15 04:08 PM <br> Date of Extraction: 10/9/15 |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Compound | Rpt. Limit (ug) | Rpt. Limit (ug/m3) | Amount (ug) | Amount (ug/m3) |
| Formaldehyde | 0.050 | 0.070 | Not Detected | Not Detected |
| Air Sample Vo Container Typ |  |  |  |  |

## Air Toxics

Client Sample ID: Lab Blank
Lab ID\#: 1510046A-04A
AMBIENT AIR: EPA METHOD TO-11A HPLC
$\left.\begin{array}{|lcccc|}\hline & & & & \\ \text { File Name: } & \mathbf{f 1 0 1 4 0 0 9} & & \text { Date of Collection: NA } & \\ \text { Dil. Factor: } & 1.00 & & \text { Date of Analysis: 10/14/15 03:42 PM } \\ & & \text { Date of Extraction: 10/9/15 }\end{array}\right]$

Air Sample Volume(L): 713
Container Type: NA - Not Applicable

## Air Toxics

## Client Sample ID: LCS

Lab ID\#: 1510046A-05A
AMBIENT AIR: EPA METHOD TO-11A HPLC


## Air Toxics

Client Sample ID: LCSD
Lab ID\#: 1510046A-05AA
AMBIENT AIR: EPA METHOD TO-11A HPLC

|  |  |  |
| :--- | ---: | :--- |
| File Name: | f1014008 | Date of Collection: NA |
| Dil. Factor: | 1.00 | Date of Analysis: 10/14/15 03:16 PM |
|  |  | Date of Extraction: 10/9/15 |
|  |  | Method |
| Compound |  | \%Recovery |

Air Sample Volume(L): 1.00
Container Type: NA - Not Applicable


[^0]
## Air Toxics

10/17/2015
Mr. Rhine Almonacy
The Louis Berger Group, Inc.
412 Mount Kemble Avenue
5th Floor
Morristown NJ 07960

Project Name: North River WWTP
Project \#: 2001.285.06.02
Workorder \#: 1510178A

Dear Mr. Rhine Almonacy
The following report includes the data for the above referenced project for samples) received on 10/9/2015 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-11A are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,


Ausha Scott
Project Manager

# WORK ORDER \#: 1510178A 

Work Order Summary

| CLIENT: | Mr. Rhine Almonacy <br> The Louis Berger Group, Inc. 412 Mount Kemble Avenue <br> 5th Floor <br> Morristown, NJ 07960 | BILL TO: $\begin{aligned} & \text { Ac } \\ & \\ & \text { The } \\ & \\ & 412 \\ & \\ & \text { 5th } \\ & \\ & \\ & \end{aligned}$ |
| :---: | :---: | :---: |
| PHONE: | 973-407-1000 | P.O. \# 200 |
| FAX: |  | PROJECT \# 200 |
| DATE RECEIVED: |  | CONTACT: |
| DATE COMPLETED: | 10/17/2015 |  |
| FRACTION \# | NAME | TEST |
| 01A | Formaldehyde001-100715 | Modified TO-11A |
| 02A | Formaldehyde002-100715 | Modified TO-11A |
| 03A | Formaldehyde003-100715 Blank | Modified TO-11A |
| 04A | Lab Blank | Modified TO-11A |
| 05A | LCS | Modified TO-11A |
| 05AA | LCSD | Modified TO-11A |

CERTIFIED BY:


DATE: $10 / 17 / 15$

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704343-14-7, UT NELAP CA009332014-5, VA NELAP - 460197, WA NELAP - C935 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)

Accreditation number: CA300005, Effective date: 10/18/2014, Expiration date: 10/17/2015.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards
This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.
180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

## LABORATORY NARRATIVE <br> Modified TO-11A <br> The Louis Berger Group, Inc. <br> Workorder\# 1510178A

Three TO-11 Cartridge samples were received on October 09, 2015. The laboratory performed analysis via modified Method TO-11A using reverse phase High Pressure Liquid Chromatography (HPLC) with an Ultraviolet (UV) Detector. The method involves eluting the sorbent tubes with acetonitrile using a gravity feed technique. Method modifications taken to run these samples include:

| Requirement | TO-11A | ATL Modifications |
| :--- | :--- | :--- |
| ACN Purity Check | Contribution of <br> analytes from ACN <br> determined as <br> described Sections <br> 9.1 .1 and 9.1.2 of <br> Compendium TO-11A. | Total contribution of analytes from ACN and cartridge <br> combined is determined. |
| Initial Calibration Curve <br> (ICAL) | Multi-point using <br> linear regression <br> performed every 6 <br> months; r^2 > 0.999 | Multi-point using average Response Factor; \% RSD </= <br> 10 \%. Re-calibration if daily cal. fails, major <br> maintenance, or column change. Linear regression is <br> performed when requested. |
| Blank Subtraction | Average blank <br> concentrations <br> calculated. Blank value <br> subtracted from sample <br> result. | One Lab Blank is analyzed per batch; no blank <br> subtraction performed on samples. |

## Receiving Notes

A Temperature Blank was included with the shipment. Temperature was measured and was not within $4 \pm 2^{\circ} \mathrm{C}$. Coolant in the form of blue ice was present. Analysis proceeded.

## Analytical Notes

Sampling volume was supplied by the client. A sample volume of 713 L was used to report sample Formaldehyde003-100715 Blank and the Laboratory Blank.

Acetaldehyde was detected in the laboratory blank. Associated results were flagged as indicated.
The field blank sample Formaldehyde003-100715 Blank has a reportable level of Formaldehyde present. Reanalysis of the extract confirmed the initial results.

## Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:
B - Compound present in laboratory blank greater than reporting limit.
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the detection limit.
M - Reported value may be biased due to apparent matrix interferences.

File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

## Air Toxics

## Summary of Detected Compounds AMBIENT AIR: EPA METHOD TO-11A HPLC

Client Sample ID: Formaldehyde001-100715
Lab ID\#: 1510178A-01A

| Compound | Rpt. Limit <br> $(\mathrm{ug})$ | Rpt. Limit <br> $(\mathrm{ug} / \mathrm{m} 3)$ | Amount <br> $(\mathrm{ug})$ | Amount <br> $(\mathrm{ug} / \mathrm{m} 3)$ |
| :--- | :---: | :---: | :---: | :---: |
| Formaldehyde | 0.050 | 0.070 | 16 | 23 |

Client Sample ID: Formaldehyde002-100715
Lab ID\#: 1510178A-02A

| Compound | Rpt. Limit <br> $(\mathbf{u g})$ | Rpt. Limit <br> $(\mathrm{ug} / \mathrm{m} 3)$ | Amount <br> $(\mathrm{ug})$ | Amount <br> $(\mathrm{ug} / \mathrm{m} 3)$ |
| :--- | :---: | :---: | :---: | :---: |
| Formaldehyde | 0.050 | 0.070 | 15 | 21 |

Client Sample ID: Formaldehyde003-100715 Blank
Lab ID\#: 1510178A-03A

| Compound | Rpt. Limit <br> $(\mathbf{u g})$ | Rpt. Limit <br> $(\mathrm{ug} / \mathrm{m} 3)$ | Amount <br> $(\mathrm{ug})$ | Amount <br> $(\mathrm{ug} / \mathrm{m} 3)$ |
| :--- | :---: | :---: | :---: | :---: |
| Formaldehyde | 0.050 | 0.070 | 0.077 | 0.11 |

## Air Toxics

Client Sample ID: Formaldehyde001-100715
Lab ID\#: 1510178A-01A
AMBIENT AIR: EPA METHOD TO-11A HPLC

| File Name: Dil. Factor: | $\begin{array}{r} \mathrm{f} 1014014 \\ 1.00 \end{array}$ | Date of Collection: 10/7/15 6:00:00 PM <br> Date of Analysis: 10/14/15 05:51 PM <br> Date of Extraction: 10/9/15 |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Compound | Rpt. Limit (ug) | Rpt. Limit (ug/m3) | $\begin{aligned} & \text { Amount } \\ & \text { (ug) } \end{aligned}$ | Amount (ug/m3) |
| Formaldehyde | 0.050 | 0.070 | 16 | 23 |
| Air Sample Volume(L): 713 Container Type: TO-11 Cartridge |  |  |  |  |

## Air Toxics

Client Sample ID: Formaldehyde002-100715
Lab ID\#: 1510178A-02A
AMBIENT AIR: EPA METHOD TO-11A HPLC

| File Name: <br> Dil. Factor: | $\begin{array}{r} \mathrm{f} 1014015 \\ 1.00 \end{array}$ | Date of Collection: 10/7/15 6:15:00 AM <br> Date of Analysis: 10/14/15 06:17 PM <br> Date of Extraction: 10/9/15 |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Compound | Rot. Limit (ug) | Rpt. Limit (ug/m3) | Amount <br> (ug) | Amount (ug/m3) |
| Formaldehyde | 0.050 | 0.070 | 15 | 21 |

## Air Toxics

Client Sample ID: Formaldehyde003-100715 Blank
Lab ID\#: 1510178A-03A
AMBIENT AIR: EPA METHOD TO-11A HPLC

| File Name: <br> Dil. Factor: | $\begin{array}{r} \mathrm{f} 1014011 \\ 1.00 \end{array}$ | Date of Collection: 10/7/15 <br> Date of Analysis: 10/14/15 04:34 PM <br> Date of Extraction: 10/9/15 |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Compound | Rpt. Limit (ug) | Rpt. Limit (ug/m3) | Amount (ug) | Amount (ug/m3) |
| Formaldehyde | 0.050 | 0.070 | 0.077 | 0.11 |
| Air Sample Volume(L): 713 Container Type: TO-11 Cartridge |  |  |  |  |

## Air Toxics

Client Sample ID: Lab Blank
Lab ID\#: 1510178A-04A
AMBIENT AIR: EPA METHOD TO-11A HPLC
$\left.\begin{array}{|lcccc|}\hline & & & & \\ \text { File Name: } & \mathbf{f 1 0 1 4 0 0 9} & & \text { Date of Collection: NA } & \\ \text { Dil. Factor: } & 1.00 & & \text { Date of Analysis: 10/14/15 03:42 PM } \\ & & \text { Date of Extraction: 10/9/15 }\end{array}\right]$

Air Sample Volume(L): 713
Container Type: NA - Not Applicable

## Air Toxics

## Client Sample ID: LCS

Lab ID\#: 1510178A-05A
AMBIENT AIR: EPA METHOD TO-11A HPLC

|  |  |  |
| :--- | ---: | :--- |
| File Name: | $\mathbf{f 1 0 1 4 0 0 7}$ | Date of Collection: NA |
| Dil. Factor: | 1.00 | Date of Analysis: 10/14/15 02:50 PM |
|  |  | Date of Extraction: 10/9/15 |
| Compound |  | Method |
| Formaldehyde | 105 | Limits |
| Air Sample Volume(L): 1.00 |  | $85-115$ |
| Container Type: NA - Not Applicable |  |  |

## Air Toxics

Client Sample ID: LCSD
Lab ID\#: 1510178A-05AA
AMBIENT AIR: EPA METHOD TO-11A HPLC

|  |  |  |
| :--- | ---: | :--- |
| File Name: | $\mathbf{f 1 0 1 4 0 0 8}$ | Date of Collection: NA |
| Dil. Factor: | 1.00 | Date of Analysis: 10/14/15 03:16 PM |
|  |  | Date of Extraction: 10/9/15 |
|  |  | Method |
| Compound |  | LRecovery |

Air Sample Volume(L): 1.00
Container Type: NA - Not Applicable


[^1]
## Air Toxics

10/28/2015
Mr. Rhine Almonacy
The Louis Berger Group, Inc.
412 Mount Kemble Avenue
5th Floor
Morristown NJ 07960

Project Name: North River WWTP
Project \#: 2001.285.06.02
Workorder \#: 1510264A

Dear Mr. Rhine Almonacy
The following report includes the data for the above referenced project for samples) received on 10/15/2015 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-11A are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,


Ausha Scott
Project Manager

# WORK ORDER \#: 1510264A 

Work Order Summary

CLIENT:

PHONE:
FAX:
DATE RECEIVED:
DATE COMPLETED:

Mr. Rhine Almonacy The Louis Berger Group, Inc. 412 Mount Kemble Avenue 5th Floor
Morristown, NJ 07960
973-407-1000

10/15/2015
10/28/2015

BILL TO: Accounts Payable
The Louis Berger Group, Inc. 412 Mount Kemble Avenue 5th Floor
Morristown, NJ 07960
P.O. \# 2001.285.06.02

PROJECT \# 2001.285.06.02 North River WWTP
CONTACT: Ausha Scott

## FRACTION \#

01A
02A
03A
04A
05A
05AA

NAME
Formaldehyde001-101315
Formaldehyde002-101315
Formaldehyde003-101315
Lab Blank
LCS
LCSD

TEST
Modified TO-11A
Modified TO-11A
Modified TO-11A
Modified TO-11A
Modified TO-11A
Modified TO-11A

CERTIFIED BY:


DATE: $10 / 28 / 15$
Technical Director
Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704343-14-7, UT NELAP CA009332014-5, VA NELAP - 460197, WA NELAP - C935 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)

Accreditation number: CA300005, Effective date: 10/18/2014, Expiration date: 10/17/2015.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards
This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.
180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

# LABORATORY NARRATIVE <br> Modified TO-11A <br> The Louis Berger Group, Inc. <br> Workorder\# 1510264A 

Three TO-11 Cartridge samples were received on October 15, 2015. The laboratory performed analysis via modified Method TO-11A using reverse phase High Pressure Liquid Chromatography (HPLC) with an Ultraviolet (UV) Detector. The method involves eluting the sorbent tubes with acetonitrile using a gravity feed technique. Method modifications taken to run these samples include:

| Requirement | TO-11A | ATL Modifications |
| :--- | :--- | :--- |
| ACN Purity Check | Contribution of <br> analytes from ACN <br> determined as <br> described Sections <br> 9.1 .1 and 9.1.2 of <br> Compendium TO-11A. | Total contribution of analytes from ACN and cartridge <br> combined is determined. |
| Initial Calibration Curve <br> (ICAL) | Multi-point using <br> linear regression <br> performed every 6 <br> months; r^2 > 0.999 | Multi-point using average Response Factor; \% RSD </= <br> 10 \%. Re-calibration if daily cal. fails, major <br> maintenance, or column change. Linear regression is <br> performed when requested. |
| Blank Subtraction | Average blank <br> concentrations <br> calculated. Blank value <br> subtracted from sample <br> result. | One Lab Blank is analyzed per batch; no blank <br> subtraction performed on samples. |

## Receiving Notes

A Temperature Blank was included with the shipment. Temperature was measured and was not within $4 \pm 2^{\circ} \mathrm{C}$. Coolant in the form of blue ice was present. Analysis proceeded.

## Analytical Notes

Sampling volume was supplied by the client. A sample volume of 713 L was used to report sample Formaldehyde003-101315 and the Laboratory Blank.

## Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:
B - Compound present in laboratory blank greater than reporting limit.
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the detection limit.
M - Reported value may be biased due to apparent matrix interferences.

File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector

## Air Toxics

## Summary of Detected Compounds AMBIENT AIR: EPA METHOD TO-11A HPLC

Client Sample ID: Formaldehyde001-101315
Lab ID\#: 1510264A-01A

| Compound | Rpt. Limit <br> $(\mathrm{ug})$ | Rpt. Limit <br> $(\mathrm{ug} / \mathrm{m} 3)$ | Amount <br> $(\mathrm{ug})$ | Amount <br> $(\mathrm{ug} / \mathrm{m} 3)$ |
| :--- | :---: | :---: | :---: | :---: |
| Formaldehyde | 0.050 | 0.070 | 16 | 23 |

Client Sample ID: Formaldehyde002-101315
Lab ID\#: 1510264A-02A

| Compound | Rpt. Limit <br> $(\mathbf{u g})$ | Rpt. Limit <br> $(\mathbf{u g} / \mathrm{m} 3)$ | Amount <br> $(\mathrm{ug})$ | Amount <br> $(\mathrm{ug} / \mathrm{m} 3)$ |
| :--- | :---: | :---: | :---: | :---: |
| Formaldehyde | 0.050 | 0.070 | 16 | 22 |

Client Sample ID: Formaldehyde003-101315
Lab ID\#: 1510264A-03A
No Detections Were Found.

## Air Toxics

Client Sample ID: Formaldehyde001-101315
Lab ID\#: 1510264A-01A
AMBIENT AIR: EPA METHOD TO-11A HPLC


## Air Toxics

Client Sample ID: Formaldehyde002-101315
Lab ID\#: 1510264A-02A
AMBIENT AIR: EPA METHOD TO-11A HPLC


## Air Toxics

Client Sample ID: Formaldehyde003-101315
Lab ID\#: 1510264A-03A
AMBIENT AIR: EPA METHOD TO-11A HPLC


## Air Toxics

Client Sample ID: Lab Blank
Lab ID\#: 1510264A-04A
AMBIENT AIR: EPA METHOD TO-11A HPLC


Air Sample Volume(L): 713
Container Type: NA - Not Applicable

## Air Toxics

Client Sample ID: LCS
Lab ID\#: 1510264A-05A
AMBIENT AIR: EPA METHOD TO-11A HPLC

|  |  |  |
| :--- | ---: | :--- |
| File Name: | $\mathbf{f 1 0 2 2 0 2 7}$ | Date of Collection: NA |
| Dil. Factor: | 1.00 | Date of Analysis: 10/22/15 07:49 PM |
|  |  | Date of Extraction: 10/22/15 |
| Compound |  | Method |
| Formaldehyde | 100 | Limits |
| Air Sample Volume(L): 1.00 |  | $85-115$ |
| Container Type: NA - Not Applicable |  |  |

## Air Toxics

Client Sample ID: LCSD
Lab ID\#: 1510264A-05AA
AMBIENT AIR: EPA METHOD TO-11A HPLC

|  |  |  |
| :--- | ---: | :--- |
| File Name: | $\mathbf{f 1 0 2 2 0 2 8}$ | Date of Collection: NA |
| Dil. Factor: | 1.00 | Date of Analysis: 10/22/15 08:15 PM |
|  |  | Date of Extraction: 10/22/15 |
| Compound |  | Method |
| Formaldehyde | 102 | Limits |
| Air Sample Volume(L): 1.00 |  | $85-115$ |
| Container Type: NA - Not Applicable |  |  |


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＂Q17SSIXO
NOILOヨ7700 ヨ7dWVS $\perp$ Nヨ98OS

## Air Toxics

11/1/2015
Mr. Rhine Almonacy
The Louis Berger Group, Inc.
412 Mount Kemble Avenue
5th Floor
Morristown NJ 07960

Project Name: North River WWTP
Project \#: 2001.205.06.02
Workorder \#: 1510390A

Dear Mr. Rhine Almonacy
The following report includes the data for the above referenced project for samples) received on 10/22/2015 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-11A are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,


Ausha Scott
Project Manager

## WORK ORDER \#: 1510390A

Work Order Summary

CLIENT:

PHONE:
FAX:
DATE RECEIVED:
DATE COMPLETED: $11 / 01 / 2015$

BILL TO: Accounts Payable
The Louis Berger Group, Inc. 412 Mount Kemble Avenue 5th Floor
Morristown, NJ 07960
P.O. \# 2001.205.06.02

PROJECT \# 2001.205.06.02 North River WWTP
CONTACT: Ausha Scott

## TEST

| FRACTION \# |  | NAME |
| :--- | :--- | :--- |
| 01A |  | Formaldehyde001-101815 |
| 02A |  | Formaldehyde002-101815 |
| 03A |  | Formaldehyde003-101815 |
| 04A |  | Lab Blank |
| 05A | LCS |  |
| 05AA | LCSD |  |

Modified TO-11A
Modified TO-11A
Modified TO-11A
Modified TO-11A
Modified TO-11A
Modified TO-11A

CERTIFIED BY:


DATE: $11 / 01 / 15$

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704343-14-7, UT NELAP CA009332014-5, VA NELAP - 460197, WA NELAP - C935 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)

Accreditation number: CA300005, Effective date: 10/18/2014, Expiration date: 10/17/2015.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards
This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.
180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

# LABORATORY NARRATIVE <br> Modified TO-11A <br> The Louis Berger Group, Inc. <br> Workorder\# 1510390A 

Three TO-11 Cartridge samples were received on October 22, 2015. The laboratory performed analysis via modified Method TO-11A using reverse phase High Pressure Liquid Chromatography (HPLC) with an Ultraviolet (UV) Detector. The method involves eluting the sorbent tubes with acetonitrile using a gravity feed technique. Method modifications taken to run these samples include:

| Requirement | TO-11A | ATL Modifications |
| :--- | :--- | :--- |
| ACN Purity Check | Contribution of <br> analytes from ACN <br> determined as <br> described Sections <br> 9.1 .1 and 9.1.2 of <br> Compendium TO-11A. | Total contribution of analytes from ACN and cartridge <br> combined is determined. |
| Initial Calibration Curve <br> (ICAL) | Multi-point using <br> linear regression <br> performed every 6 <br> months; r^2 > 0.999 | Multi-point using average Response Factor; \% RSD </= <br> $10 \%$ Re-calibration if daily cal. fails, major <br> maintenance, or column change. Linear regression is <br> performed when requested. |
| Blank Subtraction | Average blank <br> concentrations <br> calculated. Blank value <br> subtracted from sample <br> result. | One Lab Blank is analyzed per batch; no blank <br> subtraction performed on samples. |

## Receiving Notes

A Temperature Blank was included with the shipment. Temperature was measured and was not within $4 \pm 2^{\circ} \mathrm{C}$. Coolant in the form of blue ice was present. Analysis proceeded.

The Chain of Custody (COC) information for sample Formaldehyde003-101815 did not match the entry on the sample tag with regard to sample identification. The information on the COC was used to process and report the sample.

## Analytical Notes

Sampling volume was supplied by the client. A sample volume of 713 L was used to report sample Formaldehyde003-101815 and the Laboratory Blank.

## Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:
B - Compound present in laboratory blank greater than reporting limit.
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the detection limit.
M - Reported value may be biased due to apparent matrix interferences.

File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

## Air Toxics

## Summary of Detected Compounds AMBIENT AIR: EPA METHOD TO-11A HPLC

Client Sample ID: Formaldehyde001-101815
Lab ID\#: 1510390A-01A

| Compound | Rpt. Limit <br> $(\mathrm{ug})$ | Rpt. Limit <br> $(\mathrm{ug} / \mathrm{m} 3)$ | Amount <br> $(\mathrm{ug})$ | Amount <br> $(\mathrm{ug} / \mathrm{m} 3)$ |
| :--- | :---: | :---: | :---: | :---: |
| Formaldehyde | 0.050 | 0.070 | 8.4 | 12 |

Client Sample ID: Formaldehyde002-101815
Lab ID\#: 1510390A-02A

| Compound | Rpt. Limit <br> $(\mathrm{ug})$ | Rpt. Limit <br> $(\mathrm{ug} / \mathrm{m} 3)$ | Amount <br> $(\mathrm{ug})$ | Amount <br> $(\mathrm{ug} / \mathrm{m} 3)$ |
| :--- | :---: | :---: | :---: | :---: |
| Formaldehyde | 0.050 | 0.070 | 12 | 17 |

Client Sample ID: Formaldehyde003-101815
Lab ID\#: 1510390A-03A
No Detections Were Found.

## Air Toxics

Client Sample ID: Formaldehyde001-101815
Lab ID\#: 1510390A-01A
AMBIENT AIR: EPA METHOD TO-11A HPLC

| File Name: Dil. Factor: | $\begin{array}{r} \mathrm{f} 1022049 \\ 1.00 \end{array}$ | Date of Collection: 10/18/15 6:15:00 PM <br> Date of Analysis: 10/23/15 05:20 AM <br> Date of Extraction: 10/22/15 |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Compound | Rpt. Limit (ug) | Rpt. Limit (ug/m3) | Amount (ug) | Amount (ug/m3) |
| Formaldehyde | 0.050 | 0.070 | 8.4 | 12 |
| Air Sample V Container Typ |  |  |  |  |

## Air Toxics

Client Sample ID: Formaldehyde002-101815
Lab ID\#: 1510390A-02A
AMBIENT AIR: EPA METHOD TO-11A HPLC

| File Name: Dil. Factor: | $\begin{array}{r} \mathrm{f} 1022050 \\ 1.00 \end{array}$ | Date of Collection: 10/18/15 6:15:00 AM <br> Date of Analysis: 10/23/15 05:46 AM <br> Date of Extraction: 10/22/15 |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Compound | Rpt. Limit (ug) | Rpt. Limit (ug/m3) | Amount (ug) | Amount (ug/m3) |
| Formaldehyde | 0.050 | 0.070 | 12 | 17 |
| Air Sample V Container Typ |  |  |  |  |

## Air Toxics

Client Sample ID: Formaldehyde003-101815
Lab ID\#: 1510390A-03A
AMBIENT AIR: EPA METHOD TO-11A HPLC

| File Name: <br> Dil. Factor: | $\begin{array}{r} \mathrm{f} 1022043 \\ 1.00 \end{array}$ | Date of Collection: 10/18/15 <br> Date of Analysis: 10/23/15 02:44 AM <br> Date of Extraction: 10/22/15 |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Compound | Rpt. Limit (ug) | Rpt. Limit (ug/m3) | Amount (ug) | Amount (ug/m3) |
| Formaldehyde | 0.050 | 0.070 | Not Detected | Not Detected |
| Air Sample Vo Container Typ |  |  |  |  |

## Air Toxics

Client Sample ID: Lab Blank
Lab ID\#: 1510390A-04A
AMBIENT AIR: EPA METHOD TO-11A HPLC
$\left.\begin{array}{|lcccc|}\hline & & & & \\ \text { File Name: } & \mathbf{f 1 0 2 2 0 2 9} & & \text { Date of Collection: NA } & \\ \text { Dil. Factor: } & \mathbf{1 . 0 0} & & \text { Date of Analysis: 10/22/15 08:41 PM } \\ & & \text { Date of Extraction: 10/22/15 }\end{array}\right]$

Air Sample Volume(L): 713
Container Type: NA - Not Applicable

## Air Toxics

Client Sample ID: LCS
Lab ID\#: 1510390A-05A
AMBIENT AIR: EPA METHOD TO-11A HPLC

|  |  |  |
| :--- | ---: | :--- |
| File Name: | $\mathbf{f 1 0 2 2 0 2 7}$ | Date of Collection: NA |
| Dil. Factor: | 1.00 | Date of Analysis: 10/22/15 07:49 PM |
|  |  | Date of Extraction: 10/22/15 |
|  |  | Method |
| Compound | 100 | Limits |
| Formaldehyde |  | $85-115$ |
| Air Sample Volume(L): 1.00 |  |  |
| Container Type: NA - Not Applicable |  |  |

## Air Toxics

Client Sample ID: LCSD
Lab ID\#: 1510390A-05AA
AMBIENT AIR: EPA METHOD TO-11A HPLC

|  |  |  |
| :--- | ---: | :--- |
| File Name: | $\mathbf{f 1 0 2 2 0 2 8}$ | Date of Collection: NA |
| Dil. Factor: | 1.00 | Date of Analysis: 10/22/15 08:15 PM |
|  |  | Date of Extraction: 10/22/15 |
| Compound |  | Method |
| Formaldehyde | 102 | Limits |
| Air Sample Volume(L): 1.00 |  | $85-115$ |
| Container Type: NA - Not Applicable |  |  |



[^2]
## Air Toxics

11/1/2015
Mr. Rhine Almonacy
The Louis Berger Group, Inc.
412 Mount Kemble Avenue
5th Floor
Morristown NJ 07960

Project Name: North River WWTP
Project \#: 2001.285.06.02
Workorder \#: 1510498A

Dear Mr. Rhine Almonacy
The following report includes the data for the above referenced project for samples) received on 10/27/2015 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-11A are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,


Ausha Scott
Project Manager

## WORK ORDER \#: 1510498A

Work Order Summary

CLIENT:

PHONE:
FAX:
DATE RECEIVED:
DATE COMPLETED: $11 / 01 / 2015$

BILL TO: Accounts Payable
The Louis Berger Group, Inc. 412 Mount Kemble Avenue 5th Floor
Morristown, NJ 07960
P.O. \# 2001.285.06.02

PROJECT \# 2001.285.06.02 North River WWTP
CONTACT: Ausha Scott

## TEST

Modified TO-11A
Modified TO-11A
Modified TO-11A
Modified TO-11A
Modified TO-11A
Modified TO-11A

CERTIFIED BY:


DATE: $11 / 01 / 15$

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704343-14-7, UT NELAP CA009332014-5, VA NELAP - 460197, WA NELAP - C935 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)

Accreditation number: CA300005, Effective date: 10/18/2014, Expiration date: 10/17/2015.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards
This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.
180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

## LABORATORY NARRATIVE <br> Modified TO-11A <br> The Louis Berger Group, Inc. <br> Workorder\# 1510498A

Three TO-11 Cartridge samples were received on October 27, 2015. The laboratory performed analysis via modified Method TO-11A using reverse phase High Pressure Liquid Chromatography (HPLC) with an Ultraviolet (UV) Detector. The method involves eluting the sorbent tubes with acetonitrile using a gravity feed technique. Method modifications taken to run these samples include:

| Requirement | TO-11A | ATL Modifications |
| :--- | :--- | :--- |
| ACN Purity Check | Contribution of <br> analytes from ACN <br> determined as <br> described Sections <br> 9.1 .1 and 9.1.2 of <br> Compendium TO-11A. | Total contribution of analytes from ACN and cartridge <br> combined is determined. |
| Initial Calibration Curve <br> (ICAL) | Multi-point using <br> linear regression <br> performed every 6 <br> months; r^2 $>0.999$ | Multi-point using average Response Factor; \% RSD </= <br> $10 \%$ \% Re-calibration if daily cal. fails, major <br> maintenance, or column change. Linear regression is <br> performed when requested. |
| Blank Subtraction | Average blank <br> concentrations <br> calculated. Blank value <br> subtracted from sample <br> result. | One Lab Blank is analyzed per batch; no blank <br> subtraction performed on samples. |

## Receiving Notes

The Chain of Custody (COC) information for sample Formaldehyde 003-102515 did not match the entry on the sample tag with regard to sample identification. The information on the COC was used to process and report the sample.

A Temperature Blank was included with the shipment. Temperature was measured and was not within $4 \pm 2^{\circ} \mathrm{C}$. Coolant in the form of blue ice was present. Analysis proceeded.

## Analytical Notes

Sampling volume was supplied by the client. A sample volume of 713 L was used to report sample Formaldehyde 003-102515 and the Laboratory Blank.

## Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:
B - Compound present in laboratory blank greater than reporting limit.
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the detection limit.
M - Reported value may be biased due to apparent matrix interferences.

File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

## Air Toxics

## Summary of Detected Compounds AMBIENT AIR: EPA METHOD TO-11A HPLC

Client Sample ID: Formaldehyde 001-102515
Lab ID\#: 1510498A-01A

| Compound | Rpt. Limit <br> (ug) | Rpt. Limit <br> $(\mathrm{ug} / \mathrm{m} 3)$ | Amount <br> $(\mathrm{ug})$ | Amount <br> $(\mathrm{ug} / \mathrm{m} 3)$ |
| :--- | :---: | :---: | :---: | :---: |
| Formaldehyde | 0.050 | 0.070 | 34 | 47 |

Client Sample ID: Formaldehyde 002-102515
Lab ID\#: 1510498A-02A

| Compound | Rpt. Limit <br> $(\mathbf{u g})$ | Rpt. Limit <br> $($ ug/m3) | Amount <br> (ug) | Amount <br> $(\mathrm{ug} / \mathrm{m} 3)$ |
| :--- | :---: | :---: | :---: | :---: |
| Formaldehyde | 0.050 | 0.070 | 25 | 35 |

Client Sample ID: Formaldehyde 003-102515
Lab ID\#: 1510498A-03A
No Detections Were Found.

## Air Toxics

Client Sample ID: Formaldehyde 001-102515
Lab ID\#: 1510498A-01A
AMBIENT AIR: EPA METHOD TO-11A HPLC


## Air Toxics

Client Sample ID: Formaldehyde 002-102515
Lab ID\#: 1510498A-02A
AMBIENT AIR: EPA METHOD TO-11A HPLC


## Air Toxics

Client Sample ID: Formaldehyde 003-102515
Lab ID\#: 1510498A-03A
AMBIENT AIR: EPA METHOD TO-11A HPLC

| File Name: <br> Dil. Factor: | $\begin{array}{r} \mathrm{f} 1029008 \\ 1.00 \end{array}$ | Date of Collection: 10/25/15 <br> Date of Analysis: 10/29/15 02:57 PM <br> Date of Extraction: 10/29/15 |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Compound | Rpt. Limit (ug) | Rpt. Limit (ug/m3) | Amount (ug) | Amount (ug/m3) |
| Formaldehyde | 0.050 | 0.070 | Not Detected | Not Detected |
| Air Sample Vo Container Typ |  |  |  |  |

## Air Toxics

Client Sample ID: Lab Blank
Lab ID\#: 1510498A-04A
AMBIENT AIR: EPA METHOD TO-11A HPLC
$\left.\begin{array}{|lcccc|}\hline & & & & \\ \text { File Name: } & \mathbf{f 1 0 2 9 0 0 5} & & \text { Date of Collection: NA } & \\ \text { Dil. Factor: } & 1.00 & & \text { Date of Analysis: 10/29/15 01:39 PM } \\ & & \text { Date of Extraction: 10/29/15 }\end{array}\right]$

Air Sample Volume(L): 713
Container Type: NA - Not Applicable

## Air Toxics

## Client Sample ID: LCS

Lab ID\#: 1510498A-05A
AMBIENT AIR: EPA METHOD TO-11A HPLC

|  |  |  |
| :--- | ---: | :--- |
| File Name: | $\mathbf{f 1 0 2 9 0 0 3}$ | Date of Collection: NA |
| Dil. Factor: | 1.00 | Date of Analysis: 10/29/15 12:47 PM |
|  |  | Date of Extraction: 10/29/15 |
|  |  | Method |
| Compound |  | Limits |
| Formaldehyde |  | $85-115$ |
| Air Sample Volume(L): 1.00 |  |  |
| Container Type: NA - Not Applicable |  |  |

## Air Toxics

## Client Sample ID: LCSD

Lab ID\#: 1510498A-05AA
AMBIENT AIR: EPA METHOD TO-11A HPLC

|  |  |  |
| :--- | ---: | :--- |
| File Name: | $\mathbf{f 1 0 2 9 0 0 4}$ | Date of Collection: NA |
| Dil. Factor: | 1.00 | Date of Analysis: 10/29/15 01:13 PM |
|  |  | Date of Extraction: 10/29/15 |
|  |  | Method |
| Compound |  | Limits |
| Formaldehyde |  | $85-115$ |
| Air Sample Volume(L): 1.00 |  |  |
| Container Type: NA - Not Applicable |  |  |






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## Air Toxics

11/14/2015
Mr. Rhine Almonacy
The Louis Berger Group, Inc.
412 Mount Kemble Avenue
5th Floor
Morristown NJ 07960

Project Name: North River WWTP
Project \#: 2001.285.06.02
Workorder \#: 1511014A

Dear Mr. Rhine Almonacy
The following report includes the data for the above referenced project for samples) received on 11/3/2015 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-11A are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,


Ausha Scott
Project Manager

# WORK ORDER \#: 1511014A 

Work Order Summary

| CLIENT: | Mr. Rhine Almonacy <br> The Louis Berger Group, Inc. <br> 412 Mount Kemble Avenue |
| :--- | :--- |
|  | fth Floor <br> Morristown, NJ 07960 |
| PHONE: | $973-407-1000$ |
| FAX: |  |
| DATE RECEIVED: | $11 / 03 / 2015$ |
| DATE COMPLETED: | $11 / 14 / 2015$ |

## FRACTION \#

01A
02A
03A
04A
05A
05AA

NAME
Formaldehyde 001-103015
Formaldehyde002-103015
Formaldehyde003-103015
Lab Blank
CS
LSD

BILL TO: Accounts Payable
The Louis Berger Group, Inc. 412 Mount Kemble Avenue 5th Floor
Morristown, NJ 07960
P.O. \# 2001.285.06.02

PROJECT \# 2001.285.06.02 North River WWTP
CONTACT: Ausha Scott

## TEST

Modified TO-11A
Modified TO-11A
Modified TO-11A
Modified TO-11A
Modified TO-11A
Modified TO-11A

CERTIFIED BY:


DATE: $\quad 11 / 14 / 15$

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704343-14-7, UT NELAP CA009332014-5, VA NELAP - 460197, WA NELAP - C935 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)

Accreditation number: CA300005, Effective date: 10/18/2014, Expiration date: 10/17/2015.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards
This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.
180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

## LABORATORY NARRATIVE Modified TO-11A The Louis Berger Group, Inc. Workorder\# 1511014A

Three TO-11 Cartridge samples were received on November 03, 2015. The laboratory performed analysis via modified Method TO-11A using reverse phase High Pressure Liquid Chromatography (HPLC) with an Ultraviolet (UV) Detector. The method involves eluting the sorbent tubes with acetonitrile using a gravity feed technique. Method modifications taken to run these samples include:

| Requirement | TO-11A | ATL Modifications |
| :--- | :--- | :--- |
| ACN Purity Check | Contribution of <br> analytes from ACN <br> determined as <br> described Sections <br> 9.1 .1 and 9.1.2 of <br> Compendium TO-11A. | Total contribution of analytes from ACN and cartridge <br> combined is determined. |
| Initial Calibration Curve <br> (ICAL) | Multi-point using <br> linear regression <br> performed every 6 <br> months; r^2 > 0.999 | Multi-point using average Response Factor; \% RSD </= <br> $10 \%$ Re-calibration if daily cal. fails, major <br> maintenance, or column change. Linear regression is <br> performed when requested. |
| Blank Subtraction | Average blank <br> concentrations <br> calculated. Blank value <br> subtracted from sample <br> result. | One Lab Blank is analyzed per batch; no blank <br> subtraction performed on samples. |

## Receiving Notes

The Temperature Blank was broken during shipment. Temperature was measured on a representative sample and was not within $4 \pm 2^{\circ} \mathrm{C}$. Coolant in the form of blue ice was present. Analysis proceeded.

## Analytical Notes

Sampling volume was supplied by the client. A sample volume of 713 L was used to report sample Formaldehyde003-103015 and the Lab Blank.

## Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:
B - Compound present in laboratory blank greater than reporting limit.
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the detection limit.
M - Reported value may be biased due to apparent matrix interferences.
File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector

## Air Toxics

## Summary of Detected Compounds AMBIENT AIR: EPA METHOD TO-11A HPLC

Client Sample ID: Formaldehyde001-103015
Lab ID\#: 1511014A-01A

| Compound | Rpt. Limit <br> $(\mathrm{ug})$ | Rpt. Limit <br> $(\mathrm{ug} / \mathrm{m} 3)$ | Amount <br> $(\mathrm{ug})$ | Amount <br> $(\mathrm{ug} / \mathrm{m} 3)$ |
| :--- | :---: | :---: | :---: | :---: |
| Formaldehyde | 0.050 | 0.070 | 24 | 33 |

Client Sample ID: Formaldehyde002-103015
Lab ID\#: 1511014A-02A

| Compound | Rpt. Limit <br> $(u g)$ | Rpt. Limit <br> $(u g / \mathrm{m} 3)$ | Amount <br> $(\mathrm{ug})$ | Amount <br> $(\mathrm{ug} / \mathrm{m} 3)$ |
| :--- | :---: | :---: | :---: | :---: |
| Formaldehyde | 0.050 | 0.070 | 28 | 39 |

Client Sample ID: Formaldehyde003-103015
Lab ID\#: 1511014A-03A
No Detections Were Found.

## Air Toxics

Client Sample ID: Formaldehyde001-103015
Lab ID\#: 1511014A-01A
AMBIENT AIR: EPA METHOD TO-11A HPLC

| File Name: Dil. Factor: | $\begin{array}{r} \mathrm{f} 1106008 \\ 1.00 \end{array}$ | Date of Collection: 10/30/15 6:00:00 PM <br> Date of Analysis: 11/6/15 08:48 PM <br> Date of Extraction: 11/6/15 |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Compound | Rpt. Limit (ug) | Rpt. Limit (ug/m3) | Amount (ug) | Amount (ug/m3) |
| Formaldehyde | 0.050 | 0.070 | 24 | 33 |
| Air Sample Vo Container Typ |  |  |  |  |

## Air Toxics

Client Sample ID: Formaldehyde002-103015
Lab ID\#: 1511014A-02A
AMBIENT AIR: EPA METHOD TO-11A HPLC

| File Name: Dil. Factor: | $\begin{array}{r} \mathrm{f} 1106007 \\ 1.00 \end{array}$ | Date of Collection: 10/30/15 6:15:00 AM <br> Date of Analysis: 11/6/15 08:22 PM <br> Date of Extraction: 11/6/15 |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Compound | Rpt. Limit (ug) | Rpt. Limit (ug/m3) | Amount (ug) | Amount (ug/m3) |
| Formaldehyde | 0.050 | 0.070 | 28 | 39 |
| Air Sample V Container Typ |  |  |  |  |

## Air Toxics

Client Sample ID: Formaldehyde003-103015
Lab ID\#: 1511014A-03A
AMBIENT AIR: EPA METHOD TO-11A HPLC

|  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: |
| File Name: | $\mathbf{f 1 1 0 6 0 0 6}$ |  | Date of Collection: 10/30/15 <br> Dil. Factor: | $\mathbf{1 . 0 0}$ |

## Air Toxics

Client Sample ID: Lab Blank
Lab ID\#: 1511014A-04A
AMBIENT AIR: EPA METHOD TO-11A HPLC
$\left.\begin{array}{|lcccc|}\hline & & & & \\ \text { File Name: } & \mathbf{f 1 1 0 6 0 0 5} & & \text { Date of Collection: NA } & \\ \text { Dil. Factor: } & \mathbf{1 . 0 0} & & \text { Date of Analysis: 11/6/15 07:30 PM } \\ & & \text { Date of Extraction: 11/6/15 }\end{array}\right]$

Air Sample Volume(L): 713
Container Type: NA - Not Applicable

## Air Toxics

Client Sample ID: LCS
Lab ID\#: 1511014A-05A
AMBIENT AIR: EPA METHOD TO-11A HPLC

|  |  |  |
| :--- | ---: | :--- |
| File Name: | $\mathbf{f 1 1 0 6 0 0 3}$ | Date of Collection: NA |
| Dil. Factor: | 1.00 | Date of Analysis: 11/6/15 06:38 PM |
|  |  | Date of Extraction: 11/6/15 |

## Air Toxics

Client Sample ID: LCSD
Lab ID\#: 1511014A-05AA
AMBIENT AIR: EPA METHOD TO-11A HPLC

|  |  |  |
| :--- | ---: | :--- |
| File Name: | $\mathbf{f 1 1 0 6 0 0 4}$ | Date of Collection: NA |
| Dil. Factor: | 1.00 | Date of Analysis: 11/6/15 07:04 PM |
|  |  | Date of Extraction: 11/6/15 |
|  |  | Method |
| Compound |  | Limits |
| Formaldehyde |  | $85-115$ |
| Air Sample Volume(L): 1.00 |  |  |
| Container Type: NA - Not Applicable |  |  |






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## Air Toxics

11/23/2015
Mr. Rhine Almonacy
The Louis Berger Group, Inc.
412 Mount Kemble Avenue
5th Floor
Morristown NJ 07960

Project Name: North River WWTP
Project \#: 2001.285.06.02
Workorder \#: 1511136A

Dear Mr. Rhine Almonacy
The following report includes the data for the above referenced project for samples) received on 11/10/2015 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-11A are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,


Ausha Scott
Project Manager

## WORK ORDER \#: 1511136A

Work Order Summary

| CLIENT: | Mr. Rhine Almonacy <br> The Louis Berger Group, Inc. <br> 412 Mount Kemble Avenue |
| :--- | :--- |
|  | fth Floor <br> Morristown, NJ 07960 |
| PHONE: | $973-407-1000$ |
| FAX: |  |
| DATE RECEIVED: | $11 / 10 / 2015$ |
| DATE COMPLETED: | $11 / 23 / 2015$ |

## FRACTION \#

01A
02A
03A
04A
05A
05AA

NAME
Formaldehyde 001-110615
Formaldehyde002-110615
Formaldehyde003-110615
Lab Blank
CS
LSD

BILL TO: Accounts Payable
The Louis Berger Group, Inc. 412 Mount Kemble Avenue 5th Floor
Morristown, NJ 07960
P.O. \# 2001.285.06.02

PROJECT \# 2001.285.06.02 North River WWTP
CONTACT: Ausha Scott

## TEST

Modified TO-11A
Modified TO-11A
Modified TO-11A
Modified TO-11A
Modified TO-11A
Modified TO-11A

CERTIFIED BY:


DATE: $11 / 23 / 15$

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704343-14-7, UT NELAP CA009332014-5, VA NELAP - 460197, WA NELAP - C935 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)

Accreditation number: CA300005, Effective date: 10/18/2014, Expiration date: 10/17/2015.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards
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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

# LABORATORY NARRATIVE <br> Modified TO-11A <br> The Louis Berger Group, Inc. <br> Workorder\# 1511136A 

Three TO-11 Cartridge samples were received on November 10, 2015. The laboratory performed analysis via modified Method TO-11A using reverse phase High Pressure Liquid Chromatography (HPLC) with an Ultraviolet (UV) Detector. The method involves eluting the sorbent tubes with acetonitrile using a gravity feed technique. Method modifications taken to run these samples include:

| Requirement | TO-11A | ATL Modifications |
| :--- | :--- | :--- |
| ACN Purity Check | Contribution of <br> analytes from ACN <br> determined as <br> described Sections <br> 9.1 .1 and 9.1.2 of <br> Compendium TO-11A. | Total contribution of analytes from ACN and cartridge <br> combined is determined. |
| Initial Calibration Curve <br> (ICAL) | Multi-point using <br> linear regression <br> performed every 6 <br> months; r^2 > 0.999 | Multi-point using average Response Factor; \% RSD </= <br> 10\%. Re-calibration if daily cal. fails, major <br> maintenance, or column change. Linear regression is <br> performed when requested. |
| Blank Subtraction | Average blank <br> concentrations <br> calculated. Blank value <br> subtracted from sample <br> result. | One Lab Blank is analyzed per batch; no blank <br> subtraction performed on samples. |

## Receiving Notes

There were no receiving discrepancies.

## Analytical Notes

Sampling volume was supplied by the client. A sample volume of 713 L was used to report sample Formaldehyde003-110615 and the Lab Blank.

## Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:
B - Compound present in laboratory blank greater than reporting limit.
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the detection limit.
M - Reported value may be biased due to apparent matrix interferences.
File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

## Air Toxics

## Summary of Detected Compounds AMBIENT AIR: EPA METHOD TO-11A HPLC

Client Sample ID: Formaldehyde001-110615
Lab ID\#: 1511136A-01A

| Compound | Rpt. Limit <br> $(\mathrm{ug})$ | Rpt. Limit <br> $(\mathrm{ug} / \mathrm{m} 3)$ | Amount <br> $(\mathrm{ug})$ | Amount <br> $(\mathrm{ug} / \mathrm{m} 3)$ |
| :--- | :---: | :---: | :---: | :---: |
| Formaldehyde | 0.050 | 0.070 | 59 | 82 |

Client Sample ID: Formaldehyde002-110615
Lab ID\#: 1511136A-02A

| Compound | Rpt. Limit <br> $(\mathbf{u g})$ | Rpt. Limit <br> $(\mathrm{ug} / \mathrm{m} 3)$ | Amount <br> $(\mathrm{ug})$ | Amount <br> $(\mathrm{ug} / \mathrm{m} 3)$ |
| :--- | :---: | :---: | :---: | :---: |
| Formaldehyde | 0.050 | 0.070 | 60 | 84 |

Client Sample ID: Formaldehyde003-110615
Lab ID\#: 1511136A-03A
No Detections Were Found.

## Air Toxics

Client Sample ID: Formaldehyde001-110615
Lab ID\#: 1511136A-01A
AMBIENT AIR: EPA METHOD TO-11A HPLC

| File Name: Dil. Factor: | $\begin{array}{r} \mathrm{f} 1119010 \\ 1.00 \end{array}$ | Date of Collection: 11/6/15 6:00:00 PM <br> Date of Analysis: 11/19/15 02:59 PM <br> Date of Extraction: 11/19/15 |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Compound | Rpt. Limit (ug) | Rpt. Limit (ug/m3) | Amount (ug) | Amount (ug/m3) |
| Formaldehyde | 0.050 | 0.070 | 59 | 82 |
| Air Sample Vo Container Typ |  |  |  |  |

## Air Toxics

Client Sample ID: Formaldehyde002-110615
Lab ID\#: 1511136A-02A
AMBIENT AIR: EPA METHOD TO-11A HPLC

|  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: |
| File Name: | $\mathbf{f 1 1 1 9 0 1 1}$ |  | Date of Collection: 11/6/15 6:15:00 AM <br> Dil. Factor: | 1.00 |

## Air Toxics

Client Sample ID: Formaldehyde003-110615
Lab ID\#: 1511136A-03A
AMBIENT AIR: EPA METHOD TO-11A HPLC

| File Name: <br> Dil. Factor: | $\begin{array}{r} \mathrm{f} 1119007 \\ 1.00 \end{array}$ | Date of Collection: 11/6/15 <br> Date of Analysis: 11/19/15 01:42 PM <br> Date of Extraction: 11/19/15 |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Compound | Rpt. Limit (ug) | Rpt. Limit (ug/m3) | Amount (ug) | Amount (ug/m3) |
| Formaldehyde | 0.050 | 0.070 | Not Detected | Not Detected |
| Air Sample Vo Container Typ |  |  |  |  |

## Air Toxics

Client Sample ID: Lab Blank
Lab ID\#: 1511136A-04A
AMBIENT AIR: EPA METHOD TO-11A HPLC
$\left.\begin{array}{lcccc|}\hline & & & & \\ \text { File Name: } & \mathbf{f 1 1 1 9 0 0 5} & & \text { Date of Collection: NA } & \\ \text { Dil. Factor: } & 1.00 & & \text { Date of Analysis: 11/19/15 12:50 PM } \\ & & \text { Date of Extraction: 11/19/15 }\end{array}\right]$

Air Sample Volume(L): 713
Container Type: NA - Not Applicable

## Air Toxics

## Client Sample ID: LCS

Lab ID\#: 1511136A-05A
AMBIENT AIR: EPA METHOD TO-11A HPLC

|  |  |  |
| :--- | ---: | :--- |
| File Name: | $\mathbf{1 1 1 9 0 0 3}$ | Date of Collection: NA |
| Dil. Factor: | 1.00 | Date of Analysis: 11/19/15 11:58 AM |
|  |  | Date of Extraction: 11/19/15 |
| Compound |  | Method |
| Formaldehyde | 101 | Limits |
| Air Sample Volume(L): 1.00 |  | $85-115$ |
| Container Type: NA - Not Applicable |  |  |

## Air Toxics

Client Sample ID: LCSD
Lab ID\#: 1511136A-05AA
AMBIENT AIR: EPA METHOD TO-11A HPLC

|  |  |  |
| :--- | ---: | :--- |
| File Name: | $\mathbf{f 1 1 1 9 0 0 4}$ | Date of Collection: NA |
| Dil. Factor: | 1.00 | Date of Analysis: 11/19/15 12:24 PM |
|  |  | Date of Extraction: 11/19/15 |
|  |  | Method |
| Compound |  | Limits |
| Formaldehyde |  | $85-115$ |
| Air Sample Volume(L): 1.00 |  |  |
| Container Type: NA - Not Applicable |  |  |



## Air Toxics

11/29/2015
Mr. Rhine Almonacy
The Louis Berger Group, Inc.
412 Mount Kemble Avenue
5th Floor
Morristown NJ 07960

Project Name: North River WWTP
Project \#: 2001.285.06.02
Workorder \#: 1511229A

Dear Mr. Rhine Almonacy
The following report includes the data for the above referenced project for samples) received on 11/16/2015 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-11A are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,


Ausha Scott
Project Manager

## WORK ORDER \#: 1511229A

Work Order Summary

| CLIENT: | Mr. Rhine Almonacy <br> The Louis Berger Group, Inc. <br> 412 Mount Kemble Avenue <br> 5th Floor <br> Morristown, NJ 07960 | BILL TO: $\begin{array}{lc}\text { Ac } \\ & \text { The } \\ & 412 \\ & 5 \text { th } \\ & \text { Mo }\end{array}$ |
| :---: | :---: | :---: |
| PHONE: | 973-407-1000 | P.O. \# 200 |
| FAX: |  | PROJECT \# 200 |
| DATE RECEIVED: | 11/16/2015 | CONTACT: |
| DATE COMPLETED: | 11/29/2015 |  |
| FRACTION \# | NAME | TEST |
| 01A | Formaldehyde 001-111215 | Modified TO-11A |
| 02A | Formaldehyde 002-111215 | Modified TO-11A |
| 03A | Formaldehyde 003-111215 | Modified TO-11A |
| 04A | Lab Blank | Modified TO-11A |
| 05A | LCS | Modified TO-11A |
| 05AA | LCSD | Modified TO-11A |

CERTIFIED BY:


DATE: $\quad 11 / 29 / 15$
Technical Director
Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704343-14-7, UT NELAP CA009332014-5, VA NELAP - 460197, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2014, Expiration date: 10/17/2015.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards
This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.
180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

## LABORATORY NARRATIVE <br> Modified TO-11A <br> The Louis Berger Group, Inc. <br> Workorder\# 1511229A

Three TO-11 Cartridge samples were received on November 16, 2015. The laboratory performed analysis via modified Method TO-11A using reverse phase High Pressure Liquid Chromatography (HPLC) with an Ultraviolet (UV) Detector. The method involves eluting the sorbent tubes with acetonitrile using a gravity feed technique. Method modifications taken to run these samples include:

| Requirement | TO-11A | ATL Modifications |
| :--- | :--- | :--- |
| ACN Purity Check | Contribution of <br> analytes from ACN <br> determined as <br> described Sections <br> 9.1 .1 and 9.1.2 of <br> Compendium TO-11A. | Total contribution of analytes from ACN and cartridge <br> combined is determined. |
| Initial Calibration Curve <br> (ICAL) | Multi-point using <br> linear regression <br> performed every 6 <br> months; r^2 > 0.999 | Multi-point using average Response Factor; \% RSD </= <br> $10 \%$ Re-calibration if daily cal. fails, major <br> maintenance, or column change. Linear regression is <br> performed when requested. |
| Blank Subtraction | Average blank <br> concentrations <br> calculated. Blank value <br> subtracted from sample <br> result. | One Lab Blank is analyzed per batch; no blank <br> subtraction performed on samples. |

## Receiving Notes

The Temperature Blank was broken during shipment. Temperature was measured on a representative sample and was not within $4 \pm 2^{\circ} \mathrm{C}$. Coolant in the form of blue ice was present. Analysis proceeded.

## Analytical Notes

Sampling volume was supplied by the client. A sample volume of 713 L was used to report sample Formaldehyde 003-111215 and the Lab Blank.

## Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:
B - Compound present in laboratory blank greater than reporting limit.
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the detection limit.
M - Reported value may be biased due to apparent matrix interferences.
File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector

## Air Toxics

## Summary of Detected Compounds AMBIENT AIR: EPA METHOD TO-11A HPLC

Client Sample ID: Formaldehyde 001-111215
Lab ID\#: 1511229A-01A

| Compound | Rpt. Limit <br> $(\mathrm{ug})$ | Rpt. Limit <br> $(\mathrm{ug} / \mathrm{m} 3)$ | Amount <br> $(\mathrm{ug})$ | Amount <br> $(\mathrm{ug} / \mathrm{m} 3)$ |
| :--- | :---: | :---: | :---: | :---: |
| Formaldehyde | 0.050 | 0.070 | 12 | 17 |

Client Sample ID: Formaldehyde 002-111215
Lab ID\#: 1511229A-02A

| Compound | Rpt. Limit <br> $(\mathbf{u g})$ | Rpt. Limit <br> $(\mathrm{ug} / \mathrm{m} 3)$ | Amount <br> $(\mathrm{ug})$ | Amount <br> $(\mathrm{ug} / \mathrm{m} 3)$ |
| :--- | :---: | :---: | :---: | :---: |
| Formaldehyde | 0.050 | 0.070 | 15 | 21 |

Client Sample ID: Formaldehyde 003-111215
Lab ID\#: 1511229A-03A
No Detections Were Found.

## Air Toxics

Client Sample ID: Formaldehyde 001-111215
Lab ID\#: 1511229A-01A
AMBIENT AIR: EPA METHOD TO-11A HPLC

| File Name: Dil. Factor: | $\begin{array}{r} \mathrm{f} 1119008 \\ 1.00 \end{array}$ | Date of Collection: 11/12/15 6:00:00 PM Date of Analysis: 11/19/15 02:07 PM Date of Extraction: 11/19/15 |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Compound | Rpt. Limit (ug) | Rpt. Limit (ug/m3) | Amount (ug) | Amount (ug/m3) |
| Formaldehyde | 0.050 | 0.070 | 12 | 17 |
| Air Sample V Container Typ |  |  |  |  |

## Air Toxics

Client Sample ID: Formaldehyde 002-111215
Lab ID\#: 1511229A-02A
AMBIENT AIR: EPA METHOD TO-11A HPLC

|  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: |
| File Name: | $\mathbf{f 1 1 1 9 0 0 9}$ |  | Date of Collection: 11/12/15 6:15:00 AM <br> Dil. Factor: | $\mathbf{1 . 0 0}$ |

## Air Toxics

Client Sample ID: Formaldehyde 003-111215
Lab ID\#: 1511229A-03A
AMBIENT AIR: EPA METHOD TO-11A HPLC

| File Name: <br> Dil. Factor: | $\begin{array}{r} \mathrm{f} 1119006 \\ 1.00 \end{array}$ | Date of Collection: 11/12/15 <br> Date of Analysis: 11/19/15 01:16 PM <br> Date of Extraction: 11/19/15 |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Compound | Rpt. Limit (ug) | Rpt. Limit (ug/m3) | Amount (ug) | Amount (ug/m3) |
| Formaldehyde | 0.050 | 0.070 | Not Detected | Not Detected |
| Air Sample Vo Container Typ |  |  |  |  |

## Air Toxics

Client Sample ID: Lab Blank
Lab ID\#: 1511229A-04A
AMBIENT AIR: EPA METHOD TO-11A HPLC


Air Sample Volume(L): 713
Container Type: NA - Not Applicable

## Air Toxics

Client Sample ID: LCS
Lab ID\#: 1511229A-05A
AMBIENT AIR: EPA METHOD TO-11A HPLC

|  |  |  |
| :--- | ---: | :--- |
| File Name: | $\mathbf{1 1 1 9 0 0 3}$ | Date of Collection: NA |
| Dil. Factor: | 1.00 | Date of Analysis: 11/19/15 11:58 AM |
|  |  | Date of Extraction: 11/19/15 |
| Compound |  | Method |
| Formaldehyde | 101 | Limits |
| Air Sample Volume(L): 1.00 |  | $85-115$ |
| Container Type: NA - Not Applicable |  |  |

## Air Toxics

Client Sample ID: LCSD
Lab ID\#: 1511229A-05AA
AMBIENT AIR: EPA METHOD TO-11A HPLC

|  |  |  |
| :--- | ---: | :--- |
| File Name: | $\mathbf{f 1 1 1 9 0 0 4}$ | Date of Collection: NA |
| Dil. Factor: | 1.00 | Date of Analysis: 11/19/15 12:24 PM |
|  |  | Date of Extraction: 11/19/15 |
|  |  | Method |
| Compound |  | Limits |
| Formaldehyde |  | $85-115$ |
| Air Sample Volume(L): 1.00 |  |  |
| Container Type: NA - Not Applicable |  |  |



## Air Toxics

12/7/2015
Mr. Rhine Almonacy
The Louis Berger Group, Inc.
412 Mount Kemble Avenue
5th Floor
Morristown NJ 07960

Project Name: North River WWTP
Project \#: 2001.285.06.02
Workorder \#: 1511328A

Dear Mr. Rhine Almonacy
The following report includes the data for the above referenced project for samples) received on 11/20/2015 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-11A are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,


Ausha Scott
Project Manager

## WORK ORDER \#: 1511328A

Work Order Summary

| CLIENT: | Mr. Rhine Almonacy <br> The Louis Berger Group, Inc. 412 Mount Kemble Avenue 5th Floor Morristown, NJ 07960 | BILL TO: | Accounts Payable <br> The Louis Berger Group, Inc. <br> 412 Mount Kemble Avenue <br> 5th Floor <br> Morristown, NJ 07960 |
| :---: | :---: | :---: | :---: |
| PHONE: | 973-407-1000 | P.O. \# | 2001.285.06.02 |
| FAX: |  | PROJECT \# | 2001.285.06.02 North River WWTP |
| DATE RECEIVED: | 11/20/2015 | CONTACT: | Ausha Scott |
| DATE COMPLETED: | 12/07/2015 |  |  |

## FRACTION \#

01A
02A
03A
04A
05A
05AA

NAME
Formaldehyde 001-111815
Formaldehyde 002-111815
Formaldehyde 003-111815
Lab Blank
LCS
LCSD

TEST
Modified TO-11A
Modified TO-11A
Modified TO-11A
Modified TO-11A
Modified TO-11A
Modified TO-11A

CERTIFIED BY:


DATE: $\quad 12 / 07 / 15$
Technical Director
Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704343-14-7, UT NELAP CA009332014-5, VA NELAP - 460197, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2014, Expiration date: 10/17/2015.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards
This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.
180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

# LABORATORY NARRATIVE <br> Modified TO-11A <br> The Louis Berger Group, Inc. <br> Workorder\# 1511328A 

Three TO-11 Cartridge samples were received on November 20, 2015. The laboratory performed analysis via modified Method TO-11A using reverse phase High Pressure Liquid Chromatography (HPLC) with an Ultraviolet (UV) Detector. The method involves eluting the sorbent tubes with acetonitrile using a gravity feed technique. Method modifications taken to run these samples include:

| Requirement | TO-11A | ATL Modifications |
| :--- | :--- | :--- |
| ACN Purity Check | Contribution of <br> analytes from ACN <br> determined as <br> described Sections <br> 9.1 .1 and 9.1.2 of <br> Compendium TO-11A. | Total contribution of analytes from ACN and cartridge <br> combined is determined. |
| Initial Calibration Curve <br> (ICAL) | Multi-point using <br> linear regression <br> performed every 6 <br> months; r^2 > 0.999 | Multi-point using average Response Factor; \% RSD </= <br> 10 \%. Re-calibration if daily cal. fails, major <br> maintenance, or column change. Linear regression is <br> performed when requested. |
| Blank Subtraction | Average blank <br> concentrations <br> calculated. Blank value <br> subtracted from sample <br> result. | One Lab Blank is analyzed per batch; no blank <br> subtraction performed on samples. |

## Receiving Notes

A Temperature Blank was included with the shipment. Temperature was measured and was not within $4 \pm 2^{\circ} \mathrm{C}$. Coolant in the form of blue ice was present. Analysis proceeded.

## Analytical Notes

Sampling volume was supplied by the client. A sample volume of 713 L was used to report sample Formaldehyde 003-111815 and the Lab Blank.

## Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:
B - Compound present in laboratory blank greater than reporting limit.
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the detection limit.
M - Reported value may be biased due to apparent matrix interferences.
File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector

## Air Toxics

## Summary of Detected Compounds AMBIENT AIR: EPA METHOD TO-11A HPLC

Client Sample ID: Formaldehyde 001-111815
Lab ID\#: 1511328A-01A

| Compound | Rpt. Limit <br> $(\mathrm{ug})$ | Rpt. Limit <br> $(\mathrm{ug} / \mathrm{m} 3)$ | Amount <br> $(\mathrm{ug})$ | Amount <br> $(\mathrm{ug} / \mathrm{m} 3)$ |
| :--- | :---: | :---: | :---: | :---: |
| Formaldehyde | 0.050 | 0.070 | 19 | 27 |

Client Sample ID: Formaldehyde 002-111815
Lab ID\#: 1511328A-02A

| Compound | Rpt. Limit <br> $(\mathrm{ug})$ | Rpt. Limit <br> $(\mathrm{ug} / \mathrm{m} 3)$ | Amount <br> $(\mathrm{ug})$ | Amount <br> $(\mathrm{ug} / \mathrm{m} 3)$ |
| :--- | :---: | :---: | :---: | :---: |
| Formaldehyde | 0.050 | 0.070 | 31 | 44 |

Client Sample ID: Formaldehyde 003-111815
Lab ID\#: 1511328A-03A
No Detections Were Found.

## Air Toxics

Client Sample ID: Formaldehyde 001-111815
Lab ID\#: 1511328A-01A
AMBIENT AIR: EPA METHOD TO-11A HPLC

| File Name: Dil. Factor: | $\begin{array}{r} \mathrm{f} 1203008 \\ 1.00 \end{array}$ | Date of Collection: 11/18/15 6:00:00 PM <br> Date of Analysis: 12/3/15 03:59 PM <br> Date of Extraction: 12/2/15 |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Compound | Rpt. Limit (ug) | Rpt. Limit (ug/m3) | Amount (ug) | Amount (ug/m3) |
| Formaldehyde | 0.050 | 0.070 | 19 | 27 |
| Air Sample V Container Typ |  |  |  |  |

## Air Toxics

Client Sample ID: Formaldehyde 002-111815
Lab ID\#: 1511328A-02A
AMBIENT AIR: EPA METHOD TO-11A HPLC

| File Name: Dil. Factor: | $\begin{array}{r} \mathrm{f} 1203009 \\ 1.00 \end{array}$ | Date of Collection: 11/18/15 6:15:00 AM <br> Date of Analysis: 12/3/15 04:25 PM <br> Date of Extraction: 12/2/15 |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Compound | Rpt. Limit (ug) | Rpt. Limit (ug/m3) | Amount (ug) | Amount (ug/m3) |
| Formaldehyde | 0.050 | 0.070 | 31 | 44 |
| Air Sample Vo Container Typ |  |  |  |  |

## Air Toxics

Client Sample ID: Formaldehyde 003-111815
Lab ID\#: 1511328A-03A
AMBIENT AIR: EPA METHOD TO-11A HPLC

| File Name: <br> Dil. Factor: | $\begin{array}{r} \mathrm{f} 1203006 \\ 1.00 \end{array}$ | Date of Collection: 11/18/15 <br> Date of Analysis: 12/3/15 03:07 PM <br> Date of Extraction: 12/2/15 |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Compound | Rpt. Limit (ug) | Rpt. Limit (ug/m3) | Amount (ug) | Amount (ug/m3) |
| Formaldehyde | 0.050 | 0.070 | Not Detected | Not Detected |
| Air Sample Vo Container Typ |  |  |  |  |

## Air Toxics

Client Sample ID: Lab Blank
Lab ID\#: 1511328A-04A
AMBIENT AIR: EPA METHOD TO-11A HPLC
$\left.\begin{array}{|lcccc|}\hline & & & & \\ \text { File Name: } & \mathbf{f 1 2 0 3 0 0 5} & & \text { Date of Collection: NA } & \\ \text { Dil. Factor: } & 1.00 & & \text { Date of Analysis: 12/3/15 02:41 PM } \\ & & \text { Date of Extraction: 12/2/15 }\end{array}\right]$

Air Sample Volume(L): 713
Container Type: NA - Not Applicable

## Air Toxics

Client Sample ID: LCS
Lab ID\#: 1511328A-05A
AMBIENT AIR: EPA METHOD TO-11A HPLC

|  |  |  |
| :--- | ---: | :--- |
| File Name: | $\mathbf{f 1 2 0 3 0 0 3}$ | Date of Collection: NA |
| Dil. Factor: | 1.00 | Date of Analysis: 12/3/15 01:49 PM |
|  |  | Date of Extraction: 12/2/15 |

## Air Toxics

Client Sample ID: LCSD
Lab ID\#: 1511328A-05AA
AMBIENT AIR: EPA METHOD TO-11A HPLC

|  |  |  |
| :--- | ---: | :--- |
| File Name: | $\mathbf{f 1 2 0 3 0 0 4}$ | Date of Collection: NA |
| Dil. Factor: | 1.00 | Date of Analysis: $12 / 3 / 15$ 02:15 PM |
|  |  | Date of Extraction: 12/2/15 |
|  |  | Method |
| Compound |  | Limits |
| Formaldehyde |  | $85-115$ |
| Air Sample Volume(L): 1.00 |  |  |
| Container Type: NA - Not Applicable |  |  |



[^3]
## Air Toxics

12/8/2015
Mr. Rhine Almonacy
The Louis Berger Group, Inc.
412 Mount Kemble Avenue
5th Floor
Morristown NJ 07960

Project Name: North River WWTP
Project \#: 2001.285.06.02
Workorder \#: 1511441A

Dear Mr. Rhine Almonacy
The following report includes the data for the above referenced project for samples) received on 11/30/2015 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-11A are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,


Ausha Scott
Project Manager

## WORK ORDER \#: 1511441A

Work Order Summary

CLIENT:

PHONE:
FAX:
DATE RECEIVED:
DATE COMPLETED: $12 / 08 / 2015$

BILL TO: Accounts Payable
The Louis Berger Group, Inc. 412 Mount Kemble Avenue 5th Floor
Morristown, NJ 07960
P.O. \# 2001.285.06.02

PROJECT \# 2001.285.06.02 North River WWTP
CONTACT: Ausha Scott

## TEST

Modified TO-11A
Modified TO-11A
Modified TO-11A
Modified TO-11A
Modified TO-11A
Modified TO-11A

CERTIFIED BY:


DATE: $\quad 12 / 08 / 15$
Technical Director
Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704343-14-7, UT NELAP CA009332014-5, VA NELAP - 460197, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2014, Expiration date: 10/17/2015.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards
This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.
180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

# LABORATORY NARRATIVE <br> Modified TO-11A <br> The Louis Berger Group, Inc. <br> Workorder\# 1511441A 

Three TO-11 Cartridge samples were received on November 30, 2015. The laboratory performed analysis via modified Method TO-11A using reverse phase High Pressure Liquid Chromatography (HPLC) with an Ultraviolet (UV) Detector. The method involves eluting the sorbent tubes with acetonitrile using a gravity feed technique. Method modifications taken to run these samples include:

| Requirement | TO-11A | ATL Modifications |
| :--- | :--- | :--- |
| ACN Purity Check | Contribution of <br> analytes from ACN <br> determined as <br> described Sections <br> 9.1 .1 and 9.1.2 of <br> Compendium TO-11A. | Total contribution of analytes from ACN and cartridge <br> combined is determined. |
| Initial Calibration Curve <br> (ICAL) | Multi-point using <br> linear regression <br> performed every 6 <br> months; r^2 > 0.999 | Multi-point using average Response Factor; \% RSD </= <br> 10 \%. Re-calibration if daily cal. fails, major <br> maintenance, or column change. Linear regression is <br> performed when requested. |
| Blank Subtraction | Average blank <br> concentrations <br> calculated. Blank value <br> subtracted from sample <br> result. | One Lab Blank is analyzed per batch; no blank <br> subtraction performed on samples. |

## Receiving Notes

A Temperature Blank was included with the shipment. Temperature was measured and was not within $4 \pm 2^{\circ} \mathrm{C}$. Coolant in the form of blue ice was present. Analysis proceeded.

## Analytical Notes

Sampling volume was supplied by the client. A sample volume of 713 L was used to report sample Formaldehyde 003-112415 and the Lab Blank.

## Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:
B - Compound present in laboratory blank greater than reporting limit.
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the detection limit.
M - Reported value may be biased due to apparent matrix interferences.

File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector

## Air Toxics

## Summary of Detected Compounds AMBIENT AIR: EPA METHOD TO-11A HPLC

Client Sample ID: Formaldehyde 001-112415
Lab ID\#: 1511441A-01A

| Compound | Rpt. Limit <br> $(\mathrm{ug})$ | Rpt. Limit <br> $(\mathrm{ug} / \mathrm{m} 3)$ | Amount <br> $(\mathrm{ug})$ | Amount <br> $(\mathrm{ug} / \mathrm{m} 3)$ |
| :--- | :---: | :---: | :---: | :---: |
| Formaldehyde | 0.050 | 0.070 | 8.2 | 11 |

Client Sample ID: Formaldehyde 002-112415
Lab ID\#: 1511441A-02A

| Compound | Rpt. Limit <br> $(\mathbf{u g})$ | Rpt. Limit <br> $(\mathrm{ug} / \mathrm{m} 3)$ | Amount <br> $(\mathrm{ug})$ | Amount <br> $(\mathrm{ug} / \mathrm{m} 3)$ |
| :--- | :---: | :---: | :---: | :---: |
| Formaldehyde | 0.050 | 0.070 | 8.9 | 12 |

Client Sample ID: Formaldehyde 003-112415
Lab ID\#: 1511441A-03A
No Detections Were Found.

## Air Toxics

Client Sample ID: Formaldehyde 001-112415
Lab ID\#: 1511441A-01A
AMBIENT AIR: EPA METHOD TO-11A HPLC

| File Name: <br> Dil. Factor: | $\begin{array}{r} \mathrm{f} 1203010 \\ 1.00 \end{array}$ | Date of Collection: 11/24/15 6:00:00 PM <br> Date of Analysis: 12/3/15 04:51 PM <br> Date of Extraction: 12/2/15 |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Compound | Rot. Limit (ug) | Rpt. Limit (ug/m3) | Amount <br> (ug) | Amount (ug/m3) |
| Formaldehyde | 0.050 | 0.070 | 8.2 | 11 |
| Air Sample Vo Container Typ |  |  |  |  |

## Air Toxics

Client Sample ID: Formaldehyde 002-112415
Lab ID\#: 1511441A-02A
AMBIENT AIR: EPA METHOD TO-11A HPLC

|  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: |
| File Name: | $\mathbf{f 1 2 0 3 0 1 1}$ |  | Date of Collection: 11/24/15 6:15:00 AM <br> Dil. Factor: | $\mathbf{1 . 0 0}$ |

## Air Toxics

Client Sample ID: Formaldehyde 003-112415
Lab ID\#: 1511441A-03A
AMBIENT AIR: EPA METHOD TO-11A HPLC

| File Name: <br> Dil. Factor: | $\begin{array}{r} \mathrm{f} 1203007 \\ 1.00 \end{array}$ | Date of Collection: 11/24/15 <br> Date of Analysis: 12/3/15 03:33 PM <br> Date of Extraction: 12/2/15 |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Compound | Rpt. Limit (ug) | Rpt. Limit (ug/m3) | Amount (ug) | Amount (ug/m3) |
| Formaldehyde | 0.050 | 0.070 | Not Detected | Not Detected |
| Air Sample Vo Container Typ |  |  |  |  |

## Air Toxics

Client Sample ID: Lab Blank
Lab ID\#: 1511441A-04A
AMBIENT AIR: EPA METHOD TO-11A HPLC


Air Sample Volume(L): 713
Container Type: NA - Not Applicable

## Air Toxics

Client Sample ID: LCS
Lab ID\#: 1511441A-05A
AMBIENT AIR: EPA METHOD TO-11A HPLC


## Air Toxics

Client Sample ID: LCSD
Lab ID\#: 1511441A-05AA
AMBIENT AIR: EPA METHOD TO-11A HPLC

|  |  |  |
| :--- | ---: | :--- |
| File Name: | $\mathbf{f 1 2 0 3 0 0 4}$ | Date of Collection: NA |
| Dil. Factor: | 1.00 | Date of Analysis: $12 / 3 / 15$ 02:15 PM |
|  |  | Date of Extraction: 12/2/15 |
|  |  | Method |
| Compound |  | Limits |
| Formaldehyde |  | $85-115$ |
| Air Sample Volume(L): 1.00 |  |  |
| Container Type: NA - Not Applicable |  |  |



[^4]NOLLOヨ7700 37 dWVS INEaYOS

## Air Toxics

12/16/2015
Mr. Rhine Almonacy
The Louis Berger Group, Inc.
412 Mount Kemble Avenue
5th Floor
Morristown NJ 07960

Project Name: North River WWTP
Project \#: 2001.205.06.02
Workorder \#: 1512017A

Dear Mr. Rhine Almonacy
The following report includes the data for the above referenced project for samples) received on 12/2/2015 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-11A are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,


Ausha Scott
Project Manager

# WORK ORDER \#: 1512017A 

Work Order Summary

| CLIENT: | Mr. Rhine Almonacy <br> The Louis Berger Group, Inc. <br> 412 Mount Kemble Avenue |
| :--- | :--- |
|  | 5th Floor <br> Morristown, NJ 07960 |
| PHONE: | $973-407-1000$ |
| FAX: |  |
| DATE RECEIVED: | $12 / 02 / 2015$ |
| DATE COMPLETED: | $12 / 16 / 2015$ |

## FRACTION \#

01A
02A
03A
04A
04B
05A
05AA
05B
05BB

NAME
Formaldehyde001-113015
Formaldehyde002-113015
Formaldehyde003-113015
Lab Blank
Lab Blank
LCS
LCSD
LCS
LCSD

BILL TO: Accounts Payable
The Louis Berger Group, Inc. 412 Mount Kemble Avenue 5th Floor
Morristown, NJ 07960
P.O. \# 2001.205.06.02

PROJECT \# 2001.205.06.02 North River WWTP
CONTACT: Ausha Scott

## TEST

Modified TO-11A
Modified TO-11A
Modified TO-11A
Modified TO-11A
Modified TO-11A
Modified TO-11A
Modified TO-11A
Modified TO-11A
Modified TO-11A

CERTIFIED BY:


DATE: $\underline{12 / 16 / 15}$
Technical Director
Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704343-14-7, UT NELAP CA009332014-5, VA NELAP - 460197, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2014, Expiration date: 10/17/2015.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards
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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

## LABORATORY NARRATIVE Modified TO-11A <br> The Louis Berger Group, Inc. <br> Workorder\# 1512017A

Two TO-11 Cartridge samples were received on December 02, 2015 and one TO-11 Cartridge sample was received on December 08,2015. The laboratory performed analysis via modified Method TO-11A using reverse phase High Pressure Liquid Chromatography (HPLC) with an Ultraviolet (UV) Detector. The method involves eluting the sorbent tubes with acetonitrile using a gravity feed technique. Method modifications taken to run these samples include:

| Requirement | TO-11A | ATL Modifications |
| :--- | :--- | :--- |
| ACN Purity Check | Contribution of <br> analytes from ACN <br> determined as <br> described Sections <br> 9.1 .1 and 9.1.2 of <br> Compendium TO-11A. | Total contribution of analytes from ACN and cartridge <br> combined is determined. |
| Initial Calibration Curve <br> (ICAL) | Multi-point using <br> linear regression <br> performed every 6 <br> months; r^2 > 0.999 | Multi-point using average Response Factor; \% RSD </= <br> $10 \%$ Re-calibration if daily cal. fails, major <br> maintenance, or column change. Linear regression is <br> performed when requested. |
| Blank Subtraction | Average blank <br> concentrations <br> calculated. Blank value <br> subtracted from sample <br> result. | One Lab Blank is analyzed per batch; no blank <br> subtraction performed on samples. |

## Receiving Notes

The number of samples received on 12/02/15 did not match the information on the Chain of Custody (COC). The client was notified via sample receipt confirmation that a sample was missing. Sample Formaldehyde003-113015 was subsequently received on 12/08/15 and added to the analytical request.

A Temperature Blank was included with the shipment. Temperature was measured and was not within $4 \pm 2{ }^{\circ} \mathrm{C}$. Coolant in the form of blue ice was present. Analysis proceeded.

## Analytical Notes

Sampling volume was supplied by the client. A sample volume of 713 L was used to report sample Formaldehyde003-113015 and the Laboratory Blank.

## Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:
B - Compound present in laboratory blank greater than reporting limit.
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the detection limit.
M - Reported value may be biased due to apparent matrix interferences.

File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

## Air Toxics

## Summary of Detected Compounds AMBIENT AIR: EPA METHOD TO-11A HPLC

Client Sample ID: Formaldehyde001-113015
Lab ID\#: 1512017A-01A

| Compound | Rpt. Limit <br> $(\mathrm{ug})$ | Rpt. Limit <br> $(\mathrm{ug} / \mathrm{m} 3)$ | Amount <br> $(\mathrm{ug})$ | Amount <br> $(\mathrm{ug} / \mathrm{m} 3)$ |
| :--- | :---: | :---: | :---: | :---: |
| Formaldehyde | 0.050 | 0.070 | 9.6 | 13 |

Client Sample ID: Formaldehyde002-113015
Lab ID\#: 1512017A-02A

| Compound | Rpt. Limit <br> $(\mathrm{ug})$ | Rpt. Limit <br> $(\mathrm{ug} / \mathrm{m} 3)$ | Amount <br> $(\mathrm{ug})$ | Amount <br> $(\mathrm{ug} / \mathrm{m} 3)$ |
| :--- | :---: | :---: | :---: | :---: |
| Formaldehyde | 0.050 | 0.070 | 12 | 17 |

Client Sample ID: Formaldehyde003-113015
Lab ID\#: 1512017A-03A
No Detections Were Found.

## Air Toxics

Client Sample ID: Formaldehyde001-113015
Lab ID\#: 1512017A-01A
AMBIENT AIR: EPA METHOD TO-11A HPLC

| File Name: <br> Dil. Factor: | $\begin{array}{r} \mathrm{f} 1203012 \\ 1.00 \end{array}$ | Date of Collection: 11/30/15 6:00:00 PM <br> Date of Analysis: 12/3/15 05:43 PM <br> Date of Extraction: 12/2/15 |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Compound | Rpt. Limit (ug) | Rpt. Limit (ug/m3) | Amount (ug) | Amount (ug/m3) |
| Formaldehyde | 0.050 | 0.070 | 9.6 | 13 |

## Air Toxics

Client Sample ID: Formaldehyde002-113015
Lab ID\#: 1512017A-02A
AMBIENT AIR: EPA METHOD TO-11A HPLC
$\left.\begin{array}{lcccc|}\hline & & & & \\ \text { File Name: } & \mathbf{f 1 2 0 3 0 1 3} & & \text { Date of Collection: 11/30/15 6:15:00 AM } \\ \text { Dil. Factor: } & 1.00 & & \text { Date of Analysis: 12/3/15 06:09 PM } \\ & & \text { Date of Extraction: 12/2/15 }\end{array}\right]$

[^5]
## Air Toxics

Client Sample ID: Formaldehyde003-113015
Lab ID\#: 1512017A-03A
AMBIENT AIR: EPA METHOD TO-11A HPLC
$\left.\begin{array}{lcccc|}\hline & & & & \\ \text { File Name: } & \mathbf{f 1 2 1 1 0 1 3} & & \text { Date of Collection: 11/30/15 } \\ \text { Dil. Factor: } & 1.00 & & \text { Date of Analysis: 12/11/15 02:24 PM } \\ & & \text { Date of Extraction: 12/11/15 }\end{array}\right]$

## Container Type: TO-11 Cartridge

## Air Toxics

## Client Sample ID: Lab Blank

Lab ID\#: 1512017A-04A
AMBIENT AIR: EPA METHOD TO-11A HPLC
$\left.\begin{array}{|lcccc|}\hline & & & & \\ \text { File Name: } & \mathbf{f 1 2 0 3 0 0 5} & & \text { Date of Collection: NA } & \\ \text { Dil. Factor: } & 1.00 & & \text { Date of Analysis: 12/3/15 02:41 PM } \\ & & \text { Date of Extraction: 12/2/15 }\end{array}\right]$

Container Type: NA - Not Applicable

## Air Toxics

Client Sample ID: Lab Blank
Lab ID\#: 1512017A-04B
AMBIENT AIR: EPA METHOD TO-11A HPLC
$\left.\begin{array}{|lcccc|}\hline & & & & \\ \text { File Name: } & \mathbf{f 1 2 1 1 0 1 2} & & \text { Date of Collection: NA } & \\ \text { Dil. Factor: } & 1.00 & & \text { Date of Analysis: 12/11/15 01:58 PM } \\ & & \text { Date of Extraction: 12/11/15 }\end{array}\right]$

Container Type: NA - Not Applicable

## Air Toxics

Client Sample ID: LCS
Lab ID\#: 1512017A-05A
AMBIENT AIR: EPA METHOD TO-11A HPLC

|  |  |  |
| :--- | ---: | :--- |
|  | $\mathbf{1 2 0 3 0 0 3}$ | Date of Collection: NA |
| File Name: | 1.00 | Date of Analysis: $12 / \mathbf{3 / 1 5}$ 01:49 PM |
| Dil. Factor: |  | Date of Extraction: $12 / 2 / 15$ |
|  |  | Method |
| Compound |  | \%Recovery |

Container Type: NA - Not Applicable

## eurofins

## Air Toxics

Client Sample ID: LCSD
Lab ID\#: 1512017A-05AA
AMBIENT AIR: EPA METHOD TO-11A HPLC

|  |  |  |  |
| :--- | ---: | :--- | :--- |
| File Name: | $\mathbf{f 1 2 0 3 0 0 4}$ | Date of Collection: NA |  |
| Dil. Factor: | 1.00 | Date of Analysis: $12 / 3 / 15$ | 02:15 PM |
|  |  | Date of Extraction: $12 / 2 / 15$ |  |
|  |  | Method |  |
| Compound |  | \%Recovery | Limits |
| Formaldehyde | 95 | $85-115$ |  |

Container Type: NA - Not Applicable

## Air Toxics

Client Sample ID: LCS
Lab ID\#: 1512017A-05B
AMBIENT AIR: EPA METHOD TO-11A HPLC

|  |  |  |
| :--- | ---: | :--- |
| File Name: | $\mathbf{f 1 2 1 1 0 1 0}$ | Date of Collection: NA |
| Dil. Factor: | 1.00 | Date of Analysis: 12/11/15 01:06 PM |
|  |  | Date of Extraction: 12/11/15 |
|  |  | Method |
| Compound |  | \%Recovery |

Container Type: NA - Not Applicable

## Air Toxics

Client Sample ID: LCSD
Lab ID\#: 1512017A-05BB
AMBIENT AIR: EPA METHOD TO-11A HPLC

|  |  |  |
| :--- | ---: | :--- |
| File Name: | $\mathbf{f 1 2 1 1 0 1 1}$ | Date of Collection: NA |
| Dil. Factor: | 1.00 | Date of Analysis: 12/11/15 01:32 PM |
|  |  | Date of Extraction: 12/11/15 |
|  |  | Method |
| Compound |  | \%Recovery |

Container Type: NA - Not Applicable

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## Air Toxics

12/19/2015
Mr. Rhine Almonacy
The Louis Berger Group, Inc.
412 Mount Kemble Avenue
5th Floor
Morristown NJ 07960

Project Name: North River WWTP
Project \#: 2001.285.06.02
Workorder \#: 1512137A

Dear Mr. Rhine Almonacy
The following report includes the data for the above referenced project for samples) received on 12/8/2015 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-11A are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,


Ausha Scott
Project Manager

# WORK ORDER \#: 1512137A 

Work Order Summary

CLIENT:

PHONE:
FAX:
DATE RECEIVED:
DATE COMPLETED: $12 / 19 / 2015$

## FRACTION \#

01A
02A
03A
04A
05A
05AA

NAME
Formaldehyde001-120615
Formaldehyde002-120615
Formaldehyde003-120615
Lab Blank
LES
LSD

Mr. Rhine Almonacy The Louis Berger Group, Inc. 412 Mount Kemble Avenue 5th Floor
Morristown, NJ 07960
973-407-1000

12/08/2015

BILL TO: Accounts Payable
The Louis Berger Group, Inc.
412 Mount Kemble Avenue
The Louis Berger Group, Inc.
412 Mount Kemble Avenue 5th Floor
Morristown, NJ 07960
P.O. \# 2001.285.06.02

PROJECT \# 2001.285.06.02 North River WWTP
CONTACT: Ausha Scott

## TEST

Modified TO-11A
Modified TO-11A
Modified TO-11A
Modified TO-11A
Modified TO-11A
Modified TO-11A

CERTIFIED BY:


DATE: $\quad 12 / 19 / 15$

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704343-14-7, UT NELAP CA009332014-5, VA NELAP - 460197, WA NELAP - C935 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)

Accreditation number: CA300005, Effective date: 10/18/2014, Expiration date: 10/17/2015.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards
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(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

## LABORATORY NARRATIVE <br> Modified TO-11A <br> The Louis Berger Group, Inc. <br> Workorder\# 1512137A

Three TO-11 Cartridge samples were received on December 08, 2015. The laboratory performed analysis via modified Method TO-11A using reverse phase High Pressure Liquid Chromatography (HPLC) with an Ultraviolet (UV) Detector. The method involves eluting the sorbent tubes with acetonitrile using a gravity feed technique. Method modifications taken to run these samples include:

| Requirement | TO-11A | ATL Modifications |
| :--- | :--- | :--- |
| ACN Purity Check | Contribution of <br> analytes from ACN <br> determined as <br> described Sections <br> 9.1 .1 and 9.1.2 of <br> Compendium TO-11A. | Total contribution of analytes from ACN and cartridge <br> combined is determined. |
| Initial Calibration Curve <br> (ICAL) | Multi-point using <br> linear regression <br> performed every 6 <br> months; r^2 > 0.999 | Multi-point using average Response Factor; \% RSD </= <br> 10\%. Re-calibration if daily cal. fails, major <br> maintenance, or column change. Linear regression is <br> performed when requested. |
| Blank Subtraction | Average blank <br> concentrations <br> calculated. Blank value <br> subtracted from sample <br> result. | One Lab Blank is analyzed per batch; no blank <br> subtraction performed on samples. |

## Receiving Notes

There were no receiving discrepancies.

## Analytical Notes

Sampling volume was supplied by the client. A sample volume of 713 L was used to report sample Formaldehyde003-120615 and the Laboratory Blank.

## Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:
B - Compound present in laboratory blank greater than reporting limit.
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the detection limit.
M - Reported value may be biased due to apparent matrix interferences.
File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

## Air Toxics

## Summary of Detected Compounds AMBIENT AIR: EPA METHOD TO-11A HPLC

Client Sample ID: Formaldehyde001-120615
Lab ID\#: 1512137A-01A

| Compound | Rpt. Limit <br> $(\mathrm{ug})$ | Rpt. Limit <br> $(\mathrm{ug} / \mathrm{m} 3)$ | Amount <br> $(\mathrm{ug})$ | Amount <br> $(\mathrm{ug} / \mathrm{m} 3)$ |
| :--- | :---: | :---: | :---: | :---: |
| Formaldehyde | 0.050 | 0.070 | 12 | 16 |

Client Sample ID: Formaldehyde002-120615
Lab ID\#: 1512137A-02A

| Compound | Rpt. Limit <br> $(\mathrm{ug})$ | Rpt. Limit <br> $(\mathrm{ug} / \mathrm{m} 3)$ | Amount <br> $(\mathrm{ug})$ | Amount <br> $(\mathrm{ug} / \mathrm{m} 3)$ |
| :--- | :---: | :---: | :---: | :---: |
| Formaldehyde | 0.050 | 0.070 | 13 | 18 |

Client Sample ID: Formaldehyde003-120615
Lab ID\#: 1512137A-03A
No Detections Were Found.

## Air Toxics

Client Sample ID: Formaldehyde001-120615
Lab ID\#: 1512137A-01A
AMBIENT AIR: EPA METHOD TO-11A HPLC

| File Name: Dil. Factor: | $\begin{array}{r} \mathrm{f} 1211032 \\ 1.00 \end{array}$ | Date of Collection: 12/6/15 6:00:00 PM <br> Date of Analysis: 12/11/15 10:37 PM <br> Date of Extraction: 12/11/15 |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Compound | Rpt. Limit (ug) | Rpt. Limit (ug/m3) | Amount (ug) | Amount (ug/m3) |
| Formaldehyde | 0.050 | 0.070 | 12 | 16 |
| Air Sample Vo Container Typ |  |  |  |  |

## Air Toxics

Client Sample ID: Formaldehyde002-120615
Lab ID\#: 1512137A-02A
AMBIENT AIR: EPA METHOD TO-11A HPLC

| File Name: Dil. Factor: | $\begin{array}{r} \mathrm{f} 1211033 \\ 1.00 \end{array}$ | Date of Collection: 12/6/15 6:15:00 AM <br> Date of Analysis: 12/11/15 11:03 PM <br> Date of Extraction: 12/11/15 |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Compound | Rpt. Limit (ug) | Rpt. Limit (ug/m3) | Amount (ug) | Amount (ug/m3) |
| Formaldehyde | 0.050 | 0.070 | 13 | 18 |
| Air Sample V Container Typ |  |  |  |  |

## Air Toxics

Client Sample ID: Formaldehyde003-120615
Lab ID\#: 1512137A-03A
AMBIENT AIR: EPA METHOD TO-11A HPLC

| File Name: <br> Dil. Factor: | $\begin{array}{r} \mathrm{f} 1211014 \\ 1.00 \end{array}$ | Date of Collection: 12/6/15 <br> Date of Analysis: 12/11/15 02:50 PM <br> Date of Extraction: 12/11/15 |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Compound | Rpt. Limit (ug) | Rpt. Limit (ug/m3) | Amount (ug) | Amount (ug/m3) |
| Formaldehyde | 0.050 | 0.070 | Not Detected | Not Detected |
| Air Sample Vo Container Typ |  |  |  |  |

## Air Toxics

## Client Sample ID: Lab Blank

Lab ID\#: 1512137A-04A
AMBIENT AIR: EPA METHOD TO-11A HPLC
$\left.\begin{array}{|lcccc|}\hline & & & & \\ \text { File Name: } & \mathbf{f 1 2 1 1 0 1 2} & & \text { Date of Collection: NA } & \\ \text { Dil. Factor: } & 1.00 & & \text { Date of Analysis: 12/11/15 01:58 PM } \\ & & \text { Date of Extraction: 12/11/15 }\end{array}\right]$

Air Sample Volume(L): 713
Container Type: NA - Not Applicable

## Air Toxics

Client Sample ID: LCS
Lab ID\#: 1512137A-05A
AMBIENT AIR: EPA METHOD TO-11A HPLC

|  |  |  |
| :--- | ---: | :--- |
| File Name: | $\mathbf{f 1 2 1 1 0 1 0}$ | Date of Collection: NA |
| Dil. Factor: | 1.00 | Date of Analysis: 12/11/15 01:06 PM |
|  |  | Date of Extraction: 12/11/15 |
|  |  | Method |
| Compound |  | Limits |
| Formaldehyde |  | $85-115$ |
| Air Sample Volume(L): 1.00 |  |  |
| Container Type: NA - Not Applicable |  |  |

## Air Toxics

Client Sample ID: LCSD
Lab ID\#: 1512137A-05AA
AMBIENT AIR: EPA METHOD TO-11A HPLC

|  |  |  |
| :--- | ---: | :--- |
| File Name: | $\mathbf{f 1 2 1 1 0 1 1}$ | Date of Collection: NA |
| Dil. Factor: | 1.00 | Date of Analysis: 12/11/15 01:32 PM |
|  |  | Date of Extraction: 12/11/15 |
| Compound | \%Recovery | Method |
| Formaldehyde | 100 | Limits |
| Air Sample Volume(L): 1.00 |  | $85-115$ |
| Container Type: NA - Not Applicable |  |  |



## Air Toxics

12/27/2015
Mr. Rhine Almonacy
The Louis Berger Group, Inc.
412 Mount Kemble Avenue
5th Floor
Morristown NJ 07960

Project Name: North River WWTP
Project \#: 2001.205.06.02
Workorder \#: 1512327A

Dear Mr. Rhine Almonacy
The following report includes the data for the above referenced project for samples) received on 12/17/2015 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-11A are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,


Ausha Scott
Project Manager

WORK ORDER \#: 1512327A

Work Order Summary

| CLIENT: | Mr. Rhine Almonacy <br> The Louis Berger Group, Inc. <br> 412 Mount Kemble Avenue <br> 5th Floor <br> Morristown, NJ 07960 | BILL TO: $\begin{array}{cc}\text { Ac } \\ & \text { The } \\ & 412 \\ & \text { 5th } \\ & \text { Mo }\end{array}$ |
| :---: | :---: | :---: |
| PHONE: | 973-407-1000 | P.O. \# 200 |
| FAX: |  | PROJECT \# 200 |
| DATE RECEIVED: | 12/17/2015 | CONTACT: |
| DATE COMPLETED: | 12/27/2015 |  |
| FRACTION \# | NAME | TEST |
| 01A | Formaldehyde 001-121215 | Modified TO-11A |
| 02A | Formaldehyde 002-121215 | Modified TO-11A |
| 03A | Formaldehyde 003-121215 | Modified TO-11A |
| 04A | Lab Blank | Modified TO-11A |
| 05A | LCS | Modified TO-11A |
| 05AA | LCSD | Modified TO-11A |

CERTIFIED BY:


DATE: $12 / 27 / 15$

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704343-14-7, UT NELAP CA009332014-5, VA NELAP - 460197, WA NELAP - C935 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)

Accreditation number: CA300005, Effective date: 10/18/2014, Expiration date: 10/17/2015.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards
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(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

# LABORATORY NARRATIVE <br> Modified TO-11A <br> The Louis Berger Group, Inc. <br> Workorder\# 1512327A 

Three TO-11 Cartridge samples were received on December 17, 2015. The laboratory performed analysis via modified Method TO-11A using reverse phase High Pressure Liquid Chromatography (HPLC) with an Ultraviolet (UV) Detector. The method involves eluting the sorbent tubes with acetonitrile using a gravity feed technique. Method modifications taken to run these samples include:

| Requirement | TO-11A | ATL Modifications |
| :--- | :--- | :--- |
| ACN Purity Check | Contribution of <br> analytes from ACN <br> determined as <br> described Sections <br> 9.1 .1 and 9.1.2 of <br> Compendium TO-11A. | Total contribution of analytes from ACN and cartridge <br> combined is determined. |
| Initial Calibration Curve <br> (ICAL) | Multi-point using <br> linear regression <br> performed every 6 <br> months; r^2 > 0.999 | Multi-point using average Response Factor; \% RSD </= <br> $10 \%$ Re-calibration if daily cal. fails, major <br> maintenance, or column change. Linear regression is <br> performed when requested. |
| Blank Subtraction | Average blank <br> concentrations <br> calculated. Blank value <br> subtracted from sample <br> result. | One Lab Blank is analyzed per batch; no blank <br> subtraction performed on samples. |

## Receiving Notes

A Temperature Blank was included with the shipment. Temperature was measured and was not within $4 \pm 2^{\circ} \mathrm{C}$. Coolant in the form of blue ice was present. Analysis proceeded.

## Analytical Notes

Sampling volume was supplied by the client. A sample volume of 713 L was used to report sample Formaldehyde 003-121215 and the Laboratory Blank.

## Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:
B - Compound present in laboratory blank greater than reporting limit.
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the detection limit.
M - Reported value may be biased due to apparent matrix interferences.

File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector

## Air Toxics

## Summary of Detected Compounds AMBIENT AIR: EPA METHOD TO-11A HPLC

Client Sample ID: Formaldehyde 001-121215
Lab ID\#: 1512327A-01A

| Compound | Rpt. Limit <br> $(\mathrm{ug})$ | Rpt. Limit <br> $(\mathrm{ug} / \mathrm{m} 3)$ | Amount <br> $(\mathrm{ug})$ | Amount <br> $(\mathrm{ug} / \mathrm{m} 3)$ |
| :--- | :---: | :---: | :---: | :---: |
| Formaldehyde | 0.050 | 0.070 | 25 | 35 |

Client Sample ID: Formaldehyde 002-121215
Lab ID\#: 1512327A-02A

| Compound | Rpt. Limit <br> $(\mathbf{u g})$ | Rpt. Limit <br> $(\mathbf{u g} / \mathrm{m} 3)$ | Amount <br> $(\mathrm{ug})$ | Amount <br> $(\mathrm{ug} / \mathrm{m} 3)$ |
| :--- | :---: | :---: | :---: | :---: |
| Formaldehyde | 0.050 | 0.070 | 26 | 37 |

Client Sample ID: Formaldehyde 003-121215
Lab ID\#: 1512327A-03A
No Detections Were Found.

## Air Toxics

Client Sample ID: Formaldehyde 001-121215
Lab ID\#: 1512327A-01A
AMBIENT AIR: EPA METHOD TO-11A HPLC

| File Name: Dil. Factor: | $\begin{array}{r} \mathrm{f} 1221009 \\ 1.00 \end{array}$ | Date of Collection: 12/12/15 6:00:00 PM <br> Date of Analysis: 12/21/15 05:32 PM <br> Date of Extraction: 12/21/15 |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Compound | Rpt. Limit (ug) | Rpt. Limit (ug/m3) | Amount (ug) | Amount (ug/m3) |
| Formaldehyde | 0.050 | 0.070 | 25 | 35 |
| Air Sample V Container Typ |  |  |  |  |

## Air Toxics

Client Sample ID: Formaldehyde 002-121215
Lab ID\#: 1512327A-02A
AMBIENT AIR: EPA METHOD TO-11A HPLC

| File Name: <br> Dil. Factor: | $\begin{array}{r} \mathrm{f} 1221010 \\ 1.00 \end{array}$ | Date of Collection: 12/12/15 6:15:00 AM <br> Date of Analysis: 12/21/15 05:58 PM <br> Date of Extraction: 12/21/15 |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Compound | Rpt. Limit (ug) | Rpt. Limit (ug/m3) | Amount (ug) | Amount (ug/m3) |
| Formaldehyde | 0.050 | 0.070 | 26 | 37 |
| Air Sample Vo Container Typ |  |  |  |  |

## Air Toxics

Client Sample ID: Formaldehyde 003-121215
Lab ID\#: 1512327A-03A
AMBIENT AIR: EPA METHOD TO-11A HPLC

| File Name: <br> Dil. Factor: | $\begin{array}{r} \mathrm{f} 1221006 \\ 1.00 \end{array}$ | Date of Collection: 12/12/15 <br> Date of Analysis: 12/21/15 04:14 PM <br> Date of Extraction: 12/21/15 |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Compound | Rpt. Limit (ug) | Rpt. Limit (ug/m3) | Amount (ug) | Amount (ug/m3) |
| Formaldehyde | 0.050 | 0.070 | Not Detected | Not Detected |
| Air Sample Vo Container Typ |  |  |  |  |

## Air Toxics

Client Sample ID: Lab Blank
Lab ID\#: 1512327A-04A
AMBIENT AIR: EPA METHOD TO-11A HPLC


Air Sample Volume(L): 713
Container Type: NA - Not Applicable

## Air Toxics

## Client Sample ID: LCS

Lab ID\#: 1512327A-05A
AMBIENT AIR: EPA METHOD TO-11A HPLC

|  |  |  |
| :--- | ---: | :--- |
| File Name: | $\mathbf{1 2 2 1 0 0 3}$ | Date of Collection: NA |
| Dil. Factor: | 1.00 | Date of Analysis: 12/21/15 02:56 PM |
|  |  | Date of Extraction: 12/21/15 |
| Compound |  | Method |
| Formaldehyde | 100 | Limits |
| Air Sample Volume(L): 1.00 |  | $85-115$ |
| Container Type: NA - Not Applicable |  |  |

## Air Toxics

Client Sample ID: LCSD
Lab ID\#: 1512327A-05AA
AMBIENT AIR: EPA METHOD TO-11A HPLC

|  |  |  |
| :--- | ---: | :--- |
| File Name: | $\mathbf{1 2 2 1 0 0 4}$ | Date of Collection: NA |
| Dil. Factor: | 1.00 | Date of Analysis: 12/21/15 03:22 PM |
|  |  | Date of Extraction: 12/21/15 |
| Compound |  | Method |
| Formaldehyde | 100 | Limits |
| Air Sample Volume(L): 1.00 |  | $85-115$ |
| Container Type: NA - Not Applicable |  |  |



[^6]
## Air Toxics

12/28/2015
Mr. Rhine Almonacy
The Louis Berger Group, Inc.
412 Mount Kemble Avenue
5th Floor
Morristown NJ 07960

Project Name: North River WWTP
Project \#: 3000524.00
Workorder \#: 1512447A

Dear Mr. Rhine Almonacy
The following report includes the data for the above referenced project for samples) received on 12/23/2015 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-11A are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,


Ausha Scott
Project Manager

WORK ORDER \#: 1512447A

Work Order Summary

CLIENT:

PHONE:
FAX:
DATE RECEIVED:
DATE COMPLETED:

Mr. Rhine Almonacy The Louis Berger Group, Inc. 412 Mount Kemble Avenue 5th Floor
Morristown, NJ 07960
973-407-1000

12/23/2015
12/28/2015

BILL TO: Accounts Payable
The Louis Berger Group, Inc. 412 Mount Kemble Avenue 5th Floor
Morristown, NJ 07960
P.O. \# 3000524.00

PROJECT \# 3000524.00 North River WWTP
CONTACT: Ausha Scott

## FRACTION \#

01A
02A
03A
04A
05A
05AA

NAME
Formaldehyde 001-121815
Formaldehyde 002-121815
Formaldehyde 003-121815
Lab Blank
LCS
LCSD

TEST
Modified TO-11A
Modified TO-11A
Modified TO-11A
Modified TO-11A
Modified TO-11A
Modified TO-11A

CERTIFIED BY:


DATE: $\quad 12 / 28 / 15$
Technical Director
Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704343-14-7, UT NELAP CA009332014-5, VA NELAP - 460197, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2014, Expiration date: 10/17/2015.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards
This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.
180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

## LABORATORY NARRATIVE <br> Modified TO-11A <br> The Louis Berger Group, Inc. <br> Workorder\# 1512447A

Three TO-11 Cartridge samples were received on December 23, 2015. The laboratory performed analysis via modified Method TO-11A using reverse phase High Pressure Liquid Chromatography (HPLC) with an Ultraviolet (UV) Detector. The method involves eluting the sorbent tubes with acetonitrile using a gravity feed technique. Method modifications taken to run these samples include:

| Requirement | TO-11A | ATL Modifications |
| :--- | :--- | :--- |
| ACN Purity Check | Contribution of <br> analytes from ACN <br> determined as <br> described Sections <br> 9.1 .1 and 9.1.2 of <br> Compendium TO-11A. | Total contribution of analytes from ACN and cartridge <br> combined is determined. |
| Initial Calibration Curve <br> (ICAL) | Multi-point using <br> linear regression <br> performed every 6 <br> months; r^2 > 0.999 | Multi-point using average Response Factor; \% RSD </= <br> 10 \%. Re-calibration if daily cal. fails, major <br> maintenance, or column change. Linear regression is <br> performed when requested. |
| Blank Subtraction | Average blank <br> concentrations <br> calculated. Blank value <br> subtracted from sample <br> result. | One Lab Blank is analyzed per batch; no blank <br> subtraction performed on samples. |

## Receiving Notes

A Temperature Blank was included with the shipment. Temperature was measured and was not within $4 \pm 2^{\circ} \mathrm{C}$. Coolant in the form of blue ice was present. Analysis proceeded.

## Analytical Notes

Sampling volume was supplied by the client. A sample volume of 713 L was used to report sample Formaldehyde003-121815 and the Laboratory Blank.

## Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:
B - Compound present in laboratory blank greater than reporting limit.
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the detection limit.
M - Reported value may be biased due to apparent matrix interferences.
File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

## Air Toxics

## Summary of Detected Compounds AMBIENT AIR: EPA METHOD TO-11A HPLC

Client Sample ID: Formaldehyde 001-121815
Lab ID\#: 1512447A-01A

| Compound | Rpt. Limit <br> $(\mathrm{ug} / \mathrm{m} 3)$ | Rpt. Limit <br> $(\mathrm{ppbv})$ | Amount <br> $(\mathrm{ug} / \mathrm{m} 3)$ | Amount <br> (ppbv) |
| :--- | :---: | :---: | :---: | :---: |
| Formaldehyde | 0.070 | 0.057 | 7.6 | 6.2 |

Client Sample ID: Formaldehyde 002-121815
Lab ID\#: 1512447A-02A

| Compound | Rpt. Limit <br> $(\mathrm{ug} / \mathrm{m} 3)$ | Rpt. Limit <br> $(\mathrm{ppbv})$ | Amount <br> $(\mathrm{ug} / \mathrm{m} 3)$ | Amount <br> $(\mathrm{ppbv})$ |
| :--- | :---: | :---: | :---: | :---: |
| Formaldehyde | 0.070 | 0.057 | 5.9 | 4.8 |

Client Sample ID: Formaldehyde 003-121815
Lab ID\#: 1512447A-03A
No Detections Were Found.

## Air Toxics

Client Sample ID: Formaldehyde 001-121815
Lab ID\#: 1512447A-01A
AMBIENT AIR: EPA METHOD TO-11A HPLC


## Air Toxics

Client Sample ID: Formaldehyde 002-121815
Lab ID\#: 1512447A-02A
AMBIENT AIR: EPA METHOD TO-11A HPLC


## Air Toxics

Client Sample ID: Formaldehyde 003-121815
Lab ID\#: 1512447A-03A
AMBIENT AIR: EPA METHOD TO-11A HPLC

|  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: |
| File Name: | $\mathbf{f 1 2 2 3 0 0 8}$ |  | Date of Collection: 12/18/15 <br> Dil. Factor: | $\mathbf{1 . 0 0}$ |

## Air Toxics

Client Sample ID: Lab Blank
Lab ID\#: 1512447A-04A
AMBIENT AIR: EPA METHOD TO-11A HPLC
$\left.\begin{array}{|lcccc|}\hline & & & & \\ \text { File Name: } & \mathbf{f 1 2 2 3 0 0 7} & & \text { Date of Collection: NA } & \\ \text { Dil. Factor: } & 1.00 & & \text { Date of Analysis: 12/23/15 02:05 PM } \\ & & \text { Rate of Extraction: 12/23/15 }\end{array}\right]$

Air Sample Volume(L): 713
Container Type: NA - Not Applicable

## Air Toxics

Client Sample ID: LCS
Lab ID\#: 1512447A-05A
AMBIENT AIR: EPA METHOD TO-11A HPLC

|  |  |  |
| :--- | ---: | :--- |
| File Name: | $\mathbf{f 1 2 2 3 0 0 5}$ | Date of Collection: NA |
| Dil. Factor: | 1.00 | Date of Analysis: 12/23/15 01:13 PM |
|  |  | Date of Extraction: 12/23/15 |
| Compound |  | Method |
| Formaldehyde | \%Recovery | Limits |
| Air Sample Volume(L): 713 |  | $85-115$ |
| Container Type: NA - Not Applicable |  |  |

## Air Toxics

Client Sample ID: LCSD
Lab ID\#: 1512447A-05AA
AMBIENT AIR: EPA METHOD TO-11A HPLC

|  |  |  |
| :--- | ---: | :--- |
| File Name: | $\mathbf{1 2 2 3 0 0 6}$ | Date of Collection: NA |
| Dil. Factor: | 1.00 | Date of Analysis: 12/23/15 01:39 PM |
|  |  | Date of Extraction: 12/23/15 |
| Compound | \%Recovery | Method |
| Formaldehyde | 99 | Limits |
| Air Sample Volume(L): 713 |  | $85-115$ |
| Container Type: NA - Not Applicable |  |  |



## Air Toxics

1/27/2016
Mr. Rhine Almonacy
The Louis Berger Group, Inc.
412 Mount Kemble Avenue
5th Floor
Morristown NJ 07960

Project Name: North River WWTP
Project \#:
Workorder \#: 1512531A

Dear Mr. Rhine Almonacy
The following report includes the data for the above referenced project for samples) received on 12/29/2015 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-11A are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,


Ausha Scott
Project Manager

# WORK ORDER \#: 1512531A 

Work Order Summary

| CLIENT: | Mr. Rhine Almonacy <br> The Louis Berger Group, Inc. <br> 412 Mount Kemble Avenue <br> 5th Floor <br> Morristown, NJ 07960 | BILL TO: | Accounts Payable <br> The Louis Berger Group, Inc. 412 Mount Kemble Avenue <br> 5th Floor <br> Morristown, NJ 07960 |
| :---: | :---: | :---: | :---: |
| PHONE: | 973-407-1000 | P.O. \# | 2001285.06.02 |
| FAX: |  | PROJECT \# | North River WWTP |
| DATE RECEIVED: DATE COMPLETED: | $\begin{aligned} & 12 / 29 / 2015 \\ & 01 / 13 / 2016 \end{aligned}$ | CONTACT: | Ausha Scott |
| FRACTION \# | NAME | TEST |  |
| 01A | Formaldehyde001-122415 | Modified TO-1 |  |
| 02A | Formaldehyde002-122415 | Modified TO-1 |  |
| 03A | Formaldehyde003-122415 | Modified TO-1 |  |
| 04A | Lab Blank | Modified TO-1 |  |
| 05A | LCS | Modified TO-1 |  |
| 05AA | LCSD | Modified TO-1 |  |

CERTIFIED BY:


DATE: $\quad 01 / 13 / 16$

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704343-14-7, UT NELAP CA009332014-5, VA NELAP - 460197, WA NELAP - C935 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)

Accreditation number: CA300005, Effective date: 10/18/2014, Expiration date: 10/17/2015.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards
This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.
180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

## LABORATORY NARRATIVE <br> Modified TO-11A <br> The Louis Berger Group, Inc. <br> Workorder\# 1512531A

Three TO-11 Cartridge samples were received on December 29, 2015. The laboratory performed analysis via modified Method TO-11A using reverse phase High Pressure Liquid Chromatography (HPLC) with an Ultraviolet (UV) Detector. The method involves eluting the sorbent tubes with acetonitrile using a gravity feed technique. Method modifications taken to run these samples include:

| Requirement | TO-11A | ATL Modifications |
| :--- | :--- | :--- |
| ACN Purity Check | Contribution of <br> analytes from ACN <br> determined as <br> described Sections <br> 9.1 .1 and 9.1.2 of <br> Compendium TO-11A. | Total contribution of analytes from ACN and cartridge <br> combined is determined. |
| Initial Calibration Curve <br> (ICAL) | Multi-point using <br> linear regression <br> performed every 6 <br> months; r^2 > 0.999 | Multi-point using average Response Factor; \% RSD </= <br> $10 \%$ Re-calibration if daily cal. fails, major <br> maintenance, or column change. Linear regression is <br> performed when requested. |
| Blank Subtraction | Average blank <br> concentrations <br> calculated. Blank value <br> subtracted from sample <br> result. | One Lab Blank is analyzed per batch; no blank <br> subtraction performed on samples. |

## Receiving Notes

A Temperature Blank was included with the shipment. Temperature was measured and was not within $4 \pm 2^{\circ} \mathrm{C}$. Coolant in the form of blue ice was present. Analysis proceeded.

## Analytical Notes

Sampling volume was supplied by the client. A sample volume of 713 L was used to report sample Formaldehyde003-122415 and the Lab Blank.

## Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:
B - Compound present in laboratory blank greater than reporting limit.
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the detection limit.
M - Reported value may be biased due to apparent matrix interferences.
File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector

## Air Toxics

## Summary of Detected Compounds AMBIENT AIR: EPA METHOD TO-11A HPLC

Client Sample ID: Formaldehyde001-122415
Lab ID\#: 1512531A-01A

| Compound | Rpt. Limit <br> $(\mathrm{ug})$ | Rpt. Limit <br> $(\mathrm{ug} / \mathrm{m} 3)$ | Amount <br> $(\mathrm{ug})$ | Amount <br> $(\mathrm{ug} / \mathrm{m} 3)$ |
| :--- | :---: | :---: | :---: | :---: |
| Formaldehyde | 0.050 | 0.070 | 23 | 32 |

Client Sample ID: Formaldehyde002-122415
Lab ID\#: 1512531A-02A

| Compound | Rpt. Limit <br> $(u g)$ | Rpt. Limit <br> $(u g / \mathrm{m} 3)$ | Amount <br> $(\mathrm{ug})$ | Amount <br> $(\mathrm{ug} / \mathrm{m} 3)$ |
| :--- | :---: | :---: | :---: | :---: |
| Formaldehyde | 0.050 | 0.070 | 15 | 21 |

Client Sample ID: Formaldehyde003-122415
Lab ID\#: 1512531A-03A
No Detections Were Found.

## Air Toxics

Client Sample ID: Formaldehyde001-122415
Lab ID\#: 1512531A-01A
AMBIENT AIR: EPA METHOD TO-11A HPLC


## Air Toxics

Client Sample ID: Formaldehyde002-122415
Lab ID\#: 1512531A-02A
AMBIENT AIR: EPA METHOD TO-11A HPLC

| File Name: <br> Dil. Factor: | $\begin{array}{r} \mathrm{f} 0107013 \\ 1.00 \end{array}$ | Date of Collection: 12/24/15 6:00:00 AM <br> Date of Analysis: 1/7/16 02:56 PM <br> Date of Extraction: 1/7/16 |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Compound | Rpt. Limit (ug) | Rpt. Limit (ug/m3) | Amount (ug) | Amount (ug/m3) |
| Formaldehyde | 0.050 | 0.070 | 15 | 21 |
| Air Sample Vo Container Typ |  |  |  |  |

## Air Toxics

Client Sample ID: Formaldehyde003-122415
Lab ID\#: 1512531A-03A
AMBIENT AIR: EPA METHOD TO-11A HPLC


## Air Toxics

Client Sample ID: Lab Blank
Lab ID\#: 1512531A-04A
AMBIENT AIR: EPA METHOD TO-11A HPLC

| File Name: <br> Dil. Factor: | $\begin{array}{r} \mathrm{f} 0107009 \\ 1.00 \end{array}$ | Date of Collection: NA <br> Date of Analysis: 1/7/16 01:12 PM <br> Date of Extraction: 1/7/16 |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Compound | Rpt. Limit (ug) | Rpt. Limit (ug/m3) | Amount (ug) | Amount (ug/m3) |
| Formaldehyde | 0.050 | 0.070 | Not Detected | Not Detected |

Air Sample Volume(L): 713
Container Type: NA - Not Applicable

## Air Toxics

Client Sample ID: LCS
Lab ID\#: 1512531A-05A
AMBIENT AIR: EPA METHOD TO-11A HPLC

|  |  |  |
| :--- | ---: | :--- |
| File Name: | $\mathbf{f 0 1 0 7 0 0 7}$ | Date of Collection: NA |
| Dil. Factor: | 1.00 | Date of Analysis: 1/7/16 12:20 PM |
|  |  | Date of Extraction: 1/7/16 |

## Air Toxics

Client Sample ID: LCSD
Lab ID\#: 1512531A-05AA
AMBIENT AIR: EPA METHOD TO-11A HPLC

|  |  |  |
| :--- | ---: | :--- |
| File Name: | $\mathbf{f 0 1 0 7 0 0 8}$ | Date of Collection: NA |
| Dil. Factor: | 1.00 | Date of Analysis: 1/7/16 12:46 PM |
|  |  | Date of Extraction: 1/7/16 |
|  |  | Method |
| Compound |  | Limits |
| Formaldehyde |  | $85-115$ |
| Air Sample Volume(L): 1.00 |  |  |
| Container Type: NA - Not Applicable |  |  |



## Air Toxics

1/27/2016
Mr. Rhine Almonacy
The Louis Berger Group, Inc.
412 Mount Kemble Avenue
5th Floor
Morristown NJ 07960

Project Name: North River WWTP
Project \#:
Workorder \#: 1601036A

Dear Mr. Rhine Almonacy
The following report includes the data for the above referenced project for samples) received on 1/6/2016 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-11A are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,


Ausha Scott
Project Manager

## Air Toxics

## WORK ORDER \#: 1601036A

Work Order Summary

| CLIENT: | Mr. Rhine Almonacy <br> The Louis Berger Group, Inc. <br> 412 Mount Kemble Avenue <br> 5th Floor <br> Morristown, NJ 07960 | BILL TO: | Accounts Payable <br> The Louis Berger Group, Inc. <br> 412 Mount Kemble Avenue <br> 5th Floor <br> Morristown, NJ 07960 |
| :---: | :---: | :---: | :---: |
| PHONE: | 973-407-1000 | P.O. \# | 2001285.06.02 |
| FAX: |  | PROJECT \# | North River WWTP |
| DATE RECEIVED: <br> DATE COMPLETED: | $\begin{aligned} & 01 / 06 / 2016 \\ & 01 / 19 / 2016 \end{aligned}$ | CONTACT: | Ausha Scott |
| FRACTION \# | NAME | TEST |  |
| 01A | Formaldehyde 001-123015 | Modified TO-1 |  |
| 02A | Formaldehyde 002-123015 | Modified TO-1 |  |
| 03A | Formaldehyde 003-123015 | Modified TO-1 |  |
| 04A | Lab Blank | Modified TO-1 |  |
| 05A | LCS | Modified TO-1 |  |
| 05AA | LCSD | Modified TO-1 |  |

CERTIFIED BY:


DATE: $\quad 01 / 19 / 16$

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704343-14-7, UT NELAP CA009332014-5, VA NELAP - 460197, WA NELAP - C935 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)

Accreditation number: CA300005, Effective date: 10/18/2014, Expiration date: 10/17/2015.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards
This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.
180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

## LABORATORY NARRATIVE <br> Modified TO-11A <br> The Louis Berger Group, Inc. <br> Workorder\# 1601036A

Three TO-11 Cartridge samples were received on January 06, 2016. The laboratory performed analysis via modified Method TO-11A using reverse phase High Pressure Liquid Chromatography (HPLC) with an Ultraviolet (UV) Detector. The method involves eluting the sorbent tubes with acetonitrile using a gravity feed technique. Method modifications taken to run these samples include:

| Requirement | TO-11A | ATL Modifications |
| :--- | :--- | :--- |
| ACN Purity Check | Contribution of <br> analytes from ACN <br> determined as <br> described Sections <br> 9.1 .1 and 9.1.2 of <br> Compendium TO-11A. | Total contribution of analytes from ACN and cartridge <br> combined is determined. |
| Initial Calibration Curve <br> (ICAL) | Multi-point using <br> linear regression <br> performed every 6 <br> months; r^2 > 0.999 | Multi-point using average Response Factor; \% RSD </= <br> 10\%. Re-calibration if daily cal. fails, major <br> maintenance, or column change. Linear regression is <br> performed when requested. |
| Blank Subtraction | Average blank <br> concentrations <br> calculated. Blank value <br> subtracted from sample <br> result. | One Lab Blank is analyzed per batch; no blank <br> subtraction performed on samples. |

## Receiving Notes

A Temperature Blank was included with the shipment. Temperature was measured and was not within $4 \pm 2^{\circ} \mathrm{C}$. Coolant in the form of blue ice was present. Analysis proceeded.

## Analytical Notes

Sampling volume was supplied by the client. A sample volume of 713 L was used to report sample Formaldehyde 003-123015 and the Laboratory Blank.

## Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:
B - Compound present in laboratory blank greater than reporting limit.
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the detection limit.
M - Reported value may be biased due to apparent matrix interferences.

File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector

## Air Toxics

## Summary of Detected Compounds AMBIENT AIR: EPA METHOD TO-11A HPLC

Client Sample ID: Formaldehyde 001-123015
Lab ID\#: 1601036A-01A

| Compound | Rpt. Limit <br> $(\mathrm{ug})$ | Rpt. Limit <br> $(\mathrm{ug} / \mathrm{m} 3)$ | Amount <br> $(\mathrm{ug})$ | Amount <br> $(\mathrm{ug} / \mathrm{m} 3)$ |
| :--- | :---: | :---: | :---: | :---: |
| Formaldehyde | 0.050 | 0.070 | 3.3 | 4.7 |

Client Sample ID: Formaldehyde 002-123015
Lab ID\#: 1601036A-02A

| Compound | Rpt. Limit <br> $(\mathrm{ug})$ | Rpt. Limit <br> $(\mathrm{ug} / \mathrm{m} 3)$ | Amount <br> $(\mathrm{ug})$ | Amount <br> $(\mathrm{ug} / \mathrm{m} 3)$ |
| :--- | :---: | :---: | :---: | :---: |
| Formaldehyde | 0.050 | 0.070 | 4.2 | 5.8 |

Client Sample ID: Formaldehyde 003-123015
Lab ID\#: 1601036A-03A
No Detections Were Found.

## Air Toxics

Client Sample ID: Formaldehyde 001-123015
Lab ID\#: 1601036A-01A
AMBIENT AIR: EPA METHOD TO-11A HPLC

| File Name: <br> Dil. Factor: | $\begin{array}{r} \mathrm{f} 0107014 \\ 1.00 \end{array}$ | Date of Collection: 12/30/15 6:00:00 PM <br> Date of Analysis: 1/7/16 03:22 PM <br> Date of Extraction: 1/7/16 |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Compound | Rpt. Limit (ug) | Rpt. Limit (ug/m3) | Amount (ug) | Amount (ug/m3) |
| Formaldehyde | 0.050 | 0.070 | 3.3 | 4.7 |
| Air Sample Vo Container Typ |  |  |  |  |

## Air Toxics

Client Sample ID: Formaldehyde 002-123015
Lab ID\#: 1601036A-02A
AMBIENT AIR: EPA METHOD TO-11A HPLC


## Air Toxics

Client Sample ID: Formaldehyde 003-123015
Lab ID\#: 1601036A-03A
AMBIENT AIR: EPA METHOD TO-11A HPLC

|  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: |
| File Name: | $\mathbf{f 0 1 0 7 0 1 1}$ |  | Date of Collection: 12/30/15 <br> Dil. Factor: | $\mathbf{1 . 0 0}$ |

## Air Toxics

Client Sample ID: Lab Blank
Lab ID\#: 1601036A-04A
AMBIENT AIR: EPA METHOD TO-11A HPLC

| File Name: <br> Dil. Factor: | $\begin{array}{r} \mathrm{f} 0107009 \\ 1.00 \end{array}$ | Date of Collection: NA <br> Date of Analysis: 1/7/16 01:12 PM <br> Date of Extraction: 1/7/16 |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Compound | Rpt. Limit (ug) | Rpt. Limit (ug/m3) | Amount (ug) | Amount (ug/m3) |
| Formaldehyde | 0.050 | 0.070 | Not Detected | Not Detected |

Air Sample Volume(L): 713
Container Type: NA - Not Applicable

## Air Toxics

Client Sample ID: LCS
Lab ID\#: 1601036A-05A
AMBIENT AIR: EPA METHOD TO-11A HPLC

|  |  |  |
| :--- | ---: | :--- |
| File Name: | $\mathbf{f 0 1 0 7 0 0 7}$ | Date of Collection: NA |
| Dil. Factor: | 1.00 | Date of Analysis: 1/7/16 12:20 PM |
|  |  | Date of Extraction: 1/7/16 |

## Air Toxics

Client Sample ID: LCSD
Lab ID\#: 1601036A-05AA
AMBIENT AIR: EPA METHOD TO-11A HPLC

|  |  |  |
| :--- | ---: | :--- |
| File Name: | $\mathbf{f 0 1 0 7 0 0 8}$ | Date of Collection: NA |
| Dil. Factor: | 1.00 | Date of Analysis: 1/7/16 12:46 PM |
|  |  | Date of Extraction: 1/7/16 |
|  |  | Method |
| Compound |  | Limits |
| Formaldehyde |  | $85-115$ |
| Air Sample Volume(L): 1.00 |  |  |
| Container Type: NA - Not Applicable |  |  |



## APPENDIX B

## Met Tower Data

## Met Tower Data Summary Report

Company:

Data Group: Report Name:

New York City D. E. P.
North River Wastewater Treatment Plant
New York, NY 10031
Valid Met Tower Data on Formaldehyde Sampling Date
4th Quarter 2015

Environmental Protection

| Date \& Time | WS | Status | WD | Status |
| :---: | :---: | :---: | :---: | :---: |
|  | mph |  | Deg |  |
| 02/10/2015 00:00 | 4.9 | Ok | 31.8 | Ok |
| 02/10/2015 01:00 | 6.5 | Ok | 34.1 | Ok |
| 02/10/2015 02:00 | 6.1 | Ok | 33.7 | Ok |
| 02/10/2015 03:00 | 5.9 | Ok | 30.5 | Ok |
| 02/10/2015 04:00 | 6 | Ok | 26.7 | Ok |
| 02/10/2015 05:00 | 5.4 | Ok | 29.8 | Ok |
| 02/10/2015 06:00 | 4.9 | Ok | 32.1 | Ok |
| 02/10/2015 07:00 | 5.2 | Ok | 27.9 | Ok |
| 02/10/2015 08:00 | 5.2 | Ok | 28.9 | Ok |
| 02/10/2015 09:00 | 5.4 | Ok | 27.9 | Ok |
| 02/10/2015 10:00 | 5.6 | Ok | 31.2 | Ok |
| 02/10/2015 11:00 | 5.6 | Ok | 31 | Ok |
| 02/10/2015 12:00 | 5.8 | Ok | 37.6 | Ok |
| 02/10/2015 13:00 | 6 | Ok | 33.6 | Ok |
| 02/10/2015 14:00 | 5.8 | Ok | 34 | Ok |
| 02/10/2015 15:00 | 6.3 | Ok | 28.4 | Ok |
| 02/10/2015 16:00 | 5.7 | Ok | 29.7 | Ok |
| 02/10/2015 17:00 | 5.8 | Ok | 27.6 | Ok |
| 02/10/2015 18:00 | 6 | Ok | 31 | Ok |
| 02/10/2015 19:00 | 6.6 | Ok | 35.5 | Ok |
| 02/10/2015 20:00 | 7.3 | Ok | 35.8 | Ok |
| 02/10/2015 21:00 | 6.7 | Ok | 37.6 | Ok |
| 02/10/2015 22:00 | 6.3 | Ok | 37 | Ok |
| 02/10/2015 23:00 | 6.4 | Ok | 36.9 | Ok |
|  |  |  |  |  |
| 07/10/2015 00:00 | 2.2 | Ok | 350.9 | Ok |
| 07/10/2015 01:00 | 1.5 | Ok | 336.7 | Ok |
| 07/10/2015 02:00 | 1.6 | Ok | 348.6 | Ok |
| 07/10/2015 03:00 | 2 | Ok | 5 | Ok |
| 07/10/2015 04:00 | 2.8 | Ok | 7.6 | Ok |
| 07/10/2015 05:00 | 2.3 | Ok | 3.2 | Ok |
| 07/10/2015 06:00 | 2.7 | Ok | 10.6 | Ok |
| 07/10/2015 07:00 | 2.2 | Ok | 5.6 | Ok |
| 07/10/2015 08:00 | 2.1 | Ok | 10.1 | Ok |
| 07/10/2015 09:00 | 1.5 | Ok | 347.5 | Ok |
| 07/10/2015 10:00 | 1.3 | Ok | 333.9 | Ok |
| 07/10/2015 11:00 | 4.6 | Ok | 329.5 | Ok |
| 07/10/2015 12:00 | 4.3 | Ok | 315.6 | Ok |
| 07/10/2015 13:00 | 3.9 | Ok | 309.8 | Ok |
| 07/10/2015 14:00 | 2.5 | Ok | 338.4 | Ok |
| 07/10/2015 15:00 | 4.8 | Ok | 328.8 | Ok |
| 07/10/2015 16:00 | 9.9 | Ok | 153.5 | Ok |


| 07/10/2015 17:00 | 7.1 | Ok | 147.5 | Ok |
| :---: | :---: | :---: | :---: | :---: |
| 07/10/2015 18:00 | 2 | Ok | 317.1 | Ok |
| 07/10/2015 19:00 | 7.4 | Ok | 280.4 | Ok |
| 07/10/2015 20:00 | 5 | Ok | 282.3 | Ok |
| 07/10/2015 21:00 | 2.8 | Ok | 295.2 | Ok |
| 07/10/2015 22:00 | 2.6 | Ok | 249 | Ok |
| 07/10/2015 23:00 | 8.7 | Ok | 195.4 | Ok |
|  |  |  |  |  |
| 13/10/2015 00:00 | 8.4 | Ok | 205.3 | Ok |
| 13/10/2015 01:00 | 11.6 | Ok | 218.9 | Ok |
| 13/10/2015 02:00 | 18.7 | Ok | 181 | Ok |
| 13/10/2015 03:00 | 6.6 | Ok | 215.8 | Ok |
| 13/10/2015 04:00 | 1 | Ok | 111 | Ok |
| 13/10/2015 05:00 | 1.2 | Ok | 128.2 | Ok |
| 13/10/2015 06:00 | 1.6 | Ok | 115.8 | Ok |
| 13/10/2015 07:00 | 2.6 | Ok | 150.4 | Ok |
| 13/10/2015 08:00 | 12.5 | Ok | 216.7 | Ok |
| 13/10/2015 09:00 | 20.7 | Ok | 42 | Ok |
| 13/10/2015 10:00 | 7.1 | Ok | 217.2 | Ok |
| 13/10/2015 11:00 | 11.8 | Ok | 291 | Ok |
| 13/10/2015 12:00 | 10.8 | Ok | 270.8 | Ok |
| 13/10/2015 13:00 | 11.5 | Ok | 258.5 | Ok |
| 13/10/2015 14:00 | 12.5 | Ok | 274.8 | Ok |
| 13/10/2015 15:00 | 11 | Ok | 268.5 | Ok |
| 13/10/2015 16:00 | 12.1 | Ok | 278 | Ok |
| 13/10/2015 17:00 | 14.8 | Ok | 326.2 | Ok |
| 13/10/2015 18:00 | 16.8 | Ok | 336.5 | Ok |
| 13/10/2015 19:00 | 10.8 | Ok | 269.1 | Ok |
| 13/10/2015 20:00 | 17.2 | Ok | 286.2 | Ok |
| 13/10/2015 21:00 | 13.3 | Ok | 282.7 | Ok |
| 13/10/2015 22:00 | 13.9 | Ok | 304.2 | Ok |
| 13/10/2015 23:00 | 21 | Ok | 288 | Ok |
|  |  |  |  |  |
| 25/10/2015 00:00 | 12.5 | Ok | 182.1 | Ok |
| 25/10/2015 01:00 | 10.5 | Ok | 181.8 | Ok |
| 25/10/2015 02:00 | 13.2 | Ok | 167 | Ok |
| 25/10/2015 03:00 | 19.4 | Ok | 59.2 | Ok |
| 25/10/2015 04:00 | 11.7 | Ok | 186.5 | Ok |
| 25/10/2015 05:00 | 7.9 | Ok | 206.5 | Ok |
| 25/10/2015 06:00 | 8.6 | Ok | 198.2 | Ok |
| 25/10/2015 07:00 | 13 | Ok | 204.2 | Ok |
| 25/10/2015 08:00 | 11.7 | Ok | 206.7 | Ok |
| 25/10/2015 09:00 | 12.2 | Ok | 224.4 | Ok |
| 25/10/2015 10:00 | 12.2 | Ok | 274.8 | Ok |
| 25/10/2015 11:00 | 12.4 | Ok | 274.5 | Ok |
| 25/10/2015 12:00 | 13.3 | Ok | 284 | Ok |
| 25/10/2015 13:00 | 3.6 | Ok | 303 | Ok |
| 25/10/2015 14:00 | 9.9 | Ok | 298.3 | Ok |
| 25/10/2015 15:00 | 5.5 | Ok | 335.7 | Ok |
| 25/10/2015 16:00 | 5.2 | Ok | 352 | Ok |
| 25/10/2015 17:00 | 5.1 | Ok | 343 | Ok |
| 25/10/2015 18:00 | 4.8 | Ok | 329.4 | Ok |


| 25/10/2015 19:00 | 7.3 | Ok | 325.7 | Ok |
| :---: | :---: | :---: | :---: | :---: |
| 25/10/2015 20:00 | 3.5 | Ok | 324.1 | Ok |
| 25/10/2015 21:00 | 3.4 | Ok | 349.5 | Ok |
| 25/10/2015 22:00 | 9.2 | Ok | 2.6 | Ok |
| 25/10/2015 23:00 | 2.5 | Ok | 346.7 | Ok |
|  |  |  |  |  |
| 30/10/2015 00:00 | 10.5 | Ok | 262.2 | Ok |
| 30/10/2015 01:00 | 15.4 | Ok | 288.3 | Ok |
| 30/10/2015 02:00 | 16.3 | Ok | 309.1 | Ok |
| 30/10/2015 03:00 | 15.8 | Ok | 284.2 | Ok |
| 30/10/2015 04:00 | 10.7 | Ok | 275 | Ok |
| 30/10/2015 05:00 | 9.7 | Ok | 271.5 | Ok |
| 30/10/2015 06:00 | 14.4 | Ok | 288.6 | Ok |
| 30/10/2015 07:00 | 18.7 | Ok | 291.1 | Ok |
| 30/10/2015 08:00 | 17.1 | Ok | 253.4 | Ok |
| 30/10/2015 09:00 | 4.9 | Ok | 309.7 | Ok |
| 30/10/2015 10:00 | 4.7 | Ok | 316.8 | Ok |
| 30/10/2015 11:00 | 13.6 | Ok | 329.1 | Ok |
| 30/10/2015 12:00 | 16.1 | Ok | 145 | Ok |
| 30/10/2015 13:00 | 5.3 | Ok | 331.3 | Ok |
| 30/10/2015 14:00 | 4.9 | Ok | 328.4 | Ok |
| 30/10/2015 15:00 | 5 | Ok | 322.7 | Ok |
| 30/10/2015 16:00 | 4.4 | Ok | 338.2 | Ok |
| 30/10/2015 17:00 | 3.3 | Ok | 334.4 | Ok |
| 30/10/2015 18:00 | 3.2 | Ok | 329.2 | Ok |
| 30/10/2015 19:00 | 3.7 | Ok | 335 | Ok |
| 30/10/2015 20:00 | 5.5 | Ok | 340.7 | Ok |
| 30/10/2015 21:00 | 3.7 | Ok | 343.2 | Ok |
| 30/10/2015 22:00 | 3.2 | Ok | 353.5 | Ok |
| 30/10/2015 23:00 | 4.6 | Ok | 7.1 | Ok |
|  |  |  |  |  |
| 06/11/2015 00:00 | 17.1 | Ok | 208.7 | Ok |
| 06/11/2015 01:00 | 5.5 | Ok | 214.3 | Ok |
| 06/11/2015 02:00 | 9.3 | Ok | 206.5 | Ok |
| 06/11/2015 03:00 | 12 | Ok | 217.5 | Ok |
| 06/11/2015 04:00 | 13.3 | Ok | 204.7 | Ok |
| 06/11/2015 05:00 | 11.4 | Ok | 221.4 | Ok |
| 06/11/2015 06:00 | 9.5 | Ok | 213.1 | Ok |
| 06/11/2015 07:00 | 12 | Ok | 218.3 | Ok |
| 06/11/2015 08:00 | 8.8 | Ok | 220.6 | Ok |
| 06/11/2015 09:00 | 8.5 | Ok | 217.2 | Ok |
| 06/11/2015 10:00 | 6.4 | Ok | 216 | Ok |
| 06/11/2015 11:00 | 6.6 | Ok | 213.7 | Ok |
| 06/11/2015 12:00 | 10.1 | Ok | 216.3 | Ok |
| 06/11/2015 13:00 | 9.2 | Ok | 187.4 | Ok |
| 06/11/2015 14:00 | 10.5 | Ok | 212.2 | Ok |
| 06/11/2015 15:00 | 11.7 | Ok | 232.1 | Ok |
| 06/11/2015 16:00 | 11.4 | Ok | 238.7 | Ok |
| 06/11/2015 17:00 | 8.3 | Ok | 222.8 | Ok |
| 06/11/2015 18:00 | 16.2 | Ok | 289.3 | Ok |
| 06/11/2015 19:00 | 13.4 | Ok | 246.2 | Ok |
| 06/11/2015 20:00 | 14.8 | Ok | 225.8 | Ok |


| 06/11/2015 21:00 | 13.1 | Ok | 315.9 | Ok |
| :---: | :---: | :---: | :---: | :---: |
| 06/11/2015 22:00 | 26.6 | Ok | 293.5 | Ok |
| 06/11/2015 23:00 | 41.7 | Ok | 151.5 | Ok |
| 12/11/2015 00:00 | 2 | Ok | 78.4 | Ok |
| 12/11/2015 01:00 | 1.8 | Ok | 61.7 | Ok |
| 12/11/2015 02:00 | 3.2 | Ok | 89.1 | Ok |
| 12/11/2015 03:00 | 2.7 | Ok | 110.2 | Ok |
| 12/11/2015 04:00 | 2.3 | Ok | 129 | Ok |
| 12/11/2015 05:00 | 4.4 | Ok | 114.9 | Ok |
| 12/11/2015 06:00 | 2.5 | Ok | 132 | Ok |
| 12/11/2015 07:00 | 2.3 | Ok | 125.4 | Ok |
| 12/11/2015 08:00 | 2 | Ok | 120 | Ok |
| 12/11/2015 09:00 | 2.9 | Ok | 135.9 | Ok |
| 12/11/2015 10:00 | 3.4 | Ok | 162.3 | Ok |
| 12/11/2015 11:00 | 3.6 | Ok | 173.2 | Ok |
| 12/11/2015 12:00 | 5.4 | Ok | 179.3 | Ok |
| 12/11/2015 13:00 | 9.2 | Ok | 188.5 | Ok |
| 12/11/2015 14:00 | 8.3 | Ok | 187.8 | Ok |
| 12/11/2015 15:00 | 6.4 | Ok | 178.2 | Ok |
| 12/11/2015 16:00 | 9.9 | Ok | 196.7 | Ok |
| 12/11/2015 17:00 | 11.3 | Ok | 203.8 | Ok |
| 12/11/2015 18:00 | 9.6 | Ok | 208.8 | Ok |
| 12/11/2015 19:00 | 12.7 | Ok | 217.4 | Ok |
| 12/11/2015 20:00 | 10.4 | Ok | 230.5 | Ok |
| 12/11/2015 21:00 | 12.3 | Ok | 264.4 | Ok |
| 12/11/2015 22:00 | 12.9 | Ok | 278.9 | Ok |
| 12/11/2015 23:00 | 9 | Ok | 277.1 | Ok |
| 18/11/2015 00:00 | 2.6 | Ok | 80.6 | Ok |
| 18/11/2015 01:00 | 2.9 | Ok | 81.5 | Ok |
| 18/11/2015 02:00 | 2.8 | Ok | 75.6 | Ok |
| 18/11/2015 03:00 | 2.6 | Ok | 97.4 | Ok |
| 18/11/2015 04:00 | 2.9 | Ok | 101.6 | Ok |
| 18/11/2015 05:00 | 3.1 | Ok | 101.9 | Ok |
| 18/11/2015 06:00 | 2.6 | Ok | 92.8 | Ok |
| 18/11/2015 07:00 | 2.6 | Ok | 89.8 | Ok |
| 18/11/2015 08:00 | 2.7 | Ok | 90.4 | Ok |
| 18/11/2015 09:00 | 2.8 | Ok | 93.7 | Ok |
| 18/11/2015 10:00 | 3.3 | Ok | 108.4 | Ok |
| 18/11/2015 11:00 | 3.1 | Ok | 126.8 | Ok |
| 18/11/2015 12:00 | 2.8 | Ok | 128.7 | Ok |
| 18/11/2015 13:00 | 2.8 | Ok | 131.7 | Ok |
| 18/11/2015 14:00 | 3 | Ok | 135.7 | Ok |
| 18/11/2015 15:00 | 3 | Ok | 124 | Ok |
| 18/11/2015 16:00 | 2.8 | Ok | 117.2 | Ok |
| 18/11/2015 17:00 | 3.4 | Ok | 111 | Ok |
| 18/11/2015 18:00 | 3 | Ok | 109.4 | Ok |
| 18/11/2015 19:00 | 3.1 | Ok | 119.7 | Ok |
| 18/11/2015 20:00 | 2.9 | Ok | 121.2 | Ok |
| 18/11/2015 21:00 | 3.1 | Ok | 125 | Ok |
| 18/11/2015 22:00 | 2.9 | Ok | 128.2 | Ok |


| 18/11/2015 23:00 | 3 | Ok | 118.5 | Ok |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |
| 24/11/2015 00:00 | 8.6 | Ok | 289.6 | Ok |
| 24/11/2015 01:00 | 7.3 | Ok | 291.4 | Ok |
| 24/11/2015 02:00 | 12.9 | Ok | 44.7 | Ok |
| 24/11/2015 03:00 | 16.4 | Ok | 58.6 | Ok |
| 24/11/2015 04:00 | 13.1 | Ok | 161.1 | Ok |
| 24/11/2015 05:00 | 12.6 | Ok | 298.4 | Ok |
| 24/11/2015 06:00 | 17.4 | Ok | 53.5 | Ok |
| 24/11/2015 07:00 | 19.8 | Ok | 37.4 | Ok |
| 24/11/2015 08:00 | 13.1 | Ok | 18.4 | Ok |
| 24/11/2015 09:00 | 16.7 | Ok | 25.5 | Ok |
| 24/11/2015 10:00 | 10.1 | Ok | 214.6 | Ok |
| 24/11/2015 11:00 | 10.4 | Ok | 280.6 | Ok |
| 24/11/2015 12:00 | 6.9 | Ok | 248.1 | Ok |
| 24/11/2015 13:00 | 7.1 | Ok | 258.9 | Ok |
| 24/11/2015 14:00 | 13.5 | Ok | 13.1 | Ok |
| 24/11/2015 15:00 | 14.9 | Ok | 339.8 | Ok |
| 24/11/2015 16:00 | 7.1 | Ok | 278.4 | Ok |
| 24/11/2015 17:00 | 5.2 | Ok | 268.1 | Ok |
| 24/11/2015 18:00 | 8.5 | Ok | 232.7 | Ok |
| 24/11/2015 19:00 | 3.5 | Ok | 296.9 | Ok |
| 24/11/2015 20:00 | 3 | Ok | 319.5 | Ok |
| 24/11/2015 21:00 | 2.7 | Ok | 338.5 | Ok |
| 24/11/2015 22:00 | 2.4 | Ok | 304.6 | Ok |
| 24/11/2015 23:00 | 3.5 | Ok | 278.8 | Ok |
|  |  |  |  |  |
| 30/11/2015 00:00 | 5.6 | Ok | 48.1 | Ok |
| 30/11/2015 01:00 | 5.7 | Ok | 44.3 | Ok |
| 30/11/2015 02:00 | 5.1 | Ok | 51 | Ok |
| 30/11/2015 03:00 | 5.3 | Ok | 51.2 | Ok |
| 30/11/2015 04:00 | 5.1 | Ok | 48.6 | Ok |
| 30/11/2015 05:00 | 4.9 | Ok | 50 | Ok |
| 30/11/2015 06:00 | 4.7 | Ok | 49.5 | Ok |
| 30/11/2015 07:00 | 4.7 | Ok | 52.7 | Ok |
| 30/11/2015 08:00 | 4.2 | Ok | 47.7 | Ok |
| 30/11/2015 09:00 | 3.9 | Ok | 44.7 | Ok |
| 30/11/2015 10:00 | 4.7 | Ok | 45.2 | Ok |
| 30/11/2015 11:00 | 4.2 | Ok | 46.5 | Ok |
| 30/11/2015 12:00 | 4.1 | Ok | 39.7 | Ok |
| 30/11/2015 13:00 | 3.9 | Ok | 51 | Ok |
| 30/11/2015 14:00 | 4.1 | Ok | 39.4 | Ok |
| 30/11/2015 15:00 | 3.9 | Ok | 42.2 | Ok |
| 30/11/2015 16:00 | 3.2 | Ok | 41.6 | Ok |
| 30/11/2015 17:00 | 2.5 | Ok | 39.5 | Ok |
| 30/11/2015 18:00 | 2.5 | Ok | 58.8 | Ok |
| 30/11/2015 19:00 | 3.5 | Ok | 83.2 | Ok |
| 30/11/2015 20:00 | 4.4 | Ok | 83.1 | Ok |
| 30/11/2015 21:00 | 3.9 | Ok | 82.5 | Ok |
| 30/11/2015 22:00 | 2.8 | Ok | 83.1 | Ok |
| 30/11/2015 23:00 | 3 | Ok | 62.2 | Ok |


| 06/12/2015 00:00 | 9.7 | Ok | 10.9 | Ok |
| :---: | :---: | :---: | :---: | :---: |
| 06/12/2015 01:00 | 2.3 | Ok | 312.7 | Ok |
| 06/12/2015 02:00 | 4 | Ok | 301.4 | Ok |
| 06/12/2015 03:00 | 1.3 | Ok | 305.7 | Ok |
| 06/12/2015 04:00 | 1.4 | Ok | 328.5 | Ok |
| 06/12/2015 05:00 | 1.6 | Ok | 336.2 | Ok |
| 06/12/2015 06:00 | 1.3 | Ok | 6.8 | Ok |
| 06/12/2015 07:00 | 1.5 | Ok | 337.7 | Ok |
| 06/12/2015 08:00 | 1.7 | Ok | 286.6 | Ok |
| 06/12/2015 09:00 | 7.4 | Ok | 267.4 | Ok |
| 06/12/2015 10:00 | 5.7 | Ok | 201.3 | Ok |
| 06/12/2015 11:00 | 14.8 | Ok | 71.7 | Ok |
| 06/12/2015 12:00 | 14.6 | Ok | 41.9 | Ok |
| 06/12/2015 13:00 | 13.7 | Ok | 43.1 | Ok |
| 06/12/2015 14:00 | 13.8 | Ok | 40.8 | Ok |
| 06/12/2015 15:00 | 5.3 | Ok | 228.4 | Ok |
| 06/12/2015 16:00 | 3.6 | Ok | 217.1 | Ok |
| 06/12/2015 17:00 | 4.9 | Ok | 217 | Ok |
| 06/12/2015 18:00 | 6.3 | Ok | 218.1 | Ok |
| 06/12/2015 19:00 | 8.5 | Ok | 10.7 | Ok |
| 06/12/2015 20:00 | 8.2 | Ok | 32.3 | Ok |
| 06/12/2015 21:00 | 7.3 | Ok | 218.1 | Ok |
| 06/12/2015 22:00 | 4.1 | Ok | 212.3 | Ok |
| 06/12/2015 23:00 | 6.7 | Ok | 225.7 | Ok |
|  |  |  |  |  |
| 12/12/2015 00:00 | 13.2 | Ok | 248.1 | Ok |
| 12/12/2015 01:00 | 14.2 | Ok | 21.2 | Ok |
| 12/12/2015 02:00 | 16.5 | Ok | 27.5 | Ok |
| 12/12/2015 03:00 | 15.7 | Ok | 305.5 | Ok |
| 12/12/2015 04:00 | 13.6 | Ok | 211.7 | Ok |
| 12/12/2015 05:00 | 9.7 | Ok | 208.7 | Ok |
| 12/12/2015 06:00 | 12.1 | Ok | 52.3 | Ok |
| 12/12/2015 07:00 | 15 | Ok | 63.6 | Ok |
| 12/12/2015 08:00 | 0.6 | Ok | 280.4 | Ok |
| 12/12/2015 09:00 | 7.6 | Ok | 275.9 | Ok |
| 12/12/2015 10:00 | 6.3 | Ok | 200.6 | Ok |
| 12/12/2015 11:00 | 7.2 | Ok | 205.3 | Ok |
| 12/12/2015 12:00 | 8.4 | Ok | 189.3 | Ok |
| 12/12/2015 13:00 | 5.7 | Ok | 205.4 | Ok |
| 12/12/2015 14:00 | 0.9 | Ok | 358.7 | Ok |
| 12/12/2015 15:00 | 10.9 | Ok | 262.4 | Ok |
| 12/12/2015 16:00 | 7.6 | Ok | 134.4 | Ok |
| 12/12/2015 17:00 | 1 | Ok | 190.6 | Ok |
| 12/12/2015 18:00 | 0.4 | Ok | 298.7 | Ok |
| 12/12/2015 19:00 | 0.8 | Ok | 237.4 | Ok |
| 12/12/2015 20:00 | 0.9 | Ok | 253.5 | Ok |
| 12/12/2015 21:00 | 0.7 | Ok | 228.1 | Ok |
| 12/12/2015 22:00 | 6.6 | Ok | 185.4 | Ok |
| 12/12/2015 23:00 | 13.4 | Ok | 99.4 | Ok |
|  |  |  |  |  |
| 18/12/2015 00:00 | 12.8 | Ok | 280.1 | Ok |
| 18/12/2015 01:00 | 21.8 | Ok | 281.5 | Ok |


| 18/12/2015 02:00 | 27.3 | Ok | 158.3 | Ok |
| :---: | :---: | :---: | :---: | :---: |
| 18/12/2015 03:00 | 24 | Ok | 227.7 | Ok |
| 18/12/2015 04:00 | 24.9 | Ok | 292.7 | Ok |
| 18/12/2015 05:00 | 30.5 | Ok | 202.1 | Ok |
| 18/12/2015 06:00 | 4.8 | Ok | 324.6 | Ok |
| 18/12/2015 07:00 | 3.6 | Ok | 326.9 | Ok |
| 18/12/2015 08:00 | 8.2 | Ok | 339.8 | Ok |
| 18/12/2015 09:00 | 3.5 | Ok | 344.4 | Ok |
| 18/12/2015 10:00 | 3.9 | Ok | 336.5 | Ok |
| 18/12/2015 11:00 | 4.7 | Ok | 342.4 | Ok |
| 18/12/2015 12:00 | 9.4 | Ok | 355.2 | Ok |
| 18/12/2015 13:00 | 4 | Ok | 331 | Ok |
| 18/12/2015 14:00 | 3.8 | Ok | 338 | Ok |
| 18/12/2015 15:00 | 5 | Ok | 323.1 | Ok |
| 18/12/2015 16:00 | 7.9 | Ok | 329.8 | Ok |
| 18/12/2015 17:00 | 8.2 | Ok | 296.3 | Ok |
| 18/12/2015 18:00 | 5.9 | Ok | 306.5 | Ok |
| 18/12/2015 19:00 | 5.3 | Ok | 295.2 | Ok |
| 18/12/2015 20:00 | 9.5 | Ok | 271.4 | Ok |
| 18/12/2015 21:00 | 5.5 | Ok | 300.7 | Ok |
| 18/12/2015 22:00 | 7.5 | Ok | 290.4 | Ok |
| 18/12/2015 23:00 | 11 | Ok | 228.2 | Ok |
|  |  |  |  |  |
| 24/12/2015 00:00 | 10.6 | Ok | 41.1 | Ok |
| 24/12/2015 01:00 | 2.8 | Ok | 143.1 | Ok |
| 24/12/2015 02:00 | 1.8 | Ok | 152 | Ok |
| 24/12/2015 03:00 | 2.4 | Ok | 128.8 | Ok |
| 24/12/2015 04:00 | 2 | Ok | 111 | Ok |
| 24/12/2015 05:00 | 1.6 | Ok | 117.7 | Ok |
| 24/12/2015 06:00 | 2 | Ok | 118.7 | Ok |
| 24/12/2015 07:00 | 5.7 | Ok | 179.8 | Ok |
| 24/12/2015 08:00 | 9.3 | Ok | 201.2 | Ok |
| 24/12/2015 09:00 | 12.6 | Ok | 50.8 | Ok |
| 24/12/2015 10:00 | 22.1 | Ok | 47.2 | Ok |
| 24/12/2015 11:00 | 16.3 | Ok | 85.9 | Ok |
| 24/12/2015 12:00 | 7.6 | Ok | 220.5 | Ok |
| 24/12/2015 13:00 | 12.6 | Ok | 252.1 | Ok |
| 24/12/2015 14:00 | 11.7 | Ok | 253.6 | Ok |
| 24/12/2015 15:00 | 13.7 | Ok | 291.5 | Ok |
| 24/12/2015 16:00 | 16.6 | Ok | 222.4 | Ok |
| 24/12/2015 17:00 | 14.2 | Ok | 232.4 | Ok |
| 24/12/2015 18:00 | 18.8 | Ok | 246.9 | Ok |
| 24/12/2015 19:00 | 40.9 | Ok | 158.7 | Ok |
| 24/12/2015 20:00 | 15.7 | Ok | 196.9 | Ok |
| 24/12/2015 21:00 | 7.8 | Ok | 178.8 | Ok |
| 24/12/2015 22:00 | 9 | Ok | 194.1 | Ok |
| 24/12/2015 23:00 | 0.5 | Ok | 1.4 | Ok |
|  |  |  |  |  |
| 30/12/2015 00:00 | 2.2 | Ok | 15.7 | Ok |
| 30/12/2015 01:00 | 2.1 | Ok | 71 | Ok |
| 30/12/2015 02:00 | 2.6 | Ok | 86.6 | Ok |
| 30/12/2015 03:00 | 2.1 | Ok | 65.9 | Ok |


| $30 / 12 / 201504: 00$ | 2.4 | Ok | 94.3 | Ok |
| :---: | :---: | :---: | :---: | :---: |
| $30 / 12 / 201505: 00$ | 2.1 | Ok | 91.9 | Ok |
| $30 / 12 / 201506: 00$ | 2.6 | Ok | 99.2 | Ok |
| $30 / 12 / 201507: 00$ | 2 | Ok | 123.2 | Ok |
| $30 / 12 / 201508: 00$ | 2.6 | Ok | 96 | Ok |
| $30 / 12 / 201509: 00$ | 1.9 | Ok | 69.8 | Ok |
| $30 / 12 / 201510: 00$ | 3 | Ok | 83.2 | Ok |
| $30 / 12 / 201511: 00$ | 2.6 | Ok | 91.7 | Ok |
| $30 / 12 / 201512: 00$ | 2.8 | Ok | 84.9 | Ok |
| $30 / 12 / 201513: 00$ | 1.8 | Ok | 61.3 | Ok |
| $30 / 12 / 201514: 00$ | 2.6 | Ok | 87.8 | Ok |
| $30 / 12 / 201515: 00$ | 2.5 | Ok | 62.7 | Ok |
| $30 / 12 / 201516: 00$ | 2.8 | Ok | 78.3 | Ok |
| $30 / 12 / 201517: 00$ | 3.4 | Ok | 84.4 | Ok |
| $30 / 12 / 201518: 00$ | 2.2 | Ok | 99.4 | Ok |
| $30 / 12 / 201519: 00$ | 2.6 | Ok | 84 | Ok |
| $30 / 12 / 201520: 00$ | 2.6 | Ok | 96.7 | Ok |
| $30 / 12 / 201521: 00$ | 1.8 | Ok | 69 | Ok |
| $30 / 12 / 201522: 00$ | 2.9 | Ok | 12.6 | Ok |
| $30 / 12 / 201523: 00$ | 3.3 | Ok | 18.9 | Ok |

## APPENDIX C

## Flow Rate and Volume

Flow Rate Set Point $1.00 \mathrm{l} / \mathrm{min}$
Stopped Thursday, September 24, 2015 18:00:25
Total Volume 713.09 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.991 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate 0.004 1/min
Ending Leak Rate $0.003 \mathrm{l} / \mathrm{min}$
Flow Controller Zero -0.009 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Thursday, September 24, 2015 6:00:27 0.079 $0.23 \quad 50.1$
Thursday, September 24, 2015 6:05:27 0.991 $5.18 \quad 49.8$
Thursday, September 24, 2015 6:10:28 $0.991 \quad 10.15 \quad 50.1$
Thursday, September 24, 2015 6:15:28 $0.991 \quad 15.10 \quad 50.4$
Thursday, September 24, 2015 6:20:29 $0.991 \quad 20.07 \quad 50.2$
Thursday, September 24, 2015 6:25:29 $0.991 \quad 25.03 \quad 50.1$
Thursday, September 24, 2015 6:30:30 $0.991 \quad 30.00 \quad 50.1$
Thursday, September 24, 2015 6:35:30 0.991 $34.95 \quad 50.2$
Thursday, September 24, 2015 6:40:31 0.991 $39.92 \quad 50.2$
Thursday, September 24, 2015 6:45:31 0.991 $44.87 \quad 50.1$
Thursday, September 24, 2015 6:50:32 0.991 $49.84 \quad 50.2$
Thursday, September 24, 2015 6:55:33 $0.991 \quad 54.81 \quad 50.0$
Thursday, September 24, 2015 7:00:33 0.991 $59.77 \quad 50.2$
Thursday, September 24, 2015 7:05:34 0.991 $64.73 \quad 50.1$
Thursday, September 24, 2015 7:10:34 0.991 $69.69 \quad 50.1$
Thursday, September 24, 2015 7:15:35 0.991 $74.66 \quad 50.1$
Thursday, September 24, 2015 7:20:35 0.991 $79.61 \quad 50.2$
Thursday, September 24, 2015 7:25:36 0.991 $\quad 84.58 \quad 50.2$
Thursday, September 24, 2015 7:30:36 0.991 $\quad 89.53 \quad 49.8$
Thursday, September 24, 2015 7:35:37 $0.991 \quad 94.50 \quad 50.1$
Thursday, September 24, 2015 7:40:37 $0.991 \quad 99.46 \quad 50.1$
Thursday, September 24, 2015 7:45:38 0.991 $104.43 \quad 49.8$
Thursday, September 24, 2015 7:50:38 $0.991 \quad 109.38 \quad 50.0$
Thursday, September 24, 2015 7:55:39 $0.991 \quad 114.35 \quad 49.8$
Thursday, September 24, 2015 8:00:39 $0.991 \quad 119.30 \quad 49.7$
Thursday, September 24, 2015 8:05:40 0.991 $124.27 \quad 49.7$
Thursday, September 24, 2015 8:10:41 $0.991 \quad 129.24 \quad 49.7$
Thursday, September 24, 2015 8:15:41 $0.991 \quad 134.19 \quad 50.1$
Thursday, September 24, 2015 8:20:42 $0.991 \quad 139.16 \quad 50.2$
Thursday, September 24, 2015 8:25:42 $0.991 \quad 144.12 \quad 50.1$
Thursday, September 24, 2015 8:30:43 $0.991 \quad 149.09 \quad 49.7$
Thursday, September 24, 2015 8:35:43 $0.991 \quad 154.04 \quad 49.7$
Thursday, September 24, 2015 8:40:44 $0.991 \quad 159.01 \quad 50.0$

Thursday, September 24, 2015 8:45:44 0.991
163.96
49.7
168.93
50.1
$173.89 \quad 50.1$
$178.86 \quad 50.2$
183.8149 .8
188.7849 .7
$193.75 \quad 50.1$
$198.70 \quad 50.1$
$203.67 \quad 50.0$
$208.62 \quad 50.3$
$213.59 \quad 50.2$
$218.55 \quad 50.0$
$223.52 \quad 49.7$
$228.47 \quad 50.1$
$233.44 \quad 49.7$
$238.39 \quad 49.8$
$243.36 \quad 50.1$
$248.32 \quad 50.1$
$253.29 \quad 50.0$
$258.26 \quad 50.2$
$263.21 \quad 50.0$
$268.18 \quad 50.0$
$273.13 \quad 50.2$
$278.10 \quad 50.1$
$283.05 \quad 50.1$
$288.02 \quad 50.2$
$292.98 \quad 50.1$
$297.95 \quad 50.2$
$302.92 \quad 49.7$
$307.87 \quad 50.0$
$312.84 \quad 49.8$
$317.79 \quad 49.8$
$322.76 \quad 49.7$
$327.71 \quad 50.1$
$332.68 \quad 50.1$
$337.64 \quad 50.1$
$342.61 \quad 50.0$
$347.58 \quad 49.7$
$352.53 \quad 50.2$
$357.50 \quad 49.7$
$362.45 \quad 50.3$
$367.42 \quad 50.0$
$372.38 \quad 50.2$
$377.34 \quad 50.2$
$382.30 \quad 50.1$
$387.27 \quad 50.1$
$392.22 \quad 50.1$
$397.19 \quad 50.2$
$402.16 \quad 50.0$
$407.11 \quad 50.0$
$412.08 \quad 50.1$
$417.04 \quad 50.2$
$422.01 \quad 49.8$
$426.96 \quad 49.7$
431.93
49.7
$436.88 \quad 50.2$
$441.85 \quad 49.8$
$446.80 \quad 50.1$
$451.77 \quad 50.4$
$456.74 \quad 50.0$
$461.70 \quad 50.2$
$466.67 \quad 50.1$
$471.62 \quad 49.7$
$476.59 \quad 50.1$
$481.54 \quad 50.1$
$486.51 \quad 50.1$
$491.47 \quad 50.3$
$496.43 \quad 50.2$
$501.39 \quad 50.2$
$506.36 \quad 50.3$
511.3349 .8
$516.28 \quad 50.1$
$521.25 \quad 50.2$
$526.20 \quad 50.2$
$531.17 \quad 50.1$
$536.13 \quad 50.1$
$541.09 \quad 50.1$
$546.05 \quad 50.1$
$551.02 \quad 50.1$
$555.97 \quad 50.1$
560.9449 .7
$565.91 \quad 50.1$
$570.86 \quad 50.1$
$575.83 \quad 50.1$
$580.79 \quad 49.9$
$585.75 \quad 50.1$
$590.71 \quad 49.7$
$595.68 \quad 50.0$
$600.63 \quad 50.1$
$605.60 \quad 50.1$
$610.57 \quad 49.7$
$615.52 \quad 49.4$
$620.49 \quad 50.2$
$625.44 \quad 50.1$
$630.41 \quad 50.1$
$635.37 \quad 50.3$
$640.34 \quad 50.3$
$645.29 \quad 50.1$
$650.26 \quad 50.2$
$655.23 \quad 49.9$
$660.18 \quad 50.0$
$665.15 \quad 49.7$
$670.10 \quad 50.0$
$675.07 \quad 49.9$
$680.03 \quad 49.4$
$685.00 \quad 50.1$
689.9549 .7
$694.92 \quad 50.0$

Flow Rate Set Point $1.00 \mathrm{l} / \mathrm{min}$
Stopped Thursday, September 24, 2015 18:00:25
Total Volume 713.09 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.991 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate 0.004 1/min
Ending Leak Rate $0.003 \mathrm{l} / \mathrm{min}$
Flow Controller Zero -0.009 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Thursday, September 24, 2015 6:00:27 0.079 $0.23 \quad 50.1$
Thursday, September 24, 2015 6:05:27 0.991 $5.18 \quad 49.8$
Thursday, September 24, 2015 6:10:28 $0.991 \quad 10.15 \quad 50.1$
Thursday, September 24, 2015 6:15:28 $0.991 \quad 15.10 \quad 50.4$
Thursday, September 24, 2015 6:20:29 $0.991 \quad 20.07 \quad 50.2$
Thursday, September 24, 2015 6:25:29 $0.991 \quad 25.03 \quad 50.1$
Thursday, September 24, 2015 6:30:30 $0.991 \quad 30.00 \quad 50.1$
Thursday, September 24, 2015 6:35:30 0.991 $34.95 \quad 50.2$
Thursday, September 24, 2015 6:40:31 0.991 $39.92 \quad 50.2$
Thursday, September 24, 2015 6:45:31 0.991 $44.87 \quad 50.1$
Thursday, September 24, 2015 6:50:32 0.991 $49.84 \quad 50.2$
Thursday, September 24, 2015 6:55:33 $0.991 \quad 54.81 \quad 50.0$
Thursday, September 24, 2015 7:00:33 0.991 $59.77 \quad 50.2$
Thursday, September 24, 2015 7:05:34 0.991 $64.73 \quad 50.1$
Thursday, September 24, 2015 7:10:34 0.991 $69.69 \quad 50.1$
Thursday, September 24, 2015 7:15:35 0.991 $74.66 \quad 50.1$
Thursday, September 24, 2015 7:20:35 0.991 $79.61 \quad 50.2$
Thursday, September 24, 2015 7:25:36 0.991 $\quad 84.58 \quad 50.2$
Thursday, September 24, 2015 7:30:36 0.991 $\quad 89.53 \quad 49.8$
Thursday, September 24, 2015 7:35:37 $0.991 \quad 94.50 \quad 50.1$
Thursday, September 24, 2015 7:40:37 $0.991 \quad 99.46 \quad 50.1$
Thursday, September 24, 2015 7:45:38 0.991 $104.43 \quad 49.8$
Thursday, September 24, 2015 7:50:38 $0.991 \quad 109.38 \quad 50.0$
Thursday, September 24, 2015 7:55:39 $0.991 \quad 114.35 \quad 49.8$
Thursday, September 24, 2015 8:00:39 $0.991 \quad 119.30 \quad 49.7$
Thursday, September 24, 2015 8:05:40 0.991 $124.27 \quad 49.7$
Thursday, September 24, 2015 8:10:41 $0.991 \quad 129.24 \quad 49.7$
Thursday, September 24, 2015 8:15:41 $0.991 \quad 134.19 \quad 50.1$
Thursday, September 24, 2015 8:20:42 $0.991 \quad 139.16 \quad 50.2$
Thursday, September 24, 2015 8:25:42 $0.991 \quad 144.12 \quad 50.1$
Thursday, September 24, 2015 8:30:43 $0.991 \quad 149.09 \quad 49.7$
Thursday, September 24, 2015 8:35:43 $0.991 \quad 154.04 \quad 49.7$
Thursday, September 24, 2015 8:40:44 $0.991 \quad 159.01 \quad 50.0$

Thursday, September 24, 2015 8:45:44 0.991
163.96
49.7
168.93
50.1
$173.89 \quad 50.1$
$178.86 \quad 50.2$
183.8149 .8
188.7849 .7
$193.75 \quad 50.1$
$198.70 \quad 50.1$
$203.67 \quad 50.0$
$208.62 \quad 50.3$
$213.59 \quad 50.2$
$218.55 \quad 50.0$
$223.52 \quad 49.7$
$228.47 \quad 50.1$
$233.44 \quad 49.7$
$238.39 \quad 49.8$
$243.36 \quad 50.1$
$248.32 \quad 50.1$
$253.29 \quad 50.0$
$258.26 \quad 50.2$
$263.21 \quad 50.0$
$268.18 \quad 50.0$
$273.13 \quad 50.2$
$278.10 \quad 50.1$
$283.05 \quad 50.1$
$288.02 \quad 50.2$
$292.98 \quad 50.1$
$297.95 \quad 50.2$
$302.92 \quad 49.7$
$307.87 \quad 50.0$
$312.84 \quad 49.8$
$317.79 \quad 49.8$
$322.76 \quad 49.7$
$327.71 \quad 50.1$
$332.68 \quad 50.1$
$337.64 \quad 50.1$
$342.61 \quad 50.0$
$347.58 \quad 49.7$
$352.53 \quad 50.2$
$357.50 \quad 49.7$
$362.45 \quad 50.3$
$367.42 \quad 50.0$
$372.38 \quad 50.2$
$377.34 \quad 50.2$
$382.30 \quad 50.1$
$387.27 \quad 50.1$
$392.22 \quad 50.1$
$397.19 \quad 50.2$
$402.16 \quad 50.0$
$407.11 \quad 50.0$
$412.08 \quad 50.1$
$417.04 \quad 50.2$
$422.01 \quad 49.8$
$426.96 \quad 49.7$
431.93
49.7
$436.88 \quad 50.2$
$441.85 \quad 49.8$
$446.80 \quad 50.1$
$451.77 \quad 50.4$
$456.74 \quad 50.0$
$461.70 \quad 50.2$
$466.67 \quad 50.1$
$471.62 \quad 49.7$
$476.59 \quad 50.1$
$481.54 \quad 50.1$
$486.51 \quad 50.1$
$491.47 \quad 50.3$
$496.43 \quad 50.2$
$501.39 \quad 50.2$
$506.36 \quad 50.3$
511.3349 .8
$516.28 \quad 50.1$
$521.25 \quad 50.2$
$526.20 \quad 50.2$
$531.17 \quad 50.1$
$536.13 \quad 50.1$
$541.09 \quad 50.1$
$546.05 \quad 50.1$
$551.02 \quad 50.1$
$555.97 \quad 50.1$
560.9449 .7
$565.91 \quad 50.1$
$570.86 \quad 50.1$
$575.83 \quad 50.1$
$580.79 \quad 49.9$
$585.75 \quad 50.1$
$590.71 \quad 49.7$
$595.68 \quad 50.0$
$600.63 \quad 50.1$
$605.60 \quad 50.1$
$610.57 \quad 49.7$
$615.52 \quad 49.4$
$620.49 \quad 50.2$
$625.44 \quad 50.1$
$630.41 \quad 50.1$
$635.37 \quad 50.3$
$640.34 \quad 50.3$
$645.29 \quad 50.1$
$650.26 \quad 50.2$
$655.23 \quad 49.9$
$660.18 \quad 50.0$
$665.15 \quad 49.7$
$670.10 \quad 50.0$
$675.07 \quad 49.9$
$680.03 \quad 49.4$
$685.00 \quad 50.1$
689.9549 .7
$694.92 \quad 50.0$
formaldehyde001
Ch. 1 Cartridge Started Thursday, October 01, 2015 6:00:01
Flow Rate Set Point 1.00 1/min
Stopped Thursday, October 01, 2015 18:00:21
Total Volume 713.03 liters
Total Sample Time 12.00 hours
Average Flow Rate $0.991 \mathrm{l} / \mathrm{min}$
Minimum Flow Rate 0.991 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate 0.001 1/min
Ending Leak Rate 0.000 1/min
Flow Controller Zero -0.009 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Thursday, October 01, 2015 6:00:28 $0.076 \quad 0.23 \quad 50.0$
Thursday, October 01, 2015 6:05:28 $0.991 \quad 5.18 \quad 50.1$
Thursday, October 01, 2015 6:10:29 $0.991 \quad 10.15 \quad 50.1$
Thursday, October 01, 2015 6:15:29 $0.991 \quad 15.10 \quad 50.3$
Thursday, October 01, 2015 6:20:30 $0.991 \quad 20.07 \quad 50.3$
Thursday, October 01, 2015 6:25:30 $0.991 \quad 25.03 \quad 50.2$
Thursday, October 01, 2015 6:30:31 $0.991 \quad 30.00 \quad 50.2$
Thursday, October 01, 2015 6:35:31 $0.991 \quad 34.95 \quad 50.1$
Thursday, October 01, 2015 6:40:32 $0.991 \quad 39.92 \quad 50.0$
Thursday, October 01, 2015 6:45:32 $0.991 \quad 44.87 \quad 50.1$
Thursday, October 01, 2015 6:50:33 $0.991 \quad 49.84 \quad 50.2$
Thursday, October 01, 2015 6:55:33 $0.991 \quad 54.80 \quad 50.2$
Thursday, October 01, 2015 7:00:34 $0.991 \quad 59.77 \quad 49.7$
Thursday, October 01, 2015 7:05:34 $0.991 \quad 64.72 \quad 50.1$
Thursday, October 01, 2015 7:10:35 $0.991 \quad 69.6949 .9$
Thursday, October 01, 2015 7:15:35 $0.991 \quad 74.64 \quad 50.3$
Thursday, October 01, 2015 7:20:36 0.991 $79.61 \quad 50.2$
Thursday, October 01, 2015 7:25:36 $0.991 \quad 84.57 \quad 49.8$
Thursday, October 01, 2015 7:30:36 $0.991 \quad 89.52 \quad 50.1$
Thursday, October 01, 2015 7:35:37 $0.991 \quad 94.49 \quad 50.2$
Thursday, October 01, 2015 7:40:37 $0.991 \quad 99.4449 .7$
Thursday, October 01, 2015 7:45:38 $0.991 \quad 104.41 \quad 50.1$
Thursday, October 01, 2015 7:50:38 $0.991 \quad 109.36 \quad 49.7$
Thursday, October 01, 2015 7:55:39 $0.991 \quad 114.33 \quad 50.1$
Thursday, October 01, 2015 8:00:39 $0.991 \quad 119.29 \quad 50.2$
Thursday, October 01, 2015 8:05:40 $0.991 \quad 124.26 \quad 50.3$
Thursday, October 01, 2015 8:10:40 $0.991 \quad 129.21 \quad 50.1$
Thursday, October 01, 2015 8:15:41 $0.991 \quad 134.18 \quad 50.0$
Thursday, October 01, 2015 8:20:41 $0.991 \quad 139.13 \quad 50.1$
Thursday, October 01, 2015 8:25:42 $0.991 \quad 144.10 \quad 50.2$
Thursday, October 01, 2015 8:30:42 $0.991 \quad 149.06 \quad 49.7$
Thursday, October 01, 2015 8:35:43 $0.991 \quad 154.03 \quad 50.3$
Thursday, October 01, 2015 8:40:43 $0.991 \quad 158.98 \quad 48.9$

Thursday, October 01, 2015 8:45:44 0.991
163.95
49.5

Thursday, October 01, 2015 8:50:44 0.991
168.90 50.2

### 173.87 <br> 50.0

$178.83 \quad 50.2$
$183.79 \quad 50.2$
188.7549 .8
$193.70 \quad 50.1$
$198.67 \quad 50.2$
$203.62 \quad 50.2$
$208.59 \quad 50.1$
$213.55 \quad 50.1$
$218.52 \quad 49.7$
$223.47 \quad 50.1$
$228.44 \quad 49.7$
$233.39 \quad 50.2$
$238.36 \quad 50.1$
$243.32 \quad 50.0$
248.2949 .7
$253.24 \quad 50.1$
$258.21 \quad 50.1$
$263.16 \quad 50.1$
268.1349 .8
$273.08 \quad 50.2$
$278.05 \quad 50.1$
$283.01 \quad 50.2$
$287.98 \quad 50.1$
$292.93 \quad 50.0$
$297.88 \quad 50.0$
$302.85 \quad 49.7$
$307.81 \quad 50.0$
$312.78 \quad 50.2$
$317.73 \quad 50.1$
$322.70 \quad 50.1$
$327.65 \quad 49.7$
$332.62 \quad 50.1$
$337.57 \quad 50.1$
$342.54 \quad 50.0$
$347.50 \quad 50.1$
$352.47 \quad 50.1$
$357.42 \quad 50.1$
$362.39 \quad 50.0$
$367.34 \quad 49.8$
$372.31 \quad 50.2$
$377.27 \quad 49.7$
$382.22 \quad 50.1$
$387.17 \quad 49.7$
$392.14 \quad 49.8$
$397.10 \quad 50.1$
$402.07 \quad 50.3$
$407.02 \quad 50.1$
$411.99 \quad 50.1$
$416.94 \quad 50.1$
$421.91 \quad 50.2$
$426.86 \quad 49.5$
431.83
50.2
436.79
49.7
$441.76 \quad 49.7$
$446.71 \quad 50.2$
$451.68 \quad 50.1$
$456.63 \quad 50.2$
$461.60 \quad 50.1$
$466.56 \quad 49.8$
$471.53 \quad 50.1$
$476.48 \quad 50.1$
$481.45 \quad 50.2$
$486.40 \quad 50.1$
$491.35 \quad 50.2$
$496.32 \quad 50.1$
$501.28 \quad 50.1$
$506.25 \quad 50.1$
$511.20 \quad 49.8$
$516.17 \quad 50.1$
$521.12 \quad 49.8$
$526.09 \quad 49.7$
$531.04 \quad 50.1$
$536.01 \quad 49.8$
$540.97 \quad 50.1$
$545.94 \quad 50.2$
$550.89 \quad 50.1$
$555.86 \quad 50.1$
$560.81 \quad 50.1$
$565.78 \quad 49.8$
$570.74 \quad 50.1$
$575.70 \quad 50.2$
$580.66 \quad 50.3$
$585.63 \quad 50.1$
$590.58 \quad 50.1$
$595.55 \quad 49.8$
$600.50 \quad 49.8$
$605.47 \quad 49.4$
$610.43 \quad 49.3$
$615.40 \quad 50.1$
$620.35 \quad 50.1$
$625.32 \quad 50.3$
$630.27 \quad 50.0$
$635.22 \quad 50.0$
$640.19 \quad 50.2$
$645.15 \quad 49.4$
$650.12 \quad 50.2$
$655.07 \quad 50.2$
$660.04 \quad 49.8$
$664.99 \quad 50.1$
$669.96 \quad 50.4$
$674.91 \quad 50.2$
$679.88 \quad 50.0$
$684.84 \quad 49.8$
$689.81 \quad 49.7$
$694.76 \quad 50.1$
formaldehyde001
Ch. 1 Cartridge Started Thursday, October 01, 2015 6:00:01
Flow Rate Set Point 1.00 1/min
Stopped Thursday, October 01, 2015 18:00:21
Total Volume 713.03 liters
Total Sample Time 12.00 hours
Average Flow Rate $0.991 \mathrm{l} / \mathrm{min}$
Minimum Flow Rate 0.991 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate 0.001 1/min
Ending Leak Rate 0.000 1/min
Flow Controller Zero -0.009 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Thursday, October 01, 2015 6:00:28 $0.076 \quad 0.23 \quad 50.0$
Thursday, October 01, 2015 6:05:28 $0.991 \quad 5.18 \quad 50.1$
Thursday, October 01, 2015 6:10:29 $0.991 \quad 10.15 \quad 50.1$
Thursday, October 01, 2015 6:15:29 $0.991 \quad 15.10 \quad 50.3$
Thursday, October 01, 2015 6:20:30 $0.991 \quad 20.07 \quad 50.3$
Thursday, October 01, 2015 6:25:30 $0.991 \quad 25.03 \quad 50.2$
Thursday, October 01, 2015 6:30:31 $0.991 \quad 30.00 \quad 50.2$
Thursday, October 01, 2015 6:35:31 $0.991 \quad 34.95 \quad 50.1$
Thursday, October 01, 2015 6:40:32 $0.991 \quad 39.92 \quad 50.0$
Thursday, October 01, 2015 6:45:32 $0.991 \quad 44.87 \quad 50.1$
Thursday, October 01, 2015 6:50:33 $0.991 \quad 49.84 \quad 50.2$
Thursday, October 01, 2015 6:55:33 $0.991 \quad 54.80 \quad 50.2$
Thursday, October 01, 2015 7:00:34 $0.991 \quad 59.77 \quad 49.7$
Thursday, October 01, 2015 7:05:34 $0.991 \quad 64.72 \quad 50.1$
Thursday, October 01, 2015 7:10:35 $0.991 \quad 69.6949 .9$
Thursday, October 01, 2015 7:15:35 $0.991 \quad 74.64 \quad 50.3$
Thursday, October 01, 2015 7:20:36 0.991 $79.61 \quad 50.2$
Thursday, October 01, 2015 7:25:36 $0.991 \quad 84.57 \quad 49.8$
Thursday, October 01, 2015 7:30:36 $0.991 \quad 89.52 \quad 50.1$
Thursday, October 01, 2015 7:35:37 $0.991 \quad 94.49 \quad 50.2$
Thursday, October 01, 2015 7:40:37 $0.991 \quad 99.4449 .7$
Thursday, October 01, 2015 7:45:38 $0.991 \quad 104.41 \quad 50.1$
Thursday, October 01, 2015 7:50:38 $0.991 \quad 109.36 \quad 49.7$
Thursday, October 01, 2015 7:55:39 $0.991 \quad 114.33 \quad 50.1$
Thursday, October 01, 2015 8:00:39 $0.991 \quad 119.29 \quad 50.2$
Thursday, October 01, 2015 8:05:40 $0.991 \quad 124.26 \quad 50.3$
Thursday, October 01, 2015 8:10:40 $0.991 \quad 129.21 \quad 50.1$
Thursday, October 01, 2015 8:15:41 $0.991 \quad 134.18 \quad 50.0$
Thursday, October 01, 2015 8:20:41 $0.991 \quad 139.13 \quad 50.1$
Thursday, October 01, 2015 8:25:42 $0.991 \quad 144.10 \quad 50.2$
Thursday, October 01, 2015 8:30:42 $0.991 \quad 149.06 \quad 49.7$
Thursday, October 01, 2015 8:35:43 $0.991 \quad 154.03 \quad 50.3$
Thursday, October 01, 2015 8:40:43 $0.991 \quad 158.98 \quad 48.9$

Thursday, October 01, 2015 8:45:44 0.991
163.95
49.5

Thursday, October 01, 2015 8:50:44 0.991
168.90 50.2

### 173.87 <br> 50.0

$178.83 \quad 50.2$
$183.79 \quad 50.2$
188.7549 .8
$193.70 \quad 50.1$
$198.67 \quad 50.2$
$203.62 \quad 50.2$
$208.59 \quad 50.1$
$213.55 \quad 50.1$
$218.52 \quad 49.7$
$223.47 \quad 50.1$
$228.44 \quad 49.7$
$233.39 \quad 50.2$
$238.36 \quad 50.1$
$243.32 \quad 50.0$
248.2949 .7
$253.24 \quad 50.1$
$258.21 \quad 50.1$
$263.16 \quad 50.1$
268.1349 .8
$273.08 \quad 50.2$
$278.05 \quad 50.1$
$283.01 \quad 50.2$
$287.98 \quad 50.1$
$292.93 \quad 50.0$
$297.88 \quad 50.0$
$302.85 \quad 49.7$
$307.81 \quad 50.0$
$312.78 \quad 50.2$
$317.73 \quad 50.1$
$322.70 \quad 50.1$
$327.65 \quad 49.7$
$332.62 \quad 50.1$
$337.57 \quad 50.1$
$342.54 \quad 50.0$
$347.50 \quad 50.1$
$352.47 \quad 50.1$
$357.42 \quad 50.1$
$362.39 \quad 50.0$
$367.34 \quad 49.8$
$372.31 \quad 50.2$
$377.27 \quad 49.7$
$382.22 \quad 50.1$
$387.17 \quad 49.7$
$392.14 \quad 49.8$
$397.10 \quad 50.1$
$402.07 \quad 50.3$
$407.02 \quad 50.1$
$411.99 \quad 50.1$
$416.94 \quad 50.1$
$421.91 \quad 50.2$
$426.86 \quad 49.5$
431.83
50.2
436.79
49.7
$441.76 \quad 49.7$
$446.71 \quad 50.2$
$451.68 \quad 50.1$
$456.63 \quad 50.2$
$461.60 \quad 50.1$
$466.56 \quad 49.8$
$471.53 \quad 50.1$
$476.48 \quad 50.1$
$481.45 \quad 50.2$
$486.40 \quad 50.1$
$491.35 \quad 50.2$
$496.32 \quad 50.1$
$501.28 \quad 50.1$
$506.25 \quad 50.1$
$511.20 \quad 49.8$
$516.17 \quad 50.1$
$521.12 \quad 49.8$
$526.09 \quad 49.7$
$531.04 \quad 50.1$
$536.01 \quad 49.8$
$540.97 \quad 50.1$
$545.94 \quad 50.2$
$550.89 \quad 50.1$
$555.86 \quad 50.1$
$560.81 \quad 50.1$
$565.78 \quad 49.8$
$570.74 \quad 50.1$
$575.70 \quad 50.2$
$580.66 \quad 50.3$
$585.63 \quad 50.1$
$590.58 \quad 50.1$
$595.55 \quad 49.8$
$600.50 \quad 49.8$
$605.47 \quad 49.4$
$610.43 \quad 49.3$
$615.40 \quad 50.1$
$620.35 \quad 50.1$
$625.32 \quad 50.3$
$630.27 \quad 50.0$
$635.22 \quad 50.0$
$640.19 \quad 50.2$
$645.15 \quad 49.4$
$650.12 \quad 50.2$
$655.07 \quad 50.2$
$660.04 \quad 49.8$
$664.99 \quad 50.1$
$669.96 \quad 50.4$
$674.91 \quad 50.2$
$679.88 \quad 50.0$
$684.84 \quad 49.8$
$689.81 \quad 49.7$
$694.76 \quad 50.1$
formaldehyde001
Ch. 1 Cartridge Started Wednesday, October 07, 2015 6:00:02
Flow Rate Set Point $1.00 \mathrm{l} / \mathrm{min}$
Stopped Wednesday, October 07, 2015 18:00:24
Total Volume 713.04 liters
Total Sample Time 12.00 hours
Average Flow Rate $0.991 \mathrm{l} / \mathrm{min}$
Minimum Flow Rate 0.991 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate 0.001 1/min
Ending Leak Rate $0.001 \mathrm{l} / \mathrm{min}$
Flow Controller Zero -0.009 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Wednesday, October 07, 2015 6:00:29 $0.076 \quad 0.23 \quad 50.1$
Wednesday, October 07, 2015 6:05:29 $0.991 \quad 5.18 \quad 50.1$
Wednesday, October 07, 2015 6:10:30 $0.991 \quad 10.15 \quad 50.1$
Wednesday, October 07, 2015 6:15:30 $0.991 \quad 15.10 \quad 49.8$
Wednesday, October 07, 2015 6:20:31 $0.991 \quad 20.07 \quad 50.1$
Wednesday, October 07, 2015 6:25:31 $0.991 \quad 25.03 \quad 50.1$
Wednesday, October 07, 2015 6:30:32 $0.991 \quad 30.00 \quad 50.6$
Wednesday, October 07, 2015 6:35:32 $0.991 \quad 34.95 \quad 50.3$
Wednesday, October 07, 2015 6:40:33 0.99139 .9249 .8
Wednesday, October 07, 2015 6:45:33 $0.991 \quad 44.87 \quad 50.1$
Wednesday, October 07, 2015 6:50:34 0.991 49.8450 .1
Wednesday, October 07, 2015 6:55:34 0.991 $54.80 \quad 50.1$
Wednesday, October 07, 2015 7:00:35 $0.991 \quad 59.77 \quad 50.2$
Wednesday, October 07, 2015 7:05:35 $0.991 \quad 64.7249 .8$
Wednesday, October 07, 2015 7:10:36 $0.991 \quad 69.6950 .1$
Wednesday, October 07, 2015 7:15:36 $0.991 \quad 74.6450 .1$
Wednesday, October 07, 2015 7:20:37 $0.991 \quad 79.61 \quad 50.1$
Wednesday, October 07, 2015 7:25:37 0.991 $84.56 \quad 50.1$
Wednesday, October 07, 2015 7:30:37 $0.991 \quad 89.52 \quad 50.2$
Wednesday, October 07, 2015 7:35:38 $0.991 \quad 94.4949 .4$
Wednesday, October 07, 2015 7:40:38 $0.991 \quad 99.4449 .6$
Wednesday, October 07, 2015 7:45:39 $0.991 \quad 104.41 \quad 50.1$
Wednesday, October 07, 2015 7:50:39 $0.991 \quad 109.36 \quad 50.0$
Wednesday, October 07, 2015 7:55:40 $0.991 \quad 114.33 \quad 50.2$
Wednesday, October 07, 2015 8:00:40 $0.991 \quad 119.29 \quad 50.2$
Wednesday, October 07, 2015 8:05:41 $0.991 \quad 124.26 \quad 50.1$
Wednesday, October 07, 2015 8:10:41 $0.991 \quad 129.21 \quad 49.8$
Wednesday, October 07, 2015 8:15:42 $0.991 \quad 134.18 \quad 50.1$
Wednesday, October 07, 2015 8:20:42 $0.991 \quad 139.13 \quad 50.2$
Wednesday, October 07, 2015 8:25:43 $0.991 \quad 144.10 \quad 49.7$
Wednesday, October 07, 2015 8:30:43 $0.991 \quad 149.06 \quad 49.7$
Wednesday, October 07, 2015 8:35:44 0.991 $154.02 \quad 50.1$
Wednesday, October 07, 2015 8:40:44 $0.991 \quad 158.98 \quad 49.7$

Wednesday, October 07, 2015 8:45:45 0.991
Wednesday, October 07, 2015 8:50:45 0.991
Wednesday, October 07, 2015 8:55:46 0.991
Wednesday, October 07, 2015 9:00:46 0.991
Wednesday, October 07, 2015 9:05:47 0.991
Wednesday, October 07, 2015 9:10:47 0.991
Wednesday, October 07, 2015 9:15:48 0.991
Wednesday, October 07, 2015 9:20:48 0.991
Wednesday, October 07, 2015 9:25:49 0.991
Wednesday, October 07, 2015 9:30:49 0.991
Wednesday, October 07, 2015 9:35:50 0.991
Wednesday, October 07, 2015 9:40:50 0.991
Wednesday, October 07, 2015 9:45:50 0.991
Wednesday, October 07, 2015 9:50:51 0.991
Wednesday, October 07, 2015 9:55:51 0.991
Wednesday, October 07, 2015 10:00:52 0.991
Wednesday, October 07, 2015 10:05:52 0.991
Wednesday, October 07, 2015 10:10:53 0.991
Wednesday, October 07, 2015 10:15:53 0.991
Wednesday, October 07, 2015 10:20:54 0.991
Wednesday, October 07, 2015 10:25:54 0.991
Wednesday, October 07, 2015 10:30:55 0.991
Wednesday, October 07, 2015 10:35:55 0.991
Wednesday, October 07, 2015 10:40:56 0.991
Wednesday, October 07, 2015 10:45:56 0.991
Wednesday, October 07, 2015 10:50:57 0.991
Wednesday, October 07, 2015 10:55:57 0.991
Wednesday, October 07, 2015 11:00:58 0.991
Wednesday, October 07, 2015 11:05:58 0.991
Wednesday, October 07, 2015 11:10:59 0.991
Wednesday, October 07, 2015 11:15:59 0.991
Wednesday, October 07, 2015 11:21:00 0.991
Wednesday, October 07, 2015 11:26:00 0.991
Wednesday, October 07, 2015 11:31:01 0.991
Wednesday, October 07, 2015 11:36:01 0.991
Wednesday, October 07, 2015 11:41:02 0.991
Wednesday, October 07, 2015 11:46:02 0.991
Wednesday, October 07, 2015 11:51:03 0.991
Wednesday, October 07, 2015 11:56:03 0.991
Wednesday, October 07, 2015 12:01:03 0.991
Wednesday, October 07, 2015 12:06:04 0.991
Wednesday, October 07, 2015 12:11:04 0.991
Wednesday, October 07, 2015 12:16:05 0.991
Wednesday, October 07, 2015 12:21:05 0.991
Wednesday, October 07, 2015 12:26:06 0.991
Wednesday, October 07, 2015 12:31:06 0.991
Wednesday, October 07, 2015 12:36:07 0.991
Wednesday, October 07, 2015 12:41:07 0.991
Wednesday, October 07, 2015 12:46:08 0.991
Wednesday, October 07, 2015 12:51:08 0.991
Wednesday, October 07, 2015 12:56:09 0.991
Wednesday, October 07, 2015 13:01:09 0.991
Wednesday, October 07, 2015 13:06:10 0.991
Wednesday, October 07, 2015 13:11:10 0.991
163.95
50.2
$168.90 \quad 50.1$
$173.87 \quad 49.7$
$178.82 \quad 50.1$
183.7949 .7
188.7549 .7
193.7249 .7
198.6749 .9
$203.64 \quad 50.1$
$208.59 \quad 50.2$
213.5549 .8
$218.52 \quad 50.1$
$223.47 \quad 50.1$
$228.44 \quad 50.1$
$233.39 \quad 50.2$
238.3649 .6
$243.31 \quad 49.8$
$248.28 \quad 50.1$
$253.24 \quad 49.8$
$258.21 \quad 49.7$
$263.16 \quad 50.1$
$268.13 \quad 50.2$
$273.08 \quad 50.1$
$278.05 \quad 50.0$
$283.01 \quad 50.0$
$287.98 \quad 50.0$
$292.93 \quad 50.1$
$297.90 \quad 50.1$
$302.85 \quad 49.8$
$307.82 \quad 50.1$
$312.77 \quad 50.1$
$317.74 \quad 49.3$
$322.70 \quad 50.1$
$327.67 \quad 50.3$
$332.62 \quad 50.2$
$337.59 \quad 49.4$
$342.54 \quad 49.8$
$347.51 \quad 50.0$
$352.46 \quad 50.1$
$357.42 \quad 50.2$
$362.39 \quad 50.2$
$367.34 \quad 50.1$
$372.31 \quad 49.7$
$377.26 \quad 50.1$
$382.23 \quad 50.1$
$387.19 \quad 50.1$
$392.16 \quad 50.2$
$397.11 \quad 50.2$
$402.08 \quad 50.0$
$407.03 \quad 49.8$
$412.00 \quad 50.1$
$416.95 \quad 50.0$
$421.92 \quad 49.8$
$426.88 \quad 50.1$

Wednesday, October 07, 2015 13:16:11 0.991
Wednesday, October 07, 2015 13:21:11 0.991
Wednesday, October 07, 2015 13:26:12 0.991
Wednesday, October 07, 2015 13:31:12 0.991
Wednesday, October 07, 2015 13:36:13 0.991
Wednesday, October 07, 2015 13:41:13 0.991
Wednesday, October 07, 2015 13:46:14 0.991
Wednesday, October 07, 2015 13:51:14 0.991
Wednesday, October 07, 2015 13:56:15 0.991
Wednesday, October 07, 2015 14:01:15 0.991
Wednesday, October 07, 2015 14:06:16 0.991
Wednesday, October 07, 2015 14:11:16 0.991
Wednesday, October 07, 2015 14:16:17 0.991
Wednesday, October 07, 2015 14:21:17 0.991
Wednesday, October 07, 2015 14:26:18 0.991
Wednesday, October 07, 2015 14:31:18 0.991
Wednesday, October 07, 2015 14:36:19 0.991
Wednesday, October 07, 2015 14:41:19 0.991
Wednesday, October 07, 2015 14:46:20 0.991
Wednesday, October 07, 2015 14:51:20 0.991
Wednesday, October 07, 2015 14:56:21 0.991
Wednesday, October 07, 2015 15:01:21 0.991
Wednesday, October 07, 2015 15:06:22 0.991
Wednesday, October 07, 2015 15:11:22 0.991
Wednesday, October 07, 2015 15:16:23 0.991
Wednesday, October 07, 2015 15:21:23 0.991
Wednesday, October 07, 2015 15:26:24 0.991
Wednesday, October 07, 2015 15:31:24 0.991
Wednesday, October 07, 2015 15:36:24 0.991
Wednesday, October 07, 2015 15:41:25 0.991
Wednesday, October 07, 2015 15:46:26 0.991
Wednesday, October 07, 2015 15:51:26 0.991
Wednesday, October 07, 2015 15:56:26 0.991
Wednesday, October 07, 2015 16:01:27 0.991
Wednesday, October 07, 2015 16:06:27 0.991
Wednesday, October 07, 2015 16:11:28 0.991
Wednesday, October 07, 2015 16:16:28 0.991
Wednesday, October 07, 2015 16:21:29 0.991
Wednesday, October 07, 2015 16:26:30 0.991
Wednesday, October 07, 2015 16:31:30 0.991
Wednesday, October 07, 2015 16:36:31 0.991
Wednesday, October 07, 2015 16:41:31 0.991
Wednesday, October 07, 2015 16:46:32 0.991
Wednesday, October 07, 2015 16:51:32 0.991
Wednesday, October 07, 2015 16:56:33 0.991
Wednesday, October 07, 2015 17:01:33 0.991
Wednesday, October 07, 2015 17:06:33 0.991
Wednesday, October 07, 2015 17:11:34 0.991
Wednesday, October 07, 2015 17:16:34 0.991
Wednesday, October 07, 2015 17:21:35 0.991
Wednesday, October 07, 2015 17:26:35 0.991
Wednesday, October 07, 2015 17:31:36 0.991
Wednesday, October 07, 2015 17:36:36 0.991
Wednesday, October 07, 2015 17:41:37 0.991
431.85
49.7
436.80
50.1
$441.77 \quad 50.1$
$446.72 \quad 50.1$
$451.69 \quad 50.0$
$456.65 \quad 50.1$
$461.61 \quad 50.0$
$466.57 \quad 50.1$
$471.54 \quad 50.1$
$476.49 \quad 50.2$
$481.46 \quad 50.1$
$486.41 \quad 50.3$
$491.38 \quad 50.2$
$496.34 \quad 49.7$
$501.31 \quad 50.1$
$506.26 \quad 50.2$
$511.23 \quad 50.1$
$516.18 \quad 50.1$
$521.15 \quad 50.1$
$526.10 \quad 50.1$
$531.07 \quad 49.8$
$536.03 \quad 50.2$
$541.00 \quad 49.7$
$545.95 \quad 50.4$
$550.92 \quad 50.1$
$555.87 \quad 50.2$
$560.84 \quad 50.1$
$565.79 \quad 49.8$
$570.75 \quad 50.0$
$575.72 \quad 50.1$
$580.67 \quad 50.1$
$585.64 \quad 50.1$
$590.59 \quad 49.4$
$595.56 \quad 50.0$
$600.51 \quad 50.4$
$605.48 \quad 50.0$
$610.44 \quad 49.8$
$615.41 \quad 50.1$
620.3849 .8
$625.33 \quad 50.2$
$630.30 \quad 49.7$
$635.25 \quad 50.2$
$640.22 \quad 49.7$
$645.17 \quad 50.1$
$650.14 \quad 50.1$
$655.10 \quad 49.6$
$660.05 \quad 50.1$
$665.02 \quad 50.1$
$669.97 \quad 50.1$
$674.94 \quad 50.1$
$679.89 \quad 50.2$
$684.86 \quad 50.1$
$689.82 \quad 50.0$
$694.79 \quad 50.0$
formaldehyde001
Ch. 1 Cartridge Started Wednesday, October 07, 2015 6:00:02
Flow Rate Set Point $1.00 \mathrm{l} / \mathrm{min}$
Stopped Wednesday, October 07, 2015 18:00:24
Total Volume 713.04 liters
Total Sample Time 12.00 hours
Average Flow Rate $0.991 \mathrm{l} / \mathrm{min}$
Minimum Flow Rate 0.991 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate 0.001 1/min
Ending Leak Rate $0.001 \mathrm{l} / \mathrm{min}$
Flow Controller Zero -0.009 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Wednesday, October 07, 2015 6:00:29 $0.076 \quad 0.23 \quad 50.1$
Wednesday, October 07, 2015 6:05:29 $0.991 \quad 5.18 \quad 50.1$
Wednesday, October 07, 2015 6:10:30 $0.991 \quad 10.15 \quad 50.1$
Wednesday, October 07, 2015 6:15:30 $0.991 \quad 15.10 \quad 49.8$
Wednesday, October 07, 2015 6:20:31 $0.991 \quad 20.07 \quad 50.1$
Wednesday, October 07, 2015 6:25:31 $0.991 \quad 25.03 \quad 50.1$
Wednesday, October 07, 2015 6:30:32 $0.991 \quad 30.00 \quad 50.6$
Wednesday, October 07, 2015 6:35:32 $0.991 \quad 34.95 \quad 50.3$
Wednesday, October 07, 2015 6:40:33 0.99139 .9249 .8
Wednesday, October 07, 2015 6:45:33 $0.991 \quad 44.87 \quad 50.1$
Wednesday, October 07, 2015 6:50:34 0.991 49.8450 .1
Wednesday, October 07, 2015 6:55:34 0.991 $54.80 \quad 50.1$
Wednesday, October 07, 2015 7:00:35 $0.991 \quad 59.77 \quad 50.2$
Wednesday, October 07, 2015 7:05:35 $0.991 \quad 64.7249 .8$
Wednesday, October 07, 2015 7:10:36 $0.991 \quad 69.6950 .1$
Wednesday, October 07, 2015 7:15:36 $0.991 \quad 74.6450 .1$
Wednesday, October 07, 2015 7:20:37 $0.991 \quad 79.61 \quad 50.1$
Wednesday, October 07, 2015 7:25:37 0.991 $84.56 \quad 50.1$
Wednesday, October 07, 2015 7:30:37 $0.991 \quad 89.52 \quad 50.2$
Wednesday, October 07, 2015 7:35:38 $0.991 \quad 94.4949 .4$
Wednesday, October 07, 2015 7:40:38 $0.991 \quad 99.4449 .6$
Wednesday, October 07, 2015 7:45:39 $0.991 \quad 104.41 \quad 50.1$
Wednesday, October 07, 2015 7:50:39 $0.991 \quad 109.36 \quad 50.0$
Wednesday, October 07, 2015 7:55:40 $0.991 \quad 114.33 \quad 50.2$
Wednesday, October 07, 2015 8:00:40 $0.991 \quad 119.29 \quad 50.2$
Wednesday, October 07, 2015 8:05:41 $0.991 \quad 124.26 \quad 50.1$
Wednesday, October 07, 2015 8:10:41 $0.991 \quad 129.21 \quad 49.8$
Wednesday, October 07, 2015 8:15:42 $0.991 \quad 134.18 \quad 50.1$
Wednesday, October 07, 2015 8:20:42 $0.991 \quad 139.13 \quad 50.2$
Wednesday, October 07, 2015 8:25:43 $0.991 \quad 144.10 \quad 49.7$
Wednesday, October 07, 2015 8:30:43 $0.991 \quad 149.06 \quad 49.7$
Wednesday, October 07, 2015 8:35:44 0.991 $154.02 \quad 50.1$
Wednesday, October 07, 2015 8:40:44 $0.991 \quad 158.98 \quad 49.7$

Wednesday, October 07, 2015 8:45:45 0.991
Wednesday, October 07, 2015 8:50:45 0.991
Wednesday, October 07, 2015 8:55:46 0.991
Wednesday, October 07, 2015 9:00:46 0.991
Wednesday, October 07, 2015 9:05:47 0.991
Wednesday, October 07, 2015 9:10:47 0.991
Wednesday, October 07, 2015 9:15:48 0.991
Wednesday, October 07, 2015 9:20:48 0.991
Wednesday, October 07, 2015 9:25:49 0.991
Wednesday, October 07, 2015 9:30:49 0.991
Wednesday, October 07, 2015 9:35:50 0.991
Wednesday, October 07, 2015 9:40:50 0.991
Wednesday, October 07, 2015 9:45:50 0.991
Wednesday, October 07, 2015 9:50:51 0.991
Wednesday, October 07, 2015 9:55:51 0.991
Wednesday, October 07, 2015 10:00:52 0.991
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Wednesday, October 07, 2015 10:10:53 0.991
Wednesday, October 07, 2015 10:15:53 0.991
Wednesday, October 07, 2015 10:20:54 0.991
Wednesday, October 07, 2015 10:25:54 0.991
Wednesday, October 07, 2015 10:30:55 0.991
Wednesday, October 07, 2015 10:35:55 0.991
Wednesday, October 07, 2015 10:40:56 0.991
Wednesday, October 07, 2015 10:45:56 0.991
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Wednesday, October 07, 2015 10:55:57 0.991
Wednesday, October 07, 2015 11:00:58 0.991
Wednesday, October 07, 2015 11:05:58 0.991
Wednesday, October 07, 2015 11:10:59 0.991
Wednesday, October 07, 2015 11:15:59 0.991
Wednesday, October 07, 2015 11:21:00 0.991
Wednesday, October 07, 2015 11:26:00 0.991
Wednesday, October 07, 2015 11:31:01 0.991
Wednesday, October 07, 2015 11:36:01 0.991
Wednesday, October 07, 2015 11:41:02 0.991
Wednesday, October 07, 2015 11:46:02 0.991
Wednesday, October 07, 2015 11:51:03 0.991
Wednesday, October 07, 2015 11:56:03 0.991
Wednesday, October 07, 2015 12:01:03 0.991
Wednesday, October 07, 2015 12:06:04 0.991
Wednesday, October 07, 2015 12:11:04 0.991
Wednesday, October 07, 2015 12:16:05 0.991
Wednesday, October 07, 2015 12:21:05 0.991
Wednesday, October 07, 2015 12:26:06 0.991
Wednesday, October 07, 2015 12:31:06 0.991
Wednesday, October 07, 2015 12:36:07 0.991
Wednesday, October 07, 2015 12:41:07 0.991
Wednesday, October 07, 2015 12:46:08 0.991
Wednesday, October 07, 2015 12:51:08 0.991
Wednesday, October 07, 2015 12:56:09 0.991
Wednesday, October 07, 2015 13:01:09 0.991
Wednesday, October 07, 2015 13:06:10 0.991
Wednesday, October 07, 2015 13:11:10 0.991
163.95
50.2
$168.90 \quad 50.1$
$173.87 \quad 49.7$
$178.82 \quad 50.1$
183.7949 .7
188.7549 .7
193.7249 .7
198.6749 .9
$203.64 \quad 50.1$
$208.59 \quad 50.2$
213.5549 .8
$218.52 \quad 50.1$
$223.47 \quad 50.1$
$228.44 \quad 50.1$
$233.39 \quad 50.2$
238.3649 .6
$243.31 \quad 49.8$
$248.28 \quad 50.1$
$253.24 \quad 49.8$
$258.21 \quad 49.7$
$263.16 \quad 50.1$
$268.13 \quad 50.2$
$273.08 \quad 50.1$
$278.05 \quad 50.0$
$283.01 \quad 50.0$
$287.98 \quad 50.0$
$292.93 \quad 50.1$
$297.90 \quad 50.1$
$302.85 \quad 49.8$
$307.82 \quad 50.1$
$312.77 \quad 50.1$
$317.74 \quad 49.3$
$322.70 \quad 50.1$
$327.67 \quad 50.3$
$332.62 \quad 50.2$
$337.59 \quad 49.4$
$342.54 \quad 49.8$
$347.51 \quad 50.0$
$352.46 \quad 50.1$
$357.42 \quad 50.2$
$362.39 \quad 50.2$
$367.34 \quad 50.1$
$372.31 \quad 49.7$
$377.26 \quad 50.1$
$382.23 \quad 50.1$
$387.19 \quad 50.1$
$392.16 \quad 50.2$
$397.11 \quad 50.2$
$402.08 \quad 50.0$
$407.03 \quad 49.8$
$412.00 \quad 50.1$
$416.95 \quad 50.0$
$421.92 \quad 49.8$
$426.88 \quad 50.1$

Wednesday, October 07, 2015 13:16:11 0.991
Wednesday, October 07, 2015 13:21:11 0.991
Wednesday, October 07, 2015 13:26:12 0.991
Wednesday, October 07, 2015 13:31:12 0.991
Wednesday, October 07, 2015 13:36:13 0.991
Wednesday, October 07, 2015 13:41:13 0.991
Wednesday, October 07, 2015 13:46:14 0.991
Wednesday, October 07, 2015 13:51:14 0.991
Wednesday, October 07, 2015 13:56:15 0.991
Wednesday, October 07, 2015 14:01:15 0.991
Wednesday, October 07, 2015 14:06:16 0.991
Wednesday, October 07, 2015 14:11:16 0.991
Wednesday, October 07, 2015 14:16:17 0.991
Wednesday, October 07, 2015 14:21:17 0.991
Wednesday, October 07, 2015 14:26:18 0.991
Wednesday, October 07, 2015 14:31:18 0.991
Wednesday, October 07, 2015 14:36:19 0.991
Wednesday, October 07, 2015 14:41:19 0.991
Wednesday, October 07, 2015 14:46:20 0.991
Wednesday, October 07, 2015 14:51:20 0.991
Wednesday, October 07, 2015 14:56:21 0.991
Wednesday, October 07, 2015 15:01:21 0.991
Wednesday, October 07, 2015 15:06:22 0.991
Wednesday, October 07, 2015 15:11:22 0.991
Wednesday, October 07, 2015 15:16:23 0.991
Wednesday, October 07, 2015 15:21:23 0.991
Wednesday, October 07, 2015 15:26:24 0.991
Wednesday, October 07, 2015 15:31:24 0.991
Wednesday, October 07, 2015 15:36:24 0.991
Wednesday, October 07, 2015 15:41:25 0.991
Wednesday, October 07, 2015 15:46:26 0.991
Wednesday, October 07, 2015 15:51:26 0.991
Wednesday, October 07, 2015 15:56:26 0.991
Wednesday, October 07, 2015 16:01:27 0.991
Wednesday, October 07, 2015 16:06:27 0.991
Wednesday, October 07, 2015 16:11:28 0.991
Wednesday, October 07, 2015 16:16:28 0.991
Wednesday, October 07, 2015 16:21:29 0.991
Wednesday, October 07, 2015 16:26:30 0.991
Wednesday, October 07, 2015 16:31:30 0.991
Wednesday, October 07, 2015 16:36:31 0.991
Wednesday, October 07, 2015 16:41:31 0.991
Wednesday, October 07, 2015 16:46:32 0.991
Wednesday, October 07, 2015 16:51:32 0.991
Wednesday, October 07, 2015 16:56:33 0.991
Wednesday, October 07, 2015 17:01:33 0.991
Wednesday, October 07, 2015 17:06:33 0.991
Wednesday, October 07, 2015 17:11:34 0.991
Wednesday, October 07, 2015 17:16:34 0.991
Wednesday, October 07, 2015 17:21:35 0.991
Wednesday, October 07, 2015 17:26:35 0.991
Wednesday, October 07, 2015 17:31:36 0.991
Wednesday, October 07, 2015 17:36:36 0.991
Wednesday, October 07, 2015 17:41:37 0.991
431.85
49.7
436.80
50.1
$441.77 \quad 50.1$
$446.72 \quad 50.1$
$451.69 \quad 50.0$
$456.65 \quad 50.1$
$461.61 \quad 50.0$
$466.57 \quad 50.1$
$471.54 \quad 50.1$
$476.49 \quad 50.2$
$481.46 \quad 50.1$
$486.41 \quad 50.3$
$491.38 \quad 50.2$
$496.34 \quad 49.7$
$501.31 \quad 50.1$
$506.26 \quad 50.2$
$511.23 \quad 50.1$
$516.18 \quad 50.1$
$521.15 \quad 50.1$
$526.10 \quad 50.1$
$531.07 \quad 49.8$
$536.03 \quad 50.2$
$541.00 \quad 49.7$
$545.95 \quad 50.4$
$550.92 \quad 50.1$
$555.87 \quad 50.2$
$560.84 \quad 50.1$
$565.79 \quad 49.8$
$570.75 \quad 50.0$
$575.72 \quad 50.1$
$580.67 \quad 50.1$
$585.64 \quad 50.1$
$590.59 \quad 49.4$
$595.56 \quad 50.0$
$600.51 \quad 50.4$
$605.48 \quad 50.0$
$610.44 \quad 49.8$
$615.41 \quad 50.1$
620.3849 .8
$625.33 \quad 50.2$
$630.30 \quad 49.7$
$635.25 \quad 50.2$
$640.22 \quad 49.7$
$645.17 \quad 50.1$
$650.14 \quad 50.1$
$655.10 \quad 49.6$
$660.05 \quad 50.1$
$665.02 \quad 50.1$
$669.97 \quad 50.1$
$674.94 \quad 50.1$
$679.89 \quad 50.2$
$684.86 \quad 50.1$
$689.82 \quad 50.0$
$694.79 \quad 50.0$
aqms5
formaldehyde001
Ch. 1 Cartridge Started Tuesday, October 13, 2015 11:00:04
Flow Rate Set Point 1.00 1/min
Stopped Tuesday, October 13, 2015 23:00:26
Total Volume 713.06 liters
Total Sample Time 12.00 hours
Average Flow Rate $0.991 \mathrm{l} / \mathrm{min}$
Minimum Flow Rate 0.991 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate 0.002 1/min
Ending Leak Rate $0.001 \mathrm{l} / \mathrm{min}$
Flow Controller Zero -0.009 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Tuesday, October 13, 2015 11:00:31 $0.077 \quad 0.23 \quad 50.0$
Tuesday, October 13, 2015 11:05:31 $0.991 \quad 5.18 \quad 49.7$
Tuesday, October 13, 2015 11:10:32 $0.991 \quad 10.15 \quad 50.2$
Tuesday, October 13, 2015 11:15:32 $0.991 \quad 15.10 \quad 50.1$
Tuesday, October 13, 2015 11:20:33 $0.991 \quad 20.07 \quad 49.7$
Tuesday, October 13, 2015 11:25:33 $0.991 \quad 25.03 \quad 49.3$
Tuesday, October 13, 2015 11:30:34 $0.99130 .00 \quad 49.7$
Tuesday, October 13, 2015 11:35:34 $0.991 \quad 34.95 \quad 50.3$
Tuesday, October 13, 2015 11:40:35 $0.991 \quad 39.92 \quad 50.1$
Tuesday, October 13, 2015 11:45:35 $0.99144 .87 \quad 50.1$
Tuesday, October 13, 2015 11:50:36 $0.991 \quad 49.84 \quad 49.6$
Tuesday, October 13, 2015 11:55:36 $0.991 \quad 54.80 \quad 50.0$
Tuesday, October 13, 2015 12:00:37 $0.99159 .77 \quad 50.1$
Tuesday, October 13, 2015 12:05:37 $0.991 \quad 64.72 \quad 50.1$
Tuesday, October 13, 2015 12:10:38 $0.991 \quad 69.6949 .7$
Tuesday, October 13, 2015 12:15:38 $0.991 \quad 74.6449 .8$
Tuesday, October 13, 2015 12:20:39 $0.991 \quad 79.61 \quad 50.1$
Tuesday, October 13, 2015 12:25:39 $0.991 \quad 84.57 \quad 49.9$
Tuesday, October 13, 2015 12:30:40 $0.991 \quad 89.54 \quad 50.2$
Tuesday, October 13, 2015 12:35:40 $0.991 \quad 94.49 \quad 50.1$
Tuesday, October 13, 2015 12:40:40 $0.991 \quad 99.44 \quad 50.2$
Tuesday, October 13, 2015 12:45:41 $0.991 \quad 104.41 \quad 50.1$
Tuesday, October 13, 2015 12:50:41 0.991 $109.36 \quad 50.1$
Tuesday, October 13, 2015 12:55:42 $0.991 \quad 114.33 \quad 50.2$
Tuesday, October 13, 2015 13:00:42 $0.991 \quad 119.29 \quad 50.4$
Tuesday, October 13, 2015 13:05:43 $0.991 \quad 124.26 \quad 50.0$
Tuesday, October 13, 2015 13:10:43 $0.991 \quad 129.21 \quad 49.4$
Tuesday, October 13, 2015 13:15:44 $0.991 \quad 134.18 \quad 50.2$
Tuesday, October 13, 2015 13:20:44 $0.991139 .13 \quad 50.0$
Tuesday, October 13, 2015 13:25:45 $0.991 \quad 144.10 \quad 50.2$
Tuesday, October 13, 2015 13:30:45 $0.991 \quad 149.06 \quad 50.0$
Tuesday, October 13, 2015 13:35:46 $0.991 \quad 154.03 \quad 50.0$
Tuesday, October 13, 2015 13:40:46 $0.991 \quad 158.98 \quad 50.1$

Tuesday, October 13, 2015 13:45:47 0.991
Tuesday, October 13, 2015 13:50:47 0.991
Tuesday, October 13, 2015 13:55:48 0.991
Tuesday, October 13, 2015 14:00:48 0.991
Tuesday, October 13, 2015 14:05:49 0.991
Tuesday, October 13, 2015 14:10:49 0.991
Tuesday, October 13, 2015 14:15:50 0.991
Tuesday, October 13, 2015 14:20:50 0.991
Tuesday, October 13, 2015 14:25:51 0.991
Tuesday, October 13, 2015 14:30:51 0.991
Tuesday, October 13, 2015 14:35:52 0.991
Tuesday, October 13, 2015 14:40:52 0.991
Tuesday, October 13, 2015 14:45:53 0.991
Tuesday, October 13, 2015 14:50:53 0.991
Tuesday, October 13, 2015 14:55:54 0.991
Tuesday, October 13, 2015 15:00:54 0.991
Tuesday, October 13, 2015 15:05:55 0.991
Tuesday, October 13, 2015 15:10:55 0.991
Tuesday, October 13, 2015 15:15:56 0.991
Tuesday, October 13, 2015 15:20:56 0.991
Tuesday, October 13, 2015 15:25:57 0.991
Tuesday, October 13, 2015 15:30:57 0.991
Tuesday, October 13, 2015 15:35:58 0.991
Tuesday, October 13, 2015 15:40:58 0.991
Tuesday, October 13, 2015 15:45:59 0.991
Tuesday, October 13, 2015 15:50:59 0.991
Tuesday, October 13, 2015 15:55:59 0.991
Tuesday, October 13, 2015 16:01:00 0.991
Tuesday, October 13, 2015 16:06:00 0.991
Tuesday, October 13, 2015 16:11:01 0.991
Tuesday, October 13, 2015 16:16:01 0.991
Tuesday, October 13, 2015 16:21:02 0.991
Tuesday, October 13, 2015 16:26:02 0.991
Tuesday, October 13, 2015 16:31:03 0.991
Tuesday, October 13, 2015 16:36:03 0.991
Tuesday, October 13, 2015 16:41:04 0.991
Tuesday, October 13, 2015 16:46:04 0.991
Tuesday, October 13, 2015 16:51:05 0.991
Tuesday, October 13, 2015 16:56:05 0.991
Tuesday, October 13, 2015 17:01:06 0.991
Tuesday, October 13, 2015 17:06:06 0.991
Tuesday, October 13, 2015 17:11:07 0.991
Tuesday, October 13, 2015 17:16:07 0.991
Tuesday, October 13, 2015 17:21:08 0.991
Tuesday, October 13, 2015 17:26:08 0.991
Tuesday, October 13, 2015 17:31:09 0.991
Tuesday, October 13, 2015 17:36:09 0.991
Tuesday, October 13, 2015 17:41:10 0.991
Tuesday, October 13, 2015 17:46:10 0.991
Tuesday, October 13, 2015 17:51:11 0.991
Tuesday, October 13, 2015 17:56:11 0.991 Tuesday, October 13, 2015 18:01:12 0.991
Tuesday, October 13, 2015 18:06:12 0.991
Tuesday, October 13, 2015 18:11:13 0.991
163.95
50.2
168.90
50.1
$173.87 \quad 50.1$
$178.83 \quad 50.2$
$183.80 \quad 50.2$
$188.75 \quad 50.3$
$193.72 \quad 50.1$
$198.67 \quad 50.0$
$203.64 \quad 50.3$
$208.60 \quad 50.2$
$213.57 \quad 50.1$
218.5249 .7
$223.49 \quad 50.1$
$228.44 \quad 50.3$
$233.41 \quad 50.2$
$238.37 \quad 49.8$
$243.33 \quad 50.2$
$248.29 \quad 50.1$
$253.26 \quad 50.1$
258.2149 .8
$263.18 \quad 49.6$
$268.13 \quad 50.1$
$273.10 \quad 49.7$
$278.06 \quad 49.9$
$283.03 \quad 50.1$
$287.98 \quad 50.1$
$292.93 \quad 50.0$
$297.90 \quad 50.0$
$302.86 \quad 50.1$
$307.83 \quad 50.1$
$312.78 \quad 49.7$
$317.75 \quad 50.1$
$322.70 \quad 50.1$
$327.67 \quad 50.2$
$332.63 \quad 50.2$
$337.60 \quad 49.5$
$342.55 \quad 49.7$
$347.52 \quad 50.1$
$352.47 \quad 50.1$
$357.44 \quad 49.8$
$362.40 \quad 50.1$
$367.37 \quad 50.1$
$372.32 \quad 50.0$
$377.29 \quad 50.1$
$382.24 \quad 50.2$
$387.21 \quad 50.1$
$392.16 \quad 49.7$
$397.13 \quad 50.1$
$402.09 \quad 49.7$
$407.06 \quad 49.7$
$412.01 \quad 50.1$
$416.98 \quad 50.1$
$421.93 \quad 50.0$
$426.90 \quad 50.1$

Tuesday, October 13, 2015 18:16:13 0.991
Tuesday, October 13, 2015 18:21:14 0.991
Tuesday, October 13, 2015 18:26:14 0.991
Tuesday, October 13, 2015 18:31:15 0.991
Tuesday, October 13, 2015 18:36:15 0.991
Tuesday, October 13, 2015 18:41:16 0.991
Tuesday, October 13, 2015 18:46:16 0.991
Tuesday, October 13, 2015 18:51:17 0.991
Tuesday, October 13, 2015 18:56:17 0.991
Tuesday, October 13, 2015 19:01:18 0.991
Tuesday, October 13, 2015 19:06:18 0.991
Tuesday, October 13, 2015 19:11:19 0.991
Tuesday, October 13, 2015 19:16:19 0.991
Tuesday, October 13, 2015 19:21:20 0.991
Tuesday, October 13, 2015 19:26:20 0.991
Tuesday, October 13, 2015 19:31:21 0.991
Tuesday, October 13, 2015 19:36:21 0.991
Tuesday, October 13, 2015 19:41:22 0.991
Tuesday, October 13, 2015 19:46:22 0.991
Tuesday, October 13, 2015 19:51:22 0.991
Tuesday, October 13, 2015 19:56:23 0.991
Tuesday, October 13, 2015 20:01:24 0.991
Tuesday, October 13, 2015 20:06:24 0.991
Tuesday, October 13, 2015 20:11:24 0.991
Tuesday, October 13, 2015 20:16:25 0.991
Tuesday, October 13, 2015 20:21:25 0.991
Tuesday, October 13, 2015 20:26:26 0.991
Tuesday, October 13, 2015 20:31:26 0.991
Tuesday, October 13, 2015 20:36:27 0.991
Tuesday, October 13, 2015 20:41:27 0.991
Tuesday, October 13, 2015 20:46:28 0.991
Tuesday, October 13, 2015 20:51:28 0.991
Tuesday, October 13, 2015 20:56:29 0.991
Tuesday, October 13, 2015 21:01:29 0.991
Tuesday, October 13, 2015 21:06:30 0.991
Tuesday, October 13, 2015 21:11:30 0.991
Tuesday, October 13, 2015 21:16:31 0.991
Tuesday, October 13, 2015 21:21:31 0.991
Tuesday, October 13, 2015 21:26:32 0.991
Tuesday, October 13, 2015 21:31:32 0.991
Tuesday, October 13, 2015 21:36:33 0.991
Tuesday, October 13, 2015 21:41:33 0.991
Tuesday, October 13, 2015 21:46:34 0.991
Tuesday, October 13, 2015 21:51:34 0.991
Tuesday, October 13, 2015 21:56:34 0.991
Tuesday, October 13, 2015 22:01:35 0.991
Tuesday, October 13, 2015 22:06:35 0.991
Tuesday, October 13, 2015 22:11:36 0.991
Tuesday, October 13, 2015 22:16:36 0.991
Tuesday, October 13, 2015 22:21:37 0.991
Tuesday, October 13, 2015 22:26:37 0.991
Tuesday, October 13, 2015 22:31:38 0.991
Tuesday, October 13, 2015 22:36:38 0.991
Tuesday, October 13, 2015 22:41:39 0.991
431.86
50.2
$436.83 \quad 49.6$
$441.78 \quad 50.1$
$446.75 \quad 50.1$
$451.70 \quad 49.7$
$456.67 \quad 49.9$
$461.63 \quad 49.9$
$466.60 \quad 50.1$
$471.55 \quad 50.2$
476.5249 .6
$481.47 \quad 50.1$
$486.44 \quad 50.1$
$491.40 \quad 49.7$
$496.37 \quad 50.1$
$501.32 \quad 50.2$
$506.29 \quad 48.9$
$511.24 \quad 50.1$
$516.21 \quad 50.0$
$521.16 \quad 49.7$
$526.12 \quad 50.1$
$531.09 \quad 50.1$
$536.06 \quad 50.1$
$541.01 \quad 49.7$
$545.96 \quad 50.1$
$550.93 \quad 50.1$
$555.89 \quad 50.1$
$560.86 \quad 49.9$
$565.81 \quad 49.7$
$570.78 \quad 50.0$
$575.73 \quad 50.1$
$580.70 \quad 50.2$
$585.65 \quad 50.1$
590.6249 .3
$595.58 \quad 50.1$
600.5549 .6
$605.50 \quad 50.1$
$610.47 \quad 50.2$
$615.42 \quad 50.0$
$620.39 \quad 50.1$
$625.34 \quad 50.1$
$630.31 \quad 50.2$
$635.27 \quad 50.1$
$640.24 \quad 50.1$
$645.19 \quad 50.1$
$650.14 \quad 49.8$
$655.11 \quad 50.3$
$660.06 \quad 50.1$
$665.03 \quad 49.7$
$669.99 \quad 50.0$
$674.96 \quad 49.7$
$679.91 \quad 50.1$
$684.88 \quad 50.2$
$689.83 \quad 50.3$
$694.80 \quad 50.1$
aqms5
formaldehyde001
Ch. 1 Cartridge Started Tuesday, October 13, 2015 11:00:04
Flow Rate Set Point 1.00 1/min
Stopped Tuesday, October 13, 2015 23:00:26
Total Volume 713.06 liters
Total Sample Time 12.00 hours
Average Flow Rate $0.991 \mathrm{l} / \mathrm{min}$
Minimum Flow Rate 0.991 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate 0.002 1/min
Ending Leak Rate $0.001 \mathrm{l} / \mathrm{min}$
Flow Controller Zero -0.009 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Tuesday, October 13, 2015 11:00:31 $0.077 \quad 0.23 \quad 50.0$
Tuesday, October 13, 2015 11:05:31 $0.991 \quad 5.18 \quad 49.7$
Tuesday, October 13, 2015 11:10:32 $0.991 \quad 10.15 \quad 50.2$
Tuesday, October 13, 2015 11:15:32 $0.991 \quad 15.10 \quad 50.1$
Tuesday, October 13, 2015 11:20:33 $0.991 \quad 20.07 \quad 49.7$
Tuesday, October 13, 2015 11:25:33 $0.991 \quad 25.03 \quad 49.3$
Tuesday, October 13, 2015 11:30:34 $0.99130 .00 \quad 49.7$
Tuesday, October 13, 2015 11:35:34 $0.991 \quad 34.95 \quad 50.3$
Tuesday, October 13, 2015 11:40:35 $0.991 \quad 39.92 \quad 50.1$
Tuesday, October 13, 2015 11:45:35 $0.99144 .87 \quad 50.1$
Tuesday, October 13, 2015 11:50:36 $0.991 \quad 49.84 \quad 49.6$
Tuesday, October 13, 2015 11:55:36 $0.991 \quad 54.80 \quad 50.0$
Tuesday, October 13, 2015 12:00:37 $0.99159 .77 \quad 50.1$
Tuesday, October 13, 2015 12:05:37 $0.991 \quad 64.72 \quad 50.1$
Tuesday, October 13, 2015 12:10:38 $0.991 \quad 69.6949 .7$
Tuesday, October 13, 2015 12:15:38 $0.991 \quad 74.6449 .8$
Tuesday, October 13, 2015 12:20:39 $0.991 \quad 79.61 \quad 50.1$
Tuesday, October 13, 2015 12:25:39 $0.991 \quad 84.57 \quad 49.9$
Tuesday, October 13, 2015 12:30:40 $0.991 \quad 89.54 \quad 50.2$
Tuesday, October 13, 2015 12:35:40 $0.991 \quad 94.49 \quad 50.1$
Tuesday, October 13, 2015 12:40:40 $0.991 \quad 99.44 \quad 50.2$
Tuesday, October 13, 2015 12:45:41 $0.991 \quad 104.41 \quad 50.1$
Tuesday, October 13, 2015 12:50:41 0.991 $109.36 \quad 50.1$
Tuesday, October 13, 2015 12:55:42 $0.991 \quad 114.33 \quad 50.2$
Tuesday, October 13, 2015 13:00:42 $0.991 \quad 119.29 \quad 50.4$
Tuesday, October 13, 2015 13:05:43 $0.991 \quad 124.26 \quad 50.0$
Tuesday, October 13, 2015 13:10:43 $0.991 \quad 129.21 \quad 49.4$
Tuesday, October 13, 2015 13:15:44 $0.991 \quad 134.18 \quad 50.2$
Tuesday, October 13, 2015 13:20:44 $0.991139 .13 \quad 50.0$
Tuesday, October 13, 2015 13:25:45 $0.991 \quad 144.10 \quad 50.2$
Tuesday, October 13, 2015 13:30:45 $0.991 \quad 149.06 \quad 50.0$
Tuesday, October 13, 2015 13:35:46 $0.991 \quad 154.03 \quad 50.0$
Tuesday, October 13, 2015 13:40:46 $0.991 \quad 158.98 \quad 50.1$

Tuesday, October 13, 2015 13:45:47 0.991
Tuesday, October 13, 2015 13:50:47 0.991
Tuesday, October 13, 2015 13:55:48 0.991
Tuesday, October 13, 2015 14:00:48 0.991
Tuesday, October 13, 2015 14:05:49 0.991
Tuesday, October 13, 2015 14:10:49 0.991
Tuesday, October 13, 2015 14:15:50 0.991
Tuesday, October 13, 2015 14:20:50 0.991
Tuesday, October 13, 2015 14:25:51 0.991
Tuesday, October 13, 2015 14:30:51 0.991
Tuesday, October 13, 2015 14:35:52 0.991
Tuesday, October 13, 2015 14:40:52 0.991
Tuesday, October 13, 2015 14:45:53 0.991
Tuesday, October 13, 2015 14:50:53 0.991
Tuesday, October 13, 2015 14:55:54 0.991
Tuesday, October 13, 2015 15:00:54 0.991
Tuesday, October 13, 2015 15:05:55 0.991
Tuesday, October 13, 2015 15:10:55 0.991
Tuesday, October 13, 2015 15:15:56 0.991
Tuesday, October 13, 2015 15:20:56 0.991
Tuesday, October 13, 2015 15:25:57 0.991
Tuesday, October 13, 2015 15:30:57 0.991
Tuesday, October 13, 2015 15:35:58 0.991
Tuesday, October 13, 2015 15:40:58 0.991
Tuesday, October 13, 2015 15:45:59 0.991
Tuesday, October 13, 2015 15:50:59 0.991
Tuesday, October 13, 2015 15:55:59 0.991
Tuesday, October 13, 2015 16:01:00 0.991
Tuesday, October 13, 2015 16:06:00 0.991
Tuesday, October 13, 2015 16:11:01 0.991
Tuesday, October 13, 2015 16:16:01 0.991
Tuesday, October 13, 2015 16:21:02 0.991
Tuesday, October 13, 2015 16:26:02 0.991
Tuesday, October 13, 2015 16:31:03 0.991
Tuesday, October 13, 2015 16:36:03 0.991
Tuesday, October 13, 2015 16:41:04 0.991
Tuesday, October 13, 2015 16:46:04 0.991
Tuesday, October 13, 2015 16:51:05 0.991
Tuesday, October 13, 2015 16:56:05 0.991
Tuesday, October 13, 2015 17:01:06 0.991
Tuesday, October 13, 2015 17:06:06 0.991
Tuesday, October 13, 2015 17:11:07 0.991
Tuesday, October 13, 2015 17:16:07 0.991
Tuesday, October 13, 2015 17:21:08 0.991
Tuesday, October 13, 2015 17:26:08 0.991
Tuesday, October 13, 2015 17:31:09 0.991
Tuesday, October 13, 2015 17:36:09 0.991
Tuesday, October 13, 2015 17:41:10 0.991
Tuesday, October 13, 2015 17:46:10 0.991
Tuesday, October 13, 2015 17:51:11 0.991
Tuesday, October 13, 2015 17:56:11 0.991 Tuesday, October 13, 2015 18:01:12 0.991
Tuesday, October 13, 2015 18:06:12 0.991
Tuesday, October 13, 2015 18:11:13 0.991
163.95
50.2
168.90
50.1
$173.87 \quad 50.1$
$178.83 \quad 50.2$
$183.80 \quad 50.2$
$188.75 \quad 50.3$
$193.72 \quad 50.1$
$198.67 \quad 50.0$
$203.64 \quad 50.3$
$208.60 \quad 50.2$
$213.57 \quad 50.1$
218.5249 .7
$223.49 \quad 50.1$
$228.44 \quad 50.3$
$233.41 \quad 50.2$
$238.37 \quad 49.8$
$243.33 \quad 50.2$
$248.29 \quad 50.1$
$253.26 \quad 50.1$
258.2149 .8
$263.18 \quad 49.6$
$268.13 \quad 50.1$
$273.10 \quad 49.7$
$278.06 \quad 49.9$
$283.03 \quad 50.1$
$287.98 \quad 50.1$
$292.93 \quad 50.0$
$297.90 \quad 50.0$
$302.86 \quad 50.1$
$307.83 \quad 50.1$
$312.78 \quad 49.7$
$317.75 \quad 50.1$
$322.70 \quad 50.1$
$327.67 \quad 50.2$
$332.63 \quad 50.2$
$337.60 \quad 49.5$
$342.55 \quad 49.7$
$347.52 \quad 50.1$
$352.47 \quad 50.1$
$357.44 \quad 49.8$
$362.40 \quad 50.1$
$367.37 \quad 50.1$
$372.32 \quad 50.0$
$377.29 \quad 50.1$
$382.24 \quad 50.2$
$387.21 \quad 50.1$
$392.16 \quad 49.7$
$397.13 \quad 50.1$
$402.09 \quad 49.7$
$407.06 \quad 49.7$
$412.01 \quad 50.1$
$416.98 \quad 50.1$
$421.93 \quad 50.0$
$426.90 \quad 50.1$

Tuesday, October 13, 2015 18:16:13 0.991
Tuesday, October 13, 2015 18:21:14 0.991
Tuesday, October 13, 2015 18:26:14 0.991
Tuesday, October 13, 2015 18:31:15 0.991
Tuesday, October 13, 2015 18:36:15 0.991
Tuesday, October 13, 2015 18:41:16 0.991
Tuesday, October 13, 2015 18:46:16 0.991
Tuesday, October 13, 2015 18:51:17 0.991
Tuesday, October 13, 2015 18:56:17 0.991
Tuesday, October 13, 2015 19:01:18 0.991
Tuesday, October 13, 2015 19:06:18 0.991
Tuesday, October 13, 2015 19:11:19 0.991
Tuesday, October 13, 2015 19:16:19 0.991
Tuesday, October 13, 2015 19:21:20 0.991
Tuesday, October 13, 2015 19:26:20 0.991
Tuesday, October 13, 2015 19:31:21 0.991
Tuesday, October 13, 2015 19:36:21 0.991
Tuesday, October 13, 2015 19:41:22 0.991
Tuesday, October 13, 2015 19:46:22 0.991
Tuesday, October 13, 2015 19:51:22 0.991
Tuesday, October 13, 2015 19:56:23 0.991
Tuesday, October 13, 2015 20:01:24 0.991
Tuesday, October 13, 2015 20:06:24 0.991
Tuesday, October 13, 2015 20:11:24 0.991
Tuesday, October 13, 2015 20:16:25 0.991
Tuesday, October 13, 2015 20:21:25 0.991
Tuesday, October 13, 2015 20:26:26 0.991
Tuesday, October 13, 2015 20:31:26 0.991
Tuesday, October 13, 2015 20:36:27 0.991
Tuesday, October 13, 2015 20:41:27 0.991
Tuesday, October 13, 2015 20:46:28 0.991
Tuesday, October 13, 2015 20:51:28 0.991
Tuesday, October 13, 2015 20:56:29 0.991
Tuesday, October 13, 2015 21:01:29 0.991
Tuesday, October 13, 2015 21:06:30 0.991
Tuesday, October 13, 2015 21:11:30 0.991
Tuesday, October 13, 2015 21:16:31 0.991
Tuesday, October 13, 2015 21:21:31 0.991
Tuesday, October 13, 2015 21:26:32 0.991
Tuesday, October 13, 2015 21:31:32 0.991
Tuesday, October 13, 2015 21:36:33 0.991
Tuesday, October 13, 2015 21:41:33 0.991
Tuesday, October 13, 2015 21:46:34 0.991
Tuesday, October 13, 2015 21:51:34 0.991
Tuesday, October 13, 2015 21:56:34 0.991
Tuesday, October 13, 2015 22:01:35 0.991
Tuesday, October 13, 2015 22:06:35 0.991
Tuesday, October 13, 2015 22:11:36 0.991
Tuesday, October 13, 2015 22:16:36 0.991
Tuesday, October 13, 2015 22:21:37 0.991
Tuesday, October 13, 2015 22:26:37 0.991
Tuesday, October 13, 2015 22:31:38 0.991
Tuesday, October 13, 2015 22:36:38 0.991
Tuesday, October 13, 2015 22:41:39 0.991
431.86
50.2
$436.83 \quad 49.6$
$441.78 \quad 50.1$
$446.75 \quad 50.1$
$451.70 \quad 49.7$
$456.67 \quad 49.9$
$461.63 \quad 49.9$
$466.60 \quad 50.1$
$471.55 \quad 50.2$
476.5249 .6
$481.47 \quad 50.1$
$486.44 \quad 50.1$
$491.40 \quad 49.7$
$496.37 \quad 50.1$
$501.32 \quad 50.2$
$506.29 \quad 48.9$
$511.24 \quad 50.1$
$516.21 \quad 50.0$
$521.16 \quad 49.7$
$526.12 \quad 50.1$
$531.09 \quad 50.1$
$536.06 \quad 50.1$
$541.01 \quad 49.7$
$545.96 \quad 50.1$
$550.93 \quad 50.1$
$555.89 \quad 50.1$
$560.86 \quad 49.9$
$565.81 \quad 49.7$
$570.78 \quad 50.0$
$575.73 \quad 50.1$
$580.70 \quad 50.2$
$585.65 \quad 50.1$
590.6249 .3
$595.58 \quad 50.1$
600.5549 .6
$605.50 \quad 50.1$
$610.47 \quad 50.2$
$615.42 \quad 50.0$
$620.39 \quad 50.1$
$625.34 \quad 50.1$
$630.31 \quad 50.2$
$635.27 \quad 50.1$
$640.24 \quad 50.1$
$645.19 \quad 50.1$
$650.14 \quad 49.8$
$655.11 \quad 50.3$
$660.06 \quad 50.1$
$665.03 \quad 49.7$
$669.99 \quad 50.0$
$674.96 \quad 49.7$
$679.91 \quad 50.1$
$684.88 \quad 50.2$
$689.83 \quad 50.3$
$694.80 \quad 50.1$

Flow Rate Set Point 1.00 1/min
Stopped Monday, October 19, 2015 18:00:23
Total Volume 713.22 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.991 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate -0.004 1/min
Ending Leak Rate -0.005 1/min
Flow Controller Zero -0.006 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

| Monday, October 19, 2015 6:00:28 0.075 | 0.23 | 50 |
| :---: | :---: | :---: |
| Monday, October 19, 2015 6:05:29 0.991 | 5.20 | 50.0 |
| Monday, October 19, 2015 6:10:29 0.991 | 10.15 | 50.0 |
| Monday, October 19, 2015 6:15:29 0.991 | 15.11 | 49.8 |
| Monday, October 19, 2015 6:20:30 0.991 | 20.08 | 49.9 |
| Monday, October 19, 2015 6:25:30 0.991 | 25.03 | 50.1 |
| Monday, October 19, 2015 6:30:31 0.991 | 30.01 | 50.1 |
| Monday, October 19, 2015 6:35:31 0.991 | 34.96 | 50.1 |
| Monday, October 19, 2015 6:40:31 0.991 | 39.91 | 49.6 |
| Monday, October 19, 2015 6:45:32 0.991 | 44.89 | 49.9 |
| Monday, October 19, 2015 6:50:32 0.991 | 49.84 | 50.0 |
| Monday, October 19, 2015 6:55:33 0.991 | 54.81 | 50.1 |
| Monday, October 19, 2015 7:00:33 0.991 | 59.77 | 50.1 |
| Monday, October 19, 2015 7:05:34 0.991 | 64.74 | 50.0 |
| Monday, October 19, 2015 7:10:34 0.991 | 69.69 | 50.1 |
| Monday, October 19, 2015 7:15:34 0.991 | 74.65 | 49.7 |
| Monday, October 19, 2015 7:20:35 0.991 | 79.62 | 49.7 |
| Monday, October 19, 2015 7:25:35 0.991 | 84.57 | 50.1 |
| Monday, October 19, 2015 7:30:36 0.991 | 89.54 | 50.0 |
| Monday, October 19, 2015 7:35:36 0.991 | 94.50 | 50.0 |
| Monday, October 19, 2015 7:40:37 0.991 | 99.47 | 50.1 |
| Monday, October 19, 2015 7:45:37 0.991 | 104.42 | 50 |
| Monday, October 19, 2015 7:50:37 0.991 | 109.38 | 50.1 |
| Monday, October 19, 2015 7:55:38 0.991 | 114.35 | 50.1 |
| Monday, October 19, 2015 8:00:38 0.991 | 119.30 | 0 |
| Monday, October 19, 2015 8:05:39 0.991 | 124.27 | 49.4 |
| Monday, October 19, 2015 8:10:39 0.991 | 129.23 | 50.1 |
| Monday, October 19, 2015 8:15:40 0.991 | 134.20 | 50.2 |
| Monday, October 19, 2015 8:20:40 0.991 | 139.15 | 50.1 |
| Monday, October 19, 2015 8:25:40 0.991 | 144.11 | 50 |
| Monday, October 19, 2015 8:30:41 0.991 | 149.08 | 50 |
| Monday, October 19, 2015 8:35:41 0.991 | 154.03 | 50.1 |
| Monday, October 19, 2015 8:40:42 0.991 | 159.00 | 50 |

Monday, October 19, 2015 8:45:42 0.991
163.96
50.0
168.93
49.7
$173.88 \quad 50.1$
$178.84 \quad 50.0$
$183.81 \quad 50.1$
$188.76 \quad 50.1$
193.7350 .0
$198.69 \quad 50.1$
$203.64 \quad 50.0$
208.6149 .6
$213.57 \quad 49.7$
$218.54 \quad 50.1$
$223.49 \quad 50.1$
$228.46 \quad 50.1$
$233.42 \quad 50.0$
$238.37 \quad 50.0$
$243.34 \quad 49.8$
$248.30 \quad 49.7$
$253.27 \quad 49.6$
$258.22 \quad 50.1$
$263.20 \quad 50.1$
$268.15 \quad 50.0$
$273.12 \quad 50.1$
$278.07 \quad 50.0$
283.0349 .9
$288.00 \quad 50.1$
$292.95 \quad 50.0$
297.9249 .7
$302.88 \quad 50.1$
$307.85 \quad 50.0$
$312.80 \quad 50.1$
$317.78 \quad 50.2$
$322.73 \quad 49.7$
$327.70 \quad 50.1$
$332.65 \quad 50.0$
$337.63 \quad 50.0$
$342.58 \quad 50.1$
$347.55 \quad 50.1$
$352.50 \quad 50.2$
$357.48 \quad 49.7$
$362.43 \quad 50.0$
$367.38 \quad 50.1$
$372.35 \quad 49.7$
$377.31 \quad 49.7$
$382.28 \quad 50.1$
$387.23 \quad 50.1$
$392.20 \quad 50.0$
$397.16 \quad 50.3$
$402.13 \quad 50.1$
$407.08 \quad 50.1$
$412.05 \quad 50.1$
$417.01 \quad 50.1$
$421.96 \quad 50.0$
426.9350 .2

Monday, October 19, 2015 13:16:06 0.991
431.89
49.6
$436.86 \quad 50.2$
$441.81 \quad 49.8$
$446.78 \quad 49.7$
$451.74 \quad 49.6$
$456.71 \quad 49.7$
$461.66 \quad 50.0$
$466.63 \quad 50.3$
$471.59 \quad 50.2$
$476.54 \quad 50.0$
$481.51 \quad 49.8$
$486.47 \quad 50.1$
$491.44 \quad 50.2$
$496.39 \quad 50.1$
$501.36 \quad 50.0$
$506.32 \quad 50.1$
$511.29 \quad 50.0$
$516.24 \quad 50.1$
$521.21 \quad 49.7$
$526.17 \quad 49.8$
$531.12 \quad 50.1$
$536.09 \quad 49.9$
$541.04 \quad 50.2$
$546.01 \quad 49.5$
$550.97 \quad 50.2$
$555.94 \quad 50.0$
560.8949 .6
$565.86 \quad 49.7$
$570.82 \quad 50.1$
$575.79 \quad 50.2$
$580.74 \quad 49.7$
$585.71 \quad 50.2$
$590.67 \quad 50.1$
$595.64 \quad 50.2$
$600.59 \quad 50.1$
$605.56 \quad 50.1$
$610.51 \quad 50.0$
$615.49 \quad 50.1$
$620.44 \quad 49.8$
$625.39 \quad 49.7$
$630.36 \quad 49.7$
$635.32 \quad 50.1$
$640.29 \quad 50.1$
$645.24 \quad 50.2$
$650.21 \quad 50.1$
$655.17 \quad 49.7$
$660.14 \quad 50.3$
$665.09 \quad 50.2$
$670.06 \quad 50.1$
$675.01 \quad 50.0$
$679.98 \quad 49.9$
$684.94 \quad 50.1$
$689.91 \quad 49.4$
694.8649 .7

Flow Rate Set Point 1.00 1/min
Stopped Monday, October 19, 2015 18:00:23
Total Volume 713.22 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.991 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate -0.004 1/min
Ending Leak Rate -0.005 1/min
Flow Controller Zero -0.006 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

| Monday, October 19, 2015 6:00:28 0.075 | 0.23 | 50 |
| :---: | :---: | :---: |
| Monday, October 19, 2015 6:05:29 0.991 | 5.20 | 50.0 |
| Monday, October 19, 2015 6:10:29 0.991 | 10.15 | 50.0 |
| Monday, October 19, 2015 6:15:29 0.991 | 15.11 | 49.8 |
| Monday, October 19, 2015 6:20:30 0.991 | 20.08 | 49.9 |
| Monday, October 19, 2015 6:25:30 0.991 | 25.03 | 50.1 |
| Monday, October 19, 2015 6:30:31 0.991 | 30.01 | 50.1 |
| Monday, October 19, 2015 6:35:31 0.991 | 34.96 | 50.1 |
| Monday, October 19, 2015 6:40:31 0.991 | 39.91 | 49.6 |
| Monday, October 19, 2015 6:45:32 0.991 | 44.89 | 49.9 |
| Monday, October 19, 2015 6:50:32 0.991 | 49.84 | 50.0 |
| Monday, October 19, 2015 6:55:33 0.991 | 54.81 | 50.1 |
| Monday, October 19, 2015 7:00:33 0.991 | 59.77 | 50.1 |
| Monday, October 19, 2015 7:05:34 0.991 | 64.74 | 50.0 |
| Monday, October 19, 2015 7:10:34 0.991 | 69.69 | 50.1 |
| Monday, October 19, 2015 7:15:34 0.991 | 74.65 | 49.7 |
| Monday, October 19, 2015 7:20:35 0.991 | 79.62 | 49.7 |
| Monday, October 19, 2015 7:25:35 0.991 | 84.57 | 50.1 |
| Monday, October 19, 2015 7:30:36 0.991 | 89.54 | 50.0 |
| Monday, October 19, 2015 7:35:36 0.991 | 94.50 | 50.0 |
| Monday, October 19, 2015 7:40:37 0.991 | 99.47 | 50.1 |
| Monday, October 19, 2015 7:45:37 0.991 | 104.42 | 50 |
| Monday, October 19, 2015 7:50:37 0.991 | 109.38 | 50.1 |
| Monday, October 19, 2015 7:55:38 0.991 | 114.35 | 50.1 |
| Monday, October 19, 2015 8:00:38 0.991 | 119.30 | 0 |
| Monday, October 19, 2015 8:05:39 0.991 | 124.27 | 49.4 |
| Monday, October 19, 2015 8:10:39 0.991 | 129.23 | 50.1 |
| Monday, October 19, 2015 8:15:40 0.991 | 134.20 | 50.2 |
| Monday, October 19, 2015 8:20:40 0.991 | 139.15 | 50.1 |
| Monday, October 19, 2015 8:25:40 0.991 | 144.11 | 50 |
| Monday, October 19, 2015 8:30:41 0.991 | 149.08 | 50 |
| Monday, October 19, 2015 8:35:41 0.991 | 154.03 | 50.1 |
| Monday, October 19, 2015 8:40:42 0.991 | 159.00 | 50 |

Monday, October 19, 2015 8:45:42 0.991
163.96
50.0
168.93
49.7
$173.88 \quad 50.1$
$178.84 \quad 50.0$
$183.81 \quad 50.1$
$188.76 \quad 50.1$
193.7350 .0
$198.69 \quad 50.1$
$203.64 \quad 50.0$
208.6149 .6
$213.57 \quad 49.7$
$218.54 \quad 50.1$
$223.49 \quad 50.1$
$228.46 \quad 50.1$
$233.42 \quad 50.0$
$238.37 \quad 50.0$
$243.34 \quad 49.8$
$248.30 \quad 49.7$
$253.27 \quad 49.6$
$258.22 \quad 50.1$
$263.20 \quad 50.1$
$268.15 \quad 50.0$
$273.12 \quad 50.1$
$278.07 \quad 50.0$
283.0349 .9
$288.00 \quad 50.1$
$292.95 \quad 50.0$
297.9249 .7
$302.88 \quad 50.1$
$307.85 \quad 50.0$
$312.80 \quad 50.1$
$317.78 \quad 50.2$
$322.73 \quad 49.7$
$327.70 \quad 50.1$
$332.65 \quad 50.0$
$337.63 \quad 50.0$
$342.58 \quad 50.1$
$347.55 \quad 50.1$
$352.50 \quad 50.2$
$357.48 \quad 49.7$
$362.43 \quad 50.0$
$367.38 \quad 50.1$
$372.35 \quad 49.7$
$377.31 \quad 49.7$
$382.28 \quad 50.1$
$387.23 \quad 50.1$
$392.20 \quad 50.0$
$397.16 \quad 50.3$
$402.13 \quad 50.1$
$407.08 \quad 50.1$
$412.05 \quad 50.1$
$417.01 \quad 50.1$
$421.96 \quad 50.0$
426.9350 .2

Monday, October 19, 2015 13:16:06 0.991
431.89
49.6
$436.86 \quad 50.2$
$441.81 \quad 49.8$
$446.78 \quad 49.7$
$451.74 \quad 49.6$
$456.71 \quad 49.7$
$461.66 \quad 50.0$
$466.63 \quad 50.3$
$471.59 \quad 50.2$
$476.54 \quad 50.0$
$481.51 \quad 49.8$
$486.47 \quad 50.1$
$491.44 \quad 50.2$
$496.39 \quad 50.1$
$501.36 \quad 50.0$
$506.32 \quad 50.1$
$511.29 \quad 50.0$
$516.24 \quad 50.1$
$521.21 \quad 49.7$
$526.17 \quad 49.8$
$531.12 \quad 50.1$
$536.09 \quad 49.9$
$541.04 \quad 50.2$
$546.01 \quad 49.5$
$550.97 \quad 50.2$
$555.94 \quad 50.0$
560.8949 .6
$565.86 \quad 49.7$
$570.82 \quad 50.1$
$575.79 \quad 50.2$
$580.74 \quad 49.7$
$585.71 \quad 50.2$
$590.67 \quad 50.1$
$595.64 \quad 50.2$
$600.59 \quad 50.1$
$605.56 \quad 50.1$
$610.51 \quad 50.0$
$615.49 \quad 50.1$
$620.44 \quad 49.8$
$625.39 \quad 49.7$
$630.36 \quad 49.7$
$635.32 \quad 50.1$
$640.29 \quad 50.1$
$645.24 \quad 50.2$
$650.21 \quad 50.1$
$655.17 \quad 49.7$
$660.14 \quad 50.3$
$665.09 \quad 50.2$
$670.06 \quad 50.1$
$675.01 \quad 50.0$
$679.98 \quad 49.9$
$684.94 \quad 50.1$
$689.91 \quad 49.4$
694.8649 .7

# Ch. 1 Cartridge Started Sunday, October 25, 2015 6:00:02 

Flow Rate Set Point 1.00 1/min
Stopped Sunday, October 25, 2015 18:00:23
Total Volume 713.19 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.991 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate -0.003 1/min
Ending Leak Rate - $0.004 \mathrm{l} / \mathrm{min}$
Flow Controller Zero -0.006 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Sunday, October 25, 2015 6:00:29 0.075
0.23
50.3

Sunday, October 25, 2015 6:05:29 0.991
Sunday, October 25, 2015 6:10:30 0.991
$5.18 \quad 50.1$
Su ay, Octobe 25, 2015 6:15:30 0.991 15.11
Sunday, October 25, 2015 6:15:30 $0.991 \quad 15.11 \quad 49.3$
Sunday, October 25, 2015 6:20:31 $0.991 \quad 20.08 \quad 50.2$
Sunday, October 25, 2015 6:25:31 $0.991 \quad 25.0349 .7$
Sunday, October 25, 2015 6:30:32 $0.991 \quad 30.00 \quad 49.7$
Sunday, October 25, 2015 6:35:32 $0.991 \quad 34.95 \quad 50.2$
Sunday, October 25, 2015 6:40:33 $0.991 \quad 39.9249 .7$
Sunday, October 25, 2015 6:45:33 $0.991 \quad 44.88 \quad 50.1$
Sunday, October 25, 2015 6:50:34 $0.991 \quad 49.85 \quad 50.4$
Sunday, October 25, 2015 6:55:34 $0.991 \quad 54.80 \quad 50.5$
Sunday, October 25, 2015 7:00:35 $0.99159 .77 \quad 50.0$
Sunday, October 25, 2015 7:05:35 $0.991 \quad 64.73 \quad 50.5$
Sunday, October 25, 2015 7:10:36 $0.991 \quad 69.70 \quad 50.1$
Sunday, October 25, 2015 7:15:36 $0.991 \quad 74.65 \quad 50.4$
Sunday, October 25, 2015 7:20:37 $0.991 \quad 79.62 \quad 50.1$
Sunday, October 25, 2015 7:25:37 $0.991 \quad 84.58 \quad 50.6$
Sunday, October 25, 2015 7:30:38 $0.991 \quad 89.55 \quad 50.4$
Sunday, October 25, 2015 7:35:38 $0.991 \quad 94.50 \quad 50.1$
Sunday, October 25, 2015 7:40:39 $0.991 \quad 99.47 \quad 50.4$
Sunday, October 25, 2015 7:45:39 $0.991 \quad 104.43 \quad 50.2$
Sunday, October 25, 2015 7:50:40 $0.991 \quad 109.40 \quad 50.1$
Sunday, October 25, 2015 7:55:40 $0.991 \quad 114.35 \quad 50.5$
Sunday, October 25, 2015 8:00:41 $0.991 \quad 119.32 \quad 50.2$
Sunday, October 25, 2015 8:05:42 $0.991 \quad 124.29 \quad 50.4$
Sunday, October 25, 2015 8:10:42 $0.991 \quad 129.24 \quad 50.4$
Sunday, October 25, 2015 8:15:43 $0.991 \quad 134.22 \quad 50.1$
Sunday, October 25, 2015 8:20:43 $0.991 \quad 139.17 \quad 50.0$
Sunday, October 25, 2015 8:25:44 $0.991 \quad 144.14 \quad 49.9$
Sunday, October 25, 2015 8:30:44 $0.991 \quad 149.09 \quad 50.4$
Sunday, October 25, 2015 8:35:45 $0.991 \quad 154.06 \quad 50.7$
Sunday, October 25, 2015 8:40:45 $0.991 \quad 159.02 \quad 50.3$

Sunday, October 25, 2015 8:45:46 0.991
Sunday, October 25, 2015 8:50:46 0.991
Sunday, October 25, 2015 8:55:47 0.991
Sunday, October 25, 2015 9:00:47 0.991
Sunday, October 25, 2015 9:05:48 0.991
Sunday, October 25, 2015 9:10:48 0.991
Sunday, October 25, 2015 9:15:49 0.991
Sunday, October 25, 2015 9:20:49 0.991
Sunday, October 25, 2015 9:25:50 0.991
Sunday, October 25, 2015 9:30:51 0.991
Sunday, October 25, 2015 9:35:51 0.991
Sunday, October 25, 2015 9:40:52 0.991
Sunday, October 25, 2015 9:45:52 0.991
Sunday, October 25, 2015 9:50:53 0.991
Sunday, October 25, 2015 9:55:53 0.991
Sunday, October 25, 2015 10:00:54 0.991
Sunday, October 25, 2015 10:05:54 0.991
Sunday, October 25, 2015 10:10:55 0.991
Sunday, October 25, 2015 10:15:55 0.991
Sunday, October 25, 2015 10:20:56 0.991
Sunday, October 25, 2015 10:25:56 0.991
Sunday, October 25, 2015 10:30:57 0.991
Sunday, October 25, 2015 10:35:57 0.991
Sunday, October 25, 2015 10:40:58 0.991
Sunday, October 25, 2015 10:45:58 0.991
Sunday, October 25, 2015 10:50:59 0.991
Sunday, October 25, 2015 10:56:00 0.991
Sunday, October 25, 2015 11:01:00 0.991
Sunday, October 25, 2015 11:06:01 0.991
Sunday, October 25, 2015 11:11:01 0.991
Sunday, October 25, 2015 11:16:02 0.991
Sunday, October 25, 2015 11:21:02 0.991
Sunday, October 25, 2015 11:26:03 0.991
Sunday, October 25, 2015 11:31:03 0.991
Sunday, October 25, 2015 11:36:04 0.991
Sunday, October 25, 2015 11:41:04 0.991
Sunday, October 25, 2015 11:46:05 0.991
Sunday, October 25, 2015 11:51:06 0.991
Sunday, October 25, 2015 11:56:06 0.991
Sunday, October 25, 2015 12:01:07 0.991
Sunday, October 25, 2015 12:06:07 0.991
Sunday, October 25, 2015 12:11:08 0.991
Sunday, October 25, 2015 12:16:08 0.991
Sunday, October 25, 2015 12:21:09 0.991
Sunday, October 25, 2015 12:26:10 0.991
Sunday, October 25, 2015 12:31:10 0.991
Sunday, October 25, 2015 12:36:11 0.991
Sunday, October 25, 2015 12:41:11 0.991
Sunday, October 25, 2015 12:46:12 0.991
Sunday, October 25, 2015 12:51:12 0.991
Sunday, October 25, 2015 12:56:13 0.991
Sunday, October 25, 2015 13:01:13 0.991
Sunday, October 25, 2015 13:06:14 0.991
Sunday, October 25, 2015 13:11:14 0.991
163.99
50.2
$168.94 \quad 50.5$
$173.91 \quad 50.1$
178.8750 .6
$183.84 \quad 50.4$
$188.79 \quad 50.7$
193.7649 .8
$198.72 \quad 50.4$
$203.69 \quad 50.1$
208.6650 .6
$213.61 \quad 50.0$
$218.58 \quad 50.4$
$223.54 \quad 50.0$
$228.51 \quad 50.4$
$233.46 \quad 49.9$
$238.43 \quad 50.1$
$243.39 \quad 49.8$
$248.36 \quad 50.5$
$253.31 \quad 50.5$
$258.28 \quad 49.7$
$263.24 \quad 50.1$
$268.21 \quad 50.6$
$273.16 \quad 50.3$
$278.13 \quad 50.5$
$283.08 \quad 50.1$
$288.06 \quad 50.5$
$293.03 \quad 50.4$
$297.98 \quad 49.4$
$302.95 \quad 50.0$
$307.91 \quad 48.9$
$312.88 \quad 50.2$
$317.83 \quad 49.6$
$322.80 \quad 50.1$
327.7549 .8
$332.73 \quad 50.5$
$337.68 \quad 50.4$
$342.65 \quad 50.5$
$347.62 \quad 50.5$
$352.58 \quad 50.2$
$357.55 \quad 50.1$
$362.50 \quad 49.7$
$367.47 \quad 50.0$
$372.43 \quad 49.7$
$377.40 \quad 50.3$
$382.37 \quad 49.8$
$387.32 \quad 50.1$
$392.29 \quad 50.1$
$397.25 \quad 50.1$
$402.22 \quad 50.4$
$407.17 \quad 50.6$
$412.14 \quad 50.1$
$417.10 \quad 50.1$
$422.07 \quad 49.7$
$427.02 \quad 50.5$

Sunday, October 25, 2015 13:16:15 0.991
431.99
$436.96 \quad 49.7$
$441.92 \quad 50.3$
$446.89 \quad 50.7$
$451.84 \quad 50.1$
$456.81 \quad 49.9$
$461.77 \quad 50.0$
$466.74 \quad 50.1$
$471.71 \quad 50.3$
$476.66 \quad 49.7$
$481.63 \quad 50.3$
$486.59 \quad 50.6$
$491.56 \quad 50.0$
$496.51 \quad 50.5$
$501.48 \quad 50.0$
$506.45 \quad 49.8$
$511.41 \quad 49.8$
$516.38 \quad 49.7$
$521.33 \quad 50.2$
$526.30 \quad 50.8$
$531.27 \quad 50.9$
$536.23 \quad 49.6$
$541.20 \quad 50.5$
$546.15 \quad 50.8$
$551.13 \quad 50.8$
$556.10 \quad 50.8$
$561.05 \quad 50.4$
$566.02 \quad 50.4$
$570.98 \quad 50.4$
$575.95 \quad 50.4$
$580.92 \quad 50.6$
$585.87 \quad 50.4$
$590.85 \quad 49.6$
$595.80 \quad 50.6$
$600.77 \quad 50.0$
605.7349 .9
$610.70 \quad 50.1$
$615.67 \quad 50.5$
$620.62 \quad 50.1$
$625.60 \quad 50.1$
$630.57 \quad 50.4$
$635.52 \quad 50.2$
$640.49 \quad 50.1$
$645.45 \quad 50.1$
$650.42 \quad 50.1$
$655.39 \quad 50.9$
660.3549 .6
$665.32 \quad 50.1$
$670.27 \quad 50.5$
$675.24 \quad 50.4$
$680.20 \quad 50.2$
$685.17 \quad 50.0$
$690.14 \quad 50.7$
$695.10 \quad 49.9$

# Ch. 1 Cartridge Started Sunday, October 25, 2015 6:00:02 

Flow Rate Set Point 1.00 1/min
Stopped Sunday, October 25, 2015 18:00:23
Total Volume 713.19 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.991 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate -0.003 1/min
Ending Leak Rate - $0.004 \mathrm{l} / \mathrm{min}$
Flow Controller Zero -0.006 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Sunday, October 25, 2015 6:00:29 0.075
0.23
50.3

Sunday, October 25, 2015 6:05:29 0.991
Sunday, October 25, 2015 6:10:30 0.991
$5.18 \quad 50.1$
Su ay, Octobe 25, 2015 6:15:30 0.991 15.11
Sunday, October 25, 2015 6:15:30 $0.991 \quad 15.11 \quad 49.3$
Sunday, October 25, 2015 6:20:31 $0.991 \quad 20.08 \quad 50.2$
Sunday, October 25, 2015 6:25:31 $0.991 \quad 25.0349 .7$
Sunday, October 25, 2015 6:30:32 $0.991 \quad 30.00 \quad 49.7$
Sunday, October 25, 2015 6:35:32 $0.991 \quad 34.95 \quad 50.2$
Sunday, October 25, 2015 6:40:33 $0.991 \quad 39.9249 .7$
Sunday, October 25, 2015 6:45:33 $0.991 \quad 44.88 \quad 50.1$
Sunday, October 25, 2015 6:50:34 $0.991 \quad 49.85 \quad 50.4$
Sunday, October 25, 2015 6:55:34 $0.991 \quad 54.80 \quad 50.5$
Sunday, October 25, 2015 7:00:35 $0.99159 .77 \quad 50.0$
Sunday, October 25, 2015 7:05:35 $0.991 \quad 64.73 \quad 50.5$
Sunday, October 25, 2015 7:10:36 $0.991 \quad 69.70 \quad 50.1$
Sunday, October 25, 2015 7:15:36 $0.991 \quad 74.65 \quad 50.4$
Sunday, October 25, 2015 7:20:37 $0.991 \quad 79.62 \quad 50.1$
Sunday, October 25, 2015 7:25:37 $0.991 \quad 84.58 \quad 50.6$
Sunday, October 25, 2015 7:30:38 $0.991 \quad 89.55 \quad 50.4$
Sunday, October 25, 2015 7:35:38 $0.991 \quad 94.50 \quad 50.1$
Sunday, October 25, 2015 7:40:39 $0.991 \quad 99.47 \quad 50.4$
Sunday, October 25, 2015 7:45:39 $0.991 \quad 104.43 \quad 50.2$
Sunday, October 25, 2015 7:50:40 $0.991 \quad 109.40 \quad 50.1$
Sunday, October 25, 2015 7:55:40 $0.991 \quad 114.35 \quad 50.5$
Sunday, October 25, 2015 8:00:41 $0.991 \quad 119.32 \quad 50.2$
Sunday, October 25, 2015 8:05:42 $0.991 \quad 124.29 \quad 50.4$
Sunday, October 25, 2015 8:10:42 $0.991 \quad 129.24 \quad 50.4$
Sunday, October 25, 2015 8:15:43 $0.991 \quad 134.22 \quad 50.1$
Sunday, October 25, 2015 8:20:43 $0.991 \quad 139.17 \quad 50.0$
Sunday, October 25, 2015 8:25:44 $0.991 \quad 144.14 \quad 49.9$
Sunday, October 25, 2015 8:30:44 $0.991 \quad 149.09 \quad 50.4$
Sunday, October 25, 2015 8:35:45 $0.991 \quad 154.06 \quad 50.7$
Sunday, October 25, 2015 8:40:45 $0.991 \quad 159.02 \quad 50.3$

Sunday, October 25, 2015 8:45:46 0.991
Sunday, October 25, 2015 8:50:46 0.991
Sunday, October 25, 2015 8:55:47 0.991
Sunday, October 25, 2015 9:00:47 0.991
Sunday, October 25, 2015 9:05:48 0.991
Sunday, October 25, 2015 9:10:48 0.991
Sunday, October 25, 2015 9:15:49 0.991
Sunday, October 25, 2015 9:20:49 0.991
Sunday, October 25, 2015 9:25:50 0.991
Sunday, October 25, 2015 9:30:51 0.991
Sunday, October 25, 2015 9:35:51 0.991
Sunday, October 25, 2015 9:40:52 0.991
Sunday, October 25, 2015 9:45:52 0.991
Sunday, October 25, 2015 9:50:53 0.991
Sunday, October 25, 2015 9:55:53 0.991
Sunday, October 25, 2015 10:00:54 0.991
Sunday, October 25, 2015 10:05:54 0.991
Sunday, October 25, 2015 10:10:55 0.991
Sunday, October 25, 2015 10:15:55 0.991
Sunday, October 25, 2015 10:20:56 0.991
Sunday, October 25, 2015 10:25:56 0.991
Sunday, October 25, 2015 10:30:57 0.991
Sunday, October 25, 2015 10:35:57 0.991
Sunday, October 25, 2015 10:40:58 0.991
Sunday, October 25, 2015 10:45:58 0.991
Sunday, October 25, 2015 10:50:59 0.991
Sunday, October 25, 2015 10:56:00 0.991
Sunday, October 25, 2015 11:01:00 0.991
Sunday, October 25, 2015 11:06:01 0.991
Sunday, October 25, 2015 11:11:01 0.991
Sunday, October 25, 2015 11:16:02 0.991
Sunday, October 25, 2015 11:21:02 0.991
Sunday, October 25, 2015 11:26:03 0.991
Sunday, October 25, 2015 11:31:03 0.991
Sunday, October 25, 2015 11:36:04 0.991
Sunday, October 25, 2015 11:41:04 0.991
Sunday, October 25, 2015 11:46:05 0.991
Sunday, October 25, 2015 11:51:06 0.991
Sunday, October 25, 2015 11:56:06 0.991
Sunday, October 25, 2015 12:01:07 0.991
Sunday, October 25, 2015 12:06:07 0.991
Sunday, October 25, 2015 12:11:08 0.991
Sunday, October 25, 2015 12:16:08 0.991
Sunday, October 25, 2015 12:21:09 0.991
Sunday, October 25, 2015 12:26:10 0.991
Sunday, October 25, 2015 12:31:10 0.991
Sunday, October 25, 2015 12:36:11 0.991
Sunday, October 25, 2015 12:41:11 0.991
Sunday, October 25, 2015 12:46:12 0.991
Sunday, October 25, 2015 12:51:12 0.991
Sunday, October 25, 2015 12:56:13 0.991
Sunday, October 25, 2015 13:01:13 0.991
Sunday, October 25, 2015 13:06:14 0.991
Sunday, October 25, 2015 13:11:14 0.991
163.99
50.2
$168.94 \quad 50.5$
$173.91 \quad 50.1$
178.8750 .6
$183.84 \quad 50.4$
$188.79 \quad 50.7$
193.7649 .8
$198.72 \quad 50.4$
$203.69 \quad 50.1$
208.6650 .6
$213.61 \quad 50.0$
$218.58 \quad 50.4$
$223.54 \quad 50.0$
$228.51 \quad 50.4$
$233.46 \quad 49.9$
$238.43 \quad 50.1$
$243.39 \quad 49.8$
$248.36 \quad 50.5$
$253.31 \quad 50.5$
$258.28 \quad 49.7$
$263.24 \quad 50.1$
$268.21 \quad 50.6$
$273.16 \quad 50.3$
$278.13 \quad 50.5$
$283.08 \quad 50.1$
$288.06 \quad 50.5$
$293.03 \quad 50.4$
$297.98 \quad 49.4$
$302.95 \quad 50.0$
$307.91 \quad 48.9$
$312.88 \quad 50.2$
$317.83 \quad 49.6$
$322.80 \quad 50.1$
327.7549 .8
$332.73 \quad 50.5$
$337.68 \quad 50.4$
$342.65 \quad 50.5$
$347.62 \quad 50.5$
$352.58 \quad 50.2$
$357.55 \quad 50.1$
$362.50 \quad 49.7$
$367.47 \quad 50.0$
$372.43 \quad 49.7$
$377.40 \quad 50.3$
$382.37 \quad 49.8$
$387.32 \quad 50.1$
$392.29 \quad 50.1$
$397.25 \quad 50.1$
$402.22 \quad 50.4$
$407.17 \quad 50.6$
$412.14 \quad 50.1$
$417.10 \quad 50.1$
$422.07 \quad 49.7$
$427.02 \quad 50.5$

Sunday, October 25, 2015 13:16:15 0.991
431.99
$436.96 \quad 49.7$
$441.92 \quad 50.3$
$446.89 \quad 50.7$
$451.84 \quad 50.1$
$456.81 \quad 49.9$
$461.77 \quad 50.0$
$466.74 \quad 50.1$
$471.71 \quad 50.3$
$476.66 \quad 49.7$
$481.63 \quad 50.3$
$486.59 \quad 50.6$
$491.56 \quad 50.0$
$496.51 \quad 50.5$
$501.48 \quad 50.0$
$506.45 \quad 49.8$
$511.41 \quad 49.8$
$516.38 \quad 49.7$
$521.33 \quad 50.2$
$526.30 \quad 50.8$
$531.27 \quad 50.9$
$536.23 \quad 49.6$
$541.20 \quad 50.5$
$546.15 \quad 50.8$
$551.13 \quad 50.8$
$556.10 \quad 50.8$
$561.05 \quad 50.4$
$566.02 \quad 50.4$
$570.98 \quad 50.4$
$575.95 \quad 50.4$
$580.92 \quad 50.6$
$585.87 \quad 50.4$
$590.85 \quad 49.6$
$595.80 \quad 50.6$
$600.77 \quad 50.0$
605.7349 .9
$610.70 \quad 50.1$
$615.67 \quad 50.5$
$620.62 \quad 50.1$
$625.60 \quad 50.1$
$630.57 \quad 50.4$
$635.52 \quad 50.2$
$640.49 \quad 50.1$
$645.45 \quad 50.1$
$650.42 \quad 50.1$
$655.39 \quad 50.9$
660.3549 .6
$665.32 \quad 50.1$
$670.27 \quad 50.5$
$675.24 \quad 50.4$
$680.20 \quad 50.2$
$685.17 \quad 50.0$
$690.14 \quad 50.7$
$695.10 \quad 49.9$

# Ch. 1 Cartridge Started Saturday, October 31, 2015 6:00:02 

Flow Rate Set Point 1.00 1/min
Stopped Saturday, October 31, 2015 18:00:26
Total Volume 713.23 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.991 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate -0.002 1/min
Ending Leak Rate - $0.003 \mathrm{l} / \mathrm{min}$
Flow Controller Zero -0.006 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Saturday, October 31, 2015 6:00:29 $0.077 \quad 0.23 \quad 49.7$
Saturday, October 31, 2015 6:05:30 $0.991 \quad 5.20 \quad 50.2$
Saturday, October 31, 2015 6:10:30 $0.991 \quad 10.15 \quad 50.1$
Saturday, October 31, 2015 6:15:31 $0.991 \quad 15.12 \quad 50.2$
Saturday, October 31, 2015 6:20:31 $0.991 \quad 20.08 \quad 50.0$
Saturday, October 31, 2015 6:25:32 $0.991 \quad 25.05 \quad 50.4$
Saturday, October 31, 2015 6:30:32 $0.991 \quad 30.00 \quad 50.4$
Saturday, October 31, 2015 6:35:33 $0.991 \quad 34.97 \quad 50.2$
Saturday, October 31, 2015 6:40:33 $0.991 \quad 39.93 \quad 50.3$
Saturday, October 31, 2015 6:45:34 $0.991 \quad 44.90 \quad 50.1$
Saturday, October 31, 2015 6:50:34 $0.991 \quad 49.85 \quad 50.2$
Saturday, October 31, 2015 6:55:35 $0.991 \quad 54.82 \quad 50.2$
Saturday, October 31, 2015 7:00:35 $0.991 \quad 59.7749 .8$
Saturday, October 31, 2015 7:05:36 $0.991 \quad 64.74 \quad 49.9$
Saturday, October 31, 2015 7:10:37 $0.991 \quad 69.71 \quad 50.0$
Saturday, October 31, 2015 7:15:37 $0.991 \quad 74.6750 .3$
Saturday, October 31, 2015 7:20:38 $0.991 \quad 79.64 \quad 49.8$
Saturday, October 31, 2015 7:25:38 $0.991 \quad 84.59 \quad 50.4$
Saturday, October 31, 2015 7:30:39 $0.991 \quad 89.56 \quad 50.4$
Saturday, October 31, 2015 7:35:39 $0.991 \quad 94.52 \quad 50.1$
Saturday, October 31, 2015 7:40:40 $0.991 \quad 99.4949 .8$
Saturday, October 31, 2015 7:45:40 $0.991 \quad 104.44 \quad 50.1$
Saturday, October 31, 2015 7:50:41 $0.991 \quad 109.41 \quad 50.2$
Saturday, October 31, 2015 7:55:41 $0.991 \quad 114.37 \quad 50.3$
Saturday, October 31, 2015 8:00:42 $0.991 \quad 119.34 \quad 49.8$
Saturday, October 31, 2015 8:05:43 $0.991 \quad 124.31 \quad 50.3$
Saturday, October 31, 2015 8:10:43 $0.991 \quad 129.26 \quad 49.9$
Saturday, October 31, 2015 8:15:44 $0.991 \quad 134.23 \quad 50.0$
Saturday, October 31, 2015 8:20:44 $0.991 \quad 139.19 \quad 50.0$
Saturday, October 31, 2015 8:25:45 $0.991 \quad 144.16 \quad 49.7$
Saturday, October 31, 2015 8:30:45 $0.991 \quad 149.11 \quad 50.2$
Saturday, October 31, 2015 8:35:46 $0.991 \quad 154.08 \quad 50.2$
Saturday, October 31, 2015 8:40:46 $0.991 \quad 159.03 \quad 50.4$

Saturday, October 31, 2015 8:45:47 0.991
Saturday, October 31, 2015 8:50:48 0.991
Saturday, October 31, 2015 8:55:48 0.991
Saturday, October 31, 2015 9:00:49 0.991
Saturday, October 31, 2015 9:05:49 0.991
Saturday, October 31, 2015 9:10:50 0.991
Saturday, October 31, 2015 9:15:50 0.991
Saturday, October 31, 2015 9:20:51 0.991
Saturday, October 31, 2015 9:25:51 0.991
Saturday, October 31, 2015 9:30:52 0.991
Saturday, October 31, 2015 9:35:52 0.991
Saturday, October 31, 2015 9:40:53 0.991
Saturday, October 31, 2015 9:45:53 0.991
Saturday, October 31, 2015 9:50:54 0.991
Saturday, October 31, 2015 9:55:54 0.991
Saturday, October 31, 2015 10:00:55 0.991
Saturday, October 31, 2015 10:05:55 0.991
Saturday, October 31, 2015 10:10:56 0.991
Saturday, October 31, 2015 10:15:56 0.991
Saturday, October 31, 2015 10:20:57 0.991
Saturday, October 31, 2015 10:25:58 0.991
Saturday, October 31, 2015 10:30:58 0.991
Saturday, October 31, 2015 10:35:59 0.991
Saturday, October 31, 2015 10:40:59 0.991
Saturday, October 31, 2015 10:46:00 0.991
Saturday, October 31, 2015 10:51:00 0.991
Saturday, October 31, 2015 10:56:01 0.991
Saturday, October 31, 2015 11:01:01 0.991
Saturday, October 31, 2015 11:06:02 0.991
Saturday, October 31, 2015 11:11:02 0.991
Saturday, October 31, 2015 11:16:03 0.991
Saturday, October 31, 2015 11:21:03 0.991
Saturday, October 31, 2015 11:26:04 0.991
Saturday, October 31, 2015 11:31:04 0.991
Saturday, October 31, 2015 11:36:05 0.991
Saturday, October 31, 2015 11:41:05 0.991
Saturday, October 31, 2015 11:46:06 0.991
Saturday, October 31, 2015 11:51:06 0.991
Saturday, October 31, 2015 11:56:07 0.991
Saturday, October 31, 2015 12:01:07 0.991
Saturday, October 31, 2015 12:06:08 0.991
Saturday, October 31, 2015 12:11:08 0.991
Saturday, October 31, 2015 12:16:09 0.991
Saturday, October 31, 2015 12:21:09 0.991
Saturday, October 31, 2015 12:26:10 0.991
Saturday, October 31, 2015 12:31:10 0.991
Saturday, October 31, 2015 12:36:11 0.991
Saturday, October 31, 2015 12:41:11 0.991
Saturday, October 31, 2015 12:46:12 0.991
Saturday, October 31, 2015 12:51:13 0.991
Saturday, October 31, 2015 12:56:13 0.991
Saturday, October 31, 2015 13:01:14 0.991
Saturday, October 31, 2015 13:06:14 0.991
Saturday, October 31, 2015 13:11:15 0.991
164.01
50.2
$168.98 \quad 50.2$
$173.93 \quad 50.1$
$178.90 \quad 50.1$
$183.85 \quad 50.1$
188.8250 .3
$193.78 \quad 50.2$
$198.75 \quad 50.0$
$203.70 \quad 50.1$
$208.67 \quad 50.2$
$213.63 \quad 50.3$
$218.60 \quad 50.1$
223.5549 .6
$228.52 \quad 50.4$
$233.48 \quad 50.3$
$238.45 \quad 50.4$
$243.40 \quad 50.1$
$248.37 \quad 50.3$
$253.33 \quad 50.4$
$258.30 \quad 50.4$
$263.27 \quad 49.7$
268.2250 .0
$273.19 \quad 50.3$
278.1549 .7
$283.12 \quad 50.4$
288.0749 .8
$293.04 \quad 49.8$
$298.00 \quad 50.4$
$302.97 \quad 50.0$
$307.92 \quad 50.0$
$312.89 \quad 50.3$
$317.85 \quad 50.2$
$322.82 \quad 50.3$
$327.77 \quad 49.8$
$332.74 \quad 50.1$
337.6949 .9
$342.67 \quad 50.5$
347.6250 .4
$352.59 \quad 50.0$
$357.54 \quad 50.3$
$362.51 \quad 50.1$
$367.47 \quad 50.5$
$372.44 \quad 50.3$
$377.39 \quad 50.2$
$382.36 \quad 50.4$
$387.32 \quad 50.0$
$392.29 \quad 50.5$
$397.24 \quad 49.9$
$402.21 \quad 50.1$
$407.18 \quad 50.0$
$412.14 \quad 49.7$
$417.11 \quad 50.5$
$422.06 \quad 50.5$
427.0350 .4
431.99
50.1
$436.96 \quad 50.4$
$441.91 \quad 50.1$
$446.88 \quad 50.5$
$451.84 \quad 50.2$
$456.81 \quad 50.0$
$461.76 \quad 49.8$
$466.73 \quad 49.8$
$471.69 \quad 50.1$
$476.66 \quad 50.4$
$481.63 \quad 50.3$
$486.58 \quad 49.9$
$491.55 \quad 50.4$
$496.51 \quad 50.5$
501.4849 .9
$506.43 \quad 50.5$
$511.40 \quad 50.1$
$516.36 \quad 49.8$
$521.33 \quad 50.2$
$526.28 \quad 50.6$
$531.25 \quad 50.0$
$536.22 \quad 50.2$
$541.18 \quad 49.8$
$546.15 \quad 50.2$
$551.10 \quad 49.8$
$556.07 \quad 50.1$
$561.03 \quad 49.7$
$566.00 \quad 50.3$
$570.95 \quad 50.5$
$575.92 \quad 50.1$
$580.89 \quad 49.7$
$585.85 \quad 50.2$
590.8249 .8
$595.77 \quad 50.0$
$600.74 \quad 50.4$
$605.70 \quad 50.4$
$610.67 \quad 50.2$
$615.62 \quad 50.0$
$620.59 \quad 50.6$
$625.56 \quad 50.6$
$630.52 \quad 50.6$
$635.49 \quad 50.1$
$640.44 \quad 50.7$
$645.41 \quad 50.0$
$650.37 \quad 50.5$
$655.34 \quad 49.7$
$660.29 \quad 50.5$
665.2649 .7
$670.22 \quad 50.5$
$675.19 \quad 49.7$
$680.16 \quad 50.6$
$685.11 \quad 49.9$
$690.09 \quad 50.1$
695.0450 .0

# Ch. 1 Cartridge Started Saturday, October 31, 2015 6:00:02 

Flow Rate Set Point 1.00 1/min
Stopped Saturday, October 31, 2015 18:00:26
Total Volume 713.23 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.991 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate -0.002 1/min
Ending Leak Rate - $0.003 \mathrm{l} / \mathrm{min}$
Flow Controller Zero -0.006 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Saturday, October 31, 2015 6:00:29 $0.077 \quad 0.23 \quad 49.7$
Saturday, October 31, 2015 6:05:30 $0.991 \quad 5.20 \quad 50.2$
Saturday, October 31, 2015 6:10:30 $0.991 \quad 10.15 \quad 50.1$
Saturday, October 31, 2015 6:15:31 $0.991 \quad 15.12 \quad 50.2$
Saturday, October 31, 2015 6:20:31 $0.991 \quad 20.08 \quad 50.0$
Saturday, October 31, 2015 6:25:32 $0.991 \quad 25.05 \quad 50.4$
Saturday, October 31, 2015 6:30:32 $0.991 \quad 30.00 \quad 50.4$
Saturday, October 31, 2015 6:35:33 $0.991 \quad 34.97 \quad 50.2$
Saturday, October 31, 2015 6:40:33 $0.991 \quad 39.93 \quad 50.3$
Saturday, October 31, 2015 6:45:34 $0.991 \quad 44.90 \quad 50.1$
Saturday, October 31, 2015 6:50:34 $0.991 \quad 49.85 \quad 50.2$
Saturday, October 31, 2015 6:55:35 $0.991 \quad 54.82 \quad 50.2$
Saturday, October 31, 2015 7:00:35 $0.991 \quad 59.7749 .8$
Saturday, October 31, 2015 7:05:36 $0.991 \quad 64.74 \quad 49.9$
Saturday, October 31, 2015 7:10:37 $0.991 \quad 69.71 \quad 50.0$
Saturday, October 31, 2015 7:15:37 $0.991 \quad 74.6750 .3$
Saturday, October 31, 2015 7:20:38 $0.991 \quad 79.64 \quad 49.8$
Saturday, October 31, 2015 7:25:38 $0.991 \quad 84.59 \quad 50.4$
Saturday, October 31, 2015 7:30:39 $0.991 \quad 89.56 \quad 50.4$
Saturday, October 31, 2015 7:35:39 $0.991 \quad 94.52 \quad 50.1$
Saturday, October 31, 2015 7:40:40 $0.991 \quad 99.4949 .8$
Saturday, October 31, 2015 7:45:40 $0.991 \quad 104.44 \quad 50.1$
Saturday, October 31, 2015 7:50:41 $0.991 \quad 109.41 \quad 50.2$
Saturday, October 31, 2015 7:55:41 $0.991 \quad 114.37 \quad 50.3$
Saturday, October 31, 2015 8:00:42 $0.991 \quad 119.34 \quad 49.8$
Saturday, October 31, 2015 8:05:43 $0.991 \quad 124.31 \quad 50.3$
Saturday, October 31, 2015 8:10:43 $0.991 \quad 129.26 \quad 49.9$
Saturday, October 31, 2015 8:15:44 $0.991 \quad 134.23 \quad 50.0$
Saturday, October 31, 2015 8:20:44 $0.991 \quad 139.19 \quad 50.0$
Saturday, October 31, 2015 8:25:45 $0.991 \quad 144.16 \quad 49.7$
Saturday, October 31, 2015 8:30:45 $0.991 \quad 149.11 \quad 50.2$
Saturday, October 31, 2015 8:35:46 $0.991 \quad 154.08 \quad 50.2$
Saturday, October 31, 2015 8:40:46 $0.991 \quad 159.03 \quad 50.4$

Saturday, October 31, 2015 8:45:47 0.991
Saturday, October 31, 2015 8:50:48 0.991
Saturday, October 31, 2015 8:55:48 0.991
Saturday, October 31, 2015 9:00:49 0.991
Saturday, October 31, 2015 9:05:49 0.991
Saturday, October 31, 2015 9:10:50 0.991
Saturday, October 31, 2015 9:15:50 0.991
Saturday, October 31, 2015 9:20:51 0.991
Saturday, October 31, 2015 9:25:51 0.991
Saturday, October 31, 2015 9:30:52 0.991
Saturday, October 31, 2015 9:35:52 0.991
Saturday, October 31, 2015 9:40:53 0.991
Saturday, October 31, 2015 9:45:53 0.991
Saturday, October 31, 2015 9:50:54 0.991
Saturday, October 31, 2015 9:55:54 0.991
Saturday, October 31, 2015 10:00:55 0.991
Saturday, October 31, 2015 10:05:55 0.991
Saturday, October 31, 2015 10:10:56 0.991
Saturday, October 31, 2015 10:15:56 0.991
Saturday, October 31, 2015 10:20:57 0.991
Saturday, October 31, 2015 10:25:58 0.991
Saturday, October 31, 2015 10:30:58 0.991
Saturday, October 31, 2015 10:35:59 0.991
Saturday, October 31, 2015 10:40:59 0.991
Saturday, October 31, 2015 10:46:00 0.991
Saturday, October 31, 2015 10:51:00 0.991
Saturday, October 31, 2015 10:56:01 0.991
Saturday, October 31, 2015 11:01:01 0.991
Saturday, October 31, 2015 11:06:02 0.991
Saturday, October 31, 2015 11:11:02 0.991
Saturday, October 31, 2015 11:16:03 0.991
Saturday, October 31, 2015 11:21:03 0.991
Saturday, October 31, 2015 11:26:04 0.991
Saturday, October 31, 2015 11:31:04 0.991
Saturday, October 31, 2015 11:36:05 0.991
Saturday, October 31, 2015 11:41:05 0.991
Saturday, October 31, 2015 11:46:06 0.991
Saturday, October 31, 2015 11:51:06 0.991
Saturday, October 31, 2015 11:56:07 0.991
Saturday, October 31, 2015 12:01:07 0.991
Saturday, October 31, 2015 12:06:08 0.991
Saturday, October 31, 2015 12:11:08 0.991
Saturday, October 31, 2015 12:16:09 0.991
Saturday, October 31, 2015 12:21:09 0.991
Saturday, October 31, 2015 12:26:10 0.991
Saturday, October 31, 2015 12:31:10 0.991
Saturday, October 31, 2015 12:36:11 0.991
Saturday, October 31, 2015 12:41:11 0.991
Saturday, October 31, 2015 12:46:12 0.991
Saturday, October 31, 2015 12:51:13 0.991
Saturday, October 31, 2015 12:56:13 0.991
Saturday, October 31, 2015 13:01:14 0.991
Saturday, October 31, 2015 13:06:14 0.991
Saturday, October 31, 2015 13:11:15 0.991
164.01
50.2
$168.98 \quad 50.2$
$173.93 \quad 50.1$
$178.90 \quad 50.1$
$183.85 \quad 50.1$
188.8250 .3
$193.78 \quad 50.2$
$198.75 \quad 50.0$
$203.70 \quad 50.1$
$208.67 \quad 50.2$
$213.63 \quad 50.3$
$218.60 \quad 50.1$
223.5549 .6
$228.52 \quad 50.4$
$233.48 \quad 50.3$
$238.45 \quad 50.4$
$243.40 \quad 50.1$
$248.37 \quad 50.3$
$253.33 \quad 50.4$
$258.30 \quad 50.4$
$263.27 \quad 49.7$
268.2250 .0
$273.19 \quad 50.3$
278.1549 .7
$283.12 \quad 50.4$
288.0749 .8
$293.04 \quad 49.8$
$298.00 \quad 50.4$
$302.97 \quad 50.0$
$307.92 \quad 50.0$
$312.89 \quad 50.3$
$317.85 \quad 50.2$
$322.82 \quad 50.3$
$327.77 \quad 49.8$
$332.74 \quad 50.1$
337.6949 .9
$342.67 \quad 50.5$
347.6250 .4
$352.59 \quad 50.0$
$357.54 \quad 50.3$
$362.51 \quad 50.1$
$367.47 \quad 50.5$
$372.44 \quad 50.3$
$377.39 \quad 50.2$
$382.36 \quad 50.4$
$387.32 \quad 50.0$
$392.29 \quad 50.5$
$397.24 \quad 49.9$
$402.21 \quad 50.1$
$407.18 \quad 50.0$
$412.14 \quad 49.7$
$417.11 \quad 50.5$
$422.06 \quad 50.5$
427.0350 .4
431.99
50.1
$436.96 \quad 50.4$
$441.91 \quad 50.1$
$446.88 \quad 50.5$
$451.84 \quad 50.2$
$456.81 \quad 50.0$
$461.76 \quad 49.8$
$466.73 \quad 49.8$
$471.69 \quad 50.1$
$476.66 \quad 50.4$
$481.63 \quad 50.3$
$486.58 \quad 49.9$
$491.55 \quad 50.4$
$496.51 \quad 50.5$
501.4849 .9
$506.43 \quad 50.5$
$511.40 \quad 50.1$
$516.36 \quad 49.8$
$521.33 \quad 50.2$
$526.28 \quad 50.6$
$531.25 \quad 50.0$
$536.22 \quad 50.2$
$541.18 \quad 49.8$
$546.15 \quad 50.2$
$551.10 \quad 49.8$
$556.07 \quad 50.1$
$561.03 \quad 49.7$
$566.00 \quad 50.3$
$570.95 \quad 50.5$
$575.92 \quad 50.1$
$580.89 \quad 49.7$
$585.85 \quad 50.2$
590.8249 .8
$595.77 \quad 50.0$
$600.74 \quad 50.4$
$605.70 \quad 50.4$
$610.67 \quad 50.2$
$615.62 \quad 50.0$
$620.59 \quad 50.6$
$625.56 \quad 50.6$
$630.52 \quad 50.6$
$635.49 \quad 50.1$
$640.44 \quad 50.7$
$645.41 \quad 50.0$
$650.37 \quad 50.5$
$655.34 \quad 49.7$
$660.29 \quad 50.5$
665.2649 .7
$670.22 \quad 50.5$
$675.19 \quad 49.7$
$680.16 \quad 50.6$
$685.11 \quad 49.9$
$690.09 \quad 50.1$
695.0450 .0

# Ch. 1 Cartridge Started Saturday, October 31, 2015 6:00:02 

Flow Rate Set Point 1.00 1/min
Stopped Saturday, October 31, 2015 18:00:26
Total Volume 713.23 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.991 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate -0.002 1/min
Ending Leak Rate - $0.003 \mathrm{l} / \mathrm{min}$
Flow Controller Zero -0.006 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Saturday, October 31, 2015 6:00:29 $0.077 \quad 0.23 \quad 49.7$
Saturday, October 31, 2015 6:05:30 $0.991 \quad 5.20 \quad 50.2$
Saturday, October 31, 2015 6:10:30 $0.991 \quad 10.15 \quad 50.1$
Saturday, October 31, 2015 6:15:31 $0.991 \quad 15.12 \quad 50.2$
Saturday, October 31, 2015 6:20:31 $0.991 \quad 20.08 \quad 50.0$
Saturday, October 31, 2015 6:25:32 $0.991 \quad 25.05 \quad 50.4$
Saturday, October 31, 2015 6:30:32 $0.991 \quad 30.00 \quad 50.4$
Saturday, October 31, 2015 6:35:33 $0.991 \quad 34.97 \quad 50.2$
Saturday, October 31, 2015 6:40:33 $0.991 \quad 39.93 \quad 50.3$
Saturday, October 31, 2015 6:45:34 $0.991 \quad 44.90 \quad 50.1$
Saturday, October 31, 2015 6:50:34 $0.991 \quad 49.85 \quad 50.2$
Saturday, October 31, 2015 6:55:35 $0.991 \quad 54.82 \quad 50.2$
Saturday, October 31, 2015 7:00:35 $0.991 \quad 59.7749 .8$
Saturday, October 31, 2015 7:05:36 $0.991 \quad 64.74 \quad 49.9$
Saturday, October 31, 2015 7:10:37 $0.991 \quad 69.71 \quad 50.0$
Saturday, October 31, 2015 7:15:37 $0.991 \quad 74.6750 .3$
Saturday, October 31, 2015 7:20:38 $0.991 \quad 79.64 \quad 49.8$
Saturday, October 31, 2015 7:25:38 $0.991 \quad 84.59 \quad 50.4$
Saturday, October 31, 2015 7:30:39 $0.991 \quad 89.56 \quad 50.4$
Saturday, October 31, 2015 7:35:39 $0.991 \quad 94.52 \quad 50.1$
Saturday, October 31, 2015 7:40:40 $0.991 \quad 99.4949 .8$
Saturday, October 31, 2015 7:45:40 $0.991 \quad 104.44 \quad 50.1$
Saturday, October 31, 2015 7:50:41 $0.991 \quad 109.41 \quad 50.2$
Saturday, October 31, 2015 7:55:41 $0.991 \quad 114.37 \quad 50.3$
Saturday, October 31, 2015 8:00:42 $0.991 \quad 119.34 \quad 49.8$
Saturday, October 31, 2015 8:05:43 $0.991 \quad 124.31 \quad 50.3$
Saturday, October 31, 2015 8:10:43 $0.991 \quad 129.26 \quad 49.9$
Saturday, October 31, 2015 8:15:44 $0.991 \quad 134.23 \quad 50.0$
Saturday, October 31, 2015 8:20:44 $0.991 \quad 139.19 \quad 50.0$
Saturday, October 31, 2015 8:25:45 $0.991 \quad 144.16 \quad 49.7$
Saturday, October 31, 2015 8:30:45 $0.991 \quad 149.11 \quad 50.2$
Saturday, October 31, 2015 8:35:46 $0.991 \quad 154.08 \quad 50.2$
Saturday, October 31, 2015 8:40:46 $0.991 \quad 159.03 \quad 50.4$

Saturday, October 31, 2015 8:45:47 0.991
Saturday, October 31, 2015 8:50:48 0.991
Saturday, October 31, 2015 8:55:48 0.991
Saturday, October 31, 2015 9:00:49 0.991
Saturday, October 31, 2015 9:05:49 0.991
Saturday, October 31, 2015 9:10:50 0.991
Saturday, October 31, 2015 9:15:50 0.991
Saturday, October 31, 2015 9:20:51 0.991
Saturday, October 31, 2015 9:25:51 0.991
Saturday, October 31, 2015 9:30:52 0.991
Saturday, October 31, 2015 9:35:52 0.991
Saturday, October 31, 2015 9:40:53 0.991
Saturday, October 31, 2015 9:45:53 0.991
Saturday, October 31, 2015 9:50:54 0.991
Saturday, October 31, 2015 9:55:54 0.991
Saturday, October 31, 2015 10:00:55 0.991
Saturday, October 31, 2015 10:05:55 0.991
Saturday, October 31, 2015 10:10:56 0.991
Saturday, October 31, 2015 10:15:56 0.991
Saturday, October 31, 2015 10:20:57 0.991
Saturday, October 31, 2015 10:25:58 0.991
Saturday, October 31, 2015 10:30:58 0.991
Saturday, October 31, 2015 10:35:59 0.991
Saturday, October 31, 2015 10:40:59 0.991
Saturday, October 31, 2015 10:46:00 0.991
Saturday, October 31, 2015 10:51:00 0.991
Saturday, October 31, 2015 10:56:01 0.991
Saturday, October 31, 2015 11:01:01 0.991
Saturday, October 31, 2015 11:06:02 0.991
Saturday, October 31, 2015 11:11:02 0.991
Saturday, October 31, 2015 11:16:03 0.991
Saturday, October 31, 2015 11:21:03 0.991
Saturday, October 31, 2015 11:26:04 0.991
Saturday, October 31, 2015 11:31:04 0.991
Saturday, October 31, 2015 11:36:05 0.991
Saturday, October 31, 2015 11:41:05 0.991
Saturday, October 31, 2015 11:46:06 0.991
Saturday, October 31, 2015 11:51:06 0.991
Saturday, October 31, 2015 11:56:07 0.991
Saturday, October 31, 2015 12:01:07 0.991
Saturday, October 31, 2015 12:06:08 0.991
Saturday, October 31, 2015 12:11:08 0.991
Saturday, October 31, 2015 12:16:09 0.991
Saturday, October 31, 2015 12:21:09 0.991
Saturday, October 31, 2015 12:26:10 0.991
Saturday, October 31, 2015 12:31:10 0.991
Saturday, October 31, 2015 12:36:11 0.991
Saturday, October 31, 2015 12:41:11 0.991
Saturday, October 31, 2015 12:46:12 0.991
Saturday, October 31, 2015 12:51:13 0.991
Saturday, October 31, 2015 12:56:13 0.991
Saturday, October 31, 2015 13:01:14 0.991
Saturday, October 31, 2015 13:06:14 0.991
Saturday, October 31, 2015 13:11:15 0.991
164.01
50.2
$168.98 \quad 50.2$
$173.93 \quad 50.1$
$178.90 \quad 50.1$
$183.85 \quad 50.1$
188.8250 .3
$193.78 \quad 50.2$
$198.75 \quad 50.0$
$203.70 \quad 50.1$
$208.67 \quad 50.2$
$213.63 \quad 50.3$
$218.60 \quad 50.1$
223.5549 .6
$228.52 \quad 50.4$
$233.48 \quad 50.3$
$238.45 \quad 50.4$
$243.40 \quad 50.1$
$248.37 \quad 50.3$
$253.33 \quad 50.4$
$258.30 \quad 50.4$
$263.27 \quad 49.7$
268.2250 .0
$273.19 \quad 50.3$
278.1549 .7
$283.12 \quad 50.4$
288.0749 .8
$293.04 \quad 49.8$
$298.00 \quad 50.4$
$302.97 \quad 50.0$
$307.92 \quad 50.0$
$312.89 \quad 50.3$
$317.85 \quad 50.2$
$322.82 \quad 50.3$
$327.77 \quad 49.8$
$332.74 \quad 50.1$
337.6949 .9
$342.67 \quad 50.5$
347.6250 .4
$352.59 \quad 50.0$
$357.54 \quad 50.3$
$362.51 \quad 50.1$
$367.47 \quad 50.5$
$372.44 \quad 50.3$
$377.39 \quad 50.2$
$382.36 \quad 50.4$
$387.32 \quad 50.0$
$392.29 \quad 50.5$
$397.24 \quad 49.9$
$402.21 \quad 50.1$
$407.18 \quad 50.0$
$412.14 \quad 49.7$
$417.11 \quad 50.5$
$422.06 \quad 50.5$
427.0350 .4
431.99
50.1
$436.96 \quad 50.4$
$441.91 \quad 50.1$
$446.88 \quad 50.5$
$451.84 \quad 50.2$
$456.81 \quad 50.0$
$461.76 \quad 49.8$
$466.73 \quad 49.8$
$471.69 \quad 50.1$
$476.66 \quad 50.4$
$481.63 \quad 50.3$
$486.58 \quad 49.9$
$491.55 \quad 50.4$
$496.51 \quad 50.5$
501.4849 .9
$506.43 \quad 50.5$
$511.40 \quad 50.1$
$516.36 \quad 49.8$
$521.33 \quad 50.2$
$526.28 \quad 50.6$
$531.25 \quad 50.0$
$536.22 \quad 50.2$
$541.18 \quad 49.8$
$546.15 \quad 50.2$
$551.10 \quad 49.8$
$556.07 \quad 50.1$
$561.03 \quad 49.7$
$566.00 \quad 50.3$
$570.95 \quad 50.5$
$575.92 \quad 50.1$
$580.89 \quad 49.7$
$585.85 \quad 50.2$
590.8249 .8
$595.77 \quad 50.0$
$600.74 \quad 50.4$
$605.70 \quad 50.4$
$610.67 \quad 50.2$
$615.62 \quad 50.0$
$620.59 \quad 50.6$
$625.56 \quad 50.6$
$630.52 \quad 50.6$
$635.49 \quad 50.1$
$640.44 \quad 50.7$
$645.41 \quad 50.0$
$650.37 \quad 50.5$
$655.34 \quad 49.7$
$660.29 \quad 50.5$
665.2649 .7
$670.22 \quad 50.5$
$675.19 \quad 49.7$
$680.16 \quad 50.6$
$685.11 \quad 49.9$
$690.09 \quad 50.1$
695.0450 .0

# Ch. 1 Cartridge Started Friday, November 06, 2015 6:00:03 

Flow Rate Set Point $1.00 \mathrm{l} / \mathrm{min}$
Stopped Friday, November 06, 2015 18:00:21
Total Volume 713.19 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.991 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate 0.000 1/min
Ending Leak Rate -0.002 1/min
Flow Controller Zero -0.006 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Friday, November 06, 2015 6:00:30 $0.078 \quad 0.2349 .9$
Friday, November 06, 2015 6:05:30 $0.991 \quad 5.18 \quad 49.8$
Friday, November 06, 2015 6:10:31 $0.991 \quad 10.15 \quad 50.1$
Friday, November 06, 2015 6:15:31 $0.991 \quad 15.11 \quad 50.3$
Friday, November 06, 2015 6:20:32 $0.991 \quad 20.08 \quad 50.3$
Friday, November 06, 2015 6:25:32 $0.991 \quad 25.0350 .7$
Friday, November 06, 2015 6:30:33 $0.991 \quad 30.00 \quad 50.2$
Friday, November 06, 2015 6:35:33 $0.991 \quad 34.96 \quad 50.2$
Friday, November 06, 2015 6:40:34 0.99139 .9349 .7
Friday, November 06, 2015 6:45:34 0.99144 .8850 .5
Friday, November 06, 2015 6:50:35 $0.991 \quad 49.85 \quad 50.0$
Friday, November 06, 2015 6:55:35 $0.991 \quad 54.80 \quad 50.5$
Friday, November 06, 2015 7:00:36 $0.991 \quad 59.78 \quad 50.1$
Friday, November 06, 2015 7:05:36 $0.991 \quad 64.7349 .8$
Friday, November 06, 2015 7:10:37 $0.991 \quad 69.70 \quad 50.1$
Friday, November 06, 2015 7:15:37 $0.991 \quad 74.65 \quad 50.0$
Friday, November 06, 2015 7:20:38 $0.991 \quad 79.63 \quad 50.1$
Friday, November 06, 2015 7:25:39 $0.991 \quad 84.60 \quad 49.6$
Friday, November 06, 2015 7:30:39 $0.991 \quad 89.55 \quad 50.1$
Friday, November 06, 2015 7:35:40 0.991
Friday, November 06, 2015 7:40:40 0.991
94.5249 .6
99.4849 .9

Friday, November 06, 2015 7:45:41 0.991
$104.45 \quad 50.1$
Friday, November 06, 2015 7:50:41 0.991
Friday, November 06, 2015 7:55:42 0.991
Friday, November 06, 2015 8:00:42 0.991
Friday, November 06, 2015 8:05:43 0.991
Friday, November 06, 2015 8:10:43 0.991
Friday, November 06, 2015 8:15:44 0.991
$109.40 \quad 50.0$
$114.37 \quad 50.4$
$119.33 \quad 50.4$
$124.30 \quad 50.5$
129.2549 .7

Friday, November 06, 2015 8:20:44 0.991
Friday, November 06, 2015 8:25:45 0.991
Friday, November 06, 2015 8:30:46 0.991
Friday, November 06, 2015 8:35:46 0.991
Friday, November 06, 2015 8:40:47 0.991
134.2249 .8
$139.18 \quad 50.1$
$144.15 \quad 50.1$
$149.12 \quad 50.6$
$154.07 \quad 50.2$
159.0450 .5

Friday, November 06, 2015 8:45:47 0.991
Friday, November 06, 2015 8:50:48 0.991
Friday, November 06, 2015 8:55:48 0.991
Friday, November 06, 2015 9:00:49 0.991
Friday, November 06, 2015 9:05:49 0.991
Friday, November 06, 2015 9:10:50 0.991
Friday, November 06, 2015 9:15:50 0.991
Friday, November 06, 2015 9:20:51 0.991
Friday, November 06, 2015 9:25:51 0.991
Friday, November 06, 2015 9:30:52 0.991
Friday, November 06, 2015 9:35:53 0.991
Friday, November 06, 2015 9:40:53 0.991
Friday, November 06, 2015 9:45:54 0.991
Friday, November 06, 2015 9:50:54 0.991
Friday, November 06, 2015 9:55:55 0.991
Friday, November 06, 2015 10:00:55 0.991
Friday, November 06, 2015 10:05:56 0.991
Friday, November 06, 2015 10:10:56 0.991
Friday, November 06, 2015 10:15:57 0.991
Friday, November 06, 2015 10:20:58 0.991
Friday, November 06, 2015 10:25:58 0.991
Friday, November 06, 2015 10:30:59 0.991
Friday, November 06, 2015 10:35:59 0.991
Friday, November 06, 2015 10:41:00 0.991
Friday, November 06, 2015 10:46:00 0.991
Friday, November 06, 2015 10:51:01 0.991
Friday, November 06, 2015 10:56:01 0.991
Friday, November 06, 2015 11:01:02 0.991
Friday, November 06, 2015 11:06:02 0.991
Friday, November 06, 2015 11:11:03 0.991
Friday, November 06, 2015 11:16:04 0.991
Friday, November 06, 2015 11:21:04 0.991
Friday, November 06, 2015 11:26:05 0.991
Friday, November 06, 2015 11:31:05 0.991
Friday, November 06, 2015 11:36:06 0.991
Friday, November 06, 2015 11:41:06 0.991
Friday, November 06, 2015 11:46:07 0.991
Friday, November 06, 2015 11:51:07 0.991
Friday, November 06, 2015 11:56:08 0.991
Friday, November 06, 2015 12:01:08 0.991
Friday, November 06, 2015 12:06:09 0.991
Friday, November 06, 2015 12:11:10 0.991
Friday, November 06, 2015 12:16:10 0.991
Friday, November 06, 2015 12:21:11 0.991
Friday, November 06, 2015 12:26:11 0.991
Friday, November 06, 2015 12:31:12 0.991
Friday, November 06, 2015 12:36:13 0.991
Friday, November 06, 2015 12:41:13 0.991
Friday, November 06, 2015 12:46:14 0.991
Friday, November 06, 2015 12:51:14 0.991
Friday, November 06, 2015 12:56:15 0.991
Friday, November 06, 2015 13:01:16 0.991
Friday, November 06, 2015 13:06:16 0.991
Friday, November 06, 2015 13:11:17 0.991
164.00
168.97
50.0
50.1
173.92
49.8
178.8950 .1
$183.85 \quad 50.2$
188.8250 .4
$193.77 \quad 50.2$
$198.74 \quad 50.2$
$203.70 \quad 50.1$
$208.67 \quad 50.1$
$213.64 \quad 50.4$
$218.59 \quad 50.1$
$223.56 \quad 50.7$
$228.52 \quad 50.5$
233.4949 .9
$238.44 \quad 50.0$
$243.41 \quad 50.6$
$248.37 \quad 50.5$
$253.34 \quad 50.6$
$258.31 \quad 49.8$
$263.26 \quad 50.7$
$268.23 \quad 49.7$
$273.19 \quad 50.8$
$278.16 \quad 50.6$
$283.11 \quad 50.7$
$288.08 \quad 50.6$
$293.04 \quad 50.7$
$298.01 \quad 49.4$
$302.96 \quad 50.1$
$307.93 \quad 49.7$
$312.90 \quad 50.3$
$317.86 \quad 50.3$
$322.83 \quad 50.2$
$327.78 \quad 49.9$
$332.76 \quad 50.0$
$337.71 \quad 50.1$
$342.68 \quad 50.9$
$347.63 \quad 50.2$
$352.61 \quad 49.9$
$357.56 \quad 50.8$
$362.53 \quad 50.2$
$367.50 \quad 50.2$
$372.46 \quad 50.2$
$377.43 \quad 50.7$
$382.38 \quad 49.9$
$387.35 \quad 50.1$
$392.32 \quad 50.5$
$397.28 \quad 50.2$
$402.25 \quad 50.8$
$407.20 \quad 49.7$
$412.17 \quad 50.4$
$417.14 \quad 50.5$
$422.10 \quad 50.4$
$427.07 \quad 50.2$

Friday, November 06, 2015 13:16:17 0.991
Friday, November 06, 2015 13:21:18 0.991
Friday, November 06, 2015 13:26:18 0.991
Friday, November 06, 2015 13:31:19 0.991
Friday, November 06, 2015 13:36:20 0.991
Friday, November 06, 2015 13:41:20 0.991
Friday, November 06, 2015 13:46:21 0.991
Friday, November 06, 2015 13:51:21 0.991
Friday, November 06, 2015 13:56:22 0.991
Friday, November 06, 2015 14:01:23 0.991
Friday, November 06, 2015 14:06:23 0.991
Friday, November 06, 2015 14:11:24 0.991
Friday, November 06, 2015 14:16:24 0.991
Friday, November 06, 2015 14:21:25 0.991
Friday, November 06, 2015 14:26:26 0.991
Friday, November 06, 2015 14:31:26 0.991
Friday, November 06, 2015 14:36:27 0.991
Friday, November 06, 2015 14:41:27 0.991
Friday, November 06, 2015 14:46:28 0.991
Friday, November 06, 2015 14:51:29 0.991
Friday, November 06, 2015 14:56:29 0.991
Friday, November 06, 2015 15:01:30 0.991
Friday, November 06, 2015 15:06:31 0.991
Friday, November 06, 2015 15:11:31 0.991
Friday, November 06, 2015 15:16:32 0.991
Friday, November 06, 2015 15:21:32 0.991
Friday, November 06, 2015 15:26:33 0.991
Friday, November 06, 2015 15:31:34 0.991
Friday, November 06, 2015 15:36:34 0.991
Friday, November 06, 2015 15:41:35 0.991
Friday, November 06, 2015 15:46:35 0.991
Friday, November 06, 2015 15:51:36 0.991
Friday, November 06, 2015 15:56:37 0.991
Friday, November 06, 2015 16:01:37 0.991
Friday, November 06, 2015 16:06:38 0.991
Friday, November 06, 2015 16:11:39 0.991
Friday, November 06, 2015 16:16:39 0.991
Friday, November 06, 2015 16:21:40 0.991
Friday, November 06, 2015 16:26:40 0.991
Friday, November 06, 2015 16:31:41 0.991
Friday, November 06, 2015 16:36:42 0.991
Friday, November 06, 2015 16:41:42 0.991
Friday, November 06, 2015 16:46:43 0.991
Friday, November 06, 2015 16:51:44 0.991
Friday, November 06, 2015 16:56:44 0.991
Friday, November 06, 2015 17:01:45 0.991
Friday, November 06, 2015 17:06:45 0.991
Friday, November 06, 2015 17:11:46 0.991
Friday, November 06, 2015 17:16:47 0.991
Friday, November 06, 2015 17:21:47 0.991
Friday, November 06, 2015 17:26:48 0.991
Friday, November 06, 2015 17:31:49 0.991
Friday, November 06, 2015 17:36:49 0.991
Friday, November 06, 2015 17:41:50 0.991
432.02
50.4
$437.00 \quad 50.1$
$441.95 \quad 50.5$
$446.92 \quad 50.2$
$451.89 \quad 50.3$
$456.85 \quad 50.4$
$461.82 \quad 50.3$
$466.77 \quad 50.6$
$471.74 \quad 50.4$
$476.71 \quad 50.7$
$481.67 \quad 50.3$
$486.64 \quad 50.8$
$491.59 \quad 50.1$
$496.56 \quad 50.8$
$501.54 \quad 50.1$
$506.49 \quad 50.7$
$511.46 \quad 49.9$
$516.42 \quad 50.4$
$521.39 \quad 50.8$
$526.36 \quad 49.8$
$531.31 \quad 50.1$
$536.29 \quad 50.6$
$541.26 \quad 50.4$
546.2149 .9
$551.18 \quad 50.1$
556.1449 .6
$561.11 \quad 50.4$
$566.08 \quad 51.1$
$571.04 \quad 50.5$
$576.01 \quad 50.4$
580.9649 .4
$585.94 \quad 50.0$
$590.91 \quad 49.6$
$595.86 \quad 50.1$
$600.83 \quad 50.9$
$605.81 \quad 50.0$
$610.76 \quad 50.5$
$615.73 \quad 50.2$
$620.69 \quad 50.1$
$625.66 \quad 50.1$
$630.63 \quad 50.0$
$635.59 \quad 50.2$
$640.56 \quad 50.1$
$645.53 \quad 50.7$
$650.48 \quad 50.4$
$655.46 \quad 50.6$
$660.41 \quad 50.4$
$665.38 \quad 49.9$
$670.35 \quad 50.2$
$675.31 \quad 50.3$
$680.28 \quad 50.8$
$685.25 \quad 50.3$
$690.21 \quad 50.5$
$695.18 \quad 50.4$

# Ch. 1 Cartridge Started Friday, November 06, 2015 6:00:03 

Flow Rate Set Point $1.00 \mathrm{l} / \mathrm{min}$
Stopped Friday, November 06, 2015 18:00:21
Total Volume 713.19 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.991 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate 0.000 1/min
Ending Leak Rate -0.002 1/min
Flow Controller Zero -0.006 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Friday, November 06, 2015 6:00:30 $0.078 \quad 0.2349 .9$
Friday, November 06, 2015 6:05:30 $0.991 \quad 5.18 \quad 49.8$
Friday, November 06, 2015 6:10:31 $0.991 \quad 10.15 \quad 50.1$
Friday, November 06, 2015 6:15:31 $0.991 \quad 15.11 \quad 50.3$
Friday, November 06, 2015 6:20:32 $0.991 \quad 20.08 \quad 50.3$
Friday, November 06, 2015 6:25:32 $0.991 \quad 25.0350 .7$
Friday, November 06, 2015 6:30:33 $0.991 \quad 30.00 \quad 50.2$
Friday, November 06, 2015 6:35:33 $0.991 \quad 34.96 \quad 50.2$
Friday, November 06, 2015 6:40:34 0.99139 .9349 .7
Friday, November 06, 2015 6:45:34 0.99144 .8850 .5
Friday, November 06, 2015 6:50:35 $0.991 \quad 49.85 \quad 50.0$
Friday, November 06, 2015 6:55:35 $0.991 \quad 54.80 \quad 50.5$
Friday, November 06, 2015 7:00:36 $0.991 \quad 59.78 \quad 50.1$
Friday, November 06, 2015 7:05:36 $0.991 \quad 64.7349 .8$
Friday, November 06, 2015 7:10:37 $0.991 \quad 69.70 \quad 50.1$
Friday, November 06, 2015 7:15:37 $0.991 \quad 74.65 \quad 50.0$
Friday, November 06, 2015 7:20:38 $0.991 \quad 79.63 \quad 50.1$
Friday, November 06, 2015 7:25:39 $0.991 \quad 84.60 \quad 49.6$
Friday, November 06, 2015 7:30:39 $0.991 \quad 89.55 \quad 50.1$
Friday, November 06, 2015 7:35:40 0.991
Friday, November 06, 2015 7:40:40 0.991
94.5249 .6
99.4849 .9

Friday, November 06, 2015 7:45:41 0.991
$104.45 \quad 50.1$
Friday, November 06, 2015 7:50:41 0.991
Friday, November 06, 2015 7:55:42 0.991
Friday, November 06, 2015 8:00:42 0.991
Friday, November 06, 2015 8:05:43 0.991
Friday, November 06, 2015 8:10:43 0.991
Friday, November 06, 2015 8:15:44 0.991
$109.40 \quad 50.0$
$114.37 \quad 50.4$
$119.33 \quad 50.4$
$124.30 \quad 50.5$
129.2549 .7

Friday, November 06, 2015 8:20:44 0.991
Friday, November 06, 2015 8:25:45 0.991
Friday, November 06, 2015 8:30:46 0.991
Friday, November 06, 2015 8:35:46 0.991
Friday, November 06, 2015 8:40:47 0.991
134.2249 .8
$139.18 \quad 50.1$
$144.15 \quad 50.1$
$149.12 \quad 50.6$
$154.07 \quad 50.2$
159.0450 .5

Friday, November 06, 2015 8:45:47 0.991
Friday, November 06, 2015 8:50:48 0.991
Friday, November 06, 2015 8:55:48 0.991
Friday, November 06, 2015 9:00:49 0.991
Friday, November 06, 2015 9:05:49 0.991
Friday, November 06, 2015 9:10:50 0.991
Friday, November 06, 2015 9:15:50 0.991
Friday, November 06, 2015 9:20:51 0.991
Friday, November 06, 2015 9:25:51 0.991
Friday, November 06, 2015 9:30:52 0.991
Friday, November 06, 2015 9:35:53 0.991
Friday, November 06, 2015 9:40:53 0.991
Friday, November 06, 2015 9:45:54 0.991
Friday, November 06, 2015 9:50:54 0.991
Friday, November 06, 2015 9:55:55 0.991
Friday, November 06, 2015 10:00:55 0.991
Friday, November 06, 2015 10:05:56 0.991
Friday, November 06, 2015 10:10:56 0.991
Friday, November 06, 2015 10:15:57 0.991
Friday, November 06, 2015 10:20:58 0.991
Friday, November 06, 2015 10:25:58 0.991
Friday, November 06, 2015 10:30:59 0.991
Friday, November 06, 2015 10:35:59 0.991
Friday, November 06, 2015 10:41:00 0.991
Friday, November 06, 2015 10:46:00 0.991
Friday, November 06, 2015 10:51:01 0.991
Friday, November 06, 2015 10:56:01 0.991
Friday, November 06, 2015 11:01:02 0.991
Friday, November 06, 2015 11:06:02 0.991
Friday, November 06, 2015 11:11:03 0.991
Friday, November 06, 2015 11:16:04 0.991
Friday, November 06, 2015 11:21:04 0.991
Friday, November 06, 2015 11:26:05 0.991
Friday, November 06, 2015 11:31:05 0.991
Friday, November 06, 2015 11:36:06 0.991
Friday, November 06, 2015 11:41:06 0.991
Friday, November 06, 2015 11:46:07 0.991
Friday, November 06, 2015 11:51:07 0.991
Friday, November 06, 2015 11:56:08 0.991
Friday, November 06, 2015 12:01:08 0.991
Friday, November 06, 2015 12:06:09 0.991
Friday, November 06, 2015 12:11:10 0.991
Friday, November 06, 2015 12:16:10 0.991
Friday, November 06, 2015 12:21:11 0.991
Friday, November 06, 2015 12:26:11 0.991
Friday, November 06, 2015 12:31:12 0.991
Friday, November 06, 2015 12:36:13 0.991
Friday, November 06, 2015 12:41:13 0.991
Friday, November 06, 2015 12:46:14 0.991
Friday, November 06, 2015 12:51:14 0.991
Friday, November 06, 2015 12:56:15 0.991
Friday, November 06, 2015 13:01:16 0.991
Friday, November 06, 2015 13:06:16 0.991
Friday, November 06, 2015 13:11:17 0.991
164.00
168.97
50.0
50.1
173.92
49.8
178.8950 .1
$183.85 \quad 50.2$
188.8250 .4
$193.77 \quad 50.2$
$198.74 \quad 50.2$
$203.70 \quad 50.1$
$208.67 \quad 50.1$
$213.64 \quad 50.4$
$218.59 \quad 50.1$
$223.56 \quad 50.7$
$228.52 \quad 50.5$
233.4949 .9
$238.44 \quad 50.0$
$243.41 \quad 50.6$
$248.37 \quad 50.5$
$253.34 \quad 50.6$
$258.31 \quad 49.8$
$263.26 \quad 50.7$
$268.23 \quad 49.7$
$273.19 \quad 50.8$
$278.16 \quad 50.6$
$283.11 \quad 50.7$
$288.08 \quad 50.6$
$293.04 \quad 50.7$
$298.01 \quad 49.4$
$302.96 \quad 50.1$
$307.93 \quad 49.7$
$312.90 \quad 50.3$
$317.86 \quad 50.3$
$322.83 \quad 50.2$
$327.78 \quad 49.9$
$332.76 \quad 50.0$
$337.71 \quad 50.1$
$342.68 \quad 50.9$
$347.63 \quad 50.2$
$352.61 \quad 49.9$
$357.56 \quad 50.8$
$362.53 \quad 50.2$
$367.50 \quad 50.2$
$372.46 \quad 50.2$
$377.43 \quad 50.7$
$382.38 \quad 49.9$
$387.35 \quad 50.1$
$392.32 \quad 50.5$
$397.28 \quad 50.2$
$402.25 \quad 50.8$
$407.20 \quad 49.7$
$412.17 \quad 50.4$
$417.14 \quad 50.5$
$422.10 \quad 50.4$
$427.07 \quad 50.2$

Friday, November 06, 2015 13:16:17 0.991
Friday, November 06, 2015 13:21:18 0.991
Friday, November 06, 2015 13:26:18 0.991
Friday, November 06, 2015 13:31:19 0.991
Friday, November 06, 2015 13:36:20 0.991
Friday, November 06, 2015 13:41:20 0.991
Friday, November 06, 2015 13:46:21 0.991
Friday, November 06, 2015 13:51:21 0.991
Friday, November 06, 2015 13:56:22 0.991
Friday, November 06, 2015 14:01:23 0.991
Friday, November 06, 2015 14:06:23 0.991
Friday, November 06, 2015 14:11:24 0.991
Friday, November 06, 2015 14:16:24 0.991
Friday, November 06, 2015 14:21:25 0.991
Friday, November 06, 2015 14:26:26 0.991
Friday, November 06, 2015 14:31:26 0.991
Friday, November 06, 2015 14:36:27 0.991
Friday, November 06, 2015 14:41:27 0.991
Friday, November 06, 2015 14:46:28 0.991
Friday, November 06, 2015 14:51:29 0.991
Friday, November 06, 2015 14:56:29 0.991
Friday, November 06, 2015 15:01:30 0.991
Friday, November 06, 2015 15:06:31 0.991
Friday, November 06, 2015 15:11:31 0.991
Friday, November 06, 2015 15:16:32 0.991
Friday, November 06, 2015 15:21:32 0.991
Friday, November 06, 2015 15:26:33 0.991
Friday, November 06, 2015 15:31:34 0.991
Friday, November 06, 2015 15:36:34 0.991
Friday, November 06, 2015 15:41:35 0.991
Friday, November 06, 2015 15:46:35 0.991
Friday, November 06, 2015 15:51:36 0.991
Friday, November 06, 2015 15:56:37 0.991
Friday, November 06, 2015 16:01:37 0.991
Friday, November 06, 2015 16:06:38 0.991
Friday, November 06, 2015 16:11:39 0.991
Friday, November 06, 2015 16:16:39 0.991
Friday, November 06, 2015 16:21:40 0.991
Friday, November 06, 2015 16:26:40 0.991
Friday, November 06, 2015 16:31:41 0.991
Friday, November 06, 2015 16:36:42 0.991
Friday, November 06, 2015 16:41:42 0.991
Friday, November 06, 2015 16:46:43 0.991
Friday, November 06, 2015 16:51:44 0.991
Friday, November 06, 2015 16:56:44 0.991
Friday, November 06, 2015 17:01:45 0.991
Friday, November 06, 2015 17:06:45 0.991
Friday, November 06, 2015 17:11:46 0.991
Friday, November 06, 2015 17:16:47 0.991
Friday, November 06, 2015 17:21:47 0.991
Friday, November 06, 2015 17:26:48 0.991
Friday, November 06, 2015 17:31:49 0.991
Friday, November 06, 2015 17:36:49 0.991
Friday, November 06, 2015 17:41:50 0.991
432.02
50.4
$437.00 \quad 50.1$
$441.95 \quad 50.5$
$446.92 \quad 50.2$
$451.89 \quad 50.3$
$456.85 \quad 50.4$
$461.82 \quad 50.3$
$466.77 \quad 50.6$
$471.74 \quad 50.4$
$476.71 \quad 50.7$
$481.67 \quad 50.3$
$486.64 \quad 50.8$
$491.59 \quad 50.1$
$496.56 \quad 50.8$
$501.54 \quad 50.1$
$506.49 \quad 50.7$
$511.46 \quad 49.9$
$516.42 \quad 50.4$
$521.39 \quad 50.8$
$526.36 \quad 49.8$
$531.31 \quad 50.1$
$536.29 \quad 50.6$
$541.26 \quad 50.4$
546.2149 .9
$551.18 \quad 50.1$
556.1449 .6
$561.11 \quad 50.4$
$566.08 \quad 51.1$
$571.04 \quad 50.5$
$576.01 \quad 50.4$
580.9649 .4
$585.94 \quad 50.0$
$590.91 \quad 49.6$
$595.86 \quad 50.1$
$600.83 \quad 50.9$
$605.81 \quad 50.0$
$610.76 \quad 50.5$
$615.73 \quad 50.2$
$620.69 \quad 50.1$
$625.66 \quad 50.1$
$630.63 \quad 50.0$
$635.59 \quad 50.2$
$640.56 \quad 50.1$
$645.53 \quad 50.7$
$650.48 \quad 50.4$
$655.46 \quad 50.6$
$660.41 \quad 50.4$
$665.38 \quad 49.9$
$670.35 \quad 50.2$
$675.31 \quad 50.3$
$680.28 \quad 50.8$
$685.25 \quad 50.3$
$690.21 \quad 50.5$
$695.18 \quad 50.4$

# Ch. 1 Cartridge Started Friday, November 06, 2015 6:00:03 

Flow Rate Set Point $1.00 \mathrm{l} / \mathrm{min}$
Stopped Friday, November 06, 2015 18:00:21
Total Volume 713.19 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.991 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate 0.000 1/min
Ending Leak Rate -0.002 1/min
Flow Controller Zero -0.006 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Friday, November 06, 2015 6:00:30 $0.078 \quad 0.2349 .9$
Friday, November 06, 2015 6:05:30 $0.991 \quad 5.18 \quad 49.8$
Friday, November 06, 2015 6:10:31 $0.991 \quad 10.15 \quad 50.1$
Friday, November 06, 2015 6:15:31 $0.991 \quad 15.11 \quad 50.3$
Friday, November 06, 2015 6:20:32 $0.991 \quad 20.08 \quad 50.3$
Friday, November 06, 2015 6:25:32 $0.991 \quad 25.0350 .7$
Friday, November 06, 2015 6:30:33 $0.991 \quad 30.00 \quad 50.2$
Friday, November 06, 2015 6:35:33 $0.991 \quad 34.96 \quad 50.2$
Friday, November 06, 2015 6:40:34 0.99139 .9349 .7
Friday, November 06, 2015 6:45:34 0.99144 .8850 .5
Friday, November 06, 2015 6:50:35 $0.991 \quad 49.85 \quad 50.0$
Friday, November 06, 2015 6:55:35 $0.991 \quad 54.80 \quad 50.5$
Friday, November 06, 2015 7:00:36 $0.991 \quad 59.78 \quad 50.1$
Friday, November 06, 2015 7:05:36 $0.991 \quad 64.7349 .8$
Friday, November 06, 2015 7:10:37 $0.991 \quad 69.70 \quad 50.1$
Friday, November 06, 2015 7:15:37 $0.991 \quad 74.65 \quad 50.0$
Friday, November 06, 2015 7:20:38 $0.991 \quad 79.63 \quad 50.1$
Friday, November 06, 2015 7:25:39 $0.991 \quad 84.60 \quad 49.6$
Friday, November 06, 2015 7:30:39 $0.991 \quad 89.55 \quad 50.1$
Friday, November 06, 2015 7:35:40 0.991
Friday, November 06, 2015 7:40:40 0.991
94.5249 .6
99.4849 .9

Friday, November 06, 2015 7:45:41 0.991
$104.45 \quad 50.1$
Friday, November 06, 2015 7:50:41 0.991
Friday, November 06, 2015 7:55:42 0.991
Friday, November 06, 2015 8:00:42 0.991
Friday, November 06, 2015 8:05:43 0.991
Friday, November 06, 2015 8:10:43 0.991
Friday, November 06, 2015 8:15:44 0.991
$109.40 \quad 50.0$
$114.37 \quad 50.4$
$119.33 \quad 50.4$
$124.30 \quad 50.5$
129.2549 .7

Friday, November 06, 2015 8:20:44 0.991
Friday, November 06, 2015 8:25:45 0.991
Friday, November 06, 2015 8:30:46 0.991
Friday, November 06, 2015 8:35:46 0.991
Friday, November 06, 2015 8:40:47 0.991
134.2249 .8
$139.18 \quad 50.1$
$144.15 \quad 50.1$
$149.12 \quad 50.6$
$154.07 \quad 50.2$
159.0450 .5

Friday, November 06, 2015 8:45:47 0.991
Friday, November 06, 2015 8:50:48 0.991
Friday, November 06, 2015 8:55:48 0.991
Friday, November 06, 2015 9:00:49 0.991
Friday, November 06, 2015 9:05:49 0.991
Friday, November 06, 2015 9:10:50 0.991
Friday, November 06, 2015 9:15:50 0.991
Friday, November 06, 2015 9:20:51 0.991
Friday, November 06, 2015 9:25:51 0.991
Friday, November 06, 2015 9:30:52 0.991
Friday, November 06, 2015 9:35:53 0.991
Friday, November 06, 2015 9:40:53 0.991
Friday, November 06, 2015 9:45:54 0.991
Friday, November 06, 2015 9:50:54 0.991
Friday, November 06, 2015 9:55:55 0.991
Friday, November 06, 2015 10:00:55 0.991
Friday, November 06, 2015 10:05:56 0.991
Friday, November 06, 2015 10:10:56 0.991
Friday, November 06, 2015 10:15:57 0.991
Friday, November 06, 2015 10:20:58 0.991
Friday, November 06, 2015 10:25:58 0.991
Friday, November 06, 2015 10:30:59 0.991
Friday, November 06, 2015 10:35:59 0.991
Friday, November 06, 2015 10:41:00 0.991
Friday, November 06, 2015 10:46:00 0.991
Friday, November 06, 2015 10:51:01 0.991
Friday, November 06, 2015 10:56:01 0.991
Friday, November 06, 2015 11:01:02 0.991
Friday, November 06, 2015 11:06:02 0.991
Friday, November 06, 2015 11:11:03 0.991
Friday, November 06, 2015 11:16:04 0.991
Friday, November 06, 2015 11:21:04 0.991
Friday, November 06, 2015 11:26:05 0.991
Friday, November 06, 2015 11:31:05 0.991
Friday, November 06, 2015 11:36:06 0.991
Friday, November 06, 2015 11:41:06 0.991
Friday, November 06, 2015 11:46:07 0.991
Friday, November 06, 2015 11:51:07 0.991
Friday, November 06, 2015 11:56:08 0.991
Friday, November 06, 2015 12:01:08 0.991
Friday, November 06, 2015 12:06:09 0.991
Friday, November 06, 2015 12:11:10 0.991
Friday, November 06, 2015 12:16:10 0.991
Friday, November 06, 2015 12:21:11 0.991
Friday, November 06, 2015 12:26:11 0.991
Friday, November 06, 2015 12:31:12 0.991
Friday, November 06, 2015 12:36:13 0.991
Friday, November 06, 2015 12:41:13 0.991
Friday, November 06, 2015 12:46:14 0.991
Friday, November 06, 2015 12:51:14 0.991
Friday, November 06, 2015 12:56:15 0.991
Friday, November 06, 2015 13:01:16 0.991
Friday, November 06, 2015 13:06:16 0.991
Friday, November 06, 2015 13:11:17 0.991
164.00
168.97
50.0
50.1
173.92
49.8
178.8950 .1
$183.85 \quad 50.2$
188.8250 .4
$193.77 \quad 50.2$
$198.74 \quad 50.2$
$203.70 \quad 50.1$
$208.67 \quad 50.1$
$213.64 \quad 50.4$
$218.59 \quad 50.1$
$223.56 \quad 50.7$
$228.52 \quad 50.5$
233.4949 .9
$238.44 \quad 50.0$
$243.41 \quad 50.6$
$248.37 \quad 50.5$
$253.34 \quad 50.6$
$258.31 \quad 49.8$
$263.26 \quad 50.7$
$268.23 \quad 49.7$
$273.19 \quad 50.8$
$278.16 \quad 50.6$
$283.11 \quad 50.7$
$288.08 \quad 50.6$
$293.04 \quad 50.7$
$298.01 \quad 49.4$
$302.96 \quad 50.1$
$307.93 \quad 49.7$
$312.90 \quad 50.3$
$317.86 \quad 50.3$
$322.83 \quad 50.2$
$327.78 \quad 49.9$
$332.76 \quad 50.0$
$337.71 \quad 50.1$
$342.68 \quad 50.9$
$347.63 \quad 50.2$
$352.61 \quad 49.9$
$357.56 \quad 50.8$
$362.53 \quad 50.2$
$367.50 \quad 50.2$
$372.46 \quad 50.2$
$377.43 \quad 50.7$
$382.38 \quad 49.9$
$387.35 \quad 50.1$
$392.32 \quad 50.5$
$397.28 \quad 50.2$
$402.25 \quad 50.8$
$407.20 \quad 49.7$
$412.17 \quad 50.4$
$417.14 \quad 50.5$
$422.10 \quad 50.4$
$427.07 \quad 50.2$

Friday, November 06, 2015 13:16:17 0.991
Friday, November 06, 2015 13:21:18 0.991
Friday, November 06, 2015 13:26:18 0.991
Friday, November 06, 2015 13:31:19 0.991
Friday, November 06, 2015 13:36:20 0.991
Friday, November 06, 2015 13:41:20 0.991
Friday, November 06, 2015 13:46:21 0.991
Friday, November 06, 2015 13:51:21 0.991
Friday, November 06, 2015 13:56:22 0.991
Friday, November 06, 2015 14:01:23 0.991
Friday, November 06, 2015 14:06:23 0.991
Friday, November 06, 2015 14:11:24 0.991
Friday, November 06, 2015 14:16:24 0.991
Friday, November 06, 2015 14:21:25 0.991
Friday, November 06, 2015 14:26:26 0.991
Friday, November 06, 2015 14:31:26 0.991
Friday, November 06, 2015 14:36:27 0.991
Friday, November 06, 2015 14:41:27 0.991
Friday, November 06, 2015 14:46:28 0.991
Friday, November 06, 2015 14:51:29 0.991
Friday, November 06, 2015 14:56:29 0.991
Friday, November 06, 2015 15:01:30 0.991
Friday, November 06, 2015 15:06:31 0.991
Friday, November 06, 2015 15:11:31 0.991
Friday, November 06, 2015 15:16:32 0.991
Friday, November 06, 2015 15:21:32 0.991
Friday, November 06, 2015 15:26:33 0.991
Friday, November 06, 2015 15:31:34 0.991
Friday, November 06, 2015 15:36:34 0.991
Friday, November 06, 2015 15:41:35 0.991
Friday, November 06, 2015 15:46:35 0.991
Friday, November 06, 2015 15:51:36 0.991
Friday, November 06, 2015 15:56:37 0.991
Friday, November 06, 2015 16:01:37 0.991
Friday, November 06, 2015 16:06:38 0.991
Friday, November 06, 2015 16:11:39 0.991
Friday, November 06, 2015 16:16:39 0.991
Friday, November 06, 2015 16:21:40 0.991
Friday, November 06, 2015 16:26:40 0.991
Friday, November 06, 2015 16:31:41 0.991
Friday, November 06, 2015 16:36:42 0.991
Friday, November 06, 2015 16:41:42 0.991
Friday, November 06, 2015 16:46:43 0.991
Friday, November 06, 2015 16:51:44 0.991
Friday, November 06, 2015 16:56:44 0.991
Friday, November 06, 2015 17:01:45 0.991
Friday, November 06, 2015 17:06:45 0.991
Friday, November 06, 2015 17:11:46 0.991
Friday, November 06, 2015 17:16:47 0.991
Friday, November 06, 2015 17:21:47 0.991
Friday, November 06, 2015 17:26:48 0.991
Friday, November 06, 2015 17:31:49 0.991
Friday, November 06, 2015 17:36:49 0.991
Friday, November 06, 2015 17:41:50 0.991
432.02
50.4
$437.00 \quad 50.1$
$441.95 \quad 50.5$
$446.92 \quad 50.2$
$451.89 \quad 50.3$
$456.85 \quad 50.4$
$461.82 \quad 50.3$
$466.77 \quad 50.6$
$471.74 \quad 50.4$
$476.71 \quad 50.7$
$481.67 \quad 50.3$
$486.64 \quad 50.8$
$491.59 \quad 50.1$
$496.56 \quad 50.8$
$501.54 \quad 50.1$
$506.49 \quad 50.7$
$511.46 \quad 49.9$
$516.42 \quad 50.4$
$521.39 \quad 50.8$
$526.36 \quad 49.8$
$531.31 \quad 50.1$
$536.29 \quad 50.6$
$541.26 \quad 50.4$
546.2149 .9
$551.18 \quad 50.1$
556.1449 .6
$561.11 \quad 50.4$
$566.08 \quad 51.1$
$571.04 \quad 50.5$
$576.01 \quad 50.4$
580.9649 .4
$585.94 \quad 50.0$
$590.91 \quad 49.6$
$595.86 \quad 50.1$
$600.83 \quad 50.9$
$605.81 \quad 50.0$
$610.76 \quad 50.5$
$615.73 \quad 50.2$
$620.69 \quad 50.1$
$625.66 \quad 50.1$
$630.63 \quad 50.0$
$635.59 \quad 50.2$
$640.56 \quad 50.1$
$645.53 \quad 50.7$
$650.48 \quad 50.4$
$655.46 \quad 50.6$
$660.41 \quad 50.4$
$665.38 \quad 49.9$
$670.35 \quad 50.2$
$675.31 \quad 50.3$
$680.28 \quad 50.8$
$685.25 \quad 50.3$
$690.21 \quad 50.5$
$695.18 \quad 50.4$

# Ch. 1 Cartridge Started Friday, November 06, 2015 6:00:03 

Flow Rate Set Point $1.00 \mathrm{l} / \mathrm{min}$
Stopped Friday, November 06, 2015 18:00:21
Total Volume 713.19 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.991 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate 0.000 1/min
Ending Leak Rate -0.002 1/min
Flow Controller Zero -0.006 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Friday, November 06, 2015 6:00:30 $0.078 \quad 0.2349 .9$
Friday, November 06, 2015 6:05:30 $0.991 \quad 5.18 \quad 49.8$
Friday, November 06, 2015 6:10:31 $0.991 \quad 10.15 \quad 50.1$
Friday, November 06, 2015 6:15:31 $0.991 \quad 15.11 \quad 50.3$
Friday, November 06, 2015 6:20:32 $0.991 \quad 20.08 \quad 50.3$
Friday, November 06, 2015 6:25:32 $0.991 \quad 25.0350 .7$
Friday, November 06, 2015 6:30:33 $0.991 \quad 30.00 \quad 50.2$
Friday, November 06, 2015 6:35:33 $0.991 \quad 34.96 \quad 50.2$
Friday, November 06, 2015 6:40:34 0.99139 .9349 .7
Friday, November 06, 2015 6:45:34 0.99144 .8850 .5
Friday, November 06, 2015 6:50:35 $0.991 \quad 49.85 \quad 50.0$
Friday, November 06, 2015 6:55:35 $0.991 \quad 54.80 \quad 50.5$
Friday, November 06, 2015 7:00:36 $0.991 \quad 59.78 \quad 50.1$
Friday, November 06, 2015 7:05:36 $0.991 \quad 64.7349 .8$
Friday, November 06, 2015 7:10:37 $0.991 \quad 69.70 \quad 50.1$
Friday, November 06, 2015 7:15:37 $0.991 \quad 74.65 \quad 50.0$
Friday, November 06, 2015 7:20:38 $0.991 \quad 79.63 \quad 50.1$
Friday, November 06, 2015 7:25:39 $0.991 \quad 84.60 \quad 49.6$
Friday, November 06, 2015 7:30:39 $0.991 \quad 89.55 \quad 50.1$
Friday, November 06, 2015 7:35:40 0.991
Friday, November 06, 2015 7:40:40 0.991
94.5249 .6
99.4849 .9

Friday, November 06, 2015 7:45:41 0.991
$104.45 \quad 50.1$
Friday, November 06, 2015 7:50:41 0.991
Friday, November 06, 2015 7:55:42 0.991
Friday, November 06, 2015 8:00:42 0.991
Friday, November 06, 2015 8:05:43 0.991
Friday, November 06, 2015 8:10:43 0.991
Friday, November 06, 2015 8:15:44 0.991
$109.40 \quad 50.0$
$114.37 \quad 50.4$
$119.33 \quad 50.4$
$124.30 \quad 50.5$
129.2549 .7

Friday, November 06, 2015 8:20:44 0.991
Friday, November 06, 2015 8:25:45 0.991
Friday, November 06, 2015 8:30:46 0.991
Friday, November 06, 2015 8:35:46 0.991
Friday, November 06, 2015 8:40:47 0.991
134.2249 .8
$139.18 \quad 50.1$
$144.15 \quad 50.1$
$149.12 \quad 50.6$
$154.07 \quad 50.2$
159.0450 .5

Friday, November 06, 2015 8:45:47 0.991
Friday, November 06, 2015 8:50:48 0.991
Friday, November 06, 2015 8:55:48 0.991
Friday, November 06, 2015 9:00:49 0.991
Friday, November 06, 2015 9:05:49 0.991
Friday, November 06, 2015 9:10:50 0.991
Friday, November 06, 2015 9:15:50 0.991
Friday, November 06, 2015 9:20:51 0.991
Friday, November 06, 2015 9:25:51 0.991
Friday, November 06, 2015 9:30:52 0.991
Friday, November 06, 2015 9:35:53 0.991
Friday, November 06, 2015 9:40:53 0.991
Friday, November 06, 2015 9:45:54 0.991
Friday, November 06, 2015 9:50:54 0.991
Friday, November 06, 2015 9:55:55 0.991
Friday, November 06, 2015 10:00:55 0.991
Friday, November 06, 2015 10:05:56 0.991
Friday, November 06, 2015 10:10:56 0.991
Friday, November 06, 2015 10:15:57 0.991
Friday, November 06, 2015 10:20:58 0.991
Friday, November 06, 2015 10:25:58 0.991
Friday, November 06, 2015 10:30:59 0.991
Friday, November 06, 2015 10:35:59 0.991
Friday, November 06, 2015 10:41:00 0.991
Friday, November 06, 2015 10:46:00 0.991
Friday, November 06, 2015 10:51:01 0.991
Friday, November 06, 2015 10:56:01 0.991
Friday, November 06, 2015 11:01:02 0.991
Friday, November 06, 2015 11:06:02 0.991
Friday, November 06, 2015 11:11:03 0.991
Friday, November 06, 2015 11:16:04 0.991
Friday, November 06, 2015 11:21:04 0.991
Friday, November 06, 2015 11:26:05 0.991
Friday, November 06, 2015 11:31:05 0.991
Friday, November 06, 2015 11:36:06 0.991
Friday, November 06, 2015 11:41:06 0.991
Friday, November 06, 2015 11:46:07 0.991
Friday, November 06, 2015 11:51:07 0.991
Friday, November 06, 2015 11:56:08 0.991
Friday, November 06, 2015 12:01:08 0.991
Friday, November 06, 2015 12:06:09 0.991
Friday, November 06, 2015 12:11:10 0.991
Friday, November 06, 2015 12:16:10 0.991
Friday, November 06, 2015 12:21:11 0.991
Friday, November 06, 2015 12:26:11 0.991
Friday, November 06, 2015 12:31:12 0.991
Friday, November 06, 2015 12:36:13 0.991
Friday, November 06, 2015 12:41:13 0.991
Friday, November 06, 2015 12:46:14 0.991
Friday, November 06, 2015 12:51:14 0.991
Friday, November 06, 2015 12:56:15 0.991
Friday, November 06, 2015 13:01:16 0.991
Friday, November 06, 2015 13:06:16 0.991
Friday, November 06, 2015 13:11:17 0.991
164.00
168.97
50.0
50.1
173.92
49.8
178.8950 .1
$183.85 \quad 50.2$
188.8250 .4
$193.77 \quad 50.2$
$198.74 \quad 50.2$
$203.70 \quad 50.1$
$208.67 \quad 50.1$
$213.64 \quad 50.4$
$218.59 \quad 50.1$
$223.56 \quad 50.7$
$228.52 \quad 50.5$
233.4949 .9
$238.44 \quad 50.0$
$243.41 \quad 50.6$
$248.37 \quad 50.5$
$253.34 \quad 50.6$
$258.31 \quad 49.8$
$263.26 \quad 50.7$
$268.23 \quad 49.7$
$273.19 \quad 50.8$
$278.16 \quad 50.6$
$283.11 \quad 50.7$
$288.08 \quad 50.6$
$293.04 \quad 50.7$
$298.01 \quad 49.4$
$302.96 \quad 50.1$
$307.93 \quad 49.7$
$312.90 \quad 50.3$
$317.86 \quad 50.3$
$322.83 \quad 50.2$
$327.78 \quad 49.9$
$332.76 \quad 50.0$
$337.71 \quad 50.1$
$342.68 \quad 50.9$
$347.63 \quad 50.2$
$352.61 \quad 49.9$
$357.56 \quad 50.8$
$362.53 \quad 50.2$
$367.50 \quad 50.2$
$372.46 \quad 50.2$
$377.43 \quad 50.7$
$382.38 \quad 49.9$
$387.35 \quad 50.1$
$392.32 \quad 50.5$
$397.28 \quad 50.2$
$402.25 \quad 50.8$
$407.20 \quad 49.7$
$412.17 \quad 50.4$
$417.14 \quad 50.5$
$422.10 \quad 50.4$
$427.07 \quad 50.2$

Friday, November 06, 2015 13:16:17 0.991
Friday, November 06, 2015 13:21:18 0.991
Friday, November 06, 2015 13:26:18 0.991
Friday, November 06, 2015 13:31:19 0.991
Friday, November 06, 2015 13:36:20 0.991
Friday, November 06, 2015 13:41:20 0.991
Friday, November 06, 2015 13:46:21 0.991
Friday, November 06, 2015 13:51:21 0.991
Friday, November 06, 2015 13:56:22 0.991
Friday, November 06, 2015 14:01:23 0.991
Friday, November 06, 2015 14:06:23 0.991
Friday, November 06, 2015 14:11:24 0.991
Friday, November 06, 2015 14:16:24 0.991
Friday, November 06, 2015 14:21:25 0.991
Friday, November 06, 2015 14:26:26 0.991
Friday, November 06, 2015 14:31:26 0.991
Friday, November 06, 2015 14:36:27 0.991
Friday, November 06, 2015 14:41:27 0.991
Friday, November 06, 2015 14:46:28 0.991
Friday, November 06, 2015 14:51:29 0.991
Friday, November 06, 2015 14:56:29 0.991
Friday, November 06, 2015 15:01:30 0.991
Friday, November 06, 2015 15:06:31 0.991
Friday, November 06, 2015 15:11:31 0.991
Friday, November 06, 2015 15:16:32 0.991
Friday, November 06, 2015 15:21:32 0.991
Friday, November 06, 2015 15:26:33 0.991
Friday, November 06, 2015 15:31:34 0.991
Friday, November 06, 2015 15:36:34 0.991
Friday, November 06, 2015 15:41:35 0.991
Friday, November 06, 2015 15:46:35 0.991
Friday, November 06, 2015 15:51:36 0.991
Friday, November 06, 2015 15:56:37 0.991
Friday, November 06, 2015 16:01:37 0.991
Friday, November 06, 2015 16:06:38 0.991
Friday, November 06, 2015 16:11:39 0.991
Friday, November 06, 2015 16:16:39 0.991
Friday, November 06, 2015 16:21:40 0.991
Friday, November 06, 2015 16:26:40 0.991
Friday, November 06, 2015 16:31:41 0.991
Friday, November 06, 2015 16:36:42 0.991
Friday, November 06, 2015 16:41:42 0.991
Friday, November 06, 2015 16:46:43 0.991
Friday, November 06, 2015 16:51:44 0.991
Friday, November 06, 2015 16:56:44 0.991
Friday, November 06, 2015 17:01:45 0.991
Friday, November 06, 2015 17:06:45 0.991
Friday, November 06, 2015 17:11:46 0.991
Friday, November 06, 2015 17:16:47 0.991
Friday, November 06, 2015 17:21:47 0.991
Friday, November 06, 2015 17:26:48 0.991
Friday, November 06, 2015 17:31:49 0.991
Friday, November 06, 2015 17:36:49 0.991
Friday, November 06, 2015 17:41:50 0.991
432.02
50.4
$437.00 \quad 50.1$
$441.95 \quad 50.5$
$446.92 \quad 50.2$
$451.89 \quad 50.3$
$456.85 \quad 50.4$
$461.82 \quad 50.3$
$466.77 \quad 50.6$
$471.74 \quad 50.4$
$476.71 \quad 50.7$
$481.67 \quad 50.3$
$486.64 \quad 50.8$
$491.59 \quad 50.1$
$496.56 \quad 50.8$
$501.54 \quad 50.1$
$506.49 \quad 50.7$
$511.46 \quad 49.9$
$516.42 \quad 50.4$
$521.39 \quad 50.8$
$526.36 \quad 49.8$
$531.31 \quad 50.1$
$536.29 \quad 50.6$
$541.26 \quad 50.4$
546.2149 .9
$551.18 \quad 50.1$
556.1449 .6
$561.11 \quad 50.4$
$566.08 \quad 51.1$
$571.04 \quad 50.5$
$576.01 \quad 50.4$
580.9649 .4
$585.94 \quad 50.0$
$590.91 \quad 49.6$
$595.86 \quad 50.1$
$600.83 \quad 50.9$
$605.81 \quad 50.0$
$610.76 \quad 50.5$
$615.73 \quad 50.2$
$620.69 \quad 50.1$
$625.66 \quad 50.1$
$630.63 \quad 50.0$
$635.59 \quad 50.2$
$640.56 \quad 50.1$
$645.53 \quad 50.7$
$650.48 \quad 50.4$
$655.46 \quad 50.6$
$660.41 \quad 50.4$
$665.38 \quad 49.9$
$670.35 \quad 50.2$
$675.31 \quad 50.3$
$680.28 \quad 50.8$
$685.25 \quad 50.3$
$690.21 \quad 50.5$
$695.18 \quad 50.4$

# Ch. 1 Cartridge Started Thursday, November 12, 2015 6:00:03 

Flow Rate Set Point 1.00 1/min
Stopped Thursday, November 12, 2015 18:00:22
Total Volume 713.15 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.991 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate 0.000 1/min
Ending Leak Rate -0.001 1/min
Flow Controller Zero -0.006 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Thursday, November 12, 2015 6:00:30 0.078 0.2349 .7
Thursday, November 12, 2015 6:05:30 $0.991 \quad 5.18 \quad 50.2$
Thursday, November 12, 2015 6:10:31 $0.991 \quad 10.15 \quad 49.7$
Thursday, November 12, 2015 6:15:31 0.991 $15.11 \quad 50.1$
Thursday, November 12, 2015 6:20:32 $0.991 \quad 20.08 \quad 50.1$
Thursday, November 12, 2015 6:25:32 $0.991 \quad 25.03 \quad 50.3$
Thursday, November 12, 2015 6:30:33 $0.991 \quad 30.00 \quad 49.7$
Thursday, November 12, 2015 6:35:33 $0.991 \quad 34.96 \quad 49.4$
Thursday, November 12, 2015 6:40:34 0.991 $39.93 \quad 50.2$
Thursday, November 12, 2015 6:45:34 $0.991 \quad 44.88 \quad 50.3$
Thursday, November 12, 2015 6:50:35 0.991 49.8549 .3
Thursday, November 12, 2015 6:55:36 $0.991 \quad 54.82 \quad 50.4$
Thursday, November 12, 2015 7:00:36 $0.991 \quad 59.78 \quad 50.1$
Thursday, November 12, 2015 7:05:37 $0.991 \quad 64.75 \quad 50.3$
Thursday, November 12, 2015 7:10:37 $0.991 \quad 69.70 \quad 49.7$
Thursday, November 12, 2015 7:15:38 $0.991 \quad 74.67 \quad 49.8$
Thursday, November 12, 2015 7:20:38 $0.991 \quad 79.6249 .9$
Thursday, November 12, 2015 7:25:39 $0.991 \quad 84.60 \quad 49.9$
Thursday, November 12, 2015 7:30:39 $0.991 \quad 89.55 \quad 50.0$
Thursday, November 12, 2015 7:35:40 $0.991 \quad 94.52 \quad 50.1$
Thursday, November 12, 2015 7:40:40 0.991 99.4750 .3
Thursday, November 12, 2015 7:45:41 0.991 $104.44 \quad 50.3$
Thursday, November 12, 2015 7:50:41 $0.991 \quad 109.40 \quad 50.2$
Thursday, November 12, 2015 7:55:42 $0.991 \quad 114.37 \quad 50.1$
Thursday, November 12, 2015 8:00:42 $0.991 \quad 119.32 \quad 50.3$
Thursday, November 12, 2015 8:05:43 $0.991 \quad 124.29 \quad 50.3$
Thursday, November 12, 2015 8:10:44 $0.991 \quad 129.26 \quad 49.9$
Thursday, November 12, 2015 8:15:44 $0.991 \quad 134.22 \quad 49.5$
Thursday, November 12, 2015 8:20:45 $0.991 \quad 139.19 \quad 50.3$
Thursday, November 12, 2015 8:25:45 $0.991 \quad 144.14 \quad 50.3$
Thursday, November 12, 2015 8:30:46 $0.991 \quad 149.11 \quad 50.3$
Thursday, November 12, 2015 8:35:46 $0.991 \quad 154.07 \quad 50.1$
Thursday, November 12, 2015 8:40:47 0.991 $159.04 \quad 50.1$

Thursday, November 12, 2015 8:45:47 0.991
163.99
168.96 173.92
50.3

Thursday, November 12, 2015 8:50:48 0.991
Thursday, November 12, 2015 8:55:48 0.991
Thursday, November 12, 2015 9:00:49 0.991
Thursday, November 12, 2015 9:05:50 0.991
Thursday, November 12, 2015 9:10:50 0.991
Thursday, November 12, 2015 9:15:51 0.991
Thursday, November 12, 2015 9:20:51 0.991
Thursday, November 12, 2015 9:25:52 0.991
Thursday, November 12, 2015 9:30:52 0.991
Thursday, November 12, 2015 9:35:53 0.991
Thursday, November 12, 2015 9:40:53 0.991
Thursday, November 12, 2015 9:45:54 0.991
Thursday, November 12, 2015 9:50:55 0.991
Thursday, November 12, 2015 9:55:55 0.991
Thursday, November 12, 2015 10:00:56 0.991
Thursday, November 12, 2015 10:05:56 0.991
Thursday, November 12, 2015 10:10:57 0.991
Thursday, November 12, 2015 10:15:57 0.991
Thursday, November 12, 2015 10:20:58 0.991
Thursday, November 12, 2015 10:25:59 0.991
Thursday, November 12, 2015 10:30:59 0.991
Thursday, November 12, 2015 10:36:00 0.991
Thursday, November 12, 2015 10:41:00 0.991
Thursday, November 12, 2015 10:46:01 0.991
Thursday, November 12, 2015 10:51:01 0.991
Thursday, November 12, 2015 10:56:02 0.991
Thursday, November 12, 2015 11:01:03 0.991
Thursday, November 12, 2015 11:06:03 0.991
Thursday, November 12, 2015 11:11:04 0.991
Thursday, November 12, 2015 11:16:04 0.991
Thursday, November 12, 2015 11:21:05 0.991
Thursday, November 12, 2015 11:26:05 0.991
Thursday, November 12, 2015 11:31:06 0.991
Thursday, November 12, 2015 11:36:06 0.991
Thursday, November 12, 2015 11:41:07 0.991
Thursday, November 12, 2015 11:46:07 0.991
Thursday, November 12, 2015 11:51:08 0.991
Thursday, November 12, 2015 11:56:08 0.991
Thursday, November 12, 2015 12:01:09 0.991
Thursday, November 12, 2015 12:06:10 0.991
Thursday, November 12, 2015 12:11:10 0.991
Thursday, November 12, 2015 12:16:11 0.991
Thursday, November 12, 2015 12:21:11 0.991
Thursday, November 12, 2015 12:26:12 0.991
Thursday, November 12, 2015 12:31:12 0.991
Thursday, November 12, 2015 12:36:13 0.991
Thursday, November 12, 2015 12:41:13 0.991
Thursday, November 12, 2015 12:46:14 0.991
Thursday, November 12, 2015 12:51:14 0.991
Thursday, November 12, 2015 12:56:15 0.991
Thursday, November 12, 2015 13:01:15 0.991
Thursday, November 12, 2015 13:06:16 0.991
Thursday, November 12, 2015 13:11:17 0.991
$178.89 \quad 50.1$
$183.84 \quad 50.4$
188.8149 .8
$193.78 \quad 50.2$
$198.74 \quad 50.2$
$203.71 \quad 50.0$
$208.66 \quad 50.1$
$213.63 \quad 50.4$
$218.59 \quad 50.1$
$223.56 \quad 50.3$
$228.53 \quad 50.1$
$233.48 \quad 50.1$
$238.45 \quad 49.8$
$243.41 \quad 50.3$
$248.38 \quad 49.9$
$253.33 \quad 50.1$
$258.30 \quad 49.5$
$263.27 \quad 50.2$
$268.23 \quad 50.4$
$273.20 \quad 50.4$
$278.15 \quad 50.2$
$283.12 \quad 49.6$
$288.08 \quad 50.0$
$293.05 \quad 50.5$
$298.02 \quad 49.6$
302.9749 .7
$307.94 \quad 50.3$
$312.90 \quad 49.8$
$317.87 \quad 50.3$
$322.82 \quad 50.2$
$327.79 \quad 50.3$
$332.75 \quad 50.0$
$337.72 \quad 50.4$
$342.67 \quad 49.9$
$347.64 \quad 50.0$
$352.60 \quad 49.9$
$357.57 \quad 50.2$
$362.54 \quad 50.4$
$367.49 \quad 50.1$
$372.46 \quad 49.8$
$377.42 \quad 49.4$
$382.39 \quad 50.3$
$387.34 \quad 50.4$
$392.31 \quad 50.1$
$397.27 \quad 50.4$
$402.24 \quad 50.0$
$407.19 \quad 50.1$
$412.16 \quad 50.0$
$417.12 \quad 49.9$
$422.09 \quad 49.4$
$427.06 \quad 50.0$

Thursday, November 12, 2015 13:16:17 0.991
Thursday, November 12, 2015 13:21:18 0.991
Thursday, November 12, 2015 13:26:18 0.991
Thursday, November 12, 2015 13:31:19 0.991
Thursday, November 12, 2015 13:36:19 0.991
Thursday, November 12, 2015 13:41:20 0.991
Thursday, November 12, 2015 13:46:20 0.991
Thursday, November 12, 2015 13:51:21 0.991
Thursday, November 12, 2015 13:56:21 0.991
Thursday, November 12, 2015 14:01:22 0.991
Thursday, November 12, 2015 14:06:22 0.991
Thursday, November 12, 2015 14:11:23 0.991
Thursday, November 12, 2015 14:16:23 0.991
Thursday, November 12, 2015 14:21:24 0.991
Thursday, November 12, 2015 14:26:24 0.991
Thursday, November 12, 2015 14:31:25 0.991
Thursday, November 12, 2015 14:36:25 0.991
Thursday, November 12, 2015 14:41:26 0.991
Thursday, November 12, 2015 14:46:26 0.991
Thursday, November 12, 2015 14:51:27 0.991
Thursday, November 12, 2015 14:56:27 0.991
Thursday, November 12, 2015 15:01:28 0.991
Thursday, November 12, 2015 15:06:29 0.991
Thursday, November 12, 2015 15:11:29 0.991
Thursday, November 12, 2015 15:16:30 0.991
Thursday, November 12, 2015 15:21:30 0.991
Thursday, November 12, 2015 15:26:31 0.991
Thursday, November 12, 2015 15:31:31 0.991
Thursday, November 12, 2015 15:36:32 0.991
Thursday, November 12, 2015 15:41:32 0.991
Thursday, November 12, 2015 15:46:33 0.991
Thursday, November 12, 2015 15:51:33 0.991
Thursday, November 12, 2015 15:56:34 0.991
Thursday, November 12, 2015 16:01:34 0.991
Thursday, November 12, 2015 16:06:35 0.991
Thursday, November 12, 2015 16:11:36 0.991
Thursday, November 12, 2015 16:16:36 0.991
Thursday, November 12, 2015 16:21:37 0.991
Thursday, November 12, 2015 16:26:37 0.991
Thursday, November 12, 2015 16:31:38 0.991
Thursday, November 12, 2015 16:36:38 0.991
Thursday, November 12, 2015 16:41:39 0.991
Thursday, November 12, 2015 16:46:40 0.991
Thursday, November 12, 2015 16:51:40 0.991
Thursday, November 12, 2015 16:56:41 0.991
Thursday, November 12, 2015 17:01:41 0.991
Thursday, November 12, 2015 17:06:42 0.991
Thursday, November 12, 2015 17:11:42 0.991
Thursday, November 12, 2015 17:16:43 0.991
Thursday, November 12, 2015 17:21:44 0.991
Thursday, November 12, 2015 17:26:44 0.991
Thursday, November 12, 2015 17:31:45 0.991
Thursday, November 12, 2015 17:36:45 0.991
Thursday, November 12, 2015 17:41:46 0.991
432.01
50.3
$436.98 \quad 50.4$
$441.94 \quad 50.0$
$446.91 \quad 50.1$
$451.86 \quad 50.1$
$456.83 \quad 50.0$
$461.79 \quad 50.2$
$466.76 \quad 49.7$
$471.71 \quad 50.2$
$476.68 \quad 49.4$
$481.64 \quad 50.3$
$486.61 \quad 50.2$
$491.56 \quad 50.2$
$496.53 \quad 49.7$
$501.48 \quad 50.1$
$506.46 \quad 50.0$
$511.41 \quad 49.5$
516.3849 .4
$521.33 \quad 50.4$
$526.30 \quad 50.2$
$531.26 \quad 49.5$
$536.23 \quad 50.1$
$541.20 \quad 49.8$
$546.15 \quad 50.2$
$551.12 \quad 50.1$
$556.08 \quad 50.2$
$561.05 \quad 49.5$
$566.00 \quad 50.3$
$570.97 \quad 50.3$
575.9349 .9
$580.90 \quad 50.0$
585.8549 .7
$590.82 \quad 50.2$
$595.78 \quad 50.5$
$600.75 \quad 50.0$
605.7249 .9
$610.67 \quad 49.7$
$615.64 \quad 50.3$
$620.60 \quad 50.6$
$625.57 \quad 50.3$
630.5249 .6
$635.49 \quad 50.4$
$640.46 \quad 50.2$
$645.41 \quad 50.3$
$650.38 \quad 50.1$
$655.34 \quad 50.3$
$660.31 \quad 50.3$
$665.26 \quad 50.4$
$670.23 \quad 50.4$
$675.20 \quad 49.8$
$680.16 \quad 49.9$
$685.13 \quad 50.4$
$690.08 \quad 50.0$
$695.05 \quad 50.1$

# Ch. 1 Cartridge Started Thursday, November 12, 2015 6:00:03 

Flow Rate Set Point 1.00 1/min
Stopped Thursday, November 12, 2015 18:00:22
Total Volume 713.15 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.991 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate 0.000 1/min
Ending Leak Rate -0.001 1/min
Flow Controller Zero -0.006 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Thursday, November 12, 2015 6:00:30 0.078 0.2349 .7
Thursday, November 12, 2015 6:05:30 $0.991 \quad 5.18 \quad 50.2$
Thursday, November 12, 2015 6:10:31 $0.991 \quad 10.15 \quad 49.7$
Thursday, November 12, 2015 6:15:31 0.991 $15.11 \quad 50.1$
Thursday, November 12, 2015 6:20:32 $0.991 \quad 20.08 \quad 50.1$
Thursday, November 12, 2015 6:25:32 $0.991 \quad 25.03 \quad 50.3$
Thursday, November 12, 2015 6:30:33 $0.991 \quad 30.00 \quad 49.7$
Thursday, November 12, 2015 6:35:33 $0.991 \quad 34.96 \quad 49.4$
Thursday, November 12, 2015 6:40:34 0.991 $39.93 \quad 50.2$
Thursday, November 12, 2015 6:45:34 $0.991 \quad 44.88 \quad 50.3$
Thursday, November 12, 2015 6:50:35 0.991 49.8549 .3
Thursday, November 12, 2015 6:55:36 $0.991 \quad 54.82 \quad 50.4$
Thursday, November 12, 2015 7:00:36 $0.991 \quad 59.78 \quad 50.1$
Thursday, November 12, 2015 7:05:37 $0.991 \quad 64.75 \quad 50.3$
Thursday, November 12, 2015 7:10:37 $0.991 \quad 69.70 \quad 49.7$
Thursday, November 12, 2015 7:15:38 $0.991 \quad 74.67 \quad 49.8$
Thursday, November 12, 2015 7:20:38 $0.991 \quad 79.6249 .9$
Thursday, November 12, 2015 7:25:39 $0.991 \quad 84.60 \quad 49.9$
Thursday, November 12, 2015 7:30:39 $0.991 \quad 89.55 \quad 50.0$
Thursday, November 12, 2015 7:35:40 $0.991 \quad 94.52 \quad 50.1$
Thursday, November 12, 2015 7:40:40 0.991 99.4750 .3
Thursday, November 12, 2015 7:45:41 0.991 $104.44 \quad 50.3$
Thursday, November 12, 2015 7:50:41 $0.991 \quad 109.40 \quad 50.2$
Thursday, November 12, 2015 7:55:42 $0.991 \quad 114.37 \quad 50.1$
Thursday, November 12, 2015 8:00:42 $0.991 \quad 119.32 \quad 50.3$
Thursday, November 12, 2015 8:05:43 $0.991 \quad 124.29 \quad 50.3$
Thursday, November 12, 2015 8:10:44 $0.991 \quad 129.26 \quad 49.9$
Thursday, November 12, 2015 8:15:44 $0.991 \quad 134.22 \quad 49.5$
Thursday, November 12, 2015 8:20:45 $0.991 \quad 139.19 \quad 50.3$
Thursday, November 12, 2015 8:25:45 $0.991 \quad 144.14 \quad 50.3$
Thursday, November 12, 2015 8:30:46 $0.991 \quad 149.11 \quad 50.3$
Thursday, November 12, 2015 8:35:46 $0.991 \quad 154.07 \quad 50.1$
Thursday, November 12, 2015 8:40:47 0.991 $159.04 \quad 50.1$

Thursday, November 12, 2015 8:45:47 0.991
163.99
168.96 173.92
50.3

Thursday, November 12, 2015 8:50:48 0.991
Thursday, November 12, 2015 8:55:48 0.991
Thursday, November 12, 2015 9:00:49 0.991
Thursday, November 12, 2015 9:05:50 0.991
Thursday, November 12, 2015 9:10:50 0.991
Thursday, November 12, 2015 9:15:51 0.991
Thursday, November 12, 2015 9:20:51 0.991
Thursday, November 12, 2015 9:25:52 0.991
Thursday, November 12, 2015 9:30:52 0.991
Thursday, November 12, 2015 9:35:53 0.991
Thursday, November 12, 2015 9:40:53 0.991
Thursday, November 12, 2015 9:45:54 0.991
Thursday, November 12, 2015 9:50:55 0.991
Thursday, November 12, 2015 9:55:55 0.991
Thursday, November 12, 2015 10:00:56 0.991
Thursday, November 12, 2015 10:05:56 0.991
Thursday, November 12, 2015 10:10:57 0.991
Thursday, November 12, 2015 10:15:57 0.991
Thursday, November 12, 2015 10:20:58 0.991
Thursday, November 12, 2015 10:25:59 0.991
Thursday, November 12, 2015 10:30:59 0.991
Thursday, November 12, 2015 10:36:00 0.991
Thursday, November 12, 2015 10:41:00 0.991
Thursday, November 12, 2015 10:46:01 0.991
Thursday, November 12, 2015 10:51:01 0.991
Thursday, November 12, 2015 10:56:02 0.991
Thursday, November 12, 2015 11:01:03 0.991
Thursday, November 12, 2015 11:06:03 0.991
Thursday, November 12, 2015 11:11:04 0.991
Thursday, November 12, 2015 11:16:04 0.991
Thursday, November 12, 2015 11:21:05 0.991
Thursday, November 12, 2015 11:26:05 0.991
Thursday, November 12, 2015 11:31:06 0.991
Thursday, November 12, 2015 11:36:06 0.991
Thursday, November 12, 2015 11:41:07 0.991
Thursday, November 12, 2015 11:46:07 0.991
Thursday, November 12, 2015 11:51:08 0.991
Thursday, November 12, 2015 11:56:08 0.991
Thursday, November 12, 2015 12:01:09 0.991
Thursday, November 12, 2015 12:06:10 0.991
Thursday, November 12, 2015 12:11:10 0.991
Thursday, November 12, 2015 12:16:11 0.991
Thursday, November 12, 2015 12:21:11 0.991
Thursday, November 12, 2015 12:26:12 0.991
Thursday, November 12, 2015 12:31:12 0.991
Thursday, November 12, 2015 12:36:13 0.991
Thursday, November 12, 2015 12:41:13 0.991
Thursday, November 12, 2015 12:46:14 0.991
Thursday, November 12, 2015 12:51:14 0.991
Thursday, November 12, 2015 12:56:15 0.991
Thursday, November 12, 2015 13:01:15 0.991
Thursday, November 12, 2015 13:06:16 0.991
Thursday, November 12, 2015 13:11:17 0.991
$178.89 \quad 50.1$
$183.84 \quad 50.4$
188.8149 .8
$193.78 \quad 50.2$
$198.74 \quad 50.2$
$203.71 \quad 50.0$
$208.66 \quad 50.1$
$213.63 \quad 50.4$
$218.59 \quad 50.1$
$223.56 \quad 50.3$
$228.53 \quad 50.1$
$233.48 \quad 50.1$
$238.45 \quad 49.8$
$243.41 \quad 50.3$
$248.38 \quad 49.9$
$253.33 \quad 50.1$
$258.30 \quad 49.5$
$263.27 \quad 50.2$
$268.23 \quad 50.4$
$273.20 \quad 50.4$
$278.15 \quad 50.2$
$283.12 \quad 49.6$
$288.08 \quad 50.0$
$293.05 \quad 50.5$
$298.02 \quad 49.6$
302.9749 .7
$307.94 \quad 50.3$
$312.90 \quad 49.8$
$317.87 \quad 50.3$
$322.82 \quad 50.2$
$327.79 \quad 50.3$
$332.75 \quad 50.0$
$337.72 \quad 50.4$
$342.67 \quad 49.9$
$347.64 \quad 50.0$
$352.60 \quad 49.9$
$357.57 \quad 50.2$
$362.54 \quad 50.4$
$367.49 \quad 50.1$
$372.46 \quad 49.8$
$377.42 \quad 49.4$
$382.39 \quad 50.3$
$387.34 \quad 50.4$
$392.31 \quad 50.1$
$397.27 \quad 50.4$
$402.24 \quad 50.0$
$407.19 \quad 50.1$
$412.16 \quad 50.0$
$417.12 \quad 49.9$
$422.09 \quad 49.4$
$427.06 \quad 50.0$

Thursday, November 12, 2015 13:16:17 0.991
Thursday, November 12, 2015 13:21:18 0.991
Thursday, November 12, 2015 13:26:18 0.991
Thursday, November 12, 2015 13:31:19 0.991
Thursday, November 12, 2015 13:36:19 0.991
Thursday, November 12, 2015 13:41:20 0.991
Thursday, November 12, 2015 13:46:20 0.991
Thursday, November 12, 2015 13:51:21 0.991
Thursday, November 12, 2015 13:56:21 0.991
Thursday, November 12, 2015 14:01:22 0.991
Thursday, November 12, 2015 14:06:22 0.991
Thursday, November 12, 2015 14:11:23 0.991
Thursday, November 12, 2015 14:16:23 0.991
Thursday, November 12, 2015 14:21:24 0.991
Thursday, November 12, 2015 14:26:24 0.991
Thursday, November 12, 2015 14:31:25 0.991
Thursday, November 12, 2015 14:36:25 0.991
Thursday, November 12, 2015 14:41:26 0.991
Thursday, November 12, 2015 14:46:26 0.991
Thursday, November 12, 2015 14:51:27 0.991
Thursday, November 12, 2015 14:56:27 0.991
Thursday, November 12, 2015 15:01:28 0.991
Thursday, November 12, 2015 15:06:29 0.991
Thursday, November 12, 2015 15:11:29 0.991
Thursday, November 12, 2015 15:16:30 0.991
Thursday, November 12, 2015 15:21:30 0.991
Thursday, November 12, 2015 15:26:31 0.991
Thursday, November 12, 2015 15:31:31 0.991
Thursday, November 12, 2015 15:36:32 0.991
Thursday, November 12, 2015 15:41:32 0.991
Thursday, November 12, 2015 15:46:33 0.991
Thursday, November 12, 2015 15:51:33 0.991
Thursday, November 12, 2015 15:56:34 0.991
Thursday, November 12, 2015 16:01:34 0.991
Thursday, November 12, 2015 16:06:35 0.991
Thursday, November 12, 2015 16:11:36 0.991
Thursday, November 12, 2015 16:16:36 0.991
Thursday, November 12, 2015 16:21:37 0.991
Thursday, November 12, 2015 16:26:37 0.991
Thursday, November 12, 2015 16:31:38 0.991
Thursday, November 12, 2015 16:36:38 0.991
Thursday, November 12, 2015 16:41:39 0.991
Thursday, November 12, 2015 16:46:40 0.991
Thursday, November 12, 2015 16:51:40 0.991
Thursday, November 12, 2015 16:56:41 0.991
Thursday, November 12, 2015 17:01:41 0.991
Thursday, November 12, 2015 17:06:42 0.991
Thursday, November 12, 2015 17:11:42 0.991
Thursday, November 12, 2015 17:16:43 0.991
Thursday, November 12, 2015 17:21:44 0.991
Thursday, November 12, 2015 17:26:44 0.991
Thursday, November 12, 2015 17:31:45 0.991
Thursday, November 12, 2015 17:36:45 0.991
Thursday, November 12, 2015 17:41:46 0.991
432.01
50.3
$436.98 \quad 50.4$
$441.94 \quad 50.0$
$446.91 \quad 50.1$
$451.86 \quad 50.1$
$456.83 \quad 50.0$
$461.79 \quad 50.2$
$466.76 \quad 49.7$
$471.71 \quad 50.2$
$476.68 \quad 49.4$
$481.64 \quad 50.3$
$486.61 \quad 50.2$
$491.56 \quad 50.2$
$496.53 \quad 49.7$
$501.48 \quad 50.1$
$506.46 \quad 50.0$
$511.41 \quad 49.5$
516.3849 .4
$521.33 \quad 50.4$
$526.30 \quad 50.2$
$531.26 \quad 49.5$
$536.23 \quad 50.1$
$541.20 \quad 49.8$
$546.15 \quad 50.2$
$551.12 \quad 50.1$
$556.08 \quad 50.2$
$561.05 \quad 49.5$
$566.00 \quad 50.3$
$570.97 \quad 50.3$
575.9349 .9
$580.90 \quad 50.0$
585.8549 .7
$590.82 \quad 50.2$
$595.78 \quad 50.5$
$600.75 \quad 50.0$
605.7249 .9
$610.67 \quad 49.7$
$615.64 \quad 50.3$
$620.60 \quad 50.6$
$625.57 \quad 50.3$
630.5249 .6
$635.49 \quad 50.4$
$640.46 \quad 50.2$
$645.41 \quad 50.3$
$650.38 \quad 50.1$
$655.34 \quad 50.3$
$660.31 \quad 50.3$
$665.26 \quad 50.4$
$670.23 \quad 50.4$
$675.20 \quad 49.8$
$680.16 \quad 49.9$
$685.13 \quad 50.4$
$690.08 \quad 50.0$
$695.05 \quad 50.1$
formaldehyde001
Ch. 1 Cartridge Started Wednesday, November 18, 2015 6:00:00
Flow Rate Set Point $1.00 \mathrm{l} / \mathrm{min}$
Stopped Wednesday, November 18, 2015 18:00:25
Total Volume 713.21 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.991 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate -0.001 1/min
Ending Leak Rate -0.002 1/min
Flow Controller Zero -0.006 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Wednesday, November 18, 2015 6:00:27 0.078
0.23

Wednesday, November 18, 2015 6:05:27 0.991
5.18
49.7

Wednesday, November 18, 2015 6:10:27 0.991
10.14
50.2

Wednesday, November 18, 2015 6:15:28 0.991
Wednesday, November 18, 2015 6:20:28 0.991
Wednesday, November 18, 2015 6:25:29 0.991
Wednesday, November 18, 2015 6:30:29 0.991
Wednesday, November 18, 2015 6:35:30 0.991
15.11
50.1

Wednesday, November 18, 2015 6:40:30 0.991
$20.06 \quad 50.1$
$25.03 \quad 50.1$
$29.98 \quad 49.8$
$34.96 \quad 50.2$
$39.91 \quad 49.7$
Wednesday, November 18, 2015 6:45:31 0.99144 .8849 .7
Wednesday, November 18, 2015 6:50:31 0.99149 .8349 .4
Wednesday, November 18, 2015 6:55:32 $0.991 \quad 54.80 \quad 50.0$
Wednesday, November 18, 2015 7:00:32 0.991 59.7650 .1
Wednesday, November 18, 2015 7:05:33 0.991 64.7350 .2
Wednesday, November 18, 2015 7:10:33 0.99169 .6850 .0
Wednesday, November 18, 2015 7:15:34 $0.991 \quad 74.6549 .9$
Wednesday, November 18, 2015 7:20:34 $0.991 \quad 79.61 \quad 50.0$
Wednesday, November 18, 2015 7:25:35 $0.991 \quad 84.58 \quad 50.1$
Wednesday, November 18, 2015 7:30:35 $0.991 \quad 89.53 \quad 49.3$
Wednesday, November 18, 2015 7:35:36 0.991 $94.50 \quad 50.3$
Wednesday, November 18, 2015 7:40:36 0.991 99.4649 .9
Wednesday, November 18, 2015 7:45:37 $0.991 \quad 104.43 \quad 50.2$
Wednesday, November 18, 2015 7:50:37 0.991 $109.38 \quad 50.1$
Wednesday, November 18, 2015 7:55:38 $0.991 \quad 114.35 \quad 50.0$
Wednesday, November 18, 2015 8:00:38 $0.991 \quad 119.30 \quad 50.3$
Wednesday, November 18, 2015 8:05:39 0.991 $124.27 \quad 50.1$
Wednesday, November 18, 2015 8:10:39 $0.991 \quad 129.23 \quad 50.1$
Wednesday, November 18, 2015 8:15:40 $0.991 \quad 134.20 \quad 49.8$
Wednesday, November 18, 2015 8:20:40 $0.991 \quad 139.15 \quad 49.6$
Wednesday, November 18, 2015 8:25:41 $0.991 \quad 144.12 \quad 49.7$
Wednesday, November 18, 2015 8:30:41 $0.991 \quad 149.08 \quad 50.3$
Wednesday, November 18, 2015 8:35:42 $0.991 \quad 154.05 \quad 50.0$
Wednesday, November 18, 2015 8:40:42 $0.991 \quad 159.00 \quad 50.1$

Wednesday, November 18, 2015 8:45:43 0.991
Wednesday, November 18, 2015 8:50:43 0.991
Wednesday, November 18, 2015 8:55:44 0.991
Wednesday, November 18, 2015 9:00:44 0.991
Wednesday, November 18, 2015 9:05:45 0.991
Wednesday, November 18, 2015 9:10:45 0.991
Wednesday, November 18, 2015 9:15:46 0.991
Wednesday, November 18, 2015 9:20:46 0.991
Wednesday, November 18, 2015 9:25:47 0.991
Wednesday, November 18, 2015 9:30:48 0.991
Wednesday, November 18, 2015 9:35:48 0.991
Wednesday, November 18, 2015 9:40:49 0.991
Wednesday, November 18, 2015 9:45:49 0.991
Wednesday, November 18, 2015 9:50:50 0.991
Wednesday, November 18, 2015 9:55:50 0.991
Wednesday, November 18, 2015 10:00:51 0.991
Wednesday, November 18, 2015 10:05:51 0.991
Wednesday, November 18, 2015 10:10:52 0.991
Wednesday, November 18, 2015 10:15:53 0.991
Wednesday, November 18, 2015 10:20:53 0.991
Wednesday, November 18, 2015 10:25:54 0.991
Wednesday, November 18, 2015 10:30:54 0.991
Wednesday, November 18, 2015 10:35:55 0.991
Wednesday, November 18, 2015 10:40:55 0.991
Wednesday, November 18, 2015 10:45:56 0.991
Wednesday, November 18, 2015 10:50:57 0.991
Wednesday, November 18, 2015 10:55:57 0.991
Wednesday, November 18, 2015 11:00:58 0.991
Wednesday, November 18, 2015 11:05:58 0.991
Wednesday, November 18, 2015 11:10:59 0.991
Wednesday, November 18, 2015 11:15:59 0.991
Wednesday, November 18, 2015 11:21:00 0.991
Wednesday, November 18, 2015 11:26:00 0.991
Wednesday, November 18, 2015 11:31:01 0.991
Wednesday, November 18, 2015 11:36:01 0.991
Wednesday, November 18, 2015 11:41:02 0.991
Wednesday, November 18, 2015 11:46:03 0.991
Wednesday, November 18, 2015 11:51:03 0.991
Wednesday, November 18, 2015 11:56:04 0.991
Wednesday, November 18, 2015 12:01:04 0.991
Wednesday, November 18, 2015 12:06:05 0.991
Wednesday, November 18, 2015 12:11:05 0.991
Wednesday, November 18, 2015 12:16:06 0.991
Wednesday, November 18, 2015 12:21:06 0.991
Wednesday, November 18, 2015 12:26:07 0.991
Wednesday, November 18, 2015 12:31:07 0.991
Wednesday, November 18, 2015 12:36:08 0.991
Wednesday, November 18, 2015 12:41:09 0.991
Wednesday, November 18, 2015 12:46:09 0.991
Wednesday, November 18, 2015 12:51:10 0.991
Wednesday, November 18, 2015 12:56:10 0.991
Wednesday, November 18, 2015 13:01:11 0.991
Wednesday, November 18, 2015 13:06:11 0.991
Wednesday, November 18, 2015 13:11:12 0.991
163.97
50.2
168.9349 .7
$173.90 \quad 50.2$
$178.85 \quad 50.4$
$183.82 \quad 49.5$
$188.77 \quad 50.1$
$193.74 \quad 50.3$
$198.70 \quad 50.0$
$203.67 \quad 50.1$
$208.64 \quad 50.4$
$213.59 \quad 50.5$
$218.56 \quad 50.4$
$223.52 \quad 50.3$
$228.49 \quad 49.7$
$233.44 \quad 49.7$
$238.41 \quad 50.3$
$243.37 \quad 50.3$
$248.34 \quad 50.1$
$253.31 \quad 50.3$
$258.26 \quad 50.1$
$263.23 \quad 50.0$
$268.18 \quad 50.2$
$273.16 \quad 50.3$
$278.11 \quad 50.0$
283.0849 .8
288.0549 .8
$293.00 \quad 49.9$
$297.98 \quad 49.9$
$302.93 \quad 50.4$
$307.90 \quad 50.1$
$312.85 \quad 49.9$
317.8249 .9
$322.78 \quad 50.3$
$327.75 \quad 50.3$
$332.70 \quad 50.1$
$337.67 \quad 50.3$
$342.64 \quad 50.5$
$347.60 \quad 50.1$
$352.57 \quad 49.9$
$357.52 \quad 49.9$
$362.49 \quad 50.1$
$367.45 \quad 50.4$
$372.42 \quad 49.7$
$377.37 \quad 50.3$
$382.34 \quad 50.4$
$387.30 \quad 50.4$
$392.27 \quad 50.2$
$397.24 \quad 49.6$
$402.19 \quad 50.0$
$407.16 \quad 50.1$
$412.12 \quad 50.0$
$417.09 \quad 49.9$
$422.04 \quad 50.5$
$427.01 \quad 50.0$

Wednesday, November 18, 2015 13:16:12 0.991
Wednesday, November 18, 2015 13:21:13 0.991
Wednesday, November 18, 2015 13:26:14 0.991
Wednesday, November 18, 2015 13:31:14 0.991
Wednesday, November 18, 2015 13:36:15 0.991
Wednesday, November 18, 2015 13:41:15 0.991
Wednesday, November 18, 2015 13:46:16 0.991
Wednesday, November 18, 2015 13:51:16 0.991
Wednesday, November 18, 2015 13:56:17 0.991
Wednesday, November 18, 2015 14:01:17 0.991
Wednesday, November 18, 2015 14:06:18 0.991
Wednesday, November 18, 2015 14:11:19 0.991
Wednesday, November 18, 2015 14:16:19 0.991
Wednesday, November 18, 2015 14:21:20 0.991
Wednesday, November 18, 2015 14:26:20 0.991
Wednesday, November 18, 2015 14:31:21 0.991
Wednesday, November 18, 2015 14:36:21 0.991
Wednesday, November 18, 2015 14:41:22 0.991
Wednesday, November 18, 2015 14:46:23 0.991
Wednesday, November 18, 2015 14:51:23 0.991
Wednesday, November 18, 2015 14:56:24 0.991
Wednesday, November 18, 2015 15:01:24 0.991
Wednesday, November 18, 2015 15:06:25 0.991
Wednesday, November 18, 2015 15:11:25 0.991
Wednesday, November 18, 2015 15:16:26 0.991
Wednesday, November 18, 2015 15:21:27 0.991
Wednesday, November 18, 2015 15:26:27 0.991
Wednesday, November 18, 2015 15:31:28 0.991
Wednesday, November 18, 2015 15:36:28 0.991
Wednesday, November 18, 2015 15:41:29 0.991
Wednesday, November 18, 2015 15:46:30 0.991
Wednesday, November 18, 2015 15:51:30 0.991
Wednesday, November 18, 2015 15:56:31 0.991
Wednesday, November 18, 2015 16:01:31 0.991
Wednesday, November 18, 2015 16:06:32 0.991
Wednesday, November 18, 2015 16:11:32 0.991
Wednesday, November 18, 2015 16:16:33 0.991
Wednesday, November 18, 2015 16:21:34 0.991
Wednesday, November 18, 2015 16:26:34 0.991
Wednesday, November 18, 2015 16:31:35 0.991
Wednesday, November 18, 2015 16:36:35 0.991
Wednesday, November 18, 2015 16:41:36 0.991
Wednesday, November 18, 2015 16:46:37 0.991
Wednesday, November 18, 2015 16:51:37 0.991
Wednesday, November 18, 2015 16:56:38 0.991
Wednesday, November 18, 2015 17:01:38 0.991
Wednesday, November 18, 2015 17:06:39 0.991
Wednesday, November 18, 2015 17:11:39 0.991
Wednesday, November 18, 2015 17:16:40 0.991
Wednesday, November 18, 2015 17:21:41 0.991
Wednesday, November 18, 2015 17:26:41 0.991
Wednesday, November 18, 2015 17:31:42 0.991
Wednesday, November 18, 2015 17:36:42 0.991
Wednesday, November 18, 2015 17:41:43 0.991
431.97
50.5
436.94
50.1
$441.91 \quad 49.6$
$446.86 \quad 50.4$
$451.83 \quad 50.4$
$456.79 \quad 50.5$
$461.76 \quad 50.4$
$466.71 \quad 49.8$
$471.68 \quad 50.5$
$476.63 \quad 49.8$
$481.61 \quad 49.7$
$486.58 \quad 49.7$
$491.53 \quad 50.3$
$496.50 \quad 50.2$
$501.45 \quad 50.1$
$506.43 \quad 50.5$
$511.38 \quad 50.2$
$516.35 \quad 49.7$
$521.32 \quad 50.4$
$526.27 \quad 49.5$
$531.24 \quad 50.5$
$536.20 \quad 50.5$
$541.17 \quad 50.2$
$546.12 \quad 49.8$
$551.09 \quad 50.6$
$556.06 \quad 50.3$
$561.02 \quad 49.3$
$565.99 \quad 50.2$
$570.94 \quad 49.7$
$575.91 \quad 50.6$
$580.88 \quad 50.2$
$585.84 \quad 49.9$
$590.81 \quad 49.9$
$595.76 \quad 50.1$
$600.73 \quad 50.4$
$605.69 \quad 50.3$
$610.66 \quad 50.2$
$615.63 \quad 50.1$
$620.58 \quad 50.1$
$625.55 \quad 50.1$
$630.51 \quad 50.1$
$635.48 \quad 50.0$
$640.45 \quad 50.1$
$645.40 \quad 50.5$
$650.37 \quad 50.2$
$655.33 \quad 49.9$
$660.30 \quad 49.9$
$665.25 \quad 50.4$
$670.22 \quad 50.2$
$675.19 \quad 50.5$
$680.15 \quad 50.4$
$685.12 \quad 50.3$
$690.07 \quad 50.1$
$695.04 \quad 50.4$
formaldehyde001
Ch. 1 Cartridge Started Wednesday, November 18, 2015 6:00:00
Flow Rate Set Point $1.00 \mathrm{l} / \mathrm{min}$
Stopped Wednesday, November 18, 2015 18:00:25
Total Volume 713.21 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.991 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate -0.001 1/min
Ending Leak Rate -0.002 1/min
Flow Controller Zero -0.006 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Wednesday, November 18, 2015 6:00:27 0.078
0.23

Wednesday, November 18, 2015 6:05:27 0.991
5.18
49.7

Wednesday, November 18, 2015 6:10:27 0.991
10.14
50.2

Wednesday, November 18, 2015 6:15:28 0.991
Wednesday, November 18, 2015 6:20:28 0.991
Wednesday, November 18, 2015 6:25:29 0.991
Wednesday, November 18, 2015 6:30:29 0.991
Wednesday, November 18, 2015 6:35:30 0.991
15.11
50.1

Wednesday, November 18, 2015 6:40:30 0.991
$20.06 \quad 50.1$
$25.03 \quad 50.1$
$29.98 \quad 49.8$
$34.96 \quad 50.2$
$39.91 \quad 49.7$
Wednesday, November 18, 2015 6:45:31 0.99144 .8849 .7
Wednesday, November 18, 2015 6:50:31 0.99149 .8349 .4
Wednesday, November 18, 2015 6:55:32 $0.991 \quad 54.80 \quad 50.0$
Wednesday, November 18, 2015 7:00:32 0.991 59.7650 .1
Wednesday, November 18, 2015 7:05:33 0.991 64.7350 .2
Wednesday, November 18, 2015 7:10:33 0.99169 .6850 .0
Wednesday, November 18, 2015 7:15:34 $0.991 \quad 74.6549 .9$
Wednesday, November 18, 2015 7:20:34 $0.991 \quad 79.61 \quad 50.0$
Wednesday, November 18, 2015 7:25:35 $0.991 \quad 84.58 \quad 50.1$
Wednesday, November 18, 2015 7:30:35 $0.991 \quad 89.53 \quad 49.3$
Wednesday, November 18, 2015 7:35:36 0.991 $94.50 \quad 50.3$
Wednesday, November 18, 2015 7:40:36 0.991 99.4649 .9
Wednesday, November 18, 2015 7:45:37 $0.991 \quad 104.43 \quad 50.2$
Wednesday, November 18, 2015 7:50:37 0.991 $109.38 \quad 50.1$
Wednesday, November 18, 2015 7:55:38 $0.991 \quad 114.35 \quad 50.0$
Wednesday, November 18, 2015 8:00:38 $0.991 \quad 119.30 \quad 50.3$
Wednesday, November 18, 2015 8:05:39 0.991 $124.27 \quad 50.1$
Wednesday, November 18, 2015 8:10:39 $0.991 \quad 129.23 \quad 50.1$
Wednesday, November 18, 2015 8:15:40 $0.991 \quad 134.20 \quad 49.8$
Wednesday, November 18, 2015 8:20:40 $0.991 \quad 139.15 \quad 49.6$
Wednesday, November 18, 2015 8:25:41 $0.991 \quad 144.12 \quad 49.7$
Wednesday, November 18, 2015 8:30:41 $0.991 \quad 149.08 \quad 50.3$
Wednesday, November 18, 2015 8:35:42 $0.991 \quad 154.05 \quad 50.0$
Wednesday, November 18, 2015 8:40:42 $0.991 \quad 159.00 \quad 50.1$

Wednesday, November 18, 2015 8:45:43 0.991
Wednesday, November 18, 2015 8:50:43 0.991
Wednesday, November 18, 2015 8:55:44 0.991
Wednesday, November 18, 2015 9:00:44 0.991
Wednesday, November 18, 2015 9:05:45 0.991
Wednesday, November 18, 2015 9:10:45 0.991
Wednesday, November 18, 2015 9:15:46 0.991
Wednesday, November 18, 2015 9:20:46 0.991
Wednesday, November 18, 2015 9:25:47 0.991
Wednesday, November 18, 2015 9:30:48 0.991
Wednesday, November 18, 2015 9:35:48 0.991
Wednesday, November 18, 2015 9:40:49 0.991
Wednesday, November 18, 2015 9:45:49 0.991
Wednesday, November 18, 2015 9:50:50 0.991
Wednesday, November 18, 2015 9:55:50 0.991
Wednesday, November 18, 2015 10:00:51 0.991
Wednesday, November 18, 2015 10:05:51 0.991
Wednesday, November 18, 2015 10:10:52 0.991
Wednesday, November 18, 2015 10:15:53 0.991
Wednesday, November 18, 2015 10:20:53 0.991
Wednesday, November 18, 2015 10:25:54 0.991
Wednesday, November 18, 2015 10:30:54 0.991
Wednesday, November 18, 2015 10:35:55 0.991
Wednesday, November 18, 2015 10:40:55 0.991
Wednesday, November 18, 2015 10:45:56 0.991
Wednesday, November 18, 2015 10:50:57 0.991
Wednesday, November 18, 2015 10:55:57 0.991
Wednesday, November 18, 2015 11:00:58 0.991
Wednesday, November 18, 2015 11:05:58 0.991
Wednesday, November 18, 2015 11:10:59 0.991
Wednesday, November 18, 2015 11:15:59 0.991
Wednesday, November 18, 2015 11:21:00 0.991
Wednesday, November 18, 2015 11:26:00 0.991
Wednesday, November 18, 2015 11:31:01 0.991
Wednesday, November 18, 2015 11:36:01 0.991
Wednesday, November 18, 2015 11:41:02 0.991
Wednesday, November 18, 2015 11:46:03 0.991
Wednesday, November 18, 2015 11:51:03 0.991
Wednesday, November 18, 2015 11:56:04 0.991
Wednesday, November 18, 2015 12:01:04 0.991
Wednesday, November 18, 2015 12:06:05 0.991
Wednesday, November 18, 2015 12:11:05 0.991
Wednesday, November 18, 2015 12:16:06 0.991
Wednesday, November 18, 2015 12:21:06 0.991
Wednesday, November 18, 2015 12:26:07 0.991
Wednesday, November 18, 2015 12:31:07 0.991
Wednesday, November 18, 2015 12:36:08 0.991
Wednesday, November 18, 2015 12:41:09 0.991
Wednesday, November 18, 2015 12:46:09 0.991
Wednesday, November 18, 2015 12:51:10 0.991
Wednesday, November 18, 2015 12:56:10 0.991
Wednesday, November 18, 2015 13:01:11 0.991
Wednesday, November 18, 2015 13:06:11 0.991
Wednesday, November 18, 2015 13:11:12 0.991
163.97
50.2
168.9349 .7
$173.90 \quad 50.2$
$178.85 \quad 50.4$
$183.82 \quad 49.5$
$188.77 \quad 50.1$
$193.74 \quad 50.3$
$198.70 \quad 50.0$
$203.67 \quad 50.1$
$208.64 \quad 50.4$
$213.59 \quad 50.5$
$218.56 \quad 50.4$
$223.52 \quad 50.3$
$228.49 \quad 49.7$
$233.44 \quad 49.7$
$238.41 \quad 50.3$
$243.37 \quad 50.3$
$248.34 \quad 50.1$
$253.31 \quad 50.3$
$258.26 \quad 50.1$
$263.23 \quad 50.0$
$268.18 \quad 50.2$
$273.16 \quad 50.3$
$278.11 \quad 50.0$
283.0849 .8
288.0549 .8
$293.00 \quad 49.9$
$297.98 \quad 49.9$
$302.93 \quad 50.4$
$307.90 \quad 50.1$
$312.85 \quad 49.9$
317.8249 .9
$322.78 \quad 50.3$
$327.75 \quad 50.3$
$332.70 \quad 50.1$
$337.67 \quad 50.3$
$342.64 \quad 50.5$
$347.60 \quad 50.1$
$352.57 \quad 49.9$
$357.52 \quad 49.9$
$362.49 \quad 50.1$
$367.45 \quad 50.4$
$372.42 \quad 49.7$
$377.37 \quad 50.3$
$382.34 \quad 50.4$
$387.30 \quad 50.4$
$392.27 \quad 50.2$
$397.24 \quad 49.6$
$402.19 \quad 50.0$
$407.16 \quad 50.1$
$412.12 \quad 50.0$
$417.09 \quad 49.9$
$422.04 \quad 50.5$
$427.01 \quad 50.0$

Wednesday, November 18, 2015 13:16:12 0.991
Wednesday, November 18, 2015 13:21:13 0.991
Wednesday, November 18, 2015 13:26:14 0.991
Wednesday, November 18, 2015 13:31:14 0.991
Wednesday, November 18, 2015 13:36:15 0.991
Wednesday, November 18, 2015 13:41:15 0.991
Wednesday, November 18, 2015 13:46:16 0.991
Wednesday, November 18, 2015 13:51:16 0.991
Wednesday, November 18, 2015 13:56:17 0.991
Wednesday, November 18, 2015 14:01:17 0.991
Wednesday, November 18, 2015 14:06:18 0.991
Wednesday, November 18, 2015 14:11:19 0.991
Wednesday, November 18, 2015 14:16:19 0.991
Wednesday, November 18, 2015 14:21:20 0.991
Wednesday, November 18, 2015 14:26:20 0.991
Wednesday, November 18, 2015 14:31:21 0.991
Wednesday, November 18, 2015 14:36:21 0.991
Wednesday, November 18, 2015 14:41:22 0.991
Wednesday, November 18, 2015 14:46:23 0.991
Wednesday, November 18, 2015 14:51:23 0.991
Wednesday, November 18, 2015 14:56:24 0.991
Wednesday, November 18, 2015 15:01:24 0.991
Wednesday, November 18, 2015 15:06:25 0.991
Wednesday, November 18, 2015 15:11:25 0.991
Wednesday, November 18, 2015 15:16:26 0.991
Wednesday, November 18, 2015 15:21:27 0.991
Wednesday, November 18, 2015 15:26:27 0.991
Wednesday, November 18, 2015 15:31:28 0.991
Wednesday, November 18, 2015 15:36:28 0.991
Wednesday, November 18, 2015 15:41:29 0.991
Wednesday, November 18, 2015 15:46:30 0.991
Wednesday, November 18, 2015 15:51:30 0.991
Wednesday, November 18, 2015 15:56:31 0.991
Wednesday, November 18, 2015 16:01:31 0.991
Wednesday, November 18, 2015 16:06:32 0.991
Wednesday, November 18, 2015 16:11:32 0.991
Wednesday, November 18, 2015 16:16:33 0.991
Wednesday, November 18, 2015 16:21:34 0.991
Wednesday, November 18, 2015 16:26:34 0.991
Wednesday, November 18, 2015 16:31:35 0.991
Wednesday, November 18, 2015 16:36:35 0.991
Wednesday, November 18, 2015 16:41:36 0.991
Wednesday, November 18, 2015 16:46:37 0.991
Wednesday, November 18, 2015 16:51:37 0.991
Wednesday, November 18, 2015 16:56:38 0.991
Wednesday, November 18, 2015 17:01:38 0.991
Wednesday, November 18, 2015 17:06:39 0.991
Wednesday, November 18, 2015 17:11:39 0.991
Wednesday, November 18, 2015 17:16:40 0.991
Wednesday, November 18, 2015 17:21:41 0.991
Wednesday, November 18, 2015 17:26:41 0.991
Wednesday, November 18, 2015 17:31:42 0.991
Wednesday, November 18, 2015 17:36:42 0.991
Wednesday, November 18, 2015 17:41:43 0.991
431.97
50.5
436.94
50.1
$441.91 \quad 49.6$
$446.86 \quad 50.4$
$451.83 \quad 50.4$
$456.79 \quad 50.5$
$461.76 \quad 50.4$
$466.71 \quad 49.8$
$471.68 \quad 50.5$
$476.63 \quad 49.8$
$481.61 \quad 49.7$
$486.58 \quad 49.7$
$491.53 \quad 50.3$
$496.50 \quad 50.2$
$501.45 \quad 50.1$
$506.43 \quad 50.5$
$511.38 \quad 50.2$
$516.35 \quad 49.7$
$521.32 \quad 50.4$
$526.27 \quad 49.5$
$531.24 \quad 50.5$
$536.20 \quad 50.5$
$541.17 \quad 50.2$
$546.12 \quad 49.8$
$551.09 \quad 50.6$
$556.06 \quad 50.3$
$561.02 \quad 49.3$
$565.99 \quad 50.2$
$570.94 \quad 49.7$
$575.91 \quad 50.6$
$580.88 \quad 50.2$
$585.84 \quad 49.9$
$590.81 \quad 49.9$
$595.76 \quad 50.1$
$600.73 \quad 50.4$
$605.69 \quad 50.3$
$610.66 \quad 50.2$
$615.63 \quad 50.1$
$620.58 \quad 50.1$
$625.55 \quad 50.1$
$630.51 \quad 50.1$
$635.48 \quad 50.0$
$640.45 \quad 50.1$
$645.40 \quad 50.5$
$650.37 \quad 50.2$
$655.33 \quad 49.9$
$660.30 \quad 49.9$
$665.25 \quad 50.4$
$670.22 \quad 50.2$
$675.19 \quad 50.5$
$680.15 \quad 50.4$
$685.12 \quad 50.3$
$690.07 \quad 50.1$
$695.04 \quad 50.4$
aqms5
formaldehyde001
Ch. 1 Cartridge Started Tuesday, November 24, 2015 6:00:05
Flow Rate Set Point 1.00 1/min
Stopped Tuesday, November 24, 2015 18:00:22
Total Volume 713.07 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.991 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate -0.001 1/min
Ending Leak Rate -0.002 1/min
Flow Controller Zero - 0.006 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Tuesday, November 24, 2015 6:00:32 $0.077 \quad 0.23 \quad 49.9$
Tuesday, November 24, 2015 6:05:32 $0.991 \quad 5.18 \quad 50.1$
Tuesday, November 24, 2015 6:10:33 $0.991 \quad 10.15 \quad 49.7$
Tuesday, November 24, 2015 6:15:33 $0.991 \quad 15.11 \quad 49.7$
Tuesday, November 24, 2015 6:20:33 $0.991 \quad 20.06 \quad 49.6$
Tuesday, November 24, 2015 6:25:34 $0.991 \quad 25.03 \quad 50.0$
Tuesday, November 24, 2015 6:30:34 $0.991 \quad 29.99 \quad 50.3$
Tuesday, November 24, 2015 6:35:35 0.991 $34.96 \quad 50.1$
Tuesday, November 24, 2015 6:40:35 $0.991 \quad 39.91 \quad 50.1$
Tuesday, November 24, 2015 6:45:36 0.991 $44.88 \quad 50.2$
Tuesday, November 24, 2015 6:50:36 $0.991 \quad 49.83 \quad 50.0$
Tuesday, November 24, 2015 6:55:37 0.991 $54.80 \quad 50.1$
Tuesday, November 24, 2015 7:00:37 $0.991 \quad 59.76 \quad 50.1$
Tuesday, November 24, 2015 7:05:37 $0.991 \quad 64.71 \quad 50.1$
Tuesday, November 24, 2015 7:10:38 0.991 $69.68 \quad 49.4$
Tuesday, November 24, 2015 7:15:38 $0.991 \quad 74.64 \quad 50.1$
Tuesday, November 24, 2015 7:20:39 $0.991 \quad 79.61 \quad 50.2$
Tuesday, November 24, 2015 7:25:39 $0.991 \quad 84.56 \quad 49.3$
Tuesday, November 24, 2015 7:30:40 $0.991 \quad 89.53 \quad 50.1$
Tuesday, November 24, 2015 7:35:40 0.991 $94.49 \quad 50.0$
Tuesday, November 24, 2015 7:40:41 $0.991 \quad 99.46 \quad 50.0$
Tuesday, November 24, 2015 7:45:41 0.991
Tuesday, November 24, 2015 7:50:42 0.991
Tuesday, November 24, 2015 7:55:42 0.991
Tuesday, November 24, 2015 8:00:42 0.991
Tuesday, November 24, 2015 8:05:43 0.991
Tuesday, November 24, 2015 8:10:43 0.991
Tuesday, November 24, 2015 8:15:44 0.991
Tuesday, November 24, 2015 8:20:44 0.991
Tuesday, November 24, 2015 8:25:45 0.991
Tuesday, November 24, 2015 8:30:45 0.991
Tuesday, November 24, 2015 8:35:46 0.991
Tuesday, November 24, 2015 8:40:46 0.991
$104.41 \quad 50.1$
$109.38 \quad 50.0$
$114.34 \quad 50.0$
$119.29 \quad 50.1$
$124.26 \quad 50.1$
$129.21 \quad 49.7$
$134.18 \quad 50.1$
$139.14 \quad 50.3$
$144.11 \quad 50.0$
$149.06 \quad 50.1$
$154.03 \quad 50.2$
$158.99 \quad 50.2$

Tuesday, November 24, 2015 8:45:47 0.991
163.96
50.0
168.91
50.1
$173.87 \quad 50.0$
$178.84 \quad 50.1$
183.7949 .7
$188.76 \quad 50.1$
193.7149 .7
198.6949 .8
$203.64 \quad 50.1$
$208.61 \quad 49.7$
$213.56 \quad 50.1$
$218.52 \quad 50.1$
$223.49 \quad 50.1$
$228.44 \quad 50.1$
$233.41 \quad 49.7$
$238.37 \quad 50.1$
$243.34 \quad 50.2$
$248.29 \quad 50.0$
$253.26 \quad 50.1$
258.2249 .7
$263.19 \quad 50.1$
$268.14 \quad 50.0$
$273.11 \quad 50.1$
$278.06 \quad 49.6$
$283.04 \quad 50.1$
$287.99 \quad 50.2$
$292.94 \quad 49.1$
$297.91 \quad 50.0$
$302.87 \quad 50.3$
$307.84 \quad 50.1$
$312.79 \quad 49.7$
$317.76 \quad 50.1$
322.7249 .5
$327.69 \quad 50.1$
$332.64 \quad 50.1$
$337.61 \quad 50.0$
$342.57 \quad 50.1$
$347.54 \quad 50.1$
$352.49 \quad 50.1$
$357.46 \quad 50.1$
$362.42 \quad 50.1$
$367.39 \quad 50.1$
$372.34 \quad 50.0$
$377.31 \quad 50.2$
$382.26 \quad 49.7$
$387.24 \quad 50.2$
$392.19 \quad 50.3$
$397.16 \quad 50.2$
$402.11 \quad 50.2$
$407.08 \quad 50.1$
$412.04 \quad 49.6$
$417.01 \quad 49.8$
$421.96 \quad 50.3$
$426.93 \quad 50.1$
431.89
50.0
$436.86 \quad 50.2$
$441.81 \quad 49.7$
$446.78 \quad 49.7$
$451.74 \quad 49.7$
$456.71 \quad 49.8$
$461.66 \quad 49.7$
$466.63 \quad 49.7$
$471.59 \quad 50.1$
$476.56 \quad 49.7$
$481.51 \quad 49.5$
$486.48 \quad 50.1$
$491.44 \quad 50.4$
$496.41 \quad 50.2$
$501.38 \quad 50.1$
$506.33 \quad 49.7$
$511.30 \quad 49.9$
$516.25 \quad 50.0$
$521.22 \quad 50.0$
$526.18 \quad 50.2$
$531.15 \quad 50.3$
$536.10 \quad 50.1$
$541.07 \quad 50.2$
$546.03 \quad 50.1$
$551.00 \quad 50.1$
$555.95 \quad 50.3$
$560.92 \quad 50.1$
$565.87 \quad 50.2$
$570.84 \quad 50.1$
$575.80 \quad 50.0$
$580.77 \quad 50.1$
585.7249 .6
$590.69 \quad 50.2$
$595.66 \quad 50.1$
$600.61 \quad 50.4$
$605.58 \quad 49.8$
$610.54 \quad 50.4$
$615.51 \quad 49.8$
$620.46 \quad 50.5$
$625.43 \quad 50.1$
$630.39 \quad 49.6$
$635.36 \quad 50.4$
$640.31 \quad 49.5$
$645.28 \quad 50.5$
$650.23 \quad 50.1$
$655.20 \quad 50.3$
660.1649 .6
$665.13 \quad 50.4$
$670.08 \quad 50.4$
$675.05 \quad 50.4$
$680.00 \quad 50.3$
$684.97 \quad 50.0$
$689.93 \quad 50.4$
$694.90 \quad 50.4$
aqms5
formaldehyde001
Ch. 1 Cartridge Started Tuesday, November 24, 2015 6:00:05
Flow Rate Set Point 1.00 1/min
Stopped Tuesday, November 24, 2015 18:00:22
Total Volume 713.07 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.991 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate -0.001 1/min
Ending Leak Rate -0.002 1/min
Flow Controller Zero - 0.006 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Tuesday, November 24, 2015 6:00:32 $0.077 \quad 0.23 \quad 49.9$
Tuesday, November 24, 2015 6:05:32 $0.991 \quad 5.18 \quad 50.1$
Tuesday, November 24, 2015 6:10:33 $0.991 \quad 10.15 \quad 49.7$
Tuesday, November 24, 2015 6:15:33 $0.991 \quad 15.11 \quad 49.7$
Tuesday, November 24, 2015 6:20:33 $0.991 \quad 20.06 \quad 49.6$
Tuesday, November 24, 2015 6:25:34 $0.991 \quad 25.03 \quad 50.0$
Tuesday, November 24, 2015 6:30:34 $0.991 \quad 29.99 \quad 50.3$
Tuesday, November 24, 2015 6:35:35 0.991 $34.96 \quad 50.1$
Tuesday, November 24, 2015 6:40:35 $0.991 \quad 39.91 \quad 50.1$
Tuesday, November 24, 2015 6:45:36 0.991 $44.88 \quad 50.2$
Tuesday, November 24, 2015 6:50:36 $0.991 \quad 49.83 \quad 50.0$
Tuesday, November 24, 2015 6:55:37 0.991 $54.80 \quad 50.1$
Tuesday, November 24, 2015 7:00:37 $0.991 \quad 59.76 \quad 50.1$
Tuesday, November 24, 2015 7:05:37 $0.991 \quad 64.71 \quad 50.1$
Tuesday, November 24, 2015 7:10:38 0.991 $69.68 \quad 49.4$
Tuesday, November 24, 2015 7:15:38 $0.991 \quad 74.64 \quad 50.1$
Tuesday, November 24, 2015 7:20:39 $0.991 \quad 79.61 \quad 50.2$
Tuesday, November 24, 2015 7:25:39 $0.991 \quad 84.56 \quad 49.3$
Tuesday, November 24, 2015 7:30:40 $0.991 \quad 89.53 \quad 50.1$
Tuesday, November 24, 2015 7:35:40 0.991 $94.49 \quad 50.0$
Tuesday, November 24, 2015 7:40:41 $0.991 \quad 99.46 \quad 50.0$
Tuesday, November 24, 2015 7:45:41 0.991
Tuesday, November 24, 2015 7:50:42 0.991
Tuesday, November 24, 2015 7:55:42 0.991
Tuesday, November 24, 2015 8:00:42 0.991
Tuesday, November 24, 2015 8:05:43 0.991
Tuesday, November 24, 2015 8:10:43 0.991
Tuesday, November 24, 2015 8:15:44 0.991
Tuesday, November 24, 2015 8:20:44 0.991
Tuesday, November 24, 2015 8:25:45 0.991
Tuesday, November 24, 2015 8:30:45 0.991
Tuesday, November 24, 2015 8:35:46 0.991
Tuesday, November 24, 2015 8:40:46 0.991
$104.41 \quad 50.1$
$109.38 \quad 50.0$
$114.34 \quad 50.0$
$119.29 \quad 50.1$
$124.26 \quad 50.1$
$129.21 \quad 49.7$
$134.18 \quad 50.1$
$139.14 \quad 50.3$
$144.11 \quad 50.0$
$149.06 \quad 50.1$
$154.03 \quad 50.2$
$158.99 \quad 50.2$

Tuesday, November 24, 2015 8:45:47 0.991
163.96
50.0
168.91
50.1
$173.87 \quad 50.0$
$178.84 \quad 50.1$
183.7949 .7
$188.76 \quad 50.1$
193.7149 .7
198.6949 .8
$203.64 \quad 50.1$
$208.61 \quad 49.7$
$213.56 \quad 50.1$
$218.52 \quad 50.1$
$223.49 \quad 50.1$
$228.44 \quad 50.1$
$233.41 \quad 49.7$
$238.37 \quad 50.1$
$243.34 \quad 50.2$
$248.29 \quad 50.0$
$253.26 \quad 50.1$
258.2249 .7
$263.19 \quad 50.1$
$268.14 \quad 50.0$
$273.11 \quad 50.1$
$278.06 \quad 49.6$
$283.04 \quad 50.1$
$287.99 \quad 50.2$
$292.94 \quad 49.1$
$297.91 \quad 50.0$
$302.87 \quad 50.3$
$307.84 \quad 50.1$
$312.79 \quad 49.7$
$317.76 \quad 50.1$
322.7249 .5
$327.69 \quad 50.1$
$332.64 \quad 50.1$
$337.61 \quad 50.0$
$342.57 \quad 50.1$
$347.54 \quad 50.1$
$352.49 \quad 50.1$
$357.46 \quad 50.1$
$362.42 \quad 50.1$
$367.39 \quad 50.1$
$372.34 \quad 50.0$
$377.31 \quad 50.2$
$382.26 \quad 49.7$
$387.24 \quad 50.2$
$392.19 \quad 50.3$
$397.16 \quad 50.2$
$402.11 \quad 50.2$
$407.08 \quad 50.1$
$412.04 \quad 49.6$
$417.01 \quad 49.8$
$421.96 \quad 50.3$
$426.93 \quad 50.1$
431.89
50.0
$436.86 \quad 50.2$
$441.81 \quad 49.7$
$446.78 \quad 49.7$
$451.74 \quad 49.7$
$456.71 \quad 49.8$
$461.66 \quad 49.7$
$466.63 \quad 49.7$
$471.59 \quad 50.1$
$476.56 \quad 49.7$
$481.51 \quad 49.5$
$486.48 \quad 50.1$
$491.44 \quad 50.4$
$496.41 \quad 50.2$
$501.38 \quad 50.1$
$506.33 \quad 49.7$
$511.30 \quad 49.9$
$516.25 \quad 50.0$
$521.22 \quad 50.0$
$526.18 \quad 50.2$
$531.15 \quad 50.3$
$536.10 \quad 50.1$
$541.07 \quad 50.2$
$546.03 \quad 50.1$
$551.00 \quad 50.1$
$555.95 \quad 50.3$
$560.92 \quad 50.1$
$565.87 \quad 50.2$
$570.84 \quad 50.1$
$575.80 \quad 50.0$
$580.77 \quad 50.1$
585.7249 .6
$590.69 \quad 50.2$
$595.66 \quad 50.1$
$600.61 \quad 50.4$
$605.58 \quad 49.8$
$610.54 \quad 50.4$
$615.51 \quad 49.8$
$620.46 \quad 50.5$
$625.43 \quad 50.1$
$630.39 \quad 49.6$
$635.36 \quad 50.4$
$640.31 \quad 49.5$
$645.28 \quad 50.5$
$650.23 \quad 50.1$
$655.20 \quad 50.3$
660.1649 .6
$665.13 \quad 50.4$
$670.08 \quad 50.4$
$675.05 \quad 50.4$
$680.00 \quad 50.3$
$684.97 \quad 50.0$
$689.93 \quad 50.4$
$694.90 \quad 50.4$
aqms5
formaldehyde001
Ch. 1 Cartridge Started Tuesday, November 24, 2015 6:00:05
Flow Rate Set Point 1.00 1/min
Stopped Tuesday, November 24, 2015 18:00:22
Total Volume 713.07 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.991 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate -0.001 1/min
Ending Leak Rate -0.002 1/min
Flow Controller Zero - 0.006 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Tuesday, November 24, 2015 6:00:32 $0.077 \quad 0.23 \quad 49.9$
Tuesday, November 24, 2015 6:05:32 $0.991 \quad 5.18 \quad 50.1$
Tuesday, November 24, 2015 6:10:33 $0.991 \quad 10.15 \quad 49.7$
Tuesday, November 24, 2015 6:15:33 $0.991 \quad 15.11 \quad 49.7$
Tuesday, November 24, 2015 6:20:33 $0.991 \quad 20.06 \quad 49.6$
Tuesday, November 24, 2015 6:25:34 $0.991 \quad 25.03 \quad 50.0$
Tuesday, November 24, 2015 6:30:34 $0.991 \quad 29.99 \quad 50.3$
Tuesday, November 24, 2015 6:35:35 0.991 $34.96 \quad 50.1$
Tuesday, November 24, 2015 6:40:35 $0.991 \quad 39.91 \quad 50.1$
Tuesday, November 24, 2015 6:45:36 0.991 $44.88 \quad 50.2$
Tuesday, November 24, 2015 6:50:36 $0.991 \quad 49.83 \quad 50.0$
Tuesday, November 24, 2015 6:55:37 0.991 $54.80 \quad 50.1$
Tuesday, November 24, 2015 7:00:37 $0.991 \quad 59.76 \quad 50.1$
Tuesday, November 24, 2015 7:05:37 $0.991 \quad 64.71 \quad 50.1$
Tuesday, November 24, 2015 7:10:38 0.991 $69.68 \quad 49.4$
Tuesday, November 24, 2015 7:15:38 $0.991 \quad 74.64 \quad 50.1$
Tuesday, November 24, 2015 7:20:39 $0.991 \quad 79.61 \quad 50.2$
Tuesday, November 24, 2015 7:25:39 $0.991 \quad 84.56 \quad 49.3$
Tuesday, November 24, 2015 7:30:40 $0.991 \quad 89.53 \quad 50.1$
Tuesday, November 24, 2015 7:35:40 0.991 $94.49 \quad 50.0$
Tuesday, November 24, 2015 7:40:41 $0.991 \quad 99.46 \quad 50.0$
Tuesday, November 24, 2015 7:45:41 0.991
Tuesday, November 24, 2015 7:50:42 0.991
Tuesday, November 24, 2015 7:55:42 0.991
Tuesday, November 24, 2015 8:00:42 0.991
Tuesday, November 24, 2015 8:05:43 0.991
Tuesday, November 24, 2015 8:10:43 0.991
Tuesday, November 24, 2015 8:15:44 0.991
Tuesday, November 24, 2015 8:20:44 0.991
Tuesday, November 24, 2015 8:25:45 0.991
Tuesday, November 24, 2015 8:30:45 0.991
Tuesday, November 24, 2015 8:35:46 0.991
Tuesday, November 24, 2015 8:40:46 0.991
$104.41 \quad 50.1$
$109.38 \quad 50.0$
$114.34 \quad 50.0$
$119.29 \quad 50.1$
$124.26 \quad 50.1$
$129.21 \quad 49.7$
$134.18 \quad 50.1$
$139.14 \quad 50.3$
$144.11 \quad 50.0$
$149.06 \quad 50.1$
$154.03 \quad 50.2$
$158.99 \quad 50.2$

Tuesday, November 24, 2015 8:45:47 0.991
163.96
50.0
168.91
50.1
$173.87 \quad 50.0$
$178.84 \quad 50.1$
183.7949 .7
$188.76 \quad 50.1$
193.7149 .7
198.6949 .8
$203.64 \quad 50.1$
$208.61 \quad 49.7$
$213.56 \quad 50.1$
$218.52 \quad 50.1$
$223.49 \quad 50.1$
$228.44 \quad 50.1$
$233.41 \quad 49.7$
$238.37 \quad 50.1$
$243.34 \quad 50.2$
$248.29 \quad 50.0$
$253.26 \quad 50.1$
258.2249 .7
$263.19 \quad 50.1$
$268.14 \quad 50.0$
$273.11 \quad 50.1$
$278.06 \quad 49.6$
$283.04 \quad 50.1$
$287.99 \quad 50.2$
$292.94 \quad 49.1$
$297.91 \quad 50.0$
$302.87 \quad 50.3$
$307.84 \quad 50.1$
$312.79 \quad 49.7$
$317.76 \quad 50.1$
322.7249 .5
$327.69 \quad 50.1$
$332.64 \quad 50.1$
$337.61 \quad 50.0$
$342.57 \quad 50.1$
$347.54 \quad 50.1$
$352.49 \quad 50.1$
$357.46 \quad 50.1$
$362.42 \quad 50.1$
$367.39 \quad 50.1$
$372.34 \quad 50.0$
$377.31 \quad 50.2$
$382.26 \quad 49.7$
$387.24 \quad 50.2$
$392.19 \quad 50.3$
$397.16 \quad 50.2$
$402.11 \quad 50.2$
$407.08 \quad 50.1$
$412.04 \quad 49.6$
$417.01 \quad 49.8$
$421.96 \quad 50.3$
$426.93 \quad 50.1$
431.89
50.0
$436.86 \quad 50.2$
$441.81 \quad 49.7$
$446.78 \quad 49.7$
$451.74 \quad 49.7$
$456.71 \quad 49.8$
$461.66 \quad 49.7$
$466.63 \quad 49.7$
$471.59 \quad 50.1$
$476.56 \quad 49.7$
$481.51 \quad 49.5$
$486.48 \quad 50.1$
$491.44 \quad 50.4$
$496.41 \quad 50.2$
$501.38 \quad 50.1$
$506.33 \quad 49.7$
$511.30 \quad 49.9$
$516.25 \quad 50.0$
$521.22 \quad 50.0$
$526.18 \quad 50.2$
$531.15 \quad 50.3$
$536.10 \quad 50.1$
$541.07 \quad 50.2$
$546.03 \quad 50.1$
$551.00 \quad 50.1$
$555.95 \quad 50.3$
$560.92 \quad 50.1$
$565.87 \quad 50.2$
$570.84 \quad 50.1$
$575.80 \quad 50.0$
$580.77 \quad 50.1$
585.7249 .6
$590.69 \quad 50.2$
$595.66 \quad 50.1$
$600.61 \quad 50.4$
$605.58 \quad 49.8$
$610.54 \quad 50.4$
$615.51 \quad 49.8$
$620.46 \quad 50.5$
$625.43 \quad 50.1$
$630.39 \quad 49.6$
$635.36 \quad 50.4$
$640.31 \quad 49.5$
$645.28 \quad 50.5$
$650.23 \quad 50.1$
$655.20 \quad 50.3$
660.1649 .6
$665.13 \quad 50.4$
$670.08 \quad 50.4$
$675.05 \quad 50.4$
$680.00 \quad 50.3$
$684.97 \quad 50.0$
$689.93 \quad 50.4$
$694.90 \quad 50.4$
aqms5
formaldehyde001
Ch. 1 Cartridge Started Tuesday, November 24, 2015 6:00:05
Flow Rate Set Point 1.00 1/min
Stopped Tuesday, November 24, 2015 18:00:22
Total Volume 713.07 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.991 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate -0.001 1/min
Ending Leak Rate -0.002 1/min
Flow Controller Zero - 0.006 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Tuesday, November 24, 2015 6:00:32 $0.077 \quad 0.23 \quad 49.9$
Tuesday, November 24, 2015 6:05:32 $0.991 \quad 5.18 \quad 50.1$
Tuesday, November 24, 2015 6:10:33 $0.991 \quad 10.15 \quad 49.7$
Tuesday, November 24, 2015 6:15:33 $0.991 \quad 15.11 \quad 49.7$
Tuesday, November 24, 2015 6:20:33 $0.991 \quad 20.06 \quad 49.6$
Tuesday, November 24, 2015 6:25:34 $0.991 \quad 25.03 \quad 50.0$
Tuesday, November 24, 2015 6:30:34 $0.991 \quad 29.99 \quad 50.3$
Tuesday, November 24, 2015 6:35:35 0.991 $34.96 \quad 50.1$
Tuesday, November 24, 2015 6:40:35 $0.991 \quad 39.91 \quad 50.1$
Tuesday, November 24, 2015 6:45:36 0.991 $44.88 \quad 50.2$
Tuesday, November 24, 2015 6:50:36 $0.991 \quad 49.83 \quad 50.0$
Tuesday, November 24, 2015 6:55:37 0.991 $54.80 \quad 50.1$
Tuesday, November 24, 2015 7:00:37 $0.991 \quad 59.76 \quad 50.1$
Tuesday, November 24, 2015 7:05:37 $0.991 \quad 64.71 \quad 50.1$
Tuesday, November 24, 2015 7:10:38 0.991 $69.68 \quad 49.4$
Tuesday, November 24, 2015 7:15:38 $0.991 \quad 74.64 \quad 50.1$
Tuesday, November 24, 2015 7:20:39 $0.991 \quad 79.61 \quad 50.2$
Tuesday, November 24, 2015 7:25:39 $0.991 \quad 84.56 \quad 49.3$
Tuesday, November 24, 2015 7:30:40 $0.991 \quad 89.53 \quad 50.1$
Tuesday, November 24, 2015 7:35:40 0.991 $94.49 \quad 50.0$
Tuesday, November 24, 2015 7:40:41 $0.991 \quad 99.46 \quad 50.0$
Tuesday, November 24, 2015 7:45:41 0.991
Tuesday, November 24, 2015 7:50:42 0.991
Tuesday, November 24, 2015 7:55:42 0.991
Tuesday, November 24, 2015 8:00:42 0.991
Tuesday, November 24, 2015 8:05:43 0.991
Tuesday, November 24, 2015 8:10:43 0.991
Tuesday, November 24, 2015 8:15:44 0.991
Tuesday, November 24, 2015 8:20:44 0.991
Tuesday, November 24, 2015 8:25:45 0.991
Tuesday, November 24, 2015 8:30:45 0.991
Tuesday, November 24, 2015 8:35:46 0.991
Tuesday, November 24, 2015 8:40:46 0.991
$104.41 \quad 50.1$
$109.38 \quad 50.0$
$114.34 \quad 50.0$
$119.29 \quad 50.1$
$124.26 \quad 50.1$
$129.21 \quad 49.7$
$134.18 \quad 50.1$
$139.14 \quad 50.3$
$144.11 \quad 50.0$
$149.06 \quad 50.1$
$154.03 \quad 50.2$
$158.99 \quad 50.2$

Tuesday, November 24, 2015 8:45:47 0.991
163.96
50.0
168.91
50.1
$173.87 \quad 50.0$
$178.84 \quad 50.1$
183.7949 .7
$188.76 \quad 50.1$
193.7149 .7
198.6949 .8
$203.64 \quad 50.1$
$208.61 \quad 49.7$
$213.56 \quad 50.1$
$218.52 \quad 50.1$
$223.49 \quad 50.1$
$228.44 \quad 50.1$
$233.41 \quad 49.7$
$238.37 \quad 50.1$
$243.34 \quad 50.2$
$248.29 \quad 50.0$
$253.26 \quad 50.1$
258.2249 .7
$263.19 \quad 50.1$
$268.14 \quad 50.0$
$273.11 \quad 50.1$
$278.06 \quad 49.6$
$283.04 \quad 50.1$
$287.99 \quad 50.2$
$292.94 \quad 49.1$
$297.91 \quad 50.0$
$302.87 \quad 50.3$
$307.84 \quad 50.1$
$312.79 \quad 49.7$
$317.76 \quad 50.1$
322.7249 .5
$327.69 \quad 50.1$
$332.64 \quad 50.1$
$337.61 \quad 50.0$
$342.57 \quad 50.1$
$347.54 \quad 50.1$
$352.49 \quad 50.1$
$357.46 \quad 50.1$
$362.42 \quad 50.1$
$367.39 \quad 50.1$
$372.34 \quad 50.0$
$377.31 \quad 50.2$
$382.26 \quad 49.7$
$387.24 \quad 50.2$
$392.19 \quad 50.3$
$397.16 \quad 50.2$
$402.11 \quad 50.2$
$407.08 \quad 50.1$
$412.04 \quad 49.6$
$417.01 \quad 49.8$
$421.96 \quad 50.3$
$426.93 \quad 50.1$
431.89
50.0
$436.86 \quad 50.2$
$441.81 \quad 49.7$
$446.78 \quad 49.7$
$451.74 \quad 49.7$
$456.71 \quad 49.8$
$461.66 \quad 49.7$
$466.63 \quad 49.7$
$471.59 \quad 50.1$
$476.56 \quad 49.7$
$481.51 \quad 49.5$
$486.48 \quad 50.1$
$491.44 \quad 50.4$
$496.41 \quad 50.2$
$501.38 \quad 50.1$
$506.33 \quad 49.7$
$511.30 \quad 49.9$
$516.25 \quad 50.0$
$521.22 \quad 50.0$
$526.18 \quad 50.2$
$531.15 \quad 50.3$
$536.10 \quad 50.1$
$541.07 \quad 50.2$
$546.03 \quad 50.1$
$551.00 \quad 50.1$
$555.95 \quad 50.3$
$560.92 \quad 50.1$
$565.87 \quad 50.2$
$570.84 \quad 50.1$
$575.80 \quad 50.0$
$580.77 \quad 50.1$
585.7249 .6
$590.69 \quad 50.2$
$595.66 \quad 50.1$
$600.61 \quad 50.4$
$605.58 \quad 49.8$
$610.54 \quad 50.4$
$615.51 \quad 49.8$
$620.46 \quad 50.5$
$625.43 \quad 50.1$
$630.39 \quad 49.6$
$635.36 \quad 50.4$
$640.31 \quad 49.5$
$645.28 \quad 50.5$
$650.23 \quad 50.1$
$655.20 \quad 50.3$
660.1649 .6
$665.13 \quad 50.4$
$670.08 \quad 50.4$
$675.05 \quad 50.4$
$680.00 \quad 50.3$
$684.97 \quad 50.0$
$689.93 \quad 50.4$
$694.90 \quad 50.4$
aqms5
formaldehyde001
Ch. 1 Cartridge Started Tuesday, November 24, 2015 6:00:05
Flow Rate Set Point 1.00 1/min
Stopped Tuesday, November 24, 2015 18:00:22
Total Volume 713.07 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.991 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate -0.001 1/min
Ending Leak Rate -0.002 1/min
Flow Controller Zero - 0.006 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Tuesday, November 24, 2015 6:00:32 $0.077 \quad 0.23 \quad 49.9$
Tuesday, November 24, 2015 6:05:32 $0.991 \quad 5.18 \quad 50.1$
Tuesday, November 24, 2015 6:10:33 $0.991 \quad 10.15 \quad 49.7$
Tuesday, November 24, 2015 6:15:33 $0.991 \quad 15.11 \quad 49.7$
Tuesday, November 24, 2015 6:20:33 $0.991 \quad 20.06 \quad 49.6$
Tuesday, November 24, 2015 6:25:34 $0.991 \quad 25.03 \quad 50.0$
Tuesday, November 24, 2015 6:30:34 $0.991 \quad 29.99 \quad 50.3$
Tuesday, November 24, 2015 6:35:35 0.991 $34.96 \quad 50.1$
Tuesday, November 24, 2015 6:40:35 $0.991 \quad 39.91 \quad 50.1$
Tuesday, November 24, 2015 6:45:36 0.991 $44.88 \quad 50.2$
Tuesday, November 24, 2015 6:50:36 $0.991 \quad 49.83 \quad 50.0$
Tuesday, November 24, 2015 6:55:37 0.991 $54.80 \quad 50.1$
Tuesday, November 24, 2015 7:00:37 $0.991 \quad 59.76 \quad 50.1$
Tuesday, November 24, 2015 7:05:37 $0.991 \quad 64.71 \quad 50.1$
Tuesday, November 24, 2015 7:10:38 0.991 $69.68 \quad 49.4$
Tuesday, November 24, 2015 7:15:38 $0.991 \quad 74.64 \quad 50.1$
Tuesday, November 24, 2015 7:20:39 $0.991 \quad 79.61 \quad 50.2$
Tuesday, November 24, 2015 7:25:39 $0.991 \quad 84.56 \quad 49.3$
Tuesday, November 24, 2015 7:30:40 $0.991 \quad 89.53 \quad 50.1$
Tuesday, November 24, 2015 7:35:40 0.991 $94.49 \quad 50.0$
Tuesday, November 24, 2015 7:40:41 $0.991 \quad 99.46 \quad 50.0$
Tuesday, November 24, 2015 7:45:41 0.991
Tuesday, November 24, 2015 7:50:42 0.991
Tuesday, November 24, 2015 7:55:42 0.991
Tuesday, November 24, 2015 8:00:42 0.991
Tuesday, November 24, 2015 8:05:43 0.991
Tuesday, November 24, 2015 8:10:43 0.991
Tuesday, November 24, 2015 8:15:44 0.991
Tuesday, November 24, 2015 8:20:44 0.991
Tuesday, November 24, 2015 8:25:45 0.991
Tuesday, November 24, 2015 8:30:45 0.991
Tuesday, November 24, 2015 8:35:46 0.991
Tuesday, November 24, 2015 8:40:46 0.991
$104.41 \quad 50.1$
$109.38 \quad 50.0$
$114.34 \quad 50.0$
$119.29 \quad 50.1$
$124.26 \quad 50.1$
$129.21 \quad 49.7$
$134.18 \quad 50.1$
$139.14 \quad 50.3$
$144.11 \quad 50.0$
$149.06 \quad 50.1$
$154.03 \quad 50.2$
$158.99 \quad 50.2$

Tuesday, November 24, 2015 8:45:47 0.991
163.96
50.0
168.91
50.1
$173.87 \quad 50.0$
$178.84 \quad 50.1$
183.7949 .7
$188.76 \quad 50.1$
193.7149 .7
198.6949 .8
$203.64 \quad 50.1$
$208.61 \quad 49.7$
$213.56 \quad 50.1$
$218.52 \quad 50.1$
$223.49 \quad 50.1$
$228.44 \quad 50.1$
$233.41 \quad 49.7$
$238.37 \quad 50.1$
$243.34 \quad 50.2$
$248.29 \quad 50.0$
$253.26 \quad 50.1$
258.2249 .7
$263.19 \quad 50.1$
$268.14 \quad 50.0$
$273.11 \quad 50.1$
$278.06 \quad 49.6$
$283.04 \quad 50.1$
$287.99 \quad 50.2$
$292.94 \quad 49.1$
$297.91 \quad 50.0$
$302.87 \quad 50.3$
$307.84 \quad 50.1$
$312.79 \quad 49.7$
$317.76 \quad 50.1$
322.7249 .5
$327.69 \quad 50.1$
$332.64 \quad 50.1$
$337.61 \quad 50.0$
$342.57 \quad 50.1$
$347.54 \quad 50.1$
$352.49 \quad 50.1$
$357.46 \quad 50.1$
$362.42 \quad 50.1$
$367.39 \quad 50.1$
$372.34 \quad 50.0$
$377.31 \quad 50.2$
$382.26 \quad 49.7$
$387.24 \quad 50.2$
$392.19 \quad 50.3$
$397.16 \quad 50.2$
$402.11 \quad 50.2$
$407.08 \quad 50.1$
$412.04 \quad 49.6$
$417.01 \quad 49.8$
$421.96 \quad 50.3$
$426.93 \quad 50.1$
431.89
50.0
$436.86 \quad 50.2$
$441.81 \quad 49.7$
$446.78 \quad 49.7$
$451.74 \quad 49.7$
$456.71 \quad 49.8$
$461.66 \quad 49.7$
$466.63 \quad 49.7$
$471.59 \quad 50.1$
$476.56 \quad 49.7$
$481.51 \quad 49.5$
$486.48 \quad 50.1$
$491.44 \quad 50.4$
$496.41 \quad 50.2$
$501.38 \quad 50.1$
$506.33 \quad 49.7$
$511.30 \quad 49.9$
$516.25 \quad 50.0$
$521.22 \quad 50.0$
$526.18 \quad 50.2$
$531.15 \quad 50.3$
$536.10 \quad 50.1$
$541.07 \quad 50.2$
$546.03 \quad 50.1$
$551.00 \quad 50.1$
$555.95 \quad 50.3$
$560.92 \quad 50.1$
$565.87 \quad 50.2$
$570.84 \quad 50.1$
$575.80 \quad 50.0$
$580.77 \quad 50.1$
585.7249 .6
$590.69 \quad 50.2$
$595.66 \quad 50.1$
$600.61 \quad 50.4$
$605.58 \quad 49.8$
$610.54 \quad 50.4$
$615.51 \quad 49.8$
$620.46 \quad 50.5$
$625.43 \quad 50.1$
$630.39 \quad 49.6$
$635.36 \quad 50.4$
$640.31 \quad 49.5$
$645.28 \quad 50.5$
$650.23 \quad 50.1$
$655.20 \quad 50.3$
660.1649 .6
$665.13 \quad 50.4$
$670.08 \quad 50.4$
$675.05 \quad 50.4$
$680.00 \quad 50.3$
$684.97 \quad 50.0$
$689.93 \quad 50.4$
$694.90 \quad 50.4$
aqms5
formaldehyde001
Ch. 1 Cartridge Started Tuesday, November 24, 2015 6:00:05
Flow Rate Set Point 1.00 1/min
Stopped Tuesday, November 24, 2015 18:00:22
Total Volume 713.07 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.991 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate -0.001 1/min
Ending Leak Rate -0.002 1/min
Flow Controller Zero - 0.006 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Tuesday, November 24, 2015 6:00:32 $0.077 \quad 0.23 \quad 49.9$
Tuesday, November 24, 2015 6:05:32 $0.991 \quad 5.18 \quad 50.1$
Tuesday, November 24, 2015 6:10:33 $0.991 \quad 10.15 \quad 49.7$
Tuesday, November 24, 2015 6:15:33 $0.991 \quad 15.11 \quad 49.7$
Tuesday, November 24, 2015 6:20:33 $0.991 \quad 20.06 \quad 49.6$
Tuesday, November 24, 2015 6:25:34 $0.991 \quad 25.03 \quad 50.0$
Tuesday, November 24, 2015 6:30:34 $0.991 \quad 29.99 \quad 50.3$
Tuesday, November 24, 2015 6:35:35 0.991 $34.96 \quad 50.1$
Tuesday, November 24, 2015 6:40:35 $0.991 \quad 39.91 \quad 50.1$
Tuesday, November 24, 2015 6:45:36 0.991 $44.88 \quad 50.2$
Tuesday, November 24, 2015 6:50:36 $0.991 \quad 49.83 \quad 50.0$
Tuesday, November 24, 2015 6:55:37 0.991 $54.80 \quad 50.1$
Tuesday, November 24, 2015 7:00:37 $0.991 \quad 59.76 \quad 50.1$
Tuesday, November 24, 2015 7:05:37 $0.991 \quad 64.71 \quad 50.1$
Tuesday, November 24, 2015 7:10:38 0.991 $69.68 \quad 49.4$
Tuesday, November 24, 2015 7:15:38 $0.991 \quad 74.64 \quad 50.1$
Tuesday, November 24, 2015 7:20:39 $0.991 \quad 79.61 \quad 50.2$
Tuesday, November 24, 2015 7:25:39 $0.991 \quad 84.56 \quad 49.3$
Tuesday, November 24, 2015 7:30:40 $0.991 \quad 89.53 \quad 50.1$
Tuesday, November 24, 2015 7:35:40 0.991 $94.49 \quad 50.0$
Tuesday, November 24, 2015 7:40:41 $0.991 \quad 99.46 \quad 50.0$
Tuesday, November 24, 2015 7:45:41 0.991
Tuesday, November 24, 2015 7:50:42 0.991
Tuesday, November 24, 2015 7:55:42 0.991
Tuesday, November 24, 2015 8:00:42 0.991
Tuesday, November 24, 2015 8:05:43 0.991
Tuesday, November 24, 2015 8:10:43 0.991
Tuesday, November 24, 2015 8:15:44 0.991
Tuesday, November 24, 2015 8:20:44 0.991
Tuesday, November 24, 2015 8:25:45 0.991
Tuesday, November 24, 2015 8:30:45 0.991
Tuesday, November 24, 2015 8:35:46 0.991
Tuesday, November 24, 2015 8:40:46 0.991
$104.41 \quad 50.1$
$109.38 \quad 50.0$
$114.34 \quad 50.0$
$119.29 \quad 50.1$
$124.26 \quad 50.1$
$129.21 \quad 49.7$
$134.18 \quad 50.1$
$139.14 \quad 50.3$
$144.11 \quad 50.0$
$149.06 \quad 50.1$
$154.03 \quad 50.2$
$158.99 \quad 50.2$

Tuesday, November 24, 2015 8:45:47 0.991
163.96
50.0
168.91
50.1
$173.87 \quad 50.0$
$178.84 \quad 50.1$
183.7949 .7
$188.76 \quad 50.1$
193.7149 .7
198.6949 .8
$203.64 \quad 50.1$
$208.61 \quad 49.7$
$213.56 \quad 50.1$
$218.52 \quad 50.1$
$223.49 \quad 50.1$
$228.44 \quad 50.1$
$233.41 \quad 49.7$
$238.37 \quad 50.1$
$243.34 \quad 50.2$
$248.29 \quad 50.0$
$253.26 \quad 50.1$
258.2249 .7
$263.19 \quad 50.1$
$268.14 \quad 50.0$
$273.11 \quad 50.1$
$278.06 \quad 49.6$
$283.04 \quad 50.1$
$287.99 \quad 50.2$
$292.94 \quad 49.1$
$297.91 \quad 50.0$
$302.87 \quad 50.3$
$307.84 \quad 50.1$
$312.79 \quad 49.7$
$317.76 \quad 50.1$
322.7249 .5
$327.69 \quad 50.1$
$332.64 \quad 50.1$
$337.61 \quad 50.0$
$342.57 \quad 50.1$
$347.54 \quad 50.1$
$352.49 \quad 50.1$
$357.46 \quad 50.1$
$362.42 \quad 50.1$
$367.39 \quad 50.1$
$372.34 \quad 50.0$
$377.31 \quad 50.2$
$382.26 \quad 49.7$
$387.24 \quad 50.2$
$392.19 \quad 50.3$
$397.16 \quad 50.2$
$402.11 \quad 50.2$
$407.08 \quad 50.1$
$412.04 \quad 49.6$
$417.01 \quad 49.8$
$421.96 \quad 50.3$
$426.93 \quad 50.1$
431.89
50.0
$436.86 \quad 50.2$
$441.81 \quad 49.7$
$446.78 \quad 49.7$
$451.74 \quad 49.7$
$456.71 \quad 49.8$
$461.66 \quad 49.7$
$466.63 \quad 49.7$
$471.59 \quad 50.1$
$476.56 \quad 49.7$
$481.51 \quad 49.5$
$486.48 \quad 50.1$
$491.44 \quad 50.4$
$496.41 \quad 50.2$
$501.38 \quad 50.1$
$506.33 \quad 49.7$
$511.30 \quad 49.9$
$516.25 \quad 50.0$
$521.22 \quad 50.0$
$526.18 \quad 50.2$
$531.15 \quad 50.3$
$536.10 \quad 50.1$
$541.07 \quad 50.2$
$546.03 \quad 50.1$
$551.00 \quad 50.1$
$555.95 \quad 50.3$
$560.92 \quad 50.1$
$565.87 \quad 50.2$
$570.84 \quad 50.1$
$575.80 \quad 50.0$
$580.77 \quad 50.1$
585.7249 .6
$590.69 \quad 50.2$
$595.66 \quad 50.1$
$600.61 \quad 50.4$
$605.58 \quad 49.8$
$610.54 \quad 50.4$
$615.51 \quad 49.8$
$620.46 \quad 50.5$
$625.43 \quad 50.1$
$630.39 \quad 49.6$
$635.36 \quad 50.4$
$640.31 \quad 49.5$
$645.28 \quad 50.5$
$650.23 \quad 50.1$
$655.20 \quad 50.3$
660.1649 .6
$665.13 \quad 50.4$
$670.08 \quad 50.4$
$675.05 \quad 50.4$
$680.00 \quad 50.3$
$684.97 \quad 50.0$
$689.93 \quad 50.4$
$694.90 \quad 50.4$

# Ch. 1 Cartridge Started Monday, November 30, 2015 6:00:03 

Flow Rate Set Point 1.00 1/min
Stopped Monday, November 30, 2015 18:00:21
Total Volume 713.12 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.991 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate -0.001 1/min
Ending Leak Rate - $0.001 \mathrm{l} / \mathrm{min}$
Flow Controller Zero -0.006 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Monday, November 30, 2015 6:00:30 $0.078 \quad 0.23 \quad 50.1$
Monday, November 30, 2015 6:05:30 $0.991 \quad 5.18 \quad 50.1$
Monday, November 30, 2015 6:10:31 $0.991 \quad 10.15 \quad 50.0$
Monday, November 30, 2015 6:15:31 $0.991 \quad 15.11 \quad 50.1$
Monday, November 30, 2015 6:20:32 $0.991 \quad 20.08 \quad 50.1$
Monday, November 30, 2015 6:25:32 $0.991 \quad 25.03 \quad 50.0$
Monday, November 30, 2015 6:30:33 $0.991 \quad 30.00 \quad 50.1$
Monday, November 30, 2015 6:35:33 $0.991 \quad 34.96 \quad 50.0$
Monday, November 30, 2015 6:40:33 $0.991 \quad 39.91 \quad 50.1$
Monday, November 30, 2015 6:45:34 $0.991 \quad 44.88 \quad 50.1$
Monday, November 30, 2015 6:50:34 $0.99149 .84 \quad 49.7$
Monday, November 30, 2015 6:55:35 $0.991 \quad 54.81 \quad 50.0$
Monday, November 30, 2015 7:00:35 $0.991 \quad 59.76 \quad 50.1$
Monday, November 30, 2015 7:05:36 0.991 $64.73 \quad 50.0$
Monday, November 30, 2015 7:10:36 0.991 $69.68 \quad 50.1$
Monday, November 30, 2015 7:15:37 $0.991 \quad 74.66 \quad 49.7$
Monday, November 30, 2015 7:20:37 $0.991 \quad 79.61 \quad 50.0$
Monday, November 30, 2015 7:25:38 $0.991 \quad 84.58 \quad 50.1$
Monday, November 30, 2015 7:30:38 $0.991 \quad 89.53 \quad 49.7$
Monday, November 30, 2015 7:35:39 0.991 $94.50 \quad 49.7$
Monday, November 30, 2015 7:40:39 $0.991 \quad 99.4650 .2$
Monday, November 30, 2015 7:45:40 $0.991 \quad 104.43 \quad 50.1$
Monday, November 30, 2015 7:50:40 $0.991 \quad 109.38 \quad 50.1$
Monday, November 30, 2015 7:55:41 $0.991 \quad 114.35 \quad 50.2$
Monday, November 30, 2015 8:00:41 $0.991 \quad 119.31 \quad 50.1$
Monday, November 30, 2015 8:05:42 $0.991 \quad 124.28 \quad 50.0$
Monday, November 30, 2015 8:10:42 $0.991 \quad 129.23 \quad 50.1$
Monday, November 30, 2015 8:15:43 $0.991 \quad 134.20 \quad 49.8$
Monday, November 30, 2015 8:20:43 $0.991 \quad 139.16 \quad 50.0$
Monday, November 30, 2015 8:25:44 $0.991 \quad 144.13 \quad 50.1$
Monday, November 30, 2015 8:30:44 $0.991 \quad 149.08 \quad 49.7$
Monday, November 30, 2015 8:35:45 $0.991 \quad 154.05 \quad 49.7$
Monday, November 30, 2015 8:40:45 $0.991 \quad 159.01 \quad 50.1$

Monday, November 30, 2015 8:45:46 0.991
Monday, November 30, 2015 8:50:46 0.991
Monday, November 30, 2015 8:55:47 0.991
Monday, November 30, 2015 9:00:47 0.991
Monday, November 30, 2015 9:05:48 0.991
Monday, November 30, 2015 9:10:48 0.991
Monday, November 30, 2015 9:15:48 0.991
Monday, November 30, 2015 9:20:49 0.991
Monday, November 30, 2015 9:25:49 0.991
Monday, November 30, 2015 9:30:50 0.991
Monday, November 30, 2015 9:35:50 0.991
Monday, November 30, 2015 9:40:51 0.991
Monday, November 30, 2015 9:45:51 0.991
Monday, November 30, 2015 9:50:52 0.991
Monday, November 30, 2015 9:55:52 0.991
Monday, November 30, 2015 10:00:53 0.991
Monday, November 30, 2015 10:05:53 0.991
Monday, November 30, 2015 10:10:54 0.991
Monday, November 30, 2015 10:15:54 0.991
Monday, November 30, 2015 10:20:54 0.991
Monday, November 30, 2015 10:25:55 0.991
Monday, November 30, 2015 10:30:56 0.991
Monday, November 30, 2015 10:35:56 0.991
Monday, November 30, 2015 10:40:56 0.991
Monday, November 30, 2015 10:45:57 0.991
Monday, November 30, 2015 10:50:57 0.991
Monday, November 30, 2015 10:55:58 0.991
Monday, November 30, 2015 11:00:58 0.991
Monday, November 30, 2015 11:05:59 0.991
Monday, November 30, 2015 11:10:59 0.991
Monday, November 30, 2015 11:16:00 0.991
Monday, November 30, 2015 11:21:00 0.991
Monday, November 30, 2015 11:26:01 0.991
Monday, November 30, 2015 11:31:01 0.991
Monday, November 30, 2015 11:36:02 0.991
Monday, November 30, 2015 11:41:02 0.991
Monday, November 30, 2015 11:46:03 0.991
Monday, November 30, 2015 11:51:03 0.991
Monday, November 30, 2015 11:56:04 0.991
Monday, November 30, 2015 12:01:04 0.991
Monday, November 30, 2015 12:06:05 0.991
Monday, November 30, 2015 12:11:05 0.991
Monday, November 30, 2015 12:16:06 0.991
Monday, November 30, 2015 12:21:07 0.991
Monday, November 30, 2015 12:26:07 0.991
Monday, November 30, 2015 12:31:08 0.991
Monday, November 30, 2015 12:36:08 0.991
Monday, November 30, 2015 12:41:09 0.991
Monday, November 30, 2015 12:46:09 0.991
Monday, November 30, 2015 12:51:10 0.991
Monday, November 30, 2015 12:56:10 0.991
Monday, November 30, 2015 13:01:11 0.991
Monday, November 30, 2015 13:06:11 0.991
Monday, November 30, 2015 13:11:12 0.991
163.98
50.1
168.93
50.1
$173.90 \quad 49.7$
$178.86 \quad 50.0$
$183.83 \quad 50.0$
188.7849 .7
$193.73 \quad 50.3$
$198.70 \quad 50.1$
$203.66 \quad 50.1$
$208.63 \quad 50.1$
$213.58 \quad 50.1$
$218.55 \quad 50.3$
$223.51 \quad 50.1$
$228.48 \quad 50.1$
$233.43 \quad 50.0$
$238.40 \quad 49.7$
243.3649 .6
$248.33 \quad 50.1$
$253.28 \quad 50.2$
$258.24 \quad 50.1$
$263.21 \quad 50.1$
$268.18 \quad 50.0$
$273.13 \quad 50.1$
$278.09 \quad 49.7$
$283.06 \quad 50.1$
$288.01 \quad 49.8$
$292.98 \quad 50.2$
$297.94 \quad 50.0$
$302.91 \quad 50.0$
$307.86 \quad 50.1$
$312.83 \quad 50.1$
$317.78 \quad 50.1$
$322.76 \quad 50.2$
$327.71 \quad 50.1$
$332.68 \quad 50.1$
$337.63 \quad 49.7$
$342.61 \quad 50.0$
$347.56 \quad 49.7$
$352.53 \quad 50.2$
$357.48 \quad 50.1$
$362.45 \quad 50.1$
$367.41 \quad 49.8$
$372.38 \quad 50.1$
$377.35 \quad 50.1$
$382.30 \quad 50.2$
$387.27 \quad 50.1$
$392.23 \quad 50.2$
$397.20 \quad 49.9$
$402.15 \quad 50.0$
$407.12 \quad 50.1$
$412.08 \quad 50.4$
$417.05 \quad 50.1$
$422.00 \quad 49.7$
$426.97 \quad 49.8$

Monday, November 30, 2015 13:16:12 0.991
431.93
50.3
$436.90 \quad 50.1$
$441.85 \quad 50.3$
$446.82 \quad 50.3$
$451.78 \quad 49.9$
$456.75 \quad 49.8$
$461.70 \quad 49.9$
$466.67 \quad 50.4$
$471.63 \quad 50.2$
$476.60 \quad 50.3$
$481.55 \quad 50.2$
$486.52 \quad 50.0$
$491.48 \quad 50.5$
$496.45 \quad 50.1$
$501.40 \quad 50.4$
$506.37 \quad 49.7$
$511.32 \quad 50.3$
$516.29 \quad 50.1$
$521.25 \quad 50.1$
$526.22 \quad 49.9$
$531.17 \quad 50.5$
$536.14 \quad 50.2$
$541.10 \quad 50.5$
$546.07 \quad 50.4$
$551.02 \quad 50.5$
$555.99 \quad 50.0$
$560.94 \quad 50.5$
$565.91 \quad 50.0$
$570.87 \quad 50.5$
$575.84 \quad 49.7$
$580.79 \quad 50.3$
$585.76 \quad 50.2$
$590.72 \quad 49.9$
$595.69 \quad 50.5$
600.6650 .6
$605.61 \quad 50.5$
$610.58 \quad 50.3$
$615.53 \quad 50.3$
$620.50 \quad 50.5$
$625.46 \quad 50.3$
$630.43 \quad 50.1$
$635.38 \quad 50.5$
$640.35 \quad 50.3$
$645.31 \quad 49.6$
$650.28 \quad 50.4$
$655.23 \quad 50.1$
$660.20 \quad 49.7$
$665.15 \quad 50.4$
$670.12 \quad 50.3$
$675.08 \quad 50.5$
$680.05 \quad 50.1$
$685.02 \quad 50.5$
$689.97 \quad 49.8$
$694.94 \quad 50.1$

# Ch. 1 Cartridge Started Sunday, December 06, 2015 6:00:02 

Flow Rate Set Point 1.00 1/min
Stopped Sunday, December 06, 2015 18:00:23
Total Volume 713.17 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.991 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate 0.000 1/min
Ending Leak Rate -0.001 1/min
Flow Controller Zero -0.006 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

| Sunday, December 06, 2015 6:00:29 0.078 | 0.2 | 50. |
| :---: | :---: | :---: |
| Sunday, December 06, 2015 6:05:29 0.991 | 5.18 | 50. |
| day, December 06, 2015 6:10:30 0.991 | 10.1 | 0. |
| day, December 06, 20 | 15.11 | 50.1 |
| nday, December 06, 2015 6:20:31 0.991 | 20.08 | 50 |
| day, December 06, 2015 6:25:31 0 | 25.03 | 0.1 |
| nday, December 06, 2015 6:30:31 0.991 | 29.99 | 50.3 |
| nday, December 06, 2015 6:35:32 0.991 | 34.96 | 50.1 |
| day, December 06, 2015 6:40:32 0.991 | 39.91 | 50 |
| nday, December 06, 2015 6:45:33 0.991 | 44.88 | 50 |
| nday, December 06, 2015 6:50:33 0 | 49.83 | 49.7 |
| nday, December 06, 2015 6:55:34 0.991 | 4.81 | 50 |
| nday, December 06, 2015 7:00:34 0.99 | 59.76 | . 7 |
| nday, December 06, 2015 7:05:35 | 4.7 | 50.1 |
| nday, December 06, 2015 7:10:35 0.99 | 69.68 | 50.1 |
| nday, December 06, 2015 7:15:36 0.991 | 74.65 | 50. |
| nday, December 06, 2015 7:20:3 | 79.6 | 50 |
| nday, December 06, 2015 7:25:36 | 84.56 | 50.1 |
| nday, December 06, 2015 7:30:37 0.991 | 89.53 | 50.1 |
| nday, December 06, 2015 7:35:37 0.991 | 4.49 | 50 |
| nday, December 06, 2015 7:40:38 0.991 | 99.46 | 50 |
| nday, December 06, 2015 7:45:38 0.991 | 104.41 |  |
| nday, December 06, 2015 7:50:39 0.991 | 109.38 |  |
| nday, December 06, 2015 7:55:39 0.991 | 114.34 |  |
| nday, December 06, 2015 8:00:40 0.99 | 119.31 |  |
| nday, December 06, 2015 8:05:40 0.991 | 124.26 |  |
| nday, December 06, 2015 8:10:41 0.991 | 129.23 |  |
| Sunday, December 06, 2015 8:15:41 0.991 | 134.19 |  |
| unday, December 06, 2015 8:20:41 0.991 | 139.14 |  |
| unday, December 06, 2015 8:25:42 0.991 | 144.11 |  |
| nday, December 06, 2015 8:30:42 0.991 | 149.06 |  |
| nday, December 06, 2015 8:35:43 0.991 | 154.03 |  |
| Sunday, December 06, 2015 8:40:43 0.991 | 158.99 |  |

Sunday, December 06, 2015 8:45:44 0.991
Sunday, December 06, 2015 8:50:44 0.991
Sunday, December 06, 2015 8:55:45 0.991
Sunday, December 06, 2015 9:00:45 0.991
Sunday, December 06, 2015 9:05:45 0.991
Sunday, December 06, 2015 9:10:46 0.991
Sunday, December 06, 2015 9:15:46 0.991
Sunday, December 06, 2015 9:20:47 0.991
Sunday, December 06, 2015 9:25:47 0.991
Sunday, December 06, 2015 9:30:48 0.991
Sunday, December 06, 2015 9:35:48 0.991
Sunday, December 06, 2015 9:40:49 0.991
Sunday, December 06, 2015 9:45:49 0.991
Sunday, December 06, 2015 9:50:50 0.991
Sunday, December 06, 2015 9:55:50 0.991
Sunday, December 06, 2015 10:00:50 0.991
Sunday, December 06, 2015 10:05:51 0.991
Sunday, December 06, 2015 10:10:51 0.991
Sunday, December 06, 2015 10:15:52 0.991
Sunday, December 06, 2015 10:20:52 0.991
Sunday, December 06, 2015 10:25:53 0.991
Sunday, December 06, 2015 10:30:53 0.991
Sunday, December 06, 2015 10:35:54 0.991
Sunday, December 06, 2015 10:40:54 0.991
Sunday, December 06, 2015 10:45:55 0.991
Sunday, December 06, 2015 10:50:55 0.991
Sunday, December 06, 2015 10:55:55 0.991
Sunday, December 06, 2015 11:00:56 0.991
Sunday, December 06, 2015 11:05:56 0.991
Sunday, December 06, 2015 11:10:57 0.991
Sunday, December 06, 2015 11:15:57 0.991
Sunday, December 06, 2015 11:20:58 0.991
Sunday, December 06, 2015 11:25:58 0.991
Sunday, December 06, 2015 11:30:59 0.991
Sunday, December 06, 2015 11:35:59 0.991
Sunday, December 06, 2015 11:41:00 0.991
Sunday, December 06, 2015 11:46:00 0.991
Sunday, December 06, 2015 11:51:01 0.991
Sunday, December 06, 2015 11:56:01 0.991
Sunday, December 06, 2015 12:01:02 0.991
Sunday, December 06, 2015 12:06:02 0.991
Sunday, December 06, 2015 12:11:03 0.991
Sunday, December 06, 2015 12:16:03 0.991
Sunday, December 06, 2015 12:21:04 0.991
Sunday, December 06, 2015 12:26:04 0.991
Sunday, December 06, 2015 12:31:05 0.991
Sunday, December 06, 2015 12:36:05 0.991
Sunday, December 06, 2015 12:41:06 0.991
Sunday, December 06, 2015 12:46:06 0.991
Sunday, December 06, 2015 12:51:07 0.991
Sunday, December 06, 2015 12:56:07 0.991
Sunday, December 06, 2015 13:01:08 0.991
Sunday, December 06, 2015 13:06:08 0.991
Sunday, December 06, 2015 13:11:09 0.991
163.96
50.1
168.91
50.1
173.8849 .9
178.8450 .0
$183.79 \quad 50.1$
188.7650 .1
193.7250 .1
$198.69 \quad 50.3$
$203.64 \quad 50.1$
$208.61 \quad 50.0$
$213.57 \quad 49.7$
$218.54 \quad 50.0$
$223.49 \quad 50.0$
$228.46 \quad 50.2$
$233.42 \quad 50.0$
$238.37 \quad 50.0$
$243.34 \quad 49.7$
$248.29 \quad 50.2$
$253.27 \quad 49.8$
$258.22 \quad 50.1$
$263.19 \quad 50.2$
$268.14 \quad 49.7$
$273.11 \quad 50.0$
$278.07 \quad 49.7$
$283.04 \quad 50.1$
$287.99 \quad 50.1$
$292.95 \quad 50.1$
$297.92 \quad 50.2$
$302.87 \quad 50.0$
$307.84 \quad 50.1$
$312.80 \quad 50.1$
$317.77 \quad 49.7$
$322.72 \quad 50.1$
$327.69 \quad 50.1$
$332.65 \quad 50.3$
$337.62 \quad 50.0$
$342.57 \quad 50.1$
$347.54 \quad 50.1$
$352.50 \quad 50.0$
$357.47 \quad 50.2$
$362.42 \quad 50.1$
$367.39 \quad 50.1$
$372.35 \quad 49.8$
$377.32 \quad 50.1$
$382.27 \quad 50.0$
$387.24 \quad 50.1$
$392.20 \quad 50.1$
$397.17 \quad 50.1$
$402.12 \quad 50.2$
$407.09 \quad 49.8$
$412.04 \quad 50.2$
$417.01 \quad 50.1$
$421.97 \quad 50.2$
$426.94 \quad 50.2$

Sunday, December 06, 2015 13:16:09 0.991 Sunday, December 06, 2015 13:21:10 0.991
Sunday, December 06, 2015 13:26:10 0.991
Sunday, December 06, 2015 13:31:11 0.991
Sunday, December 06, 2015 13:36:11 0.991
Sunday, December 06, 2015 13:41:12 0.991
Sunday, December 06, 2015 13:46:12 0.991
Sunday, December 06, 2015 13:51:13 0.991
Sunday, December 06, 2015 13:56:13 0.991
Sunday, December 06, 2015 14:01:14 0.991
Sunday, December 06, 2015 14:06:14 0.991
Sunday, December 06, 2015 14:11:15 0.991
Sunday, December 06, 2015 14:16:15 0.991
Sunday, December 06, 2015 14:21:16 0.991
Sunday, December 06, 2015 14:26:16 0.991
Sunday, December 06, 2015 14:31:17 0.991
Sunday, December 06, 2015 14:36:17 0.991
Sunday, December 06, 2015 14:41:18 0.991
Sunday, December 06, 2015 14:46:18 0.991
Sunday, December 06, 2015 14:51:19 0.991
Sunday, December 06, 2015 14:56:19 0.991
Sunday, December 06, 2015 15:01:20 0.991
Sunday, December 06, 2015 15:06:20 0.991
Sunday, December 06, 2015 15:11:21 0.991
Sunday, December 06, 2015 15:16:21 0.991
Sunday, December 06, 2015 15:21:22 0.991
Sunday, December 06, 2015 15:26:22 0.991
Sunday, December 06, 2015 15:31:23 0.991
Sunday, December 06, 2015 15:36:23 0.991
Sunday, December 06, 2015 15:41:24 0.991
Sunday, December 06, 2015 15:46:24 0.991
Sunday, December 06, 2015 15:51:25 0.991
Sunday, December 06, 2015 15:56:25 0.991
Sunday, December 06, 2015 16:01:26 0.991
Sunday, December 06, 2015 16:06:26 0.991
Sunday, December 06, 2015 16:11:27 0.991
Sunday, December 06, 2015 16:16:27 0.991
Sunday, December 06, 2015 16:21:28 0.991
Sunday, December 06, 2015 16:26:28 0.991
Sunday, December 06, 2015 16:31:29 0.991
Sunday, December 06, 2015 16:36:29 0.991
Sunday, December 06, 2015 16:41:30 0.991
Sunday, December 06, 2015 16:46:30 0.991
Sunday, December 06, 2015 16:51:31 0.991
Sunday, December 06, 2015 16:56:31 0.991
Sunday, December 06, 2015 17:01:32 0.991
Sunday, December 06, 2015 17:06:32 0.991
Sunday, December 06, 2015 17:11:33 0.991
Sunday, December 06, 2015 17:16:33 0.991
Sunday, December 06, 2015 17:21:34 0.991
Sunday, December 06, 2015 17:26:35 0.991
Sunday, December 06, 2015 17:31:35 0.991
Sunday, December 06, 2015 17:36:36 0.991
Sunday, December 06, 2015 17:41:36 0.991
431.89
50.1
$436.86 \quad 50.1$
$441.82 \quad 50.0$
$446.79 \quad 50.2$
$451.74 \quad 49.4$
$456.71 \quad 50.2$
$461.67 \quad 50.0$
$466.64 \quad 49.9$
$471.59 \quad 50.2$
$476.56 \quad 49.4$
481.5249 .9
$486.49 \quad 49.5$
$491.44 \quad 49.6$
$496.41 \quad 49.9$
$501.37 \quad 49.5$
$506.34 \quad 50.4$
511.2949 .8
$516.26 \quad 50.0$
$521.22 \quad 50.2$
$526.19 \quad 50.4$
$531.14 \quad 50.3$
536.1149 .7
$541.06 \quad 50.4$
$546.03 \quad 50.5$
550.9949 .9
$555.96 \quad 50.2$
$560.91 \quad 50.4$
$565.88 \quad 49.5$
$570.83 \quad 49.7$
$575.80 \quad 50.2$
580.7649 .7
$585.73 \quad 50.3$
$590.68 \quad 50.2$
$595.65 \quad 50.2$
$600.61 \quad 49.7$
$605.58 \quad 50.5$
$610.53 \quad 50.4$
$615.50 \quad 50.4$
$620.46 \quad 50.2$
$625.43 \quad 49.8$
$630.38 \quad 50.5$
$635.35 \quad 50.2$
$640.30 \quad 50.1$
$645.27 \quad 50.2$
$650.23 \quad 50.4$
$655.20 \quad 50.4$
$660.15 \quad 50.2$
$665.12 \quad 50.1$
$670.08 \quad 50.4$
$675.05 \quad 50.0$
$680.02 \quad 50.1$
$684.97 \quad 50.0$
$689.94 \quad 50.2$
$694.89 \quad 50.4$

Sunday, December 06, 2015 17:51:37 $0.991 \quad 704.82 \quad 50.0$
Sunday, December 06, 2015 17:56:38 $0.991 \quad 709.7949 .7$
Sunday, December 06, 2015 18:00:02 $0.991 \quad 713.1650 .1$

# Ch. 1 Cartridge Started Saturday, December 12, 2015 6:00:01 

Flow Rate Set Point $1.00 \mathrm{l} / \mathrm{min}$
Stopped Saturday, December 12, 2015 18:00:24
Total Volume 713.19 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.991 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate 0.000 1/min
Ending Leak Rate -0.001 1/min
Flow Controller Zero - 0.006 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Saturday, December 12, 2015 6:00:28 $0.078 \quad 0.23 \quad 50.1$
Saturday, December 12, 2015 6:05:29 $0.991 \quad 5.2050 .4$
Saturday, December 12, 2015 6:10:29 $0.991 \quad 10.15 \quad 49.8$
Saturday, December 12, 2015 6:15:30 $0.991 \quad 15.12 \quad 50.1$
Saturday, December 12, 2015 6:20:30 $0.991 \quad 20.08 \quad 50.1$
Saturday, December 12, 2015 6:25:31 $0.991 \quad 25.0549 .6$
Saturday, December 12, 2015 6:30:31 $0.991 \quad 30.00 \quad 49.9$
Saturday, December 12, 2015 6:35:32 $0.99134 .97 \quad 50.4$
Saturday, December 12, 2015 6:40:32 0.99139 .9349 .6
Saturday, December 12, 2015 6:45:33 0.99144 .9049 .8
Saturday, December 12, 2015 6:50:33 0.991 $49.85 \quad 50.1$
Saturday, December 12, 2015 6:55:34 $0.991 \quad 54.82 \quad 49.8$
Saturday, December 12, 2015 7:00:34 0.991 59.7749 .9
Saturday, December 12, 2015 7:05:35 0.991
Saturday, December 12, 2015 7:10:35 0.991
Saturday, December 12, 2015 7:15:36 0.991
Saturday, December 12, 2015 7:20:36 0.991
Saturday, December 12, 2015 7:25:37 0.991
Saturday, December 12, 2015 7:30:37 0.991
Saturday, December 12, 2015 7:35:38 0.991
Saturday, December 12, 2015 7:40:38 0.991
Saturday, December 12, 2015 7:45:39 0.991
Saturday, December 12, 2015 7:50:39 0.991
Saturday, December 12, 2015 7:55:40 0.991
Saturday, December 12, 2015 8:00:40 0.991
Saturday, December 12, 2015 8:05:41 0.991
Saturday, December 12, 2015 8:10:41 0.991
Saturday, December 12, 2015 8:15:42 0.991
Saturday, December 12, 2015 8:20:42 0.991
Saturday, December 12, 2015 8:25:43 0.991
Saturday, December 12, 2015 8:30:43 0.991
Saturday, December 12, 2015 8:35:44 0.991
Saturday, December 12, 2015 8:40:44 0.991
$64.74 \quad 50.3$
$69.70 \quad 50.3$
$74.67 \quad 50.0$
$79.62 \quad 50.3$
$84.59 \quad 49.7$
$89.55 \quad 50.3$
$94.52 \quad 50.4$
$99.47 \quad 50.2$
$104.44 \quad 50.2$
$109.40 \quad 49.9$
$114.37 \quad 50.2$
119.3250 .2
$124.29 \quad 50.1$
$129.24 \quad 50.4$
134.2150 .0
$139.17 \quad 50.1$
$144.14 \quad 50.0$
$149.09 \quad 50.1$
154.0649 .2
159.0250 .0

Saturday, December 12, 2015 8:45:45 0.991
Saturday, December 12, 2015 8:50:45 0.991
Saturday, December 12, 2015 8:55:46 0.991
Saturday, December 12, 2015 9:00:46 0.991
Saturday, December 12, 2015 9:05:47 0.991
Saturday, December 12, 2015 9:10:47 0.991
Saturday, December 12, 2015 9:15:48 0.991
Saturday, December 12, 2015 9:20:48 0.991
Saturday, December 12, 2015 9:25:49 0.991
Saturday, December 12, 2015 9:30:49 0.991
Saturday, December 12, 2015 9:35:50 0.991
Saturday, December 12, 2015 9:40:50 0.991
Saturday, December 12, 2015 9:45:51 0.991
Saturday, December 12, 2015 9:50:51 0.991
Saturday, December 12, 2015 9:55:52 0.991
Saturday, December 12, 2015 10:00:52 0.991
Saturday, December 12, 2015 10:05:53 0.991
Saturday, December 12, 2015 10:10:53 0.991
Saturday, December 12, 2015 10:15:54 0.991
Saturday, December 12, 2015 10:20:54 0.991
Saturday, December 12, 2015 10:25:55 0.991
Saturday, December 12, 2015 10:30:55 0.991
Saturday, December 12, 2015 10:35:56 0.991
Saturday, December 12, 2015 10:40:56 0.991
Saturday, December 12, 2015 10:45:57 0.991
Saturday, December 12, 2015 10:50:57 0.991
Saturday, December 12, 2015 10:55:58 0.991
Saturday, December 12, 2015 11:00:58 0.991
Saturday, December 12, 2015 11:05:59 0.991
Saturday, December 12, 2015 11:10:59 0.991
Saturday, December 12, 2015 11:16:00 0.991
Saturday, December 12, 2015 11:21:00 0.991
Saturday, December 12, 2015 11:26:01 0.991
Saturday, December 12, 2015 11:31:01 0.991
Saturday, December 12, 2015 11:36:02 0.991
Saturday, December 12, 2015 11:41:02 0.991
Saturday, December 12, 2015 11:46:03 0.991
Saturday, December 12, 2015 11:51:03 0.991
Saturday, December 12, 2015 11:56:04 0.991
Saturday, December 12, 2015 12:01:04 0.991
Saturday, December 12, 2015 12:06:05 0.991
Saturday, December 12, 2015 12:11:06 0.991
Saturday, December 12, 2015 12:16:06 0.991
Saturday, December 12, 2015 12:21:07 0.991
Saturday, December 12, 2015 12:26:07 0.991
Saturday, December 12, 2015 12:31:08 0.991
Saturday, December 12, 2015 12:36:08 0.991
Saturday, December 12, 2015 12:41:09 0.991
Saturday, December 12, 2015 12:46:09 0.991
Saturday, December 12, 2015 12:51:10 0.991
Saturday, December 12, 2015 12:56:10 0.991
Saturday, December 12, 2015 13:01:11 0.991
Saturday, December 12, 2015 13:06:11 0.991
Saturday, December 12, 2015 13:11:12 0.991
$163.99 \quad 50.3$
$168.94 \quad 50.1$
173.9149 .8
178.8749 .9
$183.84 \quad 49.8$
$188.79 \quad 50.4$
193.7649 .8
$198.72 \quad 50.3$
203.6949 .9
$208.64 \quad 50.2$
$213.61 \quad 50.2$
$218.56 \quad 50.4$
$223.53 \quad 50.0$
$228.49 \quad 50.3$
$233.46 \quad 50.3$
$238.41 \quad 50.0$
$243.38 \quad 49.2$
$248.34 \quad 50.0$
$253.31 \quad 50.4$
$258.26 \quad 50.2$
$263.23 \quad 50.1$
$268.19 \quad 50.1$
273.1649 .9
$278.11 \quad 50.1$
$283.08 \quad 50.0$
$288.04 \quad 50.4$
$293.01 \quad 49.7$
$297.96 \quad 50.1$
$302.93 \quad 50.0$
$307.89 \quad 49.4$
$312.86 \quad 50.4$
$317.81 \quad 50.2$
$322.78 \quad 50.1$
$327.74 \quad 49.3$
$332.71 \quad 50.0$
$337.66 \quad 50.4$
$342.63 \quad 50.5$
$347.59 \quad 50.1$
$352.56 \quad 50.4$
$357.51 \quad 49.9$
$362.48 \quad 50.0$
$367.45 \quad 50.3$
$372.41 \quad 50.1$
$377.38 \quad 50.7$
$382.33 \quad 50.0$
$387.30 \quad 50.4$
$392.25 \quad 49.2$
$397.23 \quad 49.7$
$402.18 \quad 50.3$
$407.15 \quad 49.8$
$412.10 \quad 50.6$
$417.08 \quad 50.4$
$422.03 \quad 50.1$
$427.00 \quad 50.0$

Saturday, December 12, 2015 13:16:12 0.991
Saturday, December 12, 2015 13:21:13 0.991
Saturday, December 12, 2015 13:26:13 0.991
Saturday, December 12, 2015 13:31:14 0.991
Saturday, December 12, 2015 13:36:15 0.991
Saturday, December 12, 2015 13:41:15 0.991
Saturday, December 12, 2015 13:46:16 0.991
Saturday, December 12, 2015 13:51:16 0.991
Saturday, December 12, 2015 13:56:17 0.991
Saturday, December 12, 2015 14:01:17 0.991
Saturday, December 12, 2015 14:06:18 0.991
Saturday, December 12, 2015 14:11:18 0.991
Saturday, December 12, 2015 14:16:19 0.991
Saturday, December 12, 2015 14:21:20 0.991
Saturday, December 12, 2015 14:26:20 0.991
Saturday, December 12, 2015 14:31:21 0.991
Saturday, December 12, 2015 14:36:21 0.991
Saturday, December 12, 2015 14:41:22 0.991
Saturday, December 12, 2015 14:46:22 0.991
Saturday, December 12, 2015 14:51:23 0.991
Saturday, December 12, 2015 14:56:24 0.991
Saturday, December 12, 2015 15:01:24 0.991
Saturday, December 12, 2015 15:06:25 0.991
Saturday, December 12, 2015 15:11:25 0.991
Saturday, December 12, 2015 15:16:26 0.991
Saturday, December 12, 2015 15:21:26 0.991
Saturday, December 12, 2015 15:26:27 0.991
Saturday, December 12, 2015 15:31:28 0.991
Saturday, December 12, 2015 15:36:28 0.991
Saturday, December 12, 2015 15:41:29 0.991
Saturday, December 12, 2015 15:46:29 0.991
Saturday, December 12, 2015 15:51:30 0.991
Saturday, December 12, 2015 15:56:30 0.991
Saturday, December 12, 2015 16:01:31 0.991
Saturday, December 12, 2015 16:06:31 0.991
Saturday, December 12, 2015 16:11:32 0.991
Saturday, December 12, 2015 16:16:33 0.991
Saturday, December 12, 2015 16:21:33 0.991
Saturday, December 12, 2015 16:26:34 0.991
Saturday, December 12, 2015 16:31:34 0.991
Saturday, December 12, 2015 16:36:35 0.991
Saturday, December 12, 2015 16:41:35 0.991
Saturday, December 12, 2015 16:46:36 0.991
Saturday, December 12, 2015 16:51:37 0.991
Saturday, December 12, 2015 16:56:37 0.991
Saturday, December 12, 2015 17:01:38 0.991
Saturday, December 12, 2015 17:06:38 0.991
Saturday, December 12, 2015 17:11:39 0.991
Saturday, December 12, 2015 17:16:39 0.991
Saturday, December 12, 2015 17:21:40 0.991
Saturday, December 12, 2015 17:26:41 0.991
Saturday, December 12, 2015 17:31:41 0.991
Saturday, December 12, 2015 17:36:42 0.991
Saturday, December 12, 2015 17:41:42 0.991
431.95
50.1
$436.92 \quad 50.5$
$441.88 \quad 50.5$
$446.85 \quad 50.5$
$451.82 \quad 50.5$
$456.77 \quad 50.2$
$461.75 \quad 50.0$
$466.70 \quad 50.5$
$471.67 \quad 50.3$
$476.62 \quad 50.6$
$481.59 \quad 49.4$
$486.55 \quad 49.3$
$491.52 \quad 50.5$
$496.49 \quad 50.2$
$501.44 \quad 49.7$
$506.42 \quad 50.1$
$511.37 \quad 49.9$
$516.34 \quad 50.2$
$521.29 \quad 50.6$
$526.26 \quad 50.5$
$531.24 \quad 50.5$
$536.19 \quad 50.5$
$541.16 \quad 50.4$
$546.11 \quad 50.6$
$551.08 \quad 50.4$
$556.04 \quad 50.6$
$561.01 \quad 50.2$
565.9849 .7
$570.93 \quad 50.2$
$575.90 \quad 50.5$
$580.86 \quad 50.0$
$585.83 \quad 50.3$
$590.78 \quad 50.1$
$595.75 \quad 50.6$
$600.71 \quad 50.1$
605.6849 .4
$610.65 \quad 50.0$
$615.60 \quad 50.5$
$620.57 \quad 49.8$
$625.53 \quad 50.0$
$630.50 \quad 50.5$
$635.45 \quad 50.5$
$640.42 \quad 50.0$
$645.39 \quad 50.7$
$650.35 \quad 50.7$
$655.32 \quad 50.3$
$660.27 \quad 50.7$
$665.24 \quad 50.0$
$670.20 \quad 50.0$
$675.17 \quad 50.5$
$680.14 \quad 50.6$
$685.09 \quad 50.0$
$690.06 \quad 50.1$
$695.02 \quad 50.4$

| Saturday, December 12, 2015 | $17: 46: 43$ | 0.991 | 699.99 | 49.3 |
| :--- | :--- | :--- | :--- | :--- |
| Saturday, December 12, 2015 | $17: 51: 43$ | 0.991 | 704.94 | 50.6 |
| Saturday, December 12, 2015 | $17: 56: 44$ | 0.991 | 709.91 | 50.3 |
| Saturday, December 12, 2015 18:00:02 | 0.991 | 713.18 | 49.9 |  |

# Ch. 1 Cartridge Started Friday, December 18, 2015 6:00:00 

Flow Rate Set Point 1.00 1/min
Stopped Friday, December 18, 2015 18:00:22
Total Volume 713.21 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.991 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate 0.001 1/min
Ending Leak Rate 0.000 1/min
Flow Controller Zero -0.006 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Friday, December 18, 2015 6:00:27 $0.079 \quad 0.2349 .8$
Friday, December 18, 2015 6:05:27 0.9915 .1850 .2
Friday, December 18, 2015 6:10:28 $0.991 \quad 10.15 \quad 50.2$
Friday, December 18, 2015 6:15:28 $0.991 \quad 15.1150 .3$
Friday, December 18, 2015 6:20:29 $0.991 \quad 20.08 \quad 50.1$
Friday, December 18, 2015 6:25:29 $0.991 \quad 25.0349 .8$
Friday, December 18, 2015 6:30:30 $0.99130 .00 \quad 50.2$
Friday, December 18, 2015 6:35:30 0.99134 .9650 .4
Friday, December 18, 2015 6:40:31 0.99139 .9350 .0
Friday, December 18, 2015 6:45:31 0.99144 .8850 .1
Friday, December 18, 2015 6:50:32 $0.991 \quad 49.85 \quad 50.1$
Friday, December 18, 2015 6:55:32 $0.991 \quad 54.8050 .4$
Friday, December 18, 2015 7:00:33 0.99159 .7849 .8
Friday, December 18, 2015 7:05:33 $0.991 \quad 64.7350 .0$
Friday, December 18, 2015 7:10:34 $0.991 \quad 69.7050 .4$
Friday, December 18, 2015 7:15:34 $0.991 \quad 74.6550 .1$
Friday, December 18, 2015 7:20:35 $0.991 \quad 79.62 \quad 50.0$
Friday, December 18, 2015 7:25:35 $0.991 \quad 84.58 \quad 50.2$
Friday, December 18, 2015 7:30:36 $0.991 \quad 89.55 \quad 50.1$
Friday, December 18, 2015 7:35:36 $0.991 \quad 94.50 \quad 50.1$
Friday, December 18, 2015 7:40:37 $0.991 \quad 99.4750 .3$
Friday, December 18, 2015 7:45:37 0.991
Friday, December 18, 2015 7:50:38 0.991
Friday, December 18, 2015 7:55:38 0.991
Friday, December 18, 2015 8:00:39 0.991
Friday, December 18, 2015 8:05:39 0.991
Friday, December 18, 2015 8:10:40 0.991
Friday, December 18, 2015 8:15:40 0.991
Friday, December 18, 2015 8:20:41 0.991
Friday, December 18, 2015 8:25:41 0.991
Friday, December 18, 2015 8:30:42 0.991
Friday, December 18, 2015 8:35:42 0.991
Friday, December 18, 2015 8:40:43 0.991
$104.43 \quad 50.3$
$109.40 \quad 50.3$
$114.35 \quad 50.2$
$119.32 \quad 50.4$
124.2849 .7
$129.25 \quad 50.2$
$134.20 \quad 49.4$
$139.17 \quad 50.1$
$144.13 \quad 49.7$
$149.10 \quad 49.9$
$154.05 \quad 50.3$
$159.02 \quad 50.1$

Friday, December 18, 2015 8:45:43 0.991
Friday, December 18, 2015 8:50:44 0.991
Friday, December 18, 2015 8:55:44 0.991
Friday, December 18, 2015 9:00:45 0.991
Friday, December 18, 2015 9:05:45 0.991
Friday, December 18, 2015 9:10:46 0.991
Friday, December 18, 2015 9:15:46 0.991
Friday, December 18, 2015 9:20:47 0.991
Friday, December 18, 2015 9:25:47 0.991
Friday, December 18, 2015 9:30:48 0.991
Friday, December 18, 2015 9:35:48 0.991
Friday, December 18, 2015 9:40:49 0.991
Friday, December 18, 2015 9:45:49 0.991
Friday, December 18, 2015 9:50:49 0.991
Friday, December 18, 2015 9:55:50 0.991
Friday, December 18, 2015 10:00:50 0.991
Friday, December 18, 2015 10:05:51 0.991
Friday, December 18, 2015 10:10:51 0.991
Friday, December 18, 2015 10:15:52 0.991
Friday, December 18, 2015 10:20:52 0.991
Friday, December 18, 2015 10:25:53 0.991
Friday, December 18, 2015 10:30:53 0.991
Friday, December 18, 2015 10:35:54 0.991
Friday, December 18, 2015 10:40:54 0.991
Friday, December 18, 2015 10:45:55 0.991
Friday, December 18, 2015 10:50:55 0.991
Friday, December 18, 2015 10:55:56 0.991
Friday, December 18, 2015 11:00:56 0.991
Friday, December 18, 2015 11:05:57 0.991
Friday, December 18, 2015 11:10:57 0.991
Friday, December 18, 2015 11:15:58 0.991
Friday, December 18, 2015 11:20:58 0.991
Friday, December 18, 2015 11:25:59 0.991
Friday, December 18, 2015 11:30:59 0.991
Friday, December 18, 2015 11:35:59 0.991
Friday, December 18, 2015 11:41:00 0.991
Friday, December 18, 2015 11:46:00 0.991
Friday, December 18, 2015 11:51:01 0.991
Friday, December 18, 2015 11:56:01 0.991
Friday, December 18, 2015 12:01:02 0.991
Friday, December 18, 2015 12:06:02 0.991
Friday, December 18, 2015 12:11:03 0.991
Friday, December 18, 2015 12:16:03 0.991
Friday, December 18, 2015 12:21:04 0.991
Friday, December 18, 2015 12:26:04 0.991
Friday, December 18, 2015 12:31:05 0.991
Friday, December 18, 2015 12:36:05 0.991
Friday, December 18, 2015 12:41:06 0.991
Friday, December 18, 2015 12:46:06 0.991
Friday, December 18, 2015 12:51:07 0.991
Friday, December 18, 2015 12:56:07 0.991
Friday, December 18, 2015 13:01:08 0.991
Friday, December 18, 2015 13:06:08 0.991
Friday, December 18, 2015 13:11:09 0.991
163.98
50.4
$168.95 \quad 50.1$
$173.90 \quad 50.3$
$178.87 \quad 50.3$
$183.82 \quad 50.0$
$188.80 \quad 50.1$
193.7549 .8
$198.72 \quad 50.0$
203.6749 .7
$208.65 \quad 50.0$
$213.60 \quad 50.0$
$218.57 \quad 49.6$
$223.53 \quad 50.1$
$228.48 \quad 49.7$
$233.45 \quad 50.0$
$238.41 \quad 50.1$
$243.38 \quad 50.1$
$248.33 \quad 50.1$
$253.30 \quad 50.0$
$258.26 \quad 50.1$
$263.23 \quad 49.7$
$268.18 \quad 50.1$
$273.15 \quad 49.9$
$278.11 \quad 50.1$
$283.08 \quad 49.7$
$288.03 \quad 49.7$
$293.00 \quad 50.0$
$297.96 \quad 49.7$
$302.93 \quad 50.0$
$307.88 \quad 50.1$
$312.85 \quad 50.0$
$317.81 \quad 50.1$
$322.78 \quad 50.1$
$327.73 \quad 49.7$
$332.69 \quad 50.1$
$337.66 \quad 50.1$
$342.61 \quad 50.1$
$347.58 \quad 50.1$
$352.54 \quad 49.7$
$357.51 \quad 50.3$
$362.46 \quad 50.2$
$367.43 \quad 50.1$
$372.39 \quad 50.1$
$377.36 \quad 50.1$
$382.31 \quad 50.1$
$387.28 \quad 50.0$
$392.24 \quad 50.0$
$397.21 \quad 50.1$
$402.16 \quad 49.6$
$407.13 \quad 49.6$
$412.09 \quad 50.1$
$417.06 \quad 49.7$
$422.01 \quad 49.7$
$426.99 \quad 50.1$

Friday, December 18, 2015 13:16:09 0.991
Friday, December 18, 2015 13:21:09 0.991
Friday, December 18, 2015 13:26:10 0.991
Friday, December 18, 2015 13:31:10 0.991
Friday, December 18, 2015 13:36:11 0.991
Friday, December 18, 2015 13:41:11 0.991
Friday, December 18, 2015 13:46:12 0.991
Friday, December 18, 2015 13:51:12 0.991
Friday, December 18, 2015 13:56:13 0.991
Friday, December 18, 2015 14:01:13 0.991
Friday, December 18, 2015 14:06:13 0.991
Friday, December 18, 2015 14:11:14 0.991
Friday, December 18, 2015 14:16:14 0.991
Friday, December 18, 2015 14:21:15 0.991
Friday, December 18, 2015 14:26:15 0.991
Friday, December 18, 2015 14:31:16 0.991
Friday, December 18, 2015 14:36:16 0.991
Friday, December 18, 2015 14:41:17 0.991
Friday, December 18, 2015 14:46:17 0.991
Friday, December 18, 2015 14:51:18 0.991
Friday, December 18, 2015 14:56:18 0.991
Friday, December 18, 2015 15:01:19 0.991
Friday, December 18, 2015 15:06:19 0.991
Friday, December 18, 2015 15:11:20 0.991
Friday, December 18, 2015 15:16:20 0.991
Friday, December 18, 2015 15:21:21 0.991
Friday, December 18, 2015 15:26:21 0.991
Friday, December 18, 2015 15:31:22 0.991
Friday, December 18, 2015 15:36:22 0.991
Friday, December 18, 2015 15:41:23 0.991
Friday, December 18, 2015 15:46:23 0.991
Friday, December 18, 2015 15:51:24 0.991
Friday, December 18, 2015 15:56:24 0.991
Friday, December 18, 2015 16:01:25 0.991
Friday, December 18, 2015 16:06:26 0.991
Friday, December 18, 2015 16:11:26 0.991
Friday, December 18, 2015 16:16:27 0.991
Friday, December 18, 2015 16:21:27 0.991
Friday, December 18, 2015 16:26:28 0.991
Friday, December 18, 2015 16:31:28 0.991
Friday, December 18, 2015 16:36:29 0.991
Friday, December 18, 2015 16:41:29 0.991
Friday, December 18, 2015 16:46:29 0.991
Friday, December 18, 2015 16:51:30 0.991
Friday, December 18, 2015 16:56:30 0.991
Friday, December 18, 2015 17:01:31 0.991
Friday, December 18, 2015 17:06:31 0.991
Friday, December 18, 2015 17:11:32 0.991
Friday, December 18, 2015 17:16:32 0.991
Friday, December 18, 2015 17:21:33 0.991
Friday, December 18, 2015 17:26:33 0.991
Friday, December 18, 2015 17:31:34 0.991
Friday, December 18, 2015 17:36:34 0.991
Friday, December 18, 2015 17:41:35 0.991
431.94
50.1
$436.89 \quad 50.1$
$441.87 \quad 50.1$
$446.82 \quad 50.0$
$451.79 \quad 50.0$
$456.74 \quad 50.1$
$461.72 \quad 49.7$
$466.67 \quad 49.9$
$471.64 \quad 50.1$
$476.60 \quad 50.0$
$481.55 \quad 50.0$
$486.52 \quad 50.0$
$491.47 \quad 50.1$
$496.45 \quad 50.1$
$501.40 \quad 50.0$
$506.37 \quad 50.1$
$511.32 \quad 50.1$
$516.30 \quad 50.1$
$521.25 \quad 50.1$
$526.22 \quad 50.1$
$531.18 \quad 50.1$
$536.15 \quad 49.7$
$541.10 \quad 50.1$
$546.07 \quad 50.1$
$551.03 \quad 50.1$
$556.00 \quad 50.1$
$560.95 \quad 50.0$
$565.92 \quad 50.2$
$570.88 \quad 50.1$
$575.85 \quad 49.7$
$580.80 \quad 49.6$
$585.77 \quad 50.1$
590.7349 .8
$595.70 \quad 50.1$
$600.67 \quad 50.1$
$605.62 \quad 50.2$
$610.59 \quad 50.1$
$615.55 \quad 49.3$
$620.52 \quad 50.1$
$625.47 \quad 50.0$
$630.44 \quad 50.1$
$635.40 \quad 50.1$
$640.35 \quad 50.0$
$645.33 \quad 49.7$
$650.28 \quad 49.7$
$655.25 \quad 50.2$
$660.21 \quad 49.6$
$665.18 \quad 49.8$
$670.13 \quad 49.9$
$675.10 \quad 50.3$
$680.06 \quad 50.2$
$685.03 \quad 50.1$
$689.98 \quad 50.0$
694.9549 .8

# Ch. 1 Cartridge Started Friday, December 18, 2015 6:00:00 

Flow Rate Set Point 1.00 1/min
Stopped Friday, December 18, 2015 18:00:22
Total Volume 713.21 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.991 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate 0.001 1/min
Ending Leak Rate 0.000 1/min
Flow Controller Zero -0.006 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Friday, December 18, 2015 6:00:27 $0.079 \quad 0.2349 .8$
Friday, December 18, 2015 6:05:27 0.9915 .1850 .2
Friday, December 18, 2015 6:10:28 $0.991 \quad 10.15 \quad 50.2$
Friday, December 18, 2015 6:15:28 $0.991 \quad 15.1150 .3$
Friday, December 18, 2015 6:20:29 $0.991 \quad 20.08 \quad 50.1$
Friday, December 18, 2015 6:25:29 $0.991 \quad 25.0349 .8$
Friday, December 18, 2015 6:30:30 $0.99130 .00 \quad 50.2$
Friday, December 18, 2015 6:35:30 0.99134 .9650 .4
Friday, December 18, 2015 6:40:31 0.99139 .9350 .0
Friday, December 18, 2015 6:45:31 0.99144 .8850 .1
Friday, December 18, 2015 6:50:32 $0.991 \quad 49.85 \quad 50.1$
Friday, December 18, 2015 6:55:32 $0.991 \quad 54.8050 .4$
Friday, December 18, 2015 7:00:33 0.99159 .7849 .8
Friday, December 18, 2015 7:05:33 $0.991 \quad 64.7350 .0$
Friday, December 18, 2015 7:10:34 $0.991 \quad 69.7050 .4$
Friday, December 18, 2015 7:15:34 $0.991 \quad 74.6550 .1$
Friday, December 18, 2015 7:20:35 $0.991 \quad 79.62 \quad 50.0$
Friday, December 18, 2015 7:25:35 $0.991 \quad 84.58 \quad 50.2$
Friday, December 18, 2015 7:30:36 $0.991 \quad 89.55 \quad 50.1$
Friday, December 18, 2015 7:35:36 $0.991 \quad 94.50 \quad 50.1$
Friday, December 18, 2015 7:40:37 $0.991 \quad 99.4750 .3$
Friday, December 18, 2015 7:45:37 0.991
Friday, December 18, 2015 7:50:38 0.991
Friday, December 18, 2015 7:55:38 0.991
Friday, December 18, 2015 8:00:39 0.991
Friday, December 18, 2015 8:05:39 0.991
Friday, December 18, 2015 8:10:40 0.991
Friday, December 18, 2015 8:15:40 0.991
Friday, December 18, 2015 8:20:41 0.991
Friday, December 18, 2015 8:25:41 0.991
Friday, December 18, 2015 8:30:42 0.991
Friday, December 18, 2015 8:35:42 0.991
Friday, December 18, 2015 8:40:43 0.991
$104.43 \quad 50.3$
$109.40 \quad 50.3$
$114.35 \quad 50.2$
$119.32 \quad 50.4$
124.2849 .7
$129.25 \quad 50.2$
$134.20 \quad 49.4$
$139.17 \quad 50.1$
$144.13 \quad 49.7$
$149.10 \quad 49.9$
$154.05 \quad 50.3$
$159.02 \quad 50.1$

Friday, December 18, 2015 8:45:43 0.991
Friday, December 18, 2015 8:50:44 0.991
Friday, December 18, 2015 8:55:44 0.991
Friday, December 18, 2015 9:00:45 0.991
Friday, December 18, 2015 9:05:45 0.991
Friday, December 18, 2015 9:10:46 0.991
Friday, December 18, 2015 9:15:46 0.991
Friday, December 18, 2015 9:20:47 0.991
Friday, December 18, 2015 9:25:47 0.991
Friday, December 18, 2015 9:30:48 0.991
Friday, December 18, 2015 9:35:48 0.991
Friday, December 18, 2015 9:40:49 0.991
Friday, December 18, 2015 9:45:49 0.991
Friday, December 18, 2015 9:50:49 0.991
Friday, December 18, 2015 9:55:50 0.991
Friday, December 18, 2015 10:00:50 0.991
Friday, December 18, 2015 10:05:51 0.991
Friday, December 18, 2015 10:10:51 0.991
Friday, December 18, 2015 10:15:52 0.991
Friday, December 18, 2015 10:20:52 0.991
Friday, December 18, 2015 10:25:53 0.991
Friday, December 18, 2015 10:30:53 0.991
Friday, December 18, 2015 10:35:54 0.991
Friday, December 18, 2015 10:40:54 0.991
Friday, December 18, 2015 10:45:55 0.991
Friday, December 18, 2015 10:50:55 0.991
Friday, December 18, 2015 10:55:56 0.991
Friday, December 18, 2015 11:00:56 0.991
Friday, December 18, 2015 11:05:57 0.991
Friday, December 18, 2015 11:10:57 0.991
Friday, December 18, 2015 11:15:58 0.991
Friday, December 18, 2015 11:20:58 0.991
Friday, December 18, 2015 11:25:59 0.991
Friday, December 18, 2015 11:30:59 0.991
Friday, December 18, 2015 11:35:59 0.991
Friday, December 18, 2015 11:41:00 0.991
Friday, December 18, 2015 11:46:00 0.991
Friday, December 18, 2015 11:51:01 0.991
Friday, December 18, 2015 11:56:01 0.991
Friday, December 18, 2015 12:01:02 0.991
Friday, December 18, 2015 12:06:02 0.991
Friday, December 18, 2015 12:11:03 0.991
Friday, December 18, 2015 12:16:03 0.991
Friday, December 18, 2015 12:21:04 0.991
Friday, December 18, 2015 12:26:04 0.991
Friday, December 18, 2015 12:31:05 0.991
Friday, December 18, 2015 12:36:05 0.991
Friday, December 18, 2015 12:41:06 0.991
Friday, December 18, 2015 12:46:06 0.991
Friday, December 18, 2015 12:51:07 0.991
Friday, December 18, 2015 12:56:07 0.991
Friday, December 18, 2015 13:01:08 0.991
Friday, December 18, 2015 13:06:08 0.991
Friday, December 18, 2015 13:11:09 0.991
163.98
50.4
$168.95 \quad 50.1$
$173.90 \quad 50.3$
$178.87 \quad 50.3$
$183.82 \quad 50.0$
$188.80 \quad 50.1$
193.7549 .8
$198.72 \quad 50.0$
203.6749 .7
$208.65 \quad 50.0$
$213.60 \quad 50.0$
$218.57 \quad 49.6$
$223.53 \quad 50.1$
$228.48 \quad 49.7$
$233.45 \quad 50.0$
$238.41 \quad 50.1$
$243.38 \quad 50.1$
$248.33 \quad 50.1$
$253.30 \quad 50.0$
$258.26 \quad 50.1$
$263.23 \quad 49.7$
$268.18 \quad 50.1$
$273.15 \quad 49.9$
$278.11 \quad 50.1$
$283.08 \quad 49.7$
$288.03 \quad 49.7$
$293.00 \quad 50.0$
$297.96 \quad 49.7$
$302.93 \quad 50.0$
$307.88 \quad 50.1$
$312.85 \quad 50.0$
$317.81 \quad 50.1$
$322.78 \quad 50.1$
$327.73 \quad 49.7$
$332.69 \quad 50.1$
$337.66 \quad 50.1$
$342.61 \quad 50.1$
$347.58 \quad 50.1$
$352.54 \quad 49.7$
$357.51 \quad 50.3$
$362.46 \quad 50.2$
$367.43 \quad 50.1$
$372.39 \quad 50.1$
$377.36 \quad 50.1$
$382.31 \quad 50.1$
$387.28 \quad 50.0$
$392.24 \quad 50.0$
$397.21 \quad 50.1$
$402.16 \quad 49.6$
$407.13 \quad 49.6$
$412.09 \quad 50.1$
$417.06 \quad 49.7$
$422.01 \quad 49.7$
$426.99 \quad 50.1$

Friday, December 18, 2015 13:16:09 0.991
Friday, December 18, 2015 13:21:09 0.991
Friday, December 18, 2015 13:26:10 0.991
Friday, December 18, 2015 13:31:10 0.991
Friday, December 18, 2015 13:36:11 0.991
Friday, December 18, 2015 13:41:11 0.991
Friday, December 18, 2015 13:46:12 0.991
Friday, December 18, 2015 13:51:12 0.991
Friday, December 18, 2015 13:56:13 0.991
Friday, December 18, 2015 14:01:13 0.991
Friday, December 18, 2015 14:06:13 0.991
Friday, December 18, 2015 14:11:14 0.991
Friday, December 18, 2015 14:16:14 0.991
Friday, December 18, 2015 14:21:15 0.991
Friday, December 18, 2015 14:26:15 0.991
Friday, December 18, 2015 14:31:16 0.991
Friday, December 18, 2015 14:36:16 0.991
Friday, December 18, 2015 14:41:17 0.991
Friday, December 18, 2015 14:46:17 0.991
Friday, December 18, 2015 14:51:18 0.991
Friday, December 18, 2015 14:56:18 0.991
Friday, December 18, 2015 15:01:19 0.991
Friday, December 18, 2015 15:06:19 0.991
Friday, December 18, 2015 15:11:20 0.991
Friday, December 18, 2015 15:16:20 0.991
Friday, December 18, 2015 15:21:21 0.991
Friday, December 18, 2015 15:26:21 0.991
Friday, December 18, 2015 15:31:22 0.991
Friday, December 18, 2015 15:36:22 0.991
Friday, December 18, 2015 15:41:23 0.991
Friday, December 18, 2015 15:46:23 0.991
Friday, December 18, 2015 15:51:24 0.991
Friday, December 18, 2015 15:56:24 0.991
Friday, December 18, 2015 16:01:25 0.991
Friday, December 18, 2015 16:06:26 0.991
Friday, December 18, 2015 16:11:26 0.991
Friday, December 18, 2015 16:16:27 0.991
Friday, December 18, 2015 16:21:27 0.991
Friday, December 18, 2015 16:26:28 0.991
Friday, December 18, 2015 16:31:28 0.991
Friday, December 18, 2015 16:36:29 0.991
Friday, December 18, 2015 16:41:29 0.991
Friday, December 18, 2015 16:46:29 0.991
Friday, December 18, 2015 16:51:30 0.991
Friday, December 18, 2015 16:56:30 0.991
Friday, December 18, 2015 17:01:31 0.991
Friday, December 18, 2015 17:06:31 0.991
Friday, December 18, 2015 17:11:32 0.991
Friday, December 18, 2015 17:16:32 0.991
Friday, December 18, 2015 17:21:33 0.991
Friday, December 18, 2015 17:26:33 0.991
Friday, December 18, 2015 17:31:34 0.991
Friday, December 18, 2015 17:36:34 0.991
Friday, December 18, 2015 17:41:35 0.991
431.94
50.1
$436.89 \quad 50.1$
$441.87 \quad 50.1$
$446.82 \quad 50.0$
$451.79 \quad 50.0$
$456.74 \quad 50.1$
$461.72 \quad 49.7$
$466.67 \quad 49.9$
$471.64 \quad 50.1$
$476.60 \quad 50.0$
$481.55 \quad 50.0$
$486.52 \quad 50.0$
$491.47 \quad 50.1$
$496.45 \quad 50.1$
$501.40 \quad 50.0$
$506.37 \quad 50.1$
$511.32 \quad 50.1$
$516.30 \quad 50.1$
$521.25 \quad 50.1$
$526.22 \quad 50.1$
$531.18 \quad 50.1$
$536.15 \quad 49.7$
$541.10 \quad 50.1$
$546.07 \quad 50.1$
$551.03 \quad 50.1$
$556.00 \quad 50.1$
$560.95 \quad 50.0$
$565.92 \quad 50.2$
$570.88 \quad 50.1$
$575.85 \quad 49.7$
$580.80 \quad 49.6$
$585.77 \quad 50.1$
590.7349 .8
$595.70 \quad 50.1$
$600.67 \quad 50.1$
$605.62 \quad 50.2$
$610.59 \quad 50.1$
$615.55 \quad 49.3$
$620.52 \quad 50.1$
$625.47 \quad 50.0$
$630.44 \quad 50.1$
$635.40 \quad 50.1$
$640.35 \quad 50.0$
$645.33 \quad 49.7$
$650.28 \quad 49.7$
$655.25 \quad 50.2$
$660.21 \quad 49.6$
$665.18 \quad 49.8$
$670.13 \quad 49.9$
$675.10 \quad 50.3$
$680.06 \quad 50.2$
$685.03 \quad 50.1$
$689.98 \quad 50.0$
694.9549 .8

# Ch. 1 Cartridge Started Thursday, December 24, 2015 6:00:02 

Flow Rate Set Point $1.00 \mathrm{l} / \mathrm{min}$
Stopped Thursday, December 24, 2015 18:00:25
Total Volume 713.24 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.991 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate 0.000 1/min
Ending Leak Rate -0.001 1/min
Flow Controller Zero - 0.006 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Thursday, December 24, 2015 6:00:28 $0.078 \quad 0.22 \quad 50.1$
Thursday, December 24, 2015 6:05:29 $0.991 \quad 5.1950 .4$
Thursday, December 24, 2015 6:10:30 $0.991 \quad 10.16 \quad 50.0$
Thursday, December 24, 2015 6:15:30 $0.991 \quad 15.11 \quad 50.5$
Thursday, December 24, 2015 6:20:31 0.99120 .0949 .7
Thursday, December 24, 2015 6:25:31 $0.991 \quad 25.0449 .7$
Thursday, December 24, 2015 6:30:32 $0.991 \quad 30.01 \quad 50.5$
Thursday, December 24, 2015 6:35:33 $0.991 \quad 34.98 \quad 50.0$
Thursday, December 24, 2015 6:40:33 $0.99139 .93 \quad 50.2$
Thursday, December 24, 2015 6:45:34 $0.99144 .91 \quad 50.1$
Thursday, December 24, 2015 6:50:34 $0.991 \quad 49.8650 .4$
Thursday, December 24, 2015 6:55:35 0.991 54.8350 .5
Thursday, December 24, 2015 7:00:35 0.991 59.7850 .5
Thursday, December 24, 2015 7:05:36 0.991 $64.75 \quad 50.2$
Thursday, December 24, 2015 7:10:36 $0.991 \quad 69.71 \quad 49.8$
Thursday, December 24, 2015 7:15:37 $0.991 \quad 74.6849 .3$
Thursday, December 24, 2015 7:20:38 $0.991 \quad 79.65 \quad 50.7$
Thursday, December 24, 2015 7:25:38 $0.991 \quad 84.6050 .3$
Thursday, December 24, 2015 7:30:39 $0.991 \quad 89.58 \quad 50.0$
Thursday, December 24, 2015 7:35:39 $0.991 \quad 94.53 \quad 50.1$
Thursday, December 24, 2015 7:40:40 $0.991 \quad 99.5049 .7$
Thursday, December 24, 2015 7:45:40 0.991
Thursday, December 24, 2015 7:50:41 0.991
Thursday, December 24, 2015 7:55:42 0.991
Thursday, December 24, 2015 8:00:42 0.991
Thursday, December 24, 2015 8:05:43 0.991
Thursday, December 24, 2015 8:10:43 0.991
Thursday, December 24, 2015 8:15:44 0.991
Thursday, December 24, 2015 8:20:44 0.991
Thursday, December 24, 2015 8:25:45 0.991
Thursday, December 24, 2015 8:30:45 0.991
Thursday, December 24, 2015 8:35:46 0.991
Thursday, December 24, 2015 8:40:47 0.991

Thursday, December 24, 2015 8:45:47 0.991
Thursday, December 24, 2015 8:50:48 0.991
164.02
50.1

Thursday, December 24, 2015 8:55:48 0.991
Thursday, December 24, 2015 9:00:49 0.991
Thursday, December 24, 2015 9:05:49 0.991
Thursday, December 24, 2015 9:10:50 0.991
Thursday, December 24, 2015 9:15:51 0.991
Thursday, December 24, 2015 9:20:51 0.991
Thursday, December 24, 2015 9:25:52 0.991
Thursday, December 24, 2015 9:30:52 0.991
Thursday, December 24, 2015 9:35:53 0.991
Thursday, December 24, 2015 9:40:54 0.991
Thursday, December 24, 2015 9:45:54 0.991
Thursday, December 24, 2015 9:50:55 0.991
Thursday, December 24, 2015 9:55:55 0.991
Thursday, December 24, 2015 10:00:56 0.991
Thursday, December 24, 2015 10:05:56 0.991
Thursday, December 24, 2015 10:10:57 0.991
Thursday, December 24, 2015 10:15:58 0.991
Thursday, December 24, 2015 10:20:58 0.991
Thursday, December 24, 2015 10:25:59 0.991
Thursday, December 24, 2015 10:30:59 0.991
Thursday, December 24, 2015 10:36:00 0.991
Thursday, December 24, 2015 10:41:01 0.991
Thursday, December 24, 2015 10:46:01 0.991
Thursday, December 24, 2015 10:51:02 0.991
Thursday, December 24, 2015 10:56:02 0.991
Thursday, December 24, 2015 11:01:03 0.991
Thursday, December 24, 2015 11:06:03 0.991
Thursday, December 24, 2015 11:11:04 0.991
Thursday, December 24, 2015 11:16:05 0.991
Thursday, December 24, 2015 11:21:05 0.991
Thursday, December 24, 2015 11:26:06 0.991
Thursday, December 24, 2015 11:31:06 0.991
Thursday, December 24, 2015 11:36:07 0.991
Thursday, December 24, 2015 11:41:07 0.991
Thursday, December 24, 2015 11:46:08 0.991
Thursday, December 24, 2015 11:51:09 0.991
Thursday, December 24, 2015 11:56:09 0.991
Thursday, December 24, 2015 12:01:10 0.991
Thursday, December 24, 2015 12:06:10 0.991
Thursday, December 24, 2015 12:11:11 0.991
Thursday, December 24, 2015 12:16:11 0.991
Thursday, December 24, 2015 12:21:12 0.991
Thursday, December 24, 2015 12:26:13 0.991
Thursday, December 24, 2015 12:31:13 0.991
Thursday, December 24, 2015 12:36:14 0.991
Thursday, December 24, 2015 12:41:14 0.991
Thursday, December 24, 2015 12:46:15 0.991
Thursday, December 24, 2015 12:51:15 0.991
Thursday, December 24, 2015 12:56:16 0.991
Thursday, December 24, 2015 13:01:17 0.991
Thursday, December 24, 2015 13:06:17 0.991
Thursday, December 24, 2015 13:11:18 0.991

| 168.99 | 50.4 |
| :---: | :---: |
| 173.95 | 50.7 |
| 178.92 | 49.9 |
| 183.87 | 50.5 |
| 188.84 | 50.3 |
| 193.81 | 50.4 |
| 198.77 | 50.1 |
| 203.74 | 50.2 |
| 208.69 | 50.2 |
| 213.66 | 50.1 |
| 218.63 | 50.8 |
| 223.59 | 49.7 |
| 228.56 | 49.4 |
| 233.51 | 50.3 |
| 238.49 | 50.0 |
| 243.44 | 49.7 |
| 248.41 | 50.2 |
| 253.38 | 49.4 |
| 258.34 | 50.6 |
| 263.31 | 50.5 |
| 268.26 | 49.9 |
| 273.23 | 49.9 |
| 278.20 | 50.2 |
| 283.16 | 50.4 |
| 288.13 | 50.3 |
| 293.08 | 50.4 |
| 298.05 | 50.5 |
| 303.01 | 50.3 |
| 307.98 | 50.4 |
| 312.95 | 50.7 |
| 317.90 | 50.4 |
| 322.87 | 50.5 |
| 327.83 | 50.2 |
| 332.80 | 50.0 |
| 337.75 | 50.4 |
| 342.73 | 50.7 |
| 347.70 | 50.7 |
| 352.65 | 50.0 |
| 357.62 | 50.2 |
| 362.58 | 50.2 |
| 367.55 | 49.8 |
| 372.50 | 50.4 |
| 377.47 | 49.7 |
| 382.44 | 50.3 |
| 387.40 | 50.1 |
| 392.37 | 50.5 |
| 397.32 | 50.6 |
| 402.29 | 50.1 |
| 407.25 | 50.2 |
| 412.22 | 50.5 |
| 417.19 | 50.4 |
| 422.14 | 49.8 |
| 427.11 | 49.9 |

Thursday, December 24, 2015 13:16:18 0.991
Thursday, December 24, 2015 13:21:19 0.991
Thursday, December 24, 2015 13:26:19 0.991
Thursday, December 24, 2015 13:31:20 0.991
Thursday, December 24, 2015 13:36:20 0.991
Thursday, December 24, 2015 13:41:21 0.991
Thursday, December 24, 2015 13:46:22 0.991
Thursday, December 24, 2015 13:51:22 0.991
Thursday, December 24, 2015 13:56:23 0.991
Thursday, December 24, 2015 14:01:23 0.991
Thursday, December 24, 2015 14:06:24 0.991
Thursday, December 24, 2015 14:11:24 0.991
Thursday, December 24, 2015 14:16:25 0.991
Thursday, December 24, 2015 14:21:26 0.991
Thursday, December 24, 2015 14:26:26 0.991
Thursday, December 24, 2015 14:31:27 0.991
Thursday, December 24, 2015 14:36:27 0.991
Thursday, December 24, 2015 14:41:28 0.991
Thursday, December 24, 2015 14:46:28 0.991
Thursday, December 24, 2015 14:51:29 0.991
Thursday, December 24, 2015 14:56:29 0.991
Thursday, December 24, 2015 15:01:30 0.991
Thursday, December 24, 2015 15:06:31 0.991
Thursday, December 24, 2015 15:11:31 0.991
Thursday, December 24, 2015 15:16:32 0.991
Thursday, December 24, 2015 15:21:32 0.991
Thursday, December 24, 2015 15:26:33 0.991
Thursday, December 24, 2015 15:31:33 0.991
Thursday, December 24, 2015 15:36:34 0.991
Thursday, December 24, 2015 15:41:35 0.991
Thursday, December 24, 2015 15:46:35 0.991
Thursday, December 24, 2015 15:51:36 0.991
Thursday, December 24, 2015 15:56:36 0.991
Thursday, December 24, 2015 16:01:37 0.991
Thursday, December 24, 2015 16:06:37 0.991
Thursday, December 24, 2015 16:11:38 0.991
Thursday, December 24, 2015 16:16:39 0.991
Thursday, December 24, 2015 16:21:39 0.991
Thursday, December 24, 2015 16:26:40 0.991
Thursday, December 24, 2015 16:31:40 0.991
Thursday, December 24, 2015 16:36:41 0.991
Thursday, December 24, 2015 16:41:41 0.991
Thursday, December 24, 2015 16:46:42 0.991
Thursday, December 24, 2015 16:51:43 0.991
Thursday, December 24, 2015 16:56:43 0.991
Thursday, December 24, 2015 17:01:44 0.991
Thursday, December 24, 2015 17:06:44 0.991
Thursday, December 24, 2015 17:11:45 0.991
Thursday, December 24, 2015 17:16:45 0.991
Thursday, December 24, 2015 17:21:46 0.991
Thursday, December 24, 2015 17:26:46 0.991
Thursday, December 24, 2015 17:31:47 0.991
Thursday, December 24, 2015 17:36:48 0.991
Thursday, December 24, 2015 17:41:48 0.991
432.07
437.04
49.7
$441.99 \quad 50.5$
$446.96 \quad 50.8$
$451.92 \quad 50.0$
$456.89 \quad 50.7$
$461.86 \quad 50.1$
$466.81 \quad 50.5$
$471.78 \quad 50.5$
$476.74 \quad 50.5$
$481.71 \quad 50.1$
$486.66 \quad 50.1$
$491.63 \quad 50.6$
$496.60 \quad 50.1$
$501.56 \quad 50.2$
$506.53 \quad 50.4$
$511.48 \quad 49.8$
$516.45 \quad 50.1$
$521.41 \quad 50.5$
$526.38 \quad 49.8$
$531.33 \quad 50.2$
$536.30 \quad 50.2$
$541.28 \quad 50.5$
$546.23 \quad 50.6$
$551.20 \quad 50.5$
$556.15 \quad 50.1$
$561.13 \quad 50.0$
$566.08 \quad 50.6$
$571.05 \quad 50.2$
$576.02 \quad 50.0$
$580.98 \quad 50.6$
$585.95 \quad 50.4$
$590.90 \quad 50.5$
$595.87 \quad 50.2$
$600.83 \quad 50.5$
$605.80 \quad 50.8$
$610.77 \quad 50.3$
$615.72 \quad 50.3$
$620.69 \quad 50.5$
$625.65 \quad 50.1$
$630.62 \quad 50.6$
$635.57 \quad 50.5$
$640.54 \quad 50.7$
$645.50 \quad 50.5$
$650.47 \quad 50.4$
$655.44 \quad 50.3$
$660.40 \quad 50.7$
$665.37 \quad 50.6$
$670.32 \quad 50.6$
$675.29 \quad 50.0$
680.2549 .8
$685.22 \quad 50.4$
$690.19 \quad 50.1$
$695.14 \quad 50.8$
formaldehyde001
Ch. 1 Cartridge Started Wednesday, December 30, 2015 6:00:00
Flow Rate Set Point $1.00 \mathrm{l} / \mathrm{min}$
Stopped Wednesday, December 30, 2015 18:00:24
Total Volume 713.26 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.991 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate 0.001 1/min
Ending Leak Rate 0.000 1/min
Flow Controller Zero -0.006 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Wednesday, December 30, 2015 6:00:27 $0.079 \quad 0.23 \quad 49.3$
Wednesday, December 30, 2015 6:05:27 $0.991 \quad 5.18 \quad 50.1$
Wednesday, December 30, 2015 6:10:28 0.991
Wednesday, December 30, 2015 6:15:28 0.991
Wednesday, December 30, 2015 6:20:28 0.991
Wednesday, December 30, 2015 6:25:29 0.991
Wednesday, December 30, 2015 6:30:29 0.991
Wednesday, December 30, 2015 6:35:30 0.991
Wednesday, December 30, 2015 6:40:30 0.991
Wednesday, December 30, 2015 6:45:31 0.991
Wednesday, December 30, 2015 6:50:31 0.991
Wednesday, December 30, 2015 6:55:32 0.991
Wednesday, December 30, 2015 7:00:32 0.991
Wednesday, December 30, 2015 7:05:33 0.991
Wednesday, December 30, 2015 7:10:33 0.991
Wednesday, December 30, 2015 7:15:34 0.991
Wednesday, December 30, 2015 7:20:34 0.991
Wednesday, December 30, 2015 7:25:34 0.991
Wednesday, December 30, 2015 7:30:35 0.991
Wednesday, December 30, 2015 7:35:35 0.991
Wednesday, December 30, 2015 7:40:36 0.991
Wednesday, December 30, 2015 7:45:36 0.991
Wednesday, December 30, 2015 7:50:37 0.991
Wednesday, December 30, 2015 7:55:37 0.991
Wednesday, December 30, 2015 8:00:38 0.991
Wednesday, December 30, 2015 8:05:38 0.991
Wednesday, December 30, 2015 8:10:39 0.991
Wednesday, December 30, 2015 8:15:39 0.991
Wednesday, December 30, 2015 8:20:40 0.991
Wednesday, December 30, 2015 8:25:40 0.991
Wednesday, December 30, 2015 8:30:41 0.991
Wednesday, December 30, 2015 8:35:41 0.991
Wednesday, December 30, 2015 8:40:41 0.991
$10.15 \quad 50.0$
$15.11 \quad 50.0$
$20.06 \quad 50.2$
$25.03 \quad 50.0$
$29.99 \quad 50.1$
$34.96 \quad 50.1$
$39.91 \quad 50.1$
$44.88 \quad 49.7$
$49.84 \quad 50.1$
$54.81 \quad 49.7$
$59.76 \quad 50.1$
$64.73 \quad 50.0$
$69.69 \quad 49.7$
$74.66 \quad 50.1$
$79.61 \quad 50.0$
$84.57 \quad 49.7$
$89.54 \quad 50.1$
$94.49 \quad 49.7$
$99.46 \quad 50.0$
$104.42 \quad 50.0$
$109.39 \quad 50.1$
114.3449 .7
$119.31 \quad 50.2$
$124.27 \quad 50.1$
129.2449 .8
$134.19 \quad 50.1$
$139.16 \quad 50.1$
$144.12 \quad 49.7$
$149.09 \quad 50.2$
$154.04 \quad 50.1$
158.9950 .2

Wednesday, December 30, 2015 8:45:42 0.991
Wednesday, December 30, 2015 8:50:42 0.991
Wednesday, December 30, 2015 8:55:43 0.991
Wednesday, December 30, 2015 9:00:43 0.991
Wednesday, December 30, 2015 9:05:44 0.991
Wednesday, December 30, 2015 9:10:44 0.991
Wednesday, December 30, 2015 9:15:45 0.991
Wednesday, December 30, 2015 9:20:45 0.991
Wednesday, December 30, 2015 9:25:46 0.991
Wednesday, December 30, 2015 9:30:46 0.991
Wednesday, December 30, 2015 9:35:47 0.991
Wednesday, December 30, 2015 9:40:47 0.991
Wednesday, December 30, 2015 9:45:48 0.991
Wednesday, December 30, 2015 9:50:48 0.991
Wednesday, December 30, 2015 9:55:49 0.991
Wednesday, December 30, 2015 10:00:49 0.991
Wednesday, December 30, 2015 10:05:49 0.991
Wednesday, December 30, 2015 10:10:50 0.991
Wednesday, December 30, 2015 10:15:50 0.991
Wednesday, December 30, 2015 10:20:51 0.991
Wednesday, December 30, 2015 10:25:51 0.991
Wednesday, December 30, 2015 10:30:52 0.991
Wednesday, December 30, 2015 10:35:52 0.991
Wednesday, December 30, 2015 10:40:53 0.991
Wednesday, December 30, 2015 10:45:53 0.991
Wednesday, December 30, 2015 10:50:54 0.991
Wednesday, December 30, 2015 10:55:54 0.991
Wednesday, December 30, 2015 11:00:54 0.991
Wednesday, December 30, 2015 11:05:55 0.991
Wednesday, December 30, 2015 11:10:55 0.991
Wednesday, December 30, 2015 11:15:56 0.991
Wednesday, December 30, 2015 11:20:56 0.991
Wednesday, December 30, 2015 11:25:57 0.991
Wednesday, December 30, 2015 11:30:57 0.991
Wednesday, December 30, 2015 11:35:58 0.991
Wednesday, December 30, 2015 11:40:58 0.991
Wednesday, December 30, 2015 11:45:59 0.991
Wednesday, December 30, 2015 11:50:59 0.991
Wednesday, December 30, 2015 11:56:00 0.991
Wednesday, December 30, 2015 12:01:00 0.991
Wednesday, December 30, 2015 12:06:01 0.991
Wednesday, December 30, 2015 12:11:01 0.991
Wednesday, December 30, 2015 12:16:02 0.991
Wednesday, December 30, 2015 12:21:02 0.991
Wednesday, December 30, 2015 12:26:03 0.991
Wednesday, December 30, 2015 12:31:03 0.991
Wednesday, December 30, 2015 12:36:03 0.991
Wednesday, December 30, 2015 12:41:04 0.991
Wednesday, December 30, 2015 12:46:04 0.991
Wednesday, December 30, 2015 12:51:05 0.991
Wednesday, December 30, 2015 12:56:05 0.991
Wednesday, December 30, 2015 13:01:06 0.991
Wednesday, December 30, 2015 13:06:06 0.991
Wednesday, December 30, 2015 13:11:07 0.991
163.97
50.0
168.9249 .7
$173.89 \quad 50.2$
$178.84 \quad 50.1$
$183.82 \quad 50.1$
$188.77 \quad 49.7$
193.7449 .4
$198.69 \quad 50.1$
$203.67 \quad 50.2$
$208.62 \quad 50.0$
$213.59 \quad 49.8$
$218.54 \quad 49.7$
$223.52 \quad 50.2$
$228.47 \quad 50.1$
$233.44 \quad 50.0$
$238.39 \quad 50.0$
$243.35 \quad 50.0$
$248.32 \quad 49.7$
$253.27 \quad 49.7$
$258.25 \quad 50.1$
$263.20 \quad 50.1$
$268.17 \quad 50.0$
$273.13 \quad 50.0$
$278.10 \quad 50.0$
283.0549 .6
$288.02 \quad 50.0$
$292.98 \quad 49.3$
$297.93 \quad 49.6$
$302.90 \quad 49.7$
$307.86 \quad 50.0$
$312.83 \quad 49.7$
$317.78 \quad 50.1$
$322.75 \quad 50.1$
$327.71 \quad 50.0$
$332.68 \quad 50.1$
$337.63 \quad 49.6$
$342.60 \quad 50.2$
$347.56 \quad 50.0$
$352.53 \quad 50.0$
$357.48 \quad 50.0$
$362.45 \quad 50.0$
$367.41 \quad 50.1$
$372.38 \quad 49.7$
$377.33 \quad 50.1$
$382.31 \quad 50.0$
$387.26 \quad 50.1$
$392.22 \quad 49.6$
$397.19 \quad 50.1$
$402.14 \quad 50.0$
$407.11 \quad 49.9$
$412.07 \quad 49.8$
$417.04 \quad 50.1$
$421.99 \quad 50.0$
$426.96 \quad 50.1$

Wednesday, December 30, 2015 13:16:07 0.991
Wednesday, December 30, 2015 13:21:08 0.991
Wednesday, December 30, 2015 13:26:08 0.991
Wednesday, December 30, 2015 13:31:09 0.991
Wednesday, December 30, 2015 13:36:09 0.991
Wednesday, December 30, 2015 13:41:09 0.991
Wednesday, December 30, 2015 13:46:10 0.991
Wednesday, December 30, 2015 13:51:10 0.991
Wednesday, December 30, 2015 13:56:11 0.991
Wednesday, December 30, 2015 14:01:11 0.991
Wednesday, December 30, 2015 14:06:12 0.991
Wednesday, December 30, 2015 14:11:12 0.991
Wednesday, December 30, 2015 14:16:13 0.991
Wednesday, December 30, 2015 14:21:13 0.991
Wednesday, December 30, 2015 14:26:14 0.991
Wednesday, December 30, 2015 14:31:14 0.991
Wednesday, December 30, 2015 14:36:14 0.991
Wednesday, December 30, 2015 14:41:15 0.991
Wednesday, December 30, 2015 14:46:15 0.991
Wednesday, December 30, 2015 14:51:16 0.991
Wednesday, December 30, 2015 14:56:16 0.991
Wednesday, December 30, 2015 15:01:17 0.991
Wednesday, December 30, 2015 15:06:17 0.991
Wednesday, December 30, 2015 15:11:18 0.991
Wednesday, December 30, 2015 15:16:18 0.991
Wednesday, December 30, 2015 15:21:19 0.991
Wednesday, December 30, 2015 15:26:19 0.991
Wednesday, December 30, 2015 15:31:20 0.991
Wednesday, December 30, 2015 15:36:20 0.991
Wednesday, December 30, 2015 15:41:20 0.991
Wednesday, December 30, 2015 15:46:21 0.991
Wednesday, December 30, 2015 15:51:21 0.991
Wednesday, December 30, 2015 15:56:22 0.991
Wednesday, December 30, 2015 16:01:22 0.991
Wednesday, December 30, 2015 16:06:23 0.991
Wednesday, December 30, 2015 16:11:23 0.991
Wednesday, December 30, 2015 16:16:24 0.991
Wednesday, December 30, 2015 16:21:24 0.991
Wednesday, December 30, 2015 16:26:25 0.991
Wednesday, December 30, 2015 16:31:25 0.991
Wednesday, December 30, 2015 16:36:26 0.991
Wednesday, December 30, 2015 16:41:26 0.991
Wednesday, December 30, 2015 16:46:27 0.991
Wednesday, December 30, 2015 16:51:27 0.991
Wednesday, December 30, 2015 16:56:27 0.991
Wednesday, December 30, 2015 17:01:28 0.991
Wednesday, December 30, 2015 17:06:28 0.991
Wednesday, December 30, 2015 17:11:29 0.991
Wednesday, December 30, 2015 17:16:29 0.991
Wednesday, December 30, 2015 17:21:30 0.991
Wednesday, December 30, 2015 17:26:30 0.991
Wednesday, December 30, 2015 17:31:31 0.991
Wednesday, December 30, 2015 17:36:31 0.991
Wednesday, December 30, 2015 17:41:32 0.991
431.92
50.1
$436.89 \quad 50.1$
$441.84 \quad 49.8$
$446.81 \quad 50.1$
$451.77 \quad 50.1$
$456.72 \quad 50.1$
$461.69 \quad 50.1$
$466.65 \quad 50.1$
$471.62 \quad 50.1$
$476.57 \quad 50.1$
$481.54 \quad 50.1$
$486.50 \quad 50.1$
$491.47 \quad 49.8$
$496.42 \quad 49.7$
$501.39 \quad 50.1$
$506.35 \quad 50.1$
$511.30 \quad 50.1$
$516.27 \quad 50.0$
$521.23 \quad 50.1$
$526.20 \quad 49.7$
$531.15 \quad 50.1$
$536.12 \quad 50.0$
$541.08 \quad 50.1$
$546.05 \quad 50.1$
$551.00 \quad 50.0$
$555.97 \quad 50.1$
560.9349 .3
$565.90 \quad 50.0$
$570.86 \quad 50.0$
$575.81 \quad 50.1$
$580.78 \quad 50.1$
$585.74 \quad 50.1$
$590.71 \quad 50.0$
$595.66 \quad 50.1$
$600.63 \quad 50.1$
$605.59 \quad 50.1$
$610.56 \quad 50.1$
$615.51 \quad 50.1$
$620.49 \quad 50.1$
$625.44 \quad 50.1$
$630.41 \quad 49.7$
$635.37 \quad 50.1$
$640.34 \quad 50.2$
$645.29 \quad 50.1$
$650.24 \quad 50.2$
$655.22 \quad 50.1$
$660.17 \quad 50.0$
$665.14 \quad 50.0$
$670.09 \quad 50.1$
$675.07 \quad 50.1$
$680.02 \quad 49.6$
$684.99 \quad 49.7$
$689.94 \quad 50.1$
694.9250 .1
formaldehyde001
Ch. 1 Cartridge Started Wednesday, December 30, 2015 6:00:00
Flow Rate Set Point $1.00 \mathrm{l} / \mathrm{min}$
Stopped Wednesday, December 30, 2015 18:00:24
Total Volume 713.26 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.991 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate 0.001 1/min
Ending Leak Rate 0.000 1/min
Flow Controller Zero -0.006 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Wednesday, December 30, 2015 6:00:27 $0.079 \quad 0.23 \quad 49.3$
Wednesday, December 30, 2015 6:05:27 $0.991 \quad 5.18 \quad 50.1$
Wednesday, December 30, 2015 6:10:28 0.991
Wednesday, December 30, 2015 6:15:28 0.991
Wednesday, December 30, 2015 6:20:28 0.991
Wednesday, December 30, 2015 6:25:29 0.991
Wednesday, December 30, 2015 6:30:29 0.991
Wednesday, December 30, 2015 6:35:30 0.991
Wednesday, December 30, 2015 6:40:30 0.991
Wednesday, December 30, 2015 6:45:31 0.991
Wednesday, December 30, 2015 6:50:31 0.991
Wednesday, December 30, 2015 6:55:32 0.991
Wednesday, December 30, 2015 7:00:32 0.991
Wednesday, December 30, 2015 7:05:33 0.991
Wednesday, December 30, 2015 7:10:33 0.991
Wednesday, December 30, 2015 7:15:34 0.991
Wednesday, December 30, 2015 7:20:34 0.991
Wednesday, December 30, 2015 7:25:34 0.991
Wednesday, December 30, 2015 7:30:35 0.991
Wednesday, December 30, 2015 7:35:35 0.991
Wednesday, December 30, 2015 7:40:36 0.991
Wednesday, December 30, 2015 7:45:36 0.991
Wednesday, December 30, 2015 7:50:37 0.991
Wednesday, December 30, 2015 7:55:37 0.991
Wednesday, December 30, 2015 8:00:38 0.991
Wednesday, December 30, 2015 8:05:38 0.991
Wednesday, December 30, 2015 8:10:39 0.991
Wednesday, December 30, 2015 8:15:39 0.991
Wednesday, December 30, 2015 8:20:40 0.991
Wednesday, December 30, 2015 8:25:40 0.991
Wednesday, December 30, 2015 8:30:41 0.991
Wednesday, December 30, 2015 8:35:41 0.991
Wednesday, December 30, 2015 8:40:41 0.991
$10.15 \quad 50.0$
$15.11 \quad 50.0$
$20.06 \quad 50.2$
$25.03 \quad 50.0$
$29.99 \quad 50.1$
$34.96 \quad 50.1$
$39.91 \quad 50.1$
$44.88 \quad 49.7$
$49.84 \quad 50.1$
$54.81 \quad 49.7$
$59.76 \quad 50.1$
$64.73 \quad 50.0$
$69.69 \quad 49.7$
$74.66 \quad 50.1$
$79.61 \quad 50.0$
$84.57 \quad 49.7$
$89.54 \quad 50.1$
$94.49 \quad 49.7$
$99.46 \quad 50.0$
$104.42 \quad 50.0$
$109.39 \quad 50.1$
114.3449 .7
$119.31 \quad 50.2$
$124.27 \quad 50.1$
129.2449 .8
$134.19 \quad 50.1$
$139.16 \quad 50.1$
$144.12 \quad 49.7$
$149.09 \quad 50.2$
$154.04 \quad 50.1$
158.9950 .2

Wednesday, December 30, 2015 8:45:42 0.991
Wednesday, December 30, 2015 8:50:42 0.991
Wednesday, December 30, 2015 8:55:43 0.991
Wednesday, December 30, 2015 9:00:43 0.991
Wednesday, December 30, 2015 9:05:44 0.991
Wednesday, December 30, 2015 9:10:44 0.991
Wednesday, December 30, 2015 9:15:45 0.991
Wednesday, December 30, 2015 9:20:45 0.991
Wednesday, December 30, 2015 9:25:46 0.991
Wednesday, December 30, 2015 9:30:46 0.991
Wednesday, December 30, 2015 9:35:47 0.991
Wednesday, December 30, 2015 9:40:47 0.991
Wednesday, December 30, 2015 9:45:48 0.991
Wednesday, December 30, 2015 9:50:48 0.991
Wednesday, December 30, 2015 9:55:49 0.991
Wednesday, December 30, 2015 10:00:49 0.991
Wednesday, December 30, 2015 10:05:49 0.991
Wednesday, December 30, 2015 10:10:50 0.991
Wednesday, December 30, 2015 10:15:50 0.991
Wednesday, December 30, 2015 10:20:51 0.991
Wednesday, December 30, 2015 10:25:51 0.991
Wednesday, December 30, 2015 10:30:52 0.991
Wednesday, December 30, 2015 10:35:52 0.991
Wednesday, December 30, 2015 10:40:53 0.991
Wednesday, December 30, 2015 10:45:53 0.991
Wednesday, December 30, 2015 10:50:54 0.991
Wednesday, December 30, 2015 10:55:54 0.991
Wednesday, December 30, 2015 11:00:54 0.991
Wednesday, December 30, 2015 11:05:55 0.991
Wednesday, December 30, 2015 11:10:55 0.991
Wednesday, December 30, 2015 11:15:56 0.991
Wednesday, December 30, 2015 11:20:56 0.991
Wednesday, December 30, 2015 11:25:57 0.991
Wednesday, December 30, 2015 11:30:57 0.991
Wednesday, December 30, 2015 11:35:58 0.991
Wednesday, December 30, 2015 11:40:58 0.991
Wednesday, December 30, 2015 11:45:59 0.991
Wednesday, December 30, 2015 11:50:59 0.991
Wednesday, December 30, 2015 11:56:00 0.991
Wednesday, December 30, 2015 12:01:00 0.991
Wednesday, December 30, 2015 12:06:01 0.991
Wednesday, December 30, 2015 12:11:01 0.991
Wednesday, December 30, 2015 12:16:02 0.991
Wednesday, December 30, 2015 12:21:02 0.991
Wednesday, December 30, 2015 12:26:03 0.991
Wednesday, December 30, 2015 12:31:03 0.991
Wednesday, December 30, 2015 12:36:03 0.991
Wednesday, December 30, 2015 12:41:04 0.991
Wednesday, December 30, 2015 12:46:04 0.991
Wednesday, December 30, 2015 12:51:05 0.991
Wednesday, December 30, 2015 12:56:05 0.991
Wednesday, December 30, 2015 13:01:06 0.991
Wednesday, December 30, 2015 13:06:06 0.991
Wednesday, December 30, 2015 13:11:07 0.991
163.97
50.0
168.9249 .7
$173.89 \quad 50.2$
$178.84 \quad 50.1$
$183.82 \quad 50.1$
$188.77 \quad 49.7$
193.7449 .4
$198.69 \quad 50.1$
$203.67 \quad 50.2$
$208.62 \quad 50.0$
$213.59 \quad 49.8$
$218.54 \quad 49.7$
$223.52 \quad 50.2$
$228.47 \quad 50.1$
$233.44 \quad 50.0$
$238.39 \quad 50.0$
$243.35 \quad 50.0$
$248.32 \quad 49.7$
$253.27 \quad 49.7$
$258.25 \quad 50.1$
$263.20 \quad 50.1$
$268.17 \quad 50.0$
$273.13 \quad 50.0$
$278.10 \quad 50.0$
283.0549 .6
$288.02 \quad 50.0$
$292.98 \quad 49.3$
$297.93 \quad 49.6$
$302.90 \quad 49.7$
$307.86 \quad 50.0$
$312.83 \quad 49.7$
$317.78 \quad 50.1$
$322.75 \quad 50.1$
$327.71 \quad 50.0$
$332.68 \quad 50.1$
$337.63 \quad 49.6$
$342.60 \quad 50.2$
$347.56 \quad 50.0$
$352.53 \quad 50.0$
$357.48 \quad 50.0$
$362.45 \quad 50.0$
$367.41 \quad 50.1$
$372.38 \quad 49.7$
$377.33 \quad 50.1$
$382.31 \quad 50.0$
$387.26 \quad 50.1$
$392.22 \quad 49.6$
$397.19 \quad 50.1$
$402.14 \quad 50.0$
$407.11 \quad 49.9$
$412.07 \quad 49.8$
$417.04 \quad 50.1$
$421.99 \quad 50.0$
$426.96 \quad 50.1$

Wednesday, December 30, 2015 13:16:07 0.991
Wednesday, December 30, 2015 13:21:08 0.991
Wednesday, December 30, 2015 13:26:08 0.991
Wednesday, December 30, 2015 13:31:09 0.991
Wednesday, December 30, 2015 13:36:09 0.991
Wednesday, December 30, 2015 13:41:09 0.991
Wednesday, December 30, 2015 13:46:10 0.991
Wednesday, December 30, 2015 13:51:10 0.991
Wednesday, December 30, 2015 13:56:11 0.991
Wednesday, December 30, 2015 14:01:11 0.991
Wednesday, December 30, 2015 14:06:12 0.991
Wednesday, December 30, 2015 14:11:12 0.991
Wednesday, December 30, 2015 14:16:13 0.991
Wednesday, December 30, 2015 14:21:13 0.991
Wednesday, December 30, 2015 14:26:14 0.991
Wednesday, December 30, 2015 14:31:14 0.991
Wednesday, December 30, 2015 14:36:14 0.991
Wednesday, December 30, 2015 14:41:15 0.991
Wednesday, December 30, 2015 14:46:15 0.991
Wednesday, December 30, 2015 14:51:16 0.991
Wednesday, December 30, 2015 14:56:16 0.991
Wednesday, December 30, 2015 15:01:17 0.991
Wednesday, December 30, 2015 15:06:17 0.991
Wednesday, December 30, 2015 15:11:18 0.991
Wednesday, December 30, 2015 15:16:18 0.991
Wednesday, December 30, 2015 15:21:19 0.991
Wednesday, December 30, 2015 15:26:19 0.991
Wednesday, December 30, 2015 15:31:20 0.991
Wednesday, December 30, 2015 15:36:20 0.991
Wednesday, December 30, 2015 15:41:20 0.991
Wednesday, December 30, 2015 15:46:21 0.991
Wednesday, December 30, 2015 15:51:21 0.991
Wednesday, December 30, 2015 15:56:22 0.991
Wednesday, December 30, 2015 16:01:22 0.991
Wednesday, December 30, 2015 16:06:23 0.991
Wednesday, December 30, 2015 16:11:23 0.991
Wednesday, December 30, 2015 16:16:24 0.991
Wednesday, December 30, 2015 16:21:24 0.991
Wednesday, December 30, 2015 16:26:25 0.991
Wednesday, December 30, 2015 16:31:25 0.991
Wednesday, December 30, 2015 16:36:26 0.991
Wednesday, December 30, 2015 16:41:26 0.991
Wednesday, December 30, 2015 16:46:27 0.991
Wednesday, December 30, 2015 16:51:27 0.991
Wednesday, December 30, 2015 16:56:27 0.991
Wednesday, December 30, 2015 17:01:28 0.991
Wednesday, December 30, 2015 17:06:28 0.991
Wednesday, December 30, 2015 17:11:29 0.991
Wednesday, December 30, 2015 17:16:29 0.991
Wednesday, December 30, 2015 17:21:30 0.991
Wednesday, December 30, 2015 17:26:30 0.991
Wednesday, December 30, 2015 17:31:31 0.991
Wednesday, December 30, 2015 17:36:31 0.991
Wednesday, December 30, 2015 17:41:32 0.991
431.92
50.1
$436.89 \quad 50.1$
$441.84 \quad 49.8$
$446.81 \quad 50.1$
$451.77 \quad 50.1$
$456.72 \quad 50.1$
$461.69 \quad 50.1$
$466.65 \quad 50.1$
$471.62 \quad 50.1$
$476.57 \quad 50.1$
$481.54 \quad 50.1$
$486.50 \quad 50.1$
$491.47 \quad 49.8$
$496.42 \quad 49.7$
$501.39 \quad 50.1$
$506.35 \quad 50.1$
$511.30 \quad 50.1$
$516.27 \quad 50.0$
$521.23 \quad 50.1$
$526.20 \quad 49.7$
$531.15 \quad 50.1$
$536.12 \quad 50.0$
$541.08 \quad 50.1$
$546.05 \quad 50.1$
$551.00 \quad 50.0$
$555.97 \quad 50.1$
560.9349 .3
$565.90 \quad 50.0$
$570.86 \quad 50.0$
$575.81 \quad 50.1$
$580.78 \quad 50.1$
$585.74 \quad 50.1$
$590.71 \quad 50.0$
$595.66 \quad 50.1$
$600.63 \quad 50.1$
$605.59 \quad 50.1$
$610.56 \quad 50.1$
$615.51 \quad 50.1$
$620.49 \quad 50.1$
$625.44 \quad 50.1$
$630.41 \quad 49.7$
$635.37 \quad 50.1$
$640.34 \quad 50.2$
$645.29 \quad 50.1$
$650.24 \quad 50.2$
$655.22 \quad 50.1$
$660.17 \quad 50.0$
$665.14 \quad 50.0$
$670.09 \quad 50.1$
$675.07 \quad 50.1$
$680.02 \quad 49.6$
$684.99 \quad 49.7$
$689.94 \quad 50.1$
694.9250 .1

# Ch. 2 Cartridge Started Thursday, September 24, 2015 18:15:00 

Flow Rate Set Point $1.00 \mathrm{l} / \mathrm{min}$
Stopped Friday, September 25, 2015 6:15:25
Total Volume 712.85 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.990 1/min
Minimum Flow Rate 0.990 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate $0.001 \mathrm{l} / \mathrm{min}$
Ending Leak Rate $0.000 \mathrm{l} / \mathrm{min}$
Flow Controller Zero -0.003 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

| Thursday, September 24, 2015 18:15:27 | 0.080 | 0.22 | 50.1 |
| :--- | :--- | :--- | :--- |
| Thursday, September 24, 2015 18:20:28 | 0.990 | 5.19 | 50.3 |
| Thursday, September 24, 2015 18:25:28 | 0.990 | 10.14 | 49.7 |
| Thursday, September 24, 2015 18:30:29 | 0.990 | 15.11 | 49.8 |
| Thursday, September 24, 2015 18:35:29 | 0.990 | 20.06 | 50.2 |
| Thursday, September 24, 2015 18:40:30 | 0.990 | 25.03 | 50.2 |
| Thursday, September 24, 2015 18:45:30 | 0.990 | 29.98 | 49.7 |
| Thursday, September 24, 2015 18:50:31 | 0.990 | 34.95 | 50.2 |
| Thursday, September 24, 2015 18:55:31 | 0.990 | 39.90 | 50.1 |
| Thursday, September 24, 2015 19:00:32 | 0.990 | 44.87 | 50.1 |
| Thursday, September 24, 2015 19:05:32 | 0.990 | 49.82 | 49.7 |
| Thursday, September 24, 2015 19:10:33 | 0.990 | 54.79 | 49.7 |
| Thursday, September 24, 2015 19:15:33 | 0.990 | 59.74 | 49.7 |
| Thursday, September 24, 2015 19:20:34 | 0.990 | 64.71 | 49.8 |
| Thursday, September 24, 2015 19:25:35 | 0.990 | 69.67 | 50.4 |
| Thursday, September 24, 2015 19:30:35 | 0.990 | 74.63 | 50.0 |
| Thursday, September 24, 2015 19:35:36 0.990 | 79.59 | 49.6 |  |
| Thursday, September 24, 2015 19:40:36 | 0.990 | 84.55 | 50.1 |
| Thursday, September 24, 2015 19:45:37 | 0.990 | 89.51 | 49.3 |
| Thursday, September 24, 2015 19:50:37 | 0.990 | 94.46 | 49.7 |
| Thursday, September 24, 2015 19:55:38 | 0.990 | 99.43 | 50.2 |
| Thursday, September 24, 2015 20:00:38 | 0.990 | 104.38 | 49.8 |
| Thursday, September 24, 2015 20:05:39 | 0.990 | 109.35 | 50.4 |
| Thursday, September 24, 2015 20:10:39 | 0.990 | 114.30 | 49.8 |
| Thursday, September 24, 2015 20:15:40 0.990 | 119.27 | 49.7 |  |
| Thursday, September 24, 2015 20:20:40 | 0.990 | 124.22 | 50.1 |
| Thursday, September 24, 2015 20:25:41 | 0.990 | 129.19 | 50.1 |
| Thursday, September 24, 2015 20:30:41 | 0.990 | 134.14 | 50.2 |
| Thursday, September 24, 2015 20:35:42 0.990 | 139.11 | 50.1 |  |
| Thursday, September 24, 2015 20:40:42 0.990 | 144.06 | 49.5 |  |
| Thursday, September 24, 2015 20:45:43 0.990 | 149.03 | 50.2 |  |
| Thursday, September 24, 2015 20:50:43 0.990 | 153.98 | 49.7 |  |
| Thursday, September 24, 2015 20:55:44 0.990 | 158.95 | 50.3 |  |

Thursday, September 24, 2015 21:00:45 0.990
Thursday, September 24, 2015 21:05:45 0.990
Thursday, September 24, 2015 21:10:46 0.990
Thursday, September 24, 2015 21:15:46 0.990
Thursday, September 24, 2015 21:20:47 0.990
Thursday, September 24, 2015 21:25:47 0.990
Thursday, September 24, 2015 21:30:48 0.990
Thursday, September 24, 2015 21:35:48 0.990
Thursday, September 24, 2015 21:40:49 0.990
Thursday, September 24, 2015 21:45:49 0.990
Thursday, September 24, 2015 21:50:50 0.990
Thursday, September 24, 2015 21:55:50 0.990
Thursday, September 24, 2015 22:00:51 0.990
Thursday, September 24, 2015 22:05:51 0.990
Thursday, September 24, 2015 22:10:52 0.990
Thursday, September 24, 2015 22:15:52 0.990
Thursday, September 24, 2015 22:20:53 0.990
Thursday, September 24, 2015 22:25:53 0.990
Thursday, September 24, 2015 22:30:54 0.990
Thursday, September 24, 2015 22:35:54 0.990
Thursday, September 24, 2015 22:40:55 0.990
Thursday, September 24, 2015 22:45:56 0.990
Thursday, September 24, 2015 22:50:56 0.990
Thursday, September 24, 2015 22:55:57 0.990
Thursday, September 24, 2015 23:00:57 0.990
Thursday, September 24, 2015 23:05:58 0.990
Thursday, September 24, 2015 23:10:58 0.990
Thursday, September 24, 2015 23:15:59 0.990
Thursday, September 24, 2015 23:20:59 0.990
Thursday, September 24, 2015 23:26:00 0.990
Thursday, September 24, 2015 23:31:00 0.990
Thursday, September 24, 2015 23:36:01 0.990
Thursday, September 24, 2015 23:41:01 0.990
Thursday, September 24, 2015 23:46:02 0.990
Thursday, September 24, 2015 23:51:02 0.990
Thursday, September 24, 2015 23:56:03 0.990 $337.51 \quad 50.4$
Friday, September 25, 2015 0:01:04 0.990 $342.48 \quad 50.1$
Friday, September 25, 2015 0:06:04 0.990 $347.43 \quad 50.1$
Friday, September 25, 2015 0:11:04 $0.990 \quad 352.38 \quad 50.2$
Friday, September 25, 2015 0:16:05 $0.990 \quad 357.3549 .8$
Friday, September 25, 2015 0:21:05 $0.990 \quad 362.30 \quad 50.1$
Friday, September 25, 2015 0:26:06 0.990 $367.27 \quad 49.9$
Friday, September 25, 2015 0:31:06 0.990 372.2249 .6
Friday, September 25, 2015 0:36:07 $0.990 \quad 377.19 \quad 50.0$
Friday, September 25, 2015 0:41:07 $0.990 \quad 382.14 \quad 50.1$
Friday, September 25, 2015 0:46:08 $0.990 \quad 387.10 \quad 50.3$
Friday, September 25, 2015 0:51:08 $0.990 \quad 392.06 \quad 50.2$
Friday, September 25, 2015 0:56:09 $0.990 \quad 397.02 \quad 50.1$
Friday, September 25, 2015 1:01:09 0.990401 .9850 .2
Friday, September 25, 2015 1:06:10 0.990406 .9449 .9
Friday, September 25, 2015 1:11:10 $0.990 \quad 411.8950 .0$
Friday, September 25, 2015 1:16:11 0.990416 .8650 .0
Friday, September 25, 2015 1:21:11 0.990421 .8149 .7
Friday, September 25, 2015 1:26:12 $0.990426 .78 \quad 50.1$

Friday, September 25, 2015 1:31:12 0.990
Friday, September 25, 2015 1:36:13 0.990
Friday, September 25, 2015 1:41:13 0.990
Friday, September 25, 2015 1:46:14 0.990
Friday, September 25, 2015 1:51:14 0.990
Friday, September 25, 2015 1:56:15 0.990
Friday, September 25, 2015 2:01:15 0.990
Friday, September 25, 2015 2:06:16 0.990
Friday, September 25, 2015 2:11:16 0.990
Friday, September 25, 2015 2:16:17 0.990
Friday, September 25, 2015 2:21:17 0.990
Friday, September 25, 2015 2:26:18 0.990
Friday, September 25, 2015 2:31:18 0.990
Friday, September 25, 2015 2:36:19 0.990
Friday, September 25, 2015 2:41:19 0.990
Friday, September 25, 2015 2:46:20 0.990
Friday, September 25, 2015 2:51:20 0.990
Friday, September 25, 2015 2:56:21 0.990
Friday, September 25, 2015 3:01:21 0.990
Friday, September 25, 2015 3:06:21 0.990
Friday, September 25, 2015 3:11:22 0.990
Friday, September 25, 2015 3:16:22 0.990
Friday, September 25, 2015 3:21:23 0.990
Friday, September 25, 2015 3:26:23 0.990
Friday, September 25, 2015 3:31:24 0.990
Friday, September 25, 2015 3:36:24 0.990
Friday, September 25, 2015 3:41:25 0.990
Friday, September 25, 2015 3:46:25 0.990
Friday, September 25, 2015 3:51:26 0.990
Friday, September 25, 2015 3:56:26 0.990
Friday, September 25, 2015 4:01:27 0.990
Friday, September 25, 2015 4:06:27 0.990
Friday, September 25, 2015 4:11:28 0.990
Friday, September 25, 2015 4:16:28 0.990
Friday, September 25, 2015 4:21:29 0.990
Friday, September 25, 2015 4:26:29 0.990
Friday, September 25, 2015 4:31:30 0.990
Friday, September 25, 2015 4:36:30 0.990
Friday, September 25, 2015 4:41:31 0.990
Friday, September 25, 2015 4:46:31 0.990
Friday, September 25, 2015 4:51:32 0.990
Friday, September 25, 2015 4:56:32 0.990
Friday, September 25, 2015 5:01:33 0.990
Friday, September 25, 2015 5:06:33 0.990
Friday, September 25, 2015 5:11:34 0.990
Friday, September 25, 2015 5:16:34 0.990
Friday, September 25, 2015 5:21:35 0.990
Friday, September 25, 2015 5:26:35 0.990
Friday, September 25, 2015 5:31:36 0.990
Friday, September 25, 2015 5:36:36 0.990
Friday, September 25, 2015 5:41:37 0.990
Friday, September 25, 2015 5:46:37 0.990
Friday, September 25, 2015 5:51:38 0.990
Friday, September 25, 2015 5:56:38 0.990

| 431.73 | 50.1 |
| :--- | :--- |
| 436.70 | 49.8 |
| 441.65 | 49.9 |
| 446.62 | 49.7 |
| 451.57 | 49.4 |
| 456.54 | 50.1 |
| 461.49 | 49.8 |
| 466.46 | 49.8 |
| 471.41 | 49.7 |
| 476.38 | 49.3 |
| 481.33 | 50.1 |
| 486.30 | 50.3 |
| 491.25 | 50.1 |
| 496.22 | 50.4 |
| 501.17 | 50.1 |
| 506.13 | 50.1 |
| 511.09 | 49.7 |
| 516.05 | 49.9 |
| 521.01 | 49.8 |
| 525.96 | 50.2 |
| 530.93 | 50.4 |
| 535.88 | 49.4 |
| 540.85 | 50.0 |
| 545.80 | 50.2 |
| 550.77 | 50.1 |
| 555.72 | 50.2 |
| 560.69 | 50.0 |
| 565.64 | 49.7 |
| 570.61 | 49.5 |
| 575.56 | 50.1 |
| 580.53 | 50.1 |
| 585.48 | 50.1 |
| 590.45 | 49.7 |
| 595.40 | 50.4 |
| 600.37 | 50.1 |
| 605.32 | 49.8 |
| 610.29 | 49.7 |
| 615.24 | 50.1 |
| 620.21 | 49.7 |
| 625.16 | 49.9 |
| 630.13 | 50.2 |
| 635.08 | 50.0 |
| 640.05 | 49.6 |
| 645.00 | 50.2 |
| 649.97 | 49.7 |
| 654.92 | 50.1 |
| 659.89 | 49.2 |
| 664.84 | 50.1 |
| 669.81 | 50.1 |
| 674.76 | 49.6 |
| 679.73 | 50.1 |
| 684.68 | 50.3 |
| 689.65 | 49.4 |
| 694.60 | 50.2 |
|  |  |

$436.70 \quad 49.8$
$441.65 \quad 49.9$
$446.62 \quad 49.7$
$451.57 \quad 49.4$
$456.54 \quad 50.1$
$461.49 \quad 49.8$
$466.46 \quad 49.8$
$471.41 \quad 49.7$
$476.38 \quad 49.3$
$481.33 \quad 50.1$
$486.30 \quad 50.3$
$491.25 \quad 50.1$
$496.22 \quad 50.4$
$501.17 \quad 50.1$
$506.13 \quad 50.1$
$511.09 \quad 49.7$
516.0549 .9
$521.01 \quad 49.8$
$525.96 \quad 50.2$
$530.93 \quad 50.4$
$535.88 \quad 49.4$
$540.85 \quad 50.0$
$550.77 \quad 50.1$
$555.72 \quad 50.2$
$560.69 \quad 50.0$
$565.64 \quad 49.7$
$570.61 \quad 49.5$
$575.56 \quad 50.1$
$580.53 \quad 50.1$
$585.48 \quad 50.1$
$590.45 \quad 49.7$
$595.40 \quad 50.4$
$600.37 \quad 50.1$
605.3249 .8
610.2949 .7
$615.24 \quad 50.1$
$620.21 \quad 49.7$
625.1649 .9
$630.13 \quad 50.2$
640.0549 .6
$645.00 \quad 50.2$
$649.97 \quad 49.7$
$654.92 \quad 50.1$
$659.89 \quad 49.2$
$664.84 \quad 50.1$
$669.81 \quad 50.1$
674.7649 .6
$679.73 \quad 50.1$
$684.68 \quad 50.3$
$689.65 \quad 49.4$
$694.60 \quad 50.2$

# Ch. 2 Cartridge Started Thursday, September 24, 2015 18:15:00 

Flow Rate Set Point $1.00 \mathrm{l} / \mathrm{min}$
Stopped Friday, September 25, 2015 6:15:25
Total Volume 712.85 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.990 1/min
Minimum Flow Rate 0.990 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate $0.001 \mathrm{l} / \mathrm{min}$
Ending Leak Rate $0.000 \mathrm{l} / \mathrm{min}$
Flow Controller Zero -0.003 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

| Thursday, September 24, 2015 18:15:27 | 0.080 | 0.22 | 50.1 |
| :--- | :--- | :--- | :--- |
| Thursday, September 24, 2015 18:20:28 | 0.990 | 5.19 | 50.3 |
| Thursday, September 24, 2015 18:25:28 | 0.990 | 10.14 | 49.7 |
| Thursday, September 24, 2015 18:30:29 | 0.990 | 15.11 | 49.8 |
| Thursday, September 24, 2015 18:35:29 | 0.990 | 20.06 | 50.2 |
| Thursday, September 24, 2015 18:40:30 | 0.990 | 25.03 | 50.2 |
| Thursday, September 24, 2015 18:45:30 | 0.990 | 29.98 | 49.7 |
| Thursday, September 24, 2015 18:50:31 | 0.990 | 34.95 | 50.2 |
| Thursday, September 24, 2015 18:55:31 | 0.990 | 39.90 | 50.1 |
| Thursday, September 24, 2015 19:00:32 | 0.990 | 44.87 | 50.1 |
| Thursday, September 24, 2015 19:05:32 | 0.990 | 49.82 | 49.7 |
| Thursday, September 24, 2015 19:10:33 | 0.990 | 54.79 | 49.7 |
| Thursday, September 24, 2015 19:15:33 | 0.990 | 59.74 | 49.7 |
| Thursday, September 24, 2015 19:20:34 | 0.990 | 64.71 | 49.8 |
| Thursday, September 24, 2015 19:25:35 | 0.990 | 69.67 | 50.4 |
| Thursday, September 24, 2015 19:30:35 | 0.990 | 74.63 | 50.0 |
| Thursday, September 24, 2015 19:35:36 0.990 | 79.59 | 49.6 |  |
| Thursday, September 24, 2015 19:40:36 | 0.990 | 84.55 | 50.1 |
| Thursday, September 24, 2015 19:45:37 | 0.990 | 89.51 | 49.3 |
| Thursday, September 24, 2015 19:50:37 | 0.990 | 94.46 | 49.7 |
| Thursday, September 24, 2015 19:55:38 | 0.990 | 99.43 | 50.2 |
| Thursday, September 24, 2015 20:00:38 | 0.990 | 104.38 | 49.8 |
| Thursday, September 24, 2015 20:05:39 | 0.990 | 109.35 | 50.4 |
| Thursday, September 24, 2015 20:10:39 | 0.990 | 114.30 | 49.8 |
| Thursday, September 24, 2015 20:15:40 0.990 | 119.27 | 49.7 |  |
| Thursday, September 24, 2015 20:20:40 | 0.990 | 124.22 | 50.1 |
| Thursday, September 24, 2015 20:25:41 | 0.990 | 129.19 | 50.1 |
| Thursday, September 24, 2015 20:30:41 | 0.990 | 134.14 | 50.2 |
| Thursday, September 24, 2015 20:35:42 0.990 | 139.11 | 50.1 |  |
| Thursday, September 24, 2015 20:40:42 0.990 | 144.06 | 49.5 |  |
| Thursday, September 24, 2015 20:45:43 0.990 | 149.03 | 50.2 |  |
| Thursday, September 24, 2015 20:50:43 0.990 | 153.98 | 49.7 |  |
| Thursday, September 24, 2015 20:55:44 0.990 | 158.95 | 50.3 |  |

Thursday, September 24, 2015 21:00:45 0.990
Thursday, September 24, 2015 21:05:45 0.990
Thursday, September 24, 2015 21:10:46 0.990
Thursday, September 24, 2015 21:15:46 0.990
Thursday, September 24, 2015 21:20:47 0.990
Thursday, September 24, 2015 21:25:47 0.990
Thursday, September 24, 2015 21:30:48 0.990
Thursday, September 24, 2015 21:35:48 0.990
Thursday, September 24, 2015 21:40:49 0.990
Thursday, September 24, 2015 21:45:49 0.990
Thursday, September 24, 2015 21:50:50 0.990
Thursday, September 24, 2015 21:55:50 0.990
Thursday, September 24, 2015 22:00:51 0.990
Thursday, September 24, 2015 22:05:51 0.990
Thursday, September 24, 2015 22:10:52 0.990
Thursday, September 24, 2015 22:15:52 0.990
Thursday, September 24, 2015 22:20:53 0.990
Thursday, September 24, 2015 22:25:53 0.990
Thursday, September 24, 2015 22:30:54 0.990
Thursday, September 24, 2015 22:35:54 0.990
Thursday, September 24, 2015 22:40:55 0.990
Thursday, September 24, 2015 22:45:56 0.990
Thursday, September 24, 2015 22:50:56 0.990
Thursday, September 24, 2015 22:55:57 0.990
Thursday, September 24, 2015 23:00:57 0.990
Thursday, September 24, 2015 23:05:58 0.990
Thursday, September 24, 2015 23:10:58 0.990
Thursday, September 24, 2015 23:15:59 0.990
Thursday, September 24, 2015 23:20:59 0.990
Thursday, September 24, 2015 23:26:00 0.990
Thursday, September 24, 2015 23:31:00 0.990
Thursday, September 24, 2015 23:36:01 0.990
Thursday, September 24, 2015 23:41:01 0.990
Thursday, September 24, 2015 23:46:02 0.990
Thursday, September 24, 2015 23:51:02 0.990
Thursday, September 24, 2015 23:56:03 0.990 $337.51 \quad 50.4$
Friday, September 25, 2015 0:01:04 0.990 $342.48 \quad 50.1$
Friday, September 25, 2015 0:06:04 0.990 $347.43 \quad 50.1$
Friday, September 25, 2015 0:11:04 $0.990 \quad 352.38 \quad 50.2$
Friday, September 25, 2015 0:16:05 $0.990 \quad 357.3549 .8$
Friday, September 25, 2015 0:21:05 $0.990 \quad 362.30 \quad 50.1$
Friday, September 25, 2015 0:26:06 0.990 $367.27 \quad 49.9$
Friday, September 25, 2015 0:31:06 0.990 372.2249 .6
Friday, September 25, 2015 0:36:07 $0.990 \quad 377.19 \quad 50.0$
Friday, September 25, 2015 0:41:07 $0.990 \quad 382.14 \quad 50.1$
Friday, September 25, 2015 0:46:08 $0.990 \quad 387.10 \quad 50.3$
Friday, September 25, 2015 0:51:08 $0.990 \quad 392.06 \quad 50.2$
Friday, September 25, 2015 0:56:09 $0.990 \quad 397.02 \quad 50.1$
Friday, September 25, 2015 1:01:09 0.990401 .9850 .2
Friday, September 25, 2015 1:06:10 0.990406 .9449 .9
Friday, September 25, 2015 1:11:10 $0.990 \quad 411.8950 .0$
Friday, September 25, 2015 1:16:11 0.990416 .8650 .0
Friday, September 25, 2015 1:21:11 0.990421 .8149 .7
Friday, September 25, 2015 1:26:12 $0.990426 .78 \quad 50.1$

Friday, September 25, 2015 1:31:12 0.990
Friday, September 25, 2015 1:36:13 0.990
Friday, September 25, 2015 1:41:13 0.990
Friday, September 25, 2015 1:46:14 0.990
Friday, September 25, 2015 1:51:14 0.990
Friday, September 25, 2015 1:56:15 0.990
Friday, September 25, 2015 2:01:15 0.990
Friday, September 25, 2015 2:06:16 0.990
Friday, September 25, 2015 2:11:16 0.990
Friday, September 25, 2015 2:16:17 0.990
Friday, September 25, 2015 2:21:17 0.990
Friday, September 25, 2015 2:26:18 0.990
Friday, September 25, 2015 2:31:18 0.990
Friday, September 25, 2015 2:36:19 0.990
Friday, September 25, 2015 2:41:19 0.990
Friday, September 25, 2015 2:46:20 0.990
Friday, September 25, 2015 2:51:20 0.990
Friday, September 25, 2015 2:56:21 0.990
Friday, September 25, 2015 3:01:21 0.990
Friday, September 25, 2015 3:06:21 0.990
Friday, September 25, 2015 3:11:22 0.990
Friday, September 25, 2015 3:16:22 0.990
Friday, September 25, 2015 3:21:23 0.990
Friday, September 25, 2015 3:26:23 0.990
Friday, September 25, 2015 3:31:24 0.990
Friday, September 25, 2015 3:36:24 0.990
Friday, September 25, 2015 3:41:25 0.990
Friday, September 25, 2015 3:46:25 0.990
Friday, September 25, 2015 3:51:26 0.990
Friday, September 25, 2015 3:56:26 0.990
Friday, September 25, 2015 4:01:27 0.990
Friday, September 25, 2015 4:06:27 0.990
Friday, September 25, 2015 4:11:28 0.990
Friday, September 25, 2015 4:16:28 0.990
Friday, September 25, 2015 4:21:29 0.990
Friday, September 25, 2015 4:26:29 0.990
Friday, September 25, 2015 4:31:30 0.990
Friday, September 25, 2015 4:36:30 0.990
Friday, September 25, 2015 4:41:31 0.990
Friday, September 25, 2015 4:46:31 0.990
Friday, September 25, 2015 4:51:32 0.990
Friday, September 25, 2015 4:56:32 0.990
Friday, September 25, 2015 5:01:33 0.990
Friday, September 25, 2015 5:06:33 0.990
Friday, September 25, 2015 5:11:34 0.990
Friday, September 25, 2015 5:16:34 0.990
Friday, September 25, 2015 5:21:35 0.990
Friday, September 25, 2015 5:26:35 0.990
Friday, September 25, 2015 5:31:36 0.990
Friday, September 25, 2015 5:36:36 0.990
Friday, September 25, 2015 5:41:37 0.990
Friday, September 25, 2015 5:46:37 0.990
Friday, September 25, 2015 5:51:38 0.990
Friday, September 25, 2015 5:56:38 0.990

| 431.73 | 50.1 |
| :--- | :--- |
| 436.70 | 49.8 |
| 441.65 | 49.9 |
| 446.62 | 49.7 |
| 451.57 | 49.4 |
| 456.54 | 50.1 |
| 461.49 | 49.8 |
| 466.46 | 49.8 |
| 471.41 | 49.7 |
| 476.38 | 49.3 |
| 481.33 | 50.1 |
| 486.30 | 50.3 |
| 491.25 | 50.1 |
| 496.22 | 50.4 |
| 501.17 | 50.1 |
| 506.13 | 50.1 |
| 511.09 | 49.7 |
| 516.05 | 49.9 |
| 521.01 | 49.8 |
| 525.96 | 50.2 |
| 530.93 | 50.4 |
| 535.88 | 49.4 |
| 540.85 | 50.0 |
| 545.80 | 50.2 |
| 550.77 | 50.1 |
| 555.72 | 50.2 |
| 560.69 | 50.0 |
| 565.64 | 49.7 |
| 570.61 | 49.5 |
| 575.56 | 50.1 |
| 580.53 | 50.1 |
| 585.48 | 50.1 |
| 590.45 | 49.7 |
| 595.40 | 50.4 |
| 600.37 | 50.1 |
| 605.32 | 49.8 |
| 610.29 | 49.7 |
| 615.24 | 50.1 |
| 620.21 | 49.7 |
| 625.16 | 49.9 |
| 630.13 | 50.2 |
| 635.08 | 50.0 |
| 640.05 | 49.6 |
| 645.00 | 50.2 |
| 649.97 | 49.7 |
| 654.92 | 50.1 |
| 659.89 | 49.2 |
| 664.84 | 50.1 |
| 669.81 | 50.1 |
| 674.76 | 49.6 |
| 679.73 | 50.1 |
| 684.68 | 50.3 |
| 689.65 | 49.4 |
| 694.60 | 50.2 |
|  |  |

$436.70 \quad 49.8$
$441.65 \quad 49.9$
$446.62 \quad 49.7$
$451.57 \quad 49.4$
$456.54 \quad 50.1$
$461.49 \quad 49.8$
$466.46 \quad 49.8$
$471.41 \quad 49.7$
$476.38 \quad 49.3$
$481.33 \quad 50.1$
$486.30 \quad 50.3$
$491.25 \quad 50.1$
$496.22 \quad 50.4$
$501.17 \quad 50.1$
$506.13 \quad 50.1$
$511.09 \quad 49.7$
516.0549 .9
$521.01 \quad 49.8$
$525.96 \quad 50.2$
$530.93 \quad 50.4$
$535.88 \quad 49.4$
$540.85 \quad 50.0$
$550.77 \quad 50.1$
$555.72 \quad 50.2$
$560.69 \quad 50.0$
$565.64 \quad 49.7$
$570.61 \quad 49.5$
$575.56 \quad 50.1$
$580.53 \quad 50.1$
$585.48 \quad 50.1$
$590.45 \quad 49.7$
$595.40 \quad 50.4$
$600.37 \quad 50.1$
605.3249 .8
610.2949 .7
$615.24 \quad 50.1$
$620.21 \quad 49.7$
625.1649 .9
$630.13 \quad 50.2$
640.0549 .6
$645.00 \quad 50.2$
$649.97 \quad 49.7$
$654.92 \quad 50.1$
$659.89 \quad 49.2$
$664.84 \quad 50.1$
$669.81 \quad 50.1$
674.7649 .6
$679.73 \quad 50.1$
$684.68 \quad 50.3$
$689.65 \quad 49.4$
$694.60 \quad 50.2$

# Ch. 2 Cartridge Started Thursday, October 01, 2015 18:15:02 

Flow Rate Set Point 1.00 1/min
Stopped Friday, October 02, 2015 6:15:23
Total Volume 712.79 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.990 1/min
Minimum Flow Rate 0.990 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate $0.001 \mathrm{l} / \mathrm{min}$
Ending Leak Rate $0.000 \mathrm{l} / \mathrm{min}$
Flow Controller Zero -0.003 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

| 290.080 | 0.22 | 50.0 |
| :---: | :---: | :---: |
| Thursday, October 01, 2015 18:20:29 0.991 | 5.18 | 49.6 |
| Thursday, October 01, 2015 18:25:30 0.990 | 10.14 | 49.8 |
| Thursday, October 01, 2015 18:30:30 0.990 | 15.10 | 50.1 |
| Thursday, October 01, 2015 18:35:31 0.990 | 20.06 | 50.2 |
| Thursday, October 01, 2015 18:40:31 0.990 | 25.02 | 50.1 |
| Thursday, October 01, 2015 18:45:32 0.990 | 29.98 | 49.3 |
| Thursday, October 01, 2015 18:50:32 0.990 | 34.93 | 50.3 |
| Thursday, October 01, 2015 18:55:33 0.990 | 39.90 | 49.9 |
| Thursday, October 01, 2015 19:00:33 0.990 | 44.85 | 50.0 |
| Thursday, October 01, 2015 19:05:34 0.990 | 49.82 | 50.1 |
| Thursday, October 01, 2015 19:10:34 0.990 | 54.77 | 50.1 |
| Thursday, October 01, 2015 19:15:35 0.990 | 59.74 | 50.2 |
| Thursday, October 01, 2015 19:20:35 0.990 | 64.69 | 50.1 |
| Thursday, October 01, 2015 19:25:36 0.990 | 69.66 | 50.2 |
| Thursday, October 01, 2015 19:30:36 0.990 | 74.61 | 50.1 |
| Thursday, October 01, 2015 19:35:37 0.990 | 79.58 | 50.1 |
| Thursday, October 01, 2015 19:40:37 0.990 | 84.53 | 50.1 |
| Thursday, October 01, 2015 19:45:38 0.990 | 89.50 | 49.7 |
| Thursday, October 01, 2015 19:50:38 0.990 | 94.45 | 50.3 |
| Thursday, October 01, 2015 19:55:39 0.990 | 99.42 | 50.3 |
| Thursday, October 01, 2015 20:00:39 0.990 | 104.37 | 50.4 |
| Thursday, October 01, 2015 20:05:40 0.990 | 109.34 | 50.3 |
| Thursday, October 01, 2015 20:10:40 0.990 | 114.29 | 50.2 |
| Thursday, October 01, 2015 20:15:41 0.990 | 119.26 | 49.3 |
| Thursday, October 01, 2015 20:20:41 0.990 | 124.21 | 50.2 |
| Thursday, October 01, 2015 20:25:42 0.990 | 129.17 | 50.1 |
| Thursday, October 01, 2015 20:30:42 0.990 | 134.13 | 49.7 |
| Thursday, October 01, 2015 20:35:43 0.990 | 139.09 | 50.1 |
| Thursday, October 01, 2015 20:40:43 0.990 | 144.05 | 50.1 |
| Thursday, October 01, 2015 20:45:44 0.990 | 149.01 | 50.0 |
| Thursday, October 01, 2015 20:50:44 0.990 | 153.96 | 50.2 |
| Thursday, October 01, 2015 20:55:45 0.990 | 158.93 | 49. |



Friday, October 02, 2015 1:31:14 0.990
431.74
436.69
50.1

Friday, October 02, 2015 1:36:14 0.990
Friday, October 02, 2015 1:41:15 0.990
Friday, October 02, 2015 1:46:15 0.990
Friday, October 02, 2015 1:51:16 0.990
Friday, October 02, 2015 1:56:16 0.990
Friday, October 02, 2015 2:01:17 0.990
Friday, October 02, 2015 2:06:17 0.990
Friday, October 02, 2015 2:11:18 0.990
Friday, October 02, 2015 2:16:18 0.990
Friday, October 02, 2015 2:21:19 0.990
Friday, October 02, 2015 2:26:19 0.990
Friday, October 02, 2015 2:31:20 0.990
Friday, October 02, 2015 2:36:20 0.990
Friday, October 02, 2015 2:41:21 0.990
Friday, October 02, 2015 2:46:21 0.990
Friday, October 02, 2015 2:51:22 0.990
Friday, October 02, 2015 2:56:22 0.990
Friday, October 02, 2015 3:01:23 0.990
Friday, October 02, 2015 3:06:23 0.990
Friday, October 02, 2015 3:11:24 0.990
Friday, October 02, 2015 3:16:24 0.990
Friday, October 02, 2015 3:21:25 0.990
Friday, October 02, 2015 3:26:25 0.990
Friday, October 02, 2015 3:31:26 0.990
Friday, October 02, 2015 3:36:26 0.990
Friday, October 02, 2015 3:41:27 0.990
Friday, October 02, 2015 3:46:27 0.990
Friday, October 02, 2015 3:51:28 0.990
Friday, October 02, 2015 3:56:29 0.990
Friday, October 02, 2015 4:01:29 0.990
Friday, October 02, 2015 4:06:30 0.990
Friday, October 02, 2015 4:11:30 0.990
Friday, October 02, 2015 4:16:31 0.990
Friday, October 02, 2015 4:21:31 0.990
Friday, October 02, 2015 4:26:32 0.990
Friday, October 02, 2015 4:31:32 0.990
Friday, October 02, 2015 4:36:33 0.990
Friday, October 02, 2015 4:41:33 0.990
Friday, October 02, 2015 4:46:34 0.990
Friday, October 02, 2015 4:51:34 0.990
Friday, October 02, 2015 4:56:35 0.990
Friday, October 02, 2015 5:01:35 0.990
Friday, October 02, 2015 5:06:36 0.990
Friday, October 02, 2015 5:11:36 0.990
Friday, October 02, 2015 5:16:37 0.990
Friday, October 02, 2015 5:21:37 0.990
Friday, October 02, 2015 5:26:38 0.990
Friday, October 02, 2015 5:31:39 0.990
Friday, October 02, 2015 5:36:39 0.990
Friday, October 02, 2015 5:41:40 0.990
Friday, October 02, 2015 5:46:40 0.990
Friday, October 02, 2015 5:51:41 0.990
Friday, October 02, 2015 5:56:41 0.990
$441.66 \quad 50.2$
$446.61 \quad 50.3$
$451.58 \quad 50.3$
$456.53 \quad 50.4$
$461.49 \quad 50.1$
$466.45 \quad 49.7$
$471.41 \quad 50.3$
$476.37 \quad 49.6$
$481.33 \quad 50.2$
$486.28 \quad 49.4$
$491.25 \quad 49.7$
$496.20 \quad 50.0$
$501.17 \quad 50.4$
506.1249 .9
$511.09 \quad 50.1$
$516.04 \quad 50.1$
$521.01 \quad 50.2$
$525.96 \quad 50.1$
530.9349 .6
$535.88 \quad 49.8$
$540.85 \quad 50.1$
$545.80 \quad 50.1$
$550.77 \quad 50.2$
$555.72 \quad 50.2$
$560.69 \quad 50.2$
$565.64 \quad 49.7$
$570.61 \quad 50.2$
$575.58 \quad 49.8$
$580.53 \quad 50.0$
$585.50 \quad 50.1$
$590.45 \quad 50.1$
$595.42 \quad 50.2$
$600.37 \quad 50.1$
$605.34 \quad 50.1$
610.2949 .9
$615.26 \quad 50.1$
620.2149 .9
$625.18 \quad 50.1$
$630.13 \quad 50.4$
$635.10 \quad 50.1$
$640.05 \quad 50.2$
$645.02 \quad 50.2$
$649.97 \quad 50.2$
$654.94 \quad 49.7$
$659.89 \quad 50.2$
$664.86 \quad 50.1$
669.8349 .7
$674.78 \quad 50.1$
$679.75 \quad 50.1$
$684.70 \quad 50.1$
$689.67 \quad 50.1$
694.6249 .8

# Ch. 2 Cartridge Started Thursday, October 01, 2015 18:15:02 

Flow Rate Set Point 1.00 1/min
Stopped Friday, October 02, 2015 6:15:23
Total Volume 712.79 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.990 1/min
Minimum Flow Rate 0.990 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate $0.001 \mathrm{l} / \mathrm{min}$
Ending Leak Rate $0.000 \mathrm{l} / \mathrm{min}$
Flow Controller Zero -0.003 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

| 290.080 | 0.22 | 50.0 |
| :---: | :---: | :---: |
| Thursday, October 01, 2015 18:20:29 0.991 | 5.18 | 49.6 |
| Thursday, October 01, 2015 18:25:30 0.990 | 10.14 | 49.8 |
| Thursday, October 01, 2015 18:30:30 0.990 | 15.10 | 50.1 |
| Thursday, October 01, 2015 18:35:31 0.990 | 20.06 | 50.2 |
| Thursday, October 01, 2015 18:40:31 0.990 | 25.02 | 50.1 |
| Thursday, October 01, 2015 18:45:32 0.990 | 29.98 | 49.3 |
| Thursday, October 01, 2015 18:50:32 0.990 | 34.93 | 50.3 |
| Thursday, October 01, 2015 18:55:33 0.990 | 39.90 | 49.9 |
| Thursday, October 01, 2015 19:00:33 0.990 | 44.85 | 50.0 |
| Thursday, October 01, 2015 19:05:34 0.990 | 49.82 | 50.1 |
| Thursday, October 01, 2015 19:10:34 0.990 | 54.77 | 50.1 |
| Thursday, October 01, 2015 19:15:35 0.990 | 59.74 | 50.2 |
| Thursday, October 01, 2015 19:20:35 0.990 | 64.69 | 50.1 |
| Thursday, October 01, 2015 19:25:36 0.990 | 69.66 | 50.2 |
| Thursday, October 01, 2015 19:30:36 0.990 | 74.61 | 50.1 |
| Thursday, October 01, 2015 19:35:37 0.990 | 79.58 | 50.1 |
| Thursday, October 01, 2015 19:40:37 0.990 | 84.53 | 50.1 |
| Thursday, October 01, 2015 19:45:38 0.990 | 89.50 | 49.7 |
| Thursday, October 01, 2015 19:50:38 0.990 | 94.45 | 50.3 |
| Thursday, October 01, 2015 19:55:39 0.990 | 99.42 | 50.3 |
| Thursday, October 01, 2015 20:00:39 0.990 | 104.37 | 50.4 |
| Thursday, October 01, 2015 20:05:40 0.990 | 109.34 | 50.3 |
| Thursday, October 01, 2015 20:10:40 0.990 | 114.29 | 50.2 |
| Thursday, October 01, 2015 20:15:41 0.990 | 119.26 | 49.3 |
| Thursday, October 01, 2015 20:20:41 0.990 | 124.21 | 50.2 |
| Thursday, October 01, 2015 20:25:42 0.990 | 129.17 | 50.1 |
| Thursday, October 01, 2015 20:30:42 0.990 | 134.13 | 49.7 |
| Thursday, October 01, 2015 20:35:43 0.990 | 139.09 | 50.1 |
| Thursday, October 01, 2015 20:40:43 0.990 | 144.05 | 50.1 |
| Thursday, October 01, 2015 20:45:44 0.990 | 149.01 | 50.0 |
| Thursday, October 01, 2015 20:50:44 0.990 | 153.96 | 50.2 |
| Thursday, October 01, 2015 20:55:45 0.990 | 158.93 | 49. |



Friday, October 02, 2015 1:31:14 0.990
431.74
436.69
50.1

Friday, October 02, 2015 1:36:14 0.990
Friday, October 02, 2015 1:41:15 0.990
Friday, October 02, 2015 1:46:15 0.990
Friday, October 02, 2015 1:51:16 0.990
Friday, October 02, 2015 1:56:16 0.990
Friday, October 02, 2015 2:01:17 0.990
Friday, October 02, 2015 2:06:17 0.990
Friday, October 02, 2015 2:11:18 0.990
Friday, October 02, 2015 2:16:18 0.990
Friday, October 02, 2015 2:21:19 0.990
Friday, October 02, 2015 2:26:19 0.990
Friday, October 02, 2015 2:31:20 0.990
Friday, October 02, 2015 2:36:20 0.990
Friday, October 02, 2015 2:41:21 0.990
Friday, October 02, 2015 2:46:21 0.990
Friday, October 02, 2015 2:51:22 0.990
Friday, October 02, 2015 2:56:22 0.990
Friday, October 02, 2015 3:01:23 0.990
Friday, October 02, 2015 3:06:23 0.990
Friday, October 02, 2015 3:11:24 0.990
Friday, October 02, 2015 3:16:24 0.990
Friday, October 02, 2015 3:21:25 0.990
Friday, October 02, 2015 3:26:25 0.990
Friday, October 02, 2015 3:31:26 0.990
Friday, October 02, 2015 3:36:26 0.990
Friday, October 02, 2015 3:41:27 0.990
Friday, October 02, 2015 3:46:27 0.990
Friday, October 02, 2015 3:51:28 0.990
Friday, October 02, 2015 3:56:29 0.990
Friday, October 02, 2015 4:01:29 0.990
Friday, October 02, 2015 4:06:30 0.990
Friday, October 02, 2015 4:11:30 0.990
Friday, October 02, 2015 4:16:31 0.990
Friday, October 02, 2015 4:21:31 0.990
Friday, October 02, 2015 4:26:32 0.990
Friday, October 02, 2015 4:31:32 0.990
Friday, October 02, 2015 4:36:33 0.990
Friday, October 02, 2015 4:41:33 0.990
Friday, October 02, 2015 4:46:34 0.990
Friday, October 02, 2015 4:51:34 0.990
Friday, October 02, 2015 4:56:35 0.990
Friday, October 02, 2015 5:01:35 0.990
Friday, October 02, 2015 5:06:36 0.990
Friday, October 02, 2015 5:11:36 0.990
Friday, October 02, 2015 5:16:37 0.990
Friday, October 02, 2015 5:21:37 0.990
Friday, October 02, 2015 5:26:38 0.990
Friday, October 02, 2015 5:31:39 0.990
Friday, October 02, 2015 5:36:39 0.990
Friday, October 02, 2015 5:41:40 0.990
Friday, October 02, 2015 5:46:40 0.990
Friday, October 02, 2015 5:51:41 0.990
Friday, October 02, 2015 5:56:41 0.990
$441.66 \quad 50.2$
$446.61 \quad 50.3$
$451.58 \quad 50.3$
$456.53 \quad 50.4$
$461.49 \quad 50.1$
$466.45 \quad 49.7$
$471.41 \quad 50.3$
$476.37 \quad 49.6$
$481.33 \quad 50.2$
$486.28 \quad 49.4$
$491.25 \quad 49.7$
$496.20 \quad 50.0$
$501.17 \quad 50.4$
506.1249 .9
$511.09 \quad 50.1$
$516.04 \quad 50.1$
$521.01 \quad 50.2$
$525.96 \quad 50.1$
530.9349 .6
$535.88 \quad 49.8$
$540.85 \quad 50.1$
$545.80 \quad 50.1$
$550.77 \quad 50.2$
$555.72 \quad 50.2$
$560.69 \quad 50.2$
$565.64 \quad 49.7$
$570.61 \quad 50.2$
$575.58 \quad 49.8$
$580.53 \quad 50.0$
$585.50 \quad 50.1$
$590.45 \quad 50.1$
$595.42 \quad 50.2$
$600.37 \quad 50.1$
$605.34 \quad 50.1$
610.2949 .9
$615.26 \quad 50.1$
620.2149 .9
$625.18 \quad 50.1$
$630.13 \quad 50.4$
$635.10 \quad 50.1$
$640.05 \quad 50.2$
$645.02 \quad 50.2$
$649.97 \quad 50.2$
$654.94 \quad 49.7$
$659.89 \quad 50.2$
$664.86 \quad 50.1$
669.8349 .7
$674.78 \quad 50.1$
$679.75 \quad 50.1$
$684.70 \quad 50.1$
$689.67 \quad 50.1$
694.6249 .8

# Ch. 2 Cartridge Started Wednesday, October 07, 2015 18:15:05 

Flow Rate Set Point $1.00 \mathrm{l} / \mathrm{min}$
Stopped Thursday, October 08, 2015 6:15:26
Total Volume 712.81 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.990 1/min
Minimum Flow Rate 0.990 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate 0.001 1/min
Ending Leak Rate $0.000 \mathrm{l} / \mathrm{min}$
Flow Controller Zero -0.003 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Wednesday, October 07, 2015 18:15:32 $0.080 \quad 0.22 \quad 50.0$
Wednesday, October 07, 2015 18:20:32 0.9915 .1850 .0
Wednesday, October 07, 2015 18:25:33 $0.990 \quad 10.14 \quad 49.7$
Wednesday, October 07, 2015 18:30:33 $0.990 \quad 15.10 \quad 50.3$
Wednesday, October 07, 2015 18:35:34 $0.990 \quad 20.06 \quad 50.0$
Wednesday, October 07, 2015 18:40:34 0.990 $25.01 \quad 50.1$
Wednesday, October 07, 2015 18:45:35 0.990 $29.98 \quad 50.1$
Wednesday, October 07, 2015 18:50:35 $0.99034 .93 \quad 49.6$
Wednesday, October 07, 2015 18:55:36 0.990 $39.90 \quad 50.1$
Wednesday, October 07, 2015 19:00:36 $0.990 \quad 44.85 \quad 48.9$
Wednesday, October 07, 2015 19:05:37 $0.990 \quad 49.82 \quad 50.0$
Wednesday, October 07, 2015 19:10:37 $0.990 \quad 54.77 \quad 49.7$
Wednesday, October 07, 2015 19:15:38 0.990 59.7450 .1
Wednesday, October 07, 2015 19:20:38 $0.990 \quad 64.69 \quad 50.2$
Wednesday, October 07, 2015 19:25:39 $0.990 \quad 69.66 \quad 50.1$
Wednesday, October 07, 2015 19:30:39 $0.990 \quad 74.61 \quad 50.1$
Wednesday, October 07, 2015 19:35:40 0.990 $\quad 79.58 \quad 50.3$
Wednesday, October 07, 2015 19:40:40 0.990 $\quad 84.53 \quad 50.0$
Wednesday, October 07, 2015 19:45:41 $0.990 \quad 89.50 \quad 50.1$
Wednesday, October 07, 2015 19:50:41 $0.990 \quad 94.45 \quad 50.1$
Wednesday, October 07, 2015 19:55:42 $0.990 \quad 99.42 \quad 49.8$
Wednesday, October 07, 2015 20:00:42 0.990 104.3749 .8
Wednesday, October 07, 2015 20:05:43 0.990 109.3449 .7
Wednesday, October 07, 2015 20:10:43 $0.990 \quad 114.2950 .0$
Wednesday, October 07, 2015 20:15:44 0.990 $\quad 119.26 \quad 50.1$
Wednesday, October 07, 2015 20:20:44 0.990 124.2149 .8
Wednesday, October 07, 2015 20:25:44 0.990 129.1650 .2
Wednesday, October 07, 2015 20:30:45 0.990 $134.13 \quad 50.1$
Wednesday, October 07, 2015 20:35:45 0.990 139.0850 .2
Wednesday, October 07, 2015 20:40:46 0.990 $\quad 144.05 \quad 50.1$
Wednesday, October 07, 2015 20:45:46 0.990 $\quad 149.00 \quad 49.8$
Wednesday, October 07, 2015 20:50:47 0.990 $153.97 \quad 50.1$
Wednesday, October 07, 2015 20:55:47 0.990 158.9249 .7

Wednesday, October 07, 2015 21:00:48 0.990
163.88
50.0
$168.84 \quad 50.2$
$173.80 \quad 50.2$
$178.76 \quad 50.2$
183.7249 .8
$188.67 \quad 50.2$
193.6449 .5
$198.59 \quad 50.1$
$203.56 \quad 50.0$
$208.51 \quad 50.1$
$213.48 \quad 50.1$
$218.43 \quad 50.0$
$223.40 \quad 50.1$
$228.35 \quad 50.1$
$233.32 \quad 50.1$
$238.27 \quad 49.9$
$243.24 \quad 49.2$
$248.19 \quad 49.8$
$253.16 \quad 50.1$
$258.11 \quad 50.1$
$263.08 \quad 49.7$
268.0349 .8
$273.00 \quad 50.2$
$277.95 \quad 50.1$
$282.92 \quad 50.2$
$287.87 \quad 50.1$
$292.84 \quad 50.1$
$297.79 \quad 50.1$
$302.76 \quad 50.0$
307.7149 .6
$312.67 \quad 50.2$
317.6350 .2
$322.59 \quad 50.1$
$327.54 \quad 50.2$
$332.51 \quad 50.1$
$337.46 \quad 50.0$

## $342.43 \quad 50.1$

347.3849 .8
$352.35 \quad 50.1$
$357.30 \quad 49.9$
$362.25 \quad 50.2$
$367.22 \quad 50.1$
$372.17 \quad 50.1$
$377.14 \quad 49.4$
$382.09 \quad 49.4$
$387.06 \quad 50.1$
$392.01 \quad 50.4$
$396.98 \quad 50.1$
$401.93 \quad 50.1$
$406.90 \quad 50.2$
$411.85 \quad 50.1$
$416.82 \quad 50.1$
$421.77 \quad 50.0$
$426.74 \quad 50.1$
431.69
50.2
$436.66 \quad 49.7$
$441.61 \quad 50.1$
$446.58 \quad 49.8$
$451.53 \quad 50.1$
$456.50 \quad 50.2$
$461.45 \quad 50.2$
$466.40 \quad 50.2$
$471.37 \quad 50.1$
$476.32 \quad 50.3$
$481.29 \quad 50.1$
$486.24 \quad 50.0$
$491.20 \quad 50.3$
$496.16 \quad 50.0$
$501.12 \quad 50.1$
$506.08 \quad 50.1$
$511.04 \quad 50.1$
$515.99 \quad 50.1$
$520.96 \quad 50.2$
$525.91 \quad 50.0$
$530.88 \quad 50.1$
$535.83 \quad 49.4$
$540.80 \quad 49.7$
$545.76 \quad 50.1$
$550.72 \quad 50.1$
$555.68 \quad 50.1$
$560.64 \quad 50.1$
$565.60 \quad 50.1$
$570.56 \quad 49.7$
$575.52 \quad 49.7$
$580.48 \quad 50.1$
$585.44 \quad 50.1$
$590.40 \quad 50.0$
$595.36 \quad 49.0$
$600.31 \quad 49.4$
$605.28 \quad 49.6$
$610.23 \quad 50.1$
$615.20 \quad 49.8$
$620.15 \quad 50.3$
$625.12 \quad 50.1$
$630.07 \quad 50.1$
$635.04 \quad 50.1$
$639.99 \quad 50.2$
644.9649 .4
$649.91 \quad 50.2$
$654.88 \quad 50.1$
$659.83 \quad 49.7$
$664.80 \quad 49.7$
$669.75 \quad 49.7$
$674.72 \quad 50.1$
$679.67 \quad 50.2$
$684.64 \quad 50.2$
$689.59 \quad 50.0$
$694.56 \quad 50.3$

# Ch. 2 Cartridge Started Wednesday, October 07, 2015 18:15:05 

Flow Rate Set Point $1.00 \mathrm{l} / \mathrm{min}$
Stopped Thursday, October 08, 2015 6:15:26
Total Volume 712.81 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.990 1/min
Minimum Flow Rate 0.990 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate 0.001 1/min
Ending Leak Rate $0.000 \mathrm{l} / \mathrm{min}$
Flow Controller Zero -0.003 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Wednesday, October 07, 2015 18:15:32 $0.080 \quad 0.22 \quad 50.0$
Wednesday, October 07, 2015 18:20:32 0.9915 .1850 .0
Wednesday, October 07, 2015 18:25:33 $0.990 \quad 10.14 \quad 49.7$
Wednesday, October 07, 2015 18:30:33 $0.990 \quad 15.10 \quad 50.3$
Wednesday, October 07, 2015 18:35:34 $0.990 \quad 20.06 \quad 50.0$
Wednesday, October 07, 2015 18:40:34 0.990 $25.01 \quad 50.1$
Wednesday, October 07, 2015 18:45:35 0.990 $29.98 \quad 50.1$
Wednesday, October 07, 2015 18:50:35 $0.99034 .93 \quad 49.6$
Wednesday, October 07, 2015 18:55:36 0.990 $39.90 \quad 50.1$
Wednesday, October 07, 2015 19:00:36 $0.990 \quad 44.85 \quad 48.9$
Wednesday, October 07, 2015 19:05:37 $0.990 \quad 49.82 \quad 50.0$
Wednesday, October 07, 2015 19:10:37 $0.990 \quad 54.77 \quad 49.7$
Wednesday, October 07, 2015 19:15:38 0.990 59.7450 .1
Wednesday, October 07, 2015 19:20:38 $0.990 \quad 64.69 \quad 50.2$
Wednesday, October 07, 2015 19:25:39 $0.990 \quad 69.66 \quad 50.1$
Wednesday, October 07, 2015 19:30:39 $0.990 \quad 74.61 \quad 50.1$
Wednesday, October 07, 2015 19:35:40 0.990 $\quad 79.58 \quad 50.3$
Wednesday, October 07, 2015 19:40:40 0.990 $\quad 84.53 \quad 50.0$
Wednesday, October 07, 2015 19:45:41 $0.990 \quad 89.50 \quad 50.1$
Wednesday, October 07, 2015 19:50:41 $0.990 \quad 94.45 \quad 50.1$
Wednesday, October 07, 2015 19:55:42 $0.990 \quad 99.42 \quad 49.8$
Wednesday, October 07, 2015 20:00:42 0.990 104.3749 .8
Wednesday, October 07, 2015 20:05:43 0.990 109.3449 .7
Wednesday, October 07, 2015 20:10:43 $0.990 \quad 114.2950 .0$
Wednesday, October 07, 2015 20:15:44 0.990 $\quad 119.26 \quad 50.1$
Wednesday, October 07, 2015 20:20:44 0.990 124.2149 .8
Wednesday, October 07, 2015 20:25:44 0.990 129.1650 .2
Wednesday, October 07, 2015 20:30:45 0.990 $134.13 \quad 50.1$
Wednesday, October 07, 2015 20:35:45 0.990 139.0850 .2
Wednesday, October 07, 2015 20:40:46 0.990 $\quad 144.05 \quad 50.1$
Wednesday, October 07, 2015 20:45:46 0.990 $\quad 149.00 \quad 49.8$
Wednesday, October 07, 2015 20:50:47 0.990 $153.97 \quad 50.1$
Wednesday, October 07, 2015 20:55:47 0.990 158.9249 .7

Wednesday, October 07, 2015 21:00:48 0.990
163.88
50.0
$168.84 \quad 50.2$
$173.80 \quad 50.2$
$178.76 \quad 50.2$
183.7249 .8
$188.67 \quad 50.2$
193.6449 .5
$198.59 \quad 50.1$
$203.56 \quad 50.0$
$208.51 \quad 50.1$
$213.48 \quad 50.1$
$218.43 \quad 50.0$
$223.40 \quad 50.1$
$228.35 \quad 50.1$
$233.32 \quad 50.1$
$238.27 \quad 49.9$
$243.24 \quad 49.2$
$248.19 \quad 49.8$
$253.16 \quad 50.1$
$258.11 \quad 50.1$
$263.08 \quad 49.7$
268.0349 .8
$273.00 \quad 50.2$
$277.95 \quad 50.1$
$282.92 \quad 50.2$
$287.87 \quad 50.1$
$292.84 \quad 50.1$
$297.79 \quad 50.1$
$302.76 \quad 50.0$
307.7149 .6
$312.67 \quad 50.2$
317.6350 .2
$322.59 \quad 50.1$
$327.54 \quad 50.2$
$332.51 \quad 50.1$
$337.46 \quad 50.0$

## $342.43 \quad 50.1$

347.3849 .8
$352.35 \quad 50.1$
$357.30 \quad 49.9$
$362.25 \quad 50.2$
$367.22 \quad 50.1$
$372.17 \quad 50.1$
$377.14 \quad 49.4$
$382.09 \quad 49.4$
$387.06 \quad 50.1$
$392.01 \quad 50.4$
$396.98 \quad 50.1$
$401.93 \quad 50.1$
$406.90 \quad 50.2$
$411.85 \quad 50.1$
$416.82 \quad 50.1$
$421.77 \quad 50.0$
$426.74 \quad 50.1$
431.69
50.2
$436.66 \quad 49.7$
$441.61 \quad 50.1$
$446.58 \quad 49.8$
$451.53 \quad 50.1$
$456.50 \quad 50.2$
$461.45 \quad 50.2$
$466.40 \quad 50.2$
$471.37 \quad 50.1$
$476.32 \quad 50.3$
$481.29 \quad 50.1$
$486.24 \quad 50.0$
$491.20 \quad 50.3$
$496.16 \quad 50.0$
$501.12 \quad 50.1$
$506.08 \quad 50.1$
$511.04 \quad 50.1$
$515.99 \quad 50.1$
$520.96 \quad 50.2$
$525.91 \quad 50.0$
$530.88 \quad 50.1$
$535.83 \quad 49.4$
$540.80 \quad 49.7$
$545.76 \quad 50.1$
$550.72 \quad 50.1$
$555.68 \quad 50.1$
$560.64 \quad 50.1$
$565.60 \quad 50.1$
$570.56 \quad 49.7$
$575.52 \quad 49.7$
$580.48 \quad 50.1$
$585.44 \quad 50.1$
$590.40 \quad 50.0$
$595.36 \quad 49.0$
$600.31 \quad 49.4$
$605.28 \quad 49.6$
$610.23 \quad 50.1$
$615.20 \quad 49.8$
$620.15 \quad 50.3$
$625.12 \quad 50.1$
$630.07 \quad 50.1$
$635.04 \quad 50.1$
$639.99 \quad 50.2$
644.9649 .4
$649.91 \quad 50.2$
$654.88 \quad 50.1$
$659.83 \quad 49.7$
$664.80 \quad 49.7$
$669.75 \quad 49.7$
$674.72 \quad 50.1$
$679.67 \quad 50.2$
$684.64 \quad 50.2$
$689.59 \quad 50.0$
$694.56 \quad 50.3$

Flow Rate Set Point 1.00 1/min
Stopped Wednesday, October 14, 2015 11:15:25
Total Volume 712.86 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.990 1/min
Minimum Flow Rate 0.990 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate 0.001 1/min
Ending Leak Rate $0.000 \mathrm{l} / \mathrm{min}$
Flow Controller Zero -0.003 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Tuesday, October 13, 2015 23:15:28 $0.080 \quad 0.22 \quad 50.0$
Tuesday, October 13, 2015 23:20:29 $0.9915 .19 \quad 50.0$
Tuesday, October 13, 2015 23:25:29 0.99010 .141439 .3
Tuesday, October 13, 2015 23:30:30 $0.990 \quad 15.11 \quad 49.8$
Tuesday, October 13, 2015 23:35:30 $0.990 \quad 20.06 \quad 49.9$
Tuesday, October 13, 2015 23:40:31 $0.990 \quad 25.03 \quad 49.9$
Tuesday, October 13, 2015 23:45:31 $0.990 \quad 29.98 \quad 50.1$
Tuesday, October 13, 2015 23:50:31 $0.990 \quad 34.93 \quad 50.1$
Tuesday, October 13, 2015 23:55:32 0.990 $39.90 \quad 49.6$
Wednesday, October 14, 2015 0:00:32 $0.990 \quad 44.8549 .5$
Wednesday, October 14, 2015 0:05:33 0.990 49.8250 .2
Wednesday, October 14, 2015 0:10:33 $0.990 \quad 54.7749 .3$
Wednesday, October 14, 2015 0:15:34 0.990 59.7450 .1
Wednesday, October 14, 2015 0:20:34 0.990 64.6949 .8
Wednesday, October 14, 2015 0:25:35 $0.990 \quad 69.66 \quad 50.2$
Wednesday, October 14, 2015 0:30:35 $0.990 \quad 74.61 \quad 50.1$
Wednesday, October 14, 2015 0:35:36 0.990 79.5849 .7
Wednesday, October 14, 2015 0:40:36 0.990 $84.53 \quad 50.2$
Wednesday, October 14, 2015 0:45:37 0.990 $89.50 \quad 50.1$
Wednesday, October 14, 2015 0:50:37 $0.990 \quad 94.45 \quad 50.2$
Wednesday, October 14, 2015 0:55:38 $0.990 \quad 99.4249 .4$
Wednesday, October 14, 2015 1:00:38 $0.990104 .37 \quad 49.8$
Wednesday, October 14, 2015 1:05:39 0.990109 .3419 .6
Wednesday, October 14, 2015 1:10:39 $0.990 \quad 114.29 \quad 50.1$
Wednesday, October 14, 2015 1:15:40 $0.990 \quad 119.26 \quad 50.1$
Wednesday, October 14, 2015 1:20:40 $0.990 \quad 124.21 \quad 49.7$
Wednesday, October 14, 2015 1:25:41 $0.990129 .18 \quad 50.1$
Wednesday, October 14, 2015 1:30:41 $0.990 \quad 134.13 \quad 50.1$
Wednesday, October 14, 2015 1:35:42 $0.990139 .10 \quad 49.7$
Wednesday, October 14, 2015 1:40:42 $0.990 \quad 144.05 \quad 50.1$
Wednesday, October 14, 2015 1:45:43 $0.990 \quad 149.02 \quad 50.1$
Wednesday, October 14, 2015 1:50:43 $0.990 \quad 153.97 \quad 49.7$
Wednesday, October 14, 2015 1:55:44 0.990 158.9450 .1

Wednesday, October 14, 2015 2:00:44 0.990
Wednesday, October 14, 2015 2:05:45 0.990
Wednesday, October 14, 2015 2:10:45 0.990
Wednesday, October 14, 2015 2:15:46 0.990
Wednesday, October 14, 2015 2:20:46 0.990
Wednesday, October 14, 2015 2:25:47 0.990
Wednesday, October 14, 2015 2:30:47 0.990
Wednesday, October 14, 2015 2:35:48 0.990
Wednesday, October 14, 2015 2:40:48 0.990
Wednesday, October 14, 2015 2:45:49 0.990
Wednesday, October 14, 2015 2:50:49 0.990
Wednesday, October 14, 2015 2:55:50 0.990
Wednesday, October 14, 2015 3:00:50 0.990
Wednesday, October 14, 2015 3:05:51 0.990
Wednesday, October 14, 2015 3:10:51 0.990
Wednesday, October 14, 2015 3:15:52 0.990
Wednesday, October 14, 2015 3:20:52 0.990
Wednesday, October 14, 2015 3:25:53 0.990
Wednesday, October 14, 2015 3:30:53 0.990
Wednesday, October 14, 2015 3:35:54 0.990
Wednesday, October 14, 2015 3:40:54 0.990
Wednesday, October 14, 2015 3:45:55 0.990
Wednesday, October 14, 2015 3:50:55 0.990
Wednesday, October 14, 2015 3:55:56 0.990
Wednesday, October 14, 2015 4:00:56 0.990
Wednesday, October 14, 2015 4:05:57 0.990
Wednesday, October 14, 2015 4:10:57 0.990
Wednesday, October 14, 2015 4:15:58 0.990
Wednesday, October 14, 2015 4:20:58 0.990
Wednesday, October 14, 2015 4:25:59 0.990
Wednesday, October 14, 2015 4:30:59 0.990
Wednesday, October 14, 2015 4:36:00 0.990
Wednesday, October 14, 2015 4:41:00 0.990
Wednesday, October 14, 2015 4:46:01 0.990
Wednesday, October 14, 2015 4:51:01 0.990
Wednesday, October 14, 2015 4:56:02 0.990
Wednesday, October 14, 2015 5:01:02 0.990
Wednesday, October 14, 2015 5:06:03 0.990
Wednesday, October 14, 2015 5:11:03 0.990
Wednesday, October 14, 2015 5:16:04 0.990
Wednesday, October 14, 2015 5:21:04 0.990
Wednesday, October 14, 2015 5:26:05 0.990
Wednesday, October 14, 2015 5:31:05 0.990
Wednesday, October 14, 2015 5:36:05 0.990
Wednesday, October 14, 2015 5:41:06 0.990
Wednesday, October 14, 2015 5:46:06 0.990
Wednesday, October 14, 2015 5:51:07 0.990
Wednesday, October 14, 2015 5:56:08 0.990
Wednesday, October 14, 2015 6:01:08 0.990
Wednesday, October 14, 2015 6:06:09 0.990
Wednesday, October 14, 2015 6:11:09 0.990
Wednesday, October 14, 2015 6:16:10 0.990
Wednesday, October 14, 2015 6:21:10 0.990
Wednesday, October 14, 2015 6:26:11 0.990
163.89
168.86
50.1
$\begin{array}{ll}168.86 & 50.1\end{array}$
173.8150 .1
$178.78 \quad 50.2$
$183.73 \quad 50.1$
$188.69 \quad 50.2$
$193.65 \quad 50.3$
$198.61 \quad 49.7$
$203.57 \quad 50.2$
$208.53 \quad 50.1$
$213.49 \quad 50.1$
$218.45 \quad 50.1$
$223.41 \quad 50.1$
$228.37 \quad 49.7$
$233.32 \quad 49.8$
$238.29 \quad 50.1$
$243.24 \quad 50.1$
$248.21 \quad 50.2$
$253.16 \quad 49.9$
$258.13 \quad 49.5$
$263.08 \quad 50.1$
$268.05 \quad 50.1$
$273.00 \quad 50.0$
$277.97 \quad 50.1$
$282.92 \quad 50.1$
$287.89 \quad 49.8$
$292.84 \quad 50.2$
$297.81 \quad 50.2$
$302.76 \quad 49.9$
307.7349 .8
$312.68 \quad 49.7$
$317.65 \quad 50.1$
$322.60 \quad 50.1$
$327.57 \quad 50.2$
$332.52 \quad 50.5$
$337.49 \quad 50.1$
$342.44 \quad 50.2$
$347.41 \quad 50.1$
$352.36 \quad 49.8$
$357.33 \quad 50.1$
$362.28 \quad 49.7$
$367.25 \quad 50.1$
$372.20 \quad 49.8$
$377.15 \quad 50.1$
$382.12 \quad 50.0$
$387.07 \quad 49.8$
$392.04 \quad 50.3$
$397.01 \quad 50.2$
$401.96 \quad 50.1$
$406.93 \quad 50.2$
$411.88 \quad 49.7$
$416.85 \quad 49.7$
$421.80 \quad 49.7$
$426.77 \quad 49.7$

Wednesday, October 14, 2015 6:31:11 0.990
Wednesday, October 14, 2015 6:36:12 0.990
Wednesday, October 14, 2015 6:41:12 0.990
Wednesday, October 14, 2015 6:46:13 0.990
Wednesday, October 14, 2015 6:51:13 0.990
Wednesday, October 14, 2015 6:56:13 0.990
Wednesday, October 14, 2015 7:01:14 0.990
Wednesday, October 14, 2015 7:06:14 0.990
Wednesday, October 14, 2015 7:11:15 0.990
Wednesday, October 14, 2015 7:16:15 0.990
Wednesday, October 14, 2015 7:21:16 0.990
Wednesday, October 14, 2015 7:26:16 0.990
Wednesday, October 14, 2015 7:31:17 0.990
Wednesday, October 14, 2015 7:36:17 0.990
Wednesday, October 14, 2015 7:41:18 0.990
Wednesday, October 14, 2015 7:46:18 0.990
Wednesday, October 14, 2015 7:51:19 0.990
Wednesday, October 14, 2015 7:56:19 0.990
Wednesday, October 14, 2015 8:01:20 0.990
Wednesday, October 14, 2015 8:06:20 0.990
Wednesday, October 14, 2015 8:11:21 0.990
Wednesday, October 14, 2015 8:16:21 0.990
Wednesday, October 14, 2015 8:21:22 0.990
Wednesday, October 14, 2015 8:26:23 0.990
Wednesday, October 14, 2015 8:31:23 0.990
Wednesday, October 14, 2015 8:36:24 0.990
Wednesday, October 14, 2015 8:41:24 0.990
Wednesday, October 14, 2015 8:46:25 0.990
Wednesday, October 14, 2015 8:51:25 0.990
Wednesday, October 14, 2015 8:56:26 0.990
Wednesday, October 14, 2015 9:01:26 0.990
Wednesday, October 14, 2015 9:06:27 0.990
Wednesday, October 14, 2015 9:11:27 0.990
Wednesday, October 14, 2015 9:16:28 0.990
Wednesday, October 14, 2015 9:21:28 0.990
Wednesday, October 14, 2015 9:26:29 0.990
Wednesday, October 14, 2015 9:31:29 0.990
Wednesday, October 14, 2015 9:36:30 0.990
Wednesday, October 14, 2015 9:41:30 0.990
Wednesday, October 14, 2015 9:46:31 0.990
Wednesday, October 14, 2015 9:51:31 0.990
Wednesday, October 14, 2015 9:56:32 0.990
Wednesday, October 14, 2015 10:01:32 0.990
Wednesday, October 14, 2015 10:06:33 0.990
Wednesday, October 14, 2015 10:11:33 0.990
Wednesday, October 14, 2015 10:16:34 0.990
Wednesday, October 14, 2015 10:21:34 0.990
Wednesday, October 14, 2015 10:26:35 0.990
Wednesday, October 14, 2015 10:31:35 0.990
Wednesday, October 14, 2015 10:36:36 0.990
Wednesday, October 14, 2015 10:41:36 0.990
Wednesday, October 14, 2015 10:46:37 0.990
Wednesday, October 14, 2015 10:51:37 0.990
Wednesday, October 14, 2015 10:56:38 0.990
431.72
436.68
441.64
446.61
$451.56 \quad 50.1$
$456.51 \quad 49.8$
$461.48 \quad 49.8$
$466.43 \quad 49.7$
$471.40 \quad 50.0$
$476.35 \quad 50.2$
$481.32 \quad 50.3$
$486.27 \quad 50.1$
$491.24 \quad 49.7$
$496.19 \quad 50.0$
501.1549 .9
$506.11 \quad 50.0$
$511.07 \quad 50.1$
$516.03 \quad 50.0$
520.9949 .5
$525.95 \quad 50.1$
$530.92 \quad 50.1$
$535.87 \quad 50.0$
$540.84 \quad 50.2$
$545.80 \quad 50.2$
$550.76 \quad 50.2$
555.7249 .9
$560.68 \quad 50.2$
$565.64 \quad 49.7$
$570.60 \quad 50.2$
$575.56 \quad 50.0$
$580.52 \quad 50.0$
$585.49 \quad 50.0$
$590.44 \quad 50.1$
$595.41 \quad 49.7$
$600.36 \quad 50.3$
605.3349 .8
$610.28 \quad 49.7$
$615.25 \quad 50.1$
$620.20 \quad 50.1$
$625.17 \quad 49.7$
$630.12 \quad 49.0$
635.0949 .6
$640.04 \quad 50.1$
$645.01 \quad 50.1$
$649.96 \quad 50.0$
$654.93 \quad 50.0$
$659.88 \quad 49.7$
$664.85 \quad 50.2$
$669.80 \quad 50.1$
$674.77 \quad 50.1$
$679.72 \quad 50.2$
$684.69 \quad 50.2$
$689.64 \quad 50.2$
$694.61 \quad 50.1$

Flow Rate Set Point 1.00 1/min
Stopped Wednesday, October 14, 2015 11:15:25
Total Volume 712.86 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.990 1/min
Minimum Flow Rate 0.990 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate 0.001 1/min
Ending Leak Rate $0.000 \mathrm{l} / \mathrm{min}$
Flow Controller Zero -0.003 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Tuesday, October 13, 2015 23:15:28 $0.080 \quad 0.22 \quad 50.0$
Tuesday, October 13, 2015 23:20:29 $0.9915 .19 \quad 50.0$
Tuesday, October 13, 2015 23:25:29 0.99010 .141439 .3
Tuesday, October 13, 2015 23:30:30 $0.990 \quad 15.11 \quad 49.8$
Tuesday, October 13, 2015 23:35:30 $0.990 \quad 20.06 \quad 49.9$
Tuesday, October 13, 2015 23:40:31 $0.990 \quad 25.03 \quad 49.9$
Tuesday, October 13, 2015 23:45:31 $0.990 \quad 29.98 \quad 50.1$
Tuesday, October 13, 2015 23:50:31 $0.990 \quad 34.93 \quad 50.1$
Tuesday, October 13, 2015 23:55:32 0.990 $39.90 \quad 49.6$
Wednesday, October 14, 2015 0:00:32 $0.990 \quad 44.8549 .5$
Wednesday, October 14, 2015 0:05:33 0.990 49.8250 .2
Wednesday, October 14, 2015 0:10:33 $0.990 \quad 54.7749 .3$
Wednesday, October 14, 2015 0:15:34 0.990 59.7450 .1
Wednesday, October 14, 2015 0:20:34 0.990 64.6949 .8
Wednesday, October 14, 2015 0:25:35 $0.990 \quad 69.66 \quad 50.2$
Wednesday, October 14, 2015 0:30:35 $0.990 \quad 74.61 \quad 50.1$
Wednesday, October 14, 2015 0:35:36 0.990 79.5849 .7
Wednesday, October 14, 2015 0:40:36 0.990 $84.53 \quad 50.2$
Wednesday, October 14, 2015 0:45:37 0.990 $89.50 \quad 50.1$
Wednesday, October 14, 2015 0:50:37 $0.990 \quad 94.45 \quad 50.2$
Wednesday, October 14, 2015 0:55:38 $0.990 \quad 99.4249 .4$
Wednesday, October 14, 2015 1:00:38 $0.990104 .37 \quad 49.8$
Wednesday, October 14, 2015 1:05:39 0.990109 .3419 .6
Wednesday, October 14, 2015 1:10:39 $0.990 \quad 114.29 \quad 50.1$
Wednesday, October 14, 2015 1:15:40 $0.990 \quad 119.26 \quad 50.1$
Wednesday, October 14, 2015 1:20:40 $0.990 \quad 124.21 \quad 49.7$
Wednesday, October 14, 2015 1:25:41 $0.990129 .18 \quad 50.1$
Wednesday, October 14, 2015 1:30:41 $0.990 \quad 134.13 \quad 50.1$
Wednesday, October 14, 2015 1:35:42 $0.990139 .10 \quad 49.7$
Wednesday, October 14, 2015 1:40:42 $0.990 \quad 144.05 \quad 50.1$
Wednesday, October 14, 2015 1:45:43 $0.990 \quad 149.02 \quad 50.1$
Wednesday, October 14, 2015 1:50:43 $0.990 \quad 153.97 \quad 49.7$
Wednesday, October 14, 2015 1:55:44 0.990 158.9450 .1

Wednesday, October 14, 2015 2:00:44 0.990
Wednesday, October 14, 2015 2:05:45 0.990
Wednesday, October 14, 2015 2:10:45 0.990
Wednesday, October 14, 2015 2:15:46 0.990
Wednesday, October 14, 2015 2:20:46 0.990
Wednesday, October 14, 2015 2:25:47 0.990
Wednesday, October 14, 2015 2:30:47 0.990
Wednesday, October 14, 2015 2:35:48 0.990
Wednesday, October 14, 2015 2:40:48 0.990
Wednesday, October 14, 2015 2:45:49 0.990
Wednesday, October 14, 2015 2:50:49 0.990
Wednesday, October 14, 2015 2:55:50 0.990
Wednesday, October 14, 2015 3:00:50 0.990
Wednesday, October 14, 2015 3:05:51 0.990
Wednesday, October 14, 2015 3:10:51 0.990
Wednesday, October 14, 2015 3:15:52 0.990
Wednesday, October 14, 2015 3:20:52 0.990
Wednesday, October 14, 2015 3:25:53 0.990
Wednesday, October 14, 2015 3:30:53 0.990
Wednesday, October 14, 2015 3:35:54 0.990
Wednesday, October 14, 2015 3:40:54 0.990
Wednesday, October 14, 2015 3:45:55 0.990
Wednesday, October 14, 2015 3:50:55 0.990
Wednesday, October 14, 2015 3:55:56 0.990
Wednesday, October 14, 2015 4:00:56 0.990
Wednesday, October 14, 2015 4:05:57 0.990
Wednesday, October 14, 2015 4:10:57 0.990
Wednesday, October 14, 2015 4:15:58 0.990
Wednesday, October 14, 2015 4:20:58 0.990
Wednesday, October 14, 2015 4:25:59 0.990
Wednesday, October 14, 2015 4:30:59 0.990
Wednesday, October 14, 2015 4:36:00 0.990
Wednesday, October 14, 2015 4:41:00 0.990
Wednesday, October 14, 2015 4:46:01 0.990
Wednesday, October 14, 2015 4:51:01 0.990
Wednesday, October 14, 2015 4:56:02 0.990
Wednesday, October 14, 2015 5:01:02 0.990
Wednesday, October 14, 2015 5:06:03 0.990
Wednesday, October 14, 2015 5:11:03 0.990
Wednesday, October 14, 2015 5:16:04 0.990
Wednesday, October 14, 2015 5:21:04 0.990
Wednesday, October 14, 2015 5:26:05 0.990
Wednesday, October 14, 2015 5:31:05 0.990
Wednesday, October 14, 2015 5:36:05 0.990
Wednesday, October 14, 2015 5:41:06 0.990
Wednesday, October 14, 2015 5:46:06 0.990
Wednesday, October 14, 2015 5:51:07 0.990
Wednesday, October 14, 2015 5:56:08 0.990
Wednesday, October 14, 2015 6:01:08 0.990
Wednesday, October 14, 2015 6:06:09 0.990
Wednesday, October 14, 2015 6:11:09 0.990
Wednesday, October 14, 2015 6:16:10 0.990
Wednesday, October 14, 2015 6:21:10 0.990
Wednesday, October 14, 2015 6:26:11 0.990
163.89
168.86
50.1
$\begin{array}{ll}168.86 & 50.1\end{array}$
173.8150 .1
$178.78 \quad 50.2$
$183.73 \quad 50.1$
$188.69 \quad 50.2$
$193.65 \quad 50.3$
$198.61 \quad 49.7$
$203.57 \quad 50.2$
$208.53 \quad 50.1$
$213.49 \quad 50.1$
$218.45 \quad 50.1$
$223.41 \quad 50.1$
$228.37 \quad 49.7$
$233.32 \quad 49.8$
$238.29 \quad 50.1$
$243.24 \quad 50.1$
$248.21 \quad 50.2$
$253.16 \quad 49.9$
$258.13 \quad 49.5$
$263.08 \quad 50.1$
$268.05 \quad 50.1$
$273.00 \quad 50.0$
$277.97 \quad 50.1$
$282.92 \quad 50.1$
$287.89 \quad 49.8$
$292.84 \quad 50.2$
$297.81 \quad 50.2$
$302.76 \quad 49.9$
307.7349 .8
$312.68 \quad 49.7$
$317.65 \quad 50.1$
$322.60 \quad 50.1$
$327.57 \quad 50.2$
$332.52 \quad 50.5$
$337.49 \quad 50.1$
$342.44 \quad 50.2$
$347.41 \quad 50.1$
$352.36 \quad 49.8$
$357.33 \quad 50.1$
$362.28 \quad 49.7$
$367.25 \quad 50.1$
$372.20 \quad 49.8$
$377.15 \quad 50.1$
$382.12 \quad 50.0$
$387.07 \quad 49.8$
$392.04 \quad 50.3$
$397.01 \quad 50.2$
$401.96 \quad 50.1$
$406.93 \quad 50.2$
$411.88 \quad 49.7$
$416.85 \quad 49.7$
$421.80 \quad 49.7$
$426.77 \quad 49.7$

Wednesday, October 14, 2015 6:31:11 0.990
Wednesday, October 14, 2015 6:36:12 0.990
Wednesday, October 14, 2015 6:41:12 0.990
Wednesday, October 14, 2015 6:46:13 0.990
Wednesday, October 14, 2015 6:51:13 0.990
Wednesday, October 14, 2015 6:56:13 0.990
Wednesday, October 14, 2015 7:01:14 0.990
Wednesday, October 14, 2015 7:06:14 0.990
Wednesday, October 14, 2015 7:11:15 0.990
Wednesday, October 14, 2015 7:16:15 0.990
Wednesday, October 14, 2015 7:21:16 0.990
Wednesday, October 14, 2015 7:26:16 0.990
Wednesday, October 14, 2015 7:31:17 0.990
Wednesday, October 14, 2015 7:36:17 0.990
Wednesday, October 14, 2015 7:41:18 0.990
Wednesday, October 14, 2015 7:46:18 0.990
Wednesday, October 14, 2015 7:51:19 0.990
Wednesday, October 14, 2015 7:56:19 0.990
Wednesday, October 14, 2015 8:01:20 0.990
Wednesday, October 14, 2015 8:06:20 0.990
Wednesday, October 14, 2015 8:11:21 0.990
Wednesday, October 14, 2015 8:16:21 0.990
Wednesday, October 14, 2015 8:21:22 0.990
Wednesday, October 14, 2015 8:26:23 0.990
Wednesday, October 14, 2015 8:31:23 0.990
Wednesday, October 14, 2015 8:36:24 0.990
Wednesday, October 14, 2015 8:41:24 0.990
Wednesday, October 14, 2015 8:46:25 0.990
Wednesday, October 14, 2015 8:51:25 0.990
Wednesday, October 14, 2015 8:56:26 0.990
Wednesday, October 14, 2015 9:01:26 0.990
Wednesday, October 14, 2015 9:06:27 0.990
Wednesday, October 14, 2015 9:11:27 0.990
Wednesday, October 14, 2015 9:16:28 0.990
Wednesday, October 14, 2015 9:21:28 0.990
Wednesday, October 14, 2015 9:26:29 0.990
Wednesday, October 14, 2015 9:31:29 0.990
Wednesday, October 14, 2015 9:36:30 0.990
Wednesday, October 14, 2015 9:41:30 0.990
Wednesday, October 14, 2015 9:46:31 0.990
Wednesday, October 14, 2015 9:51:31 0.990
Wednesday, October 14, 2015 9:56:32 0.990
Wednesday, October 14, 2015 10:01:32 0.990
Wednesday, October 14, 2015 10:06:33 0.990
Wednesday, October 14, 2015 10:11:33 0.990
Wednesday, October 14, 2015 10:16:34 0.990
Wednesday, October 14, 2015 10:21:34 0.990
Wednesday, October 14, 2015 10:26:35 0.990
Wednesday, October 14, 2015 10:31:35 0.990
Wednesday, October 14, 2015 10:36:36 0.990
Wednesday, October 14, 2015 10:41:36 0.990
Wednesday, October 14, 2015 10:46:37 0.990
Wednesday, October 14, 2015 10:51:37 0.990
Wednesday, October 14, 2015 10:56:38 0.990
431.72
436.68
441.64
446.61
$451.56 \quad 50.1$
$456.51 \quad 49.8$
$461.48 \quad 49.8$
$466.43 \quad 49.7$
$471.40 \quad 50.0$
$476.35 \quad 50.2$
$481.32 \quad 50.3$
$486.27 \quad 50.1$
$491.24 \quad 49.7$
$496.19 \quad 50.0$
501.1549 .9
$506.11 \quad 50.0$
$511.07 \quad 50.1$
$516.03 \quad 50.0$
520.9949 .5
$525.95 \quad 50.1$
$530.92 \quad 50.1$
$535.87 \quad 50.0$
$540.84 \quad 50.2$
$545.80 \quad 50.2$
$550.76 \quad 50.2$
555.7249 .9
$560.68 \quad 50.2$
$565.64 \quad 49.7$
$570.60 \quad 50.2$
$575.56 \quad 50.0$
$580.52 \quad 50.0$
$585.49 \quad 50.0$
$590.44 \quad 50.1$
$595.41 \quad 49.7$
$600.36 \quad 50.3$
605.3349 .8
$610.28 \quad 49.7$
$615.25 \quad 50.1$
$620.20 \quad 50.1$
$625.17 \quad 49.7$
$630.12 \quad 49.0$
635.0949 .6
$640.04 \quad 50.1$
$645.01 \quad 50.1$
$649.96 \quad 50.0$
$654.93 \quad 50.0$
$659.88 \quad 49.7$
$664.85 \quad 50.2$
$669.80 \quad 50.1$
$674.77 \quad 50.1$
$679.72 \quad 50.2$
$684.69 \quad 50.2$
$689.64 \quad 50.2$
$694.61 \quad 50.1$

# Ch. 2 Cartridge Started Monday, October 19, 2015 18:15:04 

Flow Rate Set Point 1.00 1/min
Stopped Tuesday, October 20, 2015 6:15:22
Total Volume 712.94 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.991 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate $0.001 \mathrm{l} / \mathrm{min}$
Ending Leak Rate -0.002 1/min
Flow Controller Zero -0.003 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

|  | 0.22 | 49.6 |
| :---: | :---: | :---: |
| Monday, October 19, 2015 18:20:31 0.991 | 5.18 | 50.0 |
| ay, October 19, 2015 18.25-32 0.991 | 10.1 | 49.7 |
| ay, October 19, 201518 | 15.10 | 50 |
| - ${ }^{\text {a }}$, October 19, 2015 18:35:33 0.991 | 20.07 | 49 |
| , October 19, 2015 18.40.33 0.991 | 25.02 | 50.2 |
| onday, October 19, 2015 18:45:34 0.991 | 29.99 | 50.0 |
| onday, October 19, 2015 18:50:34 0.99 | 34.9 | 0.3 |
| nday, October 19, 2015 18:55:35 0. | 39.92 | 50.1 |
| onday, October 19, 2015 19:00:35 0.991 | 44.87 | 49.5 |
| nday, October 19, 2015 19:05:36 0 | 49.8 | 49.8 |
| onday, October 19, 2015 19:10:36 0.991 | 54.79 | 50.3 |
| nday, October 19, 2015 19:15:37 0 | 59.76 | 4.8 |
| onday, October 19, 2015 19:20:37 0 | 4.7 | 50.3 |
| onday, October 19, 2015 19:25:38 0.991 | 69.68 | 49.6 |
| nday, October 19, 2015 19:30:38 0.991 | 74.6 | 0.0 |
| nday, October 19, 2015 19:3 | 9.6 | 49 |
| (9) | 84.56 | 50.2 |
| onday, October 19, 2015 19:45:40 0.991 | 89.53 | 50.2 |
| onday, October 19, 2015 19:50:41 0.991 | 4.50 | 50 |
| onday, October 19, 2015 19:55:41 0.991 | 99.45 | 50.0 |
| onday, October 19, 2015 20:00:41 0.991 | 104.40 | 50 |
| onday, October 19, 2015 20:05:42 0.991 | 109.37 |  |
| onday, October 19, 2015 20:10:43 0.991 | 114.3 |  |
| onday, October 19, 2015 20:15:43 0.991 | 119.30 |  |
| onday, October 19, 2015 20:20:44 0.991 | 124.27 |  |
| onday, October 19, 2015 20:25:44 0.991 | 129.22 |  |
| onday, October 19, 2015 20:30:45 0.991 | 134.19 |  |
| onday, October 19, 2015 20:35:45 0.991 | 39.14 |  |
| Monday, October 19, 2015 20:40:45 0.991 | 144.09 |  |
| onday, October 19, 2015 20:45:46 0.991 | 149.06 |  |
| onday, October 19, 2015 20:50:47 0.991 | 154.03 |  |
| Monday, October 19, 2015 20:55:47 0.991 | 158.99 |  |

Monday, October 19, 2015 21:00:48 0.991
163.96
50.3

Monday, October 19, 2015 21:05:48 0.991
168.91
50.0
$173.88 \quad 50.2$
$178.83 \quad 50.2$
$183.80 \quad 49.9$
$188.75 \quad 50.2$
193.7249 .7
198.6849 .7
$203.64 \quad 50.1$
$208.60 \quad 50.2$
$213.57 \quad 49.7$
$218.52 \quad 50.1$
$223.49 \quad 49.7$
$228.44 \quad 50.1$
$233.40 \quad 50.3$
$238.37 \quad 49.9$
$243.32 \quad 50.3$
$248.29 \quad 50.1$
$253.24 \quad 50.2$
$258.21 \quad 49.9$
$263.16 \quad 50.1$
$268.13 \quad 50.3$
$273.09 \quad 49.6$
$278.05 \quad 49.7$
$283.01 \quad 50.2$
$287.98 \quad 50.4$
$292.93 \quad 49.8$
$297.90 \quad 50.3$
$302.85 \quad 49.9$
$307.82 \quad 50.4$
$312.77 \quad 50.1$
$317.74 \quad 50.3$
$322.70 \quad 50.2$
$327.67 \quad 50.3$
$332.62 \quad 50.1$
$337.59 \quad 50.1$
$342.54 \quad 50.1$
$347.51 \quad 49.6$
$352.46 \quad 50.1$
$357.43 \quad 50.2$
$362.39 \quad 49.9$
$367.35 \quad 50.2$
$372.31 \quad 50.1$
$377.28 \quad 49.6$
$382.23 \quad 49.9$
$387.20 \quad 50.4$
$392.15 \quad 50.2$
$397.12 \quad 50.1$
$402.07 \quad 49.7$
$407.04 \quad 49.9$
$412.00 \quad 50.2$
$416.97 \quad 50.1$
$421.92 \quad 49.7$
$426.89 \quad 49.8$

Tuesday, October 20, 2015 1:31:14 0.991
Tuesday, October 20, 2015 1:36:15 0.991
Tuesday, October 20, 2015 1:41:15 0.991
Tuesday, October 20, 2015 1:46:16 0.991
Tuesday, October 20, 2015 1:51:16 0.991
Tuesday, October 20, 2015 1:56:17 0.991
Tuesday, October 20, 2015 2:01:17 0.991
Tuesday, October 20, 2015 2:06:18 0.991
Tuesday, October 20, 2015 2:11:18 0.991
Tuesday, October 20, 2015 2:16:18 0.991
Tuesday, October 20, 2015 2:21:19 0.991
Tuesday, October 20, 2015 2:26:19 0.991
Tuesday, October 20, 2015 2:31:20 0.991
Tuesday, October 20, 2015 2:36:20 0.991
Tuesday, October 20, 2015 2:41:21 0.991
Tuesday, October 20, 2015 2:46:21 0.991
Tuesday, October 20, 2015 2:51:22 0.991
Tuesday, October 20, 2015 2:56:22 0.991
Tuesday, October 20, 2015 3:01:23 0.991
Tuesday, October 20, 2015 3:06:23 0.991
Tuesday, October 20, 2015 3:11:24 0.991
Tuesday, October 20, 2015 3:16:24 0.991
Tuesday, October 20, 2015 3:21:25 0.991
Tuesday, October 20, 2015 3:26:25 0.991
Tuesday, October 20, 2015 3:31:26 0.991
Tuesday, October 20, 2015 3:36:26 0.991
Tuesday, October 20, 2015 3:41:27 0.991
Tuesday, October 20, 2015 3:46:27 0.991
Tuesday, October 20, 2015 3:51:28 0.991
Tuesday, October 20, 2015 3:56:28 0.991
Tuesday, October 20, 2015 4:01:29 0.991
Tuesday, October 20, 2015 4:06:29 0.991
Tuesday, October 20, 2015 4:11:30 0.991
Tuesday, October 20, 2015 4:16:30 0.991
Tuesday, October 20, 2015 4:21:31 0.991
Tuesday, October 20, 2015 4:26:31 0.991
Tuesday, October 20, 2015 4:31:32 0.991
Tuesday, October 20, 2015 4:36:32 0.991
Tuesday, October 20, 2015 4:41:33 0.991
Tuesday, October 20, 2015 4:46:33 0.991
Tuesday, October 20, 2015 4:51:34 0.991
Tuesday, October 20, 2015 4:56:34 0.991
Tuesday, October 20, 2015 5:01:35 0.991
Tuesday, October 20, 2015 5:06:35 0.991
Tuesday, October 20, 2015 5:11:36 0.991
Tuesday, October 20, 2015 5:16:36 0.991
Tuesday, October 20, 2015 5:21:37 0.991
Tuesday, October 20, 2015 5:26:37 0.991
Tuesday, October 20, 2015 5:31:38 0.991
Tuesday, October 20, 2015 5:36:38 0.991
Tuesday, October 20, 2015 5:41:39 0.991
Tuesday, October 20, 2015 5:46:39 0.991
Tuesday, October 20, 2015 5:51:39 0.991
Tuesday, October 20, 2015 5:56:40 0.991
431.84
50.1
$436.81 \quad 50.1$
$441.76 \quad 50.1$
$446.73 \quad 49.6$
$451.69 \quad 49.8$
$456.66 \quad 50.2$
$461.61 \quad 50.1$
$466.58 \quad 50.3$
$471.53 \quad 49.7$
$476.48 \quad 49.9$
$481.45 \quad 50.1$
$486.41 \quad 50.1$
$491.37 \quad 49.4$
$496.33 \quad 50.3$
$501.30 \quad 50.1$
$506.25 \quad 50.0$
511.2249 .8
$516.17 \quad 49.7$
$521.14 \quad 50.3$
$526.09 \quad 50.3$
$531.06 \quad 50.4$
$536.02 \quad 50.2$
$540.99 \quad 50.0$
$545.94 \quad 50.1$
$550.91 \quad 50.4$
$555.86 \quad 50.1$
560.8349 .8
$565.78 \quad 50.2$
$570.75 \quad 50.1$
$575.71 \quad 50.1$
$580.67 \quad 50.2$
$585.63 \quad 50.4$
$590.60 \quad 50.1$
$595.55 \quad 50.1$
$600.52 \quad 50.3$
$605.47 \quad 50.1$
$610.44 \quad 49.7$
$615.39 \quad 50.2$
620.3649 .8
$625.32 \quad 49.7$
$630.29 \quad 50.1$
$635.24 \quad 50.1$
$640.21 \quad 50.2$
$645.16 \quad 50.1$
$650.13 \quad 50.0$
$655.08 \quad 49.7$
$660.05 \quad 50.2$
$665.01 \quad 49.8$
$669.97 \quad 49.7$
$674.93 \quad 50.2$
$679.90 \quad 50.1$
$684.85 \quad 50.1$
$689.80 \quad 50.1$
$694.77 \quad 50.3$

# Ch. 2 Cartridge Started Monday, October 19, 2015 18:15:04 

Flow Rate Set Point 1.00 1/min
Stopped Tuesday, October 20, 2015 6:15:22
Total Volume 712.94 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.991 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate $0.001 \mathrm{l} / \mathrm{min}$
Ending Leak Rate -0.002 1/min
Flow Controller Zero -0.003 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

|  | 0.22 | 49.6 |
| :---: | :---: | :---: |
| Monday, October 19, 2015 18:20:31 0.991 | 5.18 | 50.0 |
| ay, October 19, 2015 18.25-32 0.991 | 10.1 | 49.7 |
| ay, October 19, 201518 | 15.10 | 50 |
| - ${ }^{\text {a }}$, October 19, 2015 18:35:33 0.991 | 20.07 | 49 |
| , October 19, 2015 18.40.33 0.991 | 25.02 | 50.2 |
| onday, October 19, 2015 18:45:34 0.991 | 29.99 | 50.0 |
| onday, October 19, 2015 18:50:34 0.99 | 34.9 | 0.3 |
| nday, October 19, 2015 18:55:35 0. | 39.92 | 50.1 |
| onday, October 19, 2015 19:00:35 0.991 | 44.87 | 49.5 |
| nday, October 19, 2015 19:05:36 0 | 49.8 | 49.8 |
| onday, October 19, 2015 19:10:36 0.991 | 54.79 | 50.3 |
| nday, October 19, 2015 19:15:37 0 | 59.76 | 4.8 |
| onday, October 19, 2015 19:20:37 0 | 4.7 | 50.3 |
| onday, October 19, 2015 19:25:38 0.991 | 69.68 | 49.6 |
| nday, October 19, 2015 19:30:38 0.991 | 74.6 | 0.0 |
| nday, October 19, 2015 19:3 | 9.6 | 49 |
| (9) | 84.56 | 50.2 |
| onday, October 19, 2015 19:45:40 0.991 | 89.53 | 50.2 |
| onday, October 19, 2015 19:50:41 0.991 | 4.50 | 50 |
| onday, October 19, 2015 19:55:41 0.991 | 99.45 | 50.0 |
| onday, October 19, 2015 20:00:41 0.991 | 104.40 | 50 |
| onday, October 19, 2015 20:05:42 0.991 | 109.37 |  |
| onday, October 19, 2015 20:10:43 0.991 | 114.3 |  |
| onday, October 19, 2015 20:15:43 0.991 | 119.30 |  |
| onday, October 19, 2015 20:20:44 0.991 | 124.27 |  |
| onday, October 19, 2015 20:25:44 0.991 | 129.22 |  |
| onday, October 19, 2015 20:30:45 0.991 | 134.19 |  |
| onday, October 19, 2015 20:35:45 0.991 | 39.14 |  |
| Monday, October 19, 2015 20:40:45 0.991 | 144.09 |  |
| onday, October 19, 2015 20:45:46 0.991 | 149.06 |  |
| onday, October 19, 2015 20:50:47 0.991 | 154.03 |  |
| Monday, October 19, 2015 20:55:47 0.991 | 158.99 |  |

Monday, October 19, 2015 21:00:48 0.991
163.96
50.3

Monday, October 19, 2015 21:05:48 0.991
168.91
50.0
$173.88 \quad 50.2$
$178.83 \quad 50.2$
$183.80 \quad 49.9$
$188.75 \quad 50.2$
193.7249 .7
198.6849 .7
$203.64 \quad 50.1$
$208.60 \quad 50.2$
$213.57 \quad 49.7$
$218.52 \quad 50.1$
$223.49 \quad 49.7$
$228.44 \quad 50.1$
$233.40 \quad 50.3$
$238.37 \quad 49.9$
$243.32 \quad 50.3$
$248.29 \quad 50.1$
$253.24 \quad 50.2$
$258.21 \quad 49.9$
$263.16 \quad 50.1$
$268.13 \quad 50.3$
$273.09 \quad 49.6$
$278.05 \quad 49.7$
$283.01 \quad 50.2$
$287.98 \quad 50.4$
$292.93 \quad 49.8$
$297.90 \quad 50.3$
$302.85 \quad 49.9$
$307.82 \quad 50.4$
$312.77 \quad 50.1$
$317.74 \quad 50.3$
$322.70 \quad 50.2$
$327.67 \quad 50.3$
$332.62 \quad 50.1$
$337.59 \quad 50.1$
$342.54 \quad 50.1$
$347.51 \quad 49.6$
$352.46 \quad 50.1$
$357.43 \quad 50.2$
$362.39 \quad 49.9$
$367.35 \quad 50.2$
$372.31 \quad 50.1$
$377.28 \quad 49.6$
$382.23 \quad 49.9$
$387.20 \quad 50.4$
$392.15 \quad 50.2$
$397.12 \quad 50.1$
$402.07 \quad 49.7$
$407.04 \quad 49.9$
$412.00 \quad 50.2$
$416.97 \quad 50.1$
$421.92 \quad 49.7$
$426.89 \quad 49.8$

Tuesday, October 20, 2015 1:31:14 0.991
Tuesday, October 20, 2015 1:36:15 0.991
Tuesday, October 20, 2015 1:41:15 0.991
Tuesday, October 20, 2015 1:46:16 0.991
Tuesday, October 20, 2015 1:51:16 0.991
Tuesday, October 20, 2015 1:56:17 0.991
Tuesday, October 20, 2015 2:01:17 0.991
Tuesday, October 20, 2015 2:06:18 0.991
Tuesday, October 20, 2015 2:11:18 0.991
Tuesday, October 20, 2015 2:16:18 0.991
Tuesday, October 20, 2015 2:21:19 0.991
Tuesday, October 20, 2015 2:26:19 0.991
Tuesday, October 20, 2015 2:31:20 0.991
Tuesday, October 20, 2015 2:36:20 0.991
Tuesday, October 20, 2015 2:41:21 0.991
Tuesday, October 20, 2015 2:46:21 0.991
Tuesday, October 20, 2015 2:51:22 0.991
Tuesday, October 20, 2015 2:56:22 0.991
Tuesday, October 20, 2015 3:01:23 0.991
Tuesday, October 20, 2015 3:06:23 0.991
Tuesday, October 20, 2015 3:11:24 0.991
Tuesday, October 20, 2015 3:16:24 0.991
Tuesday, October 20, 2015 3:21:25 0.991
Tuesday, October 20, 2015 3:26:25 0.991
Tuesday, October 20, 2015 3:31:26 0.991
Tuesday, October 20, 2015 3:36:26 0.991
Tuesday, October 20, 2015 3:41:27 0.991
Tuesday, October 20, 2015 3:46:27 0.991
Tuesday, October 20, 2015 3:51:28 0.991
Tuesday, October 20, 2015 3:56:28 0.991
Tuesday, October 20, 2015 4:01:29 0.991
Tuesday, October 20, 2015 4:06:29 0.991
Tuesday, October 20, 2015 4:11:30 0.991
Tuesday, October 20, 2015 4:16:30 0.991
Tuesday, October 20, 2015 4:21:31 0.991
Tuesday, October 20, 2015 4:26:31 0.991
Tuesday, October 20, 2015 4:31:32 0.991
Tuesday, October 20, 2015 4:36:32 0.991
Tuesday, October 20, 2015 4:41:33 0.991
Tuesday, October 20, 2015 4:46:33 0.991
Tuesday, October 20, 2015 4:51:34 0.991
Tuesday, October 20, 2015 4:56:34 0.991
Tuesday, October 20, 2015 5:01:35 0.991
Tuesday, October 20, 2015 5:06:35 0.991
Tuesday, October 20, 2015 5:11:36 0.991
Tuesday, October 20, 2015 5:16:36 0.991
Tuesday, October 20, 2015 5:21:37 0.991
Tuesday, October 20, 2015 5:26:37 0.991
Tuesday, October 20, 2015 5:31:38 0.991
Tuesday, October 20, 2015 5:36:38 0.991
Tuesday, October 20, 2015 5:41:39 0.991
Tuesday, October 20, 2015 5:46:39 0.991
Tuesday, October 20, 2015 5:51:39 0.991
Tuesday, October 20, 2015 5:56:40 0.991
431.84
50.1
$436.81 \quad 50.1$
$441.76 \quad 50.1$
$446.73 \quad 49.6$
$451.69 \quad 49.8$
$456.66 \quad 50.2$
$461.61 \quad 50.1$
$466.58 \quad 50.3$
$471.53 \quad 49.7$
$476.48 \quad 49.9$
$481.45 \quad 50.1$
$486.41 \quad 50.1$
$491.37 \quad 49.4$
$496.33 \quad 50.3$
$501.30 \quad 50.1$
$506.25 \quad 50.0$
511.2249 .8
$516.17 \quad 49.7$
$521.14 \quad 50.3$
$526.09 \quad 50.3$
$531.06 \quad 50.4$
$536.02 \quad 50.2$
$540.99 \quad 50.0$
$545.94 \quad 50.1$
$550.91 \quad 50.4$
$555.86 \quad 50.1$
560.8349 .8
$565.78 \quad 50.2$
$570.75 \quad 50.1$
$575.71 \quad 50.1$
$580.67 \quad 50.2$
$585.63 \quad 50.4$
$590.60 \quad 50.1$
$595.55 \quad 50.1$
$600.52 \quad 50.3$
$605.47 \quad 50.1$
$610.44 \quad 49.7$
$615.39 \quad 50.2$
620.3649 .8
$625.32 \quad 49.7$
$630.29 \quad 50.1$
$635.24 \quad 50.1$
$640.21 \quad 50.2$
$645.16 \quad 50.1$
$650.13 \quad 50.0$
$655.08 \quad 49.7$
$660.05 \quad 50.2$
$665.01 \quad 49.8$
$669.97 \quad 49.7$
$674.93 \quad 50.2$
$679.90 \quad 50.1$
$684.85 \quad 50.1$
$689.80 \quad 50.1$
$694.77 \quad 50.3$

# Ch. 2 Cartridge Started Sunday, October 25, 2015 18:15:04 

Flow Rate Set Point 1.00 1/min
Stopped Monday, October 26, 2015 6:15:22
Total Volume 712.93 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.990 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate 0.003 1/min
Ending Leak Rate -0.003 1/min
Flow Controller Zero -0.003 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

|  | 0.22 |  |
| :---: | :---: | :---: |
| 1 | 5.18 | 49.7 |
| unday, October 25, 2015 18:25:32 0.991 | 10.15 | 49.5 |
| Sunday, October 25, 2015 18:30:33 0.991 | 15.12 | 50.1 |
| nday, October 25, 2015 18:35:33 0.991 | 20.07 | 50.1 |
| Sunday, October 25, 2015 18:40:34 0.991 | 25.04 | 50.0 |
| unday, October 25, 2015 18:45:35 0.991 | 30.01 | 50.5 |
| nday, October 25, 2015 18:50:35 0.991 | 34.96 | 50.4 |
| unday, October 25, 2015 18:55:36 0.991 | 39.93 | 50.6 |
| unday, October 25, 2015 19:00:36 0.991 | 44.88 | 50.4 |
| unday, October 25, 2015 19:05:37 0.991 | 49.85 | 50.7 |
| unday, October 25, 2015 19:10:37 0.991 | 54.81 | 50.4 |
| unday, October 25, 2015 19:15:38 0.991 | 59.78 | 50.5 |
| unday, October 25, 2015 19:20:39 0.991 | 64.75 | 50.5 |
| unday, October 25, 2015 19:25:39 0.991 | 69.70 | 50.4 |
| unday, October 25, 2015 19:30:40 0.991 | 74.67 | 50.0 |
| unday, October 25, 2015 19:35:40 0.991 | 79.62 | 50.0 |
| Sunday, October 25, 2015 19:40:41 0.991 | 84.59 | 50.4 |
| Sunday, October 25, 2015 19:45:42 0.991 | 89.56 | 50.1 |
| unday, October 25, 2015 19:50:42 0.991 | 94.51 | 50.4 |
| unday, October 25, 2015 19:55:43 0.991 | 99.48 | 49.8 |
| unday, October 25, 2015 20:00:44 0.991 | 104.45 | 49.7 |
| unday, October 25, 2015 20:05:44 0.991 | 109.41 | , |
| Sunday, October 25, 2015 20:10:45 0.991 | 114.37 | 50.9 |
| unday, October 25, 2015 20:15:45 0.991 | 119.33 | 50.7 |
| unday, October 25, 2015 20:20:46 0.991 | 124.30 | 50.3 |
| Sunday, October 25, 2015 20:25:46 0.991 | 129.25 | 50.2 |
| Sunday, October 25, 2015 20:30:47 0.991 | 134.22 |  |
| Sunday, October 25, 2015 20:35:48 0.991 | 139.19 | 5.4 |
| Sunday, October 25, 2015 20:40:48 0.991 | 144.14 | 49.8 |
| Sunday, October 25, 2015 20:45:49 0.991 | 149.11 | 50.1 |
| Sunday, October 25, 2015 20:50:49 0.991 | 154.06 | 50 |
| Sunday, October 25, 2015 20:55:50 0.991 | 159.03 | 50 |

Sunday, October 25, 2015 21:00:51 0.991
164.00
49.7

Sunday, October 25, 2015 21:05:51 0.991
Sunday, October 25, 2015 21:10:52 0.991
Sunday, October 25, 2015 21:15:53 0.991
Sunday, October 25, 2015 21:20:53 0.991
Sunday, October 25, 2015 21:25:54 0.991
Sunday, October 25, 2015 21:30:54 0.991
Sunday, October 25, 2015 21:35:55 0.991
Sunday, October 25, 2015 21:40:56 0.991
Sunday, October 25, 2015 21:45:56 0.991
Sunday, October 25, 2015 21:50:57 0.991
Sunday, October 25, 2015 21:55:57 0.991
Sunday, October 25, 2015 22:00:58 0.991
Sunday, October 25, 2015 22:05:59 0.991
Sunday, October 25, 2015 22:10:59 0.991
Sunday, October 25, 2015 22:16:00 0.991
Sunday, October 25, 2015 22:21:00 0.991
Sunday, October 25, 2015 22:26:01 0.991
Sunday, October 25, 2015 22:31:02 0.991
Sunday, October 25, 2015 22:36:02 0.991
Sunday, October 25, 2015 22:41:03 0.991
Sunday, October 25, 2015 22:46:04 0.991
Sunday, October 25, 2015 22:51:04 0.991
Sunday, October 25, 2015 22:56:05 0.991
Sunday, October 25, 2015 23:01:06 0.991
Sunday, October 25, 2015 23:06:06 0.991
Sunday, October 25, 2015 23:11:07 0.991
Sunday, October 25, 2015 23:16:07 0.991
Sunday, October 25, 2015 23:21:08 0.991
Sunday, October 25, 2015 23:26:09 0.991
Sunday, October 25, 2015 23:31:09 0.991
Sunday, October 25, 2015 23:36:10 0.991
Sunday, October 25, 2015 23:41:10 0.991
Sunday, October 25, 2015 23:46:11 0.991
Sunday, October 25, 2015 23:51:12 0.991
Sunday, October 25, 2015 23:56:12 0.991
Monday, October 26, 2015 0:01:13 0.991
Monday, October 26, 2015 0:06:14 0.991
Monday, October 26, 2015 0:11:14 0.991
Monday, October 26, 2015 0:16:15 0.991
Monday, October 26, 2015 0:21:15 0.991
Monday, October 26, 2015 0:26:16 0.991
Monday, October 26, 2015 0:31:17 0.991
Monday, October 26, 2015 0:36:17 0.991
Monday, October 26, 2015 0:41:18 0.991
Monday, October 26, 2015 0:46:18 0.991
Monday, October 26, 2015 0:51:19 0.991
Monday, October 26, 2015 0:56:20 0.991
Monday, October 26, 2015 1:01:20 0.991
Monday, October 26, 2015 1:06:21 0.991
Monday, October 26, 2015 1:11:21 0.990
Monday, October 26, 2015 1:16:22 0.991
Monday, October 26, 2015 1:21:23 0.991
Monday, October 26, 2015 1:26:23 0.991
168.96
49.7
$173.93 \quad 50.4$
$178.90 \quad 50.9$
$183.85 \quad 50.9$
$188.82 \quad 50.0$
$193.77 \quad 50.6$
$198.74 \quad 50.7$
$203.71 \quad 50.0$
$208.66 \quad 50.3$
$213.63 \quad 50.4$
$218.59 \quad 50.4$
$223.55 \quad 50.5$
$228.52 \quad 50.1$
$233.48 \quad 50.0$
$238.45 \quad 50.5$
$243.40 \quad 50.6$
$248.37 \quad 49.9$
$253.34 \quad 50.6$
$258.29 \quad 50.2$
263.2649 .9
268.2349 .9
$273.18 \quad 50.4$
$278.15 \quad 50.3$
$283.12 \quad 50.3$
$288.07 \quad 50.6$
$293.04 \quad 50.4$
$298.00 \quad 50.3$
$302.96 \quad 50.2$
$307.93 \quad 50.7$
$312.89 \quad 50.8$
$317.86 \quad 50.4$
$322.81 \quad 50.1$
$327.78 \quad 49.8$
$332.75 \quad 49.5$
$337.70 \quad 50.1$
$342.67 \quad 50.5$
$347.64 \quad 50.2$
$352.59 \quad 50.6$
$357.56 \quad 50.5$
$362.51 \quad 49.9$
$367.48 \quad 50.1$
$372.45 \quad 49.9$
$377.41 \quad 49.9$
$382.37 \quad 50.2$
$387.33 \quad 50.5$
$392.30 \quad 50.4$
$397.27 \quad 50.2$
$402.22 \quad 50.6$
$407.19 \quad 49.7$
$412.14 \quad 50.1$
$417.11 \quad 50.1$
$422.08 \quad 50.1$
$427.03 \quad 50.2$

Monday, October 26, 2015 1:31:24 0.991
432.00
49.7
$436.97 \quad 50.5$
$441.92 \quad 49.7$
$446.89 \quad 50.0$
$451.85 \quad 49.3$
$456.81 \quad 50.5$
$461.78 \quad 50.5$
$466.74 \quad 50.1$
$471.71 \quad 50.4$
$476.66 \quad 50.1$
$481.63 \quad 49.6$
$486.60 \quad 50.5$
$491.55 \quad 50.1$
$496.52 \quad 49.4$
$501.49 \quad 50.1$
$506.44 \quad 50.4$
$511.41 \quad 50.5$
$516.36 \quad 50.1$
$521.33 \quad 50.1$
$526.30 \quad 50.5$
$531.25 \quad 50.4$
$536.22 \quad 50.2$
$541.18 \quad 50.4$
$546.15 \quad 50.1$
$551.11 \quad 50.6$
$556.07 \quad 50.2$
$561.04 \quad 50.0$
$566.01 \quad 50.0$
570.9649 .8
$575.93 \quad 49.6$
580.8849 .9
$585.85 \quad 49.7$
$590.80 \quad 50.1$
$595.77 \quad 50.5$
600.7450 .0
$605.69 \quad 50.5$
$610.66 \quad 50.5$
$615.62 \quad 50.0$
$620.59 \quad 50.0$
$625.55 \quad 50.5$
$630.51 \quad 50.6$
$635.48 \quad 50.1$
$640.43 \quad 50.4$
$645.40 \quad 50.3$
$650.37 \quad 50.5$
$655.32 \quad 50.5$
$660.29 \quad 50.4$
$665.24 \quad 49.8$
$670.21 \quad 50.0$
$675.16 \quad 50.4$
$680.13 \quad 50.5$
$685.10 \quad 49.7$
$690.05 \quad 49.7$
$695.02 \quad 50.1$

# Ch. 2 Cartridge Started Sunday, October 25, 2015 18:15:04 

Flow Rate Set Point 1.00 1/min
Stopped Monday, October 26, 2015 6:15:22
Total Volume 712.93 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.990 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate 0.003 1/min
Ending Leak Rate -0.003 1/min
Flow Controller Zero -0.003 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

|  | 0.22 |  |
| :---: | :---: | :---: |
| 1 | 5.18 | 49.7 |
| unday, October 25, 2015 18:25:32 0.991 | 10.15 | 49.5 |
| Sunday, October 25, 2015 18:30:33 0.991 | 15.12 | 50.1 |
| nday, October 25, 2015 18:35:33 0.991 | 20.07 | 50.1 |
| Sunday, October 25, 2015 18:40:34 0.991 | 25.04 | 50.0 |
| unday, October 25, 2015 18:45:35 0.991 | 30.01 | 50.5 |
| nday, October 25, 2015 18:50:35 0.991 | 34.96 | 50.4 |
| unday, October 25, 2015 18:55:36 0.991 | 39.93 | 50.6 |
| unday, October 25, 2015 19:00:36 0.991 | 44.88 | 50.4 |
| unday, October 25, 2015 19:05:37 0.991 | 49.85 | 50.7 |
| unday, October 25, 2015 19:10:37 0.991 | 54.81 | 50.4 |
| unday, October 25, 2015 19:15:38 0.991 | 59.78 | 50.5 |
| unday, October 25, 2015 19:20:39 0.991 | 64.75 | 50.5 |
| unday, October 25, 2015 19:25:39 0.991 | 69.70 | 50.4 |
| unday, October 25, 2015 19:30:40 0.991 | 74.67 | 50.0 |
| unday, October 25, 2015 19:35:40 0.991 | 79.62 | 50.0 |
| Sunday, October 25, 2015 19:40:41 0.991 | 84.59 | 50.4 |
| Sunday, October 25, 2015 19:45:42 0.991 | 89.56 | 50.1 |
| unday, October 25, 2015 19:50:42 0.991 | 94.51 | 50.4 |
| unday, October 25, 2015 19:55:43 0.991 | 99.48 | 49.8 |
| unday, October 25, 2015 20:00:44 0.991 | 104.45 | 49.7 |
| unday, October 25, 2015 20:05:44 0.991 | 109.41 | , |
| Sunday, October 25, 2015 20:10:45 0.991 | 114.37 | 50.9 |
| unday, October 25, 2015 20:15:45 0.991 | 119.33 | 50.7 |
| unday, October 25, 2015 20:20:46 0.991 | 124.30 | 50.3 |
| Sunday, October 25, 2015 20:25:46 0.991 | 129.25 | 50.2 |
| Sunday, October 25, 2015 20:30:47 0.991 | 134.22 |  |
| Sunday, October 25, 2015 20:35:48 0.991 | 139.19 | 5.4 |
| Sunday, October 25, 2015 20:40:48 0.991 | 144.14 | 49.8 |
| Sunday, October 25, 2015 20:45:49 0.991 | 149.11 | 50.1 |
| Sunday, October 25, 2015 20:50:49 0.991 | 154.06 | 50 |
| Sunday, October 25, 2015 20:55:50 0.991 | 159.03 | 50 |

Sunday, October 25, 2015 21:00:51 0.991
164.00
49.7

Sunday, October 25, 2015 21:05:51 0.991
Sunday, October 25, 2015 21:10:52 0.991
Sunday, October 25, 2015 21:15:53 0.991
Sunday, October 25, 2015 21:20:53 0.991
Sunday, October 25, 2015 21:25:54 0.991
Sunday, October 25, 2015 21:30:54 0.991
Sunday, October 25, 2015 21:35:55 0.991
Sunday, October 25, 2015 21:40:56 0.991
Sunday, October 25, 2015 21:45:56 0.991
Sunday, October 25, 2015 21:50:57 0.991
Sunday, October 25, 2015 21:55:57 0.991
Sunday, October 25, 2015 22:00:58 0.991
Sunday, October 25, 2015 22:05:59 0.991
Sunday, October 25, 2015 22:10:59 0.991
Sunday, October 25, 2015 22:16:00 0.991
Sunday, October 25, 2015 22:21:00 0.991
Sunday, October 25, 2015 22:26:01 0.991
Sunday, October 25, 2015 22:31:02 0.991
Sunday, October 25, 2015 22:36:02 0.991
Sunday, October 25, 2015 22:41:03 0.991
Sunday, October 25, 2015 22:46:04 0.991
Sunday, October 25, 2015 22:51:04 0.991
Sunday, October 25, 2015 22:56:05 0.991
Sunday, October 25, 2015 23:01:06 0.991
Sunday, October 25, 2015 23:06:06 0.991
Sunday, October 25, 2015 23:11:07 0.991
Sunday, October 25, 2015 23:16:07 0.991
Sunday, October 25, 2015 23:21:08 0.991
Sunday, October 25, 2015 23:26:09 0.991
Sunday, October 25, 2015 23:31:09 0.991
Sunday, October 25, 2015 23:36:10 0.991
Sunday, October 25, 2015 23:41:10 0.991
Sunday, October 25, 2015 23:46:11 0.991
Sunday, October 25, 2015 23:51:12 0.991
Sunday, October 25, 2015 23:56:12 0.991
Monday, October 26, 2015 0:01:13 0.991
Monday, October 26, 2015 0:06:14 0.991
Monday, October 26, 2015 0:11:14 0.991
Monday, October 26, 2015 0:16:15 0.991
Monday, October 26, 2015 0:21:15 0.991
Monday, October 26, 2015 0:26:16 0.991
Monday, October 26, 2015 0:31:17 0.991
Monday, October 26, 2015 0:36:17 0.991
Monday, October 26, 2015 0:41:18 0.991
Monday, October 26, 2015 0:46:18 0.991
Monday, October 26, 2015 0:51:19 0.991
Monday, October 26, 2015 0:56:20 0.991
Monday, October 26, 2015 1:01:20 0.991
Monday, October 26, 2015 1:06:21 0.991
Monday, October 26, 2015 1:11:21 0.990
Monday, October 26, 2015 1:16:22 0.991
Monday, October 26, 2015 1:21:23 0.991
Monday, October 26, 2015 1:26:23 0.991
168.96
49.7
$173.93 \quad 50.4$
$178.90 \quad 50.9$
$183.85 \quad 50.9$
$188.82 \quad 50.0$
$193.77 \quad 50.6$
$198.74 \quad 50.7$
$203.71 \quad 50.0$
$208.66 \quad 50.3$
$213.63 \quad 50.4$
$218.59 \quad 50.4$
$223.55 \quad 50.5$
$228.52 \quad 50.1$
$233.48 \quad 50.0$
$238.45 \quad 50.5$
$243.40 \quad 50.6$
$248.37 \quad 49.9$
$253.34 \quad 50.6$
$258.29 \quad 50.2$
263.2649 .9
268.2349 .9
$273.18 \quad 50.4$
$278.15 \quad 50.3$
$283.12 \quad 50.3$
$288.07 \quad 50.6$
$293.04 \quad 50.4$
$298.00 \quad 50.3$
$302.96 \quad 50.2$
$307.93 \quad 50.7$
$312.89 \quad 50.8$
$317.86 \quad 50.4$
$322.81 \quad 50.1$
$327.78 \quad 49.8$
$332.75 \quad 49.5$
$337.70 \quad 50.1$
$342.67 \quad 50.5$
$347.64 \quad 50.2$
$352.59 \quad 50.6$
$357.56 \quad 50.5$
$362.51 \quad 49.9$
$367.48 \quad 50.1$
$372.45 \quad 49.9$
$377.41 \quad 49.9$
$382.37 \quad 50.2$
$387.33 \quad 50.5$
$392.30 \quad 50.4$
$397.27 \quad 50.2$
$402.22 \quad 50.6$
$407.19 \quad 49.7$
$412.14 \quad 50.1$
$417.11 \quad 50.1$
$422.08 \quad 50.1$
$427.03 \quad 50.2$

Monday, October 26, 2015 1:31:24 0.991
432.00
49.7
$436.97 \quad 50.5$
$441.92 \quad 49.7$
$446.89 \quad 50.0$
$451.85 \quad 49.3$
$456.81 \quad 50.5$
$461.78 \quad 50.5$
$466.74 \quad 50.1$
$471.71 \quad 50.4$
$476.66 \quad 50.1$
$481.63 \quad 49.6$
$486.60 \quad 50.5$
$491.55 \quad 50.1$
$496.52 \quad 49.4$
$501.49 \quad 50.1$
$506.44 \quad 50.4$
$511.41 \quad 50.5$
$516.36 \quad 50.1$
$521.33 \quad 50.1$
$526.30 \quad 50.5$
$531.25 \quad 50.4$
$536.22 \quad 50.2$
$541.18 \quad 50.4$
$546.15 \quad 50.1$
$551.11 \quad 50.6$
$556.07 \quad 50.2$
$561.04 \quad 50.0$
$566.01 \quad 50.0$
570.9649 .8
$575.93 \quad 49.6$
580.8849 .9
$585.85 \quad 49.7$
$590.80 \quad 50.1$
$595.77 \quad 50.5$
600.7450 .0
$605.69 \quad 50.5$
$610.66 \quad 50.5$
$615.62 \quad 50.0$
$620.59 \quad 50.0$
$625.55 \quad 50.5$
$630.51 \quad 50.6$
$635.48 \quad 50.1$
$640.43 \quad 50.4$
$645.40 \quad 50.3$
$650.37 \quad 50.5$
$655.32 \quad 50.5$
$660.29 \quad 50.4$
$665.24 \quad 49.8$
$670.21 \quad 50.0$
$675.16 \quad 50.4$
$680.13 \quad 50.5$
$685.10 \quad 49.7$
$690.05 \quad 49.7$
$695.02 \quad 50.1$

# Ch. 2 Cartridge Started Saturday, October 31, 2015 18:15:02 

Flow Rate Set Point 1.00 1/min
Stopped Sunday, November 01, 2015 6:15:24
Total Volume 712.98 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.990 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate 0.003 1/min
Ending Leak Rate -0.002 1/min
Flow Controller Zero -0.003 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Saturday, October 31, 2015 18:15:29 0.083 $0.22 \quad 50.4$
Saturday, October 31, 2015 18:20:29 $0.991 \quad 5.18 \quad 50.1$
Saturday, October 31, 2015 18:25:30 $0.991 \quad 10.15 \quad 50.2$
Saturday, October 31, 2015 18:30:31 $0.991 \quad 15.12 \quad 50.5$
Saturday, October 31, 2015 18:35:31 $0.991 \quad 20.07 \quad 50.2$
Saturday, October 31, 2015 18:40:32 $0.990 \quad 25.04 \quad 50.5$
Saturday, October 31, 2015 18:45:32 $0.991 \quad 29.99 \quad 50.5$
Saturday, October 31, 2015 18:50:33 $0.991 \quad 34.96 \quad 50.1$
Saturday, October 31, 2015 18:55:34 $0.991 \quad 39.93 \quad 49.7$
Saturday, October 31, 2015 19:00:34 $0.99144 .88 \quad 50.2$
Saturday, October 31, 2015 19:05:35 $0.991 \quad 49.85 \quad 50.4$
Saturday, October 31, 2015 19:10:35 $0.991 \quad 54.80 \quad 50.3$
Saturday, October 31, 2015 19:15:36 $0.991 \quad 59.77 \quad 49.9$
Saturday, October 31, 2015 19:20:37 $0.991 \quad 64.74 \quad 49.5$
Saturday, October 31, 2015 19:25:37 $0.991 \quad 69.70 \quad 49.8$
Saturday, October 31, 2015 19:30:38 $0.991 \quad 74.67 \quad 50.1$
Saturday, October 31, 2015 19:35:38 $0.991 \quad 79.62 \quad 50.6$
Saturday, October 31, 2015 19:40:39 $0.991 \quad 84.59 \quad 50.4$
Saturday, October 31, 2015 19:45:40 0.990 89.56
Saturday, October 31, 2015 19:50:40 $0.991 \quad 94.51 \quad 50.7$
Saturday, October 31, 2015 19:55:41 $0.991 \quad 99.48 \quad 50.3$
Saturday, October 31, 2015 20:00:41 $0.991 \quad 104.43 \quad 49.4$
Saturday, October 31, 2015 20:05:42 0.991 $109.40 \quad 50.7$
Saturday, October 31, 2015 20:10:43 $0.991 \quad 114.37 \quad 50.8$
Saturday, October 31, 2015 20:15:43 $0.991 \quad 119.32 \quad 50.3$
Saturday, October 31, 2015 20:20:44 0.991 $124.29 \quad 50.1$
Saturday, October 31, 2015 20:25:44 0.991 $129.24 \quad 50.5$
Saturday, October 31, 2015 20:30:45 $0.991 \quad 134.21 \quad 50.1$
Saturday, October 31, 2015 20:35:46 0.991 $139.18 \quad 50.7$
Saturday, October 31, 2015 20:40:46 0.991 $144.14 \quad 50.5$
Saturday, October 31, 2015 20:45:47 0.991 $149.10 \quad 49.4$
Saturday, October 31, 2015 20:50:48 $0.991 \quad 154.07 \quad 50.2$
Saturday, October 31, 2015 20:55:48 0.991 $159.03 \quad 50.2$
164.00
50.6
$168.95 \quad 50.4$
173.9249 .8
$178.89 \quad 50.6$
183.8450 .6
$188.81 \quad 50.2$
193.7650 .3
$198.73 \quad 50.2$
$203.70 \quad 50.6$
$208.65 \quad 50.7$
$213.62 \quad 50.6$
$218.58 \quad 49.9$
$223.55 \quad 50.0$
$228.51 \quad 50.1$
$233.47 \quad 49.8$
$238.44 \quad 49.9$
$243.39 \quad 50.7$
248.3649 .8
$253.33 \quad 50.1$
$258.28 \quad 50.0$
263.2549 .8
$268.20 \quad 50.5$
$273.17 \quad 50.5$
$278.14 \quad 50.1$
$283.09 \quad 50.2$
$288.06 \quad 50.1$
$293.03 \quad 50.2$
$297.98 \quad 50.4$
$302.95 \quad 50.3$
$307.91 \quad 50.2$
$312.88 \quad 50.0$
$317.83 \quad 50.6$
$322.80 \quad 50.5$
$327.77 \quad 49.9$
$332.72 \quad 50.5$
337.6950 .6
$342.66 \quad 50.5$
$347.61 \quad 49.8$
$352.58 \quad 50.6$
$357.53 \quad 49.8$
$362.50 \quad 50.5$
$367.47 \quad 49.8$
$372.42 \quad 50.3$
$377.39 \quad 50.1$
$382.35 \quad 50.5$
$387.31 \quad 50.4$
$392.28 \quad 49.0$
$397.24 \quad 50.1$
$402.21 \quad 50.4$
$407.16 \quad 50.5$
$412.13 \quad 50.2$
$417.10 \quad 50.5$
$422.05 \quad 50.2$
$427.02 \quad 49.5$

Sunday, November 01, 2015 1:31:21 0.991
Sunday, November 01, 2015 1:36:22 0.991
Sunday, November 01, 2015 1:41:22 0.991
Sunday, November 01, 2015 1:46:23 0.991
Sunday, November 01, 2015 1:51:24 0.991
Sunday, November 01, 2015 1:56:24 0.991
Sunday, November 01, 2015 2:01:25 0.991
Sunday, November 01, 2015 2:06:25 0.991
Sunday, November 01, 2015 2:11:26 0.991
Sunday, November 01, 2015 2:16:26 0.991
Sunday, November 01, 2015 2:21:27 0.991
Sunday, November 01, 2015 2:26:28 0.991
Sunday, November 01, 2015 2:31:28 0.991
Sunday, November 01, 2015 2:36:29 0.991
Sunday, November 01, 2015 2:41:29 0.991
Sunday, November 01, 2015 2:46:30 0.991
Sunday, November 01, 2015 2:51:31 0.991
Sunday, November 01, 2015 2:56:31 0.991
Sunday, November 01, 2015 3:01:32 0.991
Sunday, November 01, 2015 3:06:32 0.991
Sunday, November 01, 2015 3:11:33 0.991
Sunday, November 01, 2015 3:16:34 0.991
Sunday, November 01, 2015 3:21:34 0.991
Sunday, November 01, 2015 3:26:35 0.991
Sunday, November 01, 2015 3:31:35 0.991
Sunday, November 01, 2015 3:36:36 0.991
Sunday, November 01, 2015 3:41:36 0.990
Sunday, November 01, 2015 3:46:37 0.991
Sunday, November 01, 2015 3:51:38 0.991
Sunday, November 01, 2015 3:56:38 0.991
Sunday, November 01, 2015 4:01:39 0.991
Sunday, November 01, 2015 4:06:40 0.991
Sunday, November 01, 2015 4:11:40 0.991
Sunday, November 01, 2015 4:16:41 0.991
Sunday, November 01, 2015 4:21:41 0.991
Sunday, November 01, 2015 4:26:42 0.991
Sunday, November 01, 2015 4:31:43 0.991
Sunday, November 01, 2015 4:36:43 0.991
Sunday, November 01, 2015 4:41:44 0.991
Sunday, November 01, 2015 4:46:44 0.991
Sunday, November 01, 2015 4:51:45 0.991
Sunday, November 01, 2015 4:56:45 0.991
Sunday, November 01, 2015 5:01:46 0.991
Sunday, November 01, 2015 5:06:47 0.991
Sunday, November 01, 2015 5:11:47 0.991
Sunday, November 01, 2015 5:16:48 0.991
Sunday, November 01, 2015 5:21:48 0.991
Sunday, November 01, 2015 5:26:49 0.991
Sunday, November 01, 2015 5:31:50 0.991
Sunday, November 01, 2015 5:36:50 0.991
Sunday, November 01, 2015 5:41:51 0.991
Sunday, November 01, 2015 5:46:51 0.991
Sunday, November 01, 2015 5:51:52 0.991
Sunday, November 01, 2015 5:56:53 0.991
431.97
50.5
$436.94 \quad 50.0$
$441.89 \quad 50.6$
$446.86 \quad 50.2$
$451.83 \quad 50.5$
$456.78 \quad 50.5$
$461.75 \quad 50.4$
$466.71 \quad 50.1$
$471.67 \quad 50.2$
$476.63 \quad 49.8$
$481.60 \quad 49.7$
$486.57 \quad 50.6$
$491.52 \quad 50.0$
$496.49 \quad 50.5$
$501.44 \quad 49.7$
$506.41 \quad 49.3$
$511.38 \quad 49.8$
$516.33 \quad 50.6$
$521.30 \quad 50.4$
$526.25 \quad 50.3$
$531.22 \quad 50.2$
$536.19 \quad 49.6$
$541.14 \quad 50.2$
$546.11 \quad 49.6$
$551.07 \quad 50.0$
$556.03 \quad 50.6$
$560.99 \quad 50.5$
$565.96 \quad 50.8$
$570.93 \quad 50.6$
$575.88 \quad 49.8$
$580.85 \quad 50.5$
$585.82 \quad 50.3$
$590.77 \quad 50.4$
$595.74 \quad 50.6$
$600.69 \quad 50.5$
$605.66 \quad 50.6$
$610.63 \quad 50.4$
$615.58 \quad 50.3$
620.5549 .9
$625.50 \quad 50.1$
$630.47 \quad 50.4$
$635.43 \quad 50.1$
$640.40 \quad 50.1$
$645.37 \quad 50.0$
$650.32 \quad 50.1$
$655.29 \quad 50.2$
$660.24 \quad 50.5$
$665.21 \quad 50.5$
$670.18 \quad 50.7$
$675.13 \quad 50.3$
$680.10 \quad 50.0$
$685.05 \quad 49.8$
$690.02 \quad 50.6$
$694.99 \quad 50.5$

Sunday, November 01, 2015 6:01:53 $0.991 \quad 699.94 \quad 50.4$
Sunday, November 01, 2015 6:06:54 $0.991 \quad 704.91 \quad 50.0$
Sunday, November 01, 2015 6:11:54 $0.991 \quad 709.86 \quad 50.2$
Sunday, November 01, 2015 6:15:02 $0.991 \quad 712.97 \quad 50.6$

# Ch. 2 Cartridge Started Saturday, October 31, 2015 18:15:02 

Flow Rate Set Point 1.00 1/min
Stopped Sunday, November 01, 2015 6:15:24
Total Volume 712.98 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.990 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate 0.003 1/min
Ending Leak Rate -0.002 1/min
Flow Controller Zero -0.003 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Saturday, October 31, 2015 18:15:29 0.083 $0.22 \quad 50.4$
Saturday, October 31, 2015 18:20:29 $0.991 \quad 5.18 \quad 50.1$
Saturday, October 31, 2015 18:25:30 $0.991 \quad 10.15 \quad 50.2$
Saturday, October 31, 2015 18:30:31 $0.991 \quad 15.12 \quad 50.5$
Saturday, October 31, 2015 18:35:31 $0.991 \quad 20.07 \quad 50.2$
Saturday, October 31, 2015 18:40:32 $0.990 \quad 25.04 \quad 50.5$
Saturday, October 31, 2015 18:45:32 $0.991 \quad 29.99 \quad 50.5$
Saturday, October 31, 2015 18:50:33 $0.991 \quad 34.96 \quad 50.1$
Saturday, October 31, 2015 18:55:34 $0.991 \quad 39.93 \quad 49.7$
Saturday, October 31, 2015 19:00:34 $0.99144 .88 \quad 50.2$
Saturday, October 31, 2015 19:05:35 $0.991 \quad 49.85 \quad 50.4$
Saturday, October 31, 2015 19:10:35 $0.991 \quad 54.80 \quad 50.3$
Saturday, October 31, 2015 19:15:36 $0.991 \quad 59.77 \quad 49.9$
Saturday, October 31, 2015 19:20:37 $0.991 \quad 64.74 \quad 49.5$
Saturday, October 31, 2015 19:25:37 $0.991 \quad 69.70 \quad 49.8$
Saturday, October 31, 2015 19:30:38 $0.991 \quad 74.67 \quad 50.1$
Saturday, October 31, 2015 19:35:38 $0.991 \quad 79.62 \quad 50.6$
Saturday, October 31, 2015 19:40:39 $0.991 \quad 84.59 \quad 50.4$
Saturday, October 31, 2015 19:45:40 0.990 89.56
Saturday, October 31, 2015 19:50:40 $0.991 \quad 94.51 \quad 50.7$
Saturday, October 31, 2015 19:55:41 $0.991 \quad 99.48 \quad 50.3$
Saturday, October 31, 2015 20:00:41 $0.991 \quad 104.43 \quad 49.4$
Saturday, October 31, 2015 20:05:42 0.991 $109.40 \quad 50.7$
Saturday, October 31, 2015 20:10:43 $0.991 \quad 114.37 \quad 50.8$
Saturday, October 31, 2015 20:15:43 $0.991 \quad 119.32 \quad 50.3$
Saturday, October 31, 2015 20:20:44 0.991 $124.29 \quad 50.1$
Saturday, October 31, 2015 20:25:44 0.991 $129.24 \quad 50.5$
Saturday, October 31, 2015 20:30:45 $0.991 \quad 134.21 \quad 50.1$
Saturday, October 31, 2015 20:35:46 0.991 $139.18 \quad 50.7$
Saturday, October 31, 2015 20:40:46 0.991 $144.14 \quad 50.5$
Saturday, October 31, 2015 20:45:47 0.991 $149.10 \quad 49.4$
Saturday, October 31, 2015 20:50:48 $0.991 \quad 154.07 \quad 50.2$
Saturday, October 31, 2015 20:55:48 0.991 $159.03 \quad 50.2$
164.00
50.6
$168.95 \quad 50.4$
173.9249 .8
$178.89 \quad 50.6$
183.8450 .6
$188.81 \quad 50.2$
193.7650 .3
$198.73 \quad 50.2$
$203.70 \quad 50.6$
$208.65 \quad 50.7$
$213.62 \quad 50.6$
$218.58 \quad 49.9$
$223.55 \quad 50.0$
$228.51 \quad 50.1$
$233.47 \quad 49.8$
$238.44 \quad 49.9$
$243.39 \quad 50.7$
248.3649 .8
$253.33 \quad 50.1$
$258.28 \quad 50.0$
263.2549 .8
$268.20 \quad 50.5$
$273.17 \quad 50.5$
$278.14 \quad 50.1$
$283.09 \quad 50.2$
$288.06 \quad 50.1$
$293.03 \quad 50.2$
$297.98 \quad 50.4$
$302.95 \quad 50.3$
$307.91 \quad 50.2$
$312.88 \quad 50.0$
$317.83 \quad 50.6$
$322.80 \quad 50.5$
$327.77 \quad 49.9$
$332.72 \quad 50.5$
337.6950 .6
$342.66 \quad 50.5$
$347.61 \quad 49.8$
$352.58 \quad 50.6$
$357.53 \quad 49.8$
$362.50 \quad 50.5$
$367.47 \quad 49.8$
$372.42 \quad 50.3$
$377.39 \quad 50.1$
$382.35 \quad 50.5$
$387.31 \quad 50.4$
$392.28 \quad 49.0$
$397.24 \quad 50.1$
$402.21 \quad 50.4$
$407.16 \quad 50.5$
$412.13 \quad 50.2$
$417.10 \quad 50.5$
$422.05 \quad 50.2$
$427.02 \quad 49.5$

Sunday, November 01, 2015 1:31:21 0.991
Sunday, November 01, 2015 1:36:22 0.991
Sunday, November 01, 2015 1:41:22 0.991
Sunday, November 01, 2015 1:46:23 0.991
Sunday, November 01, 2015 1:51:24 0.991
Sunday, November 01, 2015 1:56:24 0.991
Sunday, November 01, 2015 2:01:25 0.991
Sunday, November 01, 2015 2:06:25 0.991
Sunday, November 01, 2015 2:11:26 0.991
Sunday, November 01, 2015 2:16:26 0.991
Sunday, November 01, 2015 2:21:27 0.991
Sunday, November 01, 2015 2:26:28 0.991
Sunday, November 01, 2015 2:31:28 0.991
Sunday, November 01, 2015 2:36:29 0.991
Sunday, November 01, 2015 2:41:29 0.991
Sunday, November 01, 2015 2:46:30 0.991
Sunday, November 01, 2015 2:51:31 0.991
Sunday, November 01, 2015 2:56:31 0.991
Sunday, November 01, 2015 3:01:32 0.991
Sunday, November 01, 2015 3:06:32 0.991
Sunday, November 01, 2015 3:11:33 0.991
Sunday, November 01, 2015 3:16:34 0.991
Sunday, November 01, 2015 3:21:34 0.991
Sunday, November 01, 2015 3:26:35 0.991
Sunday, November 01, 2015 3:31:35 0.991
Sunday, November 01, 2015 3:36:36 0.991
Sunday, November 01, 2015 3:41:36 0.990
Sunday, November 01, 2015 3:46:37 0.991
Sunday, November 01, 2015 3:51:38 0.991
Sunday, November 01, 2015 3:56:38 0.991
Sunday, November 01, 2015 4:01:39 0.991
Sunday, November 01, 2015 4:06:40 0.991
Sunday, November 01, 2015 4:11:40 0.991
Sunday, November 01, 2015 4:16:41 0.991
Sunday, November 01, 2015 4:21:41 0.991
Sunday, November 01, 2015 4:26:42 0.991
Sunday, November 01, 2015 4:31:43 0.991
Sunday, November 01, 2015 4:36:43 0.991
Sunday, November 01, 2015 4:41:44 0.991
Sunday, November 01, 2015 4:46:44 0.991
Sunday, November 01, 2015 4:51:45 0.991
Sunday, November 01, 2015 4:56:45 0.991
Sunday, November 01, 2015 5:01:46 0.991
Sunday, November 01, 2015 5:06:47 0.991
Sunday, November 01, 2015 5:11:47 0.991
Sunday, November 01, 2015 5:16:48 0.991
Sunday, November 01, 2015 5:21:48 0.991
Sunday, November 01, 2015 5:26:49 0.991
Sunday, November 01, 2015 5:31:50 0.991
Sunday, November 01, 2015 5:36:50 0.991
Sunday, November 01, 2015 5:41:51 0.991
Sunday, November 01, 2015 5:46:51 0.991
Sunday, November 01, 2015 5:51:52 0.991
Sunday, November 01, 2015 5:56:53 0.991
431.97
50.5
$436.94 \quad 50.0$
$441.89 \quad 50.6$
$446.86 \quad 50.2$
$451.83 \quad 50.5$
$456.78 \quad 50.5$
$461.75 \quad 50.4$
$466.71 \quad 50.1$
$471.67 \quad 50.2$
$476.63 \quad 49.8$
$481.60 \quad 49.7$
$486.57 \quad 50.6$
$491.52 \quad 50.0$
$496.49 \quad 50.5$
$501.44 \quad 49.7$
$506.41 \quad 49.3$
$511.38 \quad 49.8$
$516.33 \quad 50.6$
$521.30 \quad 50.4$
$526.25 \quad 50.3$
$531.22 \quad 50.2$
$536.19 \quad 49.6$
$541.14 \quad 50.2$
$546.11 \quad 49.6$
$551.07 \quad 50.0$
$556.03 \quad 50.6$
$560.99 \quad 50.5$
$565.96 \quad 50.8$
$570.93 \quad 50.6$
$575.88 \quad 49.8$
$580.85 \quad 50.5$
$585.82 \quad 50.3$
$590.77 \quad 50.4$
$595.74 \quad 50.6$
$600.69 \quad 50.5$
$605.66 \quad 50.6$
$610.63 \quad 50.4$
$615.58 \quad 50.3$
620.5549 .9
$625.50 \quad 50.1$
$630.47 \quad 50.4$
$635.43 \quad 50.1$
$640.40 \quad 50.1$
$645.37 \quad 50.0$
$650.32 \quad 50.1$
$655.29 \quad 50.2$
$660.24 \quad 50.5$
$665.21 \quad 50.5$
$670.18 \quad 50.7$
$675.13 \quad 50.3$
$680.10 \quad 50.0$
$685.05 \quad 49.8$
$690.02 \quad 50.6$
$694.99 \quad 50.5$

Sunday, November 01, 2015 6:01:53 $0.991 \quad 699.94 \quad 50.4$
Sunday, November 01, 2015 6:06:54 $0.991 \quad 704.91 \quad 50.0$
Sunday, November 01, 2015 6:11:54 $0.991 \quad 709.86 \quad 50.2$
Sunday, November 01, 2015 6:15:02 $0.991 \quad 712.97 \quad 50.6$

# Ch. 2 Cartridge Started Saturday, October 31, 2015 18:15:02 

Flow Rate Set Point 1.00 1/min
Stopped Sunday, November 01, 2015 6:15:24
Total Volume 712.98 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.990 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate 0.003 1/min
Ending Leak Rate -0.002 1/min
Flow Controller Zero -0.003 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Saturday, October 31, 2015 18:15:29 0.083 $0.22 \quad 50.4$
Saturday, October 31, 2015 18:20:29 $0.991 \quad 5.18 \quad 50.1$
Saturday, October 31, 2015 18:25:30 $0.991 \quad 10.15 \quad 50.2$
Saturday, October 31, 2015 18:30:31 $0.991 \quad 15.12 \quad 50.5$
Saturday, October 31, 2015 18:35:31 $0.991 \quad 20.07 \quad 50.2$
Saturday, October 31, 2015 18:40:32 $0.990 \quad 25.04 \quad 50.5$
Saturday, October 31, 2015 18:45:32 $0.991 \quad 29.99 \quad 50.5$
Saturday, October 31, 2015 18:50:33 $0.991 \quad 34.96 \quad 50.1$
Saturday, October 31, 2015 18:55:34 $0.991 \quad 39.93 \quad 49.7$
Saturday, October 31, 2015 19:00:34 $0.99144 .88 \quad 50.2$
Saturday, October 31, 2015 19:05:35 $0.991 \quad 49.85 \quad 50.4$
Saturday, October 31, 2015 19:10:35 $0.991 \quad 54.80 \quad 50.3$
Saturday, October 31, 2015 19:15:36 $0.991 \quad 59.77 \quad 49.9$
Saturday, October 31, 2015 19:20:37 $0.991 \quad 64.74 \quad 49.5$
Saturday, October 31, 2015 19:25:37 $0.991 \quad 69.70 \quad 49.8$
Saturday, October 31, 2015 19:30:38 $0.991 \quad 74.67 \quad 50.1$
Saturday, October 31, 2015 19:35:38 $0.991 \quad 79.62 \quad 50.6$
Saturday, October 31, 2015 19:40:39 $0.991 \quad 84.59 \quad 50.4$
Saturday, October 31, 2015 19:45:40 0.990 89.56
Saturday, October 31, 2015 19:50:40 $0.991 \quad 94.51 \quad 50.7$
Saturday, October 31, 2015 19:55:41 $0.991 \quad 99.48 \quad 50.3$
Saturday, October 31, 2015 20:00:41 $0.991 \quad 104.43 \quad 49.4$
Saturday, October 31, 2015 20:05:42 0.991 $109.40 \quad 50.7$
Saturday, October 31, 2015 20:10:43 $0.991 \quad 114.37 \quad 50.8$
Saturday, October 31, 2015 20:15:43 $0.991 \quad 119.32 \quad 50.3$
Saturday, October 31, 2015 20:20:44 0.991 $124.29 \quad 50.1$
Saturday, October 31, 2015 20:25:44 0.991 $129.24 \quad 50.5$
Saturday, October 31, 2015 20:30:45 $0.991 \quad 134.21 \quad 50.1$
Saturday, October 31, 2015 20:35:46 0.991 $139.18 \quad 50.7$
Saturday, October 31, 2015 20:40:46 0.991 $144.14 \quad 50.5$
Saturday, October 31, 2015 20:45:47 0.991 $149.10 \quad 49.4$
Saturday, October 31, 2015 20:50:48 $0.991 \quad 154.07 \quad 50.2$
Saturday, October 31, 2015 20:55:48 0.991 $159.03 \quad 50.2$
164.00
50.6
$168.95 \quad 50.4$
173.9249 .8
$178.89 \quad 50.6$
183.8450 .6
$188.81 \quad 50.2$
193.7650 .3
$198.73 \quad 50.2$
$203.70 \quad 50.6$
$208.65 \quad 50.7$
$213.62 \quad 50.6$
$218.58 \quad 49.9$
$223.55 \quad 50.0$
$228.51 \quad 50.1$
$233.47 \quad 49.8$
$238.44 \quad 49.9$
$243.39 \quad 50.7$
248.3649 .8
$253.33 \quad 50.1$
$258.28 \quad 50.0$
263.2549 .8
$268.20 \quad 50.5$
$273.17 \quad 50.5$
$278.14 \quad 50.1$
$283.09 \quad 50.2$
$288.06 \quad 50.1$
$293.03 \quad 50.2$
$297.98 \quad 50.4$
$302.95 \quad 50.3$
$307.91 \quad 50.2$
$312.88 \quad 50.0$
$317.83 \quad 50.6$
$322.80 \quad 50.5$
$327.77 \quad 49.9$
$332.72 \quad 50.5$
337.6950 .6
$342.66 \quad 50.5$
$347.61 \quad 49.8$
$352.58 \quad 50.6$
$357.53 \quad 49.8$
$362.50 \quad 50.5$
$367.47 \quad 49.8$
$372.42 \quad 50.3$
$377.39 \quad 50.1$
$382.35 \quad 50.5$
$387.31 \quad 50.4$
$392.28 \quad 49.0$
$397.24 \quad 50.1$
$402.21 \quad 50.4$
$407.16 \quad 50.5$
$412.13 \quad 50.2$
$417.10 \quad 50.5$
$422.05 \quad 50.2$
$427.02 \quad 49.5$

Sunday, November 01, 2015 1:31:21 0.991
Sunday, November 01, 2015 1:36:22 0.991
Sunday, November 01, 2015 1:41:22 0.991
Sunday, November 01, 2015 1:46:23 0.991
Sunday, November 01, 2015 1:51:24 0.991
Sunday, November 01, 2015 1:56:24 0.991
Sunday, November 01, 2015 2:01:25 0.991
Sunday, November 01, 2015 2:06:25 0.991
Sunday, November 01, 2015 2:11:26 0.991
Sunday, November 01, 2015 2:16:26 0.991
Sunday, November 01, 2015 2:21:27 0.991
Sunday, November 01, 2015 2:26:28 0.991
Sunday, November 01, 2015 2:31:28 0.991
Sunday, November 01, 2015 2:36:29 0.991
Sunday, November 01, 2015 2:41:29 0.991
Sunday, November 01, 2015 2:46:30 0.991
Sunday, November 01, 2015 2:51:31 0.991
Sunday, November 01, 2015 2:56:31 0.991
Sunday, November 01, 2015 3:01:32 0.991
Sunday, November 01, 2015 3:06:32 0.991
Sunday, November 01, 2015 3:11:33 0.991
Sunday, November 01, 2015 3:16:34 0.991
Sunday, November 01, 2015 3:21:34 0.991
Sunday, November 01, 2015 3:26:35 0.991
Sunday, November 01, 2015 3:31:35 0.991
Sunday, November 01, 2015 3:36:36 0.991
Sunday, November 01, 2015 3:41:36 0.990
Sunday, November 01, 2015 3:46:37 0.991
Sunday, November 01, 2015 3:51:38 0.991
Sunday, November 01, 2015 3:56:38 0.991
Sunday, November 01, 2015 4:01:39 0.991
Sunday, November 01, 2015 4:06:40 0.991
Sunday, November 01, 2015 4:11:40 0.991
Sunday, November 01, 2015 4:16:41 0.991
Sunday, November 01, 2015 4:21:41 0.991
Sunday, November 01, 2015 4:26:42 0.991
Sunday, November 01, 2015 4:31:43 0.991
Sunday, November 01, 2015 4:36:43 0.991
Sunday, November 01, 2015 4:41:44 0.991
Sunday, November 01, 2015 4:46:44 0.991
Sunday, November 01, 2015 4:51:45 0.991
Sunday, November 01, 2015 4:56:45 0.991
Sunday, November 01, 2015 5:01:46 0.991
Sunday, November 01, 2015 5:06:47 0.991
Sunday, November 01, 2015 5:11:47 0.991
Sunday, November 01, 2015 5:16:48 0.991
Sunday, November 01, 2015 5:21:48 0.991
Sunday, November 01, 2015 5:26:49 0.991
Sunday, November 01, 2015 5:31:50 0.991
Sunday, November 01, 2015 5:36:50 0.991
Sunday, November 01, 2015 5:41:51 0.991
Sunday, November 01, 2015 5:46:51 0.991
Sunday, November 01, 2015 5:51:52 0.991
Sunday, November 01, 2015 5:56:53 0.991
431.97
50.5
$436.94 \quad 50.0$
$441.89 \quad 50.6$
$446.86 \quad 50.2$
$451.83 \quad 50.5$
$456.78 \quad 50.5$
$461.75 \quad 50.4$
$466.71 \quad 50.1$
$471.67 \quad 50.2$
$476.63 \quad 49.8$
$481.60 \quad 49.7$
$486.57 \quad 50.6$
$491.52 \quad 50.0$
$496.49 \quad 50.5$
$501.44 \quad 49.7$
$506.41 \quad 49.3$
$511.38 \quad 49.8$
$516.33 \quad 50.6$
$521.30 \quad 50.4$
$526.25 \quad 50.3$
$531.22 \quad 50.2$
$536.19 \quad 49.6$
$541.14 \quad 50.2$
$546.11 \quad 49.6$
$551.07 \quad 50.0$
$556.03 \quad 50.6$
$560.99 \quad 50.5$
$565.96 \quad 50.8$
$570.93 \quad 50.6$
$575.88 \quad 49.8$
$580.85 \quad 50.5$
$585.82 \quad 50.3$
$590.77 \quad 50.4$
$595.74 \quad 50.6$
$600.69 \quad 50.5$
$605.66 \quad 50.6$
$610.63 \quad 50.4$
$615.58 \quad 50.3$
620.5549 .9
$625.50 \quad 50.1$
$630.47 \quad 50.4$
$635.43 \quad 50.1$
$640.40 \quad 50.1$
$645.37 \quad 50.0$
$650.32 \quad 50.1$
$655.29 \quad 50.2$
$660.24 \quad 50.5$
$665.21 \quad 50.5$
$670.18 \quad 50.7$
$675.13 \quad 50.3$
$680.10 \quad 50.0$
$685.05 \quad 49.8$
$690.02 \quad 50.6$
$694.99 \quad 50.5$

Sunday, November 01, 2015 6:01:53 $0.991 \quad 699.94 \quad 50.4$
Sunday, November 01, 2015 6:06:54 $0.991 \quad 704.91 \quad 50.0$
Sunday, November 01, 2015 6:11:54 $0.991 \quad 709.86 \quad 50.2$
Sunday, November 01, 2015 6:15:02 $0.991 \quad 712.97 \quad 50.6$

# Ch. 2 Cartridge Started Friday, November 06, 2015 18:15:02 

Flow Rate Set Point 1.00 1/min
Stopped Saturday, November 07, 2015 6:15:24
Total Volume 713.02 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.990 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate 0.003 1/min
Ending Leak Rate -0.002 1/min
Flow Controller Zero -0.003 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Friday, November 06, 2015 18:15:29 $0.083 \quad 0.22 \quad 50.3$
Friday, November 06, 2015 18:20:30 $0.991 \quad 5.20 \quad 50.1$
Friday, November 06, 2015 18:25:30 $0.991 \quad 10.15 \quad 51.0$
Friday, November 06, 2015 18:30:31 $0.991 \quad 15.12 \quad 50.8$
Friday, November 06, 2015 18:35:32 $0.991 \quad 20.09 \quad 51.1$
Friday, November 06, 2015 18:40:32 $0.991 \quad 25.04 \quad 50.5$
Friday, November 06, 2015 18:45:33 $0.991 \quad 30.01 \quad 50.1$
Friday, November 06, 2015 18:50:33 $0.991 \quad 34.96 \quad 50.5$
Friday, November 06, 2015 18:55:34 0.99139 .9349 .7
Friday, November 06, 2015 19:00:35 0.991 $44.90 \quad 50.1$
Friday, November 06, 2015 19:05:35 $0.991 \quad 49.85 \quad 50.1$
Friday, November 06, 2015 19:10:36 $0.991 \quad 54.8250 .4$
Friday, November 06, 2015 19:15:37 $0.991 \quad 59.79 \quad 50.0$
Friday, November 06, 2015 19:20:37 0.991 $64.75 \quad 50.8$
Friday, November 06, 2015 19:25:38 $0.991 \quad 69.72 \quad 50.8$
Friday, November 06, 2015 19:30:38 $0.991 \quad 74.6749 .9$
Friday, November 06, 2015 19:35:39 $0.991 \quad 79.6449 .8$
Friday, November 06, 2015 19:40:40 $0.991 \quad 84.61 \quad 50.0$
Friday, November 06, 2015 19:45:40 $0.991 \quad 89.56 \quad 50.1$
Friday, November 06, 2015 19:50:41 $0.991 \quad 94.53 \quad 50.2$
Friday, November 06, 2015 19:55:41 $0.991 \quad 99.48 \quad 50.4$
Friday, November 06, 2015 20:00:42 $0.991 \quad 104.45 \quad 50.5$
Friday, November 06, 2015 20:05:43 $0.991 \quad 109.42 \quad 50.8$
Friday, November 06, 2015 20:10:43 $0.991 \quad 114.38 \quad 50.2$
Friday, November 06, 2015 20:15:44 $0.991 \quad 119.35 \quad 50.4$
Friday, November 06, 2015 20:20:44 $0.991 \quad 124.30 \quad 50.4$
Friday, November 06, 2015 20:25:45 0.991 129.2750 .8
Friday, November 06, 2015 20:30:45 $0.991 \quad 134.2250 .2$
Friday, November 06, 2015 20:35:46 $0.991 \quad 139.19 \quad 50.4$
Friday, November 06, 2015 20:40:47 0.991 144.1650 .4
Friday, November 06, 2015 20:45:47 0.991
Friday, November 06, 2015 20:50:48 0.991
Friday, November 06, 2015 20:55:48 0.991

Friday, November 06, 2015 21:00:49 0.991
Friday, November 06, 2015 21:05:50 0.991
Friday, November 06, 2015 21:10:50 0.991
Friday, November 06, 2015 21:15:51 0.991
Friday, November 06, 2015 21:20:51 0.991
Friday, November 06, 2015 21:25:52 0.991
Friday, November 06, 2015 21:30:53 0.991
Friday, November 06, 2015 21:35:53 0.991
Friday, November 06, 2015 21:40:54 0.991
Friday, November 06, 2015 21:45:54 0.991
Friday, November 06, 2015 21:50:55 0.991
Friday, November 06, 2015 21:55:56 0.991
Friday, November 06, 2015 22:00:56 0.991
Friday, November 06, 2015 22:05:57 0.991
Friday, November 06, 2015 22:10:57 0.991
Friday, November 06, 2015 22:15:58 0.991
Friday, November 06, 2015 22:20:59 0.991
Friday, November 06, 2015 22:25:59 0.991
Friday, November 06, 2015 22:31:00 0.991
Friday, November 06, 2015 22:36:00 0.991
Friday, November 06, 2015 22:41:01 0.991
Friday, November 06, 2015 22:46:02 0.991
Friday, November 06, 2015 22:51:02 0.991
Friday, November 06, 2015 22:56:03 0.991
Friday, November 06, 2015 23:01:03 0.991
Friday, November 06, 2015 23:06:04 0.991
Friday, November 06, 2015 23:11:05 0.991
Friday, November 06, 2015 23:16:05 0.991
Friday, November 06, 2015 23:21:06 0.991
Friday, November 06, 2015 23:26:06 0.991
Friday, November 06, 2015 23:31:07 0.991
Friday, November 06, 2015 23:36:08 0.991
Friday, November 06, 2015 23:41:08 0.991
Friday, November 06, 2015 23:46:09 0.991
Friday, November 06, 2015 23:51:09 0.991
Friday, November 06, 2015 23:56:10 0.991
Saturday, November 07, 2015 0:01:11 0.991
Saturday, November 07, 2015 0:06:11 0.991
Saturday, November 07, 2015 0:11:12 0.991
Saturday, November 07, 2015 0:16:12 0.991
Saturday, November 07, 2015 0:21:13 0.991
Saturday, November 07, 2015 0:26:14 0.991
Saturday, November 07, 2015 0:31:14 0.991
Saturday, November 07, 2015 0:36:15 0.991
Saturday, November 07, 2015 0:41:15 0.991
Saturday, November 07, 2015 0:46:16 0.991
Saturday, November 07, 2015 0:51:17 0.991
Saturday, November 07, 2015 0:56:17 0.991
Saturday, November 07, 2015 1:01:18 0.991
Saturday, November 07, 2015 1:06:19 0.991
Saturday, November 07, 2015 1:11:19 0.991
Saturday, November 07, 2015 1:16:20 0.991
Saturday, November 07, 2015 1:21:20 0.991
Saturday, November 07, 2015 1:26:21 0.991
164.01
50.0
$168.98 \quad 50.9$
$173.93 \quad 50.4$
$178.90 \quad 49.4$
183.8549 .8
188.8249 .8
$193.79 \quad 50.5$
$198.75 \quad 50.6$
$203.71 \quad 50.4$
$208.67 \quad 50.5$
$213.64 \quad 50.0$
$218.61 \quad 50.5$
$223.56 \quad 50.6$
$228.53 \quad 49.8$
$233.48 \quad 50.8$
$238.45 \quad 50.1$
$243.42 \quad 50.6$
$248.37 \quad 50.2$
$253.34 \quad 50.5$
$258.30 \quad 50.8$
$263.27 \quad 50.7$
268.2449 .8
$273.19 \quad 50.5$
$278.16 \quad 50.6$
$283.11 \quad 50.5$
$288.08 \quad 50.2$
$293.05 \quad 50.9$
$298.00 \quad 50.3$
$302.97 \quad 50.0$
$307.93 \quad 50.9$
$312.90 \quad 50.0$
$317.87 \quad 50.5$
$322.82 \quad 50.4$
$327.79 \quad 50.8$
$332.74 \quad 50.8$
$337.71 \quad 50.1$
$342.68 \quad 50.0$
$347.63 \quad 50.8$
$352.60 \quad 50.4$
$357.55 \quad 50.4$
$362.52 \quad 50.4$
$367.49 \quad 50.1$
$372.45 \quad 49.7$
$377.42 \quad 50.7$
$382.37 \quad 50.4$
$387.34 \quad 50.7$
$392.31 \quad 50.3$
$397.26 \quad 50.1$
$402.23 \quad 50.5$
$407.20 \quad 50.3$
$412.15 \quad 50.1$
$417.12 \quad 50.6$
$422.08 \quad 49.9$
$427.05 \quad 50.4$

Saturday, November 07, 2015 6:06:54 $0.991 \quad 704.95 \quad 50.5$
Saturday, November 07, 2015 6:11:55 $0.991 \quad 709.92 \quad 50.5$
Saturday, November 07, 2015 6:15:02 $0.991 \quad 713.01 \quad 51.0$

# Ch. 2 Cartridge Started Friday, November 06, 2015 18:15:02 

Flow Rate Set Point 1.00 1/min
Stopped Saturday, November 07, 2015 6:15:24
Total Volume 713.02 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.990 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate 0.003 1/min
Ending Leak Rate -0.002 1/min
Flow Controller Zero -0.003 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Friday, November 06, 2015 18:15:29 $0.083 \quad 0.22 \quad 50.3$
Friday, November 06, 2015 18:20:30 $0.991 \quad 5.20 \quad 50.1$
Friday, November 06, 2015 18:25:30 $0.991 \quad 10.15 \quad 51.0$
Friday, November 06, 2015 18:30:31 $0.991 \quad 15.12 \quad 50.8$
Friday, November 06, 2015 18:35:32 $0.991 \quad 20.09 \quad 51.1$
Friday, November 06, 2015 18:40:32 $0.991 \quad 25.04 \quad 50.5$
Friday, November 06, 2015 18:45:33 $0.991 \quad 30.01 \quad 50.1$
Friday, November 06, 2015 18:50:33 $0.991 \quad 34.96 \quad 50.5$
Friday, November 06, 2015 18:55:34 0.99139 .9349 .7
Friday, November 06, 2015 19:00:35 0.991 $44.90 \quad 50.1$
Friday, November 06, 2015 19:05:35 $0.991 \quad 49.85 \quad 50.1$
Friday, November 06, 2015 19:10:36 $0.991 \quad 54.8250 .4$
Friday, November 06, 2015 19:15:37 $0.991 \quad 59.79 \quad 50.0$
Friday, November 06, 2015 19:20:37 0.991 $64.75 \quad 50.8$
Friday, November 06, 2015 19:25:38 $0.991 \quad 69.72 \quad 50.8$
Friday, November 06, 2015 19:30:38 $0.991 \quad 74.6749 .9$
Friday, November 06, 2015 19:35:39 $0.991 \quad 79.6449 .8$
Friday, November 06, 2015 19:40:40 $0.991 \quad 84.61 \quad 50.0$
Friday, November 06, 2015 19:45:40 $0.991 \quad 89.56 \quad 50.1$
Friday, November 06, 2015 19:50:41 $0.991 \quad 94.53 \quad 50.2$
Friday, November 06, 2015 19:55:41 $0.991 \quad 99.48 \quad 50.4$
Friday, November 06, 2015 20:00:42 $0.991 \quad 104.45 \quad 50.5$
Friday, November 06, 2015 20:05:43 $0.991 \quad 109.42 \quad 50.8$
Friday, November 06, 2015 20:10:43 $0.991 \quad 114.38 \quad 50.2$
Friday, November 06, 2015 20:15:44 $0.991 \quad 119.35 \quad 50.4$
Friday, November 06, 2015 20:20:44 $0.991 \quad 124.30 \quad 50.4$
Friday, November 06, 2015 20:25:45 0.991 129.2750 .8
Friday, November 06, 2015 20:30:45 $0.991 \quad 134.2250 .2$
Friday, November 06, 2015 20:35:46 $0.991 \quad 139.19 \quad 50.4$
Friday, November 06, 2015 20:40:47 0.991 144.1650 .4
Friday, November 06, 2015 20:45:47 0.991
Friday, November 06, 2015 20:50:48 0.991
Friday, November 06, 2015 20:55:48 0.991

Friday, November 06, 2015 21:00:49 0.991
Friday, November 06, 2015 21:05:50 0.991
Friday, November 06, 2015 21:10:50 0.991
Friday, November 06, 2015 21:15:51 0.991
Friday, November 06, 2015 21:20:51 0.991
Friday, November 06, 2015 21:25:52 0.991
Friday, November 06, 2015 21:30:53 0.991
Friday, November 06, 2015 21:35:53 0.991
Friday, November 06, 2015 21:40:54 0.991
Friday, November 06, 2015 21:45:54 0.991
Friday, November 06, 2015 21:50:55 0.991
Friday, November 06, 2015 21:55:56 0.991
Friday, November 06, 2015 22:00:56 0.991
Friday, November 06, 2015 22:05:57 0.991
Friday, November 06, 2015 22:10:57 0.991
Friday, November 06, 2015 22:15:58 0.991
Friday, November 06, 2015 22:20:59 0.991
Friday, November 06, 2015 22:25:59 0.991
Friday, November 06, 2015 22:31:00 0.991
Friday, November 06, 2015 22:36:00 0.991
Friday, November 06, 2015 22:41:01 0.991
Friday, November 06, 2015 22:46:02 0.991
Friday, November 06, 2015 22:51:02 0.991
Friday, November 06, 2015 22:56:03 0.991
Friday, November 06, 2015 23:01:03 0.991
Friday, November 06, 2015 23:06:04 0.991
Friday, November 06, 2015 23:11:05 0.991
Friday, November 06, 2015 23:16:05 0.991
Friday, November 06, 2015 23:21:06 0.991
Friday, November 06, 2015 23:26:06 0.991
Friday, November 06, 2015 23:31:07 0.991
Friday, November 06, 2015 23:36:08 0.991
Friday, November 06, 2015 23:41:08 0.991
Friday, November 06, 2015 23:46:09 0.991
Friday, November 06, 2015 23:51:09 0.991
Friday, November 06, 2015 23:56:10 0.991
Saturday, November 07, 2015 0:01:11 0.991
Saturday, November 07, 2015 0:06:11 0.991
Saturday, November 07, 2015 0:11:12 0.991
Saturday, November 07, 2015 0:16:12 0.991
Saturday, November 07, 2015 0:21:13 0.991
Saturday, November 07, 2015 0:26:14 0.991
Saturday, November 07, 2015 0:31:14 0.991
Saturday, November 07, 2015 0:36:15 0.991
Saturday, November 07, 2015 0:41:15 0.991
Saturday, November 07, 2015 0:46:16 0.991
Saturday, November 07, 2015 0:51:17 0.991
Saturday, November 07, 2015 0:56:17 0.991
Saturday, November 07, 2015 1:01:18 0.991
Saturday, November 07, 2015 1:06:19 0.991
Saturday, November 07, 2015 1:11:19 0.991
Saturday, November 07, 2015 1:16:20 0.991
Saturday, November 07, 2015 1:21:20 0.991
Saturday, November 07, 2015 1:26:21 0.991
164.01
50.0
$168.98 \quad 50.9$
$173.93 \quad 50.4$
$178.90 \quad 49.4$
183.8549 .8
188.8249 .8
$193.79 \quad 50.5$
$198.75 \quad 50.6$
$203.71 \quad 50.4$
$208.67 \quad 50.5$
$213.64 \quad 50.0$
$218.61 \quad 50.5$
$223.56 \quad 50.6$
$228.53 \quad 49.8$
$233.48 \quad 50.8$
$238.45 \quad 50.1$
$243.42 \quad 50.6$
$248.37 \quad 50.2$
$253.34 \quad 50.5$
$258.30 \quad 50.8$
$263.27 \quad 50.7$
268.2449 .8
$273.19 \quad 50.5$
$278.16 \quad 50.6$
$283.11 \quad 50.5$
$288.08 \quad 50.2$
$293.05 \quad 50.9$
$298.00 \quad 50.3$
$302.97 \quad 50.0$
$307.93 \quad 50.9$
$312.90 \quad 50.0$
$317.87 \quad 50.5$
$322.82 \quad 50.4$
$327.79 \quad 50.8$
$332.74 \quad 50.8$
$337.71 \quad 50.1$
$342.68 \quad 50.0$
$347.63 \quad 50.8$
$352.60 \quad 50.4$
$357.55 \quad 50.4$
$362.52 \quad 50.4$
$367.49 \quad 50.1$
$372.45 \quad 49.7$
$377.42 \quad 50.7$
$382.37 \quad 50.4$
$387.34 \quad 50.7$
$392.31 \quad 50.3$
$397.26 \quad 50.1$
$402.23 \quad 50.5$
$407.20 \quad 50.3$
$412.15 \quad 50.1$
$417.12 \quad 50.6$
$422.08 \quad 49.9$
$427.05 \quad 50.4$

Saturday, November 07, 2015 6:06:54 $0.991 \quad 704.95 \quad 50.5$
Saturday, November 07, 2015 6:11:55 $0.991 \quad 709.92 \quad 50.5$
Saturday, November 07, 2015 6:15:02 $0.991 \quad 713.01 \quad 51.0$

# Ch. 2 Cartridge Started Friday, November 06, 2015 18:15:02 

Flow Rate Set Point 1.00 1/min
Stopped Saturday, November 07, 2015 6:15:24
Total Volume 713.02 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.990 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate 0.003 1/min
Ending Leak Rate -0.002 1/min
Flow Controller Zero -0.003 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Friday, November 06, 2015 18:15:29 $0.083 \quad 0.22 \quad 50.3$
Friday, November 06, 2015 18:20:30 $0.991 \quad 5.20 \quad 50.1$
Friday, November 06, 2015 18:25:30 $0.991 \quad 10.15 \quad 51.0$
Friday, November 06, 2015 18:30:31 $0.991 \quad 15.12 \quad 50.8$
Friday, November 06, 2015 18:35:32 $0.991 \quad 20.09 \quad 51.1$
Friday, November 06, 2015 18:40:32 $0.991 \quad 25.04 \quad 50.5$
Friday, November 06, 2015 18:45:33 $0.991 \quad 30.01 \quad 50.1$
Friday, November 06, 2015 18:50:33 $0.991 \quad 34.96 \quad 50.5$
Friday, November 06, 2015 18:55:34 0.99139 .9349 .7
Friday, November 06, 2015 19:00:35 0.991 $44.90 \quad 50.1$
Friday, November 06, 2015 19:05:35 $0.991 \quad 49.85 \quad 50.1$
Friday, November 06, 2015 19:10:36 $0.991 \quad 54.8250 .4$
Friday, November 06, 2015 19:15:37 $0.991 \quad 59.79 \quad 50.0$
Friday, November 06, 2015 19:20:37 0.991 $64.75 \quad 50.8$
Friday, November 06, 2015 19:25:38 $0.991 \quad 69.72 \quad 50.8$
Friday, November 06, 2015 19:30:38 $0.991 \quad 74.6749 .9$
Friday, November 06, 2015 19:35:39 $0.991 \quad 79.6449 .8$
Friday, November 06, 2015 19:40:40 $0.991 \quad 84.61 \quad 50.0$
Friday, November 06, 2015 19:45:40 $0.991 \quad 89.56 \quad 50.1$
Friday, November 06, 2015 19:50:41 $0.991 \quad 94.53 \quad 50.2$
Friday, November 06, 2015 19:55:41 $0.991 \quad 99.48 \quad 50.4$
Friday, November 06, 2015 20:00:42 $0.991 \quad 104.45 \quad 50.5$
Friday, November 06, 2015 20:05:43 $0.991 \quad 109.42 \quad 50.8$
Friday, November 06, 2015 20:10:43 $0.991 \quad 114.38 \quad 50.2$
Friday, November 06, 2015 20:15:44 $0.991 \quad 119.35 \quad 50.4$
Friday, November 06, 2015 20:20:44 $0.991 \quad 124.30 \quad 50.4$
Friday, November 06, 2015 20:25:45 0.991 129.2750 .8
Friday, November 06, 2015 20:30:45 $0.991 \quad 134.2250 .2$
Friday, November 06, 2015 20:35:46 $0.991 \quad 139.19 \quad 50.4$
Friday, November 06, 2015 20:40:47 0.991 144.1650 .4
Friday, November 06, 2015 20:45:47 0.991
Friday, November 06, 2015 20:50:48 0.991
Friday, November 06, 2015 20:55:48 0.991

Friday, November 06, 2015 21:00:49 0.991
Friday, November 06, 2015 21:05:50 0.991
Friday, November 06, 2015 21:10:50 0.991
Friday, November 06, 2015 21:15:51 0.991
Friday, November 06, 2015 21:20:51 0.991
Friday, November 06, 2015 21:25:52 0.991
Friday, November 06, 2015 21:30:53 0.991
Friday, November 06, 2015 21:35:53 0.991
Friday, November 06, 2015 21:40:54 0.991
Friday, November 06, 2015 21:45:54 0.991
Friday, November 06, 2015 21:50:55 0.991
Friday, November 06, 2015 21:55:56 0.991
Friday, November 06, 2015 22:00:56 0.991
Friday, November 06, 2015 22:05:57 0.991
Friday, November 06, 2015 22:10:57 0.991
Friday, November 06, 2015 22:15:58 0.991
Friday, November 06, 2015 22:20:59 0.991
Friday, November 06, 2015 22:25:59 0.991
Friday, November 06, 2015 22:31:00 0.991
Friday, November 06, 2015 22:36:00 0.991
Friday, November 06, 2015 22:41:01 0.991
Friday, November 06, 2015 22:46:02 0.991
Friday, November 06, 2015 22:51:02 0.991
Friday, November 06, 2015 22:56:03 0.991
Friday, November 06, 2015 23:01:03 0.991
Friday, November 06, 2015 23:06:04 0.991
Friday, November 06, 2015 23:11:05 0.991
Friday, November 06, 2015 23:16:05 0.991
Friday, November 06, 2015 23:21:06 0.991
Friday, November 06, 2015 23:26:06 0.991
Friday, November 06, 2015 23:31:07 0.991
Friday, November 06, 2015 23:36:08 0.991
Friday, November 06, 2015 23:41:08 0.991
Friday, November 06, 2015 23:46:09 0.991
Friday, November 06, 2015 23:51:09 0.991
Friday, November 06, 2015 23:56:10 0.991
Saturday, November 07, 2015 0:01:11 0.991
Saturday, November 07, 2015 0:06:11 0.991
Saturday, November 07, 2015 0:11:12 0.991
Saturday, November 07, 2015 0:16:12 0.991
Saturday, November 07, 2015 0:21:13 0.991
Saturday, November 07, 2015 0:26:14 0.991
Saturday, November 07, 2015 0:31:14 0.991
Saturday, November 07, 2015 0:36:15 0.991
Saturday, November 07, 2015 0:41:15 0.991
Saturday, November 07, 2015 0:46:16 0.991
Saturday, November 07, 2015 0:51:17 0.991
Saturday, November 07, 2015 0:56:17 0.991
Saturday, November 07, 2015 1:01:18 0.991
Saturday, November 07, 2015 1:06:19 0.991
Saturday, November 07, 2015 1:11:19 0.991
Saturday, November 07, 2015 1:16:20 0.991
Saturday, November 07, 2015 1:21:20 0.991
Saturday, November 07, 2015 1:26:21 0.991
164.01
50.0
$168.98 \quad 50.9$
$173.93 \quad 50.4$
$178.90 \quad 49.4$
183.8549 .8
188.8249 .8
$193.79 \quad 50.5$
$198.75 \quad 50.6$
$203.71 \quad 50.4$
$208.67 \quad 50.5$
$213.64 \quad 50.0$
$218.61 \quad 50.5$
$223.56 \quad 50.6$
$228.53 \quad 49.8$
$233.48 \quad 50.8$
$238.45 \quad 50.1$
$243.42 \quad 50.6$
$248.37 \quad 50.2$
$253.34 \quad 50.5$
$258.30 \quad 50.8$
$263.27 \quad 50.7$
268.2449 .8
$273.19 \quad 50.5$
$278.16 \quad 50.6$
$283.11 \quad 50.5$
$288.08 \quad 50.2$
$293.05 \quad 50.9$
$298.00 \quad 50.3$
$302.97 \quad 50.0$
$307.93 \quad 50.9$
$312.90 \quad 50.0$
$317.87 \quad 50.5$
$322.82 \quad 50.4$
$327.79 \quad 50.8$
$332.74 \quad 50.8$
$337.71 \quad 50.1$
$342.68 \quad 50.0$
$347.63 \quad 50.8$
$352.60 \quad 50.4$
$357.55 \quad 50.4$
$362.52 \quad 50.4$
$367.49 \quad 50.1$
$372.45 \quad 49.7$
$377.42 \quad 50.7$
$382.37 \quad 50.4$
$387.34 \quad 50.7$
$392.31 \quad 50.3$
$397.26 \quad 50.1$
$402.23 \quad 50.5$
$407.20 \quad 50.3$
$412.15 \quad 50.1$
$417.12 \quad 50.6$
$422.08 \quad 49.9$
$427.05 \quad 50.4$

Saturday, November 07, 2015 6:06:54 $0.991 \quad 704.95 \quad 50.5$
Saturday, November 07, 2015 6:11:55 $0.991 \quad 709.92 \quad 50.5$
Saturday, November 07, 2015 6:15:02 $0.991 \quad 713.01 \quad 51.0$

# Ch. 2 Cartridge Started Friday, November 06, 2015 18:15:02 

Flow Rate Set Point 1.00 1/min
Stopped Saturday, November 07, 2015 6:15:24
Total Volume 713.02 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.990 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate 0.003 1/min
Ending Leak Rate -0.002 1/min
Flow Controller Zero -0.003 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Friday, November 06, 2015 18:15:29 $0.083 \quad 0.22 \quad 50.3$
Friday, November 06, 2015 18:20:30 $0.991 \quad 5.20 \quad 50.1$
Friday, November 06, 2015 18:25:30 $0.991 \quad 10.15 \quad 51.0$
Friday, November 06, 2015 18:30:31 $0.991 \quad 15.12 \quad 50.8$
Friday, November 06, 2015 18:35:32 $0.991 \quad 20.09 \quad 51.1$
Friday, November 06, 2015 18:40:32 $0.991 \quad 25.04 \quad 50.5$
Friday, November 06, 2015 18:45:33 $0.991 \quad 30.01 \quad 50.1$
Friday, November 06, 2015 18:50:33 $0.991 \quad 34.96 \quad 50.5$
Friday, November 06, 2015 18:55:34 0.99139 .9349 .7
Friday, November 06, 2015 19:00:35 0.991 $44.90 \quad 50.1$
Friday, November 06, 2015 19:05:35 $0.991 \quad 49.85 \quad 50.1$
Friday, November 06, 2015 19:10:36 $0.991 \quad 54.8250 .4$
Friday, November 06, 2015 19:15:37 $0.991 \quad 59.79 \quad 50.0$
Friday, November 06, 2015 19:20:37 0.991 $64.75 \quad 50.8$
Friday, November 06, 2015 19:25:38 $0.991 \quad 69.72 \quad 50.8$
Friday, November 06, 2015 19:30:38 $0.991 \quad 74.6749 .9$
Friday, November 06, 2015 19:35:39 $0.991 \quad 79.6449 .8$
Friday, November 06, 2015 19:40:40 $0.991 \quad 84.61 \quad 50.0$
Friday, November 06, 2015 19:45:40 $0.991 \quad 89.56 \quad 50.1$
Friday, November 06, 2015 19:50:41 $0.991 \quad 94.53 \quad 50.2$
Friday, November 06, 2015 19:55:41 $0.991 \quad 99.48 \quad 50.4$
Friday, November 06, 2015 20:00:42 $0.991 \quad 104.45 \quad 50.5$
Friday, November 06, 2015 20:05:43 $0.991 \quad 109.42 \quad 50.8$
Friday, November 06, 2015 20:10:43 $0.991 \quad 114.38 \quad 50.2$
Friday, November 06, 2015 20:15:44 $0.991 \quad 119.35 \quad 50.4$
Friday, November 06, 2015 20:20:44 $0.991 \quad 124.30 \quad 50.4$
Friday, November 06, 2015 20:25:45 0.991 129.2750 .8
Friday, November 06, 2015 20:30:45 $0.991 \quad 134.2250 .2$
Friday, November 06, 2015 20:35:46 $0.991 \quad 139.19 \quad 50.4$
Friday, November 06, 2015 20:40:47 0.991 144.1650 .4
Friday, November 06, 2015 20:45:47 0.991
Friday, November 06, 2015 20:50:48 0.991
Friday, November 06, 2015 20:55:48 0.991

Friday, November 06, 2015 21:00:49 0.991
Friday, November 06, 2015 21:05:50 0.991
Friday, November 06, 2015 21:10:50 0.991
Friday, November 06, 2015 21:15:51 0.991
Friday, November 06, 2015 21:20:51 0.991
Friday, November 06, 2015 21:25:52 0.991
Friday, November 06, 2015 21:30:53 0.991
Friday, November 06, 2015 21:35:53 0.991
Friday, November 06, 2015 21:40:54 0.991
Friday, November 06, 2015 21:45:54 0.991
Friday, November 06, 2015 21:50:55 0.991
Friday, November 06, 2015 21:55:56 0.991
Friday, November 06, 2015 22:00:56 0.991
Friday, November 06, 2015 22:05:57 0.991
Friday, November 06, 2015 22:10:57 0.991
Friday, November 06, 2015 22:15:58 0.991
Friday, November 06, 2015 22:20:59 0.991
Friday, November 06, 2015 22:25:59 0.991
Friday, November 06, 2015 22:31:00 0.991
Friday, November 06, 2015 22:36:00 0.991
Friday, November 06, 2015 22:41:01 0.991
Friday, November 06, 2015 22:46:02 0.991
Friday, November 06, 2015 22:51:02 0.991
Friday, November 06, 2015 22:56:03 0.991
Friday, November 06, 2015 23:01:03 0.991
Friday, November 06, 2015 23:06:04 0.991
Friday, November 06, 2015 23:11:05 0.991
Friday, November 06, 2015 23:16:05 0.991
Friday, November 06, 2015 23:21:06 0.991
Friday, November 06, 2015 23:26:06 0.991
Friday, November 06, 2015 23:31:07 0.991
Friday, November 06, 2015 23:36:08 0.991
Friday, November 06, 2015 23:41:08 0.991
Friday, November 06, 2015 23:46:09 0.991
Friday, November 06, 2015 23:51:09 0.991
Friday, November 06, 2015 23:56:10 0.991
Saturday, November 07, 2015 0:01:11 0.991
Saturday, November 07, 2015 0:06:11 0.991
Saturday, November 07, 2015 0:11:12 0.991
Saturday, November 07, 2015 0:16:12 0.991
Saturday, November 07, 2015 0:21:13 0.991
Saturday, November 07, 2015 0:26:14 0.991
Saturday, November 07, 2015 0:31:14 0.991
Saturday, November 07, 2015 0:36:15 0.991
Saturday, November 07, 2015 0:41:15 0.991
Saturday, November 07, 2015 0:46:16 0.991
Saturday, November 07, 2015 0:51:17 0.991
Saturday, November 07, 2015 0:56:17 0.991
Saturday, November 07, 2015 1:01:18 0.991
Saturday, November 07, 2015 1:06:19 0.991
Saturday, November 07, 2015 1:11:19 0.991
Saturday, November 07, 2015 1:16:20 0.991
Saturday, November 07, 2015 1:21:20 0.991
Saturday, November 07, 2015 1:26:21 0.991
164.01
50.0
$168.98 \quad 50.9$
$173.93 \quad 50.4$
$178.90 \quad 49.4$
183.8549 .8
188.8249 .8
$193.79 \quad 50.5$
$198.75 \quad 50.6$
$203.71 \quad 50.4$
$208.67 \quad 50.5$
$213.64 \quad 50.0$
$218.61 \quad 50.5$
$223.56 \quad 50.6$
$228.53 \quad 49.8$
$233.48 \quad 50.8$
$238.45 \quad 50.1$
$243.42 \quad 50.6$
$248.37 \quad 50.2$
$253.34 \quad 50.5$
$258.30 \quad 50.8$
$263.27 \quad 50.7$
268.2449 .8
$273.19 \quad 50.5$
$278.16 \quad 50.6$
$283.11 \quad 50.5$
$288.08 \quad 50.2$
$293.05 \quad 50.9$
$298.00 \quad 50.3$
$302.97 \quad 50.0$
$307.93 \quad 50.9$
$312.90 \quad 50.0$
$317.87 \quad 50.5$
$322.82 \quad 50.4$
$327.79 \quad 50.8$
$332.74 \quad 50.8$
$337.71 \quad 50.1$
$342.68 \quad 50.0$
$347.63 \quad 50.8$
$352.60 \quad 50.4$
$357.55 \quad 50.4$
$362.52 \quad 50.4$
$367.49 \quad 50.1$
$372.45 \quad 49.7$
$377.42 \quad 50.7$
$382.37 \quad 50.4$
$387.34 \quad 50.7$
$392.31 \quad 50.3$
$397.26 \quad 50.1$
$402.23 \quad 50.5$
$407.20 \quad 50.3$
$412.15 \quad 50.1$
$417.12 \quad 50.6$
$422.08 \quad 49.9$
$427.05 \quad 50.4$

Saturday, November 07, 2015 6:06:54 $0.991 \quad 704.95 \quad 50.5$
Saturday, November 07, 2015 6:11:55 $0.991 \quad 709.92 \quad 50.5$
Saturday, November 07, 2015 6:15:02 $0.991 \quad 713.01 \quad 51.0$

# Ch. 2 Cartridge Started Thursday, November 12, 2015 18:15:04 

Flow Rate Set Point 1.00 1/min
Stopped Friday, November 13, 2015 6:15:25
Total Volume 712.99 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.991 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate $0.002 \mathrm{l} / \mathrm{min}$
Ending Leak Rate - $0.001 \mathrm{l} / \mathrm{min}$
Flow Controller Zero -0.003 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

|  |  | 50 |
| :---: | :---: | :---: |
| Thursday, November 12, 2015 18:20:31 0.991 | 5.19 | 50.4 |
|  | 0.16 | 50.4 |
| Thursday, November 12, 2015 18:30:32 0.99 | 15. | 0.1 |
| ovember 12, 2015 18:35:33 0.991 | 20.08 | 50.5 |
| , November 12, 2015 18:40:33 0.991 | 25.03 | 0.3 |
| ovember 12,2015 18:45:3 | 30.0 | 0.3 |
| ay, November 12, 2015 18:50:34 0.991 | 34.9 | 49.3 |
|  | 39.9 | 0.0 |
| , November 12, 2015 | 44.8 | 50.1 |
| ovenber 12, 2015 19.05.36 | 49.8 | 49.9 |
| ay, November 12, 2015 | 4.81 | 9.7 |
| ay, November 12, 2015 19:15:37 0.991 | 59.7 | 0.4 |
| ay, November 12, 2015 19:20:38 0.99 | 64.74 | 0.0 |
| ursday, November 12, 2015 19:25:38 0.9 | 9.6 | 50.5 |
| ay, No | 74.66 | 50.1 |
| ursday, November 12, 2015 19:35:39 | 9.6 | 0.6 |
| day, November 12, 2015 19:40:40 0.991 | 4.58 | 50.0 |
| day, November 12, 2015 19:45:41 0.99 | 89.5 | 49.9 |
| ursday, November 12, 2015 19:50:4 | 94.5 | 50.1 |
| ursday, November 12, 2015 19:55:42 0.991 | 99.47 | 50. |
| ay, November 12, 2015 20:00:42 0.991 | 04.42 |  |
| ursday, November | 109 |  |
| day, November 12, 2015 20:10:44 0.991 | 114.36 |  |
| ursday, November 12, 2015 20:15:44 0.991 | 119.32 |  |
| ursday, November 12, 2015 20:20:45 0.991 | 24.29 |  |
| day, November 12, 2015 20:25:45 0.991 | 29.24 |  |
| ursday, November 12, 2015 | 13 |  |
| ursday, November 12, 2015 20:35:46 0.991 | 6 |  |
| hursday, November 12, 2015 20:40:47 0.991 | 44 |  |
| rsday, November 12, 2015 20:45:48 0.991 | 149.10 |  |
| y, November 12, 2015 20:50:48 0.991 | 154.05 |  |
| , | 159 |  |

Thursday, November 12, 2015 21:00:49 0.991
Thursday, November 12, 2015 21:05:50 0.991
163.97
50.1

Thursday, November 12, 2015 21:10:51 0.991
168.94
49.7

Thursday, November 12, 2015 21:15:51 $0.991 \quad 178.87 \quad 50.4$
Thursday, November 12, 2015 21:20:52 $0.991 \quad 183.8450 .4$
Thursday, November 12, 2015 21:25:52 $0.991 \quad 188.79 \quad 50.2$
Thursday, November 12, 2015 21:30:53 $0.991 \quad 193.76 \quad 50.2$
Thursday, November 12, 2015 21:35:54 0.991 $198.73 \quad 50.1$
Thursday, November 12, 2015 21:40:54 0.991 203.6849 .6
Thursday, November 12, 2015 21:45:55 0.991 208.6549 .6
Thursday, November 12, 2015 21:50:55 0.991 $213.60 \quad 50.5$
Thursday, November 12, 2015 21:55:56 0.991 $218.57 \quad 50.0$
Thursday, November 12, 2015 22:00:57 0.991 $223.54 \quad 49.7$
Thursday, November 12, 2015 22:05:57 0.991 $228.49 \quad 50.1$
Thursday, November 12, 2015 22:10:58 $0.991 \quad 233.4649 .7$
Thursday, November 12, 2015 22:15:58 0.991 $238.42 \quad 50.5$
Thursday, November 12, 2015 22:20:59 $0.991 \quad 243.39 \quad 50.4$
Thursday, November 12, 2015 22:26:00 $0.991 \quad 248.36 \quad 50.4$
Thursday, November 12, 2015 22:31:00 $0.991 \quad 253.31 \quad 49.6$
Thursday, November 12, 2015 22:36:01 $0.991 \quad 258.28 \quad 49.9$
Thursday, November 12, 2015 22:41:01 $0.991 \quad 263.23 \quad 50.0$
Thursday, November 12, 2015 22:46:02 $0.991 \quad 268.20 \quad 50.0$
Thursday, November 12, 2015 22:51:02 $0.991 \quad 273.15 \quad 50.4$
Thursday, November 12, 2015 22:56:03 $0.991 \quad 278.12 \quad 49.7$
Thursday, November 12, 2015 23:01:03 $0.991 \quad 283.08 \quad 50.4$
Thursday, November 12, 2015 23:06:04 0.991 $288.04 \quad 50.5$
Thursday, November 12, 2015 23:11:04 0.991 $293.00 \quad 50.4$
Thursday, November 12, 2015 23:16:05 0.991 297.9749 .6
Thursday, November 12, 2015 23:21:06 $0.991302 .94 \quad 49.4$
Thursday, November 12, 2015 23:26:06 0.991 $307.89 \quad 50.0$
Thursday, November 12, 2015 23:31:07 0.991 $312.86 \quad 50.4$
Thursday, November 12, 2015 23:36:07 $0.991 \quad 317.81 \quad 50.5$
Thursday, November 12, 2015 23:41:08 $0.991 \quad 322.78 \quad 50.4$
Thursday, November 12, 2015 23:46:09 $0.991 \quad 327.75 \quad 50.3$
Thursday, November 12, 2015 23:51:09 $0.991 \quad 332.70 \quad 49.7$
Thursday, November 12, 2015 23:56:10 0.991 337.6750 .4
Friday, November 13, 2015 0:01:10 $0.991 \quad 342.62 \quad 50.4$
Friday, November 13, 2015 0:06:11 $0.991 \quad 347.59 \quad 50.4$
Friday, November 13, 2015 0:11:11 $0.991 \quad 352.55 \quad 50.0$
Friday, November 13, 2015 0:16:12 0.991357 .5250 .3
Friday, November 13, 2015 0:21:12 0.991362 .4750 .4
Friday, November 13, 2015 0:26:13 0.991367 .4450 .6
Friday, November 13, 2015 0:31:13 $0.991 \quad 372.3950 .4$
Friday, November 13, 2015 0:36:14 0.991377 .3650 .5
Friday, November 13, 2015 0:41:15 0.991382 .3349 .9
Friday, November 13, 2015 0:46:15 $0.991387 .28 \quad 50.1$
Friday, November 13, 2015 0:51:16 0.991392 .2549 .6
Friday, November 13, 2015 0:56:16 0.991397 .2049 .9
Friday, November 13, 2015 1:01:17 0.991402 .1750 .0
Friday, November 13, 2015 1:06:17 0.991407 .1350 .3
Friday, November 13, 2015 1:11:18 $0.991 \quad 412.1049 .9$
Friday, November 13, 2015 1:16:18 0.991417 .0549 .7
Friday, November 13, 2015 1:21:19 0.991422 .0250 .4
Friday, November 13, 2015 1:26:19 0.991426 .9750 .0

Friday, November 13, 2015 1:31:20 0.991
Friday, November 13, 2015 1:36:21 0.991
Friday, November 13, 2015 1:41:21 0.991
Friday, November 13, 2015 1:46:22 0.991
Friday, November 13, 2015 1:51:22 0.991
Friday, November 13, 2015 1:56:23 0.991
Friday, November 13, 2015 2:01:23 0.991
Friday, November 13, 2015 2:06:24 0.991
Friday, November 13, 2015 2:11:24 0.991
Friday, November 13, 2015 2:16:25 0.991
Friday, November 13, 2015 2:21:25 0.991
Friday, November 13, 2015 2:26:26 0.991
Friday, November 13, 2015 2:31:27 0.991
Friday, November 13, 2015 2:36:27 0.991
Friday, November 13, 2015 2:41:28 0.991
Friday, November 13, 2015 2:46:28 0.991
Friday, November 13, 2015 2:51:29 0.991
Friday, November 13, 2015 2:56:29 0.991
Friday, November 13, 2015 3:01:30 0.991
Friday, November 13, 2015 3:06:30 0.991
Friday, November 13, 2015 3:11:31 0.991
Friday, November 13, 2015 3:16:31 0.991
Friday, November 13, 2015 3:21:32 0.991
Friday, November 13, 2015 3:26:33 0.991
Friday, November 13, 2015 3:31:33 0.991
Friday, November 13, 2015 3:36:34 0.991
Friday, November 13, 2015 3:41:34 0.991
Friday, November 13, 2015 3:46:35 0.991
Friday, November 13, 2015 3:51:35 0.991
Friday, November 13, 2015 3:56:36 0.991
Friday, November 13, 2015 4:01:36 0.991
Friday, November 13, 2015 4:06:37 0.991
Friday, November 13, 2015 4:11:37 0.991
Friday, November 13, 2015 4:16:38 0.991
Friday, November 13, 2015 4:21:38 0.991
Friday, November 13, 2015 4:26:39 0.991
Friday, November 13, 2015 4:31:40 0.991
Friday, November 13, 2015 4:36:40 0.991
Friday, November 13, 2015 4:41:41 0.991
Friday, November 13, 2015 4:46:41 0.991
Friday, November 13, 2015 4:51:42 0.991
Friday, November 13, 2015 4:56:42 0.991
Friday, November 13, 2015 5:01:43 0.991
Friday, November 13, 2015 5:06:43 0.991
Friday, November 13, 2015 5:11:44 0.991
Friday, November 13, 2015 5:16:44 0.991
Friday, November 13, 2015 5:21:45 0.991
Friday, November 13, 2015 5:26:45 0.991
Friday, November 13, 2015 5:31:46 0.991
Friday, November 13, 2015 5:36:47 0.991
Friday, November 13, 2015 5:41:47 0.991
Friday, November 13, 2015 5:46:48 0.991
Friday, November 13, 2015 5:51:48 0.991
Friday, November 13, 2015 5:56:49 0.991
431.94
50.0
$436.91 \quad 50.3$
$441.86 \quad 49.6$
$446.83 \quad 49.7$
$451.78 \quad 49.8$
$456.75 \quad 50.4$
$461.71 \quad 50.5$
$466.68 \quad 50.4$
$471.63 \quad 50.4$
$476.60 \quad 50.2$
$481.55 \quad 50.2$
$486.52 \quad 49.8$
$491.49 \quad 50.3$
$496.44 \quad 50.1$
$501.41 \quad 49.9$
$506.37 \quad 50.4$
$511.33 \quad 50.3$
$516.29 \quad 50.2$
$521.26 \quad 50.1$
$526.21 \quad 50.5$
$531.18 \quad 50.2$
$536.13 \quad 50.2$
$541.10 \quad 50.4$
$546.07 \quad 50.1$
551.0249 .9
555.9949 .9
$560.95 \quad 50.3$
$565.91 \quad 50.0$
$570.87 \quad 50.0$
$575.84 \quad 50.0$
$580.79 \quad 50.0$
$585.76 \quad 50.1$
$590.71 \quad 50.1$
$595.68 \quad 50.4$
600.6349 .0
$605.60 \quad 50.4$
$610.57 \quad 50.2$
615.5350 .0
$620.49 \quad 50.4$
$625.45 \quad 49.8$
$630.42 \quad 50.3$
$635.37 \quad 49.7$
$640.34 \quad 49.9$
$645.29 \quad 49.9$
650.2649 .9
$655.21 \quad 49.7$
$660.18 \quad 50.2$
665.1449 .5
$670.11 \quad 50.4$
$675.08 \quad 50.1$
$680.03 \quad 50.1$
$685.00 \quad 50.4$
$689.95 \quad 50.2$
694.9250 .2

# Ch. 2 Cartridge Started Thursday, November 12, 2015 18:15:04 

Flow Rate Set Point 1.00 1/min
Stopped Friday, November 13, 2015 6:15:25
Total Volume 712.99 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.991 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate $0.002 \mathrm{l} / \mathrm{min}$
Ending Leak Rate - $0.001 \mathrm{l} / \mathrm{min}$
Flow Controller Zero -0.003 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

|  |  | 50 |
| :---: | :---: | :---: |
| Thursday, November 12, 2015 18:20:31 0.991 | 5.19 | 50.4 |
|  | 0.16 | 50.4 |
| Thursday, November 12, 2015 18:30:32 0.99 | 15. | 0.1 |
| ovember 12, 2015 18:35:33 0.991 | 20.08 | 50.5 |
| , November 12, 2015 18:40:33 0.991 | 25.03 | 0.3 |
| ovember 12,2015 18:45:3 | 30.0 | 0.3 |
| ay, November 12, 2015 18:50:34 0.991 | 34.9 | 49.3 |
|  | 39.9 | 0.0 |
| , November 12, 2015 | 44.8 | 50.1 |
| ovenber 12, 2015 19.05.36 | 49.8 | 49.9 |
| ay, November 12, 2015 | 4.81 | 9.7 |
| ay, November 12, 2015 19:15:37 0.991 | 59.7 | 0.4 |
| ay, November 12, 2015 19:20:38 0.99 | 64.74 | 0.0 |
| ursday, November 12, 2015 19:25:38 0.9 | 9.6 | 50.5 |
| ay, No | 74.66 | 50.1 |
| ursday, November 12, 2015 19:35:39 | 9.6 | 0.6 |
| day, November 12, 2015 19:40:40 0.991 | 4.58 | 50.0 |
| day, November 12, 2015 19:45:41 0.99 | 89.5 | 49.9 |
| ursday, November 12, 2015 19:50:4 | 94.5 | 50.1 |
| ursday, November 12, 2015 19:55:42 0.991 | 99.47 | 50. |
| ay, November 12, 2015 20:00:42 0.991 | 04.42 |  |
| ursday, November | 109 |  |
| day, November 12, 2015 20:10:44 0.991 | 114.36 |  |
| ursday, November 12, 2015 20:15:44 0.991 | 119.32 |  |
| ursday, November 12, 2015 20:20:45 0.991 | 24.29 |  |
| day, November 12, 2015 20:25:45 0.991 | 29.24 |  |
| ursday, November 12, 2015 | 13 |  |
| ursday, November 12, 2015 20:35:46 0.991 | 6 |  |
| hursday, November 12, 2015 20:40:47 0.991 | 44 |  |
| rsday, November 12, 2015 20:45:48 0.991 | 149.10 |  |
| y, November 12, 2015 20:50:48 0.991 | 154.05 |  |
| , | 159 |  |

Thursday, November 12, 2015 21:00:49 0.991
Thursday, November 12, 2015 21:05:50 0.991
163.97
50.1

Thursday, November 12, 2015 21:10:51 0.991
168.94
49.7

Thursday, November 12, 2015 21:15:51 $0.991 \quad 178.87 \quad 50.4$
Thursday, November 12, 2015 21:20:52 $0.991 \quad 183.8450 .4$
Thursday, November 12, 2015 21:25:52 $0.991 \quad 188.79 \quad 50.2$
Thursday, November 12, 2015 21:30:53 $0.991 \quad 193.76 \quad 50.2$
Thursday, November 12, 2015 21:35:54 0.991 $198.73 \quad 50.1$
Thursday, November 12, 2015 21:40:54 0.991 203.6849 .6
Thursday, November 12, 2015 21:45:55 0.991 208.6549 .6
Thursday, November 12, 2015 21:50:55 0.991 $213.60 \quad 50.5$
Thursday, November 12, 2015 21:55:56 0.991 $218.57 \quad 50.0$
Thursday, November 12, 2015 22:00:57 0.991 $223.54 \quad 49.7$
Thursday, November 12, 2015 22:05:57 0.991 $228.49 \quad 50.1$
Thursday, November 12, 2015 22:10:58 $0.991 \quad 233.4649 .7$
Thursday, November 12, 2015 22:15:58 0.991 $238.42 \quad 50.5$
Thursday, November 12, 2015 22:20:59 $0.991 \quad 243.39 \quad 50.4$
Thursday, November 12, 2015 22:26:00 $0.991 \quad 248.36 \quad 50.4$
Thursday, November 12, 2015 22:31:00 $0.991 \quad 253.31 \quad 49.6$
Thursday, November 12, 2015 22:36:01 $0.991 \quad 258.28 \quad 49.9$
Thursday, November 12, 2015 22:41:01 $0.991 \quad 263.23 \quad 50.0$
Thursday, November 12, 2015 22:46:02 $0.991 \quad 268.20 \quad 50.0$
Thursday, November 12, 2015 22:51:02 $0.991 \quad 273.15 \quad 50.4$
Thursday, November 12, 2015 22:56:03 $0.991 \quad 278.12 \quad 49.7$
Thursday, November 12, 2015 23:01:03 $0.991 \quad 283.08 \quad 50.4$
Thursday, November 12, 2015 23:06:04 0.991 $288.04 \quad 50.5$
Thursday, November 12, 2015 23:11:04 0.991 $293.00 \quad 50.4$
Thursday, November 12, 2015 23:16:05 0.991 297.9749 .6
Thursday, November 12, 2015 23:21:06 $0.991302 .94 \quad 49.4$
Thursday, November 12, 2015 23:26:06 0.991 $307.89 \quad 50.0$
Thursday, November 12, 2015 23:31:07 0.991 $312.86 \quad 50.4$
Thursday, November 12, 2015 23:36:07 $0.991 \quad 317.81 \quad 50.5$
Thursday, November 12, 2015 23:41:08 $0.991 \quad 322.78 \quad 50.4$
Thursday, November 12, 2015 23:46:09 $0.991 \quad 327.75 \quad 50.3$
Thursday, November 12, 2015 23:51:09 $0.991 \quad 332.70 \quad 49.7$
Thursday, November 12, 2015 23:56:10 0.991 337.6750 .4
Friday, November 13, 2015 0:01:10 $0.991 \quad 342.62 \quad 50.4$
Friday, November 13, 2015 0:06:11 $0.991 \quad 347.59 \quad 50.4$
Friday, November 13, 2015 0:11:11 $0.991 \quad 352.55 \quad 50.0$
Friday, November 13, 2015 0:16:12 0.991357 .5250 .3
Friday, November 13, 2015 0:21:12 0.991362 .4750 .4
Friday, November 13, 2015 0:26:13 0.991367 .4450 .6
Friday, November 13, 2015 0:31:13 $0.991 \quad 372.3950 .4$
Friday, November 13, 2015 0:36:14 0.991377 .3650 .5
Friday, November 13, 2015 0:41:15 0.991382 .3349 .9
Friday, November 13, 2015 0:46:15 $0.991387 .28 \quad 50.1$
Friday, November 13, 2015 0:51:16 0.991392 .2549 .6
Friday, November 13, 2015 0:56:16 0.991397 .2049 .9
Friday, November 13, 2015 1:01:17 0.991402 .1750 .0
Friday, November 13, 2015 1:06:17 0.991407 .1350 .3
Friday, November 13, 2015 1:11:18 $0.991 \quad 412.1049 .9$
Friday, November 13, 2015 1:16:18 0.991417 .0549 .7
Friday, November 13, 2015 1:21:19 0.991422 .0250 .4
Friday, November 13, 2015 1:26:19 0.991426 .9750 .0

Friday, November 13, 2015 1:31:20 0.991
Friday, November 13, 2015 1:36:21 0.991
Friday, November 13, 2015 1:41:21 0.991
Friday, November 13, 2015 1:46:22 0.991
Friday, November 13, 2015 1:51:22 0.991
Friday, November 13, 2015 1:56:23 0.991
Friday, November 13, 2015 2:01:23 0.991
Friday, November 13, 2015 2:06:24 0.991
Friday, November 13, 2015 2:11:24 0.991
Friday, November 13, 2015 2:16:25 0.991
Friday, November 13, 2015 2:21:25 0.991
Friday, November 13, 2015 2:26:26 0.991
Friday, November 13, 2015 2:31:27 0.991
Friday, November 13, 2015 2:36:27 0.991
Friday, November 13, 2015 2:41:28 0.991
Friday, November 13, 2015 2:46:28 0.991
Friday, November 13, 2015 2:51:29 0.991
Friday, November 13, 2015 2:56:29 0.991
Friday, November 13, 2015 3:01:30 0.991
Friday, November 13, 2015 3:06:30 0.991
Friday, November 13, 2015 3:11:31 0.991
Friday, November 13, 2015 3:16:31 0.991
Friday, November 13, 2015 3:21:32 0.991
Friday, November 13, 2015 3:26:33 0.991
Friday, November 13, 2015 3:31:33 0.991
Friday, November 13, 2015 3:36:34 0.991
Friday, November 13, 2015 3:41:34 0.991
Friday, November 13, 2015 3:46:35 0.991
Friday, November 13, 2015 3:51:35 0.991
Friday, November 13, 2015 3:56:36 0.991
Friday, November 13, 2015 4:01:36 0.991
Friday, November 13, 2015 4:06:37 0.991
Friday, November 13, 2015 4:11:37 0.991
Friday, November 13, 2015 4:16:38 0.991
Friday, November 13, 2015 4:21:38 0.991
Friday, November 13, 2015 4:26:39 0.991
Friday, November 13, 2015 4:31:40 0.991
Friday, November 13, 2015 4:36:40 0.991
Friday, November 13, 2015 4:41:41 0.991
Friday, November 13, 2015 4:46:41 0.991
Friday, November 13, 2015 4:51:42 0.991
Friday, November 13, 2015 4:56:42 0.991
Friday, November 13, 2015 5:01:43 0.991
Friday, November 13, 2015 5:06:43 0.991
Friday, November 13, 2015 5:11:44 0.991
Friday, November 13, 2015 5:16:44 0.991
Friday, November 13, 2015 5:21:45 0.991
Friday, November 13, 2015 5:26:45 0.991
Friday, November 13, 2015 5:31:46 0.991
Friday, November 13, 2015 5:36:47 0.991
Friday, November 13, 2015 5:41:47 0.991
Friday, November 13, 2015 5:46:48 0.991
Friday, November 13, 2015 5:51:48 0.991
Friday, November 13, 2015 5:56:49 0.991
431.94
50.0
$436.91 \quad 50.3$
$441.86 \quad 49.6$
$446.83 \quad 49.7$
$451.78 \quad 49.8$
$456.75 \quad 50.4$
$461.71 \quad 50.5$
$466.68 \quad 50.4$
$471.63 \quad 50.4$
$476.60 \quad 50.2$
$481.55 \quad 50.2$
$486.52 \quad 49.8$
$491.49 \quad 50.3$
$496.44 \quad 50.1$
$501.41 \quad 49.9$
$506.37 \quad 50.4$
$511.33 \quad 50.3$
$516.29 \quad 50.2$
$521.26 \quad 50.1$
$526.21 \quad 50.5$
$531.18 \quad 50.2$
$536.13 \quad 50.2$
$541.10 \quad 50.4$
$546.07 \quad 50.1$
551.0249 .9
555.9949 .9
$560.95 \quad 50.3$
$565.91 \quad 50.0$
$570.87 \quad 50.0$
$575.84 \quad 50.0$
$580.79 \quad 50.0$
$585.76 \quad 50.1$
$590.71 \quad 50.1$
$595.68 \quad 50.4$
600.6349 .0
$605.60 \quad 50.4$
$610.57 \quad 50.2$
615.5350 .0
$620.49 \quad 50.4$
$625.45 \quad 49.8$
$630.42 \quad 50.3$
$635.37 \quad 49.7$
$640.34 \quad 49.9$
$645.29 \quad 49.9$
650.2649 .9
$655.21 \quad 49.7$
$660.18 \quad 50.2$
665.1449 .5
$670.11 \quad 50.4$
$675.08 \quad 50.1$
$680.03 \quad 50.1$
$685.00 \quad 50.4$
$689.95 \quad 50.2$
694.9250 .2

# Ch. 2 Cartridge Started Wednesday, November 18, 2015 18:15:01 

Flow Rate Set Point 1.00 1/min
Stopped Thursday, November 19, 2015 6:15:26
Total Volume 713.06 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.990 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate 0.054 1/min
Ending Leak Rate 0.048 1/min
Flow Controller Zero -0.003 1/min
Error Code 258
Error Status Leak Check Flow Limit Exceeded
Post Leak Check Flow Limit Exceeded

Time Flow Rate Volume Temp

Wednesday, November 18, 2015 18:15:27 0.130
Wednesday, November 18, 2015 18:20:28 0.991
Wednesday, November 18, 2015 18:25:29 0.991
Wednesday, November 18, 2015 18:30:29 0.991
Wednesday, November 18, 2015 18:35:30 0.991
Wednesday, November 18, 2015 18:40:31 0.991
0.22
50.0
5.1949 .5

Wednesday, November 18, 2015 18:45:31 0.991
$10.16 \quad 50.2$
$15.11 \quad 50.5$
$20.08 \quad 50.1$
$25.05 \quad 50.1$
Wednesday, November 18, 2015 18:50:32 0.991 $34.97 \quad 50.1$
Wednesday, November 18, 2015 18:55:33 0.99139 .9449 .8
Wednesday, November 18, 2015 19:00:33 0.991 44.8949 .7
Wednesday, November 18, 2015 19:05:34 0.991 $49.86 \quad 50.2$
Wednesday, November 18, 2015 19:10:35 0.99154 .8350 .5
Wednesday, November 18, 2015 19:15:35 0.99159 .7850 .5
Wednesday, November 18, 2015 19:20:36 0.991 $64.75 \quad 50.1$
Wednesday, November 18, 2015 19:25:37 $0.991 \quad 69.72 \quad 50.2$
Wednesday, November 18, 2015 19:30:37 0.991 74.6749 .7
Wednesday, November 18, 2015 19:35:38 $0.991 \quad 79.6450 .6$
Wednesday, November 18, 2015 19:40:39 $0.991 \quad 84.61 \quad 50.5$
Wednesday, November 18, 2015 19:45:39 0.991 $89.56 \quad 50.0$
Wednesday, November 18, 2015 19:50:40 0.991 $94.53 \quad 50.2$
Wednesday, November 18, 2015 19:55:41 0.991 99.5049 .9
Wednesday, November 18, 2015 20:00:41 0.991 $104.46 \quad 50.1$
Wednesday, November 18, 2015 20:05:42 0.991 109.4349 .4
Wednesday, November 18, 2015 20:10:43 $0.991 \quad 114.3950 .2$
Wednesday, November 18, 2015 20:15:43 $0.991 \quad 119.3550 .5$
Wednesday, November 18, 2015 20:20:44 0.991 124.3250 .1
Wednesday, November 18, 2015 20:25:45 0.991129 .2949 .7
Wednesday, November 18, 2015 20:30:45 0.991134 .2450 .2
Wednesday, November 18, 2015 20:35:46 0.991 139.2150 .7
Wednesday, November 18, 2015 20:40:46 0.991 144.1650 .1
Wednesday, November 18, 2015 20:45:47 0.991 149.1350 .5
Wednesday, November 18, 2015 20:50:48 $0.991 \quad 154.1050 .5$

Wednesday, November 18, 2015 20:55:48 0.991
159.05
50.2

Wednesday, November 18, 2015 21:00:49 0.991
164.02
50.4

Wednesday, November 18, 2015 21:05:50 0.991
Wednesday, November 18, 2015 21:10:50 0.991
Wednesday, November 18, 2015 21:15:51 0.991
168.99
49.8
173.94
50.5

Wednesday, November 18, 2015 21:20:52 0.991
Wednesday, November 18, 2015 21:25:52 0.991
Wednesday, November 18, 2015 21:30:53 0.991
Wednesday, November 18, 2015 21:35:53 0.991
Wednesday, November 18, 2015 21:40:54 0.991
Wednesday, November 18, 2015 21:45:55 0.991
Wednesday, November 18, 2015 21:50:55 0.991
Wednesday, November 18, 2015 21:55:56 0.991
Wednesday, November 18, 2015 22:00:56 0.991
Wednesday, November 18, 2015 22:05:57 0.991
Wednesday, November 18, 2015 22:10:58 0.991
Wednesday, November 18, 2015 22:15:58 0.990
Wednesday, November 18, 2015 22:20:59 0.991
Wednesday, November 18, 2015 22:25:59 0.991
Wednesday, November 18, 2015 22:31:00 0.991
Wednesday, November 18, 2015 22:36:01 0.991
Wednesday, November 18, 2015 22:41:01 0.991
Wednesday, November 18, 2015 22:46:02 0.991
Wednesday, November 18, 2015 22:51:03 0.991
Wednesday, November 18, 2015 22:56:03 0.991
Wednesday, November 18, 2015 23:01:04 0.991
Wednesday, November 18, 2015 23:06:05 0.991
Wednesday, November 18, 2015 23:11:05 0.991
Wednesday, November 18, 2015 23:16:06 0.991
Wednesday, November 18, 2015 23:21:06 0.991
Wednesday, November 18, 2015 23:26:07 0.991
Wednesday, November 18, 2015 23:31:08 0.991
Wednesday, November 18, 2015 23:36:08 0.991
Wednesday, November 18, 2015 23:41:09 0.991
Wednesday, November 18, 2015 23:46:10 0.991
178.91 50.2
$183.88 \quad 50.5$
$188.83 \quad 49.5$
$193.80 \quad 50.3$
198.7649 .8
$203.73 \quad 50.5$
$208.70 \quad 50.4$
$213.65 \quad 50.1$
$218.62 \quad 49.7$
$223.57 \quad 50.1$
$228.54 \quad 49.6$
$233.51 \quad 49.9$
$238.46 \quad 50.8$
$243.43 \quad 50.0$
$248.38 \quad 50.5$
$253.35 \quad 49.6$
$258.32 \quad 50.1$
$263.27 \quad 49.8$
$268.24 \quad 50.6$
$273.21 \quad 50.1$
$278.17 \quad 49.7$
$283.14 \quad 50.4$
$288.10 \quad 49.8$
$293.06 \quad 50.1$
$298.03 \quad 50.7$
$302.98 \quad 50.1$
$307.95 \quad 50.3$
$312.92 \quad 50.2$
317.8749 .8
$322.84 \quad 50.5$
$327.81 \quad 50.0$
Wednesday, November 18, 2015 23:51:10 0.991332 .7650 .4
Wednesday, November 18, 2015 23:56:11 0.991337 .7350 .4
Thursday, November 19, 2015 0:01:11 $0.991 \quad 342.68 \quad 50.5$
Thursday, November 19, 2015 0:06:12 $0.991 \quad 347.65 \quad 50.2$
Thursday, November 19, 2015 0:11:13 $0.991 \quad 352.62 \quad 50.1$
Thursday, November 19, 2015 0:16:13 $0.991 \quad 357.57 \quad 49.9$
Thursday, November 19, 2015 0:21:14 $0.991 \quad 362.54 \quad 50.0$
Thursday, November 19, 2015 0:26:14 $0.991 \quad 367.50 \quad 50.4$
Thursday, November 19, 2015 0:31:15 $0.991 \quad 372.47 \quad 50.4$
Thursday, November 19, 2015 0:36:16 $0.991 \quad 377.43 \quad 50.3$
Thursday, November 19, 2015 0:41:16 $0.991 \quad 382.39 \quad 50.0$
Thursday, November 19, 2015 0:46:17 $0.991 \quad 387.36 \quad 50.0$
Thursday, November 19, 2015 0:51:17 $0.991 \quad 392.31 \quad 50.2$
Thursday, November 19, 2015 0:56:18 $0.991 \quad 397.28 \quad 50.2$
Thursday, November 19, 2015 1:01:19 $0.991 \quad 402.25 \quad 50.6$
Thursday, November 19, 2015 1:06:19 $0.991 \quad 407.20 \quad 50.6$
Thursday, November 19, 2015 1:11:20 $0.991412 .17 \quad 50.1$
Thursday, November 19, 2015 1:16:21 $0.991 \quad 417.1450 .6$
Thursday, November 19, 2015 1:21:21 0.991422 .0950 .0

Thursday, November 19, 2015 1:26:22 0.991
427.06
50.5
$432.01 \quad 50.0$
$436.98 \quad 49.7$
$441.95 \quad 50.6$
$446.90 \quad 50.2$
$451.87 \quad 50.5$
$456.83 \quad 50.5$
$461.80 \quad 50.3$
$466.77 \quad 50.2$
$471.72 \quad 50.4$
$476.69 \quad 50.5$
$481.64 \quad 50.1$
$486.61 \quad 50.2$
$491.58 \quad 50.5$
$496.53 \quad 50.3$
$501.50 \quad 49.5$
$506.45 \quad 50.2$
$511.42 \quad 50.4$
$516.39 \quad 50.6$
$521.34 \quad 50.2$
$526.31 \quad 50.1$
$531.27 \quad 49.8$
$536.24 \quad 50.5$
$541.21 \quad 50.6$
$546.16 \quad 50.2$
$551.13 \quad 50.5$
$556.08 \quad 50.6$
$561.05 \quad 50.6$
$566.02 \quad 50.7$
$570.97 \quad 50.2$
$575.94 \quad 50.4$
580.8949 .6
$585.86 \quad 49.7$
$590.83 \quad 50.0$
$595.78 \quad 50.0$
600.7549 .7
$605.71 \quad 49.7$
$610.67 \quad 50.1$
$615.64 \quad 50.8$
$620.60 \quad 50.5$
$625.57 \quad 50.3$
$630.52 \quad 50.1$
$635.49 \quad 50.0$
$640.46 \quad 50.1$
$645.41 \quad 49.8$
$650.38 \quad 50.5$
$655.35 \quad 50.4$
$660.30 \quad 50.2$
$665.27 \quad 50.1$
$670.22 \quad 50.5$
$675.19 \quad 50.7$
$680.14 \quad 50.2$
$685.11 \quad 50.4$
$690.08 \quad 50.5$

# Ch. 2 Cartridge Started Wednesday, November 18, 2015 18:15:01 

Flow Rate Set Point 1.00 1/min
Stopped Thursday, November 19, 2015 6:15:26
Total Volume 713.06 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.990 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate 0.054 1/min
Ending Leak Rate 0.048 1/min
Flow Controller Zero -0.003 1/min
Error Code 258
Error Status Leak Check Flow Limit Exceeded
Post Leak Check Flow Limit Exceeded

Time Flow Rate Volume Temp

Wednesday, November 18, 2015 18:15:27 0.130
Wednesday, November 18, 2015 18:20:28 0.991
Wednesday, November 18, 2015 18:25:29 0.991
Wednesday, November 18, 2015 18:30:29 0.991
Wednesday, November 18, 2015 18:35:30 0.991
Wednesday, November 18, 2015 18:40:31 0.991
0.22
50.0
5.1949 .5

Wednesday, November 18, 2015 18:45:31 0.991
$10.16 \quad 50.2$
$15.11 \quad 50.5$
$20.08 \quad 50.1$
$25.05 \quad 50.1$
Wednesday, November 18, 2015 18:50:32 0.991 $34.97 \quad 50.1$
Wednesday, November 18, 2015 18:55:33 0.99139 .9449 .8
Wednesday, November 18, 2015 19:00:33 0.991 44.8949 .7
Wednesday, November 18, 2015 19:05:34 0.991 $49.86 \quad 50.2$
Wednesday, November 18, 2015 19:10:35 0.99154 .8350 .5
Wednesday, November 18, 2015 19:15:35 0.99159 .7850 .5
Wednesday, November 18, 2015 19:20:36 0.991 $64.75 \quad 50.1$
Wednesday, November 18, 2015 19:25:37 $0.991 \quad 69.72 \quad 50.2$
Wednesday, November 18, 2015 19:30:37 0.991 74.6749 .7
Wednesday, November 18, 2015 19:35:38 $0.991 \quad 79.6450 .6$
Wednesday, November 18, 2015 19:40:39 $0.991 \quad 84.61 \quad 50.5$
Wednesday, November 18, 2015 19:45:39 0.991 $89.56 \quad 50.0$
Wednesday, November 18, 2015 19:50:40 0.991 $94.53 \quad 50.2$
Wednesday, November 18, 2015 19:55:41 0.991 99.5049 .9
Wednesday, November 18, 2015 20:00:41 0.991 $104.46 \quad 50.1$
Wednesday, November 18, 2015 20:05:42 0.991 109.4349 .4
Wednesday, November 18, 2015 20:10:43 $0.991 \quad 114.3950 .2$
Wednesday, November 18, 2015 20:15:43 $0.991 \quad 119.3550 .5$
Wednesday, November 18, 2015 20:20:44 0.991 124.3250 .1
Wednesday, November 18, 2015 20:25:45 0.991129 .2949 .7
Wednesday, November 18, 2015 20:30:45 0.991134 .2450 .2
Wednesday, November 18, 2015 20:35:46 0.991 139.2150 .7
Wednesday, November 18, 2015 20:40:46 0.991 144.1650 .1
Wednesday, November 18, 2015 20:45:47 0.991 149.1350 .5
Wednesday, November 18, 2015 20:50:48 $0.991 \quad 154.1050 .5$

Wednesday, November 18, 2015 20:55:48 0.991
159.05
50.2

Wednesday, November 18, 2015 21:00:49 0.991
164.02
50.4

Wednesday, November 18, 2015 21:05:50 0.991
Wednesday, November 18, 2015 21:10:50 0.991
Wednesday, November 18, 2015 21:15:51 0.991
168.99
49.8
173.94
50.5

Wednesday, November 18, 2015 21:20:52 0.991
Wednesday, November 18, 2015 21:25:52 0.991
Wednesday, November 18, 2015 21:30:53 0.991
Wednesday, November 18, 2015 21:35:53 0.991
Wednesday, November 18, 2015 21:40:54 0.991
Wednesday, November 18, 2015 21:45:55 0.991
Wednesday, November 18, 2015 21:50:55 0.991
Wednesday, November 18, 2015 21:55:56 0.991
Wednesday, November 18, 2015 22:00:56 0.991
Wednesday, November 18, 2015 22:05:57 0.991
Wednesday, November 18, 2015 22:10:58 0.991
Wednesday, November 18, 2015 22:15:58 0.990
Wednesday, November 18, 2015 22:20:59 0.991
Wednesday, November 18, 2015 22:25:59 0.991
Wednesday, November 18, 2015 22:31:00 0.991
Wednesday, November 18, 2015 22:36:01 0.991
Wednesday, November 18, 2015 22:41:01 0.991
Wednesday, November 18, 2015 22:46:02 0.991
Wednesday, November 18, 2015 22:51:03 0.991
Wednesday, November 18, 2015 22:56:03 0.991
Wednesday, November 18, 2015 23:01:04 0.991
Wednesday, November 18, 2015 23:06:05 0.991
Wednesday, November 18, 2015 23:11:05 0.991
Wednesday, November 18, 2015 23:16:06 0.991
Wednesday, November 18, 2015 23:21:06 0.991
Wednesday, November 18, 2015 23:26:07 0.991
Wednesday, November 18, 2015 23:31:08 0.991
Wednesday, November 18, 2015 23:36:08 0.991
Wednesday, November 18, 2015 23:41:09 0.991
Wednesday, November 18, 2015 23:46:10 0.991
178.91 50.2
$183.88 \quad 50.5$
$188.83 \quad 49.5$
$193.80 \quad 50.3$
198.7649 .8
$203.73 \quad 50.5$
$208.70 \quad 50.4$
$213.65 \quad 50.1$
$218.62 \quad 49.7$
$223.57 \quad 50.1$
$228.54 \quad 49.6$
$233.51 \quad 49.9$
$238.46 \quad 50.8$
$243.43 \quad 50.0$
$248.38 \quad 50.5$
$253.35 \quad 49.6$
$258.32 \quad 50.1$
$263.27 \quad 49.8$
$268.24 \quad 50.6$
$273.21 \quad 50.1$
$278.17 \quad 49.7$
$283.14 \quad 50.4$
$288.10 \quad 49.8$
$293.06 \quad 50.1$
$298.03 \quad 50.7$
$302.98 \quad 50.1$
$307.95 \quad 50.3$
$312.92 \quad 50.2$
317.8749 .8
$322.84 \quad 50.5$
$327.81 \quad 50.0$
Wednesday, November 18, 2015 23:51:10 0.991332 .7650 .4
Wednesday, November 18, 2015 23:56:11 0.991337 .7350 .4
Thursday, November 19, 2015 0:01:11 $0.991 \quad 342.68 \quad 50.5$
Thursday, November 19, 2015 0:06:12 $0.991 \quad 347.65 \quad 50.2$
Thursday, November 19, 2015 0:11:13 $0.991 \quad 352.62 \quad 50.1$
Thursday, November 19, 2015 0:16:13 $0.991 \quad 357.57 \quad 49.9$
Thursday, November 19, 2015 0:21:14 $0.991 \quad 362.54 \quad 50.0$
Thursday, November 19, 2015 0:26:14 $0.991 \quad 367.50 \quad 50.4$
Thursday, November 19, 2015 0:31:15 $0.991 \quad 372.47 \quad 50.4$
Thursday, November 19, 2015 0:36:16 $0.991 \quad 377.43 \quad 50.3$
Thursday, November 19, 2015 0:41:16 $0.991 \quad 382.39 \quad 50.0$
Thursday, November 19, 2015 0:46:17 $0.991 \quad 387.36 \quad 50.0$
Thursday, November 19, 2015 0:51:17 $0.991 \quad 392.31 \quad 50.2$
Thursday, November 19, 2015 0:56:18 $0.991 \quad 397.28 \quad 50.2$
Thursday, November 19, 2015 1:01:19 $0.991 \quad 402.25 \quad 50.6$
Thursday, November 19, 2015 1:06:19 $0.991 \quad 407.20 \quad 50.6$
Thursday, November 19, 2015 1:11:20 $0.991412 .17 \quad 50.1$
Thursday, November 19, 2015 1:16:21 $0.991 \quad 417.1450 .6$
Thursday, November 19, 2015 1:21:21 0.991422 .0950 .0

Thursday, November 19, 2015 1:26:22 0.991
427.06
50.5
$432.01 \quad 50.0$
$436.98 \quad 49.7$
$441.95 \quad 50.6$
$446.90 \quad 50.2$
$451.87 \quad 50.5$
$456.83 \quad 50.5$
$461.80 \quad 50.3$
$466.77 \quad 50.2$
$471.72 \quad 50.4$
$476.69 \quad 50.5$
$481.64 \quad 50.1$
$486.61 \quad 50.2$
$491.58 \quad 50.5$
$496.53 \quad 50.3$
$501.50 \quad 49.5$
$506.45 \quad 50.2$
$511.42 \quad 50.4$
$516.39 \quad 50.6$
$521.34 \quad 50.2$
$526.31 \quad 50.1$
$531.27 \quad 49.8$
$536.24 \quad 50.5$
$541.21 \quad 50.6$
$546.16 \quad 50.2$
$551.13 \quad 50.5$
$556.08 \quad 50.6$
$561.05 \quad 50.6$
$566.02 \quad 50.7$
$570.97 \quad 50.2$
$575.94 \quad 50.4$
580.8949 .6
$585.86 \quad 49.7$
$590.83 \quad 50.0$
$595.78 \quad 50.0$
600.7549 .7
$605.71 \quad 49.7$
$610.67 \quad 50.1$
$615.64 \quad 50.8$
$620.60 \quad 50.5$
$625.57 \quad 50.3$
$630.52 \quad 50.1$
$635.49 \quad 50.0$
$640.46 \quad 50.1$
$645.41 \quad 49.8$
$650.38 \quad 50.5$
$655.35 \quad 50.4$
$660.30 \quad 50.2$
$665.27 \quad 50.1$
$670.22 \quad 50.5$
$675.19 \quad 50.7$
$680.14 \quad 50.2$
$685.11 \quad 50.4$
$690.08 \quad 50.5$

# Ch. 2 Cartridge Started Tuesday, November 24, 2015 18:15:03 

Flow Rate Set Point 1.00 1/min
Stopped Wednesday, November 25, 2015 6:15:25
Total Volume 713.00 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.990 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate 0.007 1/min
Ending Leak Rate 0.002 1/min
Flow Controller Zero -0.003 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Tuesday, November 24, 2015 18:15:29 $0.086 \quad 0.21 \quad 50.2$
Tuesday, November 24, 2015 18:20:30 0.9915 .1950 .4
Tuesday, November 24, 2015 18:25:30 $0.991 \quad 10.14 \quad 50.3$
Tuesday, November 24, 2015 18:30:31 $0.991 \quad 15.11 \quad 50.3$
Tuesday, November 24, 2015 18:35:32 $0.991 \quad 20.08 \quad 50.3$
Tuesday, November 24, 2015 18:40:32 $0.990 \quad 25.03 \quad 50.2$
Tuesday, November 24, 2015 18:45:33 $0.991 \quad 30.00 \quad 49.8$
Tuesday, November 24, 2015 18:50:33 $0.991 \quad 34.95 \quad 50.0$
Tuesday, November 24, 2015 18:55:34 $0.991 \quad 39.9249 .9$
Tuesday, November 24, 2015 19:00:34 0.991 $44.88 \quad 50.5$
Tuesday, November 24, 2015 19:05:35 $0.991 \quad 49.85 \quad 50.3$
Tuesday, November 24, 2015 19:10:35 $0.991 \quad 54.80 \quad 50.2$
Tuesday, November 24, 2015 19:15:36 $0.991 \quad 59.77 \quad 49.9$
Tuesday, November 24, 2015 19:20:36 $0.991 \quad 64.72 \quad 49.7$
Tuesday, November 24, 2015 19:25:37 $0.991 \quad 69.69 \quad 50.5$
Tuesday, November 24, 2015 19:30:37 $0.991 \quad 74.64 \quad 50.2$
Tuesday, November 24, 2015 19:35:38 $0.991 \quad 79.61 \quad 49.8$
Tuesday, November 24, 2015 19:40:39 $0.991 \quad 84.58 \quad 49.8$
Tuesday, November 24, 2015 19:45:39 $0.991 \quad 89.53 \quad 49.4$
Tuesday, November 24, 2015 19:50:40 $0.991 \quad 94.50 \quad 50.4$
Tuesday, November 24, 2015 19:55:40 $0.991 \quad 99.45 \quad 49.9$
Tuesday, November 24, 2015 20:00:41 $0.991 \quad 104.42 \quad 50.4$
Tuesday, November 24, 2015 20:05:41 $0.991 \quad 109.38 \quad 50.1$
Tuesday, November 24, 2015 20:10:42 $0.991 \quad 114.35 \quad 50.2$
Tuesday, November 24, 2015 20:15:42 $0.991 \quad 119.30 \quad 50.3$
Tuesday, November 24, 2015 20:20:43 $0.991 \quad 124.27 \quad 50.5$
Tuesday, November 24, 2015 20:25:43 $0.991 \quad 129.22 \quad 50.2$
Tuesday, November 24, 2015 20:30:44 0.991 134.1950 .4
Tuesday, November 24, 2015 20:35:45 0.991 $139.16 \quad 50.3$
Tuesday, November 24, 2015 20:40:45 $0.991 \quad 144.11 \quad 49.8$
Tuesday, November 24, 2015 20:45:46 $0.991 \quad 149.08 \quad 50.3$
Tuesday, November 24, 2015 20:50:46 $0.991 \quad 154.03 \quad 50.2$
Tuesday, November 24, 2015 20:55:47 $0.991 \quad 159.00 \quad 49.8$

Tuesday, November 24, 2015 21:00:47 0.991
Tuesday, November 24, 2015 21:05:48 0.991
Tuesday, November 24, 2015 21:10:48 0.991
Tuesday, November 24, 2015 21:15:49 0.991
Tuesday, November 24, 2015 21:20:49 0.991
Tuesday, November 24, 2015 21:25:50 0.991
Tuesday, November 24, 2015 21:30:51 0.991
Tuesday, November 24, 2015 21:35:51 0.991
Tuesday, November 24, 2015 21:40:52 0.991
Tuesday, November 24, 2015 21:45:52 0.991
Tuesday, November 24, 2015 21:50:53 0.991
Tuesday, November 24, 2015 21:55:53 0.991
Tuesday, November 24, 2015 22:00:54 0.991
Tuesday, November 24, 2015 22:05:54 0.991
Tuesday, November 24, 2015 22:10:55 0.991
Tuesday, November 24, 2015 22:15:55 0.991
Tuesday, November 24, 2015 22:20:56 0.991
Tuesday, November 24, 2015 22:25:56 0.991
Tuesday, November 24, 2015 22:30:57 0.991
Tuesday, November 24, 2015 22:35:57 0.991
Tuesday, November 24, 2015 22:40:58 0.991
Tuesday, November 24, 2015 22:45:58 0.991
Tuesday, November 24, 2015 22:50:59 0.991
Tuesday, November 24, 2015 22:56:00 0.991
Tuesday, November 24, 2015 23:01:00 0.991
Tuesday, November 24, 2015 23:06:01 0.991
Tuesday, November 24, 2015 23:11:01 0.991
Tuesday, November 24, 2015 23:16:02 0.991
Tuesday, November 24, 2015 23:21:02 0.991
Tuesday, November 24, 2015 23:26:03 0.991
Tuesday, November 24, 2015 23:31:03 0.991
Tuesday, November 24, 2015 23:36:04 0.991
Tuesday, November 24, 2015 23:41:04 0.991
Tuesday, November 24, 2015 23:46:05 0.991
Tuesday, November 24, 2015 23:51:05 0.991
Tuesday, November 24, 2015 23:56:06 0.991
Wednesday, November 25, 2015 0:01:06 0.991
Wednesday, November 25, 2015 0:06:07 0.991
Wednesday, November 25, 2015 0:11:07 0.991
Wednesday, November 25, 2015 0:16:08 0.991
Wednesday, November 25, 2015 0:21:08 0.991
Wednesday, November 25, 2015 0:26:09 0.991
Wednesday, November 25, 2015 0:31:09 0.991
Wednesday, November 25, 2015 0:36:10 0.991
Wednesday, November 25, 2015 0:41:10 0.991
Wednesday, November 25, 2015 0:46:11 0.991
Wednesday, November 25, 2015 0:51:12 0.991
Wednesday, November 25, 2015 0:56:12 0.991
Wednesday, November 25, 2015 1:01:12 0.991
Wednesday, November 25, 2015 1:06:13 0.991
Wednesday, November 25, 2015 1:11:13 0.991
Wednesday, November 25, 2015 1:16:14 0.991
Wednesday, November 25, 2015 1:21:15 0.991
Wednesday, November 25, 2015 1:26:15 0.991
163.96
50.4
168.93
50.0
$173.88 \quad 49.8$
$178.85 \quad 50.0$
$183.80 \quad 49.8$
$188.77 \quad 50.3$
193.7449 .5
$198.69 \quad 50.2$
203.6649 .6
$208.61 \quad 49.7$
$213.58 \quad 50.1$
$218.54 \quad 49.6$
$223.51 \quad 50.1$
$228.46 \quad 50.1$
$233.43 \quad 49.7$
$238.38 \quad 50.2$
$243.35 \quad 49.7$
$248.30 \quad 50.4$
$253.27 \quad 50.1$
$258.23 \quad 50.4$
$263.19 \quad 50.3$
$268.15 \quad 50.2$
$273.12 \quad 50.1$
$278.09 \quad 49.5$
$283.04 \quad 50.2$
$288.01 \quad 50.1$
$292.96 \quad 50.1$
$297.93 \quad 50.1$
$302.88 \quad 49.8$
$307.85 \quad 50.0$
$312.80 \quad 50.2$
$317.77 \quad 50.0$
$322.73 \quad 50.6$
$327.70 \quad 50.1$
$332.65 \quad 50.0$
$337.62 \quad 50.1$
$342.57 \quad 50.2$
$347.54 \quad 50.2$
$352.49 \quad 50.1$
$357.46 \quad 50.2$
$362.41 \quad 50.1$
$367.38 \quad 49.7$
$372.34 \quad 50.2$
$377.31 \quad 49.6$
$382.26 \quad 50.1$
$387.23 \quad 50.1$
$392.20 \quad 50.3$
$397.15 \quad 50.1$
$402.10 \quad 49.7$
$407.07 \quad 50.1$
$412.03 \quad 49.7$
$416.99 \quad 50.3$
$421.96 \quad 50.3$
426.9249 .7

Wednesday, November 25, 2015 1:31:16 0.991
Wednesday, November 25, 2015 1:36:16 0.991
Wednesday, November 25, 2015 1:41:17 0.991
Wednesday, November 25, 2015 1:46:17 0.991
Wednesday, November 25, 2015 1:51:18 0.991
Wednesday, November 25, 2015 1:56:18 0.991
Wednesday, November 25, 2015 2:01:19 0.991
Wednesday, November 25, 2015 2:06:19 0.991
Wednesday, November 25, 2015 2:11:20 0.991
Wednesday, November 25, 2015 2:16:20 0.991
Wednesday, November 25, 2015 2:21:21 0.991
Wednesday, November 25, 2015 2:26:21 0.991
Wednesday, November 25, 2015 2:31:22 0.991
Wednesday, November 25, 2015 2:36:22 0.991
Wednesday, November 25, 2015 2:41:23 0.991
Wednesday, November 25, 2015 2:46:23 0.991
Wednesday, November 25, 2015 2:51:24 0.991
Wednesday, November 25, 2015 2:56:24 0.991
Wednesday, November 25, 2015 3:01:25 0.991
Wednesday, November 25, 2015 3:06:25 0.991
Wednesday, November 25, 2015 3:11:26 0.991
Wednesday, November 25, 2015 3:16:26 0.991
Wednesday, November 25, 2015 3:21:27 0.991
Wednesday, November 25, 2015 3:26:28 0.991
Wednesday, November 25, 2015 3:31:28 0.991
Wednesday, November 25, 2015 3:36:29 0.991
Wednesday, November 25, 2015 3:41:29 0.991
Wednesday, November 25, 2015 3:46:30 0.991
Wednesday, November 25, 2015 3:51:30 0.991
Wednesday, November 25, 2015 3:56:31 0.991
Wednesday, November 25, 2015 4:01:31 0.991
Wednesday, November 25, 2015 4:06:32 0.991
Wednesday, November 25, 2015 4:11:32 0.991
Wednesday, November 25, 2015 4:16:33 0.991
Wednesday, November 25, 2015 4:21:33 0.991
Wednesday, November 25, 2015 4:26:34 0.991
Wednesday, November 25, 2015 4:31:34 0.991
Wednesday, November 25, 2015 4:36:35 0.991
Wednesday, November 25, 2015 4:41:35 0.991
Wednesday, November 25, 2015 4:46:36 0.991
Wednesday, November 25, 2015 4:51:36 0.991
Wednesday, November 25, 2015 4:56:37 0.991
Wednesday, November 25, 2015 5:01:37 0.991
Wednesday, November 25, 2015 5:06:38 0.991
Wednesday, November 25, 2015 5:11:38 0.991
Wednesday, November 25, 2015 5:16:39 0.991
Wednesday, November 25, 2015 5:21:39 0.991
Wednesday, November 25, 2015 5:26:40 0.991
Wednesday, November 25, 2015 5:31:40 0.991
Wednesday, November 25, 2015 5:36:41 0.991
Wednesday, November 25, 2015 5:41:41 0.991
Wednesday, November 25, 2015 5:46:42 0.991
Wednesday, November 25, 2015 5:51:42 0.991
Wednesday, November 25, 2015 5:56:43 0.991
431.89
436.84
50.1
50.1
$441.81 \quad 49.7$
$446.76 \quad 50.1$
$451.73 \quad 50.2$
$456.68 \quad 50.0$
$461.65 \quad 50.1$
$466.61 \quad 50.2$
$471.57 \quad 49.3$
$476.53 \quad 50.1$
$481.50 \quad 50.4$
$486.45 \quad 49.5$
$491.42 \quad 50.2$
$496.37 \quad 50.4$
$501.34 \quad 50.0$
$506.29 \quad 50.2$
$511.26 \quad 49.1$
$516.22 \quad 50.2$
$521.19 \quad 50.2$
$526.14 \quad 50.1$
$531.11 \quad 50.3$
$536.06 \quad 50.0$
$541.03 \quad 49.8$
$546.00 \quad 50.2$
550.9549 .7
$555.92 \quad 50.0$
$560.88 \quad 50.3$
$565.84 \quad 50.2$
$570.80 \quad 50.1$
$575.77 \quad 50.2$
$580.72 \quad 50.1$
585.6949 .9
$590.64 \quad 50.1$
$595.61 \quad 50.0$
$600.56 \quad 49.7$
$605.53 \quad 50.0$
$610.49 \quad 50.1$
615.4649 .8
$620.41 \quad 50.1$
$625.38 \quad 50.2$
$630.33 \quad 49.8$
$635.30 \quad 49.8$
$640.25 \quad 50.1$
$645.22 \quad 50.3$
$650.18 \quad 50.1$
$655.14 \quad 50.2$
$660.10 \quad 49.7$
$665.07 \quad 50.0$
$670.02 \quad 50.1$
$674.99 \quad 50.0$
$679.94 \quad 50.0$
$684.91 \quad 50.1$
$689.86 \quad 50.3$
$694.83 \quad 50.1$

# Ch. 2 Cartridge Started Tuesday, November 24, 2015 18:15:03 

Flow Rate Set Point 1.00 1/min
Stopped Wednesday, November 25, 2015 6:15:25
Total Volume 713.00 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.990 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate 0.007 1/min
Ending Leak Rate 0.002 1/min
Flow Controller Zero -0.003 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Tuesday, November 24, 2015 18:15:29 $0.086 \quad 0.21 \quad 50.2$
Tuesday, November 24, 2015 18:20:30 0.9915 .1950 .4
Tuesday, November 24, 2015 18:25:30 $0.991 \quad 10.14 \quad 50.3$
Tuesday, November 24, 2015 18:30:31 $0.991 \quad 15.11 \quad 50.3$
Tuesday, November 24, 2015 18:35:32 $0.991 \quad 20.08 \quad 50.3$
Tuesday, November 24, 2015 18:40:32 $0.990 \quad 25.03 \quad 50.2$
Tuesday, November 24, 2015 18:45:33 $0.991 \quad 30.00 \quad 49.8$
Tuesday, November 24, 2015 18:50:33 $0.991 \quad 34.95 \quad 50.0$
Tuesday, November 24, 2015 18:55:34 $0.991 \quad 39.9249 .9$
Tuesday, November 24, 2015 19:00:34 0.991 $44.88 \quad 50.5$
Tuesday, November 24, 2015 19:05:35 $0.991 \quad 49.85 \quad 50.3$
Tuesday, November 24, 2015 19:10:35 $0.991 \quad 54.80 \quad 50.2$
Tuesday, November 24, 2015 19:15:36 $0.991 \quad 59.77 \quad 49.9$
Tuesday, November 24, 2015 19:20:36 $0.991 \quad 64.72 \quad 49.7$
Tuesday, November 24, 2015 19:25:37 $0.991 \quad 69.69 \quad 50.5$
Tuesday, November 24, 2015 19:30:37 $0.991 \quad 74.64 \quad 50.2$
Tuesday, November 24, 2015 19:35:38 $0.991 \quad 79.61 \quad 49.8$
Tuesday, November 24, 2015 19:40:39 $0.991 \quad 84.58 \quad 49.8$
Tuesday, November 24, 2015 19:45:39 $0.991 \quad 89.53 \quad 49.4$
Tuesday, November 24, 2015 19:50:40 $0.991 \quad 94.50 \quad 50.4$
Tuesday, November 24, 2015 19:55:40 $0.991 \quad 99.45 \quad 49.9$
Tuesday, November 24, 2015 20:00:41 $0.991 \quad 104.42 \quad 50.4$
Tuesday, November 24, 2015 20:05:41 $0.991 \quad 109.38 \quad 50.1$
Tuesday, November 24, 2015 20:10:42 $0.991 \quad 114.35 \quad 50.2$
Tuesday, November 24, 2015 20:15:42 $0.991 \quad 119.30 \quad 50.3$
Tuesday, November 24, 2015 20:20:43 $0.991 \quad 124.27 \quad 50.5$
Tuesday, November 24, 2015 20:25:43 $0.991 \quad 129.22 \quad 50.2$
Tuesday, November 24, 2015 20:30:44 0.991 134.1950 .4
Tuesday, November 24, 2015 20:35:45 0.991 $139.16 \quad 50.3$
Tuesday, November 24, 2015 20:40:45 $0.991 \quad 144.11 \quad 49.8$
Tuesday, November 24, 2015 20:45:46 $0.991 \quad 149.08 \quad 50.3$
Tuesday, November 24, 2015 20:50:46 $0.991 \quad 154.03 \quad 50.2$
Tuesday, November 24, 2015 20:55:47 $0.991 \quad 159.00 \quad 49.8$

Tuesday, November 24, 2015 21:00:47 0.991
Tuesday, November 24, 2015 21:05:48 0.991
Tuesday, November 24, 2015 21:10:48 0.991
Tuesday, November 24, 2015 21:15:49 0.991
Tuesday, November 24, 2015 21:20:49 0.991
Tuesday, November 24, 2015 21:25:50 0.991
Tuesday, November 24, 2015 21:30:51 0.991
Tuesday, November 24, 2015 21:35:51 0.991
Tuesday, November 24, 2015 21:40:52 0.991
Tuesday, November 24, 2015 21:45:52 0.991
Tuesday, November 24, 2015 21:50:53 0.991
Tuesday, November 24, 2015 21:55:53 0.991
Tuesday, November 24, 2015 22:00:54 0.991
Tuesday, November 24, 2015 22:05:54 0.991
Tuesday, November 24, 2015 22:10:55 0.991
Tuesday, November 24, 2015 22:15:55 0.991
Tuesday, November 24, 2015 22:20:56 0.991
Tuesday, November 24, 2015 22:25:56 0.991
Tuesday, November 24, 2015 22:30:57 0.991
Tuesday, November 24, 2015 22:35:57 0.991
Tuesday, November 24, 2015 22:40:58 0.991
Tuesday, November 24, 2015 22:45:58 0.991
Tuesday, November 24, 2015 22:50:59 0.991
Tuesday, November 24, 2015 22:56:00 0.991
Tuesday, November 24, 2015 23:01:00 0.991
Tuesday, November 24, 2015 23:06:01 0.991
Tuesday, November 24, 2015 23:11:01 0.991
Tuesday, November 24, 2015 23:16:02 0.991
Tuesday, November 24, 2015 23:21:02 0.991
Tuesday, November 24, 2015 23:26:03 0.991
Tuesday, November 24, 2015 23:31:03 0.991
Tuesday, November 24, 2015 23:36:04 0.991
Tuesday, November 24, 2015 23:41:04 0.991
Tuesday, November 24, 2015 23:46:05 0.991
Tuesday, November 24, 2015 23:51:05 0.991
Tuesday, November 24, 2015 23:56:06 0.991
Wednesday, November 25, 2015 0:01:06 0.991
Wednesday, November 25, 2015 0:06:07 0.991
Wednesday, November 25, 2015 0:11:07 0.991
Wednesday, November 25, 2015 0:16:08 0.991
Wednesday, November 25, 2015 0:21:08 0.991
Wednesday, November 25, 2015 0:26:09 0.991
Wednesday, November 25, 2015 0:31:09 0.991
Wednesday, November 25, 2015 0:36:10 0.991
Wednesday, November 25, 2015 0:41:10 0.991
Wednesday, November 25, 2015 0:46:11 0.991
Wednesday, November 25, 2015 0:51:12 0.991
Wednesday, November 25, 2015 0:56:12 0.991
Wednesday, November 25, 2015 1:01:12 0.991
Wednesday, November 25, 2015 1:06:13 0.991
Wednesday, November 25, 2015 1:11:13 0.991
Wednesday, November 25, 2015 1:16:14 0.991
Wednesday, November 25, 2015 1:21:15 0.991
Wednesday, November 25, 2015 1:26:15 0.991
163.96
50.4
168.93
50.0
$173.88 \quad 49.8$
$178.85 \quad 50.0$
$183.80 \quad 49.8$
$188.77 \quad 50.3$
193.7449 .5
$198.69 \quad 50.2$
203.6649 .6
$208.61 \quad 49.7$
$213.58 \quad 50.1$
$218.54 \quad 49.6$
$223.51 \quad 50.1$
$228.46 \quad 50.1$
$233.43 \quad 49.7$
$238.38 \quad 50.2$
$243.35 \quad 49.7$
$248.30 \quad 50.4$
$253.27 \quad 50.1$
$258.23 \quad 50.4$
$263.19 \quad 50.3$
$268.15 \quad 50.2$
$273.12 \quad 50.1$
$278.09 \quad 49.5$
$283.04 \quad 50.2$
$288.01 \quad 50.1$
$292.96 \quad 50.1$
$297.93 \quad 50.1$
$302.88 \quad 49.8$
$307.85 \quad 50.0$
$312.80 \quad 50.2$
$317.77 \quad 50.0$
$322.73 \quad 50.6$
$327.70 \quad 50.1$
$332.65 \quad 50.0$
$337.62 \quad 50.1$
$342.57 \quad 50.2$
$347.54 \quad 50.2$
$352.49 \quad 50.1$
$357.46 \quad 50.2$
$362.41 \quad 50.1$
$367.38 \quad 49.7$
$372.34 \quad 50.2$
$377.31 \quad 49.6$
$382.26 \quad 50.1$
$387.23 \quad 50.1$
$392.20 \quad 50.3$
$397.15 \quad 50.1$
$402.10 \quad 49.7$
$407.07 \quad 50.1$
$412.03 \quad 49.7$
$416.99 \quad 50.3$
$421.96 \quad 50.3$
426.9249 .7

Wednesday, November 25, 2015 1:31:16 0.991
Wednesday, November 25, 2015 1:36:16 0.991
Wednesday, November 25, 2015 1:41:17 0.991
Wednesday, November 25, 2015 1:46:17 0.991
Wednesday, November 25, 2015 1:51:18 0.991
Wednesday, November 25, 2015 1:56:18 0.991
Wednesday, November 25, 2015 2:01:19 0.991
Wednesday, November 25, 2015 2:06:19 0.991
Wednesday, November 25, 2015 2:11:20 0.991
Wednesday, November 25, 2015 2:16:20 0.991
Wednesday, November 25, 2015 2:21:21 0.991
Wednesday, November 25, 2015 2:26:21 0.991
Wednesday, November 25, 2015 2:31:22 0.991
Wednesday, November 25, 2015 2:36:22 0.991
Wednesday, November 25, 2015 2:41:23 0.991
Wednesday, November 25, 2015 2:46:23 0.991
Wednesday, November 25, 2015 2:51:24 0.991
Wednesday, November 25, 2015 2:56:24 0.991
Wednesday, November 25, 2015 3:01:25 0.991
Wednesday, November 25, 2015 3:06:25 0.991
Wednesday, November 25, 2015 3:11:26 0.991
Wednesday, November 25, 2015 3:16:26 0.991
Wednesday, November 25, 2015 3:21:27 0.991
Wednesday, November 25, 2015 3:26:28 0.991
Wednesday, November 25, 2015 3:31:28 0.991
Wednesday, November 25, 2015 3:36:29 0.991
Wednesday, November 25, 2015 3:41:29 0.991
Wednesday, November 25, 2015 3:46:30 0.991
Wednesday, November 25, 2015 3:51:30 0.991
Wednesday, November 25, 2015 3:56:31 0.991
Wednesday, November 25, 2015 4:01:31 0.991
Wednesday, November 25, 2015 4:06:32 0.991
Wednesday, November 25, 2015 4:11:32 0.991
Wednesday, November 25, 2015 4:16:33 0.991
Wednesday, November 25, 2015 4:21:33 0.991
Wednesday, November 25, 2015 4:26:34 0.991
Wednesday, November 25, 2015 4:31:34 0.991
Wednesday, November 25, 2015 4:36:35 0.991
Wednesday, November 25, 2015 4:41:35 0.991
Wednesday, November 25, 2015 4:46:36 0.991
Wednesday, November 25, 2015 4:51:36 0.991
Wednesday, November 25, 2015 4:56:37 0.991
Wednesday, November 25, 2015 5:01:37 0.991
Wednesday, November 25, 2015 5:06:38 0.991
Wednesday, November 25, 2015 5:11:38 0.991
Wednesday, November 25, 2015 5:16:39 0.991
Wednesday, November 25, 2015 5:21:39 0.991
Wednesday, November 25, 2015 5:26:40 0.991
Wednesday, November 25, 2015 5:31:40 0.991
Wednesday, November 25, 2015 5:36:41 0.991
Wednesday, November 25, 2015 5:41:41 0.991
Wednesday, November 25, 2015 5:46:42 0.991
Wednesday, November 25, 2015 5:51:42 0.991
Wednesday, November 25, 2015 5:56:43 0.991
431.89
436.84
50.1
50.1
$441.81 \quad 49.7$
$446.76 \quad 50.1$
$451.73 \quad 50.2$
$456.68 \quad 50.0$
$461.65 \quad 50.1$
$466.61 \quad 50.2$
$471.57 \quad 49.3$
$476.53 \quad 50.1$
$481.50 \quad 50.4$
$486.45 \quad 49.5$
$491.42 \quad 50.2$
$496.37 \quad 50.4$
$501.34 \quad 50.0$
$506.29 \quad 50.2$
$511.26 \quad 49.1$
$516.22 \quad 50.2$
$521.19 \quad 50.2$
$526.14 \quad 50.1$
$531.11 \quad 50.3$
$536.06 \quad 50.0$
$541.03 \quad 49.8$
$546.00 \quad 50.2$
550.9549 .7
$555.92 \quad 50.0$
$560.88 \quad 50.3$
$565.84 \quad 50.2$
$570.80 \quad 50.1$
$575.77 \quad 50.2$
$580.72 \quad 50.1$
585.6949 .9
$590.64 \quad 50.1$
$595.61 \quad 50.0$
$600.56 \quad 49.7$
$605.53 \quad 50.0$
$610.49 \quad 50.1$
615.4649 .8
$620.41 \quad 50.1$
$625.38 \quad 50.2$
$630.33 \quad 49.8$
$635.30 \quad 49.8$
$640.25 \quad 50.1$
$645.22 \quad 50.3$
$650.18 \quad 50.1$
$655.14 \quad 50.2$
$660.10 \quad 49.7$
$665.07 \quad 50.0$
$670.02 \quad 50.1$
$674.99 \quad 50.0$
$679.94 \quad 50.0$
$684.91 \quad 50.1$
$689.86 \quad 50.3$
$694.83 \quad 50.1$

# Ch. 2 Cartridge Started Tuesday, November 24, 2015 18:15:03 

Flow Rate Set Point 1.00 1/min
Stopped Wednesday, November 25, 2015 6:15:25
Total Volume 713.00 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.990 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate 0.007 1/min
Ending Leak Rate 0.002 1/min
Flow Controller Zero -0.003 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Tuesday, November 24, 2015 18:15:29 $0.086 \quad 0.21 \quad 50.2$
Tuesday, November 24, 2015 18:20:30 0.9915 .1950 .4
Tuesday, November 24, 2015 18:25:30 $0.991 \quad 10.14 \quad 50.3$
Tuesday, November 24, 2015 18:30:31 $0.991 \quad 15.11 \quad 50.3$
Tuesday, November 24, 2015 18:35:32 $0.991 \quad 20.08 \quad 50.3$
Tuesday, November 24, 2015 18:40:32 $0.990 \quad 25.03 \quad 50.2$
Tuesday, November 24, 2015 18:45:33 $0.991 \quad 30.00 \quad 49.8$
Tuesday, November 24, 2015 18:50:33 $0.991 \quad 34.95 \quad 50.0$
Tuesday, November 24, 2015 18:55:34 $0.991 \quad 39.9249 .9$
Tuesday, November 24, 2015 19:00:34 0.991 $44.88 \quad 50.5$
Tuesday, November 24, 2015 19:05:35 $0.991 \quad 49.85 \quad 50.3$
Tuesday, November 24, 2015 19:10:35 $0.991 \quad 54.80 \quad 50.2$
Tuesday, November 24, 2015 19:15:36 $0.991 \quad 59.77 \quad 49.9$
Tuesday, November 24, 2015 19:20:36 $0.991 \quad 64.72 \quad 49.7$
Tuesday, November 24, 2015 19:25:37 $0.991 \quad 69.69 \quad 50.5$
Tuesday, November 24, 2015 19:30:37 $0.991 \quad 74.64 \quad 50.2$
Tuesday, November 24, 2015 19:35:38 $0.991 \quad 79.61 \quad 49.8$
Tuesday, November 24, 2015 19:40:39 $0.991 \quad 84.58 \quad 49.8$
Tuesday, November 24, 2015 19:45:39 $0.991 \quad 89.53 \quad 49.4$
Tuesday, November 24, 2015 19:50:40 $0.991 \quad 94.50 \quad 50.4$
Tuesday, November 24, 2015 19:55:40 $0.991 \quad 99.45 \quad 49.9$
Tuesday, November 24, 2015 20:00:41 $0.991 \quad 104.42 \quad 50.4$
Tuesday, November 24, 2015 20:05:41 $0.991 \quad 109.38 \quad 50.1$
Tuesday, November 24, 2015 20:10:42 $0.991 \quad 114.35 \quad 50.2$
Tuesday, November 24, 2015 20:15:42 $0.991 \quad 119.30 \quad 50.3$
Tuesday, November 24, 2015 20:20:43 $0.991 \quad 124.27 \quad 50.5$
Tuesday, November 24, 2015 20:25:43 $0.991 \quad 129.22 \quad 50.2$
Tuesday, November 24, 2015 20:30:44 0.991 134.1950 .4
Tuesday, November 24, 2015 20:35:45 0.991 $139.16 \quad 50.3$
Tuesday, November 24, 2015 20:40:45 $0.991 \quad 144.11 \quad 49.8$
Tuesday, November 24, 2015 20:45:46 $0.991 \quad 149.08 \quad 50.3$
Tuesday, November 24, 2015 20:50:46 $0.991 \quad 154.03 \quad 50.2$
Tuesday, November 24, 2015 20:55:47 $0.991 \quad 159.00 \quad 49.8$

Tuesday, November 24, 2015 21:00:47 0.991
Tuesday, November 24, 2015 21:05:48 0.991
Tuesday, November 24, 2015 21:10:48 0.991
Tuesday, November 24, 2015 21:15:49 0.991
Tuesday, November 24, 2015 21:20:49 0.991
Tuesday, November 24, 2015 21:25:50 0.991
Tuesday, November 24, 2015 21:30:51 0.991
Tuesday, November 24, 2015 21:35:51 0.991
Tuesday, November 24, 2015 21:40:52 0.991
Tuesday, November 24, 2015 21:45:52 0.991
Tuesday, November 24, 2015 21:50:53 0.991
Tuesday, November 24, 2015 21:55:53 0.991
Tuesday, November 24, 2015 22:00:54 0.991
Tuesday, November 24, 2015 22:05:54 0.991
Tuesday, November 24, 2015 22:10:55 0.991
Tuesday, November 24, 2015 22:15:55 0.991
Tuesday, November 24, 2015 22:20:56 0.991
Tuesday, November 24, 2015 22:25:56 0.991
Tuesday, November 24, 2015 22:30:57 0.991
Tuesday, November 24, 2015 22:35:57 0.991
Tuesday, November 24, 2015 22:40:58 0.991
Tuesday, November 24, 2015 22:45:58 0.991
Tuesday, November 24, 2015 22:50:59 0.991
Tuesday, November 24, 2015 22:56:00 0.991
Tuesday, November 24, 2015 23:01:00 0.991
Tuesday, November 24, 2015 23:06:01 0.991
Tuesday, November 24, 2015 23:11:01 0.991
Tuesday, November 24, 2015 23:16:02 0.991
Tuesday, November 24, 2015 23:21:02 0.991
Tuesday, November 24, 2015 23:26:03 0.991
Tuesday, November 24, 2015 23:31:03 0.991
Tuesday, November 24, 2015 23:36:04 0.991
Tuesday, November 24, 2015 23:41:04 0.991
Tuesday, November 24, 2015 23:46:05 0.991
Tuesday, November 24, 2015 23:51:05 0.991
Tuesday, November 24, 2015 23:56:06 0.991
Wednesday, November 25, 2015 0:01:06 0.991
Wednesday, November 25, 2015 0:06:07 0.991
Wednesday, November 25, 2015 0:11:07 0.991
Wednesday, November 25, 2015 0:16:08 0.991
Wednesday, November 25, 2015 0:21:08 0.991
Wednesday, November 25, 2015 0:26:09 0.991
Wednesday, November 25, 2015 0:31:09 0.991
Wednesday, November 25, 2015 0:36:10 0.991
Wednesday, November 25, 2015 0:41:10 0.991
Wednesday, November 25, 2015 0:46:11 0.991
Wednesday, November 25, 2015 0:51:12 0.991
Wednesday, November 25, 2015 0:56:12 0.991
Wednesday, November 25, 2015 1:01:12 0.991
Wednesday, November 25, 2015 1:06:13 0.991
Wednesday, November 25, 2015 1:11:13 0.991
Wednesday, November 25, 2015 1:16:14 0.991
Wednesday, November 25, 2015 1:21:15 0.991
Wednesday, November 25, 2015 1:26:15 0.991
163.96
50.4
168.93
50.0
$173.88 \quad 49.8$
$178.85 \quad 50.0$
$183.80 \quad 49.8$
$188.77 \quad 50.3$
193.7449 .5
$198.69 \quad 50.2$
203.6649 .6
$208.61 \quad 49.7$
$213.58 \quad 50.1$
$218.54 \quad 49.6$
$223.51 \quad 50.1$
$228.46 \quad 50.1$
$233.43 \quad 49.7$
$238.38 \quad 50.2$
$243.35 \quad 49.7$
$248.30 \quad 50.4$
$253.27 \quad 50.1$
$258.23 \quad 50.4$
$263.19 \quad 50.3$
$268.15 \quad 50.2$
$273.12 \quad 50.1$
$278.09 \quad 49.5$
$283.04 \quad 50.2$
$288.01 \quad 50.1$
$292.96 \quad 50.1$
$297.93 \quad 50.1$
$302.88 \quad 49.8$
$307.85 \quad 50.0$
$312.80 \quad 50.2$
$317.77 \quad 50.0$
$322.73 \quad 50.6$
$327.70 \quad 50.1$
$332.65 \quad 50.0$
$337.62 \quad 50.1$
$342.57 \quad 50.2$
$347.54 \quad 50.2$
$352.49 \quad 50.1$
$357.46 \quad 50.2$
$362.41 \quad 50.1$
$367.38 \quad 49.7$
$372.34 \quad 50.2$
$377.31 \quad 49.6$
$382.26 \quad 50.1$
$387.23 \quad 50.1$
$392.20 \quad 50.3$
$397.15 \quad 50.1$
$402.10 \quad 49.7$
$407.07 \quad 50.1$
$412.03 \quad 49.7$
$416.99 \quad 50.3$
$421.96 \quad 50.3$
426.9249 .7

Wednesday, November 25, 2015 1:31:16 0.991
Wednesday, November 25, 2015 1:36:16 0.991
Wednesday, November 25, 2015 1:41:17 0.991
Wednesday, November 25, 2015 1:46:17 0.991
Wednesday, November 25, 2015 1:51:18 0.991
Wednesday, November 25, 2015 1:56:18 0.991
Wednesday, November 25, 2015 2:01:19 0.991
Wednesday, November 25, 2015 2:06:19 0.991
Wednesday, November 25, 2015 2:11:20 0.991
Wednesday, November 25, 2015 2:16:20 0.991
Wednesday, November 25, 2015 2:21:21 0.991
Wednesday, November 25, 2015 2:26:21 0.991
Wednesday, November 25, 2015 2:31:22 0.991
Wednesday, November 25, 2015 2:36:22 0.991
Wednesday, November 25, 2015 2:41:23 0.991
Wednesday, November 25, 2015 2:46:23 0.991
Wednesday, November 25, 2015 2:51:24 0.991
Wednesday, November 25, 2015 2:56:24 0.991
Wednesday, November 25, 2015 3:01:25 0.991
Wednesday, November 25, 2015 3:06:25 0.991
Wednesday, November 25, 2015 3:11:26 0.991
Wednesday, November 25, 2015 3:16:26 0.991
Wednesday, November 25, 2015 3:21:27 0.991
Wednesday, November 25, 2015 3:26:28 0.991
Wednesday, November 25, 2015 3:31:28 0.991
Wednesday, November 25, 2015 3:36:29 0.991
Wednesday, November 25, 2015 3:41:29 0.991
Wednesday, November 25, 2015 3:46:30 0.991
Wednesday, November 25, 2015 3:51:30 0.991
Wednesday, November 25, 2015 3:56:31 0.991
Wednesday, November 25, 2015 4:01:31 0.991
Wednesday, November 25, 2015 4:06:32 0.991
Wednesday, November 25, 2015 4:11:32 0.991
Wednesday, November 25, 2015 4:16:33 0.991
Wednesday, November 25, 2015 4:21:33 0.991
Wednesday, November 25, 2015 4:26:34 0.991
Wednesday, November 25, 2015 4:31:34 0.991
Wednesday, November 25, 2015 4:36:35 0.991
Wednesday, November 25, 2015 4:41:35 0.991
Wednesday, November 25, 2015 4:46:36 0.991
Wednesday, November 25, 2015 4:51:36 0.991
Wednesday, November 25, 2015 4:56:37 0.991
Wednesday, November 25, 2015 5:01:37 0.991
Wednesday, November 25, 2015 5:06:38 0.991
Wednesday, November 25, 2015 5:11:38 0.991
Wednesday, November 25, 2015 5:16:39 0.991
Wednesday, November 25, 2015 5:21:39 0.991
Wednesday, November 25, 2015 5:26:40 0.991
Wednesday, November 25, 2015 5:31:40 0.991
Wednesday, November 25, 2015 5:36:41 0.991
Wednesday, November 25, 2015 5:41:41 0.991
Wednesday, November 25, 2015 5:46:42 0.991
Wednesday, November 25, 2015 5:51:42 0.991
Wednesday, November 25, 2015 5:56:43 0.991
431.89
436.84
50.1
50.1
$441.81 \quad 49.7$
$446.76 \quad 50.1$
$451.73 \quad 50.2$
$456.68 \quad 50.0$
$461.65 \quad 50.1$
$466.61 \quad 50.2$
$471.57 \quad 49.3$
$476.53 \quad 50.1$
$481.50 \quad 50.4$
$486.45 \quad 49.5$
$491.42 \quad 50.2$
$496.37 \quad 50.4$
$501.34 \quad 50.0$
$506.29 \quad 50.2$
$511.26 \quad 49.1$
$516.22 \quad 50.2$
$521.19 \quad 50.2$
$526.14 \quad 50.1$
$531.11 \quad 50.3$
$536.06 \quad 50.0$
$541.03 \quad 49.8$
$546.00 \quad 50.2$
550.9549 .7
$555.92 \quad 50.0$
$560.88 \quad 50.3$
$565.84 \quad 50.2$
$570.80 \quad 50.1$
$575.77 \quad 50.2$
$580.72 \quad 50.1$
585.6949 .9
$590.64 \quad 50.1$
$595.61 \quad 50.0$
$600.56 \quad 49.7$
$605.53 \quad 50.0$
$610.49 \quad 50.1$
615.4649 .8
$620.41 \quad 50.1$
$625.38 \quad 50.2$
$630.33 \quad 49.8$
$635.30 \quad 49.8$
$640.25 \quad 50.1$
$645.22 \quad 50.3$
$650.18 \quad 50.1$
$655.14 \quad 50.2$
$660.10 \quad 49.7$
$665.07 \quad 50.0$
$670.02 \quad 50.1$
$674.99 \quad 50.0$
$679.94 \quad 50.0$
$684.91 \quad 50.1$
$689.86 \quad 50.3$
$694.83 \quad 50.1$

# Ch. 2 Cartridge Started Tuesday, November 24, 2015 18:15:03 

Flow Rate Set Point 1.00 1/min
Stopped Wednesday, November 25, 2015 6:15:25
Total Volume 713.00 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.990 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate 0.007 1/min
Ending Leak Rate 0.002 1/min
Flow Controller Zero -0.003 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Tuesday, November 24, 2015 18:15:29 $0.086 \quad 0.21 \quad 50.2$
Tuesday, November 24, 2015 18:20:30 0.9915 .1950 .4
Tuesday, November 24, 2015 18:25:30 $0.991 \quad 10.14 \quad 50.3$
Tuesday, November 24, 2015 18:30:31 $0.991 \quad 15.11 \quad 50.3$
Tuesday, November 24, 2015 18:35:32 $0.991 \quad 20.08 \quad 50.3$
Tuesday, November 24, 2015 18:40:32 $0.990 \quad 25.03 \quad 50.2$
Tuesday, November 24, 2015 18:45:33 $0.991 \quad 30.00 \quad 49.8$
Tuesday, November 24, 2015 18:50:33 $0.991 \quad 34.95 \quad 50.0$
Tuesday, November 24, 2015 18:55:34 $0.991 \quad 39.9249 .9$
Tuesday, November 24, 2015 19:00:34 0.991 $44.88 \quad 50.5$
Tuesday, November 24, 2015 19:05:35 $0.991 \quad 49.85 \quad 50.3$
Tuesday, November 24, 2015 19:10:35 $0.991 \quad 54.80 \quad 50.2$
Tuesday, November 24, 2015 19:15:36 $0.991 \quad 59.77 \quad 49.9$
Tuesday, November 24, 2015 19:20:36 $0.991 \quad 64.72 \quad 49.7$
Tuesday, November 24, 2015 19:25:37 $0.991 \quad 69.69 \quad 50.5$
Tuesday, November 24, 2015 19:30:37 $0.991 \quad 74.64 \quad 50.2$
Tuesday, November 24, 2015 19:35:38 $0.991 \quad 79.61 \quad 49.8$
Tuesday, November 24, 2015 19:40:39 $0.991 \quad 84.58 \quad 49.8$
Tuesday, November 24, 2015 19:45:39 $0.991 \quad 89.53 \quad 49.4$
Tuesday, November 24, 2015 19:50:40 $0.991 \quad 94.50 \quad 50.4$
Tuesday, November 24, 2015 19:55:40 $0.991 \quad 99.45 \quad 49.9$
Tuesday, November 24, 2015 20:00:41 $0.991 \quad 104.42 \quad 50.4$
Tuesday, November 24, 2015 20:05:41 $0.991 \quad 109.38 \quad 50.1$
Tuesday, November 24, 2015 20:10:42 $0.991 \quad 114.35 \quad 50.2$
Tuesday, November 24, 2015 20:15:42 $0.991 \quad 119.30 \quad 50.3$
Tuesday, November 24, 2015 20:20:43 $0.991 \quad 124.27 \quad 50.5$
Tuesday, November 24, 2015 20:25:43 $0.991 \quad 129.22 \quad 50.2$
Tuesday, November 24, 2015 20:30:44 0.991 134.1950 .4
Tuesday, November 24, 2015 20:35:45 0.991 $139.16 \quad 50.3$
Tuesday, November 24, 2015 20:40:45 $0.991 \quad 144.11 \quad 49.8$
Tuesday, November 24, 2015 20:45:46 $0.991 \quad 149.08 \quad 50.3$
Tuesday, November 24, 2015 20:50:46 $0.991 \quad 154.03 \quad 50.2$
Tuesday, November 24, 2015 20:55:47 $0.991 \quad 159.00 \quad 49.8$

Tuesday, November 24, 2015 21:00:47 0.991
Tuesday, November 24, 2015 21:05:48 0.991
Tuesday, November 24, 2015 21:10:48 0.991
Tuesday, November 24, 2015 21:15:49 0.991
Tuesday, November 24, 2015 21:20:49 0.991
Tuesday, November 24, 2015 21:25:50 0.991
Tuesday, November 24, 2015 21:30:51 0.991
Tuesday, November 24, 2015 21:35:51 0.991
Tuesday, November 24, 2015 21:40:52 0.991
Tuesday, November 24, 2015 21:45:52 0.991
Tuesday, November 24, 2015 21:50:53 0.991
Tuesday, November 24, 2015 21:55:53 0.991
Tuesday, November 24, 2015 22:00:54 0.991
Tuesday, November 24, 2015 22:05:54 0.991
Tuesday, November 24, 2015 22:10:55 0.991
Tuesday, November 24, 2015 22:15:55 0.991
Tuesday, November 24, 2015 22:20:56 0.991
Tuesday, November 24, 2015 22:25:56 0.991
Tuesday, November 24, 2015 22:30:57 0.991
Tuesday, November 24, 2015 22:35:57 0.991
Tuesday, November 24, 2015 22:40:58 0.991
Tuesday, November 24, 2015 22:45:58 0.991
Tuesday, November 24, 2015 22:50:59 0.991
Tuesday, November 24, 2015 22:56:00 0.991
Tuesday, November 24, 2015 23:01:00 0.991
Tuesday, November 24, 2015 23:06:01 0.991
Tuesday, November 24, 2015 23:11:01 0.991
Tuesday, November 24, 2015 23:16:02 0.991
Tuesday, November 24, 2015 23:21:02 0.991
Tuesday, November 24, 2015 23:26:03 0.991
Tuesday, November 24, 2015 23:31:03 0.991
Tuesday, November 24, 2015 23:36:04 0.991
Tuesday, November 24, 2015 23:41:04 0.991
Tuesday, November 24, 2015 23:46:05 0.991
Tuesday, November 24, 2015 23:51:05 0.991
Tuesday, November 24, 2015 23:56:06 0.991
Wednesday, November 25, 2015 0:01:06 0.991
Wednesday, November 25, 2015 0:06:07 0.991
Wednesday, November 25, 2015 0:11:07 0.991
Wednesday, November 25, 2015 0:16:08 0.991
Wednesday, November 25, 2015 0:21:08 0.991
Wednesday, November 25, 2015 0:26:09 0.991
Wednesday, November 25, 2015 0:31:09 0.991
Wednesday, November 25, 2015 0:36:10 0.991
Wednesday, November 25, 2015 0:41:10 0.991
Wednesday, November 25, 2015 0:46:11 0.991
Wednesday, November 25, 2015 0:51:12 0.991
Wednesday, November 25, 2015 0:56:12 0.991
Wednesday, November 25, 2015 1:01:12 0.991
Wednesday, November 25, 2015 1:06:13 0.991
Wednesday, November 25, 2015 1:11:13 0.991
Wednesday, November 25, 2015 1:16:14 0.991
Wednesday, November 25, 2015 1:21:15 0.991
Wednesday, November 25, 2015 1:26:15 0.991
163.96
50.4
168.93
50.0
$173.88 \quad 49.8$
$178.85 \quad 50.0$
$183.80 \quad 49.8$
$188.77 \quad 50.3$
193.7449 .5
$198.69 \quad 50.2$
203.6649 .6
$208.61 \quad 49.7$
$213.58 \quad 50.1$
$218.54 \quad 49.6$
$223.51 \quad 50.1$
$228.46 \quad 50.1$
$233.43 \quad 49.7$
$238.38 \quad 50.2$
$243.35 \quad 49.7$
$248.30 \quad 50.4$
$253.27 \quad 50.1$
$258.23 \quad 50.4$
$263.19 \quad 50.3$
$268.15 \quad 50.2$
$273.12 \quad 50.1$
$278.09 \quad 49.5$
$283.04 \quad 50.2$
$288.01 \quad 50.1$
$292.96 \quad 50.1$
$297.93 \quad 50.1$
$302.88 \quad 49.8$
$307.85 \quad 50.0$
$312.80 \quad 50.2$
$317.77 \quad 50.0$
$322.73 \quad 50.6$
$327.70 \quad 50.1$
$332.65 \quad 50.0$
$337.62 \quad 50.1$
$342.57 \quad 50.2$
$347.54 \quad 50.2$
$352.49 \quad 50.1$
$357.46 \quad 50.2$
$362.41 \quad 50.1$
$367.38 \quad 49.7$
$372.34 \quad 50.2$
$377.31 \quad 49.6$
$382.26 \quad 50.1$
$387.23 \quad 50.1$
$392.20 \quad 50.3$
$397.15 \quad 50.1$
$402.10 \quad 49.7$
$407.07 \quad 50.1$
$412.03 \quad 49.7$
$416.99 \quad 50.3$
$421.96 \quad 50.3$
426.9249 .7

Wednesday, November 25, 2015 1:31:16 0.991
Wednesday, November 25, 2015 1:36:16 0.991
Wednesday, November 25, 2015 1:41:17 0.991
Wednesday, November 25, 2015 1:46:17 0.991
Wednesday, November 25, 2015 1:51:18 0.991
Wednesday, November 25, 2015 1:56:18 0.991
Wednesday, November 25, 2015 2:01:19 0.991
Wednesday, November 25, 2015 2:06:19 0.991
Wednesday, November 25, 2015 2:11:20 0.991
Wednesday, November 25, 2015 2:16:20 0.991
Wednesday, November 25, 2015 2:21:21 0.991
Wednesday, November 25, 2015 2:26:21 0.991
Wednesday, November 25, 2015 2:31:22 0.991
Wednesday, November 25, 2015 2:36:22 0.991
Wednesday, November 25, 2015 2:41:23 0.991
Wednesday, November 25, 2015 2:46:23 0.991
Wednesday, November 25, 2015 2:51:24 0.991
Wednesday, November 25, 2015 2:56:24 0.991
Wednesday, November 25, 2015 3:01:25 0.991
Wednesday, November 25, 2015 3:06:25 0.991
Wednesday, November 25, 2015 3:11:26 0.991
Wednesday, November 25, 2015 3:16:26 0.991
Wednesday, November 25, 2015 3:21:27 0.991
Wednesday, November 25, 2015 3:26:28 0.991
Wednesday, November 25, 2015 3:31:28 0.991
Wednesday, November 25, 2015 3:36:29 0.991
Wednesday, November 25, 2015 3:41:29 0.991
Wednesday, November 25, 2015 3:46:30 0.991
Wednesday, November 25, 2015 3:51:30 0.991
Wednesday, November 25, 2015 3:56:31 0.991
Wednesday, November 25, 2015 4:01:31 0.991
Wednesday, November 25, 2015 4:06:32 0.991
Wednesday, November 25, 2015 4:11:32 0.991
Wednesday, November 25, 2015 4:16:33 0.991
Wednesday, November 25, 2015 4:21:33 0.991
Wednesday, November 25, 2015 4:26:34 0.991
Wednesday, November 25, 2015 4:31:34 0.991
Wednesday, November 25, 2015 4:36:35 0.991
Wednesday, November 25, 2015 4:41:35 0.991
Wednesday, November 25, 2015 4:46:36 0.991
Wednesday, November 25, 2015 4:51:36 0.991
Wednesday, November 25, 2015 4:56:37 0.991
Wednesday, November 25, 2015 5:01:37 0.991
Wednesday, November 25, 2015 5:06:38 0.991
Wednesday, November 25, 2015 5:11:38 0.991
Wednesday, November 25, 2015 5:16:39 0.991
Wednesday, November 25, 2015 5:21:39 0.991
Wednesday, November 25, 2015 5:26:40 0.991
Wednesday, November 25, 2015 5:31:40 0.991
Wednesday, November 25, 2015 5:36:41 0.991
Wednesday, November 25, 2015 5:41:41 0.991
Wednesday, November 25, 2015 5:46:42 0.991
Wednesday, November 25, 2015 5:51:42 0.991
Wednesday, November 25, 2015 5:56:43 0.991
431.89
436.84
50.1
50.1
$441.81 \quad 49.7$
$446.76 \quad 50.1$
$451.73 \quad 50.2$
$456.68 \quad 50.0$
$461.65 \quad 50.1$
$466.61 \quad 50.2$
$471.57 \quad 49.3$
$476.53 \quad 50.1$
$481.50 \quad 50.4$
$486.45 \quad 49.5$
$491.42 \quad 50.2$
$496.37 \quad 50.4$
$501.34 \quad 50.0$
$506.29 \quad 50.2$
$511.26 \quad 49.1$
$516.22 \quad 50.2$
$521.19 \quad 50.2$
$526.14 \quad 50.1$
$531.11 \quad 50.3$
$536.06 \quad 50.0$
$541.03 \quad 49.8$
$546.00 \quad 50.2$
550.9549 .7
$555.92 \quad 50.0$
$560.88 \quad 50.3$
$565.84 \quad 50.2$
$570.80 \quad 50.1$
$575.77 \quad 50.2$
$580.72 \quad 50.1$
585.6949 .9
$590.64 \quad 50.1$
$595.61 \quad 50.0$
$600.56 \quad 49.7$
$605.53 \quad 50.0$
$610.49 \quad 50.1$
615.4649 .8
$620.41 \quad 50.1$
$625.38 \quad 50.2$
$630.33 \quad 49.8$
$635.30 \quad 49.8$
$640.25 \quad 50.1$
$645.22 \quad 50.3$
$650.18 \quad 50.1$
$655.14 \quad 50.2$
$660.10 \quad 49.7$
$665.07 \quad 50.0$
$670.02 \quad 50.1$
$674.99 \quad 50.0$
$679.94 \quad 50.0$
$684.91 \quad 50.1$
$689.86 \quad 50.3$
$694.83 \quad 50.1$

# Ch. 2 Cartridge Started Tuesday, November 24, 2015 18:15:03 

Flow Rate Set Point 1.00 1/min
Stopped Wednesday, November 25, 2015 6:15:25
Total Volume 713.00 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.990 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate 0.007 1/min
Ending Leak Rate 0.002 1/min
Flow Controller Zero -0.003 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Tuesday, November 24, 2015 18:15:29 $0.086 \quad 0.21 \quad 50.2$
Tuesday, November 24, 2015 18:20:30 0.9915 .1950 .4
Tuesday, November 24, 2015 18:25:30 $0.991 \quad 10.14 \quad 50.3$
Tuesday, November 24, 2015 18:30:31 $0.991 \quad 15.11 \quad 50.3$
Tuesday, November 24, 2015 18:35:32 $0.991 \quad 20.08 \quad 50.3$
Tuesday, November 24, 2015 18:40:32 $0.990 \quad 25.03 \quad 50.2$
Tuesday, November 24, 2015 18:45:33 $0.991 \quad 30.00 \quad 49.8$
Tuesday, November 24, 2015 18:50:33 $0.991 \quad 34.95 \quad 50.0$
Tuesday, November 24, 2015 18:55:34 $0.991 \quad 39.9249 .9$
Tuesday, November 24, 2015 19:00:34 0.991 $44.88 \quad 50.5$
Tuesday, November 24, 2015 19:05:35 $0.991 \quad 49.85 \quad 50.3$
Tuesday, November 24, 2015 19:10:35 $0.991 \quad 54.80 \quad 50.2$
Tuesday, November 24, 2015 19:15:36 $0.991 \quad 59.77 \quad 49.9$
Tuesday, November 24, 2015 19:20:36 $0.991 \quad 64.72 \quad 49.7$
Tuesday, November 24, 2015 19:25:37 $0.991 \quad 69.69 \quad 50.5$
Tuesday, November 24, 2015 19:30:37 $0.991 \quad 74.64 \quad 50.2$
Tuesday, November 24, 2015 19:35:38 $0.991 \quad 79.61 \quad 49.8$
Tuesday, November 24, 2015 19:40:39 $0.991 \quad 84.58 \quad 49.8$
Tuesday, November 24, 2015 19:45:39 $0.991 \quad 89.53 \quad 49.4$
Tuesday, November 24, 2015 19:50:40 $0.991 \quad 94.50 \quad 50.4$
Tuesday, November 24, 2015 19:55:40 $0.991 \quad 99.45 \quad 49.9$
Tuesday, November 24, 2015 20:00:41 $0.991 \quad 104.42 \quad 50.4$
Tuesday, November 24, 2015 20:05:41 $0.991 \quad 109.38 \quad 50.1$
Tuesday, November 24, 2015 20:10:42 $0.991 \quad 114.35 \quad 50.2$
Tuesday, November 24, 2015 20:15:42 $0.991 \quad 119.30 \quad 50.3$
Tuesday, November 24, 2015 20:20:43 $0.991 \quad 124.27 \quad 50.5$
Tuesday, November 24, 2015 20:25:43 $0.991 \quad 129.22 \quad 50.2$
Tuesday, November 24, 2015 20:30:44 0.991 134.1950 .4
Tuesday, November 24, 2015 20:35:45 0.991 $139.16 \quad 50.3$
Tuesday, November 24, 2015 20:40:45 $0.991 \quad 144.11 \quad 49.8$
Tuesday, November 24, 2015 20:45:46 $0.991 \quad 149.08 \quad 50.3$
Tuesday, November 24, 2015 20:50:46 $0.991 \quad 154.03 \quad 50.2$
Tuesday, November 24, 2015 20:55:47 $0.991 \quad 159.00 \quad 49.8$

Tuesday, November 24, 2015 21:00:47 0.991
Tuesday, November 24, 2015 21:05:48 0.991
Tuesday, November 24, 2015 21:10:48 0.991
Tuesday, November 24, 2015 21:15:49 0.991
Tuesday, November 24, 2015 21:20:49 0.991
Tuesday, November 24, 2015 21:25:50 0.991
Tuesday, November 24, 2015 21:30:51 0.991
Tuesday, November 24, 2015 21:35:51 0.991
Tuesday, November 24, 2015 21:40:52 0.991
Tuesday, November 24, 2015 21:45:52 0.991
Tuesday, November 24, 2015 21:50:53 0.991
Tuesday, November 24, 2015 21:55:53 0.991
Tuesday, November 24, 2015 22:00:54 0.991
Tuesday, November 24, 2015 22:05:54 0.991
Tuesday, November 24, 2015 22:10:55 0.991
Tuesday, November 24, 2015 22:15:55 0.991
Tuesday, November 24, 2015 22:20:56 0.991
Tuesday, November 24, 2015 22:25:56 0.991
Tuesday, November 24, 2015 22:30:57 0.991
Tuesday, November 24, 2015 22:35:57 0.991
Tuesday, November 24, 2015 22:40:58 0.991
Tuesday, November 24, 2015 22:45:58 0.991
Tuesday, November 24, 2015 22:50:59 0.991
Tuesday, November 24, 2015 22:56:00 0.991
Tuesday, November 24, 2015 23:01:00 0.991
Tuesday, November 24, 2015 23:06:01 0.991
Tuesday, November 24, 2015 23:11:01 0.991
Tuesday, November 24, 2015 23:16:02 0.991
Tuesday, November 24, 2015 23:21:02 0.991
Tuesday, November 24, 2015 23:26:03 0.991
Tuesday, November 24, 2015 23:31:03 0.991
Tuesday, November 24, 2015 23:36:04 0.991
Tuesday, November 24, 2015 23:41:04 0.991
Tuesday, November 24, 2015 23:46:05 0.991
Tuesday, November 24, 2015 23:51:05 0.991
Tuesday, November 24, 2015 23:56:06 0.991
Wednesday, November 25, 2015 0:01:06 0.991
Wednesday, November 25, 2015 0:06:07 0.991
Wednesday, November 25, 2015 0:11:07 0.991
Wednesday, November 25, 2015 0:16:08 0.991
Wednesday, November 25, 2015 0:21:08 0.991
Wednesday, November 25, 2015 0:26:09 0.991
Wednesday, November 25, 2015 0:31:09 0.991
Wednesday, November 25, 2015 0:36:10 0.991
Wednesday, November 25, 2015 0:41:10 0.991
Wednesday, November 25, 2015 0:46:11 0.991
Wednesday, November 25, 2015 0:51:12 0.991
Wednesday, November 25, 2015 0:56:12 0.991
Wednesday, November 25, 2015 1:01:12 0.991
Wednesday, November 25, 2015 1:06:13 0.991
Wednesday, November 25, 2015 1:11:13 0.991
Wednesday, November 25, 2015 1:16:14 0.991
Wednesday, November 25, 2015 1:21:15 0.991
Wednesday, November 25, 2015 1:26:15 0.991
163.96
50.4
168.93
50.0
$173.88 \quad 49.8$
$178.85 \quad 50.0$
$183.80 \quad 49.8$
$188.77 \quad 50.3$
193.7449 .5
$198.69 \quad 50.2$
203.6649 .6
$208.61 \quad 49.7$
$213.58 \quad 50.1$
$218.54 \quad 49.6$
$223.51 \quad 50.1$
$228.46 \quad 50.1$
$233.43 \quad 49.7$
$238.38 \quad 50.2$
$243.35 \quad 49.7$
$248.30 \quad 50.4$
$253.27 \quad 50.1$
$258.23 \quad 50.4$
$263.19 \quad 50.3$
$268.15 \quad 50.2$
$273.12 \quad 50.1$
$278.09 \quad 49.5$
$283.04 \quad 50.2$
$288.01 \quad 50.1$
$292.96 \quad 50.1$
$297.93 \quad 50.1$
$302.88 \quad 49.8$
$307.85 \quad 50.0$
$312.80 \quad 50.2$
$317.77 \quad 50.0$
$322.73 \quad 50.6$
$327.70 \quad 50.1$
$332.65 \quad 50.0$
$337.62 \quad 50.1$
$342.57 \quad 50.2$
$347.54 \quad 50.2$
$352.49 \quad 50.1$
$357.46 \quad 50.2$
$362.41 \quad 50.1$
$367.38 \quad 49.7$
$372.34 \quad 50.2$
$377.31 \quad 49.6$
$382.26 \quad 50.1$
$387.23 \quad 50.1$
$392.20 \quad 50.3$
$397.15 \quad 50.1$
$402.10 \quad 49.7$
$407.07 \quad 50.1$
$412.03 \quad 49.7$
$416.99 \quad 50.3$
$421.96 \quad 50.3$
426.9249 .7

Wednesday, November 25, 2015 1:31:16 0.991
Wednesday, November 25, 2015 1:36:16 0.991
Wednesday, November 25, 2015 1:41:17 0.991
Wednesday, November 25, 2015 1:46:17 0.991
Wednesday, November 25, 2015 1:51:18 0.991
Wednesday, November 25, 2015 1:56:18 0.991
Wednesday, November 25, 2015 2:01:19 0.991
Wednesday, November 25, 2015 2:06:19 0.991
Wednesday, November 25, 2015 2:11:20 0.991
Wednesday, November 25, 2015 2:16:20 0.991
Wednesday, November 25, 2015 2:21:21 0.991
Wednesday, November 25, 2015 2:26:21 0.991
Wednesday, November 25, 2015 2:31:22 0.991
Wednesday, November 25, 2015 2:36:22 0.991
Wednesday, November 25, 2015 2:41:23 0.991
Wednesday, November 25, 2015 2:46:23 0.991
Wednesday, November 25, 2015 2:51:24 0.991
Wednesday, November 25, 2015 2:56:24 0.991
Wednesday, November 25, 2015 3:01:25 0.991
Wednesday, November 25, 2015 3:06:25 0.991
Wednesday, November 25, 2015 3:11:26 0.991
Wednesday, November 25, 2015 3:16:26 0.991
Wednesday, November 25, 2015 3:21:27 0.991
Wednesday, November 25, 2015 3:26:28 0.991
Wednesday, November 25, 2015 3:31:28 0.991
Wednesday, November 25, 2015 3:36:29 0.991
Wednesday, November 25, 2015 3:41:29 0.991
Wednesday, November 25, 2015 3:46:30 0.991
Wednesday, November 25, 2015 3:51:30 0.991
Wednesday, November 25, 2015 3:56:31 0.991
Wednesday, November 25, 2015 4:01:31 0.991
Wednesday, November 25, 2015 4:06:32 0.991
Wednesday, November 25, 2015 4:11:32 0.991
Wednesday, November 25, 2015 4:16:33 0.991
Wednesday, November 25, 2015 4:21:33 0.991
Wednesday, November 25, 2015 4:26:34 0.991
Wednesday, November 25, 2015 4:31:34 0.991
Wednesday, November 25, 2015 4:36:35 0.991
Wednesday, November 25, 2015 4:41:35 0.991
Wednesday, November 25, 2015 4:46:36 0.991
Wednesday, November 25, 2015 4:51:36 0.991
Wednesday, November 25, 2015 4:56:37 0.991
Wednesday, November 25, 2015 5:01:37 0.991
Wednesday, November 25, 2015 5:06:38 0.991
Wednesday, November 25, 2015 5:11:38 0.991
Wednesday, November 25, 2015 5:16:39 0.991
Wednesday, November 25, 2015 5:21:39 0.991
Wednesday, November 25, 2015 5:26:40 0.991
Wednesday, November 25, 2015 5:31:40 0.991
Wednesday, November 25, 2015 5:36:41 0.991
Wednesday, November 25, 2015 5:41:41 0.991
Wednesday, November 25, 2015 5:46:42 0.991
Wednesday, November 25, 2015 5:51:42 0.991
Wednesday, November 25, 2015 5:56:43 0.991
431.89
436.84
50.1
50.1
$441.81 \quad 49.7$
$446.76 \quad 50.1$
$451.73 \quad 50.2$
$456.68 \quad 50.0$
$461.65 \quad 50.1$
$466.61 \quad 50.2$
$471.57 \quad 49.3$
$476.53 \quad 50.1$
$481.50 \quad 50.4$
$486.45 \quad 49.5$
$491.42 \quad 50.2$
$496.37 \quad 50.4$
$501.34 \quad 50.0$
$506.29 \quad 50.2$
$511.26 \quad 49.1$
$516.22 \quad 50.2$
$521.19 \quad 50.2$
$526.14 \quad 50.1$
$531.11 \quad 50.3$
$536.06 \quad 50.0$
$541.03 \quad 49.8$
$546.00 \quad 50.2$
550.9549 .7
$555.92 \quad 50.0$
$560.88 \quad 50.3$
$565.84 \quad 50.2$
$570.80 \quad 50.1$
$575.77 \quad 50.2$
$580.72 \quad 50.1$
585.6949 .9
$590.64 \quad 50.1$
$595.61 \quad 50.0$
$600.56 \quad 49.7$
$605.53 \quad 50.0$
$610.49 \quad 50.1$
615.4649 .8
$620.41 \quad 50.1$
$625.38 \quad 50.2$
$630.33 \quad 49.8$
$635.30 \quad 49.8$
$640.25 \quad 50.1$
$645.22 \quad 50.3$
$650.18 \quad 50.1$
$655.14 \quad 50.2$
$660.10 \quad 49.7$
$665.07 \quad 50.0$
$670.02 \quad 50.1$
$674.99 \quad 50.0$
$679.94 \quad 50.0$
$684.91 \quad 50.1$
$689.86 \quad 50.3$
$694.83 \quad 50.1$

# Ch. 2 Cartridge Started Tuesday, November 24, 2015 18:15:03 

Flow Rate Set Point 1.00 1/min
Stopped Wednesday, November 25, 2015 6:15:25
Total Volume 713.00 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.990 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate 0.007 1/min
Ending Leak Rate 0.002 1/min
Flow Controller Zero -0.003 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Tuesday, November 24, 2015 18:15:29 $0.086 \quad 0.21 \quad 50.2$
Tuesday, November 24, 2015 18:20:30 0.9915 .1950 .4
Tuesday, November 24, 2015 18:25:30 $0.991 \quad 10.14 \quad 50.3$
Tuesday, November 24, 2015 18:30:31 $0.991 \quad 15.11 \quad 50.3$
Tuesday, November 24, 2015 18:35:32 $0.991 \quad 20.08 \quad 50.3$
Tuesday, November 24, 2015 18:40:32 $0.990 \quad 25.03 \quad 50.2$
Tuesday, November 24, 2015 18:45:33 $0.991 \quad 30.00 \quad 49.8$
Tuesday, November 24, 2015 18:50:33 $0.991 \quad 34.95 \quad 50.0$
Tuesday, November 24, 2015 18:55:34 $0.991 \quad 39.9249 .9$
Tuesday, November 24, 2015 19:00:34 0.991 $44.88 \quad 50.5$
Tuesday, November 24, 2015 19:05:35 $0.991 \quad 49.85 \quad 50.3$
Tuesday, November 24, 2015 19:10:35 $0.991 \quad 54.80 \quad 50.2$
Tuesday, November 24, 2015 19:15:36 $0.991 \quad 59.77 \quad 49.9$
Tuesday, November 24, 2015 19:20:36 $0.991 \quad 64.72 \quad 49.7$
Tuesday, November 24, 2015 19:25:37 $0.991 \quad 69.69 \quad 50.5$
Tuesday, November 24, 2015 19:30:37 $0.991 \quad 74.64 \quad 50.2$
Tuesday, November 24, 2015 19:35:38 $0.991 \quad 79.61 \quad 49.8$
Tuesday, November 24, 2015 19:40:39 $0.991 \quad 84.58 \quad 49.8$
Tuesday, November 24, 2015 19:45:39 $0.991 \quad 89.53 \quad 49.4$
Tuesday, November 24, 2015 19:50:40 $0.991 \quad 94.50 \quad 50.4$
Tuesday, November 24, 2015 19:55:40 $0.991 \quad 99.45 \quad 49.9$
Tuesday, November 24, 2015 20:00:41 $0.991 \quad 104.42 \quad 50.4$
Tuesday, November 24, 2015 20:05:41 $0.991 \quad 109.38 \quad 50.1$
Tuesday, November 24, 2015 20:10:42 $0.991 \quad 114.35 \quad 50.2$
Tuesday, November 24, 2015 20:15:42 $0.991 \quad 119.30 \quad 50.3$
Tuesday, November 24, 2015 20:20:43 $0.991 \quad 124.27 \quad 50.5$
Tuesday, November 24, 2015 20:25:43 $0.991 \quad 129.22 \quad 50.2$
Tuesday, November 24, 2015 20:30:44 0.991 134.1950 .4
Tuesday, November 24, 2015 20:35:45 0.991 $139.16 \quad 50.3$
Tuesday, November 24, 2015 20:40:45 $0.991 \quad 144.11 \quad 49.8$
Tuesday, November 24, 2015 20:45:46 $0.991 \quad 149.08 \quad 50.3$
Tuesday, November 24, 2015 20:50:46 $0.991 \quad 154.03 \quad 50.2$
Tuesday, November 24, 2015 20:55:47 $0.991 \quad 159.00 \quad 49.8$

Tuesday, November 24, 2015 21:00:47 0.991
Tuesday, November 24, 2015 21:05:48 0.991
Tuesday, November 24, 2015 21:10:48 0.991
Tuesday, November 24, 2015 21:15:49 0.991
Tuesday, November 24, 2015 21:20:49 0.991
Tuesday, November 24, 2015 21:25:50 0.991
Tuesday, November 24, 2015 21:30:51 0.991
Tuesday, November 24, 2015 21:35:51 0.991
Tuesday, November 24, 2015 21:40:52 0.991
Tuesday, November 24, 2015 21:45:52 0.991
Tuesday, November 24, 2015 21:50:53 0.991
Tuesday, November 24, 2015 21:55:53 0.991
Tuesday, November 24, 2015 22:00:54 0.991
Tuesday, November 24, 2015 22:05:54 0.991
Tuesday, November 24, 2015 22:10:55 0.991
Tuesday, November 24, 2015 22:15:55 0.991
Tuesday, November 24, 2015 22:20:56 0.991
Tuesday, November 24, 2015 22:25:56 0.991
Tuesday, November 24, 2015 22:30:57 0.991
Tuesday, November 24, 2015 22:35:57 0.991
Tuesday, November 24, 2015 22:40:58 0.991
Tuesday, November 24, 2015 22:45:58 0.991
Tuesday, November 24, 2015 22:50:59 0.991
Tuesday, November 24, 2015 22:56:00 0.991
Tuesday, November 24, 2015 23:01:00 0.991
Tuesday, November 24, 2015 23:06:01 0.991
Tuesday, November 24, 2015 23:11:01 0.991
Tuesday, November 24, 2015 23:16:02 0.991
Tuesday, November 24, 2015 23:21:02 0.991
Tuesday, November 24, 2015 23:26:03 0.991
Tuesday, November 24, 2015 23:31:03 0.991
Tuesday, November 24, 2015 23:36:04 0.991
Tuesday, November 24, 2015 23:41:04 0.991
Tuesday, November 24, 2015 23:46:05 0.991
Tuesday, November 24, 2015 23:51:05 0.991
Tuesday, November 24, 2015 23:56:06 0.991
Wednesday, November 25, 2015 0:01:06 0.991
Wednesday, November 25, 2015 0:06:07 0.991
Wednesday, November 25, 2015 0:11:07 0.991
Wednesday, November 25, 2015 0:16:08 0.991
Wednesday, November 25, 2015 0:21:08 0.991
Wednesday, November 25, 2015 0:26:09 0.991
Wednesday, November 25, 2015 0:31:09 0.991
Wednesday, November 25, 2015 0:36:10 0.991
Wednesday, November 25, 2015 0:41:10 0.991
Wednesday, November 25, 2015 0:46:11 0.991
Wednesday, November 25, 2015 0:51:12 0.991
Wednesday, November 25, 2015 0:56:12 0.991
Wednesday, November 25, 2015 1:01:12 0.991
Wednesday, November 25, 2015 1:06:13 0.991
Wednesday, November 25, 2015 1:11:13 0.991
Wednesday, November 25, 2015 1:16:14 0.991
Wednesday, November 25, 2015 1:21:15 0.991
Wednesday, November 25, 2015 1:26:15 0.991
163.96
50.4
168.93
50.0
$173.88 \quad 49.8$
$178.85 \quad 50.0$
$183.80 \quad 49.8$
$188.77 \quad 50.3$
193.7449 .5
$198.69 \quad 50.2$
203.6649 .6
$208.61 \quad 49.7$
$213.58 \quad 50.1$
$218.54 \quad 49.6$
$223.51 \quad 50.1$
$228.46 \quad 50.1$
$233.43 \quad 49.7$
$238.38 \quad 50.2$
$243.35 \quad 49.7$
$248.30 \quad 50.4$
$253.27 \quad 50.1$
$258.23 \quad 50.4$
$263.19 \quad 50.3$
$268.15 \quad 50.2$
$273.12 \quad 50.1$
$278.09 \quad 49.5$
$283.04 \quad 50.2$
$288.01 \quad 50.1$
$292.96 \quad 50.1$
$297.93 \quad 50.1$
$302.88 \quad 49.8$
$307.85 \quad 50.0$
$312.80 \quad 50.2$
$317.77 \quad 50.0$
$322.73 \quad 50.6$
$327.70 \quad 50.1$
$332.65 \quad 50.0$
$337.62 \quad 50.1$
$342.57 \quad 50.2$
$347.54 \quad 50.2$
$352.49 \quad 50.1$
$357.46 \quad 50.2$
$362.41 \quad 50.1$
$367.38 \quad 49.7$
$372.34 \quad 50.2$
$377.31 \quad 49.6$
$382.26 \quad 50.1$
$387.23 \quad 50.1$
$392.20 \quad 50.3$
$397.15 \quad 50.1$
$402.10 \quad 49.7$
$407.07 \quad 50.1$
$412.03 \quad 49.7$
$416.99 \quad 50.3$
$421.96 \quad 50.3$
426.9249 .7

Wednesday, November 25, 2015 1:31:16 0.991
Wednesday, November 25, 2015 1:36:16 0.991
Wednesday, November 25, 2015 1:41:17 0.991
Wednesday, November 25, 2015 1:46:17 0.991
Wednesday, November 25, 2015 1:51:18 0.991
Wednesday, November 25, 2015 1:56:18 0.991
Wednesday, November 25, 2015 2:01:19 0.991
Wednesday, November 25, 2015 2:06:19 0.991
Wednesday, November 25, 2015 2:11:20 0.991
Wednesday, November 25, 2015 2:16:20 0.991
Wednesday, November 25, 2015 2:21:21 0.991
Wednesday, November 25, 2015 2:26:21 0.991
Wednesday, November 25, 2015 2:31:22 0.991
Wednesday, November 25, 2015 2:36:22 0.991
Wednesday, November 25, 2015 2:41:23 0.991
Wednesday, November 25, 2015 2:46:23 0.991
Wednesday, November 25, 2015 2:51:24 0.991
Wednesday, November 25, 2015 2:56:24 0.991
Wednesday, November 25, 2015 3:01:25 0.991
Wednesday, November 25, 2015 3:06:25 0.991
Wednesday, November 25, 2015 3:11:26 0.991
Wednesday, November 25, 2015 3:16:26 0.991
Wednesday, November 25, 2015 3:21:27 0.991
Wednesday, November 25, 2015 3:26:28 0.991
Wednesday, November 25, 2015 3:31:28 0.991
Wednesday, November 25, 2015 3:36:29 0.991
Wednesday, November 25, 2015 3:41:29 0.991
Wednesday, November 25, 2015 3:46:30 0.991
Wednesday, November 25, 2015 3:51:30 0.991
Wednesday, November 25, 2015 3:56:31 0.991
Wednesday, November 25, 2015 4:01:31 0.991
Wednesday, November 25, 2015 4:06:32 0.991
Wednesday, November 25, 2015 4:11:32 0.991
Wednesday, November 25, 2015 4:16:33 0.991
Wednesday, November 25, 2015 4:21:33 0.991
Wednesday, November 25, 2015 4:26:34 0.991
Wednesday, November 25, 2015 4:31:34 0.991
Wednesday, November 25, 2015 4:36:35 0.991
Wednesday, November 25, 2015 4:41:35 0.991
Wednesday, November 25, 2015 4:46:36 0.991
Wednesday, November 25, 2015 4:51:36 0.991
Wednesday, November 25, 2015 4:56:37 0.991
Wednesday, November 25, 2015 5:01:37 0.991
Wednesday, November 25, 2015 5:06:38 0.991
Wednesday, November 25, 2015 5:11:38 0.991
Wednesday, November 25, 2015 5:16:39 0.991
Wednesday, November 25, 2015 5:21:39 0.991
Wednesday, November 25, 2015 5:26:40 0.991
Wednesday, November 25, 2015 5:31:40 0.991
Wednesday, November 25, 2015 5:36:41 0.991
Wednesday, November 25, 2015 5:41:41 0.991
Wednesday, November 25, 2015 5:46:42 0.991
Wednesday, November 25, 2015 5:51:42 0.991
Wednesday, November 25, 2015 5:56:43 0.991
431.89
436.84
50.1
50.1
$441.81 \quad 49.7$
$446.76 \quad 50.1$
$451.73 \quad 50.2$
$456.68 \quad 50.0$
$461.65 \quad 50.1$
$466.61 \quad 50.2$
$471.57 \quad 49.3$
$476.53 \quad 50.1$
$481.50 \quad 50.4$
$486.45 \quad 49.5$
$491.42 \quad 50.2$
$496.37 \quad 50.4$
$501.34 \quad 50.0$
$506.29 \quad 50.2$
$511.26 \quad 49.1$
$516.22 \quad 50.2$
$521.19 \quad 50.2$
$526.14 \quad 50.1$
$531.11 \quad 50.3$
$536.06 \quad 50.0$
$541.03 \quad 49.8$
$546.00 \quad 50.2$
550.9549 .7
$555.92 \quad 50.0$
$560.88 \quad 50.3$
$565.84 \quad 50.2$
$570.80 \quad 50.1$
$575.77 \quad 50.2$
$580.72 \quad 50.1$
585.6949 .9
$590.64 \quad 50.1$
$595.61 \quad 50.0$
$600.56 \quad 49.7$
$605.53 \quad 50.0$
$610.49 \quad 50.1$
615.4649 .8
$620.41 \quad 50.1$
$625.38 \quad 50.2$
$630.33 \quad 49.8$
$635.30 \quad 49.8$
$640.25 \quad 50.1$
$645.22 \quad 50.3$
$650.18 \quad 50.1$
$655.14 \quad 50.2$
$660.10 \quad 49.7$
$665.07 \quad 50.0$
$670.02 \quad 50.1$
$674.99 \quad 50.0$
$679.94 \quad 50.0$
$684.91 \quad 50.1$
$689.86 \quad 50.3$
$694.83 \quad 50.1$

# Ch. 2 Cartridge Started Monday, November 30, 2015 18:15:02 

Flow Rate Set Point 1.00 1/min
Stopped Tuesday, December 01, 2015 6:15:24
Total Volume 712.99 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.990 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate 0.004 1/min
Ending Leak Rate -0.001 1/min
Flow Controller Zero -0.003 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Monday, November 30, 2015 18:15:29 $0.083 \quad 0.22 \quad 50.1$
Monday, November 30, 2015 18:20:30 0.991 5.2049 .7
Monday, November 30, 2015 18:25:30 $0.991 \quad 10.15 \quad 50.1$
Monday, November 30, 2015 18:30:31 $0.991 \quad 15.12 \quad 50.5$
Monday, November 30, 2015 18:35:31 $0.991 \quad 20.07 \quad 50.0$
Monday, November 30, 2015 18:40:32 $0.991 \quad 25.04 \quad 49.9$
Monday, November 30, 2015 18:45:32 $0.991 \quad 29.99 \quad 50.4$
Monday, November 30, 2015 18:50:33 $0.991 \quad 34.96 \quad 50.3$
Monday, November 30, 2015 18:55:34 0.991 39.9350 .0
Monday, November 30, 2015 19:00:34 0.991 44.8850 .3
Monday, November 30, 2015 19:05:35 $0.991 \quad 49.85 \quad 50.4$
Monday, November 30, 2015 19:10:35 $0.991 \quad 54.81 \quad 50.5$
Monday, November 30, 2015 19:15:36 $0.991 \quad 59.78 \quad 50.0$
Monday, November 30, 2015 19:20:37 $0.991 \quad 64.74 \quad 50.0$
Monday, November 30, 2015 19:25:37 $0.991 \quad 69.70 \quad 49.6$
Monday, November 30, 2015 19:30:38 $0.990 \quad 74.67 \quad 50.3$
Monday, November 30, 2015 19:35:38 $0.991 \quad 79.62 \quad 49.8$
Monday, November 30, 2015 19:40:39 $0.991 \quad 84.59 \quad 50.2$
Monday, November 30, 2015 19:45:40 $0.991 \quad 89.56 \quad 50.3$
Monday, November 30, 2015 19:50:40 $0.991 \quad 94.51 \quad 50.0$
Monday, November 30, 2015 19:55:41 $0.991 \quad 99.48 \quad 50.4$
Monday, November 30, 2015 20:00:41 $0.991 \quad 104.43 \quad 50.2$
Monday, November 30, 2015 20:05:42 $0.991 \quad 109.40 \quad 49.5$
Monday, November 30, 2015 20:10:42 $0.991 \quad 114.35 \quad 50.3$
Monday, November 30, 2015 20:15:43 $0.991 \quad 119.32 \quad 50.2$
Monday, November 30, 2015 20:20:44 0.991 124.2950 .3
Monday, November 30, 2015 20:25:44 0.991 $129.25 \quad 49.5$
Monday, November 30, 2015 20:30:45 $0.991 \quad 134.22 \quad 50.3$
Monday, November 30, 2015 20:35:45 0.991 139.1749 .6
Monday, November 30, 2015 20:40:46 0.991 $144.14 \quad 50.1$
Monday, November 30, 2015 20:45:46 $0.991 \quad 149.09 \quad 49.9$
Monday, November 30, 2015 20:50:47 0.991 $154.06 \quad 50.5$
Monday, November 30, 2015 20:55:47 0.991 $159.01 \quad 50.2$

Monday, November 30, 2015 21:00:48 0.991
Monday, November 30, 2015 21:05:49 0.991
Monday, November 30, 2015 21:10:49 0.991
Monday, November 30, 2015 21:15:50 0.991
Monday, November 30, 2015 21:20:50 0.991
Monday, November 30, 2015 21:25:51 0.991
Monday, November 30, 2015 21:30:51 0.991
Monday, November 30, 2015 21:35:52 0.991
Monday, November 30, 2015 21:40:53 0.991
Monday, November 30, 2015 21:45:53 0.991
Monday, November 30, 2015 21:50:54 0.991
Monday, November 30, 2015 21:55:54 0.991
Monday, November 30, 2015 22:00:55 0.991
Monday, November 30, 2015 22:05:55 0.991
Monday, November 30, 2015 22:10:56 0.991
Monday, November 30, 2015 22:15:56 0.991
Monday, November 30, 2015 22:20:57 0.991
Monday, November 30, 2015 22:25:58 0.991
Monday, November 30, 2015 22:30:58 0.991
Monday, November 30, 2015 22:35:59 0.991
Monday, November 30, 2015 22:40:59 0.991
Monday, November 30, 2015 22:46:00 0.991
Monday, November 30, 2015 22:51:01 0.991
Monday, November 30, 2015 22:56:01 0.991
Monday, November 30, 2015 23:01:02 0.991
Monday, November 30, 2015 23:06:02 0.991
Monday, November 30, 2015 23:11:03 0.991
Monday, November 30, 2015 23:16:03 0.991
Monday, November 30, 2015 23:21:04 0.991
Monday, November 30, 2015 23:26:04 0.991
Monday, November 30, 2015 23:31:05 0.991
Monday, November 30, 2015 23:36:06 0.991
Monday, November 30, 2015 23:41:06 0.991
Monday, November 30, 2015 23:46:07 0.991
Monday, November 30, 2015 23:51:07 0.991
Monday, November 30, 2015 23:56:08 0.991
Tuesday, December 01, 2015 0:01:08 0.991
Tuesday, December 01, 2015 0:06:09 0.991
Tuesday, December 01, 2015 0:11:10 0.991
Tuesday, December 01, 2015 0:16:10 0.991
Tuesday, December 01, 2015 0:21:11 0.991
Tuesday, December 01, 2015 0:26:11 0.991
Tuesday, December 01, 2015 0:31:12 0.991
Tuesday, December 01, 2015 0:36:12 0.991
Tuesday, December 01, 2015 0:41:13 0.991
Tuesday, December 01, 2015 0:46:13 0.991
Tuesday, December 01, 2015 0:51:14 0.991
Tuesday, December 01, 2015 0:56:14 0.991
Tuesday, December 01, 2015 1:01:15 0.991
Tuesday, December 01, 2015 1:06:16 0.991
Tuesday, December 01, 2015 1:11:16 0.991
Tuesday, December 01, 2015 1:16:17 0.991
Tuesday, December 01, 2015 1:21:17 0.991
Tuesday, December 01, 2015 1:26:18 0.991
163.98
50.3
168.95
50.1
$173.90 \quad 50.3$
$178.87 \quad 50.4$
$183.83 \quad 50.1$
$188.80 \quad 49.9$
$193.75 \quad 50.4$
$198.72 \quad 50.3$
$203.69 \quad 50.4$
$208.64 \quad 50.4$
$213.61 \quad 50.3$
$218.56 \quad 50.0$
$223.53 \quad 49.7$
$228.48 \quad 50.4$
$233.45 \quad 50.1$
$238.41 \quad 50.5$
243.3849 .9
$248.35 \quad 50.3$
$253.30 \quad 49.9$
$258.27 \quad 50.3$
$263.22 \quad 50.3$
$268.19 \quad 50.4$
$273.14 \quad 50.2$
$278.11 \quad 50.3$
$283.08 \quad 50.4$
$288.03 \quad 50.2$
$293.00 \quad 50.1$
$297.96 \quad 50.3$
$302.92 \quad 49.7$
$307.88 \quad 50.2$
$312.85 \quad 50.2$
$317.82 \quad 50.3$
$322.77 \quad 50.2$
$327.74 \quad 49.8$
$332.69 \quad 50.0$
$337.66 \quad 50.3$
$342.61 \quad 49.9$
$347.58 \quad 50.5$
$352.55 \quad 50.3$
$357.50 \quad 50.1$
$362.47 \quad 50.1$
$367.43 \quad 50.3$
$372.40 \quad 49.9$
$377.35 \quad 49.8$
$382.32 \quad 50.1$
$387.27 \quad 50.0$
$392.24 \quad 50.3$
$397.19 \quad 50.3$
$402.16 \quad 50.1$
$407.13 \quad 50.3$
$412.08 \quad 50.4$
$417.05 \quad 49.9$
$422.01 \quad 50.3$
$426.97 \quad 50.3$

Tuesday, December 01, 2015 1:31:18 0.991
Tuesday, December 01, 2015 1:36:19 0.991
Tuesday, December 01, 2015 1:41:19 0.991
Tuesday, December 01, 2015 1:46:20 0.991
Tuesday, December 01, 2015 1:51:20 0.991
Tuesday, December 01, 2015 1:56:21 0.991
Tuesday, December 01, 2015 2:01:22 0.991
Tuesday, December 01, 2015 2:06:22 0.991
Tuesday, December 01, 2015 2:11:23 0.991
Tuesday, December 01, 2015 2:16:23 0.991
Tuesday, December 01, 2015 2:21:24 0.991
Tuesday, December 01, 2015 2:26:24 0.991
Tuesday, December 01, 2015 2:31:25 0.991
Tuesday, December 01, 2015 2:36:25 0.991
Tuesday, December 01, 2015 2:41:26 0.991
Tuesday, December 01, 2015 2:46:27 0.991
Tuesday, December 01, 2015 2:51:27 0.991
Tuesday, December 01, 2015 2:56:28 0.991
Tuesday, December 01, 2015 3:01:28 0.991
Tuesday, December 01, 2015 3:06:29 0.991
Tuesday, December 01, 2015 3:11:29 0.991
Tuesday, December 01, 2015 3:16:30 0.991
Tuesday, December 01, 2015 3:21:30 0.991
Tuesday, December 01, 2015 3:26:31 0.991
Tuesday, December 01, 2015 3:31:32 0.991
Tuesday, December 01, 2015 3:36:32 0.991
Tuesday, December 01, 2015 3:41:33 0.991
Tuesday, December 01, 2015 3:46:33 0.991
Tuesday, December 01, 2015 3:51:34 0.991
Tuesday, December 01, 2015 3:56:34 0.991
Tuesday, December 01, 2015 4:01:35 0.991
Tuesday, December 01, 2015 4:06:35 0.991
Tuesday, December 01, 2015 4:11:36 0.991
Tuesday, December 01, 2015 4:16:36 0.991
Tuesday, December 01, 2015 4:21:37 0.991
Tuesday, December 01, 2015 4:26:38 0.991
Tuesday, December 01, 2015 4:31:38 0.991
Tuesday, December 01, 2015 4:36:39 0.991
Tuesday, December 01, 2015 4:41:39 0.991
Tuesday, December 01, 2015 4:46:40 0.991
Tuesday, December 01, 2015 4:51:40 0.991
Tuesday, December 01, 2015 4:56:41 0.991
Tuesday, December 01, 2015 5:01:41 0.991
Tuesday, December 01, 2015 5:06:42 0.991
Tuesday, December 01, 2015 5:11:43 0.991
Tuesday, December 01, 2015 5:16:43 0.991
Tuesday, December 01, 2015 5:21:44 0.991
Tuesday, December 01, 2015 5:26:44 0.991
Tuesday, December 01, 2015 5:31:45 0.991
Tuesday, December 01, 2015 5:36:45 0.991
Tuesday, December 01, 2015 5:41:46 0.991
Tuesday, December 01, 2015 5:46:46 0.991
Tuesday, December 01, 2015 5:51:47 0.991
Tuesday, December 01, 2015 5:56:47 0.991
431.93
50.3
$436.90 \quad 50.2$
$441.85 \quad 50.1$
$446.82 \quad 49.7$
$451.77 \quad 49.5$
$456.74 \quad 49.7$
$461.71 \quad 50.3$
$466.66 \quad 49.9$
$471.63 \quad 49.9$
$476.58 \quad 50.4$
$481.55 \quad 50.0$
$486.51 \quad 50.4$
$491.48 \quad 50.4$
$496.43 \quad 49.4$
$501.40 \quad 50.3$
$506.37 \quad 50.5$
$511.32 \quad 50.1$
$516.29 \quad 50.0$
$521.24 \quad 50.4$
$526.21 \quad 50.2$
$531.16 \quad 50.5$
$536.13 \quad 50.3$
$541.09 \quad 50.4$
$546.06 \quad 50.1$
$551.02 \quad 49.8$
$555.98 \quad 49.9$
$560.95 \quad 50.0$
$565.90 \quad 49.9$
$570.87 \quad 49.8$
$575.82 \quad 50.5$
$580.79 \quad 50.3$
$585.74 \quad 49.3$
$590.71 \quad 50.4$
$595.66 \quad 50.5$
$600.63 \quad 50.1$
$605.60 \quad 49.9$
$610.56 \quad 49.4$
$615.53 \quad 50.1$
$620.48 \quad 50.0$
$625.45 \quad 50.1$
$630.40 \quad 49.9$
$635.37 \quad 49.7$
$640.32 \quad 50.2$
645.2949 .9
$650.26 \quad 50.4$
$655.21 \quad 49.5$
$660.18 \quad 50.3$
$665.14 \quad 50.2$
$670.10 \quad 49.5$
$675.06 \quad 49.9$
$680.03 \quad 50.1$
$684.98 \quad 49.8$
$689.95 \quad 50.0$
$694.90 \quad 50.0$

# Ch. 2 Cartridge Started Sunday, December 06, 2015 18:15:04 

Flow Rate Set Point 1.00 1/min
Stopped Monday, December 07, 2015 6:15:21
Total Volume 712.94 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.990 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate 0.002 1/min
Ending Leak Rate -0.002 1/min
Flow Controller Zero -0.003 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

| Sunday, December 06, 2015 18:15:31 | 0.082 | 0.22 | 49.9 |
| :--- | :--- | :--- | :--- |
| Sunday, December 06, 2015 18:20:31 | 0.991 | 5.18 | 50.6 |
| Sunday, December 06, 2015 18:25:32 0.991 | 10.15 | 50.0 |  |
| Sunday, December 06, 2015 18:30:33 0.991 | 15.12 | 49.8 |  |
| Sunday, December 06, 2015 18:35:33 0.991 | 20.07 | 50.4 |  |
| Sunday, December 06, 2015 18:40:34 0.991 | 25.04 | 50.0 |  |
| Sunday, December 06, 2015 18:45:34 0.991 | 29.99 | 50.1 |  |
| Sunday, December 06, 2015 18:50:35 0.991 | 34.96 | 50.4 |  |
| Sunday, December 06, 2015 18:55:35 0.991 | 39.91 | 49.3 |  |
| Sunday, December 06, 2015 19:00:36 0.991 | 44.88 | 50.0 |  |
| Sunday, December 06, 2015 19:05:37 0.991 | 49.85 | 50.0 |  |
| Sunday, December 06, 2015 19:10:37 0.991 | 54.81 | 49.7 |  |
| Sunday, December 06, 2015 19:15:38 0.991 | 59.78 | 50.1 |  |
| Sunday, December 06, 2015 19:20:38 0.991 | 64.73 | 50.3 |  |
| Sunday, December 06, 2015 19:25:39 0.991 | 69.70 | 50.2 |  |
| Sunday, December 06, 2015 19:30:39 0.991 | 74.65 | 49.6 |  |
| Sunday, December 06, 2015 19:35:40 0.991 | 79.62 | 50.2 |  |
| Sunday, December 06, 2015 19:40:41 0.991 | 84.59 | 49.6 |  |
| Sunday, December 06, 2015 19:45:41 0.991 | 89.54 | 49.8 |  |
| Sunday, December 06, 2015 19:50:42 0.991 | 94.51 | 50.3 |  |
| Sunday, December 06, 2015 19:55:42 0.991 | 99.46 | 50.2 |  |
| Sunday, December 06, 2015 20:00:43 0.991 | 104.43 | 50.4 |  |
| Sunday, December 06, 2015 20:05:43 0.991 | 109.39 | 50.5 |  |
| Sunday, December 06, 2015 20:10:44 0.991 | 114.36 | 50.3 |  |
| Sunday, December 06, 2015 20:15:44 0.991 | 119.31 | 50.3 |  |
| Sunday, December 06, 2015 20:20:45 0.991 | 124.28 | 50.5 |  |
| Sunday, December 06, 2015 20:25:46 0.991 | 129.25 | 50.1 |  |
| Sunday, December 06, 2015 20:30:46 0.991 | 134.20 | 50.3 |  |
| Sunday, December 06, 2015 20:35:47 0.991 | 139.17 | 50.1 |  |
| Sunday, December 06, 2015 20:40:47 0.991 | 144.12 | 49.9 |  |
| Sunday, December 06, 2015 20:45:48 0.991 | 149.09 | 49.9 |  |
| Sunday, December 06, 2015 20:50:48 0.991 | 154.04 | 50.4 |  |
| Sunday, December 06, 2015 20:55:49 0.991 | 159.01 | 50.0 |  |

Sunday, December 06, 2015 21:00:50 0.991
163.98
50.0
168.94
49.6
$173.91 \quad 50.4$
$178.86 \quad 50.3$
$183.83 \quad 50.3$
$188.80 \quad 50.3$
193.7549 .9
198.7250 .0
$203.67 \quad 50.3$
$208.64 \quad 50.2$
$213.59 \quad 50.0$
$218.56 \quad 50.5$
$223.52 \quad 50.2$
$228.49 \quad 49.6$
$233.44 \quad 50.3$
$238.41 \quad 50.2$
$243.36 \quad 50.4$
$248.33 \quad 49.8$
$253.30 \quad 50.2$
$258.25 \quad 50.0$
$263.22 \quad 50.0$
$268.18 \quad 50.3$
$273.15 \quad 50.3$
$278.10 \quad 50.1$
$283.07 \quad 50.2$
$288.02 \quad 50.4$
$292.99 \quad 49.9$
$297.94 \quad 50.1$
$302.91 \quad 50.3$
307.8649 .4
$312.83 \quad 50.1$
$317.80 \quad 50.2$
$322.76 \quad 50.3$
$327.73 \quad 49.6$
$332.68 \quad 50.1$
$337.65 \quad 50.4$
$342.60 \quad 50.1$
$347.57 \quad 50.2$
$352.52 \quad 50.4$
$357.49 \quad 50.1$
$362.45 \quad 49.8$
$367.42 \quad 50.2$
$372.37 \quad 49.9$
$377.34 \quad 50.2$
$382.29 \quad 49.9$
$387.26 \quad 50.2$
$392.23 \quad 50.5$
$397.18 \quad 50.3$
$402.15 \quad 49.9$
$407.10 \quad 49.7$
$412.07 \quad 50.0$
$417.03 \quad 49.8$
$422.00 \quad 49.9$
426.9549 .7

Monday, December 07, 2015 1:31:19 0.991 Monday, December 07, 2015 1:36:19 0.991 Monday, December 07, 2015 1:41:20 0.991
Monday, December 07, 2015 1:46:20 0.991
Monday, December 07, 2015 1:51:21 0.991
Monday, December 07, 2015 1:56:21 0.991
Monday, December 07, 2015 2:01:22 0.991
Monday, December 07, 2015 2:06:22 0.991
Monday, December 07, 2015 2:11:23 0.991
Monday, December 07, 2015 2:16:23 0.991
Monday, December 07, 2015 2:21:24 0.991
Monday, December 07, 2015 2:26:24 0.991
Monday, December 07, 2015 2:31:25 0.991
Monday, December 07, 2015 2:36:25 0.991
Monday, December 07, 2015 2:41:26 0.991
Monday, December 07, 2015 2:46:26 0.991
Monday, December 07, 2015 2:51:27 0.991
Monday, December 07, 2015 2:56:27 0.991
Monday, December 07, 2015 3:01:28 0.991
Monday, December 07, 2015 3:06:28 0.991
Monday, December 07, 2015 3:11:28 0.991
Monday, December 07, 2015 3:16:29 0.991
Monday, December 07, 2015 3:21:29 0.991
Monday, December 07, 2015 3:26:30 0.991
Monday, December 07, 2015 3:31:30 0.991
Monday, December 07, 2015 3:36:31 0.991
Monday, December 07, 2015 3:41:31 0.991
Monday, December 07, 2015 3:46:32 0.991
Monday, December 07, 2015 3:51:32 0.991
Monday, December 07, 2015 3:56:33 0.991
Monday, December 07, 2015 4:01:33 0.991
Monday, December 07, 2015 4:06:34 0.991
Monday, December 07, 2015 4:11:34 0.991
Monday, December 07, 2015 4:16:35 0.991
Monday, December 07, 2015 4:21:35 0.991
Monday, December 07, 2015 4:26:36 0.991
Monday, December 07, 2015 4:31:36 0.991
Monday, December 07, 2015 4:36:37 0.991
Monday, December 07, 2015 4:41:37 0.991
Monday, December 07, 2015 4:46:38 0.991
Monday, December 07, 2015 4:51:38 0.991
Monday, December 07, 2015 4:56:39 0.991
Monday, December 07, 2015 5:01:39 0.991
Monday, December 07, 2015 5:06:40 0.991
Monday, December 07, 2015 5:11:40 0.991
Monday, December 07, 2015 5:16:41 0.991
Monday, December 07, 2015 5:21:41 0.991
Monday, December 07, 2015 5:26:42 0.991
Monday, December 07, 2015 5:31:42 0.991
Monday, December 07, 2015 5:36:43 0.991
Monday, December 07, 2015 5:41:43 0.991
Monday, December 07, 2015 5:46:44 0.991
Monday, December 07, 2015 5:51:45 0.991
Monday, December 07, 2015 5:56:45 0.991
431.92
49.8
436.87
49.9
$441.84 \quad 50.1$
$446.79 \quad 50.3$
$451.76 \quad 50.1$
$456.72 \quad 50.4$
$461.68 \quad 50.2$
$466.64 \quad 50.3$
$471.61 \quad 50.1$
$476.56 \quad 50.2$
$481.53 \quad 50.1$
$486.48 \quad 49.7$
$491.45 \quad 50.2$
$496.40 \quad 50.2$
$501.37 \quad 50.1$
$506.33 \quad 49.9$
$511.30 \quad 50.1$
$516.25 \quad 50.1$
$521.22 \quad 50.1$
$526.17 \quad 50.1$
$531.12 \quad 50.1$
$536.09 \quad 49.9$
$541.05 \quad 50.3$
$546.02 \quad 50.0$
$550.97 \quad 49.5$
$555.94 \quad 50.1$
$560.89 \quad 50.3$
$565.86 \quad 50.1$
$570.81 \quad 49.9$
$575.78 \quad 49.7$
$580.74 \quad 49.9$
$585.71 \quad 50.2$
590.6649 .7
$595.63 \quad 50.1$
600.5849 .3
$605.55 \quad 50.1$
$610.50 \quad 49.8$
$615.47 \quad 49.9$
$620.42 \quad 50.1$
$625.39 \quad 50.3$
$630.35 \quad 50.1$
635.3249 .7
$640.27 \quad 50.1$
$645.24 \quad 50.1$
$650.19 \quad 50.2$
$655.16 \quad 50.1$
660.1149 .7
$665.08 \quad 50.3$
$670.04 \quad 50.1$
$675.01 \quad 50.3$
$679.96 \quad 50.1$
$684.93 \quad 50.2$
$689.90 \quad 50.1$
$694.85 \quad 50.3$

Monday, December 07, 2015 6:11:47 $0.991 \quad 709.74 \quad 49.7$
Monday, December 07, 2015 6:15:00 0.991 712.9350 .2

# Ch. 2 Cartridge Started Saturday, December 12, 2015 18:15:00 

Flow Rate Set Point 1.00 1/min
Stopped Sunday, December 13, 2015 6:15:26
Total Volume 713.04 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.990 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate 0.003 1/min
Ending Leak Rate -0.002 1/min
Flow Controller Zero - $0.003 \mathrm{l} / \mathrm{min}$
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Saturday, December 12, 2015 18:15:27 0.083 0.2249.
Saturday, December 12, 2015 18:20:27 $0.991 \quad 5.18 \quad 49.9$
Saturday, December 12, 2015 18:25:28 $0.991 \quad 10.15 \quad 50.5$
Saturday, December 12, 2015 18:30:28 $0.991 \quad 15.10 \quad 50.1$
Saturday, December 12, 2015 18:35:29 $0.991 \quad 20.07 \quad 49.7$
Saturday, December 12, 2015 18:40:30 $0.991 \quad 25.04 \quad 50.0$
Saturday, December 12, 2015 18:45:30 $0.991 \quad 29.99 \quad 50.3$
Saturday, December 12, 2015 18:50:31 0.99134 .9649 .7
Saturday, December 12, 2015 18:55:31 $0.991 \quad 39.92 \quad 50.1$
Saturday, December 12, 2015 19:00:32 0.99144 .8849 .5
Saturday, December 12, 2015 19:05:33 0.991 $49.85 \quad 50.2$
Saturday, December 12, 2015 19:10:33 0.991 54.8150 .6
Saturday, December 12, 2015 19:15:34 0.99159 .7850 .6
Saturday, December 12, 2015 19:20:34 $0.991 \quad 64.73 \quad 50.1$
Saturday, December 12, 2015 19:25:35 0.990 69.7050 .6
Saturday, December 12, 2015 19:30:36 0.991 $74.67 \quad 50.2$
Saturday, December 12, 2015 19:35:36 0.991 79.6249 .9
Saturday, December 12, 2015 19:40:37 $0.991 \quad 84.59 \quad 50.3$
Saturday, December 12, 2015 19:45:37 $0.991 \quad 89.54 \quad 50.5$
Saturday, December 12, 2015 19:50:38 $0.991 \quad 94.51 \quad 50.5$
Saturday, December 12, 2015 19:55:39 $0.991 \quad 99.4850 .3$
Saturday, December 12, 2015 20:00:39 0.991 $104.43 \quad 50.0$
Saturday, December 12, 2015 20:05:40 0.991 $109.40 \quad 49.3$
Saturday, December 12, 2015 20:10:41 $0.991 \quad 114.37 \quad 50.4$
Saturday, December 12, 2015 20:15:41 $0.991 \quad 119.32 \quad 50.2$
Saturday, December 12, 2015 20:20:42 $0.991 \quad 124.2950 .0$
Saturday, December 12, 2015 20:25:42 0.991 129.2549 .6
Saturday, December 12, 2015 20:30:43 0.990 $134.21 \quad 50.1$
Saturday, December 12, 2015 20:35:44 0.991 $139.18 \quad 49.8$
Saturday, December 12, 2015 20:40:44 0.991 $144.14 \quad 50.3$
Saturday, December 12, 2015 20:45:45 $0.991 \quad 149.11 \quad 50.7$
Saturday, December 12, 2015 20:50:45 0.991 $154.06 \quad 50.3$
Saturday, December 12, 2015 20:55:46 0.991 159.0350 .5

Saturday, December 12, 2015 21:00:47 0.991
Saturday, December 12, 2015 21:05:47 0.991
Saturday, December 12, 2015 21:10:48 0.991
Saturday, December 12, 2015 21:15:49 0.991
Saturday, December 12, 2015 21:20:49 0.991
Saturday, December 12, 2015 21:25:50 0.991
Saturday, December 12, 2015 21:30:50 0.991
Saturday, December 12, 2015 21:35:51 0.991
Saturday, December 12, 2015 21:40:52 0.991
Saturday, December 12, 2015 21:45:52 0.991
Saturday, December 12, 2015 21:50:53 0.991
Saturday, December 12, 2015 21:55:53 0.991
Saturday, December 12, 2015 22:00:54 0.991
Saturday, December 12, 2015 22:05:55 0.991
Saturday, December 12, 2015 22:10:55 0.991
Saturday, December 12, 2015 22:15:56 0.991
Saturday, December 12, 2015 22:20:56 0.991
Saturday, December 12, 2015 22:25:57 0.991
Saturday, December 12, 2015 22:30:57 0.991
Saturday, December 12, 2015 22:35:58 0.991
Saturday, December 12, 2015 22:40:59 0.991
Saturday, December 12, 2015 22:45:59 0.991
Saturday, December 12, 2015 22:51:00 0.991
Saturday, December 12, 2015 22:56:00 0.991
Saturday, December 12, 2015 23:01:01 0.991
Saturday, December 12, 2015 23:06:02 0.991
Saturday, December 12, 2015 23:11:02 0.991
Saturday, December 12, 2015 23:16:03 0.991
Saturday, December 12, 2015 23:21:03 0.991
Saturday, December 12, 2015 23:26:04 0.991
Saturday, December 12, 2015 23:31:05 0.991
Saturday, December 12, 2015 23:36:05 0.991
Saturday, December 12, 2015 23:41:06 0.991
Saturday, December 12, 2015 23:46:06 0.991
Saturday, December 12, 2015 23:51:07 0.991
Saturday, December 12, 2015 23:56:08 0.991
Sunday, December 13, 2015 0:01:08 0.991
Sunday, December 13, 2015 0:06:09 0.991
Sunday, December 13, 2015 0:11:09 0.991
Sunday, December 13, 2015 0:16:10 0.991
Sunday, December 13, 2015 0:21:10 0.991
Sunday, December 13, 2015 0:26:11 0.991
Sunday, December 13, 2015 0:31:12 0.991
Sunday, December 13, 2015 0:36:12 0.991
Sunday, December 13, 2015 0:41:13 0.991
Sunday, December 13, 2015 0:46:14 0.991
Sunday, December 13, 2015 0:51:14 0.991
Sunday, December 13, 2015 0:56:15 0.991
Sunday, December 13, 2015 1:01:15 0.991
Sunday, December 13, 2015 1:06:16 0.991
Sunday, December 13, 2015 1:11:17 0.991
Sunday, December 13, 2015 1:16:17 0.991
Sunday, December 13, 2015 1:21:18 0.991
Sunday, December 13, 2015 1:26:18 0.991
164.00
50.4
$168.95 \quad 50.1$
$173.92 \quad 50.1$
$178.89 \quad 50.5$
$183.84 \quad 50.3$
$188.81 \quad 49.3$
$193.76 \quad 50.5$
$198.73 \quad 50.1$
$203.70 \quad 50.1$
$208.65 \quad 50.1$
$213.62 \quad 50.4$
$218.58 \quad 49.5$
$223.54 \quad 50.5$
$228.51 \quad 49.9$
$233.47 \quad 50.6$
$238.44 \quad 49.8$
$243.39 \quad 50.1$
$248.36 \quad 50.4$
$253.31 \quad 50.1$
$258.28 \quad 50.2$
$263.25 \quad 50.0$
$268.20 \quad 50.3$
$273.17 \quad 50.4$
$278.12 \quad 50.4$
$283.09 \quad 50.0$
$288.06 \quad 50.0$
$293.01 \quad 49.8$
$297.98 \quad 50.4$
302.9450 .4
$307.91 \quad 50.5$
$312.88 \quad 49.3$
$317.83 \quad 50.4$
$322.80 \quad 49.7$
$327.75 \quad 49.8$
$332.72 \quad 50.4$
$337.69 \quad 50.4$
$342.64 \quad 50.7$
$347.61 \quad 50.1$
$352.56 \quad 50.6$
$357.53 \quad 50.0$
$362.48 \quad 50.1$
$367.45 \quad 49.8$
$372.42 \quad 50.4$
$377.38 \quad 49.7$
$382.34 \quad 50.2$
$387.31 \quad 50.5$
$392.27 \quad 50.5$
397.2450 .0
$402.19 \quad 50.6$
$407.16 \quad 49.6$
$412.13 \quad 50.4$
$417.08 \quad 50.4$
$422.05 \quad 50.1$
$427.00 \quad 50.6$

Sunday, December 13, 2015 1:31:19 0.991 Sunday, December 13, 2015 1:36:19 0.991
Sunday, December 13, 2015 1:41:20 0.991
Sunday, December 13, 2015 1:46:21 0.991
Sunday, December 13, 2015 1:51:21 0.991
Sunday, December 13, 2015 1:56:22 0.991 Sunday, December 13, 2015 2:01:22 0.991 Sunday, December 13, 2015 2:06:23 0.991 Sunday, December 13, 2015 2:11:23 0.991 Sunday, December 13, 2015 2:16:24 0.991 Sunday, December 13, 2015 2:21:25 0.991
Sunday, December 13, 2015 2:26:25 0.991 Sunday, December 13, 2015 2:31:26 0.991 Sunday, December 13, 2015 2:36:27 0.991
Sunday, December 13, 2015 2:41:27 0.991
Sunday, December 13, 2015 2:46:28 0.991
Sunday, December 13, 2015 2:51:28 0.991
Sunday, December 13, 2015 2:56:29 0.991
Sunday, December 13, 2015 3:01:29 0.991
Sunday, December 13, 2015 3:06:30 0.991
Sunday, December 13, 2015 3:11:30 0.991
Sunday, December 13, 2015 3:16:31 0.991
Sunday, December 13, 2015 3:21:32 0.991
Sunday, December 13, 2015 3:26:32 0.991
Sunday, December 13, 2015 3:31:33 0.991
Sunday, December 13, 2015 3:36:33 0.991
Sunday, December 13, 2015 3:41:34 0.991
Sunday, December 13, 2015 3:46:34 0.991
Sunday, December 13, 2015 3:51:35 0.991
Sunday, December 13, 2015 3:56:36 0.991
Sunday, December 13, 2015 4:01:36 0.991
Sunday, December 13, 2015 4:06:37 0.991
Sunday, December 13, 2015 4:11:37 0.991
Sunday, December 13, 2015 4:16:38 0.991
Sunday, December 13, 2015 4:21:38 0.991
Sunday, December 13, 2015 4:26:39 0.991
Sunday, December 13, 2015 4:31:40 0.991
Sunday, December 13, 2015 4:36:40 0.991
Sunday, December 13, 2015 4:41:41 0.991
Sunday, December 13, 2015 4:46:41 0.991
Sunday, December 13, 2015 4:51:42 0.991
Sunday, December 13, 2015 4:56:42 0.991
Sunday, December 13, 2015 5:01:43 0.991
Sunday, December 13, 2015 5:06:44 0.991
Sunday, December 13, 2015 5:11:44 0.991
Sunday, December 13, 2015 5:16:45 0.991
Sunday, December 13, 2015 5:21:45 0.991
Sunday, December 13, 2015 5:26:46 0.991
Sunday, December 13, 2015 5:31:46 0.991
Sunday, December 13, 2015 5:36:47 0.991
Sunday, December 13, 2015 5:41:47 0.991
Sunday, December 13, 2015 5:46:48 0.991
Sunday, December 13, 2015 5:51:49 0.991
Sunday, December 13, 2015 5:56:49 0.991
431.97 49.8
$436.92 \quad 49.9$
$441.89 \quad 50.0$
$446.86 \quad 50.1$
$451.81 \quad 50.2$
$456.78 \quad 50.4$
$461.74 \quad 50.5$
$466.71 \quad 49.9$
$471.66 \quad 50.4$
$476.63 \quad 50.5$
$481.60 \quad 50.7$
$486.55 \quad 50.3$
$491.52 \quad 50.4$
$496.49 \quad 50.1$
$501.44 \quad 50.1$
$506.41 \quad 49.6$
$511.36 \quad 50.6$
$516.33 \quad 50.4$
$521.28 \quad 50.1$
$526.25 \quad 50.0$
$531.21 \quad 50.1$
$536.17 \quad 50.2$
$541.14 \quad 50.2$
$546.10 \quad 50.0$
$551.07 \quad 50.1$
556.0249 .9
560.9949 .6
$565.94 \quad 50.4$
$570.91 \quad 50.4$
$575.88 \quad 50.1$
$580.83 \quad 50.0$
$585.80 \quad 49.8$
$590.75 \quad 50.0$
595.7249 .7
$600.67 \quad 50.5$
$605.64 \quad 50.1$
$610.61 \quad 49.7$
$615.57 \quad 50.5$
$620.54 \quad 50.0$
$625.49 \quad 50.4$
$630.46 \quad 50.1$
$635.41 \quad 50.1$
$640.38 \quad 50.5$
$645.35 \quad 50.4$
$650.30 \quad 50.1$
$655.27 \quad 50.1$
660.2249 .8
$665.19 \quad 50.1$
$670.14 \quad 50.1$
$675.11 \quad 50.6$
$680.07 \quad 50.0$
$685.04 \quad 49.3$
$690.00 \quad 50.5$
$694.96 \quad 50.2$

# Ch. 2 Cartridge Started Friday, December 18, 2015 18:15:03 

Flow Rate Set Point 1.00 1/min
Stopped Saturday, December 19, 2015 6:15:24
Total Volume 713.07 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.991 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate 0.000 1/min
Ending Leak Rate -0.004 1/min
Flow Controller Zero -0.003 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Friday, December 18, 2015 18:15:30 0.078
Friday, December 18, 2015 18:20:30 0.991
Friday, December 18, 2015 18:25:31 0.991
Friday, December 18, 2015 18:30:31 0.991
Friday, December 18, 2015 18:35:32 0.991
Friday, December 18, 2015 18:40:32 0.991
Friday, December 18, 2015 18:45:33 0.991
Friday, December 18, 2015 18:50:33 0.991
Friday, December 18, 2015 18:55:34 0.991
Friday, December 18, 2015 19:00:34 0.991
Friday, December 18, 2015 19:05:35 0.991
Friday, December 18, 2015 19:10:35 0.991
Friday, December 18, 2015 19:15:36 0.991
Friday, December 18, 2015 19:20:36 0.991
Friday, December 18, 2015 19:25:37 0.991
Friday, December 18, 2015 19:30:37 0.991
Friday, December 18, 2015 19:35:37 0.991
Friday, December 18, 2015 19:40:38 0.991
Friday, December 18, 2015 19:45:38 0.991
Friday, December 18, 2015 19:50:39 0.991
Friday, December 18, 2015 19:55:39 0.991
Friday, December 18, 2015 20:00:40 0.991
Friday, December 18, 2015 20:05:40 0.991
Friday, December 18, 2015 20:10:41 0.991
Friday, December 18, 2015 20:15:41 0.991
Friday, December 18, 2015 20:20:42 0.991
Friday, December 18, 2015 20:25:42 0.991
Friday, December 18, 2015 20:30:43 0.991
Friday, December 18, 2015 20:35:43 0.991
Friday, December 18, 2015 20:40:44 0.991
Friday, December 18, 2015 20:45:44 0.991
Friday, December 18, 2015 20:50:45 0.991
Friday, December 18, 2015 20:55:45 0.991
$0.22 \quad 50.2$
$5.18 \quad 50.1$
$10.15 \quad 50.0$
$15.10 \quad 50.1$
$20.07 \quad 50.1$
$25.02 \quad 50.1$
$29.99 \quad 50.1$
$34.95 \quad 50.1$
$39.92 \quad 50.1$
$44.87 \quad 49.8$
$49.84 \quad 50.0$
$54.79 \quad 49.8$
$59.76 \quad 49.7$
$64.72 \quad 49.7$
$69.69 \quad 50.3$
$74.64 \quad 50.1$
$79.59 \quad 50.1$
$84.56 \quad 50.2$
$89.52 \quad 49.7$
$94.49 \quad 50.2$
$99.44 \quad 50.3$
$104.41 \quad 50.2$
109.3649 .7
114.3350 .0
$119.28 \quad 50.1$
$124.25 \quad 50.1$
$129.21 \quad 49.7$
$134.18 \quad 50.1$
$139.13 \quad 50.1$
$144.10 \quad 50.2$
149.0549 .7
$154.02 \quad 50.1$
158.9850 .2

Friday, December 18, 2015 21:00:46 0.991
Friday, December 18, 2015 21:05:46 0.991
Friday, December 18, 2015 21:10:47 0.991
Friday, December 18, 2015 21:15:47 0.991
Friday, December 18, 2015 21:20:48 0.991
Friday, December 18, 2015 21:25:48 0.991
Friday, December 18, 2015 21:30:49 0.991
Friday, December 18, 2015 21:35:49 0.991
Friday, December 18, 2015 21:40:50 0.991
Friday, December 18, 2015 21:45:50 0.991
Friday, December 18, 2015 21:50:51 0.991
Friday, December 18, 2015 21:55:51 0.991
Friday, December 18, 2015 22:00:52 0.991
Friday, December 18, 2015 22:05:52 0.991
Friday, December 18, 2015 22:10:53 0.991
Friday, December 18, 2015 22:15:53 0.991
Friday, December 18, 2015 22:20:53 0.991
Friday, December 18, 2015 22:25:54 0.991
Friday, December 18, 2015 22:30:54 0.991
Friday, December 18, 2015 22:35:55 0.991
Friday, December 18, 2015 22:40:55 0.991
Friday, December 18, 2015 22:45:56 0.991
Friday, December 18, 2015 22:50:56 0.991
Friday, December 18, 2015 22:55:57 0.991
Friday, December 18, 2015 23:00:57 0.991
Friday, December 18, 2015 23:05:58 0.991
Friday, December 18, 2015 23:10:58 0.991
Friday, December 18, 2015 23:15:59 0.991
Friday, December 18, 2015 23:20:59 0.991
Friday, December 18, 2015 23:26:00 0.991
Friday, December 18, 2015 23:31:00 0.991
Friday, December 18, 2015 23:36:01 0.991
Friday, December 18, 2015 23:41:01 0.991
Friday, December 18, 2015 23:46:02 0.991
Friday, December 18, 2015 23:51:02 0.991
Friday, December 18, 2015 23:56:03 0.991
Saturday, December 19, 2015 0:01:03 0.991
Saturday, December 19, 2015 0:06:04 0.991
Saturday, December 19, 2015 0:11:04 0.991
Saturday, December 19, 2015 0:16:05 0.991
Saturday, December 19, 2015 0:21:05 0.991
Saturday, December 19, 2015 0:26:06 0.991
Saturday, December 19, 2015 0:31:06 0.991
Saturday, December 19, 2015 0:36:07 0.991
Saturday, December 19, 2015 0:41:07 0.991
Saturday, December 19, 2015 0:46:08 0.991
Saturday, December 19, 2015 0:51:08 0.991
Saturday, December 19, 2015 0:56:09 0.991
Saturday, December 19, 2015 1:01:09 0.991
Saturday, December 19, 2015 1:06:10 0.991
Saturday, December 19, 2015 1:11:10 0.991
Saturday, December 19, 2015 1:16:10 0.991
Saturday, December 19, 2015 1:21:11 0.991
Saturday, December 19, 2015 1:26:11 0.991
163.95
50.1
$168.90 \quad 50.1$
$173.87 \quad 50.2$
$178.82 \quad 50.2$
$183.79 \quad 50.2$
$188.75 \quad 50.1$
$193.72 \quad 50.0$
198.6749 .7
$203.64 \quad 50.1$
$208.59 \quad 49.7$
$213.56 \quad 49.7$
$218.52 \quad 50.2$
$223.49 \quad 50.1$
$228.44 \quad 50.1$
$233.41 \quad 50.1$
$238.36 \quad 50.1$
$243.32 \quad 50.0$
$248.29 \quad 50.1$
$253.24 \quad 49.6$
$258.21 \quad 49.7$
$263.16 \quad 50.0$
$268.13 \quad 50.0$
$273.09 \quad 49.7$
$278.06 \quad 50.2$
$283.01 \quad 50.0$
$287.98 \quad 50.1$
$292.93 \quad 50.1$
$297.90 \quad 49.4$
$302.86 \quad 49.7$
$307.83 \quad 50.1$
$312.78 \quad 50.1$
$317.75 \quad 50.1$
$322.70 \quad 50.2$
$327.67 \quad 50.3$
$332.63 \quad 49.5$
$337.60 \quad 50.1$
$342.55 \quad 50.0$
$347.52 \quad 50.0$
$352.47 \quad 49.7$
$357.44 \quad 50.1$
$362.40 \quad 50.0$
$367.37 \quad 49.7$
$372.32 \quad 50.1$
$377.29 \quad 50.0$
$382.24 \quad 50.1$
$387.21 \quad 49.5$
$392.17 \quad 49.7$
$397.14 \quad 50.3$
$402.09 \quad 49.7$
$407.06 \quad 50.0$
$412.01 \quad 50.1$
$416.97 \quad 50.1$
$421.94 \quad 49.8$
$426.89 \quad 49.7$

Saturday, December 19, 2015 1:31:12 0.991
Saturday, December 19, 2015 1:36:12 0.991
Saturday, December 19, 2015 1:41:13 0.991
Saturday, December 19, 2015 1:46:13 0.991
Saturday, December 19, 2015 1:51:14 0.991
Saturday, December 19, 2015 1:56:14 0.991
Saturday, December 19, 2015 2:01:15 0.991
Saturday, December 19, 2015 2:06:15 0.991
Saturday, December 19, 2015 2:11:16 0.991
Saturday, December 19, 2015 2:16:16 0.991
Saturday, December 19, 2015 2:21:17 0.991
Saturday, December 19, 2015 2:26:17 0.991
Saturday, December 19, 2015 2:31:18 0.991
Saturday, December 19, 2015 2:36:18 0.991
Saturday, December 19, 2015 2:41:19 0.991
Saturday, December 19, 2015 2:46:19 0.991
Saturday, December 19, 2015 2:51:20 0.991
Saturday, December 19, 2015 2:56:20 0.991
Saturday, December 19, 2015 3:01:21 0.991
Saturday, December 19, 2015 3:06:21 0.991
Saturday, December 19, 2015 3:11:22 0.991
Saturday, December 19, 2015 3:16:22 0.991
Saturday, December 19, 2015 3:21:23 0.991
Saturday, December 19, 2015 3:26:23 0.991
Saturday, December 19, 2015 3:31:24 0.991
Saturday, December 19, 2015 3:36:24 0.991
Saturday, December 19, 2015 3:41:24 0.991
Saturday, December 19, 2015 3:46:25 0.991
Saturday, December 19, 2015 3:51:25 0.991
Saturday, December 19, 2015 3:56:26 0.991
Saturday, December 19, 2015 4:01:26 0.991
Saturday, December 19, 2015 4:06:27 0.991
Saturday, December 19, 2015 4:11:27 0.991
Saturday, December 19, 2015 4:16:28 0.991
Saturday, December 19, 2015 4:21:28 0.991
Saturday, December 19, 2015 4:26:29 0.991
Saturday, December 19, 2015 4:31:29 0.991
Saturday, December 19, 2015 4:36:30 0.991
Saturday, December 19, 2015 4:41:30 0.991
Saturday, December 19, 2015 4:46:31 0.991
Saturday, December 19, 2015 4:51:31 0.991
Saturday, December 19, 2015 4:56:32 0.991
Saturday, December 19, 2015 5:01:32 0.991
Saturday, December 19, 2015 5:06:32 0.991
Saturday, December 19, 2015 5:11:33 0.991
Saturday, December 19, 2015 5:16:33 0.991
Saturday, December 19, 2015 5:21:34 0.991
Saturday, December 19, 2015 5:26:34 0.991
Saturday, December 19, 2015 5:31:35 0.991
Saturday, December 19, 2015 5:36:35 0.991
Saturday, December 19, 2015 5:41:36 0.991
Saturday, December 19, 2015 5:46:36 0.991
Saturday, December 19, 2015 5:51:37 0.991
Saturday, December 19, 2015 5:56:37 0.991
$431.86 \quad 50.0$
$436.81 \quad 50.1$
$441.78 \quad 50.2$
$446.74 \quad 50.1$
$451.71 \quad 50.1$
$456.66 \quad 50.1$
$461.63 \quad 50.1$
$466.58 \quad 50.1$
$471.55 \quad 50.0$
$476.51 \quad 50.1$
$481.48 \quad 49.8$
$486.43 \quad 50.1$
$491.40 \quad 49.8$
$496.35 \quad 50.1$
$501.33 \quad 50.1$
$506.28 \quad 50.5$
$511.25 \quad 49.7$
$516.20 \quad 49.7$
$521.17 \quad 50.1$
$526.13 \quad 50.0$
$531.10 \quad 50.1$
$536.05 \quad 50.1$
$541.02 \quad 50.0$
$545.97 \quad 49.9$
$550.94 \quad 50.0$
$555.89 \quad 50.2$
$560.85 \quad 50.1$
565.8249 .7
$570.77 \quad 50.1$
$575.74 \quad 50.1$
$580.69 \quad 50.1$
$585.66 \quad 49.7$
$590.62 \quad 50.1$
$595.59 \quad 50.0$
$600.54 \quad 50.1$
$605.51 \quad 50.0$
$610.46 \quad 50.0$
$615.43 \quad 50.1$
$620.39 \quad 50.1$
625.3650 .0
$630.31 \quad 50.1$
$635.28 \quad 50.0$
$640.23 \quad 50.0$
645.1849 .6
$650.15 \quad 49.7$
$655.11 \quad 50.0$
$660.08 \quad 50.1$
$665.03 \quad 50.1$
$670.00 \quad 50.2$
$674.95 \quad 49.7$
$679.92 \quad 50.1$
$684.88 \quad 50.0$
$689.85 \quad 50.1$
$694.80 \quad 50.1$

# Ch. 2 Cartridge Started Friday, December 18, 2015 18:15:03 

Flow Rate Set Point 1.00 1/min
Stopped Saturday, December 19, 2015 6:15:24
Total Volume 713.07 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.991 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate 0.000 1/min
Ending Leak Rate -0.004 1/min
Flow Controller Zero -0.003 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Friday, December 18, 2015 18:15:30 0.078
Friday, December 18, 2015 18:20:30 0.991
Friday, December 18, 2015 18:25:31 0.991
Friday, December 18, 2015 18:30:31 0.991
Friday, December 18, 2015 18:35:32 0.991
Friday, December 18, 2015 18:40:32 0.991
Friday, December 18, 2015 18:45:33 0.991
Friday, December 18, 2015 18:50:33 0.991
Friday, December 18, 2015 18:55:34 0.991
Friday, December 18, 2015 19:00:34 0.991
Friday, December 18, 2015 19:05:35 0.991
Friday, December 18, 2015 19:10:35 0.991
Friday, December 18, 2015 19:15:36 0.991
Friday, December 18, 2015 19:20:36 0.991
Friday, December 18, 2015 19:25:37 0.991
Friday, December 18, 2015 19:30:37 0.991
Friday, December 18, 2015 19:35:37 0.991
Friday, December 18, 2015 19:40:38 0.991
Friday, December 18, 2015 19:45:38 0.991
Friday, December 18, 2015 19:50:39 0.991
Friday, December 18, 2015 19:55:39 0.991
Friday, December 18, 2015 20:00:40 0.991
Friday, December 18, 2015 20:05:40 0.991
Friday, December 18, 2015 20:10:41 0.991
Friday, December 18, 2015 20:15:41 0.991
Friday, December 18, 2015 20:20:42 0.991
Friday, December 18, 2015 20:25:42 0.991
Friday, December 18, 2015 20:30:43 0.991
Friday, December 18, 2015 20:35:43 0.991
Friday, December 18, 2015 20:40:44 0.991
Friday, December 18, 2015 20:45:44 0.991
Friday, December 18, 2015 20:50:45 0.991
Friday, December 18, 2015 20:55:45 0.991
$0.22 \quad 50.2$
$5.18 \quad 50.1$
$10.15 \quad 50.0$
$15.10 \quad 50.1$
$20.07 \quad 50.1$
$25.02 \quad 50.1$
$29.99 \quad 50.1$
$34.95 \quad 50.1$
$39.92 \quad 50.1$
$44.87 \quad 49.8$
$49.84 \quad 50.0$
$54.79 \quad 49.8$
$59.76 \quad 49.7$
$64.72 \quad 49.7$
$69.69 \quad 50.3$
$74.64 \quad 50.1$
$79.59 \quad 50.1$
$84.56 \quad 50.2$
$89.52 \quad 49.7$
$94.49 \quad 50.2$
$99.44 \quad 50.3$
$104.41 \quad 50.2$
109.3649 .7
114.3350 .0
$119.28 \quad 50.1$
$124.25 \quad 50.1$
$129.21 \quad 49.7$
$134.18 \quad 50.1$
$139.13 \quad 50.1$
$144.10 \quad 50.2$
149.0549 .7
$154.02 \quad 50.1$
158.9850 .2

Friday, December 18, 2015 21:00:46 0.991
Friday, December 18, 2015 21:05:46 0.991
Friday, December 18, 2015 21:10:47 0.991
Friday, December 18, 2015 21:15:47 0.991
Friday, December 18, 2015 21:20:48 0.991
Friday, December 18, 2015 21:25:48 0.991
Friday, December 18, 2015 21:30:49 0.991
Friday, December 18, 2015 21:35:49 0.991
Friday, December 18, 2015 21:40:50 0.991
Friday, December 18, 2015 21:45:50 0.991
Friday, December 18, 2015 21:50:51 0.991
Friday, December 18, 2015 21:55:51 0.991
Friday, December 18, 2015 22:00:52 0.991
Friday, December 18, 2015 22:05:52 0.991
Friday, December 18, 2015 22:10:53 0.991
Friday, December 18, 2015 22:15:53 0.991
Friday, December 18, 2015 22:20:53 0.991
Friday, December 18, 2015 22:25:54 0.991
Friday, December 18, 2015 22:30:54 0.991
Friday, December 18, 2015 22:35:55 0.991
Friday, December 18, 2015 22:40:55 0.991
Friday, December 18, 2015 22:45:56 0.991
Friday, December 18, 2015 22:50:56 0.991
Friday, December 18, 2015 22:55:57 0.991
Friday, December 18, 2015 23:00:57 0.991
Friday, December 18, 2015 23:05:58 0.991
Friday, December 18, 2015 23:10:58 0.991
Friday, December 18, 2015 23:15:59 0.991
Friday, December 18, 2015 23:20:59 0.991
Friday, December 18, 2015 23:26:00 0.991
Friday, December 18, 2015 23:31:00 0.991
Friday, December 18, 2015 23:36:01 0.991
Friday, December 18, 2015 23:41:01 0.991
Friday, December 18, 2015 23:46:02 0.991
Friday, December 18, 2015 23:51:02 0.991
Friday, December 18, 2015 23:56:03 0.991
Saturday, December 19, 2015 0:01:03 0.991
Saturday, December 19, 2015 0:06:04 0.991
Saturday, December 19, 2015 0:11:04 0.991
Saturday, December 19, 2015 0:16:05 0.991
Saturday, December 19, 2015 0:21:05 0.991
Saturday, December 19, 2015 0:26:06 0.991
Saturday, December 19, 2015 0:31:06 0.991
Saturday, December 19, 2015 0:36:07 0.991
Saturday, December 19, 2015 0:41:07 0.991
Saturday, December 19, 2015 0:46:08 0.991
Saturday, December 19, 2015 0:51:08 0.991
Saturday, December 19, 2015 0:56:09 0.991
Saturday, December 19, 2015 1:01:09 0.991
Saturday, December 19, 2015 1:06:10 0.991
Saturday, December 19, 2015 1:11:10 0.991
Saturday, December 19, 2015 1:16:10 0.991
Saturday, December 19, 2015 1:21:11 0.991
Saturday, December 19, 2015 1:26:11 0.991
163.95
50.1
$168.90 \quad 50.1$
$173.87 \quad 50.2$
$178.82 \quad 50.2$
$183.79 \quad 50.2$
$188.75 \quad 50.1$
$193.72 \quad 50.0$
198.6749 .7
$203.64 \quad 50.1$
$208.59 \quad 49.7$
$213.56 \quad 49.7$
$218.52 \quad 50.2$
$223.49 \quad 50.1$
$228.44 \quad 50.1$
$233.41 \quad 50.1$
$238.36 \quad 50.1$
$243.32 \quad 50.0$
$248.29 \quad 50.1$
$253.24 \quad 49.6$
$258.21 \quad 49.7$
$263.16 \quad 50.0$
$268.13 \quad 50.0$
$273.09 \quad 49.7$
$278.06 \quad 50.2$
$283.01 \quad 50.0$
$287.98 \quad 50.1$
$292.93 \quad 50.1$
$297.90 \quad 49.4$
$302.86 \quad 49.7$
$307.83 \quad 50.1$
$312.78 \quad 50.1$
$317.75 \quad 50.1$
$322.70 \quad 50.2$
$327.67 \quad 50.3$
$332.63 \quad 49.5$
$337.60 \quad 50.1$
$342.55 \quad 50.0$
$347.52 \quad 50.0$
$352.47 \quad 49.7$
$357.44 \quad 50.1$
$362.40 \quad 50.0$
$367.37 \quad 49.7$
$372.32 \quad 50.1$
$377.29 \quad 50.0$
$382.24 \quad 50.1$
$387.21 \quad 49.5$
$392.17 \quad 49.7$
$397.14 \quad 50.3$
$402.09 \quad 49.7$
$407.06 \quad 50.0$
$412.01 \quad 50.1$
$416.97 \quad 50.1$
$421.94 \quad 49.8$
$426.89 \quad 49.7$

Saturday, December 19, 2015 1:31:12 0.991
Saturday, December 19, 2015 1:36:12 0.991
Saturday, December 19, 2015 1:41:13 0.991
Saturday, December 19, 2015 1:46:13 0.991
Saturday, December 19, 2015 1:51:14 0.991
Saturday, December 19, 2015 1:56:14 0.991
Saturday, December 19, 2015 2:01:15 0.991
Saturday, December 19, 2015 2:06:15 0.991
Saturday, December 19, 2015 2:11:16 0.991
Saturday, December 19, 2015 2:16:16 0.991
Saturday, December 19, 2015 2:21:17 0.991
Saturday, December 19, 2015 2:26:17 0.991
Saturday, December 19, 2015 2:31:18 0.991
Saturday, December 19, 2015 2:36:18 0.991
Saturday, December 19, 2015 2:41:19 0.991
Saturday, December 19, 2015 2:46:19 0.991
Saturday, December 19, 2015 2:51:20 0.991
Saturday, December 19, 2015 2:56:20 0.991
Saturday, December 19, 2015 3:01:21 0.991
Saturday, December 19, 2015 3:06:21 0.991
Saturday, December 19, 2015 3:11:22 0.991
Saturday, December 19, 2015 3:16:22 0.991
Saturday, December 19, 2015 3:21:23 0.991
Saturday, December 19, 2015 3:26:23 0.991
Saturday, December 19, 2015 3:31:24 0.991
Saturday, December 19, 2015 3:36:24 0.991
Saturday, December 19, 2015 3:41:24 0.991
Saturday, December 19, 2015 3:46:25 0.991
Saturday, December 19, 2015 3:51:25 0.991
Saturday, December 19, 2015 3:56:26 0.991
Saturday, December 19, 2015 4:01:26 0.991
Saturday, December 19, 2015 4:06:27 0.991
Saturday, December 19, 2015 4:11:27 0.991
Saturday, December 19, 2015 4:16:28 0.991
Saturday, December 19, 2015 4:21:28 0.991
Saturday, December 19, 2015 4:26:29 0.991
Saturday, December 19, 2015 4:31:29 0.991
Saturday, December 19, 2015 4:36:30 0.991
Saturday, December 19, 2015 4:41:30 0.991
Saturday, December 19, 2015 4:46:31 0.991
Saturday, December 19, 2015 4:51:31 0.991
Saturday, December 19, 2015 4:56:32 0.991
Saturday, December 19, 2015 5:01:32 0.991
Saturday, December 19, 2015 5:06:32 0.991
Saturday, December 19, 2015 5:11:33 0.991
Saturday, December 19, 2015 5:16:33 0.991
Saturday, December 19, 2015 5:21:34 0.991
Saturday, December 19, 2015 5:26:34 0.991
Saturday, December 19, 2015 5:31:35 0.991
Saturday, December 19, 2015 5:36:35 0.991
Saturday, December 19, 2015 5:41:36 0.991
Saturday, December 19, 2015 5:46:36 0.991
Saturday, December 19, 2015 5:51:37 0.991
Saturday, December 19, 2015 5:56:37 0.991
$431.86 \quad 50.0$
$436.81 \quad 50.1$
$441.78 \quad 50.2$
$446.74 \quad 50.1$
$451.71 \quad 50.1$
$456.66 \quad 50.1$
$461.63 \quad 50.1$
$466.58 \quad 50.1$
$471.55 \quad 50.0$
$476.51 \quad 50.1$
$481.48 \quad 49.8$
$486.43 \quad 50.1$
$491.40 \quad 49.8$
$496.35 \quad 50.1$
$501.33 \quad 50.1$
$506.28 \quad 50.5$
$511.25 \quad 49.7$
$516.20 \quad 49.7$
$521.17 \quad 50.1$
$526.13 \quad 50.0$
$531.10 \quad 50.1$
$536.05 \quad 50.1$
$541.02 \quad 50.0$
$545.97 \quad 49.9$
$550.94 \quad 50.0$
$555.89 \quad 50.2$
$560.85 \quad 50.1$
565.8249 .7
$570.77 \quad 50.1$
$575.74 \quad 50.1$
$580.69 \quad 50.1$
$585.66 \quad 49.7$
$590.62 \quad 50.1$
$595.59 \quad 50.0$
$600.54 \quad 50.1$
$605.51 \quad 50.0$
$610.46 \quad 50.0$
$615.43 \quad 50.1$
$620.39 \quad 50.1$
625.3650 .0
$630.31 \quad 50.1$
$635.28 \quad 50.0$
$640.23 \quad 50.0$
645.1849 .6
$650.15 \quad 49.7$
$655.11 \quad 50.0$
$660.08 \quad 50.1$
$665.03 \quad 50.1$
$670.00 \quad 50.2$
$674.95 \quad 49.7$
$679.92 \quad 50.1$
$684.88 \quad 50.0$
$689.85 \quad 50.1$
$694.80 \quad 50.1$

# Ch. 2 Cartridge Started Thursday, December 24, 2015 18:15:00 

Flow Rate Set Point 1.00 1/min
Stopped Friday, December 25, 2015 6:15:25
Total Volume 713.05 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.990 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate 0.001 1/min
Ending Leak Rate -0.004 1/min
Flow Controller Zero -0.003 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Thursday, December 24, 2015 18:15:27 $0.081 \quad 0.22 \quad 50.0$
Thursday, December 24, 2015 18:20:28 $0.991 \quad 5.2050 .8$
Thursday, December 24, 2015 18:25:28 $0.991 \quad 10.15 \quad 50.3$
Thursday, December 24, 2015 18:30:29 $0.990 \quad 15.12 \quad 49.6$
Thursday, December 24, 2015 18:35:30 $0.990 \quad 20.09 \quad 49.9$
Thursday, December 24, 2015 18:40:30 $0.991 \quad 25.04 \quad 50.7$
Thursday, December 24, 2015 18:45:31 $0.990 \quad 30.01 \quad 50.5$
Thursday, December 24, 2015 18:50:32 $0.99134 .98 \quad 50.2$
Thursday, December 24, 2015 18:55:32 0.990 $39.93 \quad 50.2$
Thursday, December 24, 2015 19:00:33 $0.99144 .90 \quad 50.5$
Thursday, December 24, 2015 19:05:33 0.99149 .8549 .6
Thursday, December 24, 2015 19:10:34 0.99154 .8250 .2
Thursday, December 24, 2015 19:15:35 0.99159 .7950 .0
Thursday, December 24, 2015 19:20:35 $0.991 \quad 64.7450 .3$
Thursday, December 24, 2015 19:25:36 $0.991 \quad 69.71 \quad 50.1$
Thursday, December 24, 2015 19:30:36 0.99174 .6749 .7
Thursday, December 24, 2015 19:35:37 0.991
Thursday, December 24, 2015 19:40:38 0.991
Thursday, December 24, 2015 19:45:38 0.991
Thursday, December 24, 2015 19:50:39 0.991
Thursday, December 24, 2015 19:55:40 0.991
Thursday, December 24, 2015 20:00:40 0.991
Thursday, December 24, 2015 20:05:41 0.991
Thursday, December 24, 2015 20:10:41 0.991
Thursday, December 24, 2015 20:15:42 0.991
Thursday, December 24, 2015 20:20:43 0.991
Thursday, December 24, 2015 20:25:43 0.991
Thursday, December 24, 2015 20:30:44 0.991
Thursday, December 24, 2015 20:35:44 0.991
Thursday, December 24, 2015 20:40:45 0.991
Thursday, December 24, 2015 20:45:46 0.991
Thursday, December 24, 2015 20:50:46 0.991
Thursday, December 24, 2015 20:55:47 0.991
$79.64 \quad 49.7$
$84.61 \quad 50.1$
$89.56 \quad 50.0$
$94.53 \quad 50.4$
$99.50 \quad 49.6$
$104.45 \quad 50.5$
$109.42 \quad 50.2$
$114.37 \quad 50.6$
$119.34 \quad 50.2$
124.3150 .5
$129.26 \quad 50.5$
134.2349 .9
139.1949 .9
$144.16 \quad 50.2$
$149.12 \quad 50.7$
$154.08 \quad 50.5$
$159.05 \quad 49.7$

Thursday, December 24, 2015 21:00:48 0.991
164.02
168.97
$173.94-50.1$
$178.89 \quad 50.4$
183.8649 .9
188.8350 .6
$193.78 \quad 50.2$
$198.75 \quad 50.4$
$203.71 \quad 50.5$
$208.67 \quad 50.6$
$213.64 \quad 50.5$
$218.60 \quad 50.6$
$223.57 \quad 50.2$
$228.52 \quad 50.2$
$233.49 \quad 50.1$
$238.46 \quad 50.3$
$243.41 \quad 50.4$
$248.38 \quad 50.1$
$253.33 \quad 50.6$
$258.30 \quad 50.1$
$263.27 \quad 49.6$
268.2249 .8
$273.19 \quad 49.5$
$278.15 \quad 50.5$
$283.12 \quad 49.7$
$288.08 \quad 50.6$
$293.04 \quad 49.9$
$298.01 \quad 50.2$
302.9649 .7
$307.93 \quad 50.6$
$312.90 \quad 50.2$
$317.85 \quad 50.1$
$322.82 \quad 50.2$
$327.77 \quad 50.6$
$332.74 \quad 49.8$
$337.71 \quad 50.6$

Friday, December 25, 2015 0:01:09 0.991342 .6650 .8
Friday, December 25, 2015 0:06:10 0.991347 .6349 .7
Friday, December 25, 2015 0:11:10 $0.991 \quad 352.59 \quad 50.5$
Friday, December 25, 2015 0:16:11 $0.991 \quad 357.55 \quad 50.5$
Friday, December 25, 2015 0:21:12 $0.991 \quad 362.52 \quad 50.0$
Friday, December 25, 2015 0:26:12 $0.991 \quad 367.48 \quad 50.0$
Friday, December 25, 2015 0:31:13 0.991
Friday, December 25, 2015 0:36:13 0.991
Friday, December 25, 2015 0:41:14 0.991
Friday, December 25, 2015 0:46:14 0.991
Friday, December 25, 2015 0:51:15 0.991
Friday, December 25, 2015 0:56:16 0.991
Friday, December 25, 2015 1:01:16 0.991
Friday, December 25, 2015 1:06:17 0.991
Friday, December 25, 2015 1:11:17 0.991
Friday, December 25, 2015 1:16:18 0.991
Friday, December 25, 2015 1:21:18 0.991
Friday, December 25, 2015 1:26:19 0.991
$372.45 \quad 50.7$
$377.40 \quad 50.0$
$382.37 \quad 50.4$
$387.32 \quad 50.5$
$392.29 \quad 50.4$
$397.26 \quad 49.9$
$402.21 \quad 50.3$
$407.18 \quad 49.8$
$412.13 \quad 50.1$
$417.10 \quad 50.5$
$422.06 \quad 50.6$
$427.02 \quad 50.4$

Friday, December 25, 2015 1:31:20 0.991
Friday, December 25, 2015 1:36:20 0.991
Friday, December 25, 2015 1:41:21 0.991
Friday, December 25, 2015 1:46:21 0.991
Friday, December 25, 2015 1:51:22 0.991
Friday, December 25, 2015 1:56:22 0.991
Friday, December 25, 2015 2:01:23 0.991
Friday, December 25, 2015 2:06:23 0.991
Friday, December 25, 2015 2:11:24 0.991
Friday, December 25, 2015 2:16:25 0.991
Friday, December 25, 2015 2:21:25 0.991
Friday, December 25, 2015 2:26:26 0.991
Friday, December 25, 2015 2:31:26 0.991
Friday, December 25, 2015 2:36:27 0.991
Friday, December 25, 2015 2:41:27 0.991
Friday, December 25, 2015 2:46:28 0.991
Friday, December 25, 2015 2:51:28 0.991
Friday, December 25, 2015 2:56:29 0.991
Friday, December 25, 2015 3:01:30 0.991
Friday, December 25, 2015 3:06:30 0.991
Friday, December 25, 2015 3:11:31 0.991
Friday, December 25, 2015 3:16:31 0.991
Friday, December 25, 2015 3:21:32 0.991
Friday, December 25, 2015 3:26:32 0.991
Friday, December 25, 2015 3:31:33 0.991
Friday, December 25, 2015 3:36:33 0.991
Friday, December 25, 2015 3:41:34 0.991
Friday, December 25, 2015 3:46:35 0.991
Friday, December 25, 2015 3:51:35 0.991
Friday, December 25, 2015 3:56:36 0.991
Friday, December 25, 2015 4:01:36 0.991
Friday, December 25, 2015 4:06:37 0.991
Friday, December 25, 2015 4:11:37 0.991
Friday, December 25, 2015 4:16:38 0.991
Friday, December 25, 2015 4:21:38 0.991
Friday, December 25, 2015 4:26:39 0.991
Friday, December 25, 2015 4:31:40 0.991
Friday, December 25, 2015 4:36:40 0.991
Friday, December 25, 2015 4:41:41 0.991
Friday, December 25, 2015 4:46:41 0.991
Friday, December 25, 2015 4:51:42 0.991
Friday, December 25, 2015 4:56:42 0.991
Friday, December 25, 2015 5:01:43 0.991
Friday, December 25, 2015 5:06:43 0.991
Friday, December 25, 2015 5:11:44 0.991
Friday, December 25, 2015 5:16:44 0.991
Friday, December 25, 2015 5:21:45 0.991
Friday, December 25, 2015 5:26:46 0.991
Friday, December 25, 2015 5:31:46 0.991
Friday, December 25, 2015 5:36:47 0.991
Friday, December 25, 2015 5:41:47 0.991
Friday, December 25, 2015 5:46:48 0.991
Friday, December 25, 2015 5:51:48 0.991
Friday, December 25, 2015 5:56:49 0.991
431.99
50.4
$441.92 \quad 50.1$
$446.87 \quad 50.5$
$451.84 \quad 50.0$
$456.79 \quad 50.6$
$461.76 \quad 50.4$
$466.71 \quad 49.9$
$471.68 \quad 50.5$
$476.65 \quad 49.9$
$481.60 \quad 50.2$
$486.57 \quad 50.2$
$491.53 \quad 50.4$
$496.49 \quad 50.4$
$501.45 \quad 50.1$
$506.42 \quad 50.1$
$511.37 \quad 50.5$
$516.34 \quad 49.7$
$521.31 \quad 50.6$
$526.26 \quad 49.8$
$531.23 \quad 50.6$
$536.18 \quad 49.8$
$541.15 \quad 50.5$
$546.10 \quad 50.1$
$551.07 \quad 50.5$
$556.03 \quad 50.4$
$561.00 \quad 50.2$
$565.97 \quad 50.5$
$570.92 \quad 50.4$
$575.89 \quad 50.5$
$580.84 \quad 50.2$
585.8149 .8
$590.76 \quad 50.0$
$595.73 \quad 50.5$
$600.68 \quad 50.5$
$605.65 \quad 50.1$
$610.62 \quad 50.3$
$615.58 \quad 50.1$
$620.54 \quad 50.0$
$625.50 \quad 50.0$
$630.47 \quad 50.1$
$635.42 \quad 50.3$
$640.39 \quad 49.4$
$645.34 \quad 50.1$
$650.31 \quad 50.1$
$655.26 \quad 50.5$
$660.23 \quad 50.4$
$665.20 \quad 50.0$
$670.15 \quad 50.4$
$675.12 \quad 50.4$
$680.08 \quad 49.6$
$685.05 \quad 50.1$
$690.00 \quad 50.0$
$694.97 \quad 50.6$

Friday, December 25, 2015 6:01:49 $0.991 \quad 699.92 \quad 50.4$
Friday, December 25, 2015 6:06:50 0.991704 .8950 .2
Friday, December 25, 2015 6:11:50 $0.991 \quad 709.8449 .5$
Friday, December 25, 2015 6:15:04 $0.991 \quad 713.0549 .8$

# Ch. 2 Cartridge Started Wednesday, December 30, 2015 18:15:05 

Flow Rate Set Point 1.00 1/min
Stopped Thursday, December 31, 2015 6:15:21
Total Volume 712.98 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.991 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate -0.001 1/min
Ending Leak Rate -0.003 1/min
Flow Controller Zero -0.003 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Wednesday, December 30, 2015 18:15:32 0.078
Wednesday, December 30, 2015 18:20:32 0.991
Wednesday, December 30, 2015 18:25:33 0.991
Wednesday, December 30, 2015 18:30:33 0.991
Wednesday, December 30, 2015 18:35:34 0.991
Wednesday, December 30, 2015 18:40:34 0.991
Wednesday, December 30, 2015 18:45:35 0.991
Wednesday, December 30, 2015 18:50:35 0.991
Wednesday, December 30, 2015 18:55:36 0.991
Wednesday, December 30, 2015 19:00:36 0.991
Wednesday, December 30, 2015 19:05:37 0.991
Wednesday, December 30, 2015 19:10:37 0.991
Wednesday, December 30, 2015 19:15:38 0.991
Wednesday, December 30, 2015 19:20:38 0.991
Wednesday, December 30, 2015 19:25:39 0.991
Wednesday, December 30, 2015 19:30:40 0.991
Wednesday, December 30, 2015 19:35:40 0.991
Wednesday, December 30, 2015 19:40:41 0.991
Wednesday, December 30, 2015 19:45:41 0.991
Wednesday, December 30, 2015 19:50:42 0.991
Wednesday, December 30, 2015 19:55:42 0.991
Wednesday, December 30, 2015 20:00:43 0.991
Wednesday, December 30, 2015 20:05:43 0.991
Wednesday, December 30, 2015 20:10:44 0.991
Wednesday, December 30, 2015 20:15:44 0.991
Wednesday, December 30, 2015 20:20:45 0.991
Wednesday, December 30, 2015 20:25:45 0.991
Wednesday, December 30, 2015 20:30:46 0.991
Wednesday, December 30, 2015 20:35:46 0.991
Wednesday, December 30, 2015 20:40:47 0.991
Wednesday, December 30, 2015 20:45:47 0.991
Wednesday, December 30, 2015 20:50:48 0.991
Wednesday, December 30, 2015 20:55:48 0.991
$0.22 \quad 49.9$
$5.18 \quad 50.1$
10.1549 .7
$15.10 \quad 49.6$
$20.07 \quad 50.1$
$25.03 \quad 50.1$
$30.00 \quad 49.7$
$34.95 \quad 50.1$
$39.92 \quad 50.1$
$44.87 \quad 50.2$
$49.84 \quad 50.1$
$54.80 \quad 49.8$
$59.77 \quad 50.1$
$64.72 \quad 50.1$
$69.69 \quad 50.0$
$74.66 \quad 49.7$
$79.61 \quad 49.6$
$84.58 \quad 50.1$
$89.53 \quad 50.1$
$94.50 \quad 50.1$
$99.46 \quad 50.2$
$104.43 \quad 49.7$
$109.38 \quad 50.0$
$114.35 \quad 50.1$
$119.30 \quad 50.0$
$124.27 \quad 50.1$
$129.23 \quad 50.1$
$134.20 \quad 50.1$
139.1549 .6
$144.12 \quad 50.0$
$149.07 \quad 50.1$
$154.04 \quad 50.2$
$159.00 \quad 50.2$

Wednesday, December 30, 2015 21:00:49 0.991
Wednesday, December 30, 2015 21:05:50 0.991
Wednesday, December 30, 2015 21:10:50 0.991
Wednesday, December 30, 2015 21:15:51 0.991
Wednesday, December 30, 2015 21:20:51 0.991
Wednesday, December 30, 2015 21:25:52 0.991
Wednesday, December 30, 2015 21:30:52 0.991
Wednesday, December 30, 2015 21:35:53 0.991
Wednesday, December 30, 2015 21:40:53 0.991
Wednesday, December 30, 2015 21:45:54 0.991
Wednesday, December 30, 2015 21:50:54 0.991
Wednesday, December 30, 2015 21:55:55 0.991
Wednesday, December 30, 2015 22:00:55 0.991
Wednesday, December 30, 2015 22:05:56 0.991
Wednesday, December 30, 2015 22:10:57 0.991
Wednesday, December 30, 2015 22:15:57 0.991
Wednesday, December 30, 2015 22:20:58 0.991
Wednesday, December 30, 2015 22:25:58 0.991
Wednesday, December 30, 2015 22:30:59 0.991
Wednesday, December 30, 2015 22:35:59 0.991
Wednesday, December 30, 2015 22:41:00 0.991
Wednesday, December 30, 2015 22:46:00 0.991
Wednesday, December 30, 2015 22:51:01 0.991
Wednesday, December 30, 2015 22:56:01 0.991
Wednesday, December 30, 2015 23:01:02 0.991
Wednesday, December 30, 2015 23:06:02 0.991
Wednesday, December 30, 2015 23:11:03 0.991
Wednesday, December 30, 2015 23:16:04 0.991
Wednesday, December 30, 2015 23:21:04 0.991
Wednesday, December 30, 2015 23:26:05 0.991
Wednesday, December 30, 2015 23:31:05 0.991
Wednesday, December 30, 2015 23:36:06 0.991
Wednesday, December 30, 2015 23:41:06 0.991
Wednesday, December 30, 2015 23:46:07 0.991
Wednesday, December 30, 2015 23:51:07 0.991
Wednesday, December 30, 2015 23:56:08 0.991
Thursday, December 31, 2015 0:01:08 0.991
Thursday, December 31, 2015 0:06:09 0.991
Thursday, December 31, 2015 0:11:09 0.991
Thursday, December 31, 2015 0:16:10 0.991
Thursday, December 31, 2015 0:21:10 0.991
Thursday, December 31, 2015 0:26:11 0.991
Thursday, December 31, 2015 0:31:12 0.991
Thursday, December 31, 2015 0:36:12 0.991
Thursday, December 31, 2015 0:41:12 0.991
Thursday, December 31, 2015 0:46:13 0.991
Thursday, December 31, 2015 0:51:14 0.991
Thursday, December 31, 2015 0:56:14 0.991
Thursday, December 31, 2015 1:01:15 0.991
Thursday, December 31, 2015 1:06:15 0.991
Thursday, December 31, 2015 1:11:16 0.991
Thursday, December 31, 2015 1:16:16 0.991
Thursday, December 31, 2015 1:21:17 0.991
Thursday, December 31, 2015 1:26:17 0.991
$163.97 \quad 50.0$
168.9449 .7
$173.89 \quad 49.7$
$178.86 \quad 50.2$
$183.81 \quad 49.7$
188.7849 .6
$193.74 \quad 50.1$
$198.71 \quad 50.0$
$203.66 \quad 50.0$
$208.63 \quad 50.2$
$213.58 \quad 50.1$
$218.55 \quad 50.0$
$223.51 \quad 50.3$
$228.48 \quad 49.8$
$233.45 \quad 50.1$
$238.40 \quad 49.7$
$243.37 \quad 50.1$
$248.32 \quad 49.8$
$253.29 \quad 50.1$
$258.25 \quad 50.1$
$263.21 \quad 50.1$
$268.17 \quad 50.1$
$273.14 \quad 50.2$
$278.09 \quad 50.1$
$283.06 \quad 50.2$
$288.01 \quad 50.2$
$292.98 \quad 50.1$
$297.95 \quad 50.3$
$302.91 \quad 50.2$
$307.88 \quad 50.2$
$312.83 \quad 49.8$
$317.80 \quad 50.0$
$322.75 \quad 50.2$
$327.72 \quad 49.7$
$332.68 \quad 50.2$
$337.65 \quad 50.0$
$342.60 \quad 50.1$
$347.57 \quad 50.0$
$352.52 \quad 50.2$
$357.49 \quad 49.7$
$362.45 \quad 50.0$
$367.42 \quad 50.1$
$372.39 \quad 50.0$
$377.34 \quad 50.2$
$382.29 \quad 49.7$
$387.26 \quad 50.1$
$392.23 \quad 50.2$
$397.19 \quad 50.1$
$402.16 \quad 50.1$
$407.11 \quad 50.3$
$412.08 \quad 49.7$
$417.03 \quad 50.1$
$422.00 \quad 49.5$
$426.96 \quad 50.1$

Thursday, December 31, 2015 1:31:18 0.991
Thursday, December 31, 2015 1:36:18 0.991
Thursday, December 31, 2015 1:41:19 0.991
Thursday, December 31, 2015 1:46:19 0.991
Thursday, December 31, 2015 1:51:20 0.991
Thursday, December 31, 2015 1:56:20 0.991
Thursday, December 31, 2015 2:01:21 0.991
Thursday, December 31, 2015 2:06:21 0.991
Thursday, December 31, 2015 2:11:22 0.991
Thursday, December 31, 2015 2:16:22 0.991
Thursday, December 31, 2015 2:21:23 0.991
Thursday, December 31, 2015 2:26:23 0.991
Thursday, December 31, 2015 2:31:24 0.991
Thursday, December 31, 2015 2:36:24 0.991
Thursday, December 31, 2015 2:41:25 0.991
Thursday, December 31, 2015 2:46:25 0.991
Thursday, December 31, 2015 2:51:26 0.991
Thursday, December 31, 2015 2:56:26 0.991
Thursday, December 31, 2015 3:01:27 0.991
Thursday, December 31, 2015 3:06:27 0.991
Thursday, December 31, 2015 3:11:28 0.991
Thursday, December 31, 2015 3:16:28 0.991
Thursday, December 31, 2015 3:21:29 0.991
Thursday, December 31, 2015 3:26:30 0.991
Thursday, December 31, 2015 3:31:30 0.991
Thursday, December 31, 2015 3:36:31 0.991
Thursday, December 31, 2015 3:41:31 0.991
Thursday, December 31, 2015 3:46:32 0.991
Thursday, December 31, 2015 3:51:32 0.991
Thursday, December 31, 2015 3:56:33 0.991
Thursday, December 31, 2015 4:01:33 0.991
Thursday, December 31, 2015 4:06:34 0.991
Thursday, December 31, 2015 4:11:34 0.991
Thursday, December 31, 2015 4:16:35 0.991
Thursday, December 31, 2015 4:21:35 0.991
Thursday, December 31, 2015 4:26:36 0.991
Thursday, December 31, 2015 4:31:36 0.991
Thursday, December 31, 2015 4:36:37 0.991
Thursday, December 31, 2015 4:41:37 0.991
Thursday, December 31, 2015 4:46:38 0.991
Thursday, December 31, 2015 4:51:39 0.991
Thursday, December 31, 2015 4:56:39 0.991
Thursday, December 31, 2015 5:01:40 0.991
Thursday, December 31, 2015 5:06:40 0.991
Thursday, December 31, 2015 5:11:41 0.991
Thursday, December 31, 2015 5:16:41 0.991
Thursday, December 31, 2015 5:21:42 0.991
Thursday, December 31, 2015 5:26:42 0.991
Thursday, December 31, 2015 5:31:43 0.991
Thursday, December 31, 2015 5:36:43 0.991
Thursday, December 31, 2015 5:41:44 0.991
Thursday, December 31, 2015 5:46:44 0.991
Thursday, December 31, 2015 5:51:45 0.991
Thursday, December 31, 2015 5:56:45 0.991
431.92
50.2
$436.88 \quad 50.1$
$441.85 \quad 49.7$
$446.80 \quad 49.6$
$451.77 \quad 49.7$
$456.72 \quad 50.0$
$461.69 \quad 50.1$
$466.65 \quad 50.0$
$471.62 \quad 50.1$
$476.57 \quad 49.7$
$481.54 \quad 50.1$
$486.49 \quad 49.7$
$491.46 \quad 50.1$
$496.42 \quad 50.1$
$501.39 \quad 49.7$
$506.34 \quad 50.3$
$511.31 \quad 50.2$
$516.26 \quad 50.1$
$521.23 \quad 50.2$
$526.19 \quad 50.2$
$531.16 \quad 49.7$
$536.11 \quad 49.7$
$541.08 \quad 50.1$
$546.05 \quad 50.1$
$551.00 \quad 50.1$
555.9749 .8
$560.92 \quad 50.1$
$565.89 \quad 49.8$
$570.85 \quad 50.1$
$575.82 \quad 50.1$
$580.77 \quad 50.0$
$585.74 \quad 49.8$
590.6949 .8
$595.66 \quad 49.4$
$600.61 \quad 50.1$
$605.58 \quad 50.3$
$610.54 \quad 50.4$
$615.51 \quad 49.7$
$620.46 \quad 49.7$
$625.43 \quad 50.1$
$630.40 \quad 50.1$
$635.35 \quad 50.2$
$640.32 \quad 50.0$
$645.28 \quad 50.2$
$650.25 \quad 50.1$
$655.20 \quad 50.1$
$660.17 \quad 50.0$
$665.12 \quad 50.1$
$670.09 \quad 50.2$
$675.04 \quad 50.0$
$680.01 \quad 50.0$
$684.97 \quad 50.1$
$689.94 \quad 50.1$
$694.89 \quad 50.1$

# Ch. 2 Cartridge Started Wednesday, December 30, 2015 18:15:05 

Flow Rate Set Point 1.00 1/min
Stopped Thursday, December 31, 2015 6:15:21
Total Volume 712.98 liters
Total Sample Time 12.00 hours
Average Flow Rate 0.991 1/min
Minimum Flow Rate 0.991 1/min
Maximum Flow Rate 0.991 1/min
Pre Start Leak Rate -0.001 1/min
Ending Leak Rate -0.003 1/min
Flow Controller Zero -0.003 1/min
Error Code 0
Error Status OK No Errors

Time Flow Rate Volume Temp

Wednesday, December 30, 2015 18:15:32 0.078
Wednesday, December 30, 2015 18:20:32 0.991
Wednesday, December 30, 2015 18:25:33 0.991
Wednesday, December 30, 2015 18:30:33 0.991
Wednesday, December 30, 2015 18:35:34 0.991
Wednesday, December 30, 2015 18:40:34 0.991
Wednesday, December 30, 2015 18:45:35 0.991
Wednesday, December 30, 2015 18:50:35 0.991
Wednesday, December 30, 2015 18:55:36 0.991
Wednesday, December 30, 2015 19:00:36 0.991
Wednesday, December 30, 2015 19:05:37 0.991
Wednesday, December 30, 2015 19:10:37 0.991
Wednesday, December 30, 2015 19:15:38 0.991
Wednesday, December 30, 2015 19:20:38 0.991
Wednesday, December 30, 2015 19:25:39 0.991
Wednesday, December 30, 2015 19:30:40 0.991
Wednesday, December 30, 2015 19:35:40 0.991
Wednesday, December 30, 2015 19:40:41 0.991
Wednesday, December 30, 2015 19:45:41 0.991
Wednesday, December 30, 2015 19:50:42 0.991
Wednesday, December 30, 2015 19:55:42 0.991
Wednesday, December 30, 2015 20:00:43 0.991
Wednesday, December 30, 2015 20:05:43 0.991
Wednesday, December 30, 2015 20:10:44 0.991
Wednesday, December 30, 2015 20:15:44 0.991
Wednesday, December 30, 2015 20:20:45 0.991
Wednesday, December 30, 2015 20:25:45 0.991
Wednesday, December 30, 2015 20:30:46 0.991
Wednesday, December 30, 2015 20:35:46 0.991
Wednesday, December 30, 2015 20:40:47 0.991
Wednesday, December 30, 2015 20:45:47 0.991
Wednesday, December 30, 2015 20:50:48 0.991
Wednesday, December 30, 2015 20:55:48 0.991
$0.22 \quad 49.9$
$5.18 \quad 50.1$
10.1549 .7
$15.10 \quad 49.6$
$20.07 \quad 50.1$
$25.03 \quad 50.1$
$30.00 \quad 49.7$
$34.95 \quad 50.1$
$39.92 \quad 50.1$
$44.87 \quad 50.2$
$49.84 \quad 50.1$
$54.80 \quad 49.8$
$59.77 \quad 50.1$
$64.72 \quad 50.1$
$69.69 \quad 50.0$
$74.66 \quad 49.7$
$79.61 \quad 49.6$
$84.58 \quad 50.1$
$89.53 \quad 50.1$
$94.50 \quad 50.1$
$99.46 \quad 50.2$
$104.43 \quad 49.7$
$109.38 \quad 50.0$
$114.35 \quad 50.1$
$119.30 \quad 50.0$
$124.27 \quad 50.1$
$129.23 \quad 50.1$
$134.20 \quad 50.1$
139.1549 .6
$144.12 \quad 50.0$
$149.07 \quad 50.1$
$154.04 \quad 50.2$
$159.00 \quad 50.2$

Wednesday, December 30, 2015 21:00:49 0.991
Wednesday, December 30, 2015 21:05:50 0.991
Wednesday, December 30, 2015 21:10:50 0.991
Wednesday, December 30, 2015 21:15:51 0.991
Wednesday, December 30, 2015 21:20:51 0.991
Wednesday, December 30, 2015 21:25:52 0.991
Wednesday, December 30, 2015 21:30:52 0.991
Wednesday, December 30, 2015 21:35:53 0.991
Wednesday, December 30, 2015 21:40:53 0.991
Wednesday, December 30, 2015 21:45:54 0.991
Wednesday, December 30, 2015 21:50:54 0.991
Wednesday, December 30, 2015 21:55:55 0.991
Wednesday, December 30, 2015 22:00:55 0.991
Wednesday, December 30, 2015 22:05:56 0.991
Wednesday, December 30, 2015 22:10:57 0.991
Wednesday, December 30, 2015 22:15:57 0.991
Wednesday, December 30, 2015 22:20:58 0.991
Wednesday, December 30, 2015 22:25:58 0.991
Wednesday, December 30, 2015 22:30:59 0.991
Wednesday, December 30, 2015 22:35:59 0.991
Wednesday, December 30, 2015 22:41:00 0.991
Wednesday, December 30, 2015 22:46:00 0.991
Wednesday, December 30, 2015 22:51:01 0.991
Wednesday, December 30, 2015 22:56:01 0.991
Wednesday, December 30, 2015 23:01:02 0.991
Wednesday, December 30, 2015 23:06:02 0.991
Wednesday, December 30, 2015 23:11:03 0.991
Wednesday, December 30, 2015 23:16:04 0.991
Wednesday, December 30, 2015 23:21:04 0.991
Wednesday, December 30, 2015 23:26:05 0.991
Wednesday, December 30, 2015 23:31:05 0.991
Wednesday, December 30, 2015 23:36:06 0.991
Wednesday, December 30, 2015 23:41:06 0.991
Wednesday, December 30, 2015 23:46:07 0.991
Wednesday, December 30, 2015 23:51:07 0.991
Wednesday, December 30, 2015 23:56:08 0.991
Thursday, December 31, 2015 0:01:08 0.991
Thursday, December 31, 2015 0:06:09 0.991
Thursday, December 31, 2015 0:11:09 0.991
Thursday, December 31, 2015 0:16:10 0.991
Thursday, December 31, 2015 0:21:10 0.991
Thursday, December 31, 2015 0:26:11 0.991
Thursday, December 31, 2015 0:31:12 0.991
Thursday, December 31, 2015 0:36:12 0.991
Thursday, December 31, 2015 0:41:12 0.991
Thursday, December 31, 2015 0:46:13 0.991
Thursday, December 31, 2015 0:51:14 0.991
Thursday, December 31, 2015 0:56:14 0.991
Thursday, December 31, 2015 1:01:15 0.991
Thursday, December 31, 2015 1:06:15 0.991
Thursday, December 31, 2015 1:11:16 0.991
Thursday, December 31, 2015 1:16:16 0.991
Thursday, December 31, 2015 1:21:17 0.991
Thursday, December 31, 2015 1:26:17 0.991
$163.97 \quad 50.0$
168.9449 .7
$173.89 \quad 49.7$
$178.86 \quad 50.2$
$183.81 \quad 49.7$
188.7849 .6
$193.74 \quad 50.1$
$198.71 \quad 50.0$
$203.66 \quad 50.0$
$208.63 \quad 50.2$
$213.58 \quad 50.1$
$218.55 \quad 50.0$
$223.51 \quad 50.3$
$228.48 \quad 49.8$
$233.45 \quad 50.1$
$238.40 \quad 49.7$
$243.37 \quad 50.1$
$248.32 \quad 49.8$
$253.29 \quad 50.1$
$258.25 \quad 50.1$
$263.21 \quad 50.1$
$268.17 \quad 50.1$
$273.14 \quad 50.2$
$278.09 \quad 50.1$
$283.06 \quad 50.2$
$288.01 \quad 50.2$
$292.98 \quad 50.1$
$297.95 \quad 50.3$
$302.91 \quad 50.2$
$307.88 \quad 50.2$
$312.83 \quad 49.8$
$317.80 \quad 50.0$
$322.75 \quad 50.2$
$327.72 \quad 49.7$
$332.68 \quad 50.2$
$337.65 \quad 50.0$
$342.60 \quad 50.1$
$347.57 \quad 50.0$
$352.52 \quad 50.2$
$357.49 \quad 49.7$
$362.45 \quad 50.0$
$367.42 \quad 50.1$
$372.39 \quad 50.0$
$377.34 \quad 50.2$
$382.29 \quad 49.7$
$387.26 \quad 50.1$
$392.23 \quad 50.2$
$397.19 \quad 50.1$
$402.16 \quad 50.1$
$407.11 \quad 50.3$
$412.08 \quad 49.7$
$417.03 \quad 50.1$
$422.00 \quad 49.5$
$426.96 \quad 50.1$

Thursday, December 31, 2015 1:31:18 0.991
Thursday, December 31, 2015 1:36:18 0.991
Thursday, December 31, 2015 1:41:19 0.991
Thursday, December 31, 2015 1:46:19 0.991
Thursday, December 31, 2015 1:51:20 0.991
Thursday, December 31, 2015 1:56:20 0.991
Thursday, December 31, 2015 2:01:21 0.991
Thursday, December 31, 2015 2:06:21 0.991
Thursday, December 31, 2015 2:11:22 0.991
Thursday, December 31, 2015 2:16:22 0.991
Thursday, December 31, 2015 2:21:23 0.991
Thursday, December 31, 2015 2:26:23 0.991
Thursday, December 31, 2015 2:31:24 0.991
Thursday, December 31, 2015 2:36:24 0.991
Thursday, December 31, 2015 2:41:25 0.991
Thursday, December 31, 2015 2:46:25 0.991
Thursday, December 31, 2015 2:51:26 0.991
Thursday, December 31, 2015 2:56:26 0.991
Thursday, December 31, 2015 3:01:27 0.991
Thursday, December 31, 2015 3:06:27 0.991
Thursday, December 31, 2015 3:11:28 0.991
Thursday, December 31, 2015 3:16:28 0.991
Thursday, December 31, 2015 3:21:29 0.991
Thursday, December 31, 2015 3:26:30 0.991
Thursday, December 31, 2015 3:31:30 0.991
Thursday, December 31, 2015 3:36:31 0.991
Thursday, December 31, 2015 3:41:31 0.991
Thursday, December 31, 2015 3:46:32 0.991
Thursday, December 31, 2015 3:51:32 0.991
Thursday, December 31, 2015 3:56:33 0.991
Thursday, December 31, 2015 4:01:33 0.991
Thursday, December 31, 2015 4:06:34 0.991
Thursday, December 31, 2015 4:11:34 0.991
Thursday, December 31, 2015 4:16:35 0.991
Thursday, December 31, 2015 4:21:35 0.991
Thursday, December 31, 2015 4:26:36 0.991
Thursday, December 31, 2015 4:31:36 0.991
Thursday, December 31, 2015 4:36:37 0.991
Thursday, December 31, 2015 4:41:37 0.991
Thursday, December 31, 2015 4:46:38 0.991
Thursday, December 31, 2015 4:51:39 0.991
Thursday, December 31, 2015 4:56:39 0.991
Thursday, December 31, 2015 5:01:40 0.991
Thursday, December 31, 2015 5:06:40 0.991
Thursday, December 31, 2015 5:11:41 0.991
Thursday, December 31, 2015 5:16:41 0.991
Thursday, December 31, 2015 5:21:42 0.991
Thursday, December 31, 2015 5:26:42 0.991
Thursday, December 31, 2015 5:31:43 0.991
Thursday, December 31, 2015 5:36:43 0.991
Thursday, December 31, 2015 5:41:44 0.991
Thursday, December 31, 2015 5:46:44 0.991
Thursday, December 31, 2015 5:51:45 0.991
Thursday, December 31, 2015 5:56:45 0.991
431.92
50.2
$436.88 \quad 50.1$
$441.85 \quad 49.7$
$446.80 \quad 49.6$
$451.77 \quad 49.7$
$456.72 \quad 50.0$
$461.69 \quad 50.1$
$466.65 \quad 50.0$
$471.62 \quad 50.1$
$476.57 \quad 49.7$
$481.54 \quad 50.1$
$486.49 \quad 49.7$
$491.46 \quad 50.1$
$496.42 \quad 50.1$
$501.39 \quad 49.7$
$506.34 \quad 50.3$
$511.31 \quad 50.2$
$516.26 \quad 50.1$
$521.23 \quad 50.2$
$526.19 \quad 50.2$
$531.16 \quad 49.7$
$536.11 \quad 49.7$
$541.08 \quad 50.1$
$546.05 \quad 50.1$
$551.00 \quad 50.1$
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$560.92 \quad 50.1$
$565.89 \quad 49.8$
$570.85 \quad 50.1$
$575.82 \quad 50.1$
$580.77 \quad 50.0$
$585.74 \quad 49.8$
590.6949 .8
$595.66 \quad 49.4$
$600.61 \quad 50.1$
$605.58 \quad 50.3$
$610.54 \quad 50.4$
$615.51 \quad 49.7$
$620.46 \quad 49.7$
$625.43 \quad 50.1$
$630.40 \quad 50.1$
$635.35 \quad 50.2$
$640.32 \quad 50.0$
$645.28 \quad 50.2$
$650.25 \quad 50.1$
$655.20 \quad 50.1$
$660.17 \quad 50.0$
$665.12 \quad 50.1$
$670.09 \quad 50.2$
$675.04 \quad 50.0$
$680.01 \quad 50.0$
$684.97 \quad 50.1$
$689.94 \quad 50.1$
$694.89 \quad 50.1$

## APPENDIX D

## Laboratory Accreditation

OREGON
Environmental Laboratory Accreditation Program


NELAP Recognized

Eurofins Air Toxics, Inc CA300005

180 Blue Ravine Road, Ste. B

Folsom, CA 95630

IS GRANTED APPROVAL BYORELAP UNDER THE 2009 TNI STANDARDS, TO PERFORM ANALYSES ON ENVIRONMENTAL SAMPLES IN MATRICES AS LISTED BELOW :

Non Potable
Water
Solids and Chem. Waste

Tissue

Chemistry

AND AS RECORDED IN THE LIST OF APPROVED ANALYTES, METHODS, ANALYTICAL TECHNIQUES, AND FIELDS OF TESTING ISSUED CONCURRENTLY WITH THIS CERTIFICATE AND REVISED AS NECESSARY.

ACCREDITED STATUS DEPENDS ON SUCCESSFUL ONGOING PARTICIPATION IN THE PROGRAM AND CONTINUED COMPLIANCE WITH THE STANDARDS.

CUSTOMERS ARE URGED TO VERIFY THE LABORATORY'S CURRENT ACCREDITATION STATUS IN OREGON.


Gary K. Ward/ MS
Oregon State Public Health Laboratory
ORELAP Administrator
3150 NW. 229th Ave, Suite 100
Hillsboro, OR 97124
ISSUE DATE: 10/18/2015
EXPIRATION DATE: 10/17/2016
Certificate No: CA300005-007


## Environmental Laboratory Accreditation Program

Department of Agriculture, Laboratory Division
NELAP Recognized
Department of Environmental Quality, Laboratory Division
Oregon Health Authority, Public Health Division

ORELAP Fields of Accreditation
ORELAPID: CA300005
EPA CODE: CA00933
Eurofins Air Toxics, Inc
180 Blue Ravine Road, Ste. B
Folsom
CA 95630
Issue Date: 10/18/2015 Expiration Date: 10/17/2016
As of 10/18/2015 this list supercedes all previous lists for this certificate number. Customers. Please verify the current accreditation standing with ORELAP.

| MATRIX : Air |  |  |
| :---: | :---: | :---: |
| Reference | Code | Description |
| ASTM D1945 03 | 30024443 | Natural Gas by Gas Chromatography |
| Analyte Code | Analyte |  |
| 4938 | 2-Methylbutane (Isopentane) |  |
| 4942 | 2-methylpropane (Isobutane) |  |
| 4323 | Acetylene |  |
| 3755 | Carbon dioxide |  |
| 3780 | Carbon monoxide |  |
| 4747 | Ethane |  |
| 4752 | Ethene |  |
| 1767 | Helium | \% |
| 1772 | Hydrogen |  |
| 4926 | Methane |  |
| 5007 | n -Butane |  |
| 9511 | Neopentane |  |
| 1843 | Nitrogen |  |
| 5028 | n -Pentane |  |
| 5029 | n-Propane |  |
| 3895 | Oxygen |  |
| ASTM D1946-90 | $30024465$ | Reformed Gas by Gas Chromatography |
| Analyte Code | Analyte |  |
| 3755 | Carbon dioxide |  |
| 3780 | Carbon monoxide |  |
| 4747 | Ethane |  |
| 4752 | Ethene |  |
| 1767 | Helium |  |
| 1772 | Hydrogen |  |
| 4926 | Methane |  |
| 1843 | Nitrogen |  |
| 3895 | Oxygen |  |
| ASTM D5504 08 | 30032258 | Determination of Sulfur Compounds in Natural Gas and Gaseous Fuels by Gas Chromatography and Chemiluminescence |
| Analyte Code | Analyte |  |
| 4842 | 1-Propanethiol |  |
| 6113 | 2,5-Dimethylthiophene |  |
| 4544 | 2-Ethylthiophene |  |
| 4843 | 2-Propanethiol |  |
| 5783 | 3-Methylthiophene |  |
| 4450 | Carbon disulfide |  |


| Eurofins Air Toxics, Inc |
| :--- |
| 180 Blue Ravine Road, Ste. B |
| Folsom $\quad$ CA 95630 |

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As of 10/18/2015 this list supercedes all previous lists for this certificate number.
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| Analyte Code |  | Analyte |  |
| :---: | :---: | :---: | :---: |
|  | 7215 | Carbonyl sulfide |  |
|  | 6078 | Diethyl Disulfide |  |
|  | 6081 | Diethyl Sulfide |  |
|  | 4729 | Dimethyl disulfide |  |
|  | 6116 | Dimethyl Sulfide |  |
|  | 7506 | Ethanethiol | 4 |
|  | 3840 | Hydrogen sulfide |  |
|  | 3725 | i-Butanethiol |  |
|  | 7507 | Methanethiol |  |
|  | 9556 | t-Butanethiol |  |
|  | 9574 | Tetrahydrothiophene |  |
|  | 9578 | Thiophene |  |
| EPA 325B 2013 |  | 10277437 | Sorbent Tubes Coupled with Thermal Desorption and GC/MS |
| Analyte Code Analyte |  |  |  |
|  | 4375 | Benzene |  |
|  | 4765 | Ethylbenzene |  |
|  | 5240 | m+p-xylene |  |
|  | 5250 | o-Xylene |  |
|  | 5100 | Styrene |  |
|  | 5140 | Toluene |  |
| EPA TO-11A | Analyte Code | Analyte 10311805 | Determination of Formaldehyde in Ambient Air Using Adsorbent Cartridge Followed by High Performance Liquid Chromatography (HPLC) |
|  | 4300 | Acetaldehyde |  |
|  | 4315 | Acetone | $\square$ T |
|  | 5570 | Benzaldehyde |  |
|  | 4430 | Butylaldehyde (Butanal) |  |
|  | 4545 | Crotonaldehyde |  |
|  | 4815 | Formaldehyde |  |
|  | 3825 | Hexanaldehyde (Hexanal) |  |
|  | 6330 | Isovaleraldehyde |  |
|  | 5125 | m-Tolualdehyde (1,3-Tolu |  |
|  | 6755 | o-Tolualdehyde (1,2-Tolua |  |
|  | 3965 | Propionaldehyde (Propanal) |  |
|  | 6760 | p -Tolualdehyde (1,4-Tolua |  |
|  | 4040 | Valeraldehyde (Pentanal, | hyde) |
| EPA TO-12 | Analyte Code | 10248201 | Non-Methane Organic Compounds by GC/FID |
|  |  | Analyte |  |
|  | 3860 | Non-methane organics |  |
| EPA TO-13A | Analyte Code | 10248405 | Polycyclic Aromatic Hydrocarbons in Ambient Air by GC/MS |
|  |  | Analyte |  |
|  | 5795 | 2-Chloronaphthalene |  |
|  | 6385 | 2-MethyInaphthalene |  |
|  | 5500 | Acenaphthene |  |
|  | 5505 | Acenaphthylene |  |
|  | 5555 | Anthracene |  |
|  | 5575 | Benzo(a)anthracene |  |
|  | 5580 | Benzo(a)pyrene |  |
|  | 5605 | Benzo(e)pyrene |  |
|  | 5590 | Benzo(g,h,i)perylene |  |
|  | 5600 | Benzo(k)fluoranthene |  |
|  | 5585 | Benzo[b]fluoranthene |  |
|  | 5855 | Chrysene |  |

# Eurofins Air Toxics, Inc <br> 180 Blue Ravine Road, Ste. B <br> Folsom <br> CA 95630 

Issue Date: 10/18/2015 Expiration Date: 10/17/2016
As of 10/18/2015 this list supercedes all previous lists for this certificate number.
Customers. Please verify the current accreditation standing with ORELAP.


# Eurofins Air Toxics, Inc <br> 180 Blue Ravine Road, Ste. B <br> Folsom <br> CA 95630 

Issue Date: 10/18/2015 Expiration Date: 10/17/2016
As of 10/18/2015 this list supercedes all previous lists for this certificate number.
Customers. Please verify the current accreditation standing with ORELAP.

| Analyte Code | Analyte |
| :---: | :--- |
| 4705 | cis \& trans-1,2-Dichloroethene |
| 4680 | cis-1,3-Dichloropropene |
| 4555 | Cyclohexane |
| 4625 | Dichlorodifluoromethane (Freon-12) |
| 4750 | Ethanol |
| 4765 | Ethylbenzene |
| 4835 | Hexachlorobutadiene |
| 4895 | Isopropyl alcohol (2-Propanol, Isopropanol) |
| 4950 | Methyl bromide (Bromomethane) |
| 4960 | Methyl chloride (Chloromethane) |
| 4975 | Methylene chloride (Dichloromethane) |
| 5005 | Naphthalene |
| 4825 | n-Heptane |
| 4855 | n-Hexane |
| 5090 | n-Propylbenzene |
| 5100 | Styrene |
| 5115 | Tetrachloroethylene (Perchloroethylene) |
| 5120 | Tetrahydrofuran (THF) |
| 5140 | Toluene |
| 4685 | trans-1,3-Dichloropropylene |
| 5170 | Trichloroethene (Trichloroethylene) |
| 5175 | Trichlorofluoromethane (Fluorotrichloromethane, Freon 11) |
| 5235 | Vinyl chloride |
| 5260 | Xylene (total) |

EPA TO-15 $10248803 \quad$ VOCs collected in Canisters by GC/MS

| Analyte Code | Analyte |
| :---: | :---: |
| 5160 | 1,1,1-Trichloroethane |
| 5110 | 1,1,2,2-Tetrachloroethane |
| 5195 | 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) |
| 5165 | 1,1,2-Trichloroethane |
| 4630 | 1,1-Dichloroethane |
| 4640 | 1,1-Dichloroethylene |
| 5182 | 1,2,3-Trimethylbenzene |
| 5155 | 1,2,4-Trichlorobenzene |
| 5210 | 1,2,4-Trimethylbenzene |
| 4585 | 1,2-Dibromoethane (EDB, Ethylene dibromide) |
| 4695 | 1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon-114) |
| 4610 | 1,2-Dichlorobenzene |
| 4635 | 1,2-Dichloroethane (Ethylene dichloride) |
| 4655 | 1,2-Dichloropropane |
| 5215 | 1,3,5-Trimethylbenzene |
| 9318 | 1,3-Butadiene |
| 4615 | 1,3-Dichlorobenzene |
| 4676 | 1,3-Diethylbenzene |
| 4620 | 1,4-Dichlorobenzene |
| 4735 | 1,4-Dioxane (1,4-Diethyleneoxide) |
| 4917 | 1-Butene |
| 4833 | 1-Pentene |
| 4836 | 1-Propene |
| 5220 | 2,2,4-Trimethylpentane |
| 4666 | 2,2-Dimethylbutane |
| 4667 | 2,3,4-Trimethylpentane |
| 4669 | 2,3-Dimethylbutane |
| 4671 | 2,3-Dimethylpentane |
| 4672 | 2,4-Dimethylpentane |
| 4410 | 2-Butanone (Methyl ethyl ketone, MEK) |
| 4538 | 2-Ethyltoluene |
| 4860 | 2-Hexanone |
| 4934 | 2-Methyl-2-Butene |

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Eurofins Air Toxics, Inc
180 Blue Ravine Road, Ste. B
Folsom
CA 95630
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Customers. Please verify the current accreditation standing with ORELAP.

| Analyte Code | Analyte |
| :---: | :---: |
| 4937 | 2-Methylbutadiene (Isoprene) |
| 4938 | 2-Methylbutane (Isopentane) |
| 4939 | 2-Methylheptane |
| 4946 | 2-Methylhexane |
| 4941 | 2-Methylpentane (Isohexane) |
| 4942 | 2-methylpropane (Isobutane) |
| 4531 | 3-Ethyltoluene |
| 4529 | 3-Methyl-1-Butene |
| 4532 | 3-Methylheptane |
| 4533 | 3-Methylhexane |
| 4534 | 3-Methylpentane |
| 4542 | 4-Ethyltoluene |
| 4913 | 4-Methyl-1-Pentene |
| 4995 | 4-Methyl-2-pentanone (MIBK) |
| 4300 | Acetaldehyde |
| 4315 | Acetone |
| 4320 | Acetonitrile |
| 4323 | Acetylene |
| 4325 | Acrolein (Propenal) |
| 4340 | Acrylonitrile |
| 4355 | Allyl chloride (3-Chloropropene) |
| 4375 | Benzene |
| 5635 | Benzyl chloride |
| 4390 | Bromochloromethane |
| 4395 | Bromodichloromethane |
| 4400 | Bromoform |
| 4450 | Carbon disulfide |
| 4455 | Carbon tetrachloride |
| 4475 | Chlorobenzene |
| 4575 | Chlorodibromomethane |
| 4485 | Chloroethane (Ethyl chloride) |
| 4505 | Chloroform |
| 4525 | Chloroprene (2-Chloro-1,3-butadiene) |
| 4705 | cis \& trans-1,2-Dichloroethene |
| 4680 | cis-1,3-Dichloropropene |
| 4602 | cis-2-Butene |
| 4603 | cis-2-pentene |
| 4555 | Cyclohexane |
| 4562 | Cyclopentane |
| 4563 | Cyclopentene |
| 4625 | Dichlorodifluoromethane (Freon-12) |
| 4627 | Dichlorofluoromethane (Freon 21) |
| 4747 | Ethane |
| 4750 | Ethanol |
| 4752 | Ethene |
| 4765 | Ethylbenzene |
| 4835 | Hexachlorobutadiene |
| 4895 | Isopropyl alcohol (2-Propanol, Isopropanol) |
| 4900 | Isopropylbenzene |
| 5240 | m+p-xylene |
| 4930 | Methanol |
| 4950 | Methyl bromide (Bromomethane) |
| 4960 | Methyl chloride (Chloromethane) |
| 5000 | Methyl tert-butyl ether (MTBE) |
| 4965 | Methylcyclohexane |
| 4966 | Methylcyclopentane |
| 4975 | Methylene chloride (Dichloromethane) |
| 5005 | Naphthalene |
| 5007 | n -Butane |
| 5875 | n-Decane |
| 4825 | n-Heptane |

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Eurofins Air Toxics, Inc
180 Blue Ravine Road, Ste. B
Folsom
CA 95630
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Customers. Please verify the current accreditation standing with ORELAP.

|  | Analyte Code | Analyte |
| :---: | :---: | :---: |
|  | 4855 | n-Hexane |
|  | 5026 | n-Nonane |
|  | 5027 | n-Octane |
|  | 5028 | n-Pentane |
|  | 5029 | n-Propane |
|  | 5090 | n-Propylbenzene |
|  | 6747 | n -Undecane $\square+\square$ |
|  | 5250 | o-Xylene |
|  | 5253 | p-Diethylbenzene |
|  | 5100 | Styrene |
|  | 5115 | Tetrachloroethylene (Perchloroethylene) |
|  | 5120 | Tetrahydrofuran (THF) |
|  | 5140 | Toluene |
|  | 4685 | trans-1,3-Dichloropropylene |
|  | 4607 | trans-2-Butene |
|  | 4606 | trans-2-Hexene |
|  | 4608 | trans-2-pentene |
|  | 5170 | Trichloroethene (Trichloroethylene) |
|  | 5175 | Trichlorofluoromethane (Fluorotrichloromethane, Freon 11) |
|  | 5225 | Vinyl acetate |
|  | 5230 | Vinyl bromide (Bromoethane) |
|  | 5235 | Vinyl chloride |
|  | 5260 | Xylene (total) |
| EPA TO-15 GC/MS SIM |  | 10248858 VOCs collected in Canisters by GC/MS SIM |
|  | Analyte Code | Analyte |
|  | 5160 | 1,1,1-Trichloroethane |
|  | 5110 | 1,1,2,2-Tetrachloroethane |
|  | 5165 | 1,1,2-Trichloroethane |
|  | 4630 | 1,1-Dichloroethane |
|  | 4640 | 1,1-Dichloroethylene |
|  | 4585 | 1,2-Dibromoethane (EDB, Ethylene dibromide) |
|  | 4695 | 1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon-114) |
|  | 4635 | 1,2-Dichloroethane (Ethylene dichloride) |
|  | 4620 | 1,4-Dichlorobenzene |
|  | 4375 | Benzene |
|  | 4455 | Carbon tetrachloride |
|  | 4485 | Chloroethane (Ethyl chloride) |
|  | 4505 | Chloroform |
|  | 4645 | cis-1,2-Dichloroethylene |
|  | 4625 | Dichlorodifluoromethane (Freon-12) |
|  | 4765 | Ethylbenzene |
|  | 5240 | m+p-xylene |
|  | 4960 | Methyl chloride (Chloromethane) |
|  | 5000 | Methyl tert-butyl ether (MTBE) |
|  | 5005 | Naphthalene |
|  | 5250 | o-Xylene |
|  | 5115 | Tetrachloroethylene (Perchloroethylene) |
|  | 5140 | Toluene |
|  | 4700 | trans-1,2-Dichloroethylene |
|  | 5170 | Trichloroethene (Trichloroethylene) |
|  | 5235 | Vinyl chloride |
| EPA TO-17 |  | $10312206$ <br> Determination of Volatile Organic Compounds in Ambient Air Using Active Sampling Onto Sorbent Tubes |
|  | Analyte Code | Analyte |
|  | 5160 | 1,1,1-Trichloroethane |
|  | 5110 | 1,1,2,2-Tetrachloroethane |
|  | 5195 | 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) |
|  | 5165 | 1,1,2-Trichloroethane |

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Eurofins Air Toxics, Inc
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```

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Customers. Please verify the current accreditation standing with ORELAP.

| Analyte Code | Analyte |
| :---: | :---: |
| 4630 | 1,1-Dichloroethane |
| 4640 | 1,1-Dichloroethylene |
| 5155 | 1,2,4-Trichlorobenzene |
| 5210 | 1,2,4-Trimethylbenzene |
| 4695 | 1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon-114) |
| 4610 | 1,2-Dichlorobenzene |
| 4635 | 1,2-Dichloroethane (Ethylene dichloride) |
| 4655 | 1,2-Dichloropropane |
| 5215 | 1,3,5-Trimethylbenzene |
| 9318 | 1,3-Butadiene |
| 4615 | 1,3-Dichlorobenzene |
| 4620 | 1,4-Dichlorobenzene |
| 4735 | 1,4-Dioxane (1,4- Diethyleneoxide) |
| 6380 | 1-Methylnaphthalene |
| 5220 | 2,2,4-Trimethylpentane |
| 4410 | 2-Butanone (Methyl ethyl ketone, MEK) |
| 4860 | 2-Hexanone (MBK) |
| 4938 | 2-Methylbutane (Isopentane) |
| 6385 | 2-Methylnaphthalene |
| 4542 | 4-Ethyltoluene |
| 5500 | Acenaphthene |
| 5505 | Acenaphthylene |
| 5555 | Anthracene |
| 4375 | Benzene |
| 4450 | Carbon disulfide |
| 4455 | Carbon tetrachloride |
| 4475 | Chlorobenzene |
| 4485 | Chloroethane (Ethyl chloride) |
| 4505 | Chloroform |
| 4645 | cis-1,2-Dichloroethylene |
| 4555 | Cyclohexane |
| 4765 | Ethylbenzene |
| 6265 | Fluoranthene |
| 6270 | Fluorene |
| 4835 | Hexachlorobutadiene |
| 4895 | Isopropyl alcohol (2-Propanol, Isopropanol) |
| 4900 | Isopropylbenzene |
| 5240 | m+p-xylene |
| 5000 | Methyl tert-butyl ether (MTBE) |
| 4965 | Methylcyclohexane |
| 4975 | Methylene chloride (Dichloromethane) |
| 5005 | Naphthalene |
| 4825 | n -Heptane |
| 4855 | n -Hexane |
| 5090 | n-Propylbenzene |
| 5250 | o-Xylene |
| 6615 | Phenanthrene |
| 6665 | Pyrene |
| 5100 | Styrene |
| 5115 | Tetrachloroethylene (Perchloroethylene) |
| 5140 | Toluene |
| 4700 | trans-1,2-Dichloroethylene |
| 5170 | Trichloroethene (Trichloroethylene) |
| 5175 | Trichlorofluoromethane (Fluorotrichloromethane, Freon 11) |
| 5235 | Vinyl chloride |
| 5260 | Xylene (total) |

5160 1,1,1-Trichloroethane

```
Eurofins Air Toxics, Inc
180 Blue Ravine Road, Ste. B
Folsom
CA 95630
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Issue Date: 10/18/2015 Expiration Date: 10/17/2016
As of 10/18/2015 this list supercedes all previous lists for this certificate number.
Customers. Please verify the current accreditation standing with ORELAP.

|  | Analyte Code | Analyte |
| :---: | :---: | :---: |
|  | 5110 | 1,1,2,2-Tetrachloroethane |
|  | 5165 | 1,1,2-Trichloroethane |
|  | 4630 | 1,1-Dichloroethane |
|  | 4640 | 1,1-Dichloroethylene |
|  | 5150 | 1,2,3-Trichlorobenzene |
|  | 5155 | 1,2,4-Trichlorobenzene $\square \square$ |
|  | 5210 | 1,2,4-Trimethylbenzene |
|  | 4610 | 1,2-Dichlorobenzene |
|  | 4635 | 1,2-Dichloroethane (Ethylene dichloride) |
|  | 5215 | 1,3,5-Trimethylbenzene |
|  | 4615 | 1,3-Dichlorobenzene |
|  | 4620 | 1,4-Dichlorobenzene |
|  | 9546 | 1,4-Dithiane |
|  | 4410 | 2-Butanone (Methyl ethyl ketone, MEK) |
|  | 4995 | 4-Methyl-2-pentanone (MIBK) |
|  | 4315 | Acetone |
|  | 6698 | alpha-Pinene |
|  | 4375 | Benzene |
|  | 4455 | Carbon tetrachloride |
|  | 4475 | Chlorobenzene |
|  | 4505 | Chloroform |
|  | 4645 | cis-1,2-Dichloroethylene |
|  | 4555 | Cyclohexane |
|  | 6208 | d-Limonene |
|  | 4750 | Ethanol |
|  | 4755 | Ethyl acetate |
|  | 4765 | Ethylbenzene |
|  | 6774 | Halothane (2-Bromo-2-chloro-1,1,1-trifluoroethane) |
|  | 5240 | m+p-xylene |
|  | 4960 | Methyl chloride (Chloromethane) |
|  | 4990 | Methyl methacrylate |
|  | 5000 | Methyl tert-butyl ether (MTBE) |
|  | 5005 | Naphthalene |
|  | 4825 | n-Heptane |
|  | 4855 | n-Hexane |
|  | 5090 | n-Propylbenzene |
|  | 5250 | o-Xylene |
|  | 5100 | Styrene |
|  | 5115 | Tetrachloroethylene (Perchloroethylene) |
|  | 5140 | Toluene |
|  | 4700 | trans-1,2-Dichloroethylene |
|  | 5170 | Trichloroethene (Trichloroethylene) |
|  | 5235 | Vinyl chloride |
| EPA TO-3 |  | 10249000 Cryogenic Tra |
|  | Analyte Code | Analyte |
|  | 4375 | Benzene |
|  | 4765 | Ethylbenzene |
|  | 5140 | Toluene |
|  | 5260 | Xylene (total) |
| Modified EPA TO-17 Passive RAD130 Tube 260032351 |  |  |
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# Eurofins Air Toxics, Inc <br> 180 Blue Ravine Road, Ste. B <br> Folsom <br> CA 95630 

Issue Date: 10/18/2015 Expiration Date: 10/17/2016
As of 10/18/2015 this list supercedes all previous lists for this certificate number. Customers. Please verify the current accreditation standing with ORELAP.

| Analyte Code | Analyte |
| :---: | :--- |
| 4610 | 1,2-Dichlorobenzene |
| 4635 | 1,2-Dichloroethane (Ethylene dichloride) |
| 5215 | 1,3,5-Trimethylbenzene |
| 4615 | 1,3-Dichlorobenzene |
| 4620 | 1,4-Dichlorobenzene |
| 4410 | 2-Butanone (Methyl ethyl ketone, MEK) |
| 4995 | 4-Methyl-2-pentanone (MIBK) |
| 4315 | Acetone |
| 4375 | Benzene |
| 4455 | Carbon tetrachloride |
| 4475 | Chlorobenzene |
| 4505 | Chloroform |
| 4645 | cis-1,2-Dichloroethylene |
| 4555 | Cyclohexane |
| 4750 | Ethanol |
| 4755 | Ethyl acetate |
| 4765 | Ethylbenzene |
| 4895 | Isopropyl alcohol (2-Propanol, Isopropanol) |
| 5240 | m+p-xylene |
| 4960 | Methyl chloride (Chloromethane) |
| 5000 | Methyl tert-butyl ether (MTBE) |
| 5005 | Naphthalene |
| 4825 | n-Heptane |
| 4855 | n-Hexane |
| 5090 | n-Propylbenzene |
| 5250 | o-Xylene |
| 5100 | Styrene |
| 5115 | Tetrachloroethylene (Perchloroethylene) |
| 5140 | Toluene |
| 4700 | trans-1,2-Dichloroethylene |
| 5170 | Trichloroethene (Trichloroethylene) |
| 5235 | Vinyl chloride |
|  |  |



OREGON

# Environmental Laboratory Accreditation Program 



NELAP Recognized

IS GRANTED APPROVAL BYORE AP UNER THE $20 O$ UH STADDARDS TO PERFORM


Oregon
Environmental Laboratory Accreditation Program

Department of Agriculture, Laboratory Division
NELAP Recognized
Department of Environmental Quality, Laboratory Division
Oregon Health Authority, Public Health Division

## ORELAP Fields of Accreditation

ORELAP ID: CA300005
EPA CODE: CA00933
Certificate: CA300005-006

## Eurofins Air Toxics, Inc

180 Blue Ravine Road, Ste. B
Folsom CA 95630

Issue Date: 11/13/2014 Expiration Date: 10/17/2015
As of $11 / 13 / 2014$ this list supercedes all previous lists for this certificate number. Customers. Please verify the current accreditation standing with ORELAP.

MATRIX : Air


Eurofins Air Toxics, Inc<br>180 Blue Ravine Road, Ste. B<br>Folsom CA 95630

EPA CODE: CA00933

Issue Date: 11/13/2014 Expiration Date: 10/17/2015
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$\frac{\text { Eurofins Air Toxics, Inc }}{180 \text { Blue Ravine Road, Ste. B }}$
Folsom

Issue Date: 11/13/2014 Expiration Date: 10/17/2015
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Customers. Please verify the current accreditation standing with ORELAP.

EPA TO-14A $10248609 \quad$ Volatile Organic Compounds with SUMMA canister and GC/MS

| Analyte Code | Analyte |
| :---: | :--- |
| 5160 | $1,1,1$-Trichloroethane |
| 5110 | 1,1,2,2-Tetrachloroethane |
| 5195 | 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) |
| 5165 | 1,1,2-Trichloroethane |
| 4630 | 1,1-Dichloroethane |
| 4640 | 1,1-Dichloroethylene |

## Eurofins Air Toxics, Inc <br> 180 Blue Ravine Road, Ste. B <br> Folsom <br> CA 95630

Certificate: CA300005-006

Issue Date: 11/13/2014 Expiration Date: 10/17/2015
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Eurofins Air Toxics, Inc
180 Blue Ravine Road, Ste. B
Folsom CA 95630
Issue Date: 11/13/2014 Expiration Date: 10/17/2015
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Eurofins Air Toxics, Inc
180 Blue Ravine Road, Ste. B
Folsom CA 95630

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Eurofins Air Toxics, Inc
180 Blue Ravine Road, Ste. B
Folsom CA 95630

Issue Date: 11/13/2014 Expiration Date: 10/17/2015
As of $11 / 13 / 2014$ this list supercedes all previous lists for this certificate number. Customers. Please verify the current accreditation standing with ORELAP.


EPA TO-3
10249000
Cryogenic Trapping

| Analyte Code | Analyte |
| :---: | :--- |
| 4375 | Benzene |
| 4765 | Ethylbenzene |
| 5140 | Toluene |
| 5260 | Xylene (total) |

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Eurofins Air Toxics, Inc
180 Blue Ravine Road, Ste. B
Folsom
CA 95630
Issue Date: 11/13/2014 Expiration Date: 10/17/2015
As of 11/13/2014 this list supercedes all previous lists for this certificate number. Customers. Please verify the current accreditation standing with ORELAP.
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Certificate: CA300005-006
EPA TO-4A 10249204 Pesticides and PCBs by HV PUF GC



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