XLReporter®

The Next Generation of Reports, Forms and Dashboards for Process Automation

SyTech

✓ About SyTech
- Founded in 1994
- Headquartered in Massachusetts USA
- Produce award winning reporting software, **XLReporter**

✓ Automation Business Relationship
- Partner with Rockwell, Siemens, GE, Emerson
- Work with distributers, *over 100 companies*
- Installed worldwide

✓ Industries Served
- Water and Wastewater
- Energy Management
- Pharmaceutical
- Automotive
- Oil and Gas

✓ People Served… … and why
- End Users … implement without “experts”
- System Integrators … broad range of data connectors
- OEMs … low cost, high value

XLReporter Is Industrial Excel

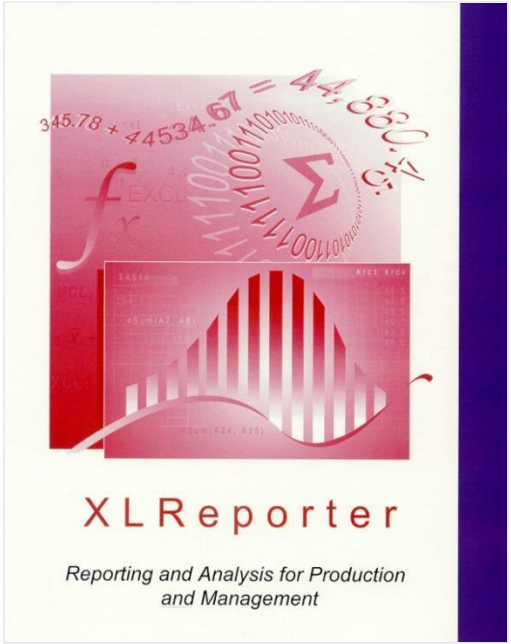
- ✓ Built for Industrial Automation
  - Award winning
    - Two-time winner of Control Engineering Award
  - Small footprint
    - Use on existing hardware and OS
  - Flexible
    - Report from real time, historical and relational or all
- ✓ Design with Excel
  - Utilize your existing skills and templates
  - On-line community ready to assist
    - Over 1B users of Excel or 1 in 7 people!
- ✓ Report without Excel
  - Reliable and fast reporting engine
    - XLReporter uses an open Microsoft standard
- ✓ Use Existing Data
  - Live data from the process
  - File based data such as CSV, XML
  - Historians and Data Logs
  - Databases such as SQL Server

Industrial Excel

- ✓ DDE (requires Excel)
  - Dynamic Data Exchange
  - Excel pulls data from a DDE Server such as RSLinx
- ✓ OLE (requires Excel)
  - Object Linking and Embedding which became COM (Component Object Model)
  - Access to all features such as charts and formats
- ✓ Worksheet from blank (no Excel)
  - XLS format is published (1125 pages). Good luck!
    - https://msdn.microsoft.com/en-us/library/office/cc313154(v=office.14).aspx
- ✓ Open XML (no Excel)
  - Gave rise to the extensions xlsx, docx…
  - Open XML SDK 2.5
  - Does not rely on Excel installed
  - Read/write to office Excel documents directly, modify existing sheets … Industrial Excel is born!

XLReporter Editions

- ✓ Standard
  - Real Time Connector
  - Unlimited Templates
  - Automatic Reports in XLS and Viewer
- ✓ Suite *(Standard +)*
  - HTML Web Reports and Viewer
  - On-demand Reports and Forms (local)
  - File Management
  - One Year Support and Upgrades
- ✓ Professional *(Suite +)*
  - Database Connector
  - Automatic Reports in PDF
  - PDF Reports and Viewer
  - Email, SMS and FTP
- ✓ Team *(Professional +)*
  - History Connector
  - On-demand Report and Forms (remote)
  - On-demand Forms (offline)



History Connector
Database Connector

Promoting XLReporter

- ✓ User Shows
  - RAOTM
  - TechEd, Automation Fair
  - AB Journal
  - Emerson Exchange
- ✓ Sales Kit
  - Datasheets
  - Prices
  - Slides and Demonstrations
- ✓ Evaluation Software and Tutorials
- ✓ Arrange a Live Presentation
  - Pre-sales Demonstration
  - Discuss User Requirements

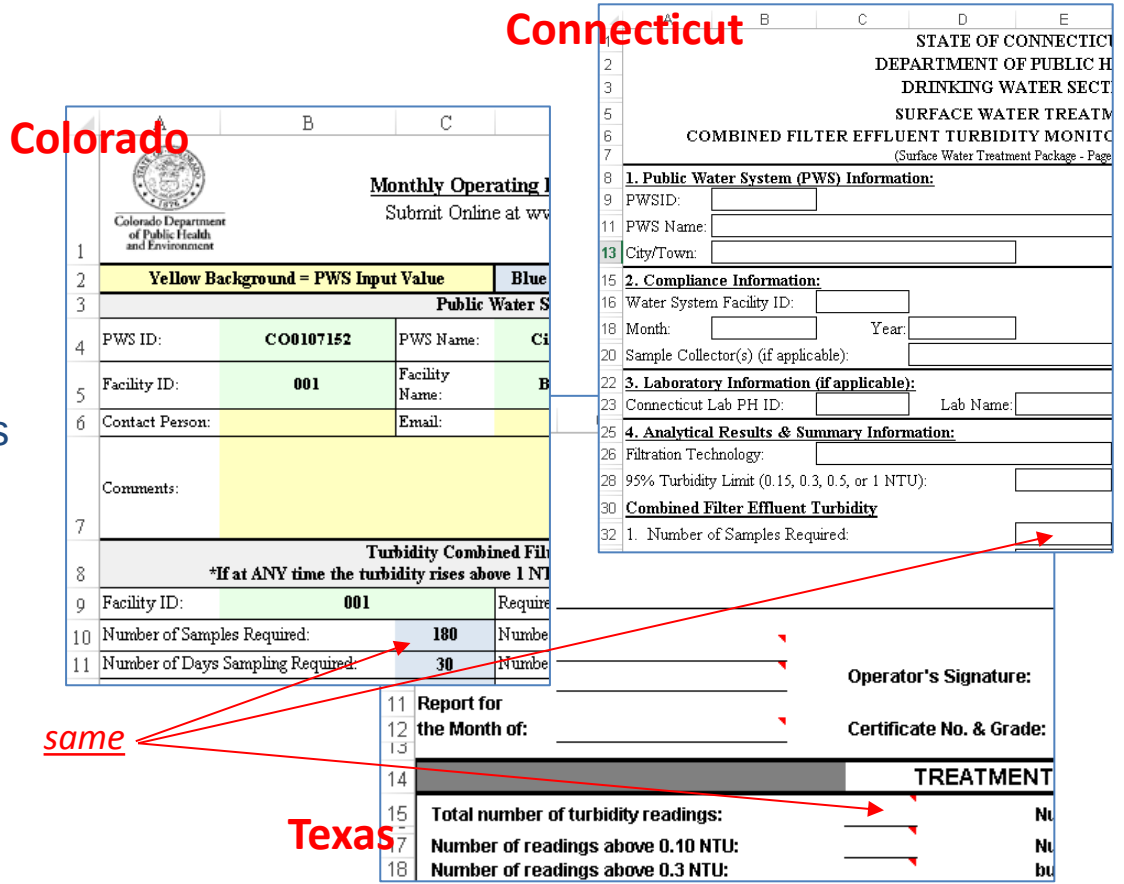
PROCESS	MIXER_ZONE1_TEMP	MIXER_ZONE2_TEMP	MIXER_SPEED	MIXER_RAMPRESS
10/2/2015	78.01	92.11	73.87	83.32
10/2/2015 0:05	77.46	91.14	76.54	82.63
10/2/2015 0:10	78.63	91.29	77.23	81.92
10/2/2015 0:15	77.69	91.36	80.10	81.19

ALARMS					
Date In	Date Out	Duration		Tag Name	State
10/2/15 6:46	10/2/15 8:54	0.09	1	Process\Discharge	HIHI
10/2/15 7:37	10/2/15 9:24	0.07	2	Process\Discharge	HI
10/2/15 21:30	10/2/15 23:46	0.09	3	Process\Discharge	LO
10/2/15 22:40	10/2/15 23:59	0.06	4	Process\Discharge	LOLO

Water Treatment

XLReporter for Water

- ✓ Target Audience
  - Treatment Facilities vary in Size
    - Different reporting needs
  - People vary in Skills
    - Match the solution to the person
- ✓ Data Sources
  - PLC data, Historian, Database
- ✓ Regulatory and Operational Reports
  - MOR, SWTR
    - Across States, same data, different format
  - Production and Alarms
- ✓ Metrics
  - Standard
    - Daily Minimum of Cl2
  - Vertical
    - Daily Peak Flow Rate (CT Determination)



Water Treatment Reports

Regulatory State Report

Massachusetts Department of Environmental Protection - Drinking Water Program
COMPLIANCE DETERMINATION FOR FILTERED SYSTEMS - Monthly Report

I. PWS INFORMATION

PWS ID#: 22160044 PWS Name: Frankville Water Treatment Plant PWS Town: Frankville, M

Treatment Plant Name: WELLFIELD WATER TREATMENT PLANT Reporting Period: Month: October Year: 2013

II. TURBIDITY PERFORMANCE CRITERIA

1.			**Monthly Turbidity (95%) NTU Limit** - The turbidity level of a system's filtered water must be less than or equal to the Montly Turbidity NTU Limit in at leas measurements taken each month for the filtration technology used, otherwise SWTR TT Violation (Tier 2)
	2445	= A	Total # of filtered water turbidity measurements for month (SWTR - Form F)
	35	= B	Total # of filtered water turbidity measurements less than or equal to the specified limits for the filtration technology us (SWTR - Form F)
	1.43%	= (B/A) X 100	The percentage of turbidity measurements meeting the Monthly Turbidity 95% NTU Limit.
2.			**Max Day NTU Limit** - The turbidity level of a system's filtered water must at no time exceed the Max Day NTU Limit for the filtration technology used, ott SWTR TT Violation (Tier 2).

Record the date and turbidity value for any measurements exceeding the Max Day NTU. Check box if "None"

Date	Value	Date Reported to DEP		Date	Value	Date Reporte
10/12/2013 00:45	1					
10/20/2013 10:30	1					

For each day the Max Day NTU limit is exceeded, the DEP must be notified by the end of the next business day. SWTR TT Violation (Tier 2). If DEP is not consulte hours then it is a SWTR TT (Tier 1) violation requiring public notification within 24 hours.

III. DISINFECTION PERFORMANCE CRITERIA

1. **Point-of-Entry Minimum Disinfectant Residual Criteria** - Residual Disinfectant concentration cannot be <0.2 mg/L for more than 4 hours. SWTR TT Violation (Tier 2).

Minimum Disinfection Residual at Point-of-Entry to Distribution System

Day	Cl_2 mg/L	Day	Cl_2 mg/L	Day	Cl_2 mg/L	Day	Cl_2 mg/L	Day	Cl_2 mg/L	Day	Cl_2 mg/L	Day	Cl_2 mg/L	Day	Cl_2 mg
1	0.753154	6	1.040066	11	0.247277	16	0.356663	21	0.505198	26	0.184755	31			
2	0.654127	7	0.261604	12	0.790385	17	0.310783	22	0.748069	27	0.658085			Residual Measures	
3	1.142423	8	0.513664	13	0.834562	18	0.929698	23	0.21269	28	1.145645			Free Cl_2	
4	0.801099	9	1.04251	14	0.321246	19	1.037918	24	0.345944	29				Total Cl_2	
5	0.464641	10	0.912916	15	0.595376	20	0.955531	25	0.431562	30				Combined	

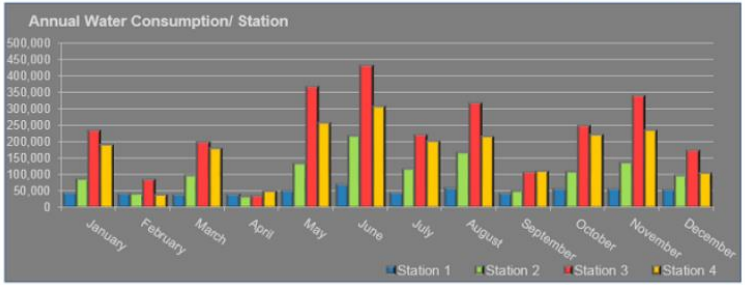
If at any time the residual falls below 0.2 mg/L in the water entering the distribution system, the supplier of water must notify the Department as soon as possible,

SWTR

Operational Report

Annual Water Production

Year 2016



Month Statistic	
Maximum	1,019,669
Minimum	155,788

Day Statistic	
Maximum	225,537
Minimum	22,548

Year Statistic	
Days Pumped	365
Average Day	18,372

Year Totals	
Station #1	575,648
Station #2	1,266,727
Station #3	2,758,203
Station #4	2,109,137
Total	6,709,714

Month	Station #1	Station #2	Station #3	Station #4	Total
January	43,629	85,654	233,796	190,048	553,126
February	39,472	39,820	84,183	38,499	201,974
March	38,388	94,839	198,876	178,998	511,101
April	38,522	32,791	34,959	49,516	155,788
May	47,941	132,838	367,101	256,988	804,869
June	67,650	214,229	430,691	307,099	1,019,669
July	44,005	115,616	220,664	201,678	581,962
August	56,141	164,633	318,963	215,608	755,344
September	39,228	49,544	106,403	108,847	304,022
October	54,452	106,592	248,531	222,191	631,766
November	55,757	134,746	339,486	235,785	765,774
December	50,464	95,425	174,552	103,880	424,320

Year | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec ...

Annual summary, monthly sheets, daily totals

Wastewater Treatment

XLReporter for Wastewater

- ✓ Target Audience
  - Treatment Facilities vary in Size
    - Different reporting needs
  - People vary in Skills
    - Match the solution to the person
- ✓ Data Sources
  - Manual Data Entry
  - PLC data, Historian, Database
- ✓ Regulatory and Operational Reports
  - DMR, MOR
    - Across States, same data, different format
  - Production and Alarms
- ✓ Metrics and Standards
  - Summary
    - Geometric Mean ($\sqrt[n]{x_1 x_2 \cdots x_n}$)
  - Less than Detectable
    - "<0.5"

MISSOURI DEPARTMENT OF NATURAL RESOURCES
NPDES DISCHARGE MONITORING REPORT
WASTEWATER AND/OR STORM WATER

Facility Name [redacted]WWTP — TYPE OF REPORT: MONTHLY
Permit Number MO-[redacted] — DUE MONTHLY
County [redacted]
Discharge Type
This report covers the **MONTH** of November, 2011

DMR Sampling Summary for Outfall #001

Parameter	Units	Daily Minimum	Daily Maximum	Weekly Average	Monthly Average	Percent Removal
EFFLUENT						
Flow	MGD		3.766		1.999	
Biochemical Oxygen Demand (BOD)	mg/L			3.95	4.06	
Total Suspended Solids (TSS)	mg/L			1.3	1.3	
pH - Units	SU	7.0	7.1			
** Ammonia as N	mg/L		<0.5		<0.5	
Oil & Grease	mg/L		<5		<5	
Fecal Coliform	#/100mls		0		0	
Total Nitrogen	mg/L		3.30		3.30	
Organic Nitrogen	mg/L		0.51		0.51	
Total Phosphorus	mg/L		1.20		1.20	

Check Following Box if No Discharge Occurred during this reporting period ☐

Samples collected by: | Date: | Phone number: | Email Address:

Wastewater Treatment Reports

Manual Data

[redacted]WWTP

Outfall #2 Storm

Flow

Collection Date

Incubation Period

Last Revision

Seed Correction (mg/l D.O. per

Sample Name (Seeded With)	Bot #
Effluent 1	
Effluent 2	
Effluent 3	
Effluent 4	
Effluent 5	
Average Effluent	
Blank # 1	
Seed Blank	

Effluent 1

Initial Weight

Dried Weight

Ignition Weight

Solids

Volatile Solids

Sample Volume

Suspended Solids

Volatile Solids

[redacted] MO

Effluent Data

Month-Year Nov

		In-House Testing											External Lab Testing							
Day	Flow (MGD)	BOD (mg/L)	TSS (mg/L)	NH3-N (mg/L)	NO3-N (mg/L)	NO2-N (mg/L)	TP (mg/L)	pH (SU)	Temp (°C)	Alkalinity (mg/L)	FC (#/100ml)	E.Coli (#/100ml)	TKN (mg/L)	NH3-N (mg/L)	Org-N (mg/L)	NOx-N (mg/L)	TN (mg/L)	TP (mg/L)	O+G (mg/L)	FC (#/100
1	1.574																			
2	1.510	2.10		0.84				7.0												
3	1.809							7.1												
4	2.131	1.90		0.51																
5	1.756																			
6	1.695																			
7	1.804		0.80					7.0												
8	2.694							7.0	19.5											
9	2.509	7.43	1.70					7.0												
10	2.436	6.41		0.32																
11	1.805			0.65																
12	1.882																			
13	1.728																			
14	1.837							7.0												
15	1.646		2.10									1.0	1.00	<0.5	0.51	2.30	3.30	1.20	<5	ND
16	1.589	3.28	1.20					7.0	18.0											
17	1.546	2.06		0.11							2.6	ND								
18	1.666			0.25																
19	1.603																			
20	1.690																			
21	2.009		0.90					7.0												
22	1.978	7.50	2.00	0.60							38.8	9.7								
23	3.766	2.85		0.58				7.0	18.2											
24	2.401																			
25	1.997																			
26	1.834																			
27	2.137																			
28	2.372		0.30					7.1			ND	ND								
29	2.259		1.00					7.1												
30	2.303	3.00																		
AVG	1.999	4.06	1.25	0.48	#DIV/0!	#DIV/0!	#DIV/0!	7.0	18.6	#DIV/0!	20.7	5.4	1.00	#DIV/0!	0.51	2.30	3.30	1.20	#DIV/0!	#DIV
MAX	3.766	7.50	2.10	0.84	0.00	0.00	0.00	7.1	19.5	0.0	38.8	9.7	1.00	0.00	0.51	2.30	3.30	1.20	0	
MIN	1.510	1.90	0.30	0.11	0.00	0.00	0.00	7.0	18.0	0.0	2.6	1.0	1.00	0.00	0.51	2.30	3.30	1.20	0	
SUM	59.966	36.53	10.00	3.86	0.00	0.00	0.00	77.3	55.7	0.0	41.4	10.7	1.00	0.00	0.51	2.30	3.30	1.20	0	
CNT	30	9.00	8.00	8	0	0	0	11.0	3.0	0.0	2.0	2.0	1.00	0.00	1.00	1.00	1.00	1.00	0	0.0

Regulatory State Report

MISSOURI DEPARTMENT OF NATURAL RESOURCES
NPDES DISCHARGE MONITORING REPORT
WASTEWATER AND/OR STORM WATER

Facility Name [redacted]WWTP — TYPE OF REPORT: MONTHLY
Permit Number MO[redacted] — DUE MONTHLY
County [redacted]
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pH - Units	SU	7.0	7.1			
** Ammonia as N	mg/L		<0.5		<0.5	
Oil & Grease	mg/L		<5		<5	
Fecal Coliform	#/100mls		0		0	
Total Nitrogen	mg/L		3.30		3.30	
Organic Nitrogen	mg/L		0.51		0.51	
Total Phosphorus	mg/L		1.20		1.20	

Check Following Box if No Discharge Occurred during this reporting period ☐

Samples collected by: | Date | Phone number | Email Address

Clean In Place (CIP)

XLReporter for CIP

- ✓ What is CIP
  - A method of cleaning the interior surfaces of pipes, vessels, process equipment, filters and associated fittings, without disassembly
- ✓ Applications
  - Used in a variety of industries, such as Food, Beverage, Bio-Tech, and Pharmaceutical
  - Food and Beverage can spend 20% of a day cleaning
- ✓ Reporting Objectives
  - FDA Compliance and Traceability
  - Reduce Downtime
  - Improve the CIP Processes
    - Reduce Water and Chemical Usage
    - Reduce Energy Usage

Triplex Single Tank CIP System

www.ipec-inc.com

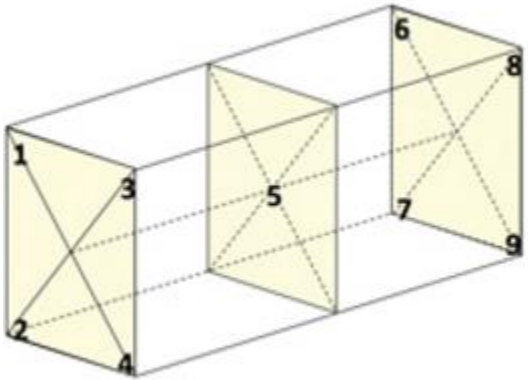
CIP Report

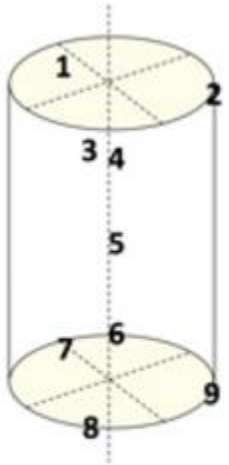
- ✓ Dynamic Reporting Period
  - Bookmark start/end of Process
  - CIP Identifier in the Report Name
    - V12-34 Fermenter_19Jan2017.xlsx
- ✓ Dynamic Sequences
  - Read from PLC
- ✓ Dynamic Labels
  - Extension to standard Excel
- ✓ Facilities Vary in Size
  - Data directly from the PLC
  - Data from historian/data logs
- ✓ Alarms and Operator Changes
- ✓ Operator Comments
  - Even to the active report!

Thermal Uniformity Survey (TUS)

XLReporter for TUS

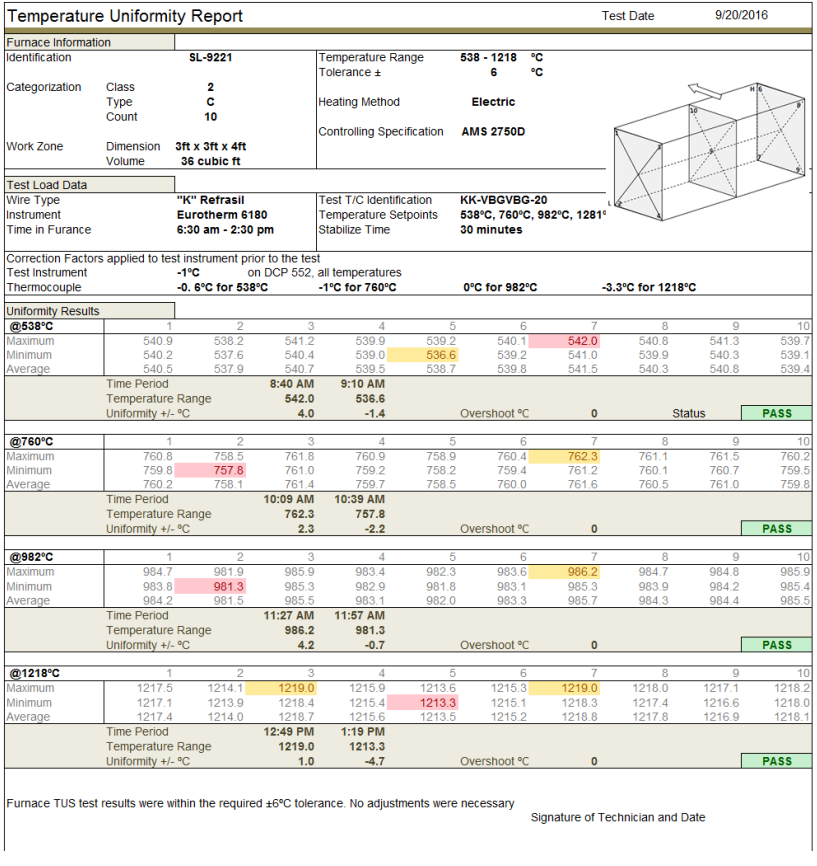
- ✓ What is TUS
  - Mandatory part of AMS2750E pyrometry compliance. The report content and format are well defined in the specification
- ✓ Applications
  - Used in a variety of industries, such as Aerospace, Food Processing, Tooling and Heat Treating.
- ✓ Compliance Requirement
  - Data collection for at least 30 minutes
  - Stability Over a Range of Temperatures
    - Threshold Limit for the Furnace Class





TUS Report

- ✓ Dynamic Reporting Period
  - TUS Identifier in the Report Name
    - SL_9221_20Sep2016.xlsx
- ✓ Data Direct from Process
  - Log data for each profile
- ✓ Conditional Formatting
  - Temperature Limits
  - Uniformity Status e.g., PASS
- ✓ Alarms and Operator Changes



Temperature Uniformity Report — Test Date 9/20/2016

Furnace Information

Identification		SL-9221	Temperature Range	538 - 1218	°C
			Tolerance ±	6	°C
Categorization	Class	2			
	Type	C	Heating Method	Electric	
	Count	10			
			Controlling Specification	AMS 2750D	
Work Zone	Dimension	3ft x 3ft x 4ft			
	Volume	36 cubic ft			

Test Load Data

Wire Type	"K" Refrasil	Test T/C Identification	KK-VBGVBG-20
Instrument	Eurotherm 6180	Temperature Setpoints	538°C, 760°C, 982°C, 1281°
Time in Furance	6:30 am - 2:30 pm	Stabilize Time	30 minutes

Correction Factors applied to test instrument prior to the test

Test Instrument	-1°C	on DCP 552, all temperatures		
Thermocouple	-0. 6°C for 538°C	-1°C for 760°C	0°C for 982°C	-3.3°C for 1218°C

Uniformity Results

@538°C	1	2	3	4	5	6	7	8	9	10
Maximum	540.9	538.2	541.2	539.9	539.2	540.1	542.0	540.8	541.3	539.7
Minimum	540.2	537.6	540.4	539.0	536.6	539.2	541.0	539.9	540.3	539.1
Average	540.5	537.9	540.7	539.5	538.7	539.8	541.5	540.3	540.8	539.4

Time Period	8:40 AM	9:10 AM			
Temperature Range	542.0	536.6			
Uniformity +/- °C	4.0	-1.4	Overshoot °C	0	Status PASS

@760°C	1	2	3	4	5	6	7	8	9	10
Maximum	760.8	758.5	761.8	760.9	758.9	760.4	762.3	761.1	761.5	760.2
Minimum	759.8	757.8	761.0	759.2	758.2	759.4	761.2	760.1	760.7	759.5
Average	760.2	758.1	761.4	759.7	758.5	760.0	761.6	760.5	761.0	759.8

Time Period	10:09 AM	10:39 AM			
Temperature Range	762.3	757.8			
Uniformity +/- °C	2.3	-2.2	Overshoot °C	0	PASS

@982°C	1	2	3	4	5	6	7	8	9	10
Maximum	984.7	981.9	985.9	983.4	982.3	983.6	986.2	984.7	984.8	985.9
Minimum	983.8	981.3	985.3	982.9	981.8	983.1	985.3	983.9	984.2	985.4
Average	984.2	981.5	985.5	983.1	982.0	983.3	985.7	984.3	984.4	985.5

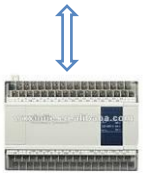
Time Period	11:27 AM	11:57 AM			
Temperature Range	986.2	981.3			
Uniformity +/- °C	4.2	-0.7	Overshoot °C	0	PASS

@1218°C	1	2	3	4	5	6	7	8	9	10
Maximum	1217.5	1214.1	1219.0	1215.9	1213.6	1215.3	1219.0	1218.0	1217.1	1218.2
Minimum	1217.1	1213.9	1218.4	1215.4	1213.3	1215.1	1218.3	1217.4	1216.6	1218.0
Average	1217.4	1214.0	1218.7	1215.6	1213.5	1215.2	1218.8	1217.8	1216.9	1218.1

Time Period	12:49 PM	1:19 PM			
Temperature Range	1219.0	1213.3			
Uniformity +/- °C	1.0	-4.7	Overshoot °C	0	PASS

Furnace TUS test results were within the required ±6°C tolerance. No adjustments were necessary

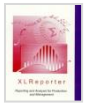
Signature of Technician and Date



① Operator enters SKU

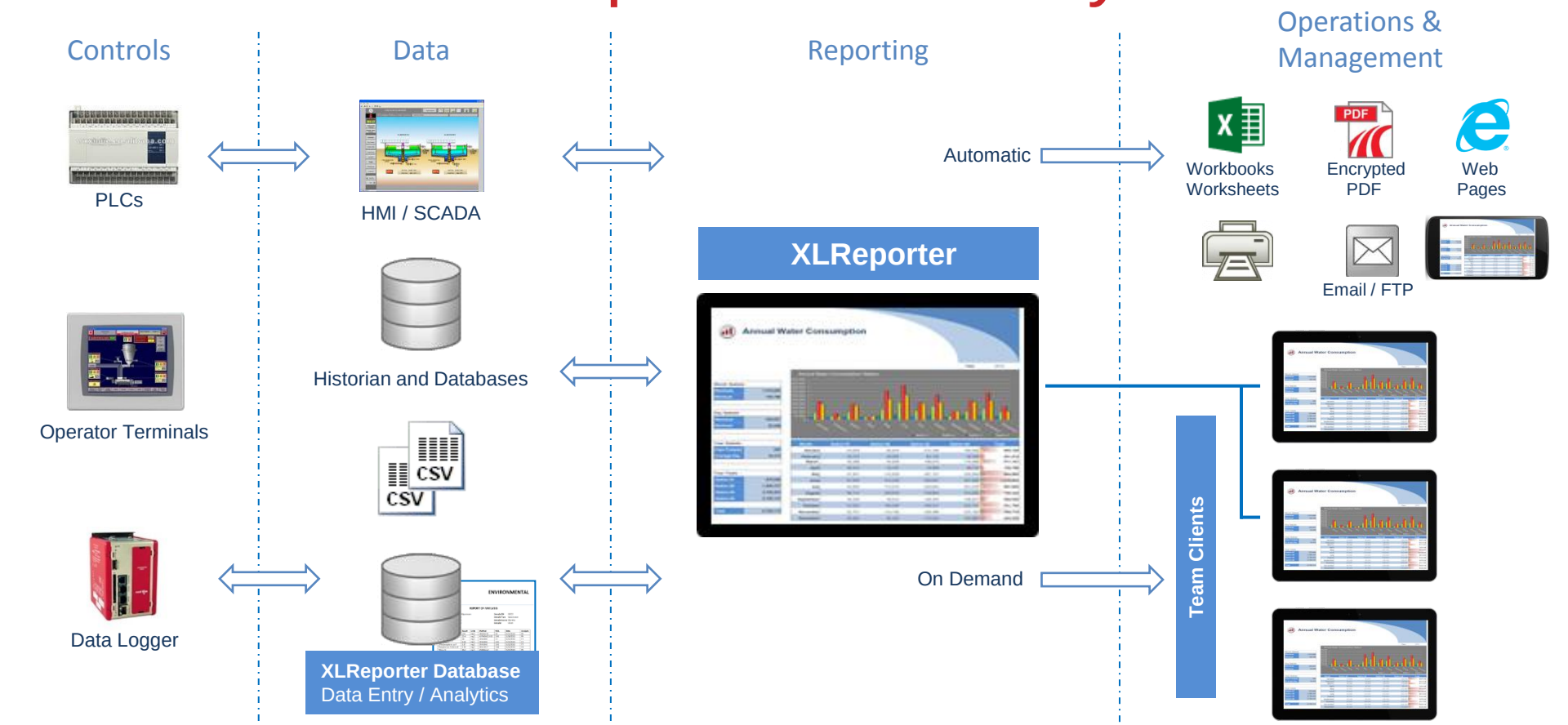
② Read SKU from PLC

④ Write SKU values to PLC



③ XLR reads SKU values from SKU List/Database

XLReporter Flexibility

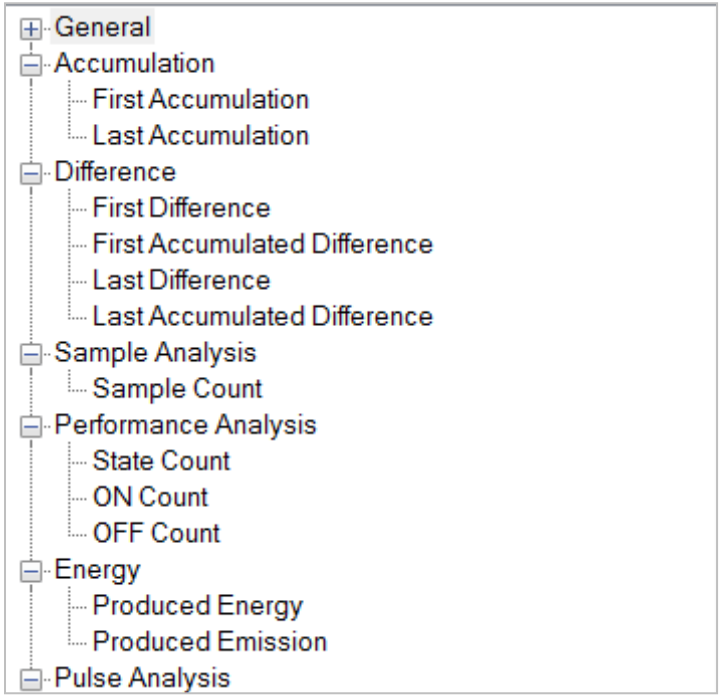


Workflow

Connect ➡ Design ➡ Produce ➡ Distribute

Connect

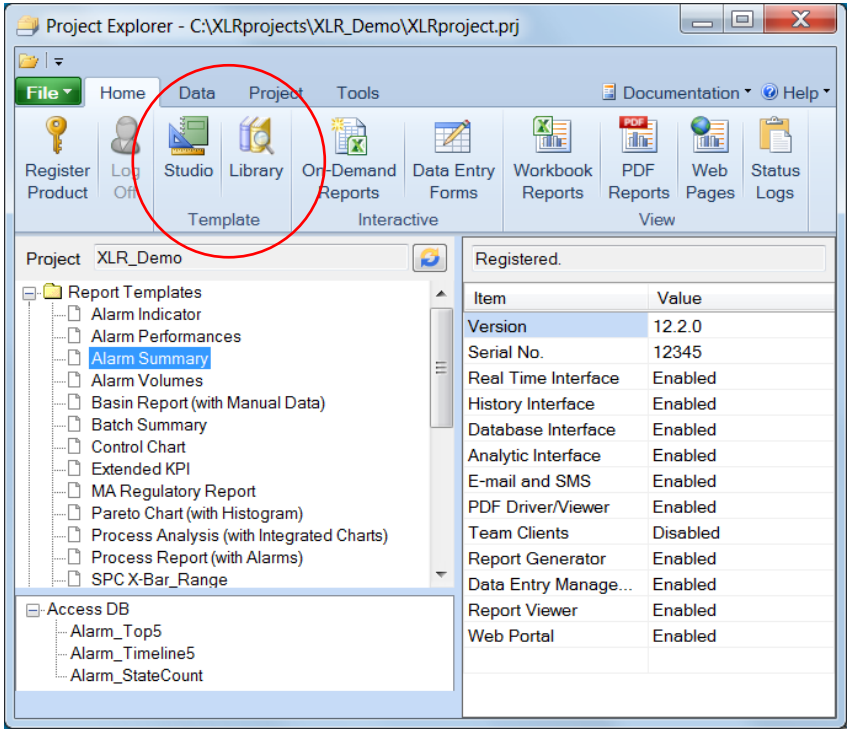
- ✓ Connectivity
  - Over 70 connectors *and growing*.
    - No Usage Limits
  - Industry and Business Standards
    - OPC DA. UA, HDA, ODBC, OLE DB
- ✓ Metrics from Historians/Data Logs
  - Standard Calculations
    - Minimum, Maximum and Average
  - Industry Specific Calculations
    - How many times did the pumps cycle
    - How efficiently is equipment utilized
    - What are the top 5 occurring alarms
  - Scaling and Filtering
  - Support for compressed data
- ✓ Database Management
  - Tools to create database tables and columns
  - Metrics from time-series tables



Industry calculations

Design

- ✓ Use Existing Templates
  - No Limits to Templates or Tags
  - Regulatory State Reports
    - MOR, SWTR
- ✓ Design Custom Templates
  - Template Library “out-of-the-box”
    - Reports in Minutes, *guaranteed*!
  - Template Studio built into Excel
    - Use standard charts, format and formula
- ✓ Over 50 Management Functions
  - Worksheet, Presentation
  - Analysis
  - Logic
  - Import, Export



Project Explorer

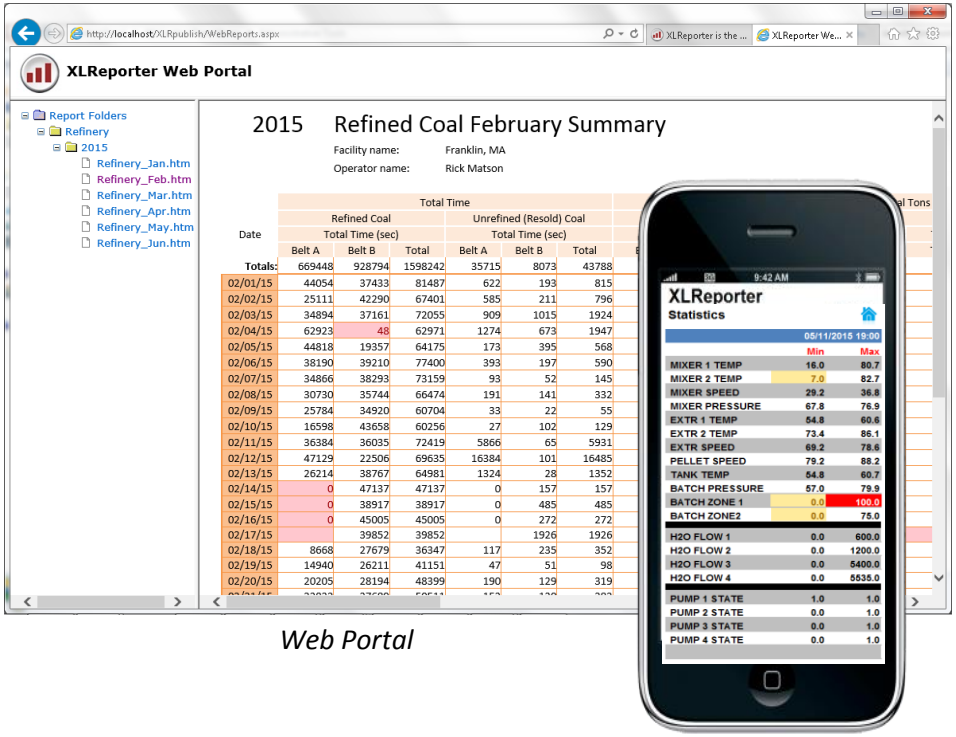
Produce

- ✓ Powerful Scheduler
  - Run as a service or the desktop
  - Use to automate tasks
  - Schedule tasks on Time
    - End of each shift
  - Schedule tasks on Event
    - Cycle End
- ✓ Schedule Tasks
  - Produce reports
    - Workbooks
    - Encrypted PDF
    - Web pages
  - Distribute reports
  - Archive reports
    - Compress, Move, Delete
  - Run third party scripts

Alarm dashboard

Distribute

- ✓ Secure Viewers
  - Launch from HMI/SCADA
  - Allow managed edits e.g., comments
- ✓ Web Portal
  - Open from any browser.
    - No Access Limits
- ✓ Email, FTP, Printer
  - Mobile, Email, Text Message
    - Dynamic/Compressed attachments
    - Live values in content
- ✓ On-Demand Reports
- ✓ Dashboards
  - Access Local or across the Network

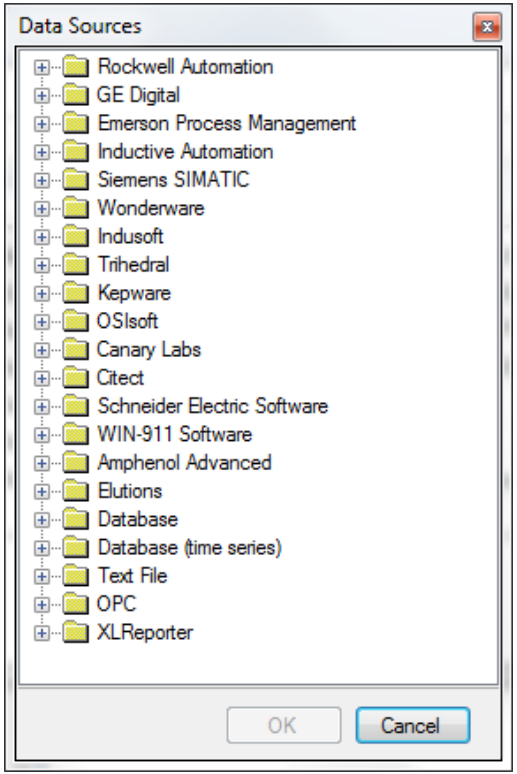


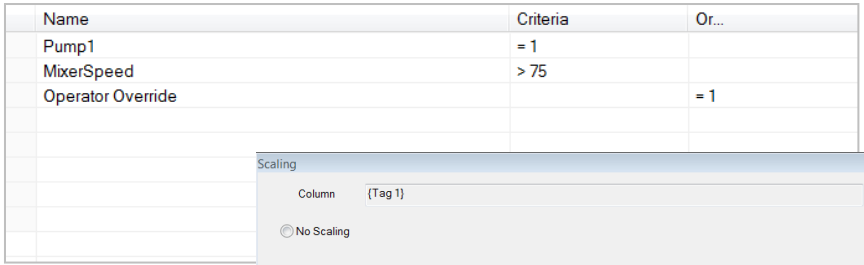
Web Portal

Mobile Devices (update periodically)

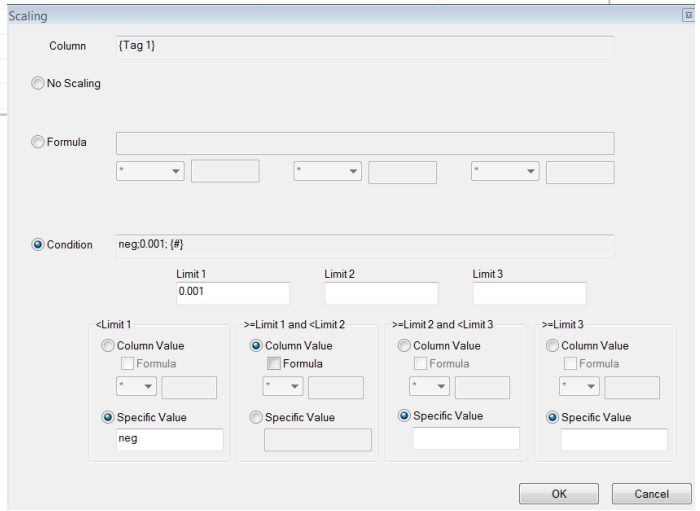
Industrial Automation

Automation Connectors





filter

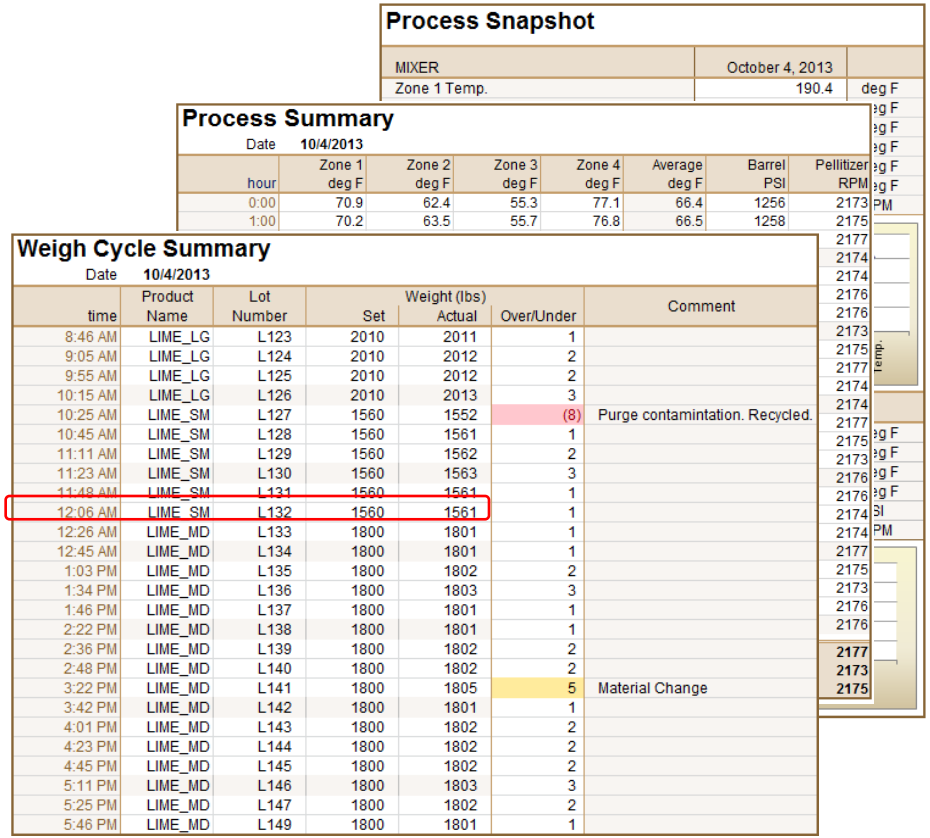


scale

Report From Process Data

- ✓ "Report As You Run" technology
  - Every 15 minutes
  - Cycle complete.
- ✓ Report Names
  - Combination of Text, Dates and Process Values e.g., Lot ID
- ✓ Folder Management
  - Automatically create Folders
- ✓ Process Handshake
  - Acknowledge from the report
  - Provide a heartbeat
- ✓ Add Comments Securely
  - Even on the active report!

Periodically or on event



Process Snapshot

MIXER	October 4, 2013	
Zone 1 Temp.	190.4	deg F

Process Summary

Date 10/4/2013

hour	Zone 1 deg F	Zone 2 deg F	Zone 3 deg F	Zone 4 deg F	Average deg F	Barrel PSI	Pellitizer RPM
0:00	70.9	62.4	55.3	77.1	66.4	1256	2173
1:00	70.2	63.5	55.7	76.8	66.5	1258	2175

Weigh Cycle Summary

Date 10/4/2013

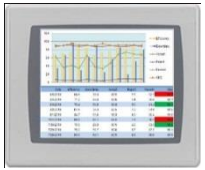
time	Product Name	Lot Number	Weight (lbs) Set	Actual	Over/Under	Comment
8:46 AM	LIME_LG	L123	2010	2011	1	
9:05 AM	LIME_LG	L124	2010	2012	2	
9:55 AM	LIME_LG	L125	2010	2012	2	
10:15 AM	LIME_LG	L126	2010	2013	3	
10:25 AM	LIME_SM	L127	1560	1552	(8)	Purge contamintation. Recycled.
10:45 AM	LIME_SM	L128	1560	1561	1	
11:11 AM	LIME_SM	L129	1560	1562	2	
11:23 AM	LIME_SM	L130	1560	1563	3	
11:48 AM	LIME_SM	L131	1560	1561	1	
12:06 AM	LIME_SM	L132	1560	1561	1	
12:26 AM	LIME_MD	L133	1800	1801	1	
12:45 AM	LIME_MD	L134	1800	1801	1	
1:03 PM	LIME_MD	L135	1800	1802	2	
1:34 PM	LIME_MD	L136	1800	1803	3	
1:46 PM	LIME_MD	L137	1800	1801	1	
2:22 PM	LIME_MD	L138	1800	1801	1	
2:36 PM	LIME_MD	L139	1800	1802	2	
2:48 PM	LIME_MD	L140	1800	1802	2	
3:22 PM	LIME_MD	L141	1800	1805	5	Material Change
3:42 PM	LIME_MD	L142	1800	1801	1	
4:01 PM	LIME_MD	L143	1800	1802	2	
4:23 PM	LIME_MD	L144	1800	1802	2	
4:45 PM	LIME_MD	L145	1800	1802	2	
5:11 PM	LIME_MD	L146	1800	1803	3	
5:25 PM	LIME_MD	L147	1800	1802	2	
5:46 PM	LIME_MD	L149	1800	1801	1	

Report From Data Loggers

- ✓ Collect Data on Device
  - Create Data Log files
    - Periodically or on event
- ✓ Consolidate the Data Logs
  - Transfer by FTP to central folder
  - Automatically maintain a Tag list
- ✓ Design a Template
  - Data logs treated as a single entity
  - Use Tag browser
- ✓ Enable Web Portal
  - View reports on Device
- ✓ Implement on a Micro PC
  - No external PC and Monitor

Process

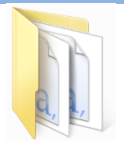
Packing



consolidate in separate folders

view web pages on PVP

XLReporter



Process

Packing

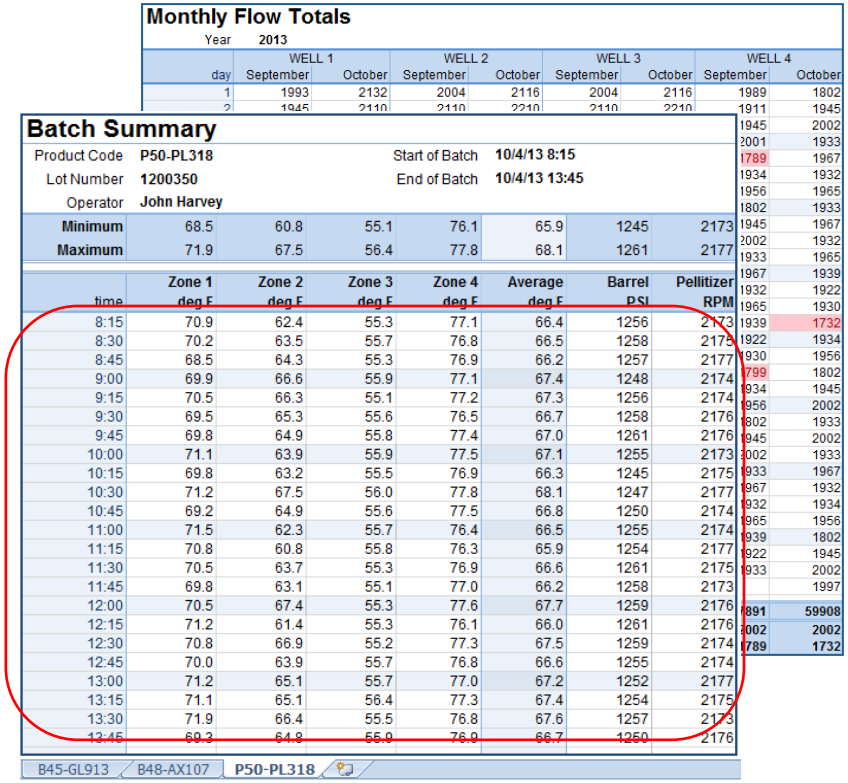
Schedule Reports

workbooks, PDF and web pages, locally and across the network

Report From Historians

- ✓ Report Names
  - Combination of Text, Dates and Process Values e.g., Lot ID
- ✓ Report On Time
  - End of Shift
  - End of Month
  - On Demand
- ✓ Report Using “Bookmarks”
  - Start/Stop of a Cycle
  - On/Off of Pump
- ✓ Metrics and KPIs
  - Calculated by Server
  - Calculated by XLReporter

Periodically, on event or bookmarks



Monthly Flow Totals

Year 2013

day	WELL 1 September	WELL 1 October	WELL 2 September	WELL 2 October	WELL 3 September	WELL 3 October	WELL 4 September	WELL 4 October
1	1993	2132	2004	2116	2004	2116	1989	1802
2	1945	2110	2110	2210	2110	2210	1911	1945
							1945	2002
							2001	1933
							1789	1967
							1934	1932
							1956	1965
							1802	1933
							1945	1967
							2002	1932
							1933	1965
							1967	1939
							1932	1922
							1965	1930
							1939	1732
							1922	1934
							1930	1956
							1799	1802
							1934	1945
							1956	2002
							1802	1933
							1945	2002
							2002	1933
							1933	1967
							1967	1932
							1932	1934
							1965	1956
							1939	1802
							1922	1945
							1933	2002
								1997
							1891	59908
							2002	2002
							1789	1732

Batch Summary

Product Code	P50-PL318	Start of Batch	10/4/13 8:15
Lot Number	1200350	End of Batch	10/4/13 13:45
Operator	John Harvey		

	Zone 1 deg F	Zone 2 deg F	Zone 3 deg F	Zone 4 deg F	Average deg F	Barrel PSI	Pellitizer RPM
Minimum	68.5	60.8	55.1	76.1	65.9	1245	2173
Maximum	71.9	67.5	56.4	77.8	68.1	1261	2177

time	Zone 1 deg F	Zone 2 deg F	Zone 3 deg F	Zone 4 deg F	Average deg F	Barrel PSI	Pellitizer RPM
8:15	70.9	62.4	55.3	77.1	66.4	1256	2173
8:30	70.2	63.5	55.7	76.8	66.5	1258	2175
8:45	68.5	64.3	55.3	76.9	66.2	1257	2177
9:00	69.9	66.6	55.9	77.1	67.4	1248	2174
9:15	70.5	66.3	55.1	77.2	67.3	1256	2174
9:30	69.5	65.3	55.6	76.5	66.7	1258	2176
9:45	69.8	64.9	55.8	77.4	67.0	1261	2176
10:00	71.1	63.9	55.9	77.5	67.1	1255	2173
10:15	69.8	63.2	55.5	76.9	66.3	1245	2175
10:30	71.2	67.5	56.0	77.8	68.1	1247	2177
10:45	69.2	64.9	55.6	77.5	66.8	1250	2174
11:00	71.5	62.3	55.7	76.4	66.5	1255	2174
11:15	70.8	60.8	55.8	76.3	65.9	1254	2177
11:30	70.5	63.7	55.3	76.9	66.6	1261	2175
11:45	69.8	63.1	55.1	77.0	66.2	1258	2173
12:00	70.5	67.4	55.3	77.6	67.7	1259	2176
12:15	71.2	61.4	55.3	76.1	66.0	1261	2176
12:30	70.8	66.9	55.2	77.3	67.5	1259	2174
12:45	70.0	63.9	55.7	76.8	66.6	1255	2174
13:00	71.2	65.1	55.7	77.0	67.2	1252	2177
13:15	71.1	65.1	56.4	77.3	67.4	1254	2175
13:30	71.9	66.4	55.5	76.8	67.6	1257	2173
13:45	69.3	64.8	55.9	76.9	66.7	1250	2176

B45-GL913 | B48-AX107 | P50-PL318

Report Gallery

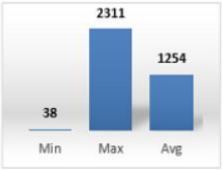
Water Facility Dashboard

Water Tank Distribution 2017

Week 3

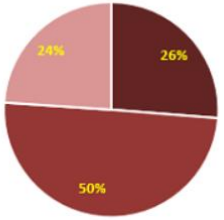
Key Indicators

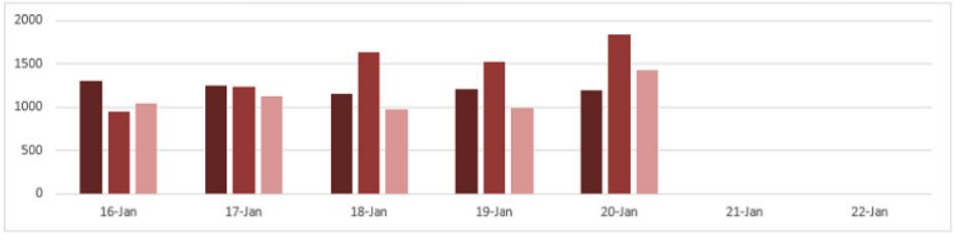
	Pump	Current Level	Current psi	Current %	Weekly Min	Weekly Max	Weekly Avg
Well 1	on	1432	64	34	150	1672	1219
Well 2	on	2011	57	48	38	2311	1433
Well 3	off	1511	62	61	465	1744	1110
Total		4954			38	2311	1254



Tank Levels

Day	Well 1 Min	Well 1 Max	Well 1 Avg	Well 2 Min	Well 2 Max	Well 2 Avg	Well 3 Min	Well 3 Max	Well 3 Avg
Mon 01/16	450	1672	1299	38	2187	945	521	1587	1045
Tue 01/17	150	1421	1244	324	2200	1231	466	1643	1122
Wed 01/18	638	1562	1151	578	1935	1632	589	1634	980
Thu 01/19	255	1365	1201	457	2311	1523	465	1744	983
Fri 01/20	356	1322	1199	322	2016	1836	534	1642	1421
Sat 01/21									
Sun 01/22									
	150	1672	1218.8	38	2311	1433.4	465	1744	1110.2





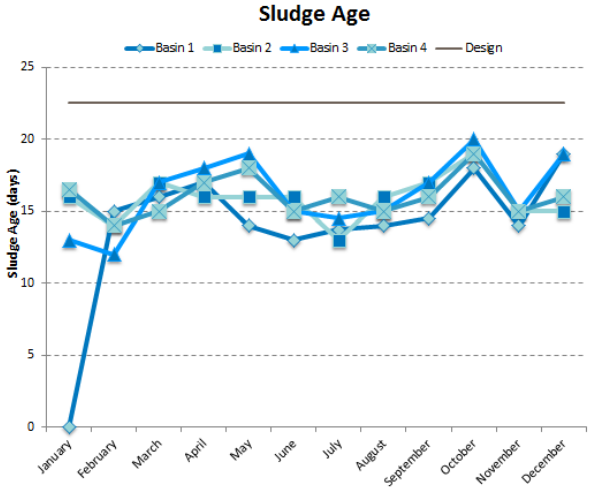
Wastewater Annual Summary

Annual Basin Operations

Design value: 22.5

Values are average unless stated otherwise

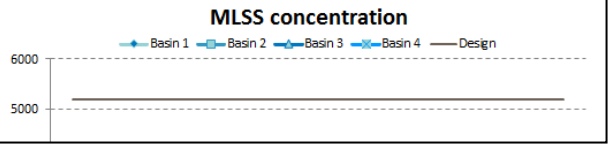
0	Sludge Age			
	Basin 1	Basin 2	Basin 3	Basin 4
January	0.0	16.0	13.0	16.5
February	15.0	14.0	12.0	14.0
March	16.0	17.0	17.0	15.0
April	17.0	16.0	18.0	17.0
May	14.0	16.0	19.0	18.0
June	13.0	16.0	15.0	15.0
July	13.7	13.0	14.5	16.0
August	14.0	16.0	15.0	15.0
September	14.5	17.0	17.0	16.0
October	18.0	19.0	20.0	19.0
November	14.0	15.0	15.0	15.0
December	19.0	15.0	19.0	16.0
MIN	0.0	13.0	12.0	14.0
MAX	19.0	19.0	20.0	19.0
AVG	14.0	15.8	16.2	16.0



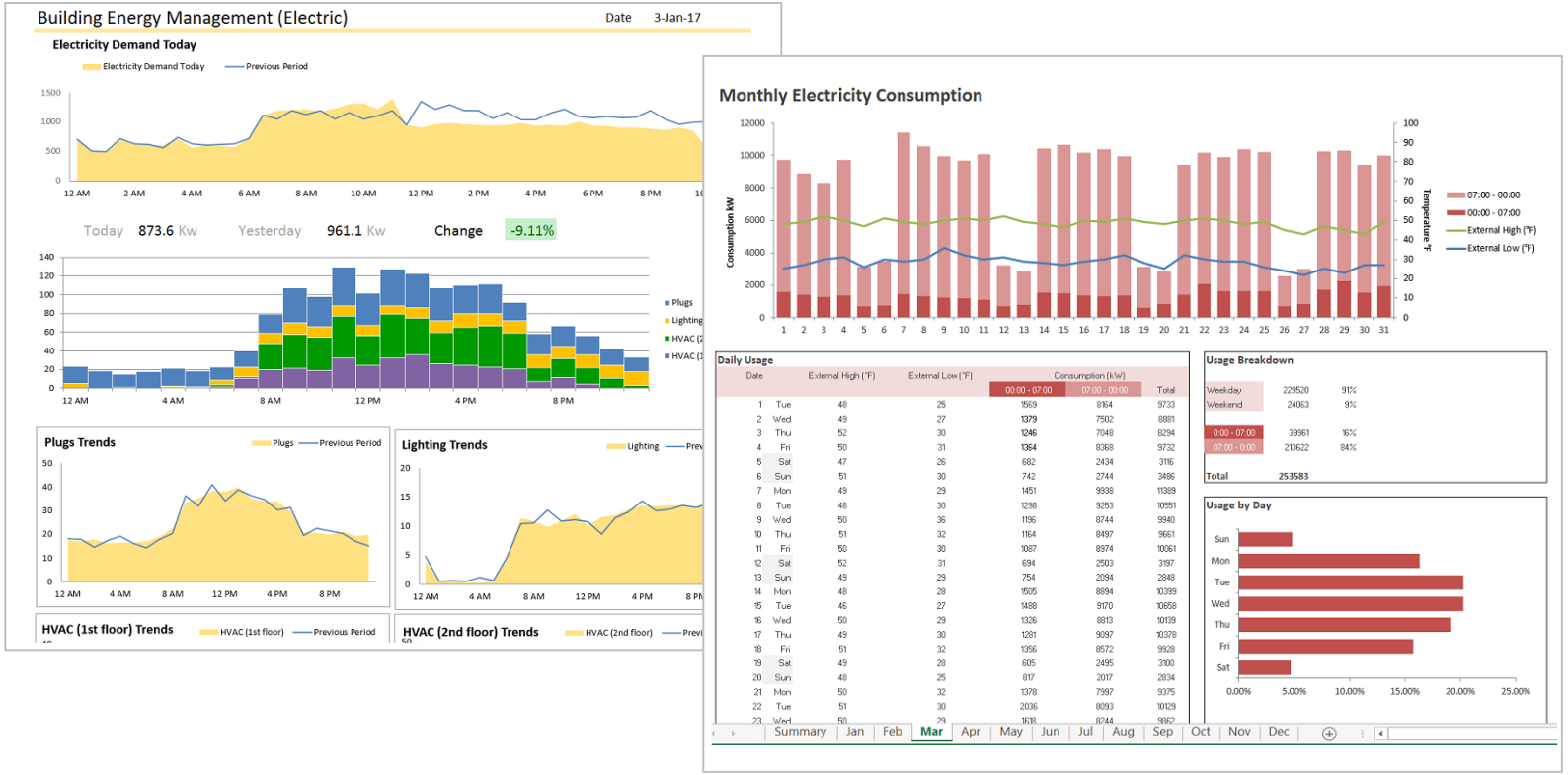
Design value: 5200

Values are average unless stated otherwise

2012	MLSS (mg/L)			
	Basin 1	Basin 2	Basin 3	Basin 4
January	3500	3400	3450	3800
February	3600	3500	3550	3900
March	4000	3600	3450	3450



Energy Management



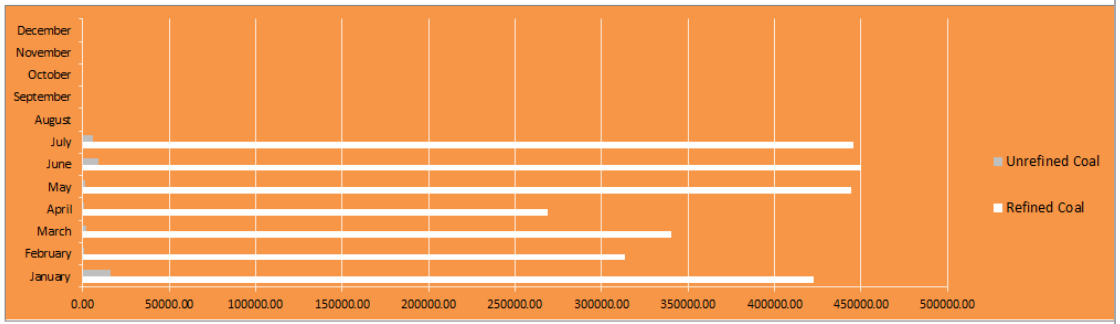
Production Summary

2015 Refined Coal Annual Summary

Facility name: Franklin, MA

Operator name: Rick Matson

Date	Total Time						Total Tons							
	Refined Coal			Unrefined (Resold) Coal			Refined Coal					Unrefined (Resold) Coal		
	Total Time (h:mm)			Total Time (h:mm)			<300 TPH		>300 TPH		Tons	Tons		
	Belt A	Belt B	Total	Belt A	Belt B	Total	Belt A	Belt B	Belt A	Belt B	Total	Belt A	Belt B	Total
Totals:	1401:59	1777:01	3179:01	52:48	49:21	102:10	7654.50	9515.50	1115585.50	1552152.50	2684908.00	42688.50	36645.25	79333.75
January	259:49	247:07	506:56	11:51	25:30	37:21	1198.50	-590.50	225772.50	195956.50	422337.00	10123.50	16027.25	26150.75
February	185:57	257:59	443:57	9:55	2:14	12:09	2862.00	1794.00	110716.00	198142.00	313514.00	3241.00	1071.75	4312.75
March	172:38	243:32	416:10	3:40	2:32	6:12	2454.00	2749.25	109295.00	225830.75	340329.00	1762.00	2136.25	3898.25
April	64:47	238:06	302:54	0:26	1:18	1:45	86.00	1627.00	55483.00	211414.25	268610.25	319.00	957.75	1276.75
May	159:15	317:10	476:26	0:31	1:15	1:46	441.00	2272.50	130857.00	310616.50	444187.00	404.00	1213.50	1617.50
June	334:10	209:05	543:16	24:55	10:22	35:17	1017.00	1389.75	280485.00	167292.00	450183.75	25985.00	9056.25	35041.25
July	225:19	263:59	489:18	1:28	6:07	7:35	-404.00	273.50	202977.00	242900.50	445747.00	854.00	6182.50	7036.50
August	0:00	0:00	0:00	0:00	0:00	0:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
September	0:00	0:00	0:00	0:00	0:00	0:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
October	0:00	0:00	0:00	0:00	0:00	0:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
November	0:00	0:00	0:00	0:00	0:00	0:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
December	0:00	0:00	0:00	0:00	0:00	0:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00



Annual Summary | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec

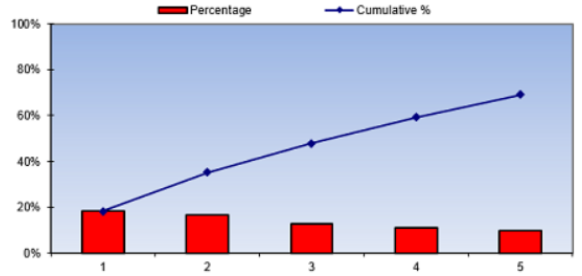
Annual summary, monthly sheets, daily totals

Alarm Analysis Dashboard

Alarm Dashboard

date: 11 Jan 2017, 0:00

Top 5 alarms for the period

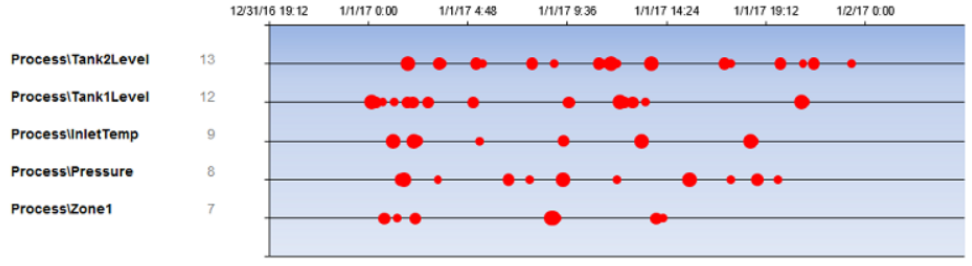


Tag Name	ID	Frequency	Percentage	Cumulative %
Process\Tank2Level	1	13	18.31%	18.31%
Process\Tank1Level	2	12	16.90%	35.21%
Process\InletTemp	3	9	12.68%	47.89%
Process\Pressure	4	8	11.27%	59.15%
Process\Zone1	5	7	9.86%	69.01%
other		22	30.99%	100.00%
		71		

Alarm State Count for the Period

Tag Name	LoLo	Lo	Hi	HiHi
Process\BarrelPress			3	3
Process\Discharge			2	2
Process\InletTemp			5	4
Process\MixerTemp			2	2
Process\OutletTemp			2	3
Process\Pressure			5	3
Process\Tank1Level	2	6	3	1
Process\Tank2Level	2	2	7	2
Process\Zone1	1	4	1	1
Process\Zone2			2	1

Timeline of the Top 5 Alarms for the period



Manufacturing

PLC Data		
X	Y	Value
0	0	1212
0	1	1230
0	2	1228
0	3	1227
0	4	1207
1	0	1219
1	1	1231
1	2	1218
1	3	1224
1	4	1221
2	0	1202
2	1	1229
2	2	1213
2	3	1233
2	4	1209
3	0	1196
3	1	1219
3	2	1226
3	3	1220
3	4	1200

Lot:	5D7810	Sheet:	452	Operator	YL
Product:	0	Composition	65		
Sample Mean	1217.32	Std Deviation	10.43	Range	37.00
		CMD %	0.85%	MD %	1.50%

Date: 4/30/2015 10:45

RAW

1212	1219	1202	1196	1220
1230	1231	1229	1219	1216
1228	1218	1213	1226	1209
1227	1224	1233	1220	1224
1207	1221	1209	1200	1200

MD

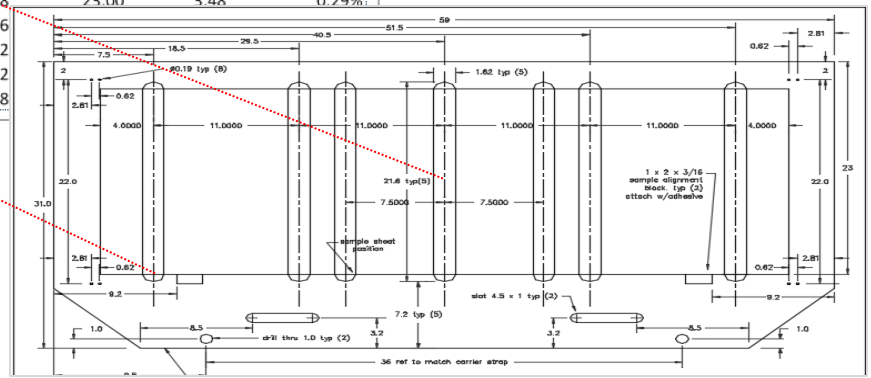
Average	Range	Mean-Xbar	%
1209.80	24.00	-7.52	-0.62%
1225.00	15.00	7.68	0.63%
1218.80	19.00	1.48	0.12%
1225.60	13.00	8.28	0.68%
1207.40	21.00	-9.92	-0.82%

Data - SIM

-5.32	1.68	-15.32	-21.32	2.68
12.68	13.68	11.68	1.68	-1.32
10.68	0.68	-4.32	-8.68	-8.32
9.68	6.68	15.68	2.68	6.68
-10.32	3.68	-8.32	-17.32	-17.32

CMD

Mean	Range	Mean-xbar	%
1220.8	23.00	3.48	0.29%
1222.6			
1217.2			
1212.2			
1213.8			



Value placed in report at the measured location

Customers

- ✓ Water Treatment.
  - Treatment Facility produces drinking water
  - Daily, Monthly and Yearly Flow and Chemical additions reports. Monthly turbidity report to the State of Massachusetts
- ✓ HVAC.
  - Facility in New Orleans, LA, produce cooled water for air conditioning systems in downtown New Orleans.
  - Daily and monthly utilization reports used for billing
- ✓ Pharmaceutical.
  - Company produces systems in the pharmaceutical industry
  - Trend and alarm batch reports to encrypted PDF
- ✓ Manufacturing.
  - Manufacturer in Providence, RI produce high quality crystal products
  - Shift and daily production reports

Awards and Testimonials

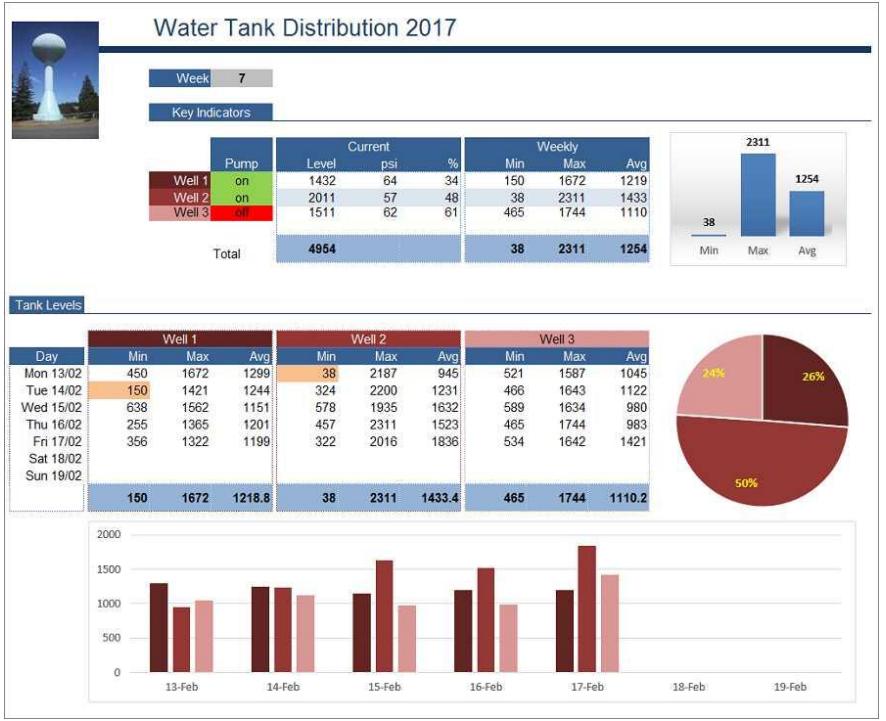
XLReporter is a two-time winner of Control Engineering Choice Award

"The automation interface provided by SyTech enables Excel to be used in more niche markets that require automated and unattended operation. This is an example of how Microsoft Office applications can solve critical business problems for our customers and deliver great benefits from creative partners like SyTech."

Microsoft Corp.

Information and Download

- ✓ Web
  - www.SyTech.com
  - www.TheReportCompany.com
  - www.XLReporter.net



국내총판 : ㈜한국밸런스

Contact : 영업대표 김형덕
Mobile) 010-7138-8889
Email) hdkim@valence.co.kr