



**Mustang Sampling<sup>®</sup>**

Mustang Intelligent Vaporizer  
Sampling System<sup>®</sup>  
**SOFTVIEW<sup>®</sup> SOFTWARE SUITE**

**SOFTWARE SUITE OVERVIEW**

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## **SOFTVIEW® Software Suite Overview**

Mustang Sampling is pleased to announce the release of the Mustang Sampling SoftView® Suite of software products. All products in the suite are Windows-based and operate on a Windows XP, Windows 7 or Windows 8 PC platform.

This suite will provide the Mustang Sampling customer with the ability to interface both locally and remotely to the wide array of smart Mustang Sampling instrumentation. The Suite includes the following configurations:

1. SOFTVIEW®LITE
2. SOFTVIEW®PLUS+
3. SOFTVIEW®PLUS++
4. SOFTVIEW®LNG

The software suite, depending on the particular software product chosen, provides the user with a number of features including the following:

1. **Simple Intuitive User Interface** An important SOFTVIEW® SOFTWARE design priority was to provide the user with an interface which is simple, intuitive and easy to use. As you will see in the visualization discussion below, this has been achieved for the day-to-day software user.
2. **Applications (APPs)** The information required by the SOFTVIEW® SOFTWARE product to interface to an instrument is contained in an APP file for the instrument. So configuring the product to interface to a particular instrument is a simple two-step process. (1) select the appropriate APP and (2) define the communications parameters required for the interface.
3. **Station Network User Interface** – This feature available in the PLUS and LNG products allows the user to define a Station Network of customized stations containing measurements acquired from the instruments. The Station Network measurement data (station points) is presented to the user in pop-up station windows as shown in the visualization windows below. The stations and their assigned points are presented color coded to designate normal or alarm condition. The user can pre-configure each station window by adding a desired BMP image for each station window. He can also position the station measurements or points to desired locations over the BMP image.
4. **Training Mode Configuration** – The SOFTVIEW® SOFTWARE products support a training mode configuration. This mode when enabled allows the user to easily become familiar with the user GUI software interface and the data acquisition features without having to have physical connections to the instruments. The instrument data acquisition communications for this mode is virtual or simulated. For the LNG product user, this is valuable as the novice user can gain familiarity with the software by performing virtual LNG load transfers.

Then, when ready, the user can then easily switch the configuration to interface to the real instruments.

5. **Instrument Configuration** – The SOFTVIEW® SOFTWARE instrument APP for interface to the instrument will usually contain not only “read only” measurement report data but also “read/write” configuration parameter report data. So the product user can also read (poll) and tweak or re-configure key parameters in the instrument by editing and downloading configuration parameters to the instrument.
6. **History Logging and Trending** – The SOFTVIEW® SOFTWARE product captures acquired measurement data in history log files. Once captured the user can review a graphic trend of selected instrument values in the history data log and can request history reports containing the history data.

## **SOFTVIEW®LITE Software Overview**

The SOFTVIEW®LITE Software package is available to the Mustang Sampling customer for no cost.

This software provides the user with local and remote communications features to monitor measurements from a single Mustang Sampling instrument and the ability to configure the instrument.

The SOFTVIEW®LITE user can:

1. Install an interface APP for the desired instrument, i.e. the “focus APP”.
2. Define the communications link to the instrument. Communications options include serial or Ethernet network connections.
3. Select the “focus report”, i.e. the specific data desired from the instrument.
4. Poll on demand or auto-poll the focus report data from the instrument.
5. Tune or re-configure the instrument by editing and downloading configuration parameters to the instrument.
6. Save acquired data from the instrument in a history data log.
7. Review the latest acquired instrument data and alarm status.
8. Review a graphic trend of selected measurements in the history data log.
9. Export the history log data to a CSV file for import into Excel.
10. Print history data log reports.

SOFTVIEW® SOFTWARE instrument applications (APPs) are currently available in the SOFTVIEW®LITE software to support communications with the following Mustang Sampling instruments (focus instruments):

1. P53
2. Pony w/ MHR
3. MPR-VSS
4. MHR
5. MIV1
6. MIV2
7. SS2000 Moisture Analyzer
8. MTC1

SOFTVIEW®LITE supports the following communications media or links to the instrument:

1. Serial over a COMx port (RS232 or RS485 with a converter)
2. Ethernet (TCP/IP)

# SOFTVIEW® LITE Visualization Examples

## Operations Window

Mustang SOFTVIEW®LITE Client

File Execute Tools Zoom User Account Help Exit

Mustang Sampling

Application: 001:P53 MUSTANG ~P53

Report: P53-OP: Operations Menu

Alarm Status: P53-OP: Alarm 2 State

Instrument Data: 08/11/16 13:59:16

Name	Value	Units
AI 1 Process Value	119.94	.....
AI 1 Error Status	NONE	.....
Filtered AI 01	119.93	.....
Ambient Temp Input 1	104.81	.....
Heat Power	2.08	.....
Closed Loop SetPoint	120.00	.....
Alarm 1 State	STARTUP	.....
Alarm 2 State	STARTUP	.....

Trend Graph: AI 1 Process Value

Server Connected Audit: 0010 / 0097 08/11/16 13:37:14 Auto-Polling initiated

## Setup Window

Mustang SOFTVIEW®LITE Client

File Execute Tools Zoom User Account Help Exit

Mustang Sampling

Instrument: 001:P53 MUSTANG ~P53

Report: P53-OP: Operations Menu

Application: 441:MUSTANG P53 APP

New Name: P53 MUSTANG ~P53

Access Level: User

Apply Action

ID: [Redacted]

Active: YES

Modbus Address: 102

Interface: Serial Line 4

Address: 000.000.000.000

IP Port: 12345

Read History Option: [Redacted]

Report Option: [Redacted]

Serial 4: TRAIN Serial 5: [Redacted]

Serial 6: [Redacted] Serial 7: [Redacted]

Serial Config: 9600,N,8,1

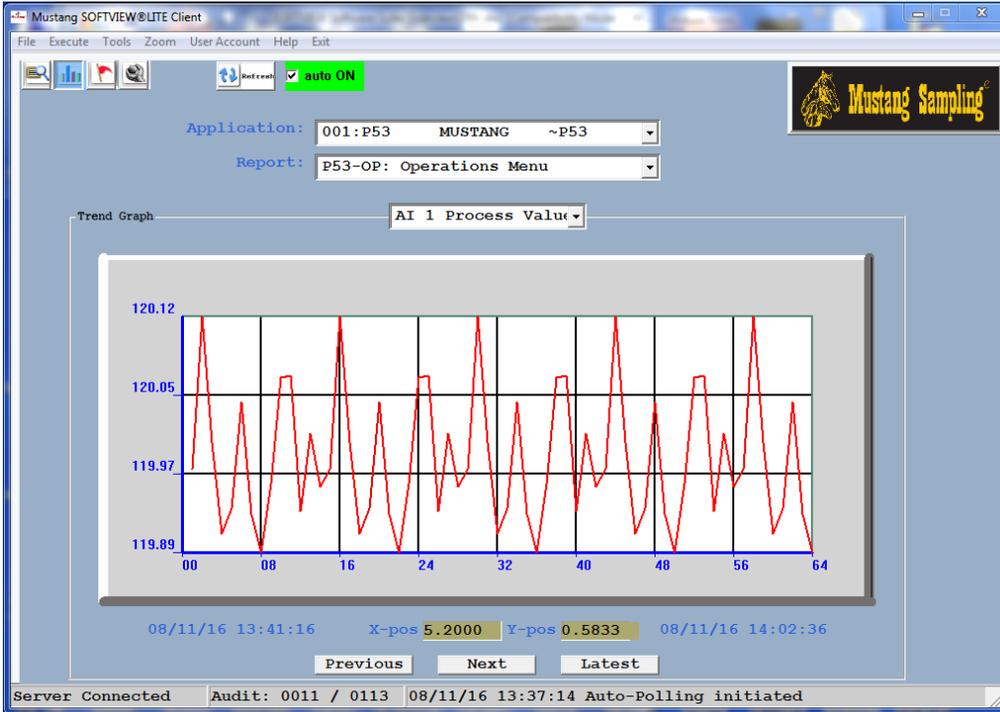
Instrument Data Engineering Units

Name	Units
AI 1 Process Value	.....
AI 1 Error Status	.....
Filtered AI 01	.....
Ambient Temp Input 1	.....
Heat Power	.....
Closed Loop SetPoint	.....
Alarm 1 State	.....
Alarm 2 State	.....

Server access

Server Connected Audit: 0010 / 0029 08/15/15 15:23:54 =Current Licensee= Mustang Sampling

# Trend Window



## **SOFTVIEW®PLUS Software Overview**

The Mustang Sampling SOFTVIEW®PLUS Software is available for users who need a SCADA type auto-poll interface to acquire measurement data from multiple field instruments.

This software is specifically designed to provide the user with an easy-to-use smart interface to a variety of gas measurement related instrumentation such as flow computers, gas chromatographs, PLCs, RTUs, etc. The software operates as a “master host” on a Master/Slave communications network primarily using Modbus protocol. Other protocols are also optionally available.

Two versions of the SOFTVIEW®PLUS software are available depending on the number of instruments desired by the user. The + version can collect data on a 24/7 basis from up to ten (10) instruments. The ++ version can collect data on a 24/7 basis from up to twenty (20) instruments.

The SOFTVIEW®PLUS software saves acquired measurement data in history log files allowing the user to monitor measurement history and to review the performance of the instruments. The software also supports features which can allow the user to configure the instruments.

The SOFTVIEW®PLUS product can be used and evaluated for 60 days after installation for the first time on a PC. To continue to use the software after that time requires that the software be registered by Mustang Sampling.

The SOFTVIEW®PLUS software not only provides the user with all of the above SOFTVIEW®LITE communications functions but provides the following SCADA related features:

### **SCADA Auto-Polling Feature**

This feature allows the user to:

1. Pre-install instrument APPs for up to 10 (PLUS+ version) instruments or 20 instruments (PLUS++ version). The instrument APP installation procedure automatically configures the software for interface to the instrument.
2. Demand poll and enable auto-polling of all installed active instruments.
3. Capture acquired measurement data for all instruments in history log files.
4. Export history reports to CSV files and print history reports
5. Review graphic trends of collected data history for all instruments.

## SCADA Station Network Visualization Feature

This feature allows the user to:

1. Define a network of up to thirty (30) custom “Stations” containing measurements acquired from the instruments.
2. Assign instrument measurement data to the custom stations as Station Points. Each station can contain up to thirty (30) points.
3. Define range and alarm values for each Station Point.
4. Visualize the latest acquired Station Network data in station windows as shown in the examples below. Each station and its points are presented color-coded to designate normal or alarm condition for the points within the station.
5. Also view station points in a Network Histogram window which shows current Station Point values relative to the point minimum and maximum range values.
6. The user can pre-configure each station window by:
  - a. Adding a desired BMP image to serve as the background for the station window.
  - b. Positioning each station measurement or point to its desired location over the Station BMP background image thus enhancing the visualization and the user’s interpretation of the data.

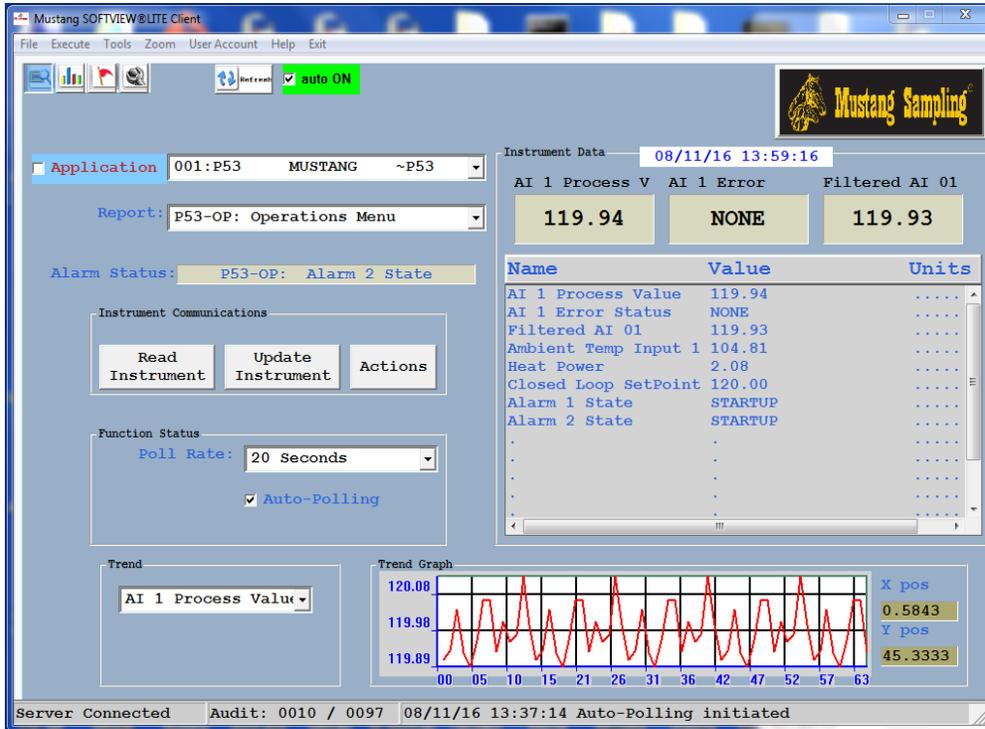
SOFTVIEW® SOFTWARE instrument applications (APPs) currently available in SOFTVIEW®PLUS supports communications with the following smart Mustang Sampling instruments:

1. P53
2. Pony w/ MHR
3. MPR-VSS
4. MHR
5. MIV1
6. MIV2
7. MTC1
8. Daniel GC
9. ABB NGC

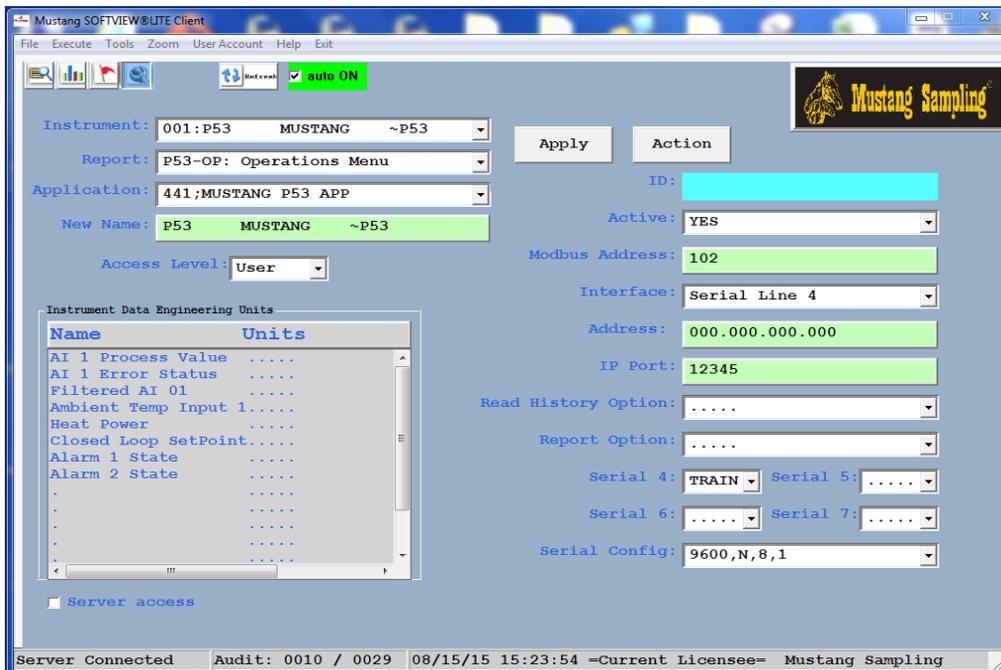
Additional instrument APPs are optionally available and can be provided to enable SOFTVIEW®PLUS to support communications with other instruments including GCs, Analyzers, PLCs, Flow Computers, Correctors, etc.

# SOFTVIEW®PLUS Visualization Examples

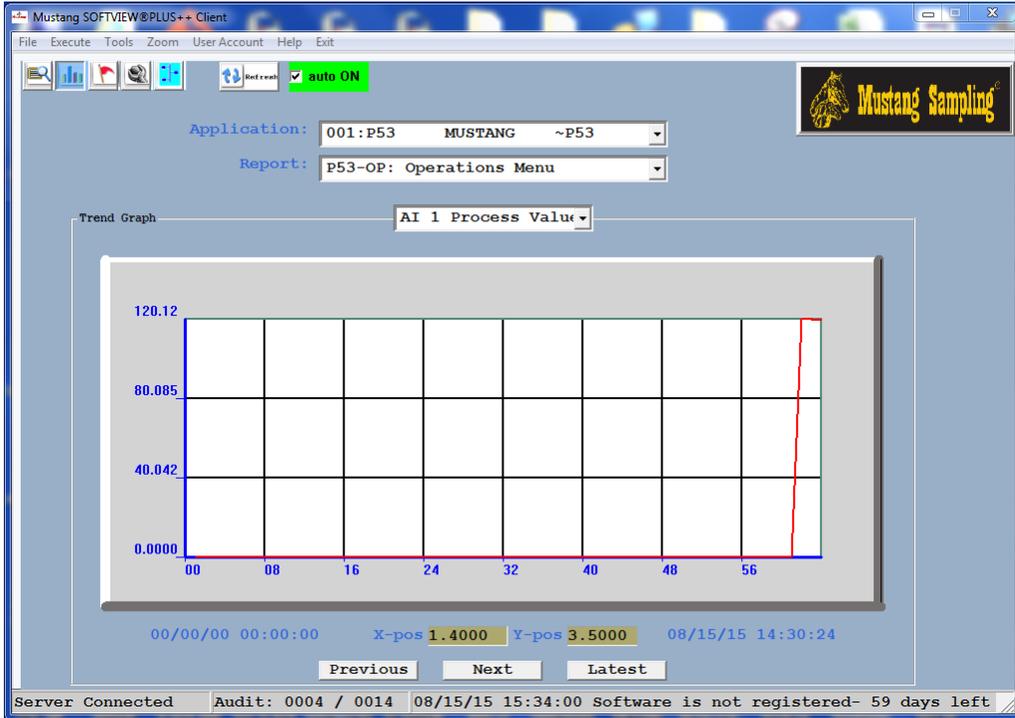
## Operations Window



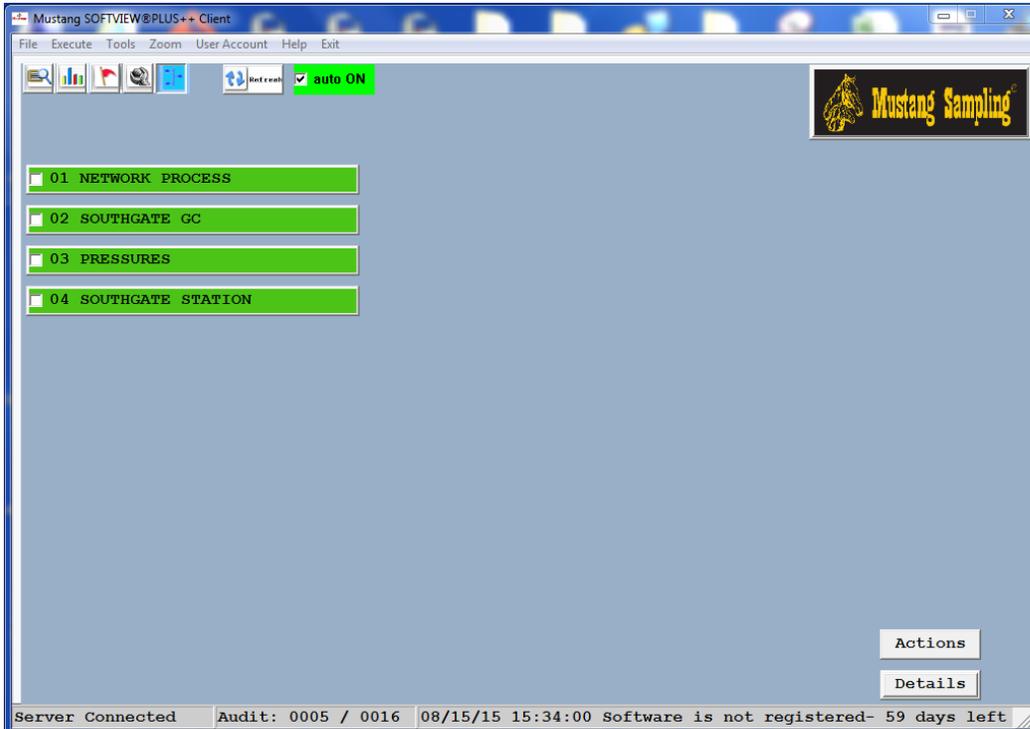
## Setup Window



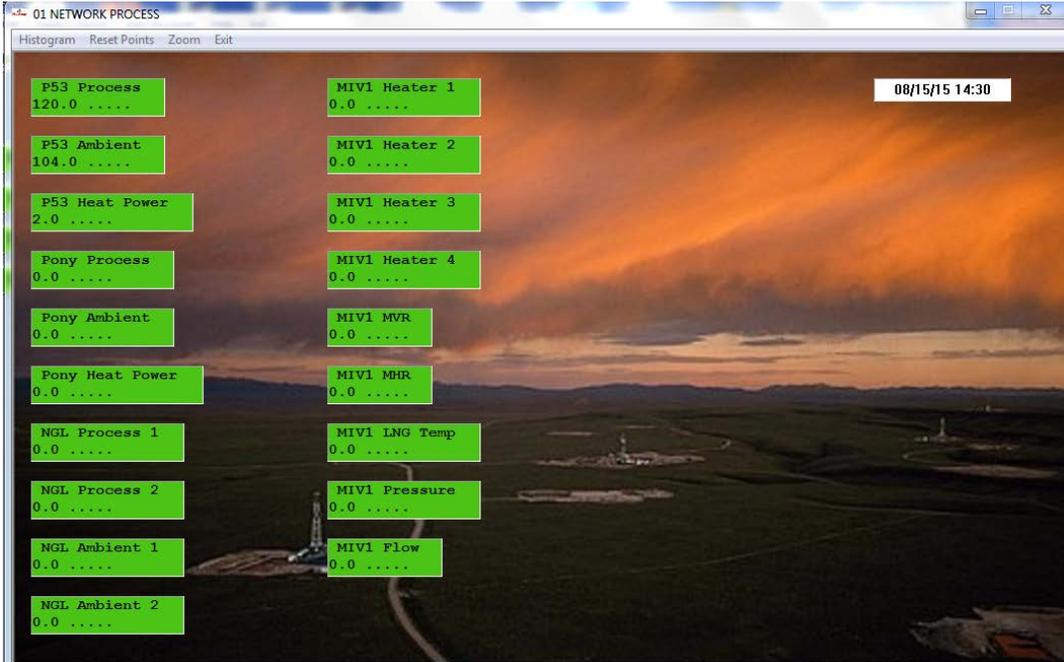
## Trend Window

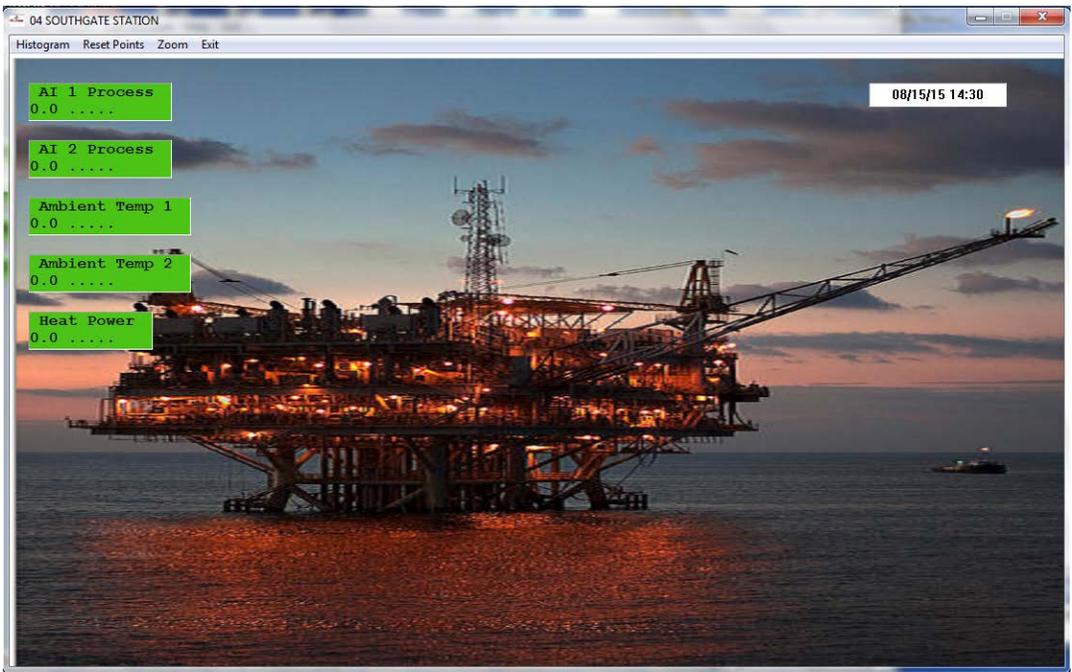
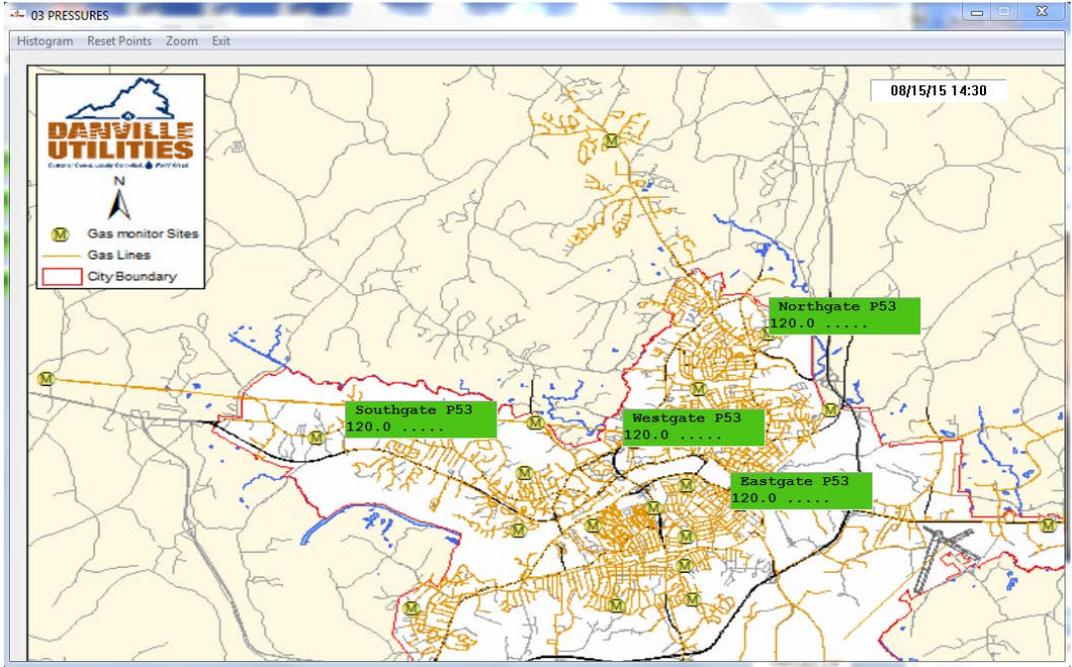


## Station Network Window

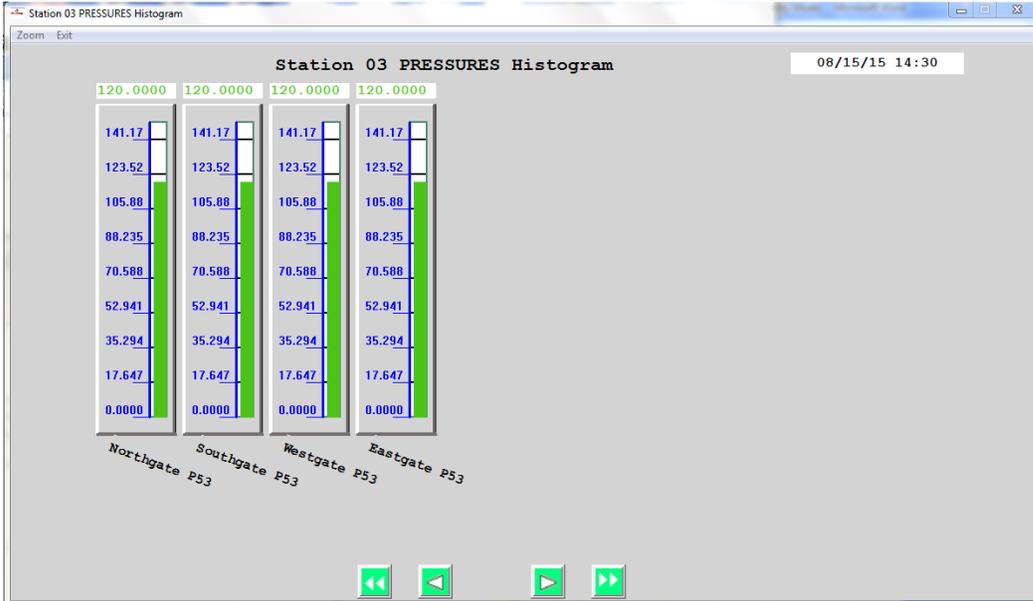


# Station Window Examples





# Station Histogram Window



## Configuration Window



The Configuration Window is accessed via the Configuration navigation button. This window is used to access, review and edit the SOFTVIEW@PLUS Application and Configuration Tables. The two fields at the top of the window are used to select the desired APP, i.e. the “focus” APP, and the desired report, i.e. the “focus” report, within the APP respectively.

## **SOFTVIEW®LNG Software Overview**

The SOFTVIEW®LNG Software is available for users who have the Mustang Sampling LNG vaporizer(s).

This software is specifically designed to provide the user with an easy to use smart interface to the Mustang Sampling LNG vaporizer and associated GC instruments to collect, record, and report measurement data related to an LNG custody transfer event.

The SOFTVIEW®LNG software embedded LNG feature operates as a “Modbus master” on a Mustang Sampling Vaporizer communications network. The product software collects data on a 24/7 basis from up to five (5) MUSTANG Vaporizers and their associated Daniel and/or ABB NGC gas chromatographs.

The SOFTVIEW®LNG software saves the acquired vaporizer data in history log files allowing the user to monitor and review the performance of the Vaporizers and the GCs. The software also supports features which allow the user to configure the vaporizers.

## **SOFTVIEW®LNG Features**

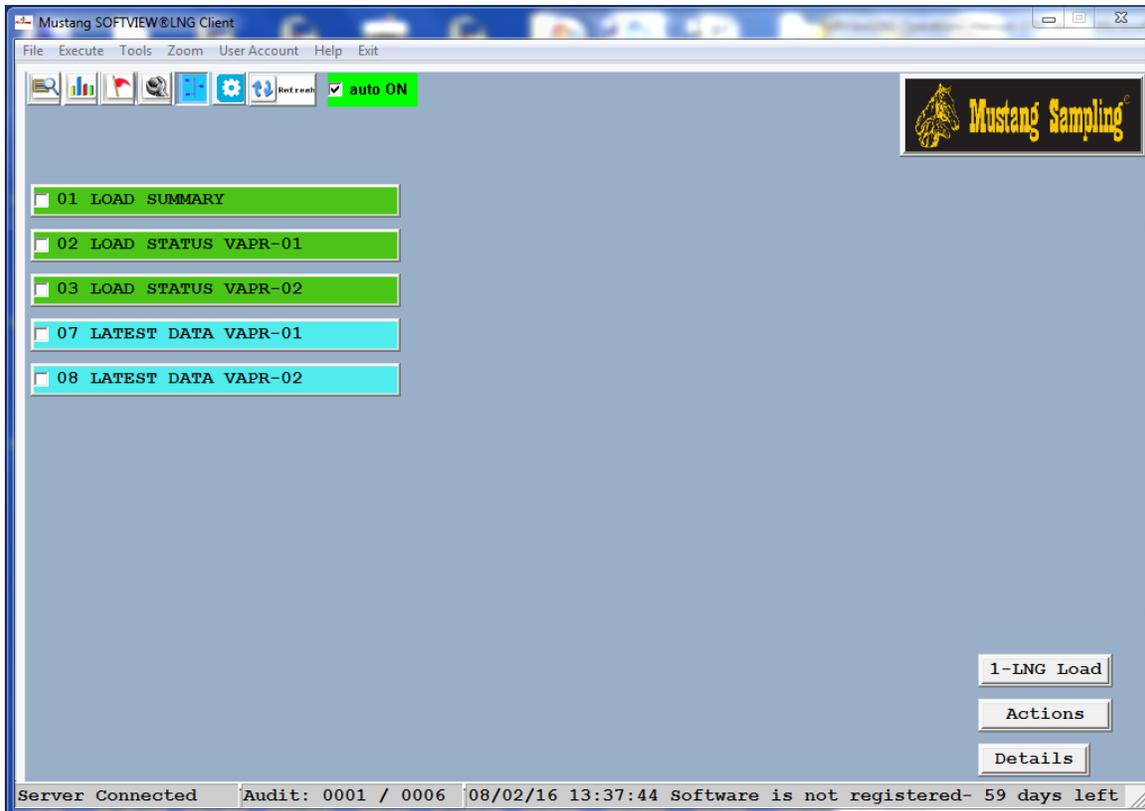
In addition to the features defined above for the SOFTVIEW Suite in general, the SOFTVIEW®LNG product provides the user with the following additional major features:

1. **LNG Custody Transfer Recording** – This is the primary feature of the software. The user through simple request actions instructs SOFTVIEW®LNG to:
  - a. Auto-poll and collect data from the Vaporizers and associated gas chromatographs
  - b. Identify the beginning and the end of an LNG custody transfer operation from/to a transport (truck, pipeline or ship, etc.).
  - c. Extract from the collected history data the data associated with the LNG transfer.
  - d. Average the GC and Vaporizer LNG data associated with the transfer loading or offloading operation
  - e. Output composition reports and an “LNG Load Report” or “Load Ticket” containing the average data for the LNG data during the transfer operation.
  
2. **Customer SCADA / DCS Interface** – The LNG product can act as a Modbus RTU protocol slave to the customer’s SCADA or DCS system. The host system, using Modbus RTU protocol, can poll SOFTVIEW®LNG for any of the latest GC composition and Vaporizer data acquired by SOFTVIEW®LNG.

## SOFTVIEW®LNG Visualization User GUI Interface

In addition to the above standard product Operations, Setup, and Trend windows, the SOFTVIEW®LNG product comes with a pre-configured Station Network configuration to support the LNG custody transfer function. The user can add additional stations and points if desired.

### Vaporizer Station Network Window



The Station Network Window is presented to the user after the software has completed initialization. This window serves as the “home” screen for the SoftViewLNG user. This window provides direct access to all of the functionality needed to manage the LNG custody transfer activity (the Load) and to produce the Load Report or Ticket showing the average data for the LNG custody transfer operation.

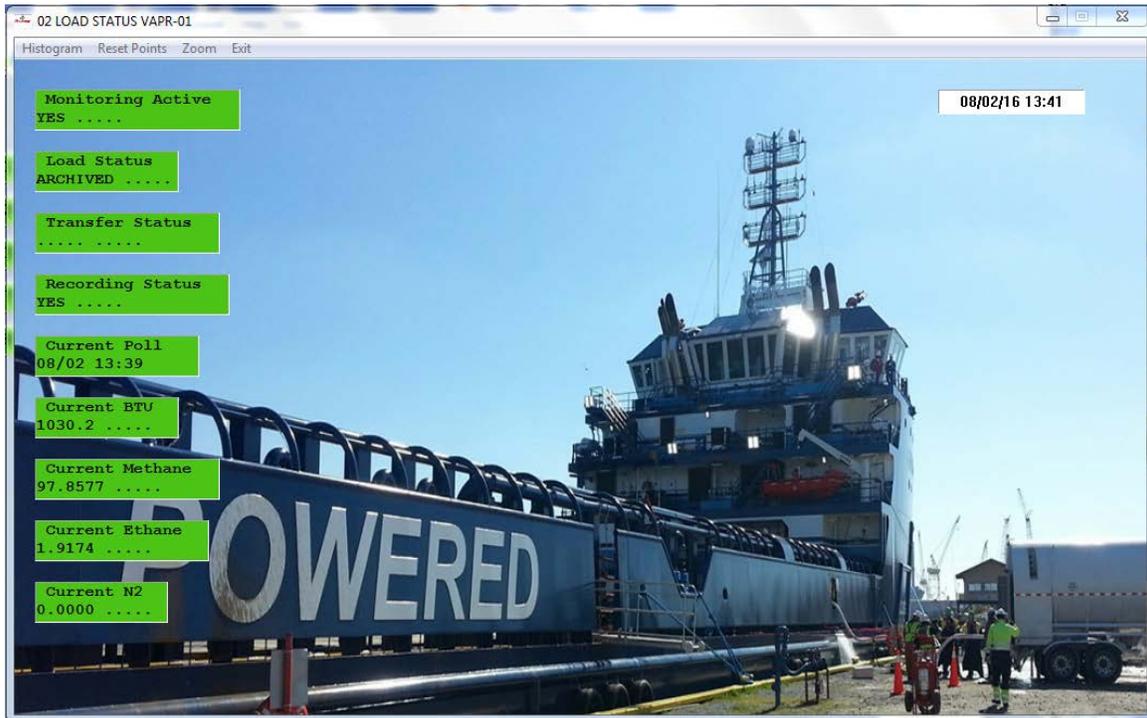
Each button on this window references a “Station”. So the buttons allow the user to access data associated with or assigned to the Stations. The Station configuration in SoftViewLNG will show data for all “active” vaporizers. SoftViewLNG is pre-configured with two active vaporizers.

## Load Summary Station Window



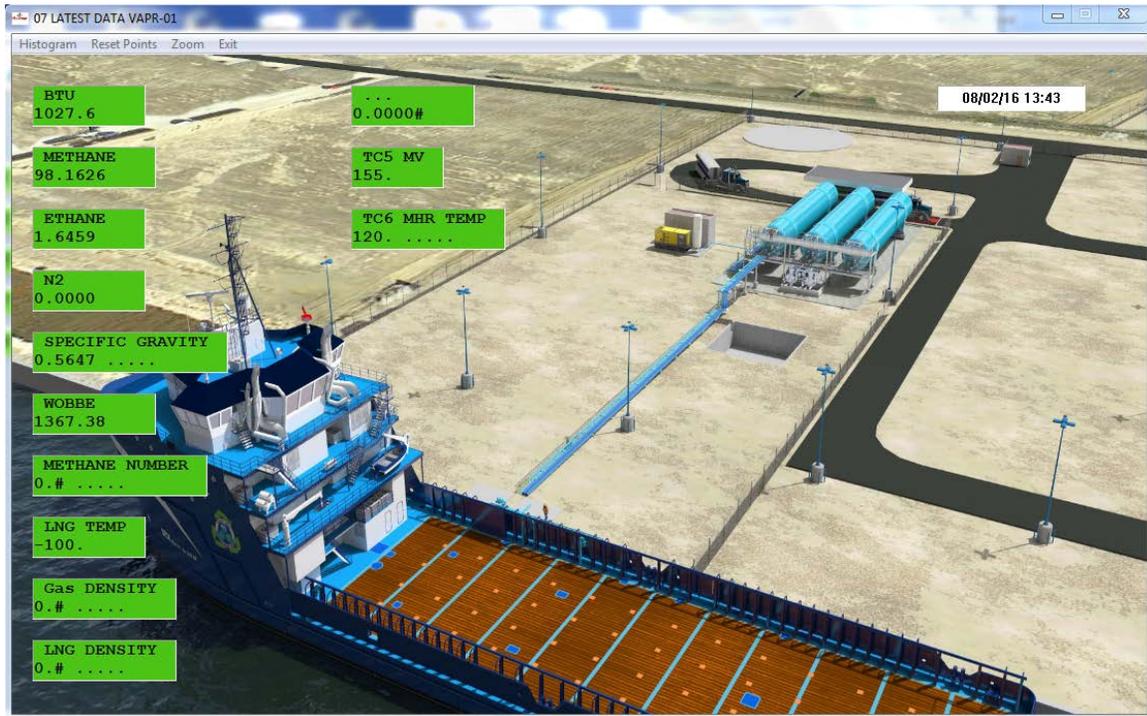
The Load Summary Station Window allows the user to quickly review the status of all active vaporizers and active LNG activity. The “Selected Vaporizer point identifies the current “focus” vaporizer for the user Network Actions defined below.

## Vaporizer Load Status Station Window



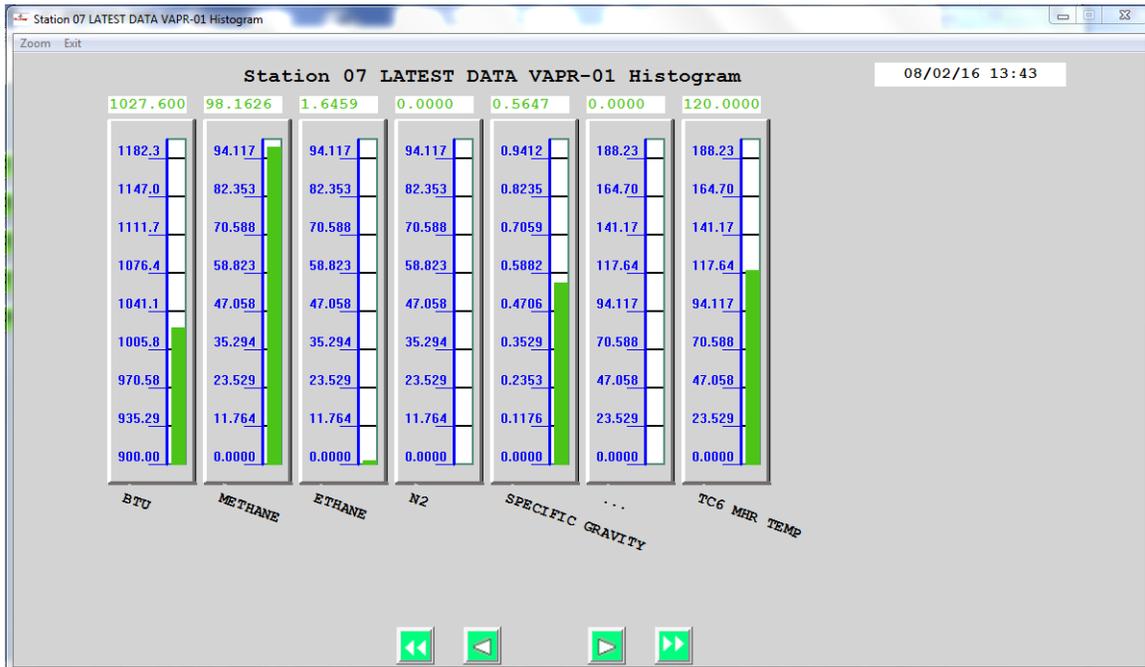
The Load Status Window for a particular vaporizer allows the user to quickly review the Load status and the latest acquired key measurements for an active LNG Load transfer.

## Vaporizer Data Station Window



The Vaporizer Load Data Window allows the user to quickly review the latest acquired measurement data for the LNG activity. Again the user can add to or modify which measurements are assigned to the Station.

## Vaporizer Histogram Window



The Station Histogram Window is accessed via the Histogram tab on the Station window. This window allows the user to review station point measurement values relative to user pre-defined low and high limit settings for the measurements.

## Station Network – The LNG Transfer Procedure



The 01 LOAD SUMMARY Station window and the actions in the 1-LNG Load button on the Station Network are used to execute the LNG Transfer procedure. The procedure



```

TC4 %OUT                0. STREAM #1 LO LIMIT  00000000
TC5 MV  PROCESS  J7      159. STREAM #1 HI LIMIT  00000000
TC5 %OUT                13. STREAM #2 LO LIMIT  00000000
TC6 REG  PROCESS  J8      121. STREAM #2 HI LIMIT  00000000
TC6 %OUT                0. STREAM #3 LO LIMIT  00000000
FC7 LNG TEMP           J9       39. SAMPLE   FIRST REC   1610.
FC7 %OUT                J6       0. SAMPLE   LAST REC    1611.

```

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## Configuration Window

The Configuration Window is accessed via the Configuration navigation button. This window is used to access, review and edit the SoftViewLNG Application and Configuration Tables. The two fields at the top of the window are used to select the desired APP, i.e. the “focus” APP, and the desired report, i.e. the “focus” report, within the APP respectively.



The user clicks on the top APP field down arrow to review a list of the installed applications or APPs and the next field down arrow to access a particular report to be reviewed or edited.