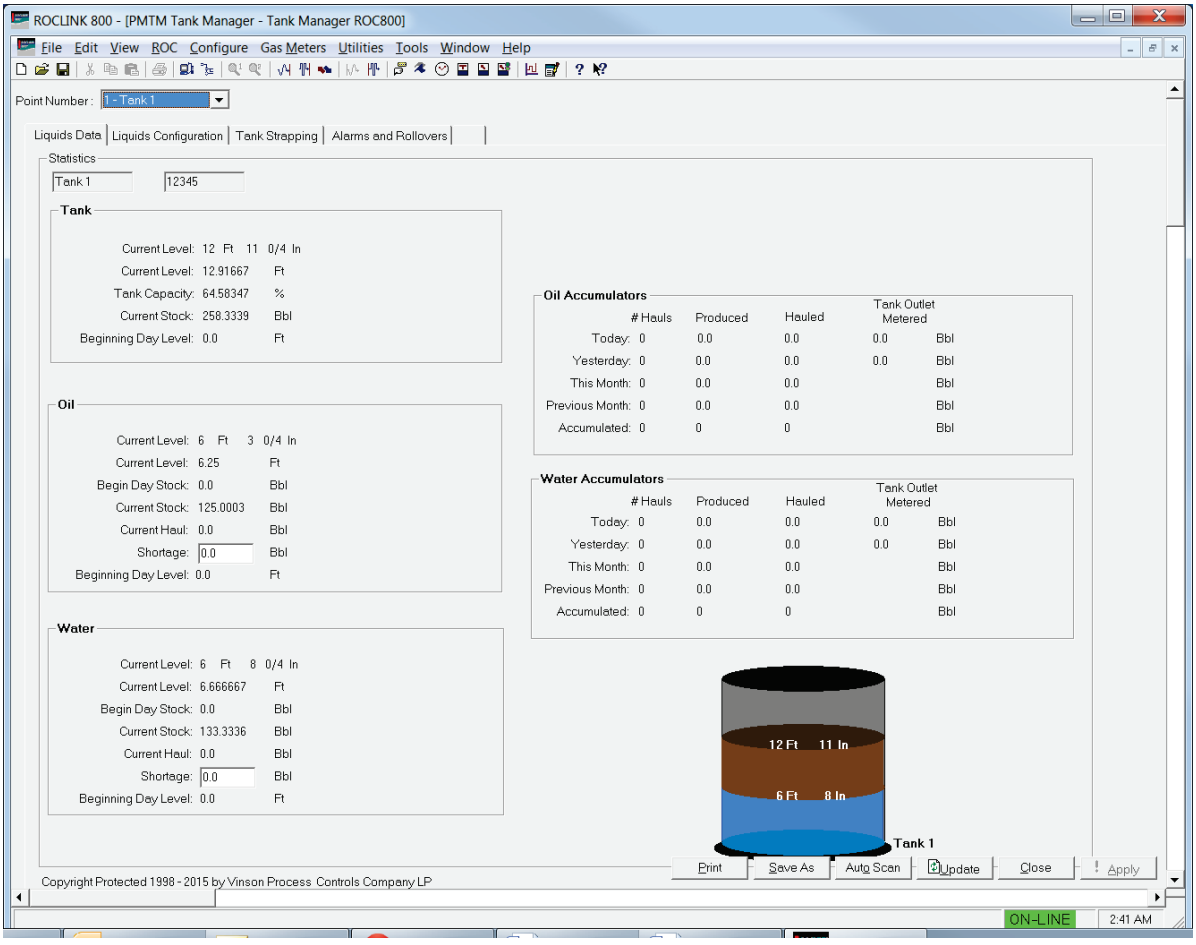
Part D301743X012
October 2015

Tank Manager User Manual (for ROC800-Series and FloBoss™ 107 Controllers)



Remote Automation Solutions

EMERSON™
Process Management

Revision Tracking Sheet

October 2015

This manual may be revised periodically to incorporate new or updated information. The revision date of each page appears at the bottom of the page opposite the page number. A change in revision date to any page also changes the date of the manual that appears on the front cover. Listed below is the revision date of each page (if applicable):

Page	Revision
All pages	October-2015
All pages	June-2015
All pages	September-2014
Initial release	July-2013

Contents

[This page is intentionally left blank.]

Chapter 1 – Introduction

⚠ Caution **When implementing control using this product, observe best industry practices as suggested by applicable and appropriate environmental, health, and safety organizations. While this product can be used as A safety component in a system, it is NOT intended or designed to be the ONLY safety mechanism in that system.**

This chapter describes the structure of this manual and presents an overview of the Tank Manager program for the ROC800-Series (ROC800) and FloBoss™ 107 (FB107) devices.

1.1 Scope and Organization

This document serves as the user manual for the Tank Manager program, which is intended for use in either a ROC800 or FB107.

This manual describes how to install and configure the Tank Manager program (referred to as the "program" throughout the rest of this manual). You access and configure the program using ROCLINK™ 800 Configuration Software (version 2.41 or greater) loaded on a personal computer (PC) running Microsoft® Windows® 7 (32 or 64-bit).

The chapters in this manual provide information in a sequence appropriate for first-time users. Once you become familiar with the procedures and the software running in a ROC800 or FB107, the manual becomes a reference tool.

This manual has the following major sections:

- *Chapter 1 – Introduction*
- *Chapter 2 – Installation*
- *Chapter 3 – Configuration*
- *Chapter 4 – Reference*

This manual assumes that you are familiar with the ROC800 or FB107 and its configuration. For more information, refer to the following manuals:

- *FloBoss™ 107 Flow Manager Instruction Manual* (Part D301232X012)
- *ROC800 Remote Operations Controller Instruction Manual* (Part D301217X012)
- *ROCLINK 800 Configuration Software User Manual (for FloBoss™ 107)* (Part D301249X012)
- *ROCLINK 800™ Configuration Software User Manual (for ROC800-Series)* (Part D301250X012)

1.2 Product Overview

The Production Manager Tank Manager (PMTM) program or simply Tank Manager is designed to function either as a stand-alone product or as part of Remote Automation Solutions' SmartProcess™ Oil and Gas Application suite. Tank Manager uses a level-based measurement to manage volumetric inventory, calculate well head production, and measure truck-hauled volumes. It calculates net standard volume (NSV) for the hauled hydrocarbon fluid using API Chapter 11, 2004 Calculations (11.1.6.1 and 11.1.6.2) for crude oil.

The program provides SCADA-friendly reporting to document hauling events, and hosts an HMI interface for truck drivers. The program supports both metered and level-based hauling measurement, applying NSV correction to the primary measurement. It provides safety/control interlocks to automate loading valves or pumps.

The program can calculate inferred production during hauling, provide "seal on" and "seal off" tracking, and display a variety of tank production statistics in user-friendly displays.

A version of the Tank Manager program is available with a built-in simulator for manipulating tank levels, meter rates, and conducting a haul. This version is intended **only** for labs or testing, and is **not** applicable in a field installation.

⚠ Caution

All the versions of Tank Manager include watchdog counter that can be used to validate the execution of the program logic. This is a parameter which continuously increments (1 count per second) while the program is running. If the value of the parameter does not change, then the program is not executing logic.

You can monitor this parameter using an external system, such as a SCADA host system, or an FST within the device, to validate operation. For the ROC800, this is Point Type 197, Parameter 125. For the FB107, this is Point Type 179, Parameter 125. For more information, see the definition for this parameter in Chapter 4.

1.2.1 Definition of Terms

The business of tank management and hauling has its own vocabulary. Following are terms frequently used in hauling, which appear in the Tank Manager application.

Term	Definition
API Chapter 11.1.6.1 and 2	The standard for calculating crude oil measurement. Both the Tank Manager application and the 800L programs use the 2004 version of these calculations.
Average CTL of Base ALT	Correction factor of density recorded at time of "Grind" to standard temperature.

Term	Definition
Average CTL of Observed Base	Correction factor of fluid temperature compared to standard temperature.
Base Conditions	The standard temperature and pressure values defined in the contract, which are typically 60 degrees Fahrenheit and 14.73 PSIA (also as defined by API).
Basic Sediment and Water (BS&W)	The non-oil components in a tank, which tends to be a residual, typically defined as a percentage (%) of volume.
Closeout	The process of final verification by the truck driver of the information entered and/or recorded during the truck haul, which becomes the recorded haul log audit trail.
Correction for the effect of Temperature on Liquid (CTL)	The average of the temperature measured, compared to the standard temperature.
Correction for the effect of Temperature on Steel (CTS)	A correction routine used to compensate for the expansion of the tank shell material (and therefore the tank volume), due to the effect of temperature.
Divert Valve	A 3-way valve with 1 inlet, and 2 outlets. Used commonly in LACT measurement, if the sediment and water percentage for a fluid being transferred exceeds the required tolerance, the divert valve is activated, and transfers oil back to a tank.
Equalized Tanks	A group of identically sized tanks for a single phase liquid application with a common level measurement used to handle larger capacities.
Flow/Tank Volume Reconciliation	Specific to the Tank Manager application, this is the ability to provide and report dual, independent measurements (flow **and** tank volume) of haul events. This process provides a basis for verification when self-proving of flow custody transfer is not available.
Gas/Liquids Ratio (GLR)	A method to estimate liquid production rate, based on measured gas production rate.
Gauging; Gauging the Tank	The manual or automated process to measure the current level in the tank.
Grind; Grinding the Tank	The manual measurement technique for determining the percentage (%) of BS&W in a tank, as well as the density measurement. This process requires a recorded temperature of sample.
Gross Volume	The total volume of the liquid in the tank at current ambient and fluid temperature.
Inferred Production	A method for estimating production flow into a tank during a hauling event when a direct measurement (such as using GLR) is not available.

Term	Definition
Interface	The intermediate level measurement at the separation point between oil and water in the tank.
Lease Allocation Custody Transfer (LACT)	A flow-based measurement/control unit which may or may not have built-in self-proving capability.
Net Standard Volume (NSV)	The corrected volume of oil at Base Conditions, less BS&W volume, using the API Chapter 11 standard.
Preset	A predefined volume of liquid for the truck haul.
Seal Off/Seal On Tags	A single-use, metal, pre-stamped, numerical tag connected to the block valve to retain an audit trail of hauling events. The tag number is recorded and removed as a Seal-Off Tag at the beginning of the haul, and a new tag number is recorded and installed as a Seal-On Tag at closeout.
Shrinkage	The difference between the maximum volume (recorded prior to a haul event) and the volume at the start of the haul process (recorded on per-haul event basis). Causes of shrinkage can include gas vaporing or tank waves.
Strapping	Also known as tank calibration, tank strapping is the ability to convert a tank level value (fluid height) to an associated volume.
Tank Aggregate	A group of tanks managing the production of water and/or oil produced from one or several wells.
Tank Instance	Specific to the Tank Manager application, this term defines the number of physical tanks and/or groups of tanks. For example, three equalized tanks count as a single Tank Instance, while an aggregate of three tanks being managed independently as well as a collective group, count as four Tank Instances.
Tank Strapping	Volumetric equivalent of measured level, based on the cross-sectional dimensions of a tank at different levels. Used for non-cylindrical tanks or where the weight of the liquid causes deflection of the tank sides.
Tank Transfer	A reportable movement of liquid between tanks.
Truck Haul	The custody transfer event where the liquids are loaded onto a truck.
Unitized Tanks	A predefined/pre-assigned tank piped from the well(s) and separation train.

1.3 Program Requirements

Program Variants

The Tank Manager program is distributed on one CD, which contains all programs for both the ROC800 and FB107 platforms. The program version you install depends on the functionality you require, the number of licenses you have purchased, and the number of tanks and wells you need to support.

ROC800

The following table shows the number of tanks and wells each program supports:

Program Name	Supported Features
PMTM_V407_xx_8t_SIM.tar	Supports up to 8 tanks and a simulation program. **Note**: The simuation program is **not** intended for installation on an operating tank farm.
PMTM_V407_xx_8t4w.tar	Supports up to 8 tanks and 4 wells.
PMTM_V407_xx_16t_SIM.tar	Supports up to 16 tanks and a simulation program. **Note**: The simuation program is **not** intended for installation on an operating tank farm.
PMTM_V407_xx_16t8w.tar	Supports up to 16 tanks and 8 wells.
PMTM_V407_xx_24t_SIM.tar	Supports up to 24 tanks and a simulation program. **Note**: The simuation program is **not** intended for installation on an operating tank farm.
PMTM_V407_xx_24t12w.tar	Supports up to 24 tanks and 12 wells.

FloBoss 107

The following table shows the number of tanks and wells the FB107 program supports:

Program Name	Supported Features
PMTM_v407_xx_7.bin	Supports up to 8 tanks and 4 wells.

Version 4.07 of the Tank Manager program is compatible with firmware version 3.61 of the ROC800, firmware version 1.41 of the ROC800L, firmware version 1.70 of the FB107, and with version 2.41 (or greater) of ROCLINK 800 Configuration software and requires firmware version 1.20 of the keypad display.

Program specifics include:

File Name	Target Unit/ Version	User Defined Point (UDP)	Flash Used (in bytes)	DRAM Used (in bytes)	ROCLINK 800 Version	Display Number
PMTM_V407_xx_ 8t4w.tar	ROC800 v3.61	60, 196, 197, 198, 199, 230, 231, 232, 233, 234	380,920	425,984	2.41	60, 196, 197, 198, 231, 232
PMTM_V407_xx_ 8t_SIM.tar	ROC800 v3.61	60, 196, 197, 198, 199, 230, 231, 232, 233, 234	393,339	438,272	2.41	60, 196, 197, 198, 231, 232
PMTM_V407_xx_ 16t8w.tar	ROC800 v3.61	60, 196, 197, 198, 199, 230, 231, 232, 233, 234	380,904	466,944	2.41	60, 196, 197, 198, 231, 232
PMTM_V407_xx_ 16t_SIM.tar	ROC800 v3.61	60, 196, 197, 198, 199, 230, 231, 232, 233, 234	393,703	483,328	2.41	60, 196, 197, 198, 231, 232
PMTM_v407_xx_ 24t12w.tar	ROC800 v3.61	60, 196, 197, 198, 199, 230, 231, 232, 233, 234	381,013	512,000	2.41	60, 196, 197, 198, 231, 232
PMTM_V407_xx_ 24t_SIM.tar	ROC800 v3.61	60, 196, 197, 198, 199, 230, 231, 232, 233, 234	393,727	532,480	2.41	60, 196, 197, 198, 231, 232
PMTM_v407 _xx_7.bin	FB107 v1.70	178, 179, 180, 181, 182, 183, 184, 185, 187	496,192	32,768	2.41	79, 80, 81, 82, 83, 84

Note: These values represent the system resources the largest Tank Manager program requires. Depending on the version you install, the flash memory and DRAM usages may be less.

For information on viewing the memory allocation of user programs, refer either to the *ROCLINK 800 Configuration Software User Manual (for ROC800-Series)* (Part D301250X012) or the *ROCLINK 800 Configuration Software User Manual (for FloBoss 107)* (Part D301249X012).

1.3.1 License Key

License keys, when matched with valid license codes, grant access to applications such as the Tank Manager program.

For **ROC800**, the term "license key" refers to the physical piece of hardware that can contain up to seven different licenses (refer to *Figure 1*). Each ROC800 can have none, one, or two license keys installed. If you remove a license key after enabling an application, the firmware disables the task from running. This prevents unauthorized execution of protected applications in a ROC800.

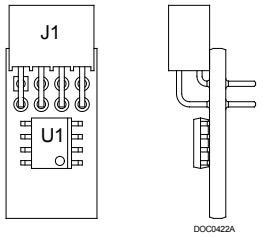


Figure 1. License Key

Note: Each **PMTM** license supports up to 8 tanks and 4 wells. Licenses are delivered on a standard ROC800 license key. Consult with your Remote Automation Solutions sales representative to obtain the appropriate number of licenses for your application.

For **FB107**, the software licenses are distributed via a secure SafeNet® Sentinel™ USB drive ("license key"). You must install one license key, **PMTM**, to use the Tank Manager program.

[This page is intentionally left blank.]

Chapter 2 – Installation

This chapter provides instructions for installing the Tank Manager program. Read *Section 1.3* of this manual for program requirements.

2.1 Installing the License Key

The Tank Manager application requires a license to function. This section provides instructions for installing the license into the flash memory on the ROC800 or the FB107.

2.1.1 Installing the License Key for the ROC800

⚠ Caution

Failure to exercise proper electrostatic discharge precautions, such as wearing a grounded wrist strap may reset the processor or damage electronic components, resulting in interrupted operations.

When working on units located in a hazardous area (where explosive gases may be present), make sure the area is in a non-hazardous state before performing these procedures. Performing these procedures in a hazardous area could result in personal injury or property damage.

To install a license key:

1. Remove power from the ROC800.
2. Remove the wire channel cover (if available).
3. Unscrew the screws from the Central Processing Unit (CPU) faceplate.
4. Remove the CPU faceplate.
5. Place the license key in the appropriate terminal slot (**P4** or **P6**) in the CPU.

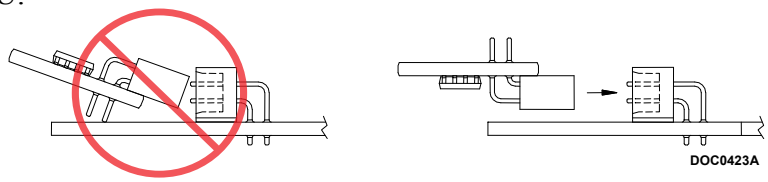


Figure 2. License Key Installation

6. Press the license key into the terminal unit it is firmly seated (refer to *Figure 2*.
7. Replace the CPU faceplate.
8. Replace the screws on the CPU faceplate.
9. Replace the wire channel cover.
10. Restore power to the ROC800.

11. Proceed to *Section 2.1.3* to verify your license keys.

2.1.2 Installing a License Key for the FB107

Program licenses for the FB107 are stored on a secure SafeNet® Sentinel™ USB license key. To install a license on the FB107:

1. Insert the USB license key in a USB port on your PC.
2. Select **Utilities** > **License Key Administrator** > **Transfer Between DEVICE and KEY** from the ROCLINK 800 menu bar. The Transfer Licenses Between a Device and a Key screen displays.

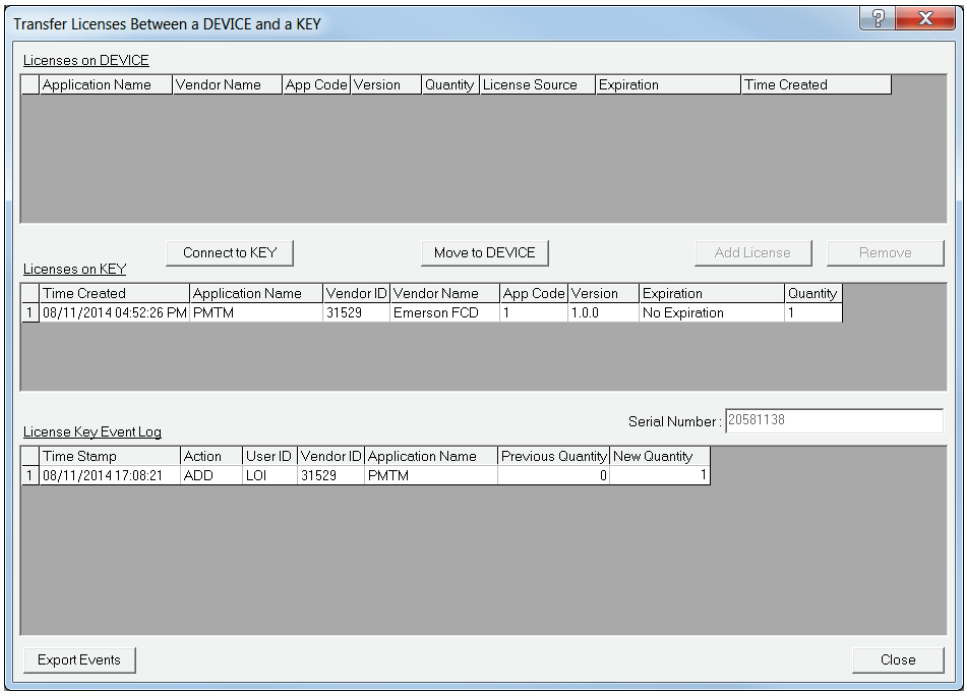


Figure 3. Transfer Licenses Between a Device and a Key

Note: This screen has three sections. The upper portion (Licenses on Device) shows any software licenses installed on the FB107. The middle portion (Licenses on Key) shows software licenses on the license key. The lower portion of the screen (License Key Event Log) provides a rolling log of the last eight events related to this license key.

3. Select the key-based license you want to transfer to the FB107 (*PMTM*, as shown in *Figure 3*).
4. Click **Move to Device**. ROCLINK moves the license from the key to the FB107 and updates the screen.

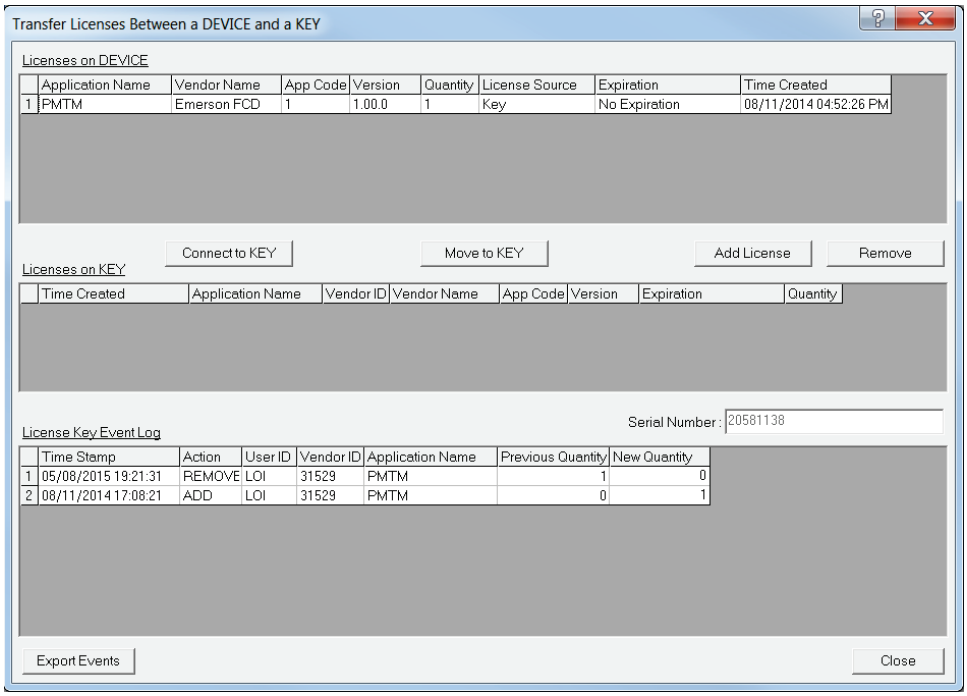


Figure 4. License Installed (FB107)

Note: An FB107 can hold up to six different licenses, although you can install only one instance of each license on the FB107. When you click **Move to Device**, ROCLINK 800 moves only **one** instance of the license onto the FB107 and automatically decreases the total number of licenses on the USB drive by one (if it contains more than one).

5. Verify that the license name now displays in the Licenses on Device section of the screen. Proceed to *Section 2.2* to download the user program.

2.1.3 Verifying the License Key Installation (for ROC800)

After you install the license key, you can verify whether the ROC800 recognizes the key. From the ROCLINK 800 screen, select **Utilities** > **License Key Administrator**. The License Key Administrator screen displays:

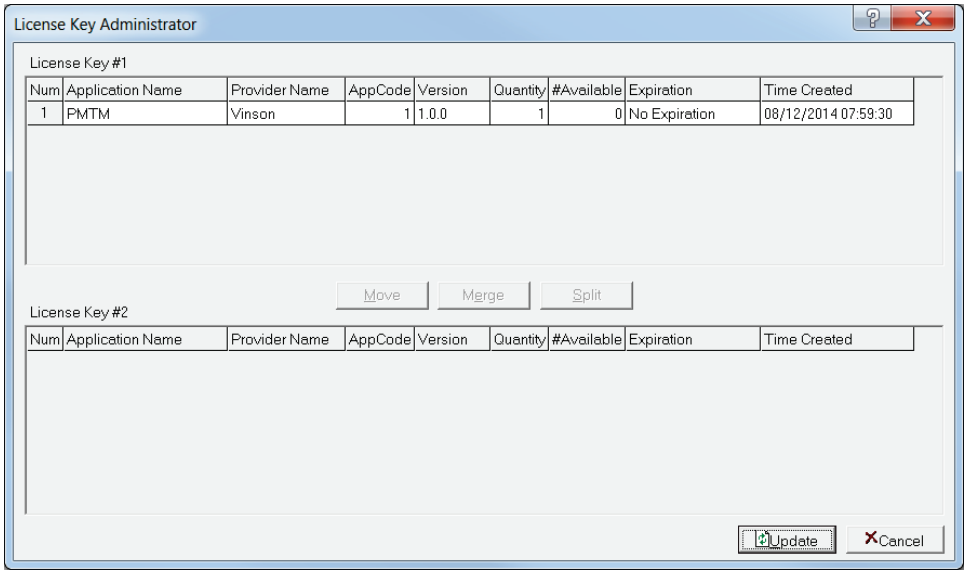


Figure 5. Transfer Licenses Between a Device and a Key

2.2 Installing the Program

This section provides instructions for installing the program into the Flash memory on the ROC800 or FB107.

To download the user program using ROCLINK 800 software:

1. Connect the ROC800 or the FB107 to your computer.
2. Start and logon to the ROCLINK 800.
3. Select **ROC** > **Direct Connect** to connect to the ROC800 or FB107 unit.
4. Select **Utilities** > **User Program Administrator** from the ROCLINK menu bar. The User Program Administrator screen displays (see *Figure 6*):

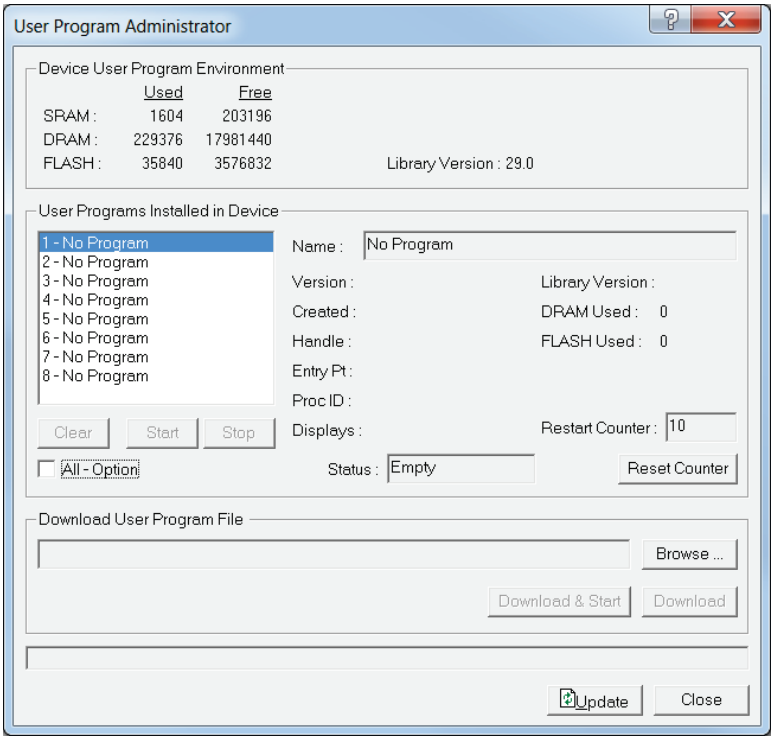


Figure 6. User Program Administrator

5. Click **Browse** in the Download User Program File frame. The Select User Program File screen displays (see *Figure 7*).

Note: If you install the program in the ROC800, choose any available user program slot. If you use FB107, the program installs automatically in user program slot 7.

6. Select the path and user program file to download from the CD-ROM. (Program files are typically located in the Program Files folder on the CD-ROM). As *Figure* 7 shows, the screen lists all valid user program files with the **.bin** (for FB107) or **.tar** (for ROC800) extension:

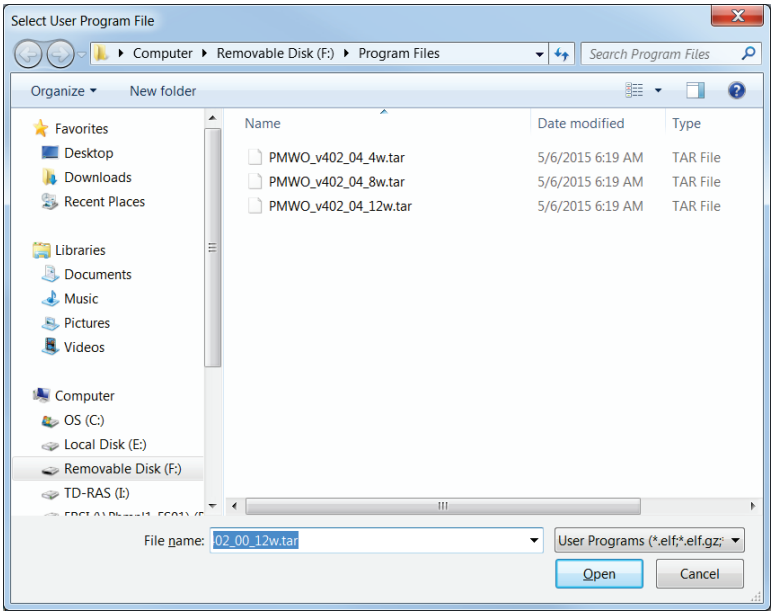


Figure 7. Select User Program File

7. Click **Open** to select the program file. The User Program Administrator screen displays. As shown in *Figure 8*, note that the Download User Program File frame identifies the selected program and that the **Download & Start** button is active:

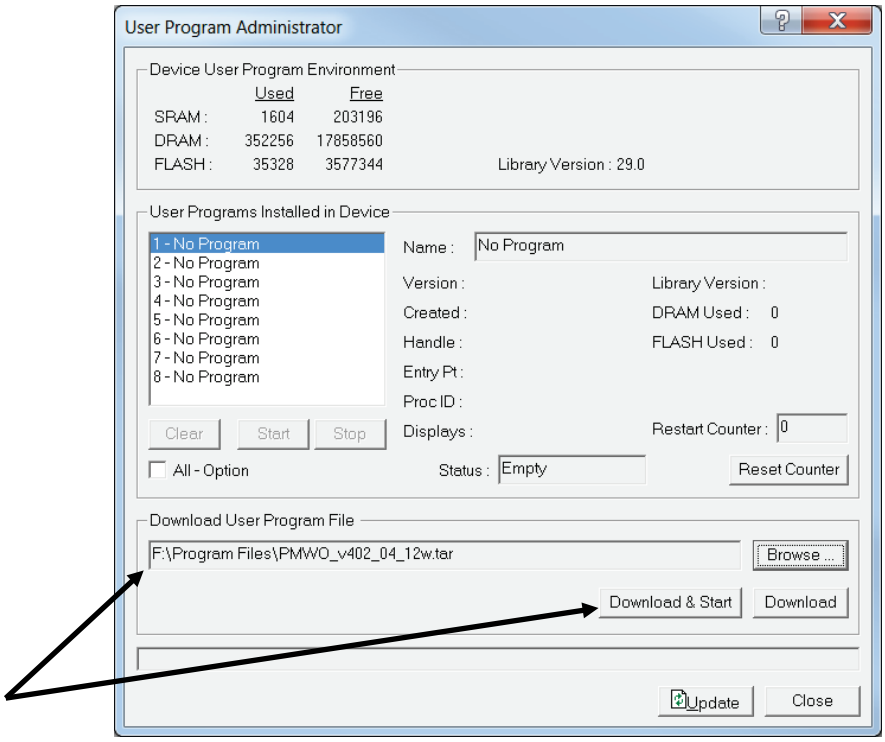


Figure 8. User Program Administrator

8. Click **Download & Start** to begin loading the selected program. The following message displays:

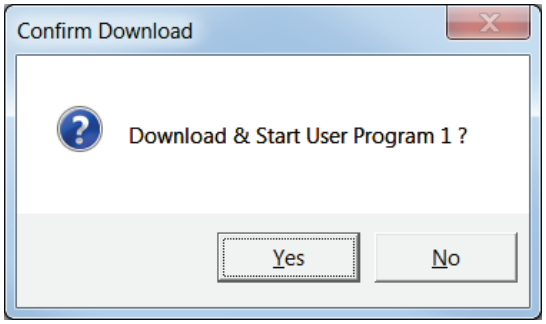


Figure 9. Confirm Download

9. Click **Yes** to begin the download. During the download, the program performs a warm start, creates an event in the event log, and—when the download completes—displays the following message:

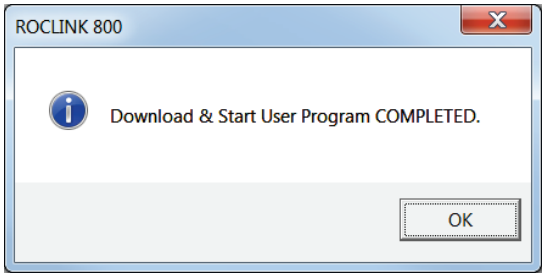


Figure 10. ROCLINK 800 Download Confirmation

10. Click **OK**. The User Program Administrator screen displays (see *Figure 11*). Note that:
    - The User Programs Installed in Device frame identifies the loaded program.
    - The Status field indicates that the program is running.

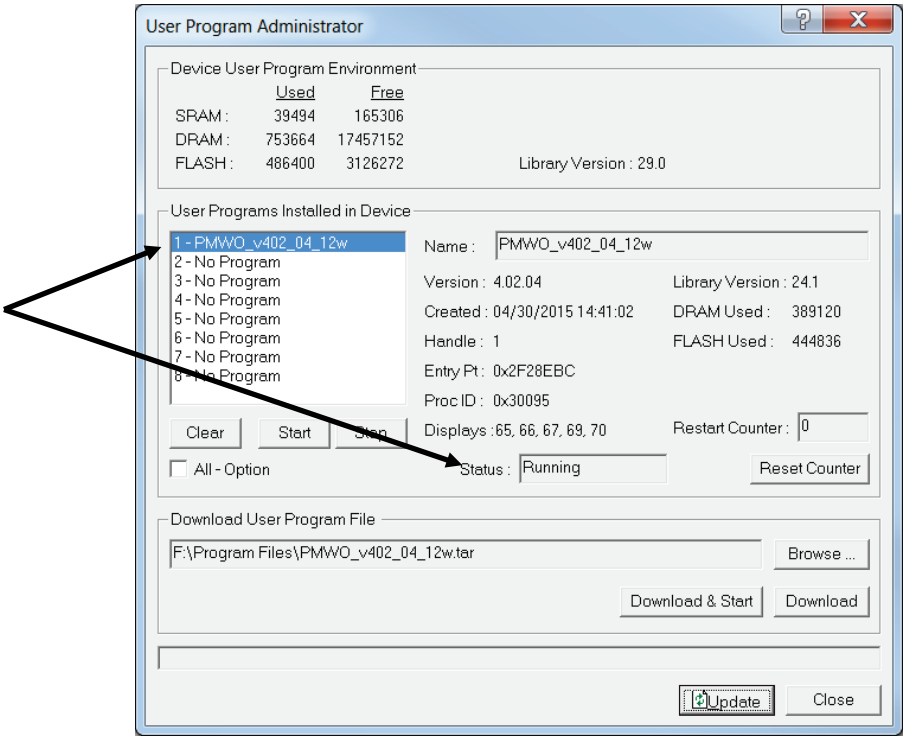


Figure 11. User Program Administrator

11. Click **Close** and proceed to *Chapter 3, Configuration* to configure the program

---

Note: Installing a user program without a license key allows you only to view the program screens (that is, the program outputs no data). Installing the license key enables the program to read from the meter and output data.

Chapter 3 – Configuration

After you install the Tank Manager program, you configure it using ROCLINK 800 software. The program uses six screens:

- Use the **Units** screen to configure the units of measure used throughout the program, as well as other global options.
- Use the **Tank Manager** screen and its tabs to view liquids data, configure fluid properties, view haul details, and run simulations.
- Use the **Allocated Well Values** screen and its tabs to view and configure allocation and production details.
- Use the **Haul Log Viewer** to retrieve detailed information about previous hauls from the tanks.
- Use the **LoadOut** screen and its tabs to configure haul details, view specific haul values, and run system diagnostics.
- Use the **Hauler Data Base** screen to manage the database of credentials required to perform a haul.

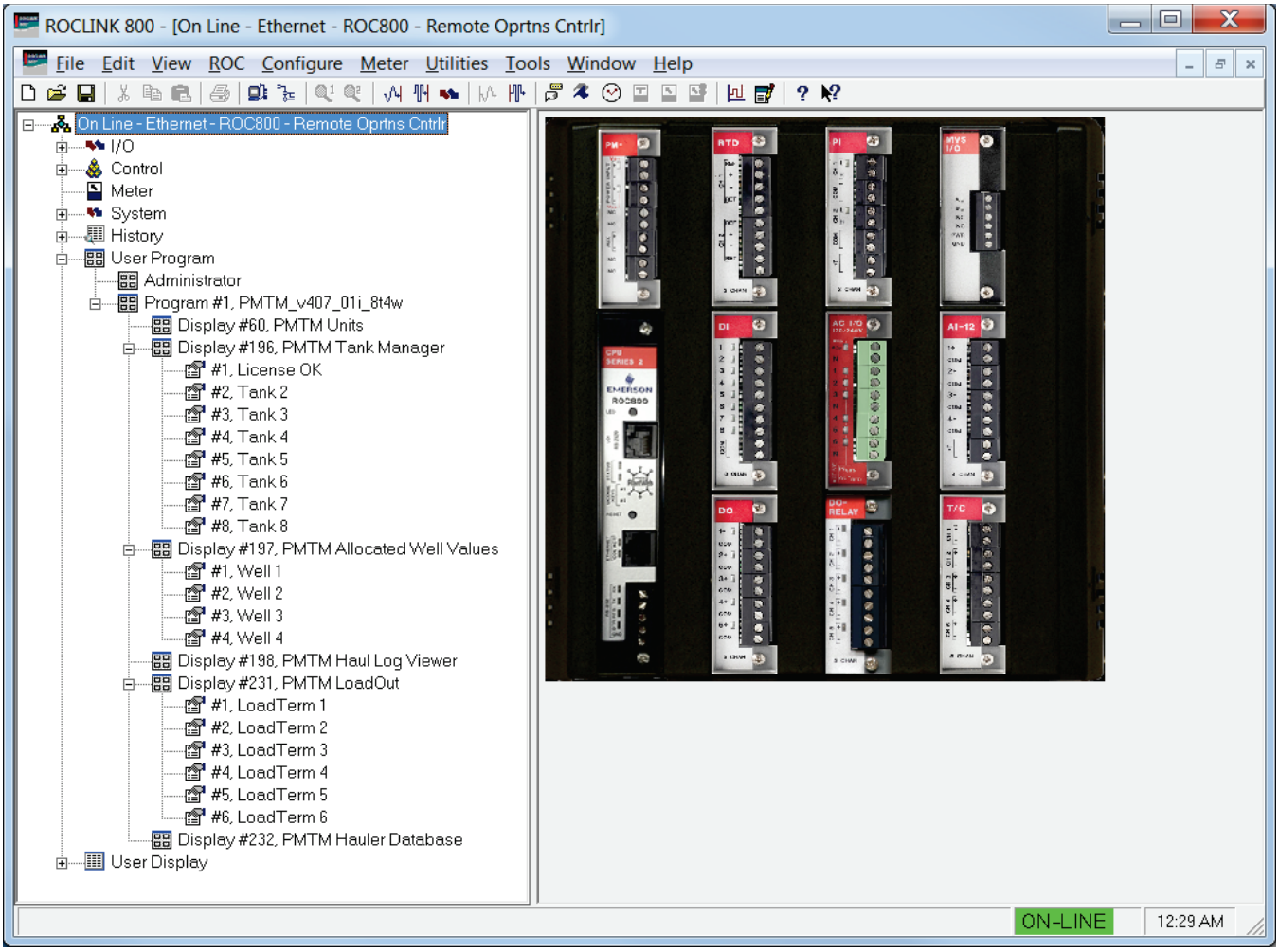


Figure 12. ROCLINK 800

3.1 PMTM Units

Use this screen to configure units for the tanks, allocation wells, and load outs provided by the program.

When Tank Manager is installed in a ROC800L, the application will align with the unit selections made on the Liquid Calculations – Liquid Preferences screen. When this is true, a note will be displayed on the top of the screen, and options defined in the Liquid Calculations user program will be grayed out.

This screen also includes options for managing the system haul log audit trail.

To access this screen:

1. From the Directory Tree, double-click **User Program.**
2. Double-click one of the following:
   - For the ROC800: **Program #1, PM_Tanks_v407_xx_8t4w**.
   - For the FB107: **PM Tank Manager**.

   Note: The program number and name depends on which program you have installed on which platform. This manual uses PMTM_v407_xx_8t4w program.
3. Double-click one of the following:
   - For the ROC800: **Display #60, PMTM Units**.
   - For the FB107: **Display #79, PMTM Units**.

4. The PMTM Units screen displays:

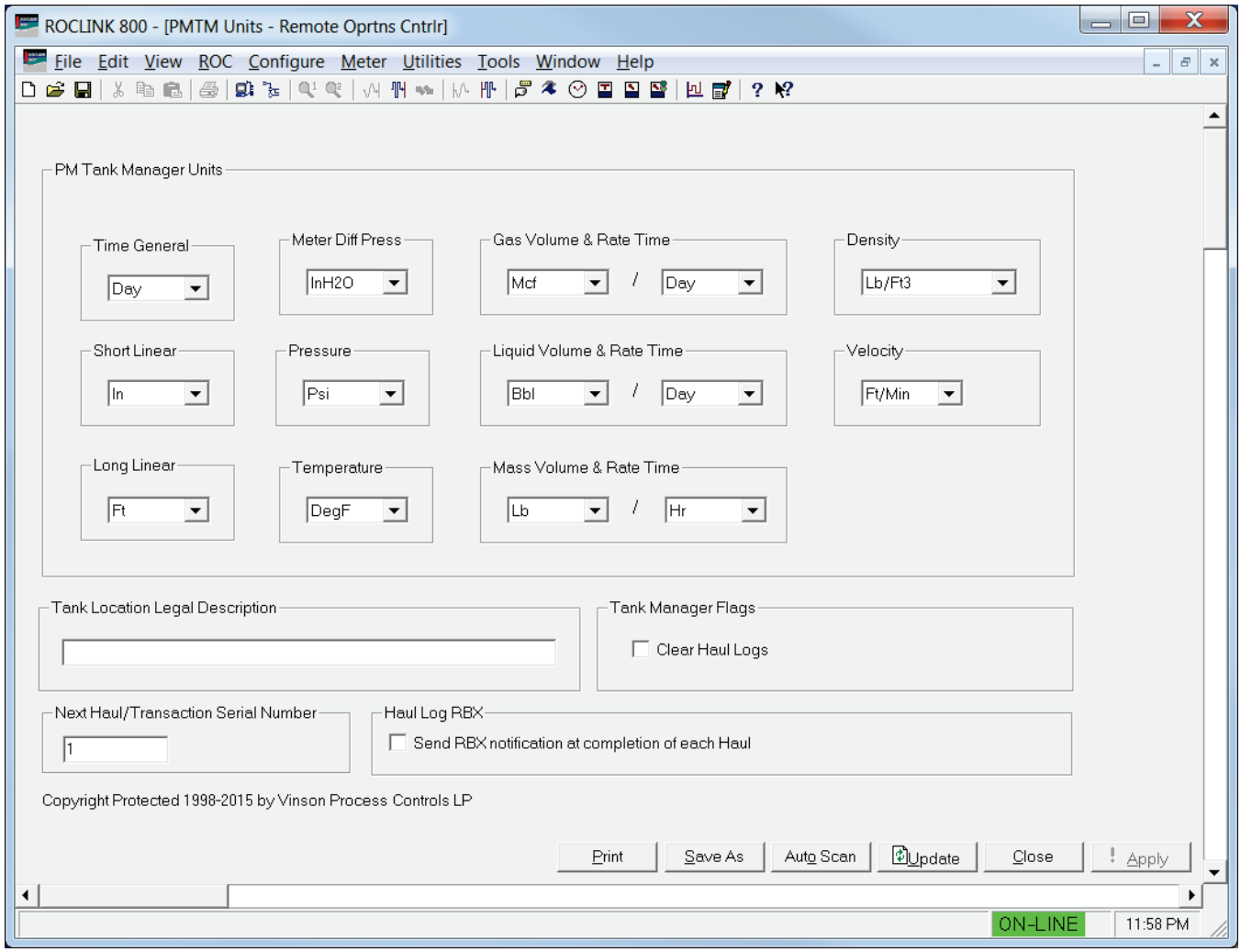


Figure 13. Unit Screen

5. Review the values in the following fields:

Field	Description
Time General	Sets the unit of measurement the program use for general time. Click▼ to display all valid unit selections.
Short Linear	Sets the unit of measurement the program use for short lengths. Click▼ to display all valid unit selections.
Long Linear	Sets the unit of measurement the program use for long lengths. Click▼ to display all valid unit selections.
Meter Diff Pressure	Sets the unit of measurement the program use for differential pressure. Click▼ to display all valid unit selections.

Field	Description
Pressure	Sets the unit of measurement the program use for pressure. Click▼ to display all valid unit selections.
Temperature	Sets the unit of measurement the program use for temperature. Click▼ to display all valid unit selections.
Gas Volume & Rate Time	Sets the unit of measurement the program use for both the gas volume accumulation and gas volume flowrate values. Click▼ to display all valid options.
Liquid Volume & Rate Time	Sets the unit of measurement the program use for both the liquid volume accumulation and liquid volume flowrate values. Click▼ to display all valid options.
Mass & Rate Time	Sets the unit of measurement the program use for both the mass accumulation and mass flowrate values. Click▼ to display all valid options.
Density	Sets the unit of measurement the program use for density values. Click▼ to display all valid unit selections.
Velocity	Sets the units of measurement the program use for velocity values. Click▼ to display all valid unit selections.
Tank Location and Legal Description	Provides a text description of the location where you install the device and the associated tanks. You use this for informational purposes only.
Clear Haul Logs	Deletes up to 512 records for previous haul transactions the program keeps on the flash file system of the ROC800 or FB107. This also resets the Next Haul/Transaction Serial Number back to 1.
Next Haul / Transaction Serial Number	Sets the unique serial number for the next haul. This value automatically increments as the hauls occur. This field also allows you to reset the haul serial numbers back to a starting point, or other previous value.
Haul Log RBX	This option prompts the program to create an SRBX (Spontanious Respond By Exception) event when a haul occurs. You use this to inform a host system of the haul event. **Note**: This requires you to configure the SRBX feature on the communications port of your ROC800 or FB107.

6. Proceed to *Section 3.2.2* to configure the Liquids Configuration tab.

⚠ Caution **The SCADA System gathers the Haul Log Audit Trail and stays in synchronization with the ROC800 using the Hard Haul Serial Number. If this value is reset in the ROC800, the SCADA stops the syschronization. The Hard Haul Serial Number resets in several method such as, but not limited to:**

- **Loading point type 198 from a configuration file**
- **Cold starting the haul log through Tank Manager**
- **Replacement of the CPU**

To reset the Hard Haul Serial Number, go to ROC > Flags from the ROCLINK 800 menu and click Cold Start. Go to PMTM Units screen and enter the last known Hard Haul Serial Number in the Next Haul/Transaction Serial Number field. The program starts incrementing the Haul Log with this number.

3.2 PMTM Tank Manager

Use this screen to view liquids data, configure fluid properties, view haul details, and run simulations.

To access this screen:

1. From the Directory Tree, double-click **User Program.**
2. Double-click one of the following:
   - For the ROC800: **Program #1, PM_Tanks_v407_xx_8t4w**.
   - For the FB107: **PM Tank Manager**.

   Note: The program number and name depends on which version of the program you install on your ROC800. This manual uses PMTM_v407_xx_8t4w program.
3. Double-click one of the following:
   - For the ROC800: **Display #196, PMTM Tank Manager**.
   - For the FB107: **Display #80, PMTM Tank Manager**.
4. Double-click **#1, Tank 1** for either the ROC800 or FB107.

   Note: The ROC800 can support up to 24 tanks, depending on the program version you install. The FB107 supports up to 8 tanks.

5. The Tank Manager screen displays, showing the Liquids Data tab:

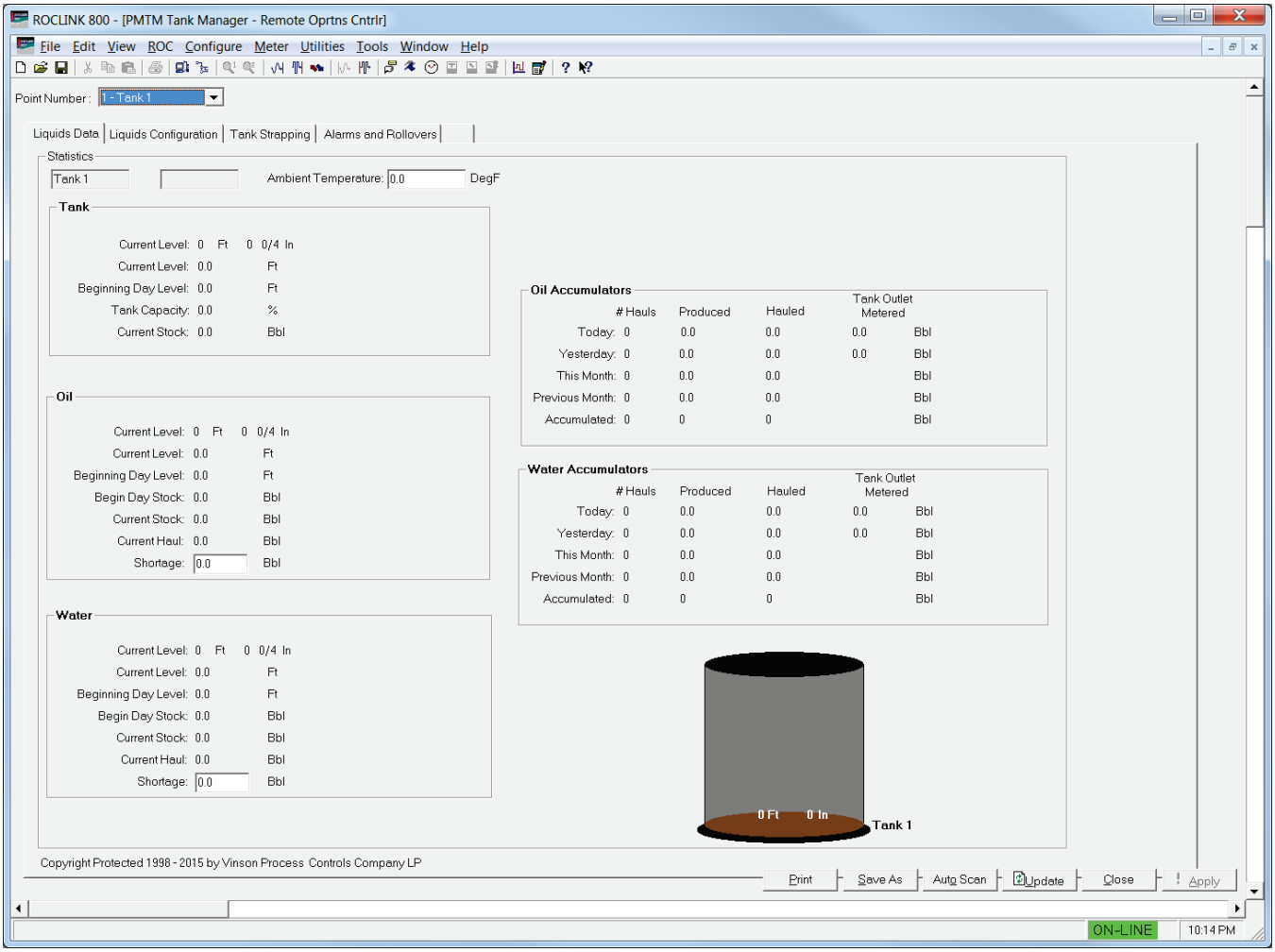


Figure 14. Tank Manager Screen

Follow *Section 3.2.1* through *Section 3.2.5* to configure the component tabs of the PMTM Tank Manager screen.

3.2.1 PMTM Tank Manager – Liquids Data Tab

This screen (which displays first when you open the Tank Manager screen) provides an operational overview of the selected tank or aggregate. Use the Point Number field to select up to 8 (for the FB107) or 24 (for the ROC800) defined tanks.

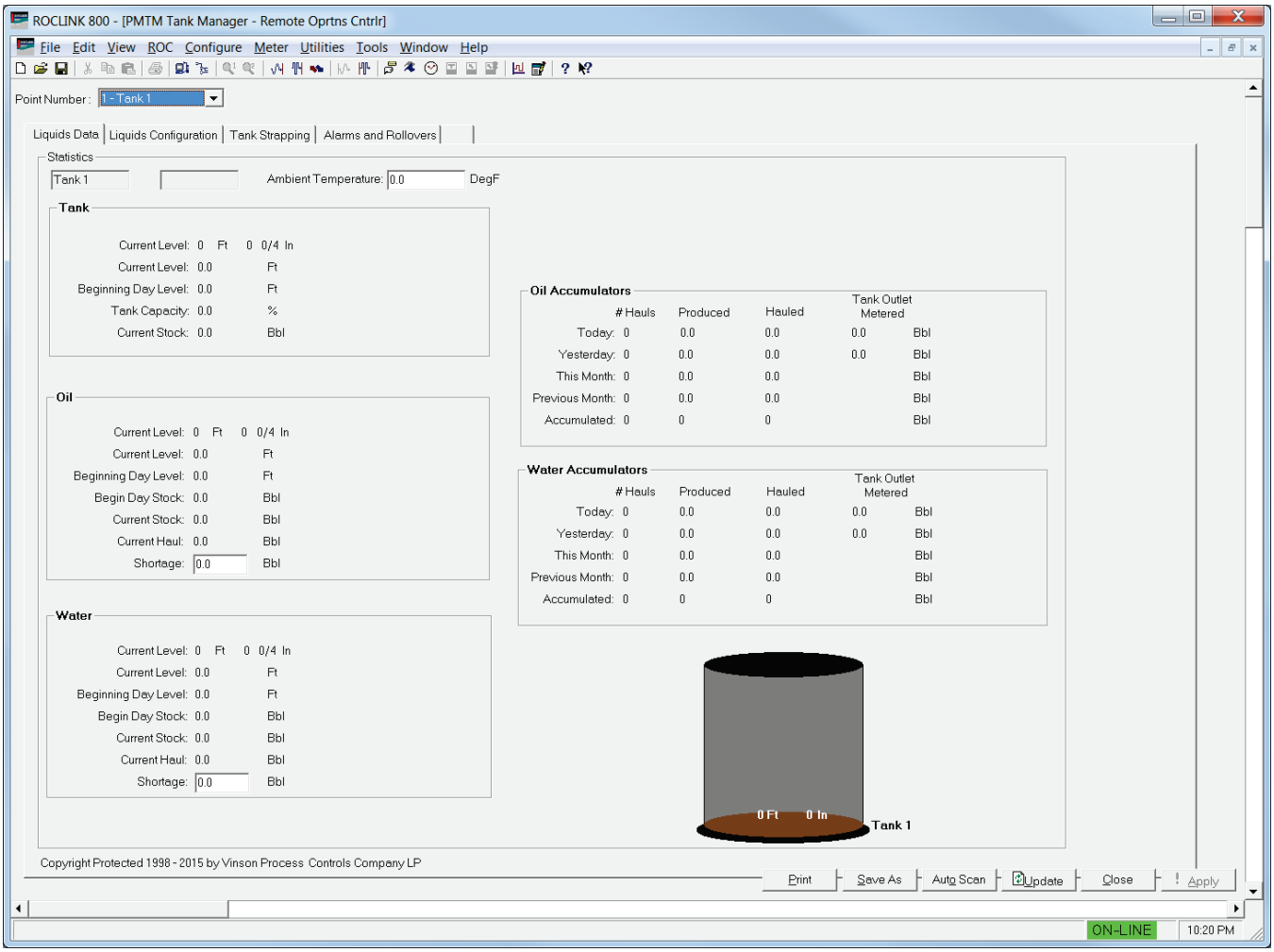


Figure 15. Tank Manager Screen – Liquids Data tab

1. Review the values in the following fields:

Field	Description
Point Number	Selects a tank to view. Click ▼ to view all defined tanks. **Note**: This field displays on **all** tabs for the Tank Manager screen.
Shortage BBLs (Oil)	Indicates the current calculated shortage of oil based on the difference between the current measured volume and the highest measured volume since the last haul.
Shortage BBLs (Water)	Indicates the current calculated shortage of water based on the difference between the current measured volume and the highest measured volume since the last haul.

2. Click **Apply** to save any changes you have made to this screen.
3. Proceed to *Section 3.2.2* to configure the Liquids Configuration tab.

3.2.2 PMTM Tank Manager – Liquids Configuration Tab

Use this screen to configure tanks or aggregates.

To access this screen:

1. Select the **Liquids Configuration** tab on the Tank Manager screen. The Liquids Configuration screen displays:

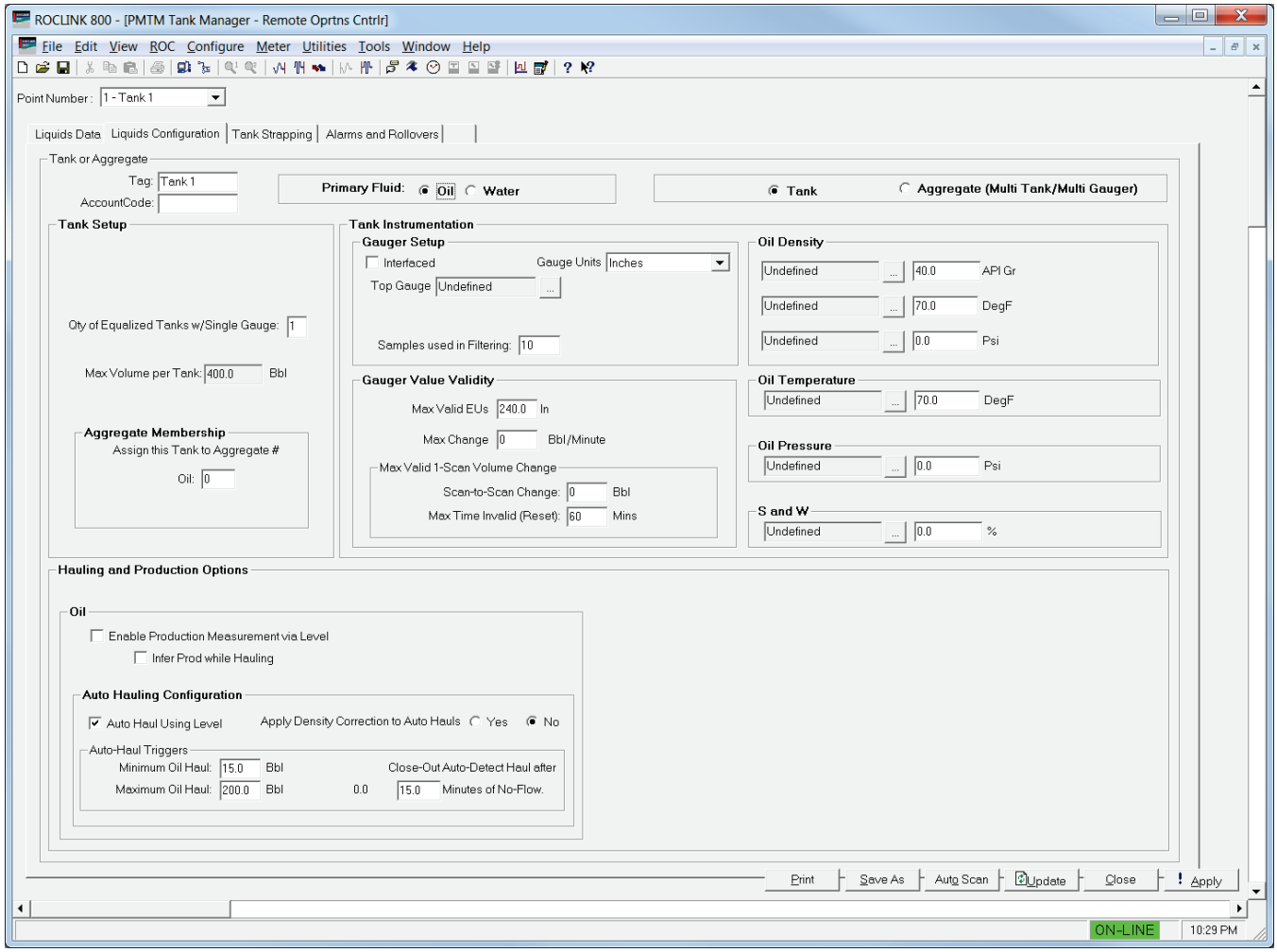


Figure 16. Tank Manager Screen – Liquids Configuration tab

2. Review the values in the following fields:

Field	Description
Tank or Aggregate	
Tag	Provides a 10-character alphanumeric identifier for the tank.
Account Code	Provides an accounting code (if applicable) to identify this tank.
Primary Fluid	Indicates the liquid to haul from this tank or aggregate. Valid options are **Oil** or **Water.** **Note**: The Hauling and Production Options pane of this screen changes depending on the Primary Fluid option you choose. When you choose the **Aggregate (Multi Tank/Multi Gauger)** option, this displays **Aggregate Fluid** and the valid options become **Oil**, **Water**, or **Both**.
Tank	You select this option if the object you define represents a single liquid tank.
Aggregate (Multi Tank/Multi Gauger)	You select this option if the object you define represents a combination of multiple tanks.
Tank Setup **Note:** This frame displays **only** if you select **Tank** from the **Tank or Aggragate** frame.	
Qty of Equalized Tanks w/Single Gauge	Specifies the number of equalized tanks using a single gauge. Each of the equalized tanks assumes the same dimensions.
Max Volume per Tank	This **read-only** field specifies the maximum capacity of the tank.
Aggregate Membership	Specifies the aggregate to which this tank belongs.
Aggregate Setup **Note:** This frame displays **only** if you select **Aggregate** from the **Tank or Aggragate** frame.	
Aggregate Number: Oil	Assigns an aggregate number. All tanks you tag with this number roll up into this aggregate. **Note**: This field displays **only** if you select **Oil** or **Both** as the **Aggegate Fluid**.
Oil Aggregate Function	Specifies whether the aggregate is hauled directly or if this aggregate totalizes the production of the member tanks and hauls.

Field	Description
Aggregate Number: Water	Assigns an aggregate number. All tanks you tag with this number roll up into this aggregate. **Note**: This field displays **only** if you select **Water** or **Both** as the **Aggegate Fluid**.
Water Aggregate Function	Specifies whether the aggregate is hauled directly or if this aggregate totalizes the production of the member tanks and hauls.
Tank Instrumentation	
Gauger Setup **Note:** This frame displays **only** if you select **Tank** as the configuration option.	
Interfaced	Select to indicate that the tank has gauges for **both** oil and water. **Note**: Selecting this value **removes** the Qty of Equalized Tanks w/Single Gauge field from the Tank Setup pane (and sets this value to 1) and displays the Water Gauge field.
Top Gauge	Click … to display the Select TLP screen and define a TLP to hold the Top gauge input value.
Wtr Gauge	Click … to display the Select TLP screen and define a TLP to hold the water gauge input value. **Note**: This field displays **only** if you enable the **Interfaced** option.
Samples used in Filtering	Indicates the number of four-second scan samplings the program uses for filtering. The default is **10**.
Gauge Units	Defines the gauge units. Click▼ to display all valid units.
Gauger Value Validity	
Max Valid EUs	Specifies the maximum number of valid engineering units the program uses when validating gauger value.
Max Change	Indicates the maximum change, in volume per minute, the program accepts when validating gauger value.

Field	Description
Max 1-Scan Volume Change	Indicates the maximum change in level the program accepts during a single scan when validating gauger value. **Scan-to-Scan Change:** The program scans the top level gauge every 4 seconds. This setting specifies the maximum value (in units of liquid volume) that the level gauge is allowed to change without being considered invalid. Should a level gauge transmitter malfunction, this will keep the invalid reading from being interpreted as true production. **Max Time Invalid (Reset):** If the level gauge malfunction, it provides an unrealistic reading. This setting determines how long to wait before re-baselining the understood true level of the tank. After a guage validity error occurs, if it is cleared before this configurable time expires, the large sudden change in level from the gauge will not be interpreted as true production.
Oil Density	Selects the TLPs that determine the specific gravity, temperatures, and pressure. The program uses these values to calculate the oil density. You can also manually enter specifi gravity, temeperature, and pressure values in the space provided. **Note:** This section displays **only** when you select **Oil** as the **Primary Fluid**.
Oil Temperature	Sets the TLP of the parameter the program use to determine the oil temperature. You can manually enter the temperature value in the space provided **Note:** This section displays **only** when you select **Oil** as the **Primary Fluid**.
Oil Pressure	Sets the TLP of the parameter the program use to determine the oil pressure. You can manually enter the temperature value in the space provided **Note:** This section displays **only** when you select **Oil** as the **Primary Fluid**.
S and W	Sets the TLP of the parameter the program use to determine the sediments and water. You can manually enter the temperature value in the space provided **Note:** This section displays **only** when you select **Oil** as the **Primary Fluid**.
Water Density	Sets the TLP of the parameter the program use to determine the water specific gravity. You can manually enter the temperature value in the space provided **Note:** This section displays **only** when you select **Water** as the **Primary Fluid**.

Field	Description
Water Temperature	Sets the TLP of the parameter the program use to determine the water specific gravity. You can manually enter the temperature value in the space provided **Note:** This section displays **only** when you select **Water** as the **Primary Fluid**.
Hauling and Production Options	
Oil **Note:** This section displays **only** when you select **Oil** as the **Primary Fluid.**	
Enable Production Measurment via Level	Enables configuration of production and hauling options.
Infer Prod while Hauling	Enables the program to calculate inferred production during the haul and adjust hauled volume accordingly. This situation occurs when your setup injects the production into the tank while the haul is currently in progress.
Auto Haul Using Level	Enables the program to auto-detect a haul based on a drop in level even without input from the HMI to automatically trigger a haul.
Apply Density Correction to Auto Hauls	Enables corrections of the volume of the haul to to base conditions (NSV), when performing auto-hauls. When you enable this option, you must configure the appropriate tank instrumentation (density, temperature, S&W, etc) or you must enter manual values.
Minimum Oil Haul	Indicates the minimum amount of oil level decrease that automatically triggers a haul. The default value is **15.0**. **Note:** This field displays only when you enable **Auto Haul Using Level**.
Maximum Oil Haul	Indicates the maximum volume of oil on a single haul (ticket). Exceeding this value triggers the creation of additional logs. The default value is **200.0**. **Note:** This field displays only when you enable **Auto Haul Using Level**.
Close-Out Auto-Detect Haul after [ ] Minutes of No-Flow	Sets the amount of no-flow time, in minutes, to automatically trigger a close-out. The default value is **15.0**. **Note:** This field displays only when you enable **Auto Haul Using Level**.
Water **Note:** This section displays **only** when you select **Water** as the **Primary Fluid.**	

Field	Description
Enable Production Measurment via Level	Enables configuration of production and hauling options.
Infer Prod while Hauling	Enables the program to calculate inferred production during the haul and adjust hauled volume accordingly. This situation occurs when your setup injects the production into the tank while the haul is currently in progress.
Auto Haul Using Level	Enables the program to auto-detect a haul based on a drop in level even without input from the HMI to automatically trigger a haul.
Minimum Water Haul	Indicates the minimum amount of water level decrease that automatically triggers a haul. The default value is **15.0**. **Note:** This field displays only when you enable **Auto Haul Using Level**.
Maximum Water Haul	Indicates the maximum volume of water on a single haul (ticket). Exceeding this value triggers the creation of additional logs. The default value is **180.0**. **Note:** This field displays only when you enable **Auto Haul Using Level**.
Close-Out Auto-Detect Haul after [ ] Minutes of No-Flow	Sets the amount of no-flow time, in minutes, to automatically trigger a close-out. The default value is **15.0**. **Note:** This field displays only when you enable **Auto Haul Using Level**.

3. Click **Apply** to save any changes you have made to this screen.
4. Proceed to *Section 3.2.3* to configure the Tank Strapping tab.

3.2.3 PMTM Tank Manager – Tank Strapping Tab

Use this screen to configure the calibration to allow for the conversion of a level (in feet or inches or meters, etc) to an equivalent volume of product in the tank.

Note: This tab does not display anything when you slect **Aggregate (Multi Tank/Multi Gauger)** from the **Tank or Aggrate** frame.

To access this screen:

1. Select the **Tank Strapping** tab on the Tank Manager screen. The Tank Strapping screen displays:

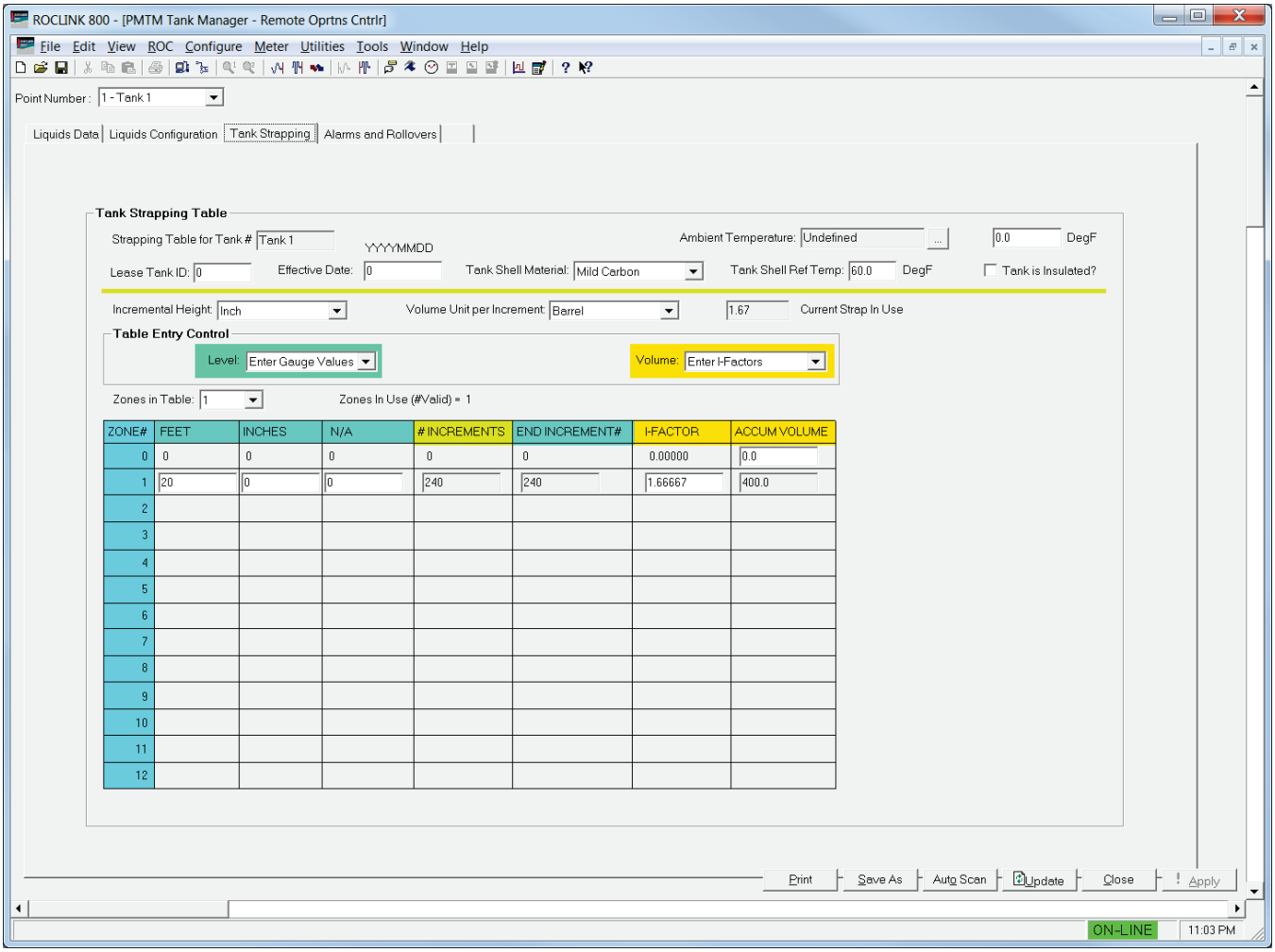


Figure 17. Tank Manager Screen – Tank Strapping tab

2. Review the values in the following fields.

Field	Description
Strapping Table for Tank #	Displays the unique tank description (tag) you enter on the previous screen.
Lease Tank ID	Sets a numeric identifier for the tank within the lease. This optional field is provided for informational purposes only.
Effective Date	Sets the date of the last calibration of the tank in the form of YYYYMMDD, where YYYY is the 4 digit year, MM is the 2 digit month, and DD is the 2 digit day. For example, 20151201 would be December 1st, 2015. This optional field is provided for informational purposes only.
Tank Shell Material	Selects material of construction of your tank. The program uses this selection to calculate the CTS value of the tank. Click▼ to display all valid material types.
Tank Shell Ref Temp:	Sets the reference temperature of the tank during calibration. The program uses this temperature value to calculate the CTS value of the tank. This value is typically 60 deg F or 15 deg C.
Tank Insulated?	Indicates whether the tank includes insulation. The program uses this selection to calculate the CTS value of the tank
Incremental Height:	Selects the units of the smallest linear increment for the strapping table. Click▼ to display all valid incremental height options.
Volume Unit per Increment:	Selects the volume units of the strapping value increments. Click▼ to display all valid volume unit options.
Current Strap In Use	Shows the calculated strapping value in-use for the current level of the tank.
Table Entry Control **Note:** These options determine which values the program requires to enter and which values the program automatically calculates for the strapping table.	
Level	Determines the primary data entry type for the strapping table. Click▼ to display all valid level entry options. If the strapping table data includes tank height levels, select **Enter Gauge Values**. If the strapping table data available includes volume increments per zone, select **Enter Increments**.
Increments	Sets if each zone uses the number of the volume increments or the number of the end increment in the zone. Click▼ to display all increment entry options. **Note**: This field **only** displays when you select **Enter Increments** from the **Level** field.

Field	Description
Volume	Sets the volume zone to either volume per increment or the volume of the entire zone. Click▼ to display all valid volume entry options.
Zones in Table	Select the number of zones included in the strapping table information available. **Note:** If using a single numerical strapping value for the tank (rather then a table), set this option to a value of 1.
Zones In Use	Displays the number of zones that are currently valid and in use by the strapping table routine. If configuration has been performed correctly, this should equal the value selected for the **Zones In Table** field.
Zone #	Indicates the zone number of the tank strapping entry.
Feet **Meters**	Sets the largest linear unit value for the strapping data based on tank height gaude. Continue to the next column if the height gauge levels include additional resolution (such as inches). The label for this column changes, depending on the **Incremental Height** option you select. This section is in **Feet** if you select **inch**, **1/4-inch**, **1/8-inch**, **1/16-inch**, or **0.01-foot** as **Increment Height**. This section is in **Meters** if you select **centimeter** or **millimeter** as the **Increment Height**.
Inches **Centimeter**	Sets the short linear unit value for the stapping data based on tank height gauge values. Continue to the next column if the height gauge levels include additional resolution (such as ¼-inch). You enter a 0 value if the height gauge values include no additional resolution. The label for this column changes, depending on the **Incremental Height** option you select. This section is in **Inch** if you select **inch**, **1/4-inch**, **1/8-inch**, **1/16-inch**, or **0.01-foot** as **Increment Height**. This section is in **Centimeters** if you select **centimeter** or **millimeter** as the **Increment Height**.

Field	Description
N/A **1/4 Inches** **1/6 Inches** **1/8 Inches**	Sets the fraction of the short linear unit value for the strapping data. Enter a value of 0 if the height gauge values include no additional resolution (column Label shows "**N/A**"). The label for this column changes, depending on the **Incremental Height** option you select. The section label is **N/A** if you select **inch**, **0.01-foot**, **Centimeter**, or **Millimeter** as **Increment Height**. The section label is **¼-inch** if you select **¼-inch** as the **Increment Height**, **1/8-inch** if you select **1/8-inch** as the **Increment Height, or 1/16-inch** if you select **1/16-inch** as the **Increment Height**
# Increments	Sets the number of volume increments in the zone. This field becomes writable when you select **Enter # of Increments** from the **Increments** field.
End Increment #	Sets the end increment number. This field becomes writable when you select **Enter End Increments #** from the **Increments** field.
I-Factor	For each zone in the table, the tank height levels must include a corresponding volume; you enter the tank volume quantity per increment in this field. Note that the **Accum Volume** in the next column is this value multiplied by the number of increments in the zone.
Accum Volume	If the tank volume per zone is determined by a single accumulated volume value, enter that accumulated volume here. Note that the **I-Factor** in the previous column is this value, divided by the number of increments in the zone.

3. Click **Apply** to save any changes you have made to this screen.
4. Proceed to *Section 3.2.4* to configure Alarms and Rollovers.

3.2.4 PMTM Tank Manager – Alarms and Rollovers Tab

This screen displays real-time totals for a variety of accumulating values for the current haul.

To access this screen:

1. Select the **Alarm and Rollovers** tab on the Tank Manager screen. The Alarm and Rollover screen displays:

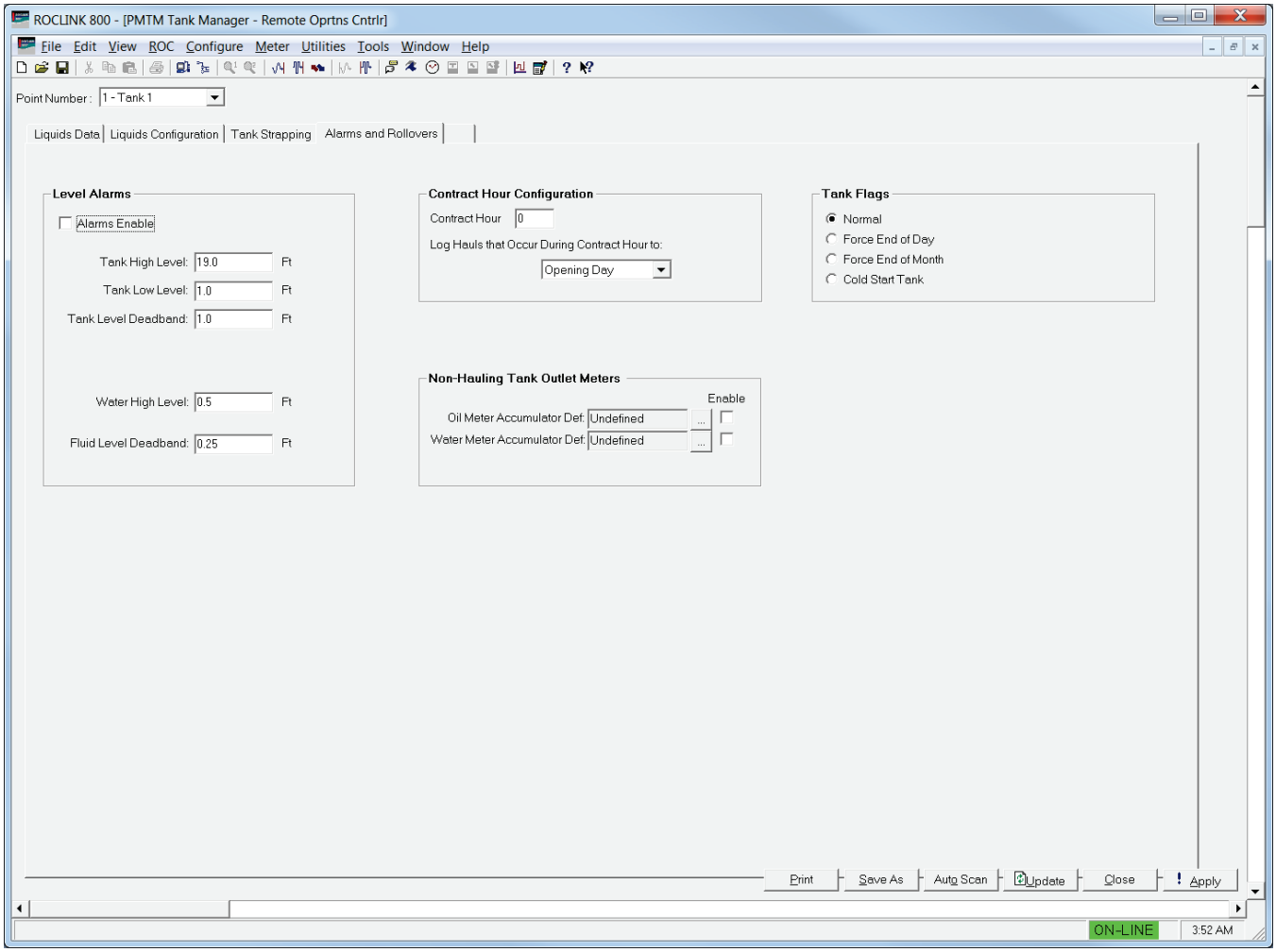


Figure 18. Tank Manager Screen – Alarms and Rollovers tab

2. Review the contents of this screen.

Field	Description
Level Alarms	
Alarms Enable	Enables the logging of alarms based on the tank level.
Tank High Level:	Sets the tank level alarm high value. If the tank level exceeds this value, a tank high level alarm alerts and creates an entry in the alarm log of the FB107 or the ROC800.

Field	Description
Tank Low Level:	Sets the tank level alarm low value. If the tank level goes below this value, a tank low level alarm alerts and creates an entry in the alarm log of the FB107 or the ROC800.
Tank Level Deadband:	Provides a deadband, to avoid repetitive setting and clearing of alarms. When the in-use level value crosses the high or low level threshold and creates an alarm, the level value must change back within the required threshold plus this deadband value, for the alarm to clear.
Oil High Level:	When using an interfaced tank (oil and water) and the primary fluid is water, an Oil High Level alarm raises when the oil level exceeds this value. **Note**: This field **only** displays when you select **Water** as the **Primary Fluid**.
Water High Level:	When using an interfaced tank (oil and water) and the primary fluid is oil, a Water High Level alarm raises when the water level exceeds this value. **Note**: This field **only** displays when you select **Oil** as the **Primary Fluid**.
Fluid Level Deadband:	Provides a deadband, to avoid repetitive seeting and clearing of alarms. This applies to the **Oil High Level** or **Water High Level** fields.
Contract Hour Configuration	
Contract Hour	Sets the hour of the day when the Today values rollover and become the Yesterday values. The valid values include 0 through 23.
Log Hauls that Occur During Contract Hour to:	Selects which day should the Totals from the haul belongs. This is applicable to situations when the haul begins before a contract hour and ends during the contact hour.
Non-Hauling Tank Outlet Meters Some applications require the transfer of fluids out of a tank, but not through the normal hauling mechanism. Assuming you use a meter for this activity and the meter provides a signal to the ROC800 or FB07 where you install the tank manager, this feature provides a way to measure these outbound fluids.	
Oil Meter Accumulator Def:	Click ... to display the Select TLP screen and define a TLP to hold the oil meter input to the device. This is TLP is typically an incremental accumulator value, such as a pulse input running total.
Enable:	Enables the Oil Meter Definition option.

Field	Description
Water Meter Accumulator Def:	Click ... to display the Select TLP screen and define a TLP to hold the water meter input to the device. This is TLP is typically an incremental accumulator value, such as a pulse input running total.
Enable:	Enables the Water Meter Definition option.
Tank Flags	Selects a tank flag to take effect. **Normal:** Idle state (no action in progress). **Force End of Day:** Causes a new day event to occur immediately. All Today accumulators rollover into the yesterday accumulators. **Force End of Month:** Causes a new month event to occur immediately. All This Month accumulators rollover into the Previous Month accumulators. **Cold Start Tank:** Clears out all accumulators (Daily, Monthly, and Accumulated) for the tank.

3. Proceed to Section 3.3 to configure the PMTM Allocated Well Values screen.

3.3 PMTM Allocated Well Values

Use this screen and its tabs to view and configure well allocation and production details.

To access this screen:

1. From the Directory Tree, double-click **User Program.**
2. Double-click one of the following:
   - For the ROC800: **Program #1, PMTM_v407_xx_24t12w**.
   - For the FB107: **PM Tank Manager**.
3. Double-click one of the following:
   - For the ROC800: **Display #197, PMTM Allocated Well Values**.
   - For the FB107: **Display #81, PMTM Allocated Well Values**
4. Double-click **#1, Well 1** for either the ROC800 or FB107.

5. The Allocated Well Values screen displays, showing the Allocation/Production Values tab:

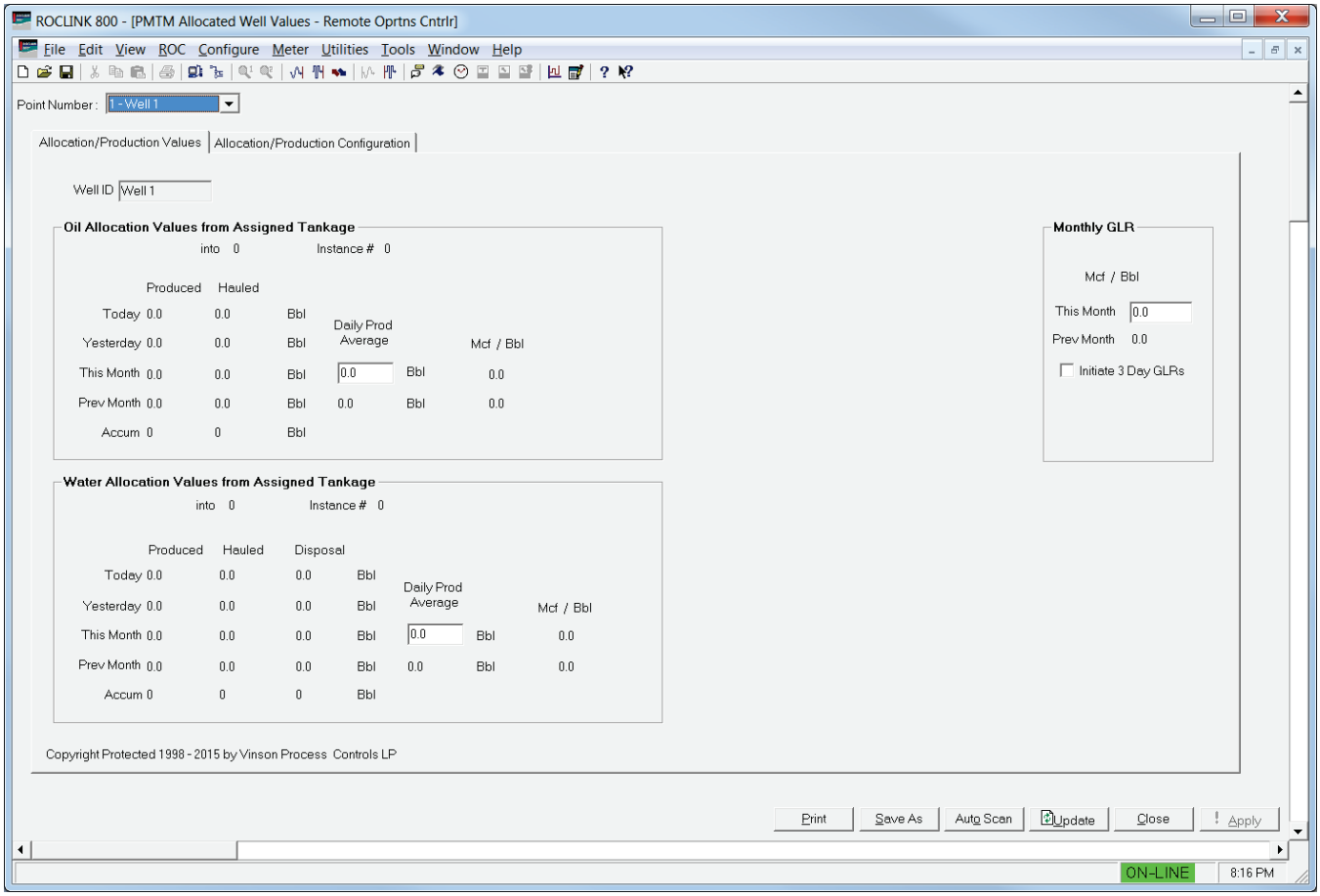


Figure 19. Allocated Well Values Screen

3.3.1 PMTM Allocated Well Values – Allocation/Production Values Tab

This screen (which displays first when you open the Allocated Well Values screen) provides an at-a-glance summary of the oil and water allocation values currently defined for the selected well.

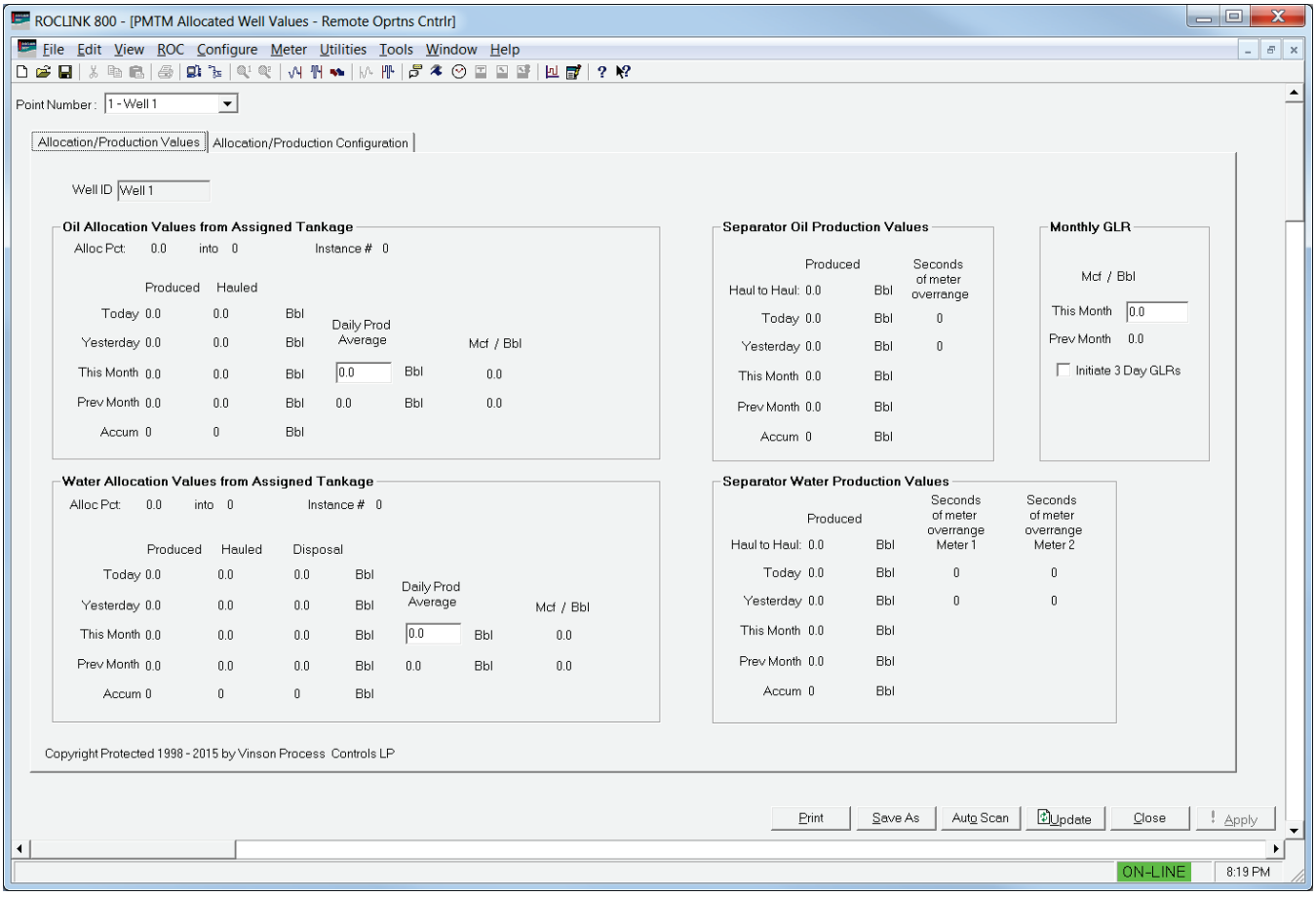


Figure 20. Allocated Well Values Screen – Allocation/Production Values tab

1. Review the values in the following fields:

Field	Description
Point Number	Identifes the well for these allocation values.
Well ID	This **read-only** field shows the identifying label associated with this well.
Oil Allocation Values – This Month	Indicates, in average barrels, the daily production of oil for the selected well. You can edit this field, if necessary.

Field	Description
Alloc Pct	Shows the percent of total production into a tank the well produces. For example, you have two wells producing into the same tank, this shows the percentage on how much of that tanks production was from each individual well. If well 1 is producing 3 times the production of well 2, the well 1 would have 75% Alloc Pct and well 2 would have 25% Alloc Pct. This field displays **only** when you select **Use Liquid Production Meters** as the **Allocation Well Liquid Production Method** from the **Allocation/Production Configuration** tab.
into	Displays the tag of the tank the well is producing (oil or water) into.
Instance #	Displays the instance number of the tank the well is producing (oil or water) into.
Produced	This **read-only** field displays the current day, previous day, the current month, the previous month, and the total accumulated production volume for the oil tank.
Hauled	This **read-only** field displays the current day, previous day, the current month, the previous month, and the total accumulated hauling volume for the oil tank.
Daily Prod Average	Display the daily production average for the current and previous month. You can also update the daily production average for the current month.
Water Allocation Values – This Month	Indicates, in average barrels, the daily production of water for the selected well. You can edit this field, if necessary.
Alloc Pct:	Shows the percent of total production into a tank the well produces. For example, you have two wells producing into the same tank, this shows the percentage on how much of that tanks production was from each individual well. If well 1 is producing 3 times the production of well 2, the well 1 would have 75% Alloc Pct and well 2 would have 25% Alloc Pct. This field displays **only** when you select **Use Liquid Production Meters** as the **Allocation Well Liquid Production Method** from the **Allocation/Production Configuration** tab.
Into	Displays the tag of the tank the well is producing (oil or water) into.
Instance #	Displays the instance number of the tank the well is producing (oil or water) into.

Field	Description
Produced	This **read-only** field displays the current day, previous day, the current month, the previous month, and the total accumulated production volume for the water tank.
Hauled	This **read-only** field displays the current day, previous day, the current month, the previous month, and the total accumulated hauling volume for the water tank.
Disposal	This **read-only** field displays the current day, previous day, the current month, the previous month, and the total accumulated disposal volume for the water tank.
Daily Prod Average	Display the daily production average for the current and previous month. You can also update the daily production average for the current month.
Separator Oil Production Values	
Note: This section displays **only** when you select **Use Liquid Production Meters** as **Allocate Well Liquid Production Method** from the **Allocation/Production Configuration** tab.	
Produced	This **read-only** field displays the current day, previous day, the current month, the previous month, and the total accumulated production volume of oil from the separator.
Seconds of Meter Overrange	Counts the number of seconds the (oil or water) meter flow rate exceeds the maximum flowrate.
Separator Water Production Values	
Note: This section displays **only** when you select **Use Liquid Production Meters** as **Allocate Well Liquid Production Method** from the **Allocation/Production Configuration** tab.	
Produced	This **read-only** field displays the current day, previous day, the current month, the previous month, and the total accumulated production volume of water from the separator.
Seconds of Meter Overrange Meter 1	Counts the number of seconds the (oil or water) meter flow rate exceeds the maximum flowrate for meter 1.
Seconds of Meter Overrange Meter 2	Counts the number of seconds the (oil or water) meter flow rate exceeds the maximum flowrate for meter 1.
Monthly GLR	
This Month	Specifies the GLR value of the current month. You can edit this field, if necessary.
Prev Month	This **read-only** field displays the GLR value of the previous month.

Field	Description
Initiate 3 Day GLRs	Enables the system to recalculate GLR values based on the manually entered 3-day accumulated value.

2. Proceed to *Section 3.3.2* to configure the Allocation/Production Config tab.

3.3.2 PMTM Allocated Well Values – Allocation/Production Config Tab

Use this screen to indicate how the program should allocate production totals back to associated wells.

To access this screen:

1. Select the **Allocation/Production Configuration** tab. The Allocation/Production Configuration screen displays:

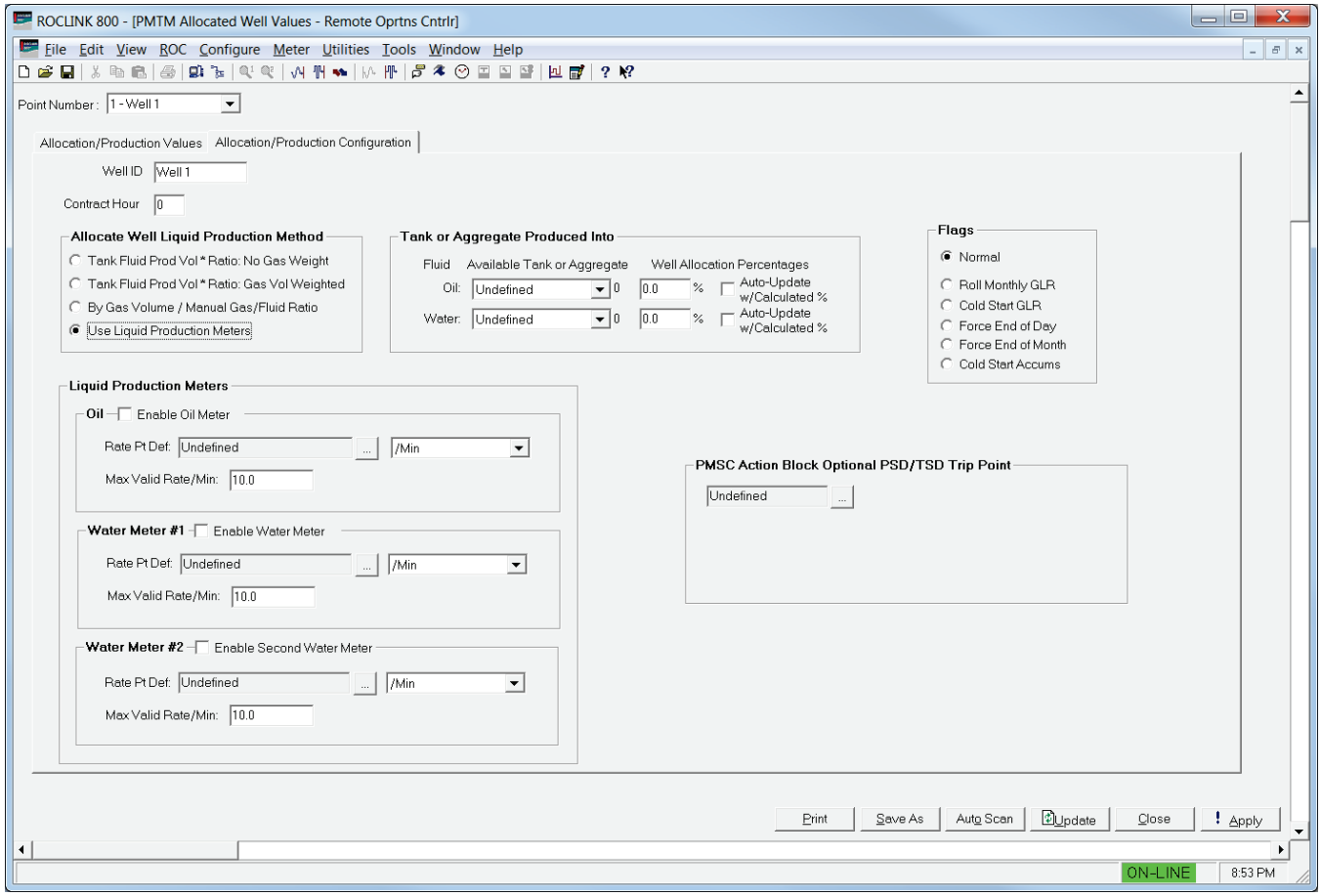


Figure 21. Allocated Well Values Screen – Allocation/Production Configuration tab

2. Review the values in the following fields.

Field	Description
Well ID	Specifies the tag identifier for this well. You can define allocations for up to 12 wells.

Field	Description
Contract Hour	Specifies the contract hour for this well. Accumulators roll over at the contract hour you define here.
Allocate Well Liquid Production Method	Indicates the allocation method the program uses. **Tank Fluid Prod Vol x Ratio: No Gas Weight:** Multiplies the fluids produced into the tanks by the Well Allocation Percentage to determine the allocated volume for this well. **Tank Fluid Prod x Ratio: Gas Vol Weighted:** Multiples the fluids produced into the tanks by the Well Allocation Percentage (adjusted by the percentage of total gas volume produced by this well) to determine the allocation volume for this well. This is the default selection. **Note**: Selecting this option displays the Gas Meter Used for GLR Ratios pane. **By Gas Volume / Manual Gas/Fluid Ratio:** Allocates fluids based on fixed GLR factors by dividing the gas volume by the manual gas-to-fluid ratios. This method decouples well allocation volumes from the total volume produced into the tanks. **Note**: Selecting this option displays the Gas Meter Used for GLR Ratio and the Manual Gas/Fluid Ratios panes and removes the Tank or Aggregate Produced Info pane. **Use Liquid Production Meters:** Allocates the production of the well based on input from liquid production meters. Allocation percentages can be automatically derived and updated with this method. **Note**: Selecting this option displays the Liquid Production Meters pane.

Tank or Aggregate Produced Into

Identifies the tank or aggregate into which the well produces and indicates the percentage of fluids allocated to this well.

This pane displays **only** when you select either **Tank Fluid Prod Vol*Ratio: No Gas Weighted**, **Tank Fluid Prod Vol*Ratio: Gas Vol Weighted** or **Use Liquid Production Meters** as **Allocate Well Liquid Production Method**.

Available Tank or Aggregate	Defines the specific tank or aggregate for the respective fluid. Click ▼ to display all defined tanks or aggregates.
Well Allocation Percentages	Indicates the percentage of total volume produced into the selected tank/aggregate allocated to this well.

Field	Description
Auto-Update w/ Calculated %	**Note:** These two checkboxes displays **only** when you select **Use Liquid Production Meters** as **Allocate Well Liquid Production Method**.
Flags	Forces the program to clear process accumulators or GLR values and perform on-demand rollovers of daily and months accumulators.
Gas Meter Used for GLR Ratios	Displays the Select TLP screen you use to define a TLP to accumulate gas meter values. The program selects the correct AGA parameter from the associated logical number. **Note**: This pane displays **only** when you select either **Tank Fluid Prod Vol*Ratio: Gas Vol Weighted** or **By Gas Volume / Manual Gas/Fluid Ratio** as **Allocate Well Liquid Production Method**.
Manual Gas /Fluid Ratios	Indicates a manual value for the gas-to-liquid ratio for oil, water, and total fluid. **Note**: This pane displays **only** when you select **By Gas Volume / Manual Gas/Fluid Ratio** as **Allocate Well Liquid Production Method**.
Liquid Production Meters	Indicates the specific oil or water meters to be used in allocation. **Note**: This pane displays **only** when you select **Use Liquid Production Meters** as **Allocate Well Liquid Production Method**.
Enable Oil Meter	Select to enable the program to use the oil meter.
Rate Pf Def	Displays the Select TLP screen you use to define a TLP to store the defined rate point.
Max Valid Rate/Min	Defines the maximum allowable flow rate per minute. While this value is exceeded, the program does not accumulate liquid volume for this meter and records the amount of time in seconds. **Note**: This assumes that gas (rather than fluid) is flowing through this meter during this excursion.
Enable Water Meter	Select to enable the program to use the primary water meter.
Rate Pf Def	Displays the Select TLP screen you use to define a TLP to store the defined rate point for the primary water meter.

Field	Description
Max Valid Rate/Min	Defines the maximum allowable flow rate per minute. While this value is exceeded, the program does not accumulate liquid volume for this meter and records the amount of time in seconds. **Note**: This assumes that gas (rather than fluid) is flowing through this meter during this excursion.
Enable Second Water Meter	Select to enable the program to use a secondary water meter.
Rate Pf Def	Displays the Select TLP screen you use to define a TLP to store the defined rate point for the secondary water meter.
Max Valid Rate BPM	Defines the maximum allowable flow rate per minute. While this value is exceeded, the program does not accumulate liquid volume for this meter and records the amount of time in seconds. **Note**: This assumes that gas (rather than fluid) is flowing through this meter during this excursion.
PMSC Action Block Optional PSD/TSD Trip Point	Indicates the specific trip point defined in the Surface Control Manager application for either permanent shut down (PSD) or temporary shut down (TSD). For further information on configuring these values, refer to the *Surface Control Manager User Manual (for ROC800-Series and FloBoss 107 Controllers)*, part D301759X012.

3. Proceed to *Section 3.4* to configure the data base for the Haul Log Viewer.

3.4 PMTM Haul Log Viewer

To access this screen:

1. From the Directory Tree, double-click **User Program.**
2. Double-click one of the following:
   - For the ROC800: **Program #1, PMTM _v407_xx_24t12w**.
   - For the FB107: **PM Tank Manager**.
3. Double-click one of the following:
   - For the ROC800: **Display #198, PMTM Haul Log Viewer**
   - For the FB107: **Display #82, PMTM Haul Log Viewer**.

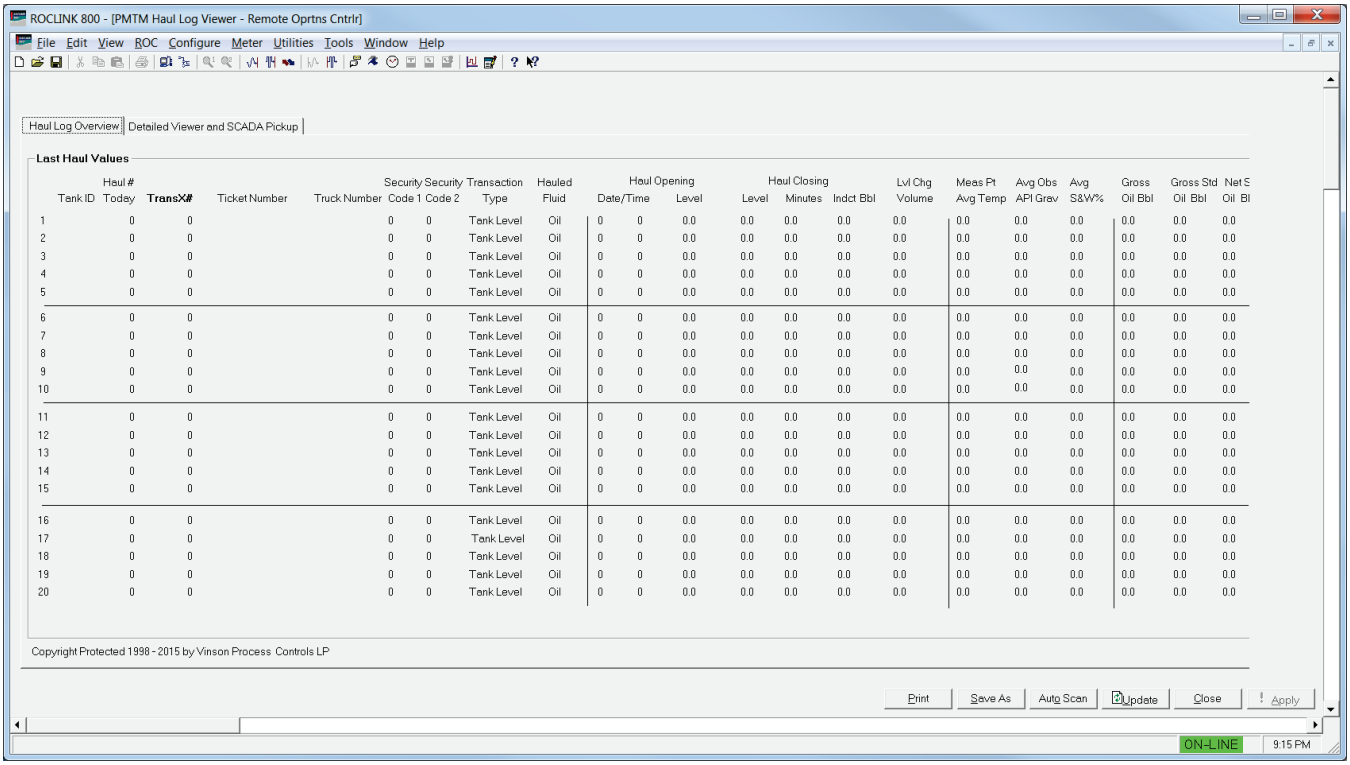


Figure 22. Haul Log Overview Screen

The screen has two tabs. The Haul Log Overview screen, as shown in *Figure 22*, displays the last 20 hauls, with the most current haul at the top of the screen. Each of the values in this log is stored in an individual TLP. The most recent haul is logical 1 and the last haul is logical 20. A SCADA system can access these logs by polling for TLPs and logical addresses that correspond to the entry in the sequence. The program assigns every completed haul a transaction number. By polling the Transaction Number TLP [198,1,31], the SCADA system can determine when a new log is available.

The second tab shows a detailed view of the requested haul log.

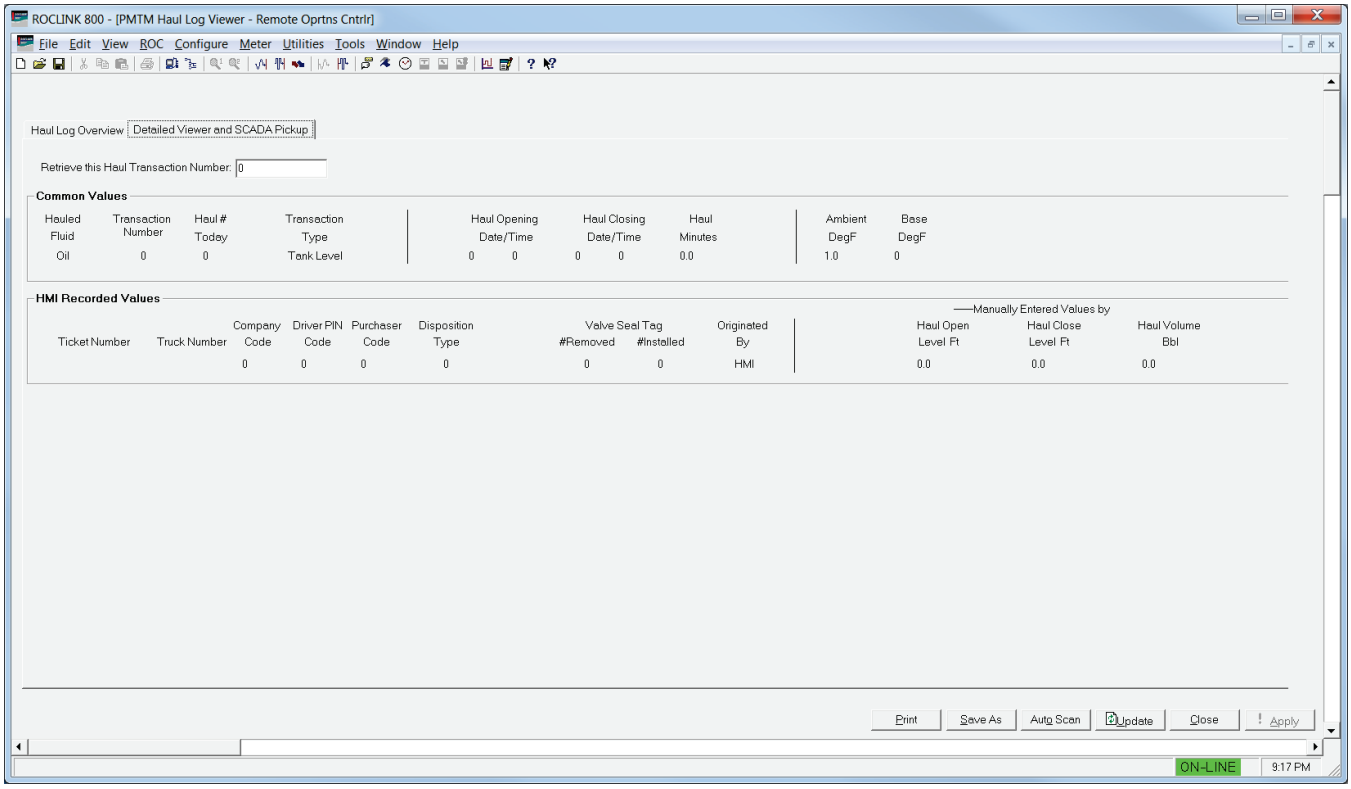


Figure 23. Detailed Viewer and SCADA Pickup Screen

Enter the transaction number of the desired haul into the Retrieve this Haul Transaction Number field. Click **Apply** to review all information about that haul. The detailed view displays all available parameters for the requested haul. Additional fields appear on this screen, depending on the type of haul that is displayed.

In addition to the 20 most recent hauls, which are stored in TLPs for easy access, more haul log records are stored within the device, on the flash file system. The ROC800 stores the most recent 512 hauls in this manner, and the FB107 stores the most recent 64. These additional haul records can be retrieved one at a time by a SCADA system. This is accomplished by writing the haul transaction number to be retrieved into the field mentioned above (which is TLP [198,0,44] on the ROC800, and TLP [180,0,44] on the FB107). The requested record will be populated into logical instance 0 of the Tank Manager haul logs point type (which is PT 198 on the ROC800, and PT 180 on the FB107).

⚠ Caution

The FB107 utilizes the flash file system of the FB107 to store the previous 64 haul logs. When you perform the cold start of the device, the flash memory space where these log records are located is restored to the point of the previous save-to-flash event. Therefore, in order to avoid the loss of data, and maintain synchronization with any SCADA system, it is required to perform a save-to-flash BEFORE any sort of cold start on the FB107.

3.5 PMTM Load Out

Use this screen and its component tabs to configure haul details, view specific haul values, and run system diagnostics.

To access this screen:

1. From the Directory Tree, double-click **User Program.**
2. Double-click one of the following:
   - For the ROC800: **Program #1, PMTM _v407_xx_24t12w**.
   - For the FB107: **PM Tank Manager**.
3. Double-click one of the following:
   - For the ROC800: **Display #231, PMTM LoadOut**
   - For the FB107: **Display #83, PMTM LoadOut**.
4. Double-click **#1, LoadTerm 1** for either the ROC800 or FB107.

The Load Out screen displays, showing the Load Out Control tab:

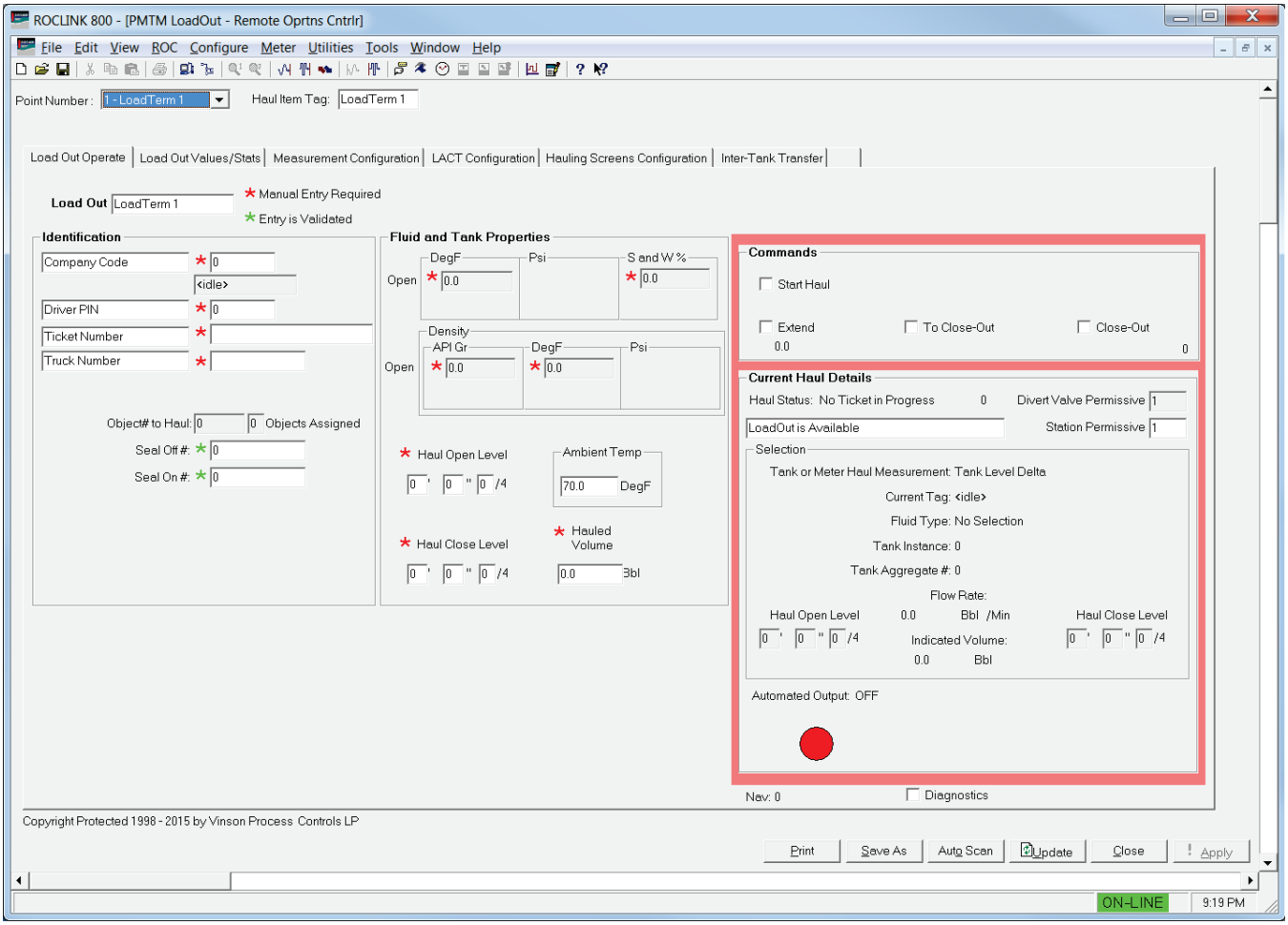


Figure 24. Load Out Screen

Note: The light red highlighted border on this screen indicates that no haul is currently underway. When a haul begins, this border changes to green.

3.5.1 PMTM Load Out – Load Out Operate Tab

Use this screen to configure haul control parameters. This tab displays when you initially access this screen.

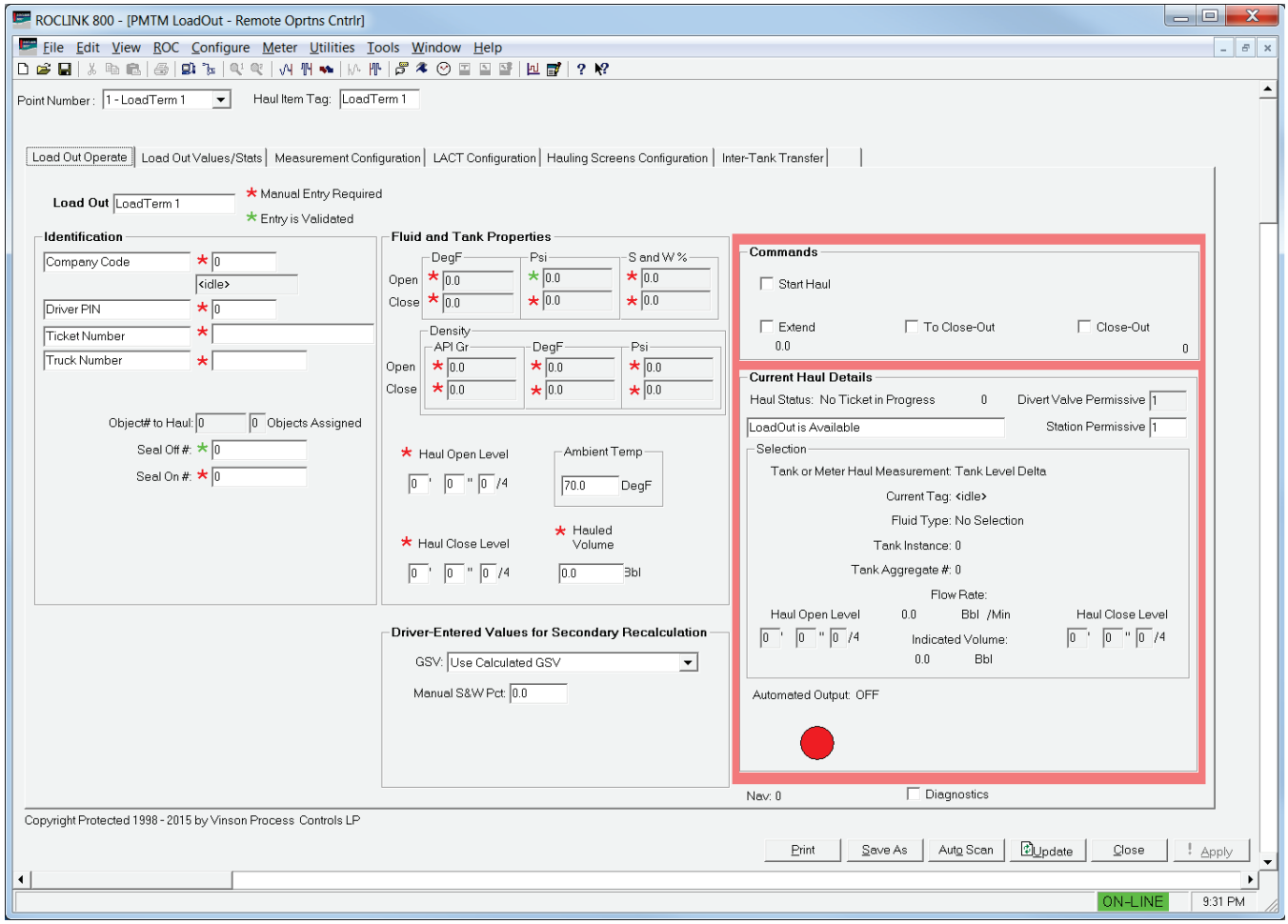


Figure 25. Load Out Screen – Load Out Control tab

1. Review the values in the following fields.

Field	Description
Point Number	Identifies the loading terminal. Click ▼ to display all defined loading terminals. **Note**: This field appears on all Load Out tabs.
Haul Item Tag	Identifies the name of the HMI terminal as defined on the HMI Instance Tag. **Note**: This field appears on all Load Out tabs.

Field	Description
Load Out	Defines a tag name (up to 10 characters long) for this hauling terminal. This value displays on the HMI for driver selection. **Note**: This screen displays two colored asterisks **Manual Entry Required** and **Entry is Validated**. When a manual entry is required, the asterisk will be red until you enter a value into the field. Once you enter a value, the asterisk will change to green and that field will be validated. Required user interaction is defined on the Hauling Screens Configuration tab.
Identification Provides driver validation and ticketing information.	
Company Code	Defines the numerical credentials of the company. When the driver enters a company code on the HMI, the program verifies and validates the code against the ROC Hauler Database (see *Section 3.3*) and shows the validated company name in the Company Verified field. **Note**: This field requires manual entry.
Driver PIN	Defines the numerical credentials of the driver. When the driver enters a driver code on the HMI, the program verifies and validates the code against the Hauler Companies Database (see *Section 3.3*). **Note**: This field requires manual entry.
Ticket #	Provides the ticket number. This optional 20-character field may be contractually required by an agreement with the owner. The program records this information in the haul log. **Note**: This field may require manual entry based on the settings selected on the Hauling Screens Configuration tab.
Truck #	Provides the truck number. This optional 20-character field may be contractually required by an agreement with the owner. The program records this information in the haul log. **Note**: This field may require manual entry based on the settings selected on the Hauling Screens Configuration tab.

Field	Description
Object# to Haul	Provides the numerical equivalent of the object to haul. If you define only one tank on the Measurement Configuration tab, the program automatically completes this field when the driver has entered and validated the company code and driver PIN. If you define two or more tanks, the driver must enter the tank they are hauling from. **Note:** When hauling oil, the object number to haul is the number of the tank instance. If the driver wants to haul oil from Tank 3, they would enter 3 in this field. When hauling water, 100 is added to the number of the tank instance. If the driver wants to haul water from Tank 3, they would enter 103 in this field.
Seal Off #	Provides the seal off number. This optional field may be contractually required by an agreement with the owner. The program records this information in the haul log. **Note**: This field may require manual entry based on the settings selected on the Hauling Screens Configuration tab.
Seal On #	Provides the seal on number. This optional field may be contractually required by an agreement with the owner. The program records this information in the haul log. **Note**: This field may require manual entry based on the settings selected on the Hauling Screens Configuration tab.
Pre-Set Load Volume	Provides the ability to enter a preset volume to haul when using an automated loading valve. The program will close the valve when this preset volume is reached. **Note**: This field may require manual entry based on the settings selected on the Hauling Screens Configuration tab.
Indicated Volume	Displays the current volume hauled when using a preset load volume.
Fluid and Tank Properties The program records the fluid and tank properties to calculate the volume of a haul. These values can come from the tank instrumentation or from a meter assigned to the Load Out.	
Temp Open	The temperature of the tank or fluid at the opening of the haul. **Note:** The description of this field changes based on the user selection on the global Units Configuration. The default unit is **DegF.**

Field	Description
Temp Close	The temperature of the tank or fluid at the closing of the haul. **Note:** The description of this field changes based on the user selection on the global Units Configuration. The default unit is **DegF.**
Pressure Open	The pressure of the tank or fluid at the opening of a haul. **Note:** The description of this field changes based on the user selection on the global Units Configuration. The default unit is **Psi.**
Pressure Close	The pressure of the tank or fluid at the closing of a haul. **Note:** The description of this field changes based on the user selection on the global Units Configuration. The default unit is **Psi.**
S and W% Open	The sediment and water percentage of the tank or fluid at the opening of a haul.
S and W% Close	The sediment and water perctange of the tank or fluid at the closing of a haul.
Density	
Density Open	The density of the tank or fluid at the opening of a haul. **Note:** The description of this field changes based on the user selection on the global Units Configuration. The default unit is **API Gr.**
Density Close	The density of the tank or fluid at the closing of a haul. **Note:** The description of this field changes based on the user selection on the global Units Configuration. The default unit is **API Gr.**
Densitometer Temp Open	The densitometer temperature of the tank or fluid at the opening of a haul. **Note:** The description of this field changes based on the user selection on the global Units Configuration. The default unit is **DegF.**
Densitometer Temp Close	The densitometer temperature of the tank or fluid at the closing of a haul. **Note:** The description of this field changes based on the user selection on the global Units Configuration. The default unit is **DegF.**

Field	Description
Densitometer Pressure Open	The densitometer pressure of the tank or fluid at the opening of a haul. **Note:** The description of this field changes based on the user selection on the global Units Configuration. The default unit is **Psi.**
Densitometer Pressure Close	The densitometer pressure of the tank or fluid at the closing of a haul. **Note:** The description of this field changes based on the user selection on the global Units Configuration. The default unit is **Psi.**
Haul Open Level	Specifies the level of the tank, expressed as feet, inches, and quarters, at the beginning of the haul. **Note:** This field may require manual entry based on the settings selected on the Hauling Screens Configuration tab.
Haul Close Level	Specifies the level of the tank, expressed as feet, inches, and quarters, at the close of the haul. **Note:** This field may require manual entry based on the settings selected on the Hauling Screens Configuration tab.
Ambient Temp	Indicates the ambient temperature.
Hauled Volume	Indicates the calculated volume of liquid for the haul. **Note:** This field may require manual entry based on the settings selected on the Hauling Screens Configuration tab.
Commands	
Provides a number of haul control commands that permit the performance of hauling operations without an HMI. These also display on the HMI.	
Current Haul Details	
Provides operations data for the current haul.	
Haul Status	This **read-only** field shows the current status of the haul.
Divert Valve Permissive	This **read-only** field is controlled by external logic. When the value displays 1, the divert valve is operational. When the value displays 0, the divert valve is close and remains close until you provide the valve permissive.

Field	Description
Station Permissive	Controlled by external logic. When this value is **1**, the automated loading valve is operational. When this value is **0**, the automated valve closes and remains closed. **Note**: To ensure proper safety controls, give special consideration to configuring the "permissive" (safety circuits) that may be operating in your system. These can include external shutdown logic (configured through the Surface Control Manager program), electrical grounding (such as a tank-to-truck grounding strap), grounding alarms, tank levels, and permissive power components, among others.
Selection	These **display-only** fields show the status of various operational components of the haul as well as particulars of the fluid being hauled.
Automated Output:	This field shows the status of the automated output as defined on the LACT Configuration screen. When a haul is started, the valve will open and the automated output will display **ON** and turn green**.** Once the Preset Load Volume has been reached or the user stops flow, the valve will close and the automated output will display **OFF** and turn red**.**

2. Click **Apply** to save any changes to this screen.
3. Proceed to *Section 3.5.2* to review the Load Out Values/Sats currently in progress.

3.5.2 PMTM Load Out – Load Out Values/Sats Tab

Use this screen to view details of the haul in progress.

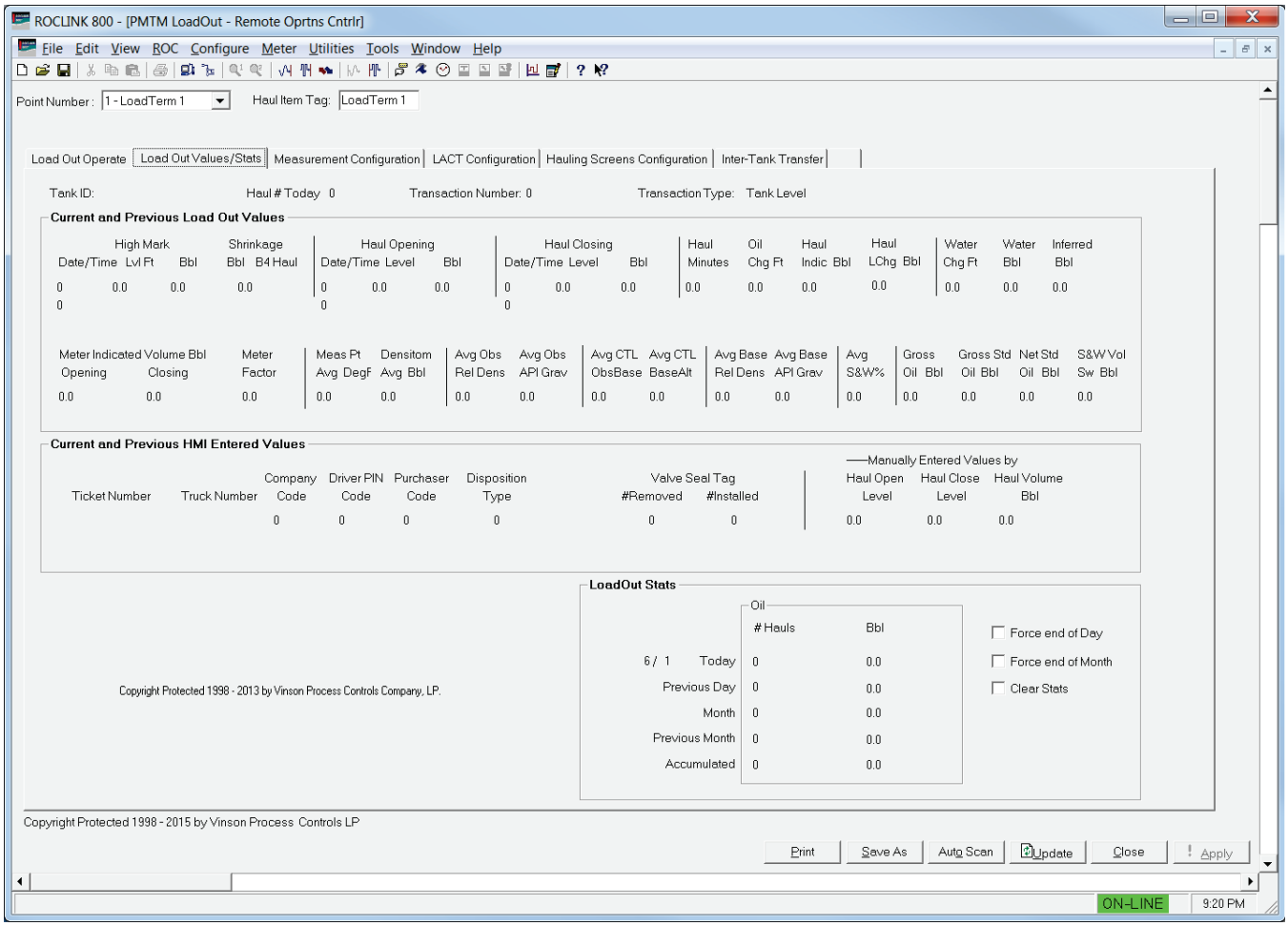


Figure 26. Load Out Screen – Load Out Values/Stats tab

Proceed to *Section 3.5.3* to view the Measurement Configuration tab.

3.5.3 PMTM Load Out – Measurement Configuration Tab

Use this screen to configure measurement options such as the tanks to be hauled from, the method used to determine the hauled volume, and contract hour options. The screen is also used to determine if the tank instrumentation is to be used for the hauling fluid properties, or if the Load Out has own instrumentation values to calculate the volume hauled.

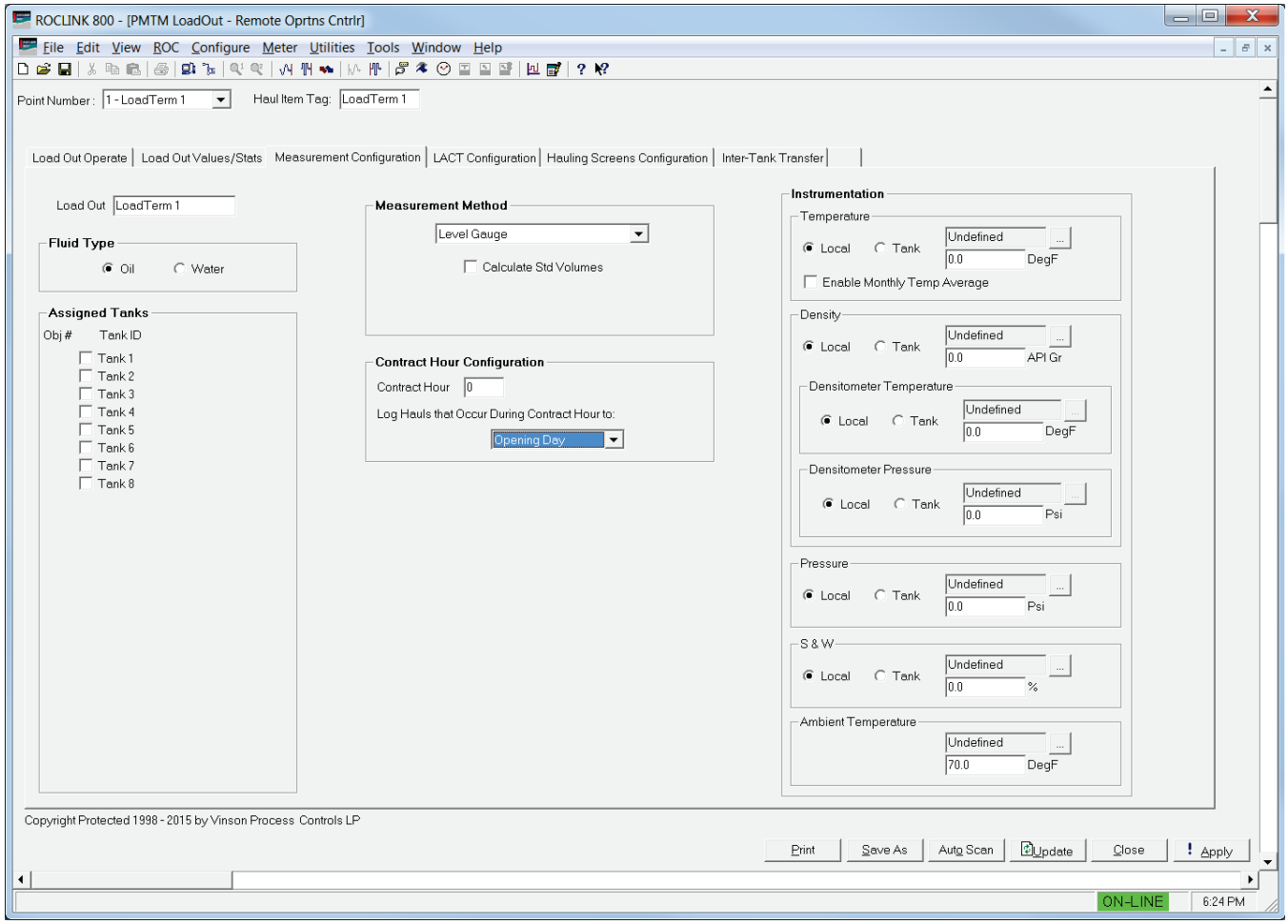


Figure 27. Load Out Screen – Measurment Configuration tab

1. Review the values in the following fields.

Field	Description
Point Number	Identifies the loading terminal. Click ▼ to display all defined loading terminals. **Note**: This field appears on all Load Out tabs.
Haul Item Tag	Identifies the name of the HMI terminal as defined on the HMI Instance Tag. **Note:** This field appears on all Load Out tabs.
Load Out	Defines a tag name (up to 10 characters long) for this hauling terminal. This value displays on the HMI for driver selection.
Fluid Type	Defines the fluid type to be hauled from this Load Terminal. The fluid type will be either oil or water.
Assigned Tanks	Defines the tanks that this terminal instance can haul from. If one tank is selected, the object# to haul will automatically fill with the tank number for a haul. When more than one tank can be hauled from for the terminal, you must enter the tank number they wish to haul from.

Field	Description
Measurement Methods	
Defines the method used to calculate the haul volume.	
Level Gauge	Calculates the volume based on the change in the level of the tank.
Calculate Std Volumes	Calculates the standard volumes. Theprogram uses this value as the hauling volume for level gauge hauls. **Note**: This field only appears when Level Gauge is selected as the Measurement Method.
800L Liquid Meter	Calculates the volume using ROC800L liquid meters.
Meter Pt Def:	Defines the liquid meter to be used for hauling from this Load Terminal.
Pulse Input Gross Meter	Calculates the volume hauled as the number of pulses accumulated for the pulse input.
Meter Pt Def:	Defines the Pulse Input to be used for hauling from this Load Terminal. This field displays **only** when you select **Pulse Input Gross Meter** as **Measurement Method.** **Note**: Click … to display the Select TLP screen and define a TLP to hold the temperature input value. This option only displays in **Local** setting.
Meter Factor:	Sets the correction factor. This value times the accumulated flow equals to the gross volume. This field displays **only** when you select **Pulse Input Gross Meter** as **Measurement Method.**
Contract Hour Configuration	
Contract Hour	The tank object includes multiple daily accumulators. This selection determines the hour of the day when the Today values rollover and become the yesterday values. Valid values include 0 through 23. **Note**: These fields are a duplicate of those on the Alarms and Rollovers tab of the Tank.
Log Hauls that Occur During Contract Hours to:	It is possible that a haul will begin before a contract hour, and end afterwards, with the contract hour occurring during the haul. When this situation occurs, this option determines to which day the totals from that haul will belong. **Note**: These fields are a duplicate of those on the Alarms and Rollovers tab of the Tank.

Field	Description
Instrumentation **Note:** **Local** and **Tank** selections displays **only** when you select either **Level Gauge** or **Pulse Input Gross Meter** as **Measurement Method**.	
Temperature	Selects the temperature instrumentation method. **Local:** Select when the Load Terminal has separate instrumentation from the tank to measure the temperature of the hauled fluid. **Note**: Click … to display the Select TLP screen and define a TLP to hold the temperature input value. This option only displays in **Local** setting. **Tank:** Select when the Load Terminal does not have separate instrumentation from the tank, so the tank is used for the temperature of the hauled fluid.
Enable Monthly Temp Average	Enables the program to record the rolling average of the product temperature.
Density	Selects the density instrumentation method. **Local:** Select when the Load Terminal has separate instrumentation from the tank to measure the density of the hauled fluid. **Note**: Click … to display the Select TLP screen and define a TLP to hold the Top gauge input value. This option only displays in **Local** setting. **Tank:** Select when the Load Terminal does not have separate instrumentation from the tank, so the tank is used for the density of the hauled fluid.
Densitometer Temperature	**Local:** Select when the Load Terminal has separate instrumentation from the tank to measure the densitometer temperature of the hauled fluid. **Note**: Click … to display the Select TLP screen and define a TLP to hold the densitometer temperature input value. This option only displays in **Local** setting. **Tank:** Select when the Load Terminal does not have separate instrumentation from the tank, so the tank is used for the densitometer temperature of the hauled fluid.

Field	Description
Densitometer Pressure	**Local:** Select when the Load Terminal has separate instrumentation from the tank to measure the densitometer pressure of the hauled fluid. **Note**: Click … to display the Select TLP screen and define a TLP to hold the densitometer pressure input value. This option only displays in **Local** setting. **Tanks:** Select when the Load Terminal does not have separate instrumentation from the tank, so the tank is used for the densitometer pressure of the hauled fluid.
Pressure	**Local:** Select when the Load Terminal has separate instrumentation from the tank to measure the pressure of the hauled fluid. **Note**: Click … to display the Select TLP screen and define a TLP to hold the pressure input value. This option only displays in **Local** setting. **Tank:** Select when the Load Terminal does not have separate instrumentation from the tank, so the tank is used for the pressure of the hauled fluid.
S&W	**Local:** Select when the Load Terminal has separate instrumentation from the tank to measure the S & W of the hauled fluid. **Note**: Click … to display the Select TLP screen and define a TLP to hold the S & W input value. This option only displays in **Local** setting. **Tank:** Select when the Load Terminal does not have separate instrumentation from the tank, so the tank is used for the S & W of the hauled fluid.
Ambient Temperature	Click … to display the Select TLP screen and define a TLP to hold the Top gauge input value. This option only displays in **Local** setting.

2. Proceed to *Section 3.5.4* to review the LACT Configutaion tab.

3.5.4 PMTM Load Out – LACT Configuration Tab

Use this screen to configure the functionality when the load out object represents a LACT unit.

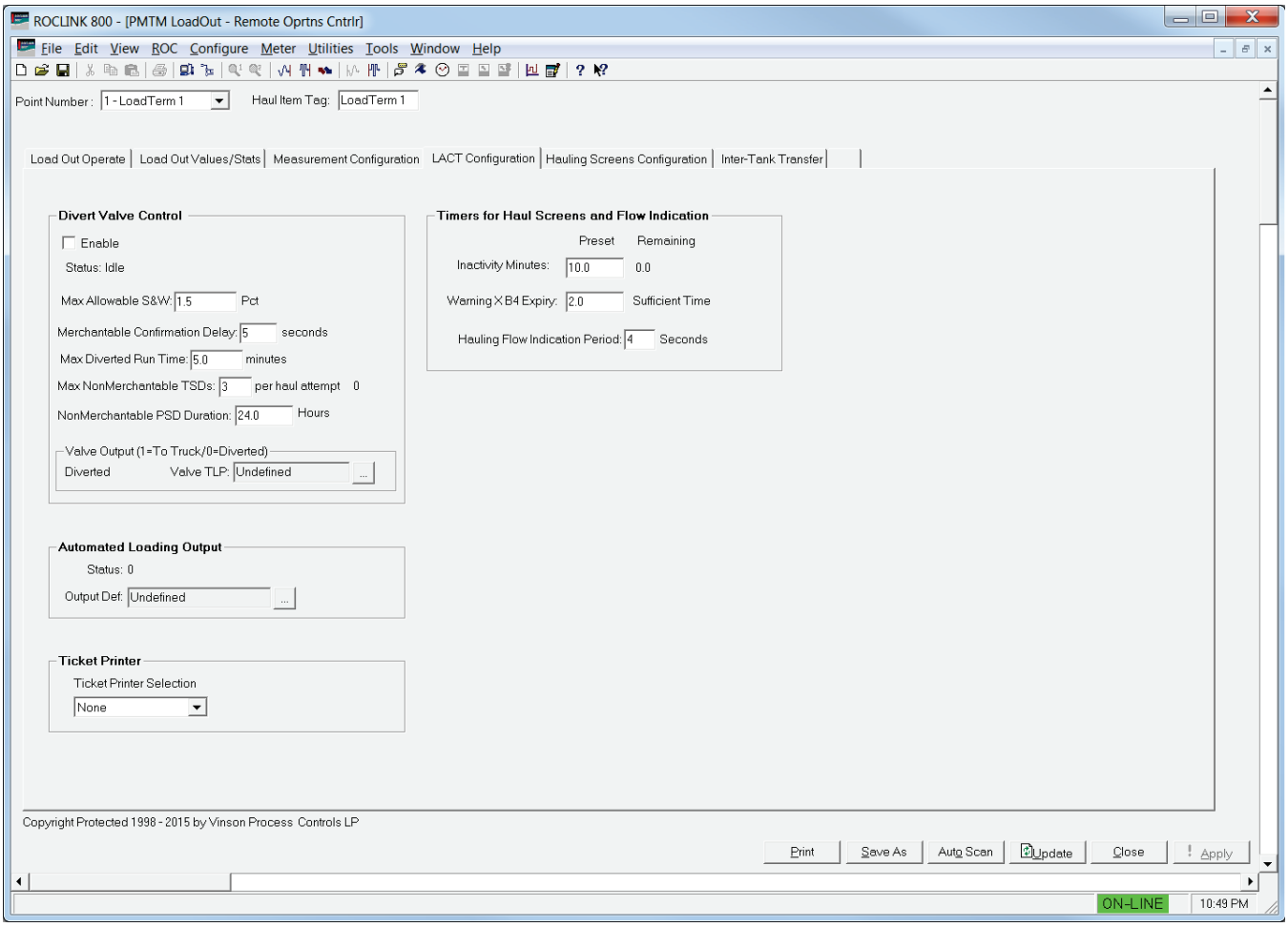


Figure 28. Load Out Screen – LACT Configuration tab

1. Review the values in the following fields.

Field	Description
Divert Valve Control	
Enable	Select to enable diverter valve control. If no diverter valve is available in the system, this option should remain unchecked.
Status	This read only field provides an indication of the "Merchantable" status of the product. The follow indications can be provided: **Idle**, **Non-Merchantable**, **Merchantable**, **TSD – Divert Time Exceeded**, **PSD – Max TSDs have Occurred**, **Invalid S&W Signal**.

Field	Description
Max Allowable S&W	Enter a percentage (between 0% and 100%) that is the maximum allowed sediment and water percentage reading that is allowed to occur during a haul. If the live value exceeds this limit during a haul (for the number of confirmation delay sections), the flow should be diverted.
Merchantable Delay	The number of sections that the S&W percentage must be above the max allowable threshold, before the flow is diverted.
Max Diverted Run Time	Should the flow become diverted, this defines the maximum number of minutes that the diverted state is allowed, before the haul should be aborted (shut down via a TSD).
Max NonMerchantable TSDs	If multiple TSD (Temporary Shut Down) events occur sequentially (due to a non-merchantable product state) while attempting to perform a haul, this is only allowed to occur the number of times as configured in this field. Should the maximum number of TSDs occur, then the loadout will enter a state of PSD (Permanent Shut Down), and will be unable to proceed with new hauls for a duration of time.
NonMerchantable PSD	If a PSD occurs due to too many failed haul attempts, the system will no longer allow additional hauls. Hauling can resume after the number of hours configured in this field are passed.
Valve Output (1=To Truck/0=Diverted)	Provides an indication of the current state of the diverter valve.
Valve TLP	Used to define a discrete output point which controls the diverter valve. Click … to display the Select TLP screen and define a TLP to hold the Top gauge input value.
Automated Loading Output	
Status	Shows the status of the output valve. A status of **0** means the valve is closed. A status of **1** means the valve is open.
Output Def:	Click … to display the Select TLP screen and define a TLP to hold the Top gauge input value.
Ticket Printer Selection	Define the printer type to be used.
Timers for Haul Screen and Flow Indication	

Field	Description
Inactivity Minutes	Defines the time allowed where no action has been taken and no flow has been detected before closing out a haul in progress. This timer will be reset when flow is detected or when you complete any action during the haul. You also extend the haul, which adds the inactivity minutes to the current time remaining before a closeout.
Warning X B4 Expiry	Defines the time remaining in which a warning will be given to you. When the inactivity minutes are below this value, you will be notified with a warning.
Hauling Flow Indication Period	Number of consecutive seconds required before the program recognizes that flow is in progress during a haul. If the appearance of flow from an associated meter exists for less than this time period, that state is not considered to be an indication of flow.

2. Proceed to *Section 3.5.5* to configure the Hauling Screens Configuration tab.

3.5.5 PMTM Load Out – Hauling Screens Configuration Tab

Use this screen to configure what fields are displayed during a haul and which fields require you to enter values when hauling.

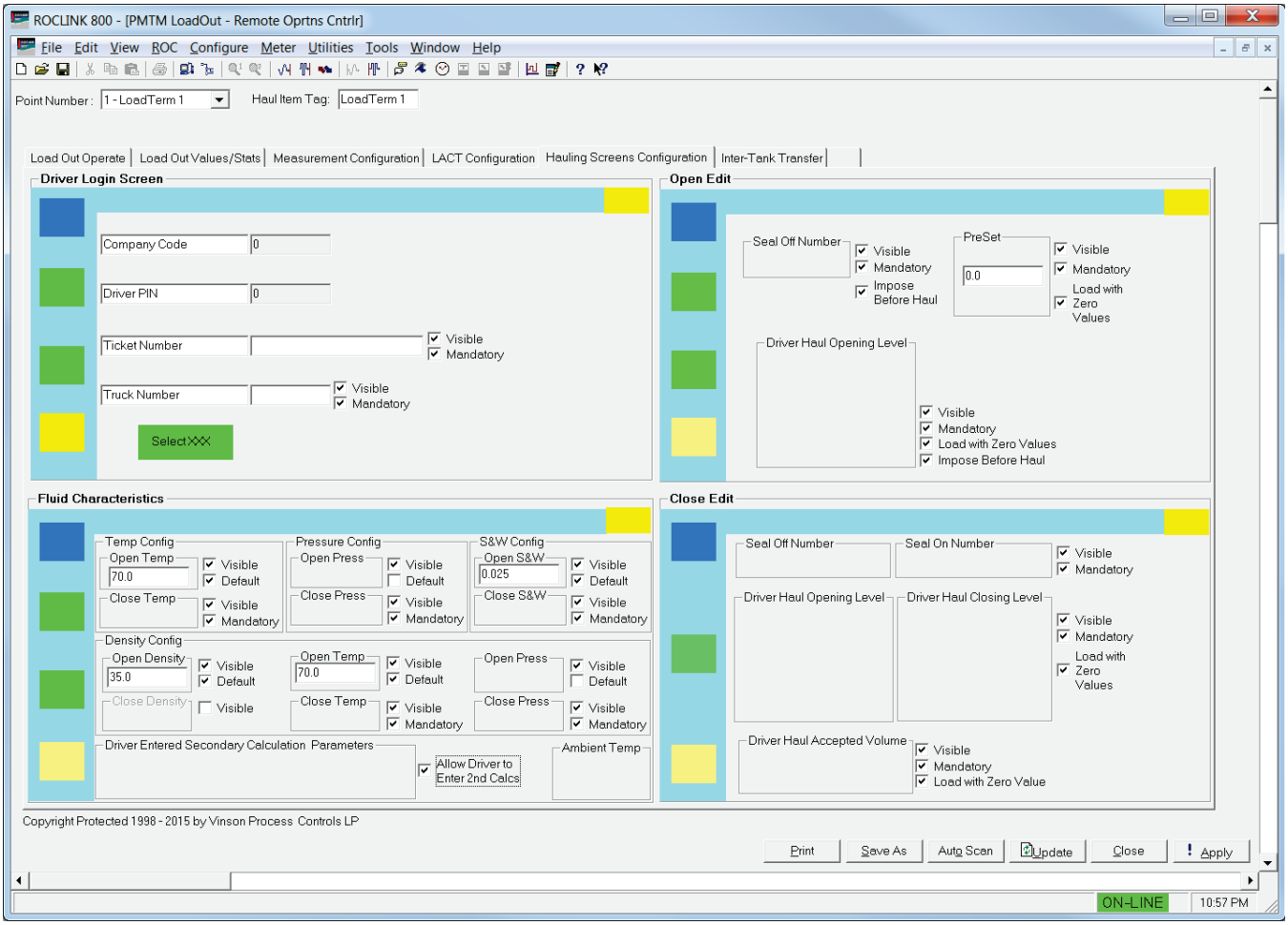


Figure 29. Load Out Screen – Hauling Screens Configuration tab

3. Review the values in the following fields.

Field	Description
Point Number	Identifies the loading terminal. Click ▼ to display all defined loading terminals. **Note**: This field appears on all Load Out tabs.
Haul Item Tag	Identifies the name of the HMI terminal as defined on the HMI Instance Tag. Note: This field appears on all Load Out tabs.

Driver Login Screen	
Company Code	Defines the numerical credentials of the company. When the driver enters a company code on the HMI, the program verifies and validates the code against the ROC Hauler Database (see *Section 3.3*) and shows the result in the Company Verified field. The program displays the validated company name in the Company Verified field.
Driver Pin	Defines the driver's numerical credentials. When the driver enters a driver code on the HMI, the program verifies and validates the code against the Hauler Companies Database (see *Section 3.3*) and shows the result in the Driver Verified field.
Ticket Number	Provides the ticket number. This optional 20-character field may be contractually required by an agreement with the owner. The program records this information in the haul log. **Visible:** When you enable this option, this field becomes visible on the Load Out screen for you to enter values. However, you are not required to enter a value unless you enable **Mandatory.** **Mandatory:** When you enable this option, you must enter a non-zero number into this field for you to advance to the next stage of the haul.
Truck Number	Provides the truck number. This optional 20-character field may be contractually required by an agreement with the owner. The program records this information in the haul log. **Visible:** When you enable this option, this field becomes visible on the Load Out screen for you to enter values. However, you are not required to enter a value unless you enable **Mandatory**. **Mandatory:** When you enable this option, you must enter a non-zero number into this field. You will not be able to advance to the next stage of the haul without entering a value in mandatory fields.

Fluid Chracteristics **Visible:** When you enable this option, this field becomes visible on the Load Out screen for you to enter values. However, you are not required to enter a value unless you enable **Mandatory**. **Mandatory:** When you enable this option, you must enter a non-zero number into this field. You will not be able to advance to the next stage of the haul without entering a value in mandatory fields. This field shows **only** when you enable **Visible**. These values override the manual entries as defined on the Measurement Configuration if don't define an input. If you define an input, it takes predence over the Default values you enter on the Hauling Screens Configuration tab. **Visible:** When you enable this option, this field becomes visible on the Load Out screen for you to enter values. However, you are not required to enter a value unless you enable **Mandatory**. **Default:** The fluid characteristics can be given a default value to be used for a haul when there are no live inputs available on the Tank or through the Load Out. This field shows **only** when you enable **Visible.**	
Temp Config	Defines the temperature visibility (Open and Close), default value (Open), and mandatory requirement (Close) selections.
Open Temp	The available selections are: **Visible** **Default** See **Fluid Characteristics** field for the definitions.
Close Temp	The available selections are: **Visible** **Mandatory** See **Fluid Characteristics** field for the definitions.
Pressure Config	Defines the pressure visibility (Open and Close), default value (Open), and mandatory requirement (Close) selections.
Open Press	The available selections are: **Visible** **Default** See **Fluid Characteristics** field for the definitions.
Close Press	The available selections are: **Visible** **Mandatory** See **Fluid Characteristics** field for the definitions.
S&W Config	Defines the S&W visibility (Open and Close), default value (Open), and mandatory requirement (Close) selections.

Open S&W	The available selections are: **Visible** **Default** See **Fluid Characteristics** field for the definitions.
Close S&W	The available selections are: **Visible** **Mandatory** See **Fluid Characteristics** field for the definitions.
Density Config	Defines the density visibility (Open and Close), default value (Open), and mandatory requirement (Close) selections.
Density Config > Open Density	The available selections are: **Visible** **Default** See **Fluid Characteristics** field for the definitions.
Density Config > Close Density	The available selections are: **Visible** **Mandatory** See **Fluid Characteristics** field for the definitions.
Density Config > Open Temp	The available selections are: **Visible** **Default** See **Fluid Characteristics** field for the definitions.
Density Config > Close Temp	The available selections are: **Visible** **Mandatory** See **Fluid Characteristics** field for the definitions.
Density Config > Open Press	The available selections are: **Visible** **Default** See **Fluid Characteristics** field for the definitions.
Density Config > Close Press	The available selections are: **Visible** **Mandatory** See **Fluid Characteristics** field for the definitions.

Allow Driver to Enter 2nd Calcs	When you use instrumentation for the haul fluid properties and you restrict driver to change that value, this field allows the driver to enter a separate manual values to provide a separate calculation based on these values in the Haul Log.
Driver Entered Secondary Calculation Parameters	Shows where the field would be seen on a Beijar Display if used, but has no configuration and does not display on the ROCLINK800 Load Out display.
Ambient Temp	Shows where the field would be seen on a Beijar Display if used, but has no configuration and does not display on the ROCLINK800 Load Out display.

Open Edit

Visible: When you enable this option, this field becomes visible on the Load Out screen for you to enter values. However, you are not required to enter a value unless you enable **Mandatory**.

Mandatory: When you enable this option, you must enter a non-zero number into this field. You will not be able to advance to the next stage of the haul without entering a value in mandatory fields. This field shows **only** when you enable **Visible**.

Load with Zero Values: When you enable this option, the Load with Zero Values forces the field to 0 for each new haul and does not populate automatically during a haul. This field works in tandem with the Mandatory checkbox to require a manual value in fields that would normally auto-populate based on the change in level of the Tank. When you do not enable this option, the fields auto-populate and pass mandatory validation with no manual values from the user. This field shows **only** when you enable **Visible**.

Impose Before Haul: When you enable this option, you are required to enter a non-zero value in this field before you are able to start a haul.This field shows **only** when you enable **Mandatory**.

Seal Off Number	Defines the seal off number visibility, mandatory requirement, and impose before haul selections. The available selections are: **Visible** **Mandatory** **Impose Before Haul** See **Open Edit** field for the definitions.
PreSet	Defines the preset visibility, mandatory requirement, and load with zero values selections. The available selections are: **Visible** **Mandatory** **Load with Zero Values** See **Open Edit** field for the definitions.

Driver Haul Opening Level	Defines the driver haul opening level visibility, mandatory requirement, load with zero values, and impose before haul selections. The available selections are: **Visible** **Mandatory** **Impose Before Haul** **Load with Zero Values** See **Open Edit** field for the definitions.

Close Edit

Visible: When you enable this option, this field becomes visible on the Load Out screen for you to enter values. However, you are not required to enter a value unless you enable **Mandatory**.

Mandatory: When you enable this option, you must enter a non-zero number into this field. You will not be able to advance to the next stage of the haul without entering a value in mandatory fields. This field shows **only** when you enable **Visible**.

Load with Zero Values: When you enable this option, the Load with Zero Values forces the field to 0 for each new haul and does not populate automatically during a haul. This field works in tandem with the Mandatory checkbox to require a manual value in fields that would normally auto-populate based on the change in level of the Tank. When you do not enable this option, the fields auto-populate and pass mandatory validation with no manual values from the user. This field shows **only** when you enable **Visible**.

Seal On Number	Defines the seal on number visibility and mandatory requirement selections. The available selections are: **Visible** **Mandatory** See **Close Edit** field for the definitions.
Driver Haul Closing Level	Defines the driver haul closing level visibility, mandatory requirement, and load with zero values selections. The available selections are: **Visible** **Mandatory** **Load with Zero Values** See **Close Edit** field for the definitions.
Driver Haul Accepted Volume	Defines the driver haul accepted volume visibility, mandatory requirement, and load with zero values selections. The available selections are: **Visible** **Mandatory** **Load with Zero Values** See **Close Edit** field for the definitions.

2. Proceed to *Section 3.5.6* to configure the Inter-Tank Transfer tab.

3.5.6 PMTM Load Out – Inter-Tank Transfer Tab

Use this screen to define how the program transfers fluids between tanks. Select the **Inter-tank Transfer** tab to display the screen.

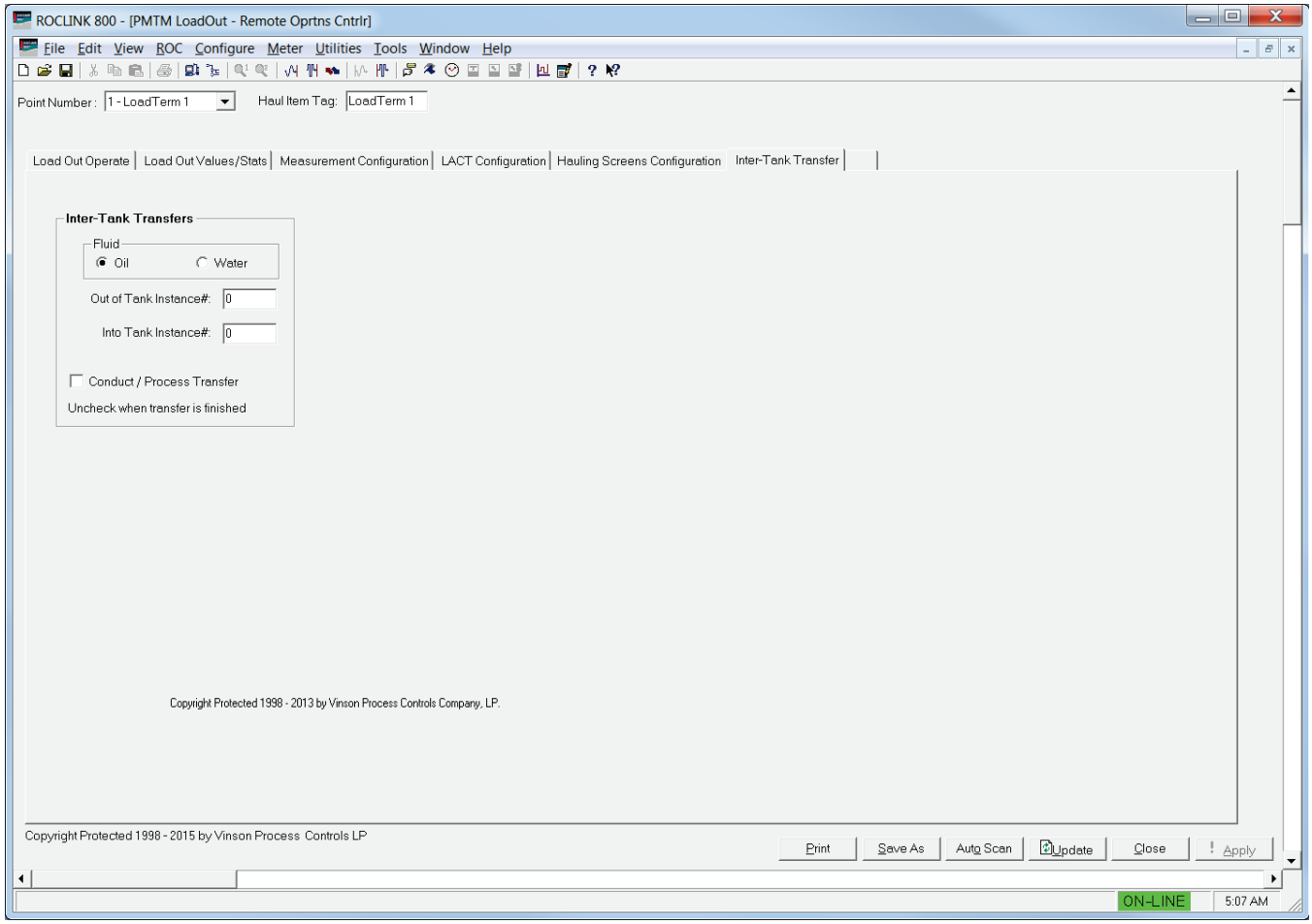


Figure 30. Load Out Screen – Inter-Tank tab

1. Review the values in the following fields.

Field	Description
Fluid	Select the fluid to be transferred. Valid values are **Oil** or **Water**.
Out of Tank Instance#	Specifies the tank the fluid will be coming out of.
Into Tank Instance#	Specifies the tank the fluid will be going in to.
Conduct / Process Transfer	Select to start the transfer process. Unselect this value when the transfer completes.

2. Proceed to *Section 3.6* to configure the PMTM Hauler Database screen.

3.6 PMTM Hauler Database

Use this screen and its component tabs to configure the company hauling database and set driver PINs.

To access this screen:

3. From the Directory Tree, double-click **User Program.**
4. Double-click one of the following:
   - For the ROC800: **Program #1, PMTM _v407_xx_24t12w**.
   - For the FB107: **PM Tank Manager**.
5. Double-click one of the following:
   - For the ROC800: **Display #232, PMTM Hauler Database**
   - For the FB107: **Display #84, PMTM Hauler Database**.

The **PMTM Hauler Database** screen displays, showing the Hauler 1-20 tab:

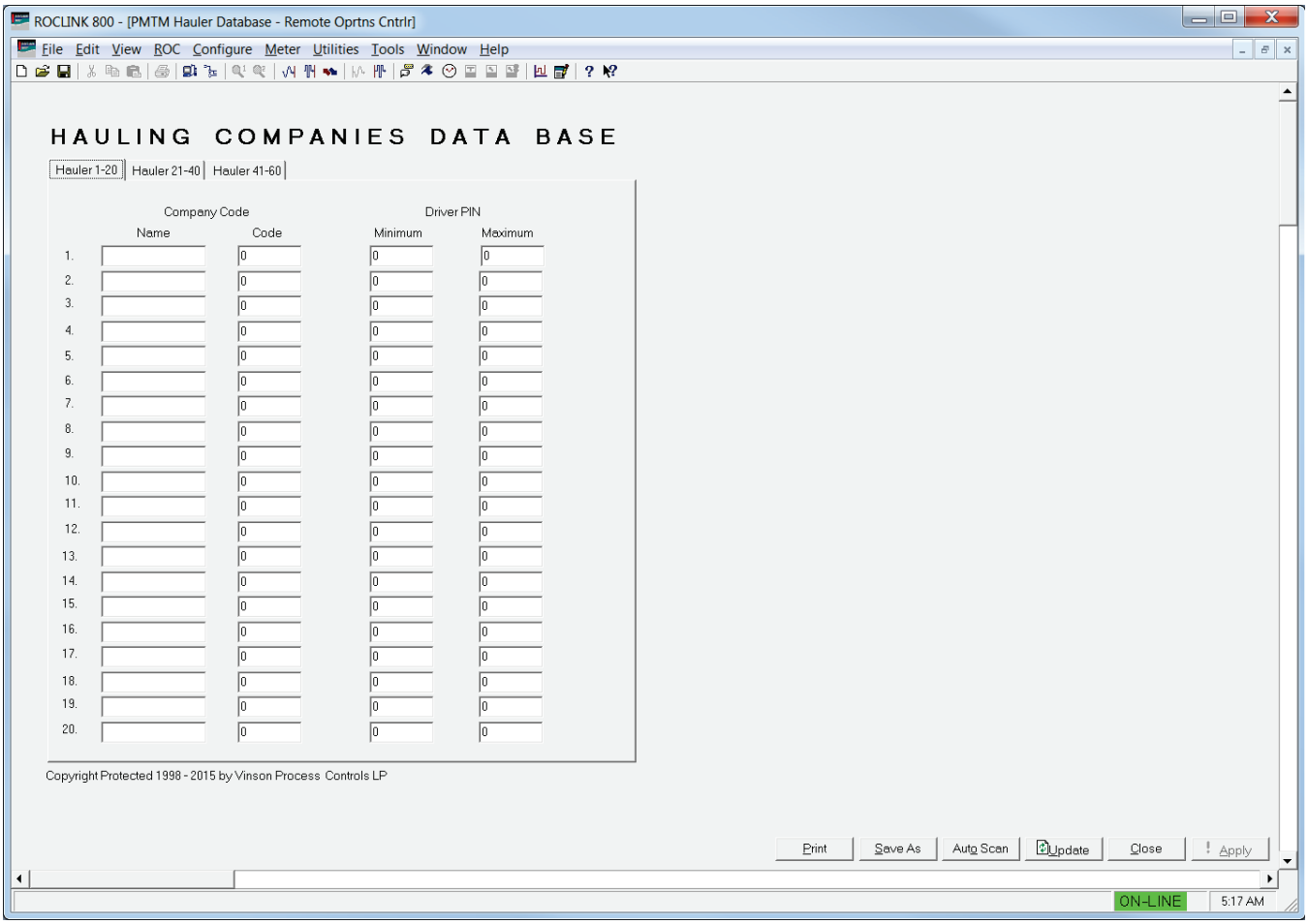


Figure 31. PMTM Hauler Database

1. Review the values in the following fields.

Note: This screen when delivered is initially blank. The values shown in the screen above are examples only.

Field	Description
Hauler 1-20, Hauler 21-40, Hauler 41-60	This screen provides 3 tabs allowing you to enter a maximum of 60 entires.
Company Name	Identifies the name of the truck hauling company. Enter a maximum of 10 alphanumeric characters.
Company Code	Identifies the code the driver enters to validate his company. Valid values are 1 to 65535.
Min Driver PIN	Indicates the lowest driver personal identification number for this company code. Valid values are 1 to 65535.
Max Driver PIN	Indicates the highest driver personal identification number for this company code. Valid values are 1 to 65535.

In the example screen, the first entry defines **ACME** as the truck hauling company with a company code of **1234** with valid driver PINs between **0** and **100**. The second entry, **ACME:Wylie**, adds Wylie as a driver's name and defines **1972** as the specific PIN for that driver. The third entry, **ACME/WHP34**, associates the company name with a truck number and sets a specific PIN (**3456**) for that truck.

2. Click Apply to save any changes.
3. Proceed to *Section 3.7* to save your configuration.

3.7 Saving Configuration

Whenever you modify or change a configuration, it is a good practice to save the final configuration to memory.

To save the configuration:

1. Select **ROC** > **Flags**. The Flags screen displays:

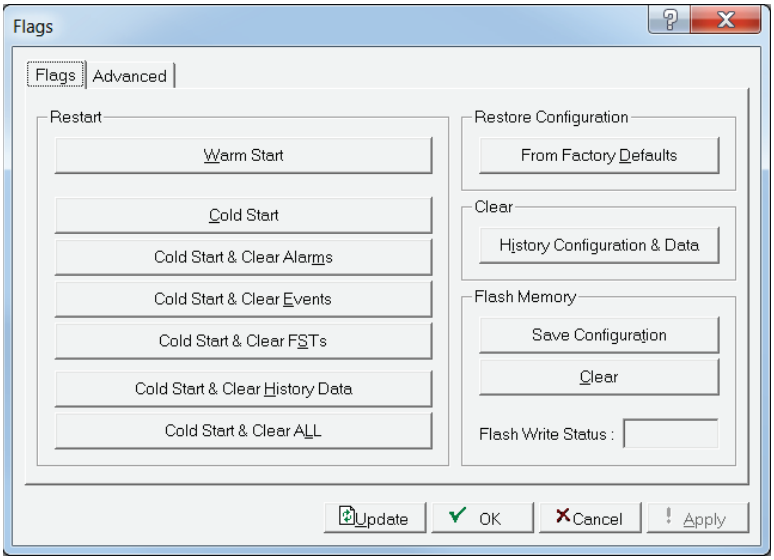


Figure 32. Flags screen

2. Click **Save Configuration**. A verification message displays:

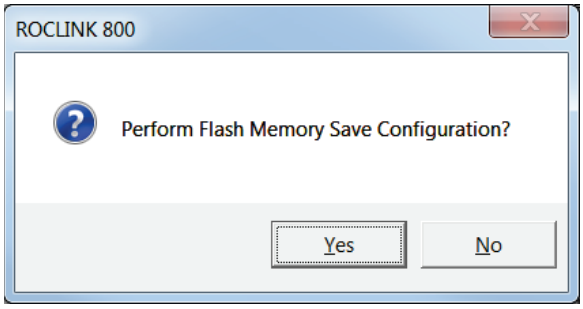


Figure 33. Perform screen

3. Click **OK** to begin the save process. The status field on the Flags screen displays *In Progress*. When the process ends, the Status fiel on the screen displays *Completed*.
4. Click **Update** on the Flags screen. This completes the process of saving your new configuration.

Note: For archive purposes, you should also save this configuration to your PC's hard drive or a removable media (such as a flash drive) using the **File** > **Save Configuration** option on the ROCLINK 800 menu bar.

Chapter 4 – Reference

This section provides tables of information on the user-defined point types the Tank Manager program uses.

The ROC800 and FB107 version of the Tank Manager program uses these point types:

For the ROC800

- Point Type 60 – PMTM Units
- Point Type 196 – PMTM Tanks and Aggregates
- Point Type 197 – PMTM Wells
- Point Type 198 – PMTM Logs
- Point Type 199 – PMTM Haul Ticketing
- Point Type 230 – PMTM Fluid Properties
- Point Type 231 – PMTM Haul Load Outs
- Point Type 232 – PMTM Hauler Database
- Point Type 233 – PMTM Haul Current Values
- Point Type 234 – PMTM Simulator

For the FB107

- Point Type 187 – PMTM Units
- Point Type 178 – PMTM Tanks and Aggregates
- Point Type 179 – PMTM Wells
- Point Type 180 – PMTM Logs
- Point Type 181 – PMTM Haul Ticketing
- Point Type 182 – PMTM Fluid Properties
- Point Type 183 – PMTM Haul Load Outs
- Point Type 184 – PMTM Hauler Database
- Point Type 185 – PMTM Haul Current Values

4.1 Point Type 60/187: PMTM Units

Point type 60 (for the ROC800) or point type 187 (for FB107) defines parameters for unit of measurements. The program supports up to 1 logical for point type 60 (for ROC800) or 1 logical for point type 187 (for FB107).

Point Type 60 (ROC800) or Point Type 187 (FB107): PMTM Units

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
0	Units Point Tag	R/W	User	String10	10	ASCII Chars	Prog Units	4.07.00	Units Point Tag
1	Time General	R/W	User	U8	1	0 -> 3	0	4.07.00	Indicates the units of Time. Valid values are: Time General 0 = Day 1 = Hr 2 = Min 3 = Sec
2	Pressure	R/W	User	U8	1	0 -> 3	0	4.07.00	Indicates the units of Pressure. Valid values are: Pressure 0 = Psi 1 = kPa 2 = Bar 3 = kg/cm2
3	Temperature	R/W	User	U8	1	0 -> 1	0	4.07.00	Indicates the units of Temperature. Valid values are: Temperature 0 = DegF 1 = DegC
4	Short Linear	R/W	User	U8	1	0 -> 2	0	4.07.00	Indicates the short linear units. Valid values are: Short Linear 0 = Inch 1 = mm 2 = cm
5	Long Linear	R/W	User	U8	1	0 -> 1	0	4.07.00	Indicates the long linear units. Valid values are: Long Linear 0 = Feet 1 = Meters

Point Type 60 (ROC800) or Point Type 187 (FB107): PMTM Units

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
6	Gas Volume	R/W	User	U8	1	0 -> 3	0	4.07.00	Indicates the volume units. Valid values are: Gas Volume 0 = Mcf 1 = Km3 2 = Ft3 3 = M3
7	Gas Rate Time	R/W	User	U8	1	0 -> 3	0	4.07.00	Indicates the gas rate units. Valid values are: Gas Rate Time 0 = Day 1 = Hr 2 = Min 3 = Sec
8	Liquid Volume	R/W	User	U8	1	0 -> 6	0	4.07.00	Indicates the liquid volume units. Valid values are: Liquid Volume 0 = Bbl 1 = Mcf 2 = Km3 3 = Gal 4 = Ft3 5 = M3 6 = L
9	Liquid Rate Time	R/W	User	U8	1	0 -> 3	0	4.07.00	Indicates the liquid rate units. Valid values are: Liquid Rate Time 0 = Day 1 = Hr 2 = Min 3 = Sec
10	Mass Volume	R/W	User	U8	1	0 -> 3	0	4.07.00	Indicates the mass volume units. Valid values are: Mass Volume 0 = Lb 1 = Kg 2 = Ton 3 = Tonne

Point Type 60 (ROC800) or Point Type 187 (FB107): PMTM Units

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
11	Mass Rate Time	R/W	User	U8	1	0 -> 3	1	4.07.00	Indicates the mass rate units of time. Valid values are: Mass Rate Time 0 = Day 1 = Hr 2 = Min 3 = Sec
12	Density	R/W	User	U8	1	0 -> 7	2	4.07.00	Indicates the units of density. Valid values are: Density 0 = Kg/m3 1 = G/Cm3 2 = Lb/Ft3 3 = Lb/Bbl 4 = Lb/Gal 5 = RelDen 6 = API Grav 7 = Kg/L
13	Velocity	R/W	User	U8	1	0 -> 3	2	4.07.00	Indicates the units of velocity. Valid values are: Velocity 0 = Ft/Sec 1 = M/Sec 2 = Ft/Min 3 = M/Min
14	Time General Tag	R/O	System	String7	7	ASCII Chars		4.07.00	Time General Tag
15	Pressure Tag	R/O	System	String7	7	ASCII Chars		4.07.00	Pressure Tag
16	Temperature Tag	R/O	System	String7	7	ASCII Chars		4.07.00	Temperature Tag
17	Short Linear Tag	R/O	System	String7	7	ASCII Chars		4.07.00	Short Linear Tag
18	Long Linear Tag	R/O	System	String7	7	ASCII Chars		4.07.00	Long Linear Tag
19	Gas Volume Tag	R/O	System	String7	7	ASCII Chars		4.07.00	Gas Volume Tag
20	Gas Rate Tag	R/O	System	String7	7	ASCII Chars		4.07.00	Gas Rate Tag
21	Liquid Volume Tag	R/O	System	String7	7	ASCII Chars		4.07.00	Liquid Volume Tag
22	Liquid Rate Tag	R/O	System	String7	7	ASCII Chars		4.07.00	Liquid Rate Tag
23	Mass Volume Tag	R/O	System	String7	7	ASCII Chars		4.07.00	Mass Volume Tag

Point Type 60 (ROC800) or Point Type 187 (FB107): PMTM Units

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
24	Mass Rate Tag	R/O	System	String7	7	ASCII Chars		4.07.00	Mass Rate Tag
25	Density Tag	R/O	System	String7	7	ASCII Chars		4.07.00	Density Tag
26	Velocity Tag	R/O	System	String7	7	ASCII Chars		4.07.00	Velocity Tag
27	Meter Diff Press	R/W	User	U8	1	0 -> 3	0	4.07.00	Indicates the units of diff pressure. Valid values are: Meter Diff Press 0 = InH2O 1 = KPa 2 = mBar
28	Meter Diff Press Tag	R/O	System	String7	7	ASCII Chars		4.07.00	Meter Diff Press Tag
29	Legal Description	R/W	User	String40	40	ASCII Chars		4.07.00	Legal Description
30	Next Haul Transaction Number	R/W	Both	U32	4	0 -> 4,294,967,295	0	4.07.00	Next Haul Transaction Number
31	Send SRX for Completed Hauls	R/W	User	U8	1	0 -> 1	0	4.07.00	Send SRX for Completed Hauls 0 = No 1 = Yes
32	Clear Haul Logs	R/W	User	U8	1	0 -> 1	0	4.07.00	Clear Haul Logs 0 = No 1 = Yes
33	Syncing Units from 800L	R/W	System	U8	1	0 -> 1	0	4.07.00	Syncing Units from 800L 0 = No 1 = Yes
344	Retrieve Hard SN	R/W	User	U32	4	0 -> 4294967295	0	4.07.00	Used to load a haul log into the detailed viewer, based on the internal record locator serial number.
35	Last Used Hard SN	R/W	System	U32	4	0 -> 4294967295	0	4.07.00	Internal record locator used for the last transaction. This value is not published as part of the external facing haul log record.
36	Last Used Trans Num	R/W	System	U32	4	0 -> 4294967295	0	4.07.00	The last transaction number presented as part of a haul log record.

4.2 Point Type 196/178: PMTM Tanks and Aggregates

Point type 196 (for ROC800) or point type 178 (for FB107) defines parameters for configuring tanks. The program supports up to 24 logicals of point type 196 (for ROC800) or 8 logicals of point type 178 (for FB107).

Point Type 196 (ROC800) or Point Type 178 (FB107): PMTM Tanks and Aggregates

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
0	Tank Tag	R/W	User	String10	10	Printable ASCII characters	Tank 1	4.00.00	Indicates a user-defined 10-character identifying tag
1	Tank Gauge Type	R/W	User	UINT8	1	0 → 1	0	4.00.00	Indicates the type of tank gauge. Valid values are **0** (Single Gauge) and **1** (Interfaced gauge; 2 gauges)
2	Tank Primary Fluid	R/W	User	UINT8	1	0 → 2	0	4.00.00	Indicates the primary fluid for the tank. Valid values are: 0 = Oil (Hydrocarbon) 1 = Water 2 = Both fluids
3	Strapping I-Factor	R/W	System	Float	4	Positive Float Number	1.67	4.00.00	Volume in barrels per inch height
4	Qty Equalized Tnks	R/W	User	UINT8	1		1	4.00.00	Quantity of tanks for a single gauge
5	Tank Volume Capacity	R/W	System	Float	4	Positive Float Number	400	4.00.00	Volume in barrels at full capacity
6	Is a Horizontal Tank	R/W	User	UINT8	1	0 → 1	0	4.00.00	Indicates whether the tank is horizontal. Valid values are **0** (vertical tank) and **1** (horizontal tank with flat sides)
7	Horizontal Tank Diameter Ft	R/W	User	Float	4	Positive Float Number	11.9571	4.00.00	Vertical height of horizontal tank in feet
8	Horizontal Length Ft	R/W	User	Float	4	Positive Float Number	20	4.00.00	Length (flat to flat) of horizontal tank.
9	Tank Contract Hour	R/W	User	UINT8	1	0 → 23	0	4.00.00	Rollover hour for tank

Point Type 196 (ROC800) or Point Type 178 (FB107): PMTM Tanks and Aggregates

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
10	Lev Gauge Unit	R/W	User	UINT8	1	0 → 3		4.00.00	Indicates the level gauge unit. Valid values are: 0 = Gauger Indicates Volume 1 = Gauger Indicates Long Linear 2 = Gauger Indicates Short Linear 3 = Gauger Indicates Long & Short Linear (2 Values)
11	Prod + Haul Enable Oil	R/W	User	UINT8	1	0 → 1	0	4.00.00	Indicates whether the program calculates production or haul values for oil. Valid values are**:** 0 = Do Not Calc Production or Haul Volumes 1 = Calculate Production or Haul Volumes
12	Prod + Haul Enable Water	R/W	User	UINT8	1	0 → 1	0	4.00.00	Indicates whether the program calculates production or haul values for water. Valid values are: 0 = Do Not Calc Production or Haul Volumes 1 = Calculate Production or Haul Volumes
13	Top Level Gauge TLP	R/W	User	TLP	3	Any TLP of Float Value	Undefined	4.00.00	TLP for gauge value of top fluid
14	Water Level Gauge TLP	R/W	User	TLP	3	Any TLP of Float Value	Undefined	4.00.00	TLP for gauge value of oil/water interface
15	Disp/Transf Meter TLP Oil	R/W	User	TLP	3	Any TLP of Float Value	Undefined	4.00.00	TLP for hydrocarbon (off-premise) disposal
16	Disp/Transf Meter TLP Wtr	R/W	User	TLP	3	Any TLP of Float Value	Undefined	4.00.00	TLP for water (off-premise) disposal
17	Dispos/Transf Mtr Enb Oil	R/W	User	UINT8	1	0 → 1	0	4.00.00	Indicates whether the program enables off-premise disposal metering for oil. Valid values are **0** (No; disable off-premise disposal metering) and **1** (Yes; enable metering)

Point Type 196 (ROC800) or Point Type 178 (FB107): PMTM Tanks and Aggregates

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
18	Dispos/Transf Mtr Enb Wtr	R/W	User	UINT8	1	0 → 1	0	4.00.00	Indicates whether the program enables off-premise disposal metering for water. Valid values are **0** (No; disable off-premise disposal metering) and **1** (Yes; enable metering)
19	Trans Meter Dest Tank Oil	R/W	None	UINT8	1		0	4.00.00	
20	Trans Meter Dest Tank Wtr	R/W	None	UINT8	1		0	4.00.00	
21	Auto-Detect Hauls Oil	R/W	User	UINT8	1	0 → 1	0	4.00.00	Indicates whether the program can auto-detect hauls for oil. Valid values are **0** (No; disable auto-detection of hauls) and **1** (Yes; enable auto-detection)
22	Auto-Detect Hauls Wtrl	R/W	User	UINT8	1	0 → 1	0	4.00.00	Indicates whether the program can auto-detect hauls for water. Valid values are **0** (No; disable auto-detection of hauls) and **1** (Yes; enable auto-detection)
23	Minim Haul Vol Oil	R/W	User	Float	4	Positive Float Number	15	4.00.00	Minimum volume of oil to trigger an auto-detect
24	Minim Haul Vol Wtr	R/W	User	Float	4	Positive Float Number	15	4.00.00	Minimum volume of water to trigger an auto-detect
25	Oil Column Height LLin	R/O	System	Float	4	Zero or Positive Float Data		4.00.00	Height (LLin) of Oil Column in Tank
26	Water Column Height Llin	R/O	System	Float	4	Zero or Positive Float Data		4.00.00	Height (LLin) of Water Column in Tank
27	Cur Top Gauge Llin	R/O	System	Float	4	Zero or Positive Float Data		4.00.00	Height (LLin) of Fluid Column in Tank
28	Level Dampening Method	R/W	User	UINT8	1		0	4.00.00	Method used to dampen
29	Level Dampening Periods	R/W	User	UINT8	1		10	4.00.00	Samples considered in current level
30	Current Volume Oil	R/W	System	Float	4	Zero or Positive Float Data		4.00.00	Oil volume in barrels in tank
31	Current Volume Wtr	R/W	System	Float	4	Zero or Positive Float Data		4.00.00	Water volume in barrels in tank

Point Type 196 (ROC800) or Point Type 178 (FB107): PMTM Tanks and Aggregates

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
32	Current Tank Vol All Liquids	R/W	System	Float	4	Zero or Positive Float Data		4.00.00	Fluid volume in barrels in tank
33	Tdy Opening Volume Oil	R/W	System	Float	4	Zero or Positive Float Data		4.00.00	Volume in barrels of oil at contract hour
34	Tdy Opening Volume H2O	R/W	System	Float	4	Zero or Positive Float Data		4.00.00	Volume in barrels of water at contract hour
35	Cycle Open :Low Vol Oil	R/W	System	Float	4	Zero or Positive Float Data		4.00.00	Volume in barrels of oil at end of previous haul
36	Cycle Open Low Vol Wtr	R/W	System	Float	4	Zero or Positive Float Data		4.00.00	Volume in barrels of water at end of previous haul
37	Cycle High Vol Oil	R/W	System	Float	4	Zero or Positive Float Data		4.00.00	Greatest volume in barrels of oil in tank since previous haul
38	Cycle High Vol Wtr	R/W	System	Float	4	Zero or Positive Float Data		4.00.00	Greatest volume in barrels of oil in tank since previous haul
39	Vol Produced Today Oil	R/W	System	Float	4	Zero or Positive Float Data		4.00.00	Volume in barrels of oil produced into tank today
40	Vol Produced Today Wtr	R/W	System	Float	4	Zero or Positive Float Data		4.00.00	Volume in barrels of oil produced into tank today
41	Vol Prod Yday Oil	R/W	System	Float	4	Zero or Positive Float Data		4.00.00	Volume in barrels of oil produced into tank yesterday
42	Vol Prod Yday Wtr	R/W	System	Float	4	Zero or Positive Float Data		4.00.00	Volume in barrels of water produced into tank yesterday
43	Vol Hauled Today Oil	R/W	System	Float	4	Zero or Positive Float Data		4.00.00	Volume in barrels of oil hauled from tank today.
44	Vol Hauled Today Wtr	R/W	System	Float	4	Zero or Positive Float Data		4.00.00	Volume in barrels of water hauled from tank today.
45	Vol Hauled Yday Oil	R/W	System	Float	4	Zero or Positive Float Data		4.00.00	Volume in barrels of oil hauled from tank yesterday.
46	Vol Hauled Yday Wtr	R/W	System	Float	4	Zero or Positive Float Data		4.00.00	Volume in barrels of water hauled from tank yesterday.
47	Times Hauled Tdy Oil	R/W	System	UINT16	2	0 → 65535		4.00.00	Number of oil hauls today
48	Times Hauled Tdy Wtr	R/W	System	UINT16	2	0 → 65535		4.00.00	Number of water hauls today

Point Type 196 (ROC800) or Point Type 178 (FB107): PMTM Tanks and Aggregates

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
49	Times Hauled Yday Oil	R/W	System	UINT16	2	0 → 65535		4.00.00	Number of oil hauls yesterday
50	Time Hauled Yday Wtr	R/W	System	UINT16	2	0 → 65535		4.00.00	Number of water hauls yesterday
51	VolMetered Tdy Oil	R/W	System	Float	4	Zero or Positive Float Data		4.00.00	Volume of oil disposal metered today
52	VolMetered Tdy Wtr	R/W	System	Float	4	Zero or Positive Float Data		4.00.00	Volume of water disposal metered today
53	Vol Metered Yday Oil	R/W	System	Float	4	Zero or Positive Float Data		4.00.00	Volume of oil disposal metered yesterday
54	Vol Metered Yday Wtr	R/W	System	Float	4	Zero or Positive Float Data		4.00.00	Volume of oil disposal metered yesterday
55	Cur Accnt Mark Oil	R/W	System	Float	4	Zero or Positive Float Data		4.00.00	Internal usage – production mark for oil
56	Cur Accnt Mark Wtr	R/W	System	Float	4	Zero or Positive Float Data		4.00.00	Internal usage – production mark for water
57	Haul InProg Flag Oil	R/W	System	UINT8	1	0 → 1		4.00.00	Indicates whether an oil haul is in progress. Valid values are **0** (No haul in progress) and **1** (Haul in progress)
58	Haul InProg Flag Wtr	R/W	System	UINT8	1	0 → 1		4.00.00	Indicates whether a water haul is in progress. Valid values are **0** (No haul in progress) and **1** (Haul in progress)
59	Vol Short from Hi Oil	R/W	System	Float	4	Zero or Positive Float Data		4.00.00	Oil volume below highest measured for this cycle.
60	Vol Short from Hi Wt	R/W	System	Float	4	Zero or Positive Float Data		4.00.00	Water volume below highest measured for this cycle.
61	Max Vol Per Haul Oil	R/W	User	Float	4	Zero or Positive Float Data	200	4.00.00	Maximum oil volume for single auto-detect ticket
62	Max Vol Per Haul Wtr	R/W	User	Float	4	Zero or Positive Float Data	180	4.00.00	Maximum water volume for single auto-detect ticket
63	Gage Max EU	R/W	User	Float	4	Zero or Positive Float Data	240	4.00.00	Maximum valid EUs for Gauger

Point Type 196 (ROC800) or Point Type 178 (FB107): PMTM Tanks and Aggregates

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
64	Gauger Code Oil	R/W	System	UINT8	1	0 → 15 Bitwise	0	4.00.00	Indicates the gauger status for oil. Valid values are: Bit 0 = Gauger Rate of Change > Limit Bit 1 = Change in Single Scan Exceeded Max Bit 2 = Cur Gauger Value is Out of Range Bit 3 = High Alarm
65	Gauger Code Wtr	R/W	System	UINT8	1	0 → 15 Bitwise	0	4.00.00	Indicates the gauger status for oil. Valid values are: Bit 0 = Gauger Rate of Change > Limit Bit 1 = Change in Single Scan Exceeded Max Bit 2 = Cur Gauger Value is Out of Range Bit 3 = High Alarm
66	Haul Inactive Mins Oil	R/W	System	UINT8	1	0 → 255		4.00.00	Minutes of no volume to close auto-detect oil haul
67	Haul Inactive Mins Wtr	R/W	System	UINT8	1	0 → 255		4.00.00	Minutes of no volume to close auto-detect water haul
68	Cur Pct of Tank Capacity	R/O	System	Float	4			4.00.00	Current fluid volume percent of maximum volume
69	MxLevelChg SLin/Mte	R/W	User	UINT8	1	0	0	4.00.00	Maximum valid level rate change (in inches/minute)
70	Max 1Scan Dev SLin	R/W	User	UINT8	1	0	0	4.00.00	Maximum level change in value for a single scan
71	Liquids Flags for Tanks	R/W	User	UINT8	1	0,1,2,8,16	0	4.00.00	Activates system processing. Valid values are: 0 = No action 1 = Force end of day 2 = Force end of month 8 = Cold start tank 16 = Clear Haul Log -> Strapping Table
72	Cur Level LLin Oil	R/O	System	UINT8	1	0 → 255		4.00.00	Current level of oil in feet

Point Type 196 (ROC800) or Point Type 178 (FB107): PMTM Tanks and Aggregates

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
73	Cur Level LLin Wtr	R/O	System	UINT8	1	0 → 255		4.00.00	Current level of water in feet
74	Cur Level LLin Top	R/O	System	UINT8	1	0 → 255		4.00.00	Current top (fluid) level in feet
75	Cur Level SLin Oil	R/O	System	UINT8	1	0 → 11		4.00.00	Current oil level (in inches)
76	Cur Level SLin Wtr	R/O	System	UINT8	1	0 → 11		4.00.00	Current water level (in inches)
77	Cur Level SLin Top	R/O	System	UINT8	1	0 → 11		4.00.00	Current top (fluid) level (in inches)
78	Cur Level FLin Oil	R/O	System	UINT8	1	0 → 3		4.00.00	Current oil level (in quarter inches)
79	Cur Level FLin Wtr	R/O	System	UINT8	1	0 → 3		4.00.00	Current water level (in quarter inches)
80	Cur Level FLin Top	R/O	System	UINT8	1	0 → 3		4.00.00	Current top (fluid) level (in quarter inches)
81	Level in Short Linear Oil	R/O	System	Float	4	Zero or Positive Float Data		4.00.00	Current oil level (in inches)
82	Level in Short Linear Wtr	R/O	System	Float	4	Zero or Positive Float Data		4.00.00	Current water level (in inches)
83	Level in Short Linear Top	R/O	System	Float	4	Zero or Positive Float Data		4.00.00	Current top (fluid) level (in inches)
84	General Haul Log Oil	R/W	User	UINT8	1	0 → 1	0	4.00.00	Indicates whether the program generates a log entry for each oil haul. Valid values are **0** (do not generate a log entry) and **1** (generate a log entry)
85	Generate Haul Log Wtr	R/W	User	UINT8	1	0 → 1	0	4.00.00	Indicates whether the program generates a log entry for each water haul. Valid values are **0** (do not generate a log entry) and **1** (generate a log entry)
86	Prod Vol Accum Oil	R/W	System	UINT32	4	0 → 4,294,967,295		4.00.00	Accumulated oil production (in barrels)
87	Prod Vol Accum Wtr	R/W	System	UINT32	4	0 → 4,294,967,295		4.00.00	Accumulated water production (in barrels)
88	Prod Vol Acc Modulus Oil	R/W	System	Float	4	0 → 1 Float Data		4.00.00	Fractional part of accumulated oil production

Point Type 196 (ROC800) or Point Type 178 (FB107): PMTM Tanks and Aggregates

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
89	Prod Vol Acc Modulus Wtr	R/W	System	Float	4	0 → 1 Float Data		4.00.00	Fractional part of accumulated water production
90	Haul Vol Accum Oil	R/W	System	UINT32	4	0 → 4,294,967,295		4.00.00	Accumuiated oil haul (in barrels)
91	Haul Vol Accum Wtr	R/W	System	UINT32	4	0 → 4,294,967,295		4.00.00	Accumuiated water haul (in barrels)
92	Haul Vol Acc Modulus Oil	R/W	System	Float	4	0 → 1 Float Data		4.00.00	Fractional part of accumulated oil haul (in barrels)
93	Haul Vol Acc Modulus Wtr	R/W	System	Float	4	0 → 1 Float Data		4.00.00	Fractional part of accumulated water haul (in barrels)
94	Vol Prod TMonth Oil	R/W	System	Float	4	Zero or Positive Float Data		4.00.00	Oil volume (in barrels) produced into tank this month
95	Vol Prod TMonth Wtr	R/W	System	Float	4	Zero or Positive Float Data		4.00.00	Water volume (in barrels) produced into tank this month
96	Vol Prod PMonth Oil	R/W	System	Float	4	Zero or Positive Float Data		4.00.00	Oil volume (in barrels) produced into tank previous month
97	Vol Prod PMonth Wtr	R/W	System	Float	4	Zero or Positive Float Data		4.00.00	Water volume (in barrels) produced into tank previous month
98	Use Infer Prod WHaul Oil	R/W	User	UINT8	1	0 → 1	0	4.00.00	Indicates whether the program calculates and adds an inferred oil production volume. Valid values are **0** (do not calculate inferred production volume) and **1** (calculate and add inferred production volume)
99	Use Infer Prod WHaul Wtr	R/W	User	UINT8	1	0 → 1	0	4.00.00	Indicates whether the program calculates and adds an inferred water production volume. Valid values are **0** (do not calculate inferred production volume) and **1** (calculate and add inferred production volume)
100	Infer Prod Vol WHaul Tdy Oil	R/W	System	Float	4	Zero or Positive Float Data		4.00.00	Inferred oil volume produced during hauls today
101	Infer Prod Vol WHaul Wtr	R/W	System	Float	4	Zero or Positive Float Data		4.00.00	Inferred water volume produced during hauls today

Point Type 196 (ROC800) or Point Type 178 (FB107): PMTM Tanks and Aggregates

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
102	Infer Prod Vol WHaul Ydy Oil	R/W	System	Float	4	Zero or Positive Float Data		4.00.00	Inferred oil volume produced during hauls yesterday
103	Infer Prod Vol WHaul Ydy Wtr	R/W	System	Float	4	Zero or Positive Float Data		4.00.00	Inferred water volume produced during hauls yesterday
104	Is Tank or Aggr or hMtr Oil	R/W	User	UINT8	1	0 → 2		4.00.00	Indicates tank type. Valid values are: 0 = Tank 1 = Tank aggregate 2 = Meter for hauling only (no level gauges)
105	Tank/Aggr Num Oil	R/W	User	UINT8	1	0 → 255	0	4.00.00	Numerical designation for oil aggregate
106	Tank/Aggr Num Wtr	R/W	User	UINT8	1	0 → 255	0	4.00.00	Numerical designation for water aggregate
107	Member of AggrNum Oil	R/W	User	UINT8	1		0	4.00.00	Aggregate number for oil in tank
108	Member of AggrNum Wtr	R/W	User	UINT8	1		0	4.00.00	Aggregate number for water in tank
109	Haul Meas Method Oil	R/W	User	UINT8	1	0 → 1	0	4.00.00	Indicates the method for measuring hauled oil. Valid values are **0** (use change in tank level) and **1** (use ROC800L meter instance)
110	Haul Meas Method Wtr	R/W	User	UINT8	1	0 → 2	0	4.00.00	Indicates the method for measuring hauled water. Valid values are: 0 = Use change in tank level 1 = Use ROC800L meter instance 2 = Use Water Meter (Pulse Input)
111	PM Haul Obj Num Oil	R/W	User	UINT8	1	0 → 255	0	4.00.00	Unique number for driver's selection to haul
112	PM Haul Obj Num Wtr	R/W	User	UINT8	1	0 → 255	0	4.00.00	Unique number for driver's selection to haul
113	Actual Haul Mtr TLP Oil	R/W	User	TLP	3	Any UDP 204 instance	Undefined	4.00.00	TLP of the ROC800L meter
114	Actual Haul Mtr TLP Wtr	R/W	User	TLP	3	Any UDP 204 or PI instance	Undefined	4.00.00	TLP of the ROC800L meter or water meter (PI)
115	Clear Haul History Oil	R/W	None	UINT8	1		0	4.00.00	None – use Tank Flags, parm 71.

Point Type 196 (ROC800) or Point Type 178 (FB107): PMTM Tanks and Aggregates

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
116	Clear Haul History Wtr	R/W	None	UINT8	1		0	4.00.00	None – use Tank Flags, parm 71.
117	Cur Contract Day	R/W	System	UINT8	1			4.00.00	System's current contract day for tank
118	Cur Contract Month	R/W	System	UINT8	1			4.00.00	System's current contract month for tank
119	Cur Stock Slope Oil	R/O	System	Float	4	Zero or Positive Float Data		4.00.00	Current oil level trend (in inches/minute)
120	Cur Stock Slope Wtr	R/O	System	Float	4	Zero or Positive Float Data		4.00.00	Current water level trend (in inches/minute)
121	Proc Inv Mark Volume Oil	R/W	System	Float	4	Zero or Positive Float Data		4.00.00	Volume marker for beginning of oil haul
122	Proc Inv Mark Volume Water	R/W	System	Float	4	Zero or Positive Float Data		4.00.00	Volume marker for beginning of water haul
123	Input Level LLin Oil	R/O	System	Float	4	Zero or Positive Float Data		4.00.00	Oil level value without faults or averaging
124	Input Level LLin Water	R/O	System	Float	4	Zero or Positive Float Data		4.00.00	Water level value without faults or averaging
125	Raw Level LLin Oil	R/O	System	Float	4	Zero or Positive Float Data		4.00.00	Oil level value without averaging
126	Raw Level LLin Water	R/O	System	Float	4	Zero or Positive Float Data		4.00.00	Water level value without averaging
127	Raw Inventory Oil	R/O	System	Float	4	Zero or Positive Float Data		4.00.00	Oil volume without Gauger averaging
128	Raw Inventory Water	R/O	System	Float	4	Zero or Positive Float Data		4.00.00	Water volume without Gauger averaging
129	Inventory Damp POT Oil	R/O	System	Float	4	Zero or Positive Float Data		4.00.00	Summation of oil volumes for averaging
130	Inventory Damp POT Water	R/O	System	Float	4	Zero or Positive Float Data		4.00.00	Summation of water volumes for averaging
131	Inventory Damp Samp Oil	R/O	System	UINT8	1			4.00.00	Number of oil volume samples in current average

Point Type 196 (ROC800) or Point Type 178 (FB107): PMTM Tanks and Aggregates

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
132	Inventory Damp Samp Water	R/O	System	UINT8	1			4.00.00	Number of water volume samples in current average
133	Inventory Oldest Avg Oil	R/O	System	Float	4	Zero or Positive Float Data		4.00.00	Oldest oil volume sample value in average
134	Inventory Oldest Avg Water	R/O	System	Float	4	Zero or Positive Float Data		4.00.00	Oldest water volume sample value in average
135	Inventory Damp Ptr Oil	R/O	System	UINT8	1			4.00.00	Pointer for current oil sample placement
136	Inventory Damp Ptr Water	R/O	System	UINT8	1			4.00.00	Pointer for current water sample placement
137	Load Rack Inst Num Oil	R/W	User	UINT8	1	0 → 6 (0 → 32 bitweighted)	0	4.00.00	Rack number where tank fluid can be hauled
138	Load Rank Inst Num Wtr	R/W	User	UINT8	1	0 → 6 (0 → 32 bitweighted)	0	4.00.00	Rack number where tank fluid can be hauled
139	Log Hauls on Day Start/End	R/W	User	UINT8	1	0 → 1	0	4.00.00	Indicates how the system handles logging. Valid values are **0** (log on the day haul started) and **1** (log on day haul ended)
140	Cur Haul Volume – Oil	R/W	User	Float	4	Zero or Positive Float Data		4.00.00	Volume of current oil haul (in barrels)
141	Cur Haul Volume – Wtr	R/W	System	Float	4	Zero or Positive Float Data		4.00.00	Volume of current water haul (in barrels)
142	Qty Hauls This Month Oil	R/W	System	UINT16	2			4.00.00	Number of oil hauls this month
143	Qty Hauls This Month – Wtr	R/W	System	UINT16	2			4.00.00	Number of water hauls this month
144	Qty Hauls Prev Month Oil	R/W	System	UINT16	2			4.00.00	Number of oil hauls the previous month
145	Qty Hauls Prev Month Wtr	R/W	System	UINT16	2			4.00.00	Number of water hauls the previous month
146	Qty Hauls Accum Oil	R/W	System	UINT16	2			4.00.00	Accumulated number of oil hauls
147	Qty Hauls Accum Wtr	R/W	System	UINT16	2			4.00.00	Accumulated number of water hauls
148	Vol Hauled This Month Oil	R/W	System	Float	4	Zero or Positive Float Data		4.00.00	Volume (in barrels) of oil hauled this month

Point Type 196 (ROC800) or Point Type 178 (FB107): PMTM Tanks and Aggregates

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
149	Vol Hauled This Month Wtr	R/W	System	Float	4	Zero or Positive Float Data		4.00.00	Volume (in barrels) of water hauled this month
150	Vol Hauled Prev Month Oil	R/W	System	Float	4	Zero or Positive Float Data		4.00.00	Volume (in barrels) of oil hauled the previous month
151	Vol Hauled Prev Month Wtr	R/W	System	Float	4	Zero or Positive Float Data		4.00.00	Volume (in barrels) of water hauled the previous month.
152	Vol Hauled Accum Oil	R/W	System	Float	4	Zero or Positive Float Data		4.00.00	Accumulated oil volume hauled (in barrels)
153	Vol Hauled Accum Wtr	R/W	System	Float	4	Zero or Positive Float Data		4.00.00	Accumulated water volume hauled (in barrels)
154	Prev Haul InProg Flag – Oil	R/W	System	UINT8	1			4.00.00	Oil haul was in progress on previous scan
155	Prev Haul InProg Flag – Wtr	R/W	System	UINT8	1			4.00.00	Water haul was in progress on prevous scan
156	Tank Accounting Code	R/W	User	String10	10			4.00.00	User accounting system identifier for tank
157	Max Logicals	R/O	System	UINT8	1			4.00.00	Number of tank logicals in this version of the program
158	Agr Mode – Track Member Vals Oil	R/W	User	UINT8	1	0 → 1	1	4.01.00	Indicates how the system handles oil aggregates.Valid values are **0** (aggregate is “supertank”: sum of levels hauled) and **1** (aggregate accumulates production and hauls of members) **Note**: Not used in the FB107.
159	Agr Mode – Track Member Vals Water	R/W	User	UINT8	1	0 → 1	1	4.01.00	Indicates how the system handles water aggregates.Valid values are **0** (aggregate is “supertank”: sum of levels hauled) and **1** (aggregate accumulates production and hauls of members) **Note**: Not used in the FB107.
160	Start of Day Level Oil	R/W	System	Float	4	Zero or Positive Float Data		4.01.00	Oil level (column feet) at contract hour **Note**: Not used in the FB107.

Point Type 196 (ROC800) or Point Type 178 (FB107): PMTM Tanks and Aggregates

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
161	Start of Day Level Water	R/W	System	Float	4	Zero or Positive Float Data		4.01.00	Water leve (column feet) at contract hour **Note**: Not used in the FB107.
162	Start of Day Level Tank	R/W	System	Float	4	Zero or Positive Float Data		4.01.00	Fluid level (column feet) at contract hour **Note**: Not used in the FB107.
163	Enable Level Alarming	R/W	User	UINT8	1	0 → 1	0	4.06.00	Enable Level Alarming
164	Tank Level Alarm Code	R/W	System	UINT8	1	0 → 24	0	4.06.00	Indicates tank level alarm codes. Valid values are: Bit 3 = High Alarm Bit 4 = Low Alarm
165	Tank High Alarm Level	R/W	User	Float	4	Zero or Positive Float Value	19.00	4.06.00	Tank High Alarm Level
166	Tank Low Alarm Level	R/W	User	Float	4	Zero or Positive Float Value	1.00	4.06.00	Tank Low Alarm Level
167	Tank Level Alarm Deadband	R/W	User	Float	4	Zero or Positive Float Value	1.00	4.06.00	Tank Level Alarm Deadband
168	Oil High Alarm Level	R/W	User	Float	4	Zero or Positive Float Value	0.50	4.06.00	Oil High Alarm Level
169	Water High Alarm Level	R/W	User	Float	4	Zero or Positive Float Value	0.50	4.06.00	Water High Alarm Level
170	Fluid Level Alarm Deadband	R/W	User	Float	4	Zero or Positive Float Value	0.25	4.06.00	Fluid Level Alarm Deadband
171	Gauger Deviation Error Reset (Mins)	R/W	User	UINT16	2	0 -> 65535	60	4.06.00	Gauger Deviation Error Reset (Mins)
172	Vol Max Integral per Minute	R/W	User	Float	4	Zero or Positive Float Value	0.00	4.07.00	Vol Max Integral per Minute
173	Vol Max Vol Rate of Chg	R/W	User	Float	4	Zero or Positive Float Value	0.00	4.07.00	Vol Max Vol Rate of Chg
174	Auto-Haul in Progress - Oil	R/W	Both	UINT8	1	0 -> 1	0	4.07.00	Indicates Auto-Haul in Progress - Oil codes. Valid values are: 0 = No 1 = Yes

Point Type 196 (ROC800) or Point Type 178 (FB107): PMTM Tanks and Aggregates

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
175	Auto-Haul in Progress - Wtr	R/W	Both	UINT8	1	0 -> 1	0	4.07.00	Indicates Auto-Haul in Progress - Wtr codes. Valid values are: 0 = No 1 = Yes
176	Prev Scan AutoHauling Oil	R/W	System	UINT8	1	0 -> 1	0	4.07.00	Indicates Prev Scan AutoHauling Oil codes. Valid values are: 0 = No 1 = Yes
177	Prev Scan AutoHauling Wtr	R/W	System	UINT8	1	0 -> 1	0	4.07.00	Indicates Prev Scan AutoHauling Wtr codes. Valid values are: 0 = No 1 = Yes
178	Agr Member Hauling Oil	R/W	System	UINT8	1	0 -> 1	0	4.07.00	Indicates Agr Member Hauling Oil codes. Valid values are: 0 = No 1 = Yes
179	Agr Member Hauling Wtr	R/W	System	UINT8	1	0 -> 1	0	4.07.00	Indicates Agr Member Hauling Wtr. Valid values are: 0 = No 1 = Yes
180	Agr Memb PrevScan Haul Oil	R/W	System	UINT8	1	0 -> 1	0	4.07.00	Indicates Agr Memb PrevScan Haul Oil. Valid values are: 0 = No 1 = Yes
181	Agr Memb PrevScan Haul Wtr	R/W	System	UINT8	1	0 -> 1	0	4.07.00	Indicates Agr Memb PrevScan Haul Wtr. Valid values are: 0 = No 1 = Yes
182	Haul Inactivity Mins Preset Oil	R/W	User	Float	4	Zero or Positive Float Value	15.0	4.07.00	Haul Inactivity Mins Preset Oil
183	Haul Inactivity Mins Preset Wtr	R/W	User	Float	4	Zero or Positive Float Value	15.0	4.07.00	Haul Inactivity Mins Preset Wtr
184	Haul Inactivity Mins Remain Oil	R/W	System	Float	4	Zero or Positive Float Value	0.0	4.07.00	Haul Inactivity Mins Remain Oil

Point Type 196 (ROC800) or Point Type 178 (FB107): PMTM Tanks and Aggregates

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
185	Haul Inactivity Mins Remain Wtr	R/W	System	Float	4	Zero or Positive Float Value	0.0	4.07.00	Haul Inactivity Mins Remain Wtr

4.3 Point Type 197/179: PMTM Wells

Point type 197 (for ROC800) or point type 179 (for FB107) defines parameters for configuring the well and aggregate allocations. The program supports up to 12 logicals of point type 197 (for ROC800) or 4 logicals of point type 179 (for FB107).

Point Type 197 (ROC800) or Point Type 179 (FB107): PMTM Wells

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
0	Well ID	R/W	User	String10	10	Printable ASCII characters	Well 1	4.00.00	Well identifier
1	Liquid Flags	R/W	User	UINT8	1	0,1,2,8,16,32,64	0	4.00.00	Various system processingflags. Valid values are: 0 = No action 1 = Force End of Day 2 = Force End of Month 8 = Cold Start Well Accumulations 16 = Roll over month GLRs 32 = Initiate new 3-day GLR 64 = Cold start GLRs
2	Tanks Where Meas Oil 1	R/O	System	UINT16	2	0 → 16	0	4.00.00	Tank instance where oil is sent (1-16)
3	Tanks Where Meas Oil 2	R/O	System	UINT16	2	0 → 16	0	4.00.00	Tank instance where oil is sent (17-24)
4	Tanks Where Meas Oil 3	R/O	System	UINT16	2	0 → 16	0	4.00.00	Tank instance where oil is sent (25-32)
5	Tanks Where Meas Wtr 1	R/O	System	UINT16	2	0 → 16	0	4.00.00	Tank instance where water is sent (1-16)
6	Tanks Where Meas Wtr 2	R/O	System	UINT16	2	0 → 16	0	4.00.00	Tank instance where water is sent (17-24)
7						0 → 16			Tank instance where oil is sent (25-32)
8	WTot Oil Prod Today	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Oil production allocated to well today (in barrels)
9	WTot H2O Prod Today	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Water production allocated to well today (in barrels)
10	WTot Oil Prod Yday	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Oil production allocated to well yesterday (in barrels)

Point Type 197 (ROC800) or Point Type 179 (FB107): PMTM Wells

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
11	WTot H2O Prod Yday	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Water production allocated to well yesterday (in barrels)
12	WTotal Oil Produced	R/W	System	UINT32	4	Zero or Positive Float Data	0	4.00.00	Accumlated oil production allocated to well
13	WTotal H2O Produced	R/W	System	UINT32	4	Zero or Positive Float Data	0	4.00.00	Fractional oil production allocated to well
14	WTotl Oil Prod Modul	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Accumlated water production allocated to well
15	WTot H2O Prod Modul	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Fractional water production allocated to well
16	WTot Oil Hauled Today	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Oil haul allocated to well today (in barrels)
17	WTot H2O Hauled Today	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Water haul allocated to well today (in barrels)
18	WTot Oil Hauled Yday	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Oil haul allocated to well yesterday (in barrels)
19	WTot H2O Hauled Yday	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Water haul allocated to well yesterday (in barrels)
20	WTotal Oil Hauled	R/W	System	UINT32	4	Zero or Positive Float Data	0	4.00.00	Accumulated oil haul allocated to well
21	WTotal H2O Hauled	R/W	System	UINT32	4	Zero or Positive Float Data	0	4.00.00	Fractional oil haul allocated to well
22	WTot Oil Haul Modul	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Accumulated water haul allocated to well
23	WTot H2O Haul Modul	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Fractional water haul allocated to well
24	WTot Oil Mtrd Today	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Oil disposal allocated to well today (in barrels)
25	WTot H2O Mtrd Today	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Water disposal allocated to well today (in barrels)
26	WTot Oil Mtrd Yday	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Oil disposal allocated to well yesterday (in barrels)
27	WTot H2O Mtrd Yday	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Water disposal allocated to well yesterday (in barrels)

Point Type 197 (ROC800) or Point Type 179 (FB107): PMTM Wells

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
28	WTotal Oil Metered	R/W	System	UINT32	4	Zero or Positive Float Data	0	4.00.00	Accumulated oil disposal allocated to well
29	WTotal H2O Metered	R/W	System	UINT32	4	Zero or Positive Float Data	0	4.00.00	Fractional oil disposal allocated to well
30	WTot Oil Mtrd Modul	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Accumulated water disposal allocated to well
31	WTot H2O Mtrd Modul	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Fractional water disposal allocated to well
32	Avg Oil Prd VPD TMon	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Avg Daily Oil Production This Month
33	Avg H2O Prd VPD TMon	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Avg Daily Water Production This Month
34	Avg Oil Prd VPD PMon	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Avg Daily Oil Production Prev Month
35	Avg H2O Prd VPD PMon	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Avg Daily Water Production Prev Month
36	WTot GOR This Month	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Calculated gas:oil ratio this month
37	WTot GWR This Month	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Calculated gas:water ratio this month
38	WTot GOR Prev Month	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Calculated gas:oil ratio previous month
39	WTot GWR Prev Month	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Calculated gas:water ratio previous month
40	WTot GLR This Month	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Calculated gas:liquid ratio this month
41	WTot GLR Prev Month	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Calculated gas:liquid ratio previous month
42	Gas Start Vol TMon	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Gas accumulated mark of meter at start of month
43	Future	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Future
44	Future	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Future

Point Type 197 (ROC800) or Point Type 179 (FB107): PMTM Wells

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
45	Future	R/O	System	Float	4	Zero or Positive Float Data	0	4.00.00	Future
46	Future	R/O	System	Float	4	Zero or Positive Float Data	0	4.00.00	Future
47	Future	R/O	System	Float	4	Zero or Positive Float Data	0	4.00.00	Future
48	Future	R/O	System	Float	4	Zero or Positive Float Data	0	4.00.00	Future
49	Future	R/O	System	Float	4	Zero or Positive Float Data	0	4.00.00	Future
50	Well Allocation Method	R/W	User	UINT8	1	0 → 3	0	4.00.00	Indicates the method for allocating production. Valid values are: 0 = GLRs multiplied by allocation percentage multiplied by gas volume (normalized) 1 = Straight GLRs multiplied by allocation percent (no gas factoring) 2 = Use manual GLRs 3 = Use production separator metering
51	Manual Gas Oil Ratio	R/W	User	Float	4	Positive Float Number	100	4.00.00	Gas-to-oil ratio used to determine production allocation volume
52	Manual Gas Water Ratio	R/W	User	Float	4	Positive Float Number	100	4.00.00	Gas-to-water ratio used to determine production allocation volume
53	Manual Gas Liquid Ratio	R/W	User	Float	4	Positive Float Number	50	4.00.00	Gas-to-liquid ratio used to determine production allocation volume
54	Seconds This Month	R/W	System	UINT32	4	0 → 2,678,400	0	4.00.00	Serial seconds elapsed this month
55	Available UINT32 Param 1	R/W	User	Float	4	0	0	4.00.00	
56	This Month Gas Prod	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Gas production this month
57	TSD Setpt Holder	R/W	System	Float	4	Positive Float Number	0	4.00.00	Setpoint holder for action block TSDs
58	Well Prod This Month Oil	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Oil production allocated to well this month (in barrels)

Point Type 197 (ROC800) or Point Type 179 (FB107): PMTM Wells

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
59	Well Prod This Month Water	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Water production allocated to well this month (in barrels)
60	Well Prod Prev Month Oil	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Oil production allocated to well prevoius month (in barrels)
61	Well Prod Prev Month Water	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Water production allocated to well previous month (in barrels)
62	Well Gas Values TLP	R/W	User	TLP	3	Any ROC TLP	Undefined	4.00.00	TLP of gas volume
63	Max Logicals	R/O	System	UINT8	1	0 → 12	0	4.00.00	Number of well logical in this version of the program
64	Well Contract Hour	R/W	User	UINT8	1	0 → 23	0	4.00.00	Rollover hour for well
65	Cur Contract Day - *Var*	R/W	System	UINT8	1	1 → 31	0	4.00.00	Current contract day for well
66	Cur Contract Month - *Var*	R/W	System	UINT8	1	1 → 12	0	4.00.00	Current contract month for well
67	Enable Prod Metering Oil	R/W	User	UINT8	1	0 → 1	0	4.00.00	Enables separator production metering for oil. Valid values are **0** (disable separator production metering) and **1** (enable separator production metering).
68	Enable Prod Metering Wtr	R/W	User	UINT8	1	0 → 1	0	4.00.00	Enables separator production metering for oil. Valid values are **0** (disable separator production metering) and **1** (enable separator production metering).
69	Prod Meter Def Oil	R/W	User	TLP	3	Any ROC TLP	Undefined	4.00.00	TLP of oil production meter
70	Prod Meter Def Wtr	R/W	User	TLP	3	Any ROC TLP	Undefined	4.00.00	TLP of water production meter
71	Prod Meter Units Oil	R/W	User	UINT8	1	0 → 3	0	4.00.00	Indicates the oil production meter units. Valid values are: 0 = Barrels per minute 1= Barrels per hour 2 = Barrels per day 3 = Production meter is a totalizer

Point Type 197 (ROC800) or Point Type 179 (FB107): PMTM Wells

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
72	Prod Meter Units Wtr	R/W	User	UINT8	1	0 → 3	0	4.00.00	Indicates the oil production meter units. Valid values are: 0 = Barrels per minute 1= Barrels per hour 2 = Barrels per day 3 = Production meter is a totalizer
73	Max Valid Rate VPM Oil	R/W	User	Float	4	Positive Float Number	10	4.00.00	Maximum allowable oil production meter rate
74	Max Valid Rate VPM Wtr	R/W	User	Float	4	Positive Float Number	10	4.00.00	Maximum allowable water production meter rate
75	Haul to Haul Volume Oil	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Oil volume accumulated since previous haul end
76	Haul to Haul Volume Wtr	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Water volume accumulated since previous haul end
77	Calcd Aggr Alloc Pct Oil	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Allocation percentage calculated by production meter compare
78	Calcd Aggr Alloc Pct Wtr	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Allocation percentage calculated by production meter compare
79	Enable Alloc Pct Upd Oil	R/W	User	UINT8	1	0 → 1	0	4.00.00	Enables allocation percent calculation for oil. Valid values are **0** (disable allocation percentage calculation) and **1** (enable allocation percentage calculation).
80	Enable Alloc Pct Upd Wtr	R/W	User	UINT8	1	0 → 1	0	4.00.00	Enables allocation percent calculation for water. Valid values are **0** (disable allocation percentage calculation) and **1** (enable allocation percentage calculation).
81	Well Hauled TMonth Oil	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Oil haul allocated to well this month (in barrels)
82	Well Hauled TMonth Wtr	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Water haul allocated to well this month (in barrels)
83	Well Hauled PMonth Oil	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Oil haul allocated to well previous month (in barrels)
84	Well Hauled PMonth Wtr	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Water haul allocated to well previous month (in barrels)

Point Type 197 (ROC800) or Point Type 179 (FB107): PMTM Wells

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
85	Well Disposed TMonth Wtr	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Water disposal allocated to well this month (in barrels)
86	Well Disposed PMonth Wtr	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Water disposal allocated to well previous month (in barrels)
87	Separ Prod Today Oil	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Oil production meter volume today
88	Separ Prod Today Wtr	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Water production meter volume today
89	Separ Prod Yday Oil	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Oil production meter volume yesterday
90	Separ Prod Yday Wtr	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Water production meter volume yesterday
91	Separ Prod TMon Oil	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Oil production meter volume this month
92	Separ Prod TMon Wtr	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Water production meter volume this month
93	Separ Prod PMon Oil	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Oil production meter volume previous month
94	Separ Prod PMon Wtr	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Water production meter volume previous month
95	Separ Prod Accum Oil	R/W	System	UINT32	4	0 → 4,294,967,295	0	4.00.00	Accumulated oil production meter volume
96	Separ Prod Accum Wtr	R/W	System	UINT32	4	0 → 4,294,967,295	0	4.00.00	Accumulated water production meter volume
97	Separ Prod AcModu Oil	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Accumulated oil production meter volume
98	Separ Prod AcModu Wtr	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Accumulated oil production meter volume
99	Today Seconds Overranged Oil	R/W	System	UINT32	4	0 → 86400	0	4.00.00	Seconds oil production meter overranged today
100	Today Seconds Overranged Wt	R/W	System	UINT32	4	0 → 86400	0	4.00.00	Seconds water production meter overranged today
101	Yday Seconds Overranged Oil	R/W	System	UINT32	4	0 → 86400	0	4.00.00	Seconds oil production meter overranged yesterday

Point Type 197 (ROC800) or Point Type 179 (FB107): PMTM Wells

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
102	Yday Seconds Overranged Wtr	R/W	System	UINT32	4	0 → 86400	0	4.00.00	Seconds water production meter overranged yesterday
103	Well Status	R/W	System	UINT8	1	Future	0	4.00.00	Well permissive/shutdown status
104	Well Valve PID/DO Def	R/W	User	TLP	3	Any ROC PID or DO pt	Undefined	4.00.00	Well shutdown valve IO definition
105	Simulator Daily Gas MMCF	R/W	User	UINT16	2	0 → 65535	0	4.00.00	Simuilated well gas rate
106	Simulator Daily Oil Prod	R/W	User	UINT16	2	0 → 65535	0	4.00.00	Simulated well oil production rate (in barrels per day)
107	Simulator Daily Water Prod	R/W	User	UINT16	2	0 → 65535	0	4.00.00	Simulated well water production rate (in barrels per day)
108	Enable Well Simulate	R/W	User	UINT8	1	0 → 1	0	4.00.00	Enables well simulation. Valid values are **0** (disable well simulation) and **1** (enable wel simulation).
109	Sim Target Tank for Oil	R/W	User	UINT8	1	0 → 24	0	4.00.00	Target tank instance receiving well oil production
110	Sim Target Tank for Water	R/W	User	UINT8	1	0 → 24	0	4.00.00	Target tank instance receiving well water production
111	Sim Cur Tank for Oil	R/W	System	UINT8	1	0 → 24	0	4.00.00	Current tank instance receiving well oil production
112	Sim Cur Tank for Water	R/W	System	UINT8	1	0 → 24	0	4.00.00	Current tank instance receiving well water production
113	2nd Enable Prod Meter Wtr	R/W	User	UINT8	1	0 → 1	0	4.00.00	Enables second separator production metering for water. Valid values are **0** (disable second separator) and **1** (enable second separator).
114	2nd Prod Meter Def Wtr	R/W	User	TLP	3	Any ROC TLP	Undefined	4.00.00	TLP of second water production meter
115	2nd Prod Meter Units Wtr	R/W	User	UINT8	1	0 → 3	0	4.00.00	Indicates the unit of the second water production meter.Valid values are: 0 = Barrels per minute 1 = Barrels per hour 2 = Barrels per day 3 = Production meter is a totalizer

Point Type 197 (ROC800) or Point Type 179 (FB107): PMTM Wells

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
116	2nd Max Valid Rate VPM Wtr	R/W	User	Float	4	Positive Float Number	10	4.00.00	Maximum allowable second water production meter rate
117	2nd Tday Secs Overranged Wtr	R/W	System	UINT32	4	0 → 86400	0	4.00.00	Seconds second water production meter overranged today
118	2nd Yday Secs Overramged Wtr	R/W	System	UINT32	4	0 → 86400	0	4.00.00	Seconds second water production meter overranged yesterday
119	GLR This Month Oil Vol	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Oil volume used in this month's GLR calculation
120	GLR This Month Wtr Vol	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Water volume used in this month's GLR calculation
121	Allocation Source Tank Oil	R/W	User	UINT8	1	0 → 24	0	4.00.00	Tank/aggregate into which oil is produced
122	Allocation Source Tank Water	R/W	User	UINT8	1	0 → 24	0	4.00.00	Tanki/aggregate into which water is produced
123	Allocation Pct Oil	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Oil manual allocation percentage
124	Allocation Pct Water	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Water manual allocation percentage
125	User Prog Watchdog Timer	R/O	System	UINT16	2	0 → 65535	0	4.00.00	User program continuous counter **Note**: Not used in the FB107
126	Well Status Text	R/O	System	AC	10	Printable ASCII characters	" "	4.02.00	First-out tag for any associated PMSC action block.
127	Well PMSC Trip Code	R/W	User	UINT8	1	0 → 148	0	4.02.00	Trip code for use with associated PMSC control logic.

4.4 Point Type 198/180: PMTM Haul Logs

Point type 198 (for ROC800) or point type 180 (for FB107) defines parameters for configuring the haul logs. The program supports up to 21 logicals of point type 198 (for ROC800) or 21 logicals of point type 180 (for FB107).

Point Type 198 (ROC800) or Point Type 180 (FB107): PMTM Haul Logs

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
0	Tank ID	R/W	System	String10	10	Printable ASCII characters		4.00.00	Tag of tank haued
1	Haul Number Today	R/W	System	UINT8	1	0 → 255		4.00.00	Number of times this tank/fluid was hauled today
2	Opening Date	R/W	System	UINT32	4	13101 → 991231		4.00.00	Haul start date in YYMMDD format
3	Opening Time	R/W	System	UINT32	4	000000 → 23595		4.00.00	Haul start time in HHMMSS format
4	Closing Date	R/W	System	UINT32	4	13101 → 991231		4.00.00	Haul end date in YYMMDD format
5	Closing Time	R/W	System	UINT32	4	000000 → 23595		4.00.00	Haul end time in HHMMSS format
6	Haul Duration Minutes	R/W	System	Float	4	Postive Float Data		4.00.00	Haul duration in minutes
7	Total Indicated Volume	R/W	System	Float	4	Postive Float Data		4.00.00	Haul volume from level change or meter indicated volume
8	High Level Tank	R/W	System	Float	4	Postive Float Data		4.00.00	Highest tank leve this cycle (in feet)
9	High Stock Tank	R/W	System	Float	4	Postive Float Data		4.00.00	Highest tank fluid volume this cycle
10	High Mark Date	R/W	System	UINT32	4	Postive Float Data		4.00.00	High level date in YYMMDD format
11	High Mark Time	R/W	System	UINT32	4	Postive Float Data		4.00.00	High level time in HHMMSS format
12	Shrinkage B4 Haul Tank	R/W	System	Float	4	Postive Float Data		4.00.00	Difference between high and opening tank volumes
13	Opening Level Tank	R/W	System	Float	4	Postive Float Data		4.00.00	Tank fluid level at start of haul (in feet)
14	Opening Stock Tank	R/W	System	Float	4	Postive Float Data		4.00.00	Tank fluid volume at start of haul (in barrels)
15	Closing Level Tank	R/W	System	Float	4	Postive Float Data		4.00.00	Tank fluid level at start of haul (in feet)
16	Closing Stock Tank	R/W	System	Float	4	Postive Float Data		4.00.00	Tank fluid volume at start of haul (in barrels)

Point Type 198 (ROC800) or Point Type 180 (FB107): PMTM Haul Logs

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
17	Avg Temperature	R/W	System	Float	4	Postive Float Data		4.00.00	Average fluid temperature during haul
18	Avg Obs Rel Density	R/W	System	Float	4	Postive Float Data		4.00.00	Average observed relative density during haul
19	Avg S and W	R/W	System	Float	4	Postive Float Data		4.00.00	Average sediment and water measured during haul
20	Avg API Grav Base Temp	R/W	System	Float	4	Postive Float Data		4.00.00	Average standard API gravity during oil haul
21	Avg Rel Dens Base temp	R/W	System	Float	4	Postive Float Data		4.00.00	Average standard relative density during oil haul
22	Avg CTL Obs to Base	R/W	System	Float	4	Postive Float Data		4.00.00	Average temperature correction factor observed temperature to 60F for oil haul
23	Cor Factor Calc is Invalid	R/W	System	UINT8	1	0 → 1		4.00.00	Indicates how the program uses the CTL correction. Valid values are 0 (CTL calculation is valid) and 1 (CTL calculation is invalid; standard=observed)
24	Oil Level Change	R/W	System	Float	4	Postive Float Data		4.00.00	Change in oil level during haul (in feet)
25	Gross Oil Vol Hauled	R/W	System	Float	4	Postive Float Data		4.00.00	Gross oil volume hauled (difference between indicated if meter factor =1)
26	Gross Std Oil Vol Hauled	R/W	System	Float	4	Postive Float Data		4.00.00	Gross Oil Vol Hauled, Corrected to Base Temp
27	Net Oil Vol Hauled	R/W	System	Float	4	Postive Float Data		4.00.00	Gross standard oil volume hauled less S&W volume
28	Water Level Change	R/W	System	Float	4	Postive Float Data		4.00.00	Change in water level during haul (in feet)
29	Water Vol Hauled	R/W	System	Float	4	Postive Float Data		4.00.00	Water volume hauled (in barrels)
30	Inferred (Gross) Volume During Haul	R/W	System	Float	4	Postive Float Data		4.00.00	Vol Calculated to Have Entered Tank During Haul
31	Haul Serial Number	R/W	System	UINT32	4	1 → 4,294,697,295		4.00.00	Serial number identifier for haul

Point Type 198 (ROC800) or Point Type 180 (FB107): PMTM Haul Logs

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
32	Haul Ticket Number	R/W	System	String20	20	Printable ASCII characters		4.00.00	Hauling company ticket number for haul
33	Transaction Type (Indv,Aggr,Meter)	R/W	System	UINT8	1	1 → 6		4.00.00	Indicates the transaction type. Valid values are: 1 = Individual tank 2 = Tank aggregate 3 = ROC800 meter instance 4 = Water meter (pulse input) instance 5 = Tank-to-tank transfer outbound 6 = Tank-to-tank transfer inbound
34	Meter Factor (Coriolis)	R/W	System	Float	4	Postive Float Data		4.00.00	ROC800L meter factor
35	Strapping Corr Factor (Tanks)	R/W	System	Float	4	Postive Float Data		4.00.00	
36	Observed API Gravity	R/W	System	Float	4	Postive Float Data		4.00.00	Average observed API gravity during haul
37	Meter Start Volume	R/W	System	Float	4	Postive Float Data		4.00.00	ROC800L or Pulse Input starting indicated accumulation
38	Meter End Volume	R/W	System	Float	4	Postive Float Data		4.00.00	ROC800L or Pulse Input ending indicated accumulation
39	Company Code	R/W	System	UINT16	2	1 → 65535		4.00.00	Company identifier for haul
40	Driver Code	R/W	System	UINT16	2	1 → 65535		4.00.00	Driver identifier for haul
41	Disposition Type	R/W	System	UINT8	1	0 → 255		4.00.00	User-enumerated disposition type for haul
42	Manual Obs API Density	R/W	System	Float	4	Postive Float Data		4.00.00	Driver-entered alt-calc observed API gravite
43	Manual BS and W	R/W	System	Float	4	Postive Float Data		4.00.00	Driver-entered alt-calc S&W percentage
44	Haul Serial Num Index Cmd	R/W	User	UINT32	4	1 → 4,294,967,295		4.00.00	Serial number of log requested for logical zero
45	Average Densitometer Tempt	R/W	System	Float	4	Postive Float Data		4.00.00	Average temperature DegF at densitometer

Point Type 198 (ROC800) or Point Type 180 (FB107): PMTM Haul Logs

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
46	Avg CTL Base to Alt	R/W	System	Float	4	Postive Float Data		4.00.00	Average temperature correction factor 60F to density temperature for oil haul
47	Truck Number	R/W	System	String10	10	Printable ASCII characters		4.00.00	Hauling company truck number for haul
48	Purchaser Code	R/W	System	UINT16	2	0 → 65535		4.00.00	User-enumerated purchaser code for haul
49	Manual Temperature	R/W	System	Float	4	Postive Float Data		4.00.00	Driver-entered alt-calc temperature DegF
50	Manual Derived Grs Std Vol Oil	R/W	System	Float	4	Postive Float Data		4.00.00	Alt-Calc Gross Standard oil volume using alt-calc inputs
51	Manual Derived Net Std Vol Oil	R/W	System	Float	4	Postive Float Data		4.00.00	Alt-Calc Net Standard oil volume using alt-calc inputs
52	Level Change Volume	R/W	System	Float	4	Postive Float Data		4.00.00	Change in tank fluid level (in feet) multiplied by strapping value
53	Fluid Type Hauled	R/W	System	UINT8	1	0 → 1		4.00.00	Indicates the type of fluid. Valid values are **0** (oil/hydrocarbon) and **1** (produced water)
54	Tank Accounting Code	R/W	System	String10	10	Printable ASCII characters		4.00.00	User accounting system identifier for tank hauled
55	Load Line Seal Off Num	R/W	System	UINT32	4	1 → 4,294,967,295		4.00.00	Number of seal removed from load line
56	Load Line Seal On Num	R/W	System	UINT32	4	1 → 4,294,967,295		4.00.00	Number of seal placed on load line
57	Driver Haul Opening LLin	R/W	System	Float	4	Postive Float Data		4.00.00	Driver-Entered Haul Opening Level (in LLin)
58	Driver Haul Closing LLin	R/W	System	Float	4	Postive Float Data		4.00.00	Driver-Entered Haul Closing Level (in LLin)
59	Driver Haul Accepted Volume	R/W	System	Float	4	Postive Float Data		4.00.00	Driver-entered accepted haul volume (in barrels)
60	HMI or Auto-Detected Haul	R/O	System	UINT8	1	0 → 1		4.00.00	Indicates how the haul is generated. Valid values are **0** (HMI-generated haul) and **1** (auto-detected haul)

Point Type 198 (ROC800) or Point Type 180 (FB107): PMTM Haul Logs

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
61	High Level Oil	R/W	System	Float	4	Postive Float Data		4.00.00	High column height for oil this cycle (in feet)
62	High Level Water	R/W	System	Float	4	Postive Float Data		4.00.00	High column height for water this cycle (in feet)
63	High Stock Oil	R/W	System	Float	4	Postive Float Data		4.00.00	High volume for oil this cycle (in barrels)
64	High Stock Water	R/W	System	Float	4	Postive Float Data		4.00.00	High volume for wwater this cycle (in barrels)
65	Opening Level Oil	R/W	System	Float	4	Postive Float Data		4.00.00	Oil column height at start of haul (in feet)
66	Opening Level Water	R/W	System	Float	4	Postive Float Data		4.00.00	Water column height at start of haul (in feet)
67	Opening Stock Oil	R/W	System	Float	4	Postive Float Data		4.00.00	Oil volume at start of haul (in barrels)
68	Opening Stock Water	R/W	System	Float	4	Postive Float Data		4.00.00	Water volume at start of haul (in barrels)
69	Closing Level Oil	R/W	System	Float	4	Postive Float Data		4.00.00	Oil column height at end of haul (In feet)
70	Closing Level Water	R/W	System	Float	4	Postive Float Data		4.00.00	Water column height at end of haul (in feet)
71	Closing Stock Oil	R/W	System	Float	4	Postive Float Data		4.00.00	Oil volume at start of haul (in barrels)
72	Closing Stock Water	R/W	System	Float	4	Postive Float Data		4.00.00	Water volume at start of haul (in barrels)
73	Shrinkage B4 Haul Oil	R/W	System	Float	4	Zero or Postive Float Data		4.00.00	Difference between high and opening oil volumes
74	Shrinkage B4 Haul Water	R/W	System	Float	4	Zero or Postive Float Data		4.00.00	Difference between high and opening water volumes
75	Level Change Tank	R/W	System	Float	4	Postive Float Data		4.00.00	Fluid level change during haul
80	Record Location in File	R/W	System	UINT16	2	0 → 511		4.07.00	Haul Record Location in File
81	Hard Haul Serial Number	R/W	System	UINT32	4	0 -> 4,294,967,295	0	4.07.00	Hard Haul Serial Number

Point Type 198 (ROC800) or Point Type 180 (FB107): PMTM Haul Logs

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
82	Compressibility Factor	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Compressibility Factor
83	Correction for S&W	R/W	System	Float	4	Positive Float Data	1.0	4.07.00	Correction for S&W
84	PWA Average Pressure	R/W	System	Float	4	Zero or Positive Float Data	0.0	4.07.00	PWA Average Pressure
85	Average Densitometer Pressure	R/W	System	Float	4	Zero or Positive Float Data	0.0	4.07.00	Average Densitometer Pressure
86	Equilibrium Base Pressure	R/W	System	Float	4	Zero or Positive Float Data	0.0	4.07.00	Equilibrium Base Pressure
87	Correction for Pressure	R/W	System	Float	4	Positive Float Data	1.0	4.07.00	Correction for Pressure
88	Correction for Temp & Press	R/W	System	Float	4	Positive Float Data	1.0	4.07.00	Correction for Temp & Press
89	Combined Correction Factor	R/W	System	Float	4	Positive Float Data	1.0	4.07.00	Combined Correction Factor
90	Observed Density in Kg/m3	R/W	System	Float	4	Positive Float Data		4.07.00	Observed Density in Kg/m3
91	Base Density in Kg/m3	R/W	System	Float	4	Positive Float Data		4.07.00	Base Density in Kg/m3
92	Observed Density in User Units	R/W	System	Float	4	Positive Float Data		4.07.00	Observed Density in User Units
93	Base Density in User Units	R/W	System	Float	4	Positive Float Data		4.07.00	Base Density in User Units
94	Correction for Tank Shell Temp	R/W	System	Float	4	Positive Float Data	1.0	4.07.00	Correction for Tank Shell Temp
95	Gross Mass at Opening	R/W	System	Double	8	Zero or Positive Double Float Data		4.07.00	Gross Mass at Opening
96	Gross Mass at Closing	R/W	System	Double	8	Zero or Positive Double Float Data		4.07.00	Gross Mass at Closing
97	Rollover for Double Accums	R/W	System	Double	8	Positive Double Float Data		4.07.00	Rollover for Double Accums
98	Base Temperature	R/W	System	UINT16	2	15, 20, 30, 60	60	4.07.00	Indicates the Base Temperature. Valid values are: 15 = 15 degC 20 = 20 degC 30 = 30 degC 60 = 60 degF
99	Net Standard Mass	R/W	System	Float	4	Positive Float Data		4.07.00	Net Standard Mass

Point Type 198 (ROC800) or Point Type 180 (FB107): PMTM Haul Logs

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
100	Net Standard Weight	R/W	System	Float	4	Positive Float Data		4.07.00	Net Standard Weight
101	Level EU	R/W	System	UINT8	1	0 → 1	0	4.07.00	Indicates the Level EU. Valid values are: 0 = Feet 1 = Meters
102	Temperature EU	R/W	System	UINT8	1	0 → 1	0	4.07.00	Indicates the Temperature EU. Valid values are: 0 = Deg F 1 = Deg C
103	Pressure EU	R/W	System	UINT8	1	0 → 2	0	4.07.00	Indicates the Pressure EU. Valid values are: 0 = PSI 1 = kPa 2 = Bar
104	Liquid Density EU	R/W	System	UINT8	1	0 → 7	6	4.07.00	Indicates the Liquid Density EU Valid values are: 0 = Kg/m3 1 = g/cm3 2 = Lb/ft3 3 = Lb/bbl 4 = Lb/gal 5 = Relative Density 6 = API Gravity 7 = Kg/L
105	Volume EU	R/W	System	UINT8	1	0 → 6	0	4.07.00	Indicates the Volume EU. Valid values are: 0 = Bbl 1 = Mcf 2 = Km3 3 = Gal 4 = ft3 5 = m3 6 = Liter

Point Type 198 (ROC800) or Point Type 180 (FB107): PMTM Haul Logs

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
106	Mass EU	R/W	System	UINT8	1	0 → 3	0	4.07.00	Indicates the Mass EU. Valid values are: 0 = Lb 1 = Kg 2 = Ton 3 = Tonne
107	Opening Temperature	R/W	System	Float	4	Float Data	0.0	4.07.00	Opening Temperature
108	Opening Pressure	R/W	System	Float	4	Float Data	0.0	4.07.00	Opening Pressure
109	Opening S&W Pct	R/W	System	Float	4	Float Data	0.0	4.07.00	Opening S&W Pct
110	Opening Obs Dens Kg/m3	R/W	System	Float	4	Float Data	0.0	4.07.00	Opening Obs Dens Kg/m3
111	Opening Dens Temp	R/W	System	Float	4	Float Data	0.0	4.07.00	Opening Dens Temp
112	Opening Dens Press	R/W	System	Float	4	Float Data	0.0	4.07.00	Opening Dens Press
113	Opening 60F Dens Kg/m3	R/W	System	Float	4	Float Data	0.0	4.07.00	Opening 60F Dens Kg/m3
114	Opening 15C Dens Kg/m3	R/W	System	Float	4	Float Data	0.0	4.07.00	Opening 15C Dens Kg/m3
115	Opening TOV	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Opening TOV
116	Opening CTSh	R/W	System	Float	4	Positive Float Data	1.0	4.07.00	Opening CTSh
117	Opening GOV	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Opening GOV
118	Opening CTL	R/W	System	Float	4	Positive Float Data	1.0	4.07.00	Opening CTL
119	Opening CPL	R/W	System	Float	4	Positive Float Data	1.0	4.07.00	Opening CPL
120	Opening CTPL	R/W	System	Float	4	Positive Float Data	1.0	4.07.00	Opening CTPL
121	Opening GSV	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Opening GSV
122	Opening CSW	R/W	System	Float	4	Positive Float Data	1.0	4.07.00	Opening CSW
123	Opening NSV	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Opening NSV
124	Opening NSM	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Opening NSM
125	Opening NSW	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Opening NSW
126	Closing Temperature	R/W	System	Float	4	Float Data	0.0	4.07.00	Closing Temperature
127	Closing Pressure	R/W	System	Float	4	Float Data	0.0	4.07.00	Closing Pressure

Point Type 198 (ROC800) or Point Type 180 (FB107): PMTM Haul Logs

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
128	Closing S&W Pct	R/W	System	Float	4	Float Data	0.0	4.07.00	Closing S&W Pct
129	Closing Obs Dens Kg/m3	R/W	System	Float	4	Float Data	0.0	4.07.00	Closing Obs Dens Kg/m3
130	Closing Dens temp	R/W	System	Float	4	Float Data	0.0	4.07.00	Closing Dens temp
131	Closing Dens Press	R/W	System	Float	4	Float Data	0.0	4.07.00	Closing Dens Press
132	Closing 60F Dens Kg/m3	R/W	System	Float	4	Float Data	0.0	4.07.00	Closing 60F Dens Kg/m3
133	Closing 15C Dens Kg/m3	R/W	System	Float	4	Float Data	0.0	4.07.00	Closing 15C Dens Kg/m3
134	Closing TOV	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Closing TOV
135	Closing CTSh	R/W	System	Float	4	Positive Float Data	1.0	4.07.00	Closing CTSh
136	Closing GOV	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Closing GOV
137	Closing CTL	R/W	System	Float	4	Positive Float Data	1.0	4.07.00	Closing CTL
138	Closing CPL	R/W	System	Float	4	Positive Float Data	1.0	4.07.00	Closing CPL
139	Closing CTPL	R/W	System	Float	4	Positive Float Data	1.0	4.07.00	Closing CTPL
140	Closing GSV	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Closing GSV
141	Closing CSW	R/W	System	Float	4	Positive Float Data	1.0	4.07.00	Closing CSW
142	Closing NSV	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Closing NSV
143	Closing NSM	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Closing NSM
144	Closing NSW	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Closing NSW
145	Gross Vol Mtr Open	R/W	System	Double	8	Zero or Positive Double Float Data	0.0	4.07.00	Gross Vol Mtr Open
146	GSV Mtr Open	R/W	System	Double	8	Zero or Positive Double Float Data	0.0	4.07.00	GSV Mtr Open
147	NSV Mtr Open	R/W	System	Double	8	Zero or Positive Double Float Data	0.0	4.07.00	NSV Mtr Open
148	SWV Mtr Open	R/W	System	Double	8	Zero or Positive Double Float Data	0.0	4.07.00	SWV Mtr Open
149	Gross Vol Mtr Close	R/W	System	Double	8	Zero or Positive Double Float Data	0.0	4.07.00	Gross Vol Mtr Close

Point Type 198 (ROC800) or Point Type 180 (FB107): PMTM Haul Logs

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
150	GSV Mtr Close	R/W	System	Double	8	Zero or Positive Double Float Data	0.0	4.07.00	GSV Mtr Close
151	NSV Mtr Close	R/W	System	Double	8	Zero or Positive Double Float Data	0.0	4.07.00	NSV Mtr Close
152	SWV Mtr Close	R/W	System	Double	8	Zero or Positive Double Float Data	0.0	4.07.00	SWV Mtr Close
153	TOV Tranf Qty	R/W	System	Float	4	Zero or Positive Float Data	0.0	4.07.00	TOV Tranf Qty
154	GOV Transf Qty	R/W	System	Float	4	Zero or Positive Float Data	0.0	4.07.00	GOV Transf Qty
155	GSV Transf Qty	R/W	System	Float	4	Zero or Positive Float Data	0.0	4.07.00	GSV Transf Qty
156	NSV Transf Qty	R/W	System	Float	4	Zero or Positive Float Data	0.0	4.07.00	NSV Transf Qty
157	SWV Transf Qty	R/W	System	Float	4	Zero or Positive Float Data	0.0	4.07.00	SWV Transf Qty
158	NSW Transf Qty	R/W	System	Float	4	Zero or Positive Float Data	0.0	4.07.00	NSW Transf Qty
159	Liquid Mass Trans Qty	R/W	System	Float	4	Zero or Positive Float Data	0.0	4.07.00	Liquid Mass Trans Qty
160	Spare 1	R/W	System	Float	4	Float Data	0.0	4.07.00	Spare 1
161	Spare 2	R/W	System	Float	4	Float Data	0.0	4.07.00	Spare 2
162	Spare 3	R/W	System	Float	4	Float Data	0.0	4.07.00	Spare 3
163	Spare 4	R/W	System	Float	4	Float Data	0.0	4.07.00	Spare 4
164	Spare 5	R/W	System	Float	4	Float Data	0.0	4.07.00	Spare 5
165	Spare 6	R/W	System	Float	4	Float Data	0.0	4.07.00	Spare 6

4.5 Point Type 199/181: PMTM Haul Ticketing

Point type 199 (for ROC800) or point type 181 (for FB107) defines parameters to configure the haul ticketing. The program supports up to 24 logicals of point type 199 (for ROC800) or 8 logicals of point type 180 (for FB107).

Point Type 199 (ROC800) or Point Type 181 (FB107): PMTM Haul Ticketing

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
0	High Level Oil	R/W	System	Float	4	Positive Float Data		4.00.00	Highest tank level this cycle (in feet)
1	High Level Water	R/W	System	Float	4	Positive Float Data		4.00.00	Highest column height for oil this cycle (in feet)
2	High Level Tank	R/W	System	Float	4	Positive Float Data		4.00.00	Highest column height for water this cycle (in feet)
3	High Stock Oil	R/W	System	Float	4	Positive Float Data		4.00.00	Highest tank fluid volume this cycle
4	High Stock Water	R/W	System	Float	4	Positive Float Data		4.00.00	High volume for oil this cycle (in barrels)
5	High Stock Tank	R/W	System	Float	4	Positive Float Data		4.00.00	High volume for water this cycle (in barrels)
6	High Mark Date	R/W	System	UINT32	4	Positive Float Data		4.00.00	High level data in YYMMDD format
7	High Mark Time	R/W	System	UINT32	4	Positive Float Data		4.00.00	High level time in HHMMSS format
8	Opening Level Oil	R/W	System	Float	4	Positive Float Data		4.00.00	Oil column height (in feet) at start of haul
9	Opening Level Water	R/W	System	Float	4	Positive Float Data		4.00.00	Water column height (in feet) at start of haul
10	Opening Level Tank	R/W	System	Float	4	Positive Float Data		4.00.00	Tank fluid level (in feet) at start of haul
11	Opening Stock Oil	R/W	System	Float	4	Positive Float Data		4.00.00	Oil volume (in barrels) at start of haul
12	Opening Stock Water	R/W	System	Float	4	Positive Float Data		4.00.00	Water volume (in barrels) at start of haul
13	Opening Stock Tank	R/W	System	Float	4	Positive Float Data		4.00.00	Tank fluid volume (in barrels) at start of haul
14	Opening Mark Date	R/W	System	UINT32	4	Positive Float Data		4.00.00	Haul start date in YYMMDD format

Point Type 199 (ROC800) or Point Type 181 (FB107): PMTM Haul Ticketing

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
15	Opening Mark Time	R/W	System	UINT32	4	Positive Float Data		4.00.00	Haul start time in HHMMSS format
16	Shrinkage B4 Haul Oil	R/W	System	Float	4	Zero or Positive Float Data		4.00.00	Difference between high and opening oil volumes
17	Shrinkage B4 Haul Water	R/W	System	Float	4	Zero or Positive Float Data		4.00.00	Difference between high and opening water volumes
18	Shrinkage B4 Haul Tank	R/W	System	Float	4	Zero or Positive Float Data		4.00.00	Difference between high and opening tank volumes
19	Closing Level Oil	R/W	System	Float	4	Positive Float Data		4.00.00	Oil column height (in feet) at end of haul
20	Closing Level Water	R/W	System	Float	4	Positive Float Data		4.00.00	Water column height (in feet) at end of haul
21	Closing Level Tank	R/W	System	Float	4	Positive Float Data		4.00.00	Tank fluid level (in feet) at end of haul
22	Closing Stock Oil	R/W	System	Float	4	Positive Float Data		4.00.00	Oil volume (in barrels) at end of haul
23	Closing Stock Water	R/W	System	Float	4	Positive Float Data		4.00.00	Water volume (in barrels) at end of haul
24	Closing Stock Tank	R/W	System	Float	4	Positive Float Data		4.00.00	Tank fluid volume (in barrels) at end of haul
25	Closing Mark Date	R/W	System	UINT32	4	Positive Float Data		4.00.00	Haul end date in YYMMDD format
26	Closing Mark Time	R/W	System	UINT32	4	Positive Float Data		4.00.00	Haul end time in HHMMSS format
27	Level Change Oil	R/W	System	Float	4	Zero or Positive Float Data		4.00.00	Change in oil level (in feet) during haul
28	Level Change Water	R/W	System	Float	4	Zero or Positive Float Data		4.00.00	Change in water level (in feet) during haul
29	Level Change Tank	R/W	System	Float	4	Zero or Positive Float Data		4.00.00	Change in tank fluid level (in feet) during haul
30	Stock Change Oil	R/W	System	Float	4	Zero or Positive Float Data		4.00.00	Change in oil volume (in barrels) during haul
31	Stock Change Water	R/W	System	Float	4	Zero or Positive Float Data		4.00.00	Change in water volume (in barrels) during haul

Point Type 199 (ROC800) or Point Type 181 (FB107): PMTM Haul Ticketing

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
32	Stock Change Tank	R/W	System	Float	4	Zero or Positive Float Data		4.00.00	Change in tank fluid volume (in barrels) during haul
33	Get Haul Opening	R/W	System	UINT8	1	0 → 1		4.00.00	Indicates whether the system records a valid haul opening value. Valid values are **0** (valid haul opening value is recorded) and **1** (valid haul opening value is not recorded)
34	Strap Adj Factor – Oil	R/W	System	Float	4	Positive Float Data		4.00.00	ROC800L Meter Factor
35	Strap Adj Factor – Water	R/W	System	Float	4	Positive Float Data		4.00.00	Future
36	Indicated Haul Vol – Oil	R/W	System	Float	4	Positive Float Data		4.00.00	Difference between closing and opening 800L-indicated oil volume
37	Indicated Haul Vol – Water	R/W	System	Float	4	Positive Float Data		4.00.00	Difference between closing and opening 800L-indicated water volumel
38	Indicated Haul Vol – Tank	R/W	System	Float	4	Positive Float Data		4.00.00	Difference between closing and opening 800L-indicated tank volume
39	Last HMI Number Used Oil	R/W	System	UINT8	1	0 → 6		4.00.00	HMI station where oil tank is/was hauled
40	Last HMI Number Used Wtr	R/W	System	UINT8	1	0 → 6		4.00.00	HMI station where water tank is/was hauled
41	Meter Opening Ind Vol Oil - *Var*	R/W	System	Double	8	Positive Double Data		4.00.00	Opening 800L indicated oil volume
42	Meter Opening Ind Vol Wtr - *Var*	R/W	System	Double	8	Positive Double Data		4.00.00	Opening 800L indicated water volume
43	Meter Opening Gross Vol Oil - *Var*	R/W	System	Double	8	Positive Double Data		4.00.00	Opening 800L gross volume oil
44	Meter Opening Gross Vol Wtr - *Var*	R/W	System	Double	8	Positive Double Data		4.00.00	Opening 800L gross volume water
45	Meter Opening GStd Vol Oil - *Var*	R/W	System	Double	8	Positive Double Data		4.00.00	Opening 800L gross standard volume oil
46	Meter Opening GStd Vol Wtr - *Var*	R/W	System	Double	8	Positive Double Data		4.00.00	

Point Type 199 (ROC800) or Point Type 181 (FB107): PMTM Haul Ticketing

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
47	Meter Opening Net Std Vol - *Var*	R/W	System	Double	8	Positive Double Data		4.00.00	Opening 800L net standard volume oil
48	Dispo/Xfer InProgr Delv	R/W	System	UINT8	1	0 → 1		4.00.00	Indicates whether an outgoing tank transfer is in progress. Valid values are **0** (no outgoing transfer in progress) and **1** (outgoing tank-to-tank transfer in progress)
49	Dispo/Xfer InProg Recv	R/W	System	UINT8	1	0 → 1		4.00.00	Indicates whether an incoming tank transfer is in progress. Valid values are **0** (no incoming transfer in progress) and **1** (incoming tank-to-tank transfer in progress)
50	Xfer Vol Increase	R/W	System	Float	4	Positive Float Data		4.00.00	Increase in volume (in barrels) in fluid inbound tank
51	Xfer Delv to Inst	R/W	System	UINT8	1	0 → 24		4.00.00	Tank instance number of other transfer tank
52	Strapping Table Status	R/W	System	UINT8	1			4.07.00	Strapping Table Status
53	Quantity Valid Zones	R/W	System	UINT8	1	0 → 12	1	4.07.00	Quantity Valid Zones
54	Strapping Date	R/W	User	UINT32	4	19700101 → 21001231		4.07.00	Strapping Date
55	Table increment Height	R/W	User	UINT8	1	0 → 6	0	4.07.00	Indicates the Table Increment Height. Valid values are: 0 = Inch 1 = 1/4-inch 2 = 1/8-inch 3 = 1/16-inch 4 = 0.01-foot 5 = Centimeter 6 = Millimeter

Point Type 199 (ROC800) or Point Type 181 (FB107): PMTM Haul Ticketing

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
56	Table Volume Unit	R/W	User	UINT8	1	0 → 4	0	4.07.00	Indicates the Table Volume Unit. Valid values are: 0 = Barrel 1 = US Gallon 2 = Cubic meter 3 = Liter 4 = Cubic Foot
57	Level Entry Type	R/W	User	UINT8	1	0 → 1	1	4.07.00	Indicates the Level Entry Type. Valid values are: 0 = Enter Gauge Values 1 = Enter Increments
58	Increment Entry Type	R/W	User	UINT8	1	0 → 1	0	4.07.00	Indicates the Increment Entry Type. Valid values are: 0 = Enter Quantity in Zone 1 = Enter Running Total
59	Volume Entry Type	R/W	User	UINT8	1	0 → 1	0	4.07.00	Indicates the Volume Entry Type. Valid values are: 0 = Enter I-Factors 1 = Enter Accum Volume
60	Zone Zero Volume	R/W	User	Float	4	Zero or Positive Float Data	0.0	4.07.00	Zone Zero Volume
61	Long Level Value Zone 1	R/W	Both	UINT16	2	0 -> 1000		4.07.00	Long Level Value Zone 1
62	Long Level Value Zone 2	R/W	Both	UINT16	2	0 -> 1000		4.07.00	Long Level Value Zone 2
63	Long Level Value Zone 3	R/W	Both	UINT16	2	0 -> 1000		4.07.00	Long Level Value Zone 3
64	Long Level Value Zone 4	R/W	Both	UINT16	2	0 -> 1000		4.07.00	Long Level Value Zone 4
65	Long Level Value Zone 5	R/W	Both	UINT16	2	0 -> 1000		4.07.00	Long Level Value Zone 5
66	Long Level Value Zone 6	R/W	Both	UINT16	2	0 -> 1000		4.07.00	Long Level Value Zone 6
67	Long Level Value Zone 7	R/W	Both	UINT16	2	0 -> 1000		4.07.00	Long Level Value Zone 7
68	Long Level Value Zone 8	R/W	Both	UINT16	2	0 -> 1000		4.07.00	Long Level Value Zone 8
69	Long Level Value Zone 9	R/W	Both	UINT16	2	0 -> 1000		4.07.00	Long Level Value Zone 9

Point Type 199 (ROC800) or Point Type 181 (FB107): PMTM Haul Ticketing

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
70	Long Level Value Zone 10	R/W	Both	UINT16	2	0 -> 1000		4.07.00	Long Level Value Zone 10
71	Long Level Value Zone 11	R/W	Both	UINT16	2	0 -> 1000		4.07.00	Long Level Value Zone 11
72	Long Level Value Zone 12	R/W	Both	UINT16	2	0 -> 1000		4.07.00	Long Level Value Zone 12
73	Short Level Value Zone 1	R/W	Both	UINT16	2	0 -> 1000		4.07.00	Short Level Value Zone 1
74	Short Level Value Zone 2	R/W	Both	UINT16	2	0 -> 1000		4.07.00	Short Level Value Zone 2
75	Short Level Value Zone 3	R/W	Both	UINT16	2	0 -> 1000		4.07.00	Short Level Value Zone 3
76	Short Level Value Zone 4	R/W	Both	UINT16	2	0 -> 1000		4.07.00	Short Level Value Zone 4
77	Short Level Value Zone 5	R/W	Both	UINT16	2	0 -> 1000		4.07.00	Short Level Value Zone 5
78	Short Level Value Zone 6	R/W	Both	UINT16	2	0 -> 1000		4.07.00	Short Level Value Zone 6
79	Short Level Value Zone 7	R/W	Both	UINT16	2	0 -> 1000		4.07.00	Short Level Value Zone 7
80	Short Level Value Zone 8	R/W	Both	UINT16	2	0 -> 1000		4.07.00	Short Level Value Zone 8
81	Short Level Value Zone 9	R/W	Both	UINT16	2	0 -> 1000		4.07.00	Short Level Value Zone 9
82	Short Level Value Zone 10	R/W	Both	UINT16	2	0 -> 1000		4.07.00	Short Level Value Zone 10
83	Short Level Value Zone 11	R/W	Both	UINT16	2	0 -> 1000		4.07.00	Short Level Value Zone 11
84	Short Level Value Zone 12	R/W	Both	UINT16	2	0 -> 1000		4.07.00	Short Level Value Zone 12
85	Fractional Level Value Zone 1	R/W	Both	UINT8	1	0 -> 15		4.07.00	Fractional Level Value Zone 1
86	Fractional Level Value Zone 2	R/W	Both	UINT8	1	0 -> 15		4.07.00	Fractional Level Value Zone 2
87	Fractional Level Value Zone 3	R/W	Both	UINT8	1	0 -> 15		4.07.00	Fractional Level Value Zone 3
88	Fractional Level Value Zone 4	R/W	Both	UINT8	1	0 -> 15		4.07.00	Fractional Level Value Zone 4
89	Fractional Level Value Zone 5	R/W	Both	UINT8	1	0 -> 15		4.07.00	Fractional Level Value Zone 5
90	Fractional Level Value Zone 6	R/W	Both	UINT8	1	0 -> 15		4.07.00	Fractional Level Value Zone 6
91	Fractional Level Value Zone 7	R/W	Both	UINT8	1	0 -> 15		4.07.00	Fractional Level Value Zone 7
92	Fractional Level Value Zone 8	R/W	Both	UINT8	1	0 -> 15		4.07.00	Fractional Level Value Zone 8
93	Fractional Level Value Zone 9	R/W	Both	UINT8	1	0 -> 15		4.07.00	Fractional Level Value Zone 9
94	Fractional Level Value Zone 10	R/W	Both	UINT8	1	0 -> 15		4.07.00	Fractional Level Value Zone 10
95	Fractional Level Value Zone 11	R/W	Both	UINT8	1	0 -> 15		4.07.00	Fractional Level Value Zone 11

Point Type 199 (ROC800) or Point Type 181 (FB107): PMTM Haul Ticketing

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
96	Fractional Level Value Zone 12	R/W	Both	UINT8	1	0 -> 15		4.07.00	Fractional Level Value Zone 12
97	Increments Quantity Zone 1	R/W	Both	UINT16	2	0 -> 65535		4.07.00	Increments Quantity Zone 1
98	Increments Quantity Zone 2	R/W	Both	UINT16	2	0 -> 65535		4.07.00	Increments Quantity Zone 2
99	Increments Quantity Zone 3	R/W	Both	UINT16	2	0 -> 65535		4.07.00	Increments Quantity Zone 3
100	Increments Quantity Zone 4	R/W	Both	UINT16	2	0 -> 65535		4.07.00	Increments Quantity Zone 4
101	Increments Quantity Zone 5	R/W	Both	UINT16	2	0 -> 65535		4.07.00	Increments Quantity Zone 5
102	Increments Quantity Zone 6	R/W	Both	UINT16	2	0 -> 65535		4.07.00	Increments Quantity Zone 6
103	Increments Quantity Zone 7	R/W	Both	UINT16	2	0 -> 65535		4.07.00	Increments Quantity Zone 7
104	Increments Quantity Zone 8	R/W	Both	UINT16	2	0 -> 65535		4.07.00	Increments Quantity Zone 8
105	Increments Quantity Zone 9	R/W	Both	UINT16	2	0 -> 65535		4.07.00	Increments Quantity Zone 9
106	Increments Quantity Zone 10	R/W	Both	UINT16	2	0 -> 65535		4.07.00	Increments Quantity Zone 10
107	Increments Quantity Zone 11	R/W	Both	UINT16	2	0 -> 65535		4.07.00	Increments Quantity Zone 11
108	Increments Quantity Zone 12	R/W	Both	UINT16	2	0 -> 65535		4.07.00	Increments Quantity Zone 12
109	End Increment Number Zone 1	R/W	Both	UINT16	2	0 -> 65535		4.07.00	End Increment Number Zone 1
110	End Increment Number Zone 2	R/W	Both	UINT16	2	0 -> 65535		4.07.00	End Increment Number Zone 2
111	End Increment Number Zone 3	R/W	Both	UINT16	2	0 -> 65535		4.07.00	End Increment Number Zone 3
112	End Increment Number Zone 4	R/W	Both	UINT16	2	0 -> 65535		4.07.00	End Increment Number Zone 4
113	End Increment Number Zone 5	R/W	Both	UINT16	2	0 -> 65535		4.07.00	End Increment Number Zone 5
114	End Increment Number Zone 6	R/W	Both	UINT16	2	0 -> 65535		4.07.00	End Increment Number Zone 6
115	End Increment Number Zone 7	R/W	Both	UINT16	2	0 -> 65535		4.07.00	End Increment Number Zone 7
116	End Increment Number Zone 8	R/W	Both	UINT16	2	0 -> 65535		4.07.00	End Increment Number Zone 8
117	End Increment Number Zone 9	R/W	Both	UINT16	2	0 -> 65535		4.07.00	End Increment Number Zone 9
118	End Increment Number Zone 10	R/W	Both	UINT16	2	0 -> 65535		4.07.00	End Increment Number Zone 10
119	End Increment Number Zone 11	R/W	Both	UINT16	2	0 -> 65535		4.07.00	End Increment Number Zone 11
120	End Increment Number Zone 12	R/W	Both	UINT16	2	0 -> 65535		4.07.00	End Increment Number Zone 12
121	Volume I-Factor Zone 1	R/W	Both	Float	4	Positive Float Data		4.07.00	Volume I-Factor Zone 1

Point Type 199 (ROC800) or Point Type 181 (FB107): PMTM Haul Ticketing

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
122	Volume I-Factor Zone 2	R/W	Both	Float	4	Positive Float Data		4.07.00	Volume I-Factor Zone 2
123	Volume I-Factor Zone 3	R/W	Both	Float	4	Positive Float Data		4.07.00	Volume I-Factor Zone 3
124	Volume I-Factor Zone 4	R/W	Both	Float	4	Positive Float Data		4.07.00	Volume I-Factor Zone 4
125	Volume I-Factor Zone 5	R/W	Both	Float	4	Positive Float Data		4.07.00	Volume I-Factor Zone 5
126	Volume I-Factor Zone 6	R/W	Both	Float	4	Positive Float Data		4.07.00	Volume I-Factor Zone 6
127	Volume I-Factor Zone 7	R/W	Both	Float	4	Positive Float Data		4.07.00	Volume I-Factor Zone 7
128	Volume I-Factor Zone 8	R/W	Both	Float	4	Positive Float Data		4.07.00	Volume I-Factor Zone 8
129	Volume I-Factor Zone 9	R/W	Both	Float	4	Positive Float Data		4.07.00	Volume I-Factor Zone 9
130	Volume I-Factor Zone 10	R/W	Both	Float	4	Positive Float Data		4.07.00	Volume I-Factor Zone 10
131	Volume I-Factor Zone 11	R/W	Both	Float	4	Positive Float Data		4.07.00	Volume I-Factor Zone 11
132	Volume I-Factor Zone 12	R/W	Both	Float	4	Positive Float Data		4.07.00	Volume I-Factor Zone 12
133	End Accum Volume Zone 1	R/W	Both	Float	4	Positive Float Data		4.07.00	End Accum Volume Zone 1
134	End Accum Volume Zone 2	R/W	Both	Float	4	Positive Float Data		4.07.00	End Accum Volume Zone 2
135	End Accum Volume Zone 3	R/W	Both	Float	4	Positive Float Data		4.07.00	End Accum Volume Zone 3
136	End Accum Volume Zone 4	R/W	Both	Float	4	Positive Float Data		4.07.00	End Accum Volume Zone 4
137	End Accum Volume Zone 5	R/W	Both	Float	4	Positive Float Data		4.07.00	End Accum Volume Zone 5
138	End Accum Volume Zone 6	R/W	Both	Float	4	Positive Float Data		4.07.00	End Accum Volume Zone 6
139	End Accum Volume Zone 7	R/W	Both	Float	4	Positive Float Data		4.07.00	End Accum Volume Zone 7
140	End Accum Volume Zone 8	R/W	Both	Float	4	Positive Float Data		4.07.00	End Accum Volume Zone 8
141	End Accum Volume Zone 9	R/W	Both	Float	4	Positive Float Data		4.07.00	End Accum Volume Zone 9
142	End Accum Volume Zone 10	R/W	Both	Float	4	Positive Float Data		4.07.00	End Accum Volume Zone 10
143	End Accum Volume Zone 11	R/W	Both	Float	4	Positive Float Data		4.07.00	End Accum Volume Zone 11
144	End Accum Volume Zone 12	R/W	Both	Float	4	Positive Float Data		4.07.00	End Accum Volume Zone 12
145	Strapping Table Zones	R/W	User	UINT8	1	1 -> 12		4.07.00	Strapping Table Zones
146	Lease Tank ID Number	R/W	User	UINT32	4	0 -> 999999		4.07.00	Lease Tank ID Number

Point Type 199 (ROC800) or Point Type 181 (FB107): PMTM Haul Ticketing

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
147	Tank Material		User	UINT8	1	0 -> 3	0	4.07.00	Indicates the Tank Material. Valid values are: 0 = Mild Carbon Steel 1 = 304 SS 2 = 316 SS 3 = 17-4PH SS
148	Tank Strapping Ref Temp	R/W	User	Float	4	Positive Float Data	60.0	4.07.00	Tank Strapping Ref Temp
149	Tank Is Insulated Y/N	R/W	User	UINT8	1	0 -> 1	0	4.07.00	Tank Is Insulated Y/N: 0 = NO 1 = YES

4.6 Point Type 230/182: PMTM Fluid Properties

Point type 230 (for ROC800) or point type 182 (for FB107) defines the parameters to configure the net standard volume (NSV). The program supports up to 24 logicals of point type 230 (for ROC800) or 8 logicals of point type 182 (for FB107).

Point Type 230 (ROC800) or Point Type 182 (FB107): PMTM Fluid Properties

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
0	Calculate NSV	R/W	User	UINT8	1	0 → 1	0	4.00.00	Indicates whether program performs temperature correction. Valid values are **0** (do not perform temperature correction) and **1** (perform temperature correction)
1	Temperate Def Oil	R/W	User	TLP	3	Any ROC Float TLP	Undefined	4.00.00	TLP of oil temperature signal
2	Temperature Def Water	R/W	User	TLP	3	Any ROC Float TLP	Undefined	4.00.00	TLP of water temperature signal
3	1st/Top Temp Value Oil	R/W	User	Float	4	Zero or Positive Float Data	0	4.00.00	Oil temperature value DegF
4	Temperature Value Water	R/W	Both	Float	4	Zero or Positive Float Data	0	4.00.00	Water temperature value DegF
5	2nd/Mid Temp Value Oil	R/W	User	Float	4	Zero or Positive Float Data	0	4.00.00	Second temperature value(manual)
6	3rd/Btm Temp Value Oil	R/W	User	Float	4	Zero or Positive Float Data	0	4.00.00	Third temperature value (manual)
7	Obs Density Def Oil	R/W	User	TLP	3	Any ROC Float TLP	Undefined	4.00.00	TLP of oil density signal
8	Obs Density Def Water	R/W	User	TLP	3	Any ROC Float TLP	Undefined	4.00.00	TLP of water density signal
9	Obs Density Units Oil	R/W	User	UINT8	1	0 → 7	0	4.00.00	Indicates the oil density units. Valid values are: 0 = Kilograms/Cubic Meter 1= Grams/centimeter 2 = Lbs/CuFt 3 = Lbs/BBL 4 = Lbs/Gallon 5 = Relative Density 6 = API Gravity 7 = Kilograms/Liter

Point Type 230 (ROC800) or Point Type 182 (FB107): PMTM Fluid Properties

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
10	Obs Density Units Water	R/W	User	UINT8	1	0 → 7	0	4.00.00	Indicates the water density units. Valid values are: 0 = Kilograms/Cubic Meter 1= Grams/centimeter 2 = Lbs/CuFt 3 = Lbs/BBL 4 = Lbs/Gallon 5 = Relative Density 6 = API Gravity 7 = Kilograms/Liter
11	Obs Density Value Oil	R/W	Both	Float	4	Zero or Positive Float Data	0	4.00.00	Observed oil density value
12	Obs Density Value Water	R/W	User	Float	4	Zero or Positive Float Data	0	4.00.00	Observed water density value
13	2nd Manu Density Val Oil	R/W	User	Float	4	Zero or Positive Float Data	0	4.00.00	Second oil density value (manual)
14	S and W Def	R/W	User	TLP	3	Any ROC Float TLP	Undefined	4.00.00	TLP of S&W signal
15	S and W Value	R/W	Both	Float	4	Zero or Positive Float Data	0	4.00.00	Sediment & Water (S&W) percentage value
16	2nd Manu S+W Pct – Oil	R/W	User	Float	4	Zero or Positive Float Data	0	4.00.00	Second S&W percentage value (manual)
17	Temperature Avg Oil	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Average oil temperature during haul
18	Temperature Avg Water	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Average water temperature during haul
19	Rel Density Value Oil	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Oil relative density value
20	Rel Density Value Water	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Water relative density value
21	Rel Density Avg Oil	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Average oil relative density during haul
22	Rel Density Avg Water	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Average water relative density during haul

Point Type 230 (ROC800) or Point Type 182 (FB107): PMTM Fluid Properties

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
23	S and W Avg	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Average S&W during haul
24	Rel Dens60 Value	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Current relative density at 60F
25	Rel Dens 60 Avg	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Average relative density at 60F during haul
26	API Grav 60 Value	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Current API gravity at 60F
27	API Grav 60 Avg	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Average API gravity at 60F during haul
28	Oil Gross 60 Avg	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Gross standard oil volume for haul
29	Oil Net Vol	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Net standard oil volume for haul
30	Push Temp to Densitometer	R/W	User	UINT8	1	0 → 3	0	4.00.00	Indicates whether program pushes temperature to densitometer. Valid values are: 0 = Do not forward temperature to densitometer 1= Use first temperature at densitometer 2= Use second temperature at densitometer 3= Use third temperature at densitometer
31	Dens Cur Temp Def	R/W	User	TLP	3	Any ROC Float TLP	Undefined	4.00.00	TLP of densitometer temperature signal
32	Dens Temp Value	R/W	Both	Float	4	Zero or Positive Float Data	0	4.00.00	Densitometer temperature value
33	Dens Avg Temp Value	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Average densitometer temperature value during haul
34	Alt Cur CTL	R/W	System	Float	4	Zero or Positive Float Data	1	4.00.00	Current temperature correction factor 60F to densitometer temperature

Point Type 230 (ROC800) or Point Type 182 (FB107): PMTM Fluid Properties

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
35	Alt Avg CTL	R/W	System	Float	4	Zero or Positive Float Data	1	4.00.00	Average temperature correction factor 60F to densitometer temperature
36	Cur CTL	R/W	System	Float	4	Zero or Positive Float Data	1	4.00.00	Current temperature correction factor of observed fluid to 60F
37	Avg CTL	R/W	System	Float	4	Zero or Positive Float Data	1	4.00.00	Average temperature correction factor of observed fluid to 60F
38	CTL Calc is Invalid	R/W	System	UINT8	1	0 → 1	0	4.00.00	Indicates the validity of the CTL calculation. Valid values are **0** (CTL calculation is valid) and **1** (CTL calculation is invalid; CTL= 1.0)
39	Amb Temp Def	R/W	User	TLP	3	Any ROC Float TLP	Undefined	4.07.00	Amb Temp Def
40	Ambient Temperature	R/W	Both	Float	4	Positive Float Data	70.0	4.07.00	Ambient Temperature
41	Pressure TLP	R/W	User	TLP	3	Any ROC Float TLP	Undefined	4.07.00	Pressure TLP
42	Current Pressure	R/W	Both	Float	4	Zero or Positive Float Data	0.0	4.07.00	Current Pressure
43	Average Pressure	R/W	System	Float	4	Zero or Positive Float Data	0.0	4.07.00	Average Pressure
44	Dens Pressure TLP	R/W	User	TLP	3	Any ROC Float TLP	Undefined	4.07.00	Dens Pressure TLP
45	Cur Dens Pressure	R/W	Both	Float	4	Zero or Positive Float Data	0.0	4.07.00	Cur Dens Pressure
46	Avg Dens Pressure	R/W	System	Float	4	Zero or Positive Float Data	0.0	4.07.00	Avg Dens Pressure
47	Spare Float 3	R/W	User	Float	4	Float Data	0.0	4.07.00	Spare Float 3
48	Net Std Oil Vol Hauled Today	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Net standard oil volume hauled today
49	Net Std Oil Volume Prev Day	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Net standard oil volume hauled previous day
50	Net Std Oil Volume This Month	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Net standard oil volume hauled this month
51	Net Std Oil Volume Prev Month	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Net standard oil volume hauled previous month

Point Type 230 (ROC800) or Point Type 182 (FB107): PMTM Fluid Properties

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
52	Net Std Oil Volume Accum	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Accumulated net standard oil volume hauled
53	Average CPL	R/W	System	Float	4	Positive Float Data	1.0	4.07.00	Average CPL
54	Avg Obs Density Kg/m3	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Avg Obs Density Kg/m3
55	Avg Base Density Kg/m3	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Avg Base Density Kg/m3
56	Avg 60F Density Kg/m3	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Avg 60F Density Kg/m3
57	Avg 15C Density Kg/m3	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Avg 15C Density Kg/m3
58	Avg Fpr	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Avg Fpr
59	Avg CSW	R/W	User	Float	4	Positive Float Data	0.0	4.07.00	Avg CSW
60	Avg Obs Dens Usr Units Oil	R/W	System	Float	4	Float Data	0.0	4.07.00	Avg Obs Dens Usr Units Oil
61	Avg Obs Dens Usr Units Wtr	R/W	System	Float	4	Float Data	0.0	4.07.00	Avg Obs Dens Usr Units Wtr
62	Opening Obs Den UsrUnt	R/W	System	Float	4	Float Data	0.0	4.07.00	Opening Obs Den UsrUnt
63	Closing Obs Den UsrUnt	R/W	System	Float	4	Float Data	0.0	4.07.00	Closing Obs Den UsrUnt
64	Enable Monthly Avg Temp	R/W	User	UINT8	1	0 -> 1		4.07.00	Indicates the Enable Monthly Avg Temp. Valid values are: 0 = NO 1 = YES
65	Monthly Avg Temp Summation	R/W	System	Double	8	Zero or Positive Double Data	0.0	4.07.00	Monthly Avg Temp Summation
66	Monthly Avg Temp Volume	R/W	System	Double	8	Zero or Positive Double Data	0.0	4.07.00	Monthly Avg Temp Volume
67	Monthly Avg Temp Samples	R/W	System	UINT32	4	0 -> 4,294,967,295	0	4.07.00	Monthly Avg Temp Samples
68	This Month Temp Avg	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	This Month Temp Avg
69	Prev Month Temp Avg	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Prev Month Temp Avg
70	Closeout Monthly Avg Temp	R/W	User	UINT8	1	0 -> 1	0	4.07.00	Indicates the Closeout Monthly Avg Temp. Valid values are: 0 = NO 1 = YES
71	Monthly Avg Temp Start Date	R/W	System	UINT32	4	0 -> 4,294,967,295	0	4.07.00	Monthly Avg Temp Start Date

Point Type 230 (ROC800) or Point Type 182 (FB107): PMTM Fluid Properties

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
72	Opening Temperature	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Opening Temperature
73	Opening Pressure	R/W	System	Float	4	Zero or Positive Float Data	0.0	4.07.00	Opening Pressure
74	Opening S&W Pct	R/W	System	Float	4	Zero or Positive Float Data	0.0	4.07.00	Opening S&W Pct
75	Opening Dens Obs Kg/m3	R/W	System	Float	4	Float Data	0.0	4.07.00	Opening Dens Obs Kg/m3
76	Opening Dens Temp	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Opening Dens Temp
77	Opening Dens Press	R/W	System	Float	4	Zero or Positive Float Data	0.0	4.07.00	Opening Dens Press
78	Opening Dens at 60F kg/m3	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Opening Dens at 60F kg/m3
79	Opening Dens at 15C kg/m3	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Opening Dens at 15C kg/m3
80	Opening TOV	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Opening TOV
81	Opening CTSh	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Opening CTSh
82	Opening GOV	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Opening GOV
83	Opening CTL	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Opening CTL
84	Opening CPL	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Opening CPL
85	Opening CTPL	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Opening CTPL
86	Opening GSV	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Opening GSV
87	Opening CSW	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Opening CSW
88	Opening NSV	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Opening NSV
89	Opening NSM	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Opening NSM
90	Opening NSW	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Opening NSW
91	Closing Temperature	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Closing Temperature
92	Closing Pressure	R/W	System	Float	4	Zero or Positive Float Data	0.0	4.07.00	Closing Pressure
93	Closing S&W Pct	R/W	System	Float	4	Zero or Positive Float Data	0.0	4.07.00	Closing S&W Pct
94	Closing Dens Obs Kg/m3	R/W	System	Float	4	Float Data	0.0	4.07.00	Closing Dens Obs Kg/m3

Point Type 230 (ROC800) or Point Type 182 (FB107): PMTM Fluid Properties

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
95	Closing Dens Temp	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Closing Dens Temp
96	Closing Dens Press	R/W	System	Float	4	Zero or Positive Float Data	0.0	4.07.00	Closing Dens Press
97	Closing Dens at 60F kg/m3	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Closing Dens at 60F kg/m3
98	Closing Dens at 15C kg/m3	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Closing Dens at 15C kg/m3
99	Closing TOV	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Closing TOV
100	Closing CTSh	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Closing CTSh
101	Closing GOV	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Closing GOV
102	Closing CTL	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Closing CTL
103	Closing CPL	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Closing CPL
104	Closing CTPL	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Closing CTPL
105	Closing GSV	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Closing GSV
106	Closing CSW	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Closing CSW
107	Closing NSV	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Closing NSV
108	Closing NSM	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Closing NSM
109	Closing NSW	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Closing NSW
110	Opening Base Dens Kg/m3	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Opening Base Dens Kg/m3
111	Closing Base Dens Kg/m3	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Closing Base Dens Kg/m3
112	TOV Transf Qty	R/W	System	Float	4	Zero or Positive Float Data	0.0	4.07.00	TOV Transf Qty
113	GOV Transf Qty	R/W	System	Float	4	Zero or Positive Float Data	0.0	4.07.00	GOV Transf Qty
114	GSV Transf Qty	R/W	System	Float	4	Zero or Positive Float Data	0.0	4.07.00	GSV Transf Qty
115	NSV Transf Qty	R/W	System	Float	4	Zero or Positive Float Data	0.0	4.07.00	NSV Transf Qty
116	SWV Transf Qty	R/W	System	Float	4	Zero or Positive Float Data	0.0	4.07.00	SWV Transf Qty

Point Type 230 (ROC800) or Point Type 182 (FB107): PMTM Fluid Properties

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
117	NSW Transf Qty	R/W	System	Float	4	Zero or Positive Float Data	0.0	4.07.00	NSW Transf Qty
118	Liquid Mass Transf Qty	R/W	System	Float	4	Zero or Positive Float Data	0.0	4.07.00	Liquid Mass Transf Qty

4.7 Point Type 231/183: PMTM Load Outs

Point type 231 (for ROC800) or point type 183 (for FB107) defines the parameters to configure the huma machine interface (HMI) displays. The program supports up to 6 logicals of point type 231 (for ROC800) or 2 logicals of point type 183 (for FB107).

Point Type 231 (ROC800) or Point Type 183 (FB107): PMTM Load Outs

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
0	HMI Tag	R/W	User	String10	10	Printable ASCII characters	Load Term 1	4.00.00	Load station identifier
1	Haul Ticket #	R/W	User	String20	20	Printable ASCII characters		4.00.00	Hauler ticket number for haul
2	Company Code	R/W	User	UINT16	2	1 → 65535	0	4.00.00	Hauler company code
3	Driver Code	R/W	User	UINT16	2	1 → 65535	0	4.00.00	Hauler driver code
4	Invalid Company Flag	R/O	System	UINT8	1	0 → 1	1	4.00.00	Indicates whether the company code is valid. Valid values are **0** (company code is valid) and **1** (company code is not valid).
5	Invalid Driver Flag	R/O	System	UINT8	1	0 → 1	1	4.00.00	Indicates whether the driver code is valid. Valid values are **0** (driver code is valid) and **1** (driver code is not valid).
6	Haul Status Flag	R/O	User	UINT8	1	0 → 5	0	4.00.00	Indicates the haul's current status. Valid values are: 0 = No ticket in progress 1 = In progress; valve open; no flow 2 = In progress; valve open; flowing 3 = In progress; valve closed; flowing 4 = In progress; valve closed; no flow 5= At closing edits
7	Fluid Type in Haul	R/W	System	UINT8	1	1 → 2	0	4.00.00	Indicates the fluid type in the haul. Valid values are **1** (oil) and **2** (water).
8	Tank Instance# in Haul	R/W	System	UINT8	1	1 → 24	0	4.00.00	Tank instance number in haul
9	Tank Letter in Haul	R/W	System	UINT8	1			4.00.00	

Point Type 231 (ROC800) or Point Type 183 (FB107): PMTM Load Outs

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
10	Tank Aggregate in Haul	R/W	System	UINT8	1	0 → 255	0	4.00.00	Aggregate number (if any) in haul
11	Coriolis Meter# in Haul	R/W	User	UINT8	1	0 → 255	0	4.00.00	Driver selection number
12	Haul Inactivity Mins Preset	R/W	User	Float	4	Positive float number	10	4.00.00	Minutes allowed no changes, no flow
13	Haul Inactivity Mins Remain	R/O	System	Float	4	Zero or positive float data	0	4.00.00	Remaining minutes no changes, no flow
14	Pause Haul Command	R/W	User	UINT8	1	0 → 1	0	4.00.00	Indicates the haul command that pauses the process. Valid values are **0** (Command Inactive) and **1** (Close Station Valve).
15	Resume Haul Command	R/W	User	UINT8	1	0 → 1	0	4.00.00	Indicates the haul command that resumes the process. Valid values are **0** (Command Inactive) and **1** (Reopen Station Valve).
16	Max Pause Mins Preset	R/W	User	Float	4			4.00.00	
17	To CloseOut Command	R/W	User	UINT8	1	0 → 1	0	4.00.00	Indicates the command that closes out the process. Valid values are **0** (Command Inactive) and **1** (Move to Final Edits).
18	Warn X Mins B4 Haul End	R/W	User	Float	4	Positive float number	2	4.00.00	Minutes of advanced warning before closeout occurs
19	Haul End Warning Indication	R/O	System	UINT8	1	0 → 1	0	4.00.00	Indicates the end of haul. Valid values are **0** (sufficient time) and **1** (Low time warning).
20	Extend Haul Command	R/W	User	UINT8	1	0 → 1	0	4.00.00	Indicates the command that extends the haul. Valid values are **0** (Command Inactive) and **1** (Add Inactive Preset to Remaining Mintues)
21	Close-out Haul Command	R/W	User	UINT8	1	0 → 1	0	4.00.00	Indicates the command that closes extends the haul. Valid values are **0** (Command Inactive) and **1** (Add Inactive Preset to Remaining Mintues)

Point Type 231 (ROC800) or Point Type 183 (FB107): PMTM Load Outs

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
22	Use Tank / Meter Mease	R/W	User	UINT8	1	0 → 1	0	4.00.00	Indicates how the tank is measured. Valid values are **0** (measure using level change) and **1** (measure using meter change)
23	Use Aggregate / Individ Tk Logs	R/W	User	UINT8	1	0 → 1	1	4.00.00	1 = Measure using meter accum change.
24	Haul Start Command	R/W	User	UINT8	1	0 → 1	0	4.00.00	Indicates the command that starts the haul. Valid values are **0** (Command Inactive) and **1** (Start Haul, Open Station Valve)
25	Disposition Type	R/W	User	UINT8	1	0 → 255	0	4.00.00	User-enumerated value
26	Cur Avg Obs Temperature	R/W	System	Float	4	Zero or positive float data	70	4.00.00	Average hauling fluid temperature
27	Cur Avg Obs Density	R/W	System	Float	4	Zero or positive float data	0.7	4.00.00	Average hauling fluid density
28	Cur Avg Obs S and W	R/W	System	Float	4	Zero or positive float data	0	4.00.00	Average oil S&W percentage
29	Manual Observed Density	R/W	User	Float	4	Zero or positive float data	0	4.00.00	Driver-entered alt-calc observed density
30	Manual BS and W	R/W	User	Float	4	Zero or positive float data	0	4.00.00	Driver-entered alt-calc S&W percentage
31	Diagnositic Soft Point (1-30)	R/W	User	UINT8	1	0 → 32	0	4.00.00	Setpoint number to view diagnostic listing
32	Pin Meter in HMI	R/W	User	UINT8	1	0 → 1		4.00.00	Indicates whether the program maintains the tank or meter selected with the HMI. Valid values are **0** (clear tank/selection after haul ends) and **1** (keep tank/meter selected for this HMI)
33	Driver Login Timeout Mins	R/W	User	Float	4			4.00.00	
34	Manual Temperature	R/W	User	Float	4	Zero or positive float data	0	4.00.00	Driver-entered alt-calc temperature
35	Purchaser Code	R/W	User	UINT16	2	0 → 65535	0	4.00.00	User-enumerated value for fluid purchaser

Point Type 231 (ROC800) or Point Type 183 (FB107): PMTM Load Outs

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
36	Truck Number	R/W	User	String10	10	Printable ASCII characters		4.00.00	Hauler truck number
37	Tank Gauge Number	R/W	User	UINT8	1	0 → 48	0	4.00.00	Internal tank gauge number (two per tank)
38	Manu Density Units (0-Rel/1-API)	R/W	System	UINT8	1	0 → 1	1	4.00.00	Indicates the manually entered density units. Valid values are **0** (use relative density) and **1** (use API gravity) **Note**: This field also accommodates a driver-entered alt-calc density unit.
39	Haul Item Tag	R/O	System	String10	10	Printable ASCII characters		4.00.00	Tag for tank or aggregate in haul
40	Use Manual Temp Top 1	R/W	User	UINT8	1	0 → 1	0	4.00.00	Indicates the temperature to use. Valid values are **0** (do not use 1st manual temperature) and **1** (use 1st manual temperature)
41	Use Manual Temp Mid 2	R/W	User	UINT8	1	0 → 1	0	4.00.00	Indicates the temperature to use. Valid values are **0** (do not use 2nd manual temperature) and **1** (use 2nd manual temperature)
42	Use Manual Temp Btm 3	R/W	User	UINT8	1	0 → 1	0	4.00.00	Indicates the temperature to use. Valid values are **0** (do not use 3rd manual temperature) and **1** (use 3rd manual temperature)
43	Temperature Value 1	R/W	System	Float	4	Zero or positive float data	0	4.00.00	Indicates 1st manual temperature for haul
44	Temperature Value 2	R/W	System	Float	4	Zero or positive float data	0	4.00.00	Indicates 2nd manual temperature for haul
45	Temperature Value 3	R/W	System	Float	4	Zero or positive float data	0	4.00.00	Indicates 3rd manual temperature for haul

Point Type 231 (ROC800) or Point Type 183 (FB107): PMTM Load Outs

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
46	Density Units	R/W	User	UINT8	1	0 → 7	0	4.00.00	Indicates the density units used. Valid values are: 0 = Kilograms/Cubic Meter 1 = Grams/Centimeters 2 = Lbs/CuFt 3 = Lbs/BBL 4 = Lbs/Gallon 5 = Relative Density 6 = API Gravity 7 = Kilograms/Liter
47	Density Value	R/W	System	Float	4	Zero or positive float data	0	4.00.00	Fluid density of haul
48	Density Value Temperature	R/W	System	Float	4	Zero or positive float data	0	4.00.00	Temperature of densitometer for haul fluid
49	S and W Value	R/W	System	Float	4	Zero or positive float data	0	4.00.00	S&W percent for haul fluid
50	HMI Message Field	R/W	System	String20	20	Printable ASCII characters		4.00.00	Status message for Beijer display
51	HMI Enable	R/W	User	UINT8	1	0 → 1	0	4.00.00	Indicates whether the Beijer display can access this HMI instance. Valid values are **0** (display **cannot** access this HMI instance) and **1** (display **can** access this instance)
52	HMI Security	R/W	User	UINT8	1		0	4.00.00	
53	HMI Permissive	R/W	User	System	UINT8	0 → 1	1	4.00.00	Indicates whether the load station value can be opened. Valid values are **0** (load station valve cannot be opened) and **1** (load station valve is operable)

Point Type 231 (ROC800) or Point Type 183 (FB107): PMTM Load Outs

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
54	HMI Navigation	R/W	User	System	UINT8	0 → 7	0	4.00.00	Controls the message field for the Beijer display. Valid values are: 0 = User is logged out 1 = Driver ID accepted 2 = Opening edits 3 = Editing fluid characteristics 4 = Haul in progress 5 = Closing edits 6 = Haul finished 7 = Displaying final summary
55	Ticket Print Command	R/W	User	UINT8	1	0 → 1	0	4.00.00	Indicates whether the program prints a haul transaction ticket. Valid values are **0** (no action) and **1** (print ticket)
56	Temperature Signal Type	R/O	System	UINT8	1	0 → 1	0	4.00.00	Indicates whether the program allows edits of the temperature signal. Valid values are **0** (no edits; signal is automatic) and **1** (user can edit signal)
57	Density Signal Type	R/O	System	UINT8	1	0 → 1	0	4.00.00	Indicates whether the program allows edits of the density signal. Valid values are **0** (no edits; signal is automatic) and **1** (user can edit signal)
58	Density Temp Signal Type	R/O	System	UINT8	1	0 → 1	0	4.00.00	Indicates whether the program allows edits of the density temperature signal. Valid values are **0** (no edits; signal is automatic) and **1** (user can edit signal)
59	S and W Signal Type	R/O	System	UINT8	1	0 → 1	0	4.00.00	Indicates whether the program allows edits of the S&W signal. Valid values are **0** (no edits; signal is automatic) and **1** (user can edit signal)
60	HMI Station Valve Command Value	R/W	System	UINT8	1	0 → 1	0	4.00.00	Controls the load station valve. Valid values are **0** (close load station valve) and **1** (open load station valve)

Point Type 231 (ROC800) or Point Type 183 (FB107): PMTM Load Outs

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
61	HMI Station Valve Def	R/W	User	TLP	3	Any DO point status parameters	Undefined	4.00.00	TLP of valve (DO status parameter)
62	Load Preset Config	R/W	User	UINT8	1	0 → 1	0	4.00.00	Indicates the Load Preset Config. Valid values are: Bit 0 = Make Visible Bit 1 = Mandatory Positive Volume Bit 2 = Load With Zero Value Bit 7 = Validated
63	Load Preset Value	R/W	User	Float	4	Positive float number	0	4.00.00	Target haul value in barrels.
64	Load Line Seal Off Num	R/W	User	UINT32	4	0 → 4,294,967,295		4.00.00	Number of seal removed from load line
65	Load Line Seal On Num	R/W	User	UINT32	4	0 → 4,294,967,295		4.00.00	Number of seal placed on load line
66	Driver Haul Opening LLin	R/W	User	UINT8	1	0 → 255	0	4.00.00	Driver-Entered Opening Gauge LLin (Integer)
67	Driver Haul Opening SLin	R/W	User	UINT8	1	0 → 11	0	4.00.00	Driver-Entered Opening Gauge SLin (Integer)
68	Driver Haul Opening FLin	R/W	User	UINT8	1	0 → 3	0	4.00.00	Driver-Entered Opening Gauge FLin (Integer)
69	Driver Haul Closing LLin	R/W	User	UINT8	1	0 → 255	0	4.00.00	Driver-Entered Closing Gauge LLin (Integer)
70	Driver Haul Closing SLin	R/W	User	UINT8	1	0 → 11	0	4.00.00	Driver-Entered Closing Gauge SLin (Integer)
71	Driver Haul Closing FLin	R/W	User	UINT8	1	0 → 3	0	4.00.00	Driver-Entered Closing Gauge FLin (Integer)
72	Driver Haul Accepting Volume	R/W	User	Float	4	Positive float number	0	4.00.00	Driver-entered estimate of haul volume in barrels
73	RTU Haul Opening LLin	R/W	System	UINT8	1	0 → 255	0	4.00.00	RTU-Measured Opening Gauge LLin (Integer)
74	RTU Haul Opening SLin	R/W	System	UINT8	1	0 → 11	0	4.00.00	RTU-Measured Opening Gauge SLin (Integer)

Point Type 231 (ROC800) or Point Type 183 (FB107): PMTM Load Outs

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
75	RTU Haul Opening FLin	R/W	System	UINT8	1	0 → 3	0	4.00.00	RTU-Measured Opening Gauge FLin (Integer)
76	RTU Haul Closing LLin	R/W	System	UINT8	1	0 → 255	0	4.00.00	RTU-Measured Closing Gauge LLin (Integer)
77	RTU Haul Closing SLin	R/W	System	UINT8	1	0 → 11	0	4.00.00	RTU-Measured Closing Gauge SLin (Integer)
78	RTU Haul Closing FLin	R/W	System	UINT8	1	0 → 3	0	4.00.00	RTU-Measured Closing Gauge FLin (Integer)
79	Transfer Out Tank Num	R/W	User	UINT8	1	0 → 24	0	4.00.00	Tank instance for outgoing fluid transfer
80	Transfer In Tank Num	R/W	User	UINT8	1	0 → 24	0	4.00.00	Tank instance for incoming fluid transfer
81	Transfer Fluid	R/W	User	UINT8	1	0 → 1	0	4.00.00	Indicates the fluid being transferred. Valid values are **0** (oil/hydrocarbon) and **1** (water)
82	Transfer InProcess	R/W	System	UINT8	1	0 → 1	0	4.00.00	Indicates if a transfer is in process. Valid values are **0** (no transfer in process) and **1** (transfer in process)
83	Printer Exists	R/W	User	UINT8	1	0 → 1		4.00.00	Indicates if a printer is available. Valid values are **0** (no printer exists) and **1** (printer exists). If the value is **1**, the program displays a **Print** button. **Note**: Not used on the FB107.
84	Hauler Company Name	R/O	System	String10	10	Printable ASCII characters		4.00.00	Name of hauling company (from entered code). **Note**: Not used on the FB107.
85	Load Out PMSC Trip Code	R/W	System	UINT8	1	0 →148	0	4.02.00	Load Out PMSC Trip Code
86	Manual Calc Inputs Switch	R/W	User	UINT8	1	0 → 1	0	4.05.00	Identifies the Manual Calc Inputs Switch. Valid values are: 0 = Use Calculated Avg GSV 1 = Use Driver Inputs to Calculate GSV

Point Type 231 (ROC800) or Point Type 183 (FB107): PMTM Load Outs

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
87	Haul Object Type	R/W	User	UINT8	1	0 → 3	0	4.06.00	Identifies the Haul Object Type. Valid values are: 0 = Tank 1 = Aggregate 2 = LACT 3 = Item
88	Haul Attributes of Interest	R/O	System	UINT8	1	1 → 6 Bitwise	3	4.06.00	**Haul Attributes of Interest** Bit 0 = Show Levels (bitwise) Bit 1 = Show Inventory Bit 2 = Show Open/Close Accumulators
89	Identifier Field 1 Config	R/W	User	UINT8	1	0 → 131 Bitwise	3	4.06.00	**Identifier Field 1 Config** Bit 0 = Make Visible Bit 1 = Mandatory Text Bit 7 = Validated
90	Identifier Field 2 Config	R/W	User	UINT8	1	0 → 131 Bitwise	3	4.06.00	**Identifier Field 2 Config** Bit 0 = Make Visible Bit 1 = Mandatory Text Bit 7 = Validated
91	Temperature 1 Config	R/W	User	UINT8	1	0 → 131 Bitwise	3	4.06.00	**Temperature 1 Config** Bit 0 = Make Visible Bit 1 = Load with Default Value Bit 7 = Validated
92	Temp 2 Config	R/W	User	UINT8	1	0 → 131 Bitwise	0	4.06.00	**Temperature 2 Config** Bit 0 = Make Visible Bit 1 = Madatory Positive Value (Use) Bit 7 = Validated

Point Type 231 (ROC800) or Point Type 183 (FB107): PMTM Load Outs

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
93	Temp 3 Config	R/W	User	UINT8	1	0 → 131 Bitwise	0	4.06.00	**Temperature 3 Config** Bit 0 = Make Visible Bit 1 = Mandatory Positive Value (Use) Bit 7 = Validated
94	Density 1 Config	R/W	User	UINT8	1	0 → 131 Bitwise	3	4.06.00	**Density 1 Config** Bit 0 = Make Visible Bit 1 = Load with Default Value Bit 7 = Validated
95	Density 2 Config	R/W	User	UINT8	1	0 → 131 Bitwise	0	4.06.00	**Density 2 Config** Bit 0 = Make Visible Bit 1 = Mandatory Positive Value (Use) Bit 7 = Validated
96	S & W 1 Config	R/W	User	UINT8	1	0 → 131 Bitwise	3	4.06.00	**S & W 1 Config** Bit 0 = Make Visible Bit 1 = Load with Default Value Bit 7 = Validated
97	S & W 2 Config	R/W	User	UINT8	1	0 → 131 Bitwise	0	4.06.00	**S & W 1 Config** Bit 0 = Make Visible Bit 1 = Mandatory Positive Value (Use) Bit 7 = Validated
98	Density Temp Config	R/W	User	UINT8	1	0 → 131 Bitwise	3	4.06.00	**Density Temp Config** Bit 0 = Make Visible Bit 1 = Load with Default Value Bit 7 = Validated
99	Seal Off Number Config	R/W	User	UINT8	1	0 → 131 Bitwise	1	4.06.00	**Seal Off Number Config** Bit 0 = Make Visible Bit 1 = Mandatory Positive Value Bit 3 = Impose before Loading Bit 7 = Validated

Point Type 231 (ROC800) or Point Type 183 (FB107): PMTM Load Outs

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
100	Seal On Number Config	R/W	User	UINT8	1	0 → 131 Bitwise	1	4.06.00	**Seal On Number Config** Bit 0 = Make Visible Bit 1 = Mandatory Positive Value Bit 7 = Validated
101	Driver Opening Level Config	R/W	User	UINT8	1	0 → 135 Bitwise	3	4.06.00	**Driver Opening Level Config** Bit 0 = Make Visible Bit 1 = Mandatory Positive Value Bit 2 = Load With Zero Values Bit 3 = Impose before Loading Bit 7 = Validated
102	Driver Closing Level Config	R/W	User	UINT8	1	0 → 135 Bitwise	3	4.06.00	**Driver Closing Level Config** Bit 0 = Make Visible Bit 1 = Mandatory Positive Value Bit 2 = Load With Zero Values Bit 7 = Validated
103	Driver Accepted Volume Config	R/W	User	UINT8	1	0 → 135 Bitwise	3	4.06.00	**Driver Accepted Volume Config** Bit 0 = Make Visible Bit 1 = Mandatory Positive Value Bit 2 = Load With Zero Value Bit 7 = Validated
104	Temperature Default Value	R/W	User	Float	4	Zero or Positive Float Value	70.0	4.06.00	Temperature Default Value
105	Density Default Value	R/W	User	Float	4	Zero or Positive Float Value	35.0	4.06.00	Density Default Value
106	S & W Default Value	R/W	User	Float	4	Zero or Positive Float Value	0.02500	4.06.00	S & W Default Value
107	Density Temp Default Value	R/W	User	Float	4	Zero or Positive Float Value	70.0	4.06.00	Density Temp Default Value
108	Flow Indication Update Period (Secs)	R/W	User	UINT8	1	1 → 60	4	4.06.00	Flow Indication Update Period (Secs)
109	Security Field 1 Text	R/W	User	AC20	20	Printable ASCII Characters	Company Code	4.06.00	Security Field 1 Text

Point Type 231 (ROC800) or Point Type 183 (FB107): PMTM Load Outs

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
110	Security Field 2 Text	R/W	User	AC20	20	Printable ASCII Characters	Driver Code	4.06.00	Security Field 2 Text
111	Identifier Field 1 Text	R/W	User	AC20	20	Printable ASCII Characters	Ticket Number	4.06.00	Identifier Field 1 Text
112	Identifier Field 2 Text	R/W	User	AC20	20	Printable ASCII Characters	Truck Number	4.06.00	Identifier Field 2 Text
113	Density Value 2	R/W	User	Float	4	Zero or Positive Float Value	0.00	4.06.00	Density Value 2
114	S and W Value 2	R/W	User	Float	4	Zero or Positive Float Value	0.00	4.06.00	S and W Value 2
115	Haul Validation Level	R/O	System	UINT8	1	0 → 3	0	4.06.00	Indicates the Haul Validation Level. Valid values are: 0 = None 1 = Identification Complete 2 = PreLoad Complete 3 = All Required Complete
116	Divert Valve Control Enable	R/W		UINT8	1	0 → 1	0	4.07.00	**Divert Valve Control Enable** 0 = Disabled 1 = Enabled
117	DVC Max S&W Pct	R/W		Float	4	Positive Float Number	1.5	4.07.00	DVC Max S&W Pct
118	DVC S&W Verify Delay Sec	R/W		UINT8	1	0 → 255	30	4.07.00	DVC S&W Verify Delay Sec
119	DVC Verification Period Minutes	R/W		Float	4	Positive Float Number	3.0	4.07.00	DVC Verification Period Minutes
120	DVC Verification Attempts	R/W		UINT8	1	1 → 255	3	4.07.00	DVC Verification Attempts
121	Divert Valve TLP	R/W		TLP	3	Any ROC Float TLP	Undefined	4.07.00	Divert Valve TLP
122	DVC PSD Hours	R/W		Float	4	Zero or Positive Float Value	24.0	4.07.00	DVC PSD Hours
123	DVC PSD User Clear Cmd	R/W		UINT8	1	0 → 1	0	4.07.00	Indicates the DVC PSD User Clear Cmd. Valid values are: 0 = Idle 1 = Clear PSD

Point Type 231 (ROC800) or Point Type 183 (FB107): PMTM Load Outs

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
124	Divert Valve Control Status	R/O		UINT8	1	0 → 5	0	4.07.00	Indicates the Divert Valve Control Status. Valid values are: 0 = Idle 1 = Non-Merchantable State 2 = Merchantable State 3 = TSD in Effect 4 = PSD in Effect 5 = No S&W Input Configured
125	Divert Valve Output	R/O		UINT8	1	0 → 1	0	4.07.00	Indicates the Divert Valve Output. Valid values are: 0 = Diverted to Tank 1 = Open to Truck
126	DVC Verifications Failed	R/O		UINT8	1	0 → 255	0	4.07.00	DVC Verifications Failed
127	Ambient Temperature	R/W		Float	4	Positive Float Number	70.0	4.07.00	Ambient Temperature
128	Enable Monthly Avg Temp	R/W		UINT8	1	0 → 1	0	4.07.00	Indicates the Enable Monthly Avg Temp. Valid values are: 0 = Disabled 1 = Enabled
129	Monthly Avg Temp Summation	R/W		Double	8	Zero or Positive Double Data	0.0	4.07.00	Monthly Avg Temp Summation
130	Monthly Avg Temp Volume	R/W		Double	8	Zero or Positive Double Data	0.0	4.07.00	Monthly Avg Temp Volume
131	Monthly Avg Temp Samples	R/W		UINT32	4	0 -> 30000000	0	4.07.00	Monthly Avg Temp Samples
132	This Month Temp Avg	R/W		Float	4	Zero or Positive Float Value	0.0	4.07.00	This Month Temp Avg
133	Prev Month Temp Avg	R/W		Float	4	Zero or Positive Float Value	0.0	4.07.00	Prev Month Temp Avg
134	Closeout Monthly Avg Temp	R/W		UINT8	1	0 → 1	0	4.07.00	Indicates the Closeout Monthly Avg Temp. Valid values are: 0 = Idle 1 = Perform Rollover

Point Type 231 (ROC800) or Point Type 183 (FB107): PMTM Load Outs

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
135	Monthly Avg Temp Start Date	R/W		UINT8	1	101 → 991231	0	4.07.00	Monthly Avg Temp Month
136	Deliver Out or Receive In	R/W	User	UINT8	1	0 → 1	0	4.07.00	Indicates the Deliver Out or Receive In. Valid values are: 0 = Deliver Out 1 = Receive In
137	Load Out Fluid Type	R/W	User	UINT8	1	0 → 1	0	4.07.00	Indicated the Load Out Fluid Type. Valid values are: 0 = Crude Oil (Hydrocarbon). 1 = Produced Water
138	Measurement Method	R/W	User	UINT8	1	0 → 2	0	4.07.00	Indicates the Measurement Method. Valid values are: 0 = Tank Level Delta 1 = ROC800L Meter 2 = Gross Meter
139	Meter TLP	R/W	User	TLP	3	ROC PI, APM or 800L Mtr Inst	Undefined	4.07.00	Meter TLP
140	Is a Standalone LACT	R/W	User	UINT8	1	0 → 1	1	4.07.00	**Is a Standalone LACT** 0 = No 1 = Yes
141	Associated Tank/Agr Insts 1	R/W	User	UINT8	1	0 → 7 (bitwise)	0	4.07.00	Associated Tank/Agr Insts 1
142	Associated Tank/Agr Insts 2	R/W	User	UINT8	1	0 → 7 (bitwise)	0	4.07.00	Associated Tank/Agr Insts 2
143	Associated Tank/Agr Insts 3	R/W	User	UINT8	1	0 → 7 (bitwise)	0	4.07.00	Associated Tank/Agr Insts 3
144	Temperature TLP	R/W	User	TLP	3	Any ROC Float TLP	Undefined	4.07.00	Temperature TLP
145	Density TLP	R/W	User	TLP	3	Any ROC Float TLP	Undefined	4.07.00	Density TLP
146	S&W TLP	R/W	User	TLP	3	Any ROC Float TLP	Undefined	4.07.00	S&W TLP
147	Pressure TLP	R/W	User	TLP	3	Any ROC Float TLP	Undefined	4.07.00	Pressure TLP
148	Densitometer Temp TLP	R/W	User	TLP	3	Any ROC Float TLP	Undefined	4.07.00	Densitometer Temp TLP
149	Densitometer Press TLP	R/W	User	TLP	3	Any ROC Float TLP	Undefined	4.07.00	Densitometer Press TLP
150	Ambient Temp TLP	R/W	User	TLP	3	Any ROC Float TLP	Undefined	4.07.00	Ambient Temp TLP

Point Type 231 (ROC800) or Point Type 183 (FB107): PMTM Load Outs

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
151	Calculate Standard Volumes	R/W	User	UINT8	1	0 → 1	1	4.07.00	**Calculate Standard Volumes** 0 = No 1 = Yes
152	Densitometer Temp Value 2	R/W	User	Float	4	Zero or Positive Float Value	0.00	4.07.00	Densitometer Temp Value 2
153	Pressure Value 1	R/W	User	Float	4	Zero or Positive Float Value	0.00	4.07.00	Pressure Value 1
154	Pressure Value 2	R/W	User	Float	4	Zero or Positive Float Value	0.00	4.07.00	Pressure Value 2
155	Densitometer Press Value 1	R/W	User	Float	4	Zero or Positive Float Value	0.00	4.07.00	Densitometer Press Value 1
156	Densitometer Press Value 2	R/W	User	Float	4	Zero or Positive Float Value	0.00	4.07.00	Densitometer Press Value 2
157	Density Temp 2 Config	R/W	User	UINT8	1	0 → 131 Bitwise	3	4.07.00	**Density Temp 2 Config** Bit 0 = Make Visible Bit 1 = Load with Default Value Bit 7 = Validated
158	Pressure 1 Config	R/W	User	UINT8	1	0 → 131 Bitwise	3	4.07.00	**Pressure 1 Config** Bit 0 = Make Visible Bit 1 = Load with Default Value Bit 7 = Validated
159	Pressure 2 Config	R/W	User	UINT8	1	0 → 131 Bitwise	3	4.07.00	**Pressure 2 Config** Bit 0 = Make Visible Bit 1 = Load with Default Value Bit 7 = Validated
160	Density Press 1 Config	R/W	User	UINT8	1	0 → 131 Bitwise	3	4.07.00	**Density Press 1 Config** Bit 0 = Make Visible Bit 1 = Load with Default Value Bit 7 = Validated

Point Type 231 (ROC800) or Point Type 183 (FB107): PMTM Load Outs

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
161	Density Press 2 Config	R/W	User	UINT8	1	0 → 131 Bitwise	3	4.07.00	**Density Press 2 Config** Bit 0 = Make Visible Bit 1 = Load with Default Value Bit 7 = Validated
162	Pressure Default Value	R/W	User	Float	4	Zero or Positive Float Value	0.0	4.07.00	Pressure Default Value
163	Density Press Default Value	R/W	User	Float	4	Zero or Positive Float Value	0.0	4.07.00	Density Press Default Value
164	Temp Signal Def is Local/At Tank	R/W	User	UINT8	1	0 → 1	0	4.07.00	Indicates the Temp Signal Def is Local/At Tank. Valid values are: 0 = Use Def at LoadOut Display 1 = Use Defs at Tank Display
165	Pres Signal Def is Local/At Tank	R/W	User	UINT8	1	0 → 1	0	4.07.00	Indicates the Pres Signal Def is Local/At Tank. Valid values are: 0 = Use Def at LoadOut Display 1 = Use Defs at Tank Display
166	Dens Signal Def is Local/At Tank	R/W	User	UINT8	1	0 → 1	0	4.07.00	Indicates the Dens Signal Def is Local/At Tank. Valid values are: 0 = Use Def at LoadOut Display 1 = Use Defs at Tank Display
167	S&W Signal Def is Local/At Tank	R/W	User	UINT8	1	0 → 1	0	4.07.00	Indicates the S&W Signal Def is Local/At Tank. Valid values are: 0 = Use Def at LoadOut Display 1 = Use Defs at Tank Display
168	Dens Temp Signal Def is Local/At Tank	R/W	User	UINT8	1	0 → 1	0	4.07.00	Indicates the Dens Temp Signal Def is Local/At Tank. Valid values are: 0 = Use Def at LoadOut Display 1 = Use Defs at Tank Display
169	Dens Pres Signal Def is Local/At Tank	R/W	User	UINT8	8	0 → 1	0	4.07.00	Indicates the Dens Pres Signal Def is Local/At Tank. Valid values are: 0 = Use Def at LoadOut Display 1 = Use Defs at Tank Display

Point Type 231 (ROC800) or Point Type 183 (FB107): PMTM Load Outs

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
170	Pressure Signal Type	R/W		UINT8	1	0 → 1	0	4.07.00	Indicates the Pressure Signal Type. Valid values are: 0 = Auto 1 = Manual
171	Density Press Signal Type	R/W		UINT8	1	0 → 1	0	4.07.00	Indicates the Density Press Signal Type. Valid values are: 0 = Auto 1 = Manual
172	Equilibrium Pressure	R/W		Float	4	Zero or Positive Float Value	0.0	4.07.00	Equilibrium Pressure
173	Prev Haul Status	R/W		UINT8	1	0 → 1	0	4.07.00	Indicates the Prev Haul Status. Valid values are: 0 = Not Hauling 1 = Hauling
174	Haul Volume This Day Oil	R/W		Float	4	Zero or Positive Float Value	0.0	4.07.00	Haul Volume This Day Oil
175	Haul Volume This Day Wtr	R/W		Float	4	Zero or Positive Float Value	0.0	4.07.00	Haul Volume This Day Wtr
176	Haul Volume Prev Day Oil	R/W		Float	4	Zero or Positive Float Value	0.0	4.07.00	Haul Volume Prev Day Oil
177	Haul Volume Prev Day Wtr	R/W		Float	4	Zero or Positive Float Value	0.0	4.07.00	Haul Volume Prev Day Wtr
178	Haul Volume This Month Oil	R/W		Float	4	Zero or Positive Float Value	0.0	4.07.00	Haul Volume This Month Oil
179	Haul Volume This Month Wtr	R/W		Float	4	Zero or Positive Float Value	0.0	4.07.00	Haul Volume This Month Wtr
180	Haul Volume Prev Month Oil	R/W		Float	4	Zero or Positive Float Value	0.0	4.07.00	Haul Volume Prev Month Oil
181	Haul Volume Prev Day Wtr	R/W		Float	4	Zero or Positive Float Value	0.0	4.07.00	Haul Volume Prev Day Wtr
182	Haul Volume Accum Oil	R/W		Double	8	Zero or Positive Double Value	0.0	4.07.00	Haul Volume Accum Oil

Point Type 231 (ROC800) or Point Type 183 (FB107): PMTM Load Outs

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
183	Haul Volme Accum Wtr	R/W		Double	8	Zero or Positive Double Value	0.0	4.07.00	Haul Volme Accum Wtr
184	Qty Hauls This Day Oil	R/W		UINT8	1	0 → 255	0	4.07.00	Qty Hauls This Day Oil
185	Qty Hauls This Day Wtr	R/W		UINT8	1	0 → 255	0	4.07.00	Qty Hauls This Day Wtr
186	Qty Hauls Prev Day Oil	R/W		UINT8	1	0 → 255	0	4.07.00	Qty Hauls Prev Day Oil
187	Qty Hauls Prev Day Wtr	R/W		UINT8	1	0 → 255	0	4.07.00	Qty Hauls Prev Day Wtr
188	Qty Hauls This Month Oil	R/W		UINT16	2	0 → 65535	0	4.07.00	Qty Hauls This Month Oil
189	Qty Hauls This Month Wtr	R/W		UINT16	2	1 → 65535	0	4.07.00	Qty Hauls This Month Wtr
190	Qty Hauls Prev Month Oil	R/W		UINT16	2	2 → 65535	0	4.07.00	Qty Hauls Prev Month Oil
191	Qty Hauls Prev Month Wtr	R/W		UINT16	2	3 → 65535	0	4.07.00	Qty Hauls Prev Month Wtr
192	Qty Hauls Accum Oil	R/W		UINT32	4	0 → 4,294,967,295	0	4.07.00	Qty Hauls Accum Oil
193	Qty Hauls Accum Wtr	R/W		UINT32	4	0 → 4,294,967,295	0	4.07.00	Qty Hauls Accum Wtr
194	LoadOut Contract Hour	R/W		UINT8	1	0 → 255	0	4.07.00	LoadOut Contract Hour
195	Log Hauls on Day Start/End	R/W		UINT8	1	0 → 255	0	4.07.00	Log Hauls on Day Start/End
196	Cur Contract Day	R/W		UINT8	1	0 → 31	0	4.07.00	Cur Contract Day
197	Cur Contract Month	R/W		UINT8	1	0 → 12	0	4.07.00	Cur Contract Month
198	Clear Haul Stats	R/W		UINT8	1	0 → 1	0	4.07.00	**Clear Haul Stats** 0 = NO 1 = YES
199	DVC PSD Remaining Hours	R/W		Float	4	Zero or Positive Float Value	0.0	4.07.00	DVC PSD Remaining Hours
200	DVC PSD in Effect	R/W		UINT8	1	0 → 1	0	4.07.00	DVC PSD in Effect

4.8 Point Type 232/184: PMTM Hauler Database

Point type 232 (for ROC800) or point type 184 (for FB107) defines the parameters to configure the hauler database. The program supports up to 60 logicals of point type 232 (for ROC800) or 60 logicals of point type 184 (for FB107).

Point Type 232 (ROC800) or Point Type 184 (FB107): PMTM Hauler Database

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
0	Company Tag	R/W	User	String10	10	Printable ASCII characters		4.00.00	Name of hauling company
1	Company Code	R/W	User	UINT16	2	0 → 65535	0	4.00.00	Code number for hauling company
2	Driver Min Code	R/W	User	UINT16	2	0 → 65535	0	4.00.00	Lowest valid driver PIN number
3	Driver Max Code	R/W	User	UINT16	2	0 → 65535	0	4.00.00	Higest valid driver PIN number

4.9 Point Type 233/185: PMTM Haul Current Values

Point type 233 (for ROC800) or point type 185 (for FB107) defines the parameters to configurate current haul values. The program supports up to 6 logicals of point type 233 (for ROC800) or 2 logicals of point type 185 (for FB107).

Point Type 233 (ROC800) or Point Type 185 (FB107): PMTM Current Haul Values

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
0	Tank ID	R/W	System	String10	10	ASCII Characters	<idle>	4.00.00	Identifies tag for tank hauled.
1	Haul Number Today	R/W	System	UINT8	1	0 → 255	0	4.00.00	Indicates the number of times today this tank has been hauled.
2	Opening Date	R/W	System	UINT32	4	101 → 991231	0	4.00.00	Haul start date in format YYMMDD.
3	Opening Time	R/W	System	UINT32	4	0 → 235959	0	4.00.00	Haul start time in format HHMMSS
4	Closing Date	R/W	System	UINT32	4	101 → 991231	0	4.00.00	Haul end date in format YYMMDD
5	Closing Time	R/W	System	UINT32	4	0 → 235959	0	4.00.00	Haul end time in format HHMMSS
6	Haul Duration Minutes	R/W	System	Float	4	Positive Float Data	0	4.00.00	Haul duration in minutes
7	Total Gross Volume	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Haul volume from level change or meter indicated volume
8	High Level	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Highest tank level in feet for this cycle.
9	High Stock	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Highest tank fluid volume for this cycle
10	High Mark Date	R/W	System	UINT32	4	101 → 991231	0	4.00.00	Date of highest level in format YYMMDD
11	High Mark Time	R/W	System	UINT32	4	0 → 235959	0	4.00.00	Time of highest level in format HHMMSS
12	Shrinkage B4 Haul	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Difference between high and opening tank volumes
13	Opening Level	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Tank fluid level, in feet, at start of haul
14	Opening Stock	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Tank fluid volume, in barrels, at start of haul
15	Closing Level	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Tank fluid level, in feet, at close of haul

Point Type 233 (ROC800) or Point Type 185 (FB107): PMTM Current Haul Values

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
16	Closing Stock	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Tank fluid volume, in barrels, at close of haul
17	Avg Temperature	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Average fluid temperature during haul
18	Avg Obs Rel Density	R/W	System	Float	4	Float Data	0	4.00.00	Average observed relative density during haul
19	Avg S and W	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Average sediment and water measured during haul
20	Avg API Grav 60	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Average standard API gravity during oil haul
21	Avg Rel Dens 60	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Average standard relative density during oil haul
22	Volume Cor Factor	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Average temperature correction factor of observed temperature to 60F for oil haul
23	Copr Factor Calc is Invalid	R/W	System	UINT8	1	0 → 1	0	4.00.00	Indicates if correction factor calculation is correct. Valid values are **0** (CTL calc is valid) and **1** (CTL calc in invalid, standard = observed)
24	Oil Level Change	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Change in oil level, in feet, during haul.
25	Gross Oil Vol Hauled	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Gross oil volume hauled (difference from Ind if Mtr Factor ! = 1)
26	Gross Oil 60 Vol Hauled	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Gross volume of oil hauled, corrected to 60°F
27	Net Oil Vol Hauled	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Gross standard oil volume hauled, less S&W volume
28	Water Level Change	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Change in water level, in feet, during haul
29	Water Vol Hauled	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Volume of water, in barrels, hauled
30	Inferred (Gross) BBL During Haul	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Barrels calculated to have entered tank during haul

Point Type 233 (ROC800) or Point Type 185 (FB107): PMTM Current Haul Values

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
31	Haul Serial Number	R/W	System	UINT32	4	0 → 4,294,967,295	0	4.00.00	Serial identifier for haul
32	Haul Ticket Number	R/W	System	String20	20	ASCII Characters	0	4.00.00	Haulling company ticket number for haul
33	Transaction Type (Indv,Aggr,Meter)	R/W	System	UINT8	1	1 → 6	1	4.00.00	Indicates the type of transaction. Valid values are: 1 = Individual tank 2 = Tank Aggregate 3 = ROC800 Water Instance 4 = Water Meter (Pulse Input) Instance 5 = Tank-to-tank Transfer Outbound 6 = Tank-to-tank Transfer Inbound
34	Meter Factor (Coriolis)	R/W	System	Float	4	Positive Float Data	1	4.00.00	ROC800L meter factor
35	Meter Density Kg/m3	R/W	System	Float	4	Positive Float Data	0	4.00.00	
36	Observed API Gravity	R/W	System	Float	4	Float Data	0	4.00.00	Average observed API gravity during haul
37	Meter Start Volume	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	ROC800L or Pulse Input Starting Indicated accumulation
38	Meter End Volume	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	ROC800L or Pulse Input Ending Indicated accumulation
39	Company Code	R/W	System	UINT16	2	0 → 65535	0	4.00.00	Company identifier for haul
40	Driver Code	R/W	System	UINT16	2	0 → 65535	0	4.00.00	Driver identifier for haul
41	Disposition Type	R/W	System	UINT8	1	0 → 255	0	4.00.00	User-enumerated Disposition for haul
42	Manual Corr API Censity	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Driver-entered alternate observed API gravity
43	Manual BS and W	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Driver-entered alternate S&W percentage
44	Haul Serial Num Index Cmd	R/W	System	UINT32	4	0 → 4,294,967,295	0	4.00.00	Serial number of log requested for logical zero
45	Avg Densitometer Tempt	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Average temperature DegF at densitometer

Point Type 233 (ROC800) or Point Type 185 (FB107): PMTM Current Haul Values

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
46	Avg CTL Base to Alt	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Average temperature correction factor 60F to density temperature for oil haul
47	Truck Number	R/W	System	String10	10	ASCII Characters		4.00.00	Hauling company truck number for haul
48	Purchaser Code	R/W	System	UINT16	2	0 → 65535	0	4.00.00	User-enumerated purchaser code for haul
49	Manual Temperature	R/W	System	Float	4	0 → 65535	0	4.00.00	Driver-entered alternate calculation for temperature DegF
50	Manual Derived Grs Std Vol Oil	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Alternate calculated gross standard oil volume using alternate calc inputs
51	Manual Derived Net Std Vol Oil	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Alternate calculated net standard oil volume using alternate calc inputs
52	Level Change Volume	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Change in tank fluid level in feet (“strapping value”)
53	Fluid Type Hauled	R/W	System	UINT8	1	0 → 1	0	4.00.00	Indicates the fluid hauled. Valid values are **0** (Oil/hydrocarbon) or **1** (produced water).
54	Tank Accounting Code	R/W	System	String10	10	ASCII Characters		4.00.00	User accounting system identifier for tank hauled
55	Load Line Seal Off Num	R/W	System	UINT32	4	0 → 4,294,967,295	0	4.00.00	Number of seal removed from load line
56	Load Line Seal On Num	R/W	System	UINT32	4	0 → 4,294,967,295	0	4.00.00	Number of seal placed from load line
57	Driver Haul Opening Feet	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Driver-entered haul opening level, in feet.
58	Driver Haul Closing Feet	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Driver-entered haul closing level, in feet.
59	Driver Haul Accepted Volume	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Driver-entered accepted haul volume, in barrels

Point Type 233 (ROC800) or Point Type 185 (FB107): PMTM Current Haul Values

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
60	HMI or Auto-Detected Haul	R/O	System	UINT8	1	0 → 1	0	4.00.00	Indicates how the haul is detected. Valid values are **0** (HMI generated haul) or **1** (Auto-detected haul)
61	High Level Oil	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	High column height in feet for oil this cycle.
62	High Level Water	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	High column height in feet for water this cycle.
63	High Stock Oil	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	High volume in barrels for oil this cycle.
64	High Stock Water	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	High volume in barrels for water this cycle.
65	Opening Level Oil	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Oil column height in feet at start of haul.
66	Opening Level Water	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Water column height in feet at start of haul.
67	Opening Stock Oil	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Oil volume in barrels at start of haul
68	Opening Stock Water	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Water volume in barrels at start of haul
69	Closing Level Oil	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Oil column height in feet at close of haul.
70	Closing Level Water	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Water column height in feet at close of haul.
71	Closing Stock Oil	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Oil volume in barrels at end of haul
72	Closing Stock Water	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Water volume in barrels at end of haul
73	Shrinkage B4 Haul Oil	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Difference between high and opening oil volumes
74	Shrinkage B4 Haul Water	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Differece between high and opening water volumes
75	Level Change Tank	R/W	System	Float	4	Zero or Positive Float Data	0	4.00.00	Fluid level change during haul

Point Type 233 (ROC800) or Point Type 185 (FB107): PMTM Current Haul Values

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
78	S and W Volume	R/W	System	Float	4	Zero or Positive Float Data	0	4.05.00	S and W Volume
79	S and W Vol - Manual Calc	R/W	System	Float	4	Zero or Positive Float Data	0	4.05.00	S and W Vol - Manual Calc
80	Record Location in File	R/W	System	UINT16	2	0 -> 511	0	4.07.00	Haul Record Location in File
81	Hard Haul Serial Number	R/W	System	UINT32	4	0 -> 4,294,967,295	0	4.07.00	Hard Haul Serial Number
82	Mtr Opening Gross Volume	R/W	System	Double	8	Zero or Positive Double Data	0.0	4.07.00	Mtr Opening Gross Volume
83	Mtr Opening GSV	R/W	System	Double	8	Zero or Positive Double Data	0.0	4.07.00	Mtr Opening GSV
84	Mtr Opening NSV	R/W	System	Double	8	Zero or Positive Double Data	0.0	4.07.00	Mtr Opening NSV
85	Mtr Opening SWV	R/W	System	Double	8	Zero or Positive Double Data	0.0	4.07.00	Mtr Opening SWV
86	Mtr Opening Mass	R/W	System	Double	8	Zero or Positive Double Data	0.0	4.07.00	Mtr Opening Mass
87	Mtr Closing Gross Volume	R/W	System	Double	8	Zero or Positive Double Data	0.0	4.07.00	Mtr Closing Gross Volume
88	Mtr Closing GSV	R/W	System	Double	8	Zero or Positive Double Data	0.0	4.07.00	Mtr Closing GSV
89	Mtr Closing NSV	R/W	System	Double	8	Zero or Positive Double Data	0.0	4.07.00	Mtr Closing NSV
90	Mtr Closing SWV	R/W	System	Double	8	Zero or Positive Double Data	0.0	4.07.00	Mtr Closing SWV
91	Mtr Closing Mass	R/W	System	Double	8	Zero or Positive Double Data	0.0	4.07.00	Mtr Closing Mass
92	Temperature Summation	R/W	System	Double	8	Zero or Positive Double Data	0.0	4.07.00	Temperature Summation
93	Pressure Summation	R/W	System	Double	8	Zero or Positive Double Data	0.0	4.07.00	Pressure Summation
94	Density Summation	R/W	System	Double	8	Zero or Positive Double Data	0.0	4.07.00	Density Summation

Point Type 233 (ROC800) or Point Type 185 (FB107): PMTM Current Haul Values

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
95	S&W Pct Summation	R/W	System	Double	8	Zero or Positive Double Data	0.0	4.07.00	S&W Pct Summation
96	Dens Temp Summation	R/W	System	Double	8	Zero or Positive Double Data	0.0	4.07.00	Dens Temp Summation
97	Dens Press Summation	R/W	System	Double	8	Zero or Positive Double Data	0.0	4.07.00	Dens Press Summation
98	Avg Obs Dens UserUnit	R/W	System	Float	4	Zero or Positive Double Data	0.0	4.07.00	Avg Obs Dens UserUnit
99	Avg Base Dens UserUnit	R/W	System	Float	4	Zero or Positive Double Data	0.0	4.07.00	Avg Base Dens UserUnit
100	Base Temperature DegF	R/W	System	Float	4	Positive Float Data	60.0	4.07.00	Base Temperature DegF
101	Flow Rate per Minute	R/W	System	Float	4	Zero or Positive Float Data	0.0	4.07.00	Flow Rate per Minute
102	Future Float	R/W	System	Float	4	Zero or Positive Float Data	0.0	4.07.00	Future Float
103	Future Float	R/W	System	Float	4	Zero or Positive Float Data	0.0	4.07.00	Future Float
104	Avg Pressure	R/W	System	Float	4	Zero or Positive Float Data	0.0	4.07.00	Avg Pressure
105	Avg Densitometer Pressure	R/W	System	Float	4	Zero or Positive Float Data	0.0	4.07.00	Avg Densitometer Pressure
106	Avg Obs Density Kg/m3	R/W	System	Float	4	Zero or Positive Float Data	0.0	4.07.00	Avg Obs Density Kg/m3
107	Avg 60F Density Kg/m3	R/W	System	Float	4	Zero or Positive Float Data	0.0	4.07.00	Avg 60F Density Kg/m3
108	Avg 15C Density Kg/m3	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Avg 15C Density Kg/m3
109	CTLob Avg Summation	R/W	System	Double	8	Zero or Positive Double Data	0.0	4.07.00	CTLob Avg Summation
110	CTLba Avg Summation	R/W	System	Double	8	Zero or Positive Double Data	0.0	4.07.00	CTLba Avg Summation
111	Volume FWA Summation	R/W	System	Double	8	Zero or Positive Double Data	0.0	4.07.00	Volume FWA Summation

Point Type 233 (ROC800) or Point Type 185 (FB107): PMTM Current Haul Values

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
112	Future UINT8	R/W	System	UINT8	1	0 -> 255	0	4.07.00	Future UINT8
113	Future UINT8	R/W	System	UINT8	1	0 -> 255	0	4.07.00	Future UINT8
114	Opening Temperature	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Opening Temperature
115	Opening Pressure	R/W	System	Float	4	Zero or Positive Float Data	0.0	4.07.00	Opening Pressure
116	Opening S&W Pct	R/W	System	Float	4	Zero or Positive Float Data	0.0	4.07.00	Opening S&W Pct
117	Opening Obs Dens Kg/m3	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Opening Obs Dens Kg/m3
118	Opening Dens Temp	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Opening Dens Temp
119	Opening Dens Press	R/W	System	Float	4	Zero or Positive Float Data	0.0	4.07.00	Opening Dens Press
120	Opening CTL	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Opening CTL
121	Opening CPL	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Opening CPL
122	Opening CTPL	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Opening CTPL
123	Opening CSW	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Opening CSW
124	Closing Temperature	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Closing Temperature
125	Closing Pressure	R/W	System	Float	4	Zero or Positive Float Data	0.0	4.07.00	Closing Pressure
126	Closing S&W Pct	R/W	System	Float	4	Zero or Positive Float Data	0.0	4.07.00	Closing S&W Pct
127	Closing Obs Dens Kg/m3	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Closing Obs Dens Kg/m3
128	Closing Dens Temp	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Closing Dens Temp
129	Closing Dens Press	R/W	System	Float	4	Zero or Positive Float Data	0.0	4.07.00	Closing Dens Press
130	Closing CTL	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Closing CTL
131	Closing CPL	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Closing CPL
132	Closing CTPL	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Closing CTPL
133	Closing CSW	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Closing CSW

Point Type 233 (ROC800) or Point Type 185 (FB107): PMTM Current Haul Values

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
134	Prev Scan Mtr Accum	R/W	System	Double	8	Zero or Positive Float Data	0.0	4.07.00	Prev Scan Mtr Accum
135	Prev Scan Fluid Inventory	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Prev Scan Fluid Inventory
136	Opening TOV	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Opening TOV
137	Opening CTSh	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Opening CTSh
138	Opening GOV	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Opening GOV
139	Opening GSV	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Opening GSV
140	Opening NSV	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Opening NSV
141	Opening NSM	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Opening NSM
142	Opening NSW	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Opening NSW
143	Closing TOV	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Closing TOV
144	Closing CTSh	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Closing CTSh
145	Closing GOV	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Closing GOV
146	Closing GSV	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Closing GSV
147	Closing NSV	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Closing NSV
148	Closing NSM	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Closing NSM
149	Closing NSW	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Closing NSW
150	TOV Transf Qty	R/W	System	Float	4	Zero or Positive Float Data	0.0	4.07.00	TOV Transf Qty
151	GOV Transf Qty	R/W	System	Float	4	Zero or Positive Float Data	0.0	4.07.00	GOV Transf Qty
152	GSV Transf Qty	R/W	System	Float	4	Zero or Positive Float Data	0.0	4.07.00	GSV Transf Qty
153	NSV Transf Qty	R/W	System	Float	4	Zero or Positive Float Data	0.0	4.07.00	NSV Transf Qty
154	SWV Transf Qty	R/W	System	Float	4	Zero or Positive Float Data	0.0	4.07.00	SWV Transf Qty
155	NSW Transf Qty	R/W	System	Float	4	Zero or Positive Float Data	0.0	4.07.00	NSW Transf Qty

Point Type 233 (ROC800) or Point Type 185 (FB107): PMTM Current Haul Values

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
156	Liquid Mass Transf Qty	R/W	System	Float	4	Zero or Positive Float Data	0.0	4.07.00	Liquid Mass Transf Qty
157	Combined Corr Fact	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Combined Corr Fact
158	Avg Base Density Kg/m3	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Avg Base Density Kg/m3
159	Avg CPL B2A	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Avg CPL B2A
160	Avg Fpr	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Avg Fpr
161	Avg CSW	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Avg CSW
162	Obs Dens Sum Kg/m3	R/W	System	Double	8	Zero or Positive Double Data	0.0	4.07.00	Obs Dens Sum Kg/m3
163	Base Dens Summation	R/W	System	Double	8	Zero or Positive Double Data	0.0	4.07.00	Base Dens Summation
164	60F Dens Summation	R/W	System	Double	8	Zero or Positive Double Data	0.0	4.07.00	60F Dens Summation
165	15C Dens Summation	R/W	System	Double	8	Zero or Positive Double Data	0.0	4.07.00	15C Dens Summation
166	CPL Summation	R/W	System	Double	8	Zero or Positive Double Data	0.0	4.07.00	CPL Summation
167	Fpr Summation	R/W	System	Double	8	Zero or Positive Double Data	0.0	4.07.00	Fpr Summation
168	CSW Summation	R/W	System	Double	8	Zero or Positive Double Data	0.0	4.07.00	CSW Summation
169	Opening Base Dens Kg/m3	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Opening Base Dens Kg/m3
170	Opening 60F Dens Kg/m3	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Opening 60F Dens Kg/m3
171	Opening 15C Dens Kg/m3	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Opening 15C Dens Kg/m3
172	Closing Base Dens Kg/m3	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Closing Base Dens Kg/m3
173	Closing 60F Dens Kg/m3	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Closing 60F Dens Kg/m3
174	Closing 15C Dens Kg/m3	R/W	System	Float	4	Positive Float Data	0.0	4.07.00	Closing 15C Dens Kg/m3

4.10 Point Type 234: PMTM Simulator

Point type 234 (for ROC800) defines the parameters to configurate the tank simulator. The program supports up to 24 logicals of point type 234 (for ROC800).

Point Type 234 (ROC800): PMTM Simulator

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
0	Tank Simulate Enable	R/W	User	UINT8	1	0 → 1	0	4.00.00	Enables the simulation within the program. Valid values are 0 (no simulation) and 1 (enable simulation).
1	Maximum Fill Pct Capacity	R/W	User	Float	4	0 → 100.0	90	4.00.00	Indicates, as a percentage of the total volume of the tank, the maximum fill capacity the simulation allows.
2	Minimum Haul Pct Capacity	R/W	User	Float	4	0 → 100.0	10	4.00.00	Indicates, as a percentage of the total volume of the tank, the minium haul capacity the simulation allows.
3	Fill Enable (Produce)	R/W	User	UINT8	1	0 → 1	0	4.00.00	Enables the introduction of produced fluid into the simulation.
4	Fill Pattern	R/W	User	UINT8	1	0	0	4.00.00	Indicates the fill pattern for the simulation.
5	Fill Rate BPM – Primary Fluid	R/W	User	Float	4		1	4.00.00	Indicates the fill rate in barrels per minute for the primary fluid.
6	Fill Rate VPM – Sec Fluid	R/W	User	Float	4		0.005	4.00.00	Indicates the fill rate in barrels per minute for the second fluid.
7	Haul VPM	R/W	User	Float	4		6	4.00.00	Indicates the load rate in barrels per minute for the haul.
8	Enable Auto-Haul	R/W	User	UINT8	1	0 → 1	0	4.00.00	Enables auto-haul in the simulation. Valid values are 0 (do not simulate hauls without the HMI) and 1 (simulate hauls without the HMI).
9	Auto-Haul Volume	R/W	User	Float	4		160	4.00.00	Indicates the volume of auto-haul the simulation allows.
10	Auto-Haul AlowPct Below MaxCap	R/W	User	UINT8	1		25	4.00.00	Indicates the allowable percentage of auto-haul in relation to the maximum capacity of the tank.

Point Type 234 (ROC800): PMTM Simulator

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
11	Auto-Haul Randomizer Start	R/W	User	UINT8	1		1	4.00.00	Allows the auto-haul to start randomly.
12	Force Haul Now (Auto-Detect)	R/W	User	UINT8	1	0 → 1	0	4.00.00	Forces the start of the haul based on an automatically detect value. Valid values are 0 (no action) and 1 (force non-HMI haul now).
13	Aft-Haul Fill Delay Sec	R/W	User	UINT16	2		60	4.00.00	Indicates, in seconds, the duration of the delay once a haul completes, before the program closes the haul.
14	Prod During Hauls	R/W	User	UINT8	1		0	4.00.00	Indicates whether production into tanks occurs during hauls. Valid values are 0 (do not produce into tank during haul).
15	Disposal Level Drop LLin	R/W	User	UINT8	1		3	4.00.00	Indicates, in (Llin), how low the disposal level may drop during the simulation.
16	Disposal Rate VPM	R/W	User	UINT8	1		10	4.00.00	Indicates the volume removal rate for disposal in barrels per minute.
17	Transfer Out Rate VPM	R/W	User	UINT8	1		4	4.00.00	Indicates, in barrels per minute, the rate for transferring fluids out of the primary tank into another tank.
18	Transfer Time Minutes	R/W	User	UINT8	1		3	4.00.00	Indicates, in minutes, the allowable duration of a tank-to-tank transfer.
19	Prod During Transfer	R/W	User	UINT8	1		0	4.00.00	Indicates whether produced fluid can be introduced to the tank during a transfer. Valid values are 0 (do not produce into a tank during transfers).
20	Prod Metering Pct	R/W	User	UINT8	1		101	4.00.00	Indicates, as a percentage of the total tank voluime,

Point Type 234 (ROC800): PMTM Simulator

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
21	CurMode	R/W	System	UINT8	1	0 → 27	0	4.00.00	Indicates the current simulator mode. Valid values are: 0 = Idle; no simuation 1 = Normal production (filling) 2 = HMI Haul, Loading 3 = HMI Haul, Loading and Filling 4 = HMI Haul, Valve Closed 5 = HMI Haul, Valve Closed, Filling 6 = Non-HMI Haul, Loading 7 = Non-HMI Haul, Loading while Filling 8 = Disposal (Metered) in Progress 9 = Disposal in Process while Filling 10 = Outbound Transfer in Progress 11 = Outbound Transfer in Progress with Filling 12 = Inbound Transfer in Progress 13 = Inbound Transfer in Progress with Filling 16 = Same as #2, but Hauling Secondary Fluid 17 = Same as #3, but Hauling Secondary Fluid 18 = Same as #4, but Hauling Secondary Fluid 19 = Same as #5, but Hauling Secondary Fluid 20 = Same as #6, but Hauling Secondary Fluid 21 = Same as #7, but Hauling Secondary Fluid 22 = Same as #8, but Hauling Secondary Fluid 23 = Same as #9, but Hauling Secondary Fluid 24 = Same as #10, but Transferring Secondary Fluid 25 = Same as #11, but Transferring Secondary Fluid 26 = Same as #12, but Transferring Secondary Fluid 27 = Same as #13, but Transferring Secondary Fluid

Point Type 234 (ROC800): PMTM Simulator

Parm #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of functionality and meaning of values
22	Disposal Trigger Level LLin	R/W	User	UINT8	1		12	4.00.00	Indicates, in (LLin), the tank level that triggers the automated disposal process.
23	Use Well Prod/Manu Rates	R/W	User	UINT8	1		0	4.00.00	Indicates whether the simulation uses actual well production rates or manually entered rates.
24	Skim Oil to Tank#	R/W	User	UINT8	1		0	4.00.00	Indicates whether the simulation skims oil to a specified tank.
25	Comingle with Tank#	R/W	User	UINT8	1		0	4.00.00	Indicates whether the simulation comingles transferred oil with oil currently in another specified tank.
26	Prod Side Manifold with Tank#	R/W	User	UINT8	1		0	4.00.00	Indicates whether the simulation joins the production of another specified tank with the current tank.
27	Bottom Equalized with Tank#	R/W	User	UINT8	1		0	4.00.00	Indicates whether the simulation equalized the bottom level of the current tank with another specified tank.
28	Tank Prod Valve Outp	R/W	User	UINT8	1		0	4.00.00	Indicates the value provided by the output valve of the production tank.
29	Agr Pull from Tank#	R/W	User	UINT8	1		0	4.00.00	Indicates the aggregate value pulled from another specific tank.
30	Equalize VPM per LLin Diff	R/W	User	UINT8	1		0	4.00.00	Indicates whether the simulation equalizes the fluid flow
31	Auto Mode Oil Shrinkage Pct	R/W	User	UINT8	1		0	4.00.00	Indicates the percentage of oil loss (shrinkage).

For customer service and technical support, visit
www.emersonprocess.com/remote/support

Headquarters:
Emerson Process Management
Remote Automation Solutions
6005 Rogerdale Road
Houston, TX 77072 U.S.A.
T +1 281 879 2699 | F +1 281 988 4445
www.EmersonProcess.com/Remote

Europe:
Emerson Process Management
Remote Automation Solutions
Emerson House
Unit 8, Waterfront Business Park
Dudley Road, Brierley Hill
Dudley UK DY5 1LX
T +44 1384 487200 | F +44 1384 487258
www.EmersonProcess.com/Remote

North American/Latin America:
Emerson Process Management
Remote Automation Solutions
6005 Rogerdale Road
Houston TX USA 77072
T +1 281 879 2699 | F +1 281 988 4445
www.EmersonProcess.com/Remote

Middle East/Africa:
Emerson Process Management
Remote Automation Solutions
Emerson FZE
P.O. Box 17033
Jebel Ali Free Zone – South 2
Dubai U.A.E.
T +971 4 8118100 | F +971 4 8865465
www.EmersonProcess.com/Remote

Asia-Pacific:
Emerson Process Management
Remote Automation Solutions
1 Pandan Crescent
Singapore 128461
T +65 6777 8211| F +65 6777 0947
www.EmersonProcess.com/Remote

Remote Automation Solutions

EMERSON.
Process Management