System Setup and Programming Parameters for Veeder-Root TLS-450 Underground Storage Tank and Line Monitoring System

The following guidelines shall be used for setup of the Veeder-Root TLS-450 system at Murphy USA facilities. Refer to Veeder-Root System Setup Manual Number 577013-940 for complete setup instructions. **NOTE: SYSTEM SETUP MUST BE PERFORMED BY AN AUTHORIZED VEEDER-ROOT SERVICE CONTRACTOR.**

To Access the Setup menus Click on from the Home screen:

Date & Time Setup

Daylight Savings

For the areas of Indiana which do not observe Daylight Savings Time, leave this option disabled

Feature:	Enabled
Start Date:	Mar 2nd Week Sun
Start Time:	02:00 am
End Date:	Nov 1st Week Sun
End Time:	02:00 am

Date & Time Set

Set Current Date	mm/dd/yyyy
Set Current Time	hh:mm AM/PM

Display

Language & Units

System Language:	English
System Units:	US

Date & Time Format

Date Format:	mm. dd. yyyy
Date Separator:	/
Time Format:	12-hour x M

Number Format

Decimal Separator:	.
Thousands separator:	None

System Status

All Tanks Tab:	Enabled
All Sensors Tab:	Enabled

Header Setup

Header # 1:	MURPHY USA #XXXX (ex. MURPHY USA 6672)
Header # 2:	Address
Header # 3:	City, ST, ZIP
Header # 4:	Station Phone Number (ex. 555-555-5555)
Fax Sender Name:	N/A
Fax Number:	N/A

Security

System

Front Panel Security:	Disabled

Reset Web user Password

Username:	guest
New Password:	TBD by Murphy USA
Confirm Password:	TBD by Murphy USA

Device Setup

Device: PROBES Tab:

	Configured	Address	Device Label	FLOAT TYPE
Probe 1	Enabled	B1.S1.1	Reference Below Probe 1	4"
Probe 2	Enabled	B1.S1.2	Reference Below Probe 2	4"
Probe 3	Enabled	B1.S1.3	Reference Below Probe 3	4"
Probe 4	Enabled	B1.S1.4	Reference Below Probe 4	4"

Refer to the tank configuration table below for Probe Label. Make sure that each label includes the tank size. The Probe labels consist of the type of product and the size of the tank.

Tank Configuration	Probe 1 Label	Probe 2 Label	Probe 3 Label	Probe 4 Label
25 10/8/8	Regular 25k	Diesel 10k	Premium 8k	E0 8k OR E85 8k

Device: RELAYS Tab: (Use only if Overfill is required)

	Configured	Address	Label	TYPE	Orientation
R1	Enabled	B8.S5.1	Over Fill Alarm	STANDARD	Normally Open

Device: Liquid Sensor Tab:

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	Configured	Address	Sensor Label	Model	Category
L1	Enabled	B1.S1.5	Regular Interstitial	Reference Sensor Application Guide	ANNULAR SPACE
L2	Enabled	B1.S1.6	Compartmented Interstitial	Reference Sensor Application Guide	ANNULAR SPACE
L3	Enabled	B1.S1.7	Reg-25K STP Sump	Reference Sensor Application Guide	STP SUMP
L4	Enabled	B1.S1.8	Diesel 10k STP Sump	Reference Sensor Application Guide	STP SUMP
L5	Enabled	B1.S1.9	Premium 8K STP Sump	Reference Sensor Application Guide	STP SUMP
L6	Enabled	B1.S1.10	E0 OR E85 8K STP Sump	Reference Sensor Application Guide	STP SUMP
L7	Enabled	B1.S1.11	Dispenser Sump 1-2	Reference Sensor Application Guide	Dispenser Pan
L8	Enabled	B1.S1.12	Dispenser Sump 3-4	Reference Sensor Application Guide	Dispenser Pan
L9	Enabled	B1.S1.13	Dispenser Sump 5-6	Reference Sensor Application Guide	Dispenser Pan
L10	Enabled	B1.S1.14	Dispenser Sump 7-8	Reference Sensor Application Guide	Dispenser Pan

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	Configured	Address	Sensor Label	Model	Category
L1	Enabled	B1.S1.5	Regular Interstitial	Reference Sensor Application Guide	ANNULAR SPACE
L2	Enabled	B1.S1.6	Compartment Interstitial	Reference Sensor Application Guide	ANNULAR SPACE
L3	Enabled	B1.S1.7	Reg-25K STP Sump	Reference Sensor Application Guide	STP SUMP
L4	Enabled	B1.S1.8	Diesel 10k STP Sump	Reference Sensor Application Guide	STP SUMP
L5	Enabled	B1.S1.9	Premium 8K STP Sump	Reference Sensor Application Guide	STP SUMP
L6	Enabled	B1.S1.10	E0 OR E85 8K STP Sump	Reference Sensor Application Guide	STP SUMP
L7	Enabled	B1.S1.11	Dispenser Sump 1-2	Reference Sensor Application Guide	Dispenser Pan
L8	Enabled	B1.S1.12	Dispenser Sump 3-4	Reference Sensor Application Guide	Dispenser Pan
L9	Enabled	B1.S1.13	Dispenser Sump 5-6	Reference Sensor Application Guide	Dispenser Pan
L10	Enabled	B1.S1.14	Dispenser Sump 7-8	Reference Sensor Application Guide	Dispenser Pan
L11	Enabled	B1.S1.15	Dispenser Sump 9-10	Reference Sensor Application Guide	Dispenser Pan
L12	Enabled	B1.S1.16	Dispenser Sump 11-12	Reference Sensor Application Guide	Dispenser Pan

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	Configured	Address	Sensor Label	Model	Category
L1	Enabled	B1.S1.5	Regular Interstitial	Reference Sensor Application Guide	ANNULAR SPACE
L2	Enabled	B1.S1.6	Compartment Interstitial	Reference Sensor Application Guide	ANNULAR SPACE
L3	Enabled	B1.S1.7	Reg-25K STP Sump	Reference Sensor Application Guide	STP SUMP
L4	Enabled	B1.S1.8	Diesel 10K STP Sump	Reference Sensor Application Guide	STP SUMP
L5	Enabled	B1.S1.9	Premium 8K STP Sump	Reference Sensor Application Guide	STP SUMP
L6	Enabled	B1.S1.10	E0 OR E85 8K STP Sump	Reference Sensor Application Guide	STP SUMP
L7	Enabled	B1.S1.11	Dispenser Sump 1-2	Reference Sensor Application Guide	Dispenser Pan
L8	Enabled	B1.S1.12	Dispenser Sump 3-4	Reference Sensor Application Guide	Dispenser Pan
L9	Enabled	B1.S1.13	Dispenser Sump 5-6	Reference Sensor Application Guide	Dispenser Pan
L10	Enabled	B1.S1.14	Dispenser Sump 7-8	Reference Sensor Application Guide	Dispenser Pan
L11	Enabled	B1.S1.15	Dispenser Sump 9-10	Reference Sensor Application Guide	Dispenser Pan
L12	Enabled	B1.S1.16	Dispenser Sump 11-12	Reference Sensor Application Guide	Dispenser Pan
L13	Enabled	[illegible]	Dispenser Sump 13-14	Reference Sensor Application Guide	Dispenser Pan
L14	Enabled	[illegible]	Dispenser Sump 15-16	Reference Sensor Application Guide	Dispenser Pan

TANK SETUP:

Tank: General Tab:

	Tank 1	Tank 2	Tank 3	Tank 4	Comments
Configured	Enabled	Enabled	Enabled	Enabled	
Label:	Refer to Table 1	Refer to Table 1	Refer to Table 1	Refer to Table 1	
Product Code:	1	2	3	4	
Probe:	1	2	3	4	
Probe Offset (in)	0.0	0.0	0.0	0.0	Murphy must be called before changing
Full Volume	Refer to Table 4	Refer to Table 4	Refer to Table 4	Refer to Table 4	
Tank Diameter:	Refer to Table 2	Refer to Table 2	Refer to Table 2	Refer to Table 2	
Tank Tilt:	0.0	0.0	0.0	0.0	0.00" Calculate to the center of the tank See Setup Manual for Details
Thermal Coefficient:	Refer to Table 3	Refer to Table 3	Refer to Table 3	Refer to Table 3	
Meter Data Present	Disabled	Disabled	Disabled	Disabled	
Pump Threshold	10	10	10	10	
Delivery Delay	5	5	5	5	
Gross Test Fail:	Disabled	Disabled	Disabled	Disabled	
Periodic Test Fail:	Disabled	Disabled	Disabled	Disabled	
Annual test Fail:	Disabled	Disabled	Disabled	Disabled	
GOST Volume Correction:	Disabled	Disabled	Disabled	Disabled	

Table 1

Tank Configuration	T1	T2	T3	T4
25 10/8/8	Regular 25k	Diesel 10k	Premium 8k	E0 OR E85 8k

Table 2

Tank Type	Diameter
Xerxes 10' DW T-I	118.375"

Table 3

	US Units
Regular	0.00070
Premium	0.00070
Oxy Blend	0.00065
Diesel	0.00045
Kerosene	0.00050
Gasohol	0.00069

Table 4

Xerxes 10' Dia Tank	Chart Heights	8,000 Gal End	10,000 Gal	25,000 Gal
Full Volume	118-3/8" (118.375)	7901	10420	25431
2nd Chart Point	88-1/2" (88.50)	6397	8478	20519
3rd Chart Point	58-1/2" (58.50)	3901	5111	12522
4th Chart Point	29-1/2" (29.50)	1551	1880	4937

Tank: Limits Tab:

	Tank 1	Tank 2	Tank 3	Tank 4	Comments
Max or Label Volume:	Refer to Table 2	Refer to Table 2	Refer to Table 2	Refer to Table 2	
High Product:	95%	95%	95%	95%	
Delivery Overfill Limit:	90%	90%	90%	90%	
Delivery Limit:	25%	25%	25%	25%	
Low Product Limit:	Refer to Table 5	Refer to Table 5	Refer to Table 5	Refer to Table 5	
High Water Warning:	1"	1"	1"	1"	Georgia, Missouri, and Oklahoma- Enter 1.0, Minnesota- Enter 1.5
High Water Alarm:	1.5"	1.5"	1.5"	1.5"	Georgia, Missouri, and Oklahoma- Enter 1.0, Minnesota- Enter 1.5
Water Alarm Filter Level:	Low	Low	Low	Low	
Leak Alarm Limit:	10 gallons	10 gallons	10 gallons	10 gallons	
Sudden Loss Limit:	25 gallons	25 gallons	25 gallons	25 gallons	
Density Low Limit [lbs/ft.]	0.000	0.000	0.000	0.000	
Density High Limit [lbs/ft.]	0.000	0.000	0.000	0.000	

Table 5

If site has an FE Petro Smart Controller

Xerxes 10' Diameter Tank	Low Product (Gal)
8,000 Gal	183
10,000 Gal	192
25,000 Gal	488

Tank: Environmental Tab:

	Tank 1	Tank 2	Tank 3	Tank 4
Tank Test Method:	SLD	SLD	SLD	SLD
Leak Test Rate	.2 gph	.2 gph	.2 gph	.2 gph
Periodic Test Type	Standard	Standard	Standard	Standard
Test Frequency	On Date 1/1/1996	On Date 1/1/1996	On Date 1/1/1996	On Date 1/1/1996
Gross Test Auto-Confirm:	Not Configurable	Not Configurable	Not Configurable	Not Configurable
Duration (Hrs.):	2	2	2	2
Leak Min Periodic:	0	0	0	0
Leak Min Annual:	0	0	0	0
Early Stop	Disabled	Disabled	Disabled	Disabled
Tank Test Notify	Off	Off	Off	Off
Tank Test Siphon Break	Off	Off	Off	Off

Tank: All Tanks Tab:

Leave all entries as default

Tank: Product Tab:

Leave all entries as default

Tank: Chart Tab:

Xerxes - 10 Dia Tank	Chart Heights	8,000 Gal End	10,000 Gal	25,000 Gal
Full Volume	118-3/8" (118.375)	7901	10420	25431
2nd Chart Point	88-1/2" (88.50)	6397	8478	20519
3rd Chart Point	58-1/2" (58.50)	3901	5111	12522
4th Chart Point	29-1/2" (29.50)	1551	1890	4927

Tank: Siphon Set Tab:

Leave all entries as Not Assigned

Tank: AccuChart Tab:

Leave all entries as default

Tank: Hourly Reconciliation:

Leave all entries as default

Inventory Setup Icon:

Shift Close Method Tab:

Shift Close Method	Timed

Shift Times:

Shift 1	5:00am
Shift 2-8	Disabled

Inventory report Times Tab:

Reporting Interval:	Disabled

Delivery Setup Icon:

Delivery Method:	Standard Automatic

Ticketed Delivery:	Disabled
TC Ticketed Delivery:	Not Configurable
Tank Idle Delivery:	Disabled

Comm Device Setup:

General Tab:

No Modem Sites		Modem Sites	
Comm #	Device	Comm #	Device
Comm 1	RS232	Comm 1	RS232
Comm 2	RS232	Comm 2	RS232
Comm 3	USB	Comm 3	Modem
Comm 4	Ethernet	Comm 4	USB
		Comm 5	Ethernet

Comm 1 & 2 (RS232)	
Device	RS232 Card
Baud Rate	9600
Data Bits	7
Parity	Odd
Stop Bits	1
Handshaking	No Handshaking

Comm 3 (Modem)	If Installed		
General		Modem	
Device	Internal Modem	Dial Type	Tone
Baud Rate	9600	Dial Tone Interval	32
Data Bits	7	Answer On	1
Parity	Odd		
Stop Bits	1		
Handshaking	No Handshaking		

Comm 3 or 4 (USB)	No Programmable Fields
Slot	5
Port	1
Device	USB

Comm 4 or 5 (Ethernet)	
Configured:	Enabled
Slot:	5
Port:	2
Device:	Ethernet Card
Label:	
Default gateway:	Yes
Host Name:	Unique name for ATG on site (Site ID)
MAC Address:	Automatically Populated
IP Assignment:	Static or Dynamic
IP Address:	Customer Supplied
Subnet mask:	Customer Supplied
Gateway IP:	Customer Supplied
Primary DNS Server:	Customer Supplied (Automatic with Dynamic IP Assignment)
Secondary DNS Server:	Customer Supplied (Automatic with Dynamic IP Assignment)
Serial Command Port:	10001
SSH port:	22
HTTP port:	80
HTTPS port:	443
Sender Email Address:	TBD
Email relay Configuration:	Disabled
Sender Host Name:	N/A at this time
Relay host / Smart host:	N/A at this time

FE-5

WAYNE
OCTOBER 2017
STANDARDS

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER No. 20554 04/02/2018 DAVID A. GUETIG

VEEDER–ROOT
SET–UP AND PROGRAMMING

DATE: MARCH, 2018 | SCALE: N/A | FILE NAME: 19–Moc800616_FE–5

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