



State Of Ohio

GUIDE FOR DAILY INVENTORY CONTROL PROCEDURES

**For Underground Storage Tanks
By Manual Sticking or by Automatic Tank Gauging**



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1.0 Why You Should Read This Booklet

State and Federal laws require you to have leak detection on your underground storage tank systems (USTs). Without it you can be cited and fined. Leak detection violations can also keep you from getting insurance coverage and reimbursement for clean up costs. Without leak detection, you risk discovering a leak only after it becomes a major financial burden for yourself and an environmental problem for the community.

1.1.1 It is the responsibility of the owner/operator of an UST system to make sure that their UST is not leaking. Most USTs should be monitored using daily inventory control pursuant to paragraph (B)(2) of rule 1301:7-9-07 of the Ohio Administrative Code (OAC):

OAC 1301:7-9-07 (B)(2)--UST's containing motor or aviation petroleum fuels shall be monitored by the owner or operator using product inventory control conducted as described in "American Petroleum Institute 1621-01 Recommended Practice for Bulk Liquid Stock Control of Retail Outlets".

- (a) Inventory from UST systems shall be reconciled monthly. If the reconciliation for any month indicates an overage or shortage equal to or greater than one percent of flow-through plus one hundred thirty gallons, owners and operators shall investigate the inventory discrepancy as described in American Petroleum Institute 1621-01 Recommended Practice for Bulk Liquid Stock Control of Retail Outlets.*
- (b) If inventory discrepancies occur for two consecutive months, owners and operators shall perform an investigation in accordance with all of the following:*
 - (i) Conduct a tightness test of the UST system in accordance with paragraph (F) of this rule within seven days of discovery of the discrepancy;*
 - (ii) Report any failure of a tightness test to BUSTR as a suspected release. A release is suspected and subject to the reporting requirements of sections 3737.88 and 3737.882 of the Revised Code and this chapter of the Administrative Code if a tightness test leak rate exceeds the amount designated for the testing method. Passing tightness test results do not have to be reported to the fire marshal, and*
 - (iii) Maintain the results of all required tightness tests for a minimum of two years. All tightness test results shall be made available for inspection at the site within twenty-four hours of a request from the fire marshal.*

Note: For the purpose of this guide, the phrases 'underground storage tank' (UST) and 'tank' are used interchangeably. This guide is not intended for use with above ground storage tanks.

1.1.2 BUSTR regulations require owners and operators to perform several types of daily, monthly and yearly release detection on their UST systems. This guide focuses on daily release detection. Owners and operators should take care not to confuse daily inventory control with other release detection options such as the following:

- Owners and operators must use an approved monthly method of release detections such as manual tank gauging, interstitial monitoring, automatic tank gauging (programmed to perform a monthly .2 gph leak test) or an alternative method approved by the bureau chief such as statistical inventory reconciliation (SIR).

- Daily inventory control is not the same as ‘manual tank gauging,’ and one method can not be substituted for the other. Manual tank gauging is for tanks with a capacity under 550 gallons (in most cases) and is performed by taking measurements once a week. Daily inventory control is for tanks used to store motor or aviation fuel (regardless of capacity) and is performed by taking measurements each day.
- BUSTR regulations do allow for alternative methods in lieu of daily inventory control. Specifically, any method that can monitor tanks, piping and containments on a continuous basis or a weekly basis may be used in place of daily inventory control. Owners and operators must be able to clearly demonstrate that all of the above mentioned components are being monitored. Contact BUSTR at (614) 752-7938 if you wish additional clarification of this alternative method.

2.0 How Does Daily Inventory Control Work?

Inventory control requires daily measurements of tank contents along with math calculations to ensure that the tank is not leaking. To accomplish this, an established accounting system for inventory control must be used every day. The daily measurements may be obtained by manually sticking (i.e., sticking by hand) or through the use of automatic tank gauging (ATG). BUSTR recognizes both methods as valid ways to collect measurements to perform daily inventory control.

2.1. Daily Inventory Worksheet: Sticking by Hand

2.1.1 Equipment Needed:

- Gauge Stick marked to the nearest 1/8th inch reading made of varnished hardwood or other non-sparking material that is long enough to reach the bottom of the tank.
- Tank chart for the dimensions and capacity of the tank. The tank chart should be supplied by the manufacturer of the tank and should list readings to the nearest 1/8th of an inch converted to gallons. Alternatively, it may be possible to create a chart using programs found at the web pages of the manufacturers. You must know the exact diameter and length of the tank in order to create a chart.
- Paste for finding water each month.
- Paste for measuring the fuel level on the gauge stick.
- Ready access to the tank through the drop tube or gauge opening.
- Calibrated dispensing meters.
- Daily Inventory Worksheet and Monthly Inventory Worksheet (as provided in this manual).

2.2. Filling Out the Daily Inventory Worksheet

Each day, you should measure the petroleum level in each tank, and you should fill out a *Daily Inventory Worksheet*. You can choose to perform the measurements at opening or closing of the business day or at a specific scheduled shift change if the facility is opened 24 hours. If the facility is operating in shifts, the incoming and outgoing shift supervisors should perform this duty together. If the facility is closed at night, compare the opening reading with the previous closing reading.

Note: If you have manifolded tanks that share a common inventory of stored fuel, consider these tanks as one tank system. You will need to combine your measurements and calculations for tanks that are manifolded into one system.

2.2.1 Fill in the identifying information at the top of the page of the *Daily Inventory Worksheet*.

- Facility Name
- Your Name
- Date

2.2.2 In the tank identification box are empty vertical columns. Each column represents one tank. Consistently enter all information on that one tank in the same vertical column.

- The tank identification number
- The type of fuel in that tank.
- The tank capacity.

** Now would be a good time to copy the worksheet so it can be used repeatedly. **

2.2.3 At the end of the day or shift, measure the fuel level in the tank(s) using a gauge stick or an ATG system. This measurement is called “Today’s End Inventory”. If your tank is equipped with an ATG system, you may record the inches of product and gallons of product directly from the ATG’s printed “Inventory Report”. If no ATG is present, you will manually stick your tank using a gauge stick. Remember, when manually sticking, no fuel can be added or removed from the tank while you are sticking or recording the amount pumped.

- For each tank you should slowly lower the gauge stick to the tank bottom, quickly bring it back up. Read the depth of fuel indicated by the wet mark on the stick to the closest 1/8th inch. Do this at least two times for greater accuracy. Also, the use of fuel finding paste makes your stick readings more accurate.
- After gauging, select the correct tank calibration chart from the manufacturer or from a chart you have created. Read the chart directly to the nearest 1/8th inch. Convert inches to gallons.
- Write the inches and gallons onto the *Daily Inventory Worksheet* in the “Today’s End Inventory” column.
- In addition, copy this measurement onto the *Monthly Inventory Worksheet* in columns “E1” & “E2”.

Note: If this is the first day that the *Daily Inventory Worksheet* is being filled out; stop here because this is all you can do today. Tomorrow, you will repeat the steps from the previous day and continue with the rest of the inventory instructions.

2.2.4 Read Totalizing Meters.

- Locate the columns on left side of the *Daily Inventory Worksheet* that says “Totalizer Reading”.
- Write the numbers from each dispenser’s totalizer onto the worksheet. There may be several meters using the same tank so be sure to write all of them in the column. **Note:** If a dispenser is configured to blend different grades of fuels, then you need to record the totalizer amount that corresponds just to the tank that you are measuring. Do not record the total for the entire dispenser. Record just the fraction that came from the tank you are measuring.
- Add up the total amount of meters for that particular tank. Write result in the box labeled “Today’s Sum Of Totalizers.”

- Find the last *Daily Inventory Worksheet* you completed from the previous day. Copy “Today’s Sum Of Totalizer’s” from that worksheet into the “Previous Sum Of Totalizer’s” box of the worksheet you are working on today.
- On today’s worksheet, subtract “Previous Day’s Sum Of Totalizers” From “Today’s Sum Of Totalizers” and write the result in the box labeled “Amount Pumped Today”. You will also copy this result into column “C” of the *Monthly Inventory Worksheet*.
- You can use the cash register reports to record the amount pumped, enter the amount of each type of fuel pumped in the box labeled “Amount Pumped Today” or staple the printout to the worksheet. No fuel sales should be made between the time you print the report from the cash register and the time you measure your tanks. You must also clarify that the cash register receipts are identical copy of the dispenser totalizers.
- If you pumped fuel through a dispenser and back into a tank during a test or some other procedure, you must subtract the number of gallons you pumped from “Amount Pumped Today”.

2.2.5 Record fuel deliveries. You must check how much product has been delivered every time product is delivered to your tank. Take stick readings and convert to gallons before and after delivery. You should not pump any fuel during the time you take the readings.

- Stick your tank before the delivery is made. Write the measurement to the nearest 1/8th inch in the box labeled “Product Before Delivery, inches/ gallons” for each tank you measured.
- After delivery, wait at least 5 minutes for fuel to stabilize.
- Take stick readings and convert to gallons after delivery.
- Stick your tank again then record product level in box labeled “Product After Delivery, inches/ gallons.”
- Subtract the “Gallons of Product Before Delivery” from the “Gallons of Product After Delivery.” Record the result in the box labeled “Gallons Delivered (Stick)”. You will copy this into column “B” of the *Monthly Inventory Worksheet*.
- Look at delivery receipt and find the volume of each type of product that was delivered. If two volumes are given, one labeled “net” and the other “gross”, use the gross gallons as the volume of product delivered. For each type of fuel delivered, copy the gross gallons delivered from the delivery receipt onto the worksheet in the box labeled “Gross Gallons delivered (Receipt).” The gallons delivered for the “Stick” and “Receipt” should roughly match. If they don’t, call your supplier.

Sample Daily Inventory Worksheet

Facility Name: Area 51 Gas n Go

Your Name: John Doe

Date: 04/22/06

Tank Identification	<i>1</i>			
Type Of Product	<i>Reg - Unl</i>			
Tank Size In Gallons	<i>10,000</i>			
Today's "End" Stick Inventory, Inches / Gallons, Enter in column E1 and E2 of the <i>Monthly Inventory Worksheet</i>	<i>86 1/2"</i>	<i>9423</i>		
Yesterday's End Stick Inventory, Inches / Gallons, Enter this in column (A) of the <i>Monthly Inventory Worksheet</i>	<i>53 1/8"</i>	<i>5639</i>		
Figuring Amount Pumped				
Totalizer Reading [pump 1]		<i>+24411</i>		
Totalizer Reading [pump 2]		<i>+16800</i>		
Totalizer Reading [pump 3]		<i>+19602</i>		
Totalizer Reading [pump 4]		<i>+22174</i>		
Totalizer Reading [pump 5]				
Totalizer Reading [pump 6]				
Totalizer Reading [pump 7]				
Totalizer Reading [pump 8]				
Today's Sum Of Totalizers		<i>82987</i>		
Previous Day's Sum Of Totalizers		<i>- 82584</i>		
Amount Pumped Today minus testing adjustments Enter on column (C) of the <i>Monthly Inventory Worksheet</i>		<i>= 403</i>		
Deliveries				
Product after delivery, inches/gallons	<i>86 1/2 "</i>	<i>9423</i>		
Product before delivery, inches/gallons	<i>49 7/8"</i>	<i>-5246</i>		
Gallons delivered (Stick)		<i>= 4177</i>		
Subtract gallons before from gallons after to get this amount and enter it in column (B) of the <i>Monthly Inventory Worksheet</i>				
Gross gallons Delivered (receipt)		<i>4200</i>		

Yesterday's End Stick Inventory will go into column "A" of the Monthly Inventory Worksheet and Today's End Stick Inventory will go into column E1 and gallons will go into E2 of the Monthly Inventory Worksheet.

Be careful when recording totalizer readings from blender systems.
Add all totalizers for the grade of fuel being measured and enter result in Today's Sum of Totalizer below.
Cash register receipts can be used but must be identical to totalizers.

Subtract the previous day's Sum of Totalizers from Today's Sum of Totalizers.
The result is the Amount Pumped Today and will go in column "C" of the Monthly Inventory Worksheet.

If deliveries are made today, measure the tank before and after delivery. Subtract the difference between the two measurements and the result will be Gallons Delivered Stick. The result will be entered in column "B" of the Monthly Inventory Worksheet.

3.0 Monthly Inventory Worksheet

In this step you will copy information from the *Daily Inventory Worksheet* onto a *Monthly Inventory Worksheet*. You will then do some calculations to determine your daily inventory. You need one “*Monthly Inventory Worksheet*” for each tank you have.

3.1. Monthly Inventory Worksheet: Calculating Daily Changes

3.1.1 At the top of the “monthly inventory record”:

- Fill in the tank identification and the type of fuel.
- Fill the month and year.
- Fill in the facility name.

3.1.2 Check for water each month using a water finding paste then enter the date and amount of inches. If one inch (or more) of water is present in the UST, the water should be removed immediately and properly disposed of in accordance with State and Federal requirements. Measure the amount of water removed (in gallons) and record the date and the amount removed.

3.1.3 If this is the first day of your inventory recordkeeping, convert the “End Stick Inches” from the *Daily Inventory Worksheet* into gallons and enter on the *Monthly Inventory Worksheet* under “End Stick Inventory (Gallons) into column “E2” for that starting date. This is all you can do today. Starting tomorrow, follow all of the instructions listed below.

3.1.4 Find the line in the left column on the “Monthly Inventory Record” with today’s date. Copy the previous day’s “End Stick Inventory (Gallons)” from column “E2” for today’s “Start Stick Inventory (Gallons)” to column “A”.

3.1.5 Enter the amount of product delivered from the *Daily Inventory Worksheet*. If you were not pumping fuel during the time when the delivery was taking place, then use the “Gallons Delivered (Stick)” number. If fuel was pumped during delivery, then use the “Gross Gallons Delivered (Receipt)” number as your delivery amount into column “B” of the *Monthly Inventory Worksheet*.

3.1.6 Copy the “Amount Pumped Today” number from the *Daily Inventory Worksheet* into the “Gallons Pumped” column “C” of the “Monthly Inventory Record”.

3.1.7 Add the “Start Stick Inventory (Gallons) column “A” and the “Gallons Delivered” column “B”, then subtract the “Gallons Pumped column “C”. Enter the result in column “D” labeled “Book Inventory (Gallons)”. ($A + B - C = D$)

3.1.8 Copy the “Today’s End Stick Inventory Inches/Gallons” number from the *Daily Inventory Worksheet* onto the *Monthly Inventory Worksheet* in columns “E1” for inches and “E2” for gallons.

3.1.9 Subtract the “Book Inventory (Gallons) column “D” from the “Today’s End Stick Inventory (Gallons) column “E2”. Enter the difference into today’s “Daily Over or Short” column “F”. This number will usually be a positive or negative number. ($E2 - D = F$)

3.1.10 Column “G” is optional. Add today’s “Daily Over/Short” column “F” with yesterday’s “Month to Date Over/Short” column “G”. Be sure to add negative numbers correctly.

3.2 Monthly Inventory Worksheet: Calculating Monthly Changes

At the end of each month, follow the directions below to see if the difference between “STICK” and “BOOK” inventory indicates a possible leak.

3.2.1 Add all the month’s “Gallons Pumped” column “C” of the *Monthly Inventory Worksheet* and write this total at the bottom of the column in the box labeled “Total Gallons Pumped.” Be sure to include in this total the amount of any water removed from the tank.

3.2.2 Add all the month’s “Daily Over Or Short” in column “F”, pay close attention to positive and negative numbers for an accurate total. Enter the total at the bottom of the column in the box labeled “Total Gallons Over Or Short.” If you are also filling out optional column “G”, the total for column “F” should be the same as the last number in column “G”. This is a good way to check your math.

3.2.3 Fill out the “Leak Threshold” line at the bottom of the Monthly Inventory Record as follows:

- Take the “Total Gallons Pumped” from column “C” and drop the last two digits to get 1%. (example; 6594 becomes 65).
- Add 130 ($65 + 130 = 195$).
- Enter the result of this calculation at the end of the “Leak Threshold” line. This number is the maximum change in inventory allowed by state and federal regulations (1% of throughput plus 130 gallons)

3.2.4 At the bottom of the *Monthly Inventory Worksheet*, circle “YES” or “NO” to show whether your “Total Gallons Over Or Short” number is **larger** than the “Leak Threshold” number you calculated in 3.2.3. **Important:** For this comparison, use only absolute values and compare 74 to 195 (do not compare negative 74 to positive 195). In this example, 74 and is smaller than 195, therefore, “NO” should be circled.

3.2.5 If “YES” is circled in section 3.2.4, go to sections 5.1.2 and 5.1.3 for instructions on how to investigate the inventory discrepancy.

4.0 Inventory Control Using Automatic Tank Gauging (ATG) Systems

As an alternative to sticking the tank by hand, owners and operators may use an ATG system to meet most of the daily inventory control requirements. Some ATG systems can only provide a basic inventory report while other ATG systems can provide an inventory report as well as daily and monthly reconciliation reports.

4.1 Daily Inventory Control: Automatic Tank Gauging

In order to perform the full range of computations, ATG systems should have the capability of:

- Measuring the inventory of the fuel in the UST,
- Monitoring gallons of fuel delivered,
- Monitoring the metered sales or total gallons of fuel pumped, and
- Performing daily and monthly reconciliation computations.

Owners and operators should contact the manufacturer of their ATG systems to determine what the system is capable of doing.

4.1.1 If the ATG system can only measure inventory and monitor deliveries, then the owner should complete the *Daily Inventory Worksheet* using the procedural steps outlined in Section 2.2. The data from the ATG reports should be used in place of the manual sticking steps. In addition, owners and operators will need to complete the entire *Monthly Inventory Worksheet* as outline in section 3.0

Displayed below are examples of “Inventory Reports” and “Delivery Reports”:

```

INVENTORY REPORT

APR 22, 06  6:00AM

T 1: REG UNL

VOLUME      5639
ULLAGE      4361
90% ULLAGE  3361
TC VOLUME   5583
HEIGHT      53.12
WATER VOL   0
WATER       0.00
TEMP        74.40
    
```

```

DELIVERY REPORT

T 1: REG UNL
INVENTORY INCREASE

INCREASE START
APRIL 22, 2006 10:00 am

VOLUME = 5246
WATER  = 0.00
TEMP   = 46.8 DEG F

INCREASE END
MARCH 22, 2006 10:45 am

VOLUME = 9423
WATER  = 0.00
TEMP   = 47.2 DEG F
GROSS INCREASE = 4200
TC NET INCREASE = 4177
    
```

4.1.2 If the ATG system can perform more advanced computations, then owners and operators may use the ATG system to calculate daily and monthly variances in inventory. The ATG system should be programmed by a technician from the manufacturer to calculate the daily and monthly variances as outlined in sections 3.1 and 3.2 as well as the variance threshold based upon state and federal requirement of +/- (1% of monthly throughput + 130 gallons).

Displayed below are examples of “Daily Reconciliation” and “Monthly Reconciliation” Reports:

```

DAILY RECONCILIATION

T 1: REG UNL

OPENING DATE & TIME:
APR 22, 066:00AM

CLOSING DATE & TIME:
APR 22, 0611:00PM

OPENING VOLUME: 5639
DELIVERIES:      4177
METERED SALES:   403
MANUAL ADJUST:   00
CALCULATED INV: 9413
PHYSICAL INV:    9423
WATER HEIGHT:    0.00

VARIANCE: + 10 GAL
    
```

```

PERIODIC RECONCILIATION
MONTHLY

T 1: REG UNL

OPENING DATE & TIME:
APR 1, 06 6:00AM

CLOSING DATE & TIME:
APR 30, 0611:00PM

OPENING VOLUME: 4047

DELIVERIES:      10311

METERED SALES:   6594
MANUAL ADJUST:   00
CALCULATED INV: 7764
PHYSICAL INV:    7690
WATER HEIGHT:    0.00

VARIANCE: -74 gal
    
```

4.1.3 In cases where the ATG system is performing most of the calculations, owners and operators should still complete the *Monthly Inventory Worksheet*. Only columns “E2” and “F” and the end of the month calculations at the bottom of the worksheet need to be filled out.

5.0 Interpreting the Results

The intent of performing daily inventory control is to give owners and operators a tool to recognize a sudden or excessive loss of fuel from their tanks as soon as possible. Daily inventory control can also detect releases from piping and ancillary equipment that may not be monitored by the ATG system. Owners and operators should investigate any of the following situations:

- A sudden loss of inventory or any other unusual operating conditions,
- A pattern of loss or gain of inventory over five consecutive days, or
- An end of month overage or shortage that exceeds the calculated leak threshold.

5.1.1 A sudden loss of inventory or other types of unusual operating conditions (such as an unexplained presence of water in a tank) must be investigated as soon as they are discovered. If the unusual operating condition is the result of defective equipment that is not leaking, then the owner and operator may repair or replace the equipment without reporting a suspect release to BUSTR. However, if the source of the problem can not be found or the problem reoccurs after a repair or replacement, then the owner and operator shall report a suspected release to BUSTR and perform a suspected release investigation in accordance with paragraph (F) of rule 1301:7-9-13 of the Administrative Code. The investigation shall include a tightness test of the UST system as well as a visual inspection of the property and surrounding area for physical signs of a petroleum release.

5.1.2 A pattern of loss or gain of inventory means that five consecutive days of loss or five consecutive days of gain are present in column “F” (i.e. the “Daily Over or Short”) of the *Monthly Inventory Worksheet*. If a pattern of loss or gain is evident, then owners and operators shall examine the UST system to see if any physical signs of a release exist. Owners and operators shall report physical signs of a release to BUSTR within 24 hours of discovery. The five day time period has been chosen as a good business practice, and BUSTR recognizes that the time period may not be a definitive measure in every case.

5.1.3 At the end of the month, owners and operators shall evaluate the result from the final reconciliation to see if the “Total Gallons Over or Short” for the month exceeds the calculated “Leak Threshold” from the *Monthly Inventory Worksheet*. If the “Total Gallons Over or Short” exceeds the “Leak Threshold”, then the owner and operator shall perform an investigation as required in paragraph (B)(2)(a) of rule 1301:7-9-07 of the Ohio Administrative Code that conforms with American Petroleum Institute 1621-01 *Recommended Practice for Bulk Liquid Stock Control of Retail Outlets*. The investigation shall focus on the abnormal operation of equipment and the physical signs of a release.

5.1.4 If two consecutive months of inventory discrepancy occurs as described in 5.1.3, then the owner and operator shall perform a tightness test as required by paragraph (B)(2)(b) of rule 1301:7-9-07 of the Ohio Administrative Code. If the tightness test indicates a failure, then the owner and operator shall report the failure to BUSTR within 24 hours of receipt of the results.

5.1.5 In order to visually inspect for physical signs of a release, owners and operators shall examine observation wells, sumps, utility vaults and sewer lines in close proximity to the UST system for signs of release. Owners and operators shall also examine nearby ditches and bodies of water for signs of a petroleum release.

5.1.6 All ATG reports and daily and monthly inventory worksheets are required to be maintained for a period of two years.

Sample Monthly Inventory Worksheet

Month/Year: 04/06 Tank Identification and Type Of Product: Tank #1 – Reg- Unleaded

Facility Name: Area 51 Gas n Go

Date Of Water Check: 04/06 Level Of Water (Inches): 1/2" Water Removed (Gallons): 0

Date	Start Stick Inventory (Gallons)		Gallons Delivered		Gallons Pumped		Book Inventory (Gallons) (A + B - C = D)		Today's End Stick Inventory Inches / Gallons		Daily Over/Short (E2 - D = F)	Month to date Over/Short (Optional)	Initial
	A	B	C	D	E 1	E 2	F	G					
1	4047	(+)	(-)	333	(=)	3714	38 1/4	3690	-- 24	-24			
2	3690	(+)	(-)	44	(=)	3646	38	3658	+ 12	-12			
3	3658	(+)	(-)	329	(=)	3329	33		- 6	-18			
4	3323	(+)	(-)	60	(=)	3263	33		+ 12	-6			
5	3275	(+)	(-)	145	(=)	3130	33		- 13	-19			
6	3117	(+)	(-)	238	(=)	2879	33		- 89	-108			
7	2790	(+)	6134	(-)	117	(=)	8807	80	+ 37	-71			
8	8844	(+)	(-)	127	(=)	8717	78 7/8"	8732	+ 15	-56			
9	8732	(+)	(-)	182	(=)	8550	77 1/2"	8591	+ 41	-15			
10	8591	(+)	(-)	205	(=)	8386	75 1/2"	8379	- 7	-22			
11	8379					8173				-24			
12	8173					8007				-40			
13	7991					7677				+19			
14	7730					7427				-2			
15	7402					7326	66 1/2"	7342	+ 16	+14			
16	7342	(+)	(-)	224	(=)	7118	64 1/8"	7050	- 68	-54			
17	7050	(+)	(-)	390	(=)	6660	61"	6657	- 3	-57			
18	6657	(+)	(-)	296	(=)	6361	58 5/8"	6354	- 7	-64			
19	6354	(+)	(-)	78	(=)	6276	58 1/8"	6290	+14	-50			
20	6290	(+)	(-)	424	(=)	5866	54 5/8"	5869	+ 3	-47			
21	5869	(+)	(-)	205	(=)	5664	53 1/8"	5639	- 25	-72			
22	5639	(+)	4177	(-)	403	(=)	9413	86 1/2"	+ 10	-62			
23	9423	(+)	(-)	87	(=)	9336	85 1/2"	9343	+ 7	-55			
24	9343	(+)	(-)	311	(=)	9032	82"	9036	+ 4	-51			
25	9036	(+)	(-)	239	(=)	8797			-40	-91			
26	8757	(+)	(-)	256	(=)	8501			+25	-66			
27	8526	(+)	(-)	264	(=)	8262			+ 8	-58			
28	8270	(+)	(-)	263	(=)	8007			-16	-74			
29	7991	(+)	(-)	185	(=)	7806	69"	7811	+ 5	-69			
30	7811	(+)	(-)	116	(=)	7695	68"	7690	- 5	-74			
31		(+)	(-)		(=)								

Total Gallons Pumped > **6594**

Total Gallons Over Or Short > **-74**

Drop the last two digits from the **Total Gallons Pumped** number and enter on the line below

Compare these numbers

Leak Threshold: 65 plus 130 gallons equals 195 gallons

Is the **Total Gallons Over Or Short** LARGER than the **Leak Threshold** result? **YES OR NO** (circle one)

If your answer is yes for 2 consecutive months, you must call BUSTR at 614-752-7938 within 24 hours of discovery

Keep This Piece Of Paper On File For At Least Two Years

Columns are labeled with letters that are used in the math equations found in this Guide.

Column G is Optional. You can keep a month to date tally of the over/short as you go along. This will reduce mistakes when figuring column F at the end of the month.

Formula: A + B - C = D
Add Start Stick Inventory gallons and the Gallons Delivered then subtract the Gallons Pumped to get your Book Inventory for today.

Formula: E2 - D = F.
Subtract your Book Inventory from Today's End Stick Inventory to get the Daily Over/Short result.

These two numbers are your "Total Gallons Over or Short" and they should be the same.

The Total Gallons Over or Short number must be compared to the Leak Threshold number immediately below. When comparing, use absolute values and do not include the negative sign. Compare 74 to 195.

The Leak Threshold number must be calculated by taking 1% of column "C" and adding 130.

If the Total Gallons Over or Short is larger than the Leak Threshold number, then you must investigate to see if you have a release.

Daily Inventory Worksheet

Facility Name: _____ Phone Number: _____

Your Name: _____ Title: _____

Date: _____

Tank Identification							
Type Of Product							
Tank Size In Gallons							
Today's End Stick Inches / gallons enter this in column E1 and E2 of the <i>Monthly Inventory Worksheet</i>							
Yesterday's End Stick inches / gallons. Enter this in column (A) of the <i>Monthly Inventory Worksheet</i>							
Figuring Amount Pumped							
Totalizer Reading							
Totalizer Reading							
Totalizer Reading							
Totalizer Reading							
Totalizer Reading							
Totalizer Reading							
Totalizer Reading							
Totalizer Reading							
Add Today's Sum Of Totalizers							
Subtract Previous Day's Sum Of Totalizers							
Amount Pumped Today - minus testing adjustments. Enter this in column (C) of the <i>Monthly Inventory Worksheet</i>							
Deliveries							
Product After Delivery, Inches converted to gallons							
Product Before Delivery, Inches converted to gallons							
Gallons Delivered (Stick) Subtract gallons "Before" from gallons "After" Enter on column (B) of the <i>Monthly Inventory Worksheet</i> also.							
Gross Gallons Delivered (Receipt)							

Monthly Inventory Worksheet

Month/Year : _____ / _____

Tank Identification And Type Of Product: _____

Facility Name: _____

Date Of Water Check: _____ Level Of Water (Inches): _____ Water Removed (Gallons): _____

Date	Start Stick Inventory (Gallons)	Gallons Delivered	Gallons Pumped	Book Inventory/Gallons (A + B - C = D)	End Stick Inventory		Daily Over (+) Or Short (-) (E2 - D = F) Must Complete	Month to date Over/Short (Optional)	Intl
					Inches	Gallons			
	A	B	C	D	E 1	E 2	F	G	H
1	(+)	(-)	(=)						
2	(+)	(-)	(=)						
3	(+)	(-)	(=)						
4	(+)	(-)	(=)						
5	(+)	(-)	(=)						
6	(+)	(-)	(=)						
7	(+)	(-)	(=)						
8	(+)	(-)	(=)						
9	(+)	(-)	(=)						
10	(+)	(-)	(=)						
11	(+)	(-)	(=)						
12	(+)	(-)	(=)						
13	(+)	(-)	(=)						
14	(+)	(-)	(=)						
15	(+)	(-)	(=)						
16	(+)	(-)	(=)						
17	(+)	(-)	(=)						
18	(+)	(-)	(=)						
19	(+)	(-)	(=)						
20	(+)	(-)	(=)						
21	(+)	(-)	(=)						
22	(+)	(-)	(=)						
23	(+)	(-)	(=)						
24	(+)	(-)	(=)						
25	(+)	(-)	(=)						
26	(+)	(-)	(=)						
27	(+)	(-)	(=)						
28	(+)	(-)	(=)						
29	(+)	(-)	(=)						
30	(+)	(-)	(=)						
31	(+)	(-)	(=)						

Total Gallons Pumped >

Total Gallons Over Or Short >

Drop the last two digits from the **Total Gallons Pumped** number and enter on the line below



Compare these numbers



Leak Threshold: _____ plus 130 gallons equals: _____ gallons

Is the **Total Gallons Over Or Short** larger than the **Leak Threshold** result? **Yes** **No** (circle one)

If your answer is yes for 2 consecutive months, BUSTR must be notified within 24 hours at 614-752-7938.

Keep this on file for at least 2 years

FREQUENTLY USED TELEPHONE NUMBERS

- **Ohio Department of Commerce:**
 - **Division of Ohio State Fire Marshal:**
 - **Administration:**(888) 252-0803
 - **Fax:**(614) 752-7213
 - **Bureau of Underground Storage Tank Regulations:**(800) 686-2878
 - **Fax:**.....(614) 752-7942
 - **Code Enforcement:**(888) 276-0303
 - **Fax:**.....(614) 728-5168
 - **Testing and Registration:**(614) 752-7126
 - **Fax:**.....(614) 995-4206
- **Ohio Department of Health - Emergency Line:**.....(800) 411-4142
 - **Information Line:**(614) 466-3543
- **Ohio Department of Natural Resources:**(614) 265-6463
- **Ohio Department of Transportation:**(614) 995-7906
- **Ohio Environmental Protection Agency:**
 - **Central District – Columbus:**(800) 686-2330
 - **Northeast District – Twinsburg:**.....(800) 686-6330
 - **Northwest District – Bowling Green:**.....(800) 686-6930
 - **Southeast District – Logan:**.....(800) 686-7330
 - **Southwest District – Dayton:**(800) 686-8930
- **Petroleum Underground Storage Tank Release Compensation Board:**..... (800) 224-4659

ACKNOWLEDGEMENTS

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Some graphics used in this guide were imported from the USEPA document titled “Doing Inventory Control Right for Underground Storage Tanks,” (EPA 510-B-93-004), November 1993, which may be found at:
<http://www.epa.gov/swrust1/pubs/doing.htm>.

Want to Help Improve This Daily Inventory Guide?

Help us continually improve this Manual! Send us your feedback. Let us know if you find any errors. Tell us about anything that needs to be added or deleted and give us your suggestions on format or checklist changes.

- Visit our web page at <https://www.com.state.oh.us/sfm/bust>
- Send feedback by regular mail to:
 - Division of State Fire Marshal
 - Bureau of Underground Storage Tank Regulations
 - Release Prevention Section
 - 8895 East Main Street
 - Reynoldsburg, OH 43068-9009
- Phone in your feedback to the Release Prevention Supervisor at (614) 752-7938.