



**Minnesota Pollution
Control Agency**

520 Lafayette Road North
St. Paul, MN 55155-4194

Manual Tank Gauging Form

Underground Storage Tank Program

Doc Type: Monitoring Results

Facility Information

Facility name: _____ Month/Year: _____ / _____

Address: _____

City: _____ State: _____ Zip code: _____

Tank number: _____ Tank size: _____ Product: _____

Week 1 - Test Results

Test	Date (mm/dd/yy)	Time	Gauge stick readings (to nearest 1/8")			Gallons in tank (converted from stick readings)	Gallons at start of test - Gallons at end of test = Weekly net gain or loss	
			1	2	Average			
Test start:							(+)(-)	gals.
Test end:							Weekly test result is:	
Test duration:	Total hours		(see bottom of form for minimum test time)				<input type="checkbox"/> Pass	<input type="checkbox"/> Fail

Week 2 - Test Results

Test	Date (mm/dd/yy)	Time	Gauge stick readings (to nearest 1/8")			Gallons in tank (converted from stick readings)	Gallons at start of test - Gallons at end of test = Weekly net gain or loss	
			1	2	Average			
Test start:							(+)(-)	gals.
Test end:							Weekly test result is:	
Test duration:	Total hours		(see bottom of form for minimum test time)				<input type="checkbox"/> Pass	<input type="checkbox"/> Fail

Week 3 - Test Results

Test	Date (mm/dd/yy)	Time	Gauge stick readings (to nearest 1/8")			Gallons in tank (converted from stick readings)	Gallons at start of test - Gallons at end of test = Weekly net gain or loss	
			1	2	Average			
Test start:							(+)(-)	gals.
Test end:							Weekly test result is:	
Test duration:	Total hours		(see bottom of form for minimum test time)				<input type="checkbox"/> Pass	<input type="checkbox"/> Fail

Week 4 - Test Results

Test	Date (mm/dd/yy)	Time	Gauge stick readings (to nearest 1/8")			Gallons in tank (converted from stick readings)	Gallons at start of test - Gallons at end of test = Weekly net gain or loss	
			1	2	Average			
Test start:							(+)(-)	gals.
Test end:							Weekly test result is:	
Test duration:	Total hours		(see bottom of form for minimum test time)				<input type="checkbox"/> Pass	<input type="checkbox"/> Fail

Monthly Reconciliation

Test for the month	Total gain or loss of product
Week 1:	(+)(-) gals.
Week 2:	(+)(-) gals.
Week 3:	(+)(-) gals.
Week 4:	(+)(-) gals.
Monthly average:	(+)(-) gals.

(The monthly average is the sum of the weekly averages divided by four.)

The monthly test result indicates (check one):

☐ **Pass**

☐ **Fail**

Water check:

Date: _____

Inches: _____

Standards

Weekly and monthly standards			Test duration
Tank capacity (gallons)	Weekly variance	Monthly variance	Hours required for test
Less than 550	10 gals.	5 gals.	36 hours
551 – 1000 (64" dia.tank)	9 gals.	4 gals.	44 hours
551 – 1000 (48" dia.tank)	12 gals.	6 gals.	58 hours
*1001 – 2000	26 gals.	13 gals.	36 hours

*Tanks between 1001 – 2000 gallons must be tightness tested every five years and must switch to a different leak test method (such as automatic tank gauge) after ten years of installation.

Instructions for Tanks installed after December 22, 2007

- a. *Must use interstitial monitoring as the primary form of leak detection.*

Instructions for Tanks installed on or before December 22, 2007

- a. *For tanks of 1,000 gallons capacity or smaller, Manual Tank Gauging may be used indefinitely as the only method of release detection.*
- b. *For tanks larger than 1,000 gallons capacity but smaller than 2,000 gallons, Manual Tank Gauging may be used **only if** combined with a tank tightness test every five years. Within ten years of the install date, a different method of leak detection must be used, such as an automatic tank gauge or statistical inventory reconciliation.*
- c. *Manual Tank Gauging may **not** be used for tanks larger than 2,000 gallons capacity.*

Conducted weekly, Manual Tank Gauging monitors the product level in a tank for a period of at least 36 hours during which nothing is added to or removed from the tank. See the chart on the reverse side of this page for minimum test period for each size of tank.

Take two (2) consecutive gauge readings to the nearest one-eighth ($\frac{1}{8}$) inch and record them under numbers 1 and 2 in the "Test Start" row. Enter the average of the two readings in the "Test Start" row under "Average." From the tank chart appropriate for this tank, determine the gallonage that corresponds to this gauge stick reading and place it in the "Test Start" row under "Gallons in Tank."

At the end of the test period, repeat these steps above but place the new numbers in the "Test End" row instead.

To take a proper gauge stick reading, carefully place the stick into the top of the tank through one of the tank openings until the end of the gauge stick makes contact with the tank bottom. Product finding paste is recommended so the test is accurate in determining the level of product in the tank. It is recommended the tank be checked monthly for water. Water finding paste is recommended, to determine the quantity of water present in the tank, if any. The presence of water may indicate a leaking tank.

Conversion charts are available from the tank manufacturer or your tank service provider. These charts may not express gallonage for fractions of an inch. If your stick reading includes a fraction, you may have to interpolate to obtain the correct gallonage that corresponds to your gauge stick reading.

Example:

The gauge stick reads 17 $\frac{3}{8}$ ", but your conversion chart only lists gallonage figures for 17" and 18", not for fractions between. How do you find the gallonage for 17 $\frac{3}{8}$ "?

If, according to the conversion chart, 17" of product corresponds to 220 gallons, and 18" of product corresponds to 236 gallons, multiply the difference ($236 - 220 = 16$) by the extra fraction ($\frac{3}{8}$). In this case, $16 \times \frac{3}{8} = 6$ gallons. Add the 6 gallons to the lower gallonage number to obtain the gallonage for 17 $\frac{3}{8}$ ". In this case, add 6 gallons to 220 gallons and come up with **226** gallons. Therefore, a stick reading of 17 $\frac{3}{8}$ " corresponds to 226 gallons of product in the tank.

At the end of the rest period, take two more stick readings and average them. Convert the average reading into gallons and compare this gallonage to the gallonage obtained from the stick reading at the start of the test. If the end gallonage is greater than the start gallonage, record the difference as a "+" difference. If the end gallonage is smaller than the start gallonage, record the difference as a "-" difference. This difference should be within the weekly test standards for your tank (listed on the reverse of this form).

To interpret test results for a given month, add the four weekly variances together and divide by four. Compare this average of the four weekly variances with the monthly standard listed on the reverse of this form.

Note: If your tank fails to conform to the monthly standard, review all stick measurements to verify that there are no mistakes. Take extra precautions while performing leak detection measurements the next month. If the next month's result also fails by exceeding the allowed amount, you must immediately report this as a suspected leak to the Minnesota Duty Officer at 800-422-0798. Failing to do so may result in fines and increased cleanup costs.

Questions:

Contact the MPCA at 651-296-6300 or 800-657-3864.