

# December 6, 2022, Underground Storage Tank Virtual Webinar

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Contact:

Mark Drouin

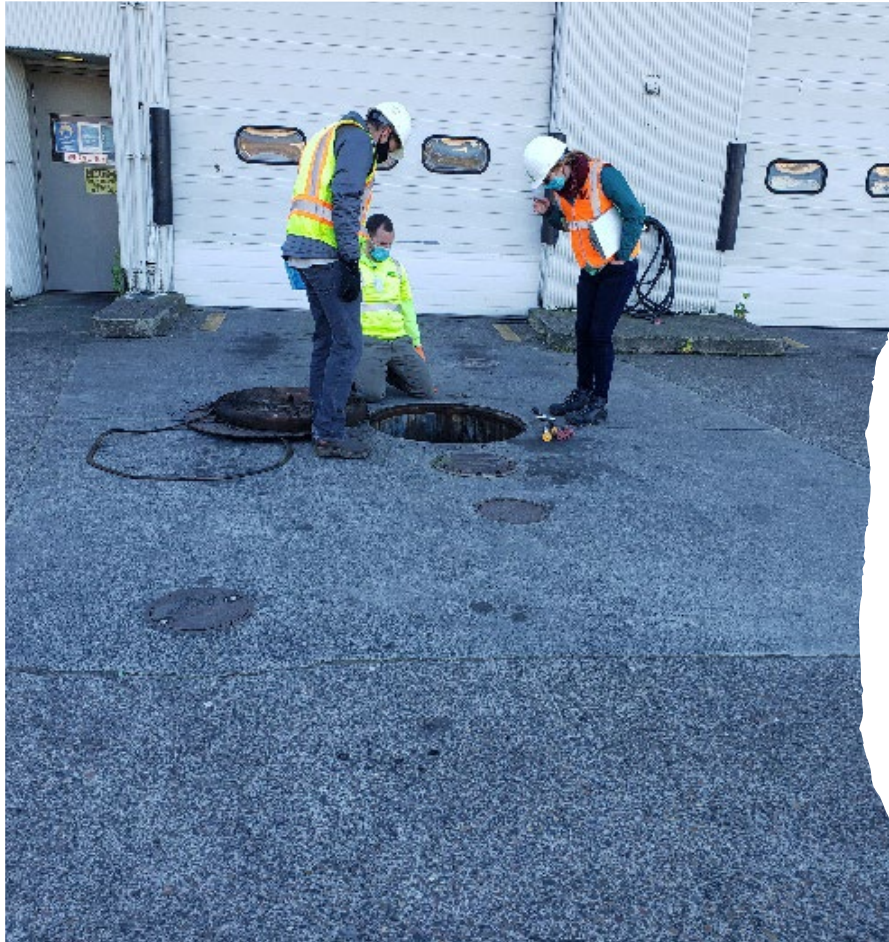
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\* Revised 01/25/2023





# Agenda

9 – 9:45 Oregon DEQ Presentation  
(Introductions, history, Annual Operability Release Detection)

9:45 – 10:00 Questions

10:00 – 11:00 Kevin Henderson



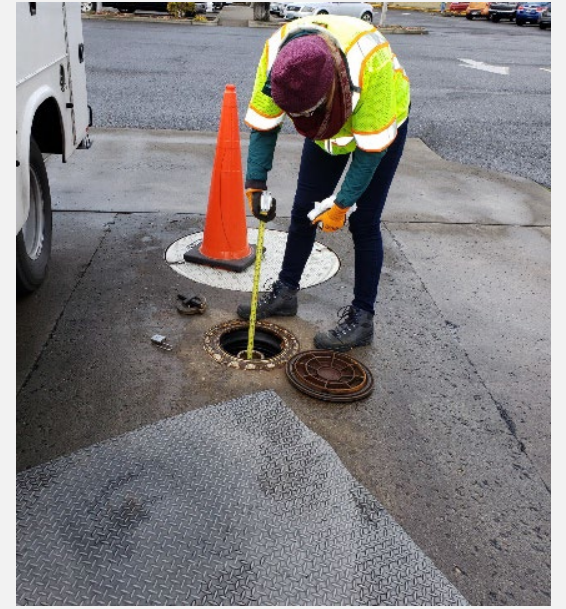
Mark Drouin



Ingrid Gaffney



Dylan Eckert Andrea Garcia



Lauren Dimock

# Statewide Underground Storage Tank Compliance Inspectors

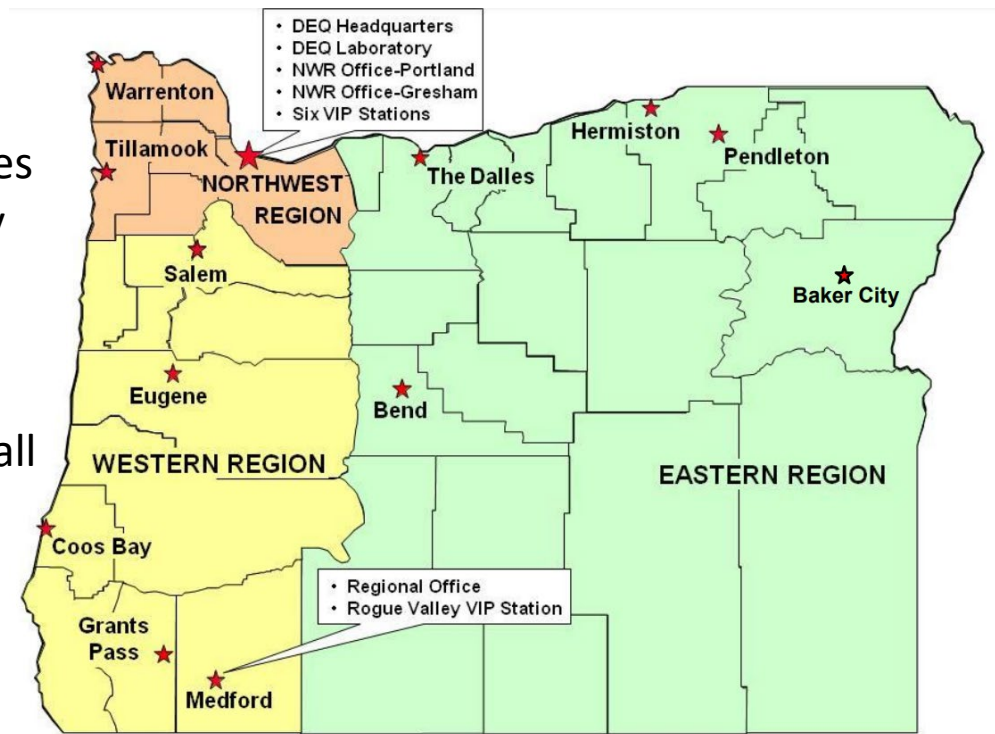
[Oregon Administrative Rules Chapter 340-150](#)  
[Underground Storage Tank Rules](#)

Oregon is 295 miles north to south at longest distance, and 395 miles east to west. With an area of 98,381 square miles, Oregon is slightly larger than the United Kingdom.

Oregon also has approximately 1,700 facilities with over 5,300 regulated tanks. These tanks range from 500-gallon waste oil tanks all the way up to 30,000 high throughput tanks.

In comparison

Los Angeles County, California has approximately 1,700 regulated facilities over 690 square miles of land with 30 inspectors.



- 1983 National news story about contamination in drinking water from leaking underground storage tanks:  
<https://www.youtube.com/watch?v=ai4BcdAZx9c>
- 1985 EPA forms the Office of Underground Storage Tanks
- 1988 First federal rules governing Underground Storage Tanks
- 1993 EPA mandates all USTs installed prior to 1988 must have leak detection
- 1998 All USTs had to be upgraded or replaced to include spill, overflow, and corrosion protection
- 2005 Clean Energy Act requires all regulated USTs to be inspected every three years
- 2006 Oregon develops UST program and promulgates Oregon specific UST rules (OAR 340-150)
- 2015 EPA updates federal UST regulations with new major compliance testing requirements
- 2018 Oregon updates OAR 340-150 with new major compliance deadlines effective October 1, 2020
- (<https://www.epa.gov/ust/milestones-underground-storage-tank-programs-history-text-version> for more information)





### **Prior to October 1, 2020:**

Annual line testing

Annual leak detector testing

If applicable, cathodic testing every three years

If applicable, tank lining inspection 10 years after installation and 5 years thereafter



### **Starting October 1, 2020, new compliance testing requirements:**

Spill bucket integrity testing every three years.

Overfill inspection every three years

Monthly walkthroughs

Containment integrity sump testing every three years (if applicable)

### **Annual release detection operability testing**



## Musts For USTs

### Monthly

- Monthly walkthroughs

### Annual

- Line tightness testing
- Leak detector testing
- Release detection operability testing

### Every Three Years

- Spill bucket integrity testing
- Overfill inspection
  
- Containment sump testing (if applicable)
- Corrosion protection (if applicable)



## Release detection operability testing: OAR 340-150-0400 (2)

- (a) Automatic tank gauge: test alarm, verify system configuration, test battery backup
- (b) Probes and sensor: ensure floats move freely, test alarm operability and communication with controller [tank gauge]

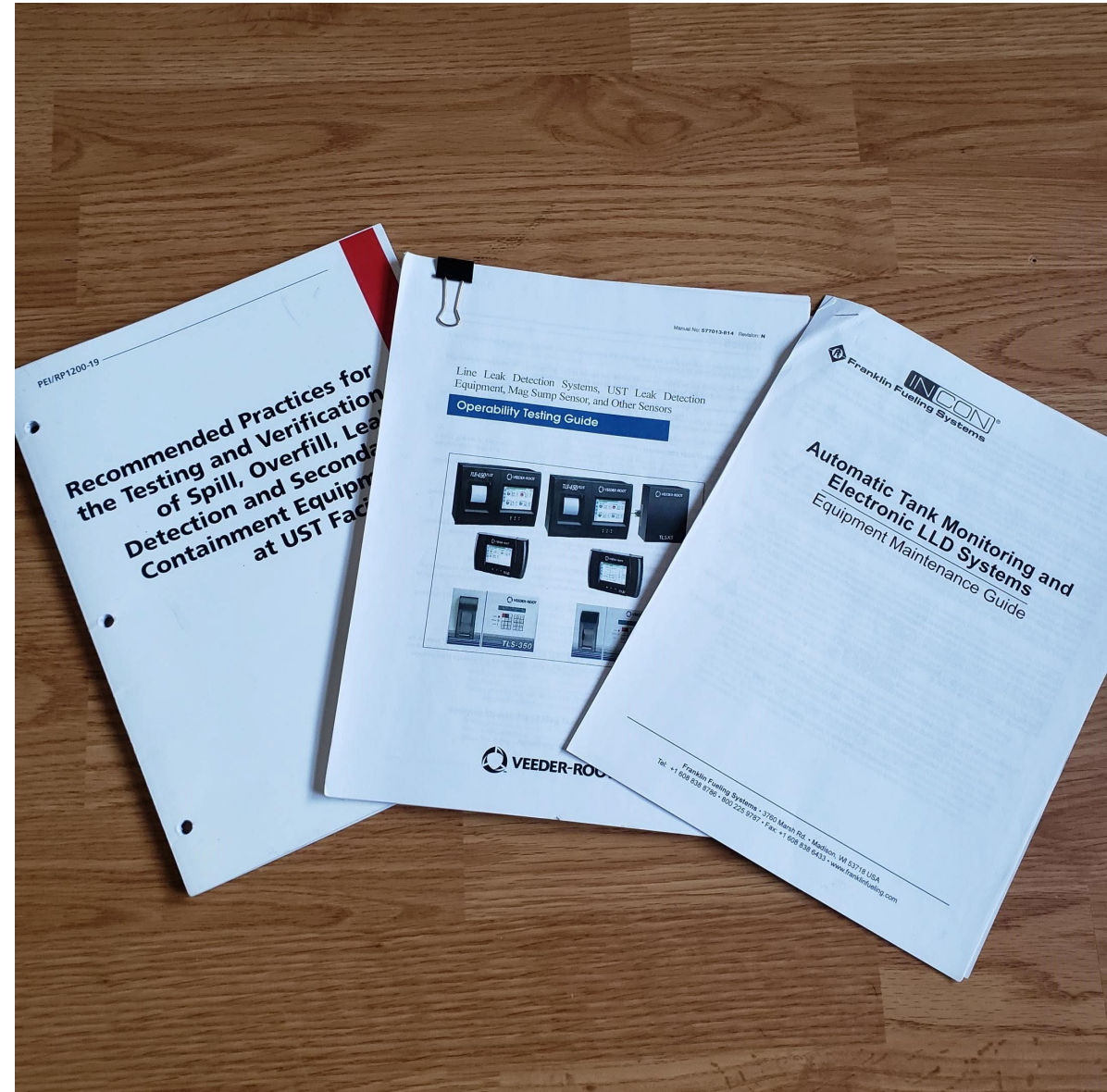
The testing must be conducted in accordance with one of the following:

- Manufacturer specifications
- A code of practice developed by a nationally recognized association
- Requirements determined by the DEQ





- Petroleum Equipment Institute's recommended practices for testing leak detection equipment (<https://pei.org/>)
- Veeder-Root's operability testing guide (<https://www.veeder.com/us/>); and
- Franklin Fueling Systems tank monitoring equipment maintenance guide (<https://www.franklinfueling.com/>)
- Other tank gauges:
  - EECO 1500 discontinued in 2013
  - [Omnitec](#)
  - [Pneumercator](#)



## Publications

The following publications are listed to help provide additional information and assistance with tank issues.

[Tankline Bulletins](#) +

[Compliance guidance](#) +

[Fact sheets](#) +

[EPA documents and references](#) +

[Testing Forms](#) ×

- Annual Release Detection Operability Testing form
  - Annual Release Detection Operability Testing Form Instructions
  - Completed Example Form
  - Veeder Root Leak Detection Systems Operability Testing Guide
  - Franklin Fueling System Automatic Tank Gauge Maintenance Guide

<https://www.oregon.gov/deq/tanks/Pages/UST-Forms.aspx#testing>

<https://www.oregon.gov/deq/tanks/Pages/UST-Forms.aspx>

# Release Detection Operability Testing Form (OAR 340-150-400)

DEQ UST Forms:

<https://www.oregon.gov/deq/tanks/Pages/UST-Forms.aspx>



## OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY RELEASE DETECTION OPERABILITY TESTING FORM

In-tank setup and alarm history reports must be attached to testing form.  
Maintain three years of testing records.  
Instructions on how to use this form. (LINK)

**FACILITY INFORMATION** – Type or print (in ink) all items.

Facility ID #: \_\_\_\_\_ Facility Name: \_\_\_\_\_

**AUTOMATIC TANK GAUGE**  Present

Tank Gauge Manufacturer: \_\_\_\_\_ ATG Model: \_\_\_\_\_

Release Detection Method: Tank Gauge 0.2 gph leak tests:  Continuous  Static  SIR  In-Tank

Battery Backup Functional?  Yes  No ATG software properly programmed?  Yes  No

Tank Gauge Alarms Functional and Audible?  Yes  No ATG In-Tank Setup Reports attached to form?  Yes  No

**TEST PROCEDURE**

DEQ Form 1200  Oregon Testing Procedures (Page 2)  Manufacturer Testing Procedures  Other Method ( )

PROBE AND TESTING INFORMATION							
Tank Number							
Product Stored							
Model							
Can you clear the ATG console of alarms?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Can you disconnect cable from tank gauge probe. Is appropriate alarm triggered?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Can you remove tank gauge probes and inspect for damage?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Can you remove residual buildup on floats has been removed?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Can you move float(s) freely?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No

Facility Name \_\_\_\_\_ Test Date \_\_\_\_\_

**TESTING INFORMATION** (liquid sensors, tank interstitial sensors, etc.)

Is the sensor identified on tank gauge?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is the sensor identified on the ATG console? (If yes, indicate why in the comments section)	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is the sensor at the proper location and position?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is the sensor submerged in liquid, when placed in test liquid?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
When triggered, the sensor is properly identified on the ATG?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is the test history report attached?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	<input type="checkbox"/> Pass <input type="checkbox"/> Fail

Indicates the test failed. Failed tests must be remedied and retested immediately.

Comments should be used to note additional information discovered or actions taken during testing that affect compliance.

### Oregon DEQ Tank Gauge and Probe Functionality Testing Procedures

1. Clear the ATG console and verify that there are no active or recurring warnings or alarms.  
2. Verify that both the visual and audible alarms on the tank gauge console function correctly.  
3. Verify that the correct set-up parameters for the probes and appropriate leak detection are programmed correctly.  
4. Verify battery backup (if present).  
5. Remove the tank gauge probe from the tank.  
6. Reconnect the probe to the tank.  
7. Wait for "Probe Out" alarm, reconnect probe and reset tank gauge.  
8. Verify that there is no fuel or water build up from probes.  
9. Measure the fuel and water contents of the tank and compare with the tank gauge inventory report ensuring that they are the same.  
10. Verify that the probe fuel and water floats are the correct type for the product stored in the tank.

- Two-page form
- Oregon form is not mandatory
- Inspectors recommend using the form

- > In-tank setup and alarm history reports must be attached to testing form.
- > Maintain three years of testing records.
- > Instructions on how to use this form. (LINK)

I. FACILITY INFORMATION – Type or print (in ink) all items.				TEST DATE	
Facility ID #:		Facility Name:			
II. AUTOMATIC TANK GAUGE				<input type="checkbox"/> Pass	<input type="checkbox"/> Fail
ATG Manufacturer		ATG Model			
Release Detection Method:		Tank Gauge 0.2 gph leak tests: ( <input type="checkbox"/> Continuous <input type="checkbox"/> Static) <input type="checkbox"/> SIR <input type="checkbox"/> Interstitial Monitoring			
Battery Backup Functional?	<input type="checkbox"/> Yes <input type="checkbox"/> No	ATG software properly programmed?	<input type="checkbox"/> Yes <input type="checkbox"/> No		
ATG alarms functional and audible?	<input type="checkbox"/> Yes <input type="checkbox"/> No	ATG In-Tank Setup Reports attached to form?	<input type="checkbox"/> Yes <input type="checkbox"/> No		
III. TEST PROCEDURE					
<input type="checkbox"/> PEI/RP 1200 <input type="checkbox"/> Oregon Testing Procedures (Page 2) <input type="checkbox"/> Manufacturer Testing Procedures <input type="checkbox"/> Other Method (Describe)					
IV. PROBE AND TESTING INFORMATION					
Tank Number					
Product Stored					
Model					
Is the ATG console clear of alarms?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes

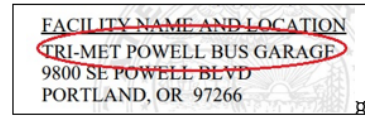


I. → FACILITY INFORMATION¶

**Facility ID#:** The facility number found on the Certificate to Operate.¶



**Facility Name** The name of the facility on the Certificate to Operate.¶



**Test Date** The day the test was conducted.¶

¶

II. → AUTOMATIC TANK GAUGE¶

**ATG MANUFACTURER** The tank gauge at the facility (Example: Veeder Root, INCON, EECO, EVO, Omntec, etc.)¶

**ATG Model** The model of the tank gauge at the facility (Example: TLS-350, 1000 TS-1000EFI, EVO-5050, etc.)¶

**Release Detection Method** Select the appropriate tank release detection method used at the facility. Check all that apply.¶





**OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY  
RELEASE DETECTION OPERABILITY TESTING FORM**

- > In-tank setup and alarm history reports must be attached to testing form.
- > Maintain three years of testing records.
- > Instructions on how to use this form. (LINK)

<b>I. FACILITY INFORMATION</b> – Type or print (in ink) all items.		<b>TEST DATE</b>	
Facility ID #: <u>8469</u>	Facility Name: <u>DB Cooper's spot</u>	<u>2/3/2021</u>	
<b>II. AUTOMATIC TANK GAUGE</b>			
ATG Manufacturer: <u>Veeder Root</u>	ATG Model: <u>350</u>	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	
Release Detection Method: Tank Gauge 0.2 gph leak tests: <input checked="" type="checkbox"/> Continuous <input type="checkbox"/> Static <input type="checkbox"/> SIR <input type="checkbox"/> Interstitial Monitoring			
Battery Backup Functional? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	ATG software properly programmed? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
ATG alarms functional and audible? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	ATG In-Tank Setup Reports attached to form? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
<b>III. TEST PROCEDURE</b>			
<input checked="" type="checkbox"/> PEI/RP 1200 <input type="checkbox"/> Oregon Testing Procedures (Page 2) <input type="checkbox"/> Manufacturer Testing Procedures <input type="checkbox"/> Other Method (Describe)			
<b>IV. PROBE AND TESTING INFORMATION</b>			
Tank Number	<u>T1</u>	<u>T2</u>	<u>T3</u>
Product Stored	<u>unleaded</u>	<u>Diesel</u>	<u>Super</u>
Model	<u>Mag Plus</u>	<u>Mag Plus</u>	<u>Mag Plus</u>
Is the ATG console clear of alarms?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Disconnect cable from tank probe. Is appropriate alarm triggered?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Tank gauge probes removed and inspected for damage?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Residual buildup on floats has been removed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Float(s) move freely?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Measured product and water levels match ATG values?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Alarm history report attached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>V. TEST RESULT</b>	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail

Any "No" answer indicates the test failed. Failed tests must be remedied and retested immediately.

Facility ID # 8469 Facility Name DB Cooper Test Date 2/3/2021

<b>VI. SENSORS AND TESTING INFORMATION</b> (liquid sensors, tank interstitial sensors, etc.)									
Sensor as identified on tank gauge	<u>L1</u>	<u>L2</u>							
Is sensor in alarm? (If yes, indicate why in the comments section)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Sensor installed in the proper location and position?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Sensor triggers alarm, at tank gauge, when placed in test liquid	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
When alarm is triggered, the sensor is properly identified on the ATG	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Alarm history report attached?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>VII. TEST RESULTS</b>	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	<input type="checkbox"/> Pass <input type="checkbox"/> Fail

Any "No" answer indicates the test failed. Failed tests must be remedied and retested immediately.

<b>VIII. COMMENTS</b>
The comments section should be used to note additional information discovered or actions taken during testing that affect compliance.
<u>2/3/2021 Tested tank gauge probes - alarm history report for tank gauge T1 did not print. I tested T1 probe per RP 1200 method</u>
<u>(2/3/2021) returned to site for maintenance and tested soup sensors L1 &amp; L2 - no sensors in tank top 3 or any dispenser pans</u>
<u>TESTER: RAHAT Himmelsbach</u>

**Oregon DEQ Tank Gauge and Probe Functionality Testing Procedures**

- Inspect console and verify that there are no active or recurring warnings or alarms.
- Confirm that both the visual and audible alarms on the tank gauge console function correctly.
- Verify that the correct set-up parameters for the probes and appropriate tank leak detection is programmed correctly.
- Test battery backup (if present).
- Remove tank probe from tank.
- Disconnect probe, wait for "Probe Out" alarm, reconnect probe and reset tank gauge.
- Remove build up from probes.
- Measure the fuel and water contents of the tank and compare with the tank gauge inventory report ensuring that they are the same.
- Ensure that the probe's fuel and water floats are the correct type for the product stored in the tank.
- Reposition the floats, measure distance from bottom of the probe, and utilize tank charts to confirm accuracy of the tank gauge.
- Reinstall probes ensuring that the tank riser cap seals properly and the communication cable seal is tight.
- If tank gauge is equipped with printer, attach the printed tank gauge in-tank setup and alarm history report demonstrating that probes were tested.

**Oregon DEQ Sensor Functionality Testing Procedures**

- Inspect sensor for damage.
- Place sensor in at least three inches of testing liquid.
- Verify sensor alarms at tank gauge or sensor has appropriate alarm response (dispenser or turbine shut down).
- Clear alarm.
- Reinstall sensor upon verification of proper operation.
- If tank gauge is equipped with printer, attach the printed tank gauge in-tank setup and alarm history report demonstrating that probes were tested.

Multiple pages of printed logs and reports, including:

- Alarm History Report (In Tank Alarm)
- High Water Alarm
- Low Fuel Alarm
- High Fuel Alarm
- Probe Out
- High Water Warning
- Low Fuel Warning
- High Fuel Warning
- Probe In
- High Water Alarm
- Low Fuel Alarm
- High Fuel Alarm
- Probe Out
- High Water Warning
- Low Fuel Warning
- High Fuel Warning
- Probe In



**In-tank setup and alarm history reports must be attached to any form that is used for release detection operability testing**

This helps you, and inspectors, ensure that the appropriate equipment was tested properly

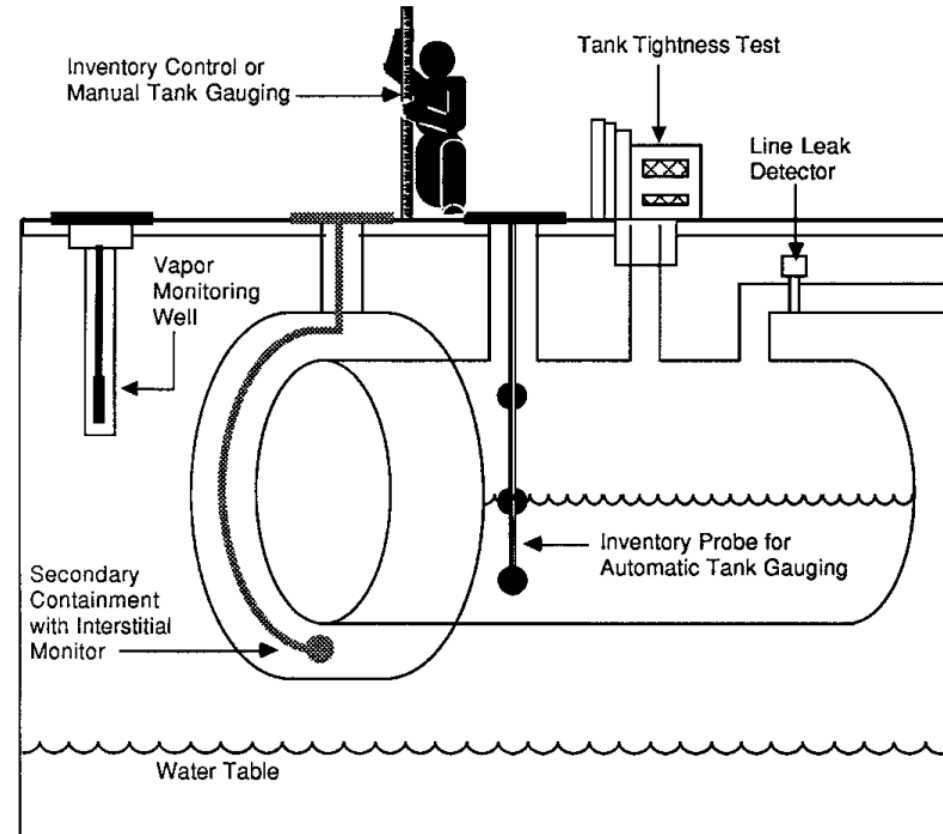


- **Critical to understand what type of tank leak detection is being conducted at the facility (0.2 gph, interstitial monitoring, and/or SIR)**

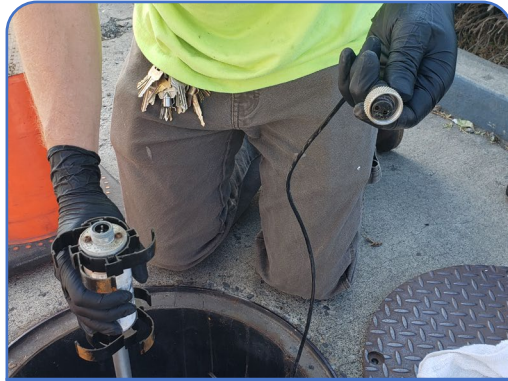
- This will determine if a tank gauge probe or an interstitial sensor needs to be tested.

- Tanks and piping installed after March 8, 2008, must conduct interstitial monitoring; therefore, the interstitial sensors must be tested.

- Attaching alarm history reports will indicate what sensors and probes were tested.



# Testing Tank Gauge Probes



Disconnect probe

1



Clear tank gauge alarm

2



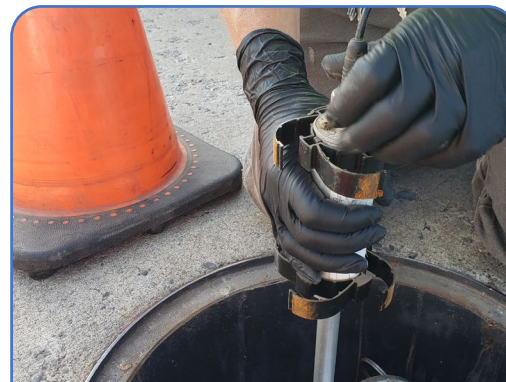
Set tape measure next to probe and move floats

3



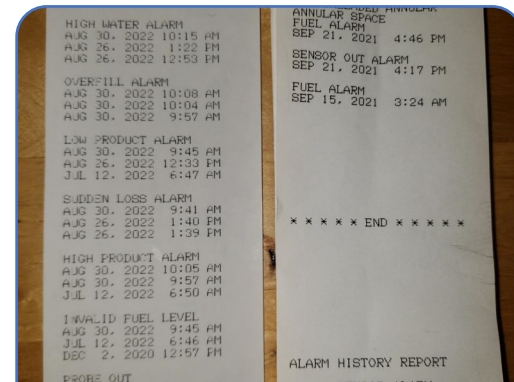
Check to ensure fuel and water level correct

4



Place probe back in tank

5



Print alarm history from tank gauge and attach to form

6



ALARM HISTORY REPORT

---- IN-TANK ALARM ----

T 2:UNLEADED

LEAK ALARM

DEC 15. 2017 2:00 AM  
DEC 12. 2017 12:30 AM  
DEC 9. 2017 11:30 PM

HIGH WATER ALARM

AUG 30. 2022 10:15 AM  
AUG 26. 2022 1:22 PM  
AUG 26. 2022 12:53 PM

OVERFILL ALARM

AUG 30. 2022 10:08 AM  
AUG 30. 2022 10:04 AM  
AUG 30. 2022 9:57 AM

PROBE OUT

AUG 30. 2022 10:18 AM  
AUG 30. 2022 9:42 AM  
AUG 26. 2022 1:34 PM

HIGH WATER WARNING

AUG 30. 2022 10:15 AM  
AUG 26. 2022 1:22 PM  
AUG 26. 2022 12:53 PM

If doing 0.2 gph tank leak detection, at a minimum, the following in-tank alarms should be activated and documented for the testing:

- Probe Out
- High Water Alarm

Additional alarms such as sump sensors may be required depending on your system

\* Revised 01/25/2023

Cleaning and proper movement of the floats along with communication between the tank gauge and probe is the purpose of this testing. The alarm documentation is evidence that can be used to determine if the appropriate testing procedures were followed.

# Testing Sump Sensors

Must be completed if interstitial monitoring of piping is being conducted



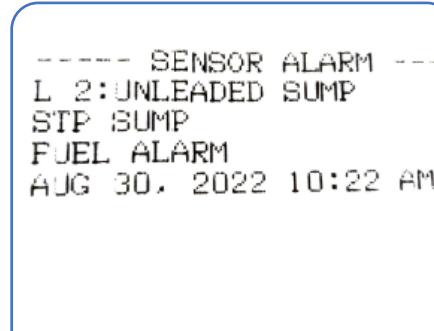
Fill container with water (non-discriminating sensor)

1



Place sensor in water filled container

2



Verify sensor is in alarm at tank gauge

3



Reset alarm and place sensor back in position

4



Attach alarm history report to testing sheet

5



+



What If.....

- Tank gauge has an old printer that no longer functions properly
- Tank gauge doesn't have a printer
- Probe is hard wired to tank gauge
- DC 400 Dispensing Cutoff Sensor
- Other unique situation

○

●

Document site conditions in the comments section or provide photographs or even video

- Operators, you are paying for a service that requires testing and documentation. The documentation needs to demonstrate that the testing was completed properly.
- Which of these documents is worth a \$1,000?
- Which one of these documents will help show testing compliance?

### Document 1

DECEMBER 6, 2022 - Rain 32°F  
 7:05 W/DRAIN on-site  
 OBJECTIVE: conduct annual operability testing at UST facility 14000 located at 123 main street, AnyTown Oregon  
  
 - Facility conducting SCAID for monthly tank leak detection - 4 tanks and interstitial monitoring at dispenser 7/B (diesel)  
  
 7:30 Setup Equipment start testing tank probes using PEI/RP 1200 METHOD  
 9:45: removed all tank probes  
 Probes for tanks 1, 2 & 4 were all disconnected, cleaned, and tested - all 3 probes went into alarm @ tank gauge  
 Probe for tank 3 hand wired to tank gauge - not able to disconnect  
 completed cleaning and testing per method  
 Documented testing on PEI form - attached alarm history report to testing form  
  
 10:15 setup testing of Veeder Root 208 sensor in diesel turbine sump and dispenser 7/B  
  
 11:02 Veeder root 208 sensors tested per manufacturer specifications ...

### Document 2

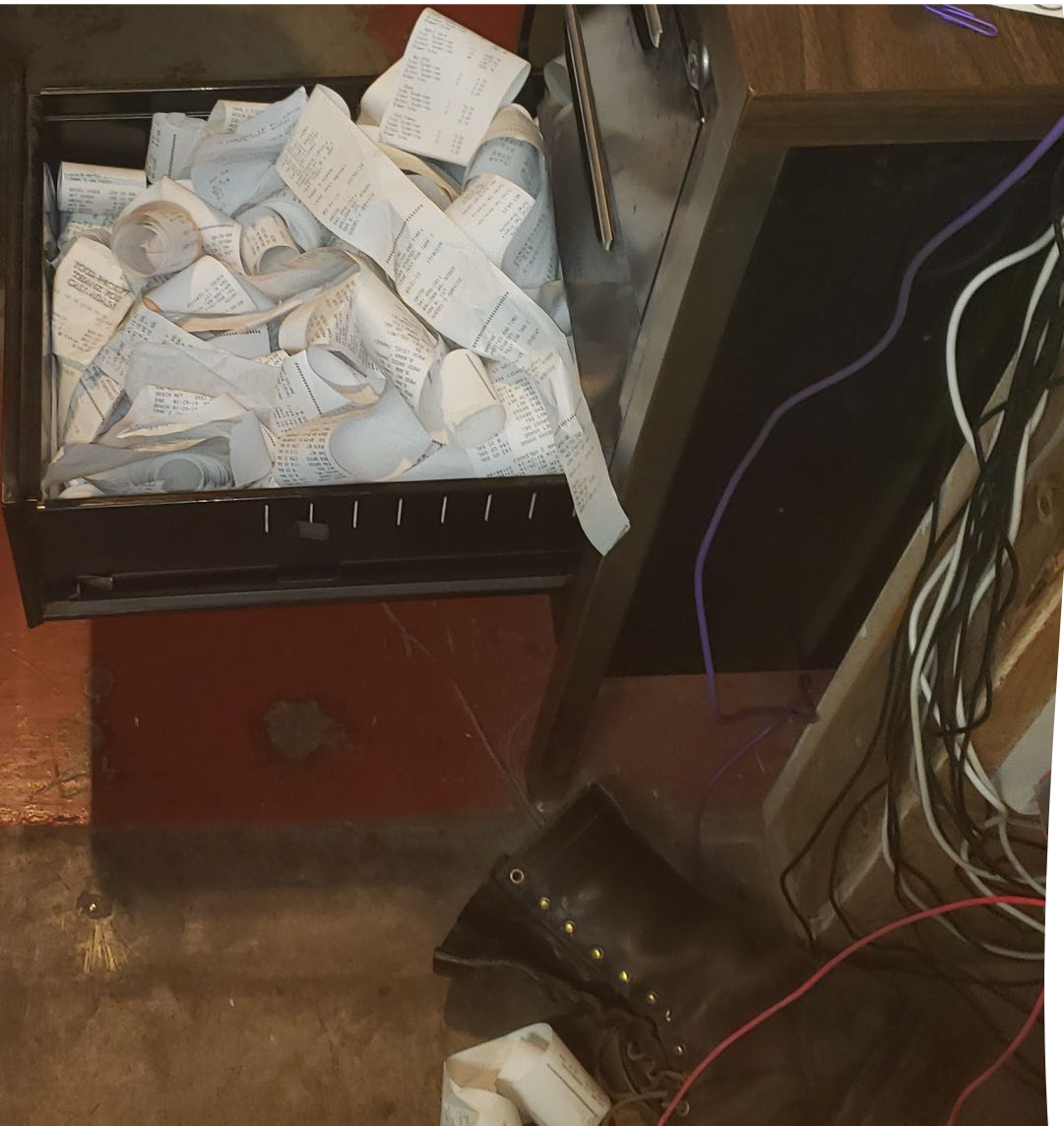
December 6, 2022  
 Objective: Conduct annual testing  
  
 Testing complete

# Records Management

- How many years of testing records should I keep?

OAR 340-150-400 (5) An owner and permittee must maintain records demonstrating compliance with this rule and retain the following records for as long as the release detection equipment is in use

The Oregon DEQ recommends that at a minimum, the last three annual release detection operability testing records be available on-site during routine UST inspections



- Operators are responsible to ensure all testing is conducted correctly and in accordance with UST rules
- DEQ UST inspectors are here to help you better understand the testing requirements and offer technical assistance.
- Inspectors are willing to be on-site with your tester to ensure the proper testing is completed.
- Please give us as much notice as possible. We may not be able to make it to all testing at all facilities.



The DEQ would like to thank the following operators with their input on the form

- 
- Newport – Ron's Oil
  - Prineville – Leathers Fuel
  - Portland – Portland Community College
  - Mascott Equipment Company



# Survey link will be provided in the text box toward the end of the webinar.

## December 6, 2022, Webinar Survey

1. Was this webinar helpful?

- Yes
- No
- Sorta

2. Would you like the DEQ UST Program to provide future free webinars?

- Yes
- No

3. If you answered Yes to Question 2, what topics would you be interested in hearing more about?

4. What would be the best time for possible future webinars?

- 9 am - noon
- 1 - 3 pm
- 3 - 5 pm
- 6 - 8 pm

5. Would you be willing to assist DEQ to help create and improve our testing forms and other documentation? If so, please provide your facility and contact information (email preferred)

Submit



Any feedback, comments or questions.

Please contact Mark Drouin:

541-213-1204

[mark.drouin@deq.oregon.gov](mailto:mark.drouin@deq.oregon.gov)

