CRUM & FORSTER®
EST. 1822
A FAIRFAX COMPANY

RISK ENGINEERING

UNDERGROUND FUEL TANKS

Water Identification and Prevention

When there is too much water in fuel, vehicles do not run properly, which results in many unwanted claims. In addition to the claims, these incidents can lead to poor customer relations, affecting a company's bottom-line. In this guide are a few measures to consider implementing for identifying and preventing water from entering underground fuel tanks.

Contact Information
Reporting Claims or Loss

24-hour toll free number:
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Email to:
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Can anyone make a claim?

Water contaminated fuel claims can impact one customer or many. It can depend on several factors, including how busy the gas station is and the type of fuel involved. Normally, more than one customer having a fuel-related problem with their vehicle is a sign that a valid fuel contamination claim has occurred. However, it's possible some claims will not be legitimate. Once the word gets out, non customers may make false claims for repairing all kinds of unrelated vehicle issues. To determine the legitimacy of the damage reported by your customers, Crum & Forster's claims department will first need a few pieces of documentation:

1. **Fuel Receipt** - They have verification they bought fuel from the gas station. Typically this is a fuel purchase receipt showing the type of fuel, the pump number, the amount of fuel bought, and date of purchase. Absent a receipt, a credit card statement may suffice.

2. **Repair Receipt** - A work order and receipt from an auto service shop verifying water contaminated fuel caused service issues with the vehicle.

3. **Proof of vehicle ownership** – Title or registration.

How does water enter underground tanks?

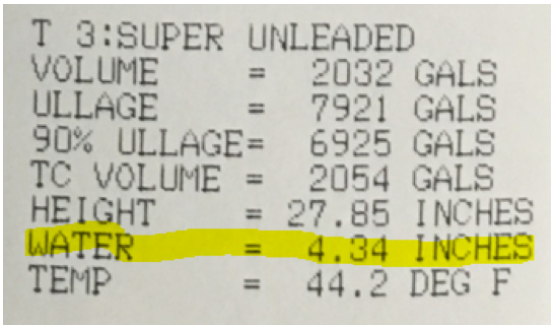
- Water captured in spill buckets can accidentally be drained into the tank
- Condensation – possible with underground tanks, but more prevalent with aboveground tanks
- Loose plugs/fittings
- Damaged spill buckets
- Damaged fill cap gaskets
- Leaks from tank sumps
- Fuel from delivery vehicles that contain water

Prevention Methods

1. Monitor and check for water with the automatic tank gauging systems

   (a) Remove water from the tank at certain depths per state and company standards.

   (b) Many companies have water removed when the tank level reaches 2".



Check automatic tank gauge systems daily to determine if there is any water in the tanks and how much. It is also wise to keep a record of these readings to substantiate latent claims.

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2 Consider sticking tanks with water paste after:

(a) Heavy rain or flood

(b) Receiving a load of fuel

Stick tanks periodically to check the accuracy of automatic tank gauge readings. Stick checking after a heavy rain or receiving a load of fuel should be company policy.

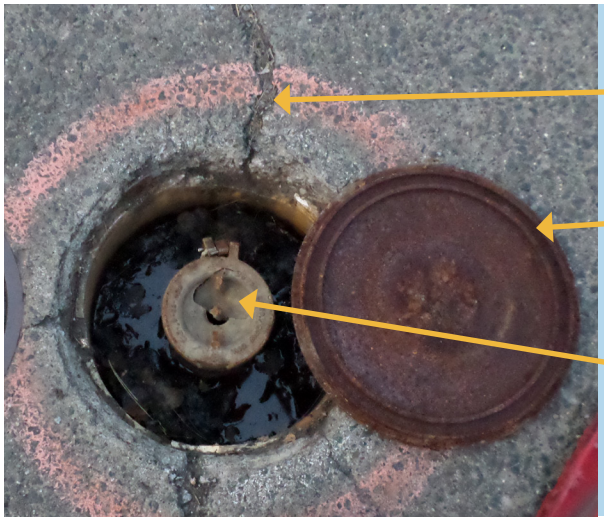
It's best to use a high visibility vest and cone-off the area when sticking tanks to provide protection from vehicles in the area.

Use a water paste that can detect phase separation, especially with fuels that contain ethanol.

3 Maintain good surface around spill buckets.

(a) Ideally, the surface around spill buckets should be slightly raised to keep out surface water.

(b) Proper surface maintenance around spill buckets prevents water from seeping into the bucket lids.



- Surface around spill bucket is cracked allowing water to seep into the bucket, even with the lid in place.
- The lid in this photo does not have a rubber gasket. The spill bucket's poor condition would not allow an adequate seal even if the gasket was in place.
- The cap on the fill connection is damaged which will allow water and debris to enter the tank.

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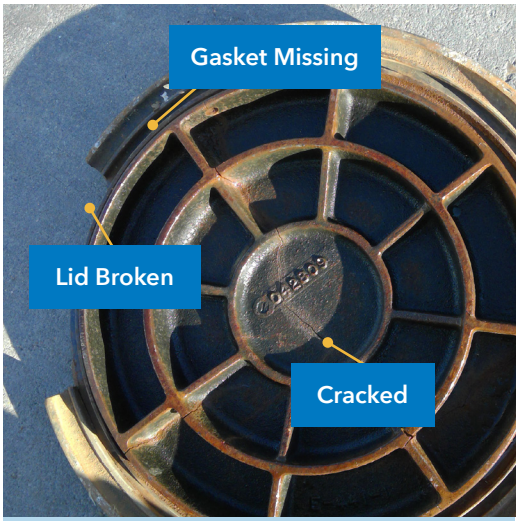
4 Inspect fill and vapor caps for missing or damaged gaskets.

Inspect fill pipes to ensure there is a gasket in good condition to prevent water from leaking in from the spill bucket should it fill up with water.

5 Inspect spill bucket lids for damaged or missing gaskets. Not all lids come with rubber gaskets, but when they do, they can help keep water out of spill buckets.



Spill bucket lid is broken, cracked in the middle and missing a rubber gasket.

This spill bucket has a good rubber gasket that provides a better seal to keep out water.

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6 Keep spill buckets dry

(a) Water in spill buckets

- Do not drain back into tank
- Remove and dispose of water properly per company policy

Water level in this spill bucket is up to the top of fill pipe cap. If the cap was removed, water would run into the tank. Water should be properly removed before opening fill pipe cap.

Spill Bucket Management

EPA has developed a brochure for managing spill buckets for underground storage tanks. EPA, back in 2015, developed new requirements for underground storage tank systems. Spill buckets are required to be tested for leaks as of October of 2018 and then every three years. Some states may require more frequent testing of spill buckets. This is a good guide to share with all personnel responsible for managing and inspection spill buckets.

https://www.epa.gov/sites/production/files/2017-06/documents/spill-bucket-2017_0.pdf