


Home Heating Oil Tank Outreach

Ivy Patton

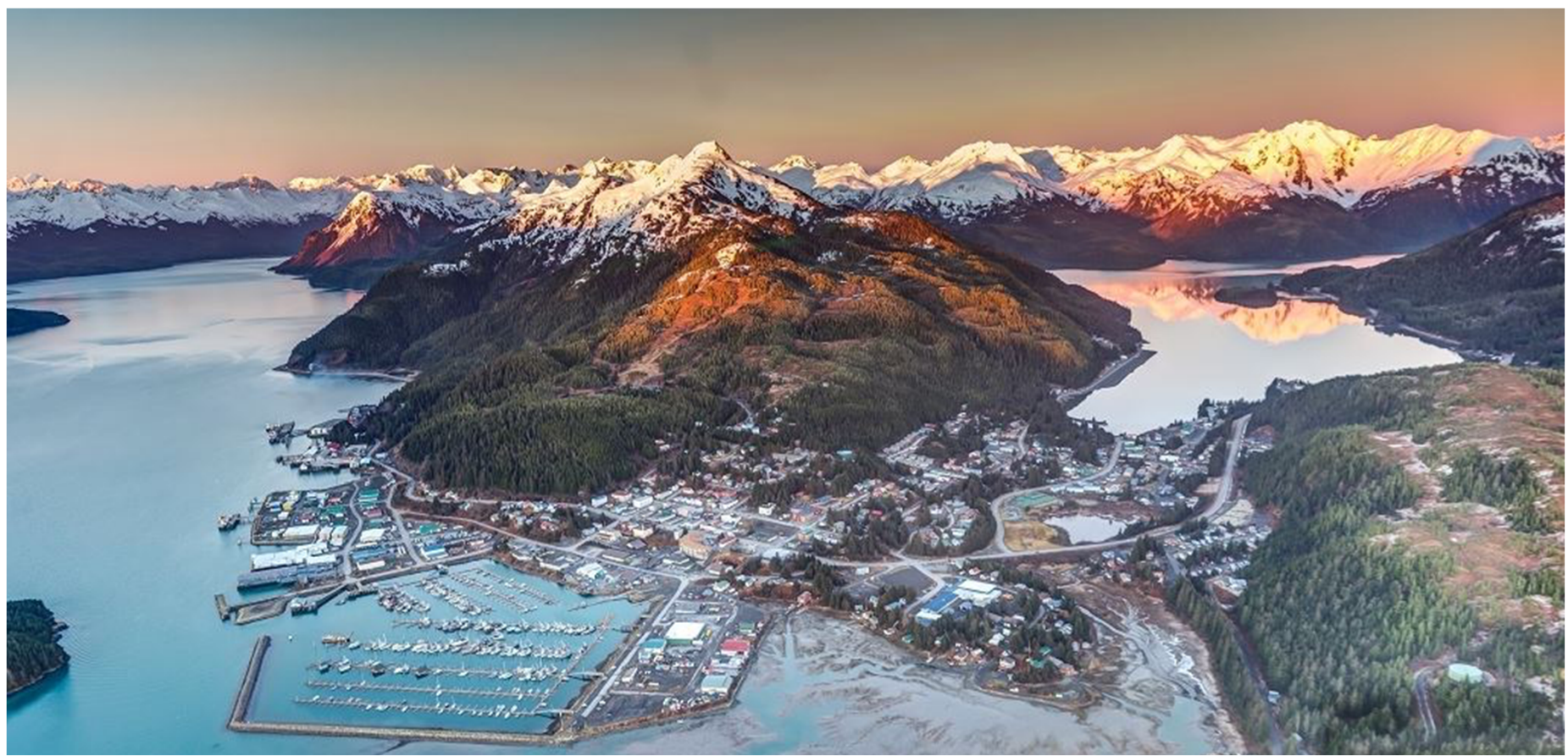
Environmental Coordinator

Native Village of Eyak

Cordova is located in the Eastern Prince William Sound

- Population: 2,200
- (population doubles in summer months!)
- Commercial Fishing Community
- Devastated by the 1989 Exxon Valdez Oil Spill and 1964 Great Friday Earthquake
- Tourism includes: Sport fishing, heli-skiing, birdwatching





STRP Home Heating Tank Outreach Goals

- To keep oil, gasoline, and hazardous waste out of our waterways and off land
- Bring awareness to community members about dangers of leaking and abandoned home heating tanks
- To promote safe home heating oil tank maintenance and inspections
- Assist with spill prevention, reporting, response, and maintenance
- Educate Home owners the threats with their heating tank, how to inspect their tank, and who to call in an emergency or with questions.
- To assist with reporting spills to ADEC when community members are uncomfortable to do so

NVE's State and Tribal Response Program Timeline

2010 Tribal Council
approves Oil Spill
Prevention and
Response as No. 1
priority for action

2011 STRP partners
with ADEC for Home
Heating Tank Safety

2012 & 2014 ITEP &
ADEC teach 24-hour
spill response to
interested tribal and
community members

2012 STRP partners
with local fuel
distributor for outreach
and education

2012 STRP begins free
home heating tank
inspections upon
request

2013 - 2021
Educational inserts sent
to box holders with free
oil incentive prize

There are
approximately
1,260 fuel tanks
in Cordova (2010
census)



Did you know that home heating tank oil spills in residential areas can...

- Contaminate drinking water wells, groundwater, and soil
- Foul septic systems which require replacement
- Cause odor and health problems in the home
- Contaminate stormwater drains, sewers, drainage ditches, and surface water
- Not only destroy your home and property, but your neighbors as well.
- Common causes of tank spills include corrosion, overfills, support failure, and sudden accidents such as ice or snow falling, and earthquakes.



Visual tank inspections should include:

- Loose fittings and leaks
- A strong, persistent fuel odor
- Dead or dying vegetation around the tank
- Pitting or scarring
- Corrosion or a horizontal weep line, indicating internal tank corrosion
- Functionality of the on/off valves
- Filter and filter housing integrity and checking for water
- A clear vent/fill access
- Any lean or tilt of the tank

Tank Stands

- Home heating tanks are only as good as the stands they are sat upon.
- Tanks should always be on a sturdy stand and never sit directly on the ground.
- Primer-coated steel tanks are preferable and should be available by your local fuel distributor.
- Wooden tank cradles can be efficient, but are prone to weathering and need to be replaced often.
- Tank stands need to be carefully placed away from falling snow and debris, and be easily accessible for maintenance and refueling.

Awareness of Obstacles and Hazards

- When performing tank inspections, heating tank owners should assess the areas surrounding heating oil tanks.
- Look for new obstacles or hazards around the tank, such as overhanging trees that could drop limbs.
- Tanks should not be kept under a roof that allows snow and ice to fall.
- Keep access to the tanks clear. Be aware that unleashed pets can be at risk if allowed to roam near heating tanks.

Some educational brochures that are found outside my office in Cordova

- Aboveground Heating Oil Tank Inspection Guide,
 - Home Heating Oil Tank Education Program,
 - Home Heating Oil Tank Installation Guidelines,
 - Fuel Out – Fish On!, Outboard motors,
 - Underground Heating Oil Tank Inspection Guide.
-
- All brochures available by ADEC.



Community presentation
by John Brown, ADEC,
and myself from 2011.

Shoreside Petroleum
donated to one lucky
winner 50 gallons of
home heating oil.

ATTENTION Homeowners, Realtors, and Fuel Distributors

ENTER TO WIN A 50 GALLON HEATING OIL
gift certificate donated by Shoreside Petroleum! Drawing
immediately following presentation. Must be present to win.

What? Home Heating Oil Tank Safety Presentation
When? May 1, 2012 6:00 – 7:30 pm.
Where? Mt. Eccles Elementary Commons
Why? Learn proper tank maintenance and how to prevent oil spills

Did you know that fuel spills in residential areas can:

- * Contaminate drinking water, ground water, and soil
- * Foul septic systems, requiring their replacement
- * Cause odor and health problems in the home AND your neighbor's home
- * Contaminate stormwater drains, sewers, drainage ditches, and surface water
- * Cost homeowners tens of thousands to replace if damaged!

*Sponsored by Native Village of Eyak, Alaska Department of
Environmental Conservation, and Shoreside Petroleum.*

*Fuel tanks displaced after a flood in Eagle,
Alaska. Photo courtesy ADEC, 2008-10-18*

*This picture shows a leaking fuel tank
contaminating the surrounding ground.*

Native Village of Eyak
Tribal Response Program

Home Heating Tank Tracking Form

Community: Cordova, Alaska

Flood Period:

When does your community normally expect spring flooding? Ex: April 11 thru May 6th

Tank ID: Document4

Location: Street Address _____

Lat/Long: _____

Owner, Renter, Lessee: _____

Contact Phone Number: _____

Tank size: 55, 250, 300, 500, 750, 1,000, 5,000 Gallon Other: _____

Estimated Tank Fuel Volume During Flood Period: _____
Ex: 40-60 Gallons

Can the tank be secured to a solid structure or anchor point: _____

Any other observations or recommendations: _____

Are you interested in a free tank inspection: Yes No

Native Village of Eyak's Brownfield Tribal Response Program



HOME HEATING TANK INSPECTION CHECKLIST

Take a good look at your tank and answer the following:

_____ Check the area around tank for spills. Are there signs of oil (odors, sheens on water surfaces, visible puddles of oil, etc.?) If a spill has occurred, take steps to stop the leak and contact a specialist.

_____ Signs of spills or overfills around the fill pipe or vent line?

_____ Does the tank have surface damage (rust, dents, wet spots, etc)

_____ Is the tank support system sturdy, solid, and secure?

_____ Is the tank support system at least 6" off the ground and from buildings?

_____ Are the legs unstable or rusted through?

_____ Check all pipeline connections. Are there signs of leakage around the oil filter or valves?

_____ Check the fill cap. If damaged or missing, replace immediately. Oil and water do not mix.

_____ Is the vent line clear of obstructions (ice, snow, spider webs, bugs)?

_____ Does the tank have an operable shut off valve?

_____ Does the overfill whistle function when filled by distributors?

_____ Signs of unexplained dead or withered vegetation in the area?

_____ Does the tank, pipe or filter appear to be vulnerable to snow, ice, or icicles that may fall from the roof?

2015-2020 brochure/insert that was distributed in Cordova to boxholders

WIN 50 GALLONS OF HOME HEATING FUEL!

Please respond to the following questions and return your answer to the Copper River Watershed Project, Native Village of Eyak, or Shoreside Petroleum by November 6, 2015 to be entered to win 50 gallons of home heating fuel. Only one entry per household.

Responses can also be submitted online at:
<https://www.surveymonkey.com/r/CGFFDL9>

1. Please complete an inspection of your home fuel tank using the checklist provided. Please circle the number(s) (below) of the questions to which you answered "no".
 1 2 3 4 5 6 7 8 9 10

2. What are the challenges you face to maintaining your home fuel tank?

3. Will you pledge to inspect your fuel tank four times over the course of 2016 to ensure the tank, stand, and lines remain protected and in stable condition?
 Circle one: Yes No
 Why or why not?

Name:	
Mailing Address:	
City, State, Zip:	
Physical Address:	
Phone:	
Email:	

NOTE: Contact information must be included to be eligible to win.

PREVENTION IS KEY

Homeowners are legally liable for costs associated with cleaning up contaminated soils and water that result from a home fuel tank spill. *With proper care and maintenance, these costs can be avoided.* In the case of a spill, the faster you react to a spill, the cheaper the clean-up will be.

To report a spill locally, contact Cordova Dispatch at 424-6100.

State law requires all oil and hazardous substance releases be reported to the Alaska Department of Environmental Conservation.

Cordova residents should contact the Central Alaska Response Team in Anchorage at (907)269-3063. Evening & Weekends: 1-800-478-9300

This brochure produced by the City of Cordova, Cordova Clean Harbor Project, Copper River Watershed Project and Native Village of Eyak, with support from the Exxon Valdez Oil Spill Trustee Council and Shoreside Petroleum.

PREVENT OIL SPILLS AND SAVE MONEY TOO!

Taking time to learn more about maintenance and care of your home fuel tank can save you money. Did you know fuel spills can...

- ✓ contaminate local drinking water sources like Eyak Lake;
- ✓ reduce the value of your property;
- ✓ cause odor and health problems in you and/or your neighbors' homes;
- ✓ end up in Odiak Pond, Orca Inlet or Eyak Lake, home to salmon, the backbone of our economy.

Inspect your tank and be eligible to win 50 gallons of heating fuel from Shoreside Petroleum!

Use this checklist to inspect your heating oil tank.

Native Village of Eyak is available to assist with inspections. Contact 424-7738 for more information.

1) Does the fill pipe have a cover to keep water out and is the area around it free of stains?
☐ NO ☐ YES

2) Is the fuel system protected from overhead damage, such as falling ice, snow or trees?
☐ NO ☐ YES

3) If you have a fuel gauge and overfill alarm do they work?
☐ NO ☐ YES

4) Is the vent pipe clear of debris and insects?
☐ NO ☐ YES

5) Is the tank free of dents and rust? Is it painted to protect it?
☐ NO ☐ YES

6) Are the tank legs or stand the right size, in good condition and on a stable foundation? The tank should not be touching the ground.
☐ NO ☐ YES

7) Are the fuel lines protected (lines in the ground or concrete are inside liquid-tight conduit) from damage?
☐ NO ☐ YES

8) Is the fuel filter protected from damage and free of excess water?
☐ NO ☐ YES

9) Is the tank, especially the ends, free of stains or wet spots?
☐ NO ☐ YES

10) Is the fuel tank less than 15 years old? If not, you may want to consider replacing it.
☐ NO ☐ YES

Tips for Underground Tanks!!

- Check the tank for water! Excessive amounts of water can indicate the tank is leaking and can corrode the tank from the inside. Ask your fuel provider to test your tank once a year.
- Check for dead vegetation, sheen and odors in low areas! These are all signs of a fuel spill.
- How old is your tank? Most underground tanks fail eventually, some in as little as five years. If you don't know how old your tank is, maybe it's time to replace it.
- Are electric lines buried near the fuel tank or fuel lines? Electrolysis can cause premature failure of the tank or fuel lines.

Alaska Department of Environmental Conservation
 Division of Spill Prevention and Response
ADEC Area Response Team:
 Anchorage: (907)269-3063
 Evening & Weekends: 1-800-478-9300

For more information on heating oil systems visit:
www.dec.alaska.gov/spar/perp/rho.htm

Other things for Cordovans to consider:

55-gallon drums are not suitable oil tanks. They are not designed for long-term use and are prone to rust and punctures. Fuel tanks available for sale at Shoreside Petroleum.

Warning about Wood Stands:
 Stands made from wood can collect water under the oil tank and speed up deterioration of fuel tanks. Using metal stands or placing lengths of poly-rope or tarpaper under a fuel tank can keep water away from tanks and protect tanks from corrosion.

Furthermore, treated wood contains preservatives that can corrode copper piping. Any fuel line passing through pressure treated wood should be encased in non-metal materials.

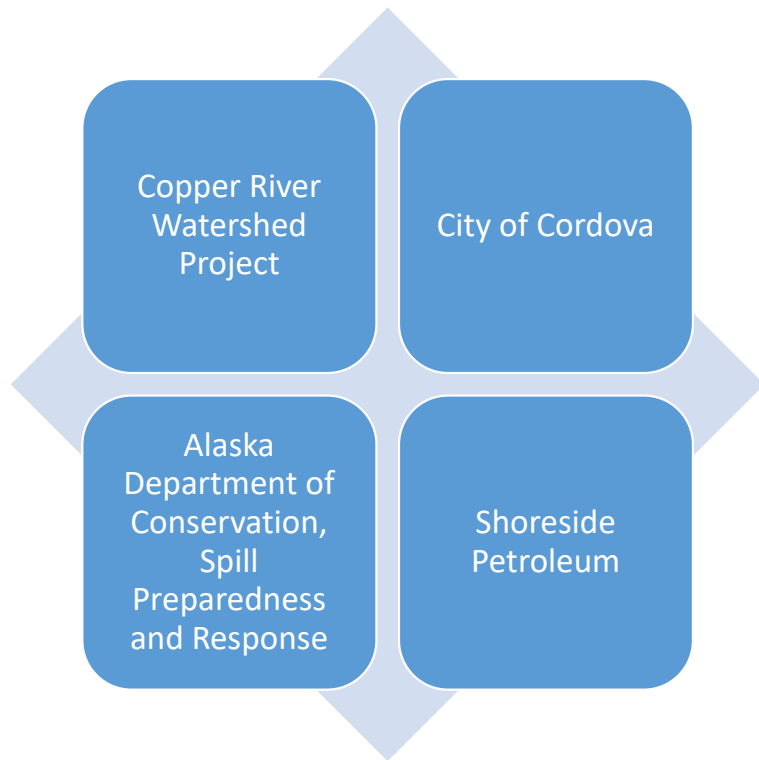
Keep your oil tank freshly painted to extend its life span.

Cordova is located near active fault lines and earthquakes are a possibility. Floodwaters can also endanger home heating tanks. Resources with ideas for securing fuel tanks during these kinds of natural disasters can be found at:

<http://tinyurl.com/FuelTank-Quake1>
<http://tinyurl.com/FuelTank-Quake2>
http://www.aec.alaska.edu/html_docs/nextbigeq.html

Before the snow flies, take time to protect your tank and lines from overhead damage from ice, snow, or trees!

Home Heating Tank Partners



A partner assisting in laying absorbent pads in a salmon stream from a leaking HHT.

Outreach Tips

- Be sure to use careful language in advertising!
- Many people who heard about the program thought they were getting FREE TANKS, not free tank INSPECTIONS!
- People thought they were getting free heating oil.
- Make sure you specify you are not a certified home heating tank inspector, that you are there to provide assistance.
- Always bring a checklist on an inspection and make the owner go over it with you so they know how to do it in the future.
- Always bring ADEC brochures to leave with home owners.

Other Spill Awareness Achievements

Home heating tank danger articles in the Cordova Times and the NVE newsletter

Radio announcements before and after winter to check your tank (before the snow flies!)

NVE's STRP has expanded to include oil spill prevention and response.

NVE has acquired oil spill response supplies to assist in home heating tank spills and other small spills in our community.

Online Resources

Alaska Department of Environmental Conservation Spill Prevention and Response (SPAR) - Lots of helpful brochures

Alaska Crowley webpage – tank inspection info

Anchorage Tank – tank stand info

FuelSnap – tank checklist info



Illegally dumped fuel tank in the woods.

THANK YOU!!
QUESTIONS?



Ivy Patton, Environmental Coordinator
Ivy.Patton@eyak-nsn.gov

Home Heating Oil Tank Spill Prevention & Response

Home Heating Oil Tank Spill Prevention



Alaska Department of Environmental Conservation
Division of Spill Prevention and Response

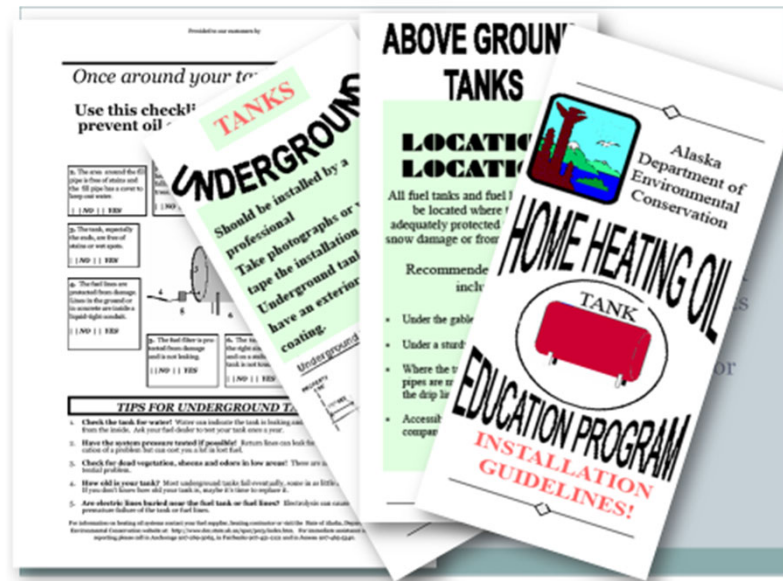
Alaska Heating Oil Tank Guidance Documents

<http://dec.alaska.gov/spar/ppr/prevention-preparedness/hho-tanks/>

Education is key!

ADEC DOES NOT REGULATE THE INSTALLATION
OR CLOSURE OF HEATING OIL TANKS.

PREVENTING HHO SPILLS HINGES ON
EDUCATION OF HOMEOWNERS.



ADEC Spill Reporting

Division of Spill Prevention and Response
PREVENTION PREPAREDNESS AND RESPONSE

Search DEC

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NEWSFEED

REPORT A SPILL

You Are Here: [DEC](#) / [SPAR](#) / [PPR](#) / [Spill-Information](#) / Report A Spill

REPORT A SPILL

Alaska state law requires all oil and hazardous substance releases to be reported to the Department of Environmental Conservation. For federal reporting requirements, see the [National Response Center website](#).

How to Report

- During normal business hours call the nearest DEC response team office
- Outside normal business hours call 1-800-478-9300 (International: 1-907-269-0667)



RESPONSE TEAM OFFICE	PHONE	FAX
Central (Anchorage)	907-269-3063	269-7648
Northern (Fairbanks)	907-451-2121	451-2362
Southeast (Juneau)	907-465-5340	465-5245

NOTIFICATION REQUIREMENTS

Hazardous Substance Releases

Any release of a hazardous substance ***must be reported*** as soon as the person has knowledge of the discharge.

Oil/Petroleum Releases

To Water:

Any release of oil to water ***must be reported*** as soon as the person has knowledge of the discharge.

To Land:

Any release of oil in ***excess of 55 gallons*** must be reported as soon as the person has knowledge of the discharge. Any release of oil in ***excess of 10 gallons but less than 55 gallons*** must be reported within 48 hours after the person has knowledge of the discharge. A person in charge of a facility or operation shall maintain, and provide to the Department on a monthly basis, a written record of discharge of oil from ***1 to 10 gallons***.

To Impermeable Secondary Containment Areas:

Any release of oil in ***excess of 55 gallons*** must be reported within 48 hours after the person has knowledge of the discharge.

Additional Reporting Requirements for Regulated Underground Storage Tank (UST) Facilities*

You must report a suspected below ground release from a UST system, in any amount, within 24 hours (18 AAC 78.220(c)).

If your release detection system indicates a leak may have occurred, including two months of invalid or inconclusive results, then you must report it to the UST Unit. If you observe unusual operation conditions, sudden loss, erratic dispensing (slow flow/no flow) or discharge to soil or water, report to the UST Unit: 907-269-3055 or 907-269-7679.

HEATING OIL TANK Definition

Environmental Cost

- Diesel is toxic to many forms of life
 - Freshwater stream life
 - Birds and mammals
 - Marine life



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HEATING OIL TANK

- A heating oil tank stores oil for on-site consumption. It is used solely for heating the building on the property where the tank is located. It can be aboveground, underground or inside a building. This type of tank is not regulated by State or Federal law and therefore is not subject to requirements such as registration, leak detection, pollution insurance or removal.

REGULATED UST

- An underground storage tank subject to State and Federal UST laws. A regulated UST is 10% or more underground, 110 gallons or greater in capacity, contains petroleum and is **not** a heating oil tank where the fuel is consumed on-site.

Human and Environmental Impacts

Human Impacts

- Water wells
- Odors
- Pets
- Property damage
- Neighbors



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Fuel oil spills in residential areas can:

- Contaminate drinking water wells, groundwater and soil
- Foul septic systems, requiring their replacement
- Cause odor and health problems in the home
- Contaminate storm water drains, sewers, drainage ditches and surface water

Financial Impacts

Cleanup Cost

- Cleanup crews
- Sorbent materials
- Consultants
- Tank and fuel replacement
- Excavation
- Disposal
- Sample analysis
- Neighbors Property



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Leak Rate	Gallons spilled annually	Cost per year *	Quantity of Contaminated Soil (Tons) **
Drop Every 10 Seconds	40	\$160	150
Drop Every 5 Seconds	80	\$320	300
Drop Every Second	410	\$1,640	1,500
Three Drops Every Second	1,200	\$4,800	4,500
Stream that Breaks into Drops	8,600	\$34,400	32,000



*Based on \$4.00/gallon heating oil

** Average 1000 ppm total petroleum hydrocarbons

Cleanup Cost (\$\$)

- Environmental consultant (\$3,000-\$10,000)
 - Project manager (\$120-\$150/hr)
 - Field Tech (\$80-\$125/hr)
 - Cleanup Plan (4-8 hrs)
 - Excavation oversight and sampling (8-16 hrs)
 - Laboratory analysis
 - Closure Report (8 hrs)
- Excavation Costs (\$2,500 - \$4,000)
- Disposal Costs (\$2,500 - \$5,000)
 - \$250/ton for 10-20 tons
- ADEC's cost recovery

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INSTALLATION OF YOUR HEATING OIL TANK

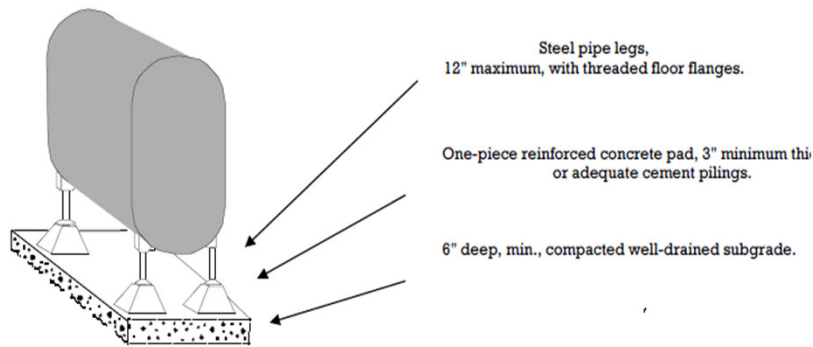
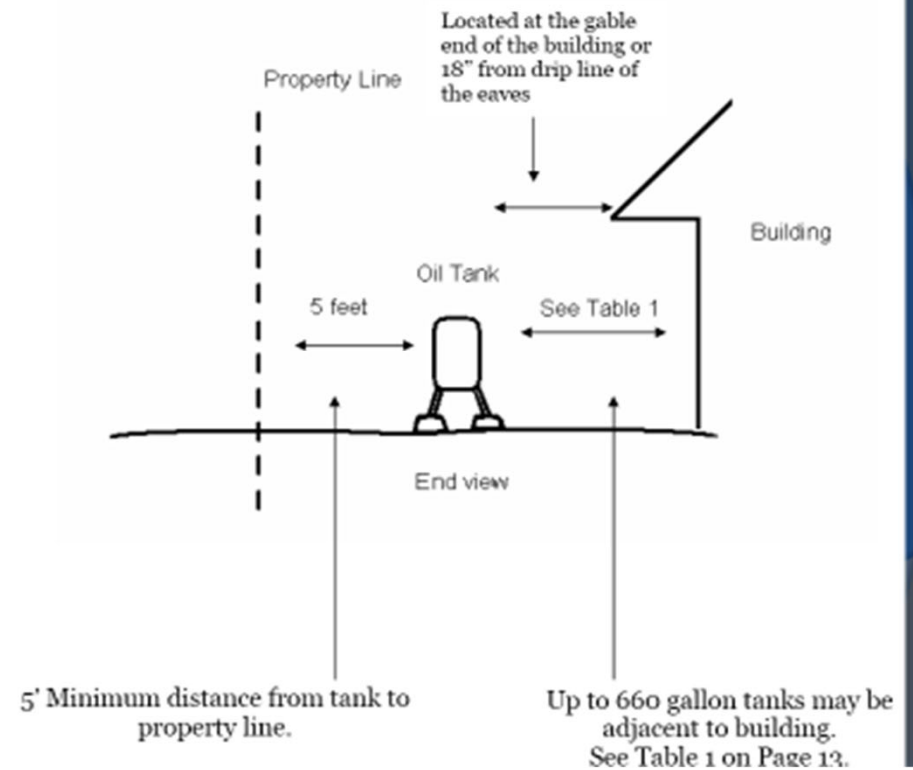


TABLE 1
ABOVEGROUND OIL TANK SEPARATION REQUIREMENTS
(See Figure D, Page 15)

Capacity of Tank in Gallons	Minimum Distance in FEET From Property Line or Opposite Side of Public Way	Minimum Distance in FEET From Nearest Side of Public Way or Building
275 or less	5	5*
276 to 750	10	5*
751 to 12,000	15	5
12,001 to 30,000	20	5

* Up to 660 gallons may be adjacent to building – NFPA 31 2-5.2
Uniform Fire Code (From NFPA 31, Table 2-4)

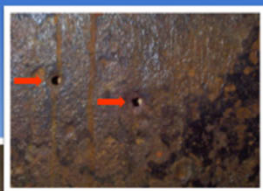
Outdoor Tank Placement



“To Do’s” Before and During the Heating Season Prevention

Common Causes: Corrosion

- Corrosion from water
- Pitting



Holes in an
underground oil
tank



Fuel line
corrosion caused
by electrolysis

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- ❑ Keep all pipe connections clean and tight.
- ❑ Measure and monitor fuel usage and compare it to past seasons.
- ❑ Discuss your fuel needs, delivery procedures, and spill procedures with your fuel delivery company.
- ❑ Know how to properly measure the fuel level in your tank and calculate the volume in the tank.
- ❑ Know when and how much to order from your fuel oil delivery company.
- ❑ Keep the fill pipe accessible and visible for the delivery company.
- ❑ Keep the vent line clear of snow, ice, or insect nests to prevent over-pressurizing the tank.

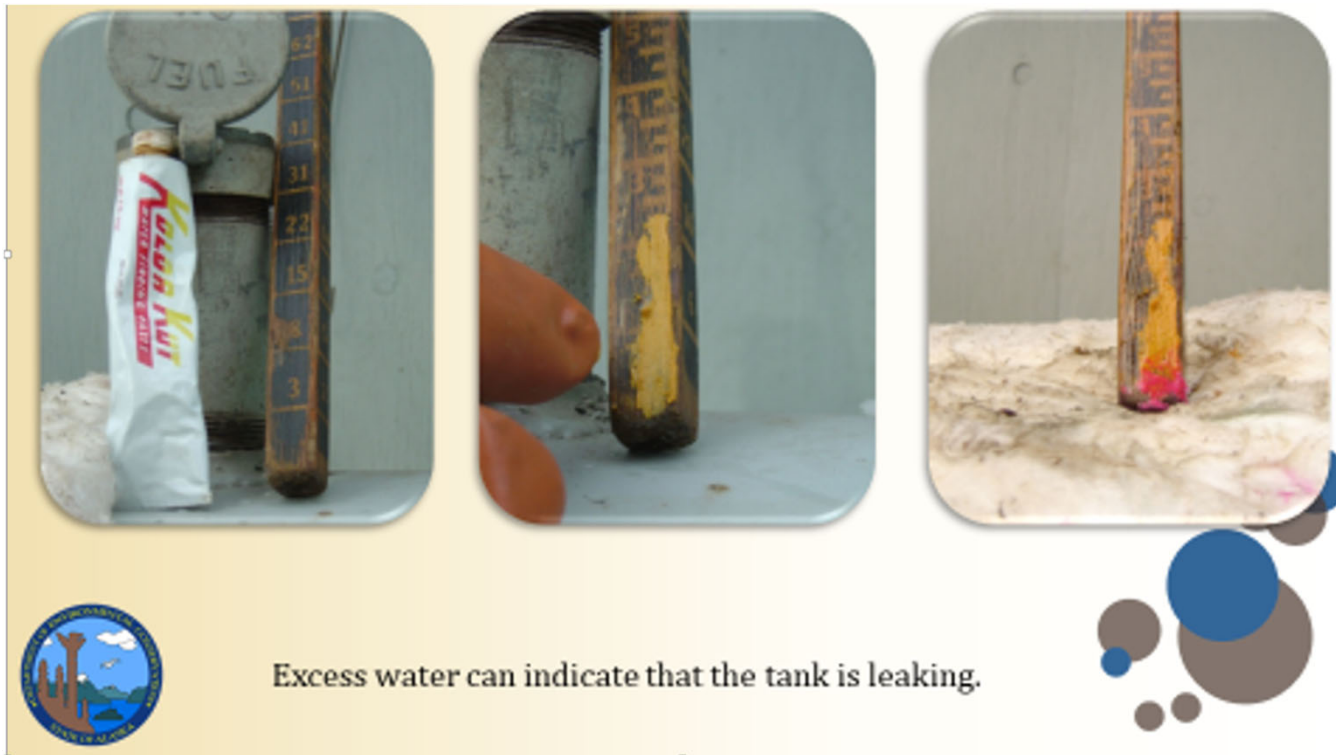
Common Causes: Corrosion

- Tank seams gather and hold water
- Common area for problems



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Check Underground Tank for Water

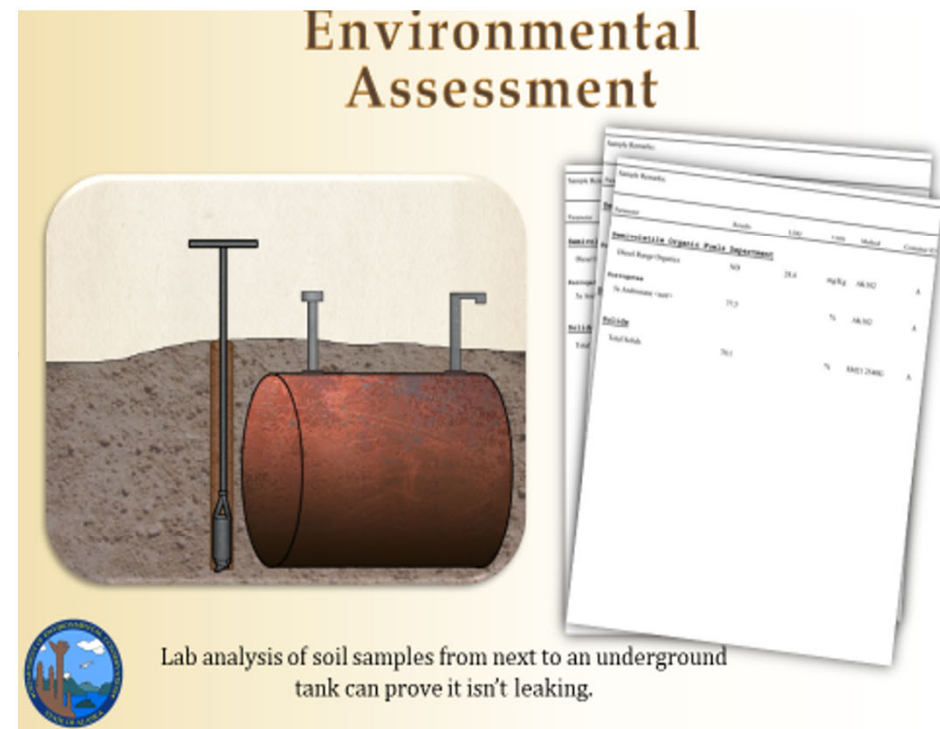


Excess water can indicate that the tank is leaking.

Buying or Selling Property with an Underground Tank

Five Ways to Assess Your Heating Oil Tank System

- 1) **Fuel receipts.** The easiest way to monitor for a possible release is to examine your fuel receipts and your fuel usage patterns over time. Excessive consumption of heating oil could be due to a leak in the system.
- 2) **Contact fuel delivery company.** Another simple way to check your fuel usage is to contact the company who delivers the fuel, ask them for your history of fuel receipts, and ask them if your usage is customary, based on your tank size, furnace type and size of structure you are heating.
- 3) **Do-it-yourself leak test.** If you can afford to not use your furnace for a few days, another method, called Manual Tank Gauging, can be used to test your tank if it is losing fuel. Use a large wooden stick to measure the product level in your tank, wait 48 hours, and measure the product level again. If the levels are different, you may have a problem.
- 4) **Professional Tightness Test.** The State of Alaska licenses tank tightness testers to check for leaks at regulated UST systems. If you need conclusive evidence that your tank is not leaking, this method can be beneficial. Call 1-800-478-4974 for a list of tightness testers or go to http://www.dec.state.ak.us/spar/ipp/ust/ust_workers.asp on the internet.
- 5) **Site Assessment.** It is common in commercial property purchases for the buyer or seller to hire an environmental consulting firm to perform a site assessment. The assessment can include a record search, as well as soil and possible groundwater samples to verify the presence or absence of petroleum contamination.



Installation of your heating oil tank

HHOT Beauties.



Common causes of heating oil tank leaks

**Line Failures
Filter Damage**



Tank Failures



**Vandalism
Tank Overfill**



Tank Support Failure



Aboveground Tanks

Common Causes: Support Failure

- Tank supports – different materials and designs
- Metal legs - should not be too long unless properly braced
- Wood cribs are common, especially where gravity feed stoves are common or there is a potential for large snow falls



At least six inches above the ground and supported by solidly attached legs or saddle-braces that are resting upon a well-drained, solid masonry footing, such as a concrete pad or pier blocks set on a gravel pad.

Equipped with a fuel-level gauge that is functioning properly.

Located where snow or ice sliding off the roof will not damage or tip the tank over, or damages the fuel lines.

Checked regularly for signs of rust, wet spots, or excessive dents on the tank's surface.

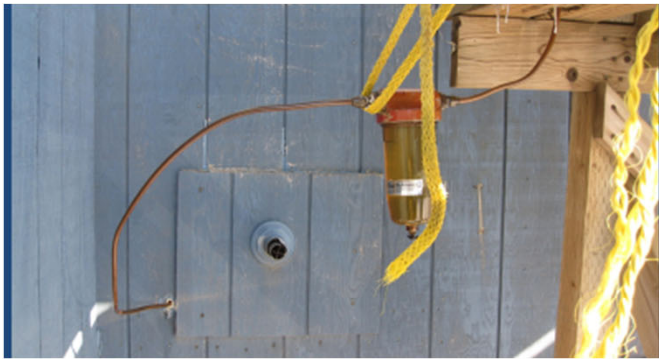
Checked regularly for signs of drips or leakage around the fuel lines, filters, drain plugs and valves.

Checked regularly for signs of spills around the vent pipe and the tank fill area.

Tank and Fuel Line Location



Fuel Lines and Filters



Know the Condition of Your Tank

Village Store Cleanup

Big Snow Can Hide A Slow Leak For Months. Note The Drift On The Far Right



The Cleanup Begins



Respond to Cleaning up a Spill

Common Causes

- Corrosion
- Support failure
- Overfills
- Accidents



If obvious signs of a leak are found (such as petroleum vapors, oil on property, etc.), immediately report the leak to the Alaska Department of Environmental Conservation. The sooner you cleanup a spill, the cheaper your expenses.

Heating Oil Release



Spill Response



Cleanup Below an Pile Supported House



Tank Abandoned in Place



Interior Fuel Spill



Home Heating Oil Tank Spill Prevention & Response





Shawn Tisdell

Environmental Program Specialist

Contaminated Sites Program

Spill Prevention and Response Division

Department of Environmental Conservation

610 University Ave, Fairbanks AK 99709

Phone: 907-451-2752

Email: Shawn.Tisdell@Alaska.gov

#1 Prevention

Examples of Good & Bad Tank Locations



Damage from above snow and ice can cause the tank or lines to fail.

Tank with a roof to prevent damage from ice and snow.



Releases happen,
what can we do?

#2 Prepare

- Does your community have response supplies or equipment?
- Who can you call for assistance?

#3 Respond

Initial DEC response is overseen by the **Prevention Preparedness and Response Program (PPR)**

Long-term response action is transferred to the **Contaminated Sites Program (CS)**

Outline

1. State regulations and oversight
2. Heating oil release-example
3. Resources/contacts

The Law:

State of Alaska Statute Title 46-
Water, Air, Energy, and Environmental Conservation

The Rules (regulations) to carry out the Law:

18 AAC 75.325-75.390
the “site cleanup rules”

<http://dec.alaska.gov/spar/regulations>

Four key questions when managing site cleanups

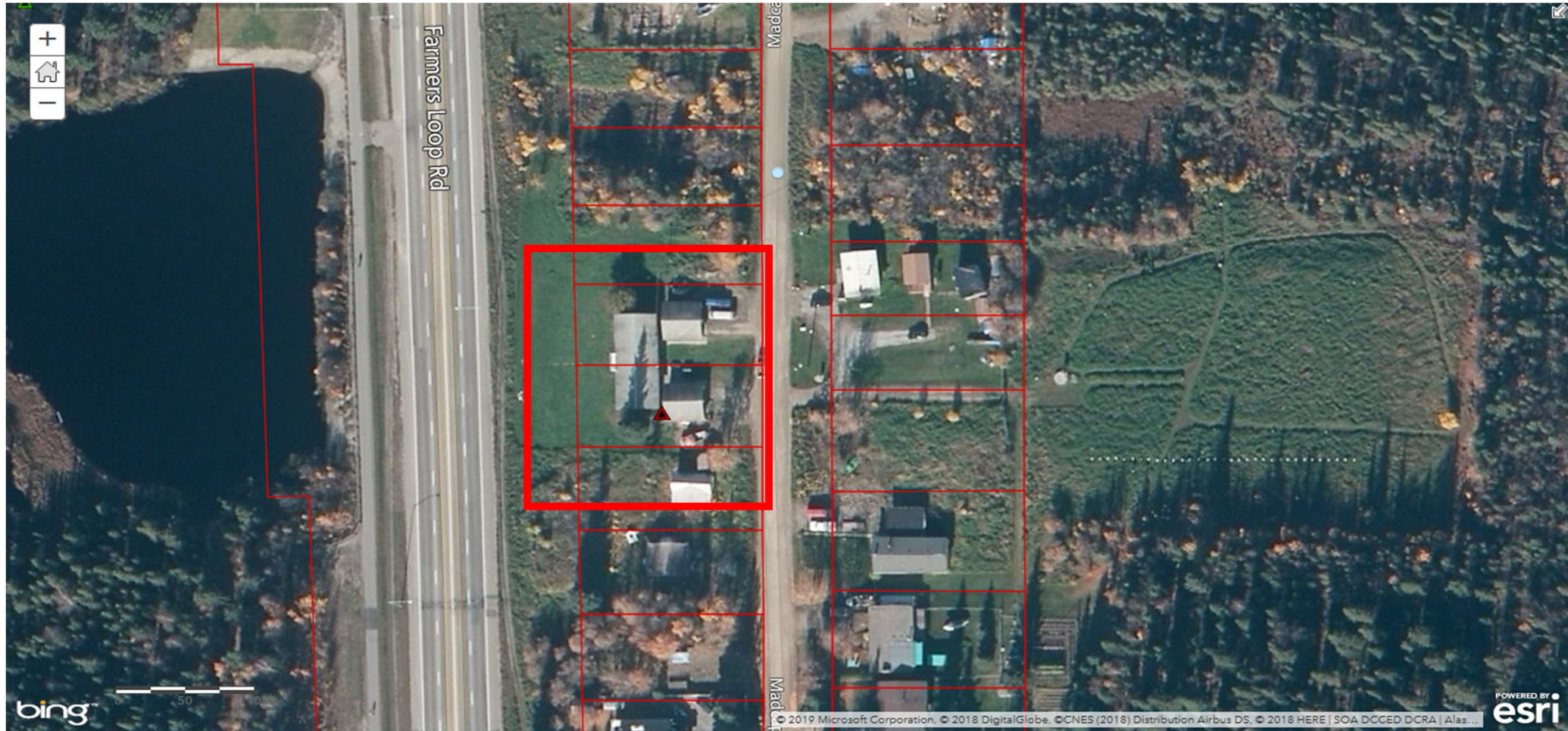
- Who may be responsible for cleanup?
- Where is the release located, where might it move to?
- How great is the risk of chemical exposure to people and the environment?
- What can we do to reduce the risk?

Home Heating Oil Tank site

Residence - Madcap Lane HHOT

Fairbanks Alaska

NW of Fairbanks Alaska





West side of the house near
Farmer's Loop Road

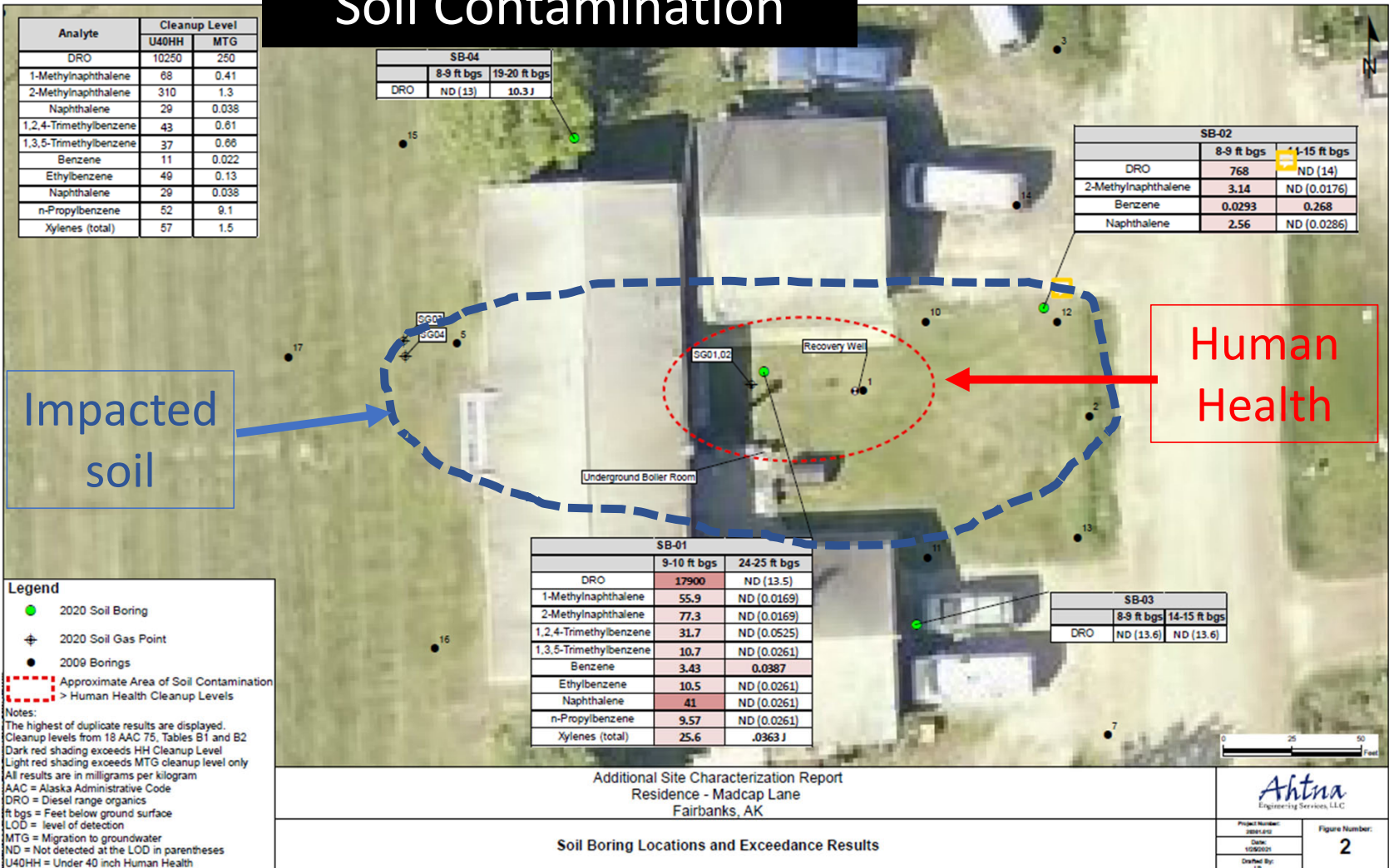


East side of the house near
Madcap Lane

Timeline

- 1997: release reported. 1,650 gallons product recovered, some soil removed, but not amount not recorded. Volume of release not known, the extent and degree of contamination not known.
- 2008: Site investigation indicated soil contamination across a large area of the property including under the fourplex. Groundwater contamination not likely due to a layer of permafrost beneath the fourplex
- 2020: Additional site investigation

Soil Contamination



Soil Gas Contamination

Residential Soil Gas Target Level	
Hexane	7,300
Cyclohexane	63,000
Benzene	36
Toluene	200
Ethyl Benzene	110
Propylbenzene	10,000
1,2,4-Trimethylbenzene	73
Naphthalene	8.3
Total Xylenes	1,000

SG-03	
Depth (feet bgs)	8
VOCs	ND

SG-04	
Depth (feet bgs)	4
1,2,4-Trimethylbenzene	5.6
Total Xylenes	5.1

SG-01	
Depth (feet bgs)	4
Cyclohexane	70

SG-02	
Depth (feet bgs)	6.8
Benzene	230
Ethyl Benzene	5,800
1,2,4-Trimethylbenzene	8,600
Naphthalene	1,400
Total Xylenes	13,400

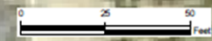
Legend

- ⊕ 2020 Soil Gas Point
- 2020 Soil Boring
- 2009 Borings
- Approximate Area of Soil Contamination > Human Health Cleanup Levels

Notes:
 The highest of duplicate results are displayed.
 Target levels from ADEC Vapor Intrusion Guidance
 Dark red shading exceeds target level
 All results are in micrograms per cubic meter
 ADEC = Alaska Department of Environmental Conservation
 bgs = Below ground surface
 ND = Not detected at the reporting limit in parentheses

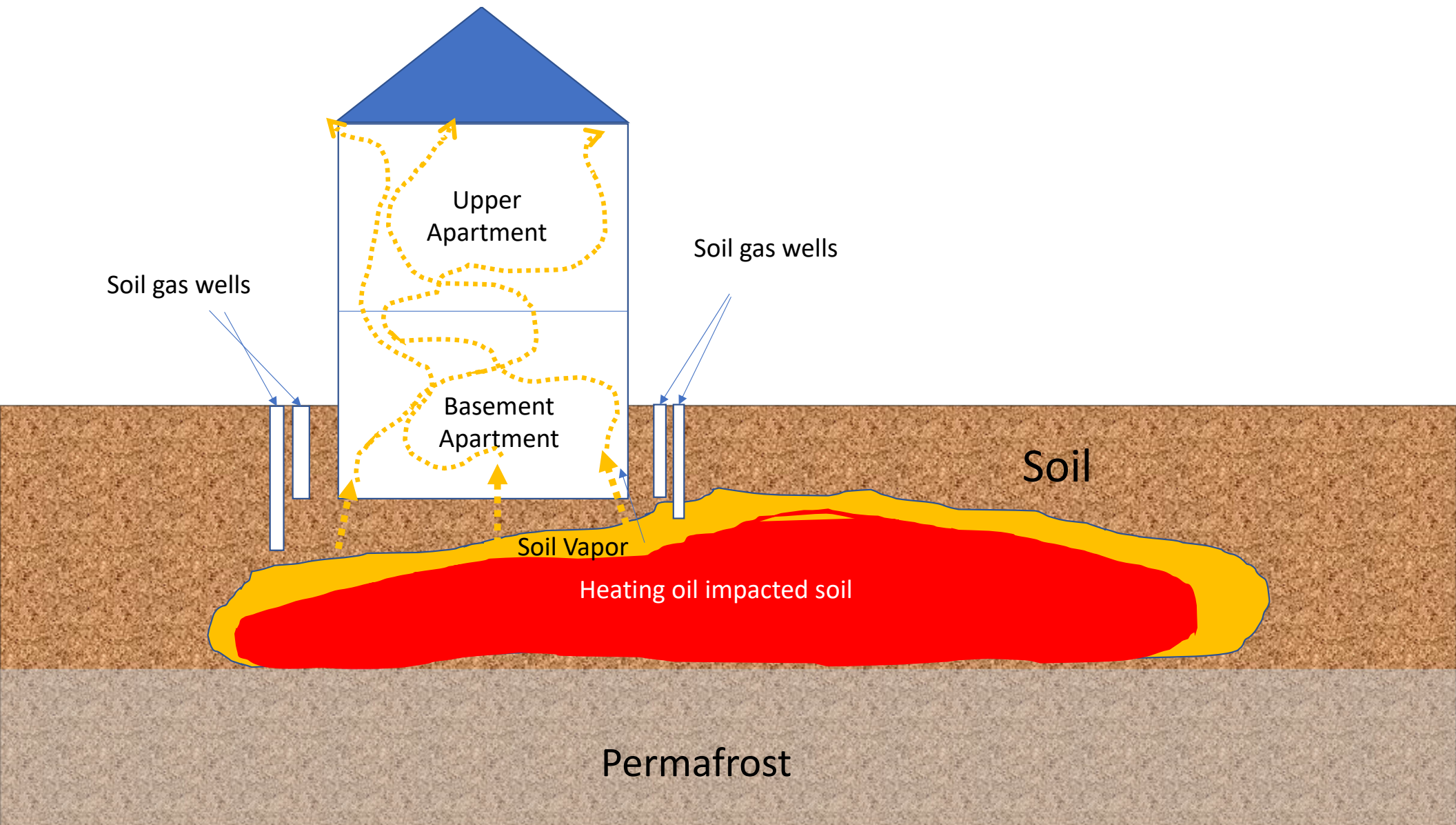
Additional Site Characterization Report
 Residence - Madcap Lane
 Fairbanks, AK

Soil Gas Point Locations and Detections



Ahtna
 Engineering Services, LLC

Project Number: 2020-010	Figure Number: 3
Date: 10/20/2021	
Drafted By: JLB	



Can we close the site?

- Contamination remains that can impact human and environmental health. This will require controls to limit access to the contamination.
- Does vapor intrusion risk remain? One more test coming up
- Have we identified the extent of contamination? One area along the property line still has some contamination. I will discuss this with our managers
- Is permafrost still continuous? Melting has occurred and it is deeper now than previously observed in this area. Another topic to discuss with managers.

Resources

- Fact Sheets for the Contaminated Sites Program:
<http://dec.alaska.gov/spar/faq#cspfactsheetpub>
- The Cleanup Process Fact Sheet
(<https://dec.alaska.gov/media/14656/cleanup-process.pdf>)
- Health effects of Fuel Oils, an ATSDR Fact Sheet
<https://www.atsdr.cdc.gov/toxprofiles/tp75.pdf>

#1 Prevention

Examples of Good & Bad Tank Locations



Damage from above snow and ice can cause the tank or lines to fail.



Tank with a roof to prevent damage from ice and snow.



Releases happen,
what can we do?

#2 Prepare

- Does your community have response supplies or equipment?
- Who can you call for assistance?

#3 Respond

Initial DEC response is overseen by the
Prevention Preparedness and Response Program
Long-term response action is transferred to
Contaminated Sites Program