

Welcome & Used Oil Basics

**WHY IS USED OIL
REGULATED AS A HW? &
WHY SHOULD YOU CARE?**

WHAT IS USED OIL?

Product Oil with a whole bunch more stuff in it

Contaminants



What is Used Oil for Recycle?

- ⦿ Automotive or boating oil that is not mixed with any other substances.
- ⦿ Includes motor oil, transmission fluids, differential oil, brake fluid, power-steering fluid and transaxle fluid.



IT'S NOT **JUST** OIL!



Where Does Used Oil Come From?



Machine Shops and Other Industries

VMC
700F

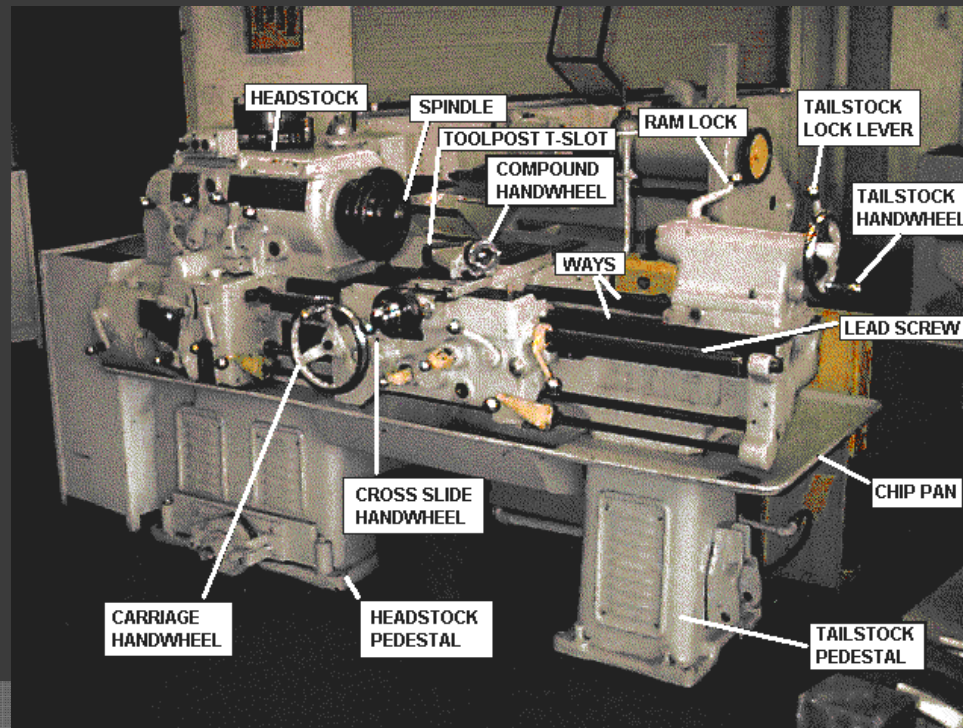


KRYLE



Spindle/Way Oil

- The lubricant for the milling machine gears, slides and other moving parts
 - Some way oil inevitably gets mixed with the coolant and becomes “tramp oil”



What's in it?

- Possibly a lot of HEAVY metals
- TOXIC
 - Chromium
 - Arsenic
 - Known carcinogen
 - Lead
 - Damage to brain and Nervous system
 - Cadmium



TRANSFORMERS



PCBs
Solvents

What's in it?

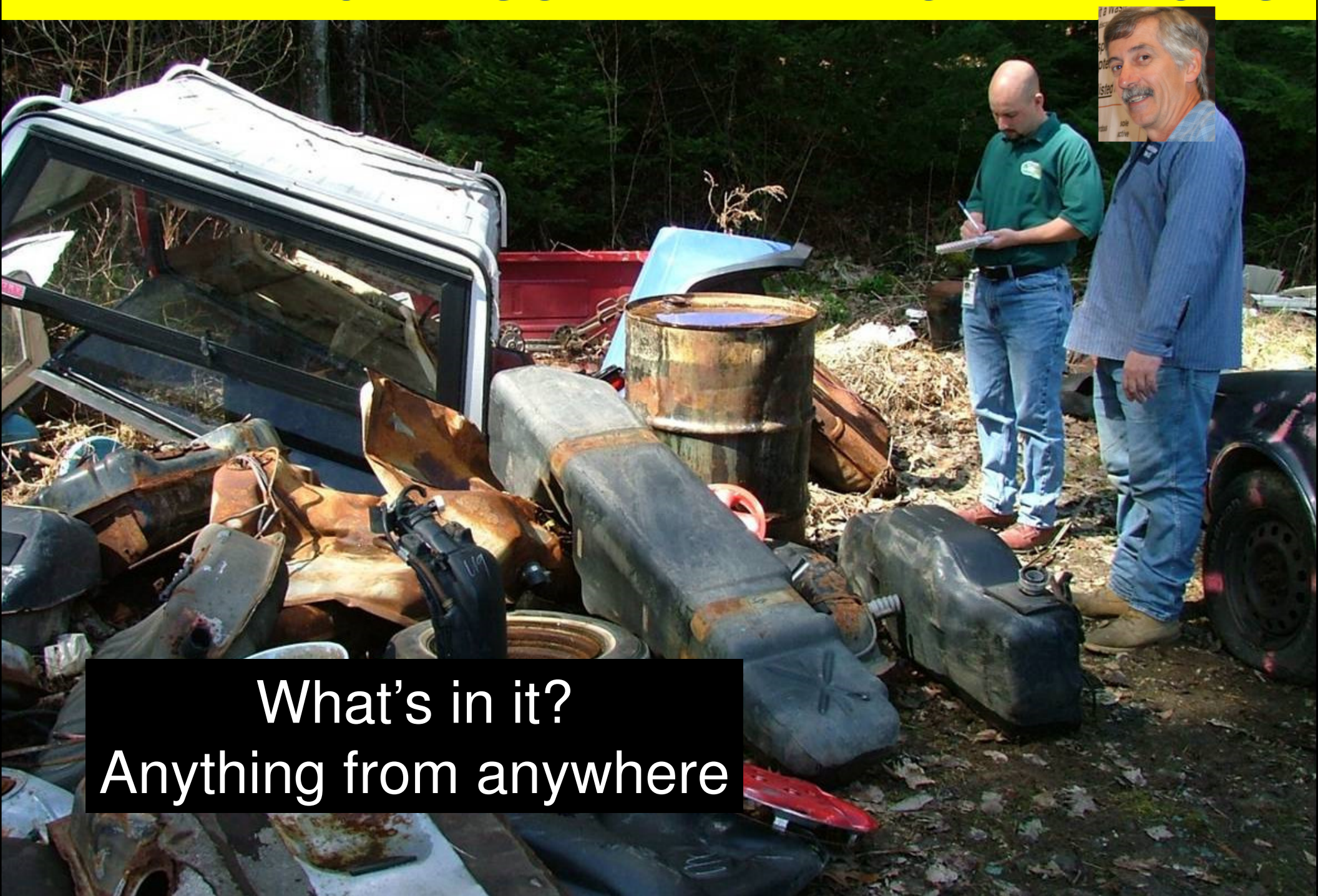
- ⦿ PCBs are an electrical insulator

- Extremely toxic
 - Likely to cause cancer, damage to immune system, nervous system, etc...
- Extremely durable
- 1978

- ⦿ Solvents

- Sometimes used to flush PCBs out of transformers
- Toxic on their own

“FLY-BY-NIGHT” SCRAP METAL OPERATIONS



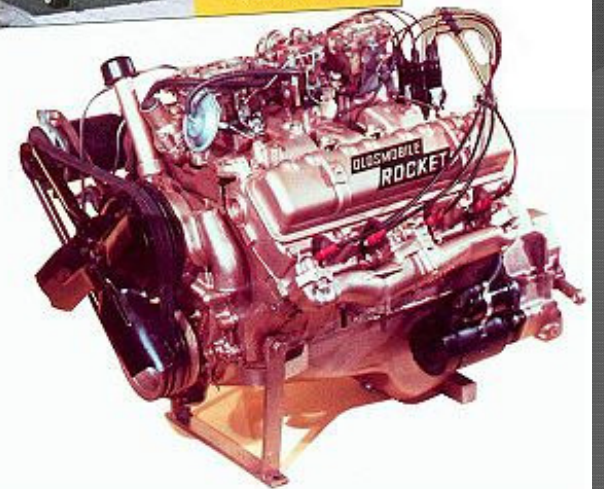
What's in it?
Anything from anywhere

Auto Repair & Auto body Shops





DIY AUTOMOTIVE



What happens to oil in an engine?

- The high pressure in a combustion chamber forces fluids to mix
- Water, antifreeze, gasoline get mixed in
- These fluids might have contaminants that get into the oil

Good Oil Gone Bad

- Additives break down, resulting in ash and sludge
- Engine wears, resulting in metal “fines”



Rules for Used Oil

- It IS a HAZARDOUS WASTE
- Hazardous Waste has LOTS of Tough Regulations
- If used oil is handled the right way and recycled the right way, the regulations are much easier

Purpose of the rules

- ⦿ The goal is to protect against the hazards of used oil and the stuff in it, without making it so difficult that no one wants to recycle it
- ⦿ They are not new

History of Used Oil Rules

- ⦿ Most concerned with automotive oil?
 - Volume
 - “character” of the generators
- ⦿ Other types not ignored
- ⦿ Goal is to be protective while encouraging recycling

As a result...

- A lot of things EPA requires aren't in our rules
- A lot of things we require aren't required by EPA
- A lot of things we require aren't required by other states

DES Rules

EPA 1992 Rules

So, is it “Used Oil”?

Definition at Env-Hw 104.74

- Derived from crude or synthetic oil
- No longer suitable for its original purpose, due to:
 - Physical impurities;
 - chemical impurities; or
 - loss of original properties



But wait, there's more...

⦿ **Has been used as a:**

- **lubricant**
- **heat transfer fluid**
- **emulsion**
- **similar use (including hydraulic fluids)**

⦿ **NOT:**

- **commercial chemical products to be used as fuels**
- **cleaning agents**
- **solvents**
- **wood preservatives**

What is NOT Used Oil for Recycle?

- Gasoline
- Virgin heating fuel
- Diesel
- Oily water
- Antifreeze
- Biodiesel
- Vegetable oil
- Oil mixed with insert ANY word here.



- What Can I Collect?

- 1. Do-It-Yourself
Used Oil



- 2. Your Town Vehicle
Used Oil



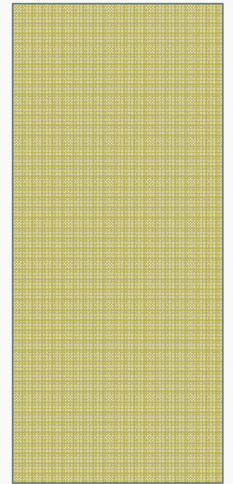
Review

- ◎ What is used oil?
 - A “soup” of chemicals, many of which are known to be dangerous
- ◎ Why do I care?
 - Because I want everyone, including me, to handle this stuff properly and safely
 - Because I don't want to be responsible for something bad or expensive



RECOGNIZING & MANAGING CONTAMINATED USED OIL

TIPS & TRICKS FOR USED OIL FOR RECYCLING
FACILITY MANAGERS



USED OIL FOR RECYCLE



- What is “the Good Stuff?”
 - Residential used oil from automotive maintenance
 - Known source and customer
 - Quantity is in line with expectations
- What is Contaminated Oil?
 - Oil that has been mixed with other “Stuff”
 - Gasoline – Flammable/Low Flashpoint
 - Brake Cleaner – Chlorinated Solvents/VOCs
 - Antifreeze & Used Oil together – Not OK!

EXAMPLES



EXAMPLES



PROTECT YOUR FACILITY



- Look the Part!
 - Set up the area so you can keep it neat.
 - Signage with Instructions help the customers.
- Keep an eye on things
 - Visible Location.
 - Post signs or other indications of surveillance, if available.
- Ask Questions
 - Talk to the people dropping off used oil.
 - How'd you generate the oil? How much do you have?
 - What kind of containers did you bring?
 - Inspect containers when indications say to do so.
- Consider pouring off containers yourself...

EXAMPLES



EXAMPLES



EXAMPLES



EXAMPLES



WHAT TO DO? WHAT CAN YOU DO?



- Check the area and containers
 - Develop a quick checklist
 - Is the oil really thin?
 - Does it give off an odor?
 - Is there separation visible in the container?
 - What is the condition of the container?
 - Field Tests
 - 4-Gas Meter – Lower Explosive Limit (%LEL)
 - Q-Tip Test
 - Holds a flame with black smoke – That's Oil
 - Flame jumps to Q-Tip – Indication of a flammable material
 - Dexsil Kit – Chlor-N-Oil & PCBs

WHAT TO DO WITH CONTAMINATED OIL?



- Contaminated oil must be disposed of properly
 - Separate the contaminated oil from the “Good Stuff”
 - Label the suspect containers
 - Call a disposal company
 - Characterize the waste

WHY SO IMPORTANT?



WHY SO IMPORTANT?



WHY SO IMPORTANT?



WHY SO IMPORTANT?





WHY SO IMPORTANT?

REMEMBER...THIS IS NOW A HAZARDOUS WASTE
SPILL THAT REQUIRES PROPER CLEAN-UP

IN SUMMARY



- People NEED a place to easily and responsibly take care of their used oil.
 - Municipal Transfer Stations represent a great opportunity for recycling used oil
 - Consider energy recovery with a waste oil burner setup
 - Requires notification to NHDES
- Keep Oil Where It Belongs
 - Helps keep abandoned containers off the side of the road, in the woods, or down the drain



NHDES

David Leathers

Spill Response and Complaint Investigation Section

Department of Environmental Services

Clark Freise
Assistant Commissioner

Commissioner's Office

Finance/Accounting
Planning & Technical
Assistance
Public Information
Laboratory Services
Geological Survey
Human Resources
Legal

Waste Management

Hazardous Waste
Solid Waste
Oil/USTs/ASTs
Superfund/State Sites
Brownfields
MTBE

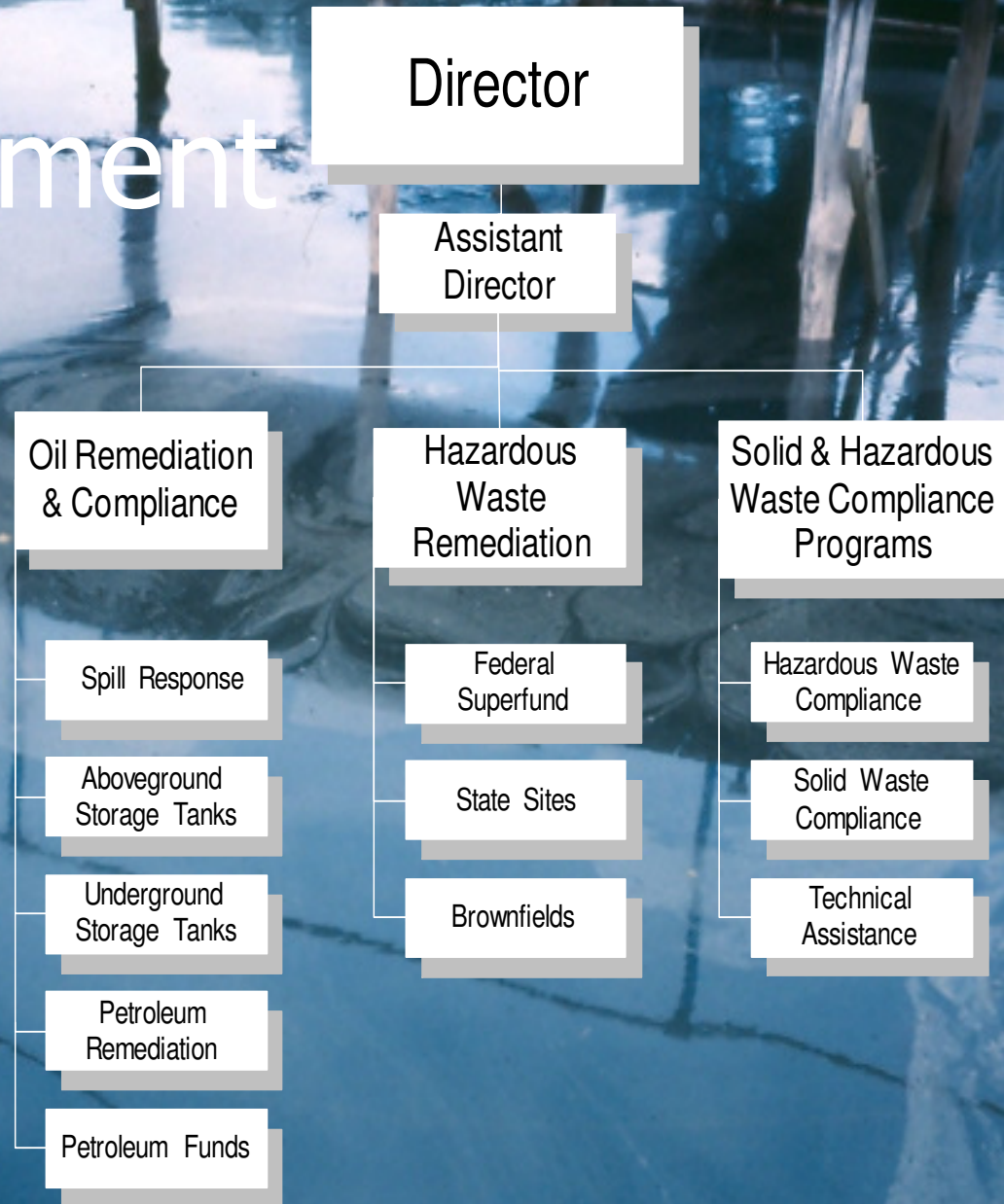
Water Division

Dams
Wetlands/Shoreland
Protect.
Watersheds/Lakes/Rivers
Wastewater/Septic
Drinking Water Supplies
Winnepesaukee River
Basin

Air Resources

Stationary Sources
Mobile Sources
Air Toxics
Environ. Health
Energy Efficiency
Climate Change

Waste Management Division



(NHDES) Spill Response and Complaint Investigation Section
Robert Bishop, Administrator



7 MEMBERS:
1 Administrator
5 State On Scene Coordinators
1 Oil Spill Response Coordinator

ON-CALL 24 HOURS, 7 DAYS A WEEK

State On Scene Coordinator (SOSC) duties:

A photograph of a boat docked at a wooden pier. The boat is white with a blue canopy and is tied to the pier with ropes. In the background, there is a large green bridge and a building. The water is calm and reflects the sky.

- Overall management and coordination

- Member of Unified Command

- Act as liaison- federal, state, local agencies

- Provide technical assistance

Statutory Authority: RSA 146-A

Oil Discharge Or Spillage in Surface Water or Groundwater



- **Strict Liability** Any operator or owner ...shall be strictly liable for costs
- **Notification/Removal** NHDES shall be notified.... NHDES shall assume primary jurisdiction of the cleanup operation.
- **Duty to Report** Whoever is responsible or any "person" who becomes aware of an oil discharge....
- **Penalty** "willful" discharges
 - Shall be guilty of a misdemeanor or a felony
 - Failure to comply with the statute...civil penalty not to exceed \$10,000 for each violation
 - Each day...shall count as a separate violation
 - Failure to comply with rule...\$2,000 for each violation. Each day a separate violation.
- **Willful Failure to Comply** ...shall be liable to the state in double the amount of costs.



Response to Hazardous Air Pollutant Releases



Solid Waste Complaint Investigation







Submerged Vehicles



Hazardous Waste Complaint Investigation





HazMat Response

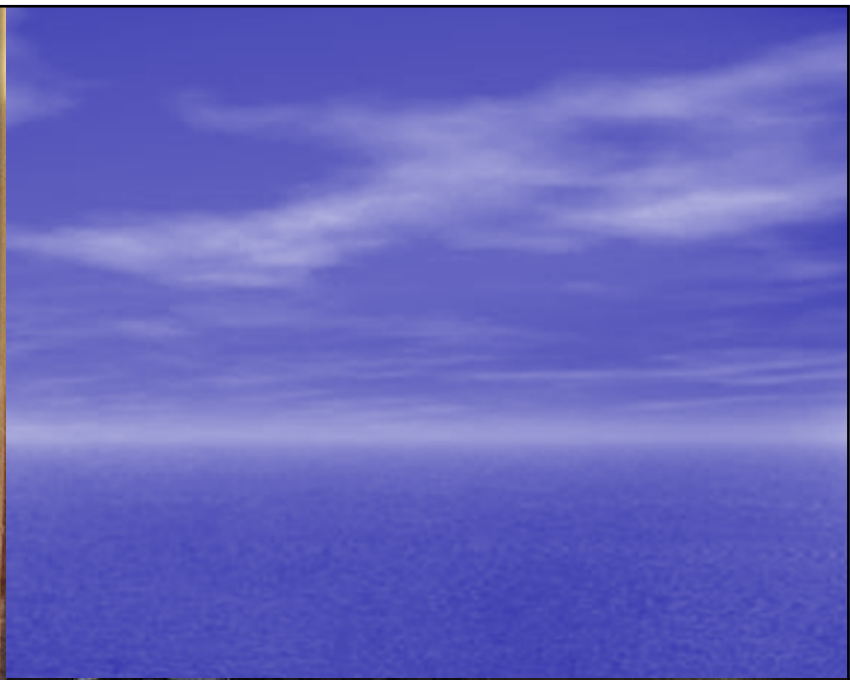




KEEP OUT

HAZARDOUS WASTE
HYDROBROMIC ACID 48%
CORROSIVE

CAUTION CAUTION CAUTION CAUTION CAUTION CAUTION CAUTION CAUTION







Clandestine Drug Labs

Response to Petroleum Spills









R





9478559

FR 28

FR 20

PSI

Transformer Spill





EMERGENCY
HAZMAT RESPONSE
800-223-8865

TMC
TMC Services, Inc.
www.tmc-services.com

EMERGENCY
HAZMAT
800-223-8865

DO NOT



Truck Fire on 93



Oil dumped in the woods





Overfill of Gasoline tanks during delivery





Residential oil spills

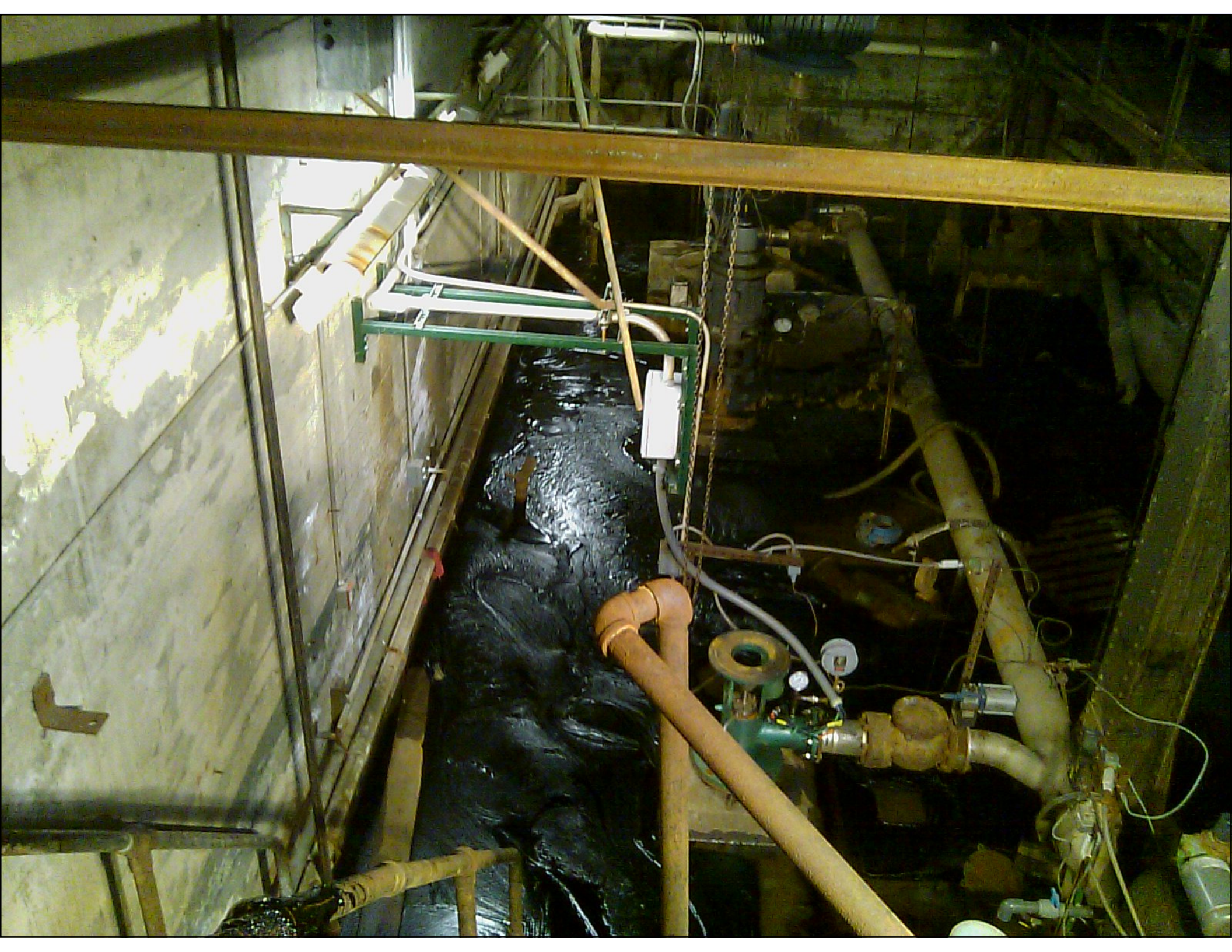












Sunken Vessels














DES Provides
Hazmat
Response to
non coverage
towns



A dark green sedan is parked on a gravel area next to a dense forest. The driver's side window is open, and a white sign is taped to the glass. The sign contains a warning in all caps. The car's interior, including the front seats and dashboard, is visible through the window. The background is filled with tall green trees and bushes under bright daylight.

H2S POISON GAS!
DO NOT OPEN CAR
WITHOUT
PROTECTION!
CALL 911 GET
HAZMAT
TEAM

SPILL RESPONSE EQUIPMENT



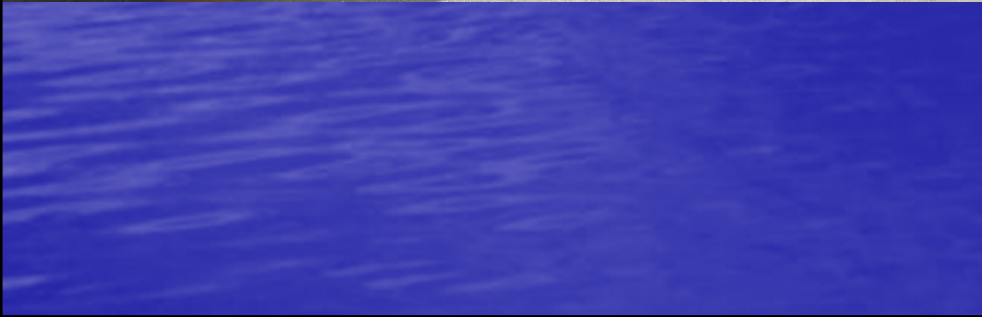
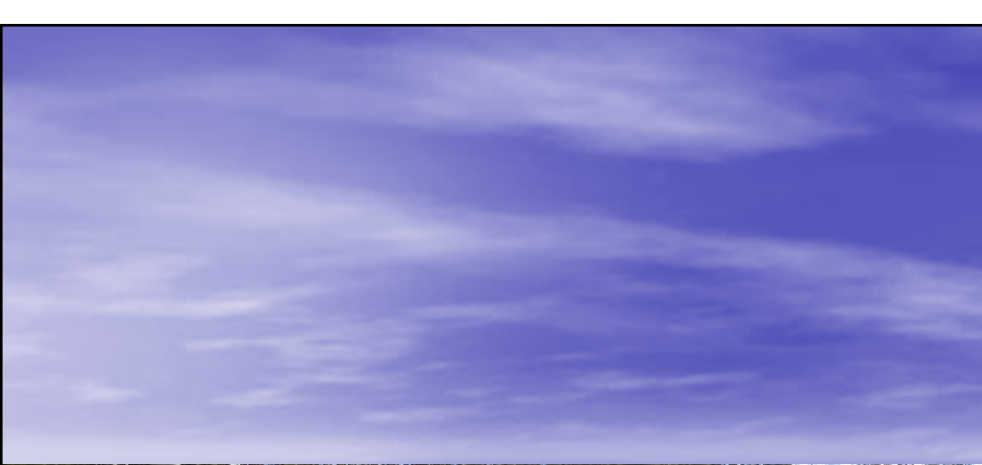
➤ **22 Locations throughout NH**

➤ **Access Equipment through DES/fire department**

➤ **Responsible Party pays for RESTOCKING**

- Multigas Meters
- PID
- Field Identification of Unknowns
- PPE
- Drum handling
- Sampling
- Absorbent Boom and Pads
- Containment Boom





Communications Equipment

- Hand held radios
- Marine radios
- Vehicle mounted mobile radios
- Cellular phones
- Pagers





- Clean Harbors Environmental Services
- CYN Environmental Services
- NRC Environmental (formerly ENPRO and TMC)

STATE RESPONSE CONTRACT

WHO HAS TO REPORT THE SPILL?



•Whoever is responsible or...

•Any person who is aware.

Who Has to Be Notified?



Fire Department (call 911)

NHDES 603-271-3899 (M-F/8am-4pm)

603-223-4381 (all other times)

NATIONAL RESPONSE CENTER 800-424-8802 (surface water)

An aerial photograph showing a large, dense spill of dark, fibrous material, likely seaweed or a similar organic substance, floating in a body of water. The spill is concentrated in the left and center of the frame, with a large, irregular shape. The water around the spill is a dark blue-grey color. The background shows more of the water and some distant land or structures.

When to Report a Spill

25 gallons or more

Not immediately contained

Not cleaned up within 24 hours

Impact to water (SW or GW)

A photograph of an industrial facility, possibly a refinery or chemical plant, showing a large spill of a dark, viscous liquid on the ground. The spill is contained within a concrete curb. In the background, there are various industrial structures, including pipes, tanks, and a building. The overall scene is dimly lit, suggesting an indoor or shaded area.

What should be reported:

Your name & phone number

Date & time of spill

Product type & amount

Cause and Location

Who has been notified

Environmental impact

Responsible party

Actions Taken

5 15 '90

Speed is essential



Oil spreads and drifts rapidly

Evaporation increases viscosity

Emulsification makes recovery more difficult

Inland Spill Response Program

➤ Approx. 500 Spills and complaints/yr.



Managing Spills of Used Oil

Solid Waste Operator Training
Used Oil Management: Part III

February 7, 2017

Presented by

David Leathers



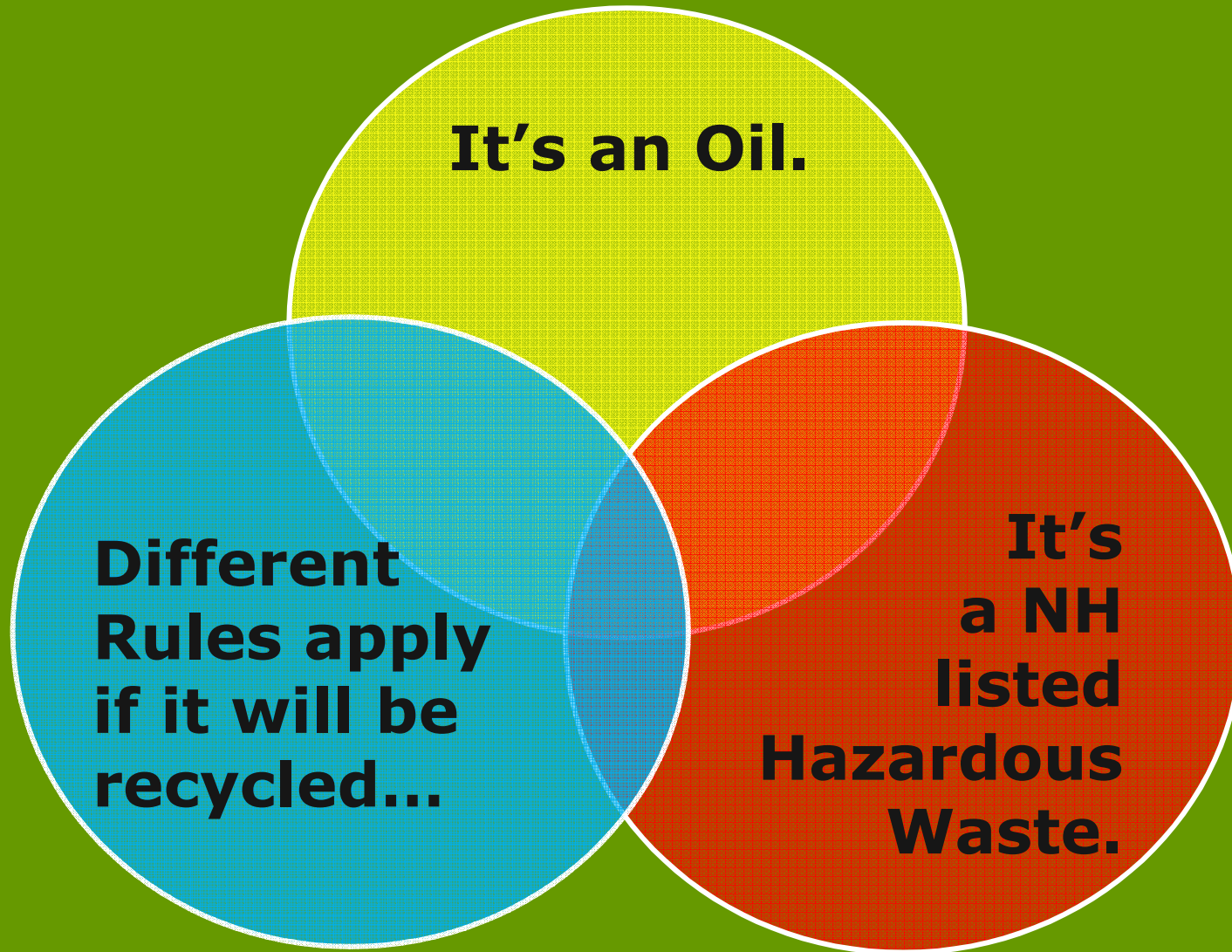
Managing Spills of Used Oil

Overview:

- What's special about Used Oil?
- General Oil Spill response guidelines
- Rules governing Used Oil Spills
- Do I have to notify? If so, who?
- Preparing for a Spill
- Preventing a Spill



What's Special about Used Oil?



Responding to a Spill of Used Oil

Being a “Pro” means remembering these “CONs”

- ❖ **CONFIRM** the spill site is safe.
- ❖ **CONTROL** the release of Oil.
- ❖ **CONTAIN** the spilled Oil.
- ❖ **CONTACT** appropriate authorities.
- ❖ **CONDUCT** the spill Clean Up.
- ❖ **CONSIDER** changes to prevent future spills.

How to Respond to a Spill of Used Oil

CONFIRM the Spill Site is Safe

Life Safety is of primary concern...

1. Assess the spill and determine if there is an immediate threat to health or safety.
2. If there is an immediate danger, evacuate all personnel; following the emergency response/Spill plans if they exists.
3. Contact the local Fire Department
4. If it can be done safely, take actions to reduce risks to human life.

How to Respond to a Spill of Used Oil

CONTROL The Release of Oil

Act to stop the release of more oil

- ❖ Set upright a knocked over container
- ❖ Turn off supply valves, if applicable.
- ❖ Plug punctures in container using spill kit materials
- ❖ Transfer contents from damaged container into an intact container.
- ❖ Contact FD if unable to control release.

How to Respond to a Spill of Used Oil

CONTROL The Release of Oil



How to Respond to a Spill of Used Oil

CONTAIN The Spilled Oil

Take actions to *prevent spread* of oil:

- ❖ Capture leaking oil in another container if possible.
- ❖ Create a containment barrier or berm around the spill using sorbents or Speedi-Dri to prevent the spread of oil.
- ❖ Cover, close or dike floor and storm drains, to prevent inflow of oil.
- ❖ Anticipate where the oil will go if it were to break through the berm. Plan accordingly.

How to Respond to a Spill of Used Oil

CONTAIN The Spilled Oil



How to Respond to a Spill of Used Oil

CONTACT Appropriate Authorities

- ❖ Fire Department (**9-1-1**)
- ❖ NHDES SRCIS Group (**271-3899**)
- ❖ State Police (**223-4381**)
- ❖ Facility Owner/Town Administrator
- ❖ US EPA NRC (National Response Center)
1-800-424-8802 – if release threatens health or environment *outside facility or has impacted surface or groundwater.*

How to Respond to a Spill of Used Oil

CONTACT Appropriate Authorities

Information to Provide:

- Name and Phone # of person notifying
- Location, Date and time of discharge
- Type and Amount of Oil Discharged
- Name and daytime Phone # of Responsible Party.
- The proximity of discharge to potential receptors (ie. surface waters and wells)
- Daytime contact info for contractor hired to clean up
- Descriptions of actions taken or proposed
- Names of agencies that have been called
- Cause of accident and/or detection method.
- All available reports or sampling results related to the discharge.

Rules Regarding Notification of NHDES following a Used Oil Spill

Rules governing **ALL** Petroleum Oils

- (NH) Env-Or 604.06: Releases of “Virgin” and/or Used Oil

Hazardous Waste Rules governing NH Listed Waste: **Used Oil (NH01)**

- (NH) Env-Hw 513.01 & 513.02
- & (US EPA) 40 CFR 265.56

Pursuant to **Env-Or 604.06** -- You *MUST* Report Spills *Immediately* When...

- Discharge of **ANY** amount of oil into *surface or groundwater* of the state;
- Discharge of **25 gal or more** to land
- Discharge of **less than 25 gal** to land – *unless immediately cleaned up and properly disposed of*
- Discharge resulting in **AGQS exceedance** or *NAPL in a water supply*
- Vapors are present that are *an imminent threat to human health.*

Pursuant to **Env-Hw 513.01(a)** -- You *MUST* Report Spills *Immediately* When...

“In the event of **any discharge of hazardous waste** or of a material that when discharged becomes a hazardous waste ***that poses a threat to human health or the environment,*** including but not limited to a discharge into storm drains or sanitary sewers, ***onto the land*** or into the air, groundwater or surface waters, the generator shall report the discharge immediately...”

How to Respond to a Spill of Used Oil

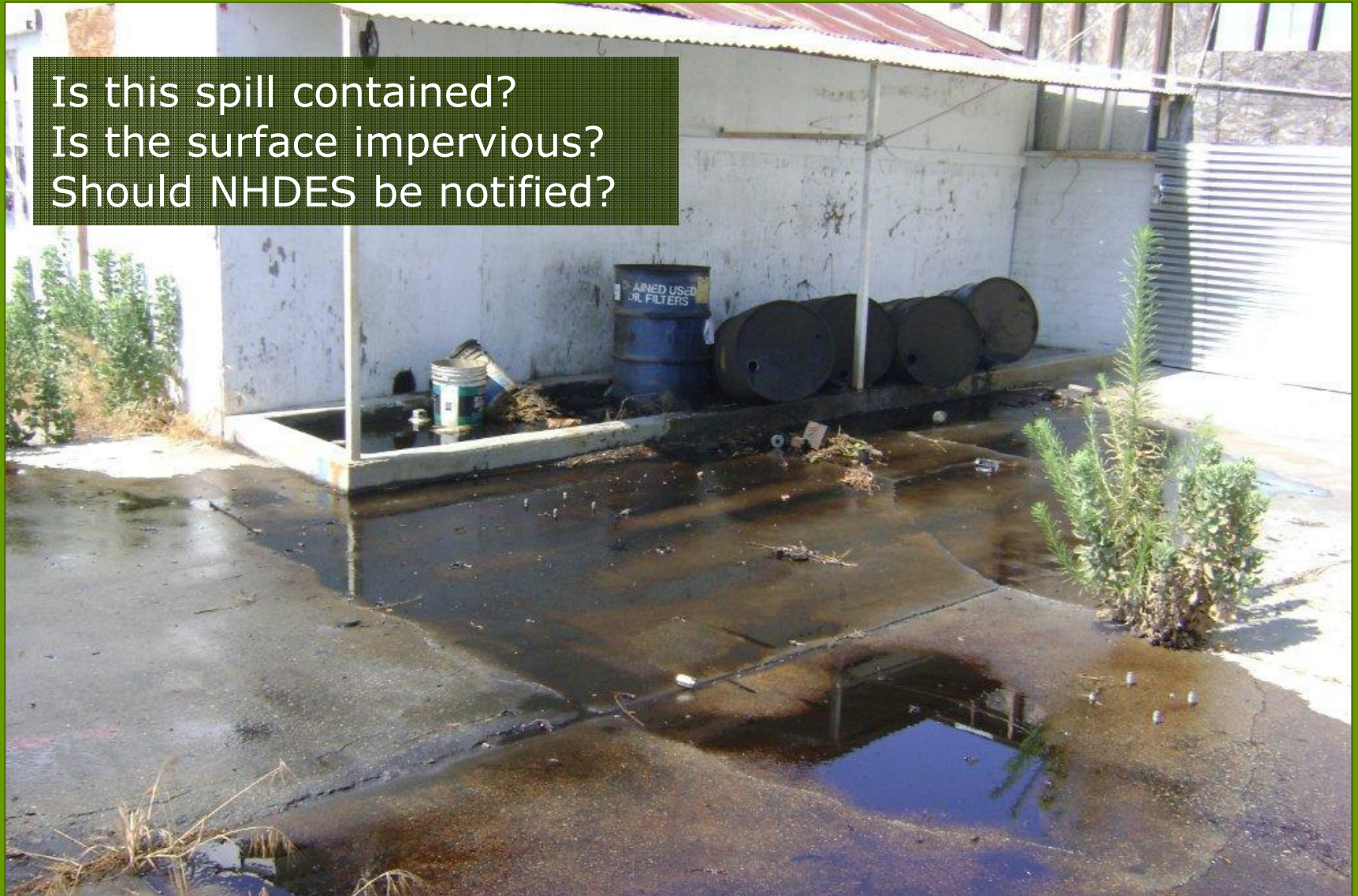
CONTACT Appropriate Authorities

What does “immediately” mean?

“Immediately, not to exceed one hour from the discovery of the release;” **Env-Hw 513.01(a)(1)**

How to Respond to a Spill of Used Oil

CONTACT Appropriate Authorities



How to Respond to a Spill of Used Oil

CONDUCT the Spill Clean Up

1. Use sorbent boom, pads and speedi-dri from your spill kit to pick up small quantities of spilled oil.
 2. Place recovered oil that cannot be recycled, oil soaked sorbents, soil and other materials in appropriate container for disposal.
 3. Make arrangements for proper disposal of contaminated cleanup materials.
- ❖ *Consider hiring an environmental clean up contractor if spill is large and/or complex.*

How to Respond to a Spill of Used Oil
CONDUCT the Spill Clean Up

**If Used Oil (NH01) that is spilled
is a Hazardous Waste...**

*"Do I need to dispose of Used Oil
(NH01) Soaked sorbents and other
spill clean up materials as a
hazardous waste?"*

Probably not, as long as...

How to Respond to a Spill of Used Oil

CONDUCT the Spill Clean Up

Exemption under Env-Hw 401.03b(18)

“Spill absorbent materials, soil and debris from the cleanup of used oil spills, provided the used oil was not previously mixed with any other hazardous wastes listed in Env-Hw 402, and **provided the spill absorbent materials, soil or debris do not exhibit a hazardous waste characteristic as set forth in Env-Hw 403;**”

CONSIDER...

...changes to prevent future spills

- Ask *why* the spill occurred
- Review storage practices
- Improve, upgrade out of date equipment, containers, etc.
- Consider additional staff training – would it have made a difference?

Preparing for an Oil Spill

Best Management Practice

- Develop, Document and distribute a facility specific Spill Response Plan (SRP)
- Assemble "Spill Kits" adequate to the types of spills encountered at your facility.
- Train staff on use of the SRP and spill kits.
- Review annually (and update) the SRP, provide refresher training for staff, and inventory and restock the spill kits.



Preparing for an Oil Spill

Develop, Document and distribute a facility specific Spill Response Plan (SRP)

INITIAL SPILL RESPONSE PROCEDURES

If a spill occurs, the first person on the scene will:

1. First, determine if there is an immediate danger. If there is, quickly leave the area using the fastest route shown on site plan.
2. If it can be done safely, reduce the danger to human life. For example, by quickly removing ignition sources near flammable liquid spills.
3. If there is no immediate danger, identify the material spilled and start the appropriate spill response safety procedures, including notifying the appropriate personnel.
4. Stop the source of the spill and contain the flow, if possible.
5. Notify your emergency coordinator or alternate coordinators.
6. Utilizing the spill kit or other appropriate materials, begin spill containment procedures. Obtain the assistance of others, if necessary to contain and clean up the spill.

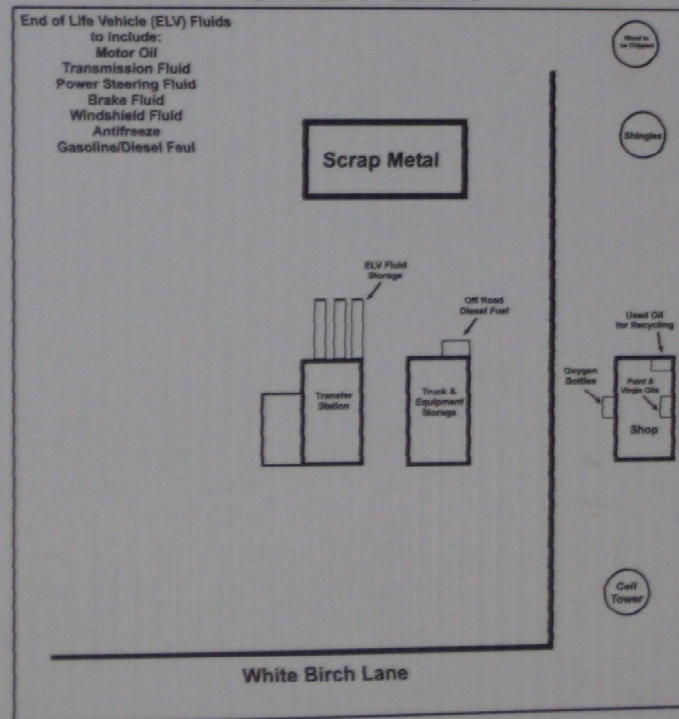
SPILL CONTAINMENT PROCEDURES

1. Find the source of the spill and take action to stop the source. For example, if the source is a tipped over drum, place the drum upright. If the source of the leak is punctured tank, pump the fluid into another container.
2. Using a spill kit, absorbents or other suitable materials, construct a berm to prevent the spill from entering storm drains, drainage ditches, etc.
3. Apply absorbent materials to contain and recover small amounts of spilled materials.
4. Collect all spilled materials and contaminated materials and store them in an appropriate container for disposal.

Emergency Response

In the event of a spill or emergency, assess the immediate danger. If there is immediate danger, exit the building by the closest exit. If there is no immediate danger, follow the Emergency Spill Response steps to address a spill and follow your company safety plans for other emergencies.

SITE PLAN



Draw or attach your building site plan, here.
Include all the elements as on the sample sketch.

EMERGENCY COORDINATORS

In the event of a spill or emergency involving hazardous materials or hazardous wastes, contact the following people.

Primary Contact: **Rick Belanger**
Work Phone: **736-6000**
Home Phone: **398-6000**

Alternate Contact: **Cindy Belanger**
Home Phone: **344-9618**

Alternate Contact: **Ron Colby**
Work Phone: **235-8649**
Home Phone: _____

During work hours, call primary contact at work number, first. If primary contact is not available, call alternates at work numbers. After work hours, call primary contact at home number, first. If primary contact is not available, call alternate contacts at home numbers.

EMERGENCY RESPONSE NOTIFICATION LIST

Contact	Phone Number(s)
Local Fire Department: 911 or	736-9291
Local Police Department: 911 or	736-9624
Local Hospital:	736-6200
State Emergency Response:	
DES:	(603) 271-3899 M - F, 8-4
State Police:	(800) 346-8236 (603) 346-4009
Office of Emergency Management:	
National Response Center:	(800) 424-8802
State OEM:	(603) 271-2231
Poison Control Center-Dartmouth Hitchcock Hospital:	(800) 562-8236 (603) 550-5000

Preparing for an Oil Spill

Assemble “Spill Kits” adequate to the types of spills encountered at your facility

Purchase or Build your own, to include:

- Bags of Sorbents (Speedi-Dri)
- Sorbent Booms
- Protective Clothing (Gloves, suits, etc.)
- Containers for waste (small & large)
- Wooden Plugs, patches, duct tape
- Tools (Shovel, brooms, funnels)
- Copy of Spill Response Plan



Preparing for an Oil Spill

Train staff on use of the SRP and spill kits.

Training should include:

- Facility Hazards – potential spill sites
- Spill Response Plans – How they work
- Locations of Spill Kits
- Familiarizations with how and why Spill Kit Equipment is used
- Contact Numbers

Preventing an Oil Spill

Best Management Practice

***“The easiest spill to clean up...
Is the one that doesn’t happen.”***

- Improve Facility Practices
- Conduct Self Inspections of your facility

Improving Facility Practices: Requires asking certain questions...

**Is the oil stored
in containers in
poor condition?**



**Is Oil Collection
Area easily
observable by
facility
operator?**

**Can collection
containers be
easily**

**Is the collection
tank or
container in a**

**Would the location of your stored Used Oil
make containing a spill difficult?**

Self Inspections: things to include

Key requirements should be on a checklist and include:

- ❖ Used Oil Containers are Properly labeled
- ❖ Containers are Closed
- ❖ Containers in good condition
- ❖ Containers under cover
- ❖ Containers stored on impervious surface or in secondary containment.
- ❖ Look for signs of previous or ongoing leak, seepage of overfilling of oil.
- ❖ Spill kits readily available and adequately stocked.

Thank you!

Questions?

Robert Bishop

Robert.Bishop@des.nh.gov | 603-271-3440

David Leathers

David.Leathers@des.nh.gov | 603-271-3624

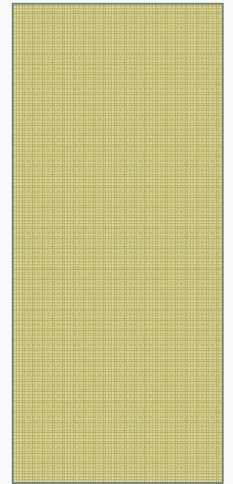
Used Oil Program

<http://des.nh.gov/organization/divisions/waste/orcb/fms/uomp/index.htm>



CASE SUMMARIES

USED OIL MISMANAGEMENT



CRAIG'S LIST CRISIS



- Summary

- Local Business finds a listing on Craigslist for some waste oil
- Contacts the person, arranges for and pays for the material
- Several totes full of material arrive at the facility
 - Worker notices something strange about how thin the material is
 - Does a quick flash test, sends out a sample to a lab.
 - The material had a flashpoint of <20 deg. F!
 - The worker saved the building by not putting this into the waste oil furnace

CRAIGSLIST CRISIS



- The case became federal and the U.S. Attorney's Office prosecuted the responsible party.
 - The responsible party pled to a crime.
 - The local business owner was finally able to have the material removed from the facility.

WATERFOWL CASE



- Summary

- NHDES received a call about oil in a pond and several ducks that were covered with oil.
 - NHDES, Local Fire Dept. and NH Fish & Game Respond.
 - NHDES verified that oil was in the pond.
 - Responders find several live ducks covered in oil, along with approximately 24 deceased ducks.
 - All of the living ducks were captured and sent for rehabilitation.
 - Investigation of the area revealed the source of the oil was a storm drain system that emptied into the pond.
 - The source of the release was believed to be the improper disposal of waste oil.

WATERFOWL CASE



WATERFOWL CASE



WATERFOWL CASE



WATERFOWL CASE



WATERFOWL CASE



WATERFOWL CASE



WATERFOWL CASE



WATERFOWL CASE



WATERFOWL CASE



WATERFOWL ROOSTING AREA



The matter is still under investigation.