

BACKHAUL 101

By: Stephen Price, Anahma Shannon, and Reilly Kosinski

DOT REGULATIONS



GENERAL AWARENESS/FAMILIARIZATION TRAINING: Training that provides familiarity with the general requirements of the HMR and enables the hazmat employee to recognize and identify hazardous materials. All hazmat employees must receive general awareness training.

FUNCTION-SPECIFIC TRAINING: Training that provides a detailed understanding of HMR requirements applicable to the function(s) performed by the hazmat employee. Each hazmat employee must be trained on the specific functions they are required to perform.



SAFETY TRAINING: Training that covers the hazards presented by hazardous materials, safe handling, emergency response information, and methods and procedures for accident avoidance. All hazmat employees must receive this training.



SECURITY AWARENESS TRAINING: Training that provides a general understanding of the security risks associated with hazardous materials transportation and the methods designed to enhance transportation security. This training should include methods on how to recognize and respond to possible security threats. All hazmat employees must receive this training.

IN-DEPTH SECURITY TRAINING: Training that provides a detailed understanding of a company's security plan including company security objectives, specific security procedures, employee responsibilities, actions to take in the event of a security breach and the organizational security structure. This training must be provided to hazmat employees who handle or perform regulated functions related to the transportation of the materials covered by the security plan or who are responsible for implementing the security plan.

GENERAL AWARENESS/FAMILIARIZATION TRAINING: Training that provides familiarity with the general requirements of the HMR and enables the hazmat employee to recognize and identify hazardous materials. All hazmat employees must receive general awareness training.

- <http://www.phmsa.dot.gov/hazmat/outreach-training/training-modules>
- <http://www.phmsa.dot.gov/staticfiles//PHMSA/DownloadableFiles/Files/HowToUseHMR.pdf>
- http://zendergroup.org/backhaul_videos.html





Prioritize



Community Trash Culture

- Landfill Organization/Best Practices
- Plastic Bag Bans
- Flying Cans
- Clean-up Events
- Solid Waste Ordinances
- Outreach and Education



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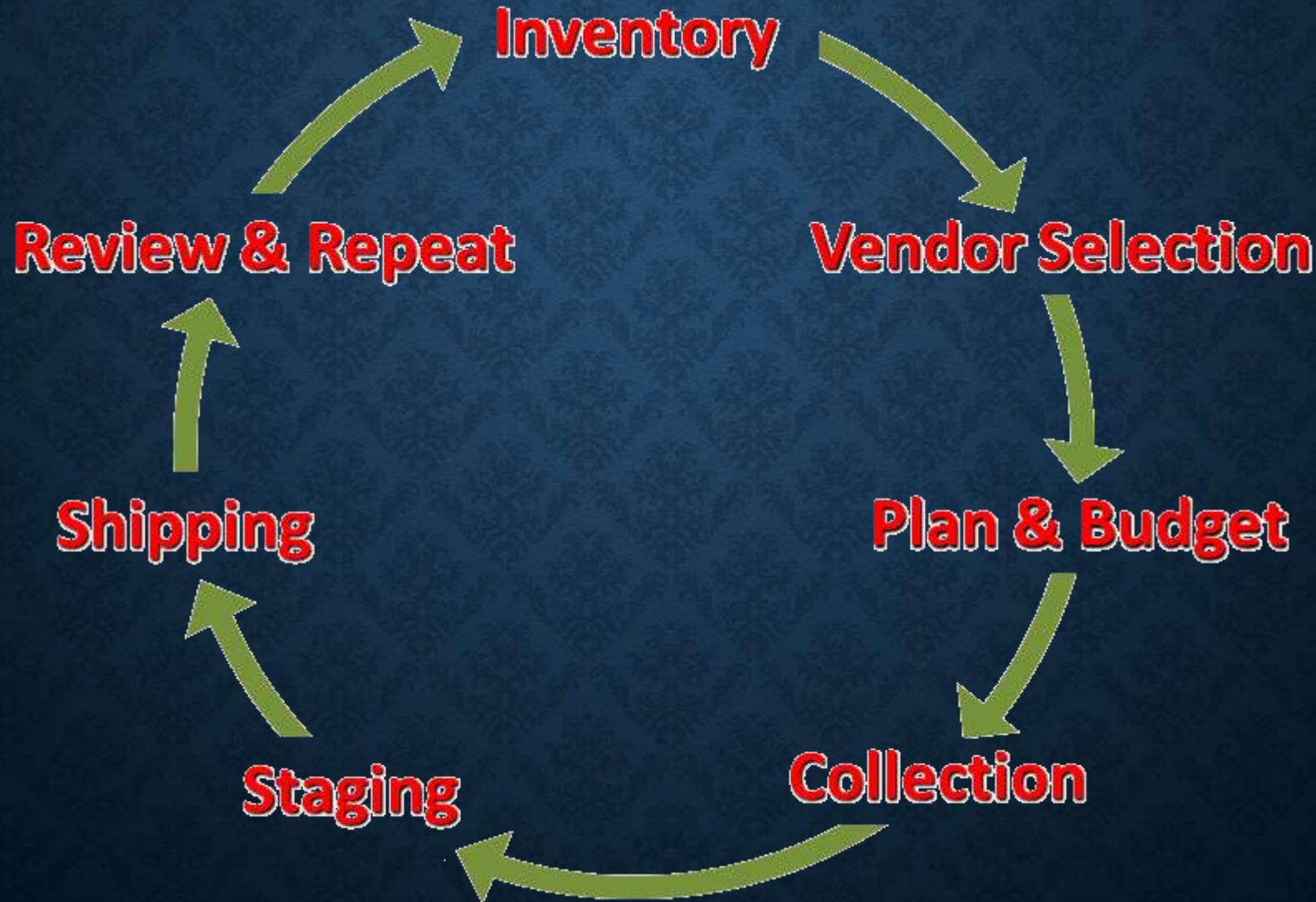
Backhaul



E-waste



Think "Cycle"





Improper Packaging



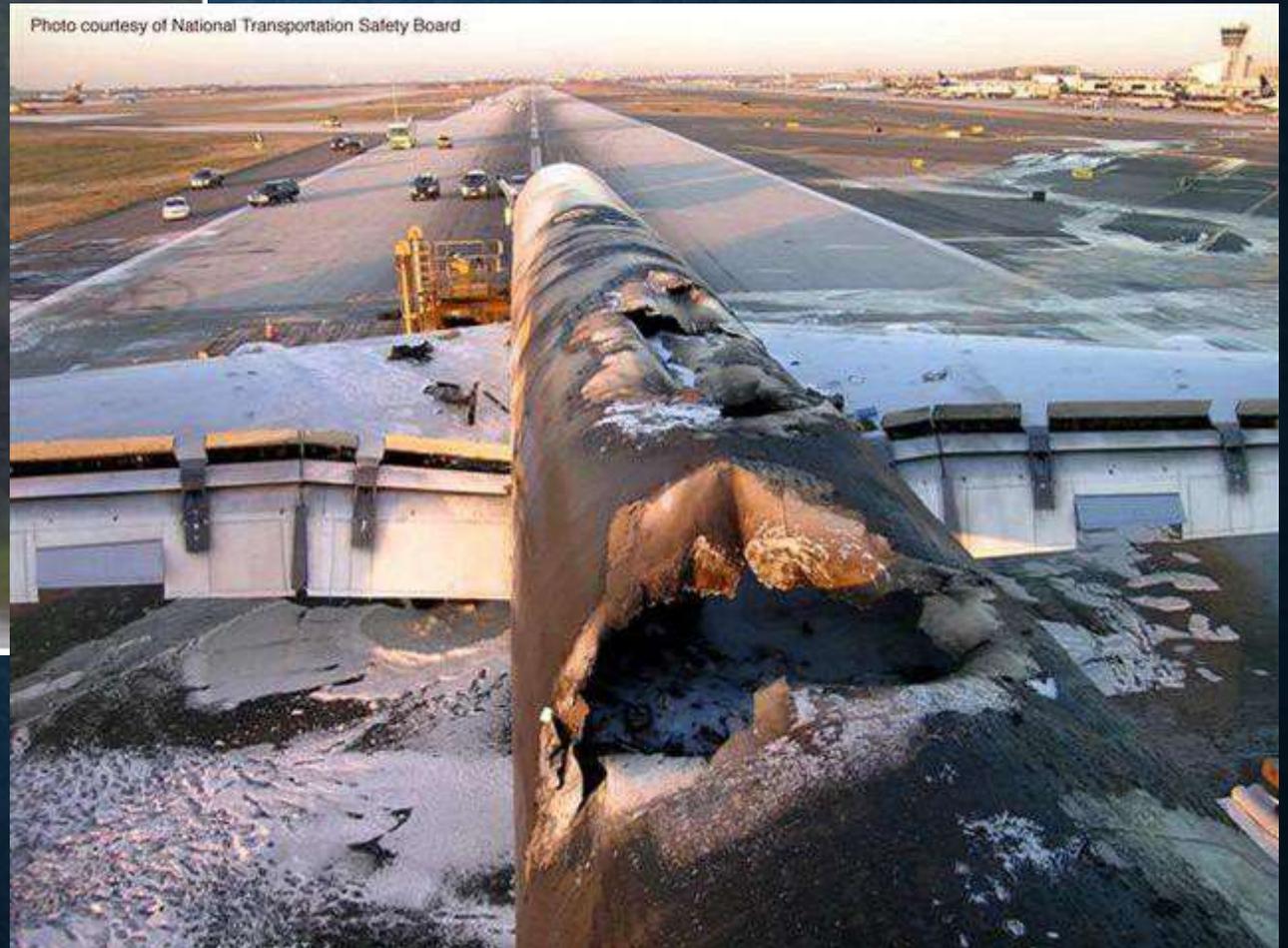
Improper Packaging



Improper Packaging



IMPROPER PACKAGING



Good Packaging

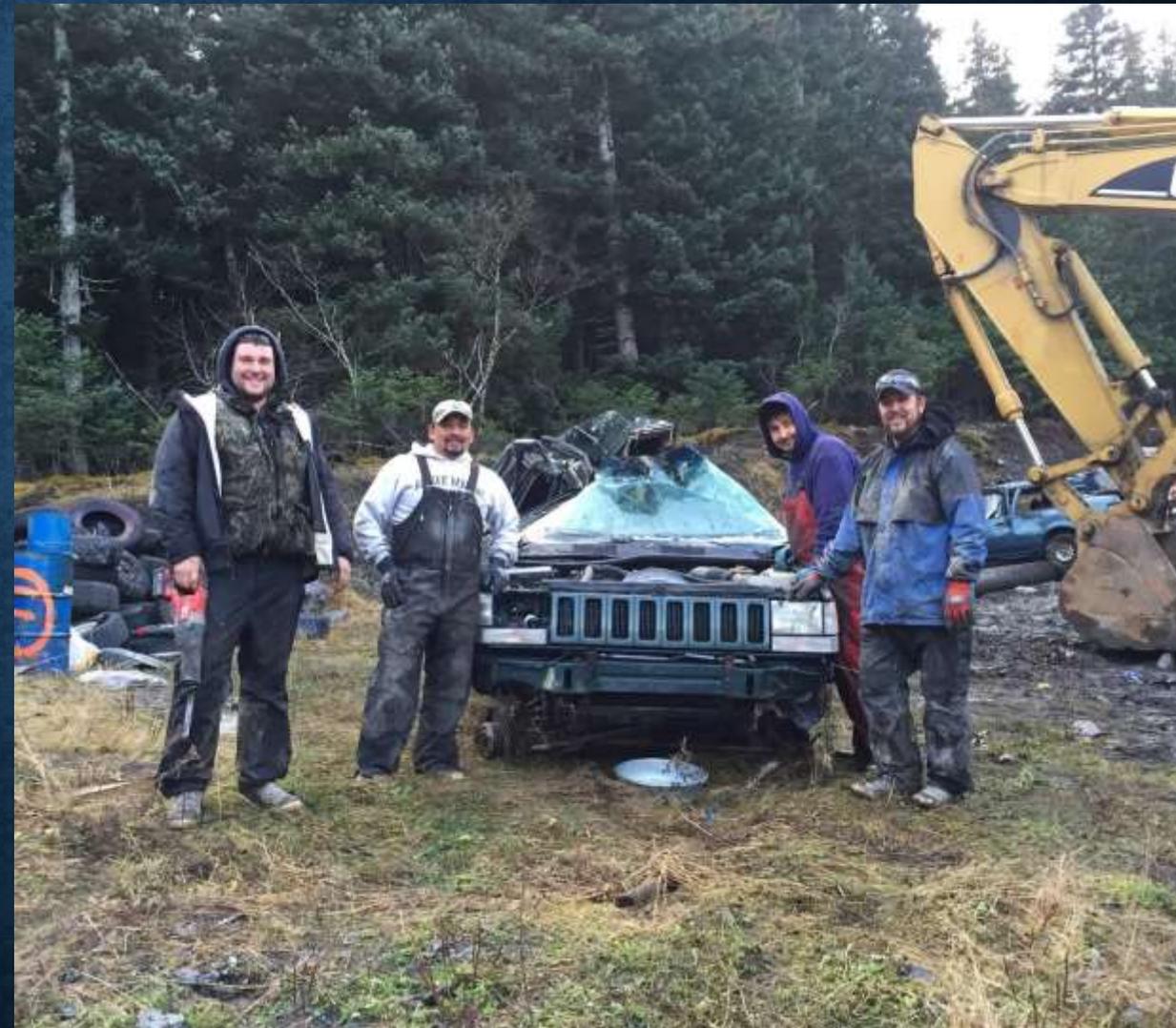
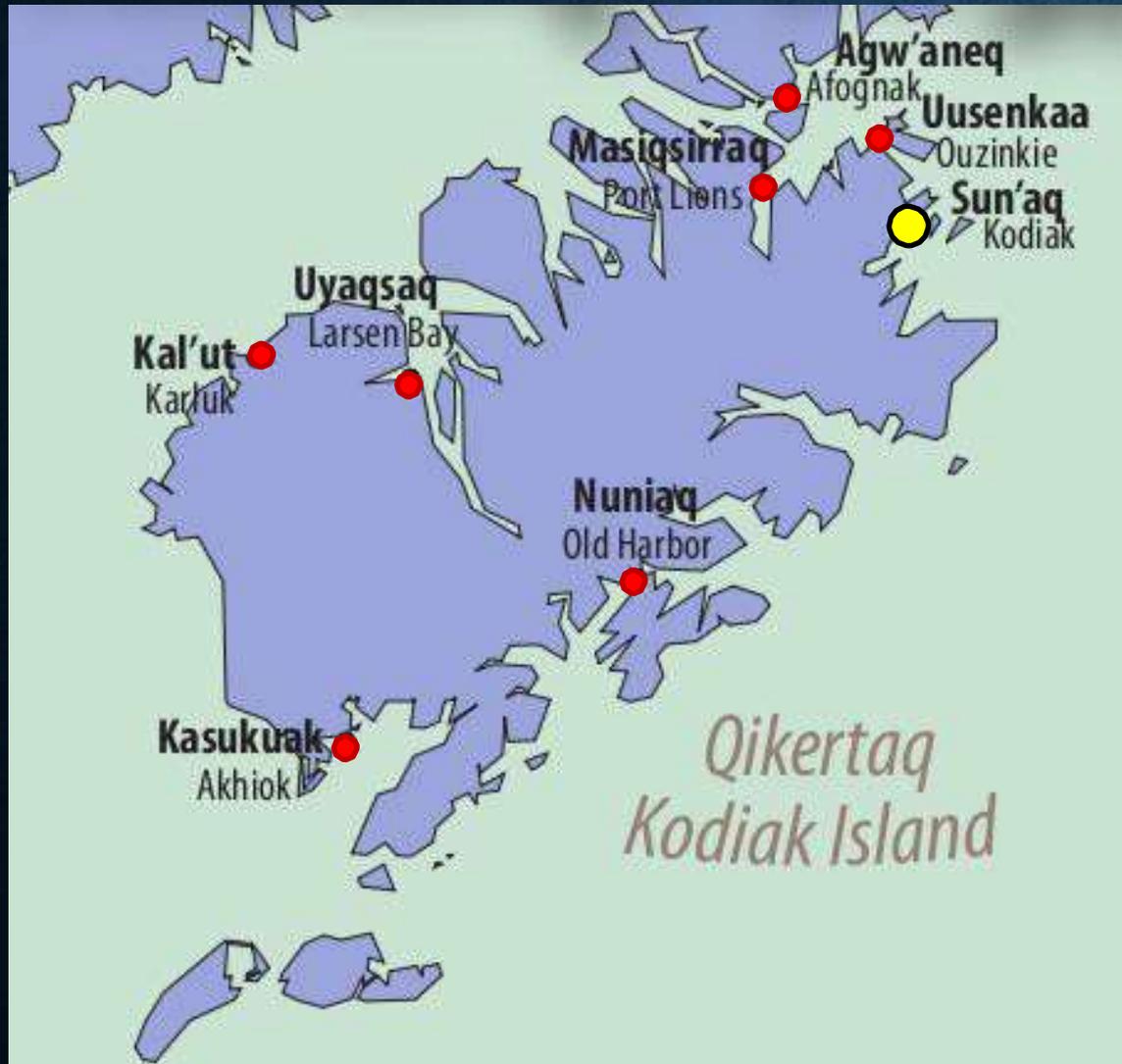


Packaging Guidance: www.backhaul-triak.com

Collaborative Efforts – Upper Nushagak



COLLABORATIVE EFFORTS - KODIAK



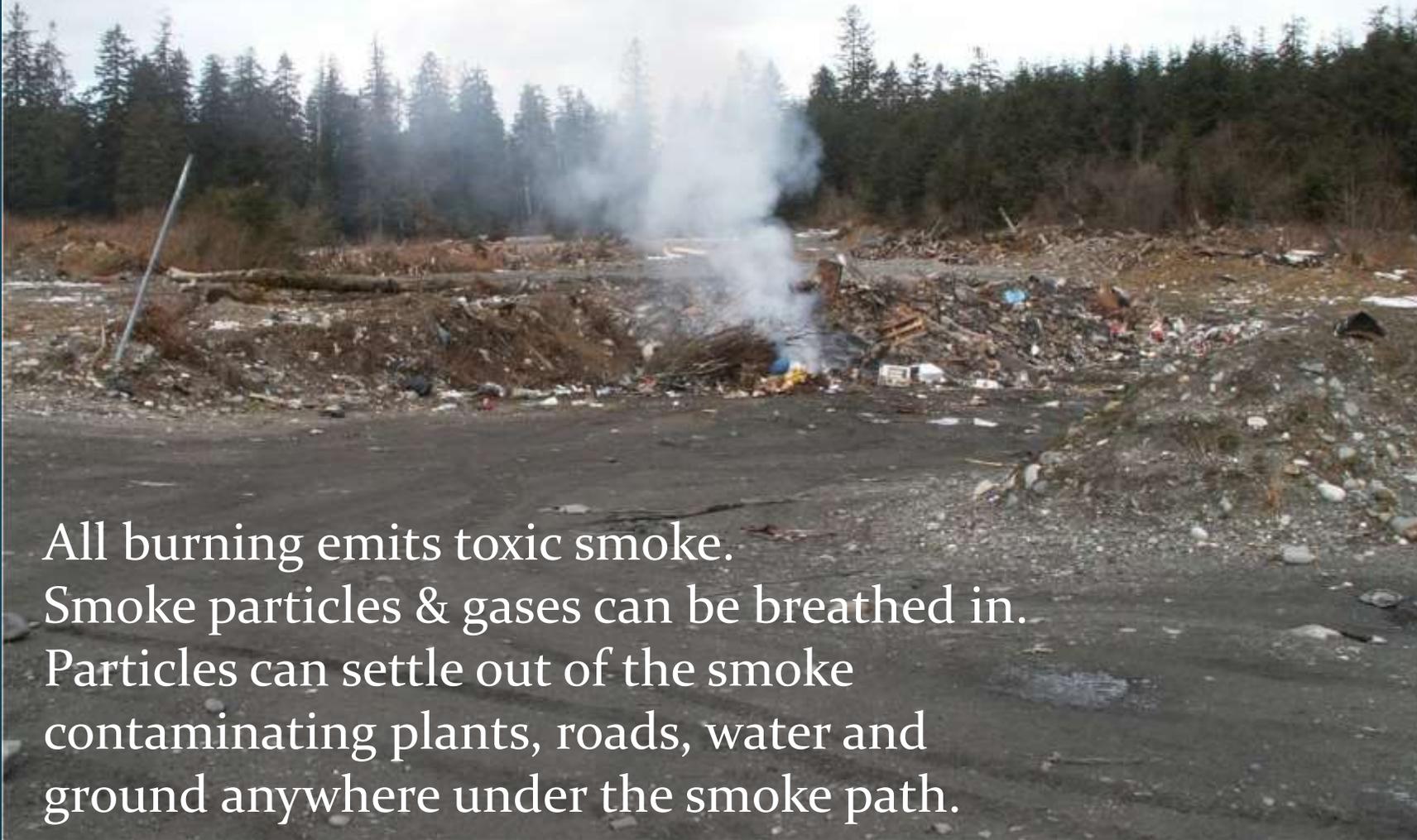
Collaborative Efforts – Nome Region





A REGIONAL APPROACH TO BACKHAULING

Burning hazardous items puts it directly into your environment



All burning emits toxic smoke.
Smoke particles & gases can be breathed in.
Particles can settle out of the smoke
contaminating plants, roads, water and
ground anywhere under the smoke path.



Beginnings
of the
Kawerak
Backhaul
Program based
on village need.

So what do we do?



We collect!

We stage!

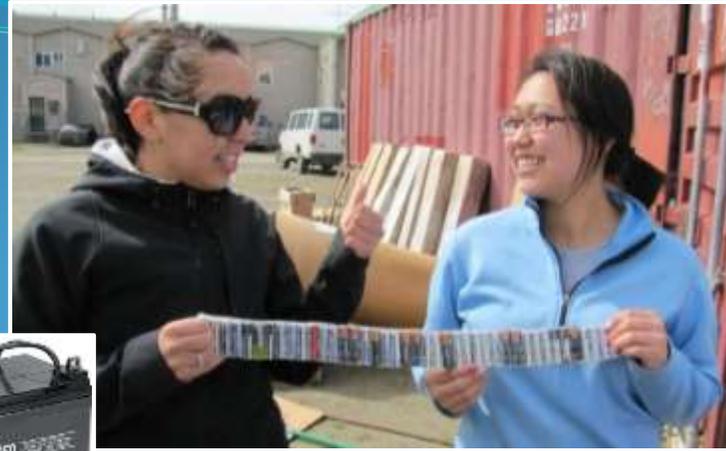


...and we BACKHAUL!

What do we backhaul?



Fluorescent bulbs
(mercury)



Lead-acid & household
batteries



Electronic waste
(heavy metals, lead & plastics)



Refrigerators
& freezers
(Freon)



ALUMINUM CANS

- The Alaskans for Litter Prevention And Recycling (ALPAR) program encourages communities to start a youth program to collect aluminum cans and send them into Anchorage. Get market price.
- Proceeds go to the youth group to help out with activities.
- Create an incentive program for aluminum can recycling. Each person to turn in cans receives a ticket, drawings are held on a monthly basis.

- Separate and stockpile computers, TV and all things electronic – keep from being burned at landfill.
- Computer monitors contain up to 8 lbs. of lead.
- E-waste is growing 5 times faster than all other waste stream components.



ELECTRONIC WASTE (e-waste)





FLORESCENT BULBS



- All fluorescent lights contain mercury in both liquid and vapor form.
- Mercury is toxic to humans, especially children.
- Over 600 million fluorescent bulbs are disposed of each year in the USA, resulting in the release of approximately 4 tons of mercury in landfills and the environment.

- Refrigerators and freezers contain hazardous refrigerant
- White goods can take up huge space in our landfills
- We have about 20 EPA certified technicians in our region
- They are easily recycled

APPLIANCES “WHITE GOODS”





- Household batteries may contain heavy metals such as mercury, cadmium, and nickel, all of which can have toxic effects to humans.
- Lead-acid batteries are very bad for our environment. They leach acid and lead into our rivers, ocean, and land.

HOUSEHOLD & LEAD-ACID BATTERIES



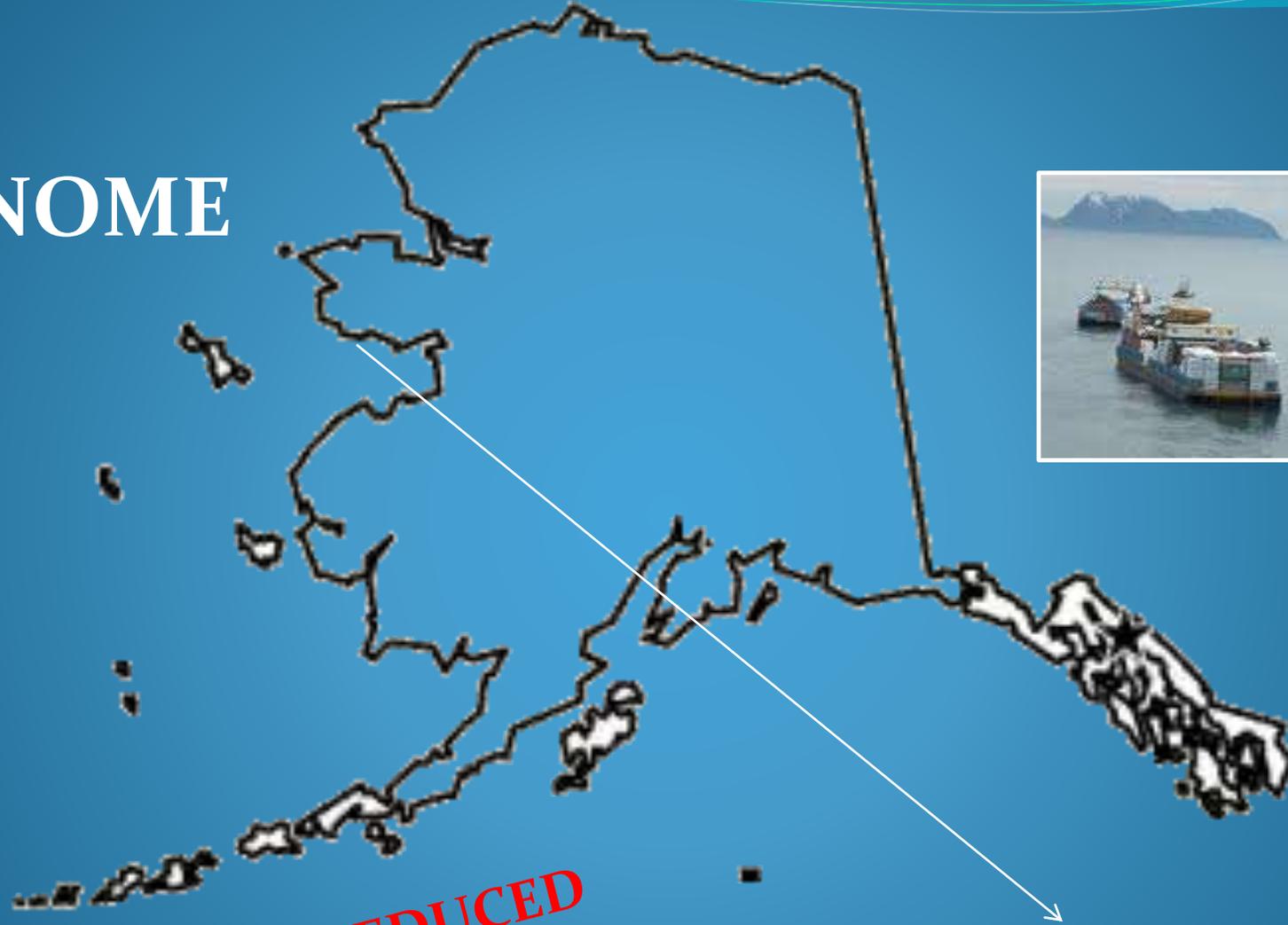
Provide regional trainings
for IGAP environmental workers





**FREE
BACKHAUL!**

NOME



**REDUCED
RATE
BACKHAUL!**

SEATTLE

So, what do we do with the SCRAP?



SCRAP

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graph LR; SCRAP --> MONOFILL; SCRAP --> BACKHAUL;
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MONOFILL

- Old rusty scrap metal
- Snowmachine carcasses
- Rusty drums that are empty
- White goods w/no Freon
- Inert material

BACKHAUL

- Fourwheeler carcasses
- Heavy steel
- Non-ferrous metals
- Large amounts of universal waste

What's a monofill?

A monofill is an area of land that is filled with inert or non-contaminated material. Eventually, the inert material will be covered with dirt, gravel, etc. so that it is not a danger to people or wildlife.



FERROUS METAL





NON FERROUS METALS

COPPER BRASS ALUMINIUM TUNGSTEN LEAD



non-ferrous & ferrous metals




1. Search for metal scrap
2. Search for metal scrap
3. Search for metal scrap
4. Search for metal scrap
5. Search for metal scrap
6. Search for metal scrap
7. Search for metal scrap
8. Search for metal scrap
9. Search for metal scrap
10. Search for metal scrap



IDEALLY?



REALISTICALLY





LEAD-ACID BATTERIES

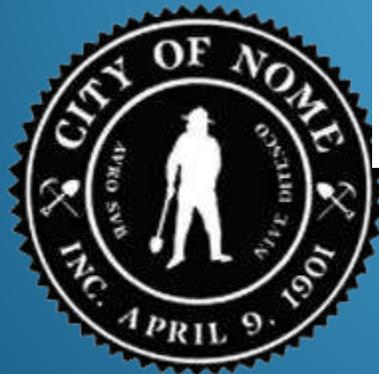
- pays for -

E-WASTE

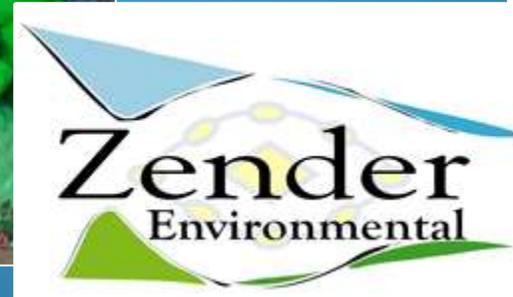
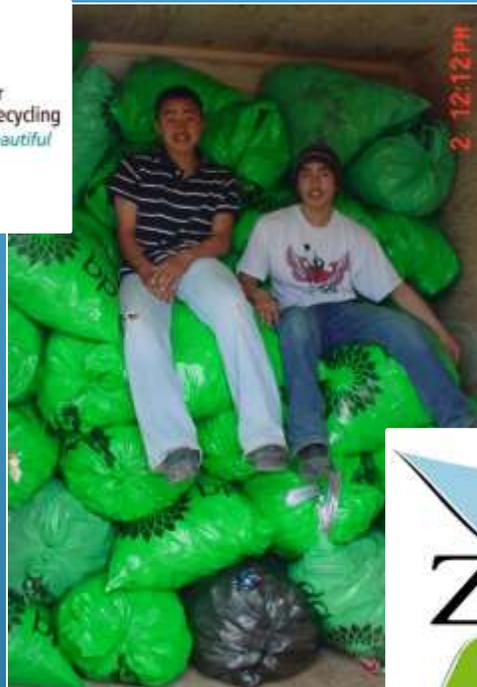


8/18/2015

Create Partnerships with Regional Entities



Create Partnerships with Statewide Entities





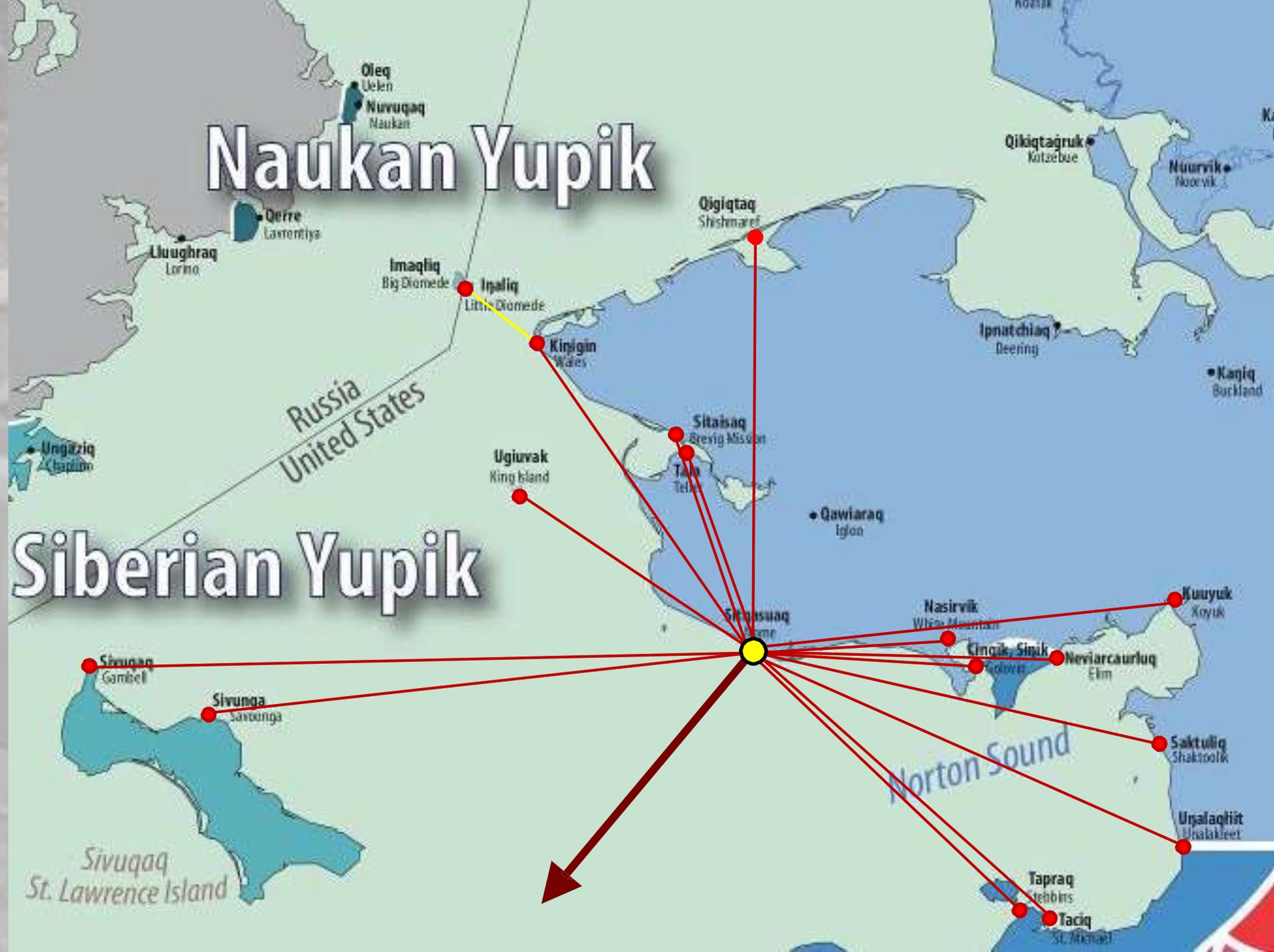
Thank you!

SWAT

- Regional Collaboration and Sustainable Statewide Backhaul

Naukan Yupik

Siberian Yupik





Inupiaq

Yupik

Qiqiqtaq
Shishmaref

Kiriqin
Wales

Ugiuvak
King Island

Sitaiaq
Breig Mission

Tala
Teller

Qawiaaq
Igloo

Tikigaaq
Point Hope

Kivaliniq
Kivalina

Nuataaq
Noatak

Kotzebue

Ipnatchiaq
Deering

Kanig
Buckland

Nuurvik
Narsvik

Katyaag
Kana

Kuuvak
Kobuk River

Kuukpak
Cobble River

Akuligaaq, Siiivik
Selawik

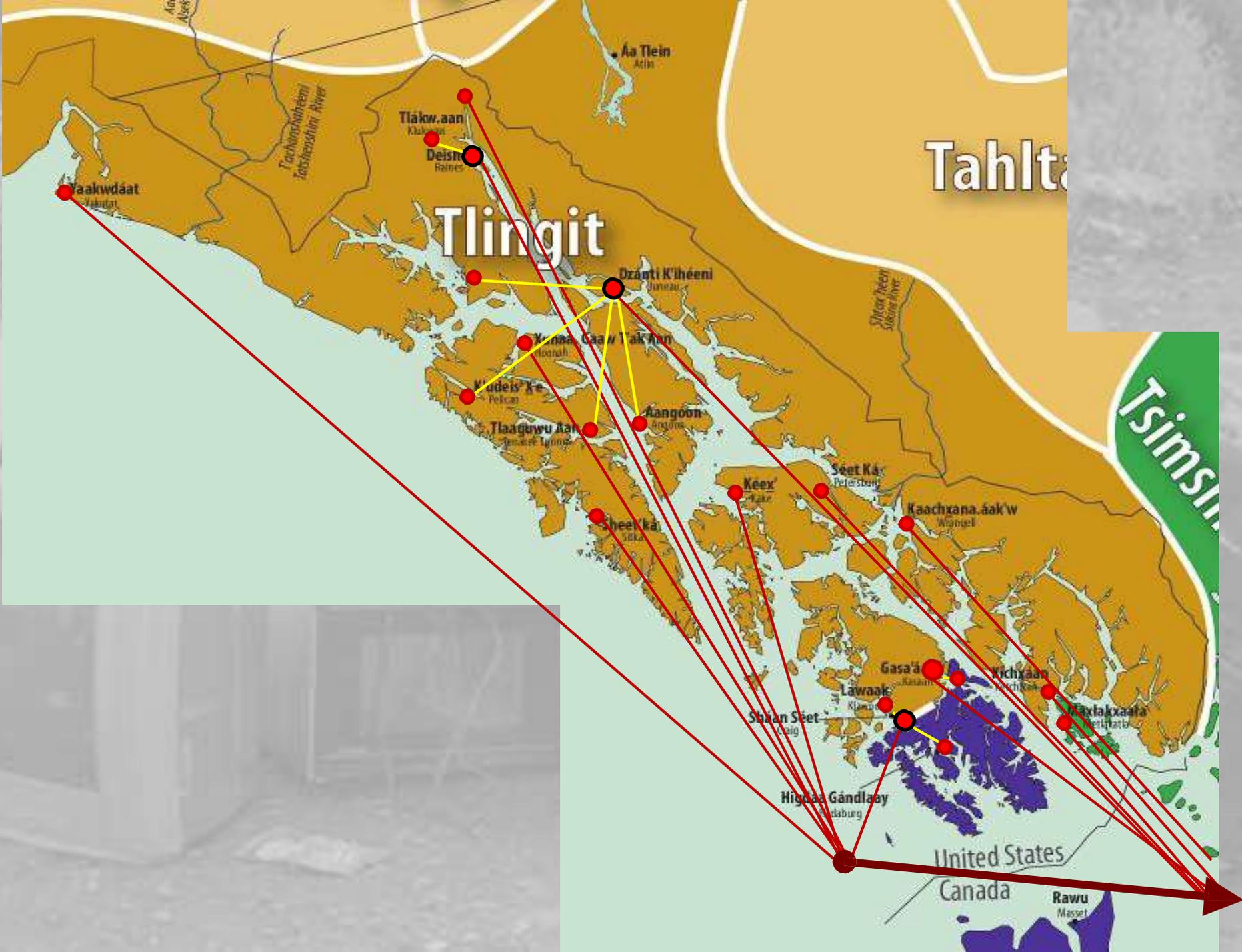
Ivisaappaat
Amber

Isiqnaq, Nuurviuraq
Shungnak

Laugviik
Kobuk

Daghelekhind
Korvassak River

Ts'aateyhdenaadek'Onh Dent
Isola



Refine Your Trash Culture

- **Set a good example for everyone**
- **Cultivate well trained and knowledgeable staff**
- **Develop capacity and long term plans**
- **Get the Nasty Stuff Out**

WHAT YOU DON'T WANT TO FIND




ERMCO
 DISTRIBUTION CENTER
 OVERSEAS, TN, USA

10 - 01411 - 60 Hz - 65°C Rise - NO PCB TYPE I MINERAL OIL
 CONTAINED LESS THAN 1 PPM PCB WHEN MANUFACTURED
 BEFORE OPERATING READ INST. SHEET 01

HV 55 KUSE 01
 LV 30 KUSE AL
 CORE & COIL 212 LB
 WINDING 70 LB
 TANK & FIT 66 LB
 TOTAL WGT. 348 LB

10.0 F ER 804-07886908 MFG DATE 0804
 12470GRDY/1200

120/240 11%



10Y-0019 100-SS12



IF YOU MUST STOCKPILE



THEN ORGANIZE IT!



WHAT YOU ARE LIKELY GOING TO FIND BESIDES METAL AND MSW

- Lead-Acid Batteries
- Fluorescent lights
- Drums and Small Containers: Typically petroleum products and glycol
- Electronic Waste

WHAT TO BE CAREFUL OF

- Smoke Alarms and Exit Signs: May contain radioactive materials
- Flares and other explosives: These are very difficult to dispose of- often fire fighters can use them in a training exercise. For marine flares- coordinate to have a “free hour” to allow everyone to use their flares each Spring.
- Chemistry lab chemicals
- Drug paraphernalia
- Medical waste

None of these items should ever go to the local landfill!

UNIVERSAL WASTES

- Batteries
- Pesticides
- Mercury-Containing Equipment
- Mercury Lamps

LEAD ACID BATTERIES



Tracking Log for Backhaul Items

2011-2012

Village Name: Native Village of Shaktoolik - IARP Program
 Contact Name & Number: Wlene Auliye / Ellen Hunt

Date	E-waste	Lead acid batteries	White goods	Fluorescents	Aluminum cans	Household batteries	Plastic bottles	Scrap metals	Description	Total Weight
11/28/2011									2 boxes of 4" bulbs (fluorescent)	20
01/08/12	X								Box surround microwave	30
			X						Box of Fluor. light S	20
					X				Household batteries	27
	X								5mp5 disc music player, misc	21
	X								Sony TV, misc. typewriter	30
			X						1 box of fluorescent lights	15
	X								2 coffee maker, 12 PS2	42
	X								TV	62
	X								42" flatscreen TV	65
	X								2000 radio tower, #P45042	70
Please write total weight for each item:										382.0
										Lbs.
										Lbs.
E-waste										320
Lead-acid batteries										27
White goods										
Fluorescents										25
Aluminum cans										
Household batteries										
Plastic bottles										
Scrap metals										

Please fax back to Anahma Shannon at Kawerak, Inc. at 907-443-4445 on a quarterly basis - thanks!

LABEL

From: Anahma Saito c/o Kawerak
P.O. Box 948
Nome, AK 99762

To: Interstate Battery
7740 Schoon Street
Anchorage, AK 99518

08.13.2014



SHIPPING FORMS

- The label requirements can vary:
 - Air- fish-tote and special permit is required.
 - Vessel (Barge)- Can be in a fish tote, but a pallet it also often acceptable. No special permit is required.
- All shipments require a form to be completed:
 - Manifest
 - Bill of lading

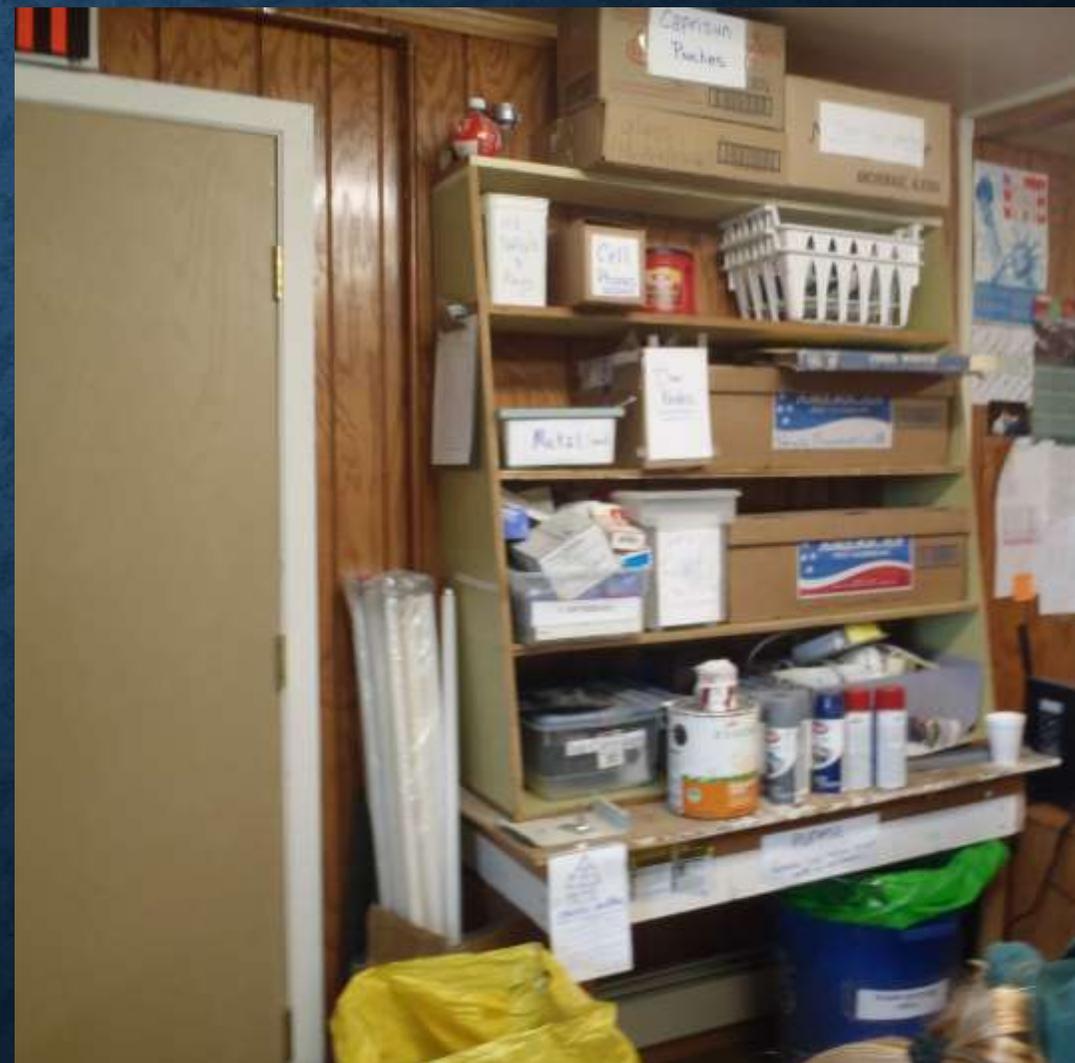
HOUSEHOLD BATTERIES

- Most need to have terminals taped or sprayed
- Why?
 - Fire hazard
 - Begin Reilly's Presentation

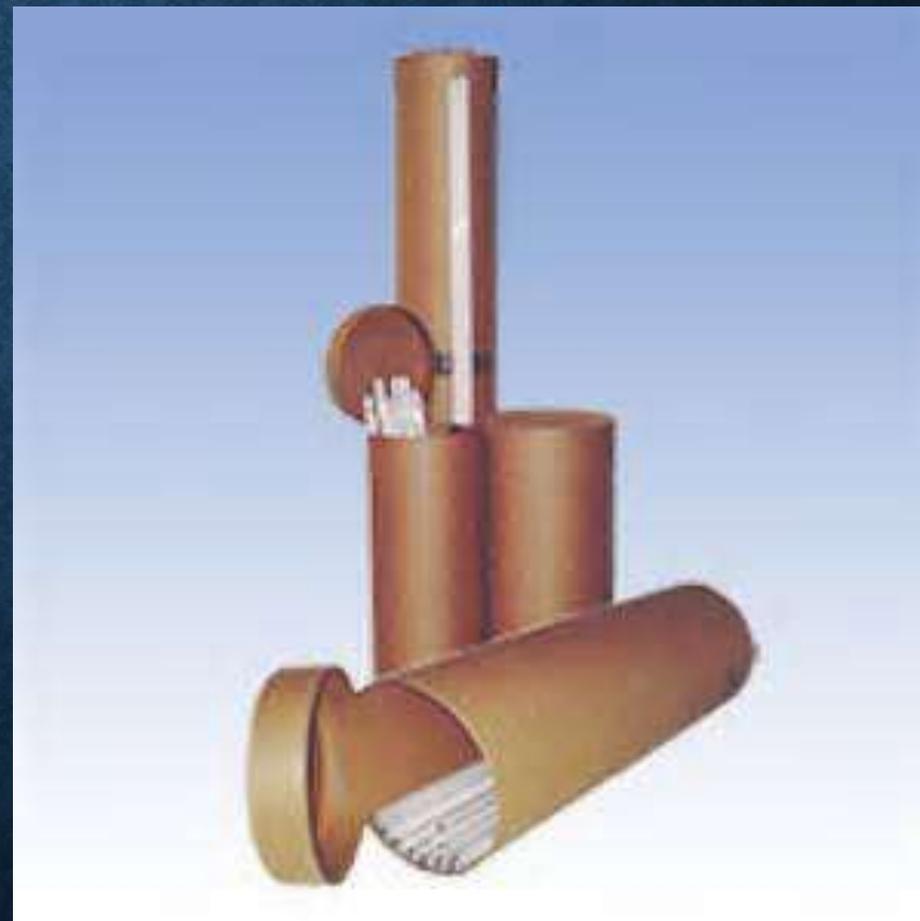
SHIPPING FORMS

- **UN number**
- UN numbers or UN IDs are four-digit numbers that identify hazardous substances, and articles (such as explosives, flammable liquids, toxic substances, etc.) in the framework of international transport.
- ERG and NIOSH Guide
- CFR 49 Book

FLUORESCENT LIGHTS



PACKAGE THEM



LABEL

USED FLUORESCENT LAMPS FOR RECYCLING

From: _____ Total Reclaim
Address: _____ 12101 Industry Way, Unit #C4
City: _____ Anchorage, AK 99515
Phone: _____

Everts Air Cargo Backhaul Program
6111 Lockheed Drive Anchorage AK 99502 Toll Free: (866) 242-0009



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DRUMS AND SMALL CONTAINERS

- If contents are known, it is generally more cost effective to ship using an IBC.
- If contents are unknown: characterization must occur prior to shipment.
- **You cannot ship a complete unknown- some testing must be done to identify the materials chemical and physical properties!**





08.06.2013

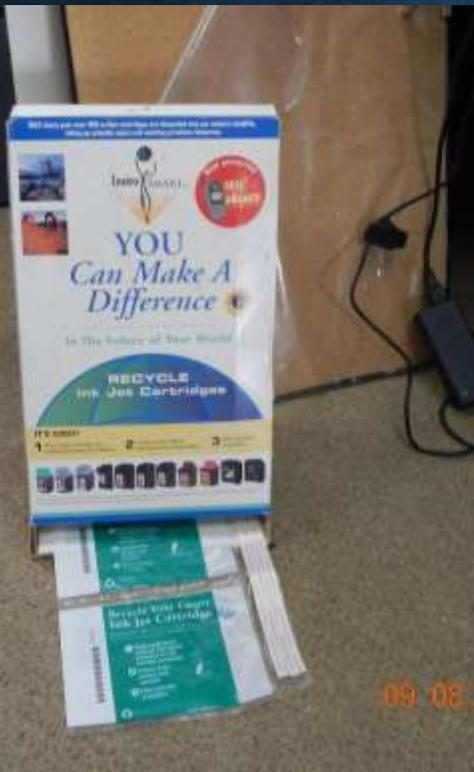
ELECTRONIC WASTE

- Not a declared RCRA or listed hazardous waste:
 - However, there are materials within these wastes that can be harmful.
 - Lead and other heavy metals
 - New compound of concern: antimony- there is regulatory limit for antimony



THIS IS LAND TRANSPORT WHAT'S DIFFERENT FOR YOU





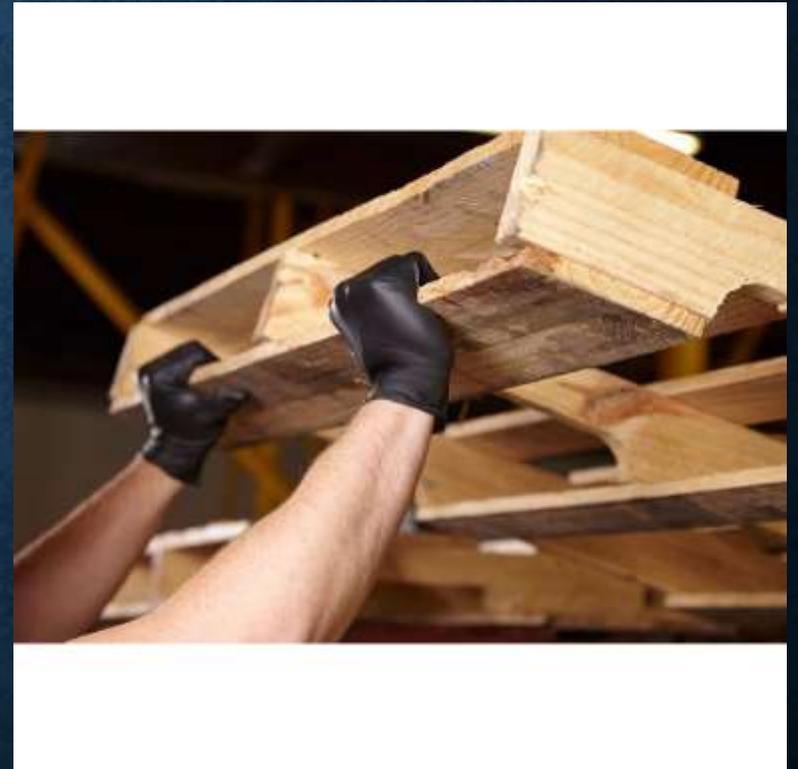
THAT'S WHAT YOU'LL SEE NOW WHAT

- PPE also known as Personal Protective Equipment
- It is your job to keep yourself safe. Use PPE!

CUT RESISTANT GLOVES



NITRILE GLOVES



DISPOSABLE COVERALL



DISPOSABLE PARTICULATE RESPIRATOR



RESPIRATOR

- Must be fit-tested
- Choose cartridges based on what you are working with.



EYE PROTECTION



SORBENT PADS



UNIVERSAL DRUM SPILL KIT



Landfill Operator Safety

OVERVIEW

- Operator safety
- Operator training
- Personal protective equipment
 - Work clothing
 - Communication

Operator Safety

- ⇒ Protective clothing
- ⇒ Hearing protection
- ⇒ Foot wear
- ⇒ Eye protection
- ⇒ High visibility vests
- ⇒ Hard hat
- ⇒ Two-way radio
- ⇒ First aid kits
- ⇒ Fire extinguisher



Operator Training

Ensure Proper Training!!

➔ Waste identification/screening and handling of waste

- Liquids
- Hazardous wastes
- “Empty” containers

➔ Burn box operation

➔ Experience with heavy equipment operation

- Inspections
- Maintenance
- Operational hazards

Landfill Worker Safety

What do you need to be safe on the job?



Work Clothing

⇒ Work clothing

⇒ Personal clothing

⇒ Personal hygiene



Final Thoughts on Safety

☞REMEMBER:

- A well operated landfill is a safe landfill
- Worker Safety is everyone's responsibility
- When in doubt - **SAFETY IS FIRST!**

