

## Used/Old Drums - Sampling, Crushing, and Shipping

If your community has a whole bunch of drums - more so than you could ever reuse - you could purchase or borrow a drum crusher to reduce their size to ship out as scrap metal. See below for detailed information about drum crushers.

### What are Drum Crushers?

Drum crushers are used to crush empty drums (55-gal to 85-gal) to small flat disks. The purpose of crushing drums is to:

- 1) reduce the amount of storage space needed for empty drums that are sitting around, and
- 2) reduce transport fees when shipping the drums out as scrap metal.

Some drum crushers can also be used to compact waste inside the drum.



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### Who sells them?

There are many companies that sell drum crushers. The two listed below have a history of working with Alaska villages.

**Grainger** sells the following VESTIL brand Drum Crusher/Compactor for \$10,209.

- Electric/Hydraulic Drum Crusher/Compactor for crushing drums or compacting the contents of drums
- 55 gallons max, 5 HP motor, 36 x 44 x 95 Inches, 25 Seconds Cycle,
- Converts from 38,000-lb. crusher to compactor.
- Crushes an empty 55-gal. steel drum to approx. 6" high and automatically resets in less than 25 seconds-100 drums max. per 24 hours.
- 70-lb. crushing platen pierces closed-head drum lids for pressure release. Crushing feature may also be used with smaller drums. Use compacting feature with contents of 55-gal. drums only. Dual-speed push-button control with key lockout. Mushroom-head emergency stop button. Also features protective plastic power unit cover, hydraulic system overload relief valve, safety door-interlock system, and built-in fork pockets. Meets OSHA and JIC Specifications.
- Overall dim.: 36W x 44L x 95"H

- Usable chamber size: 25W x 25D x 37"H
- Compacting platen is 21" dia.
- Electric 6.5 HP motor, 208 to 230/460V, 3-phase, prewired to 460VAC

**To contact Grainger:**

Grainger, Inc.  
 6240 B St.  
 Anchorage, AK 99518-1727  
 Phone: (907) 562-5400  
 Fax: (907) 562-2072  
[www.grainger.com](http://www.grainger.com)

**Bedford Technologies** sells the following Oberg brand D-60 drum crusher:

- ~\$15,900 + shipping (2300 from Seattle), but call for current pricing and/or discounts
- 10 HP motor, 3 phase-208V, 240V, 480V
- 1 min cycle, 60,000 lbs crushing force
- 55 and 85 gallon drums, crushed to a height of 4"
- Dimensions: height 79"(retracted) or 117"(extended) x 42" x 42"; chamber size 30"x30"x48"
- Fully automatic, one-button operation
- Can be customized—for example, it can be 220V or 440V or diesel- or gas-powered, instead of electric

**To contact Bedford Technologies:**

Donald Guzman  
 41253 169<sup>th</sup> Drive SE  
 Suite 787  
 Monroe, WA 98272  
 Phone 1 800 848 8228  
[www.oberg-crusher.com](http://www.oberg-crusher.com)



## Before you crush...

Before you crush a drum, it is important that all fluids are drained out of the drums.

**If you know what the fluids are, and they are not hazardous:**

To drain the last amounts of fluids from drums, you can tip them over into an oil pan (or other appropriate container) and let them drain overnight. Then you can take a rag and wipe out the drum.

**If the fluids are hazardous:**

You will need to safely drain the last amounts of fluids from the drums (preferably saving the fluids for use—i.e. in the case of oil, or disposing of them appropriately as hazardous waste). When you are working with the drums, you should use whatever safety gear might be recommended for using the drum contents.

**If the fluids are unknown:**

It is best to test the contents of drums before working with them, and/or pay the high cost for shipping out the drums with the contents intact. See below for how to proceed with testing drums with unknown substances, and for companies that handle full drums.

**A note on shipping out:**

If you are planning to ship out the crushed drums for scrap metal, shipping companies and scrap metal recyclers generally **require the drums be “triple-rinsed”, or the equivalent, before crushing.** See below for more information.



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## Testing Drum Contents

If you are concerned about contamination from hazardous wastes in your community, there are a few options listed below and on the next pages for testing/sampling land or water for hazardous substances.

**In-village testing by a consultant:**

The following companies will come out to your village to collect samples for testing. You can call them to determine the cost and procedures for testing drum contents:

**Emerald Services**

Fairbanks office: 907-457-2566

Anchorage office: 1-877-375-5040 (toll free)

[www.emeraldnc.com](http://www.emeraldnc.com)

**Shannon & Wilson**

Anchorage office, Matt Hemry: 907-433-3232

[www.shannonwilson.com](http://www.shannonwilson.com)

**PSC Environmental Services**

Anchorage Office: 907-272-9007

<http://www.pscnow.com/>



## **BGES, Inc.**

Anchorage Office: 907-644-2900

<http://www.bgesinc.com/>

## **Environmental Compliance Consultants (ECC)**

1500 Post Road, Anchorage, AK 99501

Telephone: 907-644-0428 (contact: Sam or Gina)

<http://www.eccalaska.com/>

Flying in a company can be expensive. Their rates are approximately \$70/hour plus airfare and **this rate does not include the cost of analysis** of the collected samples, once they are shipped to a laboratory. In some cases, consultants may be able to identify the contents of your drums in the field. If they aren't able to do that, they can take the samples back with them and send them to a lab for analysis for additional fees. The lab will then send the results back to the consulting company and they will let you know what the drum contents are. Laboratories can typically invoice either the consulting company or your village directly for the cost of sample analysis.

### **Testing the Drum Contents Yourself:**

There are cheaper ways to find out what is in the drums, too. For example, testing can be carried out by someone in the community. There are two ways to do that—**either use a chemical identification system in the field or a pre-packaged kit to collect the samples from the drums** and ship them out for analysis.

TTT Environmental in Anchorage carries the **HAZCAT Chemical Identification System**. This system is portable and designed for immediate on-site field identification of hazardous or non-hazardous spilled or abandoned materials. The HAZCAT manual walks you through straight-forward logic charts and step-by-step instructions for identifying the substances you're sampling, or at least placing them in general categories (for ex., flammable, combustible, etc.). This system costs approximately \$5,500 and there are enough supplies in the kit for several hundred tests. You can contact TTT Environmental (see below for contact details) to get more information on this system and decide if something like this would work for your community.

Other test kits that can be ordered through TTT include:

### **Chlor-N-Oil 50 ppm: On-Site Test Kits for Transformer Oil**

Pocket-sized kit is designed to be used in the field.

Contains everything necessary to perform the test in 5 minutes tests electrical insulating fluids for the **presence of PCBs** (for testing DIELECTRIC FLUID (transformer oil) ONLY)

**NOTE:** This product contains mercury, dispose of kits accordingly

**Cost:** \$14.50/test





### **Chlor-N-Soil 50 ppm: PCB Screening of Soil**

Self-contained test kit that allows field personnel to perform the test in less than 10 minutes. The kit can test any type of soil including sand, topsoil, sediment, and clay to detect the presence of PCBs.

**NOTE:** This product contains mercury, dispose of kits according

**Cost:** \$25.50/test

### **Chlor-D-Tect 1000**

Provides a "go, no-go" result at a level of 1000 ppm chlorine to identify and label waste oil, hazardous or non-hazardous, for proper management and disposal. Facilities that recycle or re-refine used oil can incorporate Clor-D-Tect 1000 into their management of waste oil to prevent costly hazardous waste from being mixed with non-contaminated oil.

**NOTE:** This product contains mercury, dispose of kits according

**Cost:** \$12/box



Another way to determine what the drum contents are is for **someone in the community to use a pre-packaged kit to collect the samples** (instead of hiring a company to come out and do this) and then ship them to a lab for analysis. The kits include what you should need to collect the samples safely, if the instructions are followed. The kits are made for persons that may not be trained in HAZWOPER. You can call the companies below for help in determining what kits exactly you will need—there are several types of drum samplers or coliwasa tubes and sample jars. When you call, you can ask about the safety gear required for sampling and ask that they include it with the kits. The cost of the kits will vary depending on what samples you will need to collect.



### **TTT Environmental Instruments and Supplies**

4201 B Street

Anchorage, AK 99503

Phone: (907) 770-9041

Fax: (907) 770-9046

Email: [info@tttenviro.com](mailto:info@tttenviro.com)

[www.tttenviro.com](http://www.tttenviro.com)

### **Environmental Compliance Consultants (ECC)**

1500 Post Road, Anchorage, AK 99501

Telephone: 907-644-0428 (contact: Sam or Gina)



<http://www.eccalaska.com/>

Once collected, samples can then be shipped to a lab for analysis. You can give the lab a call beforehand and find out what the cost will be, as well as the proper shipping procedures.

**SGS Environmental Services** [www.sgs.com](http://www.sgs.com)

200 W. Potter Drive  
Anchorage, AK 99518  
Ph: 907 562 2343

3180 Peger Road Suite 190  
Fairbanks, AK 99709  
Ph: 907 474 8656

**North Creek Analytical** *(they will not run tests on unknown contents)*

2000 W Intl Airport Rd # A10  
Anchorage, AK 99502-1119  
(907) 563-9200

SGS and North Creek are commonly used by villages and environmental consultants, but you could also **look up "laboratories" in your yellow pages** for more options. You can call a lab to talk about costs for sampling/testing for the specific chemical/substance that you're worried about.

**Go to this site for a list of labs**

<http://www.dec.state.ak.us/eh/lab/labs.htm>

Lab test costs can vary quite a bit between labs, so call around and ask for a price quote. Some labs offer **discounts to Villages**, so be sure to let them know that you are a Tribe. Also, your regional health corporation may be able to perform some testing.



## Using Old Drums

See this link for examples of drum reuse in villages, or look up 'Drums' in the A-Z Index:  
[http://www.zendergroup.org/docs/drum\\_reuse.pdf](http://www.zendergroup.org/docs/drum_reuse.pdf).

## Shipping Crushed Drums

If you can't find a safe local use for them, empty drums can be recycled as metal once they are cleaned and crushed. Clean out the drums by "triple-rinsing" them (see below) and arrange for their shipment to:



**Alaska Metals Recycling/Schnitzer Steel**  
9705 King Street, Anchorage, AK 99515  
ph. 907-349-4833

### How to Triple Rinse:

Metals recycling companies usually require that drums are triple-rinsed and dry before they accept them. Here is a protocol for triple rinsing drums.



- Empty drum to the lowest possible level into an appropriate container and let it drain for 30 seconds
- Fill drum with water to 25% of capacity and cover with a water-tight lid.
- Tip drum onto its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds.
- Stand the drum on its end and tip it back and forth several times to rinse the corners.
- Turn the drum over on to its other end and repeat this procedure.
- Carefully empty the rinsate into an appropriate waste container (note: rinsate is considered hazardous) and let it drain for 30 seconds
- Repeat this procedure two more times.
- Inspect the drum to be sure it is clean. Chemical may remain in the corners and must be removed. Also, be sure drips on the outside of containers are cleaned off.
- Carefully rinse lid over waste container and then dispose of appropriately as regular solid waste.
- Drums can now be crushed.
- Store crushed drums under cover where they will be protected from rain until you are able to ship them off for recycling as scrap metal.

*Note that water is used as the rinsing liquid for used oil and many other substances. But for some drum contents, a solvent is used for rinsing instead. To be certain, it is best to read the drum label (if there is one), contact a manufacturer, or contact ADEC contaminated sites program:*

*Anchorage staff (907) 269-7503*

*Fairbanks staff (907) 451-2143*

*Juneau staff (907) 465-5390*

*Kenai/Soldotna staff (907) 262-5210 x. 231*

### Shipping Full Drums

You can also ship the drums out without emptying them, as hazardous waste. You can contact Emerald Services, PSC, or ECC (see above for contact details) and ask them how to proceed with shipping out drums.

The hazmat companies will give you cost estimates to dispose of the hazardous wastes at their Anchorage/Seattle facilities. The hazmat companies will also give you cost estimates for the cheapest shipping option for your hazardous wastes. Shipping costs will depend on what you're shipping and how much you're shipping. Transport companies charge different rates for different types of hazardous wastes. For example, barge lines often use a 'sliding scale' where they charge more money for more contaminated wastes. Airlines often only charge a small handling fee and then their shipping costs are the same as any non-hazardous item.



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## Resources

### 1. IGAP and Special IGAP/Unmet Needs Funds

<http://yosemite.epa.gov/R10/TRIBAL.NSF/Grants/IGAP/>

IGAP funds can be used to implement solid and hazardous waste activities. For example, you could use IGAP funds to ship out the drums, once they've been cleaned and crushed, as well as to ship out the hazardous waste you collected from the drums. These are just two examples, but there are a lot of different activities that IGAP could fund. Talk to your IGAP project officer if you have questions about what IGAP funds can be spent on. For information about IGAP or to see who the IGAP project officer is for your community, you can call Michelle Davis, EPA at 271-3434.



Your Village could also apply for **Special IGAP/Unmet Needs** funds to implement hazardous waste programs. These grants can be used to fund solid/hazardous waste projects that aren't covered by IGAP. The application process is similar to IGAP. Contact your IGAP coordinator for further details of these grants.

### 2. TBA (Targeted Brownfields Assessment) Grant

<http://yosemite.epa.gov/r10/cleanup.nsf/7780249be8f251538825650f0070bd8b/005df9235f56290e882567990080b48f?OpenDocument>

This grant is designed to inventory, characterize, and assess brownfield sites using EPA contractors. There is no cleanup funded under this program. The TBA is designed to help states, tribes, and municipalities reduce their questions about whether and how their brownfields are contaminated. The TBAs are especially for those without EPA Brownfields Assessment Pilots/Grants. They also supplement and work with other efforts under EPA's Brownfields Program. Please see these links for eligibility requirements.



- EPA Targeted Brownfield Assessment Fact Sheet  
[http://www.epa.gov/brownfields/grant\\_info/tba\\_0403.pdf](http://www.epa.gov/brownfields/grant_info/tba_0403.pdf)
- EPA National Targeted Brownfield Website  
([http://www.epa.gov/brownfields/grant\\_info/tba.htm](http://www.epa.gov/brownfields/grant_info/tba.htm))
- Region 10 Targeted Brownfield Site  
(<http://yosemite.epa.gov/r10/cleanup.nsf/7780249be8f251538825650f0070bd8b/005df9235f56290e882567990080b48f?OpenDocument>)

### **3. State of Alaska Contaminated Sites Program**

<http://www.dec.state.ak.us/spar/csp/>

John Brown at DEC's Contaminated Sites Program (ph. 907-269-7688) can be a good resource for information on cleaning up abandoned drum sites. The state also has a small pot of money for cleanup projects.

Also, if there is a spill or leaking drums in your community, it should be reported to the State at this website: [www.dec.state.ak.us/spar/perp](http://www.dec.state.ak.us/spar/perp)

### **4. Alaska Forum grant for Rural Community Toxics Reduction (\*\*as of 2012, not currently funded - contact Alaska Forum about future funding)**

<http://www.akforum.org/toxics.html>

Limited financial support for isolated, rural communities working to reduce toxic materials in the waste stream is available through a USDA grant administered by the Alaska Forum. This funding can cover materials and supplies, as well as small equipment used in projects that remove toxics from landfills. It is possible that this funding may be used to pay for sampling kits and other supplies necessary for testing drum contents, but you would need to contact Peter Melde to see if your project qualifies—888-301-0185 toll free or by email at [pmelde@akforum.org](mailto:pmelde@akforum.org)

### **4. ANTHC Community Environmental Demonstration Grant**

<http://www.zendergroup.org/cedp.html>

<https://anthc.org/chs/ces/hve/>

Examples of small demonstration projects to be awarded through this competition include projects that advance the state of knowledge or transfer information on the use of integrated solid waste management systems to solve local waste management and generation problems; projects that take an innovative approach or utilize an experimental technology to advance waste management programs, including recycling and the reduction of wastes; projects that provide education, training, and outreach materials to teach Alaska Native Villages about waste's impact on human health and the environment; energy use; pollution; innovative solid waste demonstration projects that involve dissemination of information to others so that they can

benefit from the knowledge gained; projects that involve learning, teaching, or discovery on improving sanitation to reduce human contact with waste; projects that protect subsistence resources from contamination all are eligible as long as the projects are likely to reduce risks to Tribal members' health or the Tribal members' environment in rural Alaska and are within limitations and requirements of the statutory authority on which the project is based.

Under this program, you could apply for funds for buying and using a drum crusher, developing protocols and materials for crushing drums, or for a drum/contaminated site cleanup project. For more information, you can contact ANTHC or Zender:

#### **Alaska Native Tribal Health Consortium**

Desirae Roehl  
Ph. 907-729-3496  
[droehl@anthc.org](mailto:droehl@anthc.org)

#### **Zender Environmental Health and Research Group**

Lina Taneva  
907-444-1197  
[ltaneva@zendergroup.org](mailto:ltaneva@zendergroup.org)

### **5. Contact Your Soil and Water Conservation District (SWCD)**

There are 12 SWCDs in Alaska—11 are local districts (Mid-Yukon-Kuskokwim, Fairbanks, Kenai, etc.). The 12<sup>th</sup> district is a catch-all district including all areas not served by a local district. This catch-all district is the Alaska SWCD, which covers most of rural Alaska. If you are an isolated village, this is probably your district.

<http://www.alaskaconservationdistricts.org/alaska/>

To confirm which district serves your village, go to this website:

<http://www.alaskaconservationdistricts.org/>

When you have determined your district, click the link at the bottom of the webpage to see "District Coordinator contact information." Write an email, letter, or fax to your District Coordinator to request sampling/technical assistance. Be as specific as you can. For example, requesting assistance with soil sampling beneath fuel tanks, water quality sampling of your river, etc. They may also be able to recommend other services available or suggest other agencies/organizations to contact.

### **6. Call the nearest university to your community and try contacting their lab.**

University labs may have cheaper services for sampling/testing than private labs. It's worth giving them a call to see what they have available. If you find the main number for the university, ask for number(s) for their laboratories. The lab technicians may be able to get you in touch with an interested professor or graduate student that can test your samples for free. If this happens, ask them if they plan to do something with the data. If you don't feel

comfortable giving them access to your data, you need to let them know. They may still want to assist you for free anyway. They should not be able to publish a study or "own" your data without your permission. It is against University policy. If you simply use the University lab services, you do not need to worry about your data being taken without your permission.

## Communities using drum crushers and lessons learned

**Kodiak Island Villages** Six Villages on the island of Kodiak purchased Oberg drum crushers from Bedford Technologies in the summer of 2003. The six Villages are: Port Lions, Ouzinkie, Karluk, Larsen Bay, Old Harbor, and Akhiok. The villages had the Oberg drum crusher retrofitted to run on diesel or gasoline (as opposed to electric) so the crushers will be able to be used anywhere (without having to rely on a power source). To retrofit the crushers cost an additional \$2000 each.

If you would like to talk to these communities about how they like their crushers, contact:

**Tracy Mitchell**

Kodiak Island Borough

Phone: 907 486 9348

Email: [tmitchell@kib.co.kodiak.ak.us](mailto:tmitchell@kib.co.kodiak.ak.us)



A note on using drum crushers in the winter: **Diesel fuel can gel in cold temperatures**, so it is a good idea to use drum crushers powered by diesel indoors during the winter.

**The Native Village of Tanana** carried out a drum cleanup project in 2010. They collected about 250 drums and drained the oil and water into a large tote. They let it freeze so they could separate the water from the oil and used the oil in their waste oil burner. They borrowed a drum crusher from Yukon River InterTribal Watershed Council (YRITWC) and in about 2 and half days crushed all the drums to 6" by 10" disks for backhaul. Tanana also used the drum crusher to crush totes of aluminum cans before backhauling. They found the drum crusher very efficient and easy to use. They recommend having all the drums ready before starting to crush them so that crushing could be finished in 1-2 days. Also, they recommend wearing a mask as there are lots of fumes during the draining and



crushing process that can make you lightheaded. During barge season, YRITWC transports their drum crusher to another Yukon river village. If you are in the watershed and easily barge-accessible, contact Stephen Price at 907-317-3465 to see if you can be the next village.

If you would like more information about the community of Tanana's experience with the drum crusher, please contact: **James Roberts** Tanana Tribal Council Ph. 907-366-7160

**The Qagan Tayagungin, Unga, and Paulof Harbor tribes** carried out a large drum cleanup project in Sand Point in 2007-2008. They had over 600 drums around the village. Some drums were leaking so they used their IGAP funds to develop a quality assurance project plan (QAPP) and worked in collaboration with ADEC and EPA to have the soil tested. They also hired BGES, an environmental consulting agency, to develop a workplan and to conduct some soil sampling. Most of the drums contained oil or anti-freeze and Sand Point was able to recycle most of the drum contents, as they have a used oil burner and an anti-freeze separator. They used the oil from the drums to heat the city shop. Some of the drums contents were unknown and so the community had to carry out testing with ADEC. A few of the drums contained hazardous waste and so their contents were transferred to new containers, in order to avoid spills and leakage. Sand Point used an excavator to crush the drums. A few drums that were not crushed were stuffed into over-sized drums which were all shipped off of the island to a hazardous waste disposal facility.

If you would like to talk to the community of Sand Point about their experience with cleaning up drum sites, contact: **Dana Osterback** Qagan Tayagungin Tribe Ph. 907-383-6968

## A note on vendors listed here:

*The vendors are listed to assist people in identifying and locating the resources they need to apply to their individual, company, or community situations. We neither endorse nor underwrite any of the vendors listed here and are not in any financial relationship with any vendor listed here. We do not portray this vendor list as a final or complete list. Zender Environmental invites vendors whose products and/or services fit the listed services to call us at 907 277-2111, about inclusion on this document.*