

# Land Quality – Hazardous Waste

## Hazardous Waste Delisting 2019

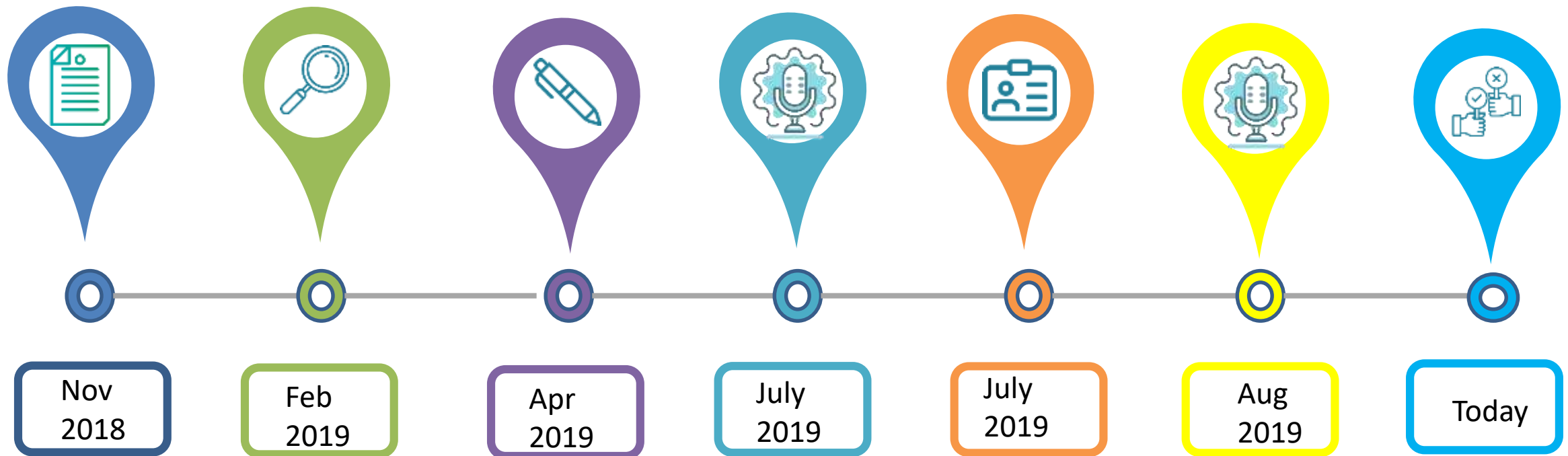
F006 Wastewater Treatment Sludge  
Pacific Cast Technologies, Inc.

Nov. 15, 2019  
Portland

# Outline

- Background
- Definitions
- Statutes and Rules
- Process
- Sampling and Analysis
- Rule Overview

# Timeline





# Definitions

## Hazardous Waste

- **Characteristic** -
  - Ignitable
  - Corrosive
  - Reactive
  - Toxic
- **Listed** - Wastes from specific industrial processes which are assumed to be hazardous.
  - **Delisting** - A generator may file a petition demonstrating that a waste is not hazardous.



# Definitions

- **F006** - Wastewater treatment sludges from electroplating operations.
  - F006 is one of the more commonly delisted wastes in the country.



Chemical etching and milling filter cake from dewatered sludge.  
Photo D. Lobato

# Statutes and Rules

- 50 Federal Register 52629:  
Federal to state program delegation
- 40 Code of Federal Regulations  
sections 260.20 and 260.22:  
Federal hazardous waste rules
- Oregon Revised Statute  
466.075(3): Exceptions to listing
- Oregon Administrative Rule  
340-100-0020, -0022: State  
hazardous waste rules including delisting



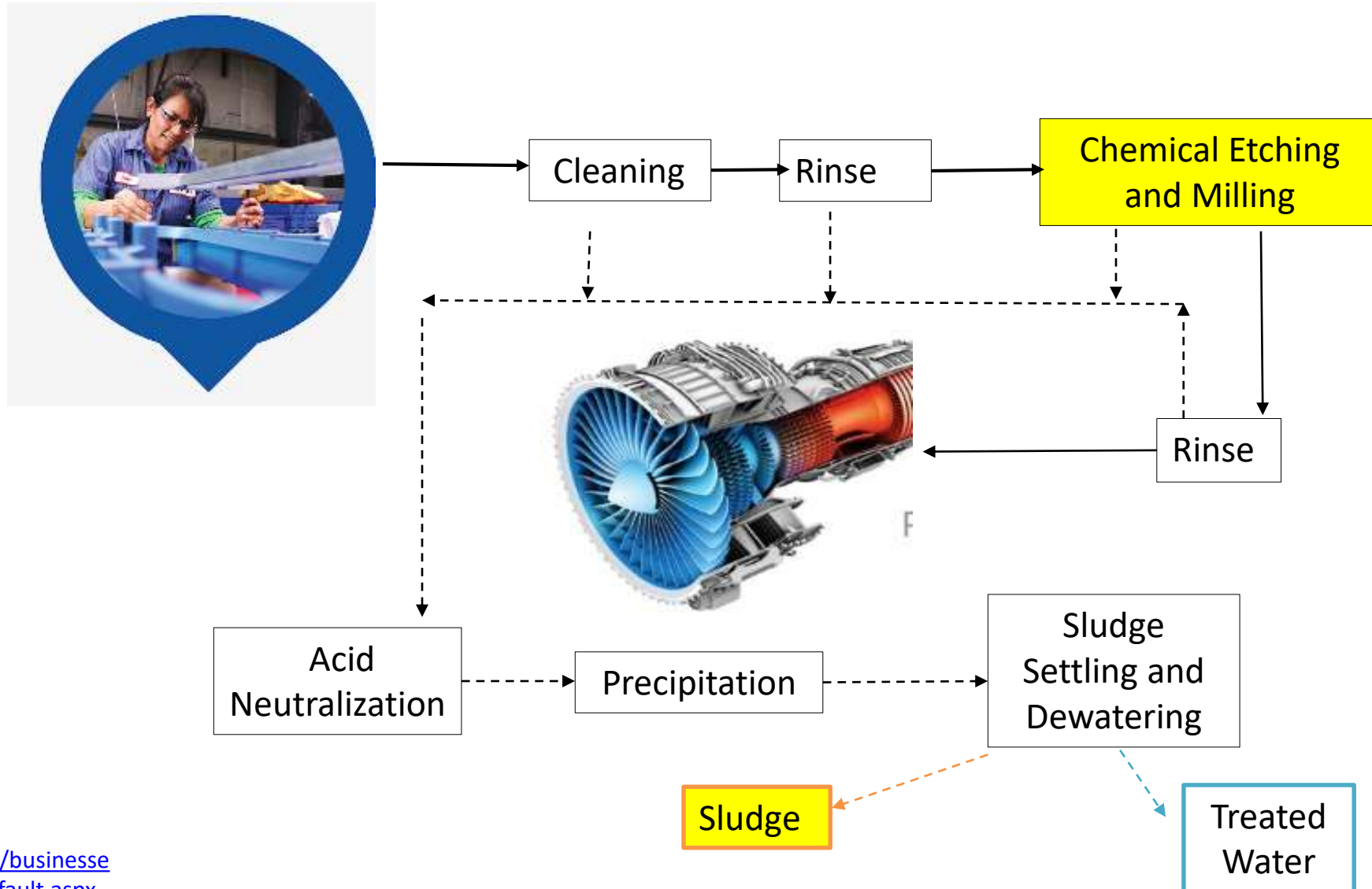
# Pacific Cast Technologies, Inc. F006 Delisting Background



Photo from <https://www.atimetals.com/>



# Example Process



Pictures from:

<https://www.atimetals.com/businesses/aticastproducts/pages/default.aspx>

# Waste Sampling and Analysis

Chemicals Analyzed	
<b>F006</b>	
Cadmium	Nickel
Hexavalent Chromium	Cyanide
<b>Other Potential Hazardous Constituents</b>	
Chromium	Fluoride
Manganese	Molybdenum
Silver	Vanadium
Zirconium	

# Waste Sampling and Analysis

## Waste

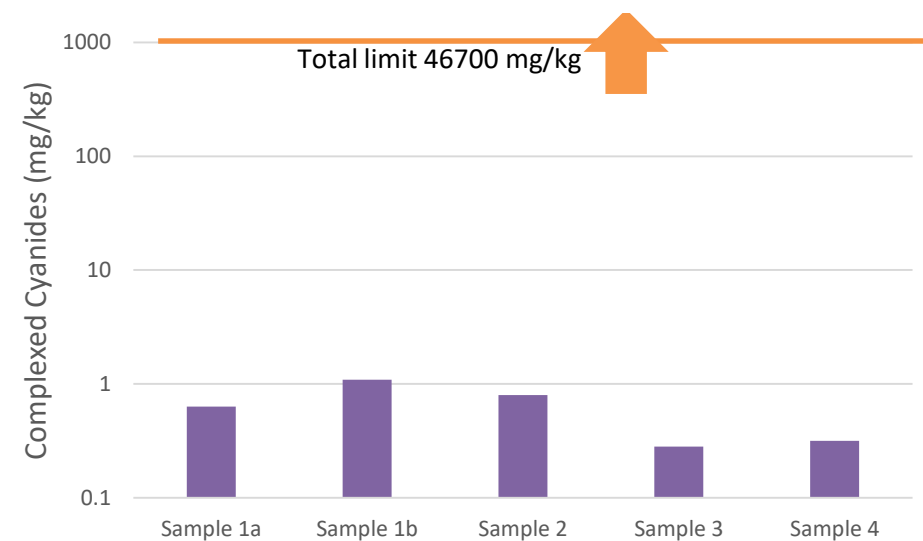
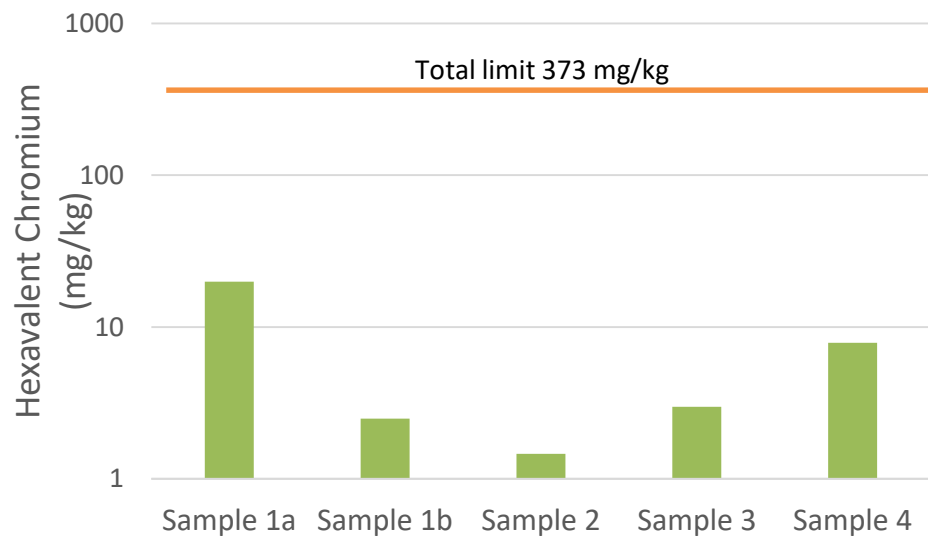
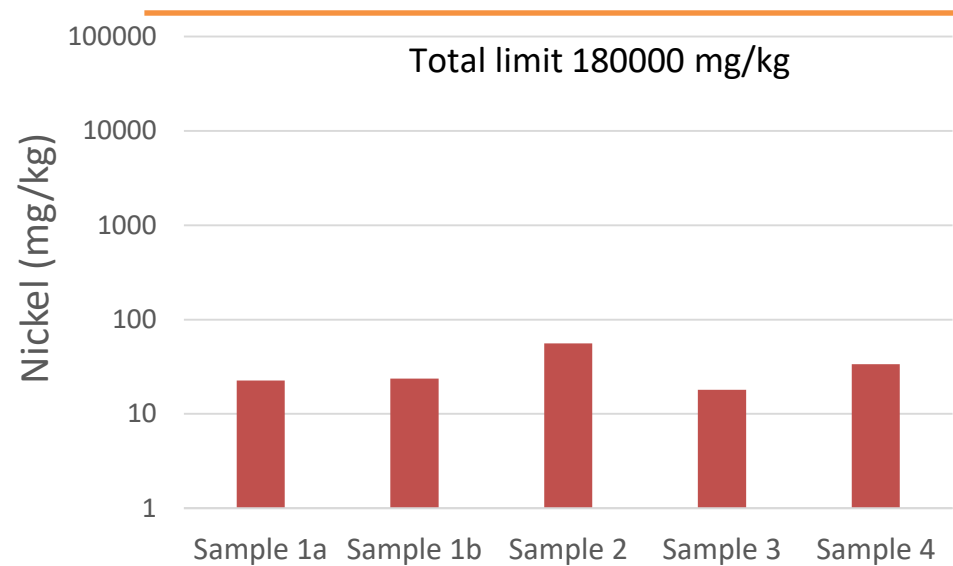
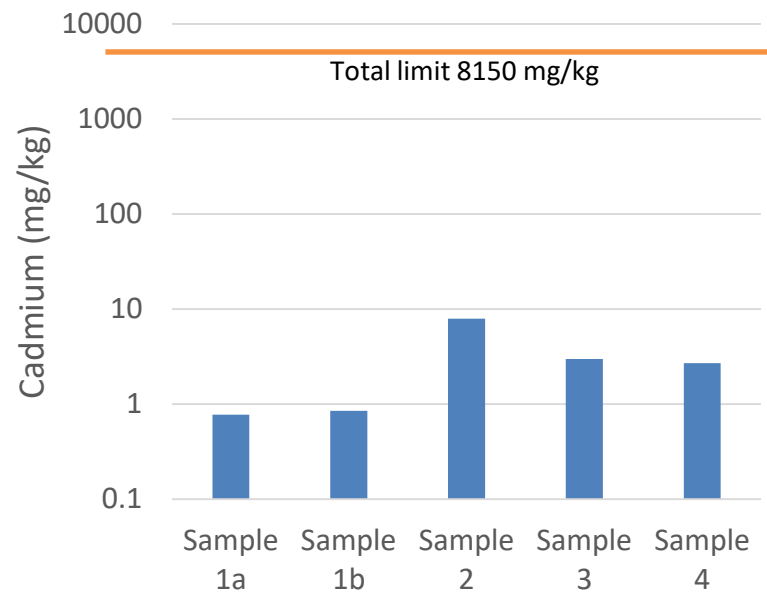
- Up to 9,000 cubic yards per year.

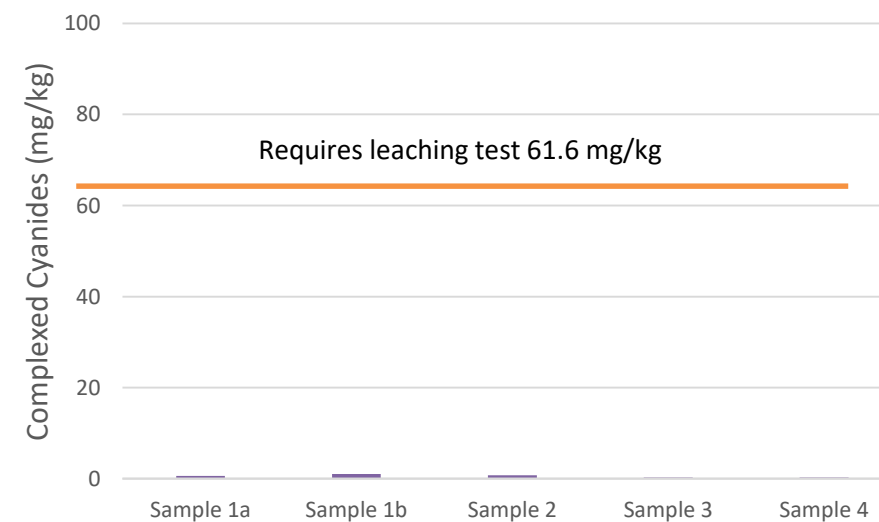
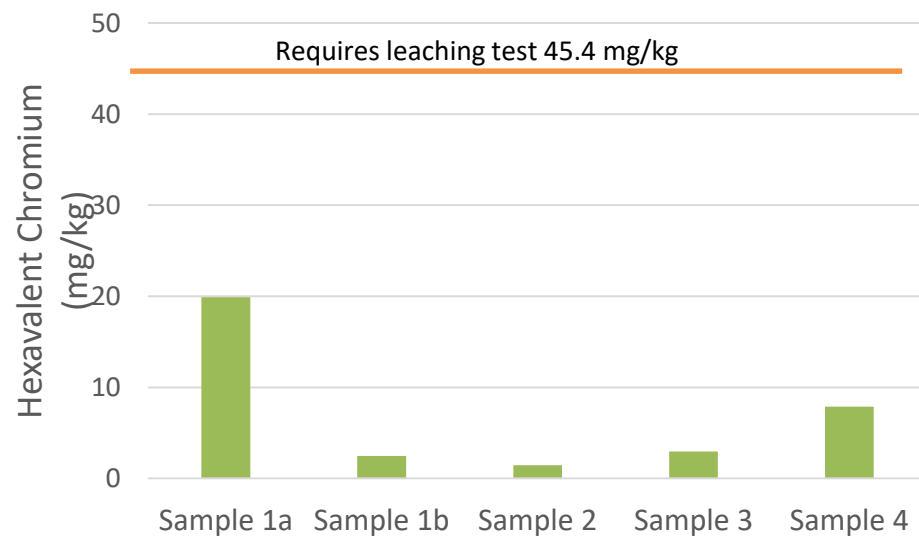
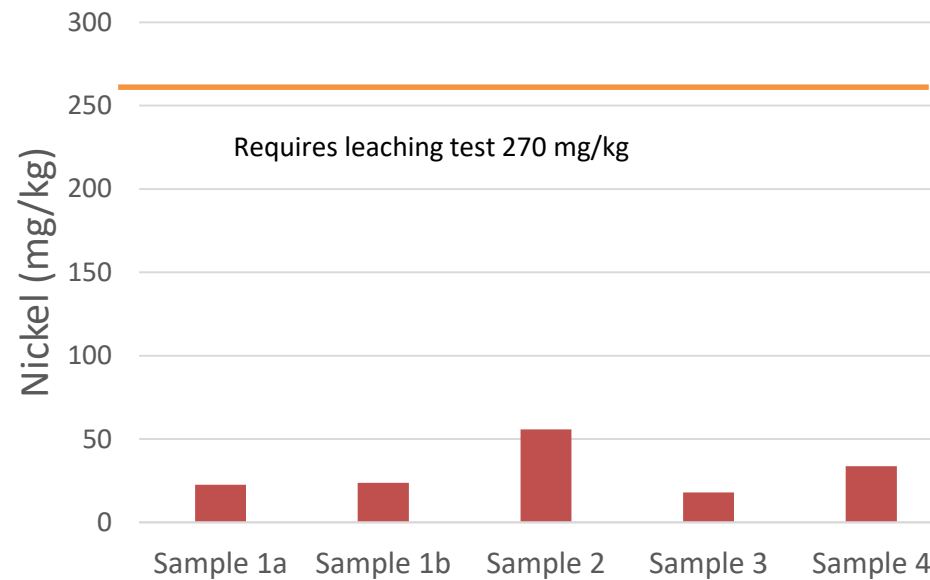
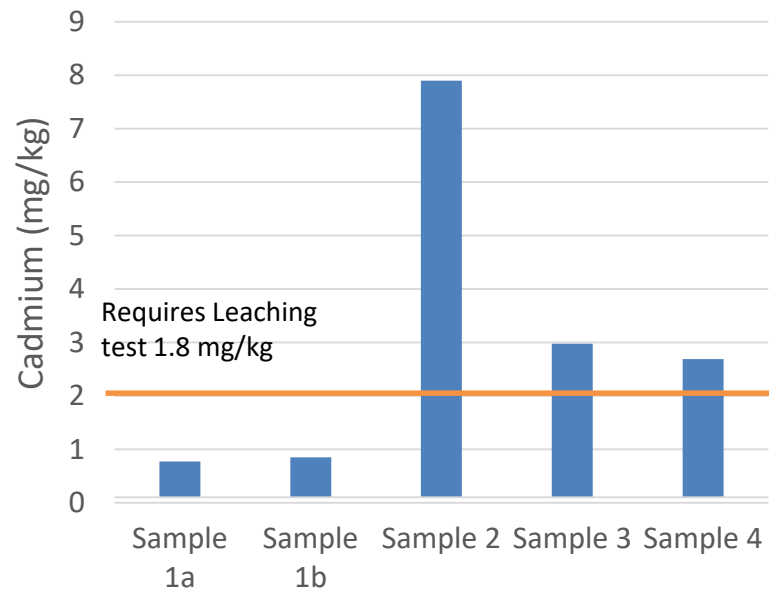
## Samples

- 4 sampling events, 1 week apart.



Chemical etching and milling filter cake from dewatered sludge. Photo by D. Lobato





# Rule Overview

- Amend Oregon's hazardous waste regulations
- Require annual testing
- Notify DEQ about changes
- Minor associated housekeeping on OAR 340-101-0004 Exclusions



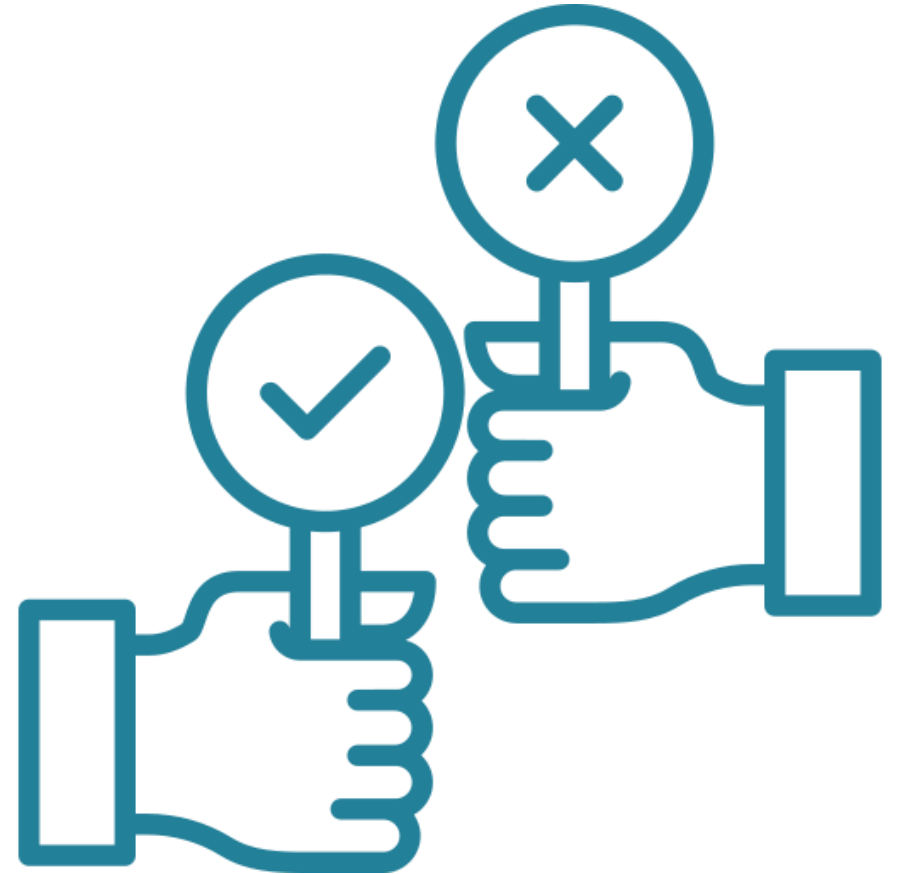


# Recommendation

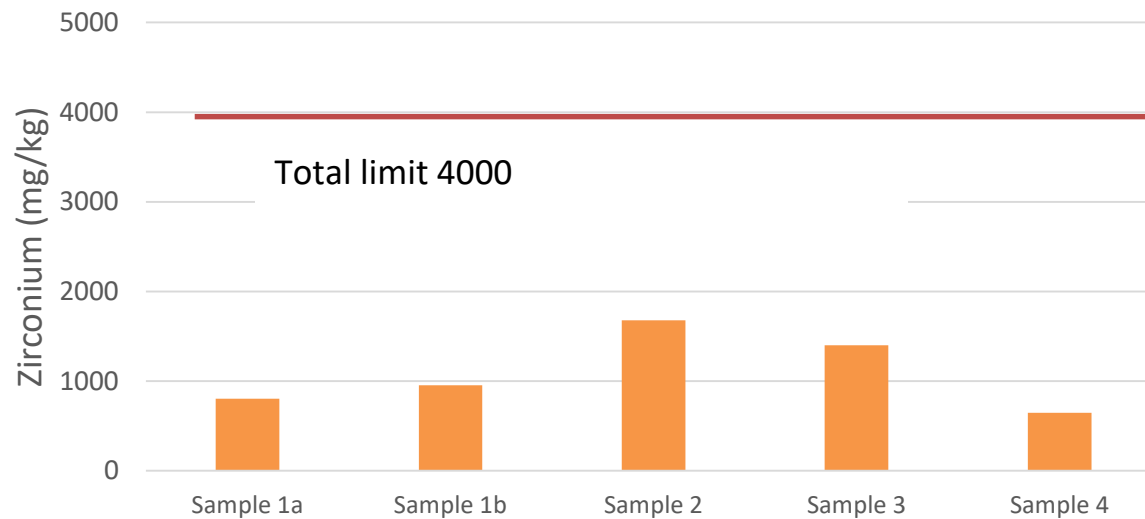
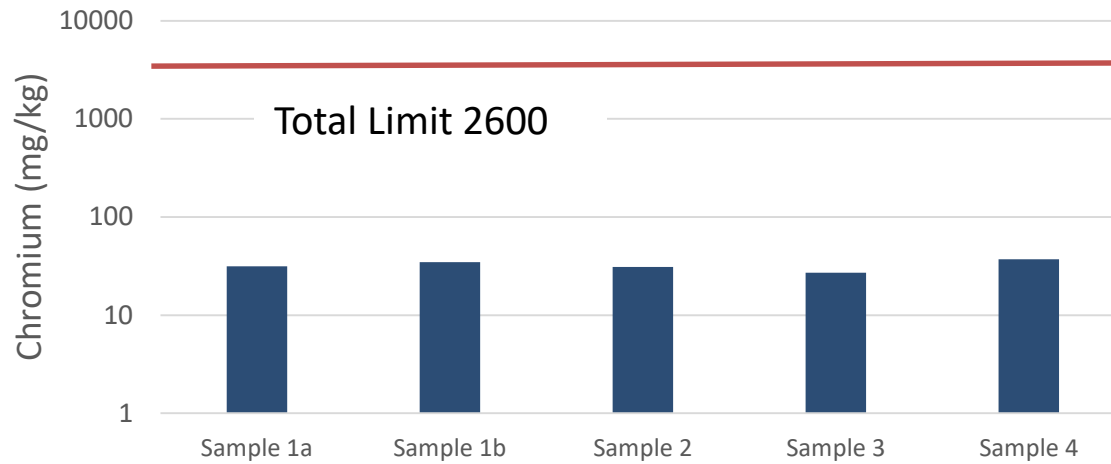
DEQ recommends that the Environmental Quality Commission adopt the proposed rules in Attachment A as part of Chapter 340 of the Oregon Administrative Rules, excluding Pacific Cast Technologies, Inc.'s sludge from classification as a F006 hazardous waste

## ***Proposed Motion Language***

“I move that the commission adopt the proposed rule amendments in Attachment A as part of chapter 340 of the Oregon Administrative Rules.”



# Slides for questions



Fluoride

Silver

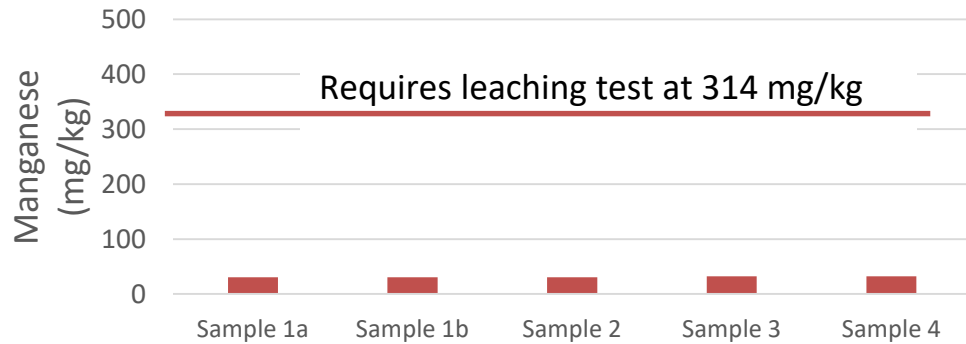
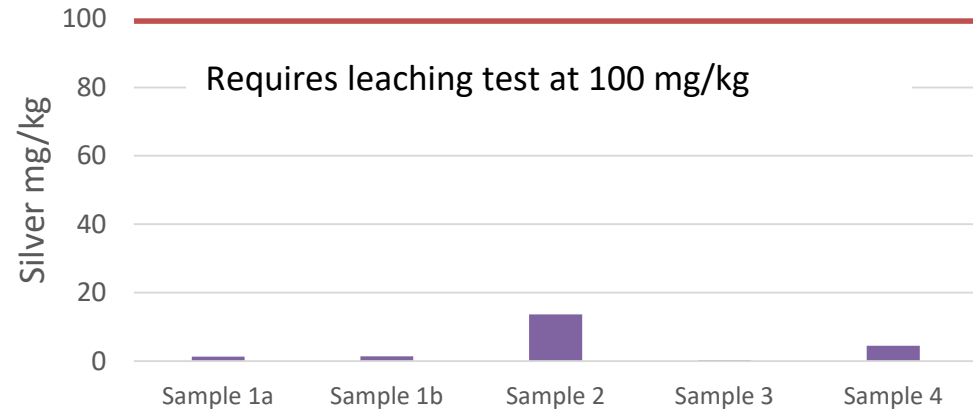
Manganese

Molybdenum

Vanadium

Total concentration limits  
above or close to  
1,000,000 parts per million  
in the waste based on the  
DRAS calculations

## Chromium – Leaching limit for hexavalent chromium



## Zirconium – No leaching limit

