



# The Phantom Dumper...

# Orem Water Reclamation Facility

- The Problem: Mysterious Slug Loads starting at the end of 2015





## Problems:

- Overload the Scum pit
  - Too Thick
- Plugged the Scum Line
- All ready digester problems





## Initial Investigations:



# Observations:





## Initial review

- ▶ Review the “industrial user survey” A list of roughly 400 permitted industrial users and 1000s of non-permitted industrial users in our service area.
- ▶ We are specifically looking at business licenses that have been issued in the last year. This information is provided by developmental services from both Orem and Lindon. We are especially interested in these types of industries.
  - ▶ Insulators - Commercial cleaners – Carwashes - Clothing Printing
  - ▶ Screen printing - Woodworking
  - ▶ Any industry that works with large quantities of organic material
- ▶ **Inspect industries** that meet the criteria of interest.
  - ▶ During the inspection we explain the circumstances involved and ask for a walk through of the facility, a tour of their process and to check all floor/process drains.
  - ▶ All inspections have gone well thus far and most businesses are more than welcoming, and enjoy displaying their operation.
  - ▶ Thank them for their help in narrowing the search and walk away with a stronger relationship of trust.
- ▶ Geographical locations are also targeted.
  - ▶ For example the Geneva lift station had a sample of interest so we have been looking into the businesses that this lift station services.
- ▶ 100 + Industries of interest that have been investigated.
- ▶ Public tips are also given priority
- ▶ We also keep an eye out for suspicious manholes that have evidence of tampering or residue



# Investigation Process:

- ▶ **Samplers:** are being placed in manholes around the city to check suspected lines for the Phantom Sludge.
- ▶ Lindon
  - ▶ Samplers have been in place in the Lindon flowmeter manhole and samples have been retrieved daily since October.
  - ▶ There has been zero evidence of a similar sludge/matter in the samples pulled from Lindon.
- ▶ We are strategically changing sampler locations.
  - ▶ Currently two are placed on separate upstream lines from where they combine at our main truck line at the intersection of Geneva Rd and 1000 s.
- ▶ More Samplers
  - ▶ We are currently in the process of acquiring 2 more samplers to aid in the process.
- ▶ Concerns
  - ▶ Due to the nature of the sludge (floating fine fibrous matter) and the sampling interval, it is quite possible that the samplers don't pick it up.
  - ▶ Example: We sample our influent with a very similar sampler/method and the sludge is not present or noticeable in composite samples taken.



# Investigation Process:

## ► **Lift Stations**

- Lift stations get checked after phantom sludge loads.
- When Sludge is noticeable and questionable in lift stations samples are taken and examined in our in house laboratory.
  - While cleaning out the Geneva lift station by vacuum truck peculiar sludge was sampled and evaluated, which we believed had similar visual qualities.
- It is difficult to evaluate samples taken from lift stations due to all of the other floating material and debris present such as grease and biosolids.
- So far there has not been a truly convincing sample located in a lift station.



# Investigation Process:



- ▶ **Laboratory analysis:** done to aid in targeting potential sources of the waste.
- ▶ Samples have been sent to American West Analytical Laboratory (AWAL) on multiple occasions.
  - ▶ Initial analysis determined that the sludge is a nontoxic, organic, fibrous material.
  - ▶ Follow up analysis was ran by Kyle “The Lab Director” on anything thing he thought could help identify the waste. The only thing of note found in the analysis was that it had slightly higher levels of aluminum.
- ▶ Samples have been sent to various laboratory.
  - ▶ BYU has ran a gambit of analytical tests on the sludge
  - ▶ A lot of quantitative data has been collected which is still being evaluated to determine if certain values are high and concerning
- ▶ Samples are analyzed, examined and reviewed in our own lab.
  - ▶ Samples include from portable samplers, lift stations, and treatment plant
  - ▶ Microscopic examination of total solids, and volatile solids results.
  - ▶ Visual comparisons.



# Public Awareness:

- ▶ The state has complimented us in our use of the news and social media to spread awareness and hopefully stop continued occurrences.
- ▶ Social media
  - ▶ Peter Wolfley has done a good job in generating public awareness via social media.
- ▶ News
  - ▶ Great awareness has been produced by multiple newspapers and news channels.
- ▶ Mayor Brunst
  - ▶ Has done a good job producing tips by announcing a monetary reward.
  - ▶ He came down and sampled the sludge for his own analysis.
- ▶ Tips
  - ▶ A decent amount of tips have been generated, which are taken very seriously but sadly have not found the ultimate source of the sludge.



City of Orem Government  
October 27, 2016

Does anyone know who the "Phantom Dumper" is?

Someone is illegally dumping into one of the manholes around the City. While it is not toxic, it is very expensive to treat. Please help us find the individual(s) that are doing this. While it may be innocent, we need it to stop.... Continue Reading

ABC4 Utah - Good4Utah  
November 2, 2016

UPDATE: City of Orem Government Mayor Brunst is offering a \$2500 reward for info. that leads to arrest and conviction of the 'Phantom Dumper'.

Do you know anything? Contact Orem City officials  
<http://www.good4utah.com/news/local-news/orem-city-mayor-offers-reward-to-find-phantom-dumper>

Orem sewers plagued by phantom dumper; unidentified waste causing emergency  
heraldextra.com

Orem City Mayor Offers Reward to Find 'Phantom Dumper'  
<http://www.good4utah.com/news/local-news/orem-city...>

Deseret News  
December 1, 2016

Public workers and other city employees have started wearing T-shirts with a Grim Reaper-like figure looming over a hose stuffed down a manhole. The shirt reads: "The Phantom Dumper."

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'Seeping while you're sleeping': Orem's 'Phantom Dumper' still at large  
deseretnews.com

Kyle Sekaquptewa shared City of Orem Government's post.  
November 30, 2016

Daily Herald  
January 24

This problem continues to stink for the city of Orem.

Phantom Dumper unloads three times in 8 days, straining Orem sewer  
heraldextra.com

City of Orem Government  
November 30, 2016

The phantom dumper struck again yesterday. Please help us find the person responsible! If you have any information please contact us at [orem.org/phantom](http://orem.org/phantom)

<http://via.fox13now.com/Fzk7h>

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Orem embraces new tactics as 'Phantom Dumper' remains scourge of city's water system  
Fox 13 News

Daily Herald  
January 24



# Conclusions:

