

From Vacant to Vibrant: Have time? Use it!



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Tree Planting



Remediation



Outline



Vacant?



Background



Examples

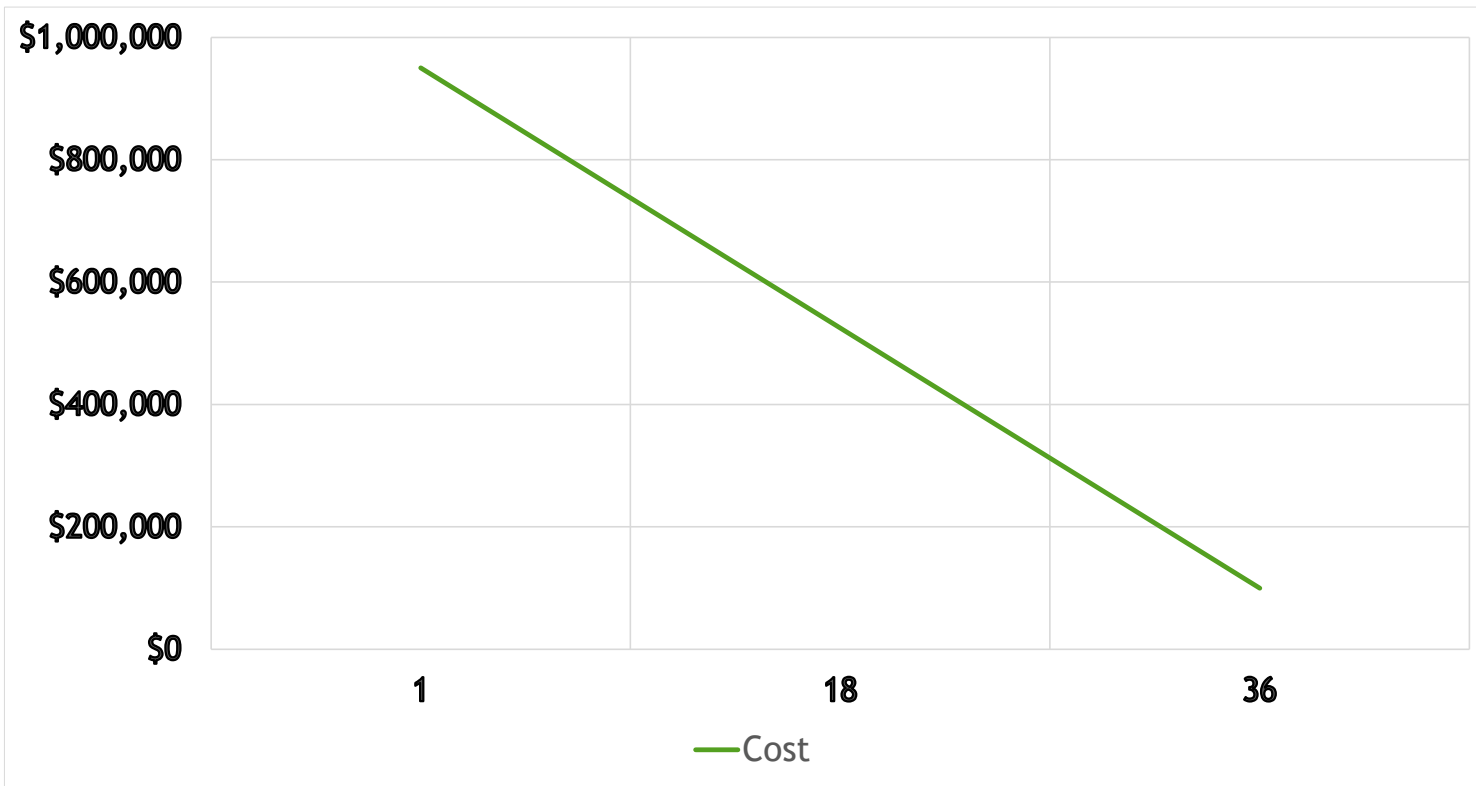


Conclusions

Vacant since 2011



Time vs. Cost Example



Anaerobic Bio Pros/Cons

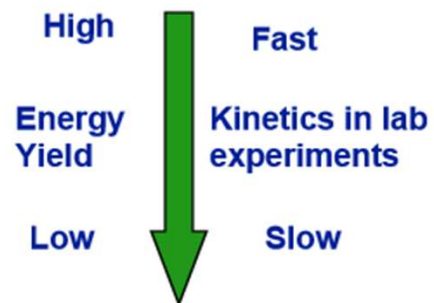
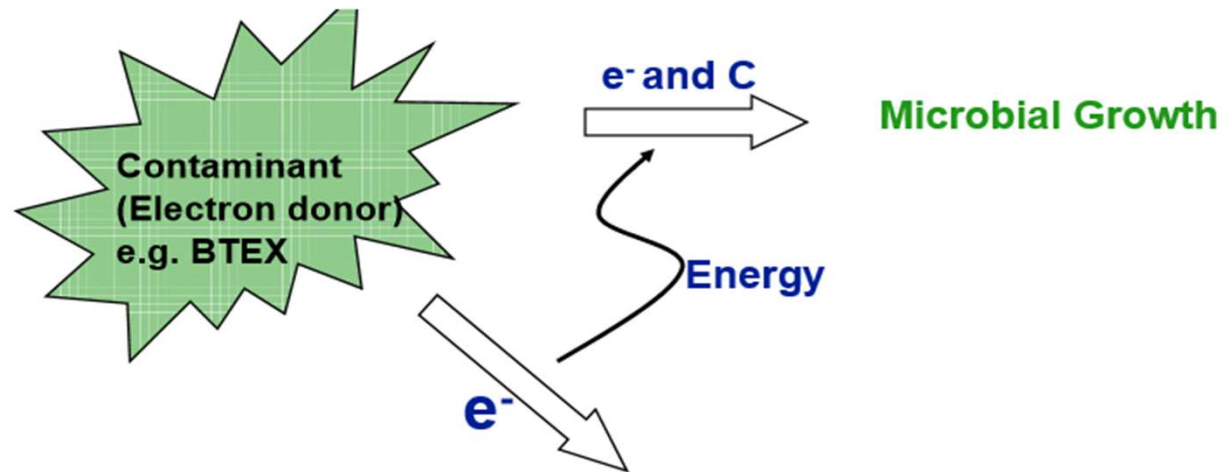
Pros:

- Cost effective
 - 10-40% vs. Dig/Dump
- COCs removed naturally
- Passive

Cons

- Timelines longer, uncertain
 - 1 to 4 years
- Stakeholder buy in
- Vadose zone

Anaerobic Bio Theory



Electron Acceptors

1. Oxygen
2. Nitrate
3. Fe(III)
4. Mn(IV)
5. Sulfate
6. None (fermentation)

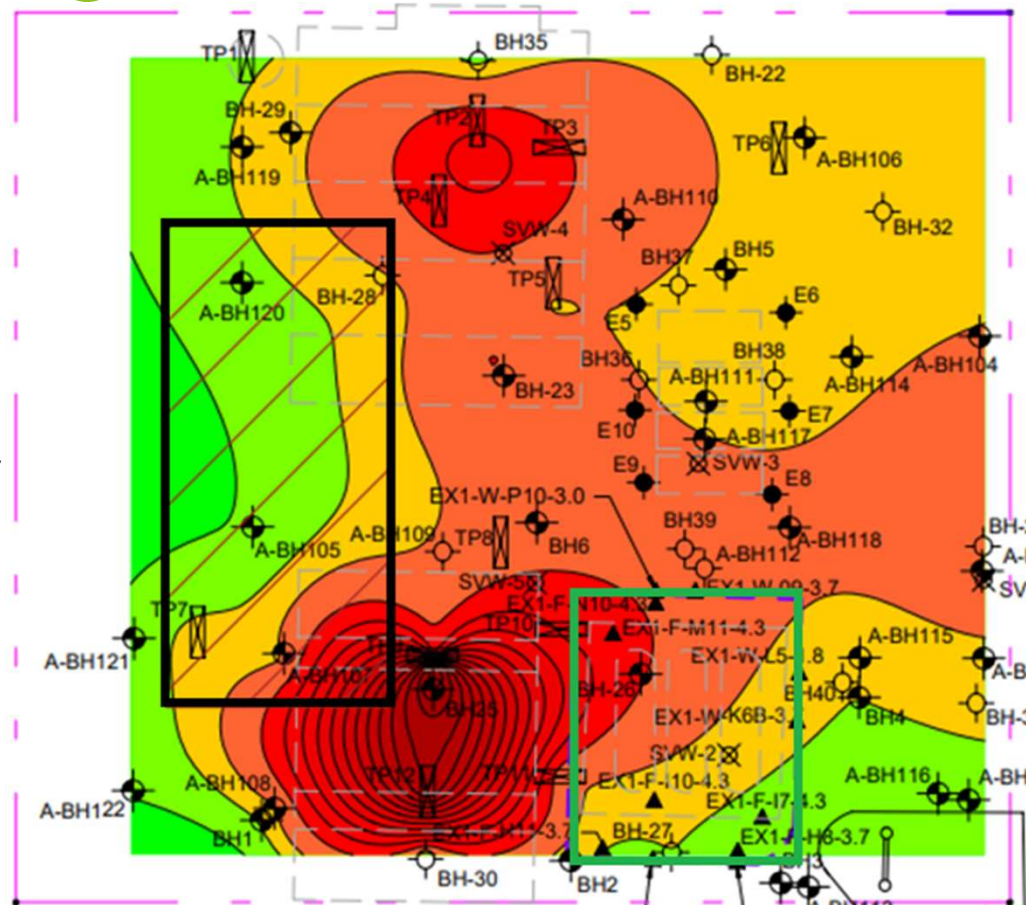
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Products

Water, CO₂
 Nitrogen, CO₂
 Fe(II), CO₂
 Mn(II), CO₂
 Sulfide, CO₂
 Methane, CO₂

Planning - Baseline Soil

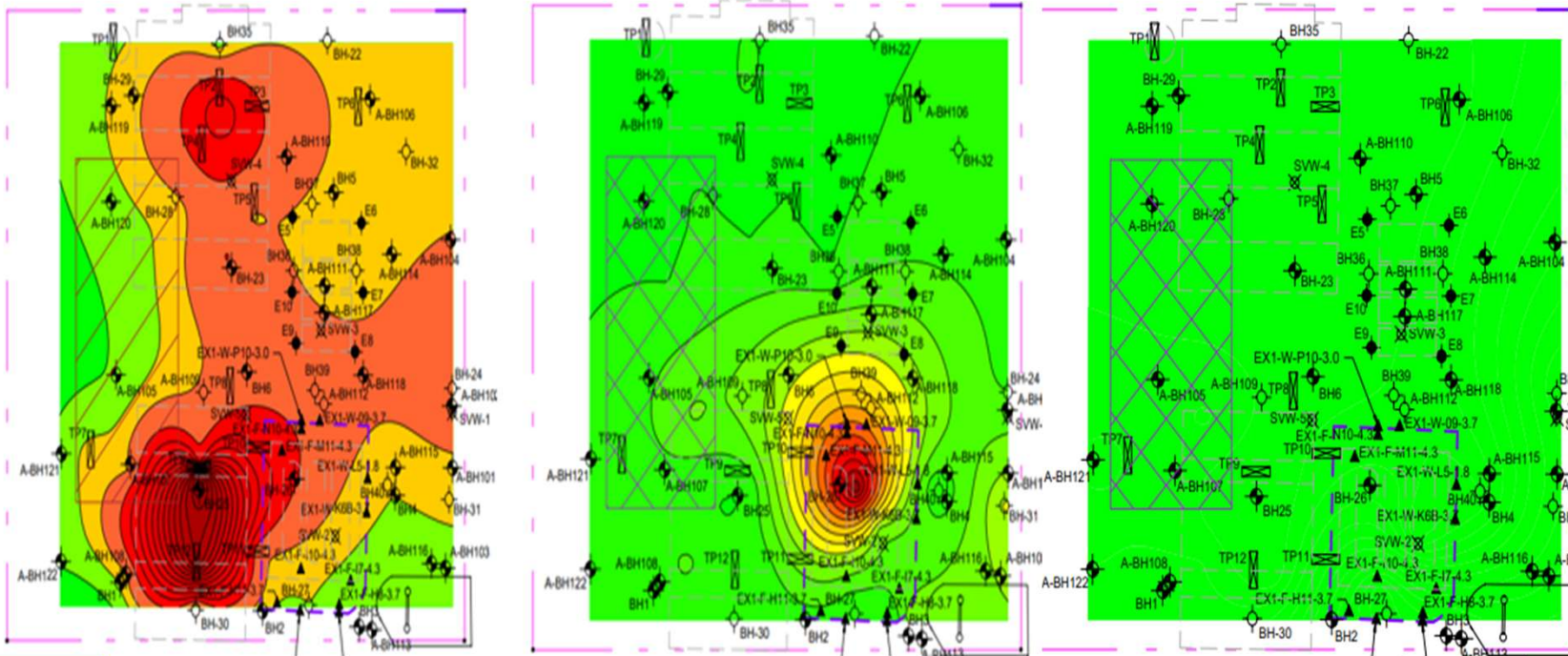
- ▶ Build Early?
- ▶ Footprint
 - ▶ Shift east
- ▶ Shallow soils
 - ▶ Shift deeper
- ▶ F1, F2, F3



Amendments



Soil Progression



Vacant?



Vibrant!



Cash Flow - Remediation

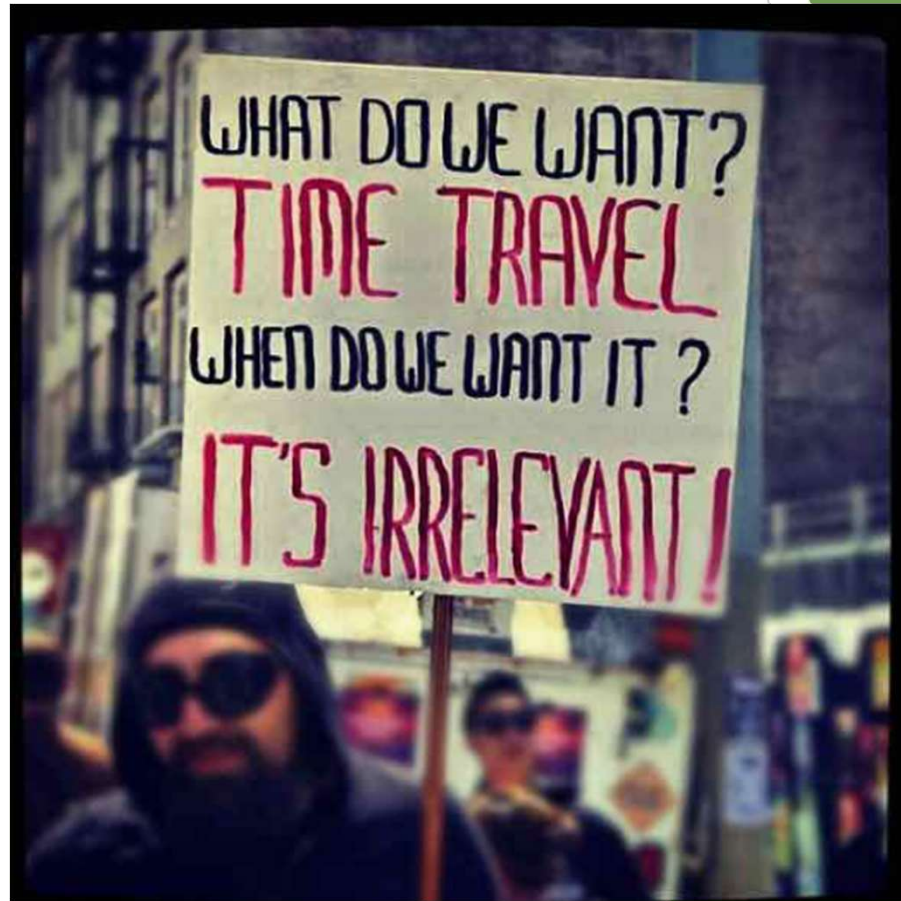


Cash Flow - Remediation



Conclusions

- ▶ Expand options
- ▶ Be Creative
- ▶ Use Time



QUESTIONS?

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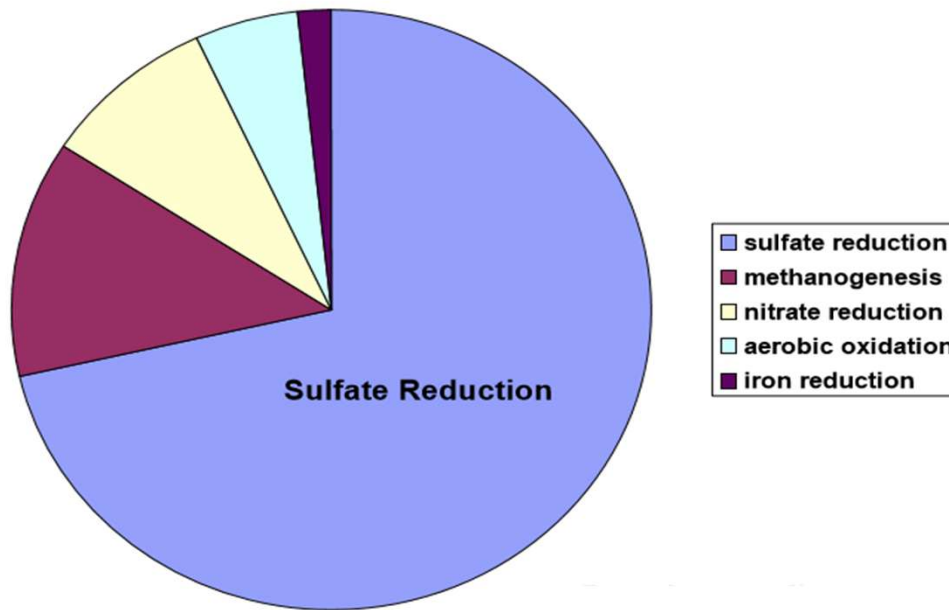
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Early Cash Flow?



Predominant Site Conditions



Gasoline Release Sites

Building Rescue

