Zephyr Upland Remediation
Spring 2018 Update

Michigan Department of Environmental Quality
Former Zephyr Refinery
Zephyr History

Historical Perspectives on Refinery Operations

- 1931 – 1968 Property Used for Refining Crude Petroleum
- 1968 - early 1990s Property was used for Petroleum Storage until Zephyr bankruptcy

1990s Aerial
Sand saturated with petroleum
Zephyr Petroleum Contamination Footprint
MDEQ Upland Remediation Project

- **Objective:** Target the most grossly contaminated soils and groundwater in the former refining area

- **Remedy:** In-Situ Chemical Oxidation - persulfate injection and extraction

- **Goal:** Reduce contaminant levels to shorten the lifespan of the groundwater pump and treat system & improve opportunities for redevelopment
In-Situ Oxidation Process

INJECTION
Persulfate solution

EXTRACTION
Petroleum Contaminated Groundwater
Zephyr Remediation Area
~11 Acres
Example Grid for Injection Remediation
The view from above during injection point installation

1,011 points installed
The view from above during injection point installation
Additional Remediation Activities
Completed in Fall 2017

More than 4,000 tons of lead contaminated soil was stabilized, removed, and properly disposed of in an approved landfill.