



Case Study – Crude oil and refinery waste



Goals

- ✓ To remediate the toxic oil sludge pond into viable farm land for the community.
- ✓ Improve the air quality for the nearby homes.
- ✓ To finish the project in less than one year.

SITE DESCRIPTION

For years refinery and oil field waste had been dumped into the marsh adjacent to a large residential community. The waste oil had also started seeping into the local groundwater.

The area included three large ponds including a bermed area, 3 meters deep, containing a mixture of 60% oil-tar in water. The total area held approximately 3,400 cubic meters (m3) of contaminated soil and sludge material.

SITE LOCATION

Poza Rica, Mexico

STARTING CONCENTRATIONS

The average Total Petroleum Hydrocarbons (TPH) level was 131,192 parts per million (PPM).

CONTAMINANTS TREATED

Crude oil and refinery waste.

TIMEFRAME

6 months

TESTING STANDARDS

All tests were performed by an independent 3rd party laboratory.

GEOLOGY

Sandy Soil

Oppenheimer Products used in this project

- ❖ **Formula I**
- ❖ **BioZorb**
- ❖ **BioNutrients**
- ❖ **Biocatalyst**

Highlights

- ✓ The toxic sludge pond was converted into viable farmland for the village.
- ✓ Improved air quality
- ✓ The site was remediated 50% ahead of schedule.

TREATMENT METHOD (IN SITU)

The soil around the dyke was mixed with the dyke walls to achieve a uniform Total Petroleum Hydrocarbons (TPH) contamination level of 89,650 PPM. The Oppenheimer Formula I, nutrients, and biocatalyst were added and with the use of a heavy duty slurry pump, the area was converted into a giant bioreactor.

When the TPH of the slurry reached 18,000 PPM, 6,000 cubic meters of soil was excavated and land farmed offsite.



RESULTS

The toxic sludge pond was converted into viable farmland for the village.

Improved air quality

The site was remediated 50% ahead of schedule.

The final TPH level was less than 300 parts per million (ppm)

The project was completed in 180 days (six months) 50% ahead of schedule.

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