

CASE STUDY #25

- Client:** City of Chandler
- Location:** 1725 N. Arizona Ave. Chandler, AZ
- Physical Site:** Water retention/drainage area, measuring 180 yards in length and 10 yards in width.
- Problem:** The impacted area has been contaminated by a mixture of used oil and water caused by the rupture of a City of Chandler main line, which flooded the property located at 1731 N. Arizona Ave. , causing the flooding and over-flowing of a used oil containment area onto the property located at 1725 N. Arizona Ave.
- Previous Treatment:** The City of Chandler and Environmental Response, Inc. initiated a containment protocol of applying peat moss particulate to absorb floating oil/water mixture.
- Site Characterisation:** The contaminated area was plotted, sampled and tested for TPH and TCLP (RCRA 8 Metals).. The contaminated peat moss particulate and surface area, approximately 13 cubic yards will be removed from the site and disposed of by means of Low Temperature Thermal Desorption. A certificate of destruction will be issued as required by A.D.E.Q. PHase III, Inc. will then initiate a *in-situ* bio-augmentation of the remaining contaminated soil, which is estimated at 350 cubic yards. The contaminated soil will be treated with Oil Sponge Premium Absorbent, PDM-7 HC Microbe, PDM-7 Nutrient and a combination of Nitrogen, Phosphorous and Trace Elements (20-20-20)
- Biological Treatment:** After contaminated peat moss was removed (May 16, 1997), a total of 5 random samples were taken from the area at depths of 12 inches, 6 inches and surface. TPH levels were measured from a low of 53 ppm to a high of 36,000 ppm. TCLP levels were N.D.
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| CC-001-3 TPH | 2,500 mg/Kg (ppm) |
| CC-006-3 TPH | 7,400 mg/Kg (ppm) |
| CC-012-3 TPH | 53 mg/Kg (ppm) |
| CC-000-1 TPH | 15,000 mg/Kg (ppm) |
| CC-000-2 TPH | 36,000 mg/Kg (ppm) |

Biological Treatment Continued:

- May 27-29** Apply Oil Sponge Premium Absorbent to heavy contaminated area by broadcast method. Till Oil Sponge into soil (depth of 8 inches). Apply 20-20-20 and water mix to site. Check pH of soil, adjust if needed.
- June 5-6** Apply PDM-7 HC Microbe and PDM-7 Nutrient with water, by spray method. Apply mixture evenly to soil, a moisture level of 20% was maintained.
- June 9-12** Area was keep moist by means of a sprinkler system. Sprinkler was moved twice a day for complete coverage.
- June 16** Area's CC-000-1 and CC-000-2 were given a second application of PDM-7 Microbe and PDM-7 Nutrient.
- June 16-19** Area was keep moist by means of a sprinkler system. Sprinkler was moved twice a day for complete coverage.
- June 20** S.E. area of site was tilled for a second time.
- June 23-26** Area was keep moist by means of a sprinkler system. Sprinkler was moved twice a day for complete coverage.
- June 30** Samples were taken from site and tested for TPH

Biological Treatment Results:

July 3	Test results:	CC-001-3 TPH	240 mg/Kg (ppm)
		CC-006-3 TPH	80 mg/Kg (ppm)
		CC-012-3 TPH	70 mg/Kg (ppm)
		CC-000-1 TPH	540 mg/Kg (ppm)
		CC-000-2 TPH	100 mg/Kg (ppm)

Conclusion: All test sites register TPH levels below Arizona Health Based Guidance Levels (HBGL's). Pre-determined TPH levels for the State of Arizona are set at 7000 mg/Kg (ppm). Test sites measured between 92.2857% and 99.00% lower than ADEQ pre-determined levels