

Soil Remediation

Case Study 1



TPH Soil, Penrice Soda Products, Osborne South Australia

- Approximately 3000 m³ of total petroleum hydrocarbon (TPH) contaminated soil;
- The TPH levels exceeded the South Australia landfill disposal criteria, therefore remediation was required;
- Bioremediation was preferred over alternative methods (such as thermal destruction or chemical stabilisation), as a 'fit for purpose' soil was produced rather than just waste soil;
- A bench-top trial was conducted to ensure that the contaminated soil was suitable for bioremediation;
- A co-composting method was used with static aerated biopiles. Fresh green organics were sourced from local processors to accelerate the biological process;
- Inorganic fertiliser and chicken manure were also added to the soil to provide ideal conditions for the proliferation of the microbes naturally occurring in the soil;

- The design of this system minimised fugitive emissions by encapsulating the soil in a high-density polyethylene (HDPE) liner;
- The emissions from the air extraction system were passed through a carbon filter to remove volatile organic carbon, thereby reducing odour impacts;
- The treated soil was used to construct a series of environmental mounds at the Penrice site;
- Overall the project was deemed a success in terms of environmental sustainability and cost effectiveness.

More Information

To find out more about this project, please visit the EPA website. www.epa.sa.gov.au/penrice.html#bio