



Sungai Bera Site Remediation, Brunei

The remediation of the Sungai Bera retention basins in Brunei, SE Asia included the design, engineering, equipment selection, excavation, treatment and disposal of approximately 160,000 tonnes of hydrocarbon contaminated sludges, drill muds and soils.

The basin is situated on a 15 hectare site. These materials were onsite partially from ongoing drilling and also due to an emergency release event from offshore operation. They were deposited in three unlined lagoons directly adjacent to the South China Sea. In addition to the excavation and treatment of contaminated sludge, the scope of work included the handling, cleaning and crushing of approximately 5,000 drums containing highly contaminated oil-based muds.

Safety

The project was supported by onsite organic chemistry laboratory as well as an extensive health and safety program. The joint venture consistently received an A+ safety rating from Brunei Shell.

Project Successes

During the project, over 85,000 barrels of crude oil were returned to Brunei Shell of processing. The site was fully restored and re-vegetated.



Technologies

The site was remediated using a range of customized technologies. These included de-watering of the lagoons using a well-point dewatering system; low temperature thermal desorption [following a homogenization of the sludges], waste oil recycling and waste water treatment.

Waste water was treated using a coalescing oil-water separator, a dissolved air flotation unit and a step aeration system, before release.

Remediation of Sungai Bera Holding Basin

Scope	160,000 tonnes of hydrocarbon sludge's & 5000 drums of oil based mud
Size	15 hectares in three unlined basins
Treatment technologies	Low temperature thermal desorption; oil treatment and wastewater treatment
Project partners	Inland Technologies Canada; Haji Adinin & Sons; Jacques Whitford; Envirosoil
Recovered oil	85,000 barrels

