



Environmental Sludge Sampling

We were approached with regard to the possibility of investigating three lagoons managed as part of sludge-dewatering activities associated with an adjoining WTW. The Client required confirmation of the depth profile and sludge characteristics, with samples of surface liquor, sludge, and the underlying clay taken at selected depth intervals, at approximately 80 locations across the lagoons.

The task was challenging because of the “unknown” depth of the lagoons and physical properties of the sludge; areas of open water, semi-solid liquids and dense grit banks were anticipated. Surface sludge / liquor levels also varied daily due to weather conditions and ongoing sludge-dewatering activities. Additionally, the risks of working over water, and with a hazardous waste material, potentially containing E Coli and Salmonella, had to be fully risk assessed at the design stage.

We proposed a flexible investigation strategy, which provided the Client with a range of probing and sampling equipment, on one rig, which could be easily interchanged depending on the conditions encountered. The equipment included our; Multisampler capable of taking samples from layered strata of sludge and sediment as well as from layered liquids; Mostap sampler enabling continuous undisturbed sludge samples to be recovered at discrete depths; and cased Windowless Sampler and Probing equipment to allow profiling and sampling of the underlying clay. A floating work platform was constructed from pontoons to allow drilling and sampling to be carried out safely within each of the lagoons. Movement and control of the working platform was achieved through uses of a series of control lines, land anchors and winches. Once in position, the hydraulically powered spud legs were lowered to hold the position.

Acting as Principal Contractor, the site works were successfully completed in fewer than 4 weeks. Laboratory Analysis was undertaken to determine physical, chemical and biological parameters of the sludge materials.



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