

Case Study: Mud Cleaning systems – Biomedical Campus, Cambridge

Why Mud Cleaning (Dewatering) equipment is the key to successful drilling:



Mud Cleaning or *Dewatering* systems are not a new technology to the drilling industry, but they are seldom seen on site. They are often viewed as an added and unwanted expense and their use is often solely driven by third party pressure, be it main contractor or client, or the effects of increasing environmental regulation.

As the influence of these factors builds over time, we will begin to see this equipment used more frequently and we think it will eventually become as important as the drill rig itself.

As this case study demonstrates, this should not be viewed as a cost-related negative; there are many positives to using Mud Cleaning equipment:

- **Health & Safety** - keeps the site cleaner, safer and more efficient
- **Environment** - water usage is greatly reduced
- **Productivity** - drilling speeds are increased
- **Legislation** - helps compliance for discharge control under Environment Agency regulations
- **Happy crew** - mechanical separation = less manual labour (shovelling out of the spud box)
- **Reduced overheads** - less wear & tear on equipment, such as pumps
- **Margin** - the cuttings waste is drier, meaning disposal costs are much lower

GN Solids has been providing the UK drilling industry with Mud Cleaning equipment for many years and recently one of their clients, Kent-based *Geotech Developments*, one of the UK's leading geothermal drilling companies, put the system through its paces on a large geothermal borehole project for Skanska at the Cambridge Biomedical Campus in the UK.

The site required 176 boreholes, drilled to 200m, incorporating double 40mm loops.



A key stipulation in the tender document was ZERO discharge. This put Geotech at the forefront of the bidding contractors simply because of their use of the advanced mud cleaning equipment built for them by GN Solids Europe.

The technicians on site, calculated that 15m³ of liquid waste would be generated per borehole, some 1,760m³ over the entire contract. Based on £90-120 per m³ for disposal of this liquid, the avoided costs were as much as £316,800, a price that other bidders needed to account for in their pricing.

Not only is there a savings factor for liquid disposal, but the GN Solids equipment also enables Geotech Developments to drill at a much higher rate than the industry is currently used to seeing, and with much less wear and tear on both their equipment and their dedicated employees.

Thanks to the GN Mud Cleaning system, Geotech drilled 2 x 200m holes per day with just a single drill rig, enabling them to complete the job in record time and ahead of the schedule set by Skanska, the main contractor.

Sean Carter, Project Environmental Advisor, Skanska: “The Cambridge Biomedical Campus is a major UK scheme. Regarding the Skanska project, delivering it in an efficient and timely manner is how we operate. Geotech Developments exceeded our expectations, not only in their speed and efficiency, but their use of technology met the very strict waste water regulations that we adhere to. Over 2.5 million litres of grey water were recycled during their drilling process, helping Skanska gain green awards for this project”.

Operations Director, Geotech Developments: “Since taking on GN’s dewatering equipment two years ago, we have seen a steady increase in penetration rates, less wear on drill bits, pipework and pumps, and our staff endures less manual handling, which they are all in favour of. The GN equipment has improved our productivity rate to levels that were previously unachievable, and it has enabled us to be more competitive in our tendering process because of a huge reduction in the removal of waste drilling fluids. I could not imagine working without it now”

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