RUSSELL FINEX

Global Sieving & Filtration Specialists

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Paleo Solutions reduces water wastage by over 20% and improves productivity by 25% using the Russell Mini Sifter™ for wet and dry sifting

Paleo Solutions Inc, a paleontological and archaeological consulting company utilizes industrial sifting solution as a wet and dry sifter to improve screening time and decrease water wastage

Paleo Solutions, serving customers in the western part of the United States, offers field activities on construction sites that specialize in offering paleontological and archaeological services. It conducts wet and dry screening to separate small fossils and artifacts (1-5mm^3) from a dirt or gravel matrix, and incorporates a recirculating water system into its process to dramatically minimize water wastage.

Paleo Solutions was looking for a unit that would fit two specific criteria: to be portable and lightweight so that it could be easily transported between work sites, and to efficiently reduce water usage. While conducting a detailed search, Paleo Solutions contacted Russell Finex and after consultation with a local sales representative, the Russell Mini Sifter™ was presented as the ideal machine to meet its process improvement objectives.

Optimizing the overall screening process

Paleo Solutions needed a low-energy mechanical wet and dry sifting system to replace its current manual method of screening small fossils in a dirt or gravel matrix. The machine had to be compact and capable of screening 1 m^3 of gravel matrix every 8 hours. The lightweight, compact, and portable Russell Mini Sifter™ is the ideal solution as it is specifically designed for small batch processing for a variety of industries.

Paleo Solutions successfully tailored this small industrial sifter to fit into its existing process, which is used to screen material from a bulk matrix, to overcome its wet and dry screening challenges. Since its installation, staff have been able to screen for possible fossil and cultural bearing deposits without having to agitate the screen manually, a process which is very time consuming. This vibratory batch screening equipment can be quickly and easily disassembled without the use of tools, and all the contact parts are fully washable.

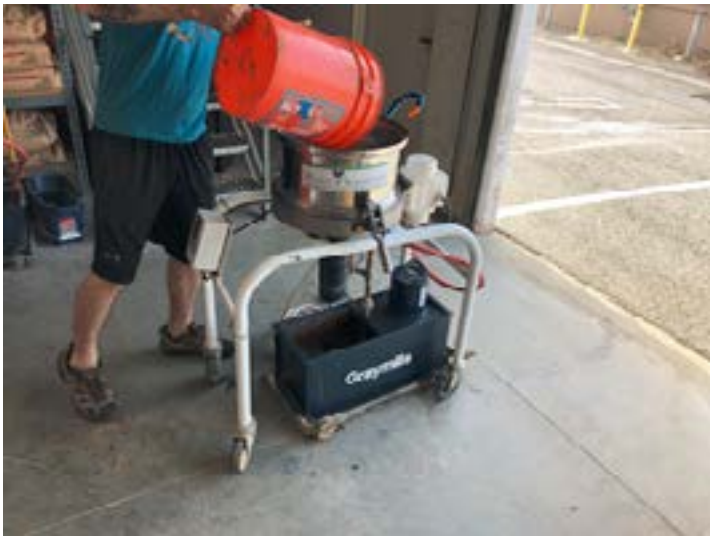

Figure 1. Paleo Solutions using the Russell Mini Sifter™ as a wet screening unit for the gravel matrix

- **Simple operation from one operator** – effective separation with minimal operator involvement
- **Reduce cleaning downtime** - quick and easy to disassemble without the need for tools
- **Compact and portable** - easily transported for use on various work sites

Vast improvements for dry and wet sifting

The steps involved in sifting the materials included both wet and dry screening. The sediment is first washed in water in 5-gallon buckets, removing any excess dirt or contaminant from the fossils in the dirt and gravel matrix. The liquid used in this process is then recycled and retained, providing an additional benefit to the operators by removing the need for a water line.

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The fossils are then dry screened by the Russell Mini Sifter™, where the vibratory motion of the sieve removes any oversize and any clay or dirt surrounding the fossils. The result was a cleaner concentrate and less residual sediment, protecting the quality of the fossils.

Results showed **significant improvements to both the wet and dry screening processes,** saving Paleo Solutions a significant time cost and minimizing waste. For wet screening, **the Russell Mini Sifter™ reduced screening time and water usage by around 20%.** For the dry screening, although less time was saved, productivity was significantly increased since this is now an unmanned operation, allowing for other tasks to be completed during the sieving process.

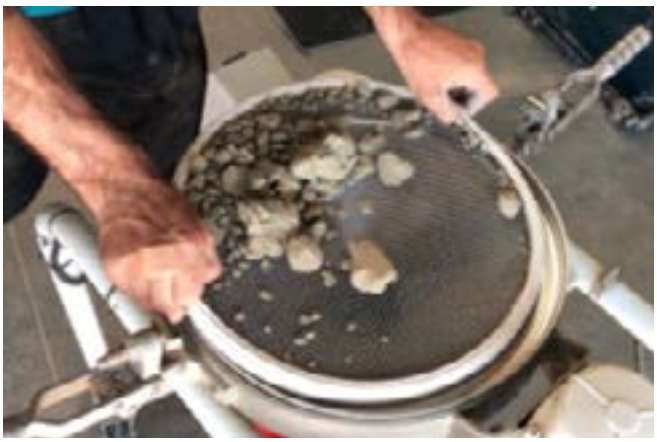

Figure 2. Paleo Solutions using the Russell Mini Sifter™ as a dry screening unit

A highly robust screening solution

Further benefits were also found from this machine. Site Manager Paul Jette said "We were very impressed by how Russell Finex's Mini Sifter saved us so much time, acting as the optimal replacement for our previous sieving machine. It was a highly efficient, quick and compact unit, that greatly improved our production process."

Previously unable to maintain a stable flow rate, by utilizing this industrial sifter Paleo Solutions' process is at least 25% quicker and much less laborious than its previous manual method. As a result of the success with the Russell Mini Sifter™ implemented into its process, Paleo Solution has now purchased two units to use at its various work sites.

The Russell Mini Sifter™ is ideal for batch sieving small amounts of product, improving the quality of your final product and safeguarding your company's reputation. It easily eliminates oversized contamination from powders or liquids, and its compact design means it is easy to transport, and to disassemble and clean without the need for tools.

About Russell Finex

Founded in 1934, Russell Finex has over 85 years of experience providing sieving, separation, and filtration solutions for a range of different industries. To find out more about how our machines can help suit your specific requirements, from the food and beverage, pharmaceutical, coatings, or wastewater industries, contact us today.

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