



**News Release:** For Immediate Release

## Quantum Design Develops and Installs its first Superconducting High-Gradient Magnetic Separator in China

SAN DIEGO, Calif. – August 15, 2013 – Quantum Design is proud to announce the successful completion of the first clay trials employing its new Superconducting High-Gradient Magnetic Separator (SHGMS). Magnetic separation is a method of removing unwanted components from a mixture based on differences in their magnetic properties. It is one of the very few high volume methods that are effective when applied to fine particle suspensions which usually take the form of a slurry, and eliminates the need for inefficient filters or chemical treatments. The SHGMS system offers high processing capacity in a compact, modular design with fully cryogen-free operation. It is a self-contained, automated system, which integrates easily into processing streams and whose continuous operation requires only electrical power, compressed air, raw material and water.

"We are very excited about receiving the first magnetic separator manufactured by Quantum Design and believe it will provide great value in our efforts to produce high quality Kaolin clay from our mining facility," said Ms. Jin Cai of Shanghai Shenyue Superconducting Technology Development Ltd., the technology partner instrumental to the introduction of this system into China. "It is incredible that a separator of this quality and power can run without the need of expensive liquid cryogenes."

The Quantum Design SHGMS system has been designed to be extremely easy to operate while being compact and modular, allowing companies to add more systems in tandem when processing needs increase. Its 5 tesla magnetic field and cryogen free operation allow the processing of 10-15 million kg/year of clay slurry.

"The SHGMS system uses our 30 years of experience in superconducting magnets and cryogen free technology and applies it to a whole new industry," explained Paul Beharrell, Senior Engineer of this project. "In addition to Kaolin clay processing, the SHGMS can be used in the separation and extraction of rare earths and other precious metals, the removal and recycling of machining products from coolant streams, and environmental remediation through the removal of radioactive materials and metals from rivers, streams and groundwater."

The SHGMS system was installed at Jing Ding Top Non Metallic Co. Ltd in Zhangzhou, China in July, 2013.

### **About Quantum Design**

Founded in 1982, Quantum Design is a privately held corporation that develops and markets advanced technology cryogenic systems and instruments for scientific and industrial communities. Quantum Design is widely recognized as the leading commercial source for integrated analytical systems incorporating superconducting technology along with other related technologies. Through its strong R&D focus and foreign offices in the world's major technology markets, QD has developed a global distribution channel for research-based instruments developed by other technology leaders.

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