February 1, 2022

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Notice of Registration of Patent Concerning the Treatment of Crude Oil Sludge

The patent applied for is for a revolutionary treatment agent, a treatment method, and a treatment agent kit we have developed, which will be useful in addressing the worldwide issue of the treatment of crude oil sludge, and has been registered in the Patent Agency. We hereby report its details.

1. Overview

Title of invention	Treatment agent for crude oil sludge, treatment method of crude oil sludge, and treatment agent kit for crude oil sludge
Patent number	P 7010525
Registration date	January 17, 2022

Crude oil sludge is a general term for sediments accumulated in the bottom of crude oil tanks during temporary or permanent storage as well as in tanker tanks. Crude oil sludge is discharged at the time of an open tank inspection and tank cleaning work, and is disposed of as industrial waste. It has been an issue for many years not only in Japan, but also around the world.

The treatment of crude oil sludge needs to be addressed from the multiple viewpoints of gas, water, and waste, and crude oil sludge is a substance that cannot be easily treated. Specifically, concerning gas, explosion-proof measures must be taken against the generation of hydrogen sulfide and work safety must be secured. Concerning water, as discharged water contains oil, suspended substances, molten heavy metal, and organic solvent, and as it is difficult to decompose, highly advanced treatment is required. Concerning waste, as it is difficult to treat the waste as explained earlier, most crude oil sludge is disposed of as industrial waste.

In recent years, research and demonstrations on various treatment technologies have been conducted. However, the establishment of revolutionary technology has not been achieved yet. The treatment of crude oil sludge has been an issue not only in Japan, but also around the world, and is an issue that must soon be solved to achieve SDGs and TCFD compliance.

As “a company leading the environment-oriented society,” we aim at the sustainable development of regional economy and society by proactively making corporate activities with the utmost consideration given to the environment and society. To achieve this goal, centering around our environment business, we are conducting research on a daily basis so as to develop new technologies and agents that will change the traditional concept of crude oil sludge treatment.

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Recently, the Patent Agency in Japan registered a patent concerning the treatment of crude oil sludge, for which we had made application.

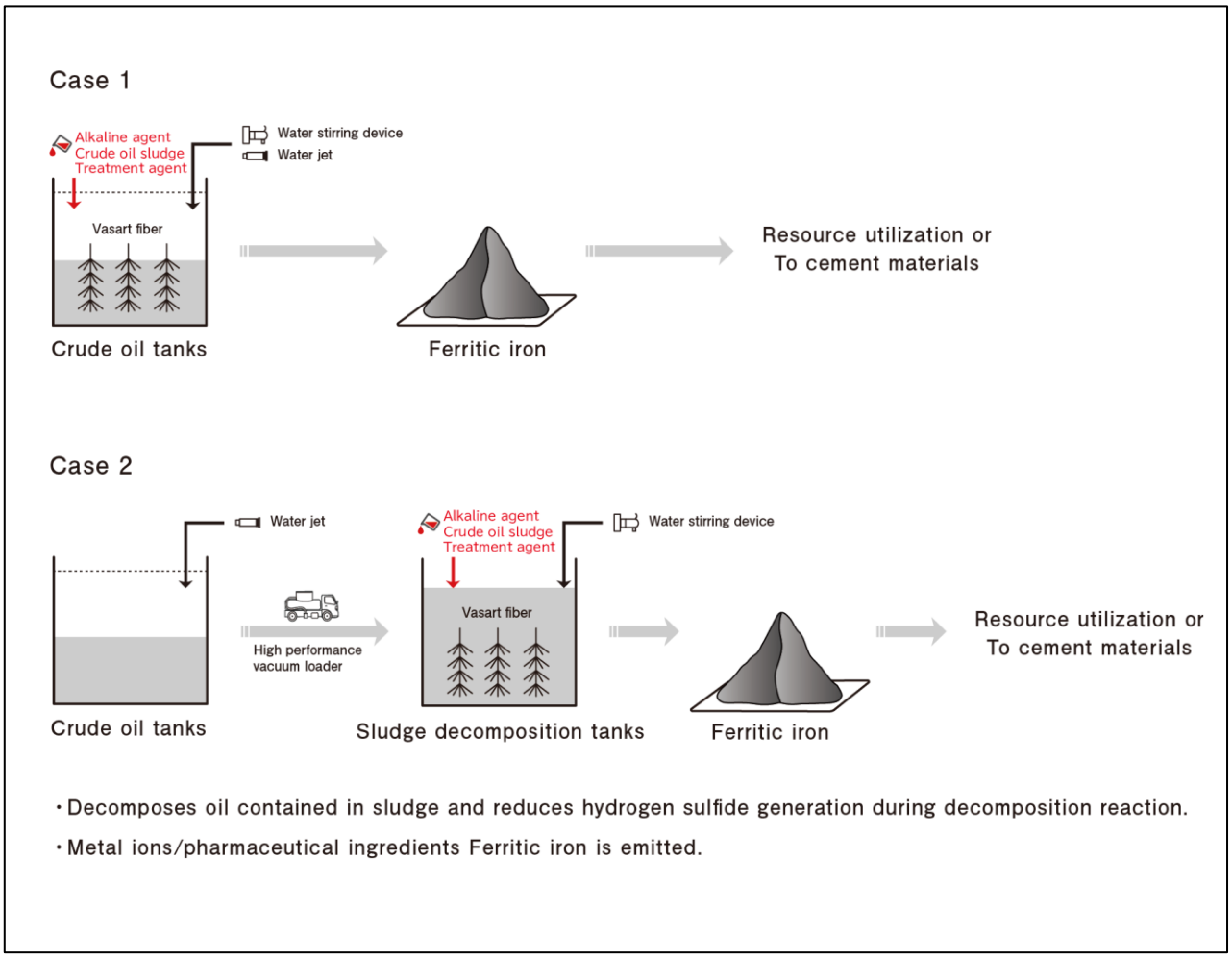
This patent is an entirely new and revolutionary technology capable of addressing the issue of crude oil sludge treatment from the multiple viewpoints of gas, water, and waste, which provides a useful treatment agent, treatment method, and treatment agent kit that can decompose oil content contained in crude oil sludge, carries out conversion into ferrite metal while removing contained heavy metal without melting it, and reduces harmful hydrogen sulfide.

By using this patent's technology, it is possible to safely decompose the oil content contained in crude oil sludge, substantially reduce waste, and make generated sludge collectable and reusable at low cost. Thus, we will contribute to the solution of worldwide issues, the prevention of environmental pollution, and the establishment of a sustainable society.

2. Impact on future business

This matter is in the stage of patent registration and does not affect the business results for the current term at this time. We anticipate that there will be a market where patented technology can be utilized, but it is unclear at this time whether it will directly affect business performance because no specific customers or sales destinations have been determined. On the other hand, there are markets in Japan and around the world where patented technology can be utilized, and we believe that patent registration is extremely useful. In the future, we will promptly notify you if any event that affects our business performance is discovered.

Diagram of treatment method



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