FAST system

Pretreatment system for Incineration Bottom Ash

FAST: Fujita's Ash Stabilization & Treatment System for Disposal Facilities

FUJITA

Daiwa House Group

Concept of FAST system

Characteristics of FAST system

Simple pretreatment system for incineration bottom ash using water and aeration.

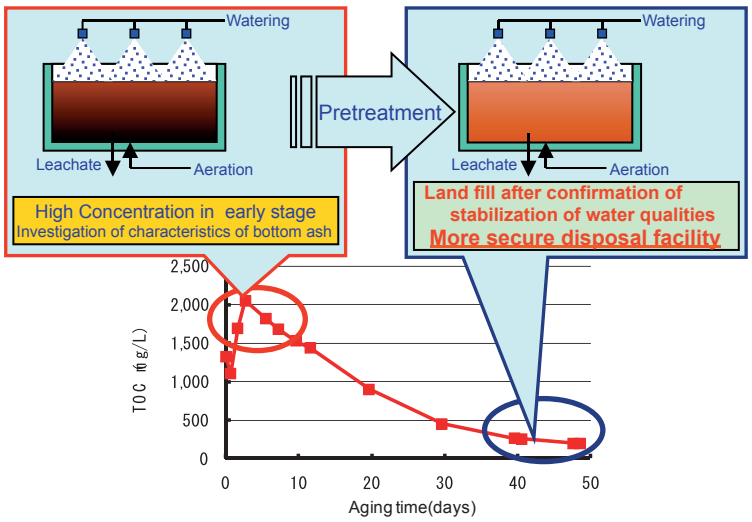
Landfill after confirmation of stabilization for more secure disposal or utilization.

(1)Flushing out of organic compounds in bottom ash and reduction of salinity

(2)Slight solubilization of heavy metals in bottom ash.

(3)Investigation of characteristics of bottom ash prior to land fill.

(4)Stable and low environmental–impact leachate.



Change in Total Organic Carbon(TOC) content in leachate with aging time

Pretreatment process using the FAST system

Pretreatment is carried out in a roofed facility in order to control pretreatment conditions.

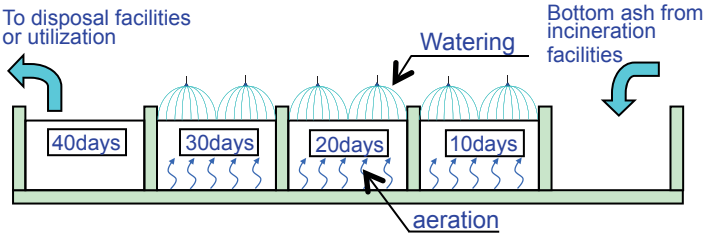
(1)Bottom ash is carried in from incineration facilities and distributed into cells for treatment.

(2)Bottom ash in each cell is watered and aerated for the treatment period.

(3)Leachate from each cell is analyzed to confirm stabilization.

(4)After stabilization is confirmed, treated bottom ash is transferred to disposal facilities or utilized.

Image of Pretreatment facility



Basic Procedure of Pretreatment

Effect of Pretreatment on Leachate from Bottom ash in Landfill process

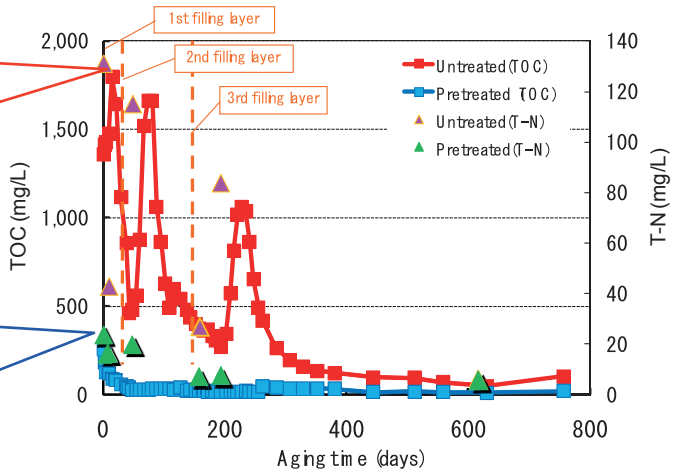
FAST system provides more secure disposal of stabilized bottom ash with stable leachate.

Untreated Process (Conventional process)

Leachate from the upper layer infiltrates the lower layer and affects water quality. Therefore water quality at disposal facilities is unstable without pretreatment.

FAST system (Pretreatment process)

Bottom ash is stabilized by pretreatment, and water quality of leachate from filled bottom ash is improved. Water quality is stable and there is low environmental impact from multiple layers of ash.



Effect of pretreatment on change in Total Organic Carbon(TOC) and Total Nitrogen(T-N) content in leachate with aging time

FUJITA CORPORATION