

# MAKE INNOCENT SOIL SERVICE

## *Establishment of technology to decontaminate soil*

*The integrated management system from investigation to treatment and recycling*

### Advanced analysis

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Sample investigation is conducted in the Technical Center in advance, and the best purificatory technology is selected. SANBIC can show an exact analysis result in short term. In addition, in the Technical Center, analysis for dioxin is possible.

### For the large quantity of soils

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In Handa plant (of Aichi-ken), contaminated soils are recycled by advanced heat treatment technology. Including the direct heating furnace, SANBIC can deal with mass decontamination in the large-scale facilities. The all plants can dispose of the maximum 2,600,000t soils a year.

### On-site decontamination

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Depending on the pollution situation and scale of soil, SANBIC provides on-site remediation and construction.

### Acceptance by marine transportation

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Near the Handa Plant, SANBIC secures the 36,000m<sup>3</sup> space to use it for unloading of raw materials or storage of recycled products. It is the site for around 3 minutes from Handa Plant. In addition, in Himeji Plant of Hyogo-ken, the materials can be purified by the soil washing plant.



### For various substances

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In HANDA plant, SANBIC can treat a variety of chemical substances which are an investigation object of an environmental standard. SANBIC can accept contaminated soils which may be contained them.

### Confirmation of treatment effect

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After decontamination, all soils are tested whether they meet cleanup criteria and the effect is identified. The effect is admitted by the data which investigation and an analysis result were summarized in visually.

### Recyclable soils

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Recyclable contaminated soils are manufactured into recycled sands by Handa and Himeji Plants. This technology is the first in country and manufactured products are utilized as substitute materials of mountain sand.

### Disposal of nonrecyclable soils

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In the collected soils, the nonrecyclable parts and residues are properly disposed of as own wastes.

# RECYCLE PROCESS SYSTEM

## Investigation, Analysis & Test Burning



*Test Heating Furnace*

### Advanced analysis technology

SANBIC developed original soil analysis software based on abundant investigation experiences. SANBIC grasps the pollution situation and predict a restoration effect in two- and three-dimensional simulation.

### Proper and economical investigation supposing restoration and construction

The investigation assumed restoration and construction can evaluate the situation rationally and exactly than simple mechanical pollution investigation.



*High-resolution mass spectrometer for dioxin measurement*

## Heat Treatment

Plottage: 33,000m<sup>2</sup>

Thermal Treatment Facilities

: Rotary Kiln Furnace · · · 192 t/d

Storage inside Plant : 20,000 m<sup>3</sup> are secured within the building.

Contaminated soils which may be accepted include :

Heavy Metals, VOCs, Agricultural Chemicals and Oils



*Heating Furnace of Handa Plant*



*Control Room*

## On-site Decontamination

### Terra-Reduction Method

Volatile Organic Compounds (solvent etc.)

### Bioremediation

Volatile Organic Compounds and Heavy Oils

### Soil Gas Absorption

Volatile Organic Compounds



*Exhaust Gas Treatment Facilities*

## Identification & Test



*Environmental Test Room (for pretreatments of various contaminated materials)*

## Recycling & Disposing



*The Controlled Landfill of Group Company*



*Recycled Crushed Stone*

*Recycled Sand*

## Storage



*Soil Product Yard*



*Materials Deodorization Facilities*

# Company Outline

**Date of Establishment**

December 22, 1988

**Trade Name**

SANBIC Co., Ltd

**Representative**

Representative Director YANAGI MANABU

**Paid-in Capital**

80,000,000yen (As of MAY 2002)

**Bank References**

Sumitomo Mitsui Banking Corporation  
The Bank of Tokyo-Mitsubishi UFJ, Ltd.

**Plant**

Handa Plant  
Himeji Plant

**Affiliated Company**

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*Himeji Plant*

Soil washing plant



*Entire plant*



*Washing classification equipment*



*Kneading*



*Purification sand*



*Turbid water treatment*



*Neutralization Facilities*



*The Outside*



*Test Room*