

Technology Development Headquarters

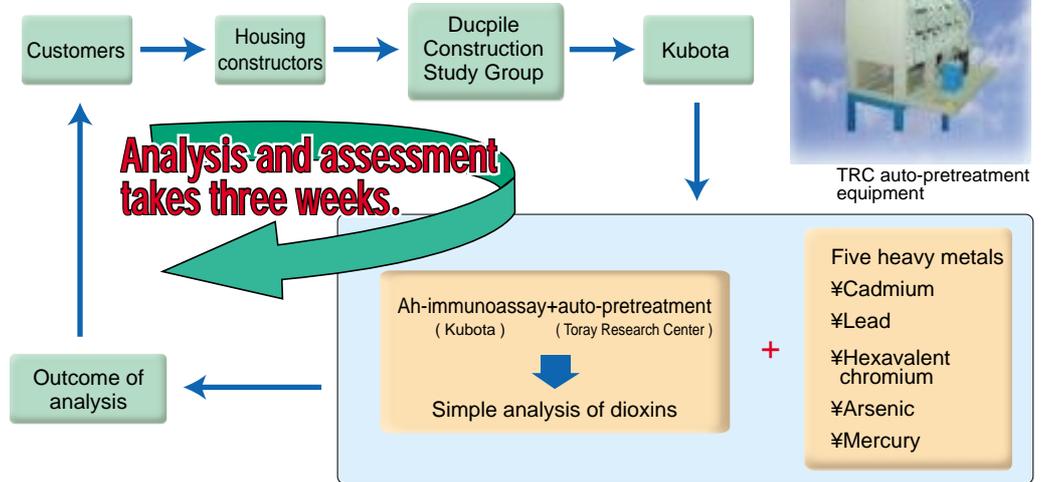
Soil contamination examination of housing site



With people becoming increasingly concerned about potential health damage from soil contamination various related measures are being announced, a joint project named "Kuboreck" of Kubota and Toray Research Center has been launched to provide testing of housing sites for soil contamination. "Kuboreck" is a service which provides our customers a safety assessment of a housing site based on a soil contam-

ination examination for dioxins and five heavy metal. Regarding the simple analysis of dioxins, we can quickly analyze dioxins by using Kubota's " Ah-immunoassay" (*1) and Toray Research Center's "Auto-pretreatment technology" . The examination and analysis process flow is as follows:First of all, The Duple Construction Study Group (*2) samples the soil when the land plot

survey of the intended housing site is conducted. Then we inform our customers of the outcome of the soil contamination examination in three weeks after sampling.



TRC auto-pretreatment equipment

Kuboreck Examination and analysis process flow



The examination outcome for a housing site is delivered in about three weeks after sampling, with a test report on soil contamination examination of housing site (shown at left).

The assessment methods are shown below.

- (1) for heavy metals :
according to Ordinance No. 127 (September 4, 1988) issued by the Japanese Ministry of the Environment (Water Environment Control Department). Total mercury, cadmium and lead content: heating and acid degradation, ICP emission spectroscopic analysis
Arsenic : heating and acid degradation, atomic absorption analysis
Hexavalent chromium: extraction, colorimetric analysis

- (2) Dioxins
High speed solvent extraction, rapid pretreatment, simple analysis of toxic substances by Ah receptor

The test result according to the required measures level as stipulated by the Japanese Ministry of the Environment (the Study Group on Risk Assessment of Soil Content). However these results are only for reference as analysis and inspection reports.

(*1) Ah receptor and the protein called ARNT are related to toxic expressions of dioxins. Ah-immunoassay is dioxins analysis kit using the toxic expression mechanism of dioxins.

(*2) The objective of this study group is to contribute to the sound development of the market for ground reinforcement work on sites for free-standing houses by the proliferation of ductile pile products and technologies as well as improving them.