# From the viewpoints of corporate social responsibility and environmental risk management, all business sites are being surveyed and purified on a global scale.

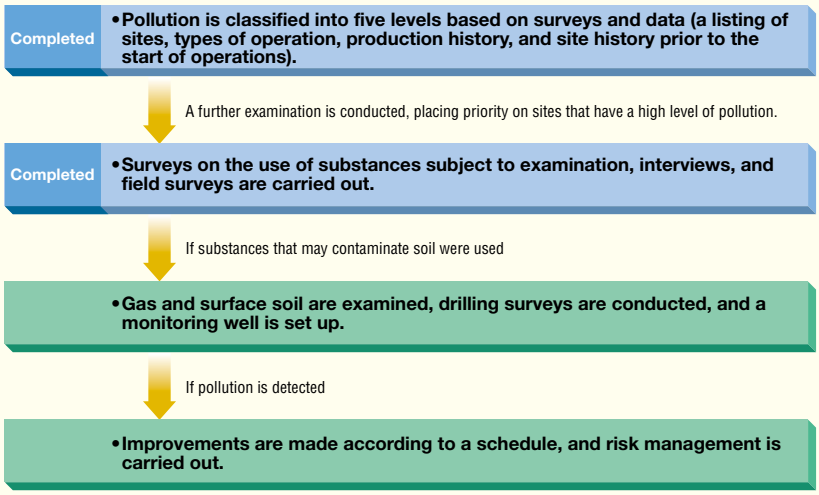
## ● Concept

Soil and underground water contamination is a significant environmental issue for business facilities. If left alone, it could damage the health of people in neighboring areas. In light of this, the Ricoh Group has been surveying and purifying major production sites since the 1990s. The purification of contaminated soil entails huge costs and significantly affects the business, which makes it necessary to take action from the two viewpoints of corporate social responsibility and environmental risk management. The Ricoh Group established Basic Policies Concerning Soil and Underground Water Contamination and Standards for the Management of Risks Related to Soil and Underground Water Contamination. In addition, the Group started surveying the history of all Group business sites, including both the production and non-production sites of subsidiaries of Ricoh's subsidiaries, in fiscal 2004.

**Ricoh Group's Basic Policies Concerning Soil and Underground Water Contamination**

(1) Top priority is given to controlling impact on the living environment in the neighborhood.
(2) Efforts will be made to carry out surveys and measures to cope with contamination caused by the Ricoh Group's business activities.
(3) Laws, regulations, and ordinances set by the national and local governments shall be observed.
(4) Efforts will be made to establish risk communication with local governments and residents.
(5) Soil is checked for contamination when land is purchased/transferred or rented/returned.

**Steps for Soil Examination at Non-Production Sites**




## ● Targets for Fiscal 2007

◎ Complete the examination of soil and underground water at Ricoh's non-production sites and leased land (Ricoh and affiliates in and outside of Japan).
◎ Make and implement plans to improve sites where pollution is detected.

## ● Reviewing Fiscal 2005

History surveys of approximately 1,000 sites worldwide were completed in fiscal 2005. Data surveys showed that some of the non-production sites used to be production sites. However, no accidents, such as leakages, that could lead to serious risks occurred at these non-production sites. As for the 6 sites that have used chemicals that could lead to soil contamination and the 11 sites that might have used such chemicals, the uses of these chemicals were examined in further detail in a survey, and field surveys and fact-finding inquiries were conducted in the presence of in-house site assessment experts. These surveys helped us understand the contamination risks of all Ricoh Group business sites.

## ● Future Activities

Based on the history surveys, 5 sites were picked out as sites where topsoil should actually be surveyed. Relevant surveys will be completed by September 2006. Through such efforts, risk management at an even higher level will be conducted on a global scale.

### Surveys of Business Sites That Have Used Chemicals

**<Ricoh India Ltd. (India)>**

Ricoh India Ltd., Ricoh's sales company in India, found that its office in Salt Lake used to have a gilding process, and in August 2005, Ricoh's staff in charge visited the site. They conducted a detailed survey of usage records and treatment facilities. In collaboration with state government agencies, they also conducted surveys concerning hexavalent chromium and free cyanogen contained in topsoil in February 2006 and confirmed that there was no contamination.

Survey of topsoil by Ricoh India

### Survey of Soil on the Acquisition of Sites

**<Ricoh (Japan)>**

On the acquisition of the site for the Ricoh Technology Center, which will function as a design and development base, Ricoh requested the former owner of the site, Hitachi, Ltd., to conduct a soil survey and take appropriate measures. Ricoh confirmed that they were completed in October 2005. The confirmation was based on a survey of the site with the presence of the parties concerned and an examination of a report. According to the survey, "the whole site, including places other than those that might be contaminated, was surveyed" and "research was conducted for substances whose use had not been recorded," which are stricter than legal provisions. This is because Ricoh thought that even substances whose use had not been recorded might have been brought in from the outside during construction work. Based on this experience, in fiscal 2005, the Ricoh Group established rules for conducting surveys and purifying soil that should be followed at the time of purchasing and selling land.

Soil improvement work at the Ricoh Technology Center

### Promotion of Purification at Plants where Contamination Is Detected

**<Ricoh Optical Industries Co., Ltd. (Japan)>**

In April 2004, trichloroethylene contamination was detected at Ricoh Optical Industries Co., Ltd. As an emergency measure, dirt and minute iron powder were mixed in to reduce the contaminant to a nontoxic substance to purify the soil. In November 2005, it was confirmed that the relevant area had been completely purified.

Ricoh Optical Industries' soil purification method

**❶ Survey Results of Underground Water Pollution and Purification Efforts at Ricoh Production Sites and the Ricoh Group's Manufacturing Subsidiaries in Japan (As of March 2006)**

| Business site | Pollutant (Japan's environmental standard) | Survey result | Measures in implementation | Measures implemented |
|---|---|---|---|---|
| Ricoh Ohmori Office | Cis 12 dichloroethylene (0.04mg/L)<br>Tetrachloroethylene (0.01mg/L)<br>Trichloroethylene (0.03mg/L)<br>Heavy metals, etc. | 0.0470mg/L<br>0.0338mg/L<br>0.1086mg/L<br>No pollution | • Purification of underground water<br>• Regular monitoring | Soil was removed.<br>The neutralization of gas was completed. |
| Ricoh Optical Industries | Cis 12 dichloroethylene (0.04mg/L)<br>Tetrachloroethylene (0.01mg/L)<br>Trichloroethylene (0.03mg/L)<br>Lead (0.01mg/L)<br>Arsenic (0.01mg/L) | 0.310mg/L<br>0.569mg/L<br>0.192mg/L<br>0.059mg/L<br>0.011mg/L | • Purification of underground water<br>• Regular monitoring | Purified with a reducing agent to its original position.<br>The lead and arsenic are possibly nature derived (approved by the municipality). |
| Tohoku Ricoh | Cis 12 dichloroethylene (0.04mg/L)<br>Arsenic (0.01mg/L) | 0.006mg/L<br>0.015mg/L | • Regular monitoring | Soil was removed.<br>The neutralization of gas was completed.<br>The purification of underground water was completed.<br>The arsenic is possibly nature derived (approved by the municipality). |
| Ricoh Elemex, Okazaki Plant | 11-dichloroethylene (0.02mg/L)<br>Cis 12 dichloroethylene (0.04mg/L)<br>Trichloroethylene (0.03mg/L)<br>Cadmium and its compounds (0.01mg/L)<br>Hexavalent chromium compounds (0.05mg/L)<br>Lead and its compounds (0.01mg/L) | 0.39mg/L<br>0.057mg/L<br>1.5mg/L<br>0.10mg/L<br>3.1mg/L<br>0.005mg/L | • Containment and purification of underground water<br>• Neutralization of gas, Purification of underground water<br>• Regular monitoring | |
| Ricoh Elemex, Ena Plant | Cis 12 dichloroethylene (0.04mg/L)<br>Trichloroethylene (0.03mg/L)<br>Hexavalent chromium compounds (0.05mg/L)<br>Fluorine and its compounds (0.8mg/L) | 0.25mg/L<br>3.7mg/L<br>0.16mg/L<br>0.6mg/L | • Containment and purification of underground water<br>• Neutralization of gas, Purification of underground water<br>• Regular monitoring | |
| Ricoh Keiki | 11-dichloroethylene (0.02mg/L)<br>Heavy metals, etc. | 0.027mg/L<br>No pollution | • Purification of underground water<br>• Regular monitoring | Soil was removed. |

- As for a list of domestic business sites, including those that do not have any contamination records, please visit our Web site at http://www.ricoh.com/environment/data/index.html
- The areas surrounding all business sites, including the above-mentioned sites, are not affected by pollutants.

**❷ Survey Results of Underground Water Pollution and Purification Efforts at the Ricoh Group's Manufacturing Subsidiaries Outside Japan (As of March 2006)**

| Business site | Pollutant (Japan's environmental standard) | Survey result | Measures in implementation | Measures implemented |
|---|---|---|---|---|
| Ricoh Electronics Inc., Irvine Plant (U.S.A.) | Cis 12 dichloroethylene<br>Trichloroethylene<br>Tetrachloroethylene<br>Heavy metals, etc. | 0.33mg/L<br>0.36mg/L<br>16mg/L<br>No pollution | • Purification of underground water<br>• Oxidizer purification test<br>• Regular monitoring | Soil was removed. |
| Ricoh Industrie France S.A.S. (France) | Tetrachloroethylene | 0.378mg/L | • Purification of underground water<br>• Regular monitoring | The neutralization of gas was completed. |
| Ricoh UK Products Ltd.* (U.K.) | Cis 12 dichloroethylene<br>Trichloroethylene<br>Tetrachloroethylene<br>Vinyl chloride<br>Total petroleum hydrocarbon (TPH): oil<br>Heavy metals, etc. | 1.926mg/L<br>0.184mg/L<br>7.493mg/L<br>0.265mg/L<br>3.261mg/L<br>No pollution | • Regular monitoring | |

- As for a list of overseas business sites, including those that do not have any contamination records, please visit our Web site at http://www.ricoh.com/environment/data/index.html
- The areas surrounding all business sites, including the above-mentioned sites, are not affected by pollutants.
- Ricoh Wellingborough Products and Tustin, Santa Ana, and Georgia Plants of Ricoh Electronics apply the new standards to conduct research.

* The contamination of underground water was detected in a research conducted at Ricoh UK Products Ltd. in fiscal 2005 in compliance with the new standards.